

### Riverside View

Alongside the St. Mary River is a walkway for occupants visiting the design to trek upon. Encouraging physical activity, social gathering, and education benefits. *Quality Views* are taken into account with views of Canada across the river, views of the Boat Tours passing by, and a roof balcony to extend the overall view range. Vertical Wind Turbines stand out as an *educational attraction*. The exterior multi-blocked paneling reflects the sunlight at given times of day, changing appearance in accordance to the sun and reducing the physical mass of the building.

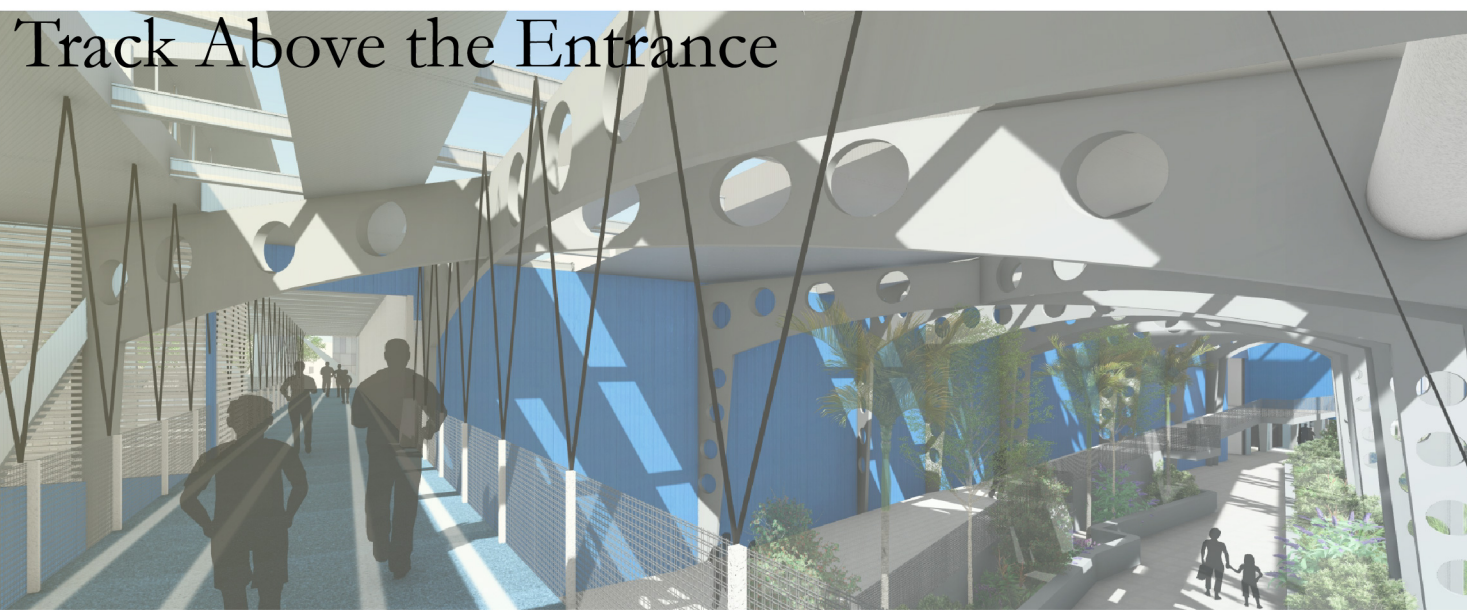


### Site Entrance



Borehole Storage Tank is used as the main sign for Site Entry. It will also host a multitude of events of all kinds to promote physical activity and the greenscape outdoors.

### Track Above the Entrance



The Gym Track hovers over the Entrance to give quality views of both the interior and the exterior. Also strengthening the relationship between passive and active users on site.

### Climb Wall Exterior



A Climbing Wall is built in the design's structure to encourage physical activity. Stained glass windows are installed to allow users to look into the Cafe or take breaks in so they can take in the great views.

### Promenade Architecturale



With the use of vegetation and natural light, the entryway provides an architectural experience for occupants. Showcasing how cellular steel beams engage in educational HVAC purposes .

### Courtyard



Permeable concrete and large trees take up most of the courtyards and parking. Reducing rainwater collection and bringing vegetation to the pre-existing asphalt ridden site.

### Parking



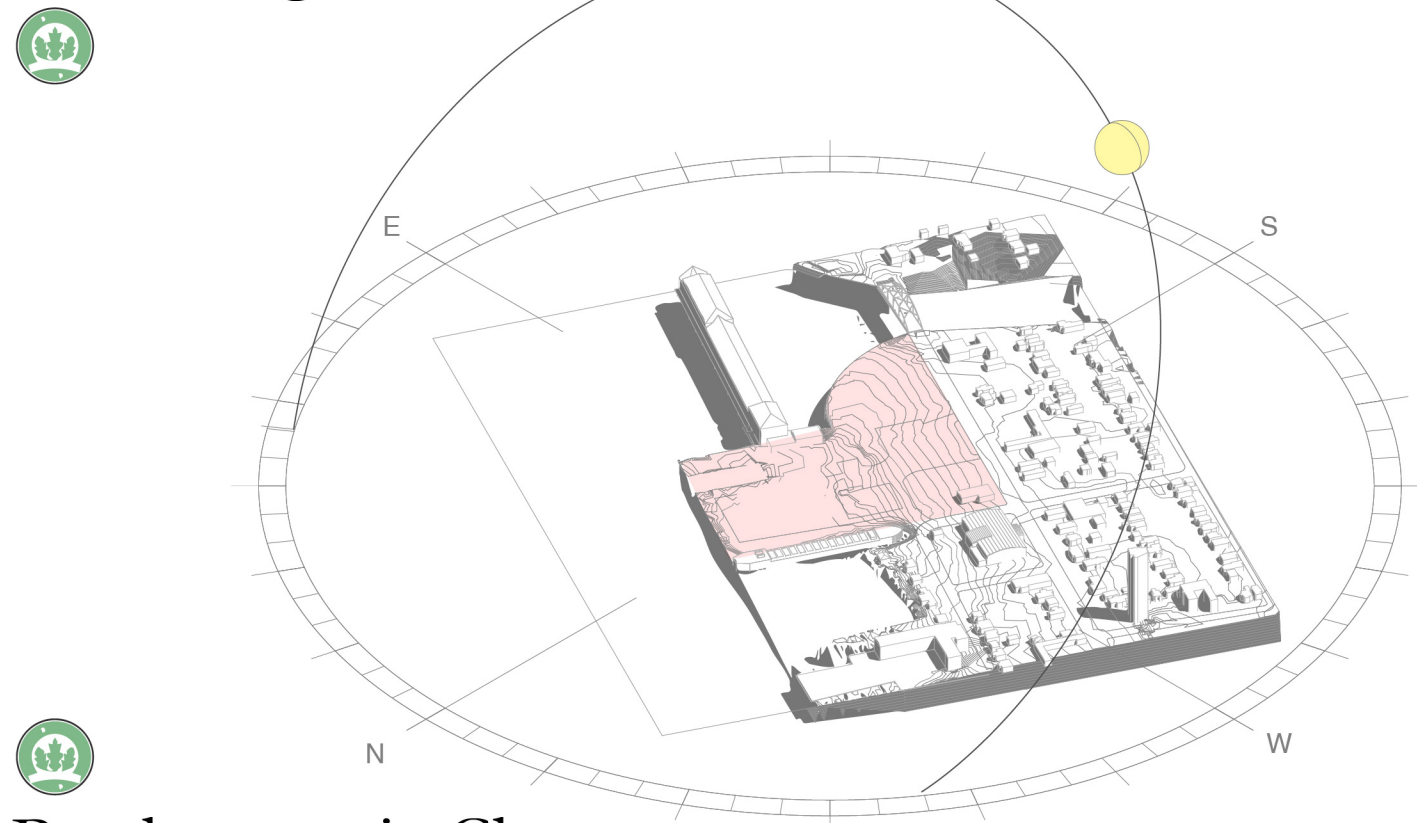
### Project Summary

Stationed in Sault Saint Marie, Michigan, the Soo Health and Sport Hall is meant to celebrate the community's value on health, resiliency, and order. Utilizing natural resources and cultural frameworks, the recreational center will represent the industrial parts of its past while maintaining the urban forest reputation that thrives today within the area.

