Open-Air Museum Research Anthology

Regional Graduate Architecture Studio

Full Building Analysis

Open-Air Museum Research Anthology

Regional Graduate Architecture Studio
Southern Illinois University Carbondale
Summer 2014 ARC 550
Professor Chad Schwartz

Compiled By:
Ryan Northcutt
Nicholas Ouellette

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Full Building Analysis

A-Frame Hut
Architect Unknown

Nick Bosman

Scott Base, Antarctica

Diagrams:

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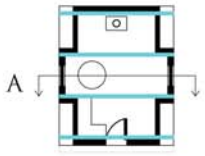
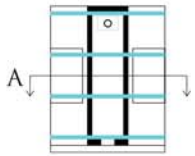
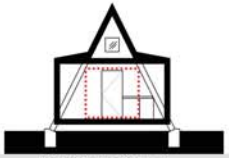
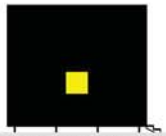




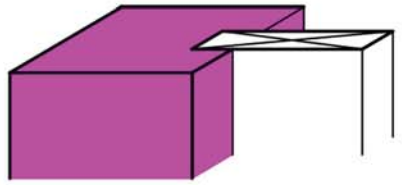
FIRST FLOOR SECOND FLOOR



SECTION A



SOUTH ELEVATION WEST ELEVATION



NTS

SOUTH ELEVATION

•http://www.nhm.ac.uk/nature-online/earth/antarctica/antarctic-conservation/blog-archive/?cat=15&paged=2
•http://www.nhm.ac.uk/nature-online/earth/antarctica/antarctic-conservation/blog-archive/?p=208
•http://antarcticanz.govt.nz/resources/images-video-content/scott-base

A-Frame Renovation
mvA Architecten

Nick Bosman

Brecht, Belgium

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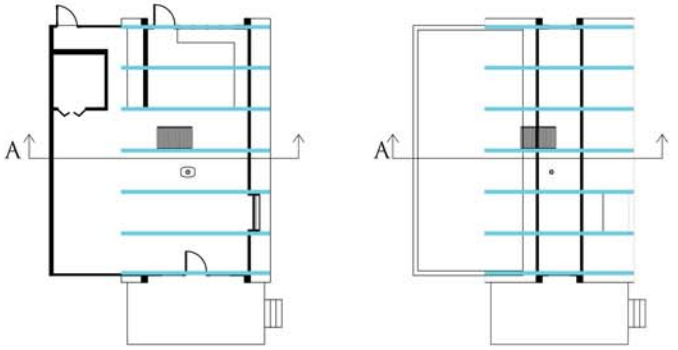

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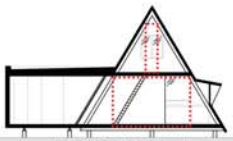

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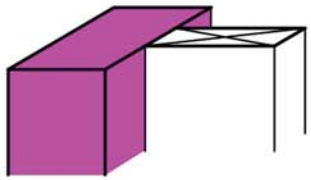
SOUTH ELEVATION

EAST ELEVATION



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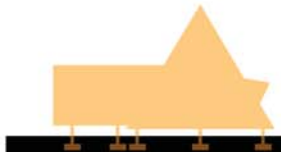

•http://www.interiordesign2014.com/home-design-ideas/extension-vb4-an-addition-to-an-a-frame-house-by-dmva-architecten/
•http://www.iondecorating.com/dream-house/a-frame-summer-cabin-gets-glass-addition/

Wauiku Church
Jasmax

Nick Bosman

Wauiku, New Zealand

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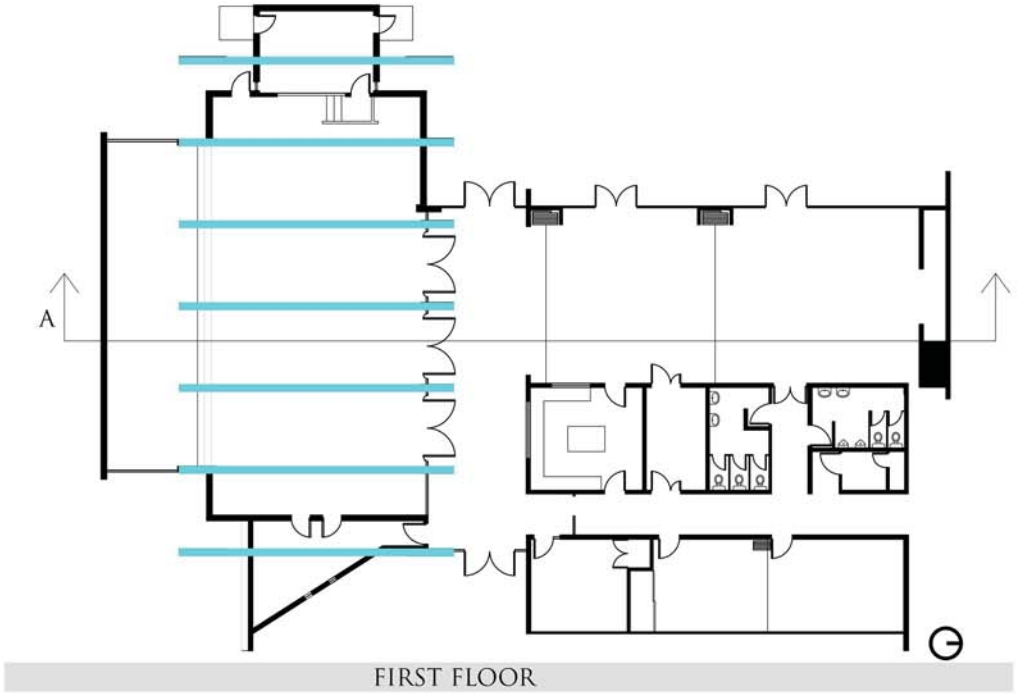

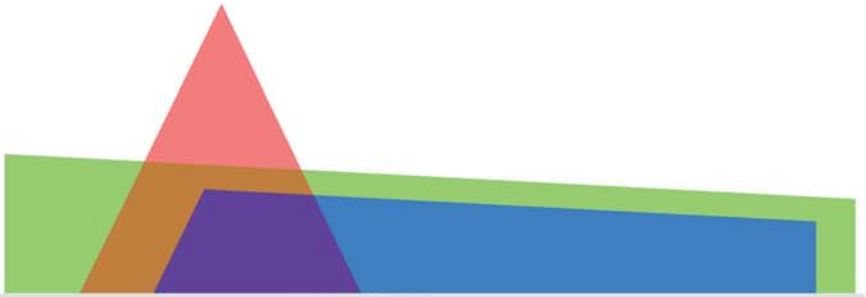

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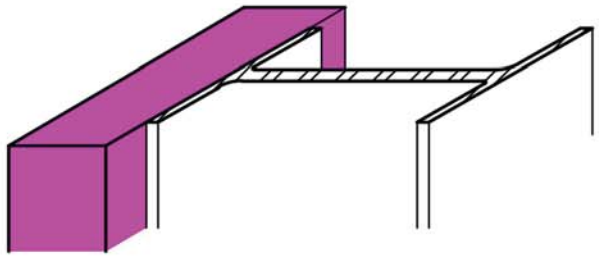

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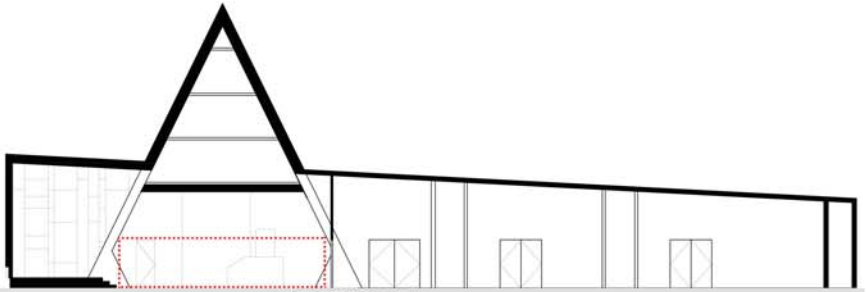
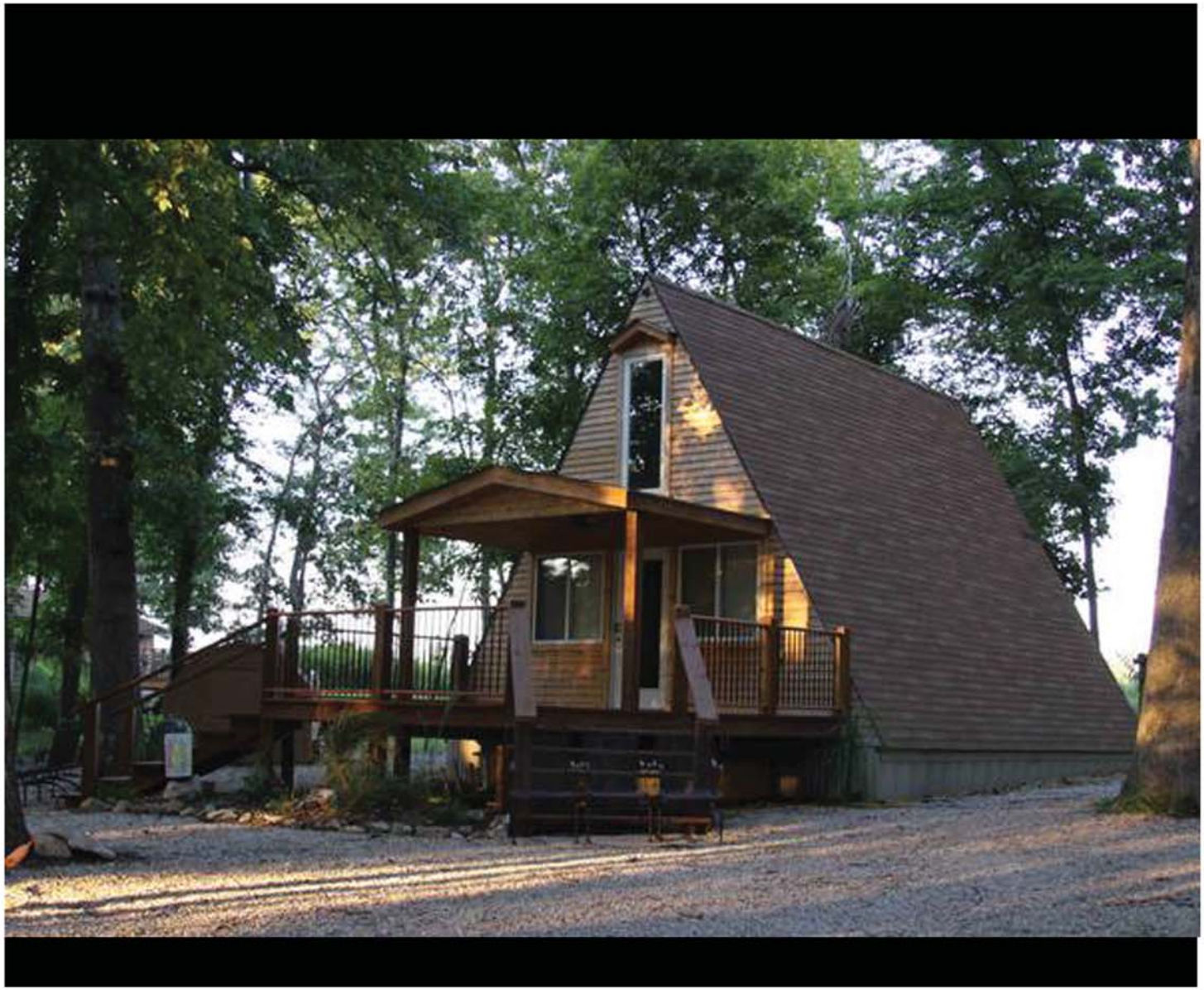


SECTION A

•http://www.archdaily.com/38054/waiuku-church-jasmax/
•http://www.jasmax.com/work/waiuku-districts-combined-churches/sectors/cultural-and-civic/1152

Lakehouse
Architect Unknown



Nick Bosman

High Hill, Misourri

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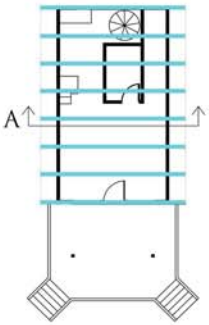
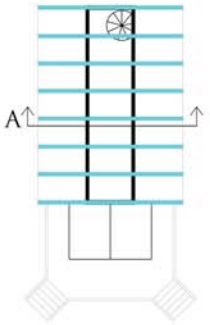
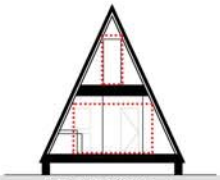




FIRST FLOOR

SECOND FLOOR



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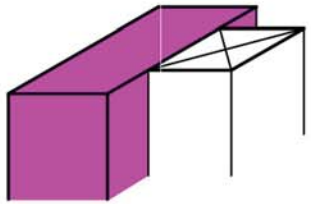
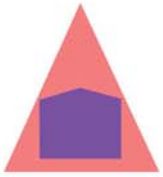


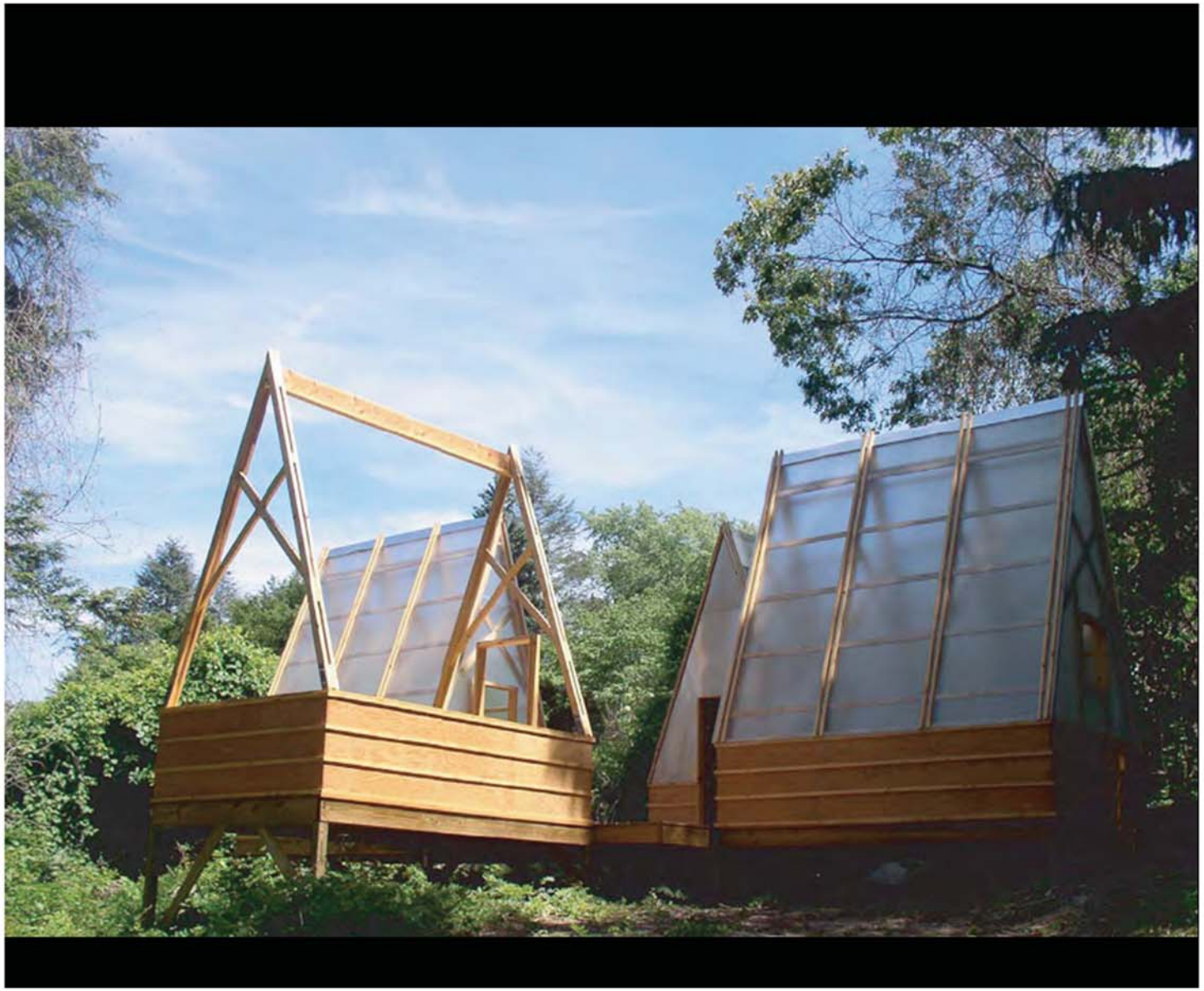
NTS



SOUTH ELEVATION

•http://stlouis.craigslist.org/reo/4426618898.html

Swamp Huts
Moskow Linn Architects



Nick Bosman

Newton, Massachusetts

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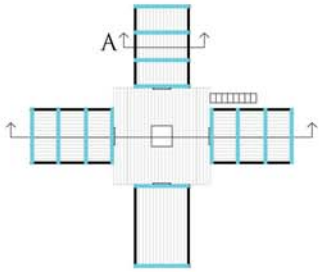
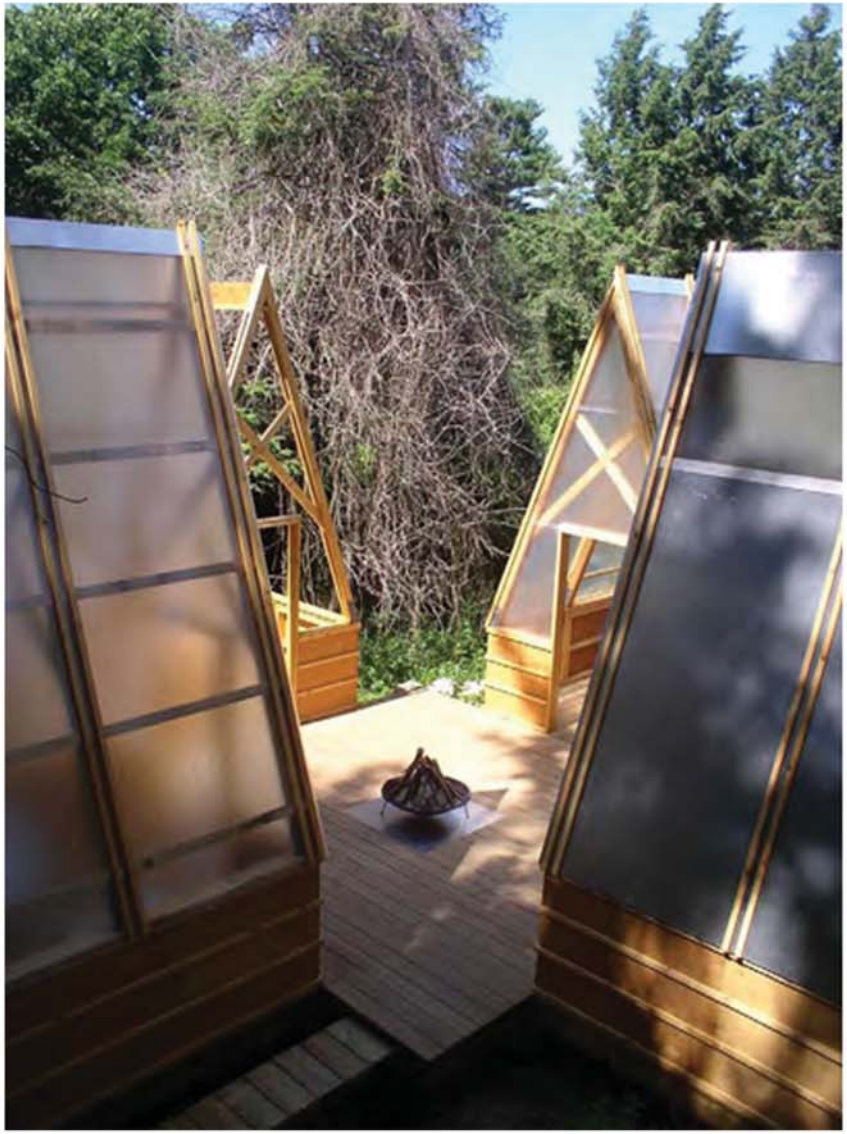
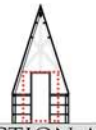


PLAN VIEW





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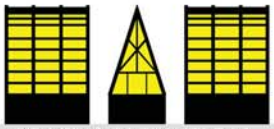

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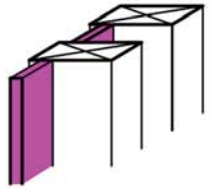

NTS

SOUTH ELEVATION

•http://www.designboom.com/architecture/moskow-linn-architects-swamp-hut/
•http://www.moskowarchitects.com/swamp.htm

Far Meadow Solar House
Unknown Architect

Nick Bosman

Yosemite, California

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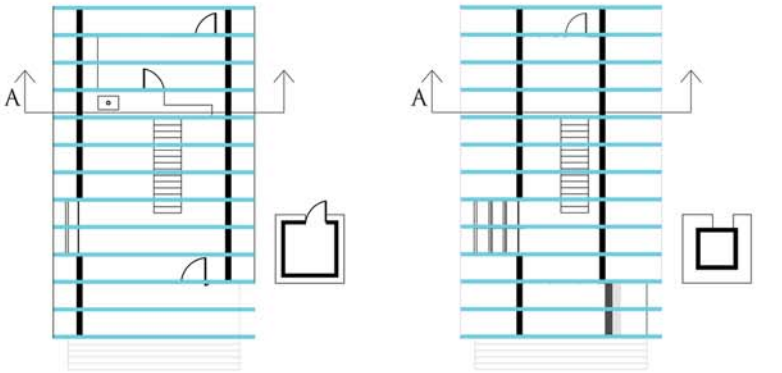

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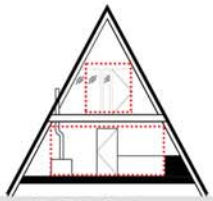


SECTION A

SOUTH ELEVATION EAST ELEVATION

NTS

SOUTH ELEVATION

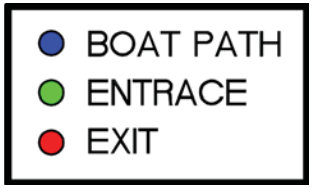
•http://www.boutique-homes.com/vacation-rentals/americas/united-states/a-frame-cabin-far-meadow/?id=Exterior

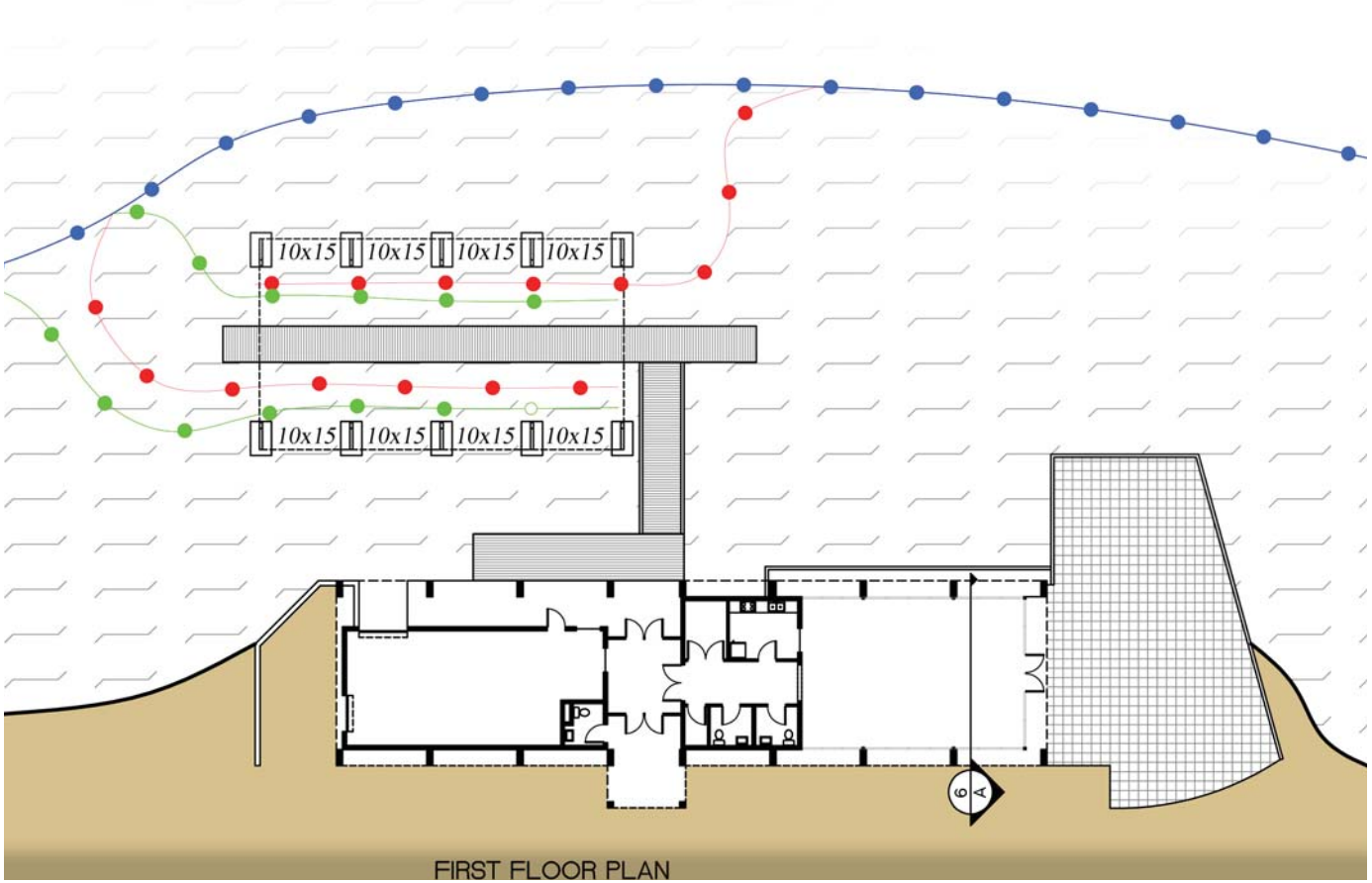
Local Boathouse

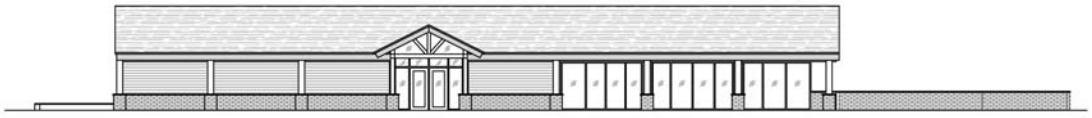
Architect Unknown

Ethan Brammeier

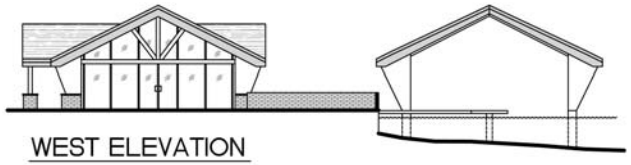
The majority of boat houses around the world have several things in common. They all serve the purpose of housing boats and many also provide living space. All of these boat houses have a secure foundation. They are supported by posts that are anchored to bed rock. This is done because the lake/river bottom is not stable enough. Because these boat houses are due to flooding. They have materials such as treated wood, metal and concrete to withstand harsh conditions.



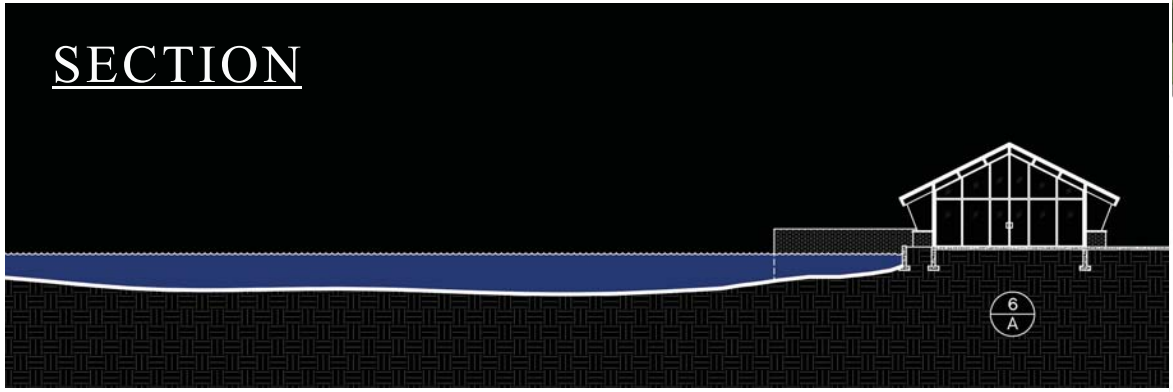


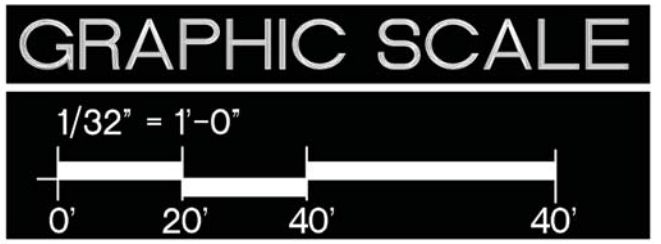


NORTH ELEVATION



WEST ELEVATION





Renderings provided by Eggemeyer Associates Architects

Ethan Brammeier

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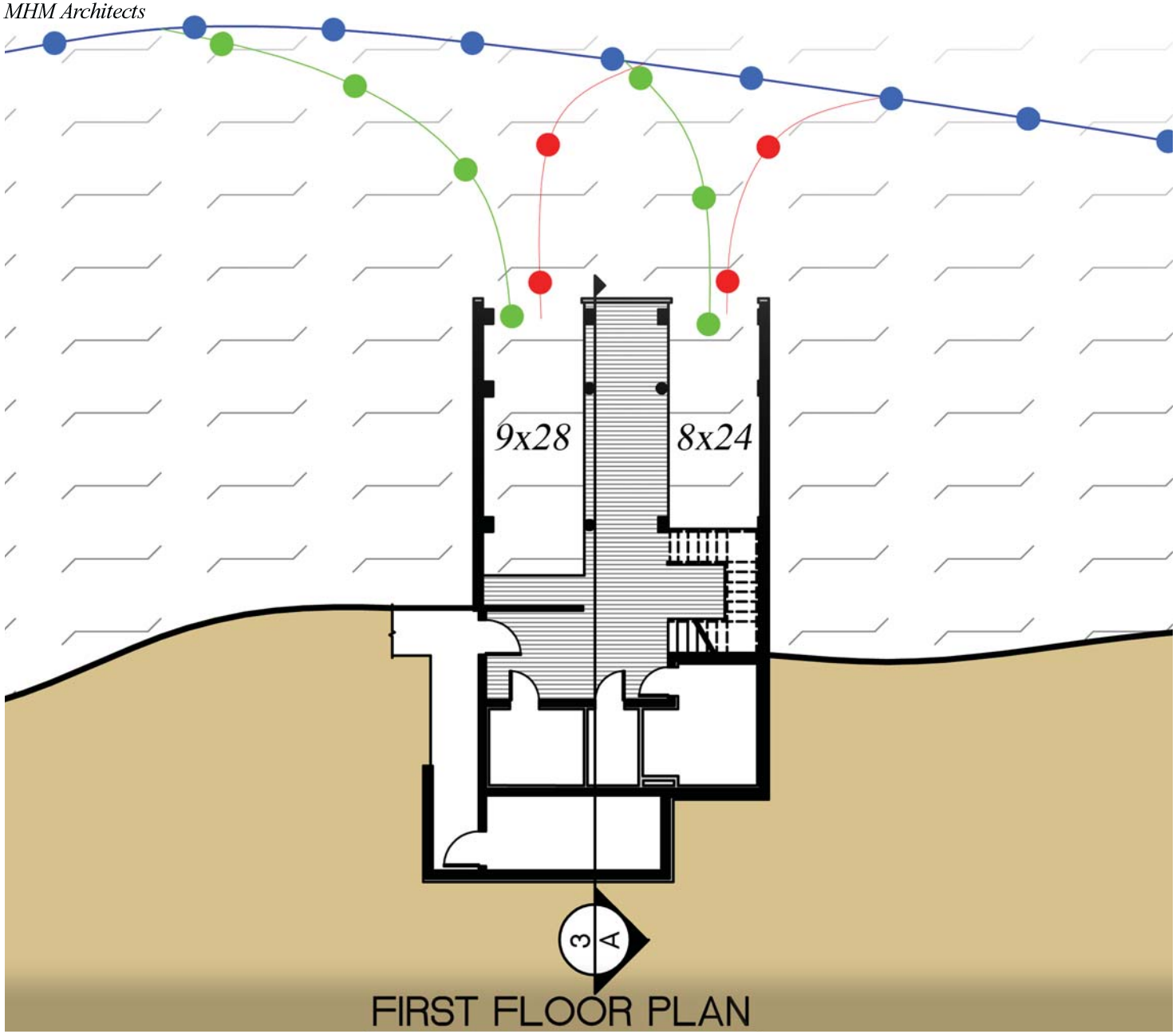
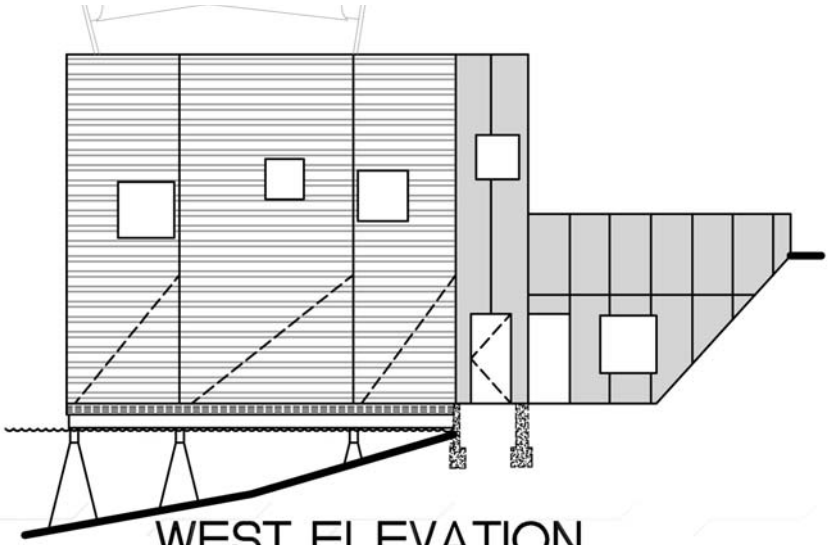
Boat House at Millstatter Lake

MHM Architects





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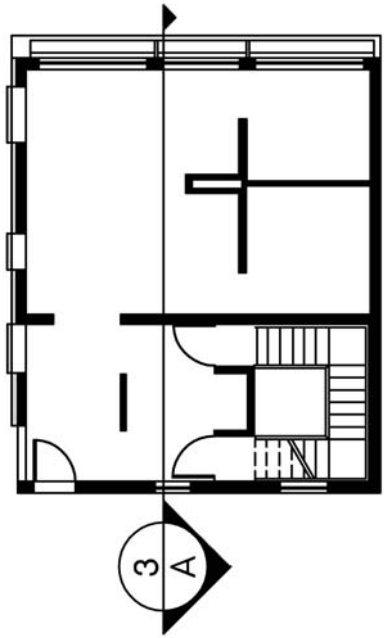
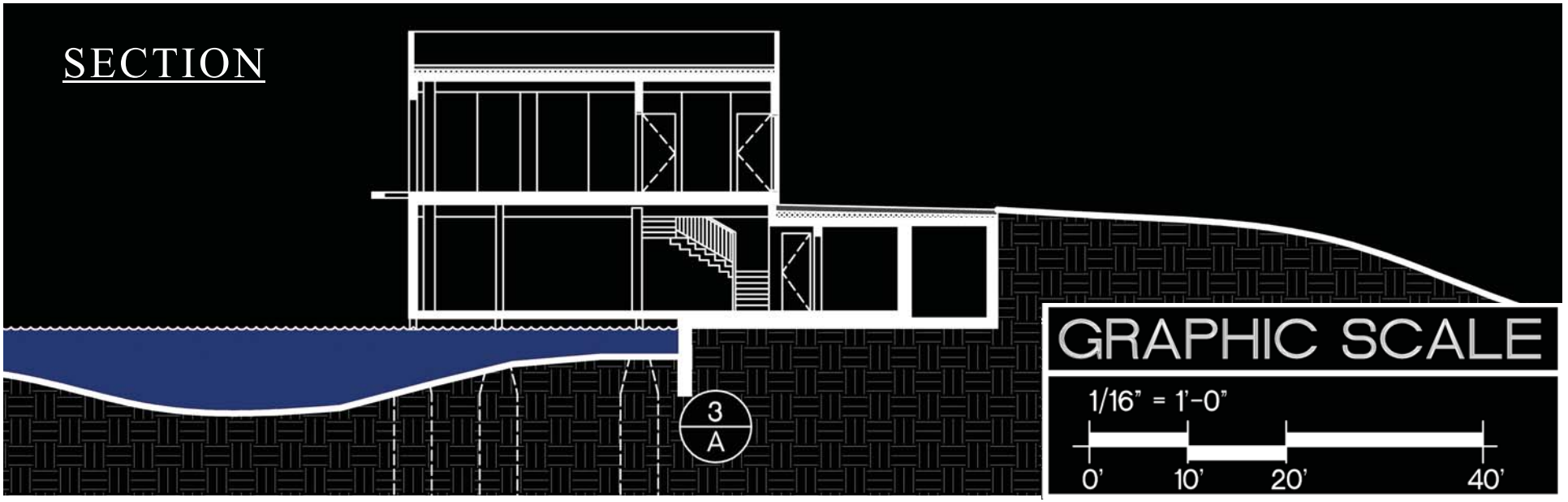


SECOND FLOOR PLAN

SECTION



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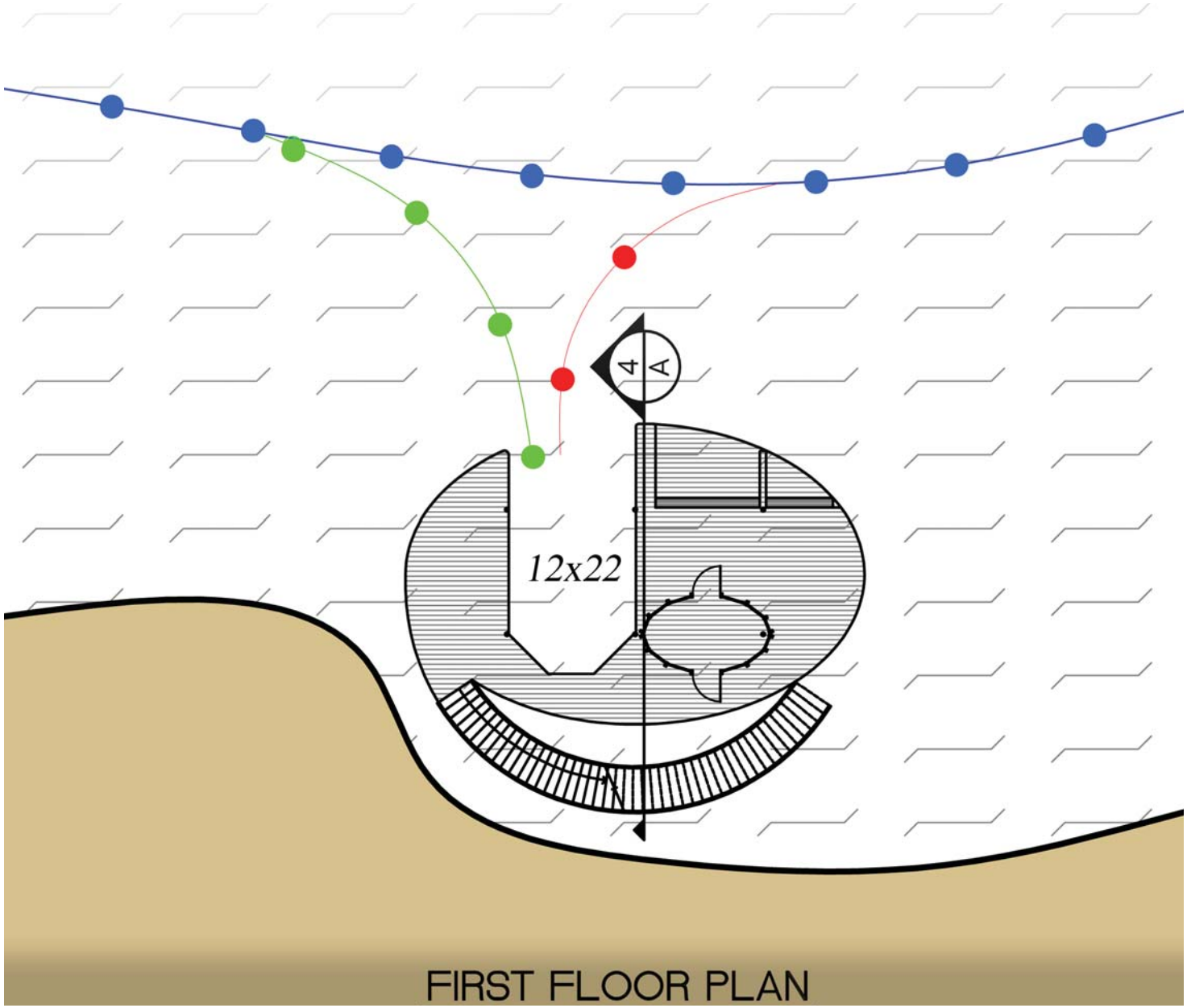
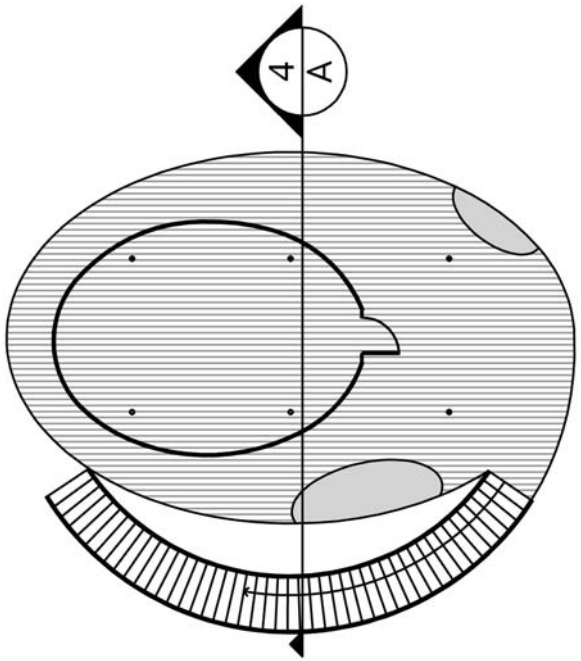
Shore Vista Boat House

Bercy Chen Studio LP





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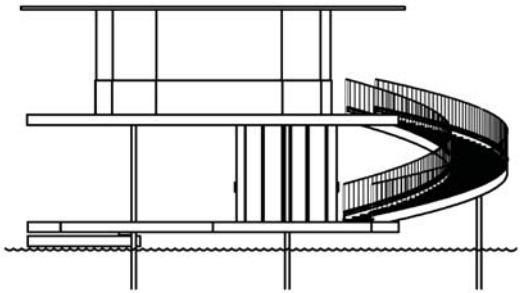

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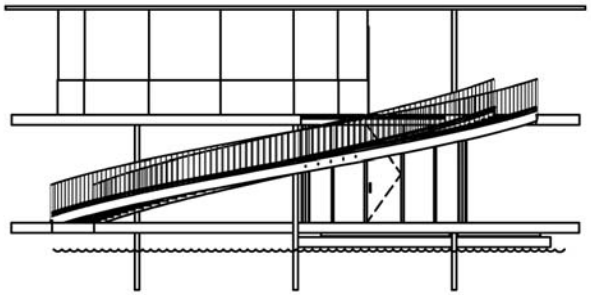

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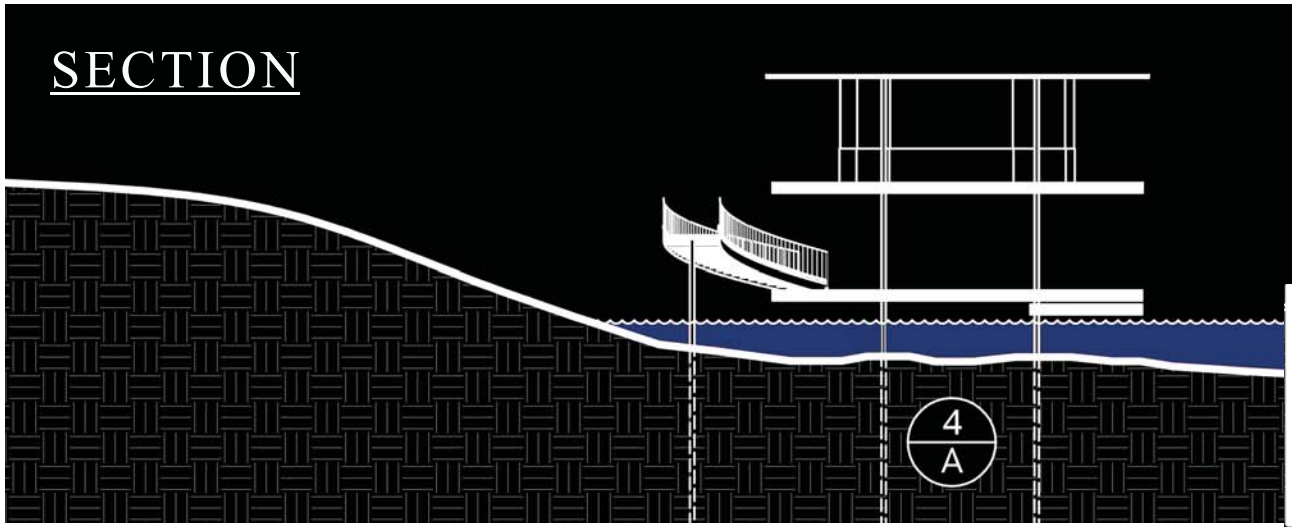

GRAPHIC SCALE

1/16" = 1'-0"

0' 10' 20' 40'

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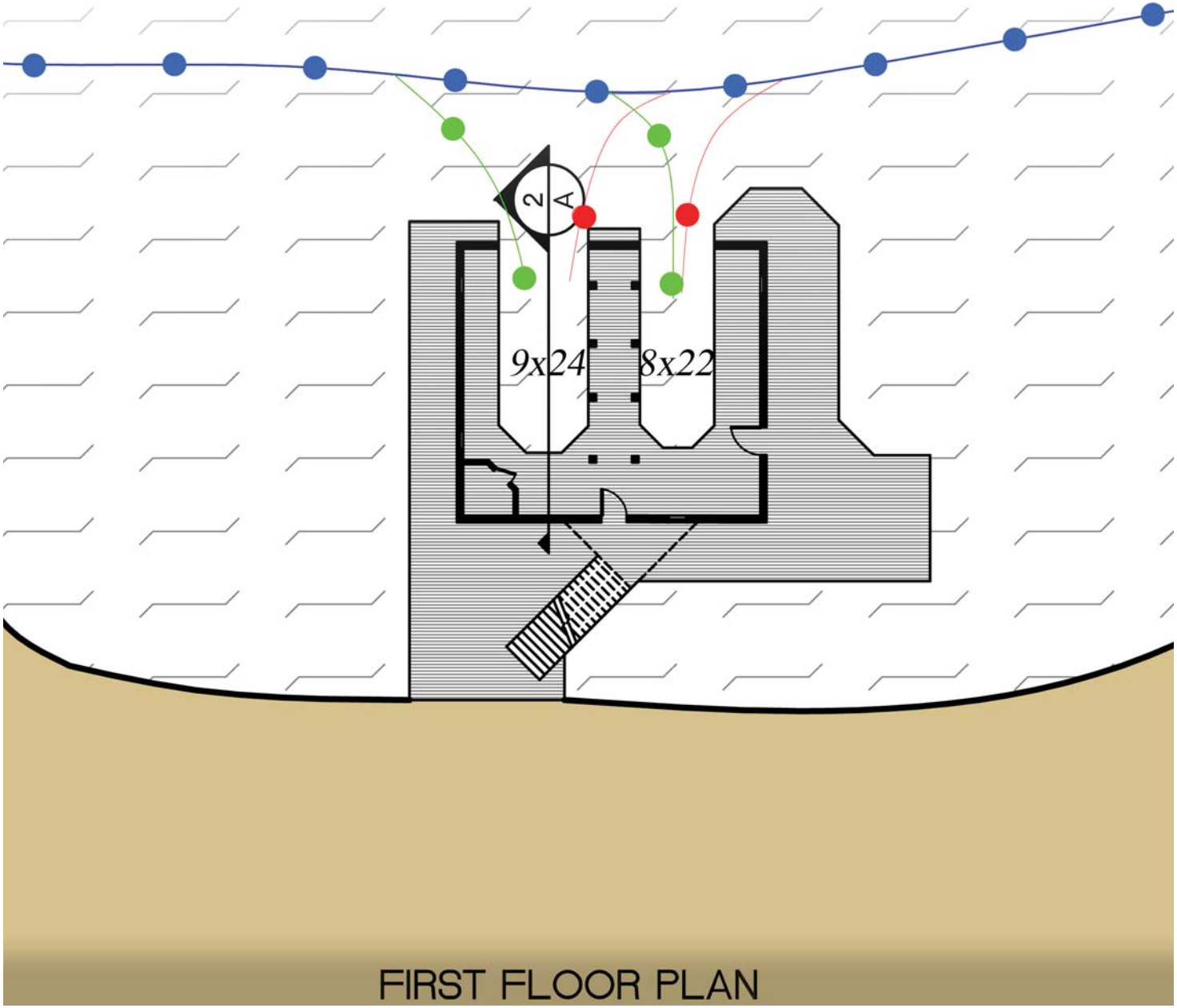
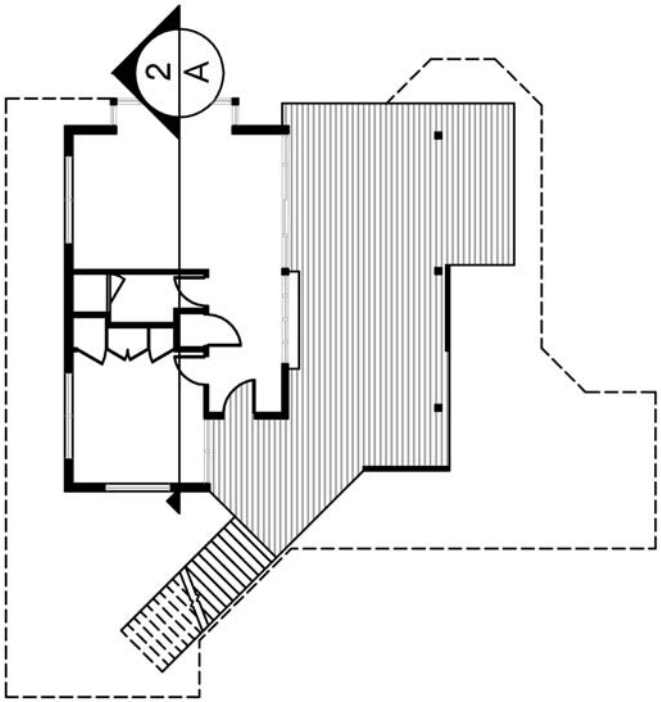
Muskoka Lakes Boat House

Christopher Simmonds Architects





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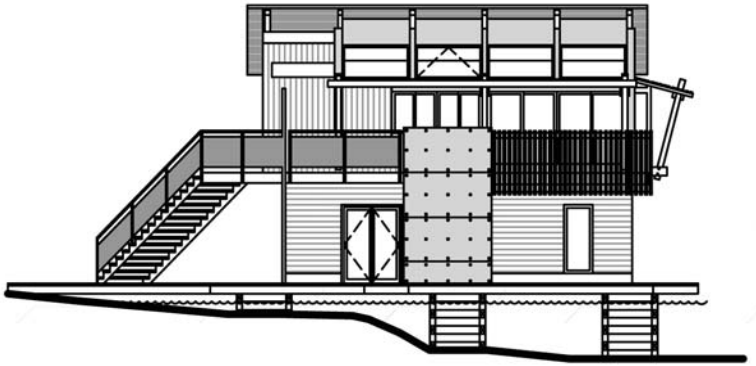

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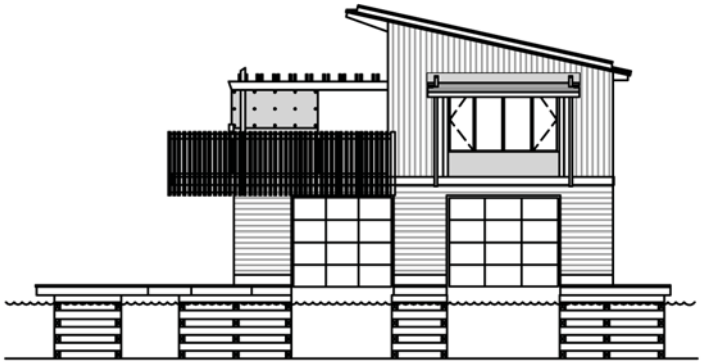
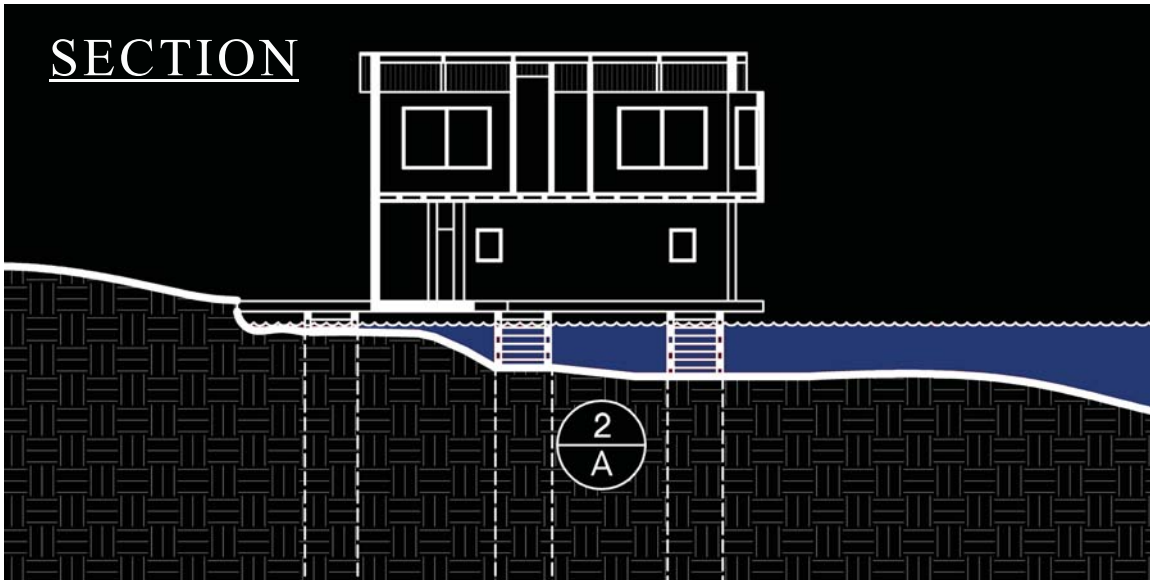


SOUTH ELEVATION

SECTION



GRAPHIC SCALE

1/16" = 1'-0"

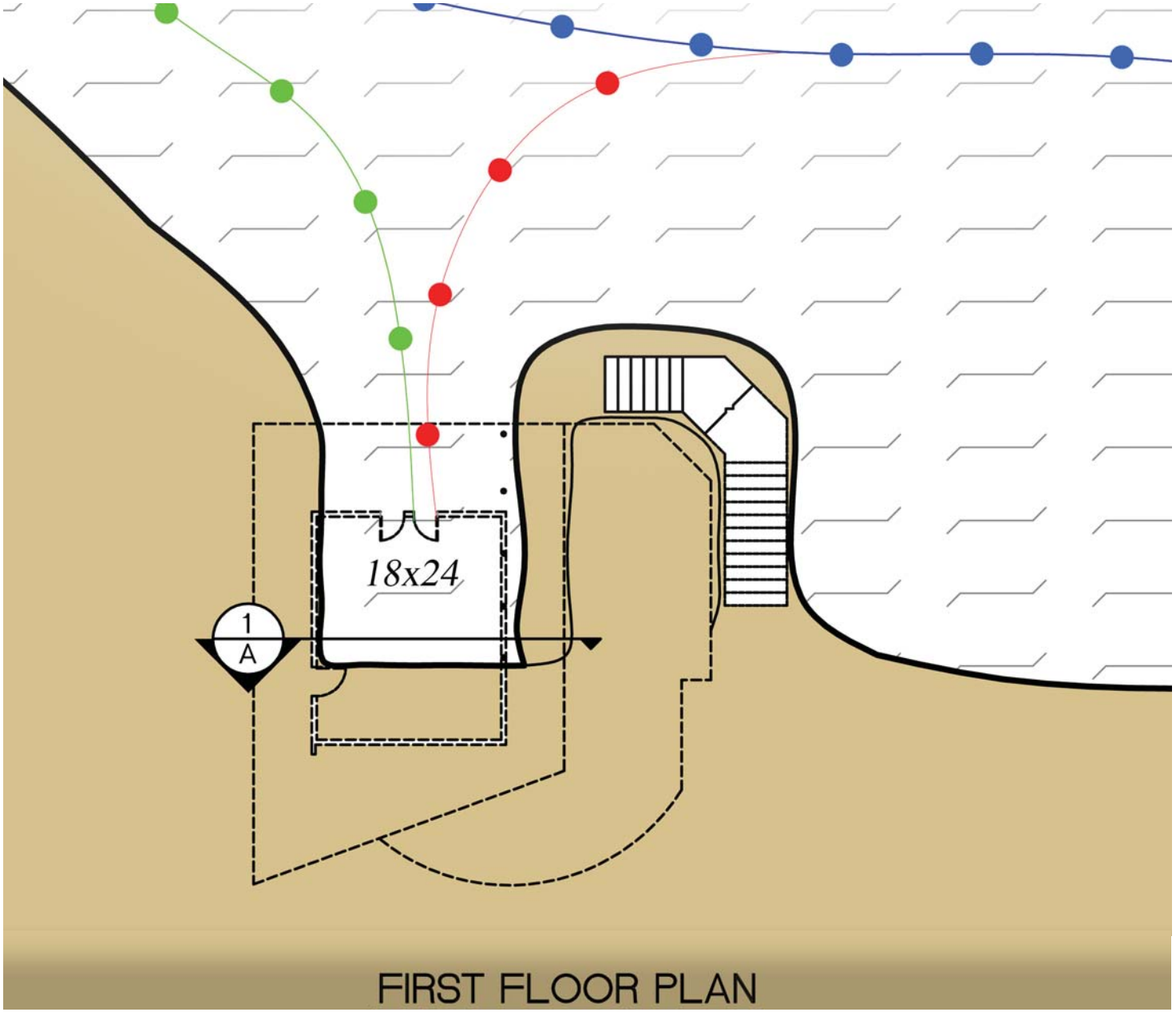
0' 10' 20' 40'

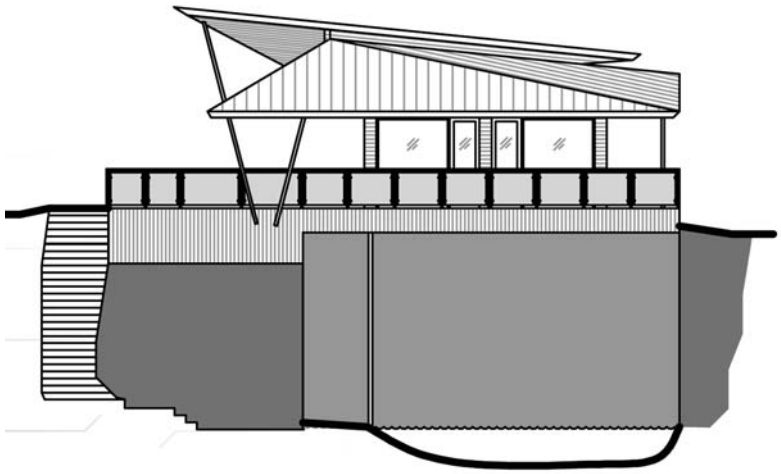
Ethan Brammeier

The majority of boat houses around the world have several things in common. They all serve the purpose of housing boats and many also provide living space. All of these boat houses have a secure foundation. They are supported by posts that are anchored to bed rock. This is done because the lake/river bottom is not stable enough. Because these boat houses are due to flooding. They have materials such as treated wood, metal and concrete to withstand harsh conditions.

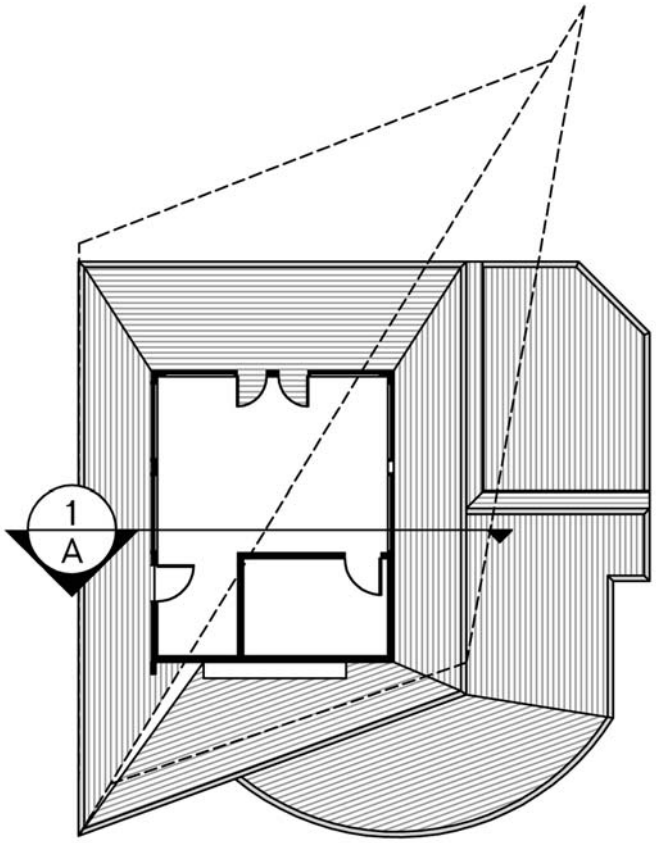
Boat House over a Cave

McKenzie Strickland Associates

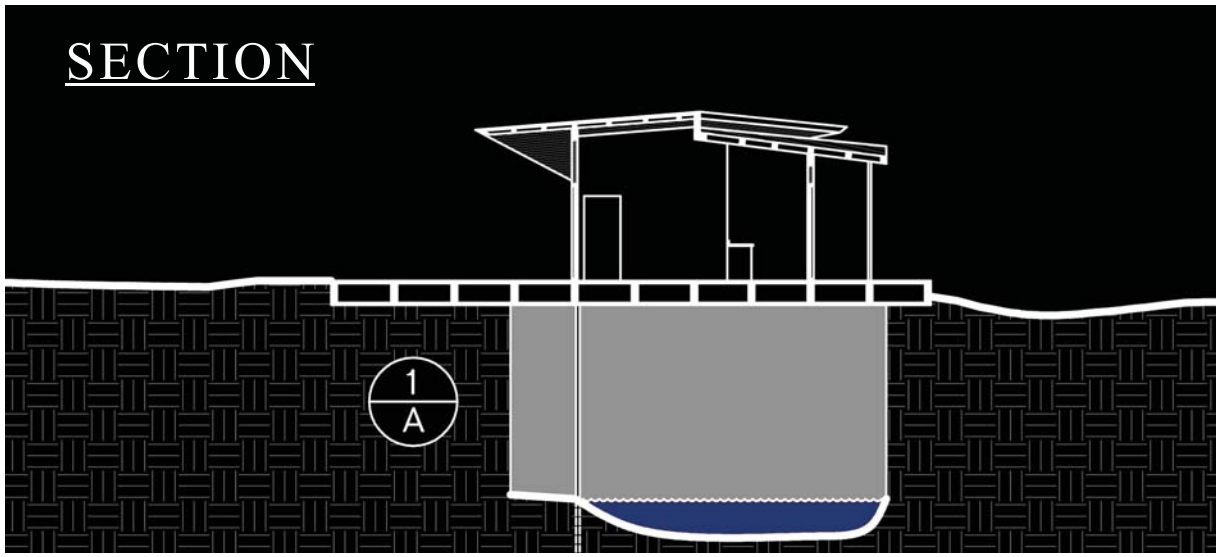


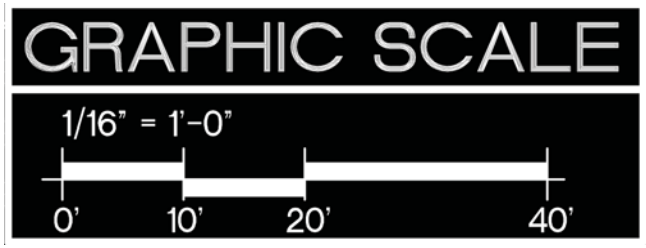


NORTH ELEVATION



SECOND FLOOR PLAN





Ethan Brammeier

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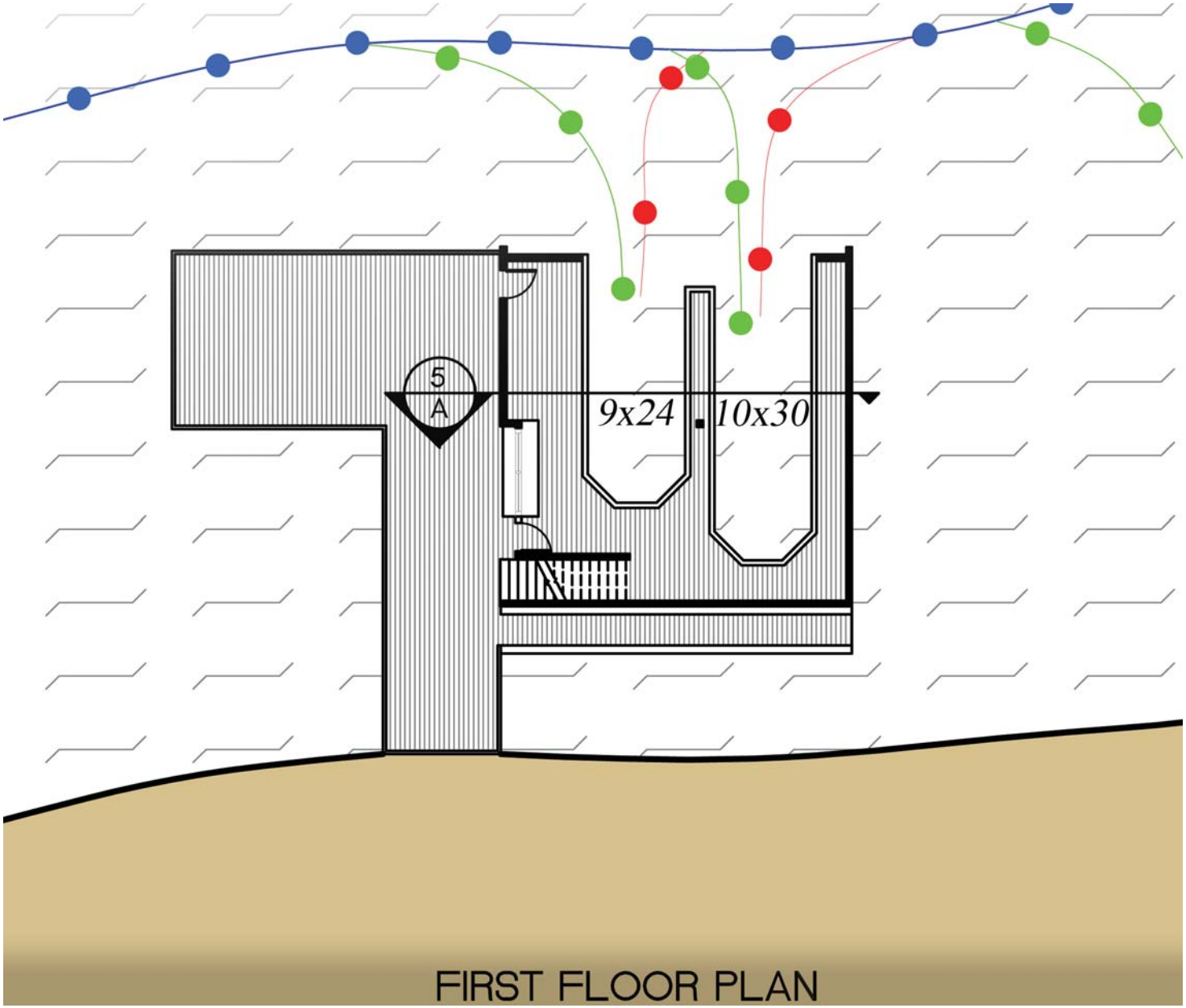
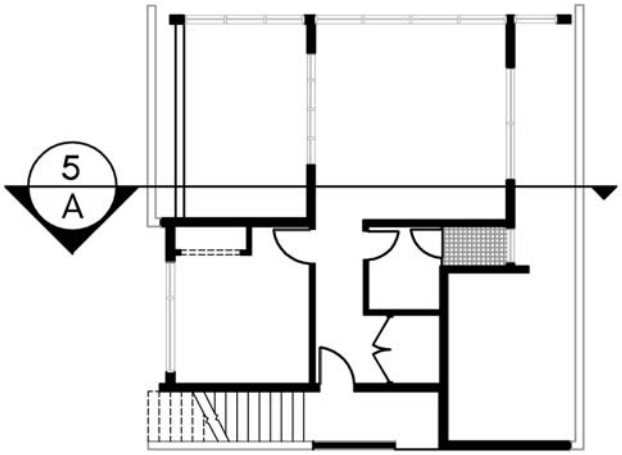
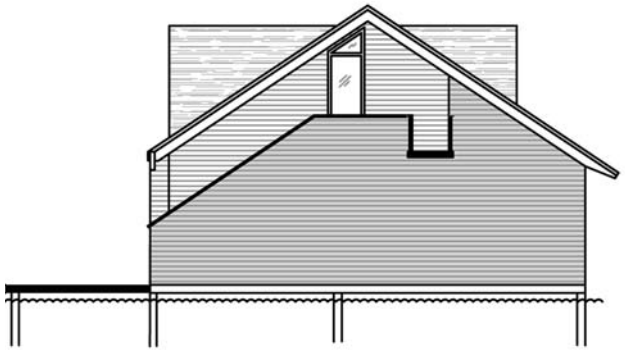
Boat House at Lake Joseph

Altius Architects





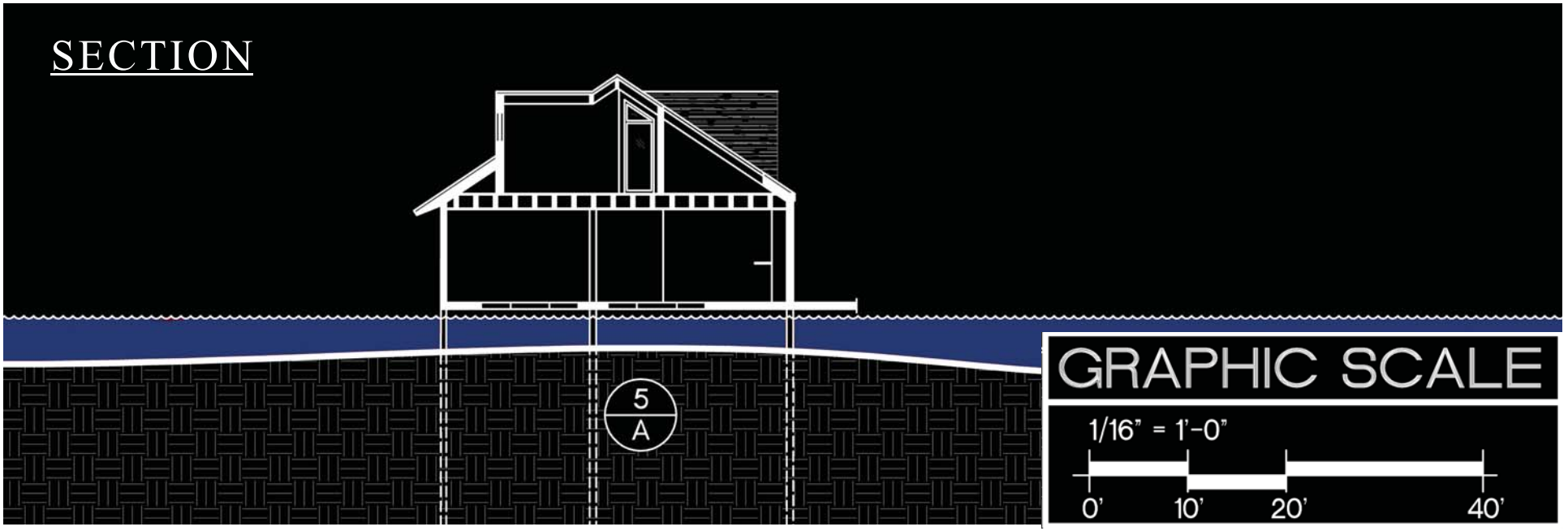
SECOND FLOOR PLAN



SOUTH ELEVATION

WEST ELEVATION

SECTION



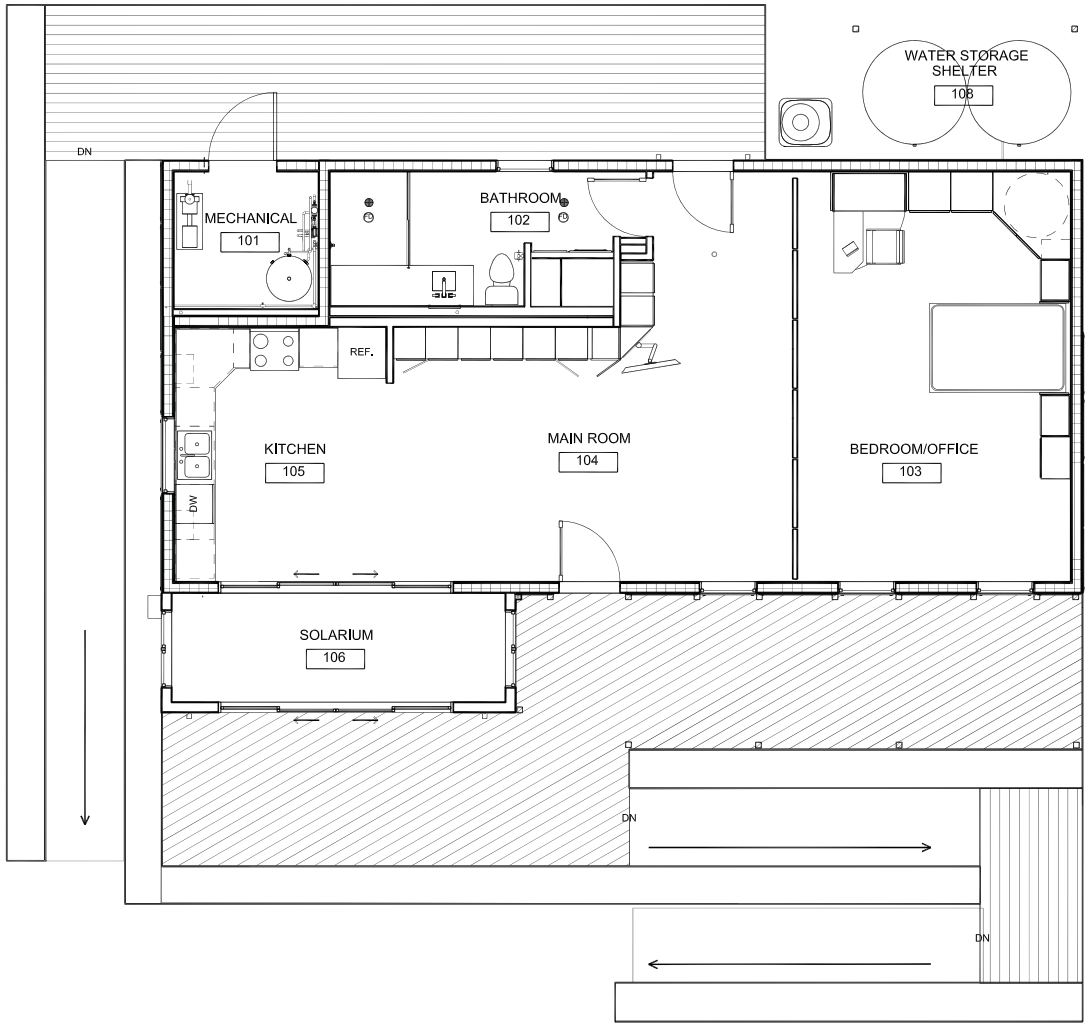
Chameleon House

Missouri University of Science and Technology

Alexander Carter

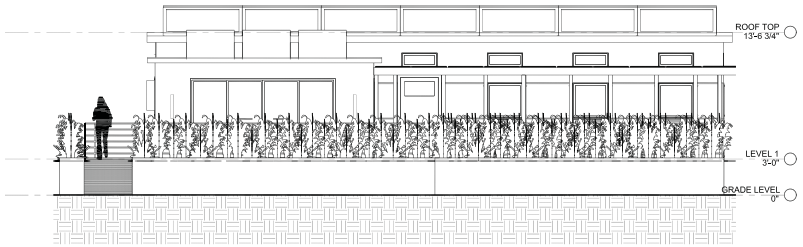
Chameleon House rejects a paradigm of technology for technology's sake. Instead, its creators were guided by the belief that technology is important only to the extent that it significantly enhances a user's experience. The design avoids unnecessary complexity in favor of a simple approach that uses seamless engineering of systems to prove that sustainable living can be easy and enjoyable. Chameleon House continuously adapts to its surrounding environment and integrates multiple technologies to maximize comfort and flexibility.

http://www.solardecathlon.gov/past/2013/team_missouri.html

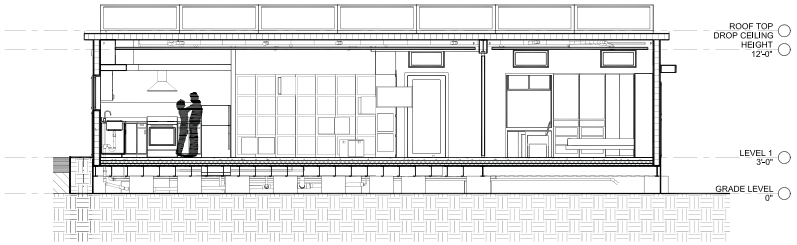


FLOOR PLAN
NOT TO SCALE

http://www.sips.org/gallery/residential-photos

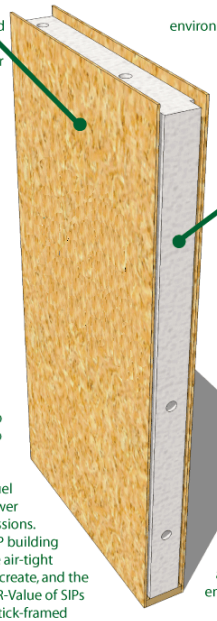


SOUTH ELEVATION
NOT TO SCALE



CROSS SECTION
NOT TO SCALE

Structural Insulated Panels-(SIP)



OSB is made from fast-growing, small-diameter trees that can be harvested from plantations, avoiding the need for cutting old-growth trees. Even the smallest scraps of wood can be turned into OSB, virtually eliminating waste.