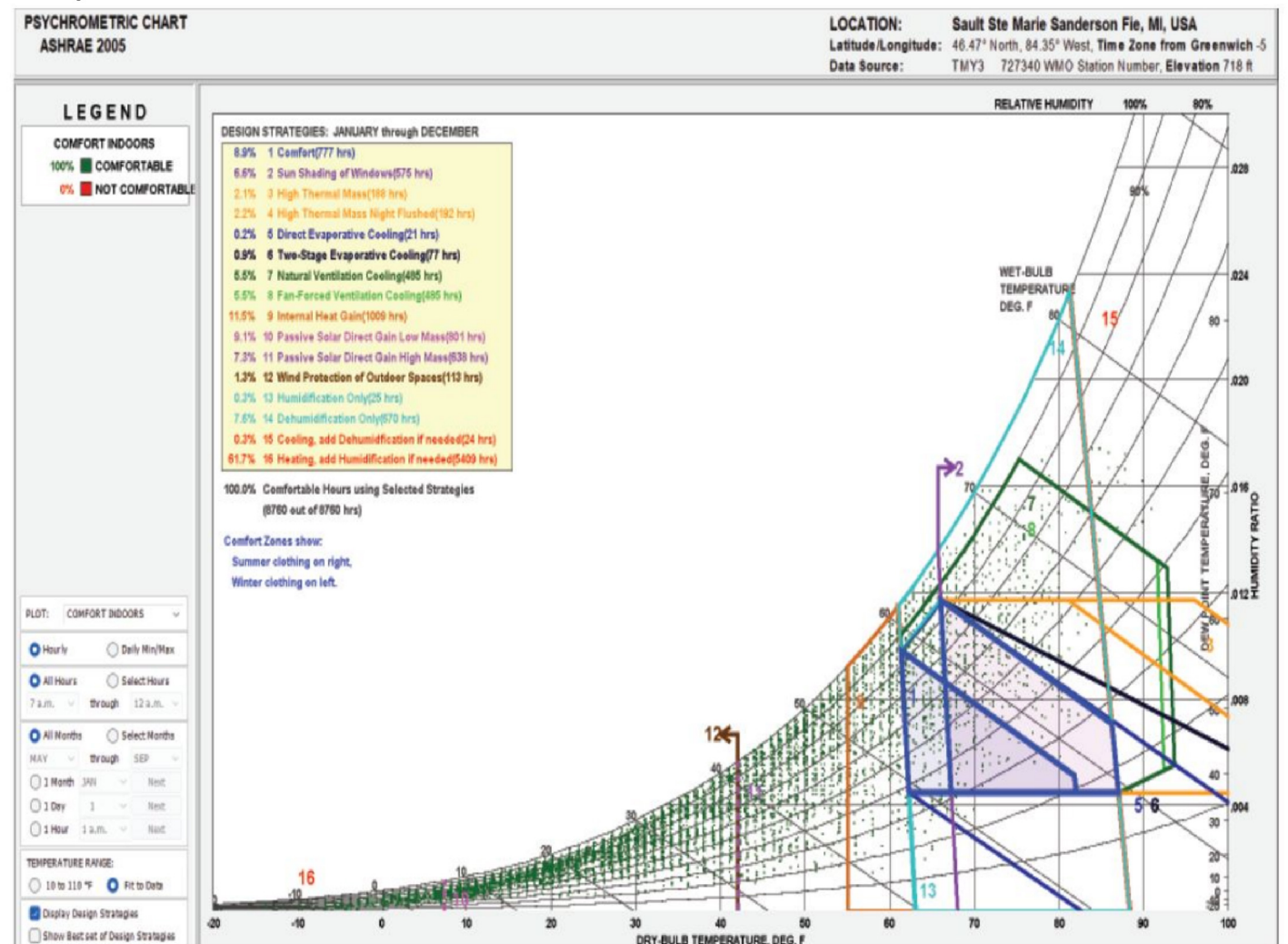
*The project required that through Design Synthesis and Building Integration, the final design outcome will respond to **LEED qualifications** while tackling pre-existing site conditions.* Two sites, Ashmun Bay and Maritime Park, were the preliminary choices to choose from. After thorough analysis of each site, Maritime Park was chosen due to it's lack of greenery and public access to the St. Marie River that holds boating tours year round. The asphalt paved site isn't being currently utilized to it's full extent. By using the **Site Assessment** gathered, the goal of this project is to design a building that successfully integrate material, energy, programming, and history with human comfort by **LEED's net zero standards**.

### Climate Analysis June 21: 2PM

#### Solar Diagram



#### Psychrometric Chart

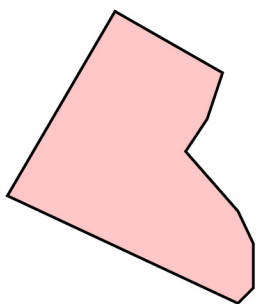
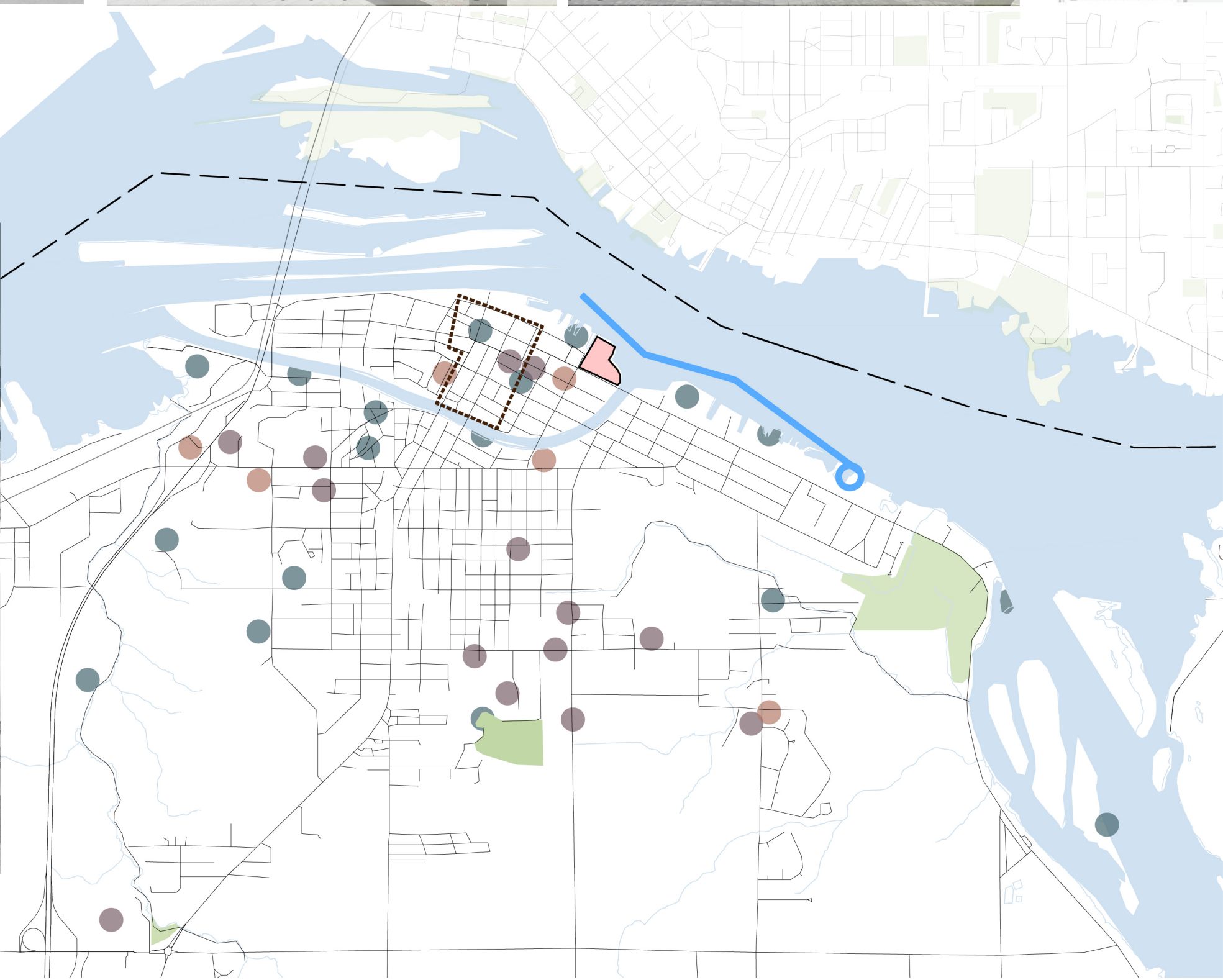


### Sitemap: Site Ecology

Courtesy of group work



### Current Site Photos



### Maritime Park

Accessibility: 5 / 5

Size: 5.34 Acres

Close proximity to business districts

Boating

Grills / picnic opportunities

Near Museums

**Carbide Dockside Water Port:**  
Connection to the revitalization of brown-field sites, aiding in it.

- East Boat Tour
- City Education
- Residential Parks
- Recreation Areas
- Business District



# Site Development and Programming

Included in the design will be programmable spaces such as an indoor pool, gym, cafe, and more. Dedicated to all occupants, no matter what age or accessibilities. Located next to St. Mary's river for various outdoor activities and to enjoy the pleasant ambiance of flowing water. **Forming a unique experience for all to share, grow, and thrive while educating users about sustainability in the site.** The design gravitates around key concepts such as recyclable materials, solar energy, human awareness, education, location, and overall efficiency of a self sustaining building with low maintenance. **Synthesizing the needs of the community with the natural conditions already provided by the site.**

## Northwest Axonometric

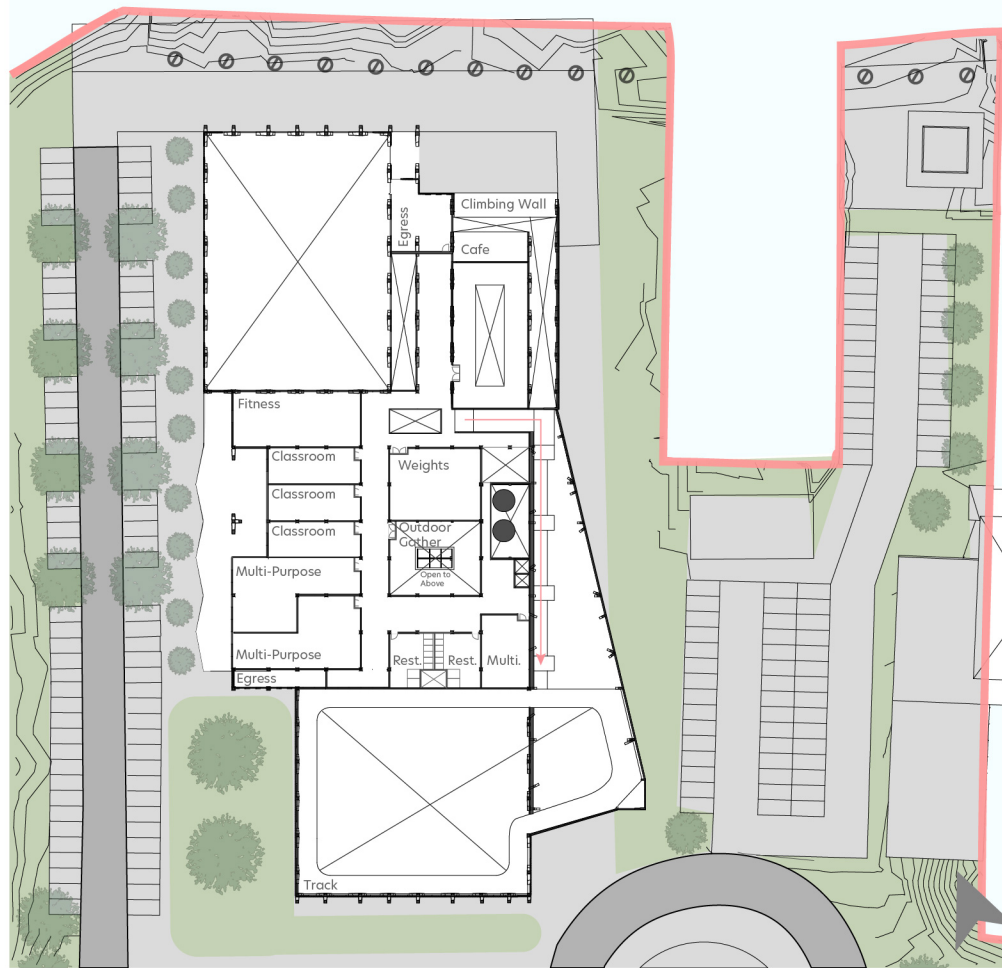


## Borehole Storage Tank

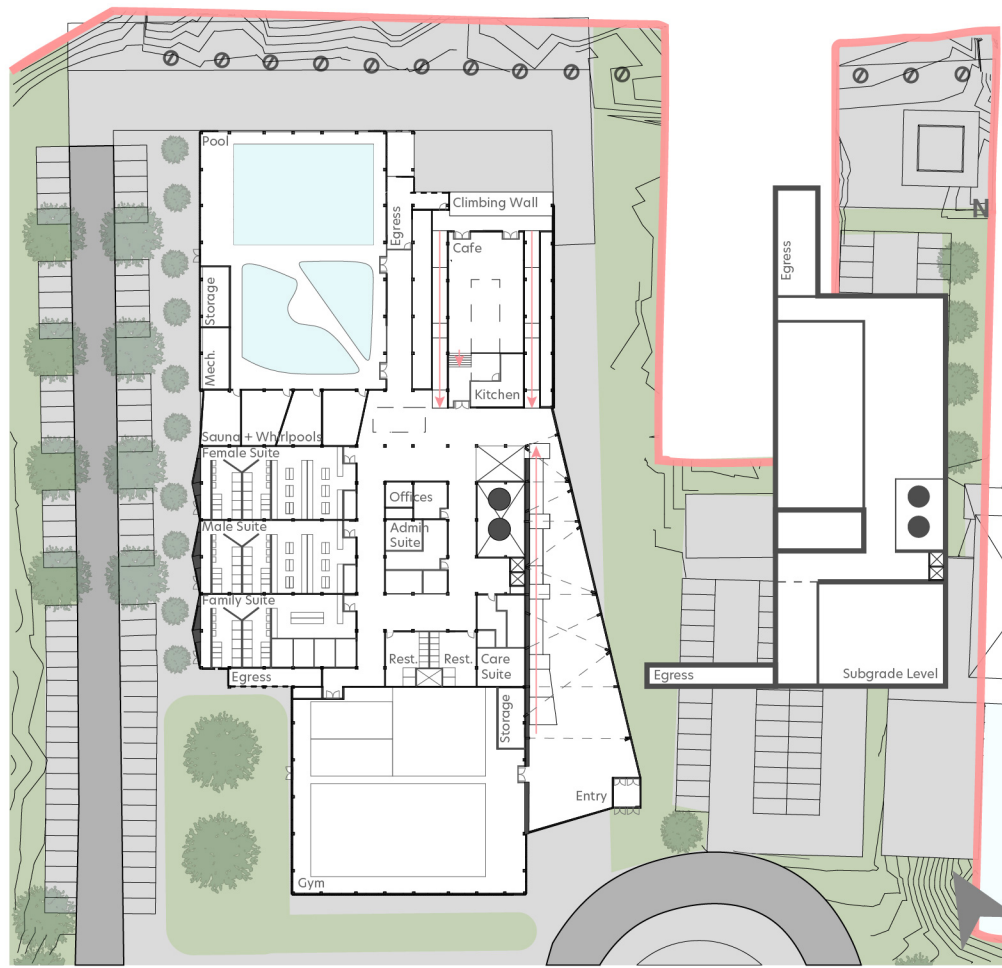
Adaptation, renovation, and energy generation