EPS FOAM is a recyclable material that is completely inert in the environment, and is in fact often used as a soil additive. Producing EPS foam insulation requires less energy than producing fiberglass insulation, and no CFCs are used in the process.

ENERGY EFFICIENCY

SIP homes require up to 50% less energy to heat and cool than stick-framed homes, meaning less fossil fuel consumption and fewer greenhouse gas emissions. The efficiency of a SIP building is a result of both the air-tight envelope the panels create, and the substantially higher R-Value of SIPs when compared to stick-framed walls.

AIR QUALITY

SIP panels release no volatile organic compounds (VOCs). Furthermore, because SIP-built structures are so air-tight, indoor air quality can be closely controlled, a huge advantage for those with environmental or chemical allergies.

CROSS SECTION
NOT TO SCALE

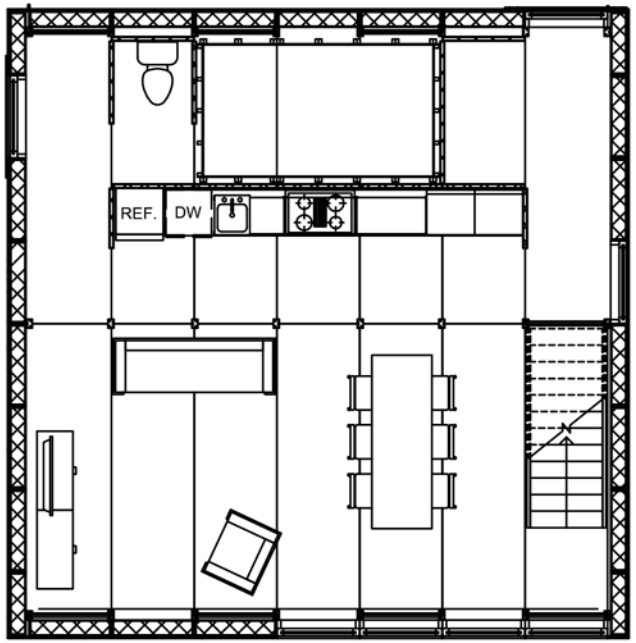
E-Cube

Team Belgium-Ghent University

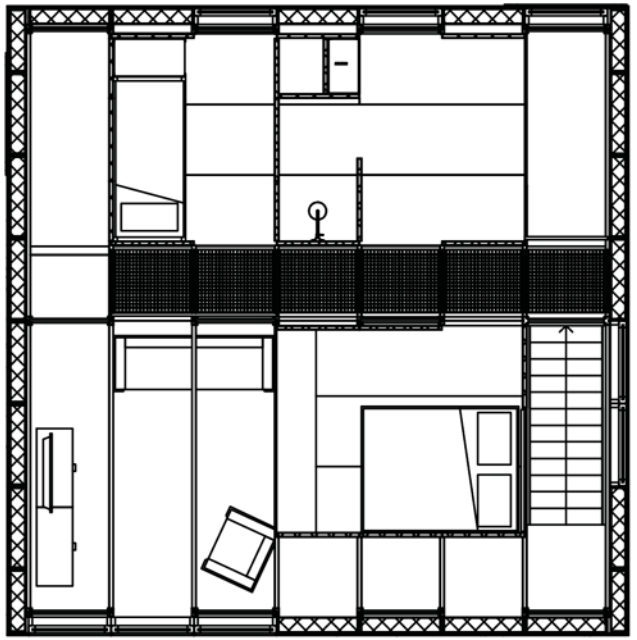
Alexander Carter

The team was primarily interested in creating a comfortable, solar-powered house with a lot of space on a small budget. A conscious effort was made to avoid letting gadgetry dominate the overall experience of the house, so technical installations were grouped in a small compartment, and the photovoltaic system was placed on the flat roof out of sight.

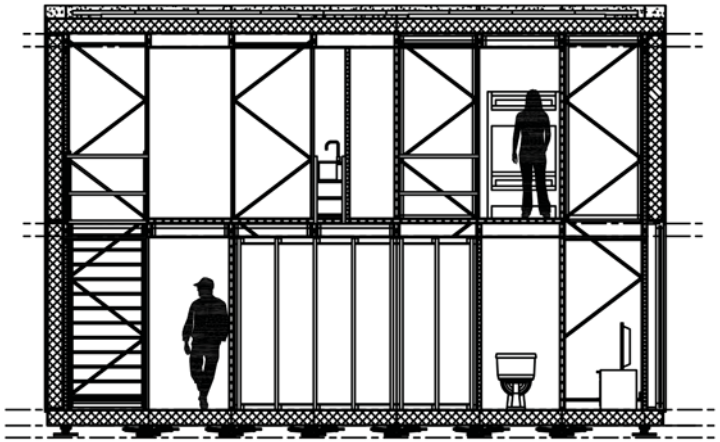
http://www.solardecathlon.gov/past/2011/team_belgium.html



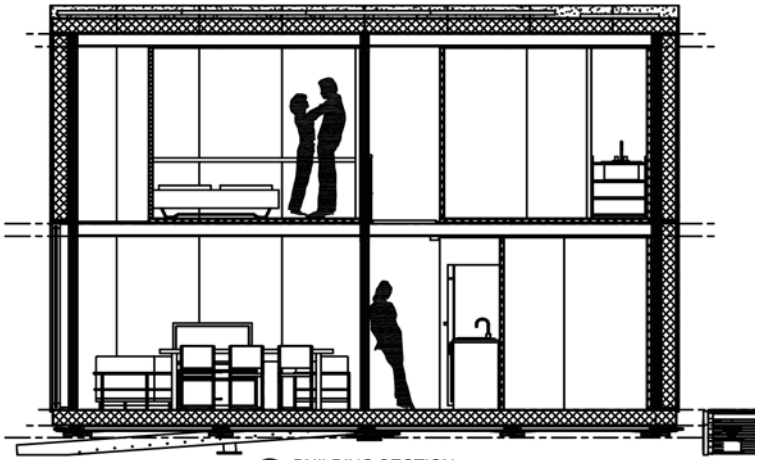
FIRST FLOOR



SECOND FLOOR



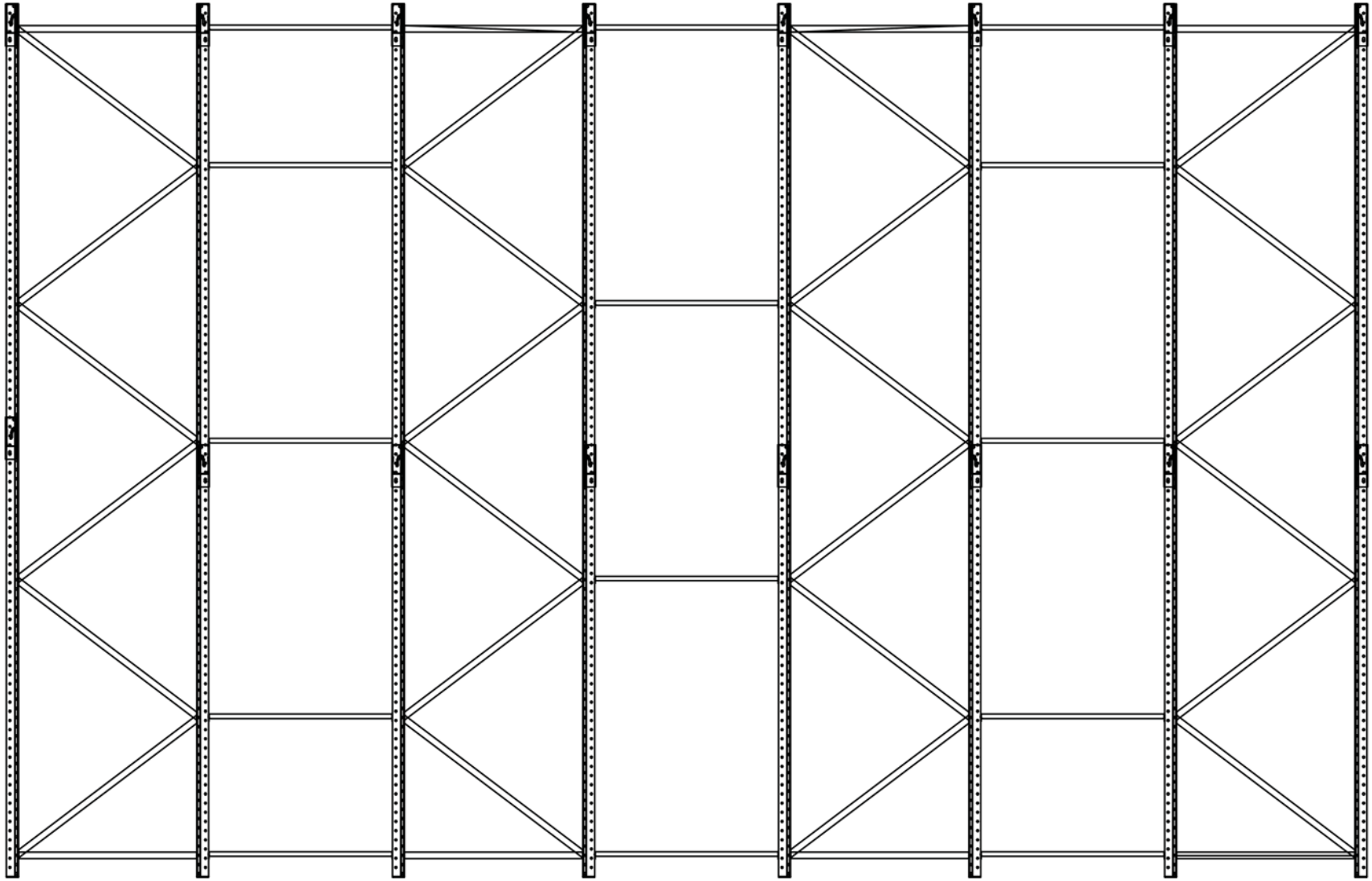
BUILDING SECTION



BUILDING SECTION

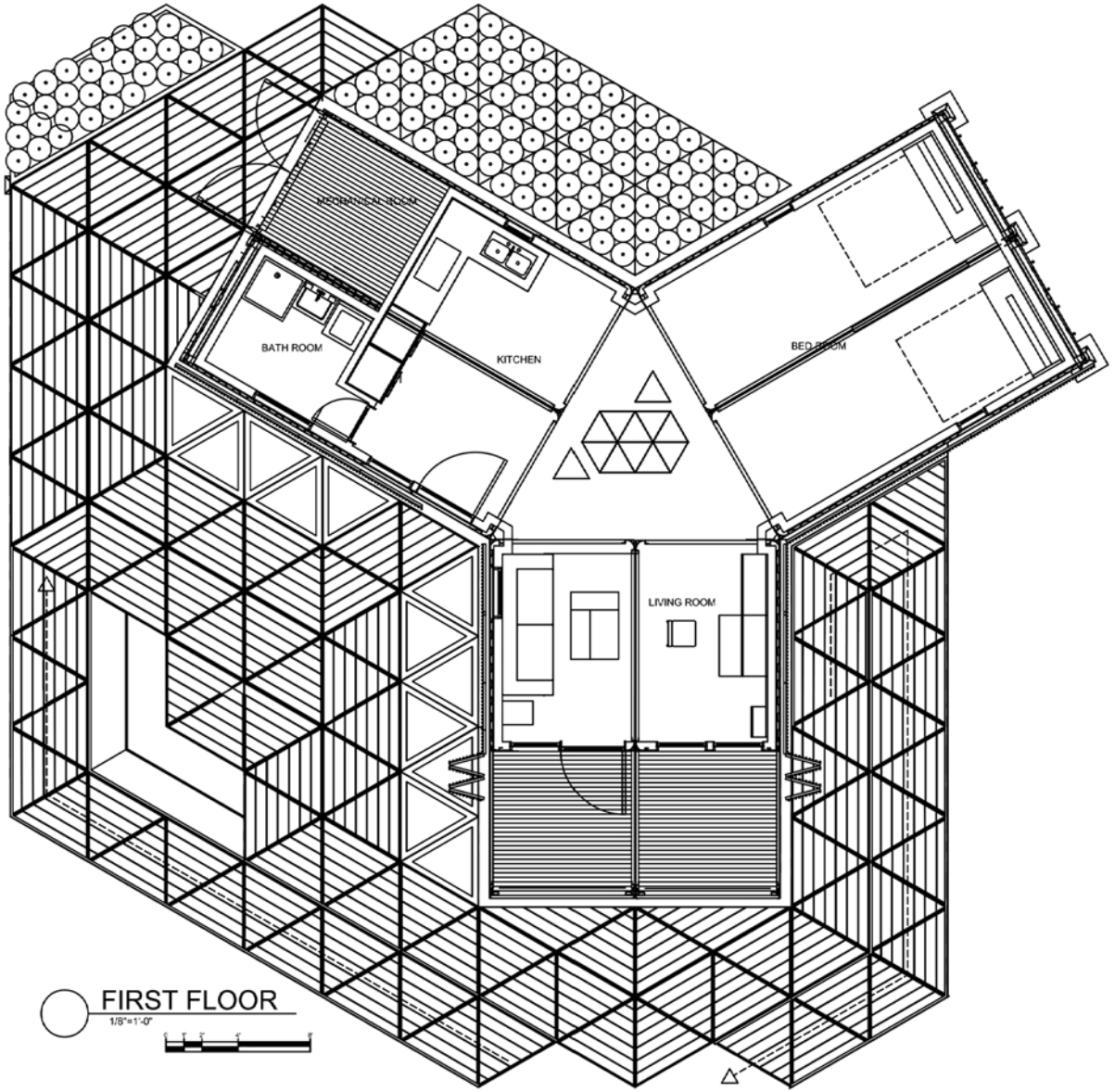
Structural Framing System

A standard pallet rack system that creates the main structure using a bolt-less assembly process.



Y-Container

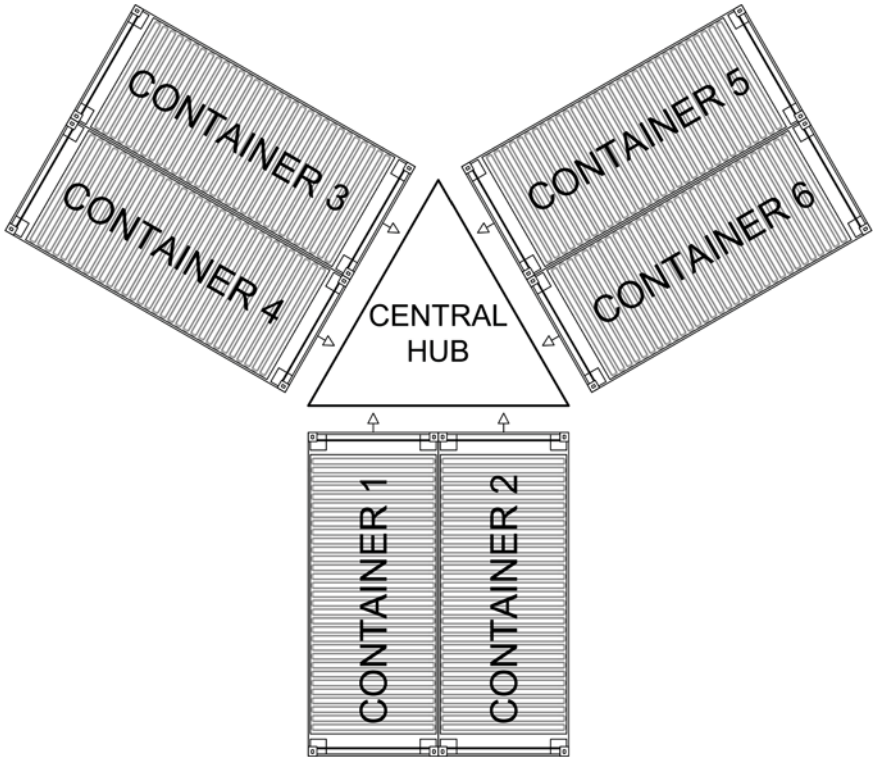
Team China-Tongji University



Alexander Carter

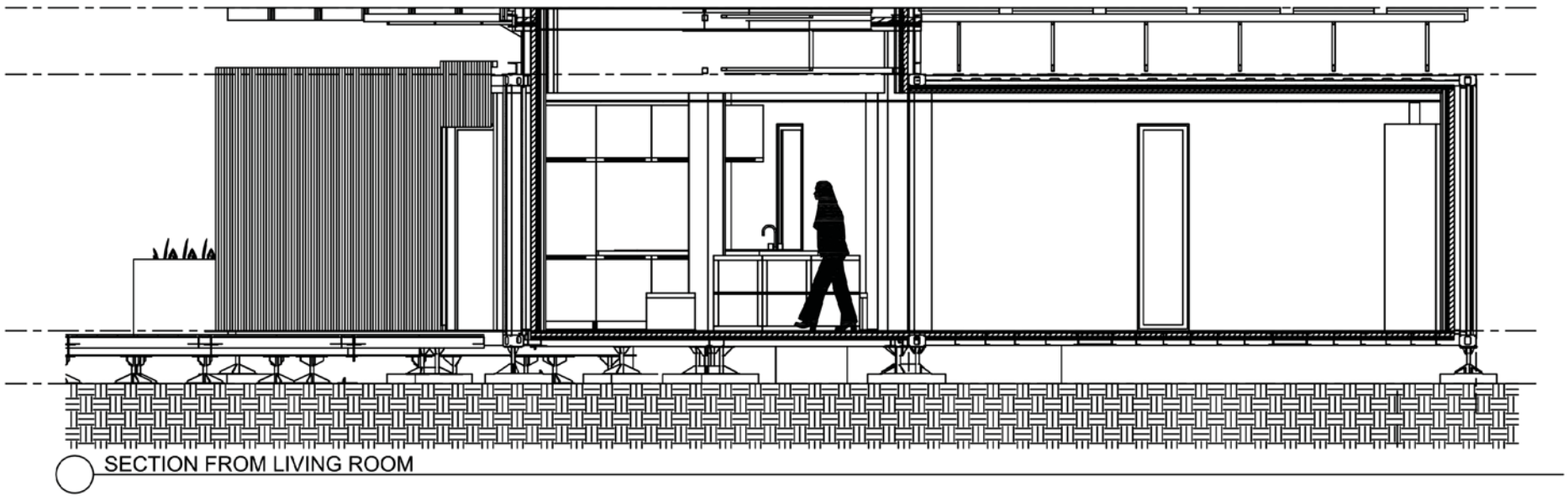
Team China designed its solar house not only as a highly integrated solution for supplying energy and water but also as an answer to financial and transportation challenges. The team's design transforms prefabricated shipping containers into a modern living environment. Founded on the expectation that one can live anywhere freely, Y Container uses these standard modules and special conjunction components to help people expand their living space according to their wishes.

http://www.solardecathlon.gov/past/2011/team_china.html



Shipping Container Layout

Recycled shipping containers where used as the primary structural and architectural elements for Team China's modular design.



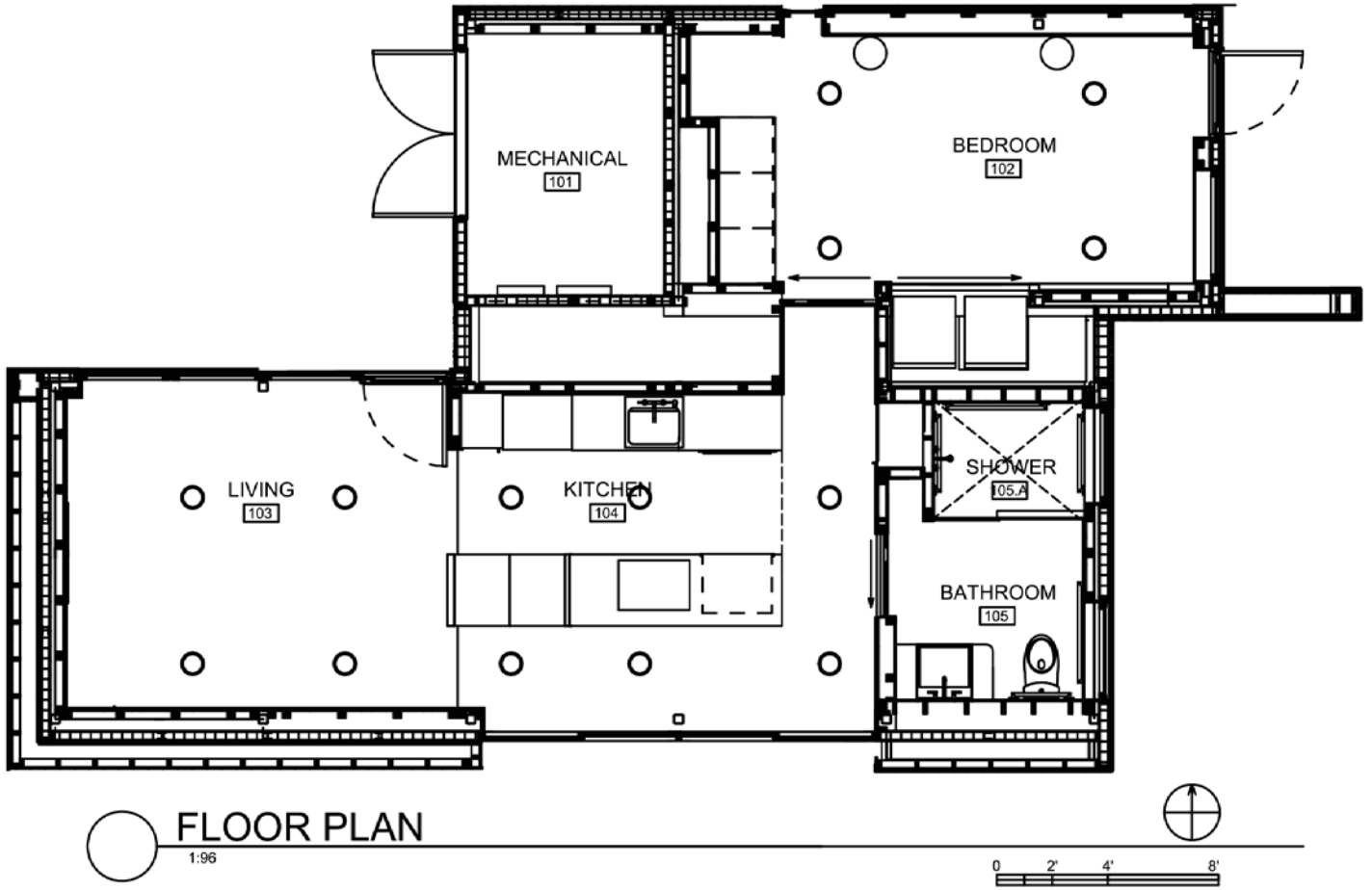
Harvest Home

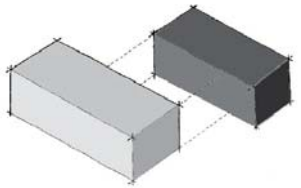
Team DC Capitol-The George Washington University, The Catholic University of America, American University

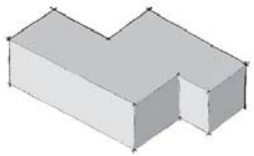
Alexander Carter

HARVEST HOME is rooted in humanistic, scientific, and spiritual values. The house is designed to calm the mind, body, and spirit through the use of public and private spaces, multiple decks, and rich landscaping. By fostering interaction with the house's energy systems and edible garden, HARVEST HOME promotes a greater appreciation of life, personal strength, and recognition of new life possibilities.

http://www.solardecathlon.gov/past/2013/team_capitol_dc.html

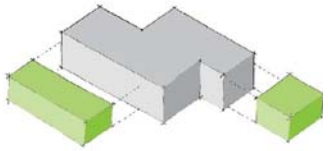


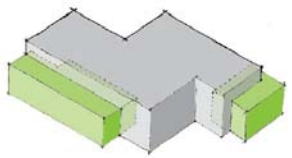




PUBLIC VS. PRIVATE.

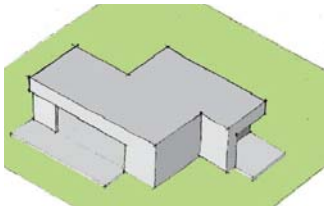
The home is separated into two modules, public and private, whose primary goals are to create a physical and sensory connection with nature. Surrounding the home are various decks that extend the living spaces, blending the interior with the exterior and expanding our overall footprint.





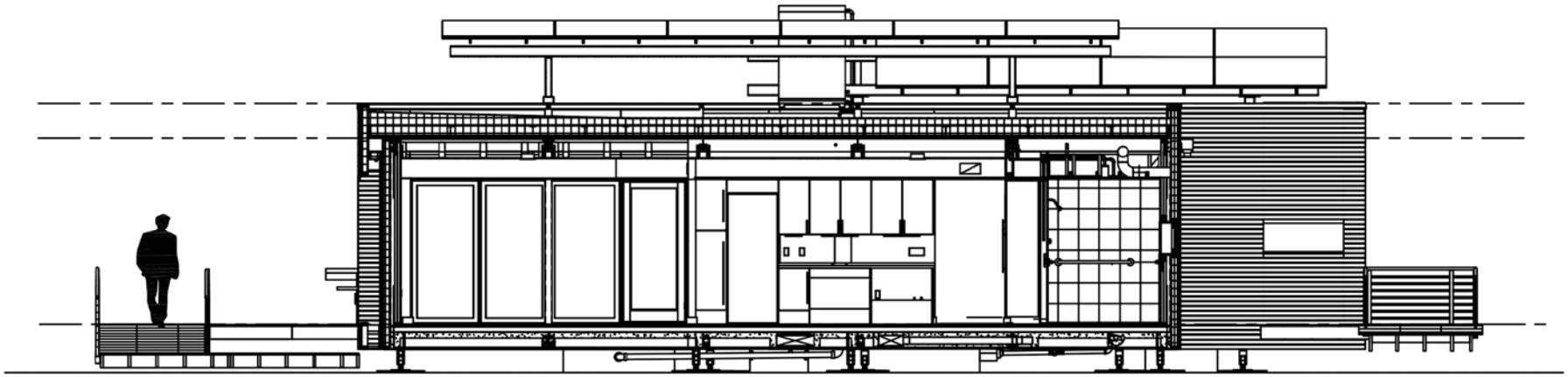
RECONNECTING WITH NATURE.

HARVEST HOME reconnects the veteran with the American environment and community, through the creation of an interconnected lifestyle with both the house's functionality and its relationship with nature.



OUTDOOR LIVING SPACE.

By treating these outdoor spaces as additional "living and dining rooms," we can double the usable space of the home. With rich landscaping, easy to use energy-efficient systems, and net zero initiatives, HARVEST HOME will create a healing environment for the veteran to clam the mind, body, and spirit.



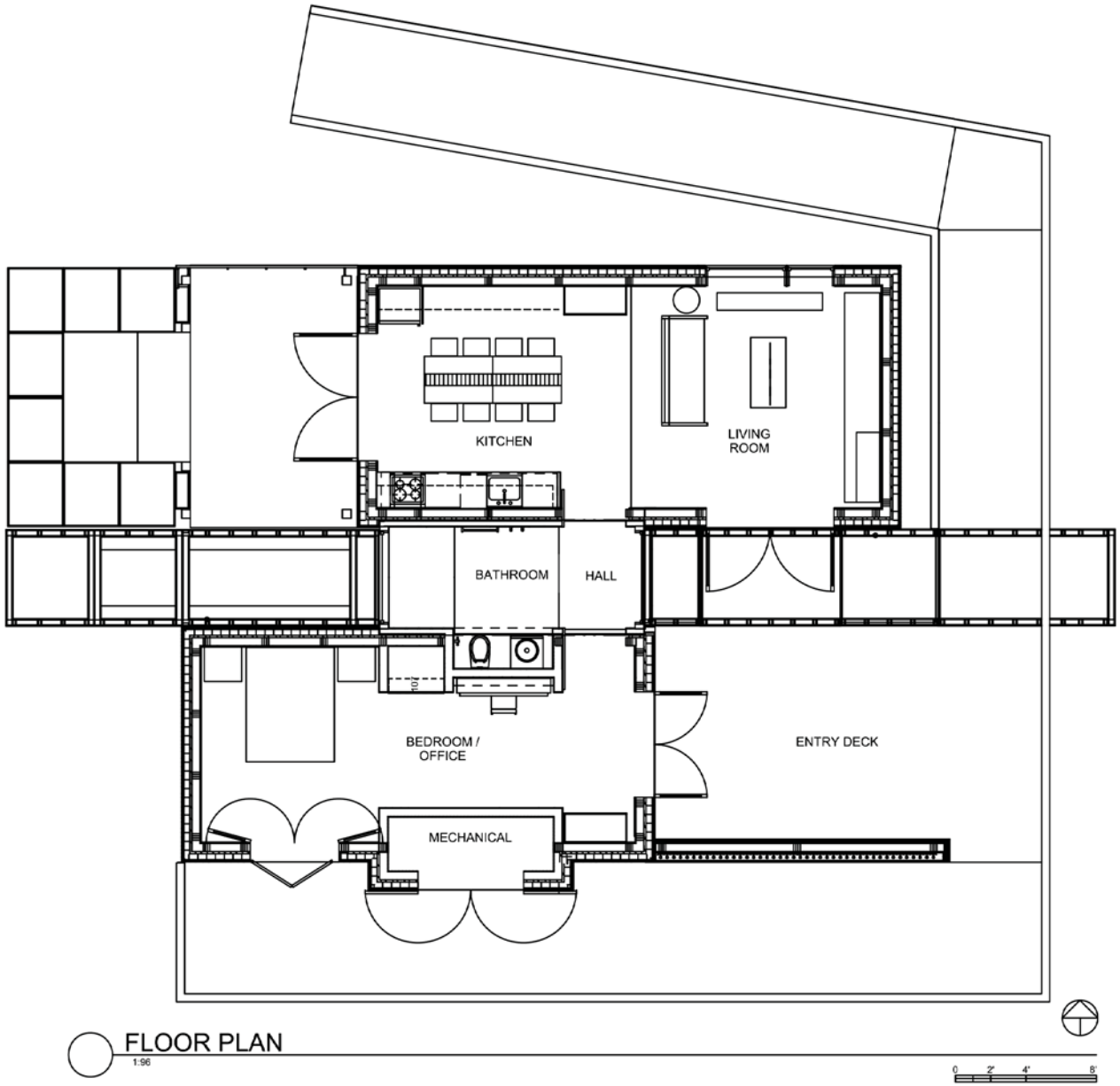
Watershed House

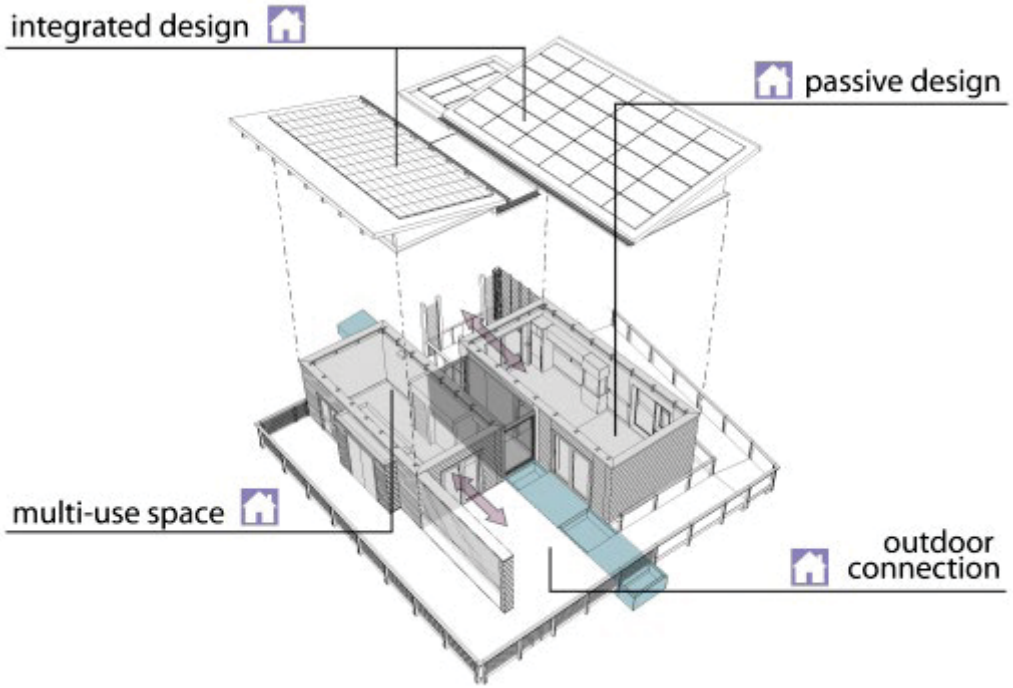
University of Maryland

Alexander Carter

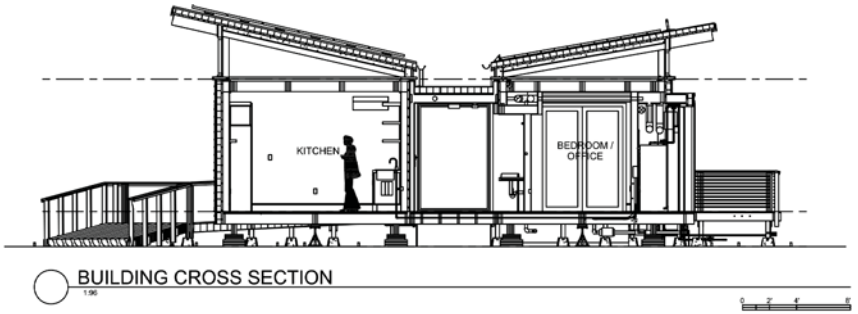
The forms of the house highlight the path of a water drop. WaterShed's split butterfly roofline highlights storm water runoff from each module, directing and collecting it into the water axis at the core of the house. Water used within the house intersects this axis through a consolidated mechanical core. Spatially, the house is designed as two "shed" modules slid apart along the central water axis and connected by a third module: the hyphen. The two larger modules express the programmatic intent of a live/work environment by physically separating the public and private realms. The hyphen houses the bathroom and highlights the connection between interior water uses and the wetland axis outside.

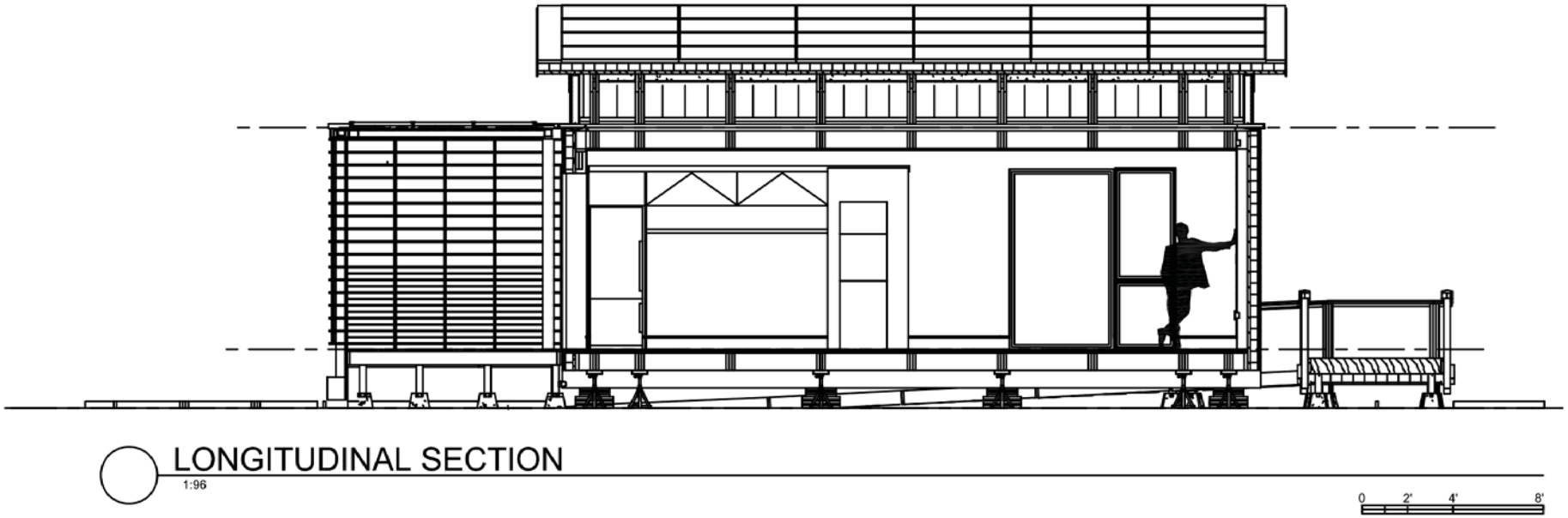
http://www.solardecathlon.gov/past/2011/team_maryland.html





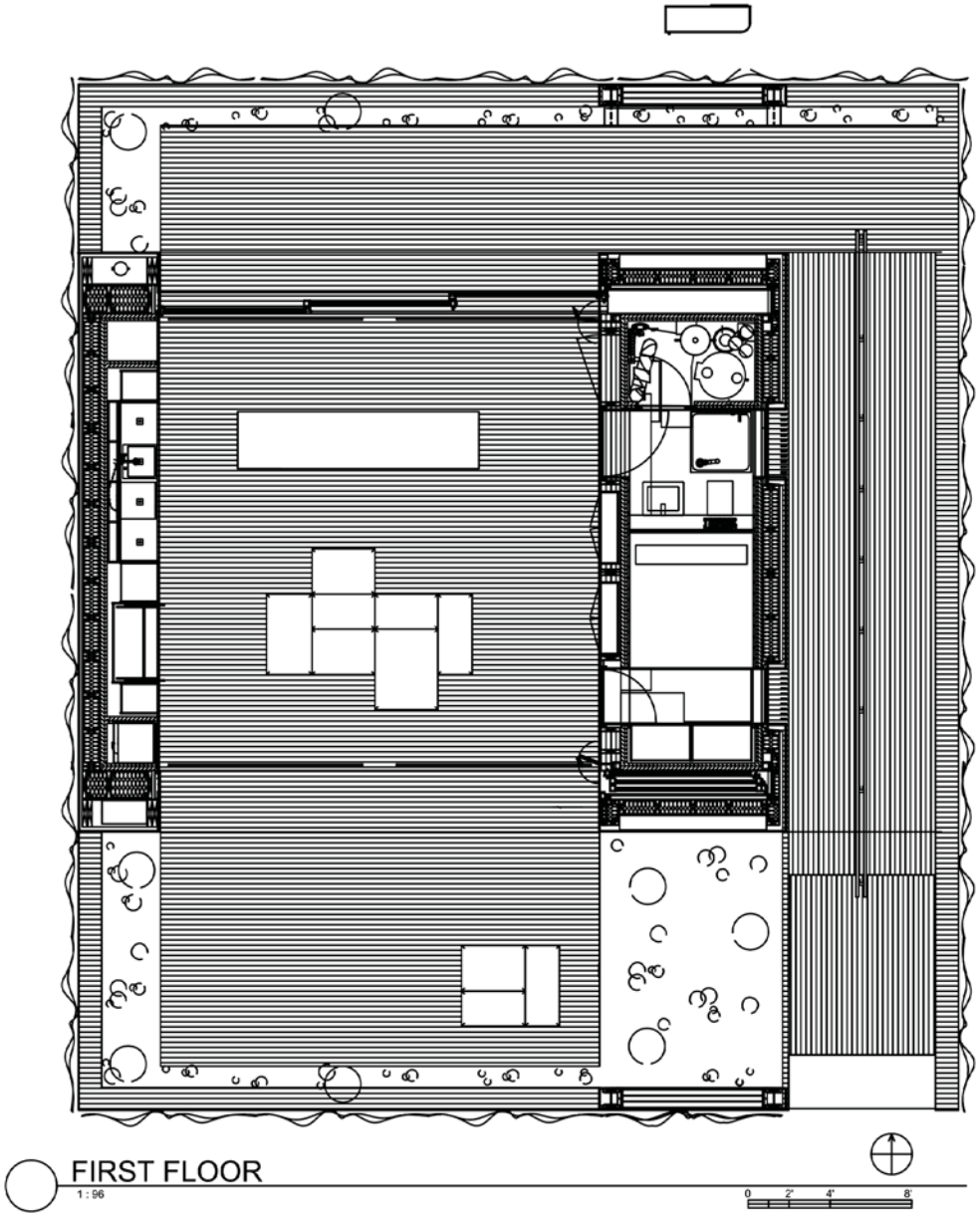
WaterShed achieves the goals of an environmentally responsive home through a balance of simple, modern and vernacular design strategies. Using precedents from the Chesapeake Bay region and modern building technologies, the architectural forms are designed as both an aesthetic and practical approach to water. Interior and exterior spaces interact with the wetlands to give residents a continuous connection to the surrounding environment.
http://2011.solarteam.org/design/architecture





LISI House

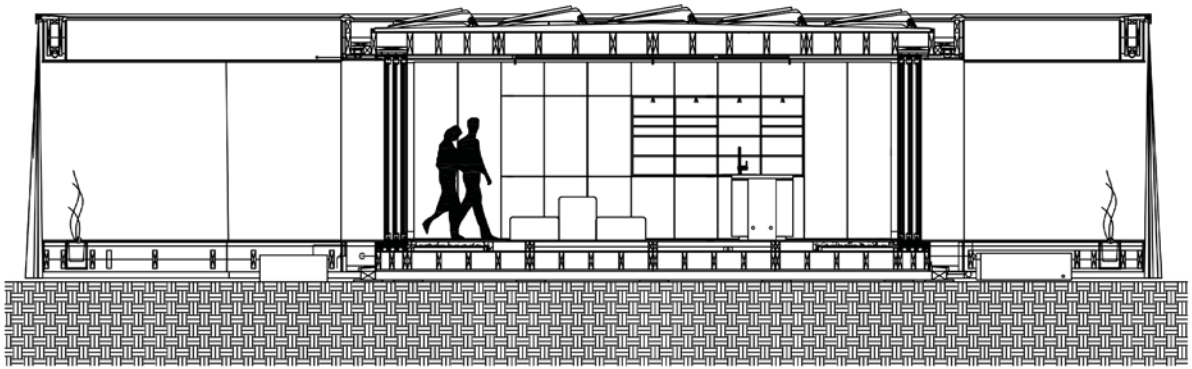
Team Austria-Vienna University of Technology



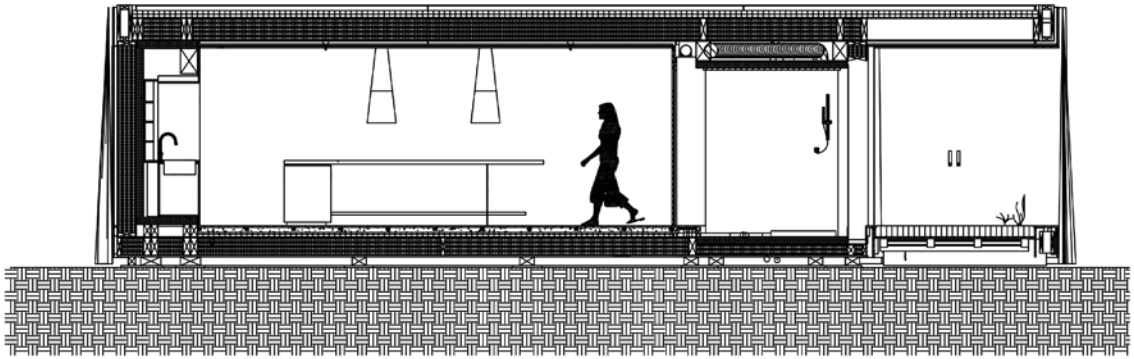
Alexander Carter

In developing LISI, Team Austria was guided by a vision for a healthy, sustainable future and a concept that could adapt to many lifestyles and climates. Viewing the house as a “social creature” eager to find its place in a richly diverse community, Team Austria honors a sense of stewardship in the use of our planet’s most precious resources.

http://www.solardecathlon.gov/past/2013/team_austria.html



SECTION



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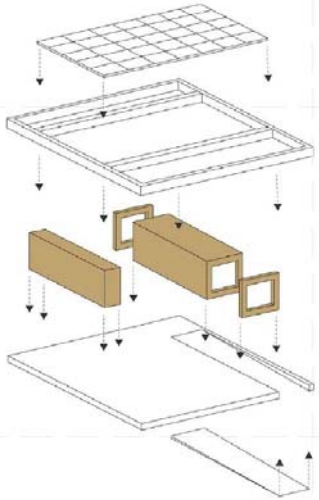


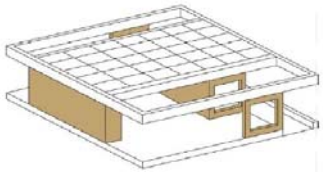
PHOTOVOLTAIC MODULES

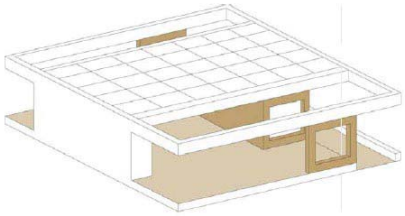
FRAME

CORE

FOUNDATION

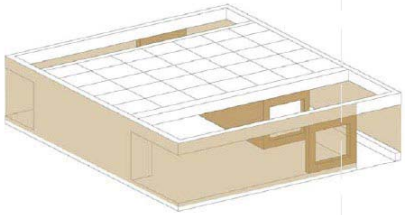
RAMP





OPEN WINTER FACADE

WINTER



CLOSED SUMMER FACADE

SUMMER

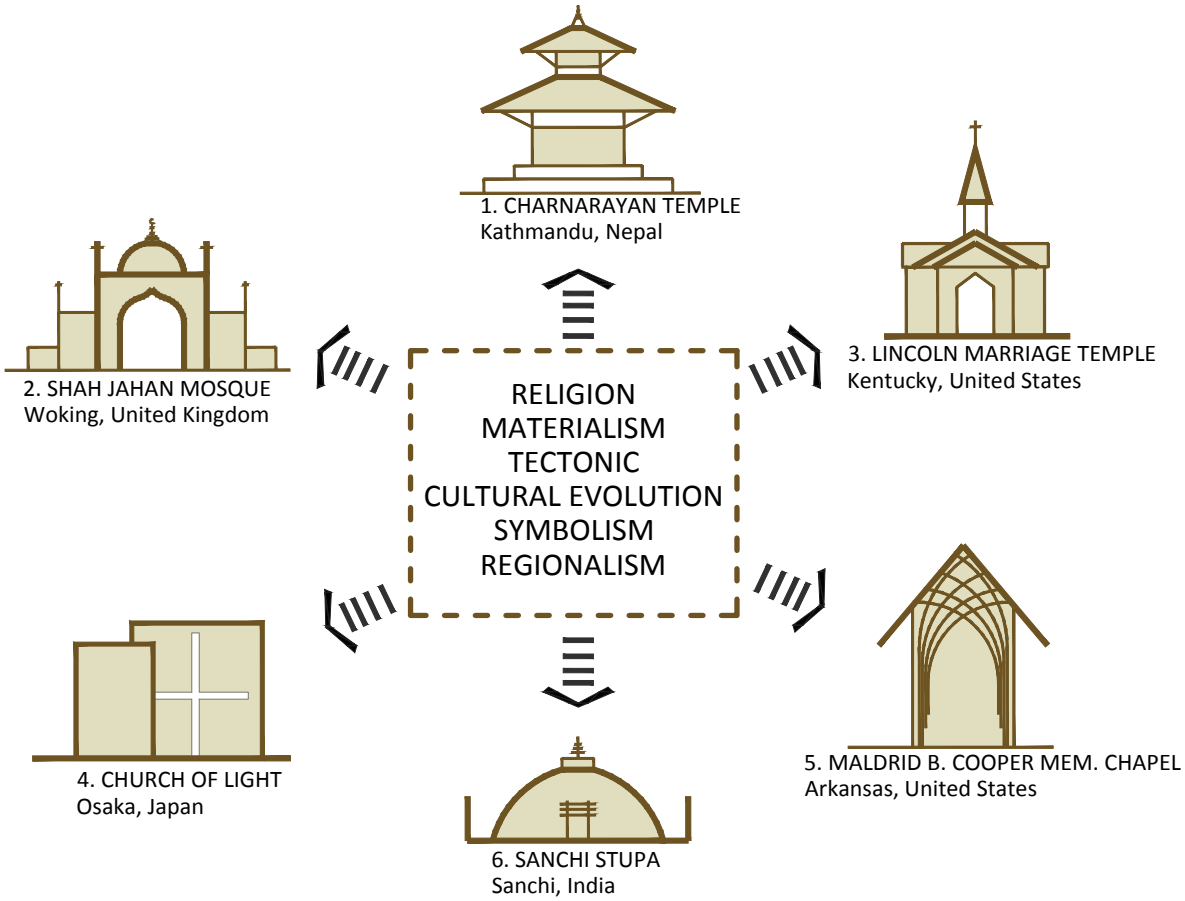
Sacred Architecture

Building relationship

Sabin Chakradhar

Sacred Architecture

This project consist the set of six sacred buildings belonging to some of the major religion in the different parts of the world. Sacred building, also known as religious building, house of god, Temple, Church, Mosque etc. varies from place to place depending on the region, the kind of religion they belong to, locally available materials, cultural evolution, contemporary architectural style, religious symbolism, available construction technology etc. This project aims to compare and contrast the similarities and relationship between these buildings. The buildings belong to the following religions: Hinduism, Islamic, Christianity, Budhism. The Lincoln marriage temple however is built to house the small log cabin where the parents of Abraham Lincholn got married. So the building does not necessarily belong to any religion in order to become Sacred.



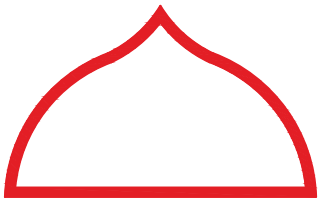





http://commons.wikimedia.org/wiki/File:Char_narayan_temple_patan_sunita_(3).JPG
http://wissyweb.blogspot.com/2010/02/shah-jehan-mosque.html
http://www.examiner.com/article/the-lincoln-marriage-temple
http://commons.wikimedia.org/wiki/File:Ibaraki_Kasugaoka_Church_light_cross.jpg
http://www.panoramio.com/photo/12780360
http://en.wikipedia.org/wiki/Sanchi

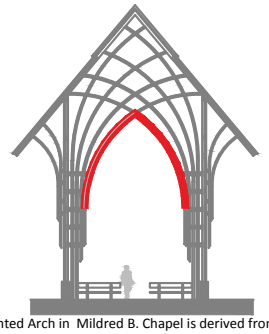
Shape and Symbolism

Analysis

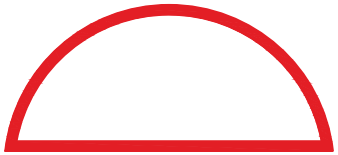


POINTED ARCH

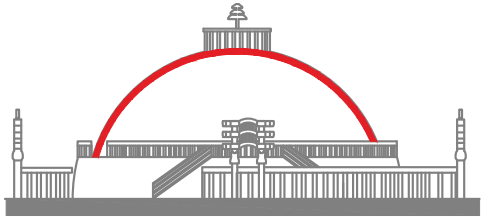
Arcades with pointed arch symbolize boundaries in Islamic Architecture; once one has passed through the arcade into the open courtyard, one is in a sacred space.



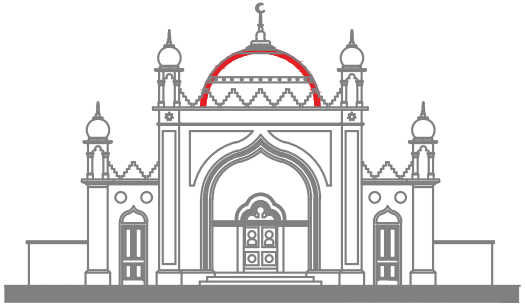
Pointed Arch in Mildred B. Chapel is derived from the Gothic Architecture. characteristics of Gothic Architecture include the pointed arch, the ribbed vault and the flying buttress



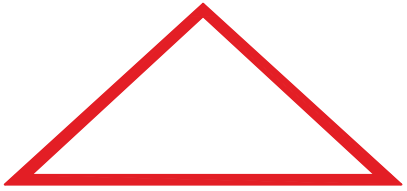
DOME SHAPE



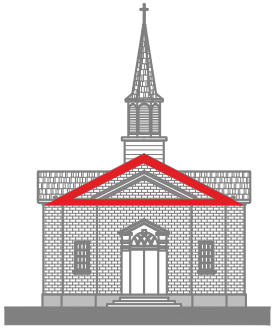
Sanchi Stupa is one of the earliest form of Stupa structure from which many of the modern form of Stupas have evolved. The Stupa form represents the peace and harmony in Buddhism.



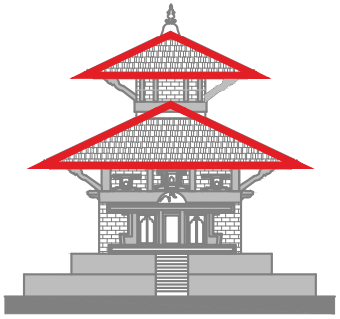
Dome shape in the ISLAMIC ARCHITECTURE representats the vault of heaven and a symbol of divine dominance engulfing the emotional and physical being of the faithful



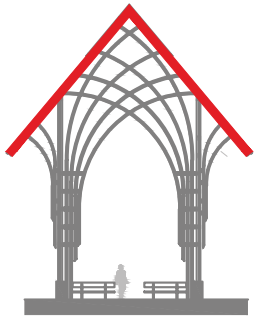
TRIANGULAR SHAPE



Triangular shape in the LINCOLN MARRIAGE TEMPLE is derived from the traditional pediment design



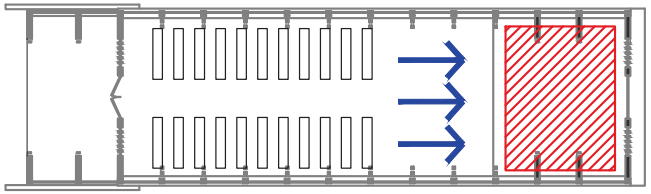
Triangular shape in the HINDU PAGODA TEMPLE is derived from the pointed Himalayas



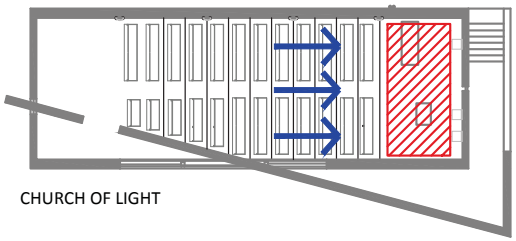
Triangular shape in Maldrid B. Cooper Memorial Chapel with the skylight above, directs people upward (towards heaven)

Hearth of the building and access

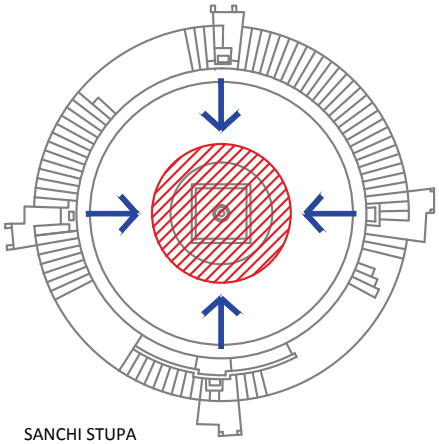
Analysis



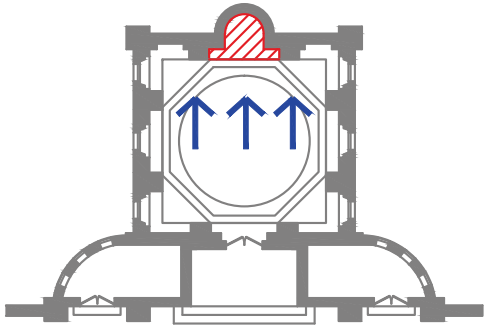
MALDRID B. COOPER MEM. CHAPEL



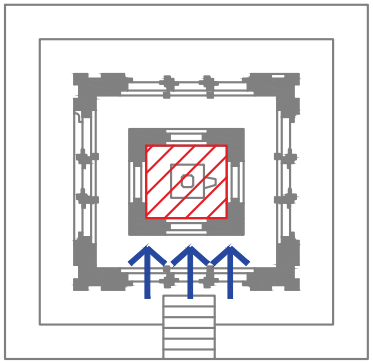
CHURCH OF LIGHT



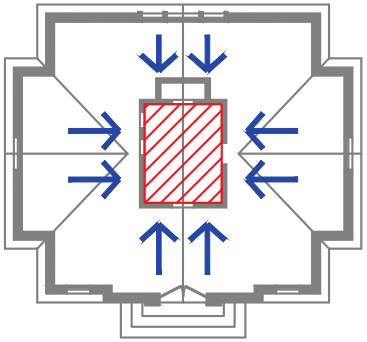
SANCHI STUPA



SHAH JAHAN MOSQUE



CHARNARAYAN TEMPLE



LINCOLN MARRIAGE TEMPLE

HEARTH

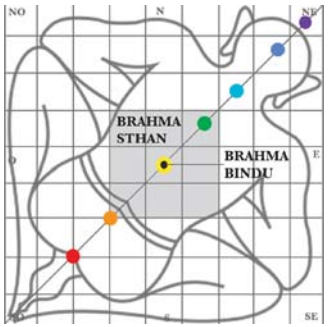
ACCESS TO HEARTH

Charnarayan Temple

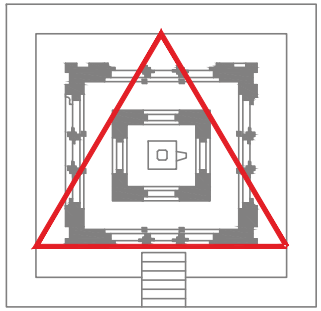
Charnarayan temple is a Pagoda style hindu temple. The basic plan of the temple is derived from the Vaastu Purush mandala, the diagram with the set of squares arranged around the human figure. Then the proportion of the elevation is derived from the plan with respect to the length of the side of an imaginery triangle drawn on the plan (as shown in fig.1) The building material involved in the construction are: Brick masonry wall and timber as the primary structural element and stone for the plinth and jhingati tiles for the roof covering. Construction was done in traditional way for eg. using the bamboo scaffolding, using classical joints for wood such as mortise and tenon joint, dove tail joint etc.