Used in storing excess solar energy during the summer months to use in the winter. As well as being a primary sign for the building with an ADA ramp allowing access to the top of it. **The top of it hosting multiple events for yoga, gardening, singing, dancing, lectures, and more. The dirt excavated will be re-used for landscaping, evening out the site slope to a flat level, and other urban uses.**

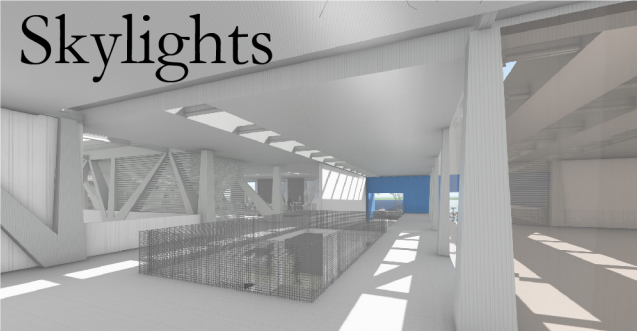
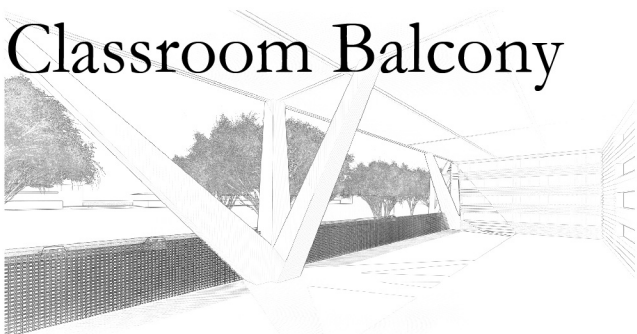
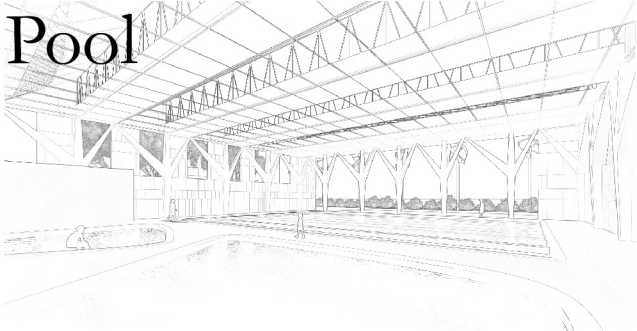
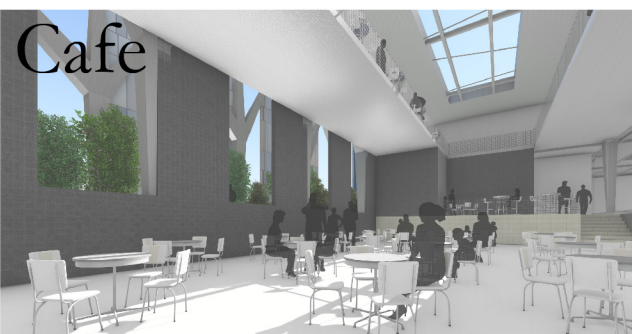
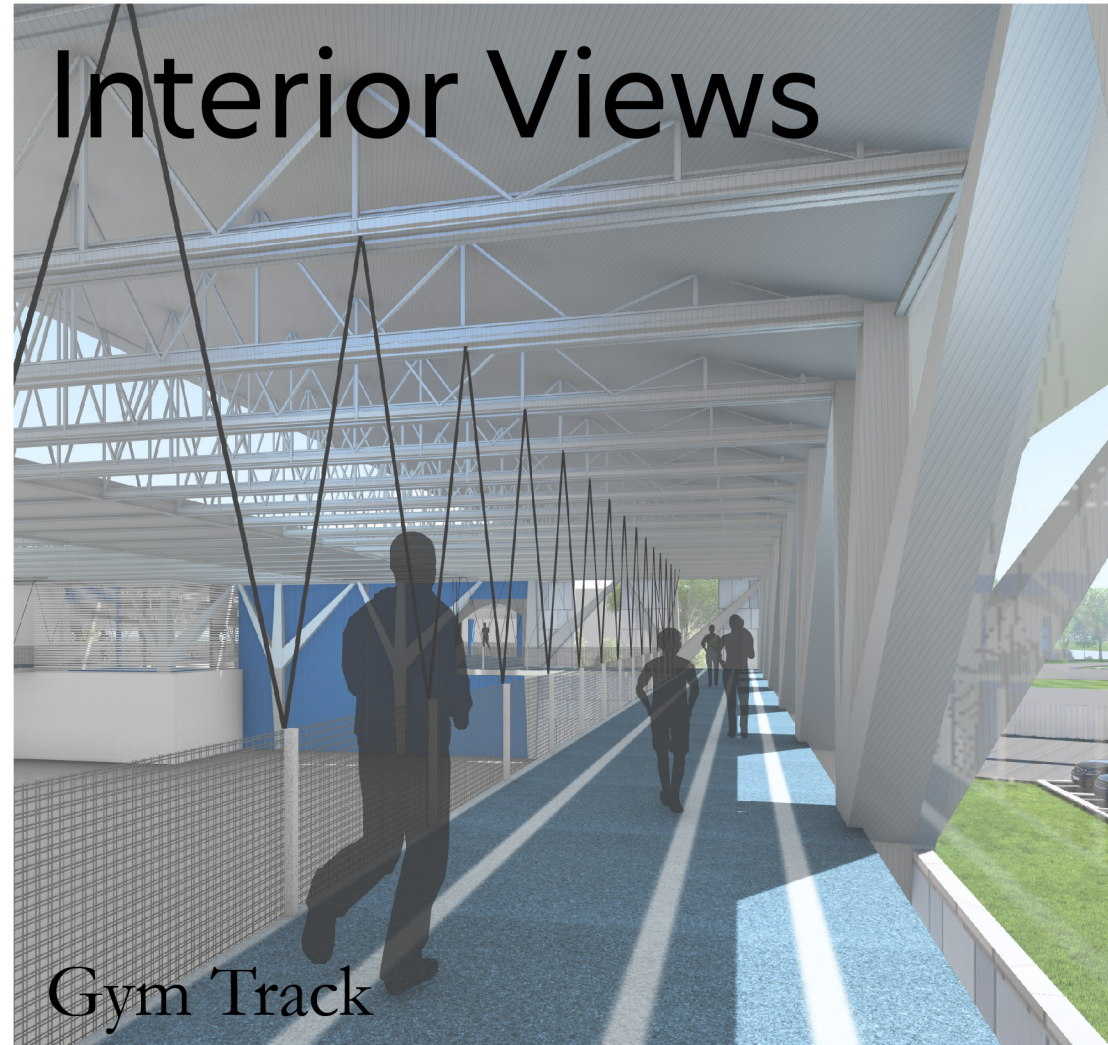
## Second Level



## Subgrade and Ground Level



## Interior Views



## PV and EV Parking

Energy generation, Community Enhancement

Covered parking has easily accessible and low maintenance PV panels installed for energy onsite. This can be connected to the commercial and residential land lots south of the site. **Can also power the ten EV parking spots for electric vehicles.**

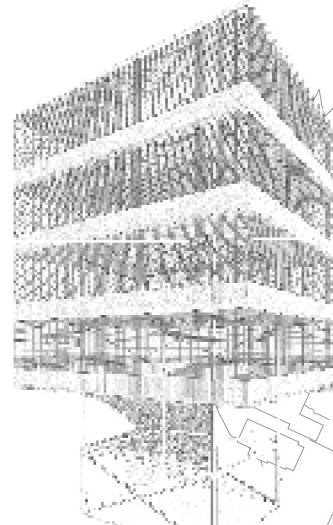
## Masterplan:

The Soo Sault Saint Marie Recreational Center

**Extended Use of Site:** Commercial and Residential Lots to develop the land further and bring future expenses for the city. Along with a borehole tank to store energy and utilize it as an event space to welcome occupants. **Onsite Water Runoff to the docks and harbor using Bioswales along the St. Mary river.**



**Bird-Safe Wind Turbines** to allocate for the energy lost during the Winter Seasons. Also to act for a tourist attraction for educational purposes.