Evolution of form, tectonic and materialism

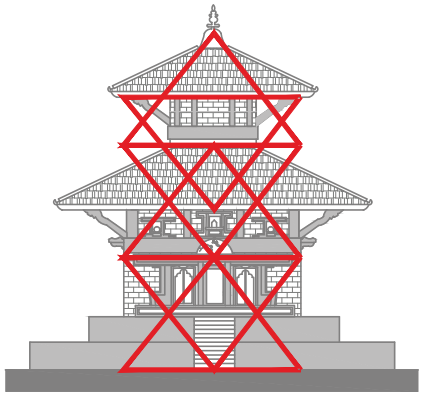
Charnarayan Temple



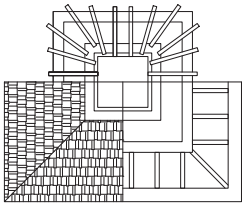
VAASTU PURUSH MANDALA



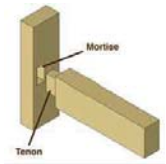
FLOOR PLAN OF CHARNARAYAN TEMPLE



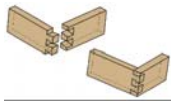
ELEVATION OF CHARNARAYAN TEMPLE



TYPICAL TIMBER LAYOUT DETAIL OF PAGODA ROOF

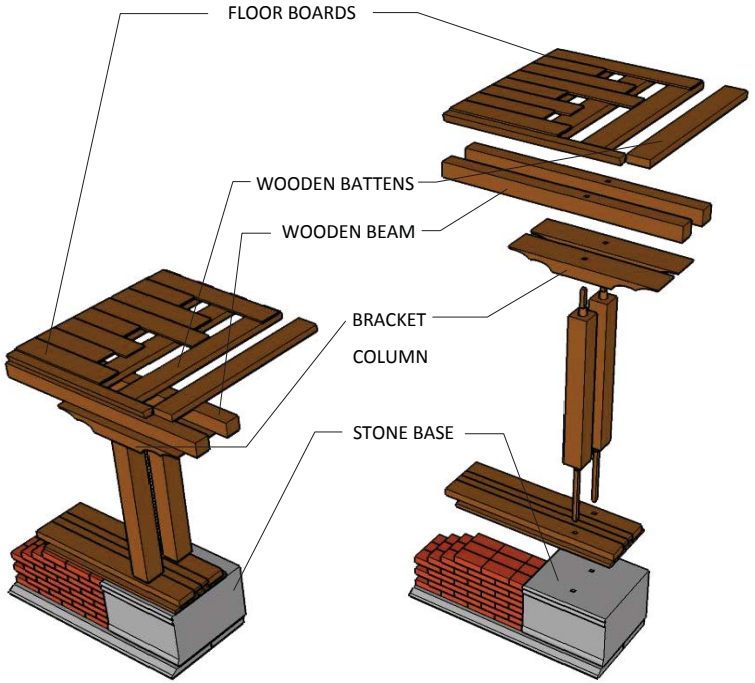


Mortise and Tenon Joint detail



Dovetail Joint detail

Tongue and groove joint detail



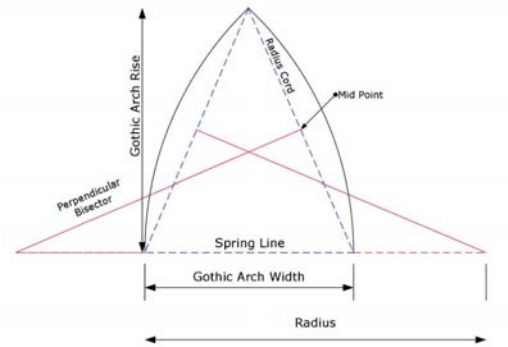
TYPICAL JOINT DETAIL OF THE WOOD WORK AND BRICK STONE MASONRY OF THE HINDU PAGODA STYLE TEMPLE

http://commons.wikimedia.org/wiki/File:Char_narayan_temple_patan_sunita_(3).JPG
http://yoga-et-vedas.com/vastu-shastra-la-science-dharmonisation-de-lespace/

Evolution of form, tectonic and materialism

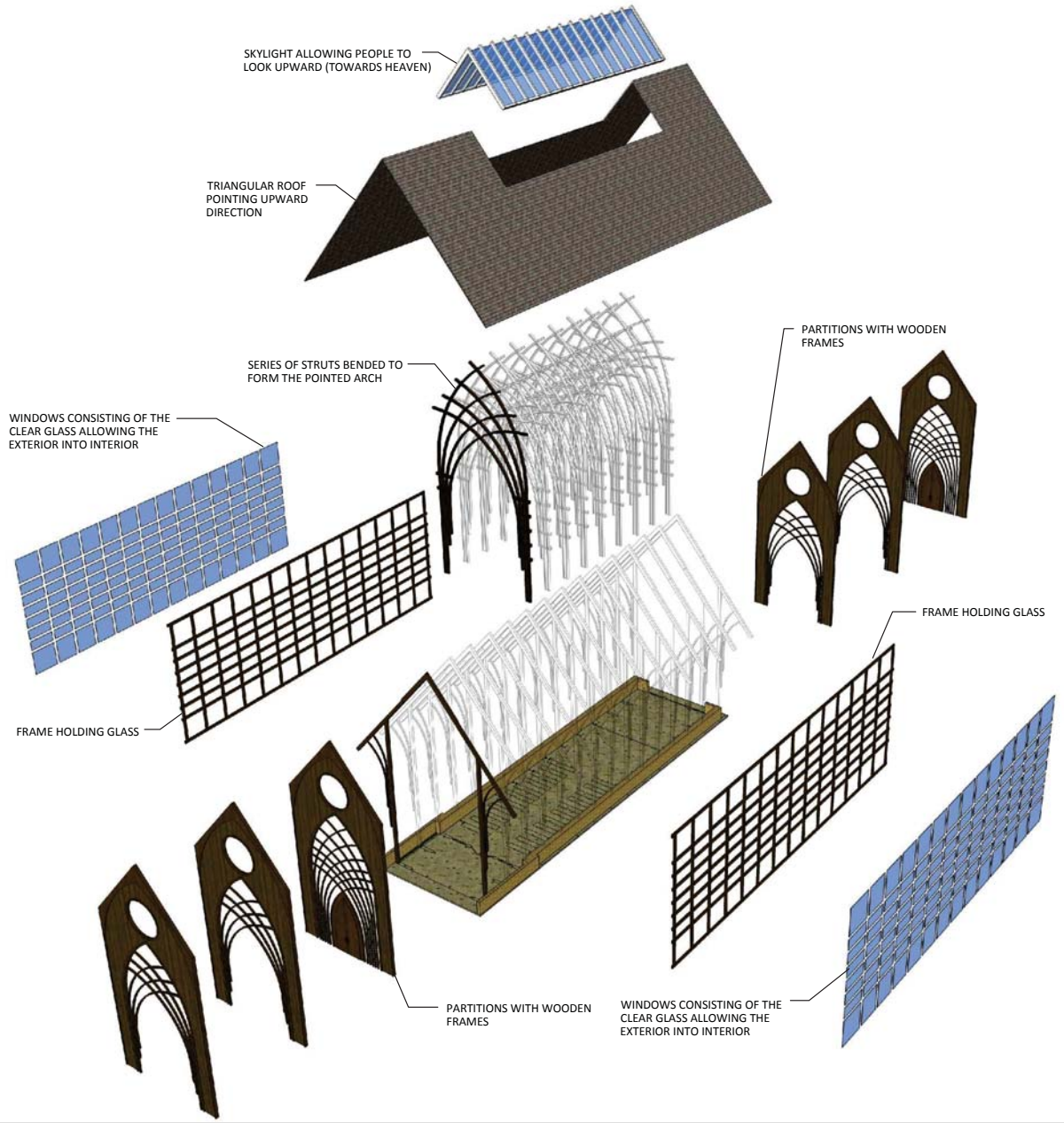
Mildred B Cooper memorial Chapel

Section of the building on site



Geometry for the Gothic pointed arch

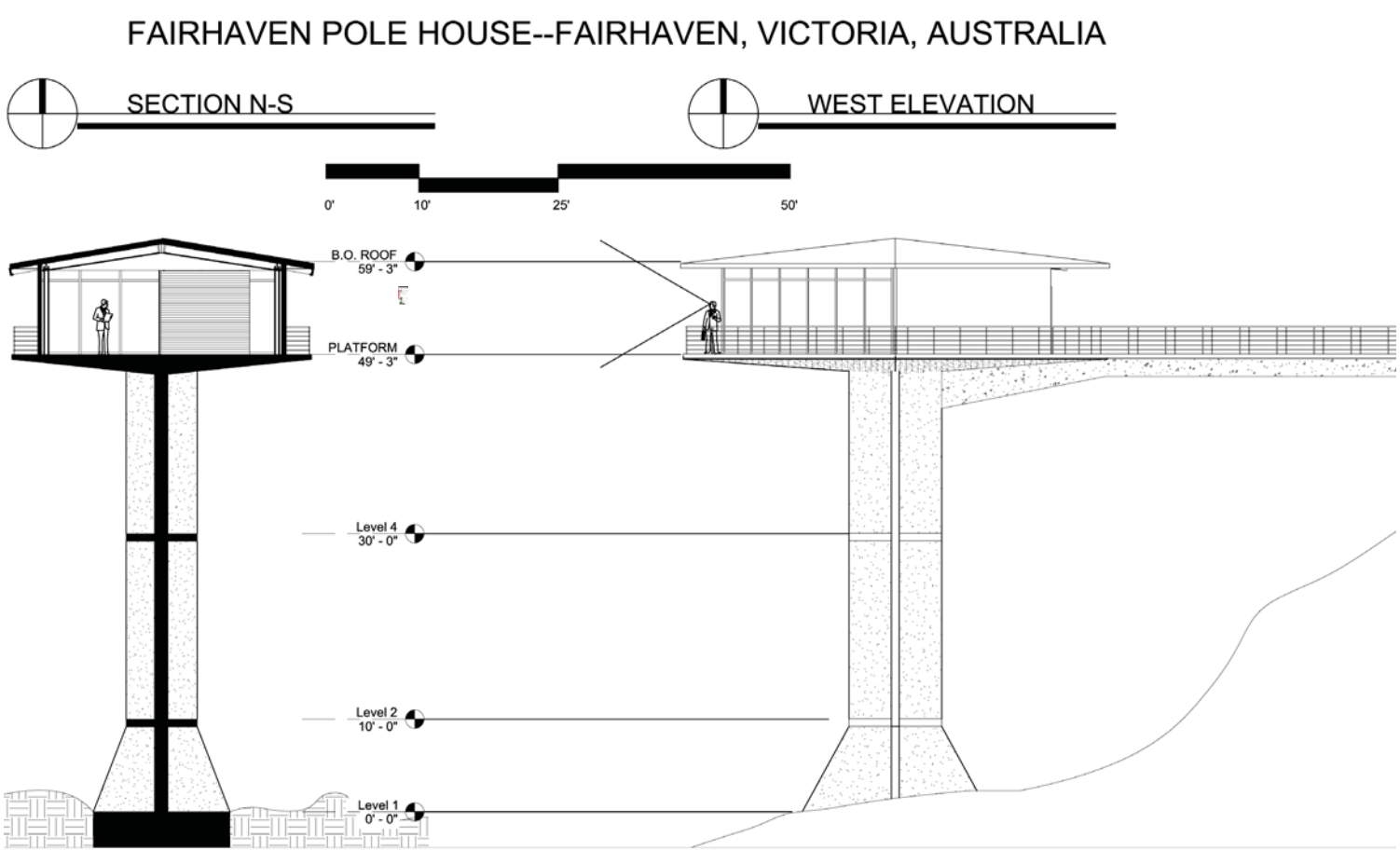
Formation of pointed arch by combination of the series of curved struts also serving as support for the roof



Analysis of the building components of Mildred B. Cooper memorial Chapel

Fairhaven Pole House

Frank Dixon



Kyle M. Coughlin

This elevated beach house is atop a 50' tall concrete structure to bring it to grade because of the lot's steep terrain. The innovative platform makes this beach house quite pleasing to view from the highway below. The original house on top was demolished in 2013 and a similar building was built in its place. the new building is steel structure with steel cladding and a metal roof.

FAIRHAVEN POLE HOUSE

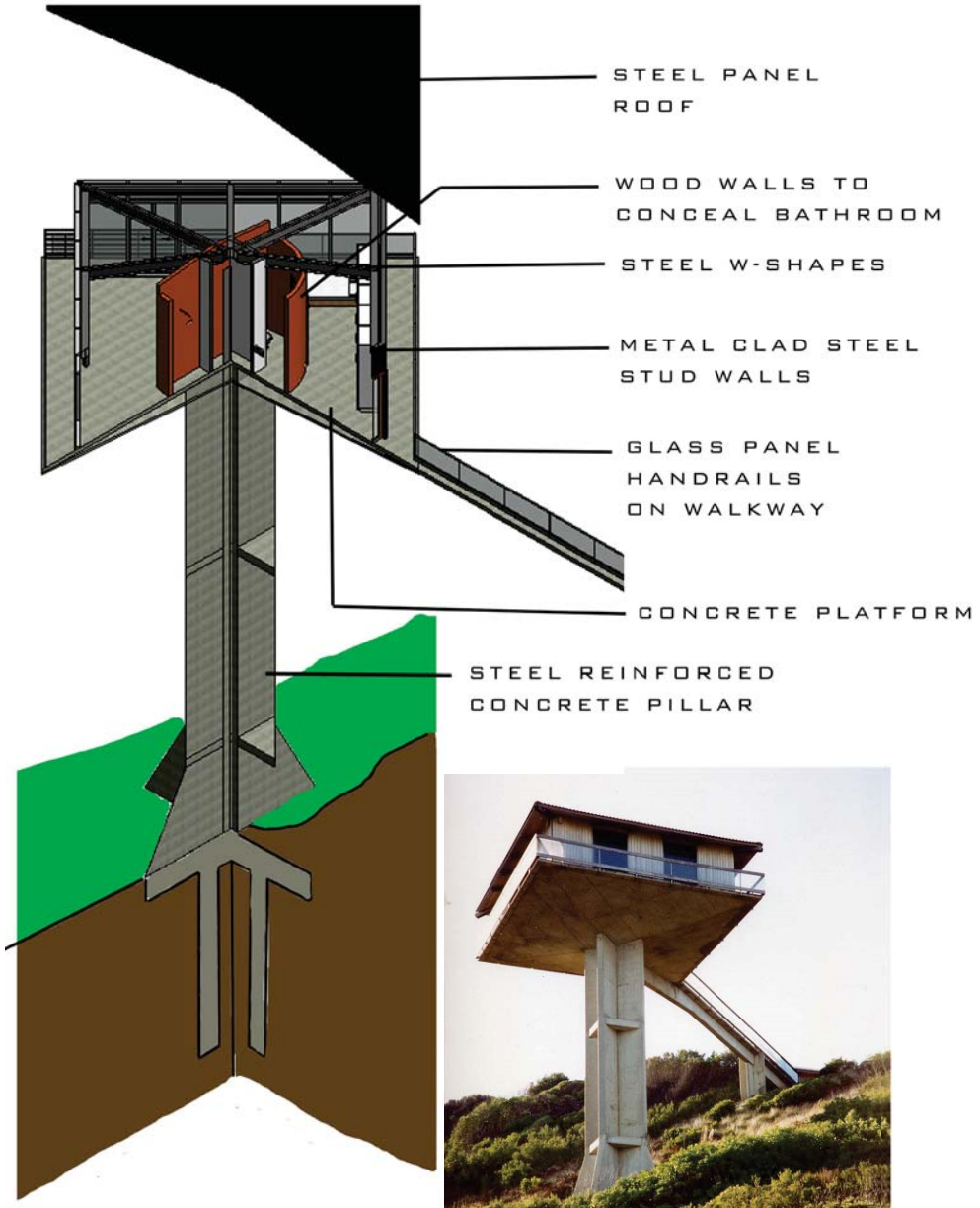
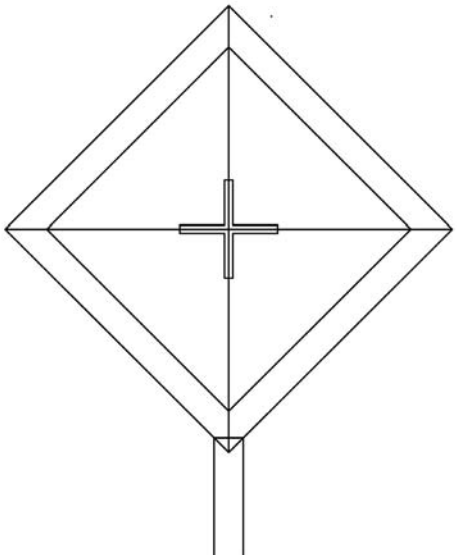
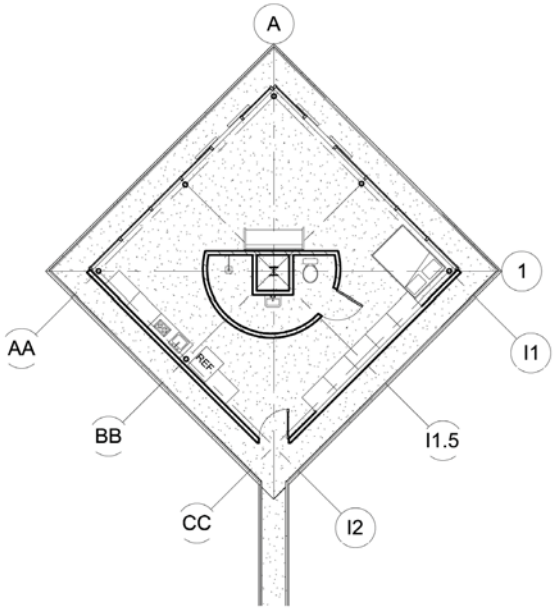


PHOTO CREDIT:
SIMON O'DWYER





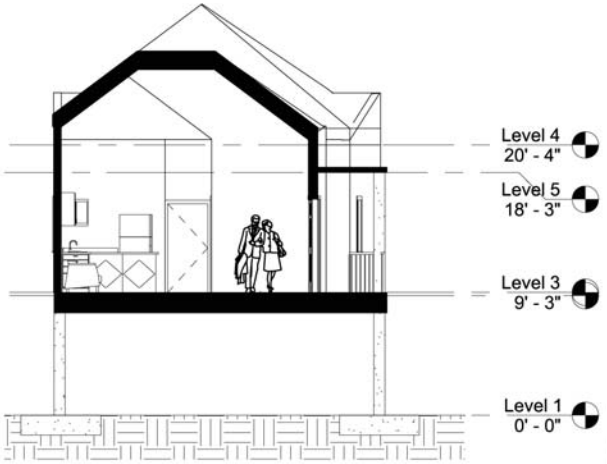
Lagniappe House

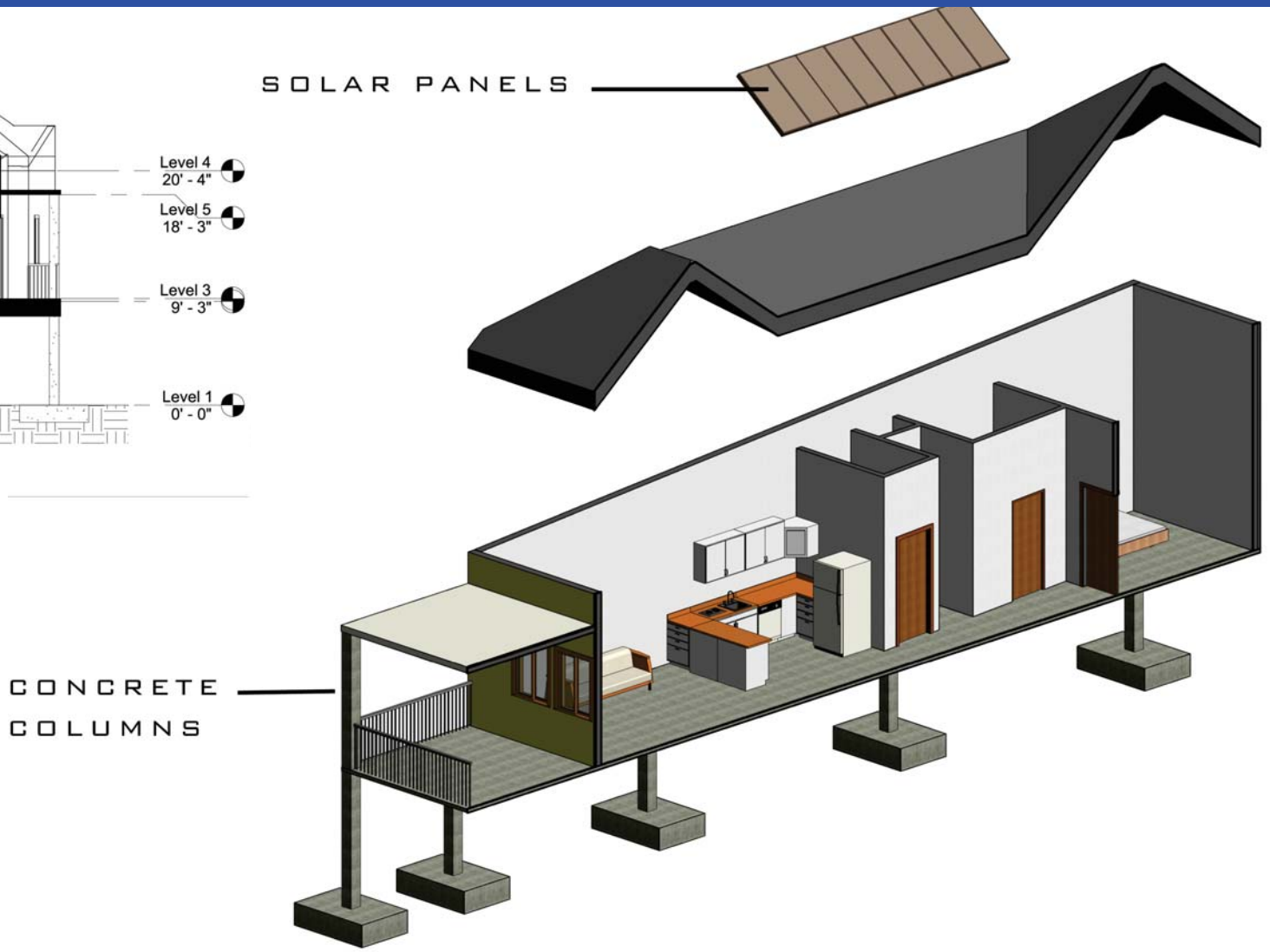
John Williams-Concordia Architects

Kyle Coughlin

After the events of hurricane Katrina in 2005, much of the lower ninth ward as well as other parts of the city were inundated with water. This house is a response to flood control and is elevated as such to provide better clearance from future floods. This home as others like it were started up by Brad Pitt in a campaign called "make it right," and it incorporates the use of solar panels.

LAGNIAPPE HOUSE



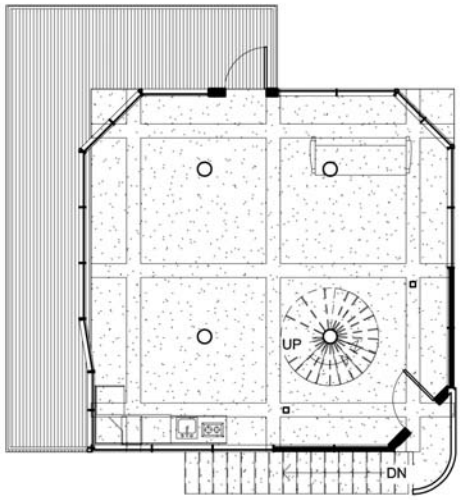


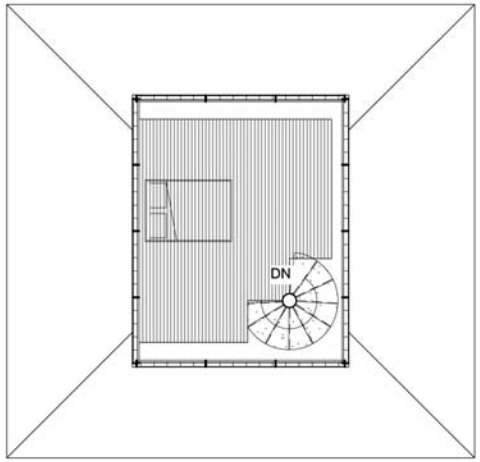
EL ÁRBOL

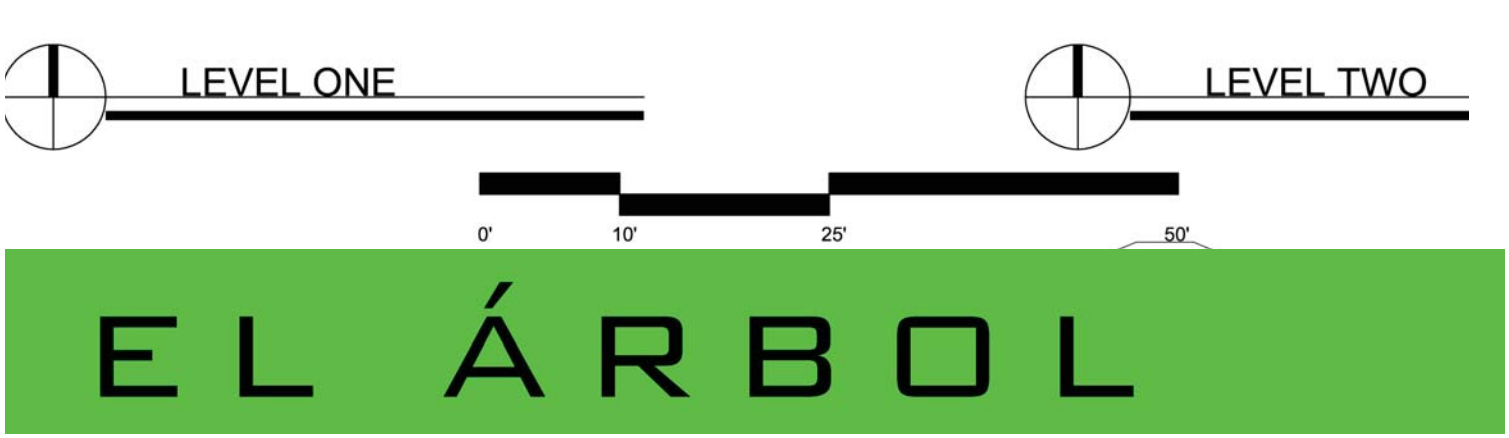
Jans Hein

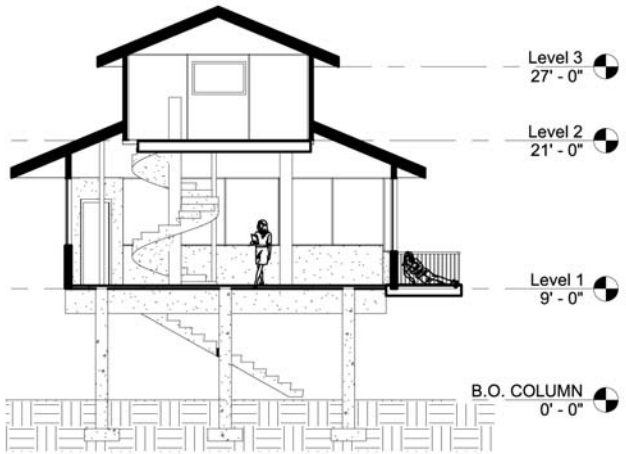
Kyle M. Coughlin

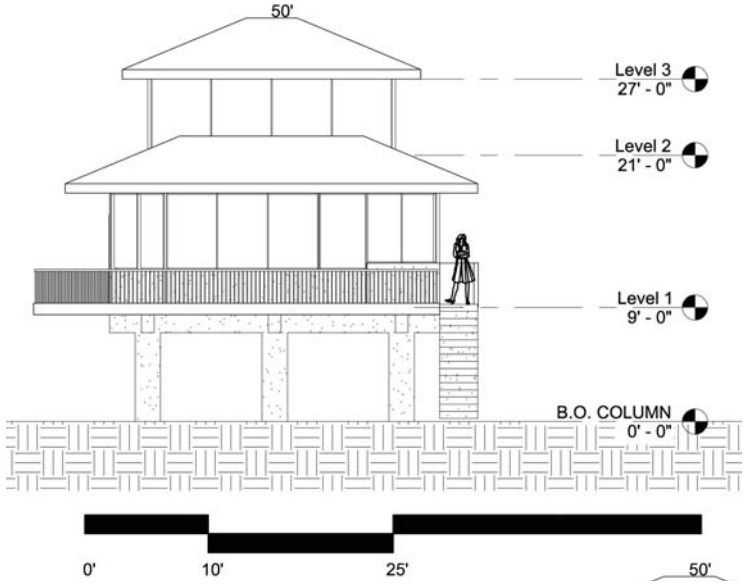
THIS IS SITUATED IN THE COSTA RICAN WILDLIFE REFUGE “GANDOCA MANZANILLO,” IT IS A VACATION HOUSE RIGHT IN THE FOREST AND ALLOWS FOR OPTIMAL VIEWS. THE STRUCTURE SITS ON TOP OF CONCRETE PIERS AND PLATFORM AND THE REST IS A WOOD FRAME AND ROOF WITH WOOD SHINGLES. PANELS IN THE WOOD FRAME ARE STUCCO.

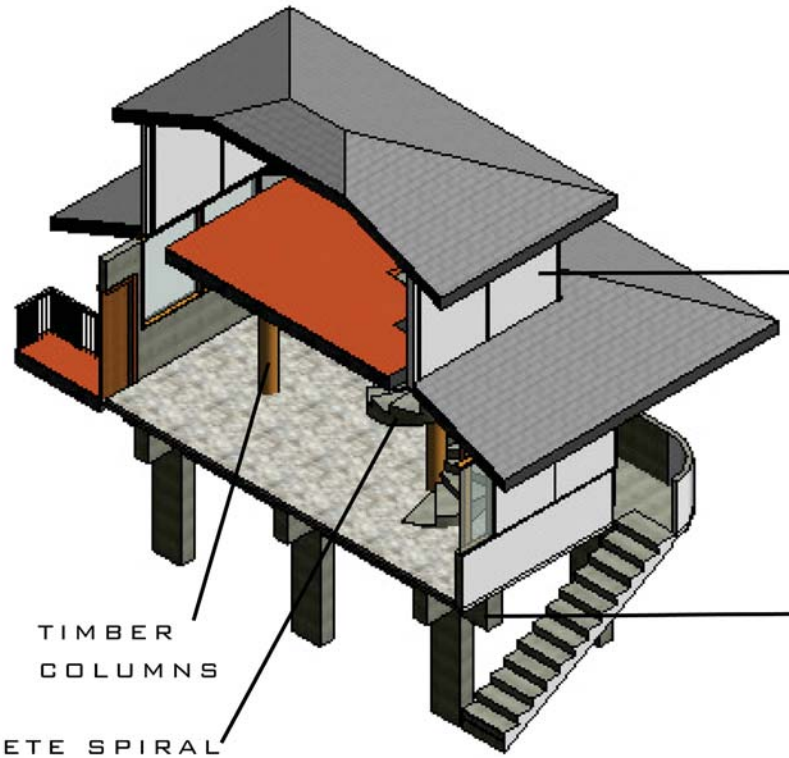












WOOD FRAME
EXPOSED WALL
W/ STUCCO
PANELS

CONCRETE
PILLARS

TIMBER
COLUMNS

CONCRETE SPIRAL
STEPS ON TIMBER

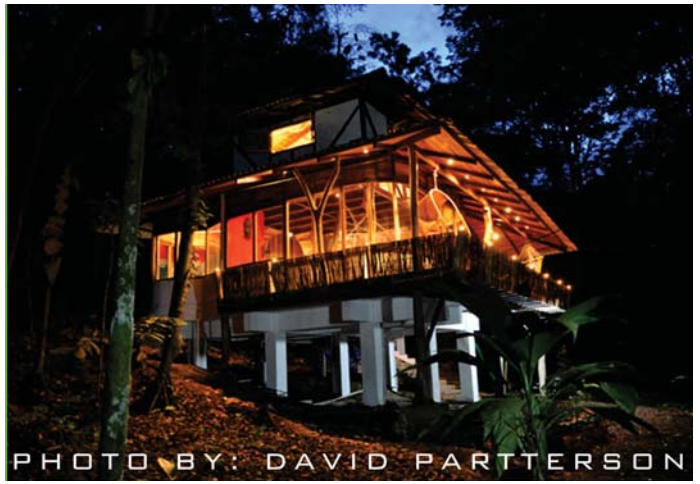


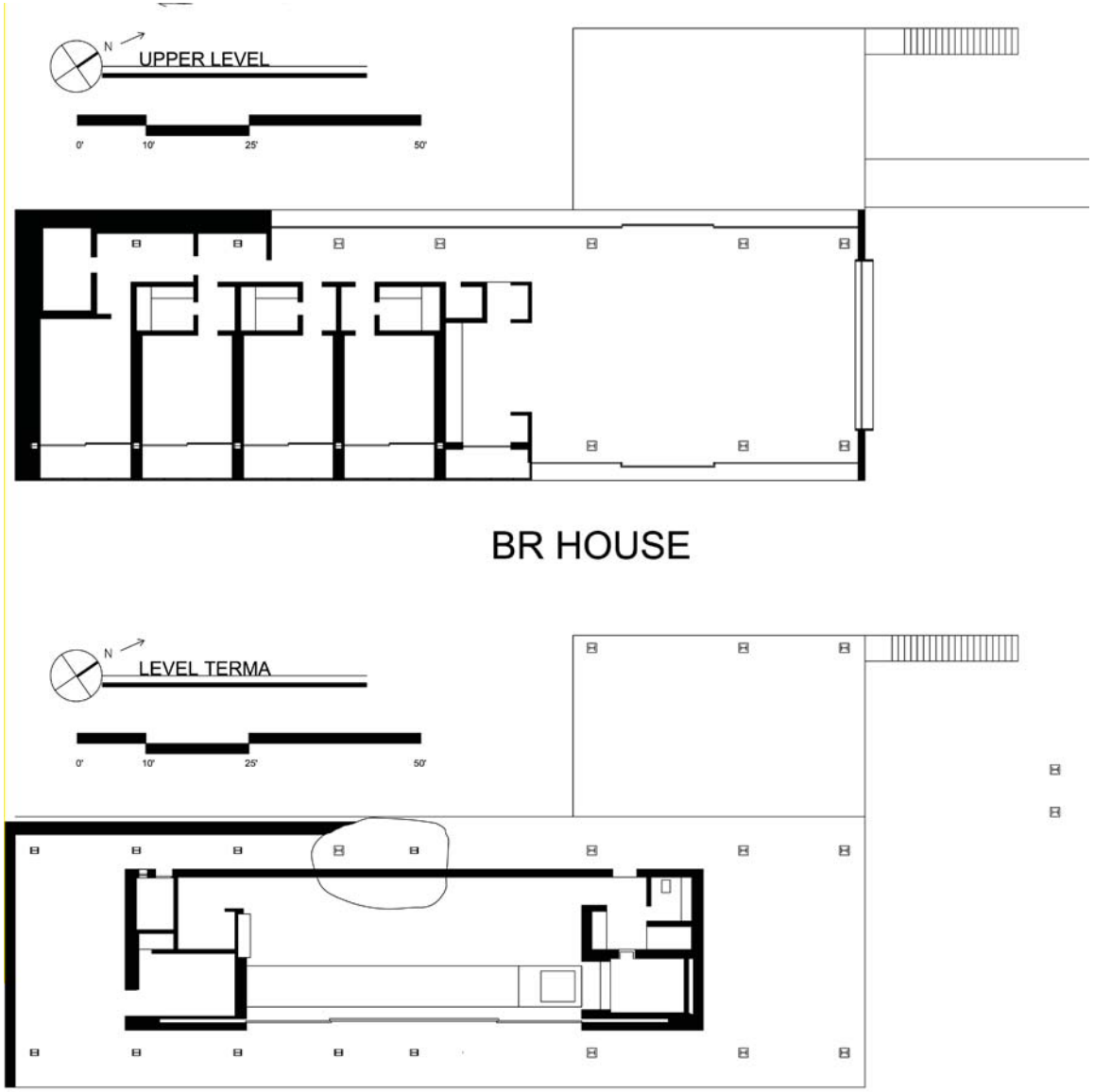
PHOTO BY: DAVID PARTTERSON

Kyle M. Coughlin

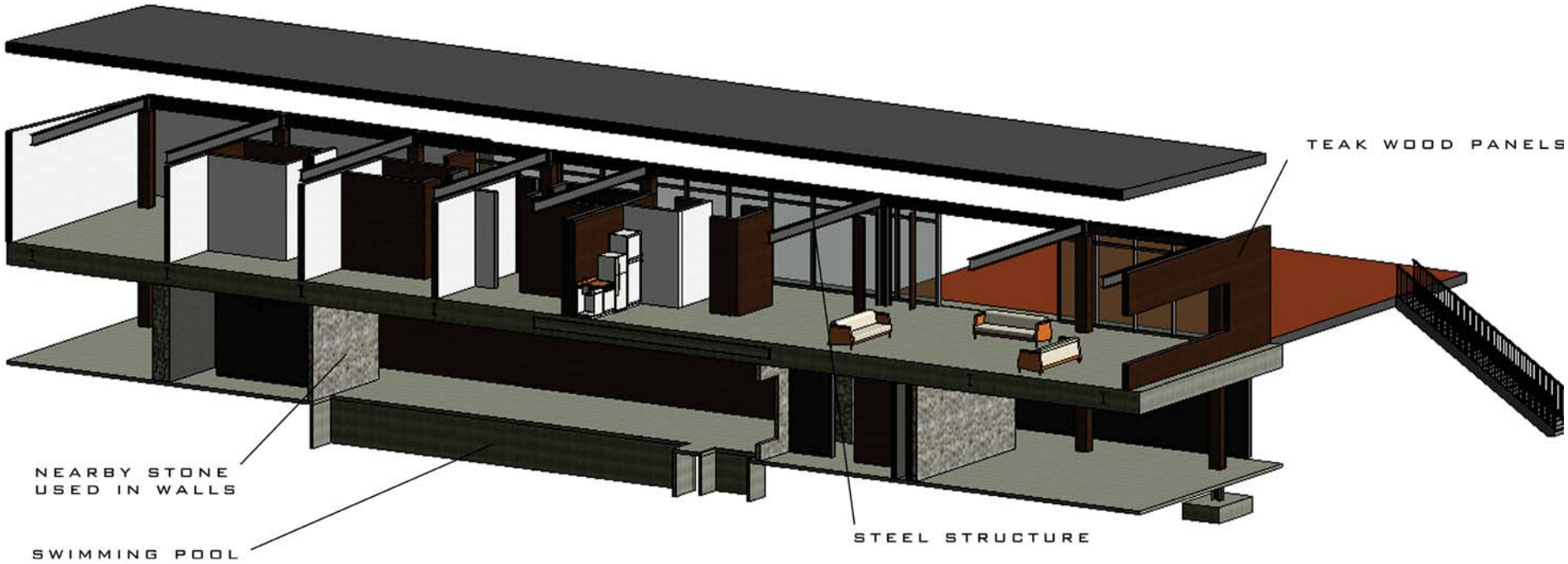
This home is located in the suburbs north-west of Rio De Janeiro. It is located next to a river and crossing a small adjacent bridge is necessary to get to the building.
The building is built onto a shallow steep grade. The superstructure is steel and the finishes incorporate are plenty.

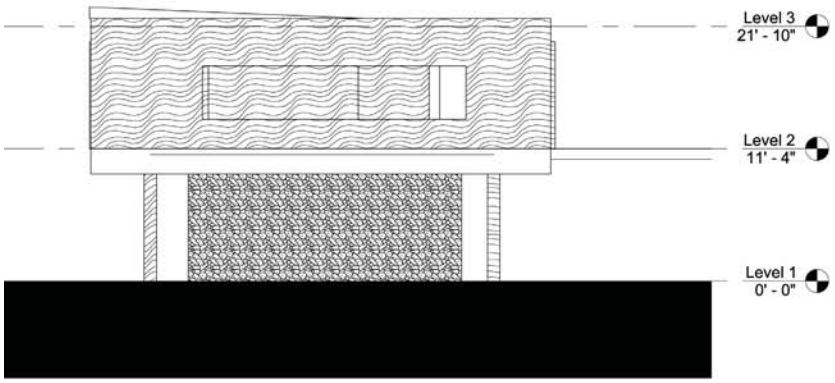
BR House

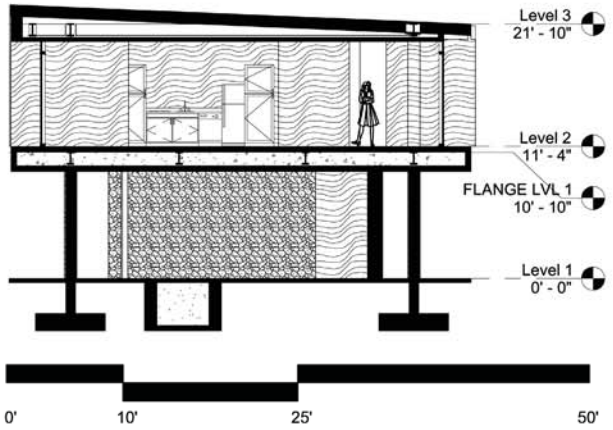
Marcio Kogan



BR HOUSE


TEAK WOOD PANELS
NEARBY STONE
USED IN WALLS
SWIMMING POOL
STEEL STRUCTURE


Level 3
21' - 10"
Level 2
11' - 4"
Level 1
0' - 0"

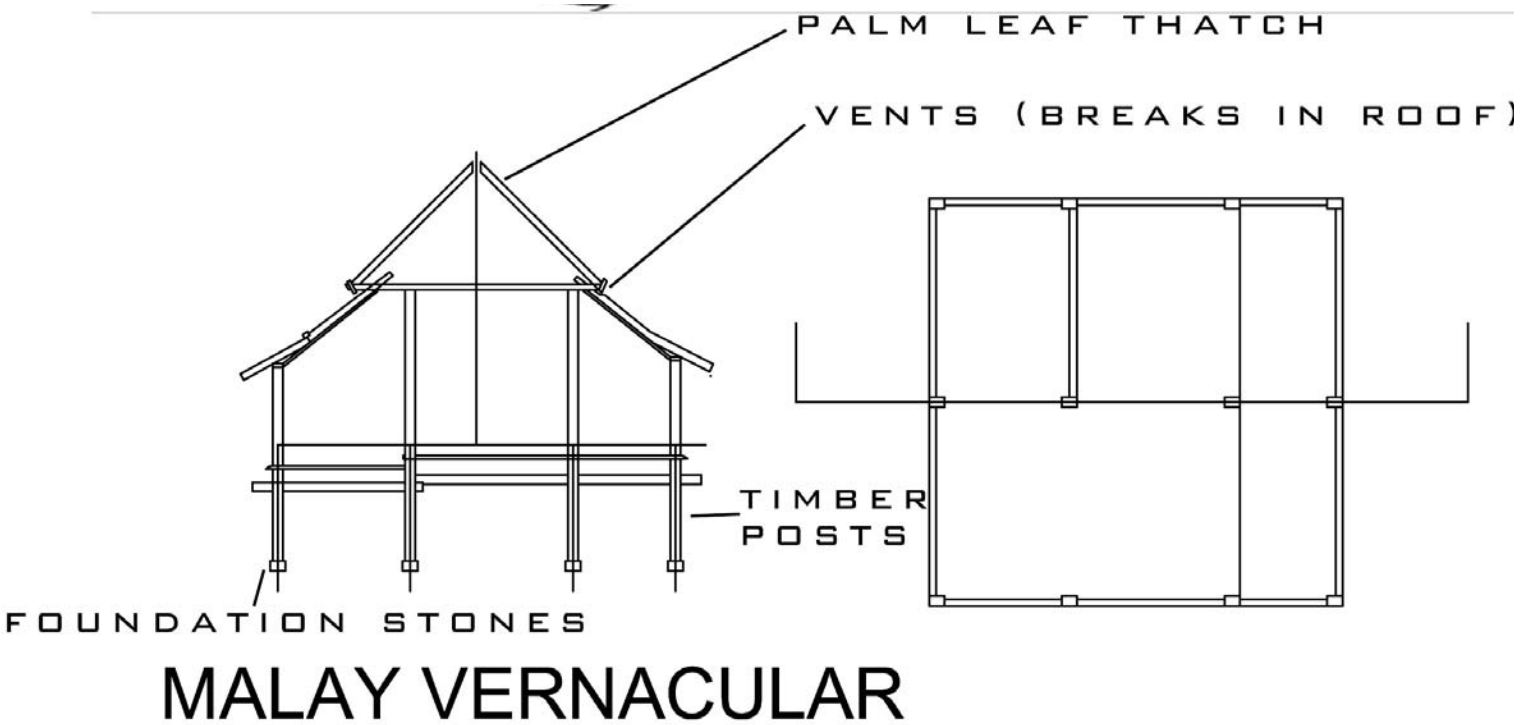

Level 3
21' - 10"
Level 2
11' - 4"
FLANGE LVL 1
10' - 10"
Level 1
0' - 0"
0'
10'
25'
50'

Malay Vernacular

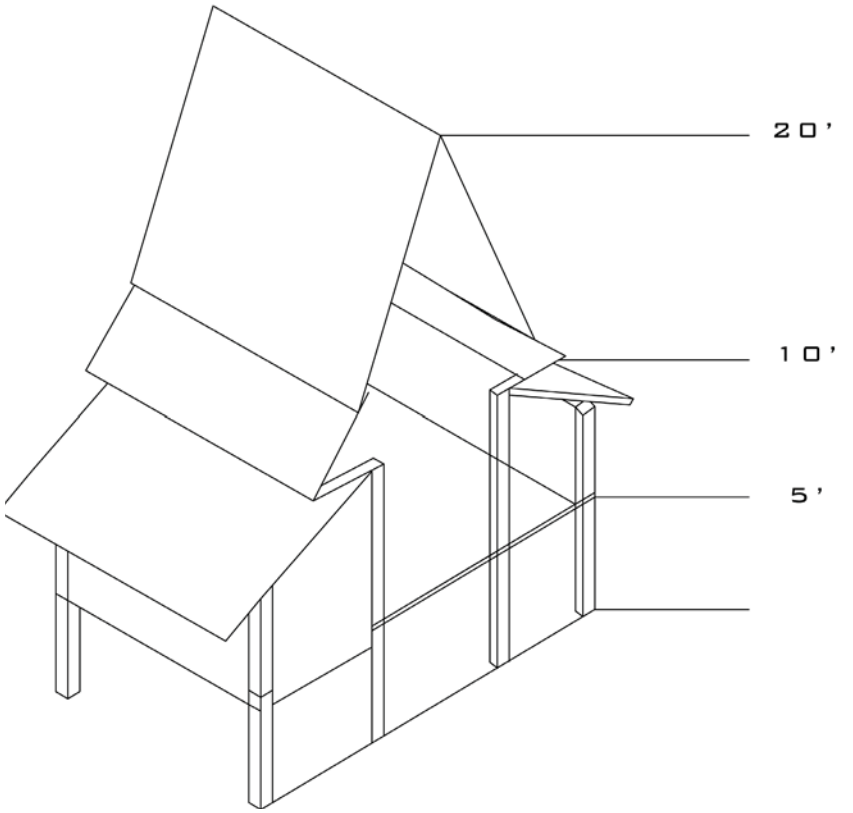
Traditional

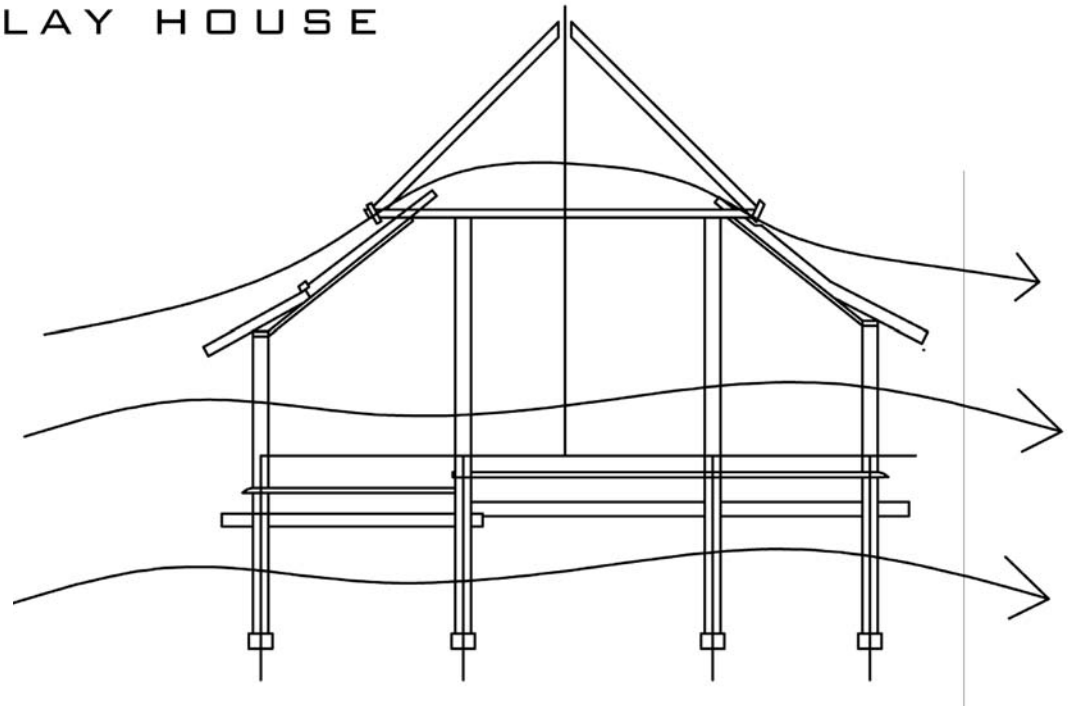
Kyle M. Coughlin

Malaysian vernacular generally uses timber and post construction on top of foundation stones. The roof is also generally thatched with palm leaves and the building is divided into areas such as sleeping room, kitchen, and living area. the building uses passive cooling and also is elevated for flooding in the rainy seasons.



PASSIVE COOLING THROUGH
MALAY HOUSE



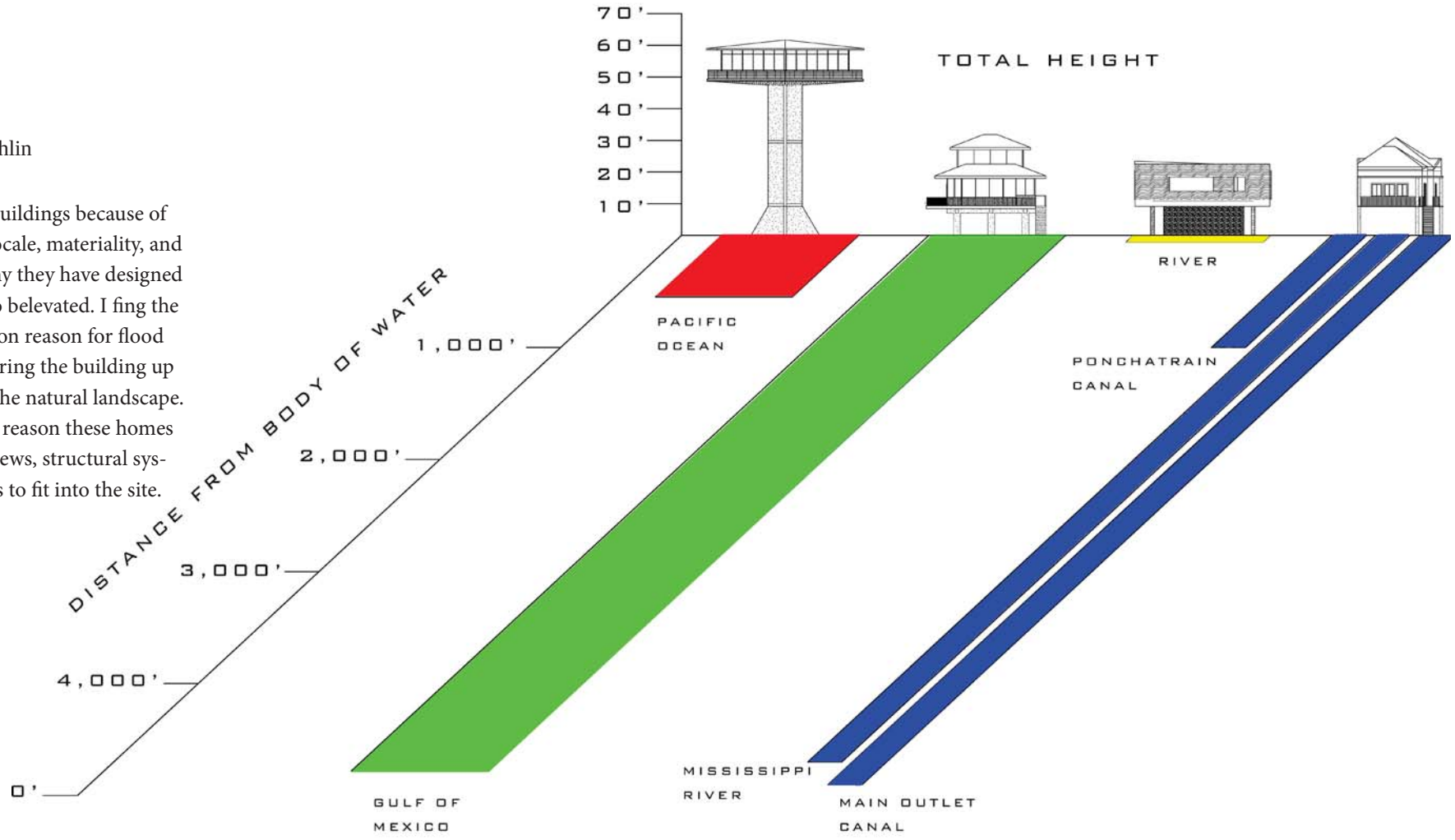


MALAY VERNACULAR

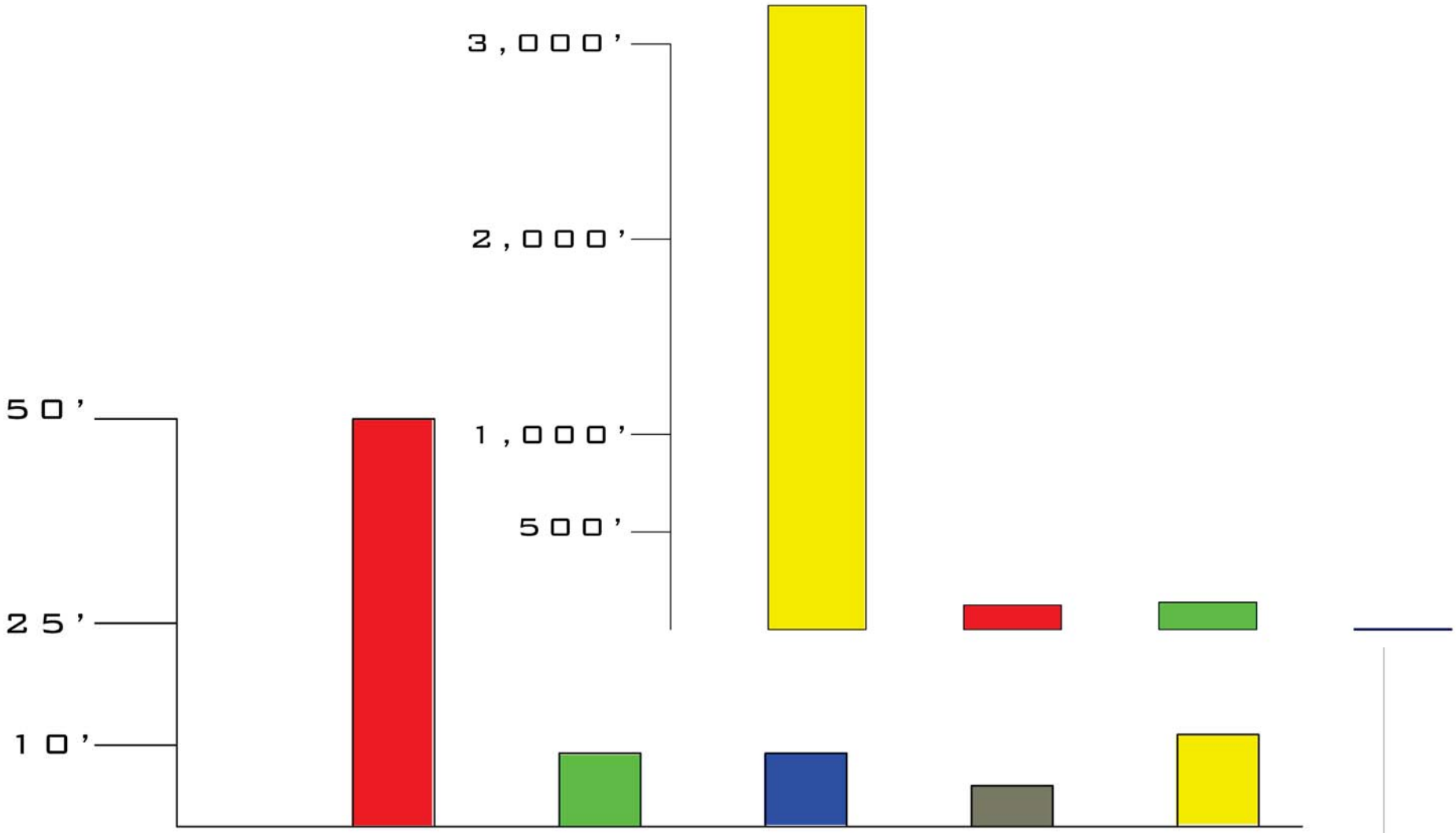
COMPARITIVE STUDY OF BUILDINGS

Kyle M. Coughlin

I chose these buildings because of their diverse locale, materiality, and the reasons why they have designed these homes to belevated. I fing the general common reason for flood aversion and bring the building up to grade with the natural landscape. Regardless the reason these homes offer unique views, structural systems, and ways to fit into the site.



HEIGHT ABOVE SEA LEVEL



HEIGHT COMPARISON FROM GRADE TO MAIN FLOOR

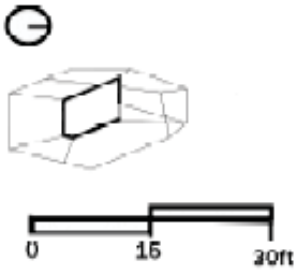
Sunset Chapel
BNKR Architects

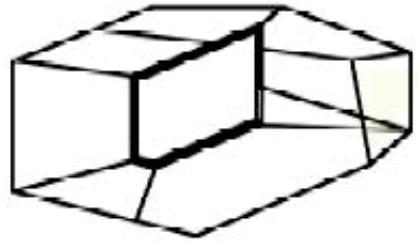
Olivia Diaz

This chapel was designed with the purpose to reflect its surrounding site where its located. The rocks in Acapulco are big and in order not to distrubt the site, the chapel was elevated 5m above ground. The openings on the concrete structure allow for natural light to come in. With the chapel facing the ocean, its a peaceful place for prayer during sun down.

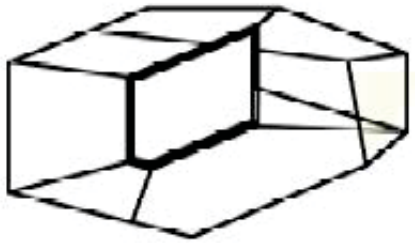
The chapel mimicks the shape of the rocks where it sits. Creating the mass it has turned too.

Floor Plans



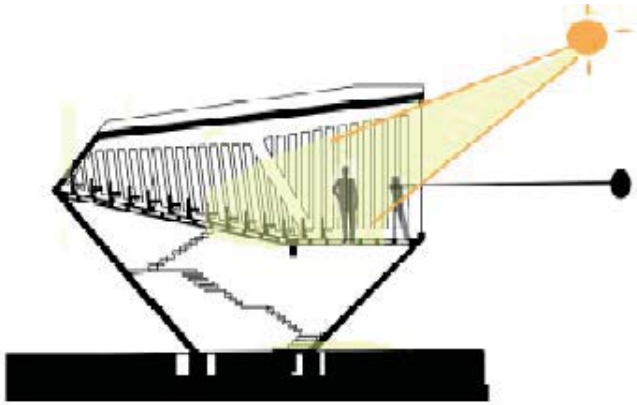


Ground Level

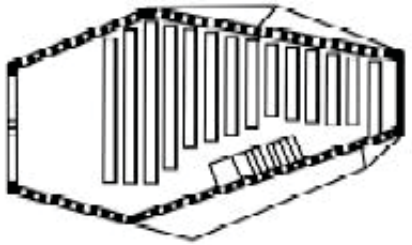


Ground Level

Section Cut



5” gap openings allow for natural sunlight to enter the chapel. During the night artificial lighting bringhtens the inside.



Upper Level

Porciuncula de la Milagrosa

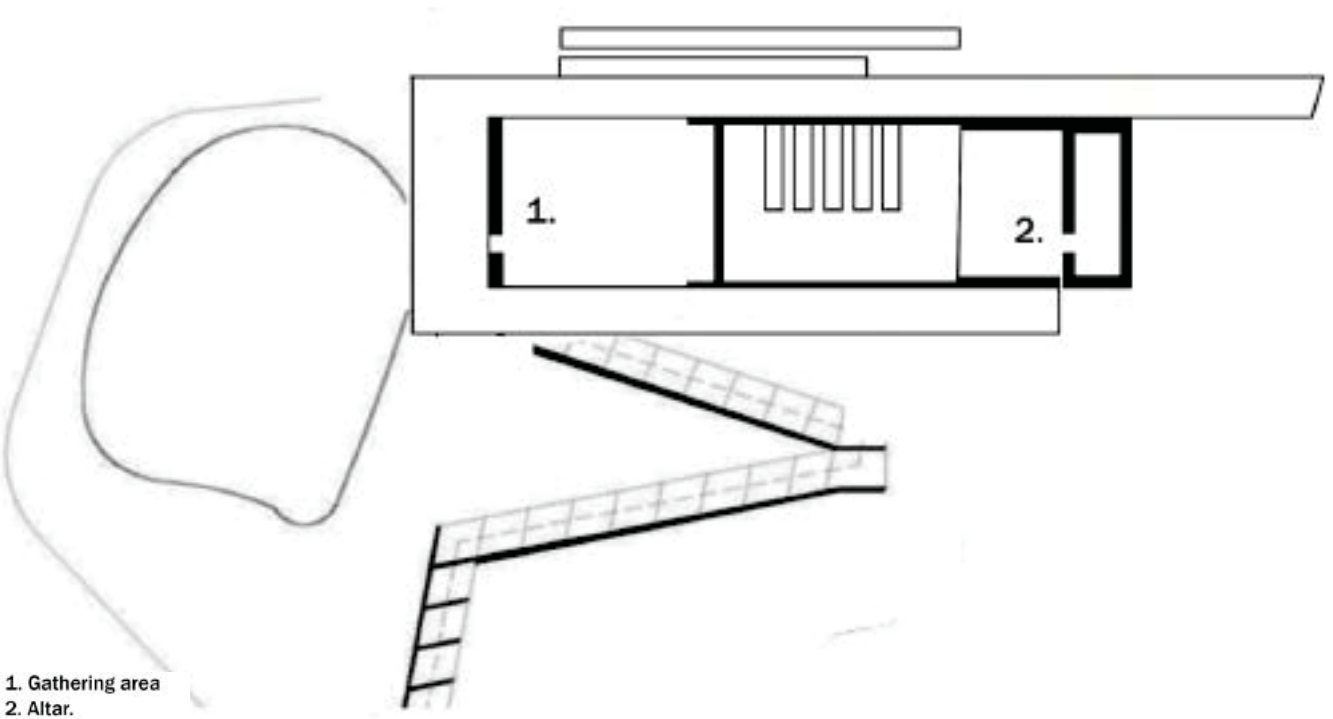
Daniel Bonilla Architects

Olivia Diaz

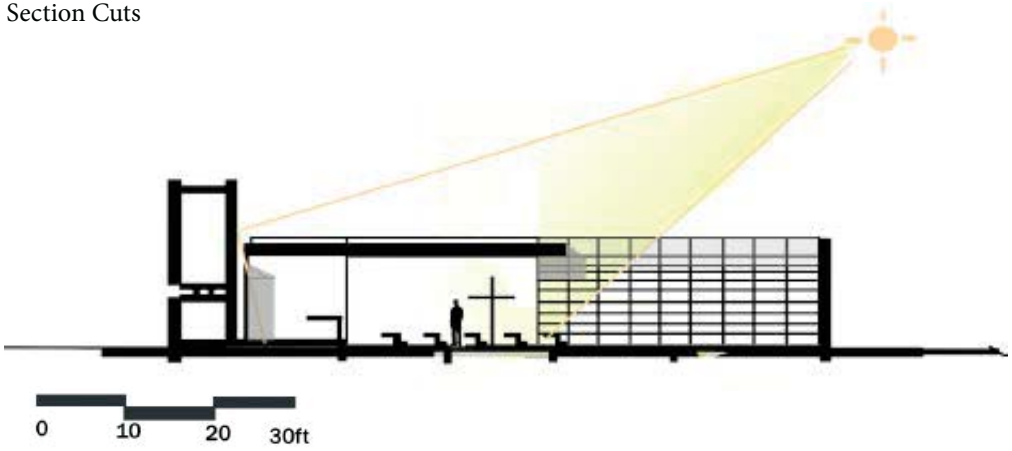
This chapel is a new interpretation of space and how itcan still be a sacred place. It allows for the interaction of light, wind to occur by giving the different pieces of structure to have its own unique characteristics. Although it sits in solitude. It has a great impact once you walk into the chapel. Creating an inhabital place very enjoyable.

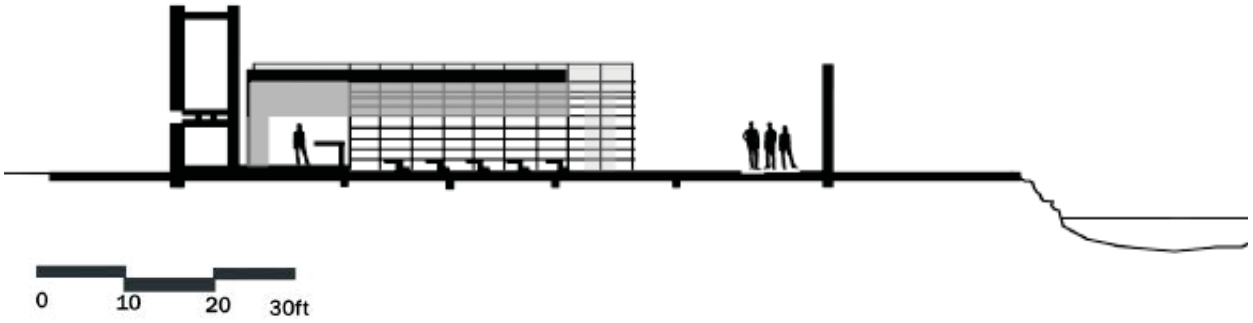
Sections: The structures on the end, as well are made of concrete. The wood structure is movable. Which allows for an open and close mass.

Detail (1): Opening between the back wall and the altar. Opening for light. (2). Wooden slits allow for light to penetrate inside.

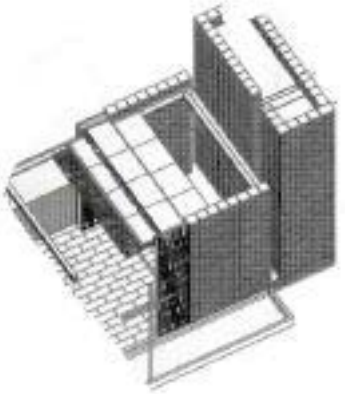


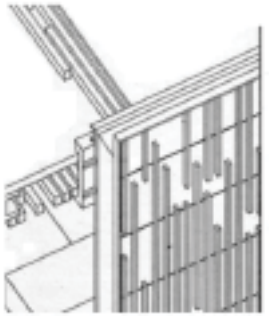
Section Cuts



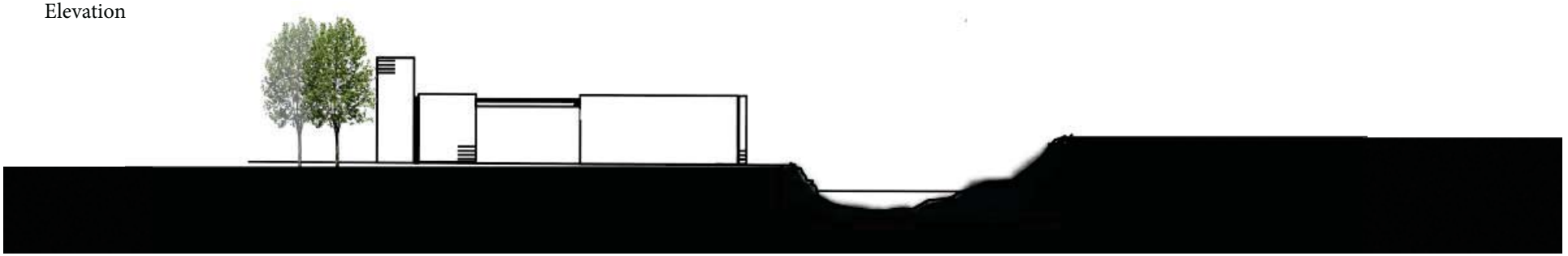


Details :
(1): Top Left
(2): Bottom





Elevation



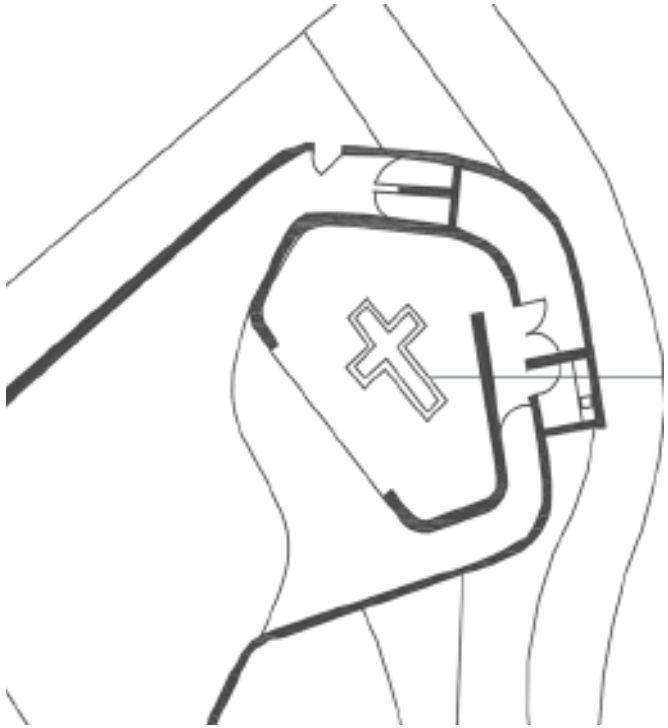
Farewell Chapel
OFIS Architects

Olivia Diaz

The chapel is situated on the site of a hill, tucked in making it seem like it is part of the site where it sits. The chapel is located next to the cementary. The main feature of this chape ls the cross that sits on top of the roof. It allows for the place to be luminated with sunlight during the day and then during the night it does with artificial lighting. The cross on top is a symbol for thoe who go, and allows them to approach their passage in a different experience.

Roof Plan:

Extends and “adds” another contour.



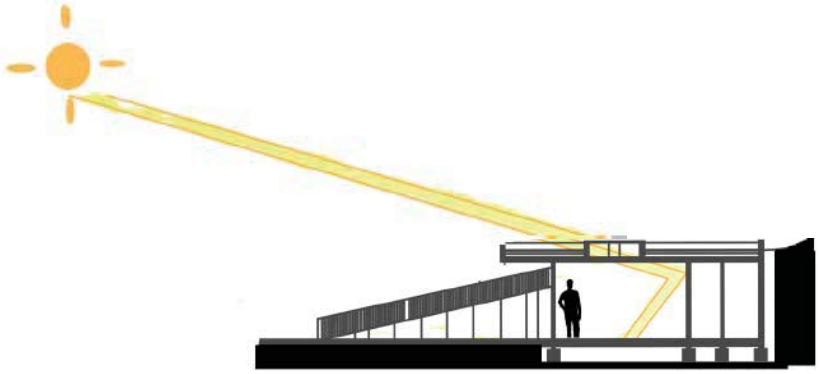
Floor Plan:

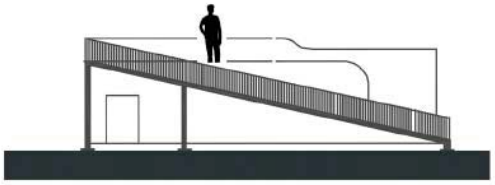
Follows the curvature of the site.

Floor Plan:

The cross located on the top of the roof is the primary focus of this chapel. It sits on a green roof. Covered by a glass piece sunlight enters through the opening throughtout the day. Allowing for more light to enter since the chapel sits on the side of the hill.