**Public Education:** East of the site is an Observation Tower, aiding in the educational purposes of the wind turbines. Each level will have pamphlets and exhibits to represent the historical context and sustainable features of the site. While also providing great view sheds of the river and city.

Permeable Concrete  
Greenscape  
Site Boundary

Bike Lane  
Developable Lots  
Wind Turbines

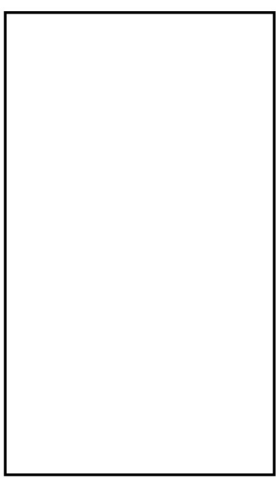
**Recyclable Material:** Concrete and Asphalt preconditioned on current site will be recycled and used in the development of the site.

## Project Iterative Development

ID# 154

### Module One:

A basic rectangle, meant to fit in all of the programming needs for primary and secondary spaces.

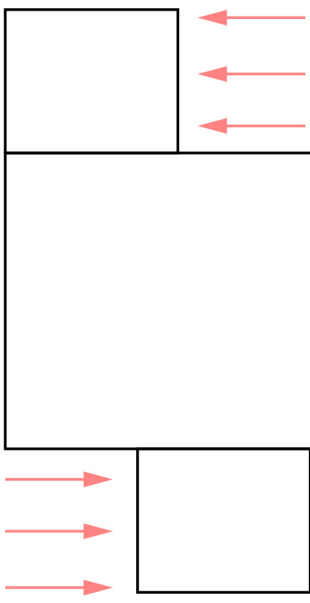


Missing daylight opportunities and is too intimidating a mass on site for the surrounding context.

### Module Two:

Cut, Push, and Pull.

Main body is broken into three sections based on primary spaces and secondary spaces. Allows outdoor space opportunity.

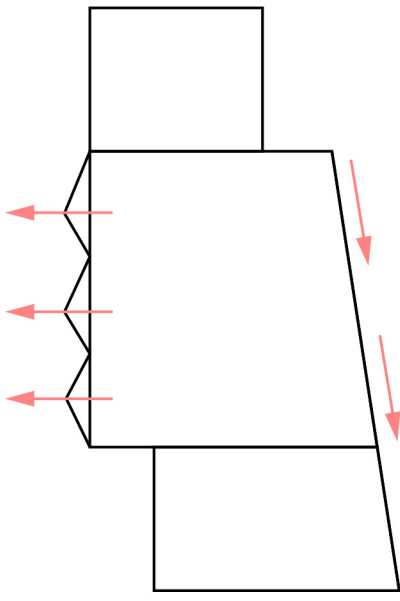


Top: Primary (Pool)  
Middle: Secondary (Offices)  
Bottom: Primary (Gym)

### Module Three:

Slant and Pinch.

The lengthy mass of the secondary spaces are triangulated according to structural grid. Aligning with envelope systems and providing a distinct differentiation between spaces on the exterior.



### Module Four

Final Form

The east side is extended and slanted. Creating a noticeable entry on site and evoking an interior journey to the programming inside. **Entrance at the bottom right is nudged inwards to show Evacuated Tubes on the exterior as a learning opportunity. The top right as in turn nudged outwards for optimable river views in the cafe.**



## Permeable and Natural Material

Material and Construction, Sustainability

**Trees are added onto the site for lowering the amount of carbon through sequestrial growth. The older the tree, the more carbon it will intake.** Permeable concrete for parking will stop pooling water and aid surrounding vegetation in receiving water through runoff. Thus reducing water buildup during rain and snow melt-off.



Sustainable Materials and Energy

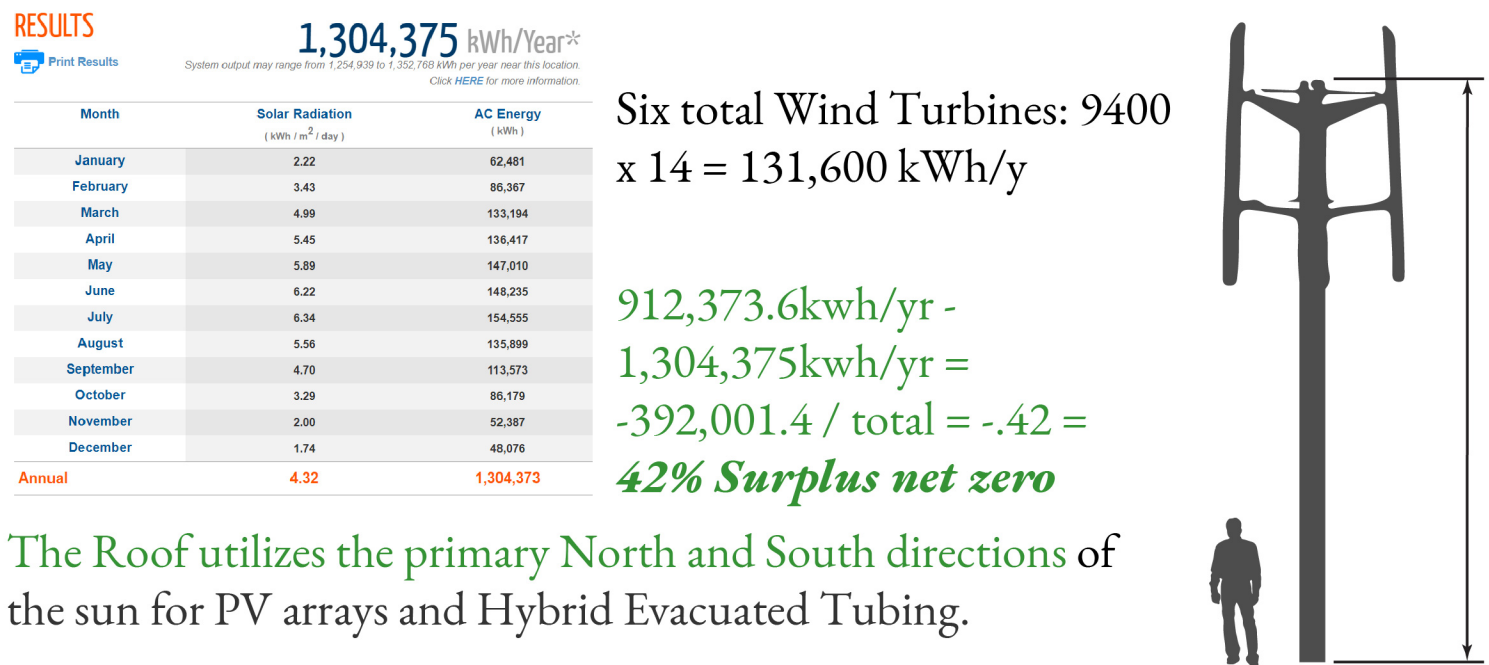
Kit of Parts

ID# 154

The design’s primary material is Steel to suit the industrial history of the site. The columns represent metaphorical trees with the branches holding up the load of the levels; **recognizing the urban forest title in the city**. Along with steel walking frames in the entry to encourage occupants upon entry and “walk with the frames”. Allowing opportunistic spaces for HVAC and electrical components that can be showcased for the public to see.

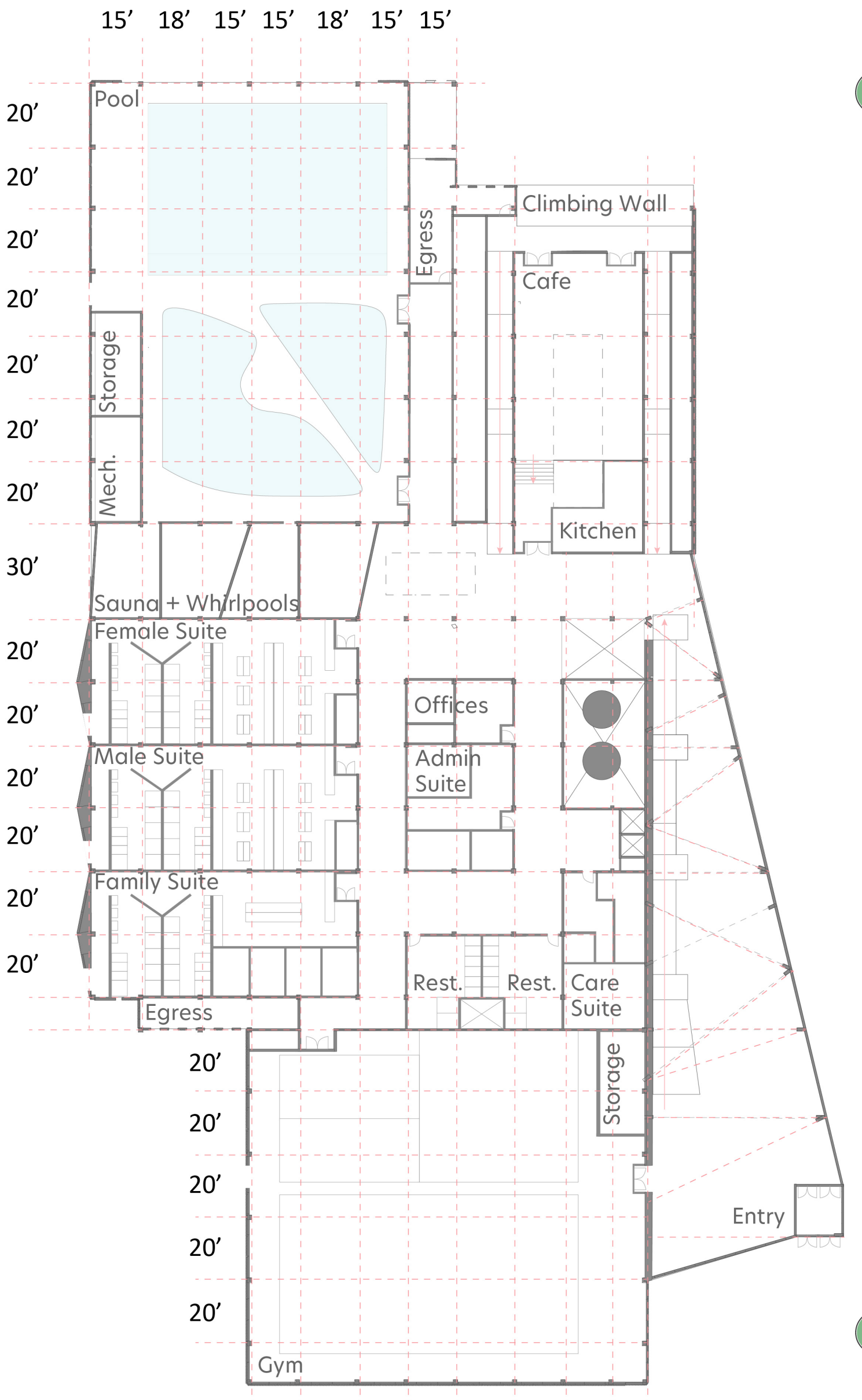
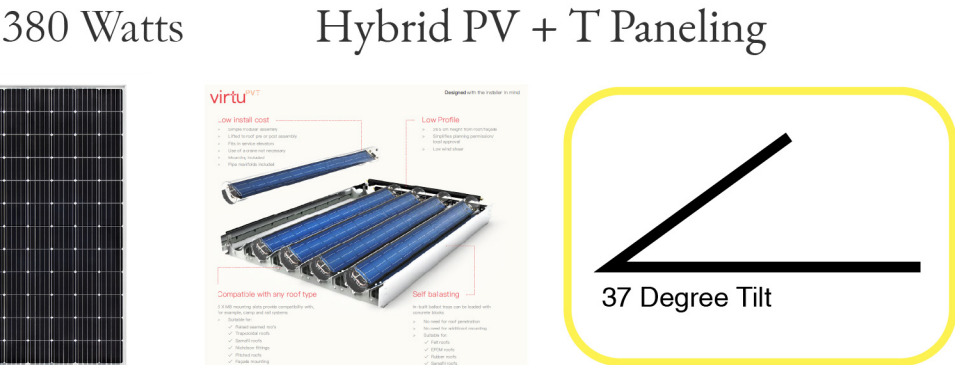
**All of the steel is recyclable onsite and will expand the lifespan of the building in terms of structure and protect the facade from natural obstructions such as snow and wind.**

Energy Performance



They are classified by the sawtooth and clerestory roofs a-top the primary activity spaces such as the Gym and Pool. Allowing adequate daylight to flood the space and **provide ventilation for the HVAC zones**.

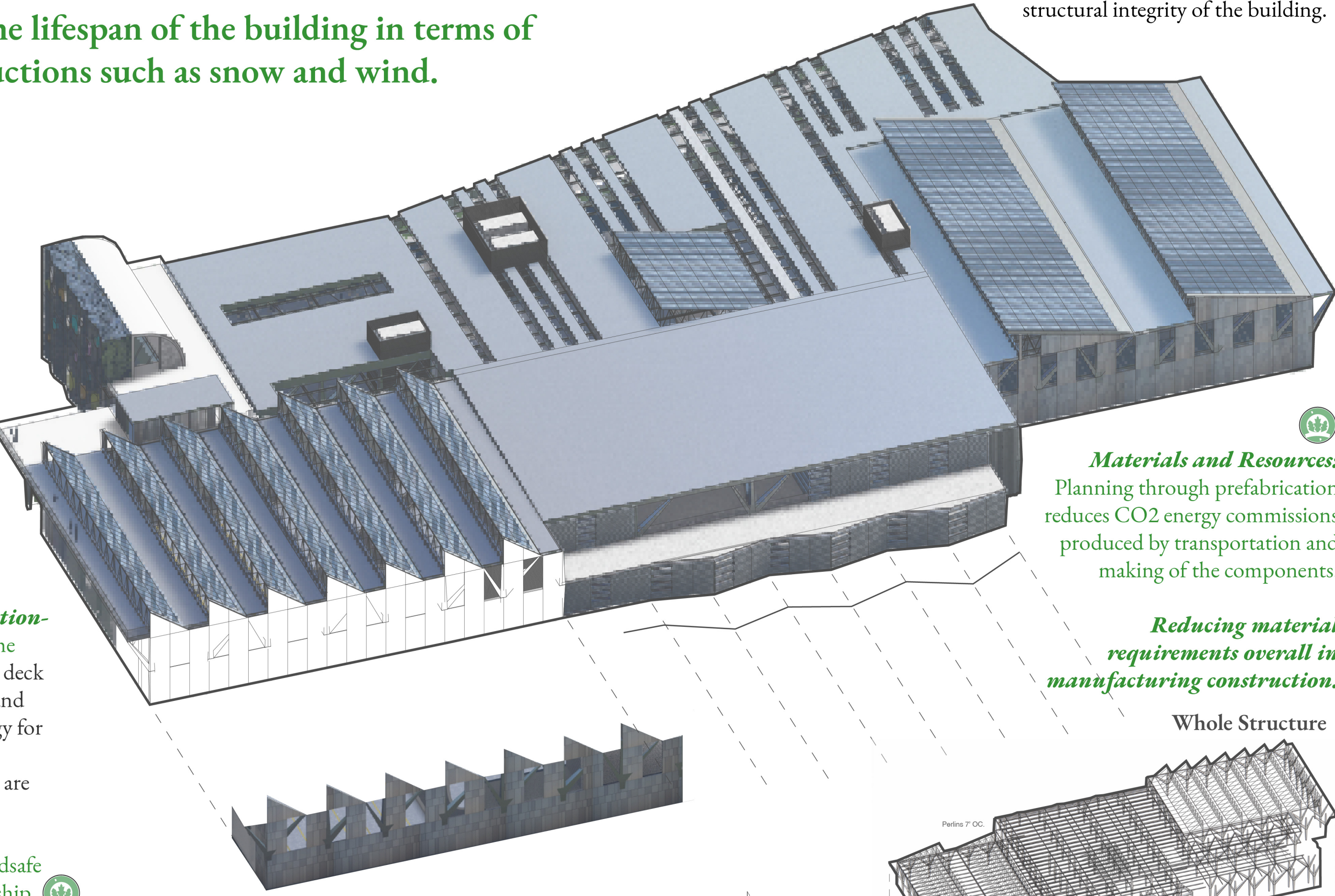
Leaving the middle of the design for **skylight opportunities and roof garden/courtyard spaces for the occupants to circulate in**. Any other energy gain is from Wind Turbines onsite and PV parking.