Light Diagram





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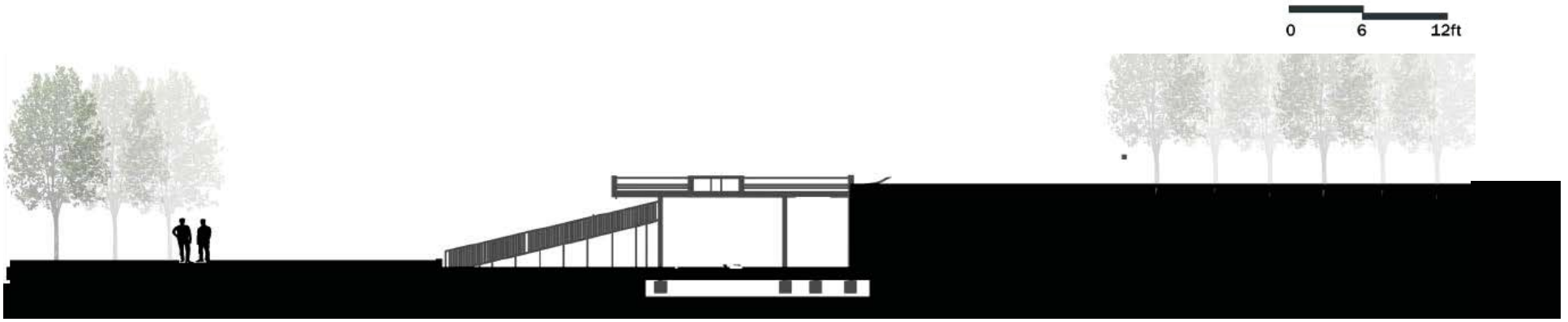
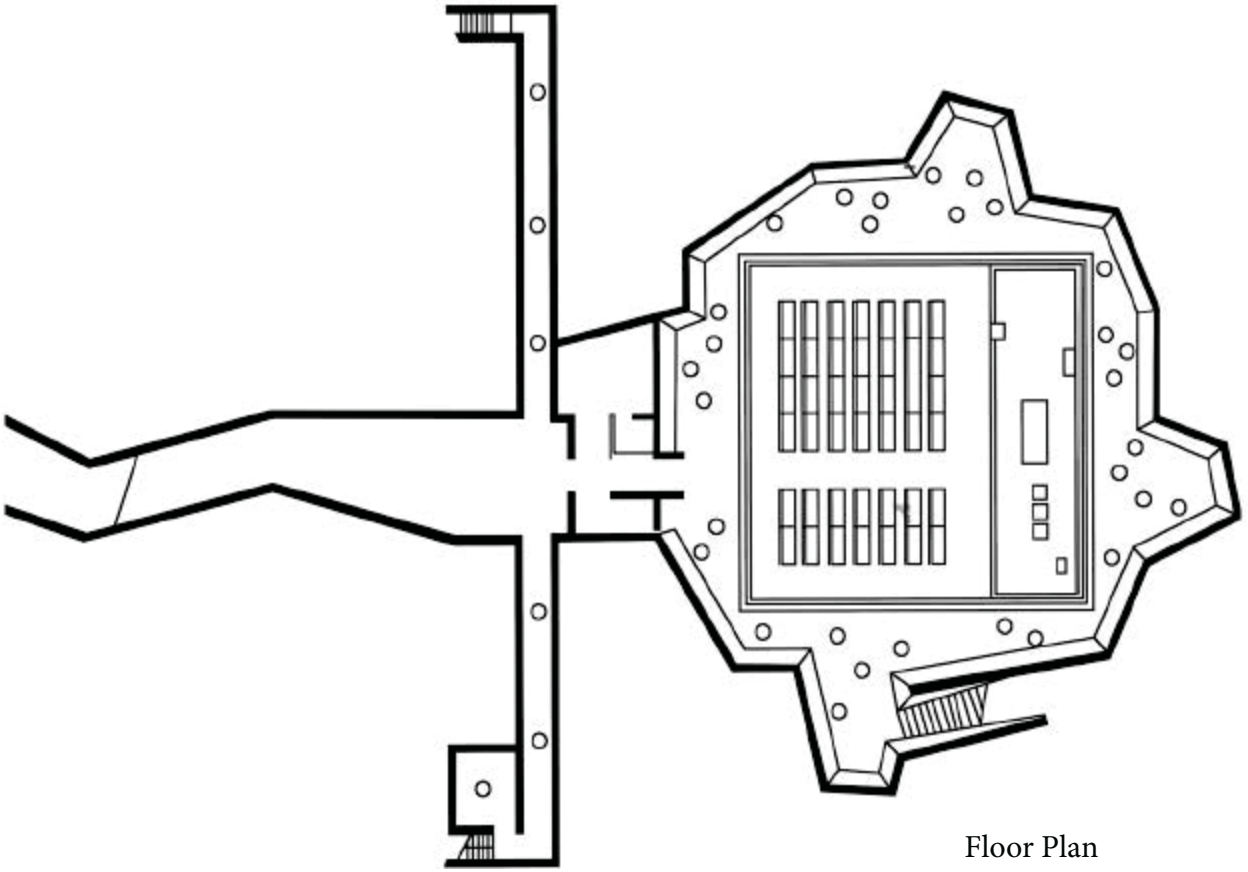


Capilla del Retiro

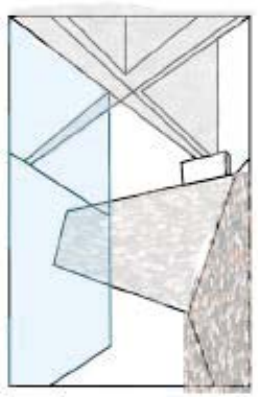
Undurraga Deves Arquitectos

Olivia Diaz

Capilla del Retiro has allowed for the creation to show the tectonic feature of a building. It is a place where one can go and recollect themselves. It is visited by the surrounding people in town. The uniqueness of the structure allows for a space to become more private for the individual. The bottom ground allows a unique way to play on the light feature by having angles the earth beneath it.



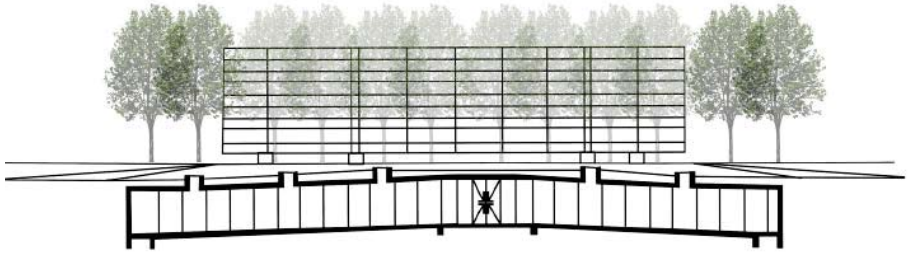
Floor Plan

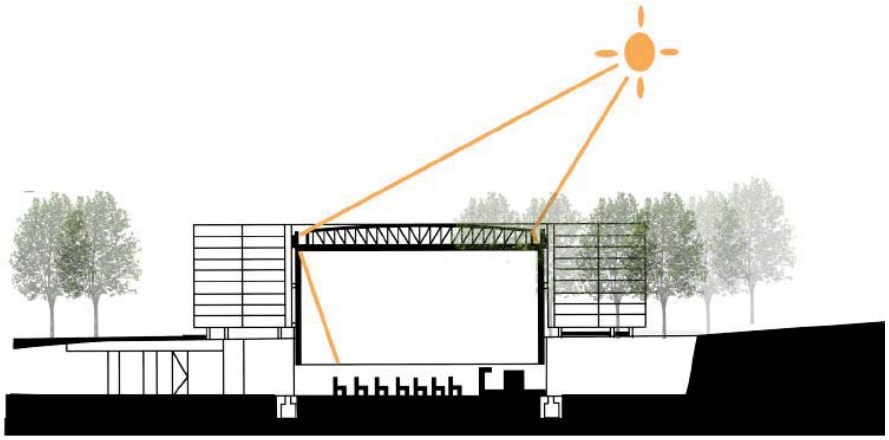


The concrete walls rest on concrete footings. Stoping before they hit grade. The surrounding gravel has been angled to allow for the light to reflect onto the glass on the bottom portion.

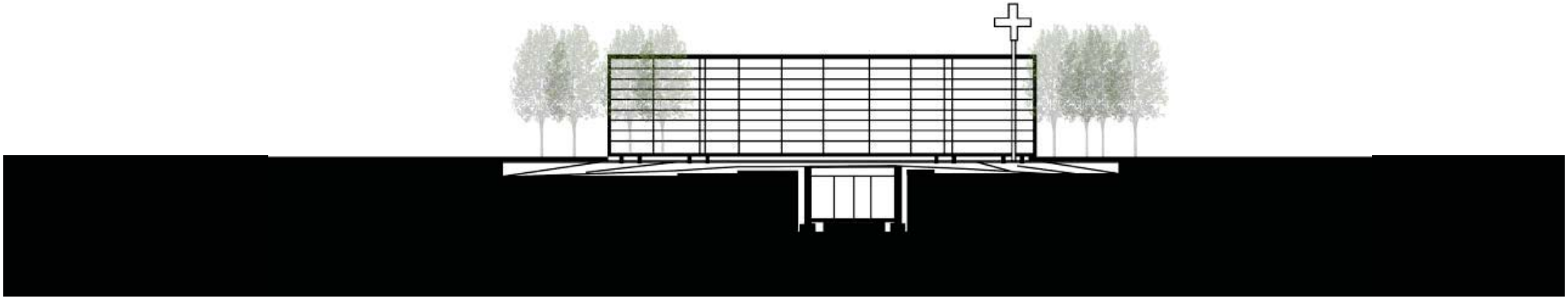
These openings on top, are skylights that allos for light to come in. The aisle east to west serves as a connection point, to entryways leading you back to ground level.

Section Cuts





Section Cuts



St. Benedikt Chapel

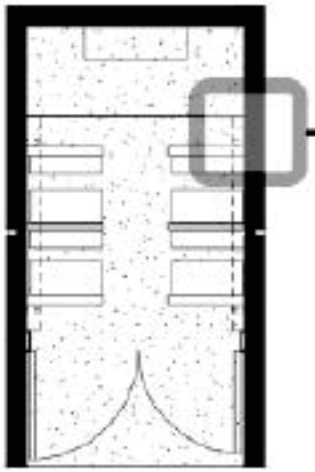
Kunze Seeholzer

Olivia Diaz

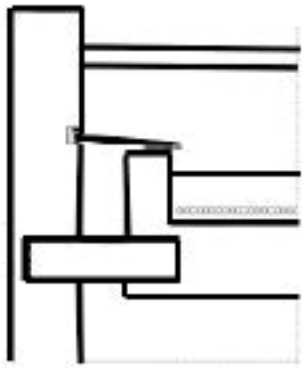
Although small in size, this chapel still brings people close to their faith. The main entry allows for two events to occur. The uniqueness of the structure provides light through the space, along with the water that enters, as a sign of passage.

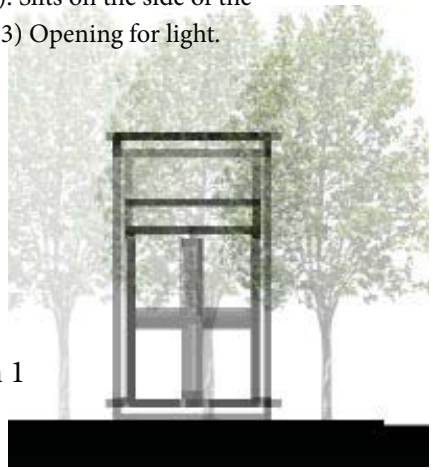
Detail(1): Connection gap allows light in the chapel.
Section: (2): Slits on the side of the building.. (3) Opening for light.

Floor Plan



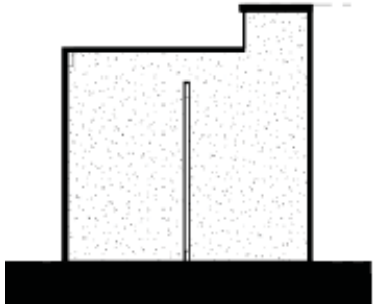
Detail





Section 1

Section 2



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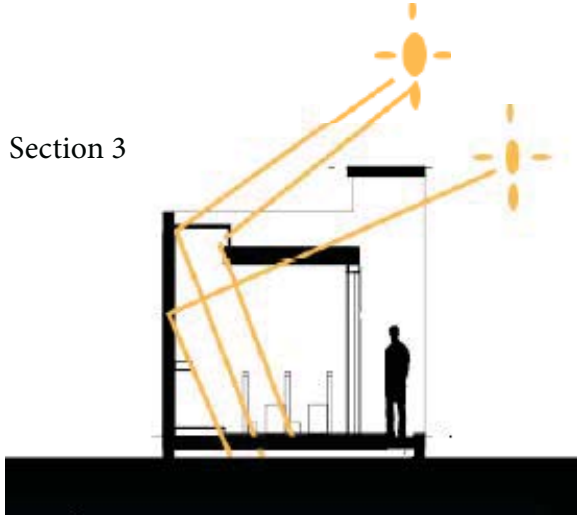
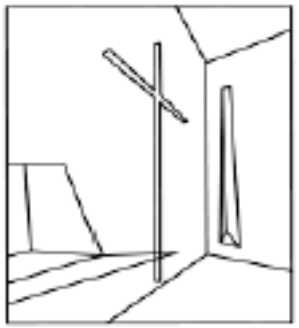


Holy Rosary Chapel
Trahan Archiects

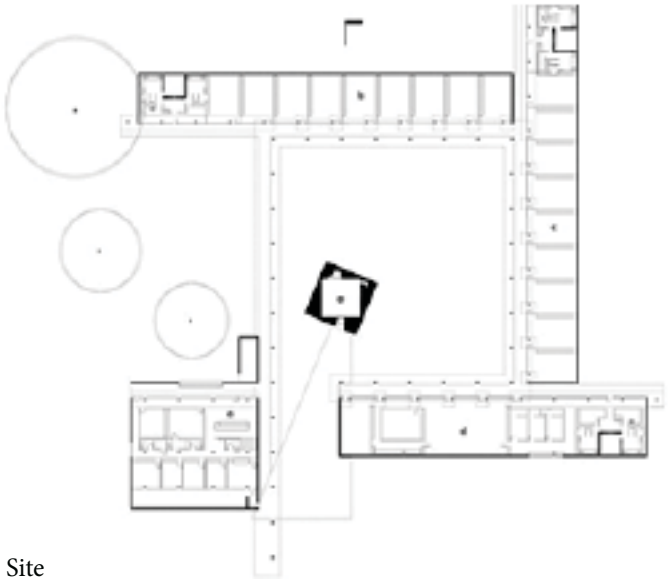
Olivia Diaz

The chapel sits in a complex of other religious buildings. Its form, function, and integration of light allow for a sacred place from the others on site. Yet, keeping that calm, recollecting place in mind.

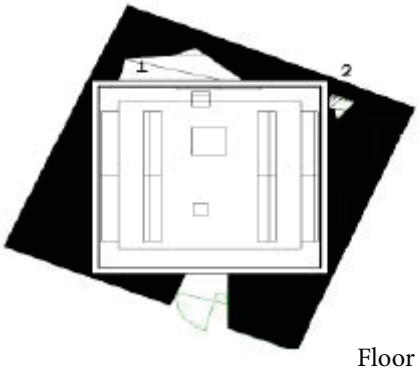
Bottom Sketch: Pertrusions on the walls next to the altar allow for minimal light to enter and be reflected on.
Section Cut: Diagram showing the way light enters.



Sketch (1)

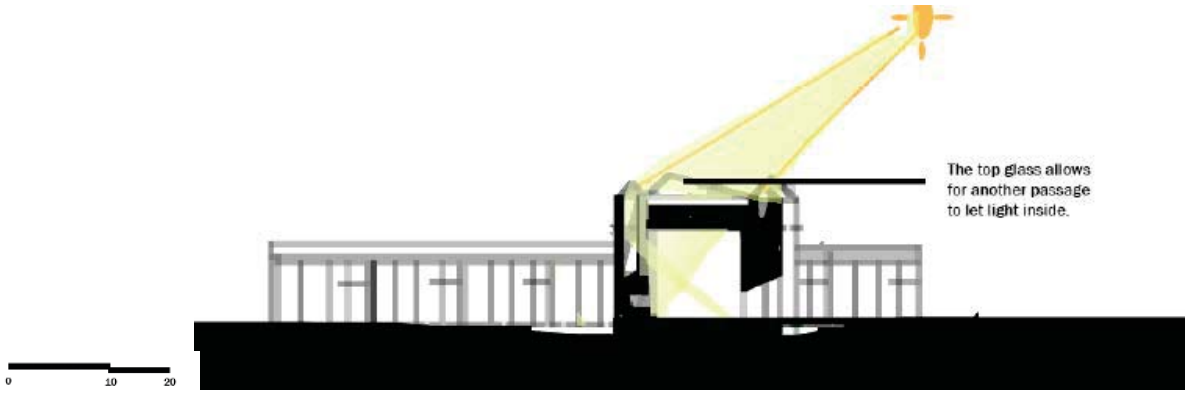


Site



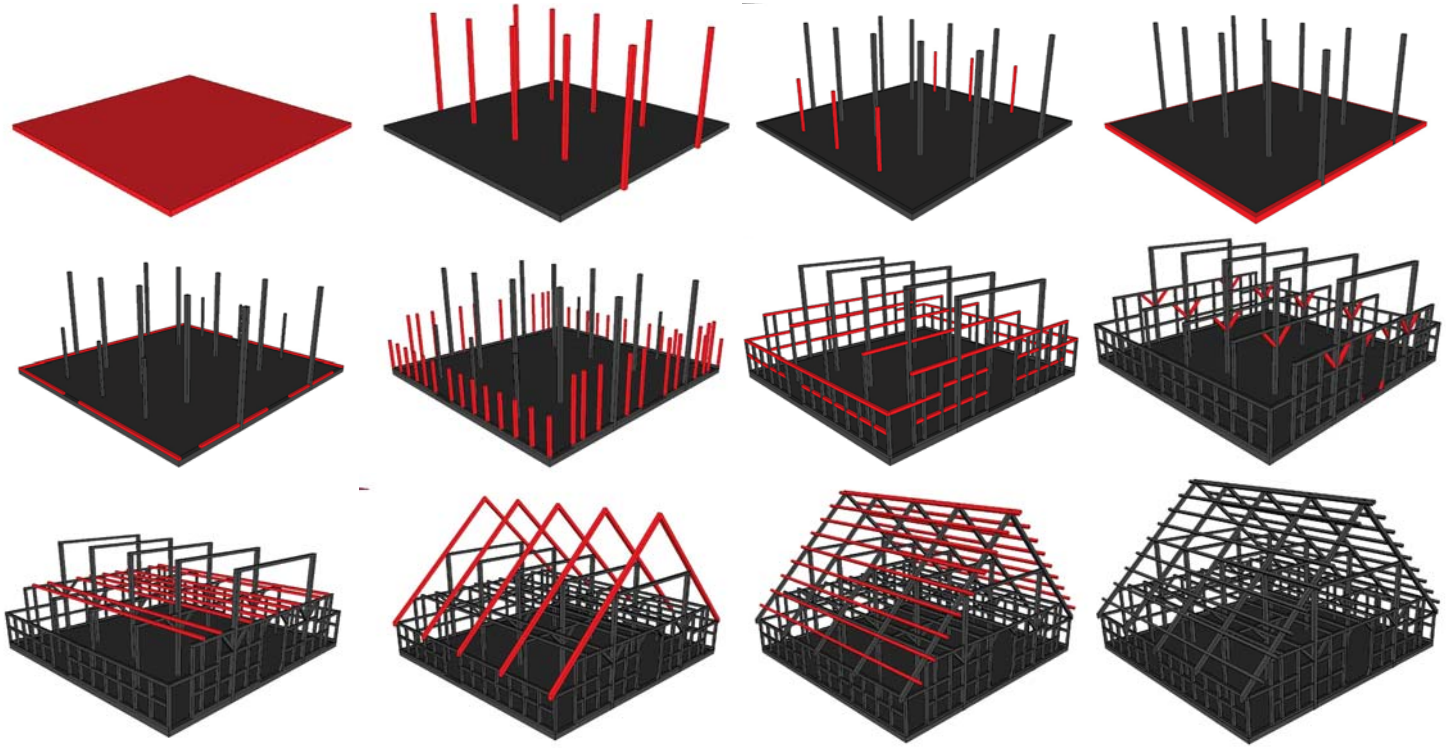
Floor Plan

Section Cut



Half Timbered Barn with Birck infill

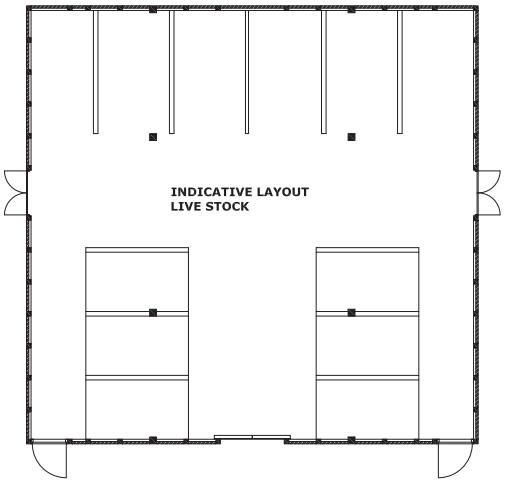
Local Builder and Craftsmen



Ronald Greene
Uetersen, Germany

The barn is used to store livestock on the first floor and the second level or attic space is used to store hay for feeding the livestock. The hay is stored above to keep it dry from dampness on the ground. The structure is known as a two post structure as the building is divided into three bays and the main supporting elements is the timber post on each grid along the length of the building.The roof covering is made of thatch material. The main dominant feature of the building is the gable end and large doors in the center.

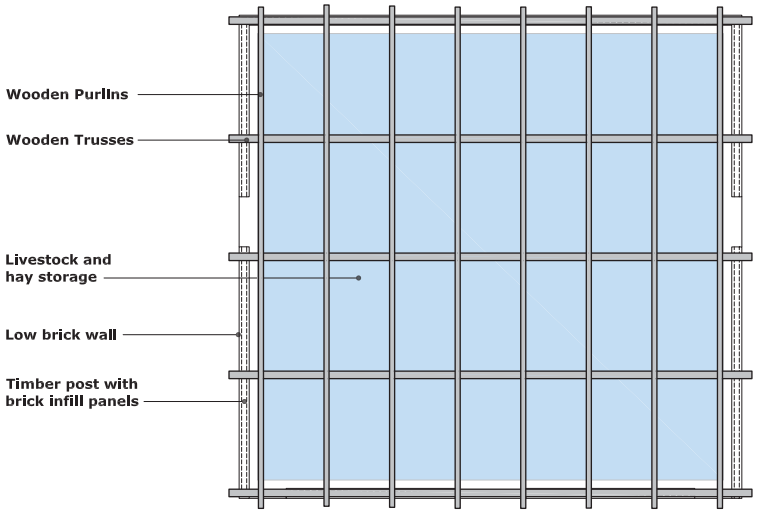
FRAMEWORK/LATTICE - the latticework of trussess provides the structure and character of the building



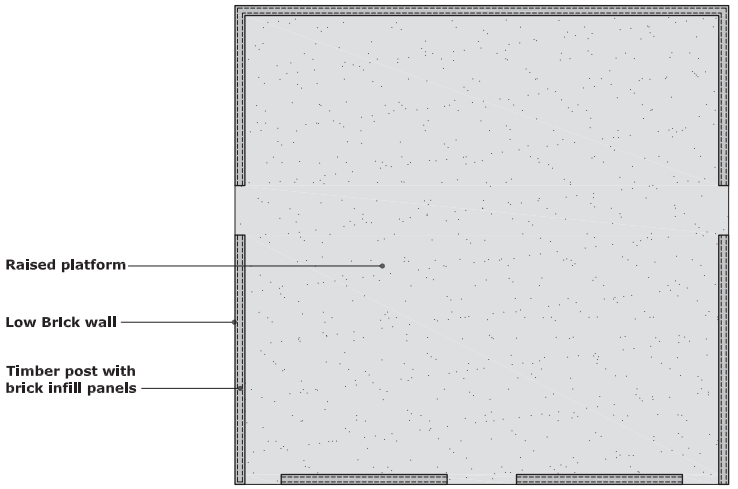
INDICATIVE LAYOUT

AXONOMETRIC VIEW

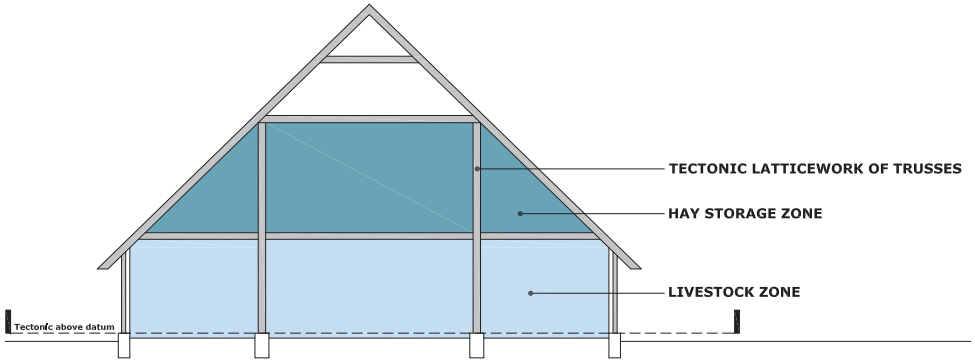
Source:http://en.wikipedia.org/wiki/Barn#mediaviewer/File:Scheune_Langes_M%C3%BChle.jpg [Date accessed: 06/14/2014]



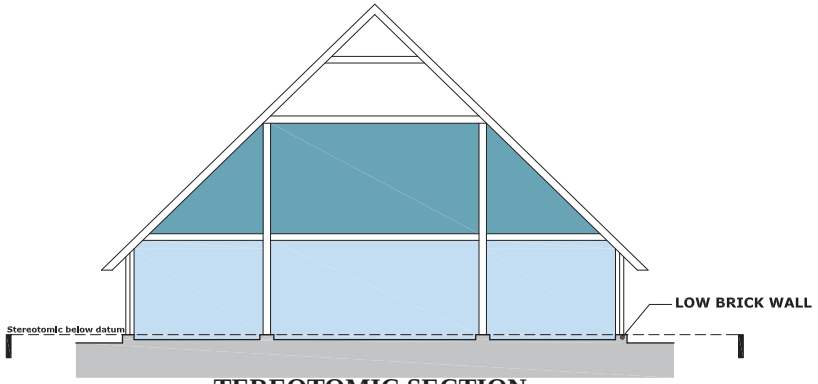
TECTONIC PLAN



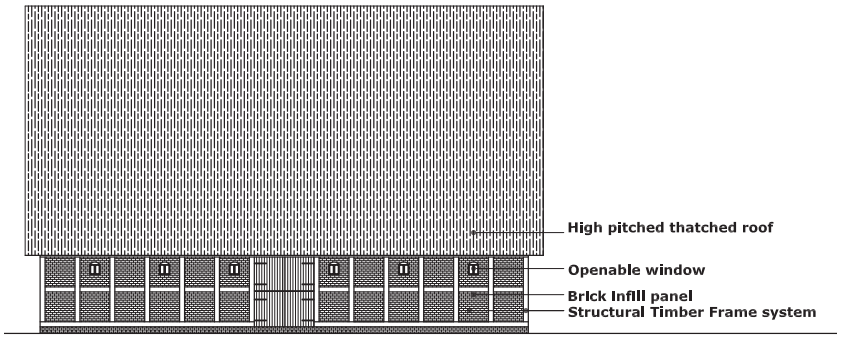
STEREOTOMIC PLAN



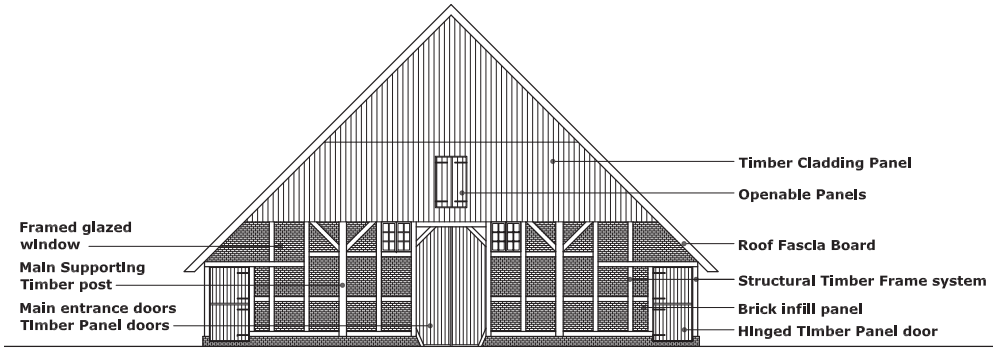
TECTONIC SECTION



sTEREOTOMIC SECTION



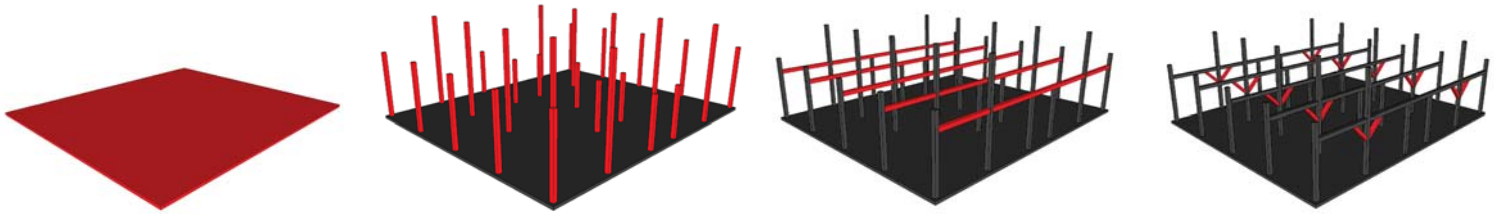
SIDE ELEVATION



FRONT ELEVATION

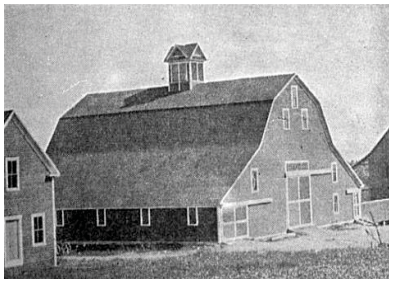
Northern Maine Stock and Hay Barn

Maine, USA

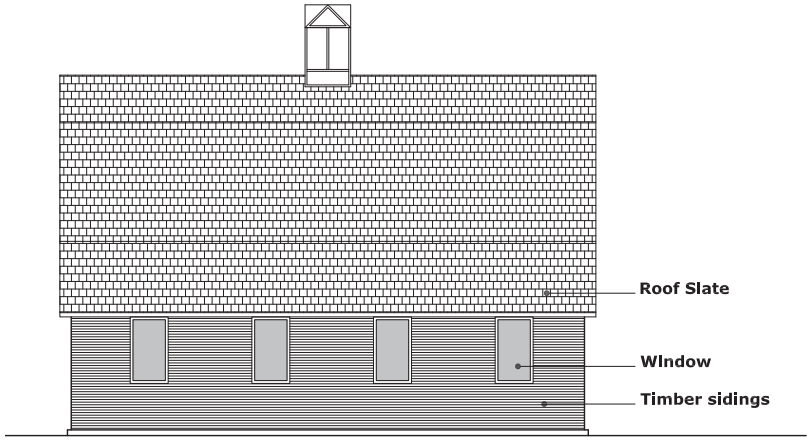


Ronald Greene

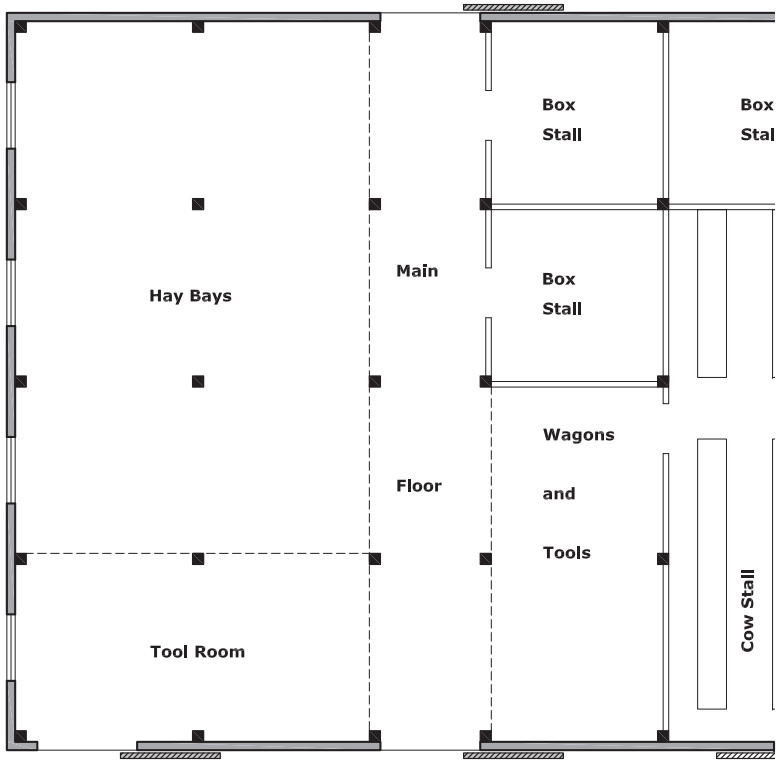
The barn is used to store livestock on the first floor and the second level or attic space is used to store hay for feeding the livestock.The barn is about thirty feet wide and length may vary. The post may be either sixteen or eighteen feet high, the roof constructed of short and long rafters and braced to make it self supporting. the opeing to the barn may be at the ends or sides, and wagons can be driven through to remove the manure. Hard clay is used for the floor.



FRONT ELEVATION

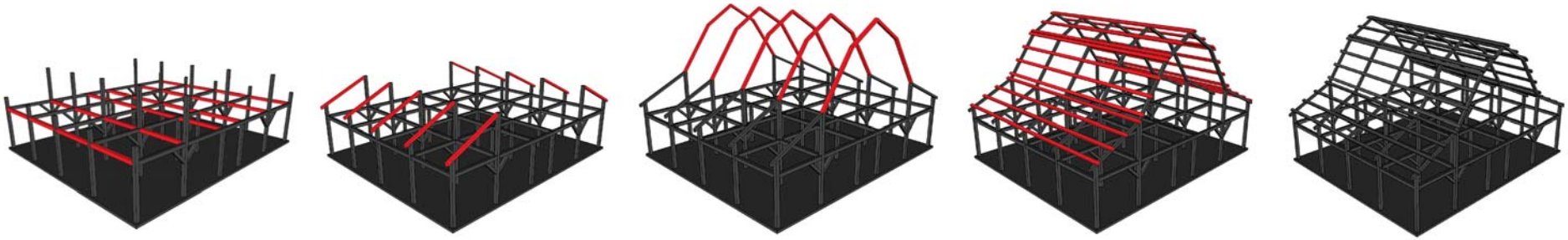


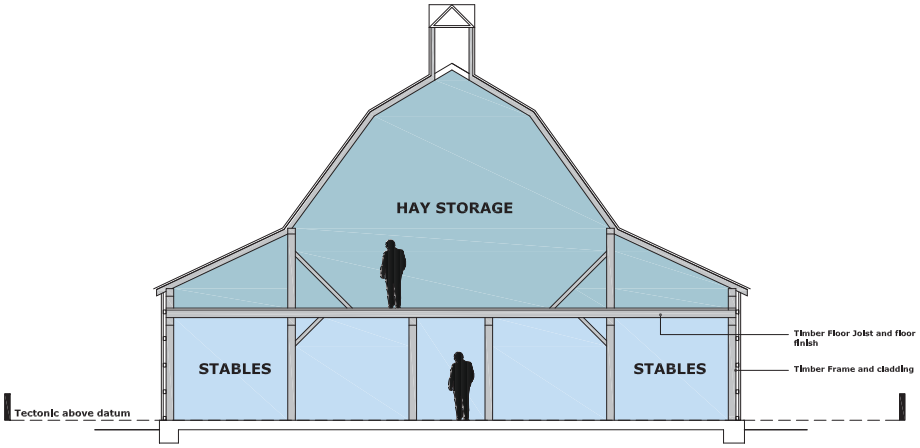
SIDE ELEVATION



TECTONIC PLAN

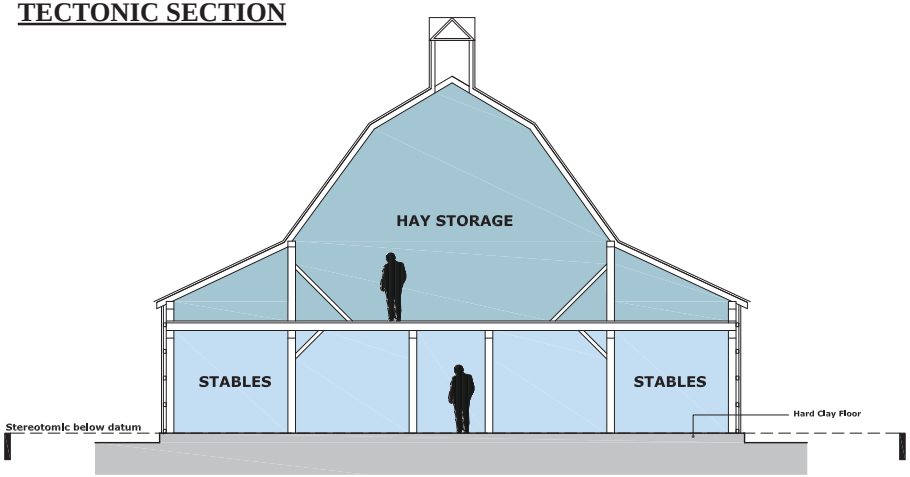
photo citations





TECTONIC SECTION

AXONOMETRIC VIEW



STEREOTOMIC SECTION

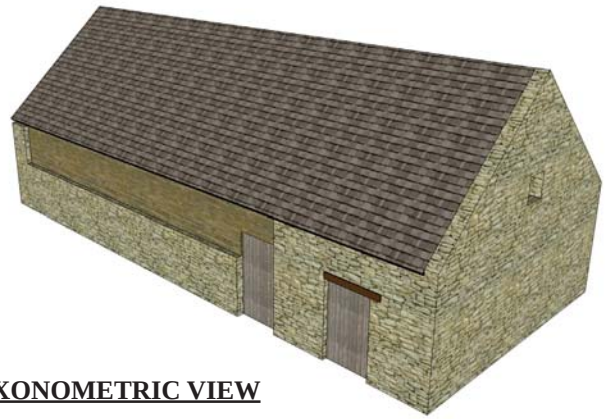
Ronald Greene

This barn was built using large curved timber frame. Stone and wood wood panels where used to clad the barn. It was built in about 1600.

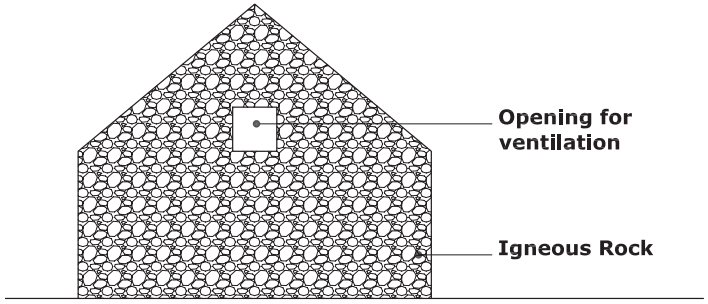
The barn was used to store corn crop and for threshing over winter. After being unloaded through the wide doors, the corn was threshed by hand with a flail and then the ears were separated from the chaff by throwing the corn up in the through-draught provided by the open doors.

HENDRE-WEN BARN

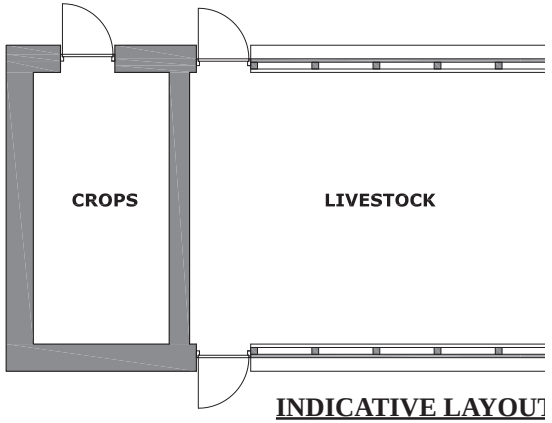
Llanrwst, Gwynedd, Wales



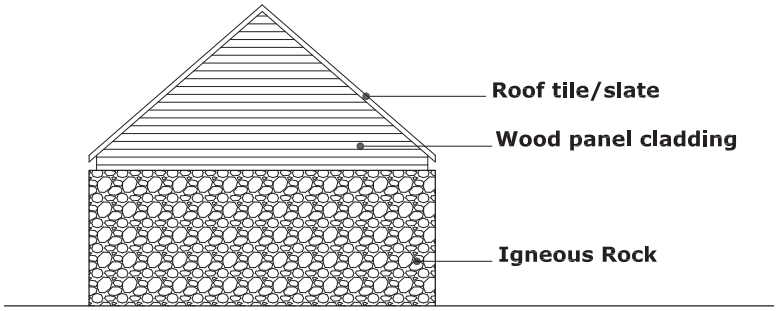
AXONOMETRIC VIEW



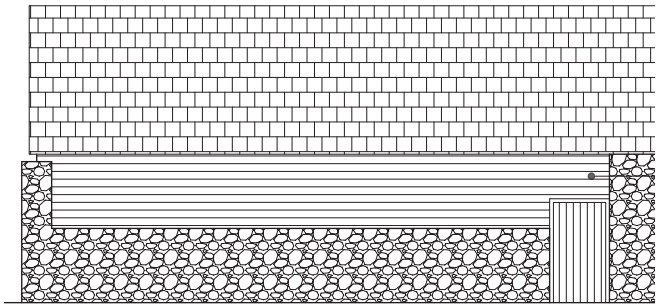
SIDE ELEVATION



INDICATIVE LAYOUT

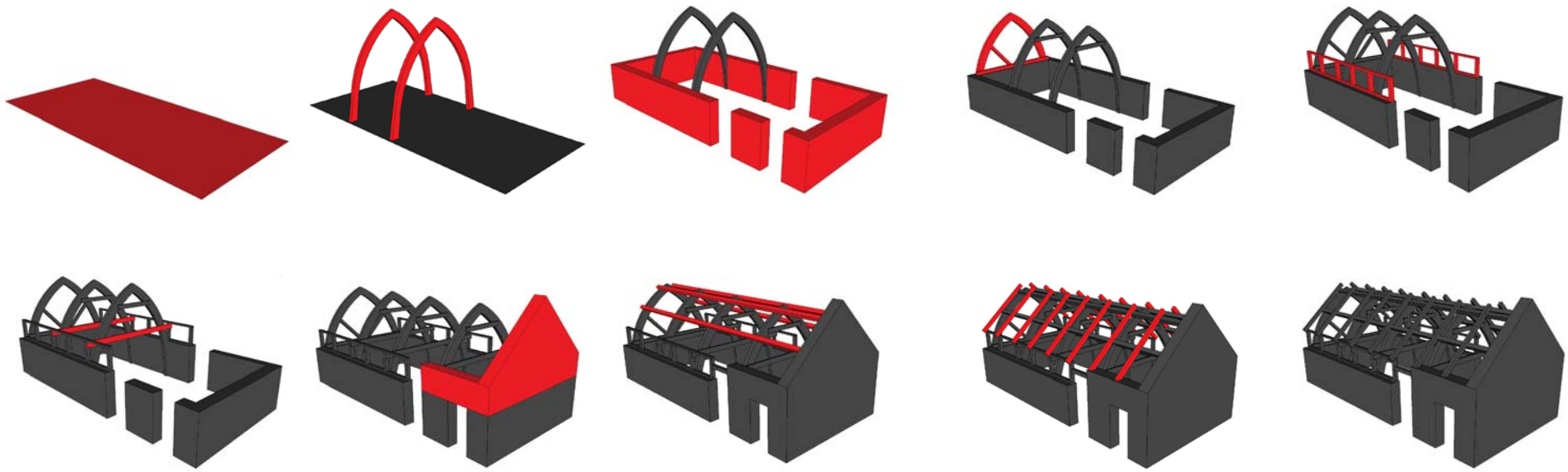


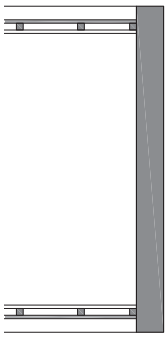
SIDE ELEVATION

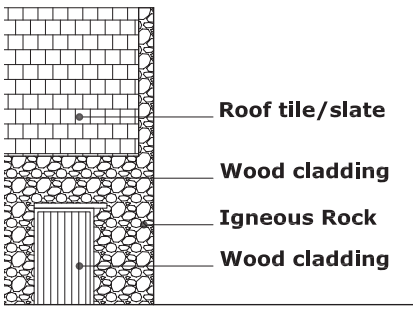


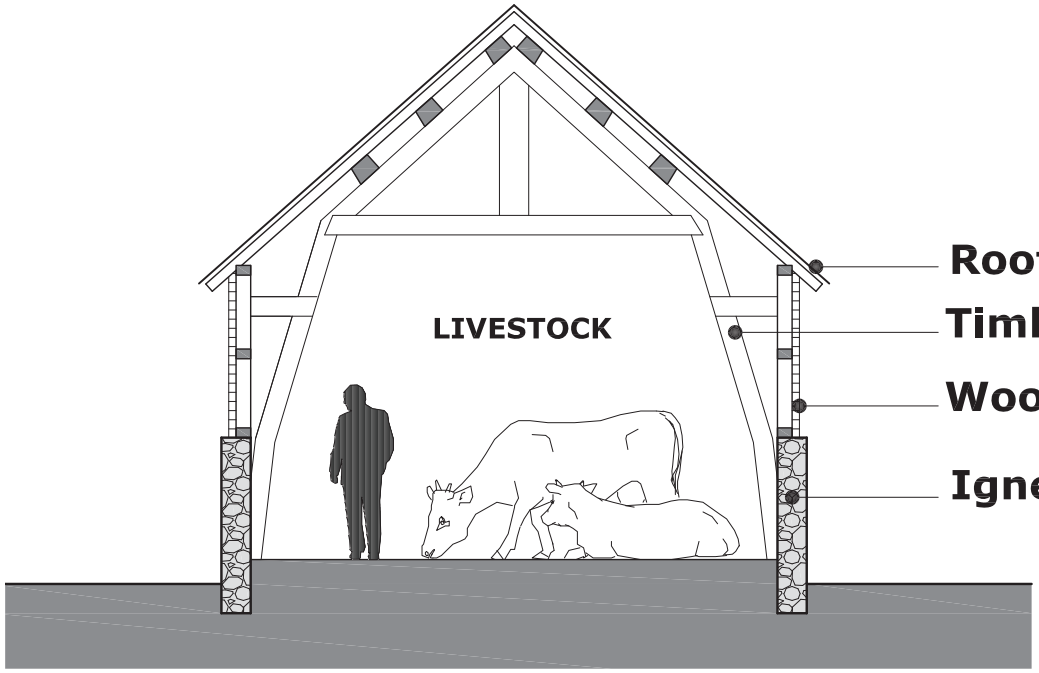
FRONT ELEVATION

Source: https://www.museumwales.ac.uk/stfagans/buildings/hendre_wen/ [Date accessed: 06/14/2014]






Roof tile/slate
Wood cladding
Igneous Rock
Wood cladding

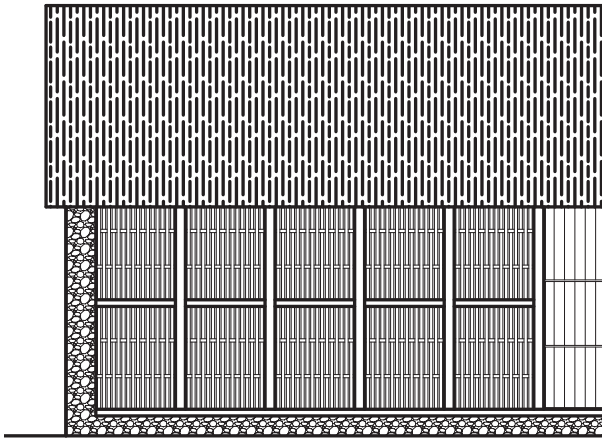

LIVESTOCK
Roof slate
Timber Cruck Frame
Wood panel cladding
Igneous Rock

SECTION

Ronald Greene

STRYD LYDAN BARN

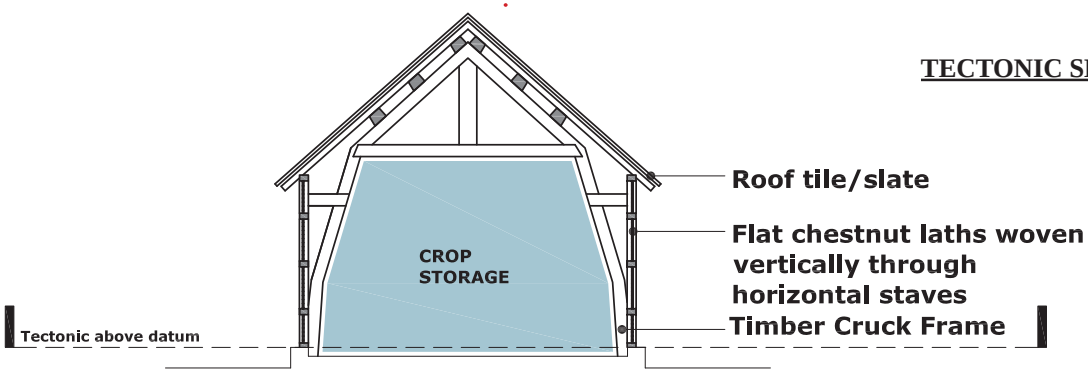
Penley, Wrexham, Wales

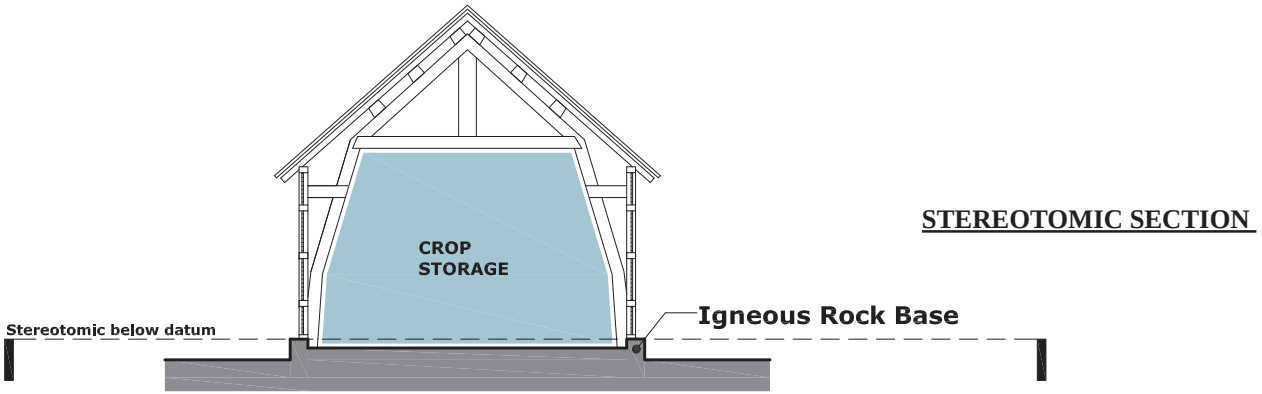


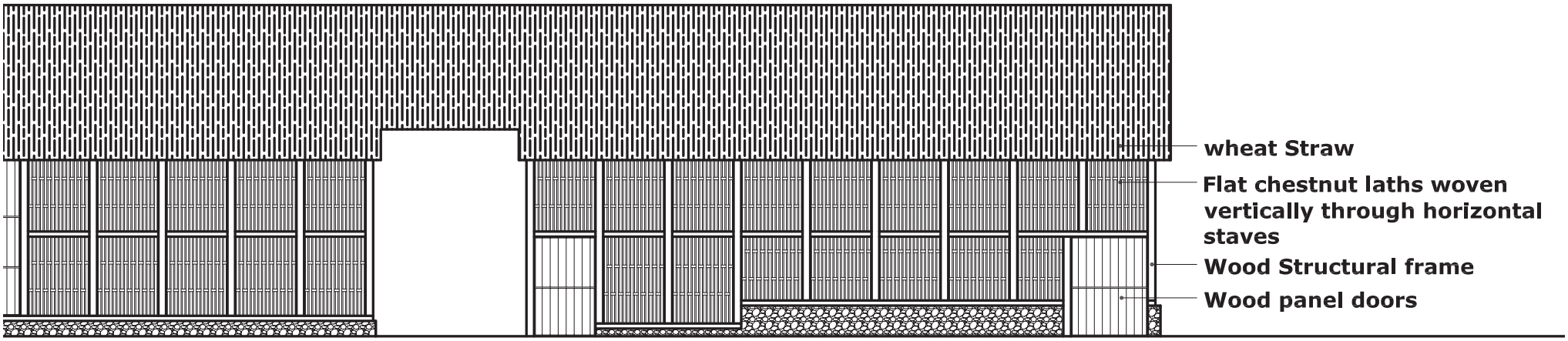
This barn is formed by linking two separate structures.
The structure consist of cruck and timber-framed barn. The earliest part of the barn dates from about 1550. The second part is a timber-framed structure was built nearby about 1600 to form a single building with a large central open bay.

The walls are wattled using flat chestnut laths woven vertically through horizontal staves. The building is thatched with wheat straw. The Building was building by local carpenters and craftsmen. It was used for crop storage such as wheat and bailey

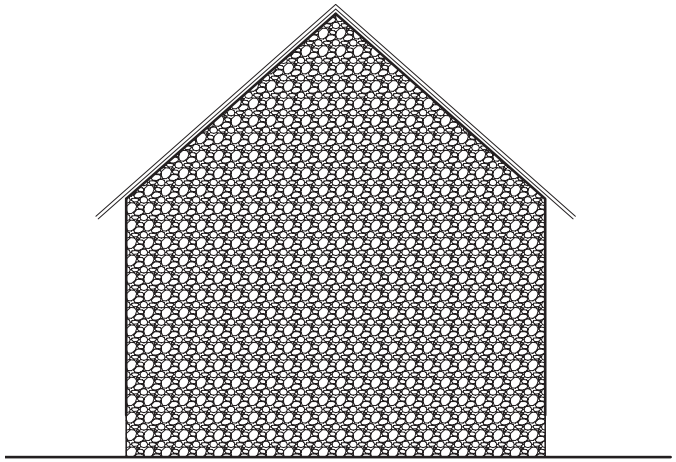
.



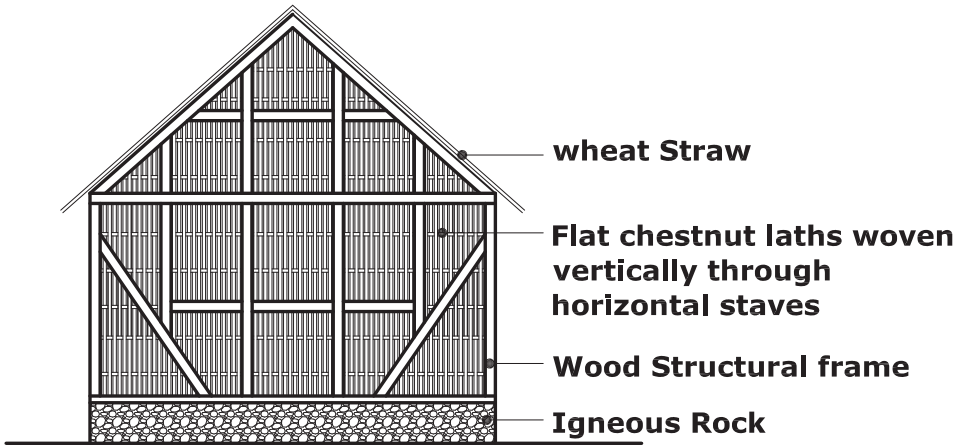




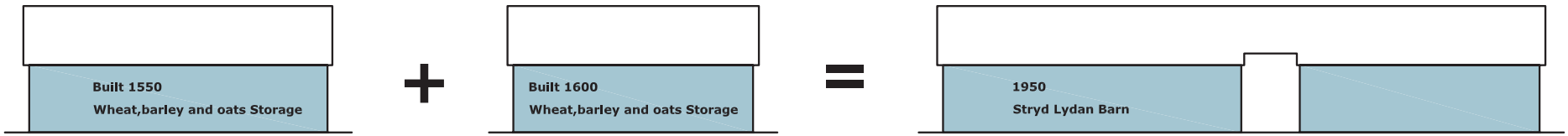
FRONT ELEVATION



SIDE ELEVATION



SIDE ELEVATION



Original location Penley near Wrexham, Wales

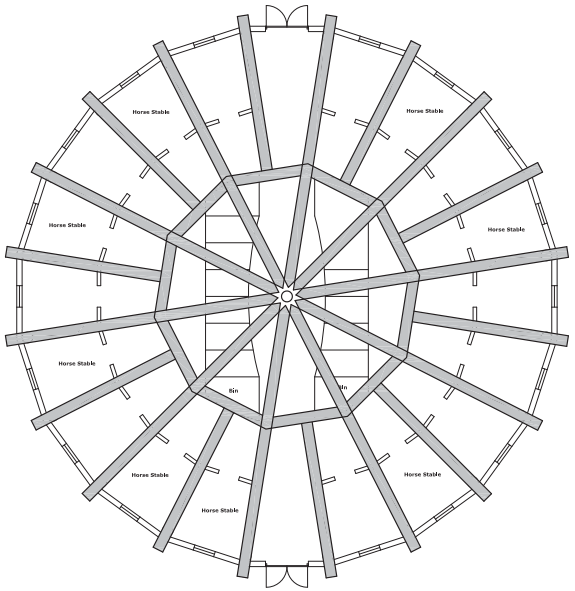
Current location St.Fagans museum in Cardiff, Wales

Ronald Greene
Circular barns, are cheaper to construct than square or oblong barns because they cover the greatest arear with th eleast material. The Illinois Horse Barn though located in Manhattan is origin to Illinois. It is a 20 sided horse barn. It has a timber frame and cladding. the top level is used for storing hay.

Conclusion
The five barns studied in the project are all unique to their different regions. In Europe, stone and wood is mostly used for barn construction while lumber was mostly used in the US. It was also obvious that Barn size varies and although they originated from Europe they were built in a grand and bigger style in the USA mainly because of the larger farmlands and the harse winter or summer conditions which require livestock to be kept indoor.

ILLINOIS HORSE BARN

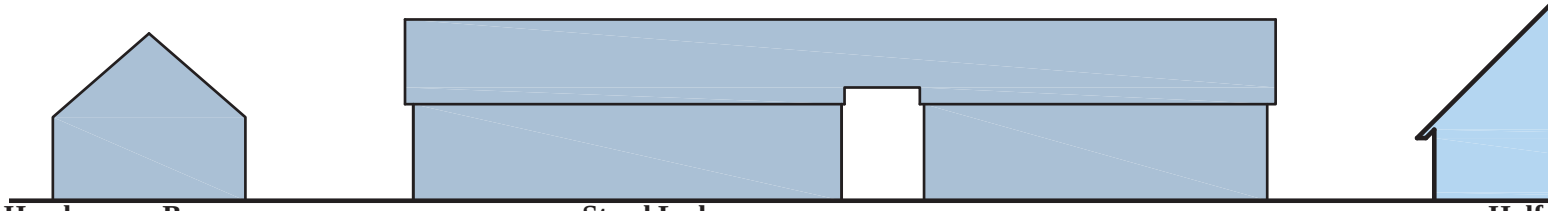
Manhattan



TECTONIC PLAN

Wales, UK

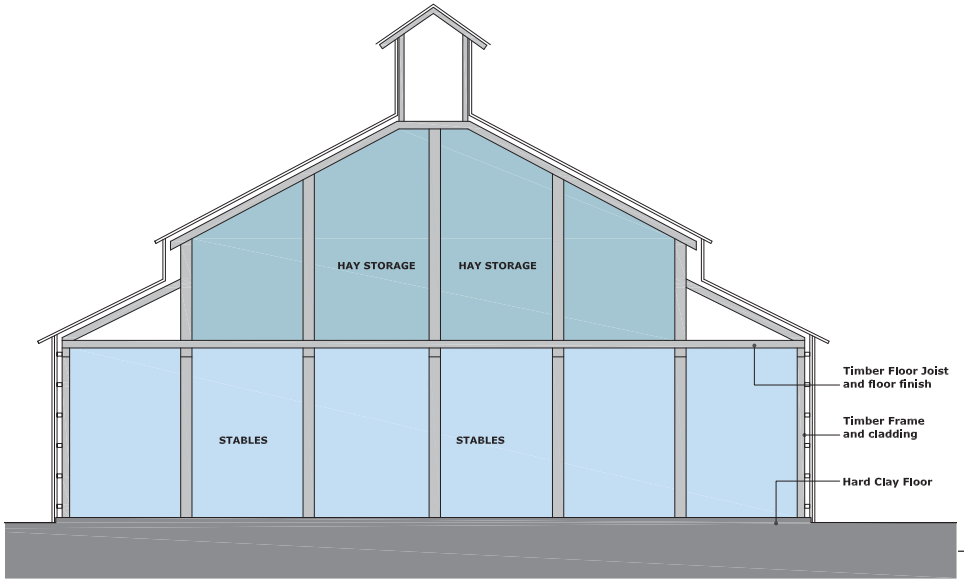
Main material for barn construction: Stone and wood



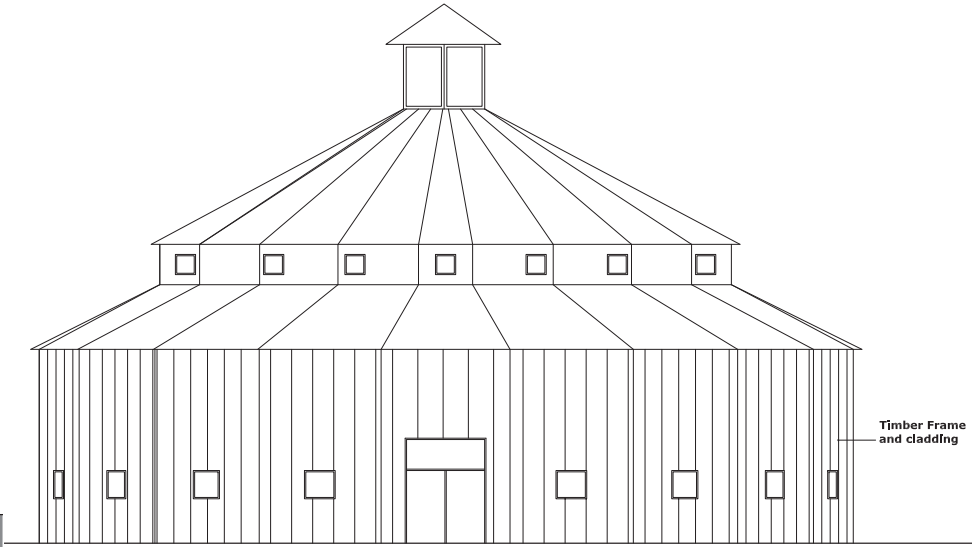
Hendre-wen Barn
Llanrwst, Gwynedd, Wales

Stryd Lydan
Penley, Wales

Half
Germa



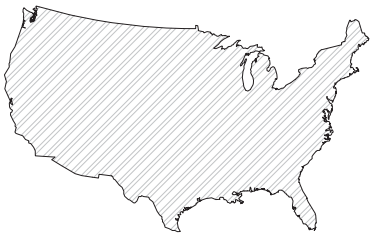
SECTION



FRONT ELEVATION

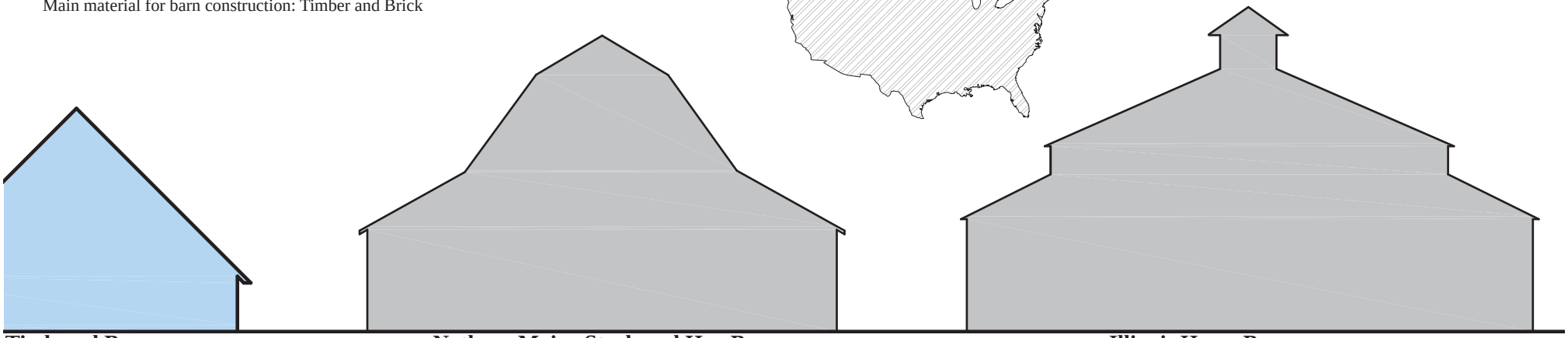
Germany

Main material for barn construction: Timber and Brick



United States

Main material for barn construction: Lumber



Timbered Barn
any

Nothern Maine Stock and Hay Barn
Maine, USA

Illinois Horse Barn
Manhattan

Stamp House

Charles Wright Architects

Ryan Kinports

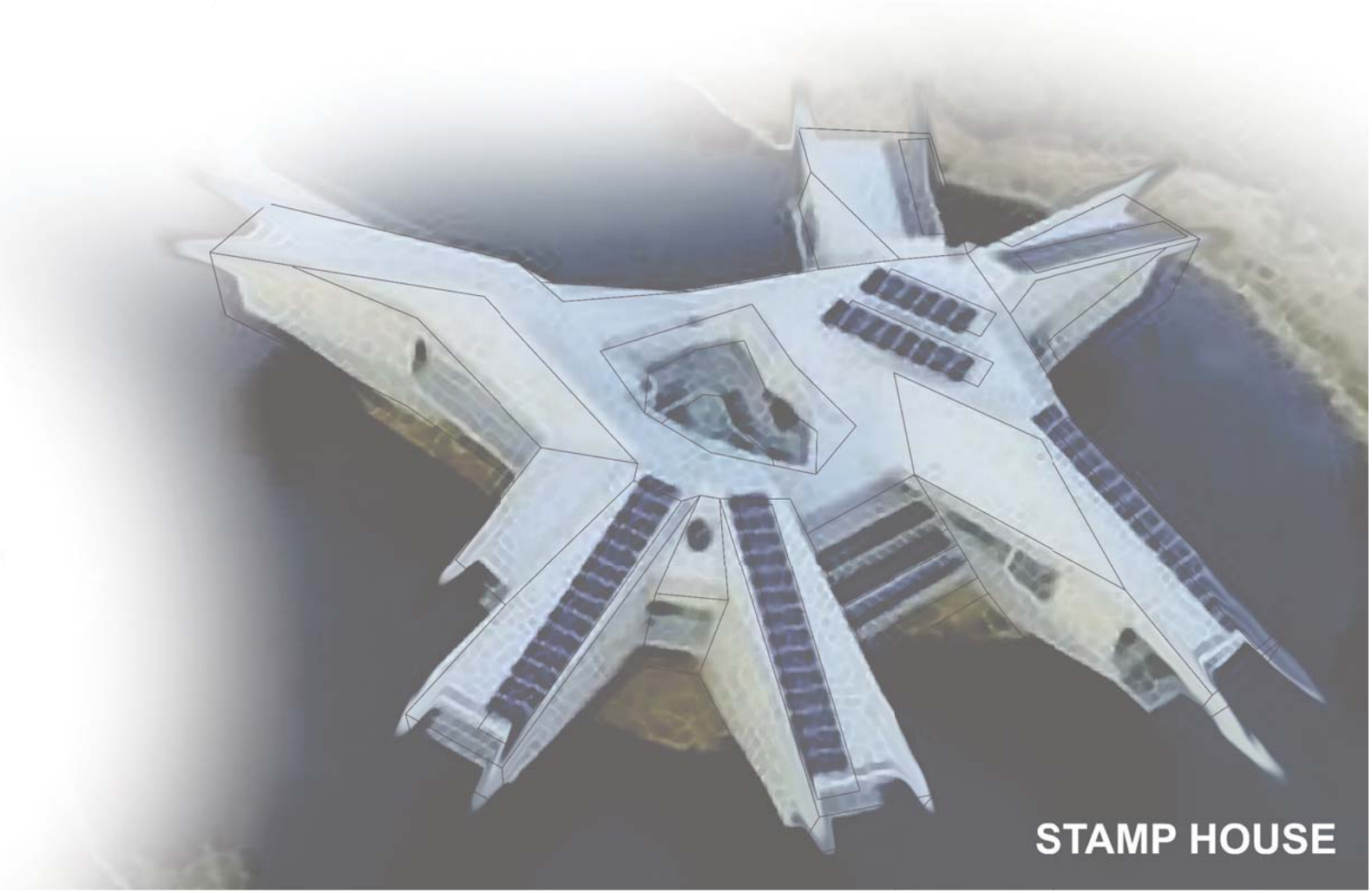
1/32” = 1’-0” unless noted

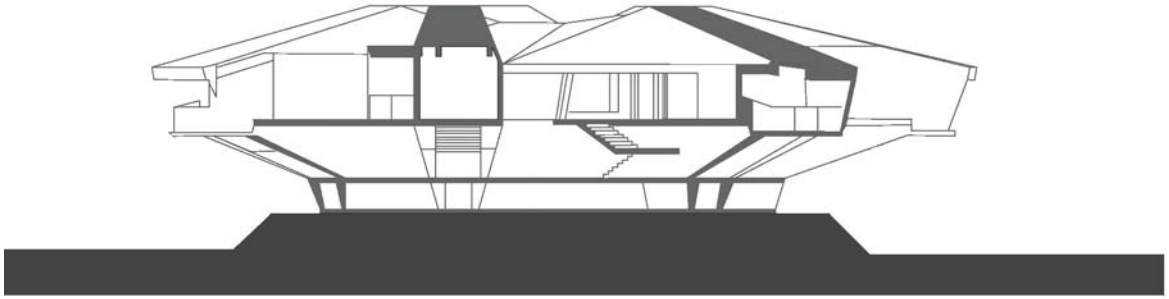
Queensland, Australia

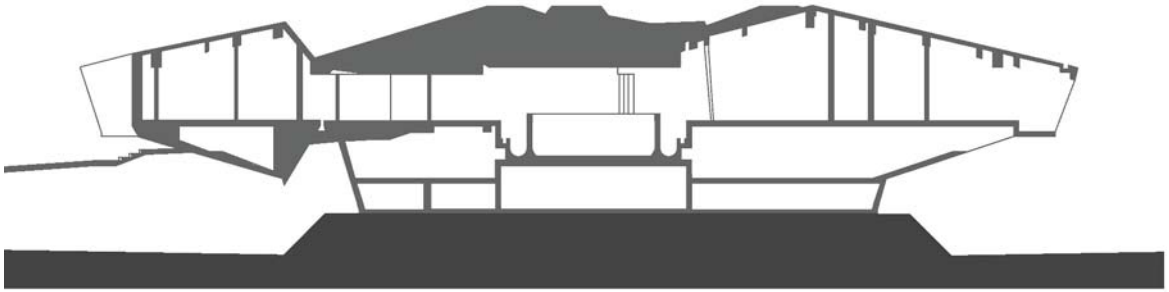
Render
North Section Cuts
Visibility of Nature
Roof Plan with:
- Visual Weight

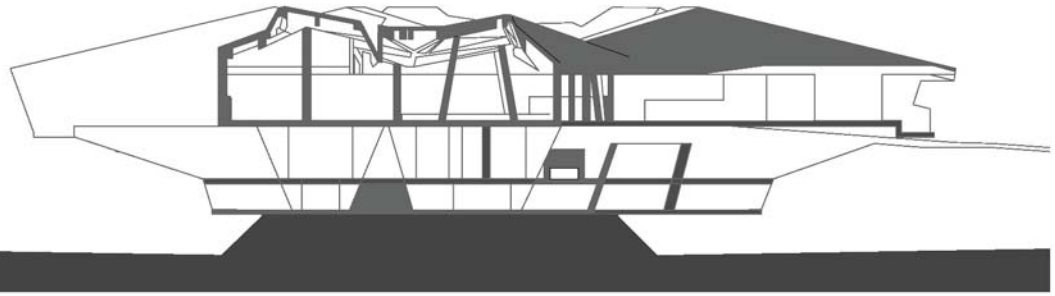
1st Floor Plan with:
- Visual Weight
- Sun Exposure
- Air Flow

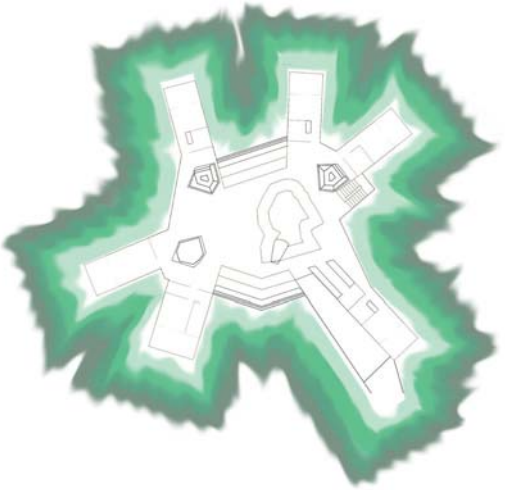
Basement Plan with:
- Visual Weight
- Sun Exposure
- Air Flow



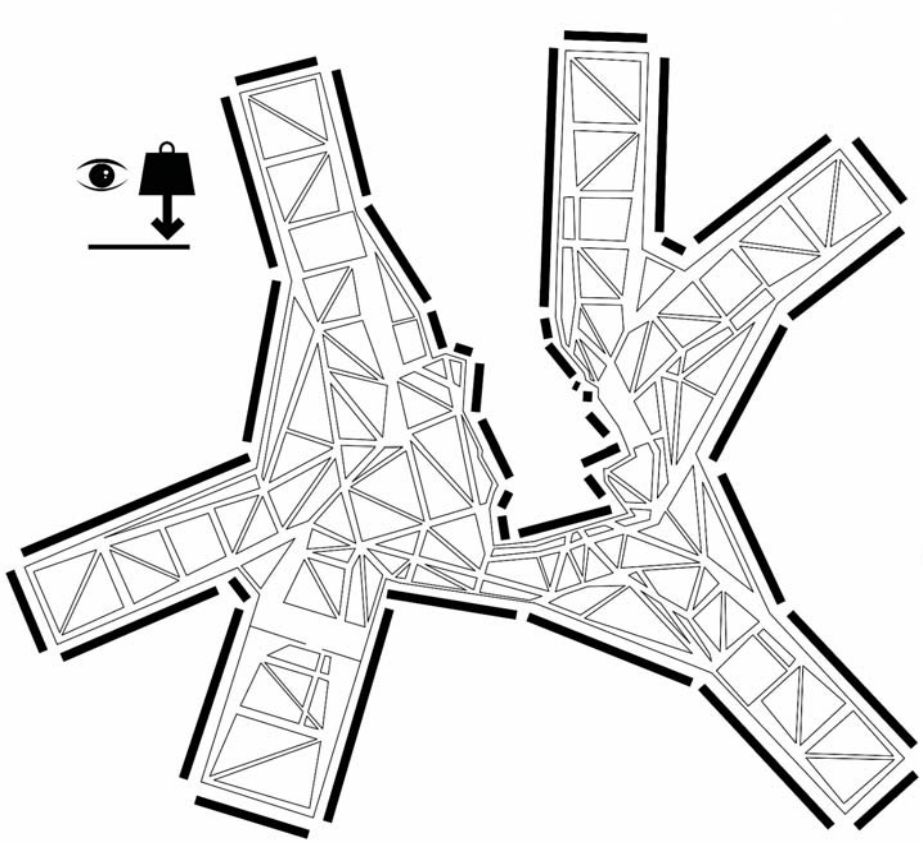


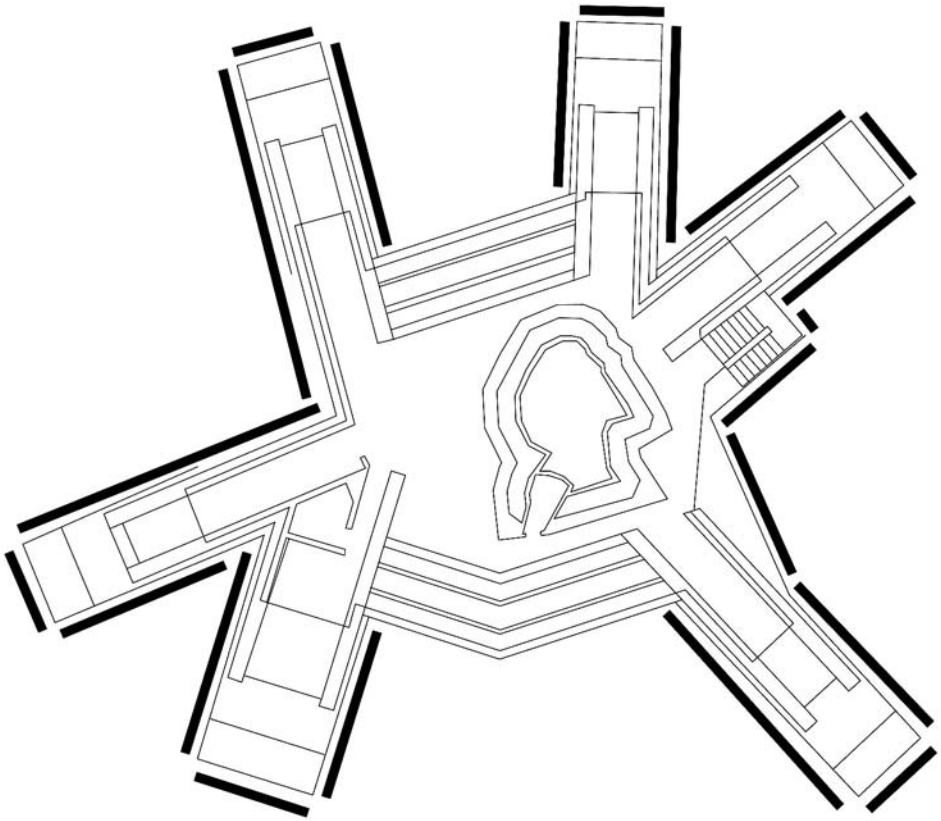


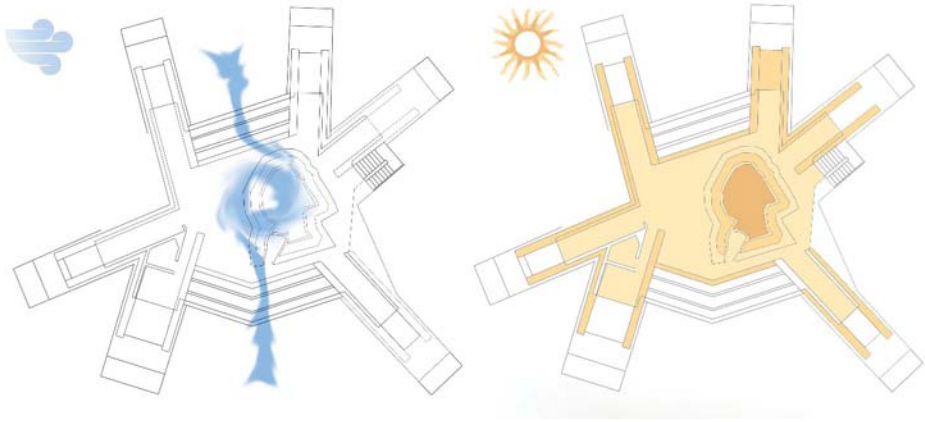


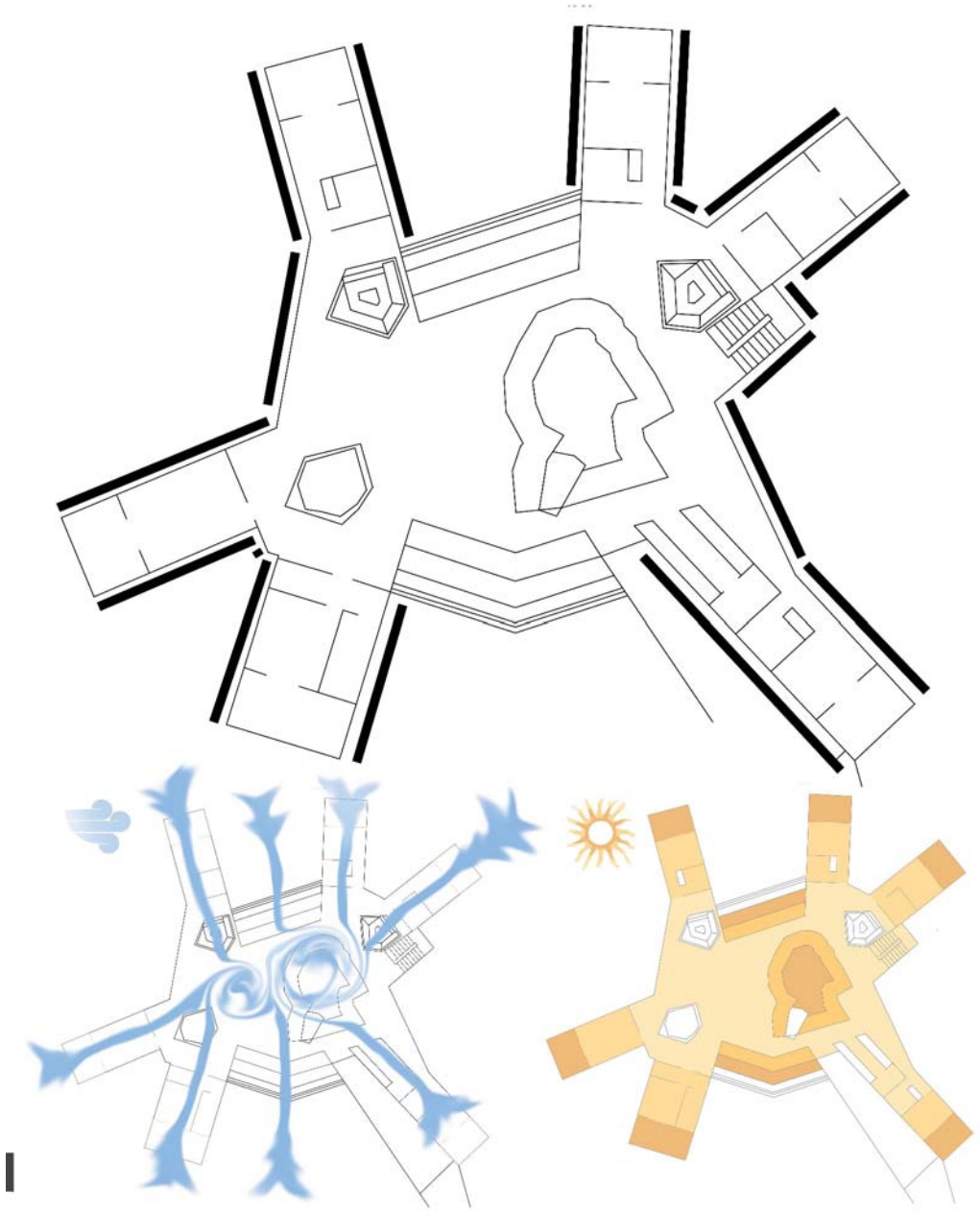


1/64” = 1’-0”









Hemeroscopium House

Ensamble Studio

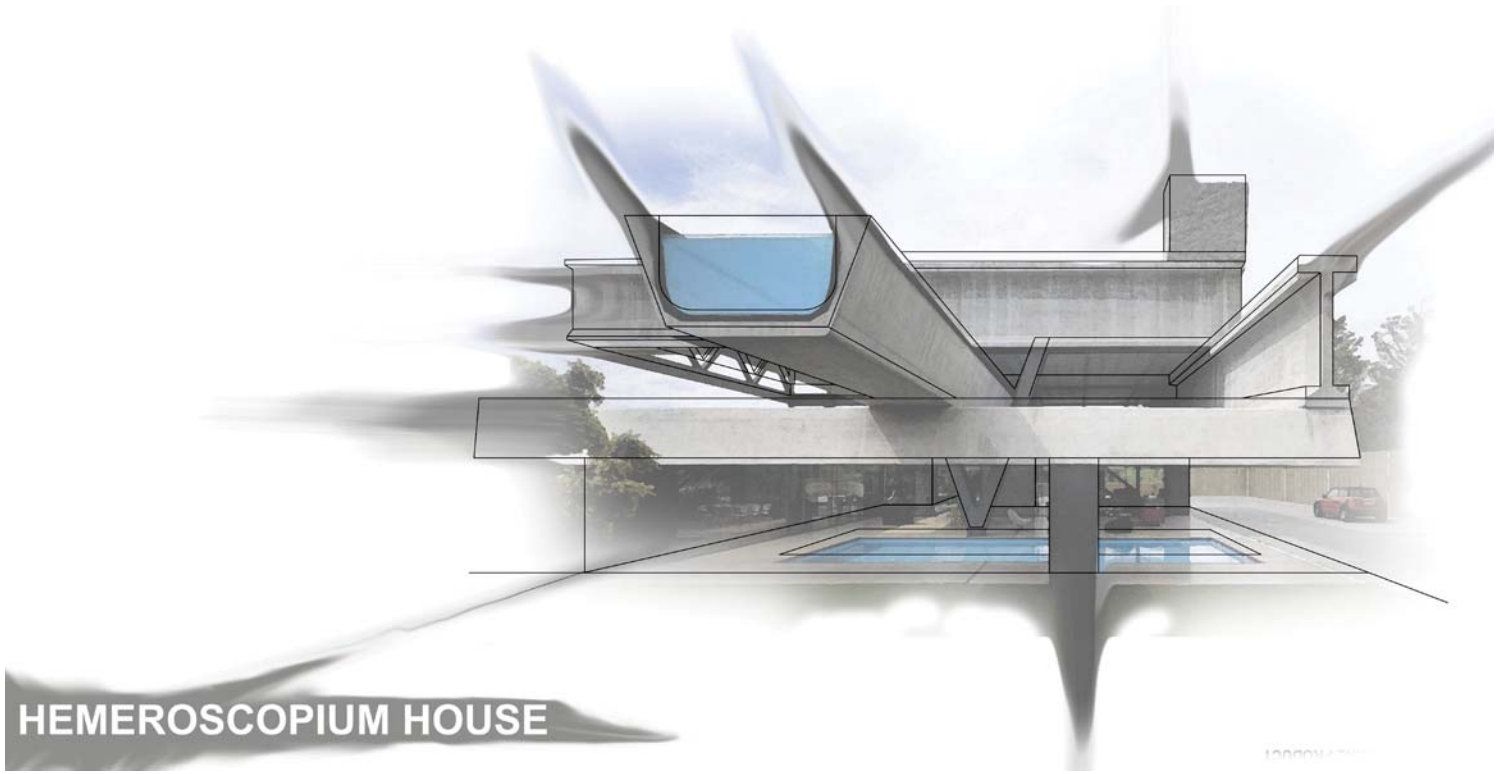
Ryan Kinports

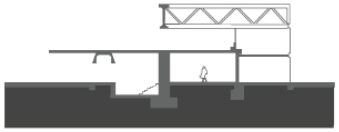
1/32” = 1’-0” unless noted

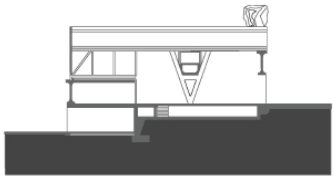
Las Rozas, Madrid, Spain

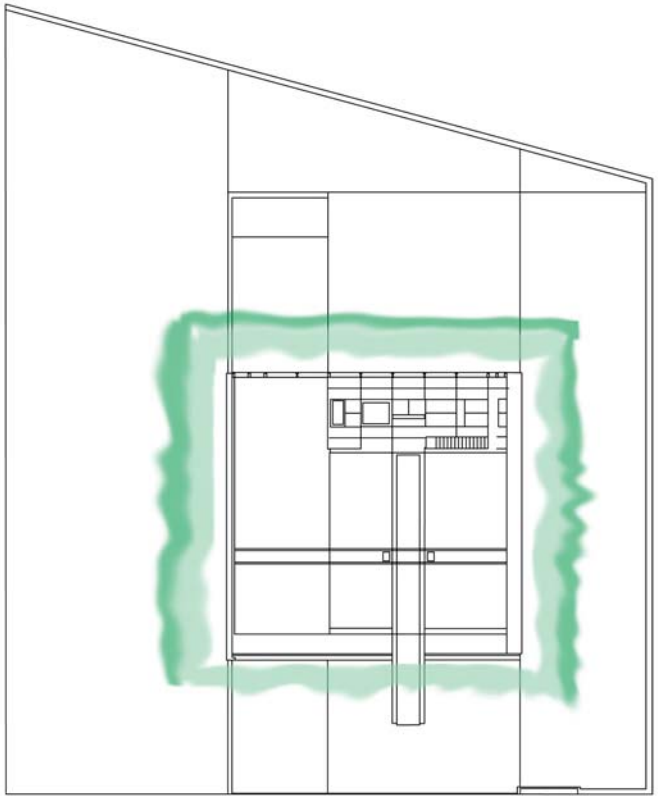
Render
West Section
North Section
Visibility of Nature
2nd Floor with:
- Visual Weight
- Sun Exposure
- Air Flow

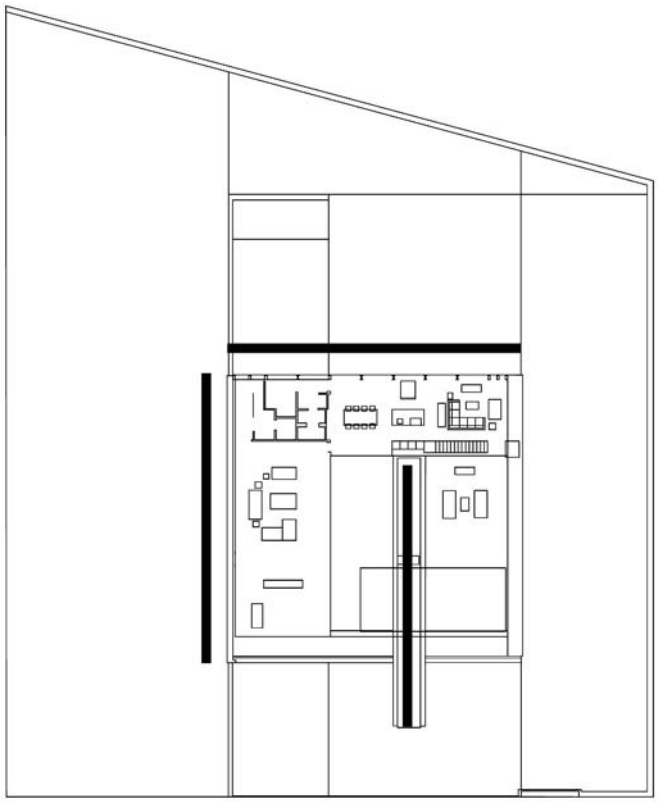
1st Floor Plan with:
- Visual Weight
- Sun Exposure
- Air Flow

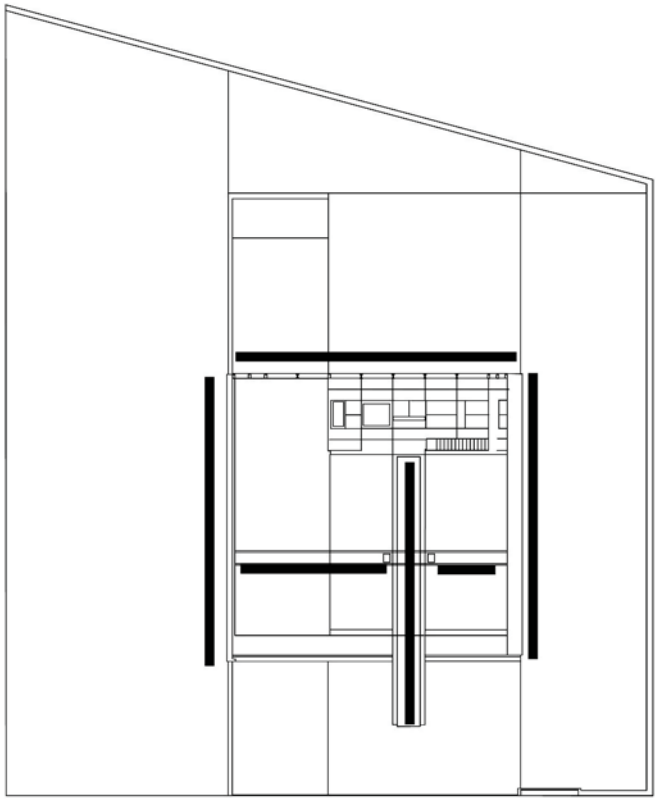


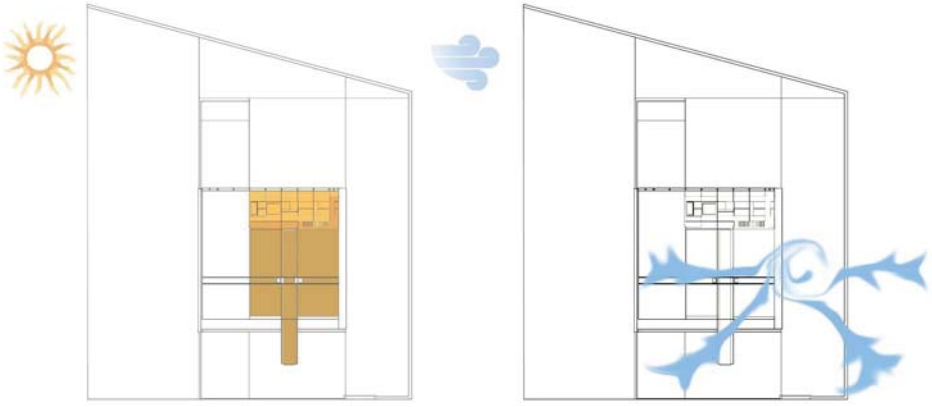


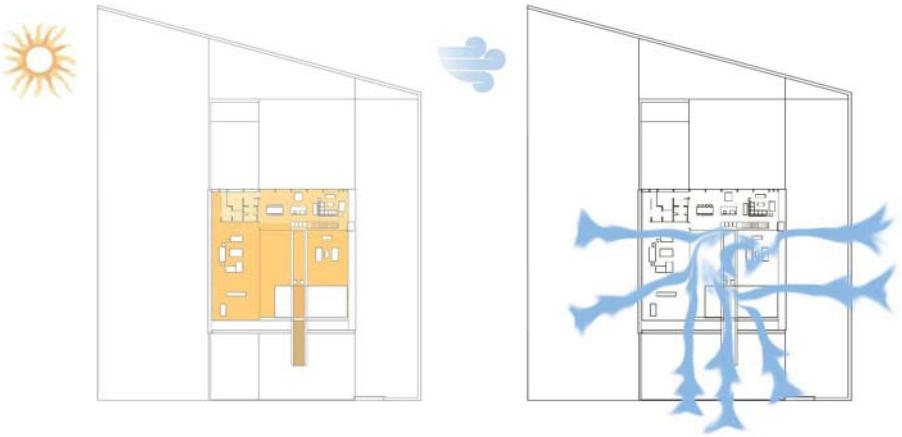












Ryan Kinports

1/32” = 1’-0” unless noted

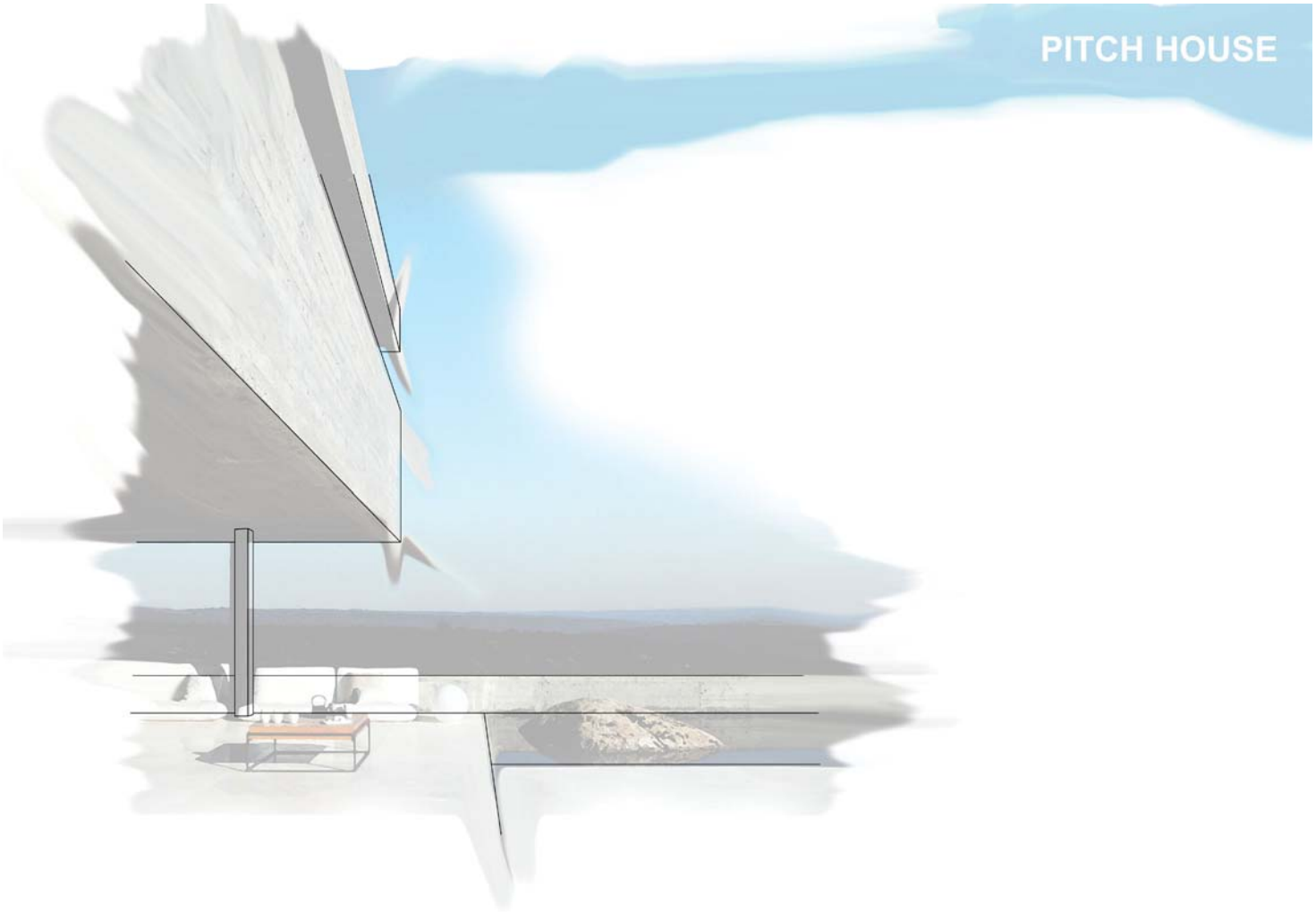
Los Peñascales, Madrid, Spain

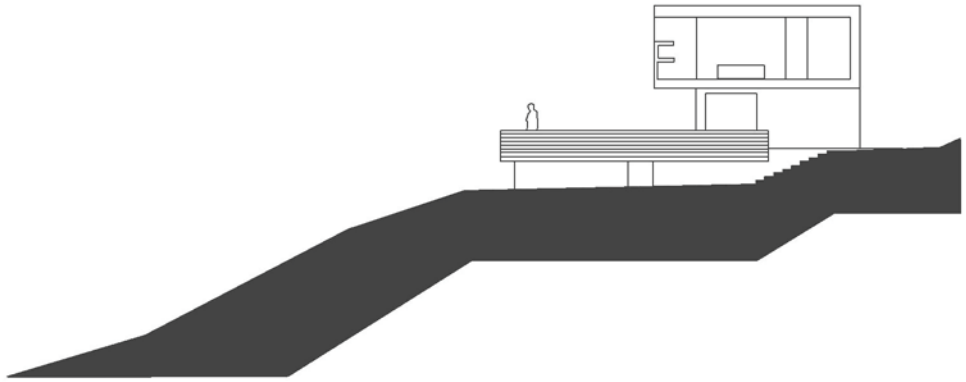
Render
West Elevation
North Section
Visibility of Nature
2nd Floor with:
- Visual Weight
- Sun Exposure
- Air Flow

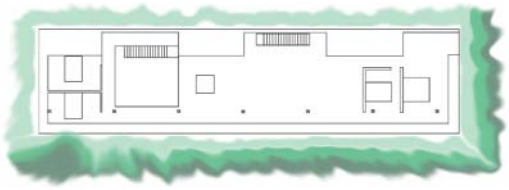
1st Floor Plan with:
- Visual Weight
- Sun Exposure
- Air Flow

Pitch House

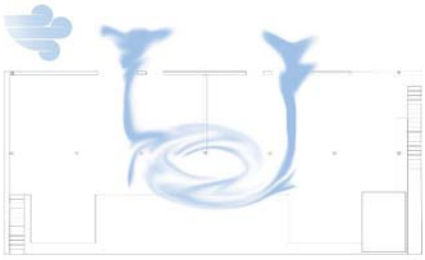
Iñaqui Carnicero Alonso-Colmenares

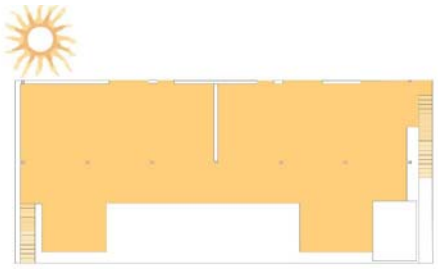


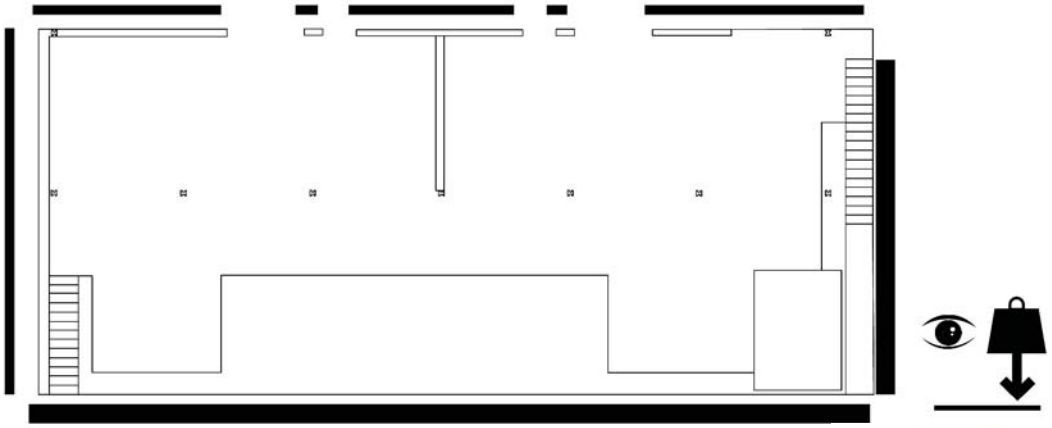


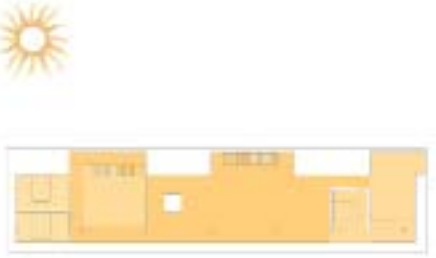


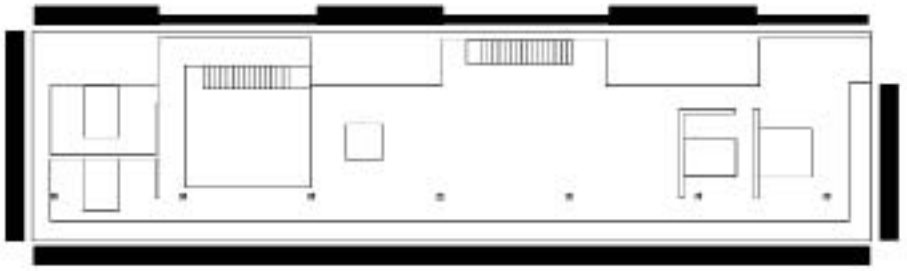
1/64” = 1’-0”











Ryan Kinports

1/32” = 1’-0” unless noted

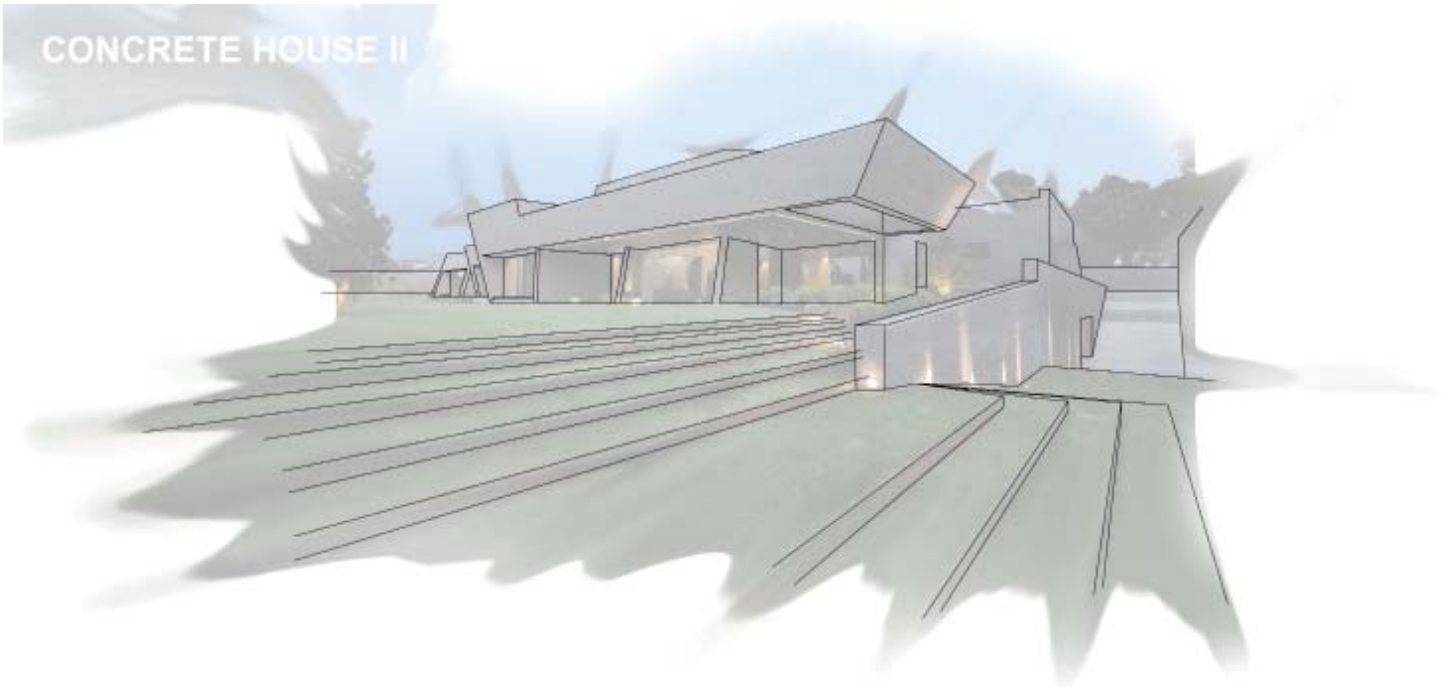
Pozuelo de Alorcón, Spain

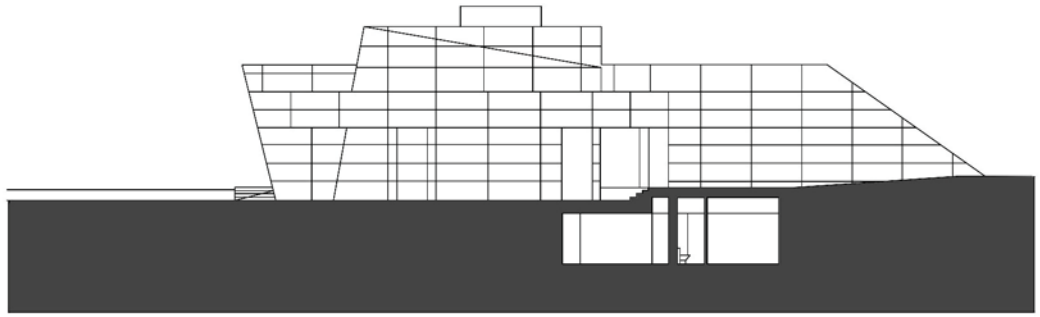
Render
West Section
East Elevation
Visibility of Nature
2nd Floor with:
- Visual Weight
- Sun Exposure
- Air Flow

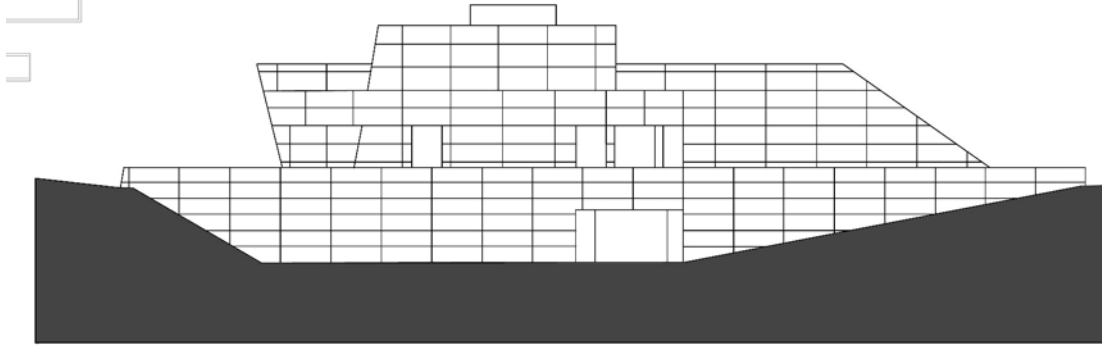
1st Floor Plan with:
- Visual Weight
- Sun Exposure
- Air Flow

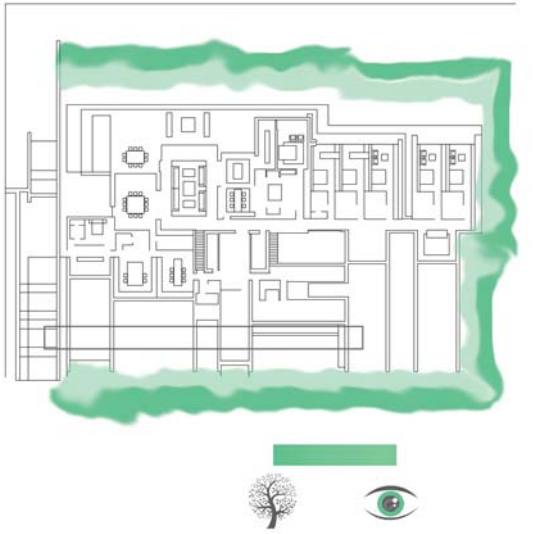
Concrete House II

Joaquin Torres Architects









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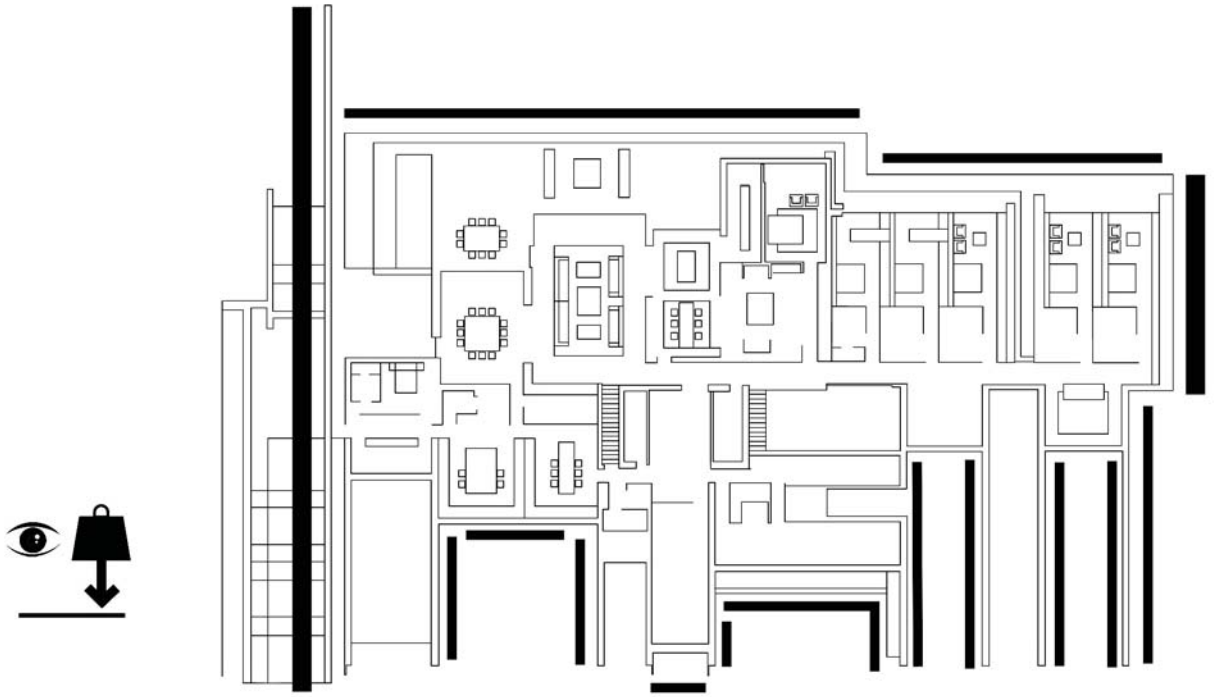
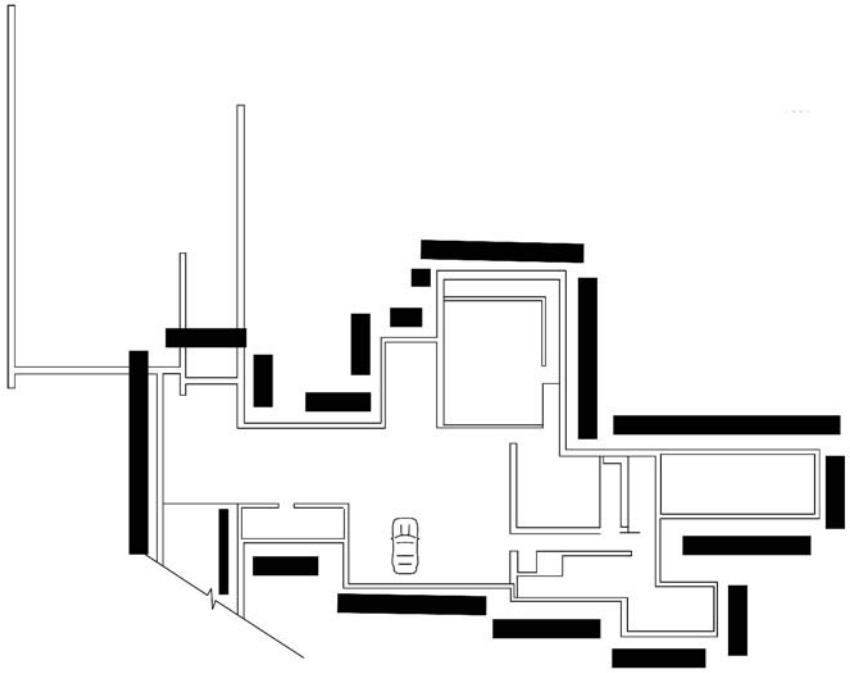




Miller House

Jose Oubrerie

Ryan Kinports

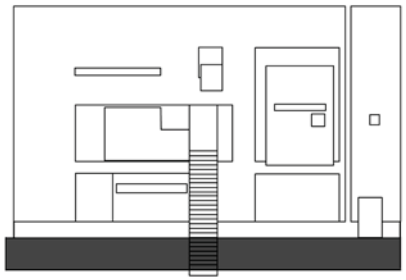
1/32” = 1’-0” unless noted

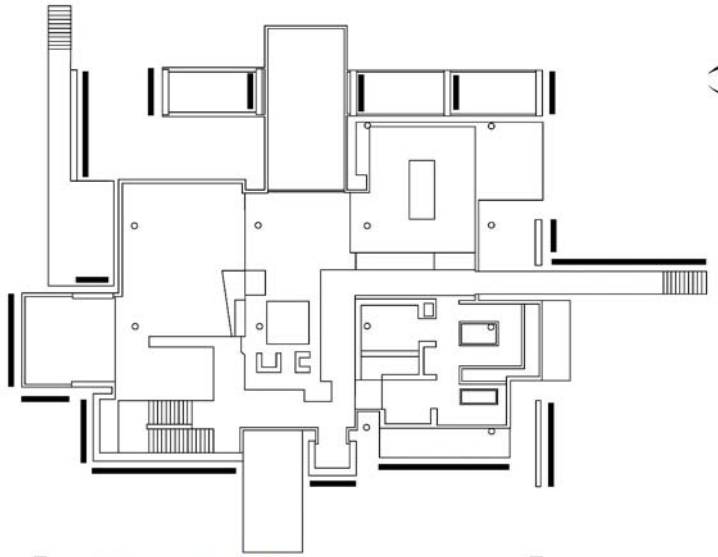
Lexington, Kentucky

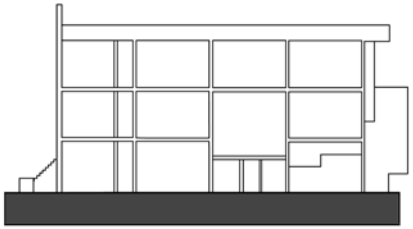
Render
West Elevation
South Elevation
Visibility of Nature
3rd Floor with:
- Visual Weight
- Sun Exposure
- Air Flow

2nd Floor Plan with:
- Visual Weight
- Sun Exposure
- Air Flow

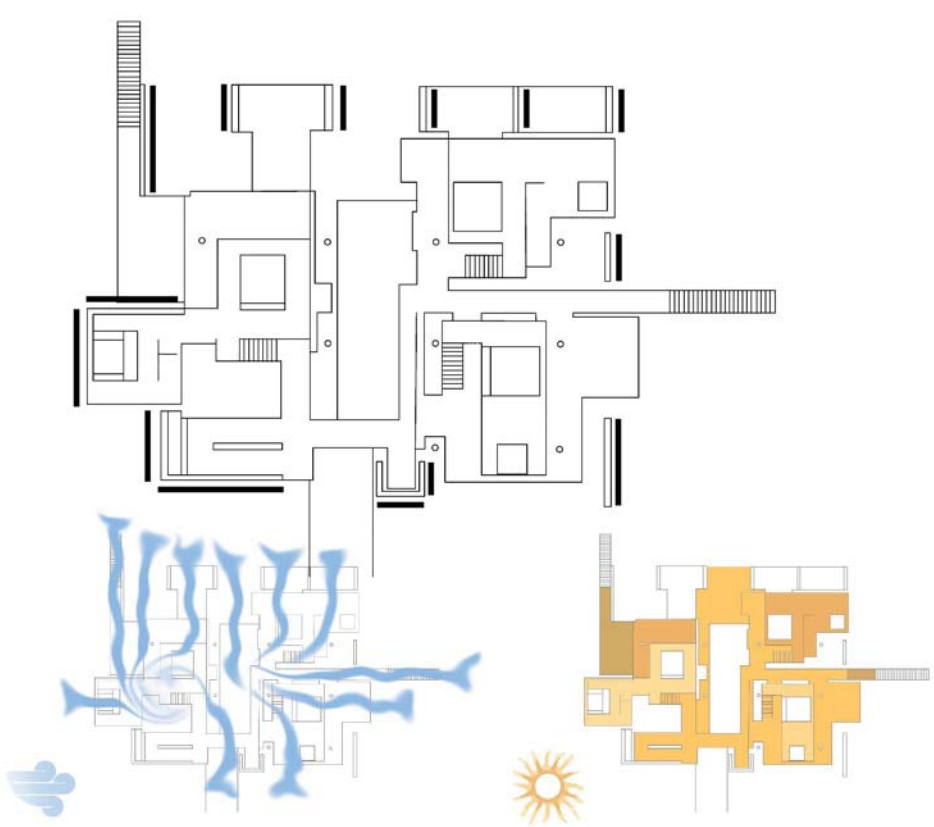
1st Floor Plan with:
- Visual Weight
- Sun Exposure
- Air Flow

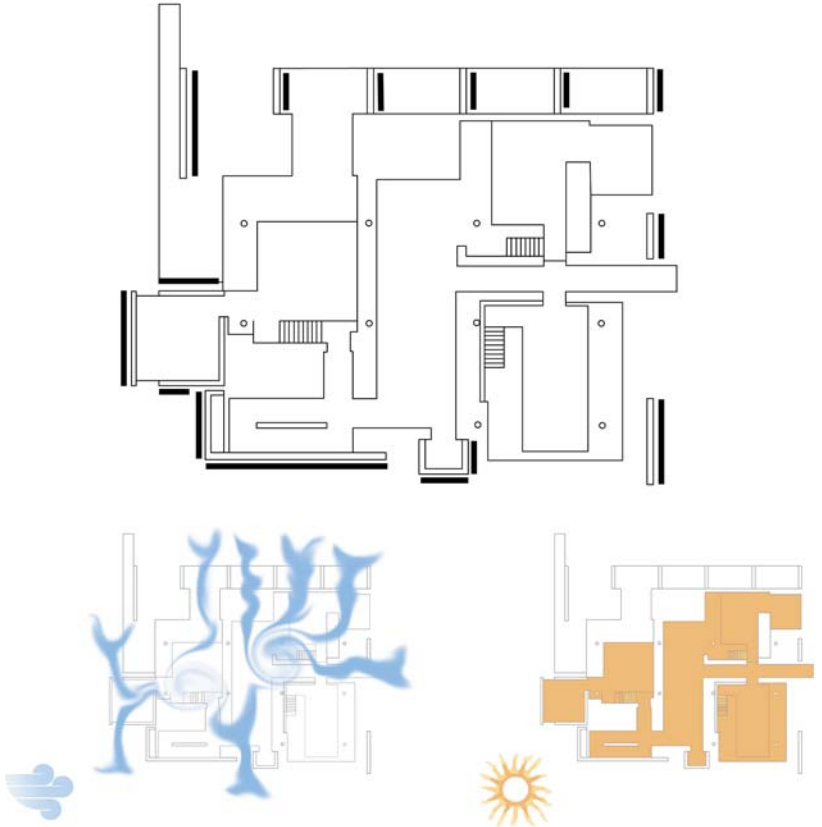






1/64” = 1’-0”





Twin Ponds

Milton Klein

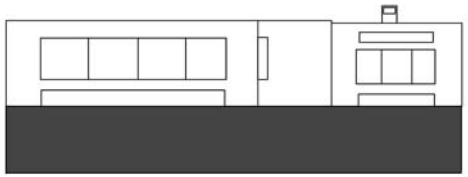
Ryan Kinports

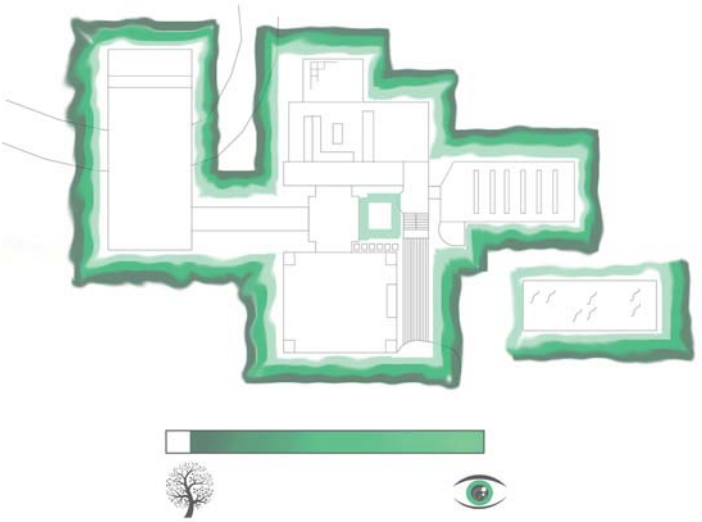
1/32” = 1’-0” unless noted

Bedford Hills, NY

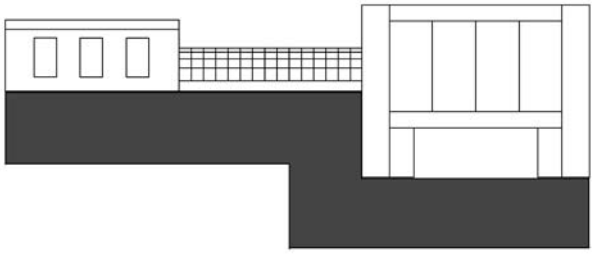
Render
East Elevation
North Elevation
Visibility of Nature
1st Floor Plan with:
- Sun Exposure
- Air Flow

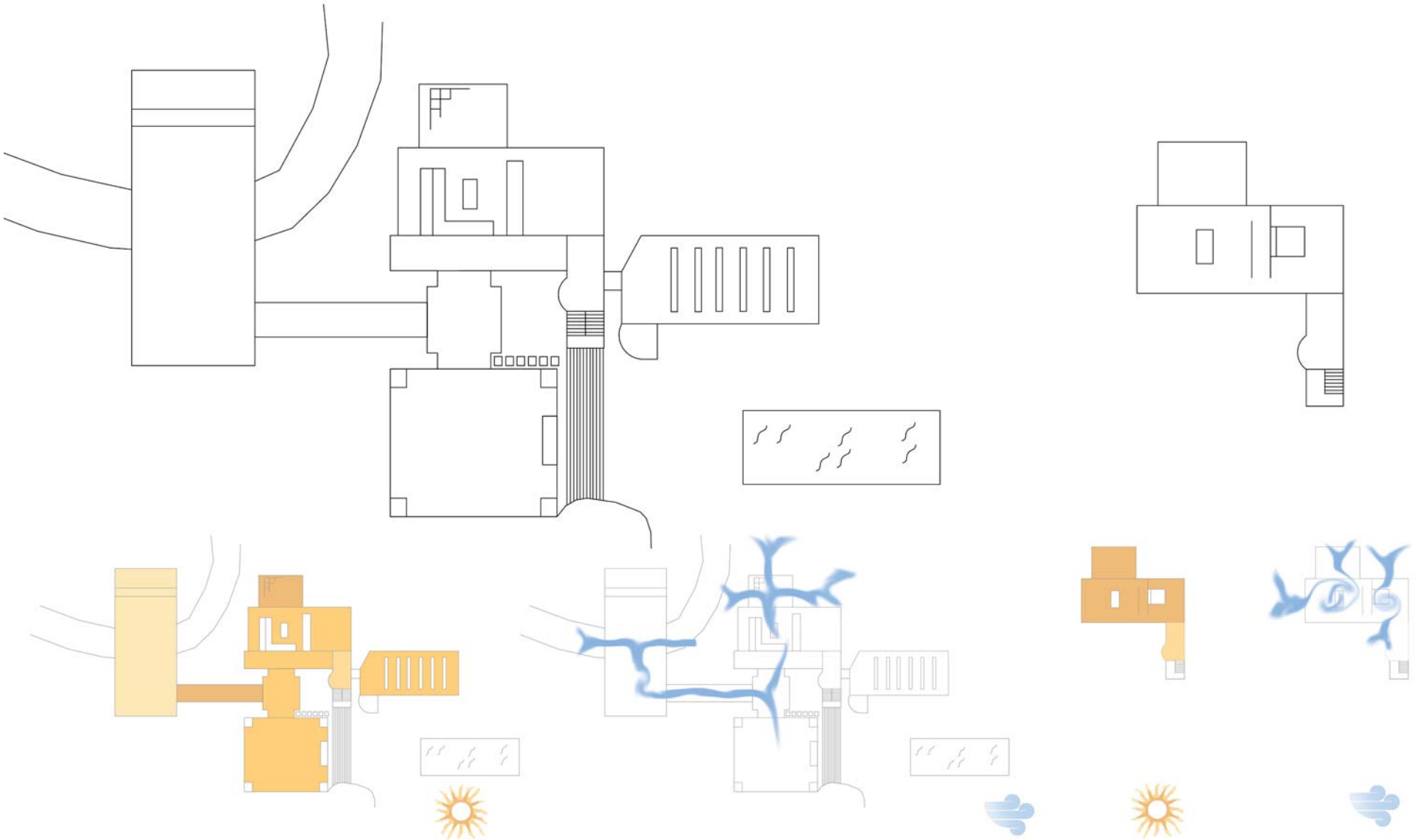
2nd Floor Plan with:
- Sun Exposure
- Air Flow





1/64” = 1’-0”





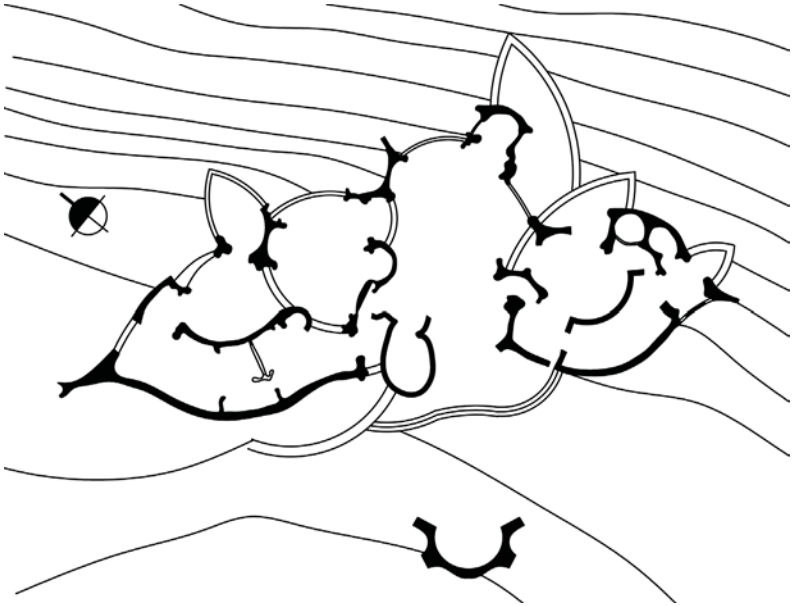
Name : Haoyang Li

Location : Bentonville, Arkansas

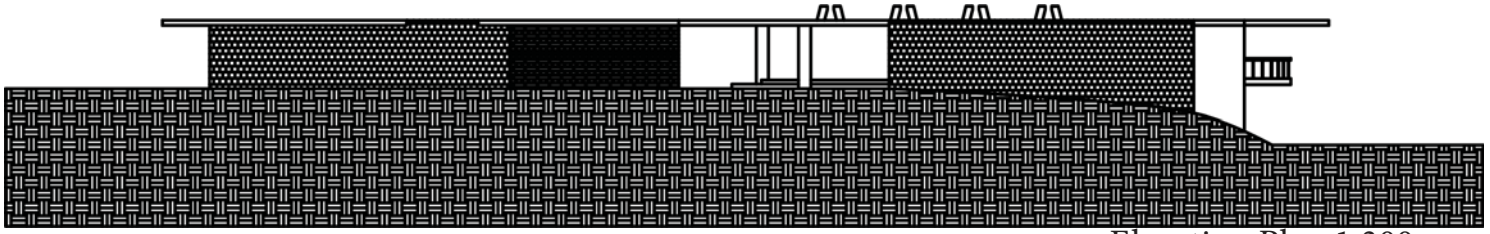
Project year: 1969

Applegate House

Fay Jones



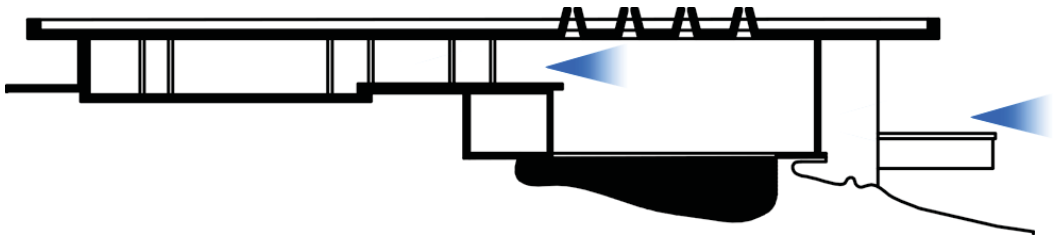
Second Floor Plan 1:500



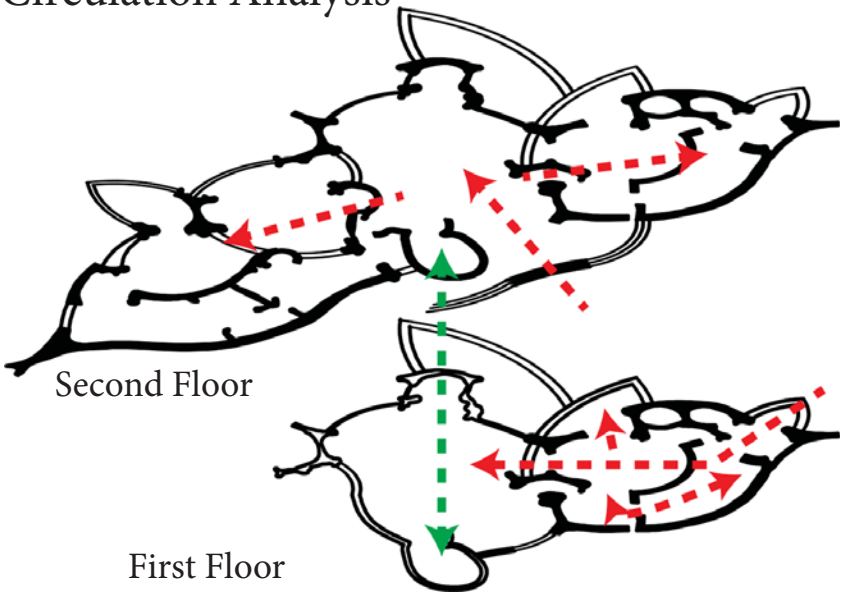
Elevation Plan 1:300

http://andrewtboyne.com/organicarchitecture/jones_applegate.html

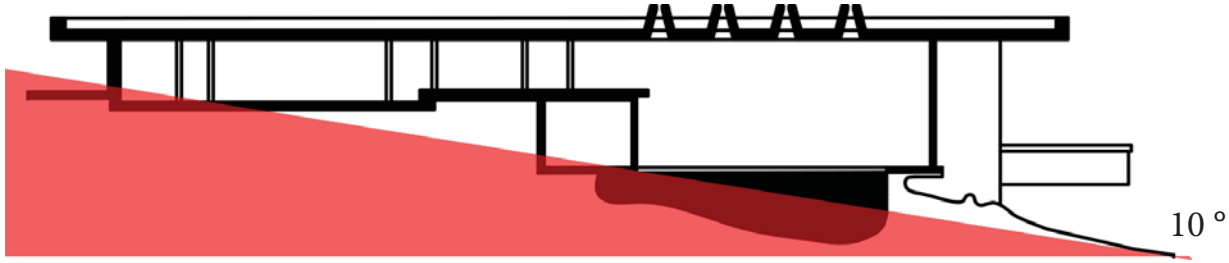
View Analysis

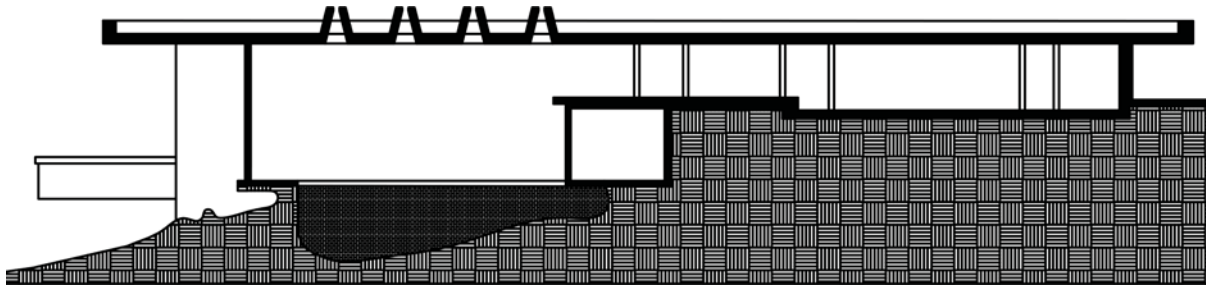


Circulation Analysis



Angle Analysis

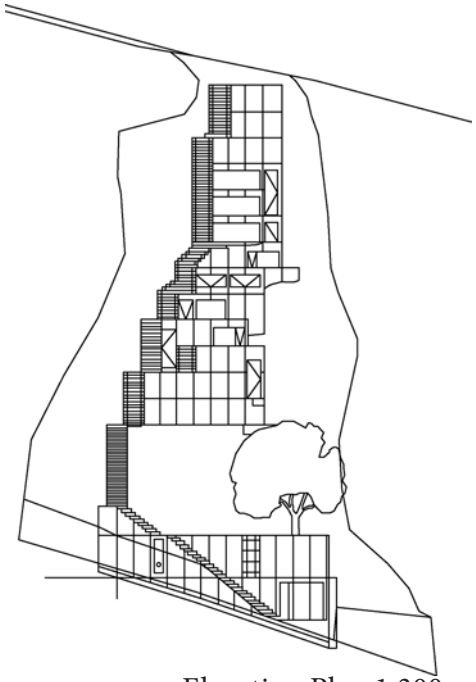




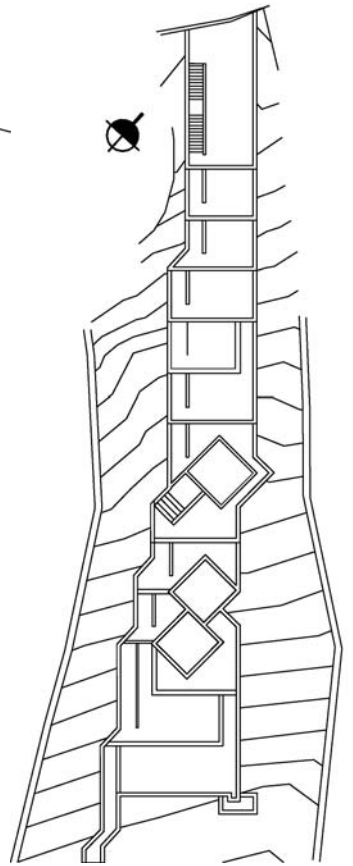
Section Plan 1:300

Tolo House

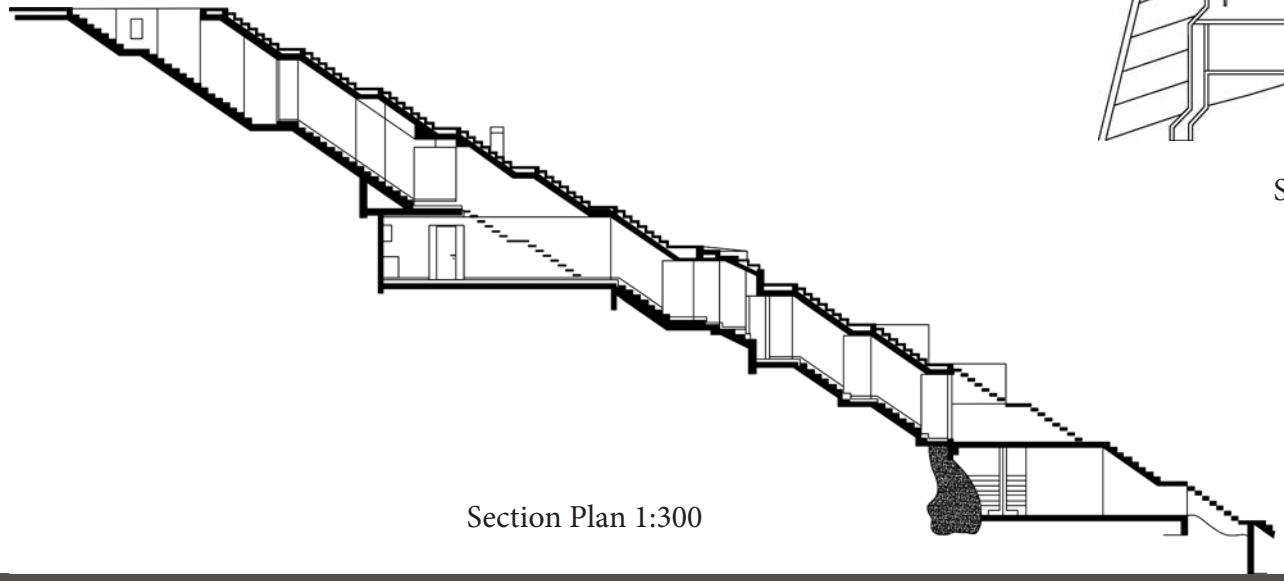
Alvaro Leite Siza



Elevation Plan 1:300



Site Plan 1:300



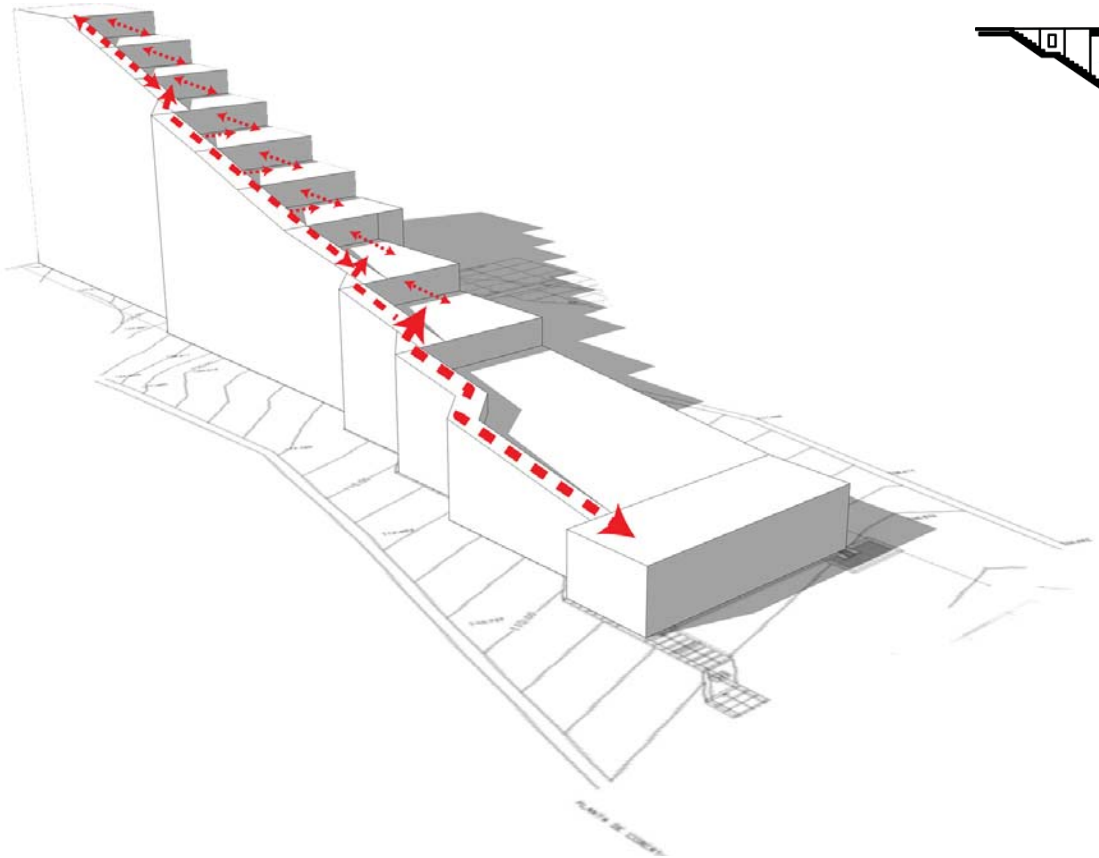
Section Plan 1:300

Name : Haoyang Li

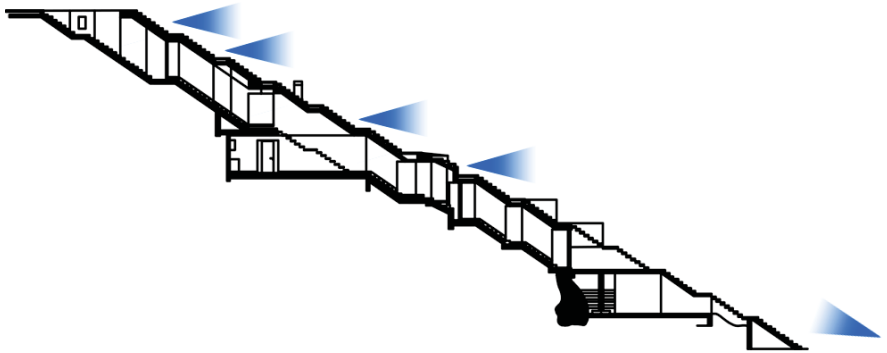
Location : Lugar das Carvalhinhas – Alvite, freguesia de Cerva, Ribeira da Pena District
Client: Luís Marinho Leite Barbosa da Silva
Site Area: 1000 sqm
Constructed Area: 180 sqm
Contractor: Óscar Gouveia
Landscape: Alvaro Leite Siza Vieira
Materials: Concrete
Services: GOP
Project Start: 2000
Project Complete: 2005

http://www.archdaily.com/893/tolo-house-alvaro-leite-siza/

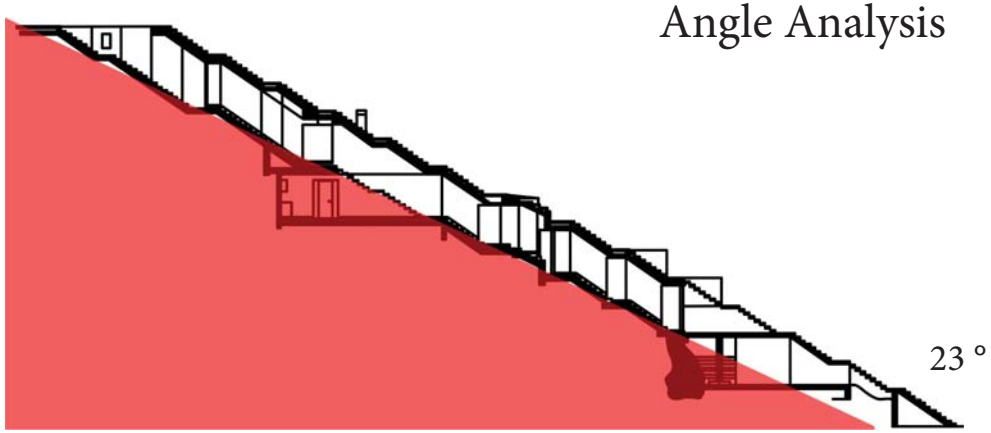
Circulation Analysis



View Analysis



Angle Analysis



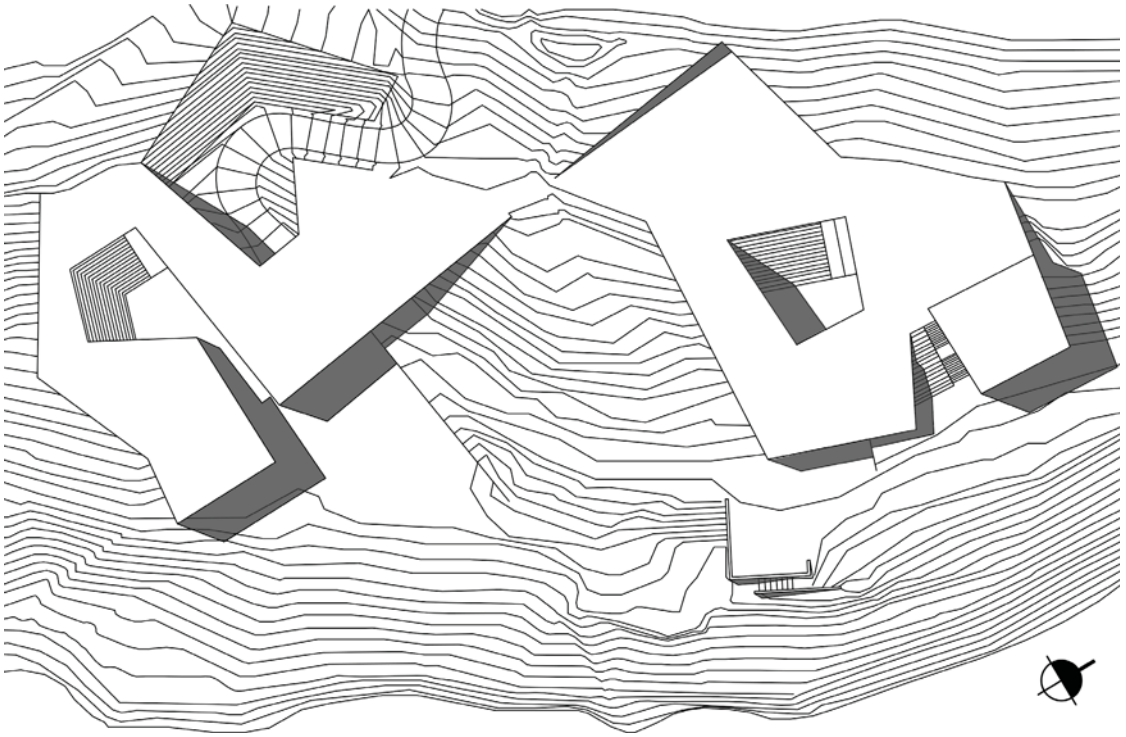
http://www.archdaily.com/893/tolo-house-alvaro-leite-siza/