Vertical Wind Turbines:

Will provide an **educational experience** along the river’s edge. Forming a deck for outdoor activities and generating excess energy for and during the winter months when the days are shorter.

**Protect Habitat:** Birdsafeto protect the relationship with birds on site.



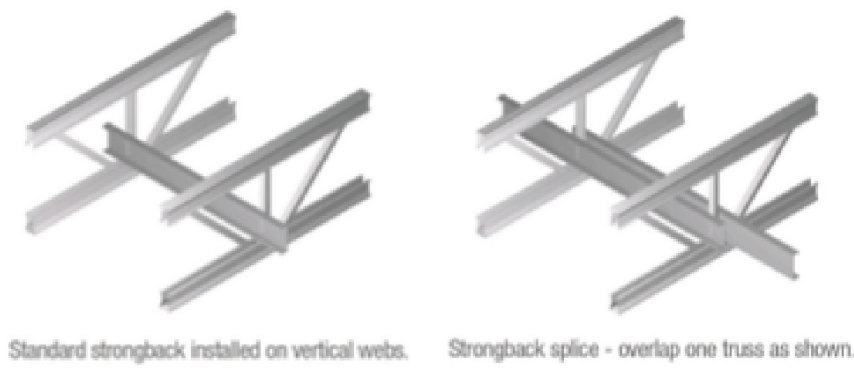
**Materials and Resources:** Planning through prefabrication reduces CO2 energy commissions produced by transportation and making of the components.

**Reducing material requirements overall in manufacturing construction.**

Elements of Construction

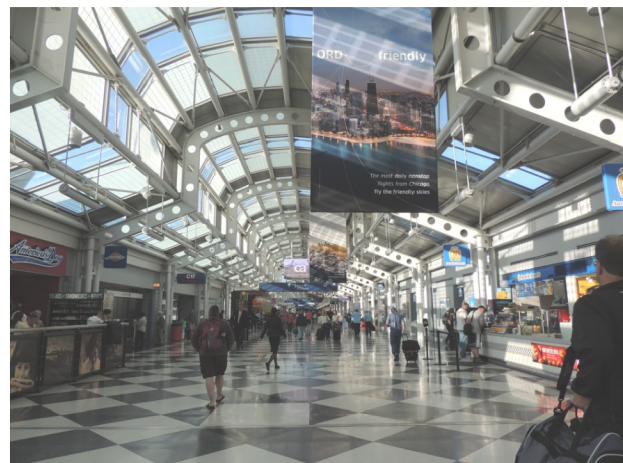
**Steel:** *Material is Steel to relate to the industrial background of the site. The lightweight material certifying LEED certification for a sustainable material.*

20G Chords and Webs/ Trusses/ Girders/ Perlines



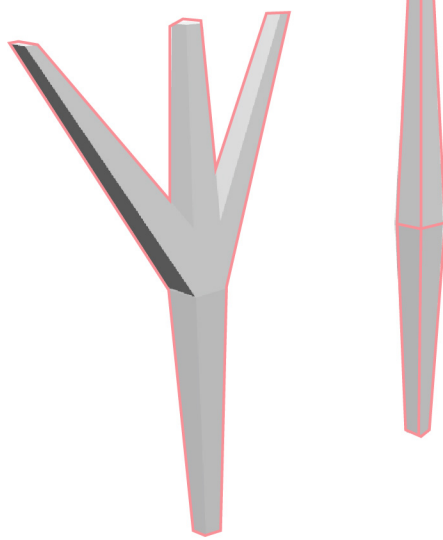
**Grid Harmonization:** Each intersected point of the structural grid has tapered “tree” columns to support vertical loads of the floors and roof. The “branches” angled off to support anchored points of the roof and producing an asymmetrical feature.

The entry has tapered steel framing system with web holes punched in for mechanical piping and venting. Situated at random angles and uneven spacing to encourage movement in the space.

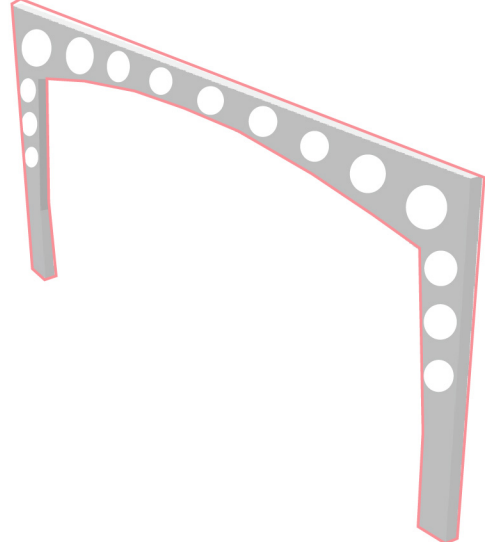


**Steel material on-site is reused within the frame. Furthermore, steel used in the frame can be recycled for further use.**

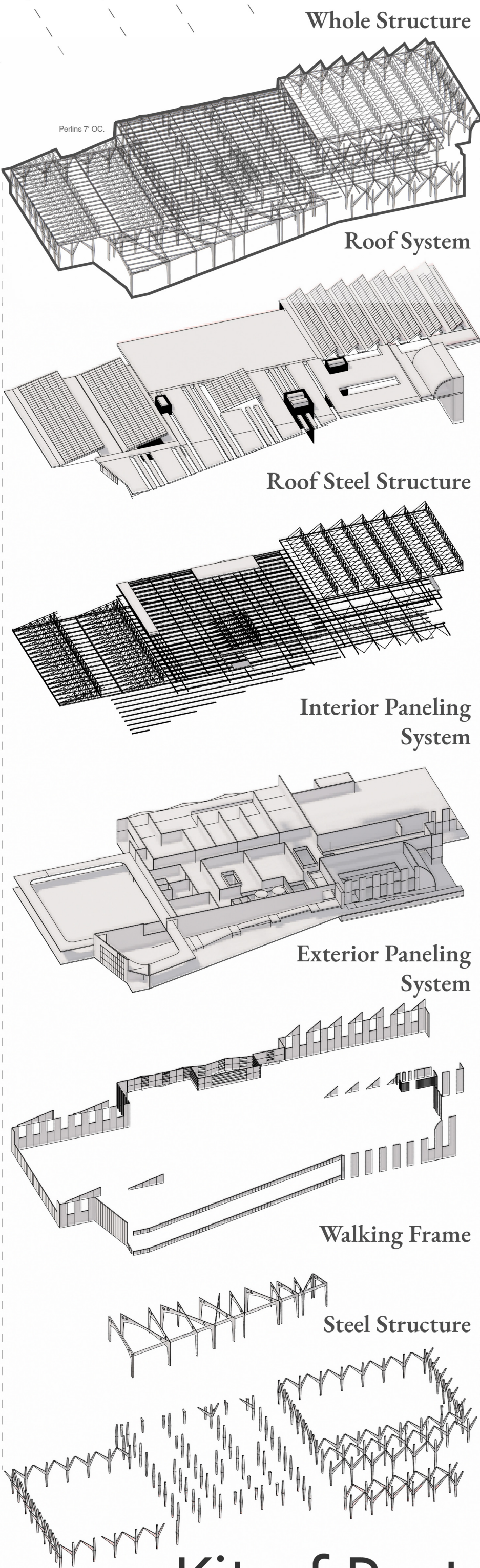
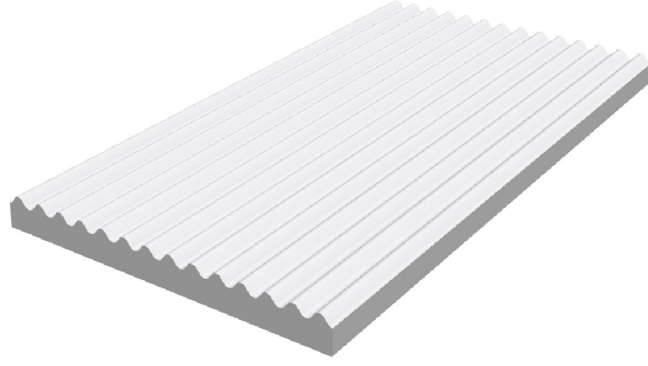
Columns: “Tree Columns” hold up heavy load bearing walls in primary spaces/ two story spaces. The trunk and branches supporting the structure.