Lakeside Retreat

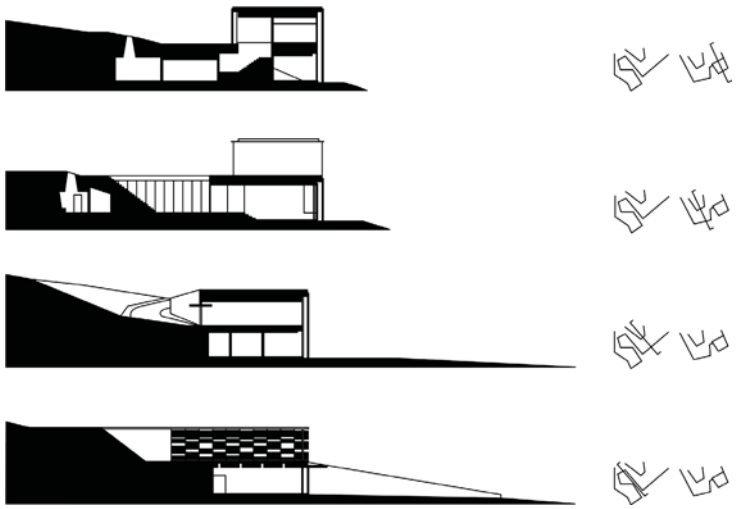
GLUCK+

Name : Haoyang Li

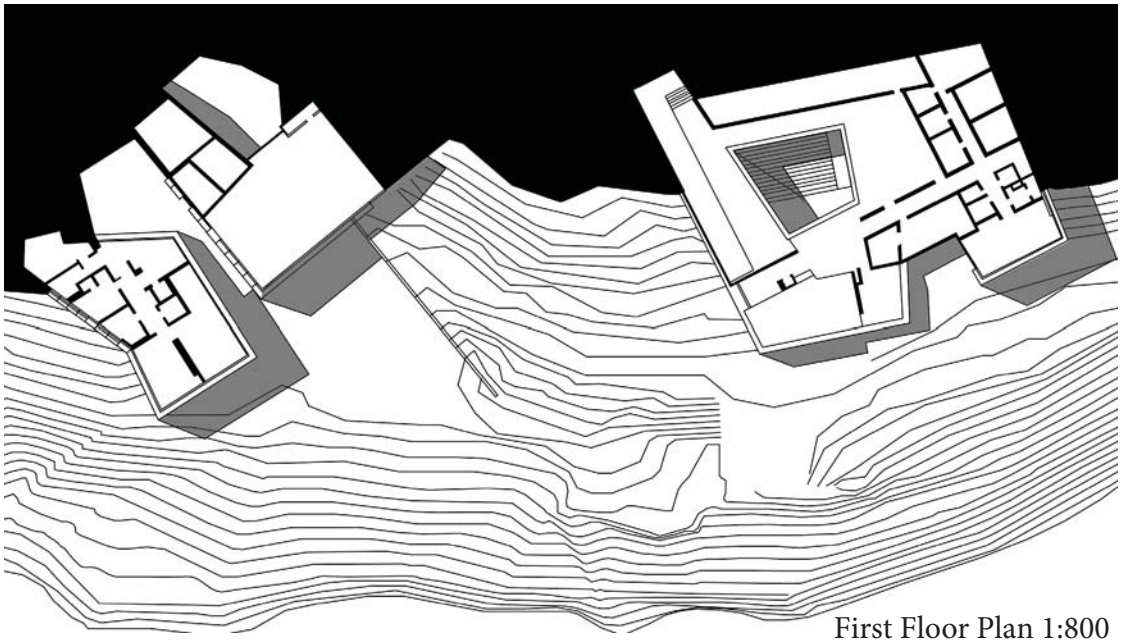
Location: Adirondack, NY, USA
Design Team: Kees Brinkman, Holly Chacon, Kathy Chang, Steven Chen, Christopher Farnum, Peter L. Gluck, Charles Greenwald, Bethia Liu, Adam Manrique, Joseph Morin, Eric Schaefer
Year: 2010



Site Plan 1:800

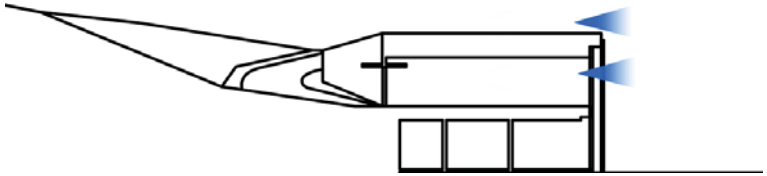


Section Plan 1:800

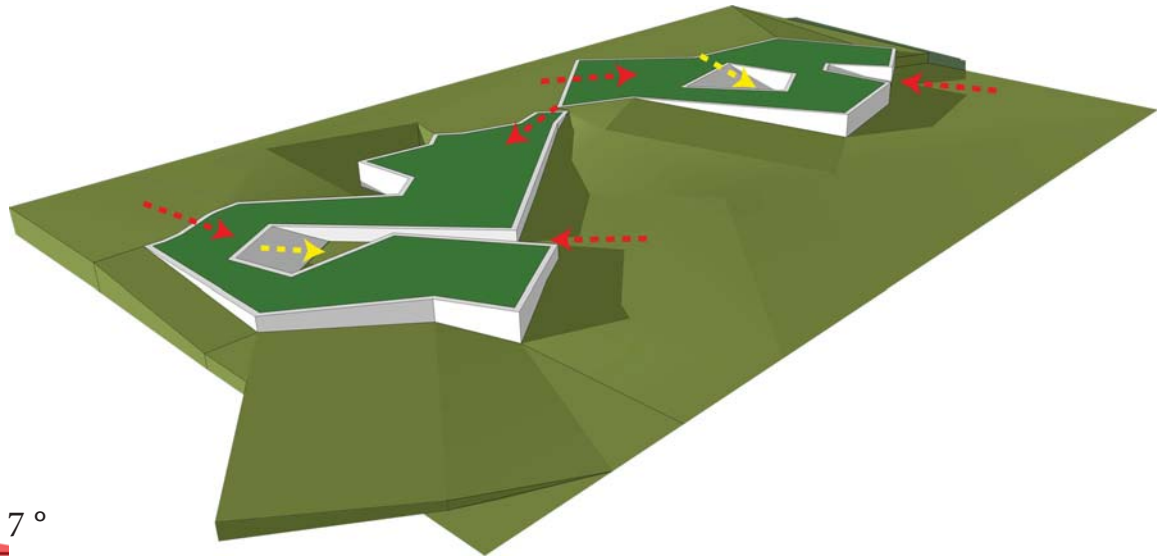


First Floor Plan 1:800

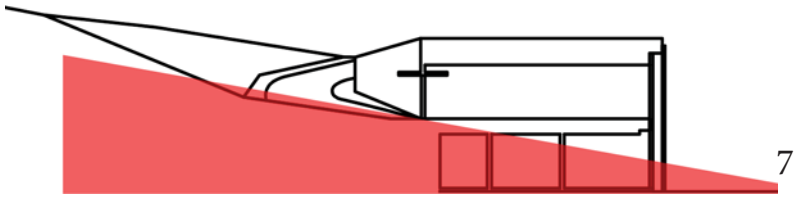
View Analysis



Circulation Analysis



Angle Analysis



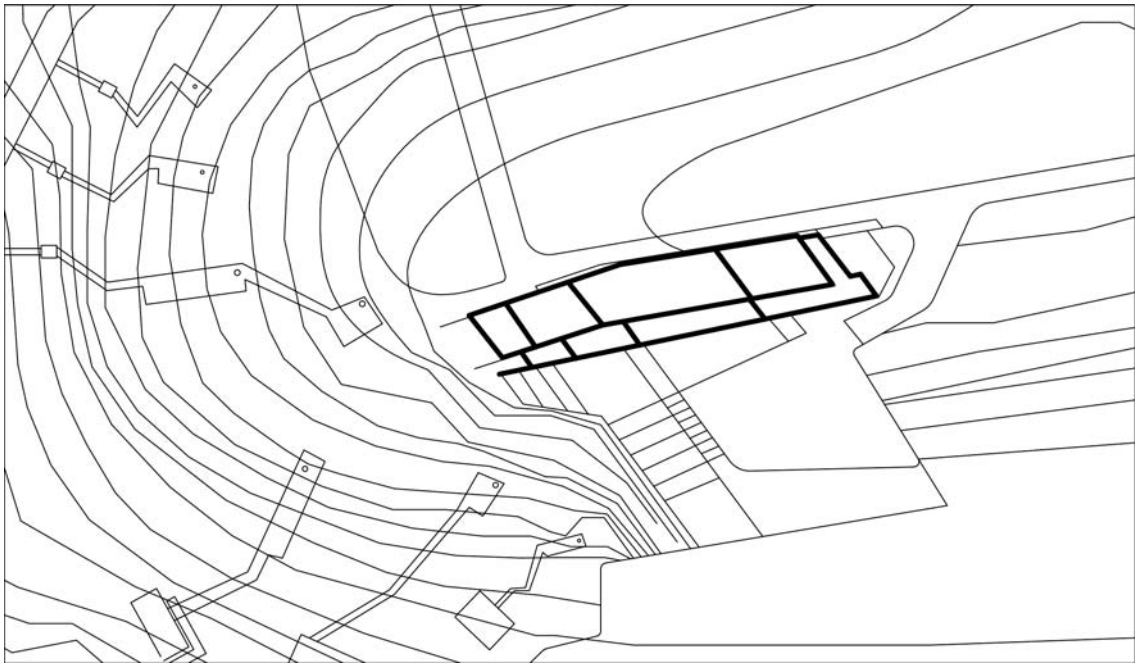
http://www.archdaily.com/359982/lakeside-retreat-gluck/

Qumran Winery

Konkrit Blu Arquitectura

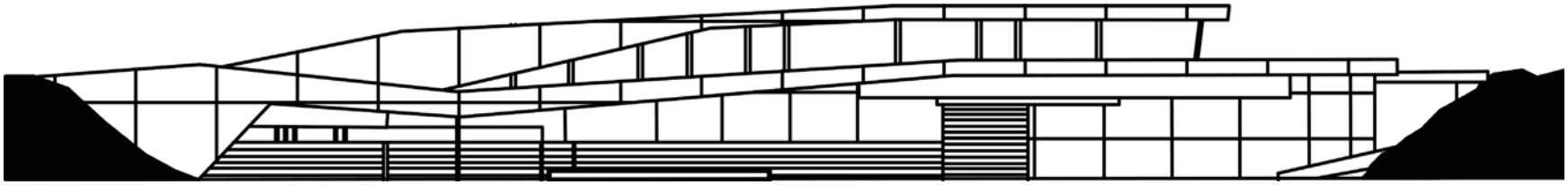
Name : Haoyang Li

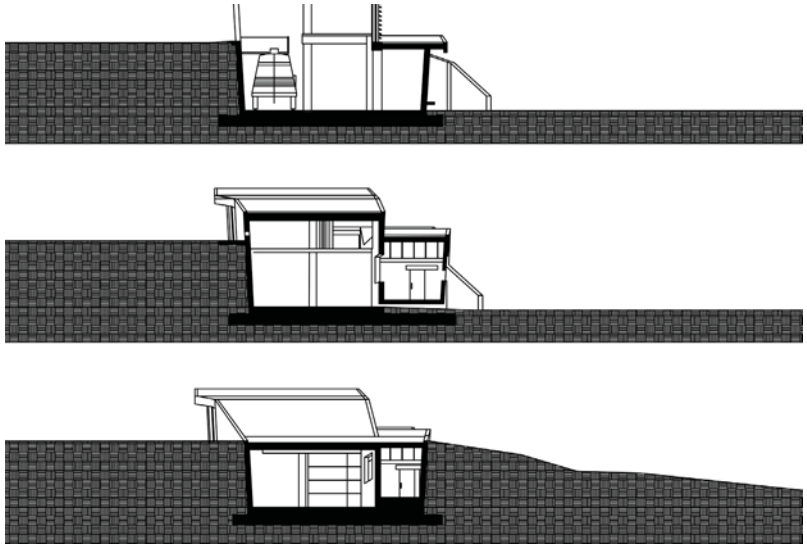
Location: Peñafiel Valladolid, Spain
Structure: Martí Cabestany I Puértolas
Engineering: Benito Gutierrez, MeCa asociados
Riggers: Laura Sanz Sanz, Salvador Méndez de la Viuda
Lighting: Alvarez Beltran
Contractor: Construcciones del Duratón
Client: Bodegas y Viñedos Qumrán, S.A.
Project Year: 2006-2009
Project Area: 700 sqm



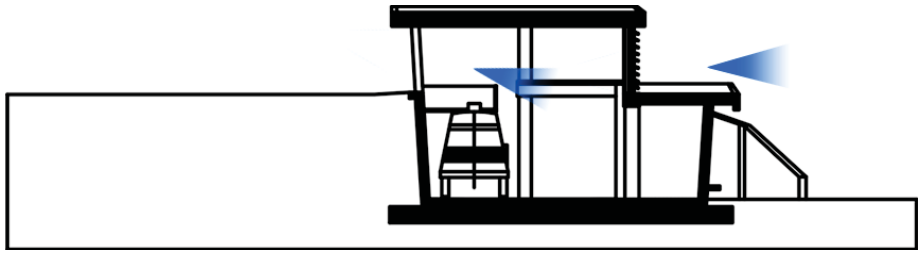
Site Plan 1:1500

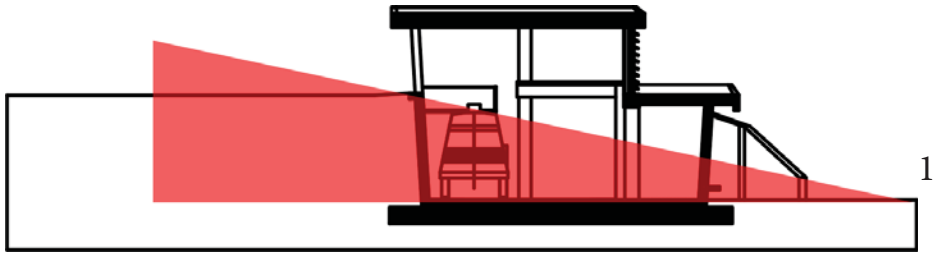
Elevation Plan 1:1000





Section Plan 1:1000





12 °

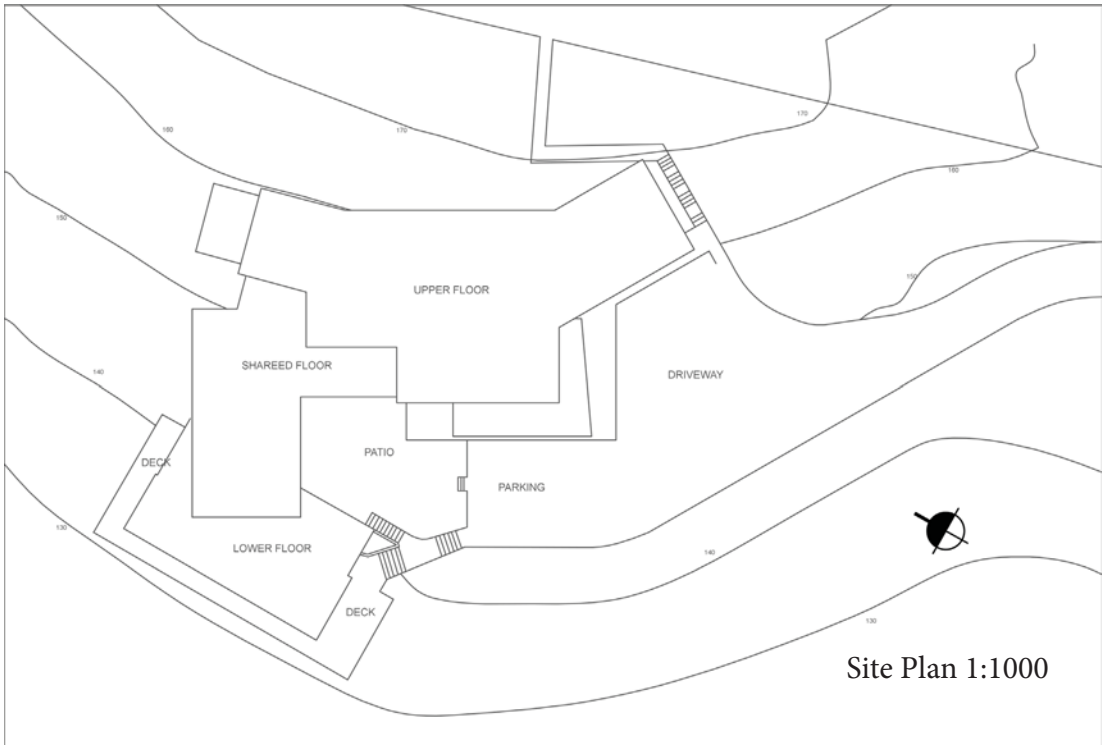
http://www.archdaily.com/67742/qumran-winery-konkrit-blu-arquitectura/?ad_medium=widget&ad_name=selected-buildings&ad_content=67742

Mill Valley Hillside

McGlashan Architecture

Name : Haoyang Li

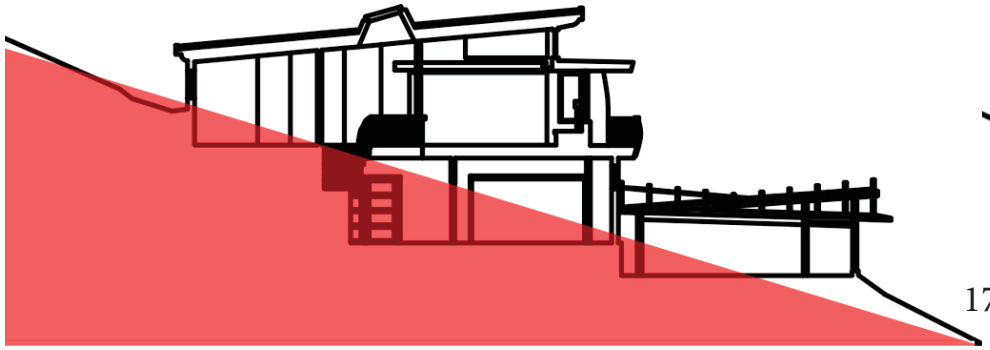
Location: Mill Valley, CA, USA
Director in Charge: Scott McGlashan
Landscape Architect: Calandra Design
Structural Engineering: Santos & Urrutia Inc.
Project Year: 2009



Site Plan 1:1000

http://www.archdaily.com/72845/mill-valley-hillside-mcglashan-architecture/

Angle Analysis



17 °

View Analysis

Elevation & Section Plan 1:500

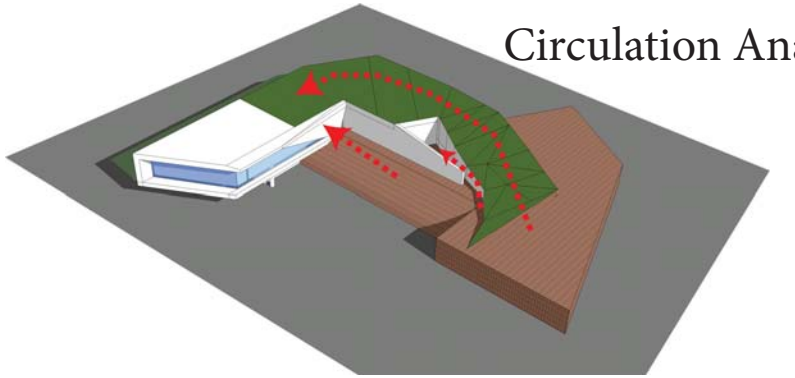
Villa Topoject

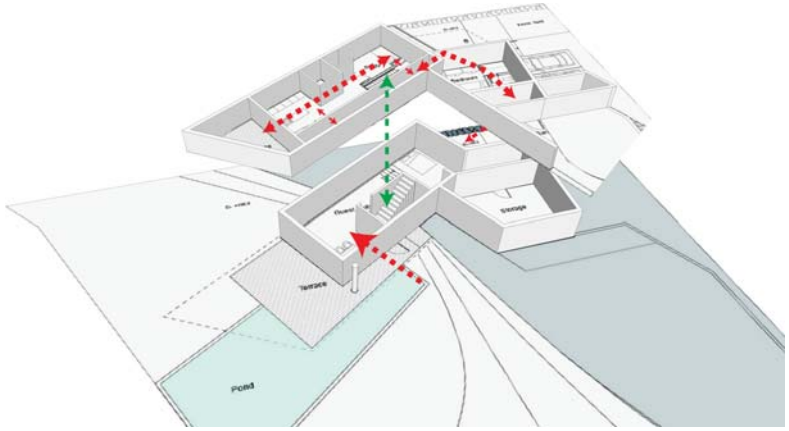
Architecture of Novel Differentiation (AND)

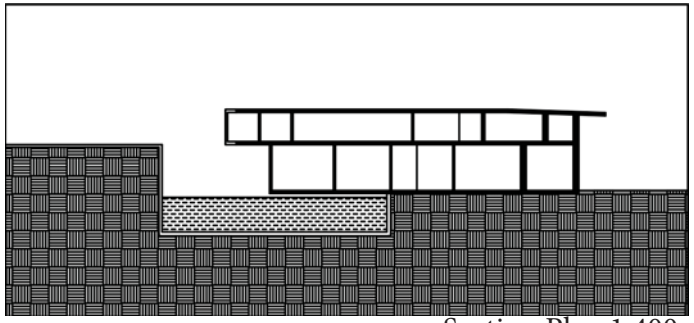
Name : Haoyang Li

Location: Gyeonggido, Korea
Project Year: 2010
Project Area: 199 sqm

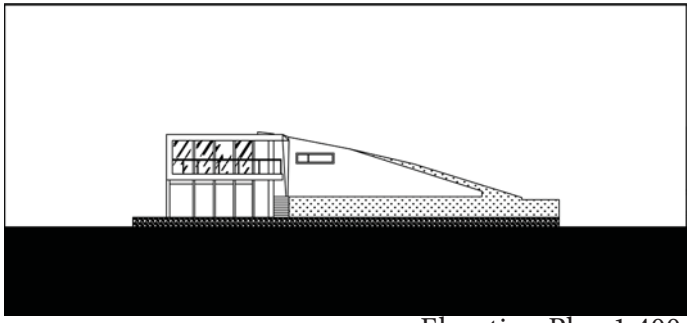
Circulation Analysis



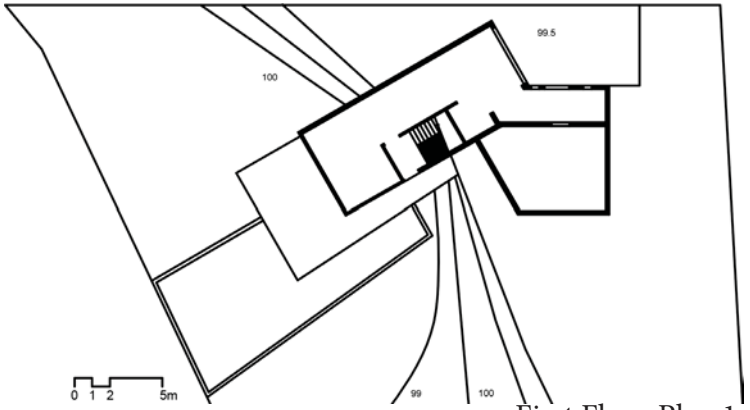




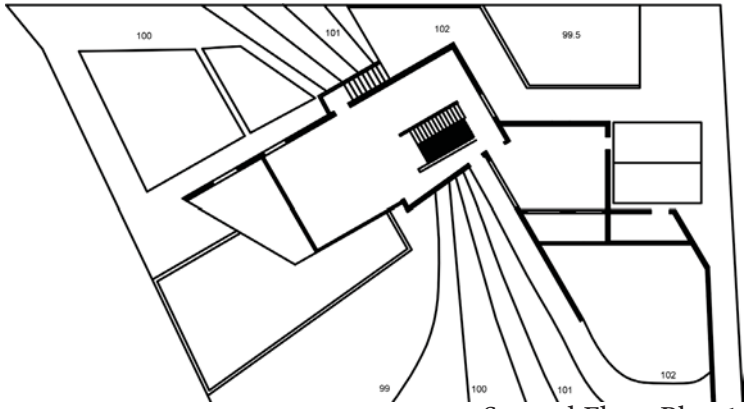
Section Plan 1:400



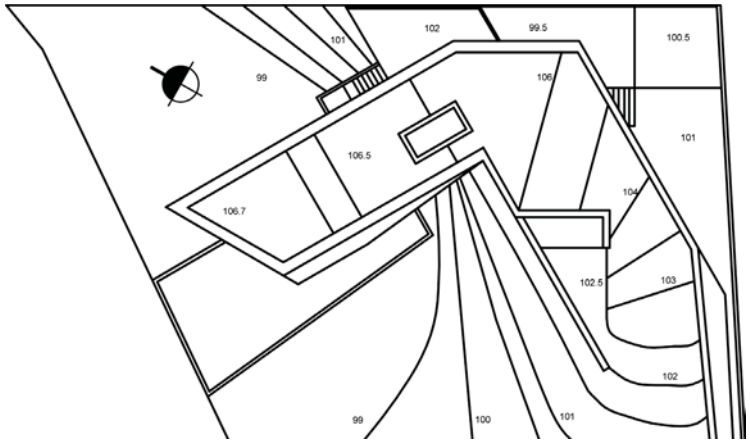
Elevation Plan 1:400



First Floor Plan 1:400

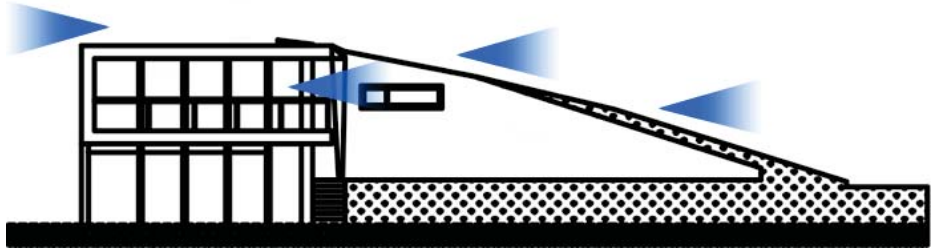


Second Floor Plan 1:400

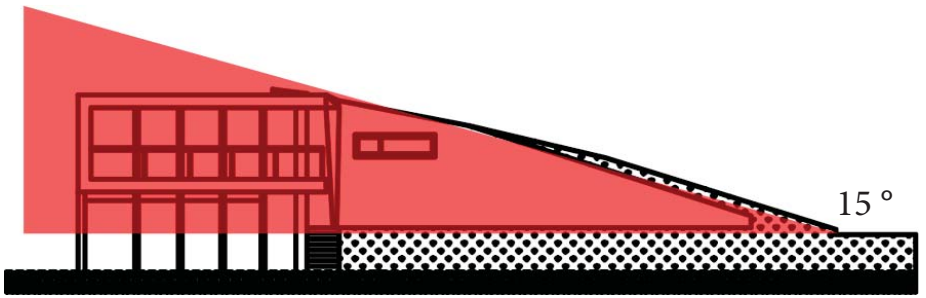


Site Plan 1:400

View Analysis



Angle Analysis



http://www.archdaily.com/161360/villa-topoject-and/

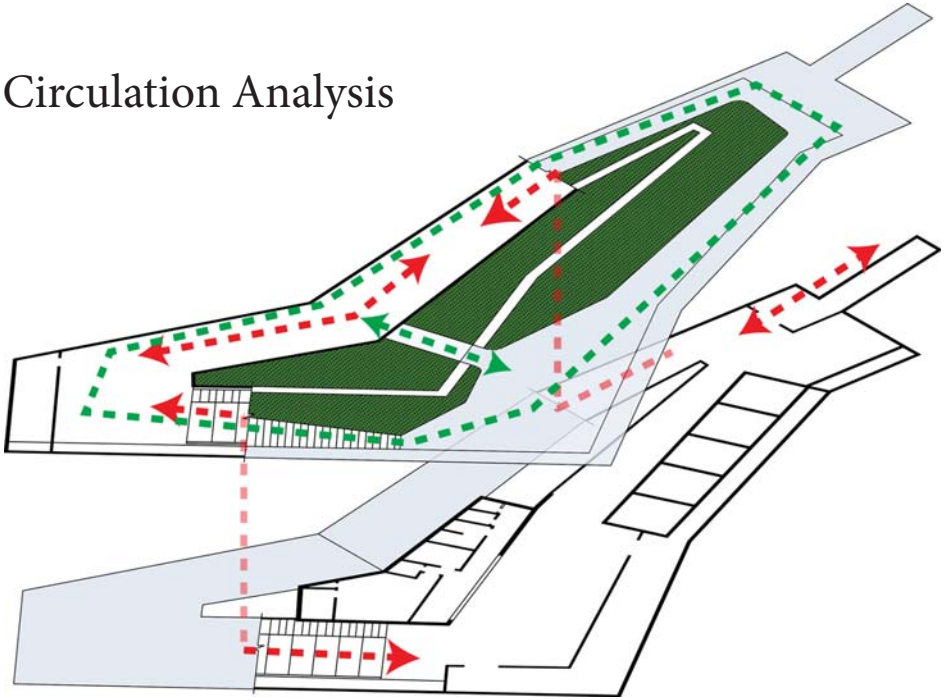
Riverside Clubhouse

Tao (Trace Architecture Office)

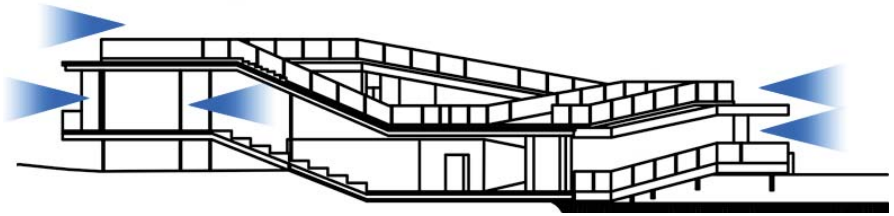
Name : Haoyang Li

Location: Yancheng, Jiangsu, China
Design Team: HUA Li, Zhang Feng
Floor area: 500 sqm.
Completion: 2010
Client: Zhongti Corp.

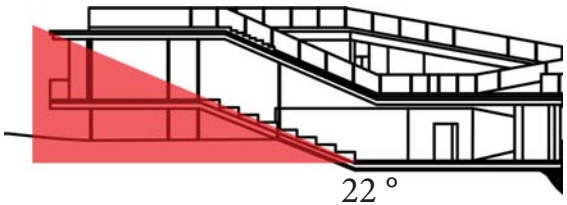
Circulation Analysis



View Analysis



Angle Analysis

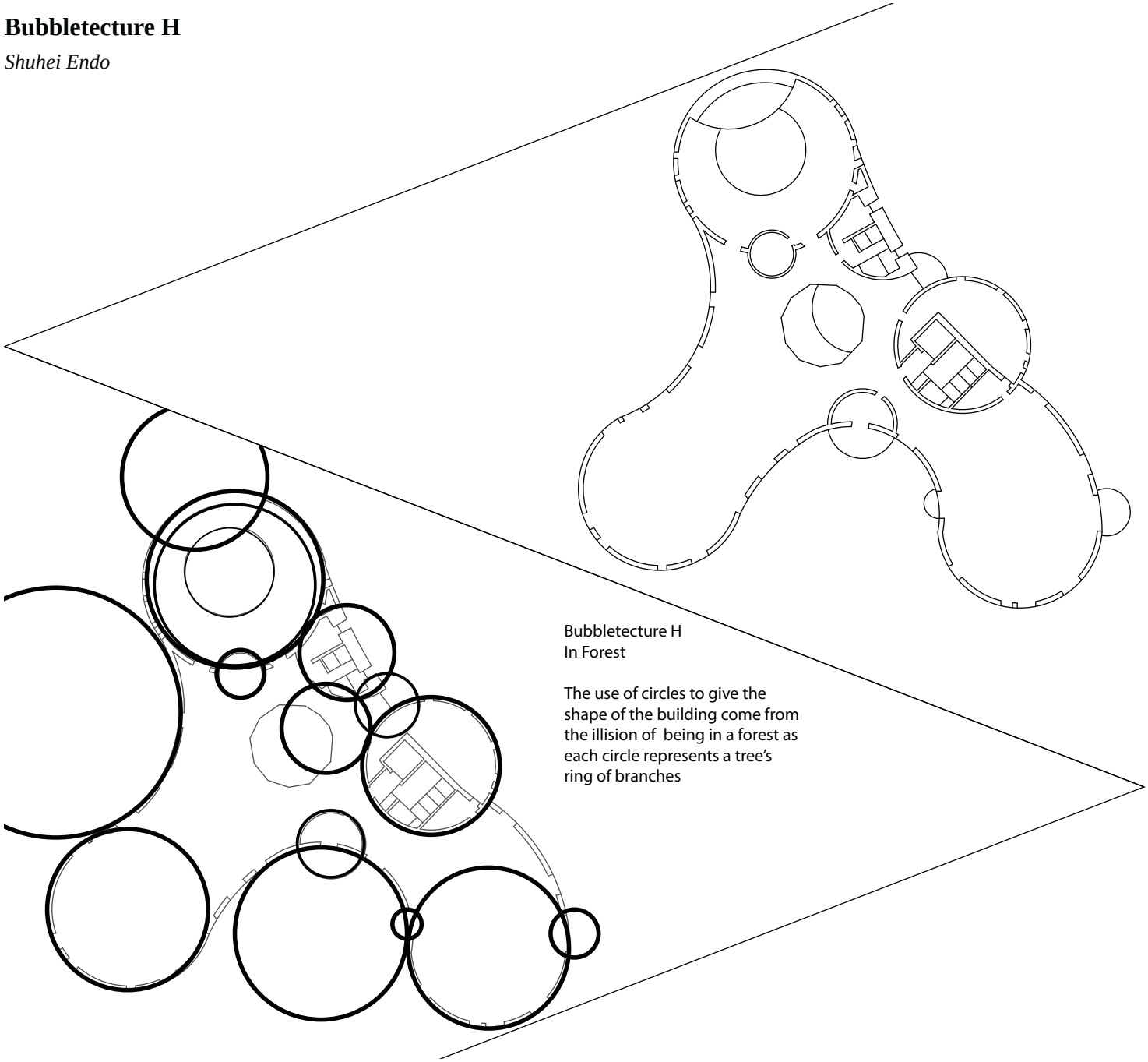


http://www.archdaily.com/204840/riverside-clubhouse-tao/

Richard Chase Master

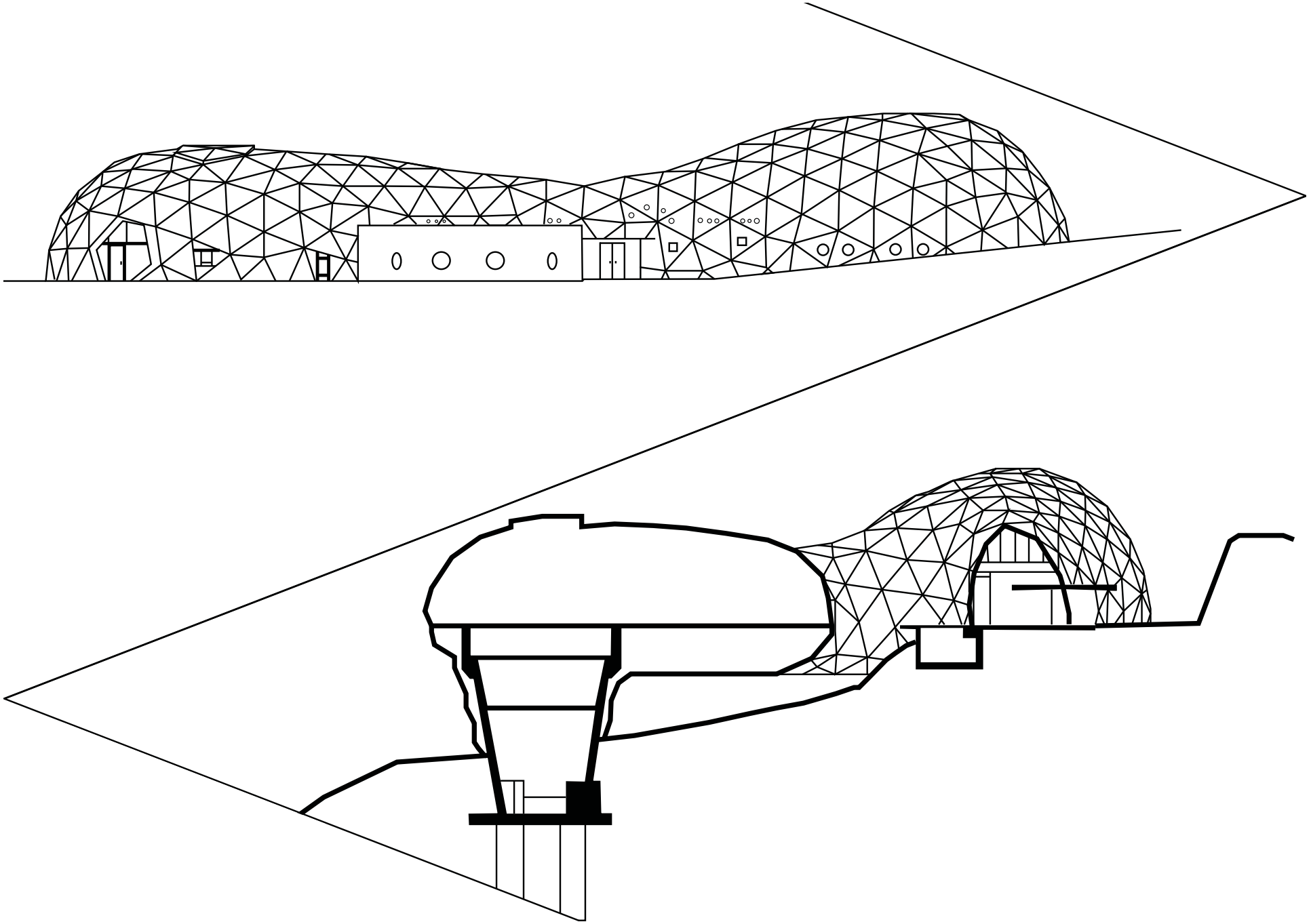
Bubbletecture H

Shuhei Endo



Bubbletecture H
In Forest

The use of circles to give the shape of the building come from the illision of being in a forest as each circle represents a tree's ring of branches

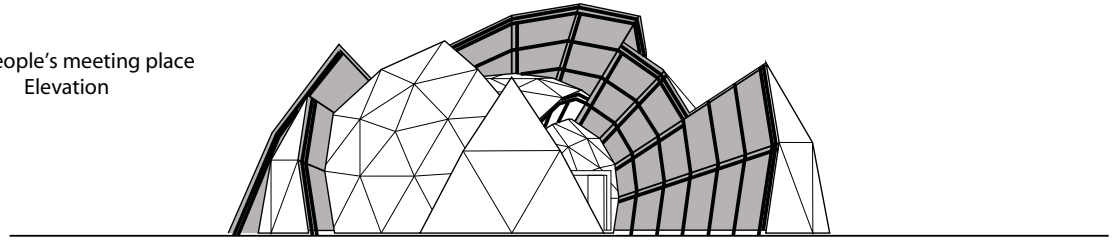


Richard Chase Master

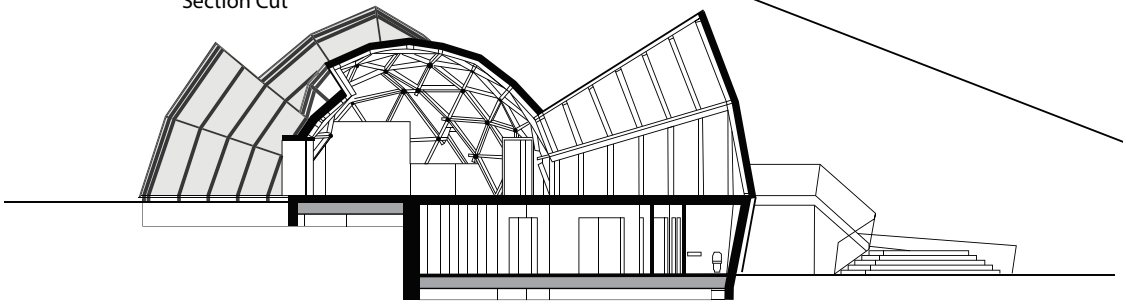
Deconstructed Geodesic Dome

Kristoffer Tejlgaard and Benny Jepsen.

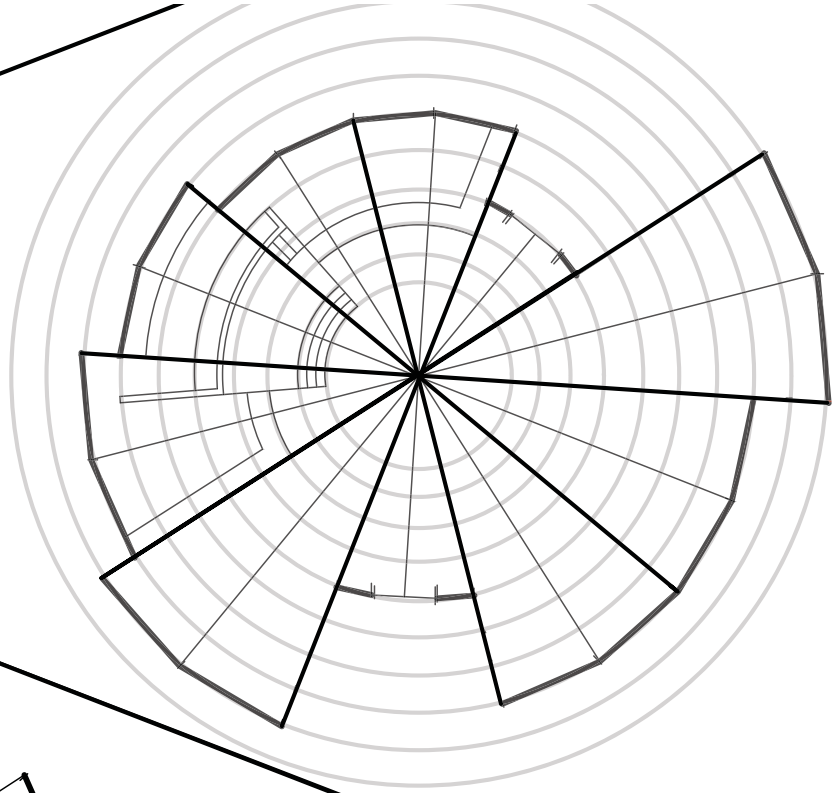
People's meeting place
Elevation

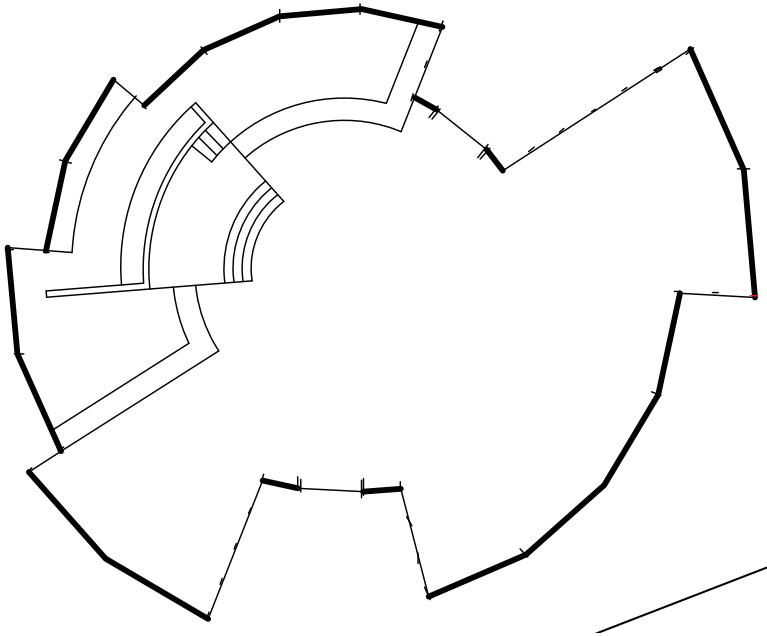


People's Meeting place
Section Cut



People's Meeting
This illistration shows the different placement of windows and the edges of each dome layer



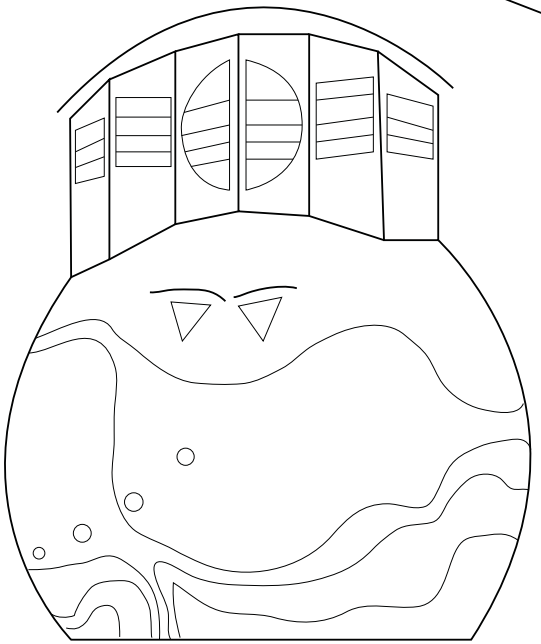


People's Meeting
First Floor

Richard Chase Master

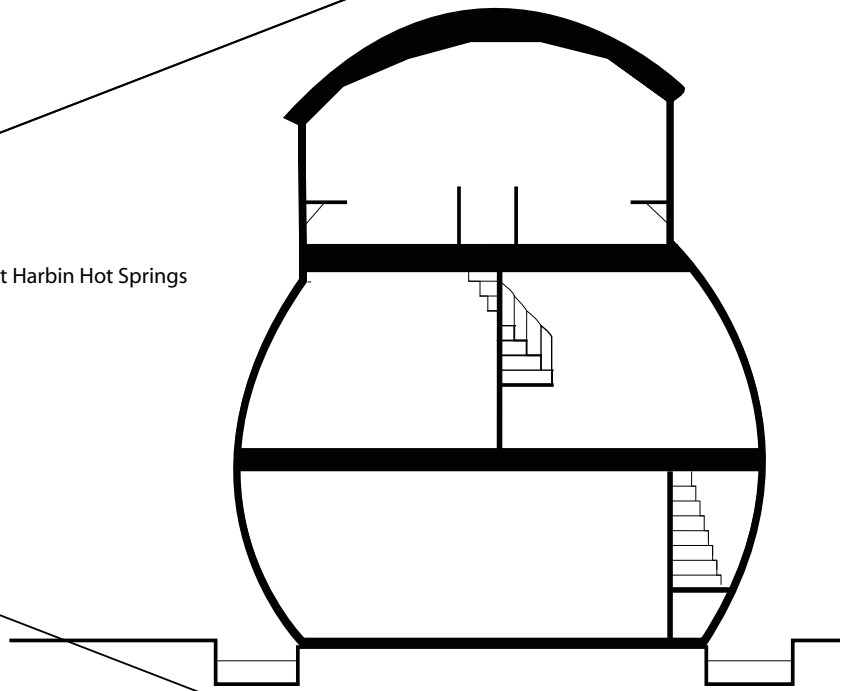
Watsu Massage School at Harbin Hot springs

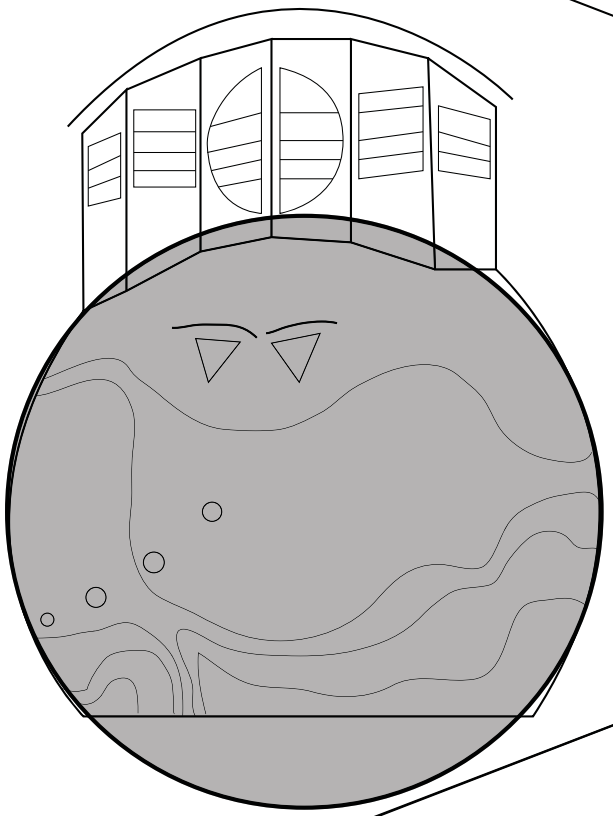
Faze Change Produx



The Watsu School at Harbin Hot Springs
elevation

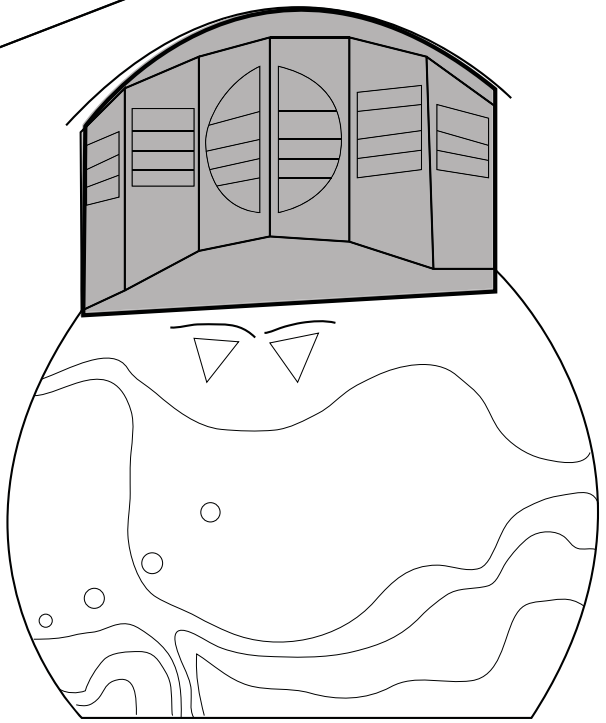
The Watsu School at Harbin Hot Springs
section





The Watsu School at Harbin Hot Springs
elevation

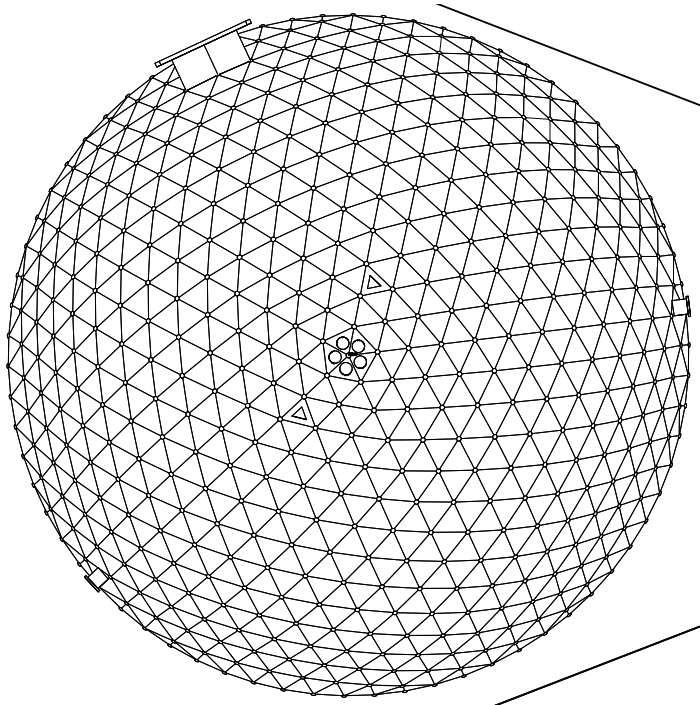
The Watsu School at Harbin Hot Springs
elevation



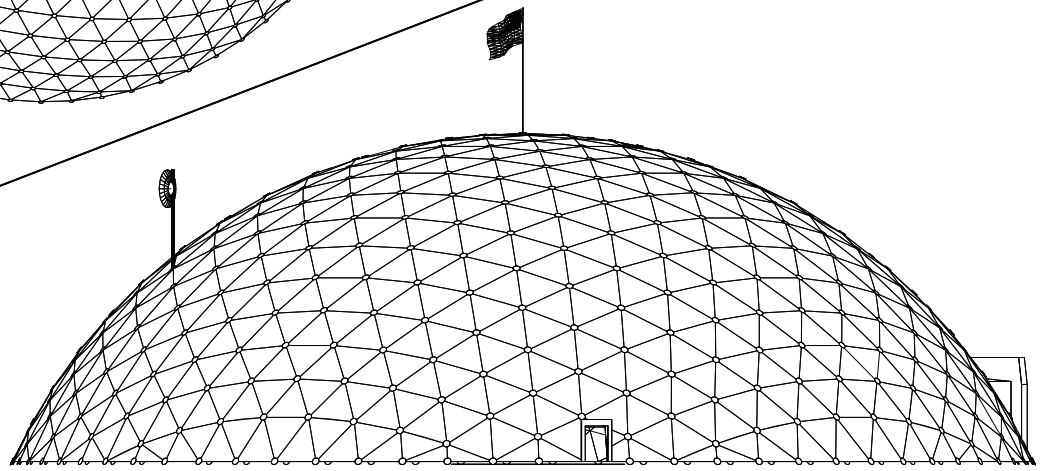
Richard Chase Master

Amundsen

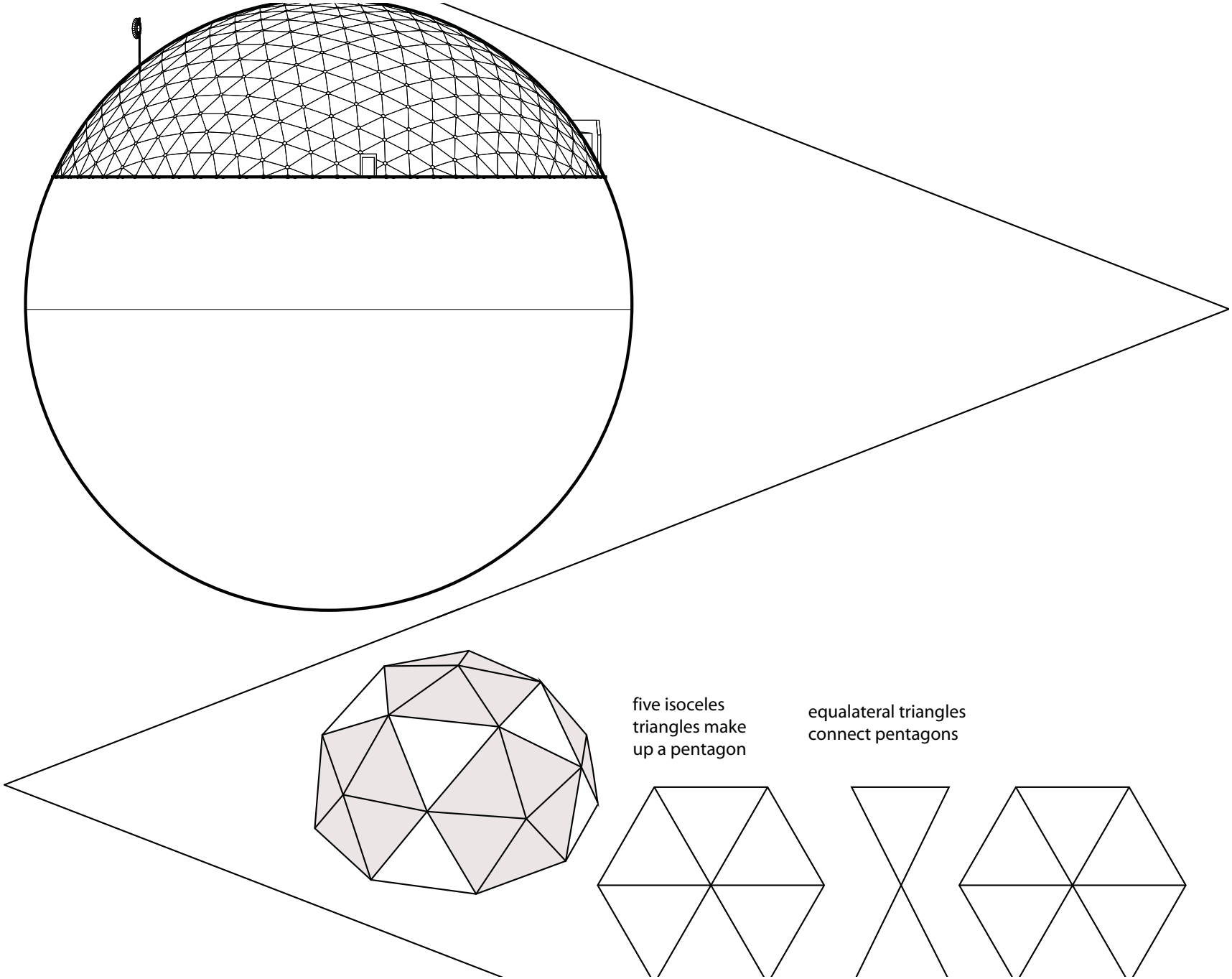
US Gov



South Pole
Floor Plan



South Pole
Elevation

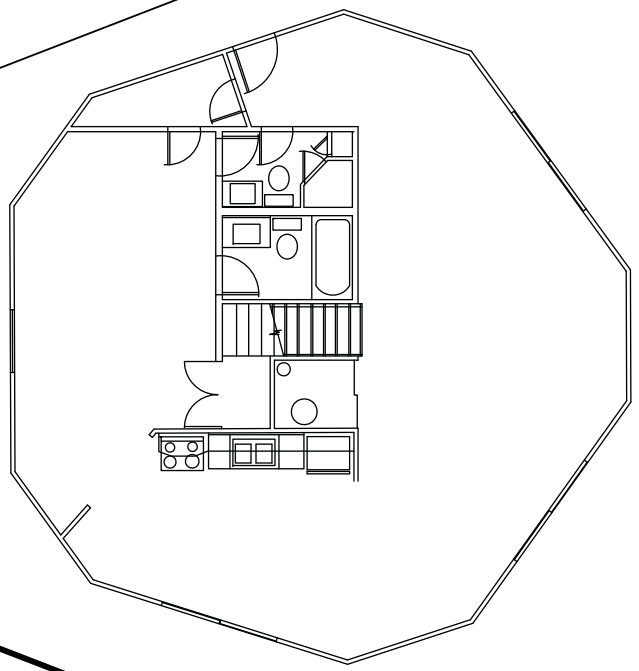

five isoceles
triangles make
up a pentagon
equalateral triangles
connect pentagons

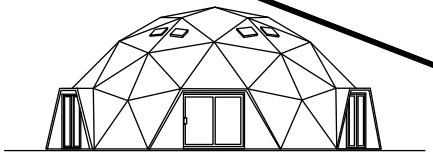
Richard Chase Master

Bucky Dome

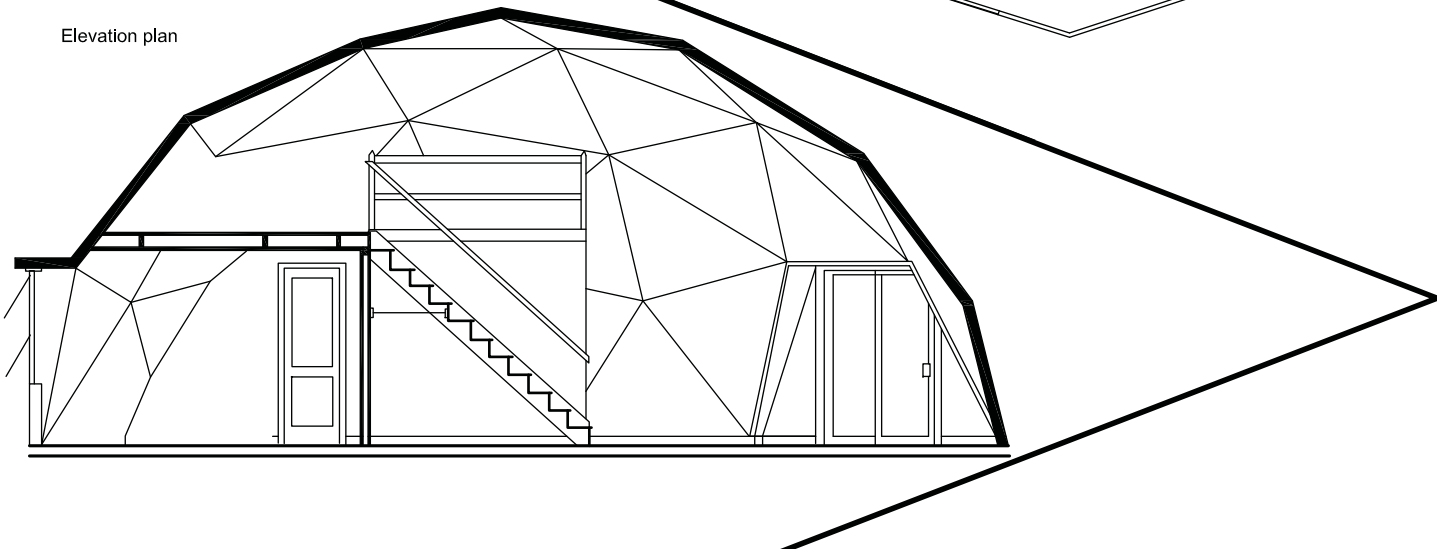
Buccminster Fuller

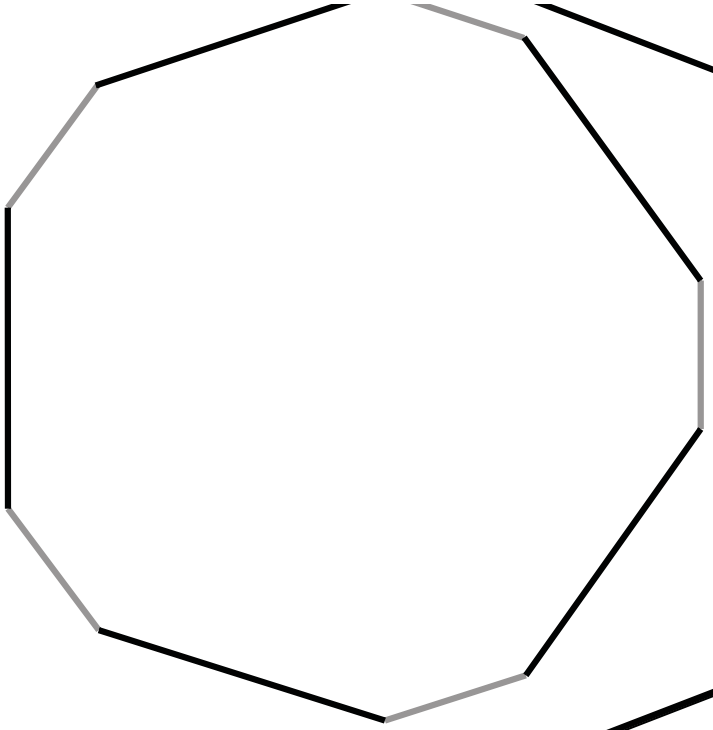
Bucky Dome
First Floor plan



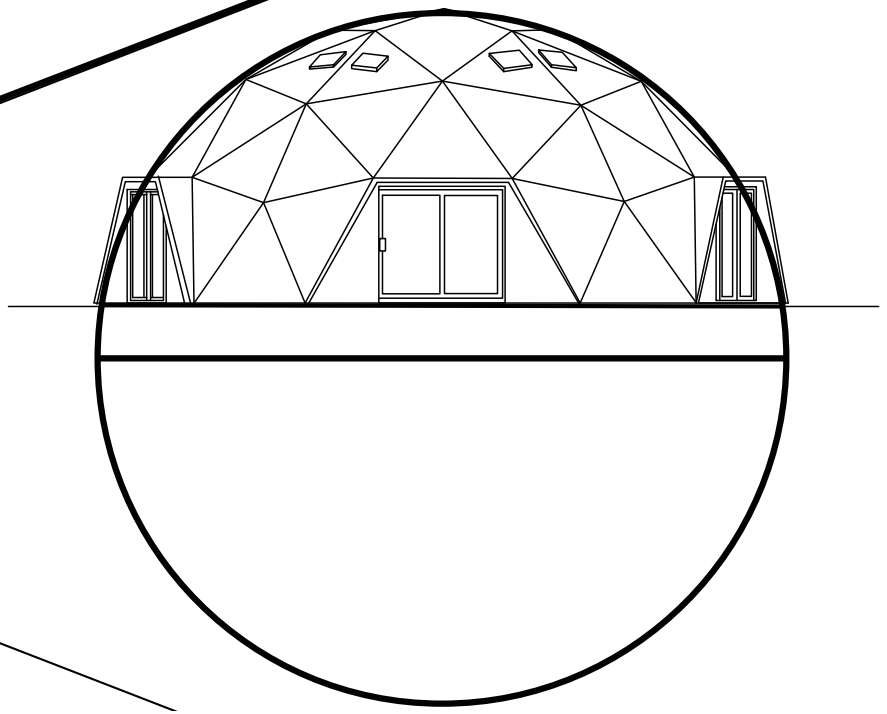


Elevation plan





Bucky Dome
different size of triangles

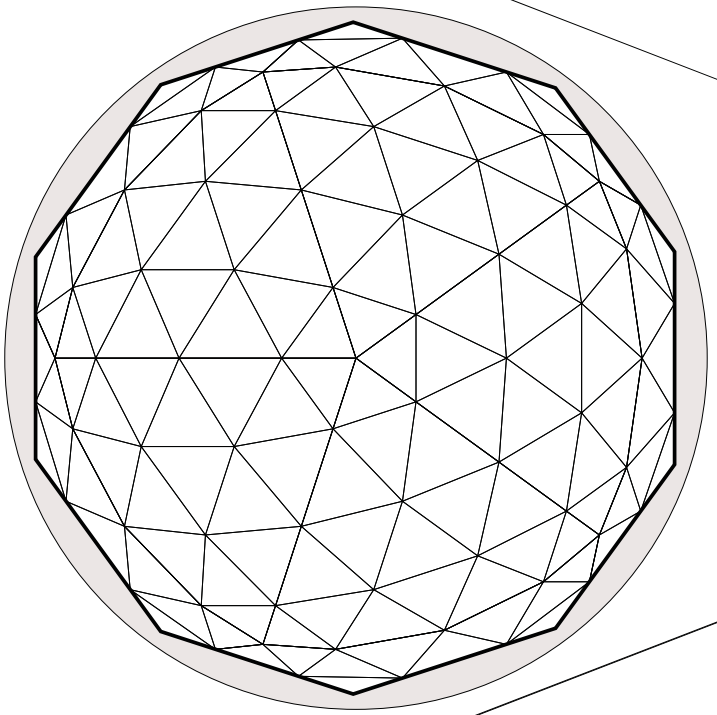


Bucky Dome
shows the dome in a circle giving
need for lenght over hight

Richard Chase Master

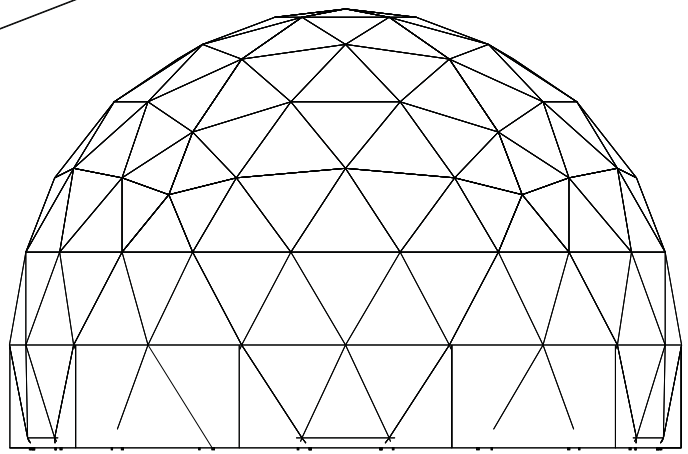
Greenhouse/Arboretum

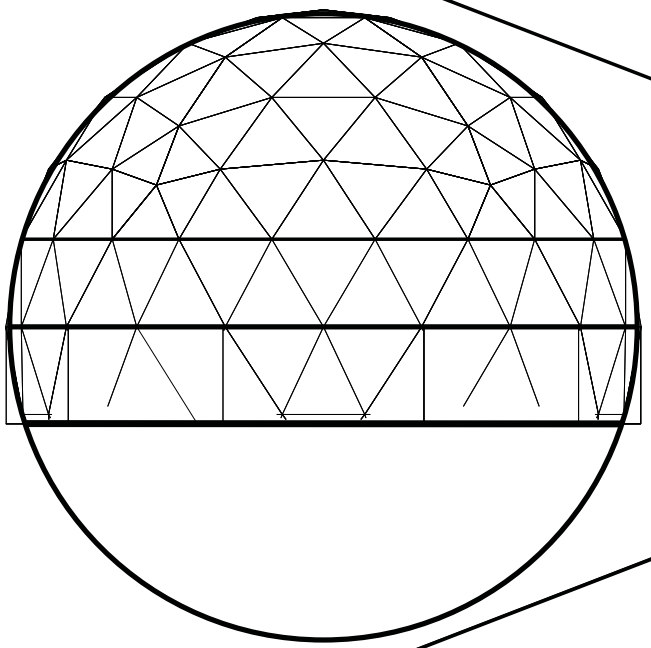
Keith and Dora Zornes



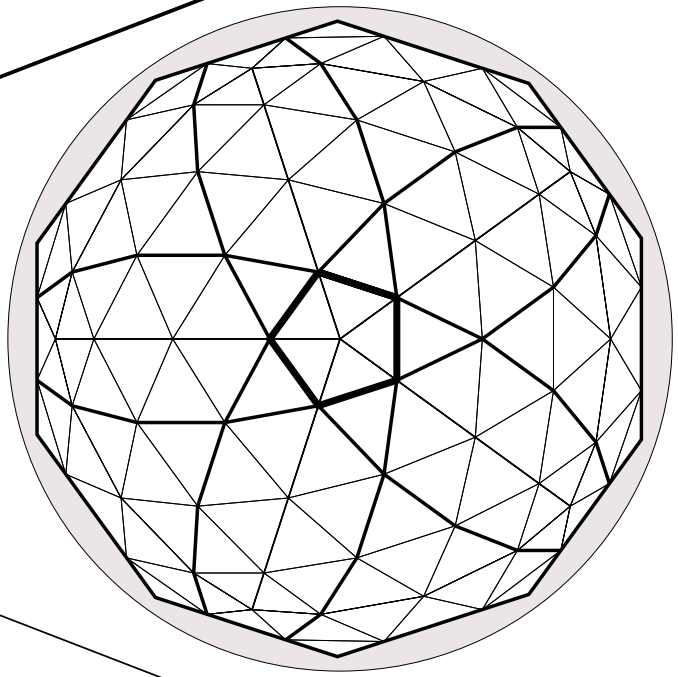
Greenhouse
floor plan

Greenhouse
elevation





Greenhouse
Shows the dome fitting in a
circle showing a need for hight



Greenhouse
flower pentagon diagram

Ryan Northcutt

Barn House

Dayempur Farm

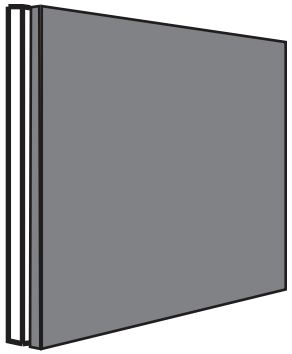


Fig. 1

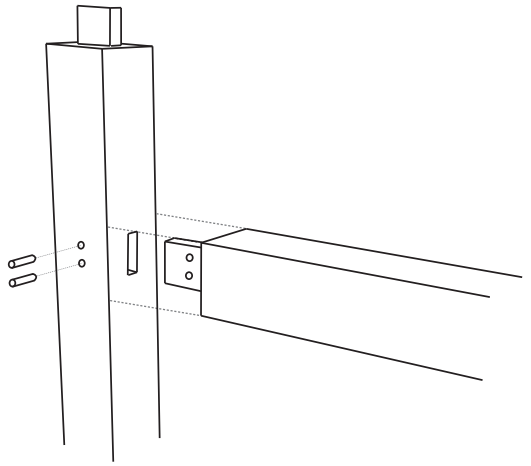


Fig. 3

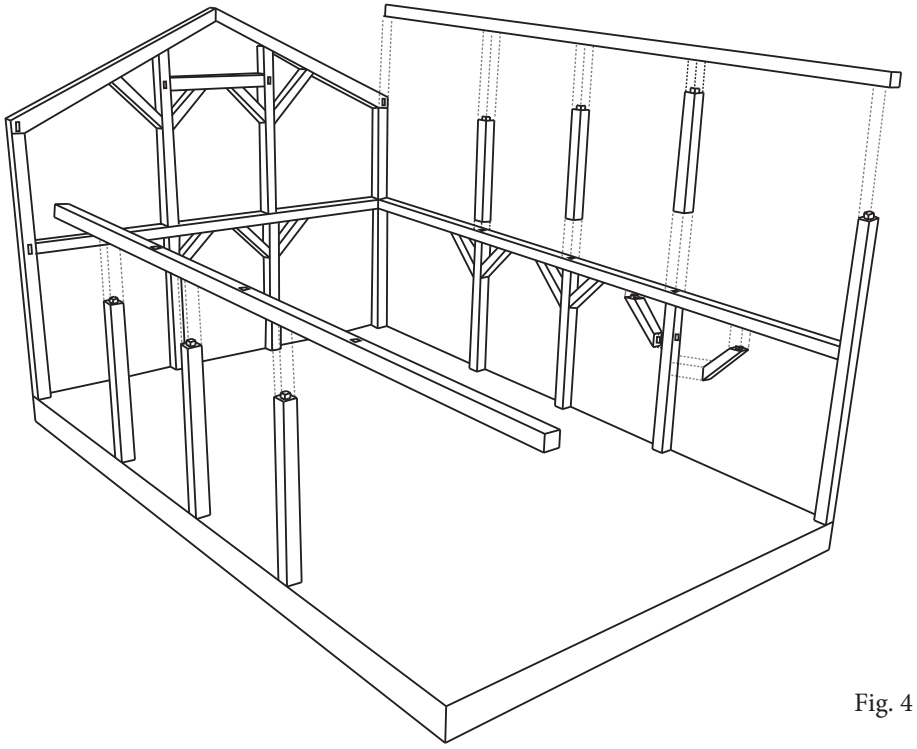


Fig. 4

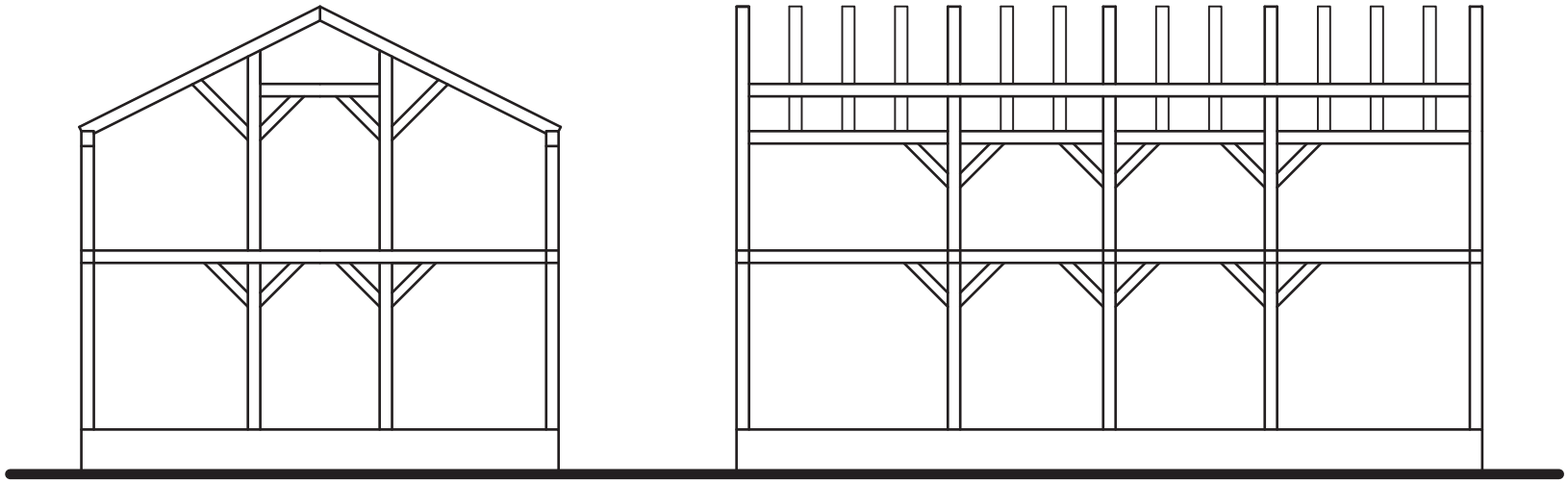
Fig. 2

Fig. 1 - Frame and skin condition. Minimal framing with exterior attached skin.

Fig. 2 - Dayumper farm used a local lumber mill for the wood. The timber frame used in the house is made of poplar and the skin is cedar boards.

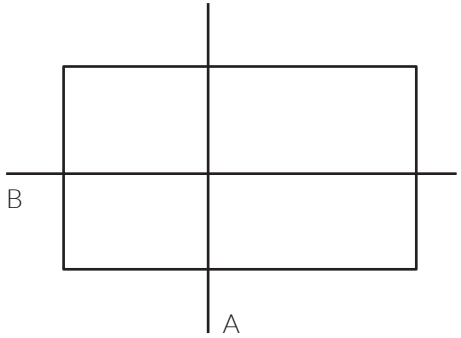
Fig. 3 - Typical joinery condition. All joinery in the timber frame is composed of mortise and tenon with wood pegs to anchor the joints. The skin is a typical fastening condition.

Fig. 4 - Assembly diagram



SECTION AS

ECTION B



Ryan Northcutt

Fig. 1 - Frame and skin condition. Really Heavy frame with light skin.

Fig. 2 - Cabins are known for using cedar trees for lumber. The trees are great for weathering and preserve what is inside well.

Fig. 3 - Typical joinery condition. Joiner for a cabin mainly uses halved timber joinery.

Fig. 4 - Assembly diagram

Dogtrot Cabin

Owner

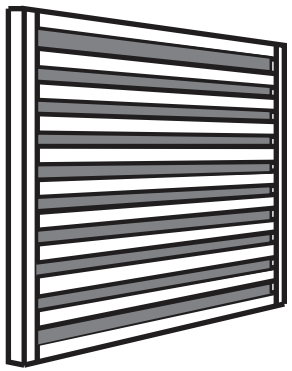


Fig. 1

Fig. 2

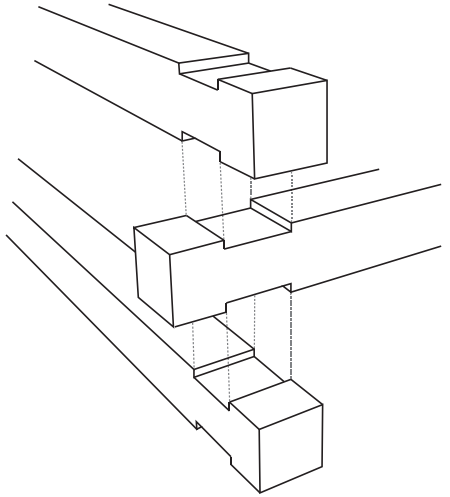


Fig. 3

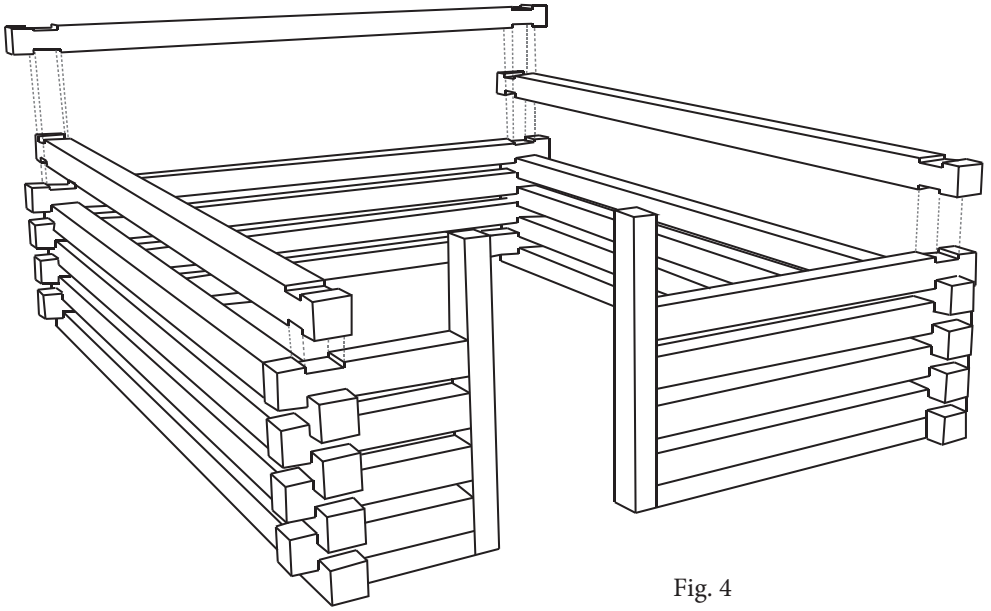
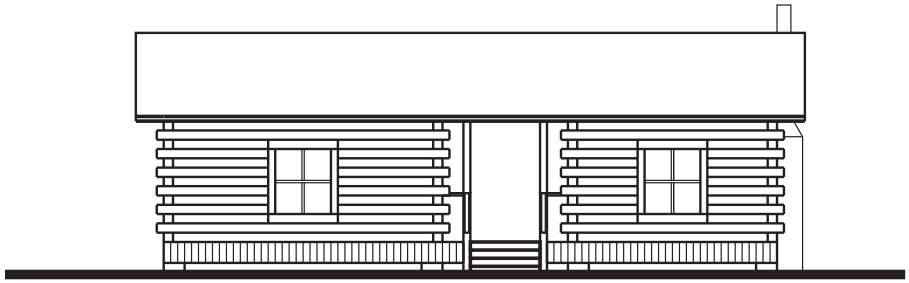
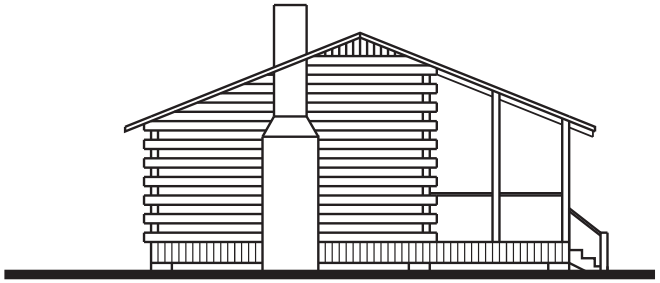


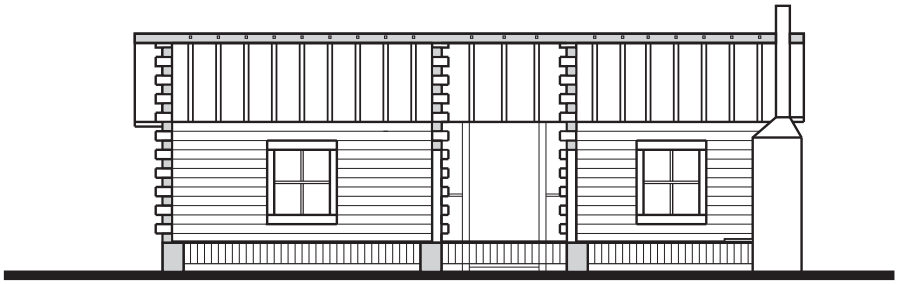
Fig. 4



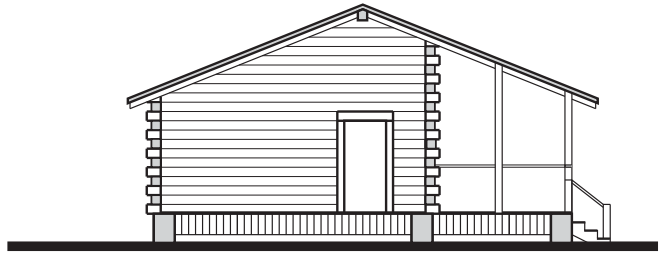
FRONT ELEVATION



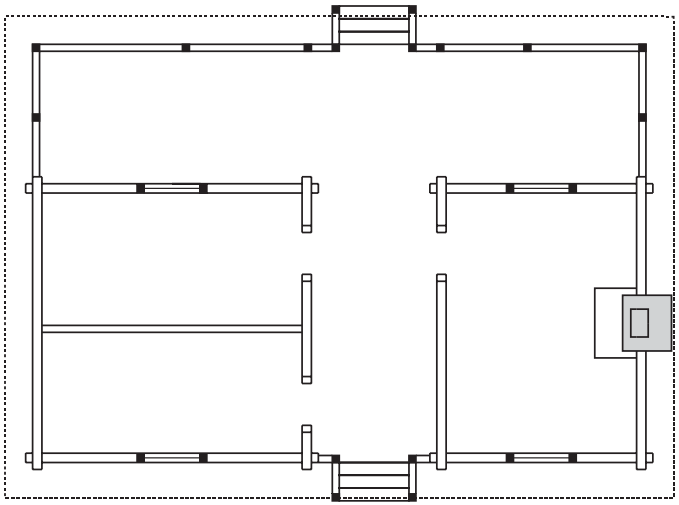
RIGHT ELEVATION



SECTION A



SECTION A



PLAN

Ryan Northcutt

Fig. 1 - Frame and skin condition. Medium framing with medium skin.

Fig. 2 - German barns and houses use two different species of wood depending on the time period and economic status. Spurs (left) was the cheaper option while Oak (right) was first used.

Fig. 3 - Typical joinery condition. There are many types of joints used in german vernacular architecture. This building primarly illustrates halved joinery and mortise and tenon.

Fig. 4 - Assembly diagram

Fachhallenhause

none

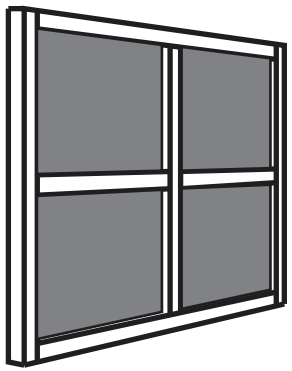


Fig. 1

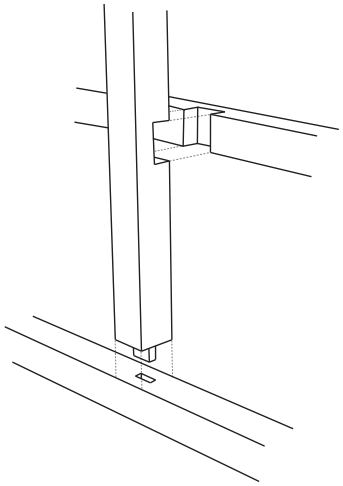


Fig. 3

Fig. 2

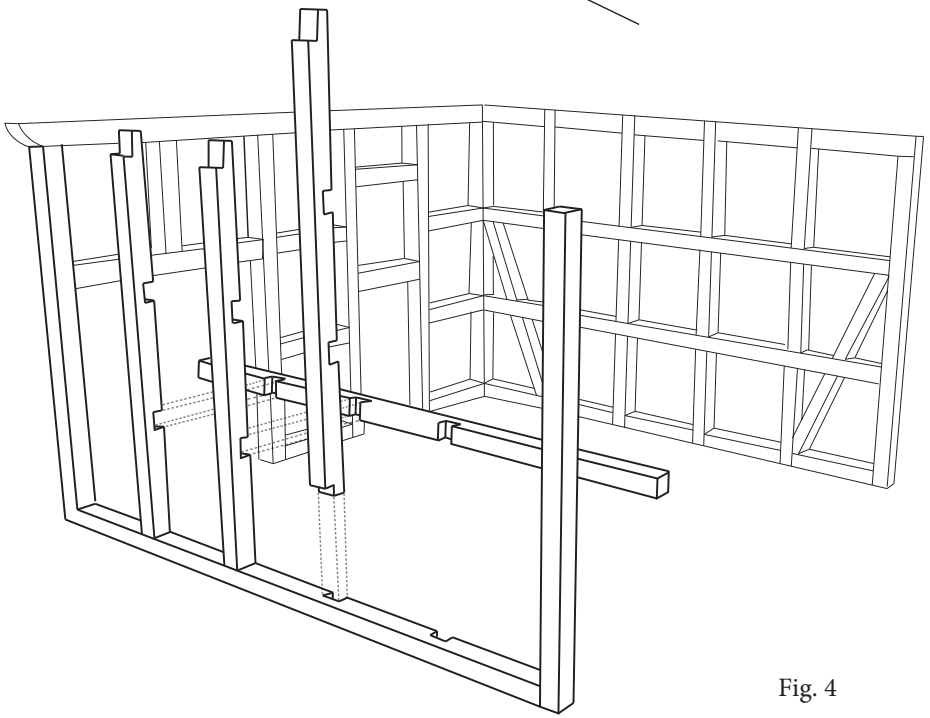
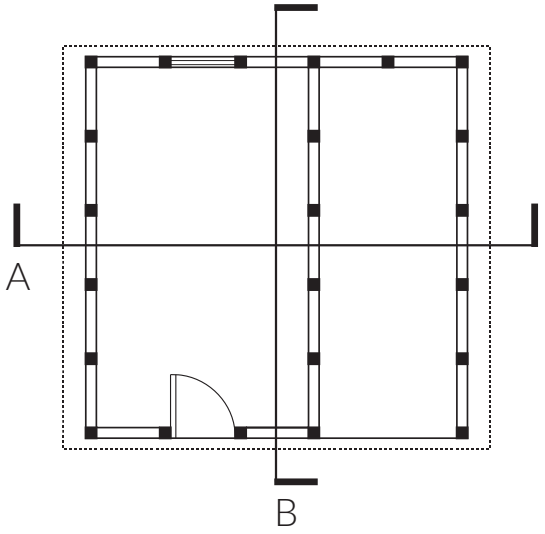


Fig. 4


A
B


40FT

Ryan Northcutt

Fig. 1 - Frame and skin condition. Minimal frame with large skin.

Fig. 2 - Ise Jingu uses Japanese cypress trees that grow local to the the shrine. A strong and special tree is chosen every 20 years to take apart of the building of the shrine.

Fig. 3 - Typical joinery condition. Mortise and tenon is shown.

Fig. 4 - Assembly diagram

Ise Jingu Grand Shrine

Architect

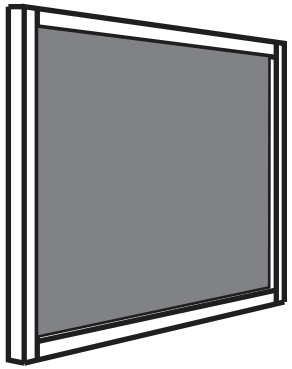


Fig. 1

Fig. 2

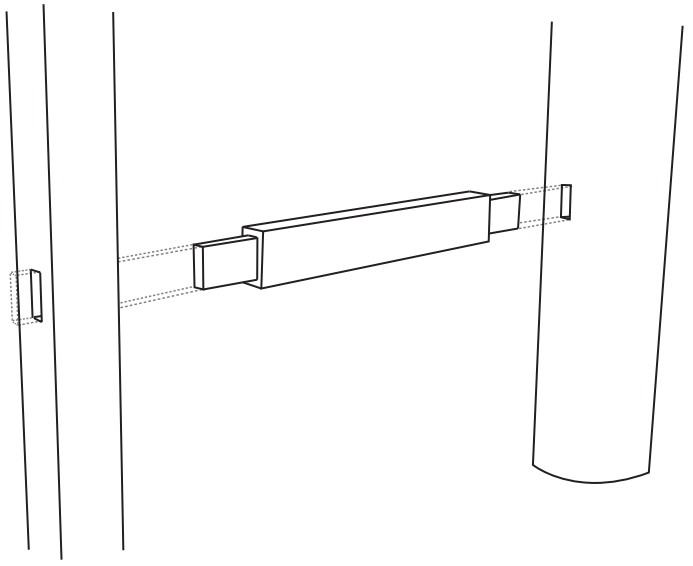


Fig. 3

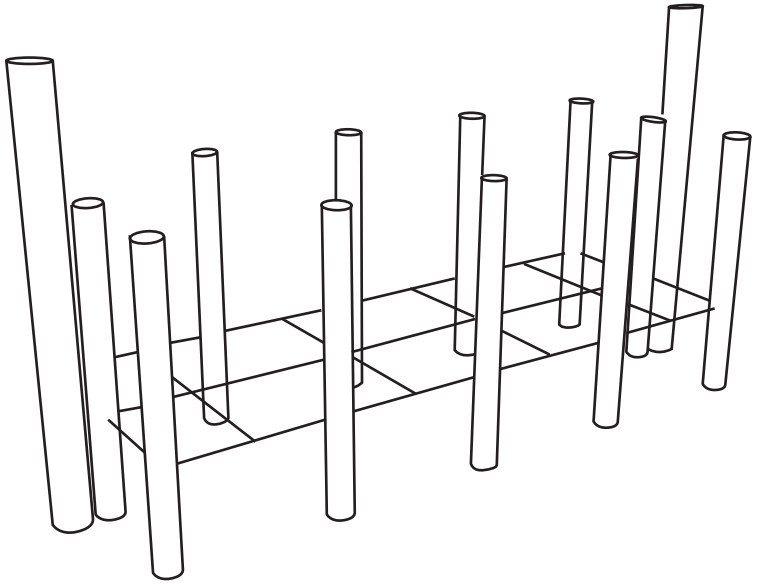
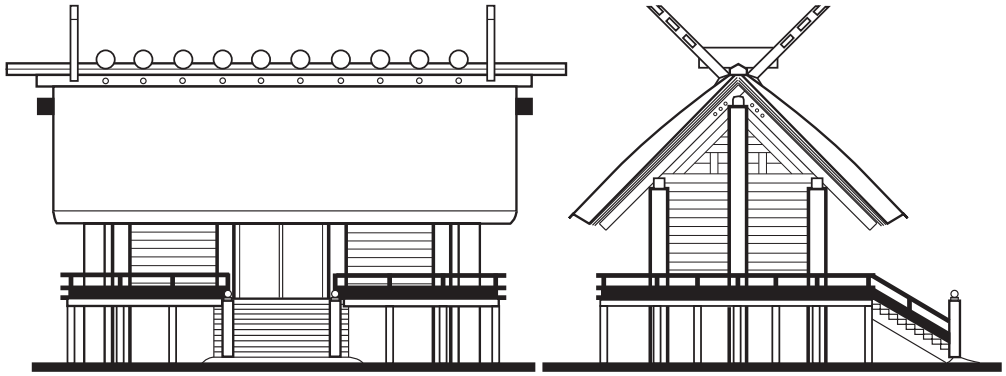
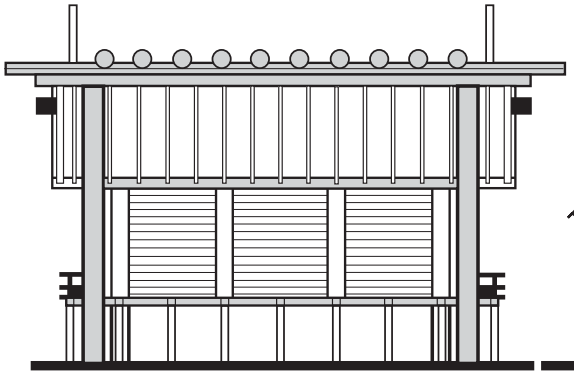


Fig. 4

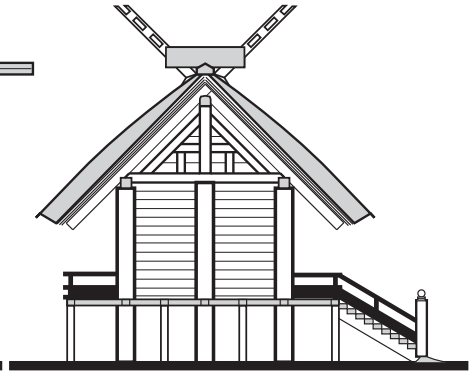


FRONT ELEVATION

LEFT ELEVATION

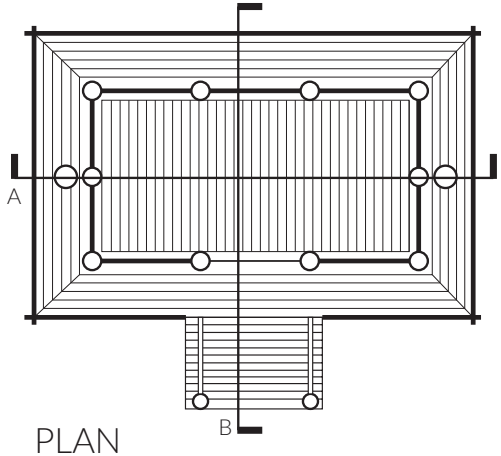


SECTION A

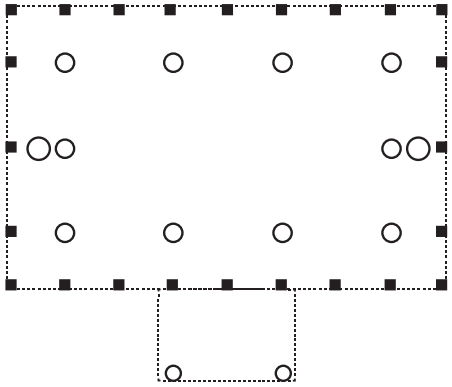


SECTION B

40FT



PLAN



FOUNDATION

Ryan Northcutt

Fig. 1 - Frame condition. Heavy frame with no skin.

Fig. 2 - Woods of Net is made up of about 600 Douglas Fir glullam beams.

Fig. 3 - Typical joinery condition. Joinery is a custom halved mortise and tenon joint.

Fig. 4 - Assembly diagram

Woods of Net

Tezuka Architects

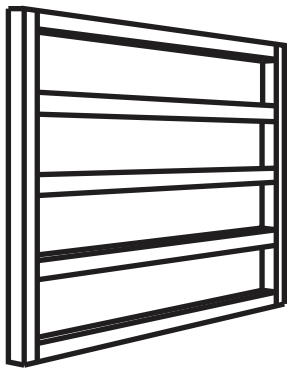


Fig. 1

Fig. 2

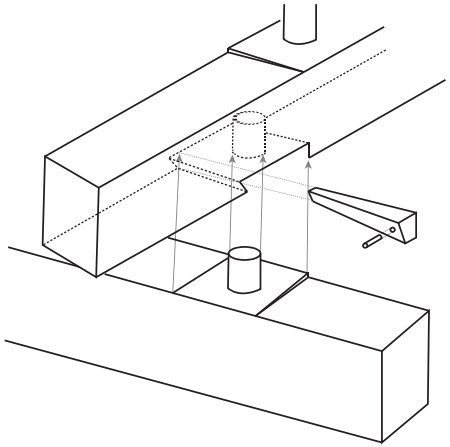


Fig. 3

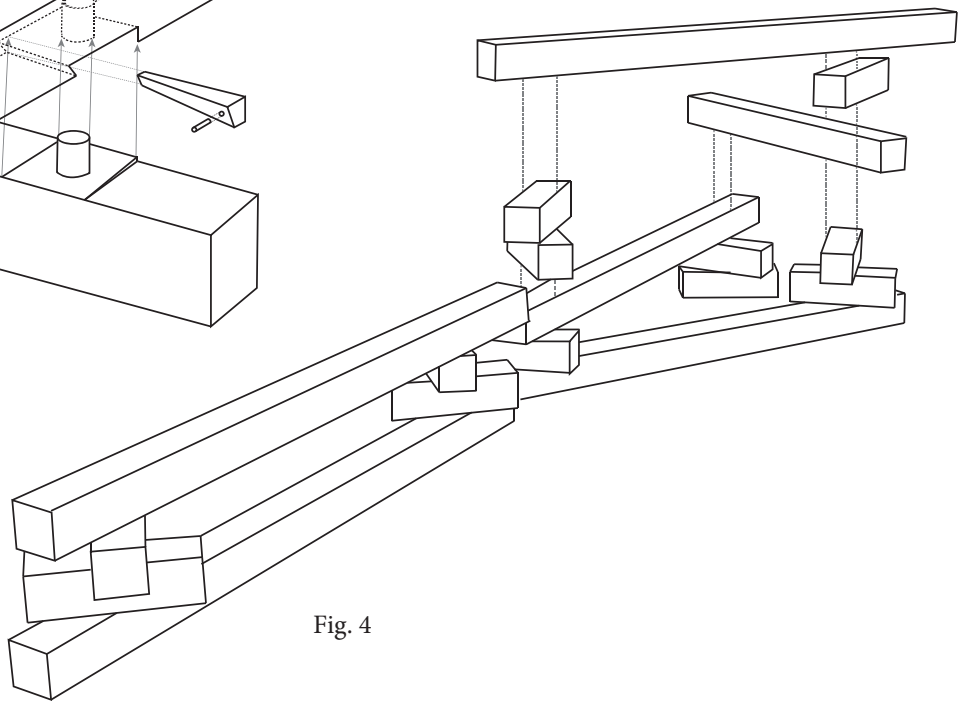
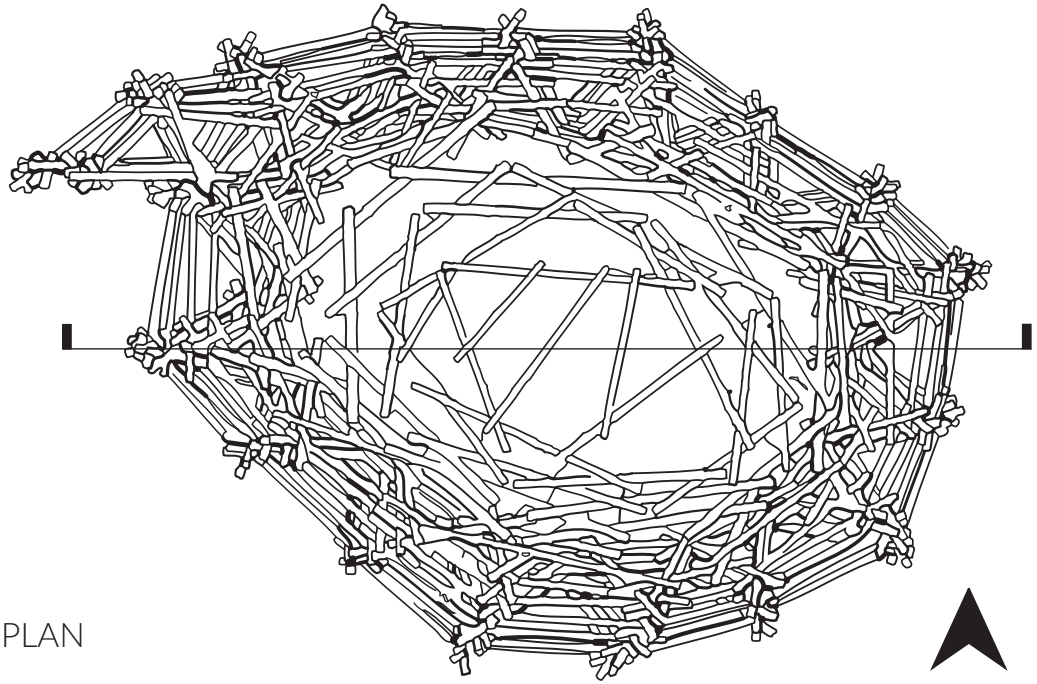
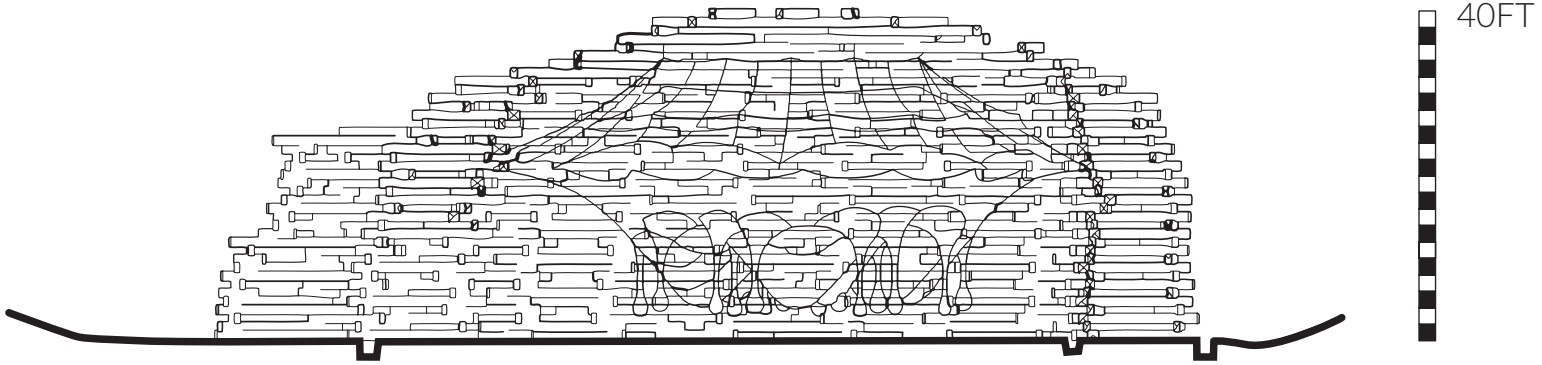


Fig. 4



PLAN



SECTION

Atlanta Bed & Breakfast

Peter Bahouth

Don Olsen

Location: Atlanta, Georgia

- Built in 2002
- Supported by a series of what appear to be Pine Trees.
- Stands about 10’-0” in the air.
- Pictured is the Living Room.
- Serves as a hotel.
- Features multiple structures one bedroom and one living room.
- Built out of reclaimed wood and other recycled materials.
- The three spaces associated with this project are called Mind, Body, and Spirit.
- Accesible by a small bridge.

Diagrams

1- Tree Type Information

2- Circulation from ground to highest point.

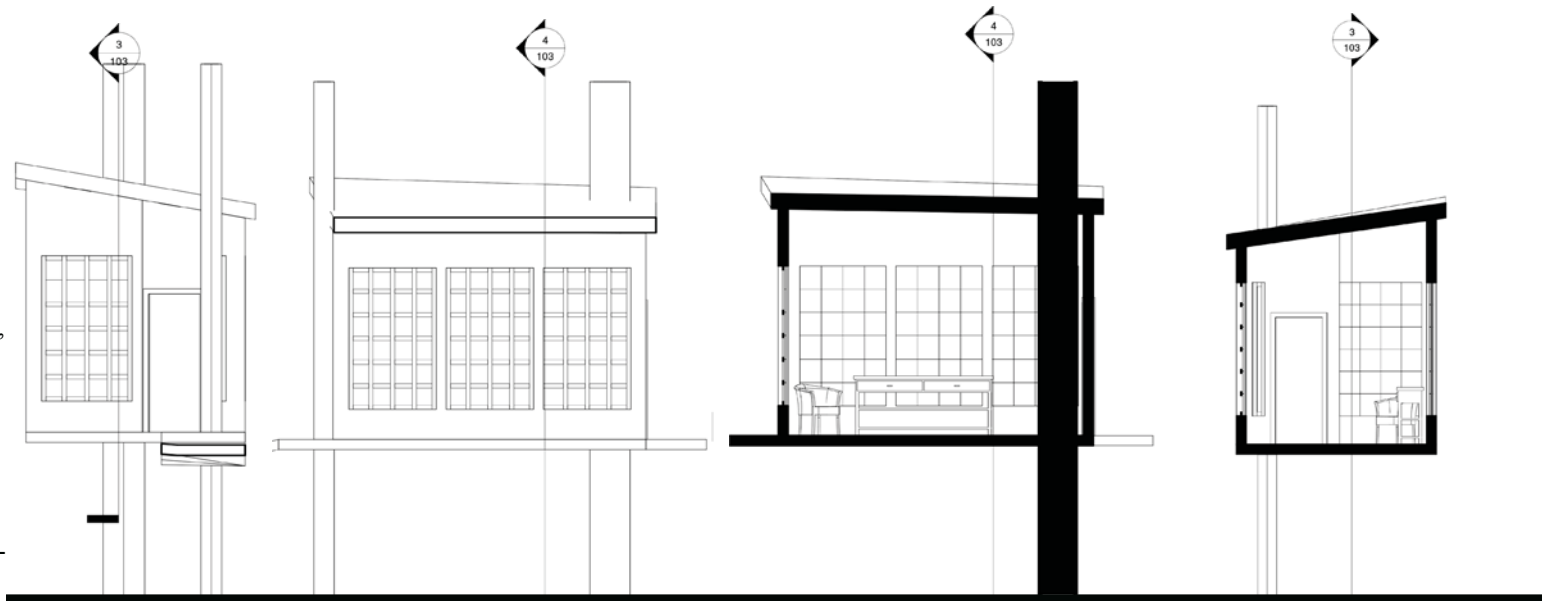
3- Assembly from ground.

1

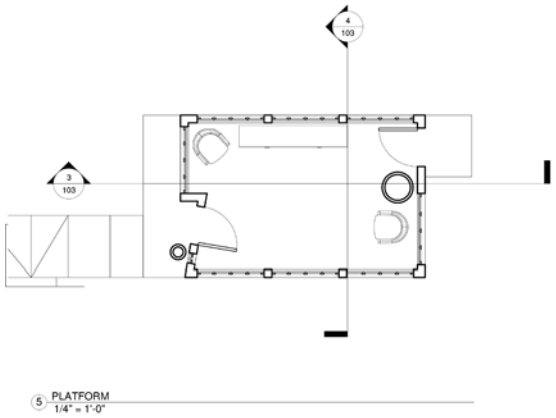
Eastern White Pine (*Pinus strobus)*

With a growth rate of up to 3 ft. per year, the Eastern White Pine will be a striking addition in any landscaping in just a couple of years. This fast-growing conifer can be identified by its soft green needles and straight trunk. For a fuller tree at maturity, lightly prune the tree during the first 2-3 years. Although it will thrive in partial shade, full sun conditions promote faster growth. This tree will not tolerate wet, swampy conditions.

The Eastern White Pines that are primarily holding up this tree house are estimated at 50- 75 years old each.



West Elevation | South Elevation | Section 1 | Section 2



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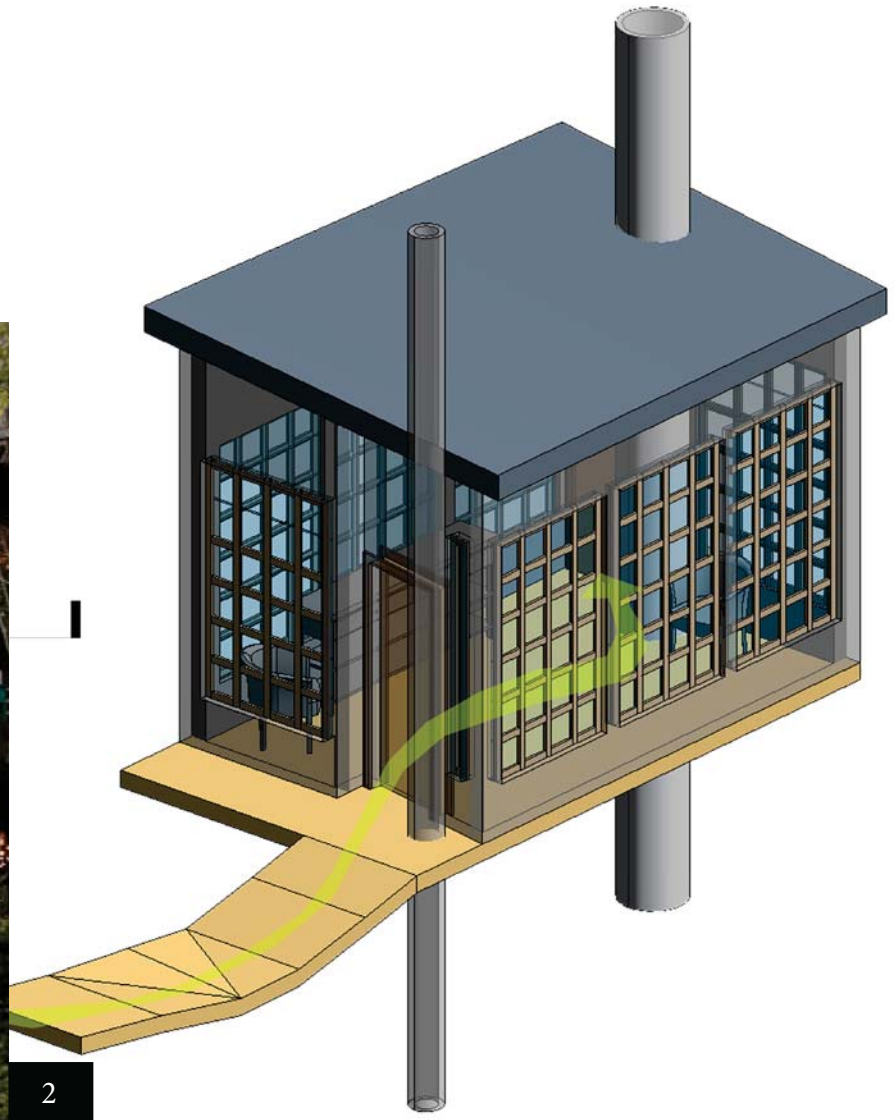
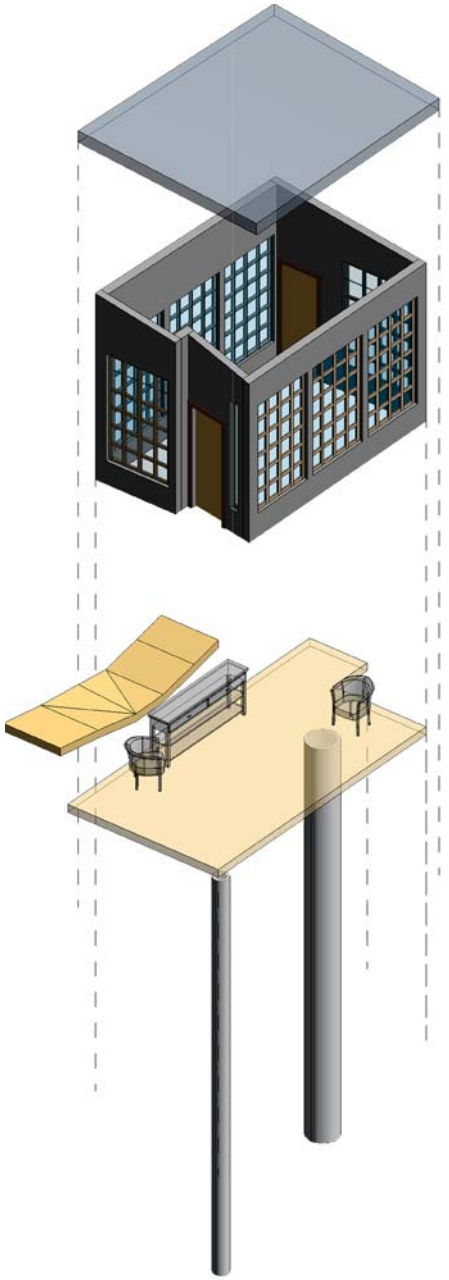




3

CITATIONS:
http://www.thehomebuildernetwork.co/house-hunting/unusual-homes/magic-treehouse-in-the-city/
http://www.airbnb.com/rooms/1415908

Colorado Tree House

Missy Brown Design

Don Olsen

Vail, Colorado

- Built in 2005
- Supported by one Douglas Fir.
- Added support by knee braces made from fallen Pine trees.
- Rustic Log Cabin style.
- Amenites include: Small living room with office, kitchenette, and rooftop patio.
- Inspiration was cozy place to have lunch and visitors.

Diagrams

1- Tree Type Information

2- Circulation from ground to highest point.

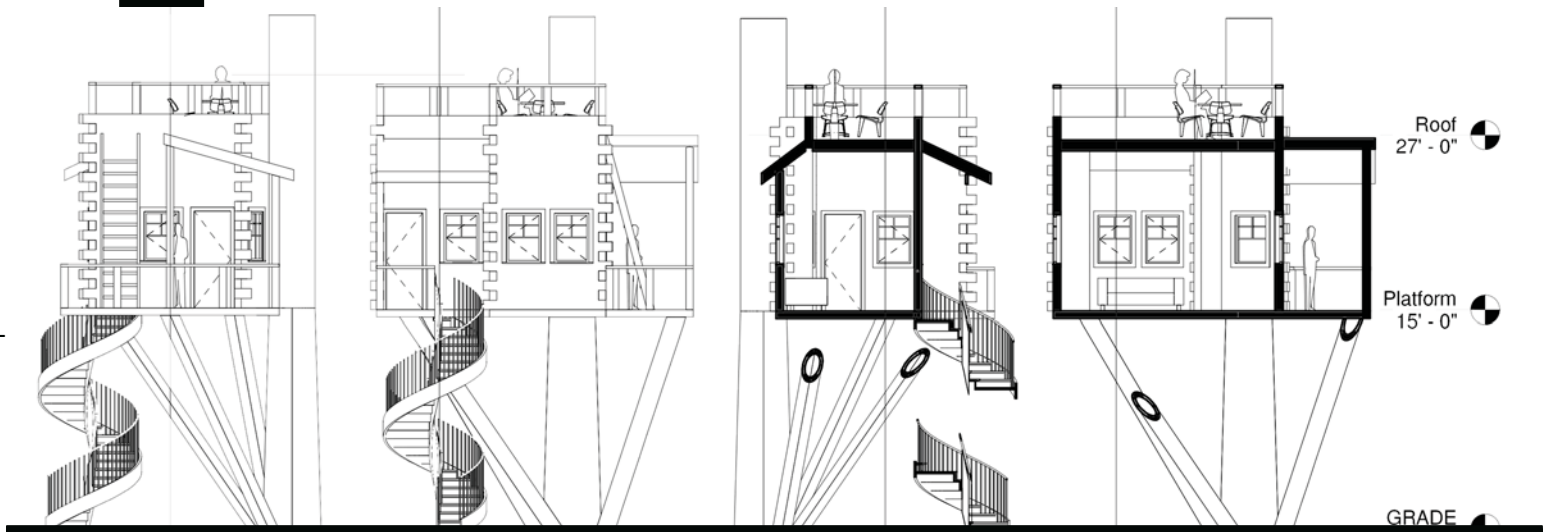
3- Assembly from ground.

1

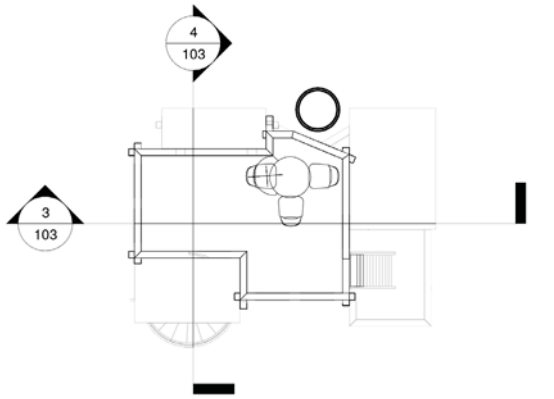
Douglas-fir (*Pseudotsuga menziesii*)

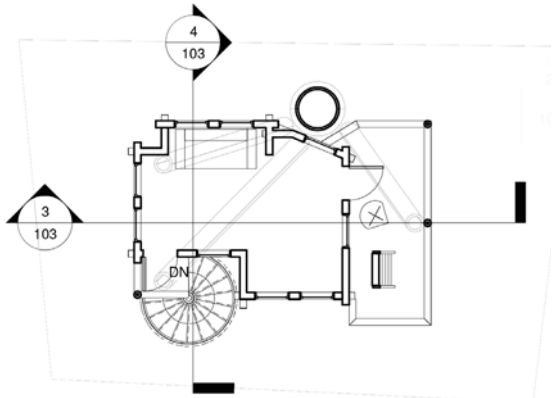
Growth and Yield- Natural stands of coastal Douglas-fir normally start with more than 2,500 trees per hectare (1,000/acre). Planted stands generally have between 750 and 1,500/ha (300 and 600/acre) at the beginning (9). Annual height increment is relatively slow the first 5 years but then begins to accelerate. Coastal Douglas-fir attains the largest height increments between 20 and 30 years of age but retains the ability to maintain a fairly rapid rate of height growth over a long period. Douglas-fir in high-elevation forests of the Oregon-Washington Cascade Range can continue height growth at a substantial rate for more than 200 years (15). Height growth of Douglas-fir on dry sites at mid-site indices in the Cascade Range of western Oregon is similar to that of upper-slope Douglas-fir in the Washington and Oregon Cascade Range. At higher site indices, however, height growth on dry sites is initially faster but slower later in life; at lower site indices, it is initially slower but faster later in life (40).

The Douglas Fir that is holding up this tree house is estimated at 420 years old.



East Elevation | South Elevation | Section 1 | Section 2





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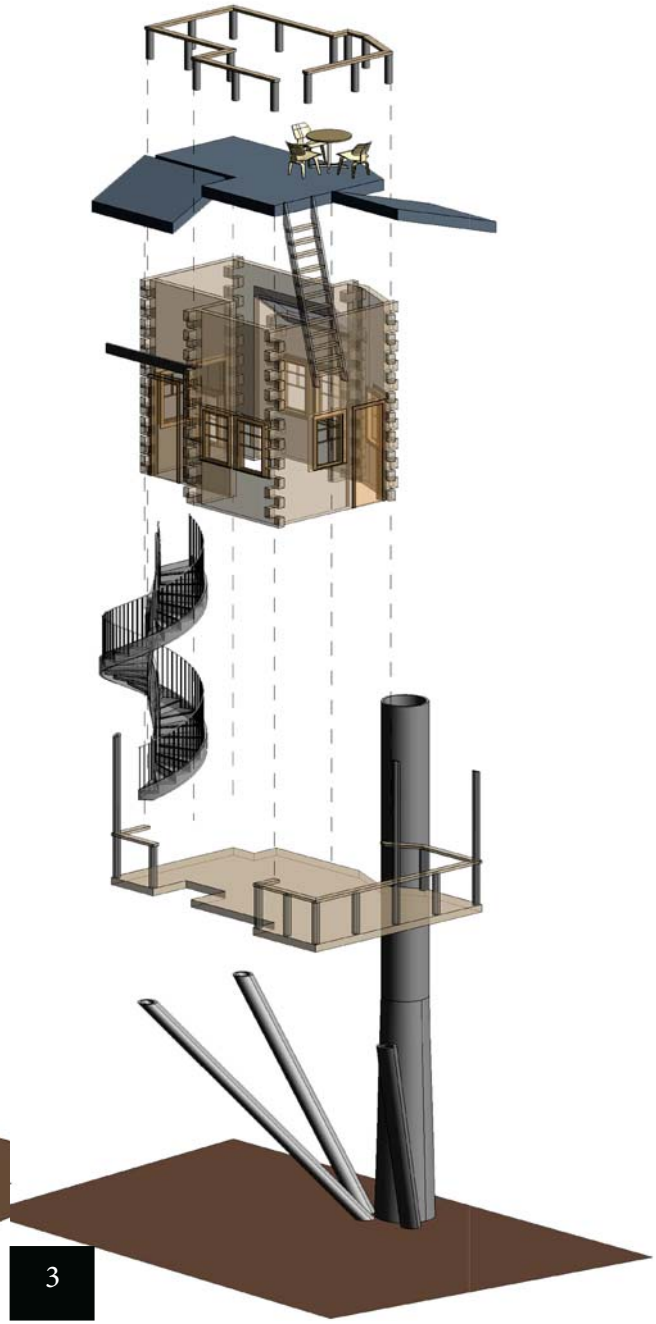


3

http://missybrowndesign.com/index.html
http://www.usualhouse.com/catalog/company/missy-brown-design/

Don Olsen

Location: Fall City, Washington
- Built in 2007
- Supported by one tremendous Red Cedar Tree.
- Stand about 16’-0”feet in the air.
- Named after a brilliant white Lilly like flower that grows annually at it’s base.
- Was started as a tree house workshop project by the Northwest Treehouse School.
- Accessible by winding staircase.
- Amenites include: Writing desk, sitting area, and queen size bed loft.
- Loft is accessed by interior ships ladder.

Diagrams

1- Tree Type Information
2- Circulation from ground to highest point.
3- Assembly from ground.

Trillium Tree House

Pete Nelson

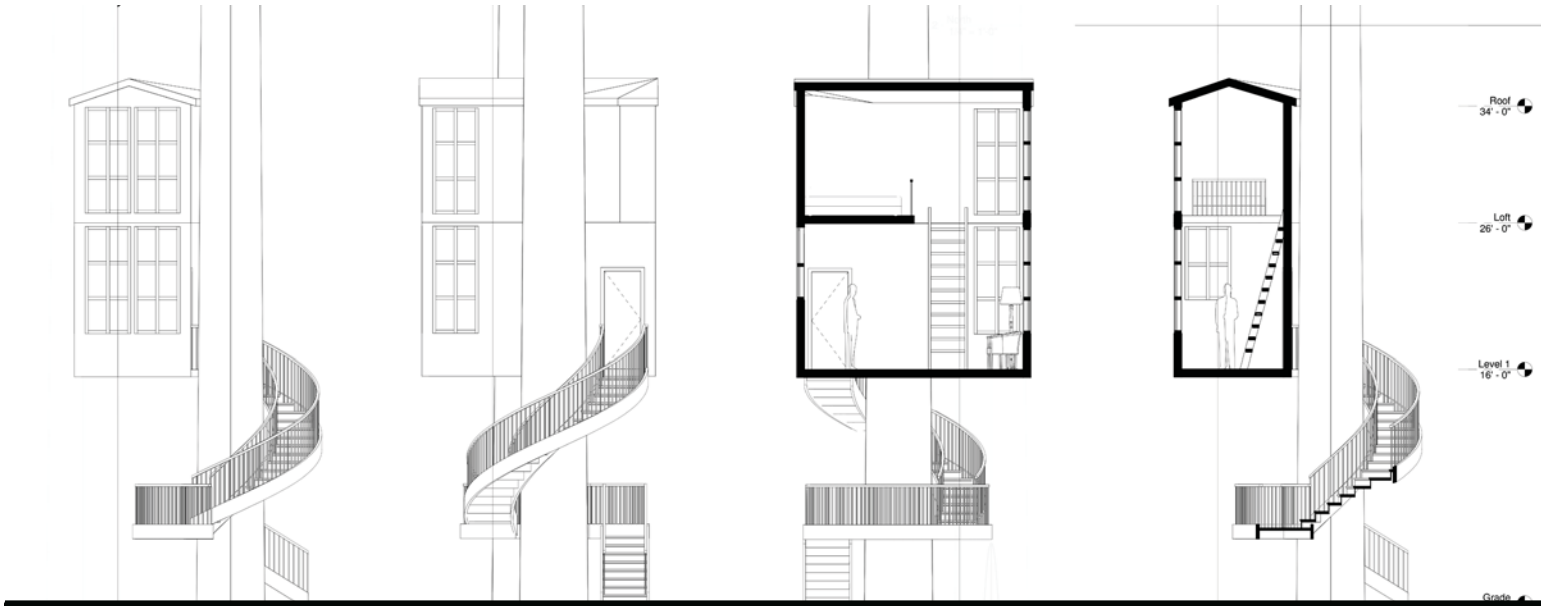
1

Western Red Cedar (*Thuja Plicata D. Don)*

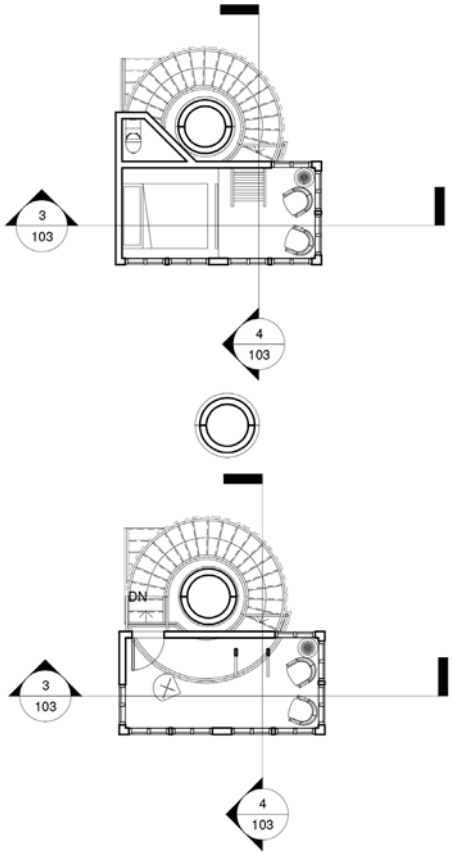
Intermediate red cedars are distinguishable from dominants by age 5 on good sites. Codominants usually can be differentiated from dominants by age 25. Mean annual height growth of the dominants is 1.64 ft in 40- to 60-year-old, pure, second-growth stands on moist sites in western Washington. Annual radial increments of 0.4 to 0.8 in occur on the best moist sites in the south coast region of British Columbia.

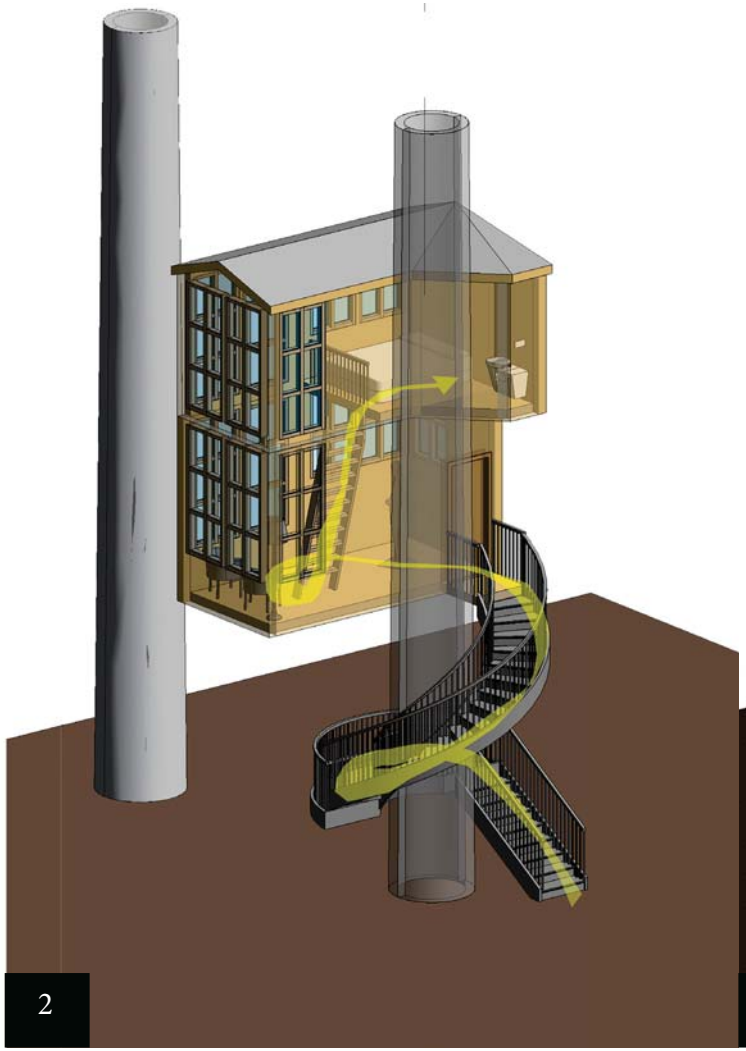
Pure, even-aged stands can attain volumes comparable to pure Douglas-fir stands by age 50 on high-quality upland sites in western Washington , Plantations should be dense (about 2,470 trees per hectare or 1,000/acre), and intermediate crown classes should be removed in a light thinning to reduce side shade at about age 25. Stands of 370 to 430 crop trees/ha at time of harvest may allow maximum diameter growth without causing poor form (36). Maintaining a nearly closed canopy at all times will benefit form because open-grown redcedars tend to develop excessively large limbs and multiple tops. Faster growing trees of acceptable quality can be grown at wide spacings if their lower holes are pruned, but percentages of latewood decrease significantly.

The Western Red Cedar that is primarily holding up this tree house is estimated at 1,120years old.



East Elevation | North Elevation | Section 1 | Section 2





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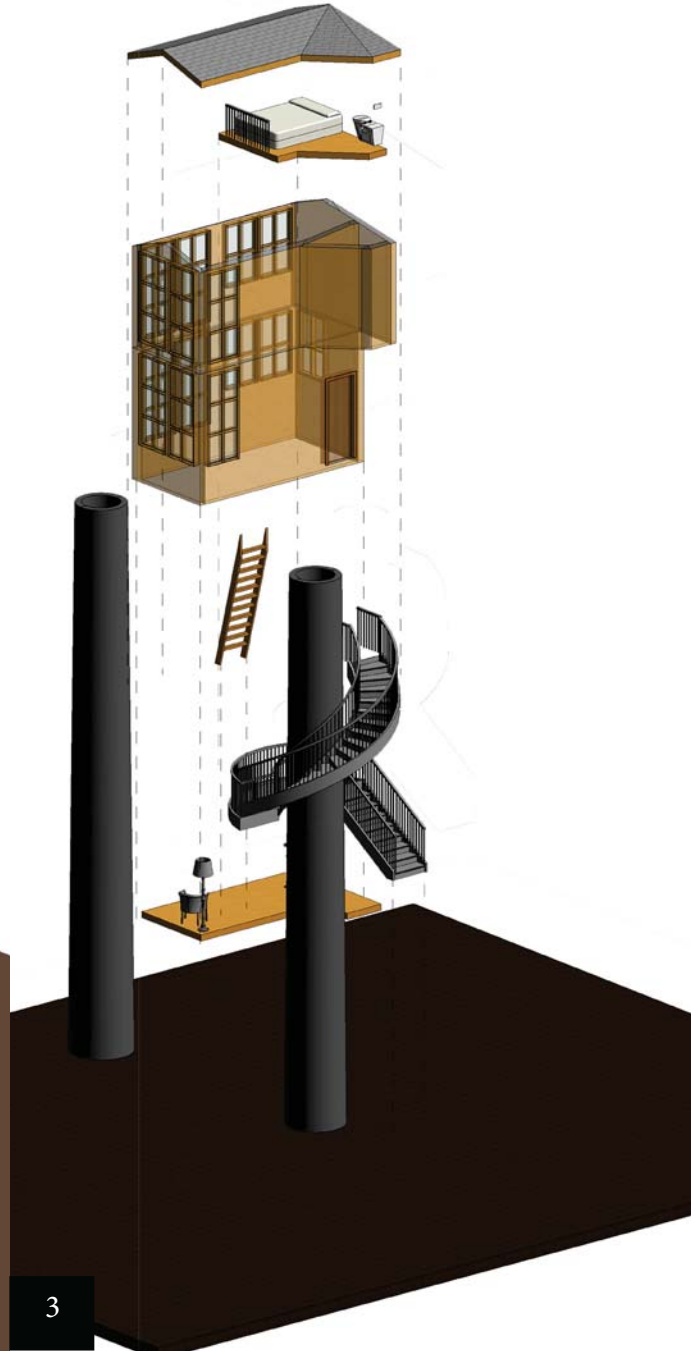


3

Baumhaus Djuren

Baumraum

Don Olsen

Location: Bremen, Germany

- Built in 2010
- Fully Supported by stainless steel piers.
- Platform consists of multiple levels and ladder.
- All structure is leaning on one large Oak tree for support.
- Amenites include: multiple decks and small resting room.
- All interior benches and windows keeps with exterior egg shape.
- Designed to an egg shape to evoke to represent a nest for the family.

Diagrams

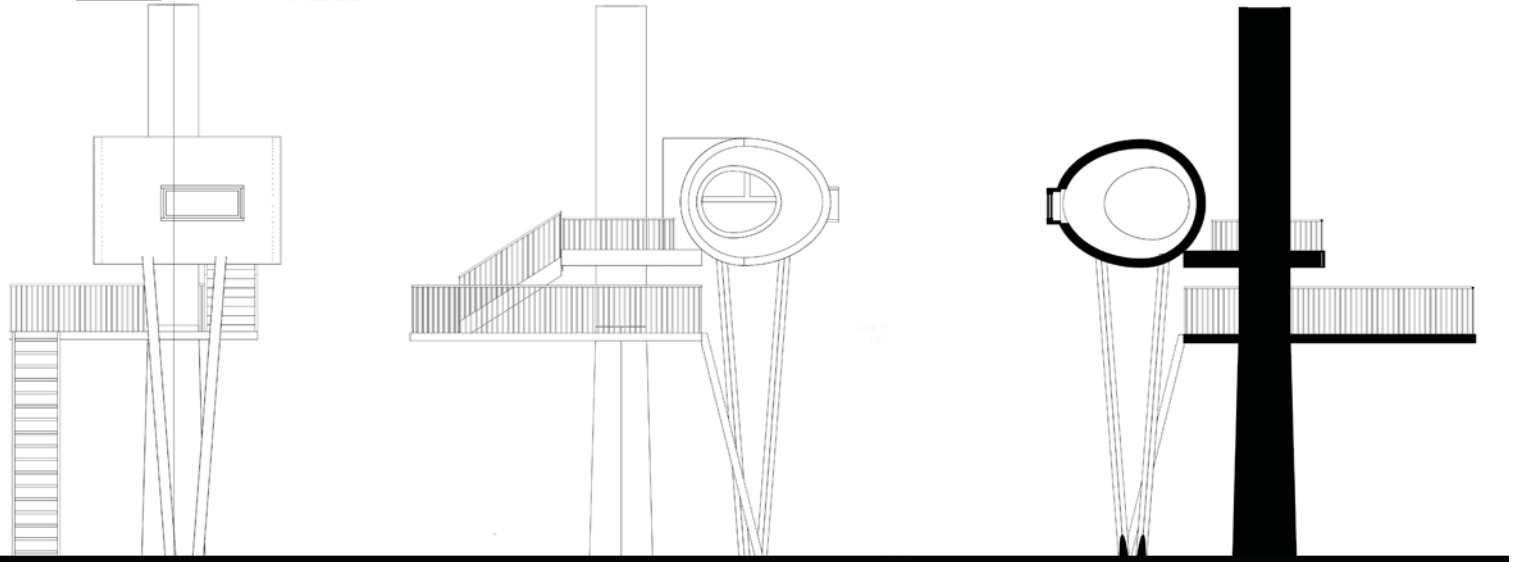
1- Tree Type Information
2- Circulation from ground to highest point.
3- Assembly from ground.

1

Red Oak (*Quercus Lyrata Walt.)*

Overcup oak produces a medium-size tree 60 to 90 ft in height and 4 to 30 in in diameter . Maximum height rarely excede 100 ft and diameters exceeding 36 in are uncommon. Maximum age attained is about 400 years . Overcup oak commonly develops a short trunk, frequently crooked or spiraled, and a broad, wide-spreading, open crown or major branches bearing relatively few smaller branches . The bole is rarely clear for any great length; however, on the better sites it may develop a trunk clear of large branches having lengths of 40 ft or more. Height growth of overcup oak is slower than many of its associates, causing it to be overtopped easily, which may partially account for the short crooked boles. Diameter growth for trees free to grow in unmanaged stands on average bottomland sites averages about 2 to 2.5 in in 10 years . On the best sites it may grow 4 in in 10 years, but old trees on low flats subject to backwater overflow may grow only 2 in in diameter in 50 years. Under management on average or better sites, the overcup oak-water hickory type should yield about 200 fbm/acreInternational quarter-inch log rule or more per year.

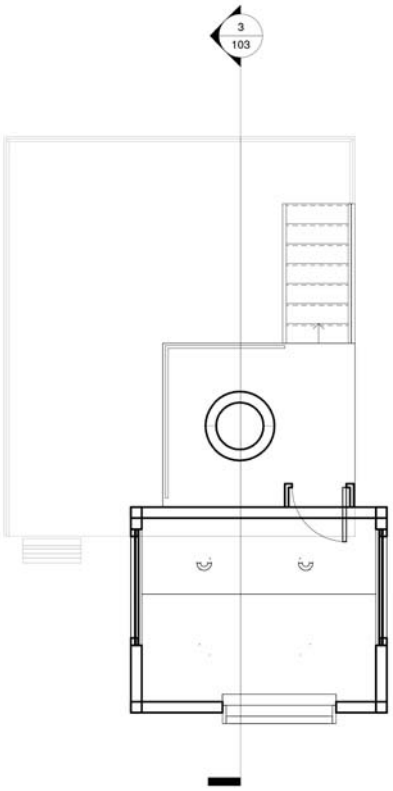
The Red Oak that is primarily holding up this tree house is estimated at 220 years old.



South Elevation

West Elevation

Section 1



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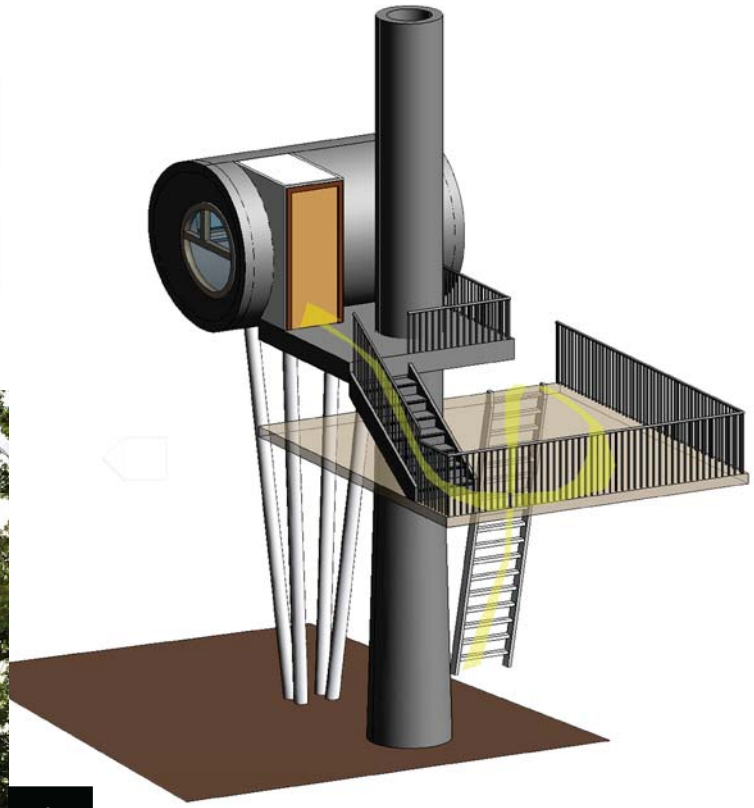
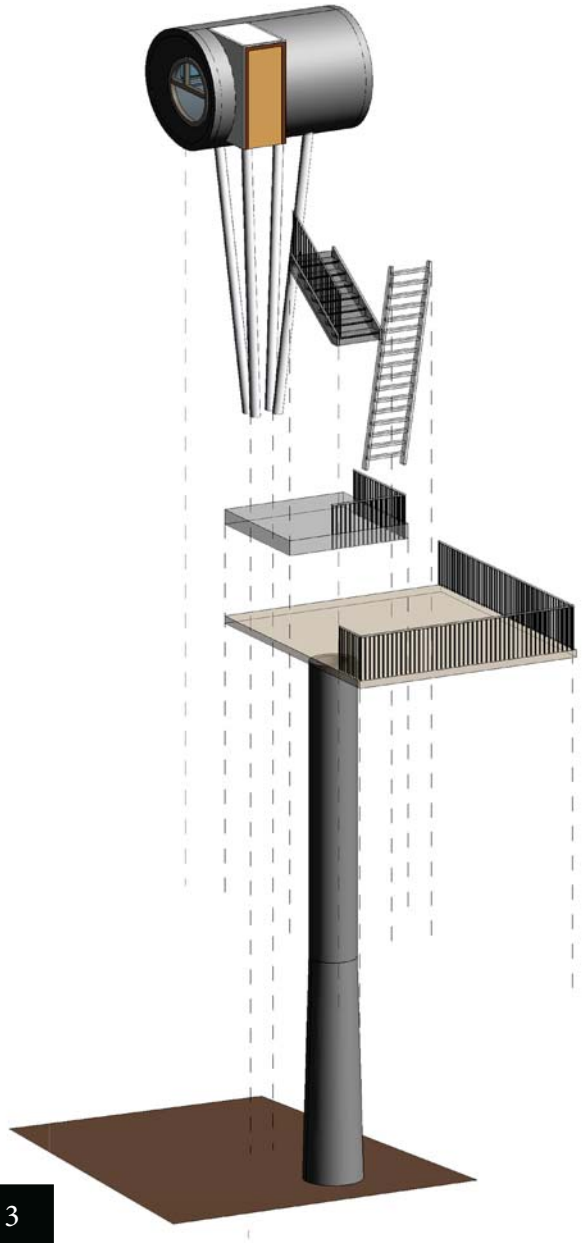




3

http://www.busyboo.com/2011/11/23/treehouse-design-djuren/
http://www.baumraum.de/articles/35/baumhaus-djuren/

Mirror Cube

Tham & Videgard Architects

Don Olsen

Location: Harads, Sweden
• Built in 2008
• Close to the Artic Circle
• 12'X 12'X 12' Cube
• Mirrored Glass
• Ultraviolet Color laminated into glass to aid visiblity to birds
• Interior all Plywood
• Accessible by way of a rope foot bridge attached to two adjacent trees.
• Is held up by one Pine tree.
• Is designed as a play on man's need to use high tech materials while exploring remote locations.
• Amenities include: A full size bed, small toilet, and roof deck.

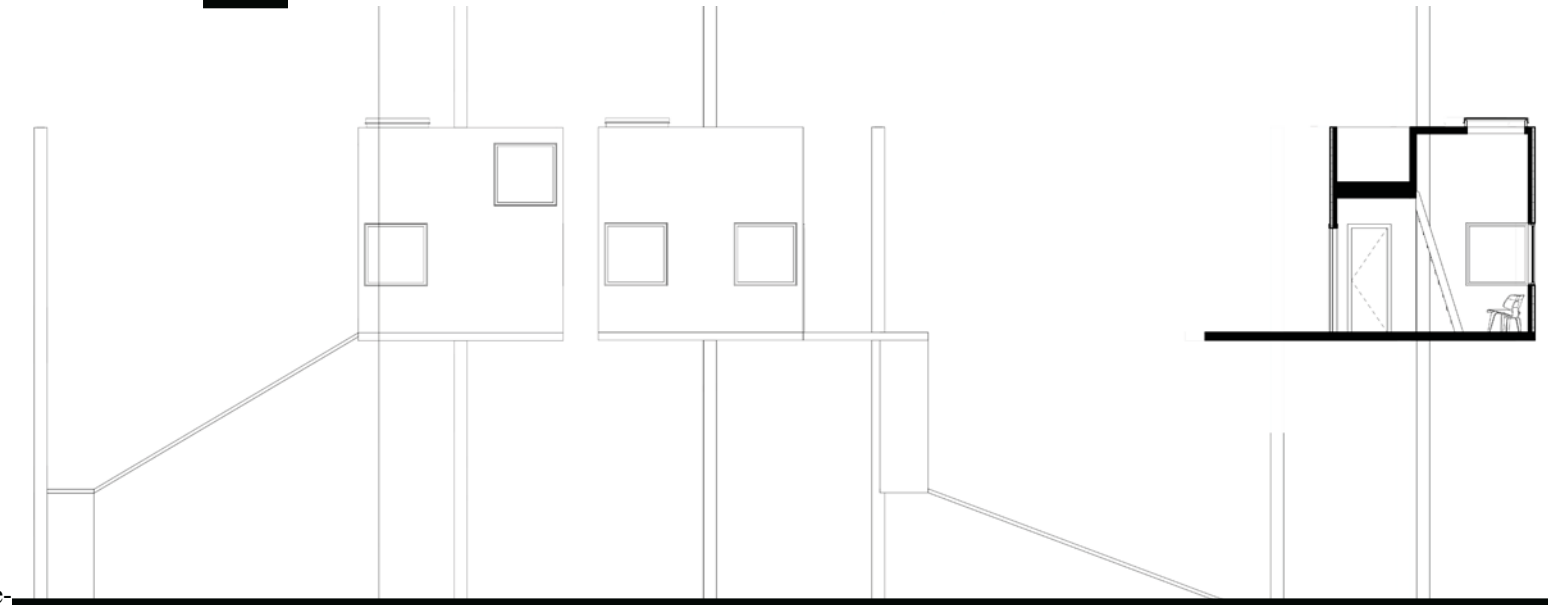
Diagrams
1- Tree Type Information
2- Circulation from ground to highest point.
3- Assembly from ground.

1

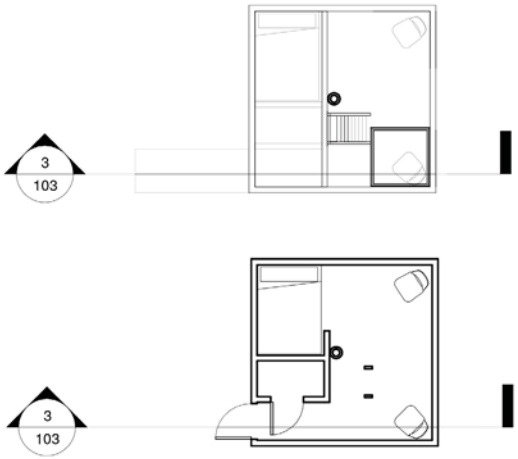
Eastern White Pine (*Pinus strobus)*

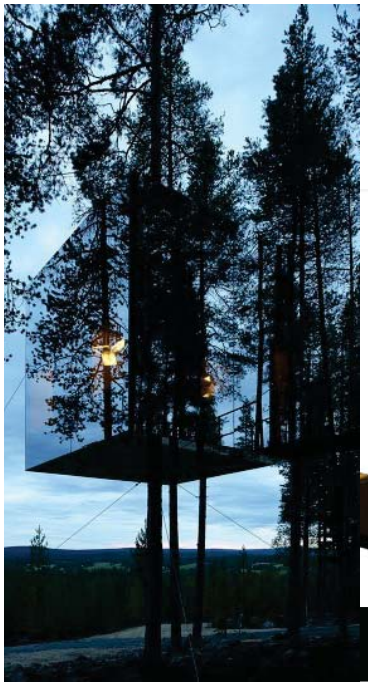
With a growth rate of up to 3 ft. per year, the Eastern White Pine will be a striking addition in any landscaping in just a couple of years. This fast-growing conifer can be identified by its soft green needles and straight trunk. For a fuller tree at maturity, lightly prune the tree during the first 2-3 years. Although it will thrive in partial shade, full sun conditions promote faster growth. This tree will not tolerate wet, swampy conditions.

The Eastern White Pine that is primarily holding up this tree house is estimated at 100 years old.



East Elevation North Elevation Section 1





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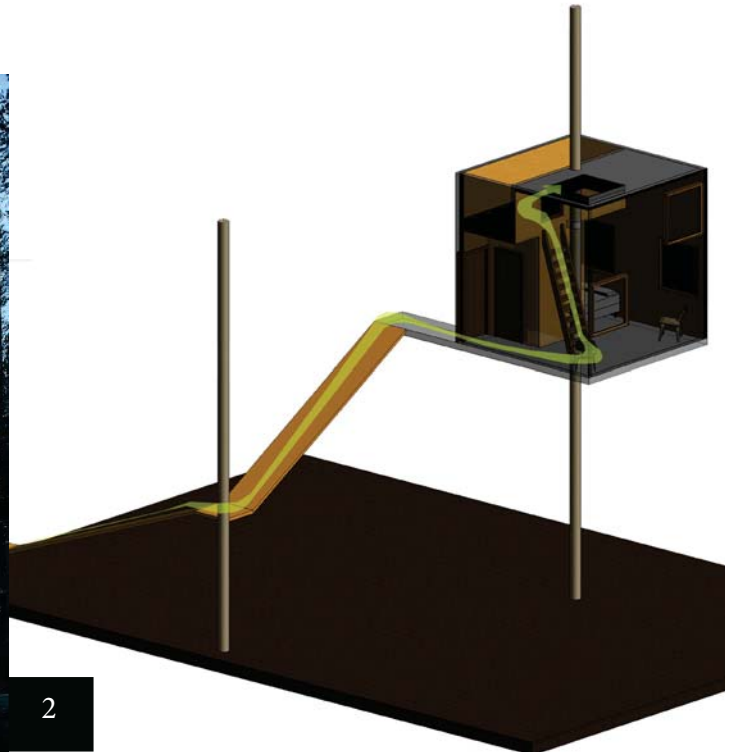


3

http://www.tvark.se/treehotel/
http://treehotel.se/mirrorcube

Don Olsen

Location: Auckland, New Zealand
- Built in 2009
- Supported by one Redwood Tree.
- Stand about 30’-0”feet in the air.
- Served as a Restaurant for two years and is now a rentable space for events and weddings.
- Seats 18 people or 50 standing.
- Named after the New Zealand Yellow Pages, who used it promotionally for two years.
- Features arcylic paneled roof for rain cover.
- Accessible by winding elevated 180 foot long path.
- Designed to be a whimsical play on childhood.

Diagrams

1- Tree Type Information

2- Circulation from ground to highest point.

3- Assembly from ground.

Yellow Treehouse Restaurant

Pacific Environments Architects - Peter Eising and Lucy Gauntlett

1

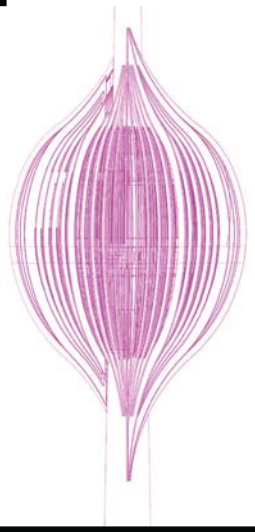
Redwood (*Sequoia Sempervirens)*

Redwood is long lived, grows taller than any other tree species in the world, and is exceeded in bulk only by the giant sequoia. Redwoods are sexually mature at 10 years or less but continue to increase in volume for centuries. The oldest redwood found so far, determined by growth ring counts, is nearly 2,200 years old. Old-growth redwood forests sometimes are incorrectly called even-aged and overmature when, in fact, few forests in the world can match many redwood stands in range of ages and mixture of vigorously growing and decadent trees.

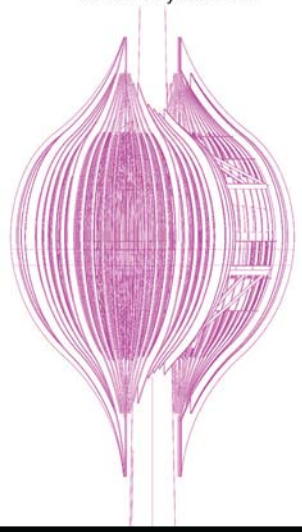
Redwood probably is best known for its great size, although the average redwood is smaller than commonly believed. Trees larger than 12 in in d.b.h. on a 30-acre old-growth tract in Humboldt County, CA, fell approximately into these divisions: 12 to 30 in in d.b.h., 50 percent; 31 to 60 in, 32 percent; 61 in and larger, 18 percent. Redwoods 144 to 192 in found scattered over the entire range, are considered large. Trees 240 in or more in diameter at a point 5 ft above the ground are rare.

Redwoods more than 200 ft tall are common, and many trees growing on riverside benches, where soils are deep and moist, are taller than 300 ft. The tallest measured redwood was 367.8 ft in 1964 .

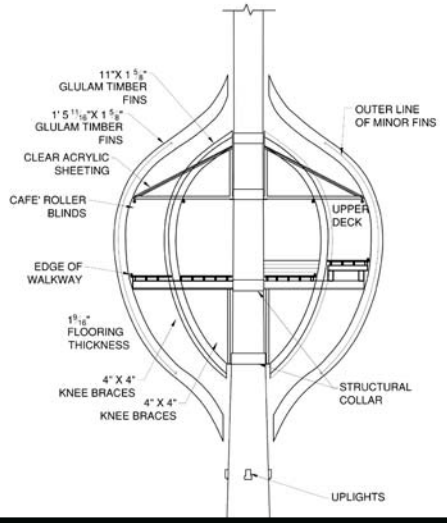
The Redwood that is primarily holding up this tree house restaurant is estimated at 944 years old.



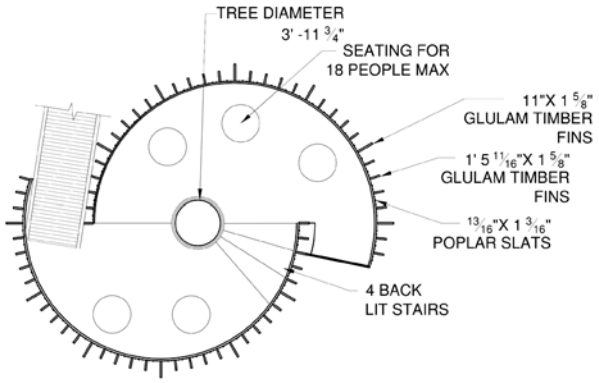
West Elevation

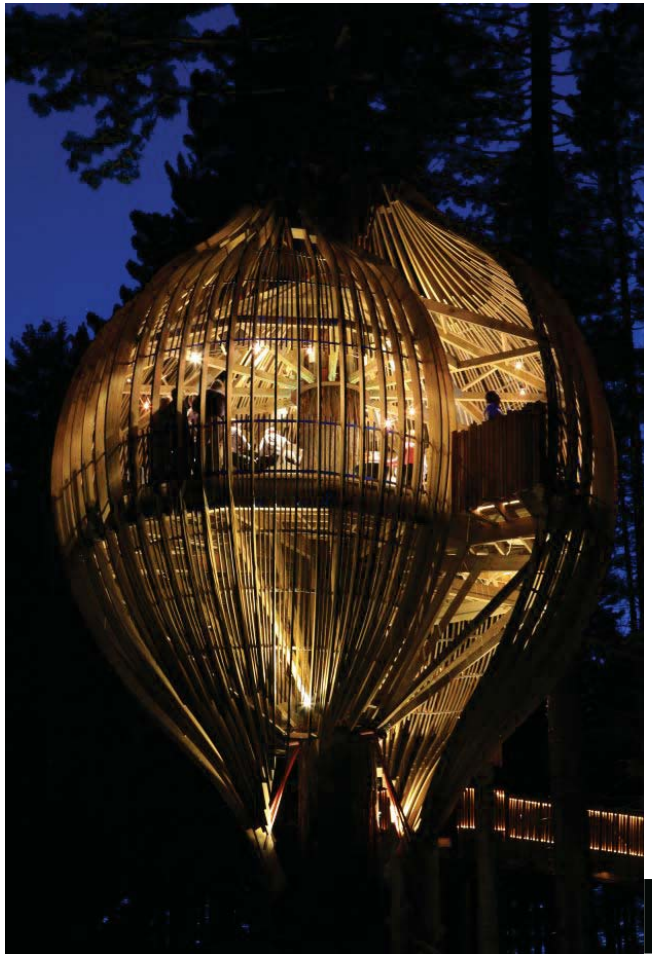


South Elevation



Section 1





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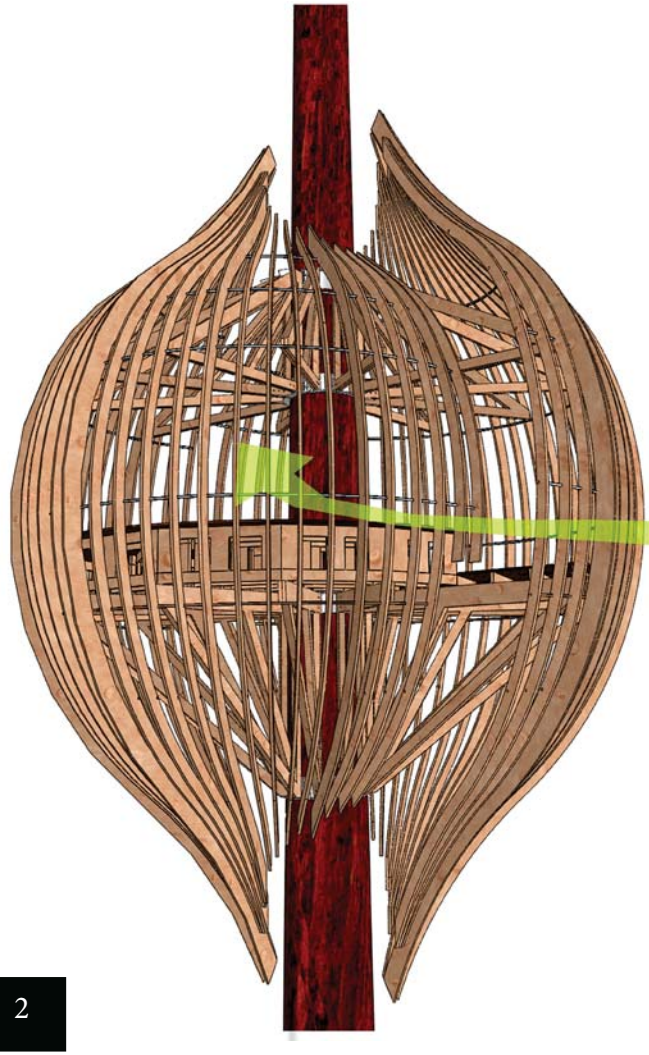


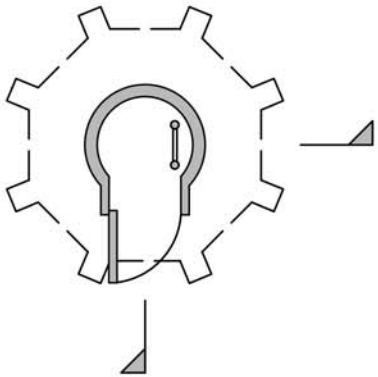
3

http://www.pacificenvironments.co.nz/newsarticles/index_dynamic/containerNameToReplace=Middle/focusModuleID=3698/overideSkinName=newsArticle-full.tpl
http://www.yellowtreehouse.co.nz/

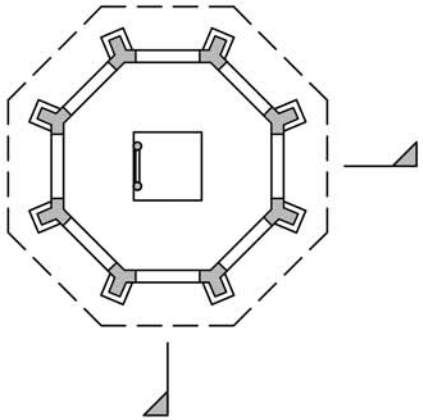
Seljord Sea Serpent Watchtower

Rintala Eggertsson Architects

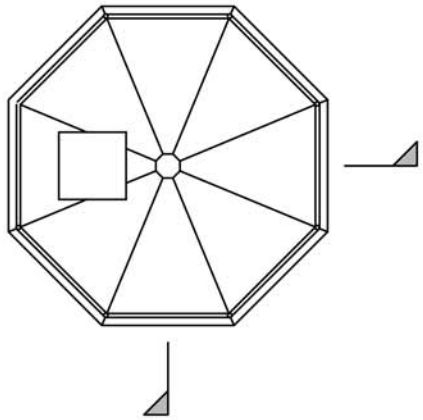
Nicholas S. Ouellette



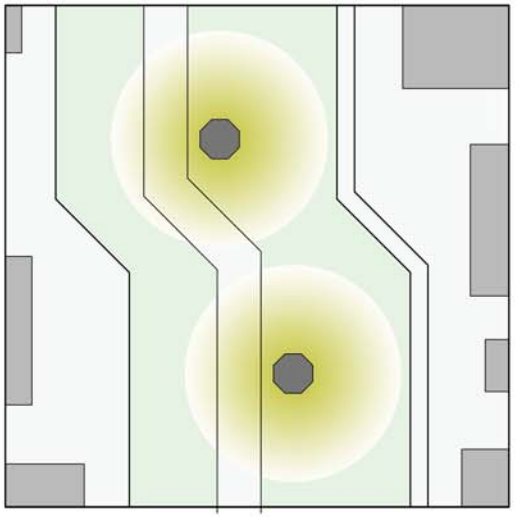
Ground Level Plan



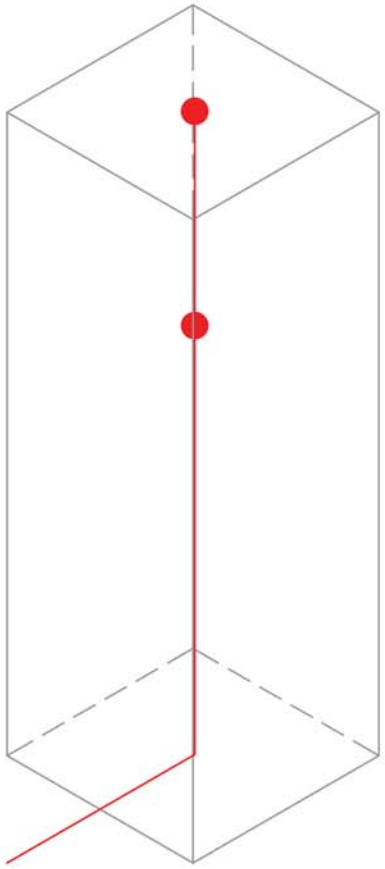
Look-Out Plan



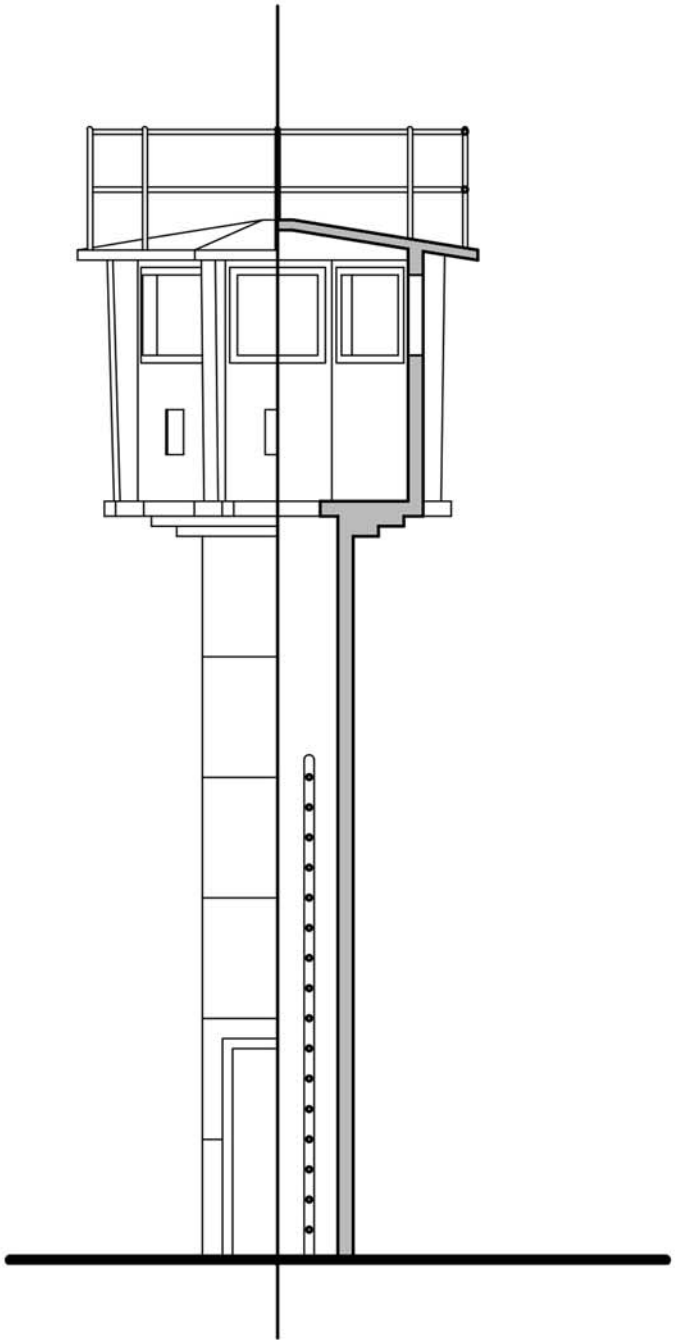
Rooftop Plan



View Range From Each Tower



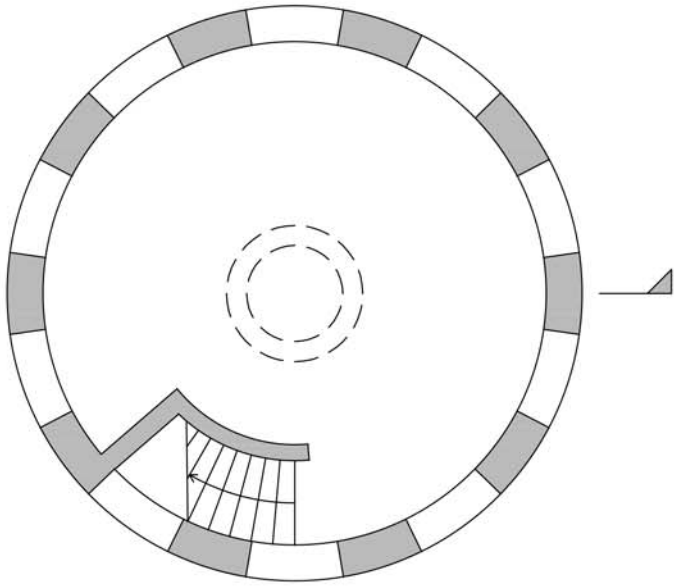
Look-Out Locations Within Tower



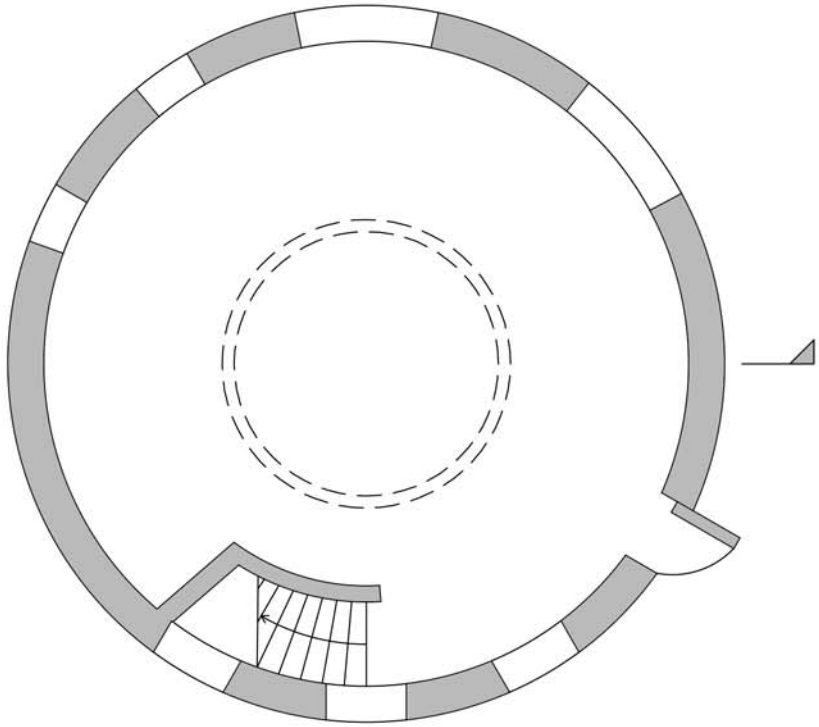
Grand Canyon Desert View Tower

Mary Colter

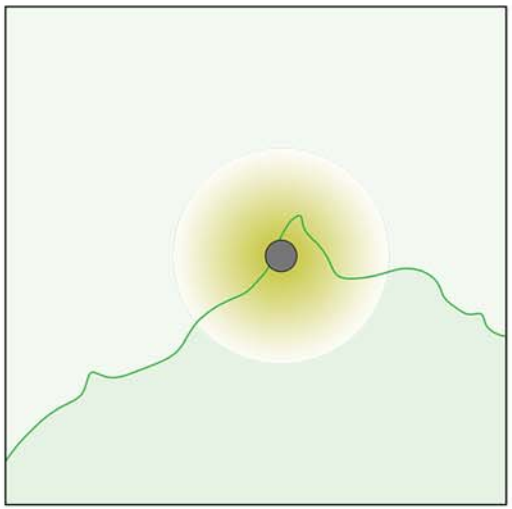
Nicholas S. Ouellette



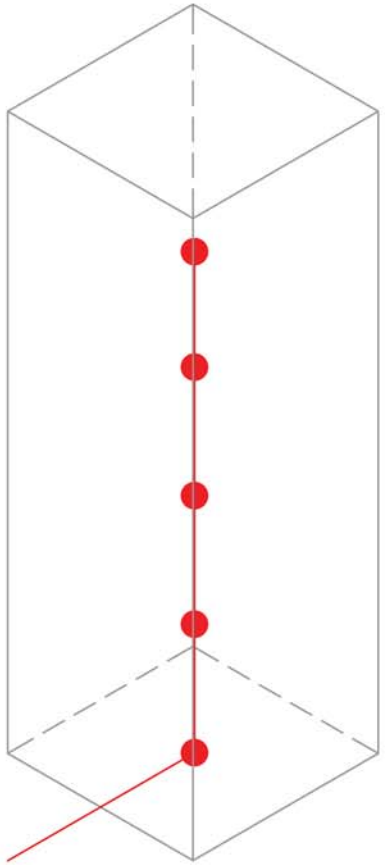
Look-Out Plan



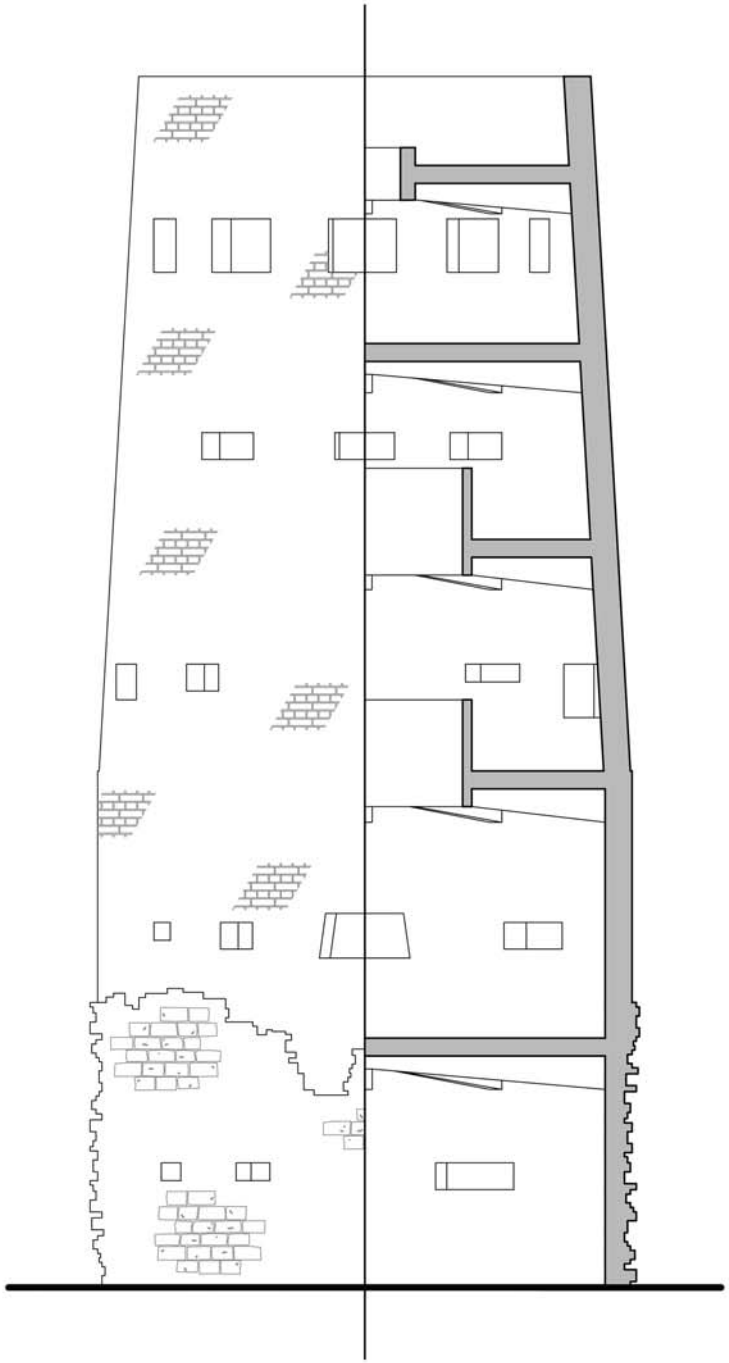
Ground Level Plan



View Range From Each Tower



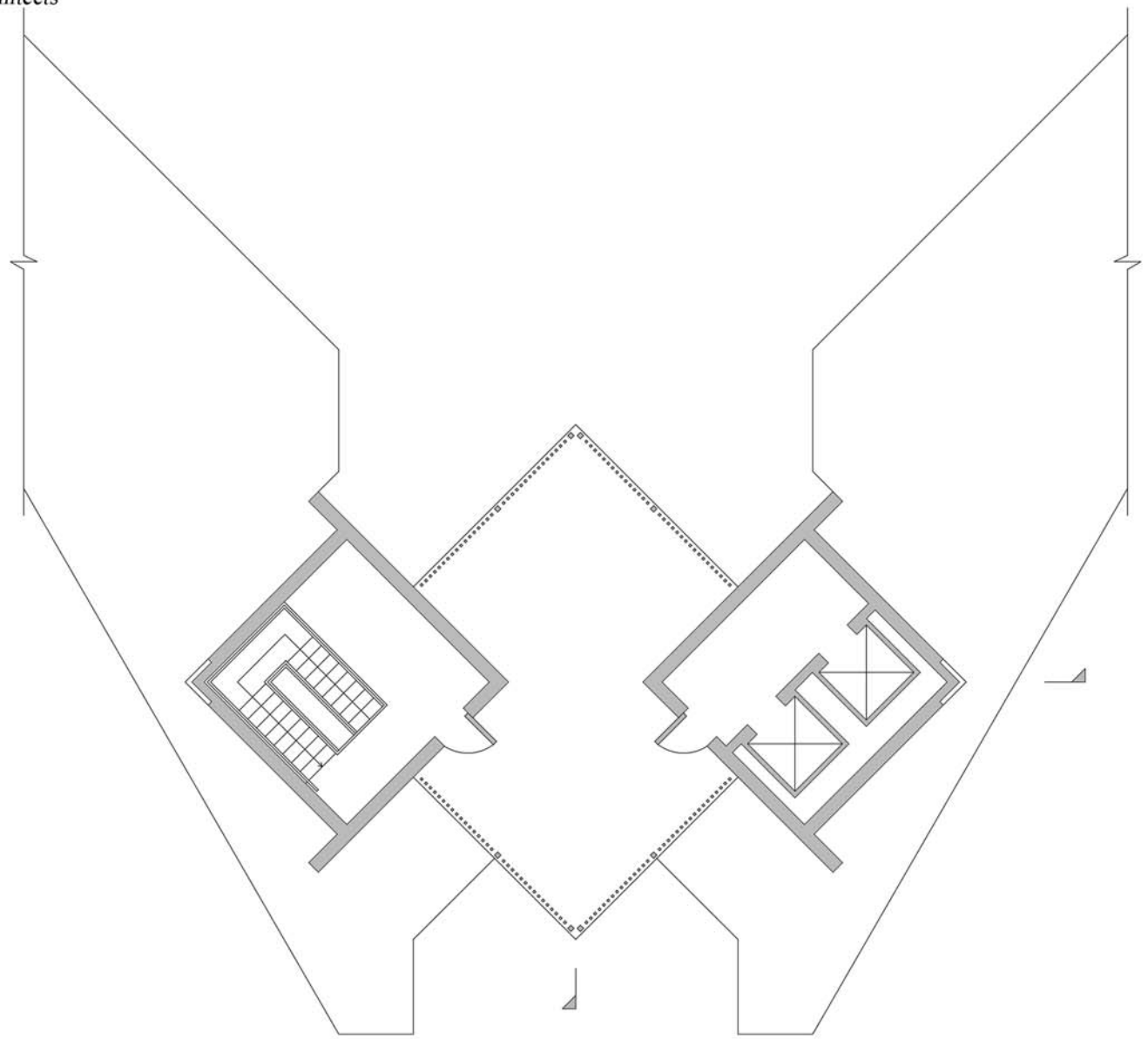
Look-Out Locations Within Tower



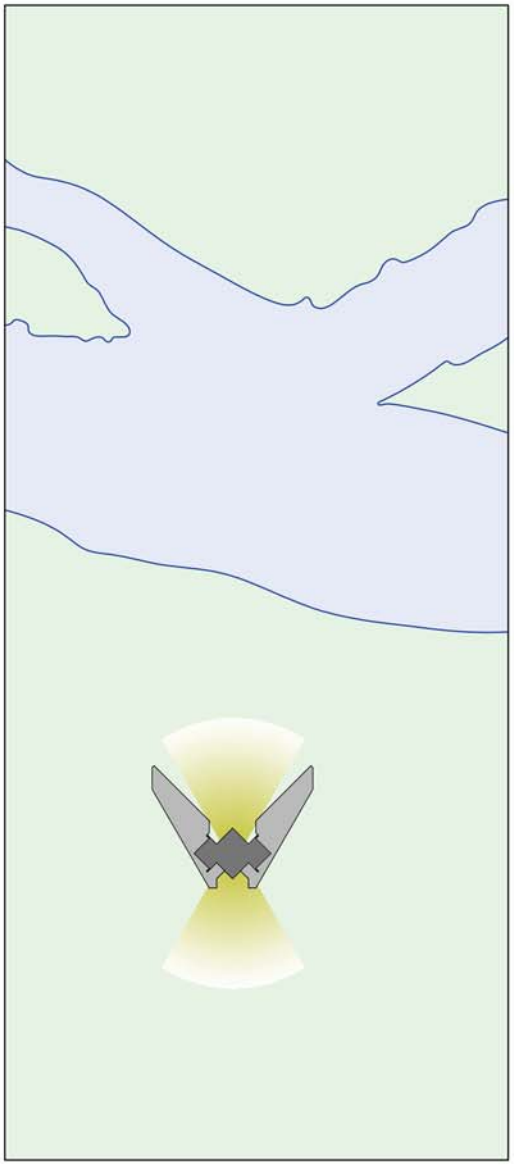
Nicholas S. Ouellette

Lewis & Clark Confluence Tower

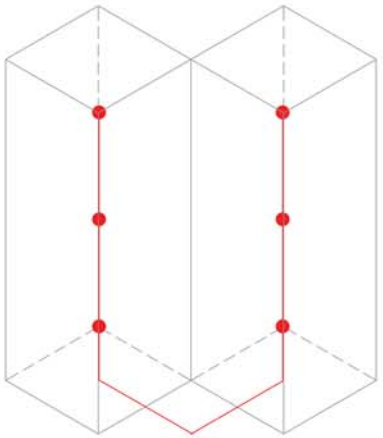
KAI Architects



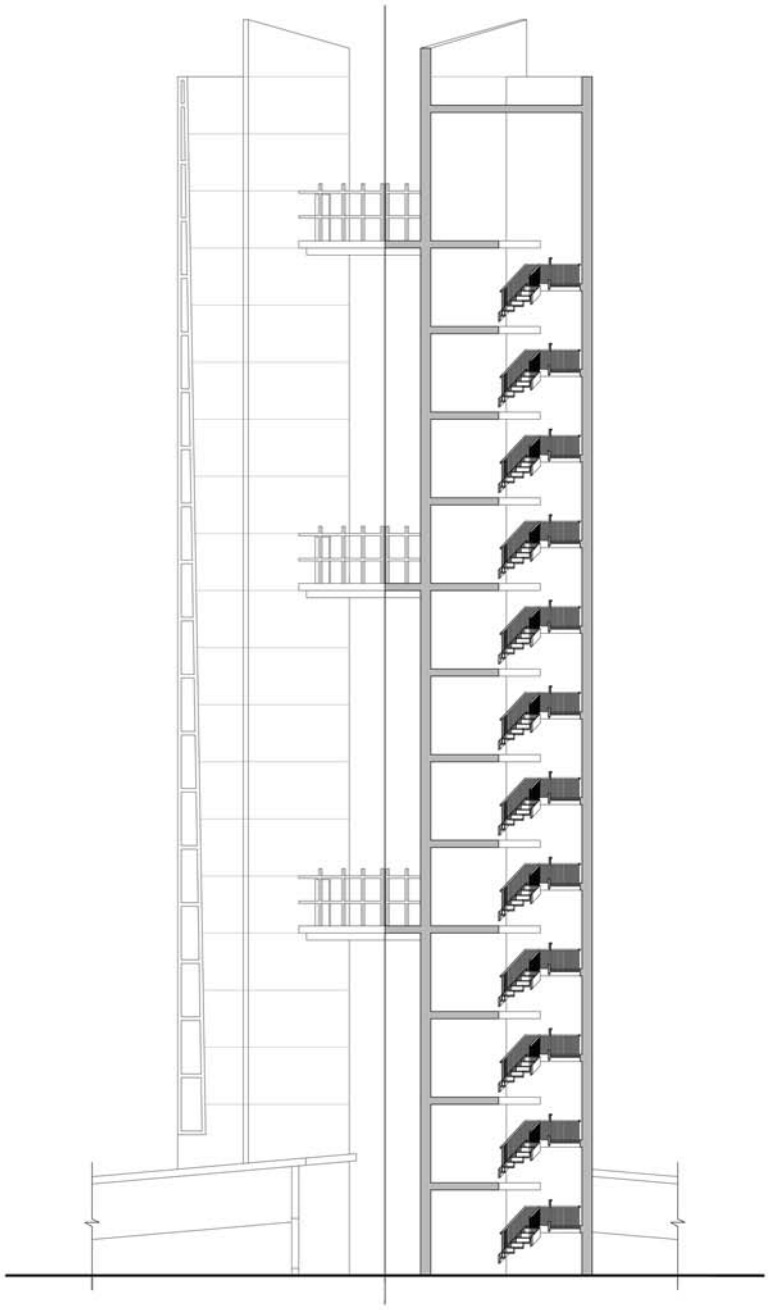
Look-Out Plan



View Range From Each Tower



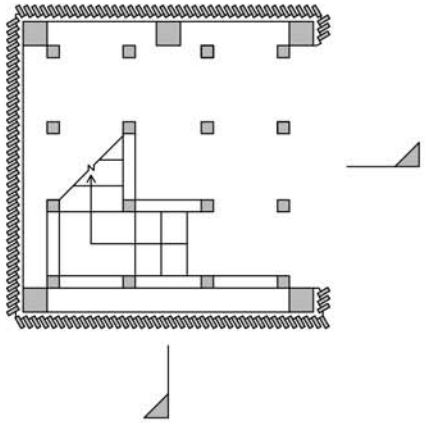
Look-Out Locations Within Tower



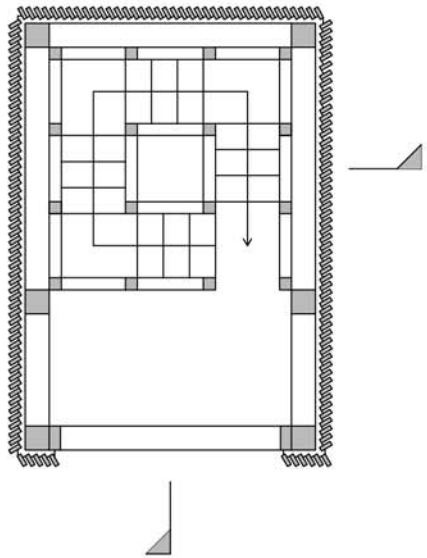
Seljord Sea Serpent Watchtower

Rintala Eggertsson Architects

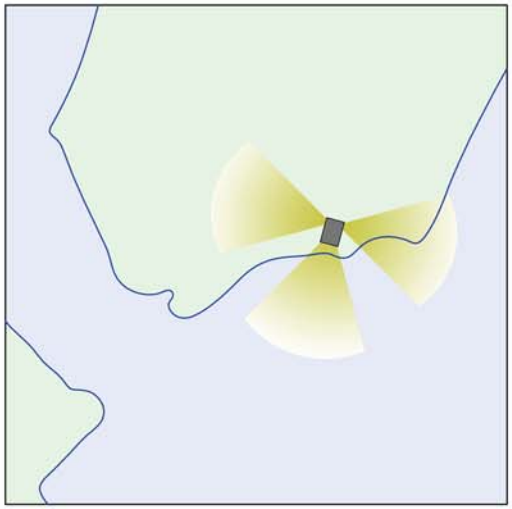
Nicholas S. Ouellette



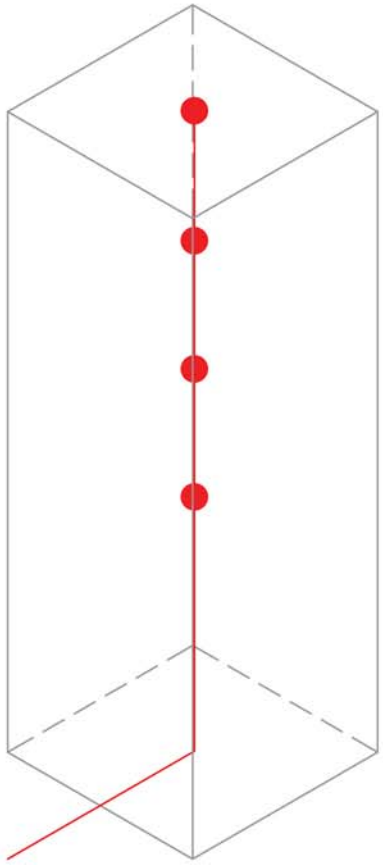
Ground Level Plan



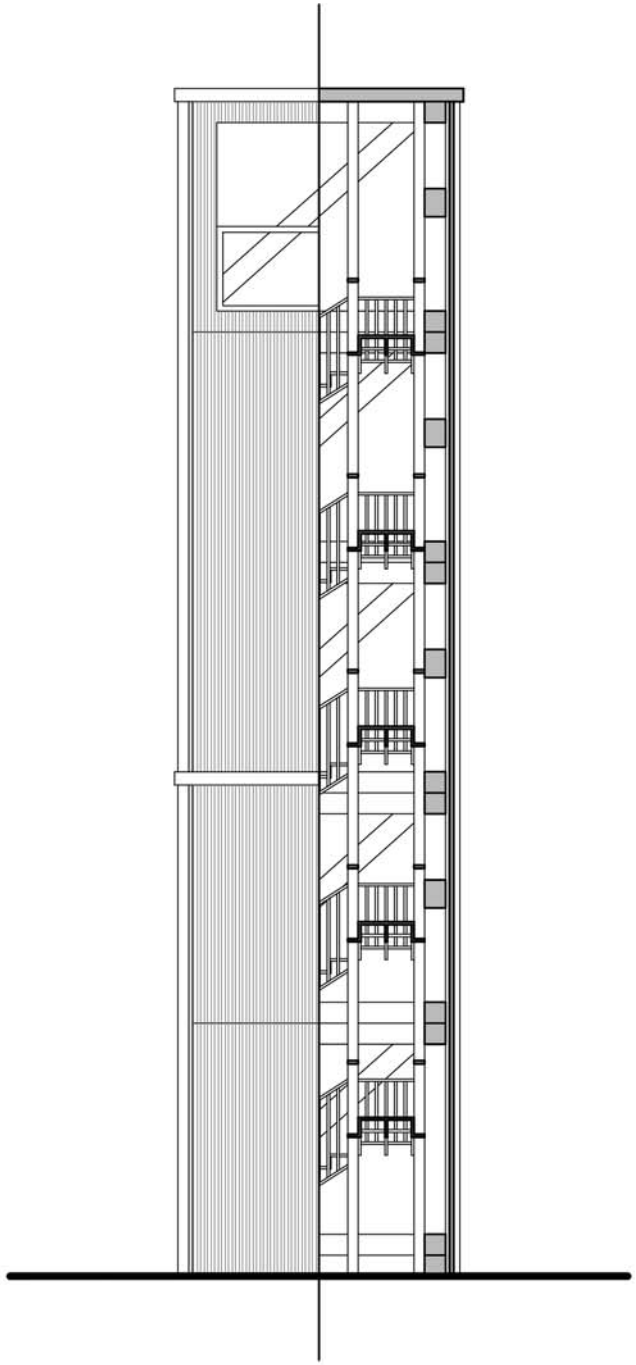
Look-Out Plan



View Range From Each Tower

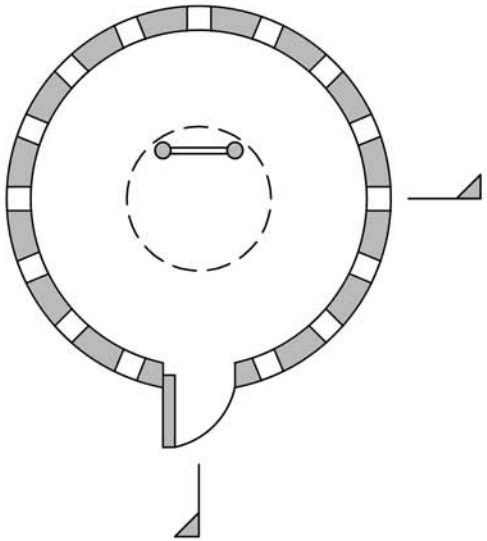


Look-Out Locations Within Tower

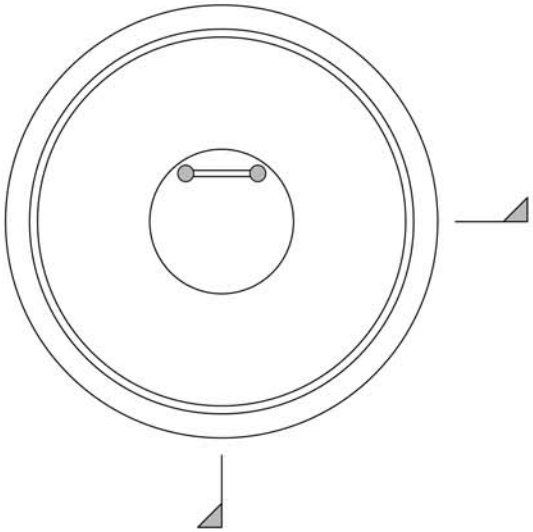


Rehoboth Beach World War II Watchtowers

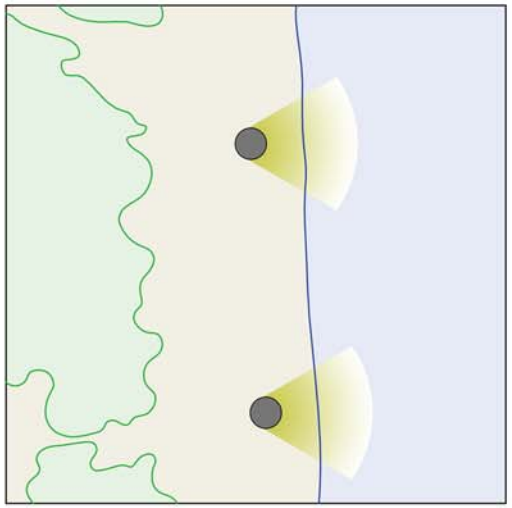
Nicholas S. Ouellette



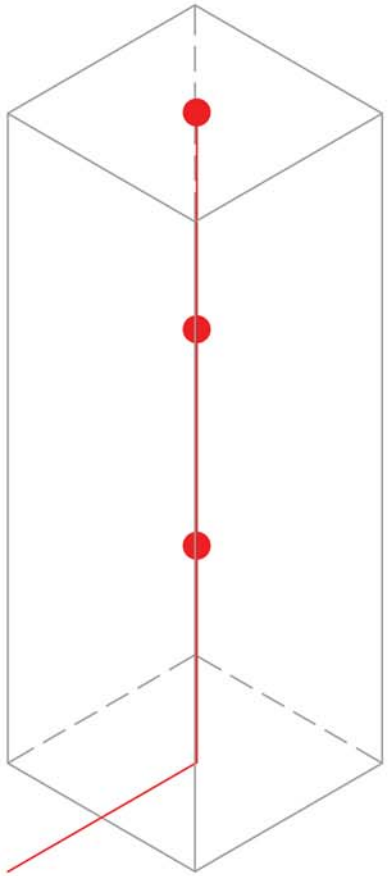
Ground Level Plan



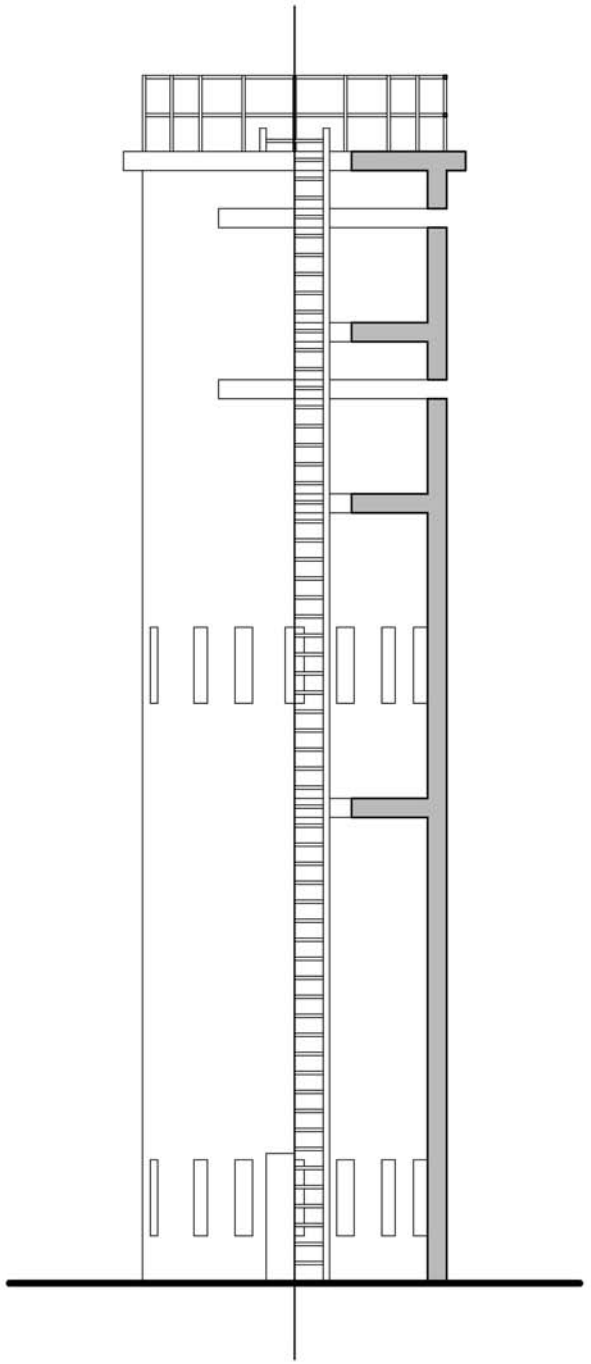
Look-Out Plan



View Range From Each Tower

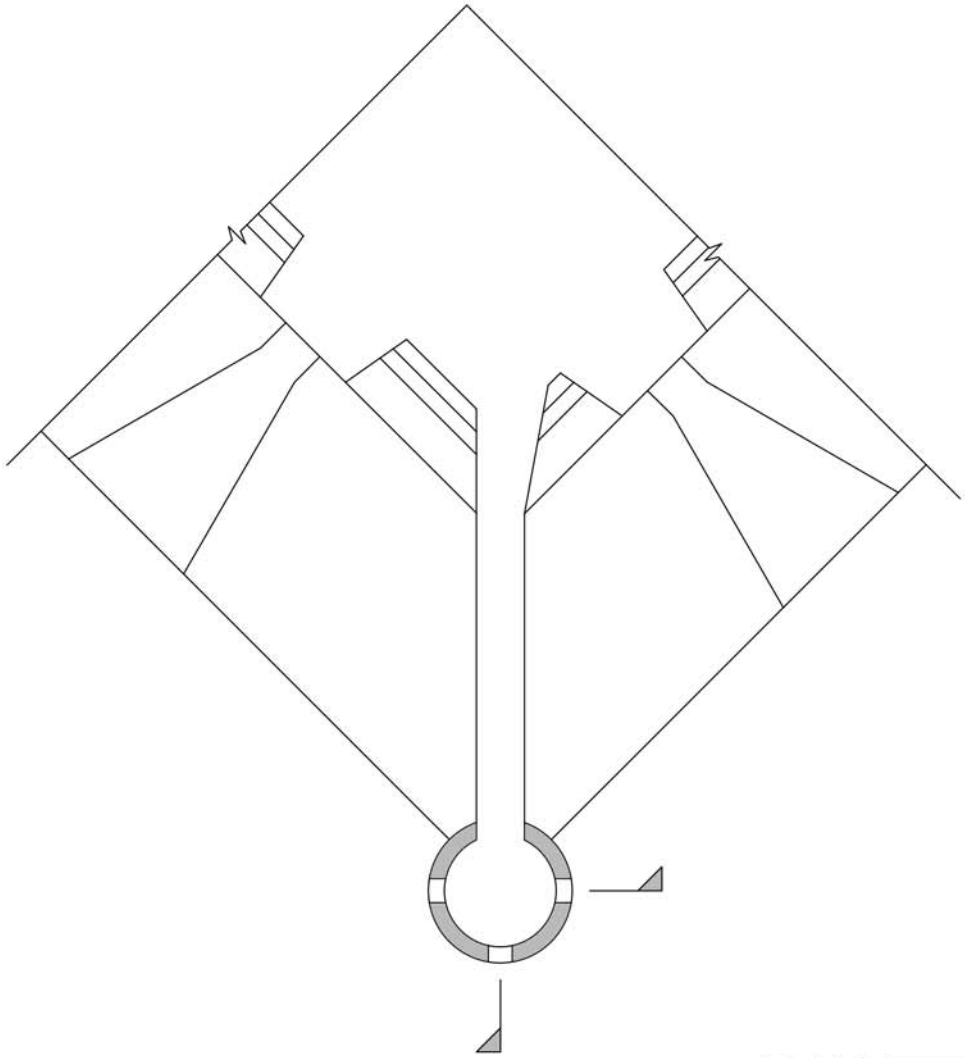


Look-Out Locations Within Tower

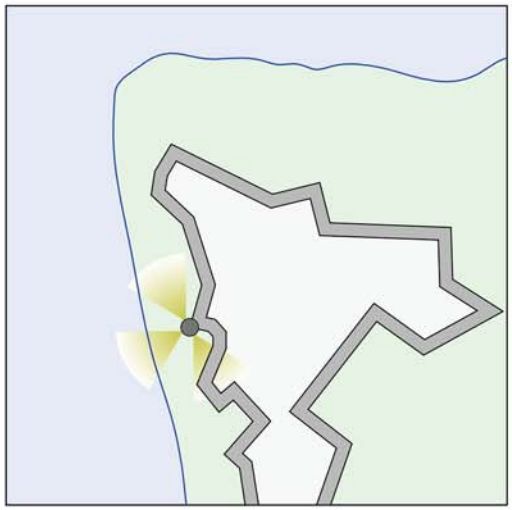


Old San Juan City Wall Watchtowers

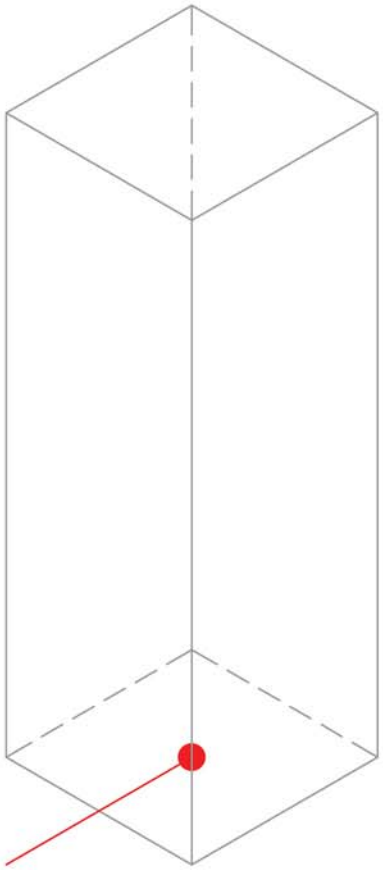
Nicholas S. Ouellette



Ground Level Plan / Look-Out Plan



View Range From Each Tower



Look-Out Locations Within Tower