Cellular Beams: “Walking Frames” stationed at the entry to encourage movement upon walking into the building. Provides opportunities for circular ducts and venting.

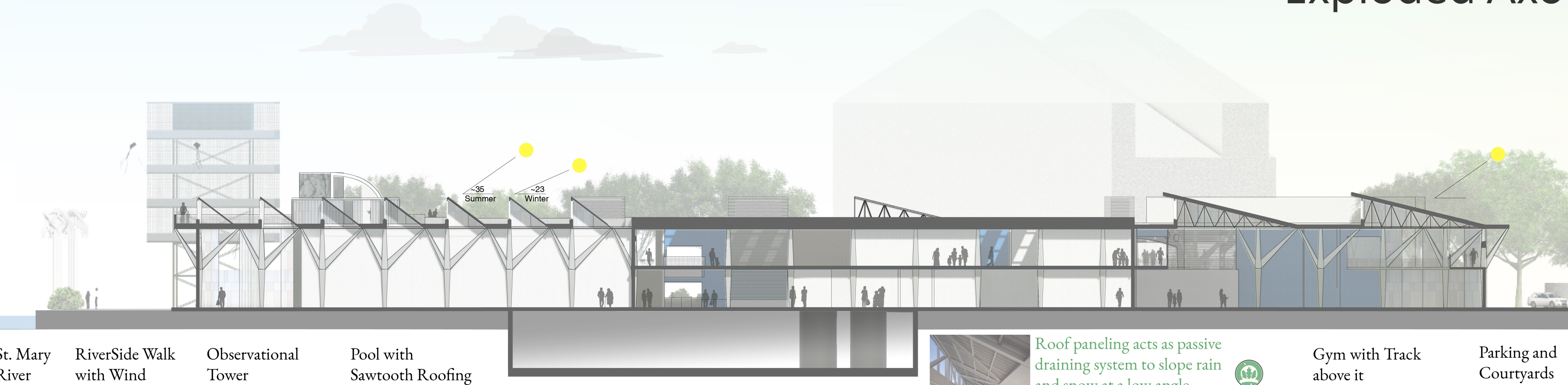


Exterior Facade: Corrugated panel to provide definite change in texture during orthogonal switch along the exterior. Flat Panels are designated for primary spaces.



Structural Grid

Kit of Parts: Exploded Axon



Longitudinal Section

Subgrade Level: Spaces that are designated for hot water storage tanks, pool maintenance, and PV + T panel maintenance.

Roof paneling acts as passive draining system to slope rain and snow at a low angle. Sawtooths spaces apart to minimize PV shading and allocate draining needs on site. **PV + T Panels angle is optimized for max gain in Summer and Winter.**







## **Introduction**

Located in the Upper Peninsula of Michigan is the Urban Forest of Sault Saint Marie. It's stationed right along the border between the United States and Canada. Sault Saint Marie is also famous for the International Bridge over the St. Mary's River that splits the two countries apart in this portion. Plus, it is the only city in Chippewa County with a population of around 13,000 citizens. Collaborating with their Ontario counterparts, they soon became known as a single community, The Soo.

Specifically, the project states that the Soo community is envisioning a new sports and recreation hall. The hall supports health, resiliency, and well-being with the use of order and programming that harmonizes with the cultural background of Sault Saint Marie. Two sites are scoped out for the project, Ashmun Bay Park and The Water Street Historic Maritime Park. After careful consideration through Site Assessment and Site Ecology, Maritime Park was chosen due to its lack of greenery and connection to the growing development of Carbide Docks. The Carbide Dock project is run by the city in order to reduce gas emissions of vessels and revitalize the shipping visitation without idling engines. Offering great opportunities to form connections and strengthen the Urban Forest title the city has received by planting several trees to thrive in their city.

## **Health, Order, and Resiliency.**

Health is a major component in the design. In order to address this, the programming called for an indoor gym, pool, climbing wall, and track. These amenities are uncommon in the general area of Maritime Park and will encourage visitors to participate in the various activities on the site. In order to maintain health, the design needs to be fully accommodated to the public with ADA guidelines and special attention to human comfort. All wrapped up in a sustainable



building package from form and energy consumption. Following LEED's qualifications is a huge driver in this project that is used to help foster a clear identifying system of energy, structure, envelope, and adaptability on site. Another concern was leaving a low carbon footprint because the pre-existing conditions in Maritime Park was mainly an asphalt wonderland with little to no trees or vegetation in general; just a large empty parking lot. Immediately, some solutions were planting trees to promote sequesterial growth, use permeable concrete, and share parking spaces with the docks, Historic Ship Museum, and Cloverland Hydroelectric Plant. Causing a reduction in carbon emissions that help restore health for not just the site, but the city overall. Another factor was identifying the industrial background in Maritime Park; steel was designated as the main material. Steel manufacturers in Michigan have a 70-80% fossil fuel reduction, further strengthening the case for low greenhouse gas emissions. Allowing the structure to maintain its functionality for 200 plus years.

In resiliency, energy management accompanied by LEED standards was another main compartment in the iterative design process. Due to the drastic seasons of a hot summer and snowy winter, the building needed many strategies to help combat this. Including solar energy, geothermal power, wind energy, passive heating, passive cooling, daylighting strategies, and space compression to help maintain a low energy consumption in the design. LEED net zero requires 725,000 kWh/yr for operational energy, this is split up between energy and power. By using PV + T hybrid solar panels and vertical wind turbines, the total energy amassed was 1,304,375 kWh/yr. All of it will be used to power electrical equipment in the building and provide heating throughout the structure. Access energy of a 42% surplus will be stored in a geothermal borehole storage tank to future and accommodating use. This means the energy can be used for EV parking spaces, shifts in climate, or a particularly rainy summer with low amount



of solar gain in the season. Potentially, it can also be used for the residential and commercial lots reserved on the south part of the Maritime Park site. Following energy gain, R-values are calculated for the wall and roof in order to maintain heating and cooling inside the building and keep the environmental factors out. A radiant paneled floor system is also put in place for large occupant spaces like the indoor gym and pool to help stabilize temperature throughout the space. While sun shelving by the roof overhang is utilized to block direct light from the south to reduce heat rise in the building while still inviting adequate levels of daylighting inside the interior. In addition with low translucent polycarbonate glazing in the skylights and eastern windows with high U-values to reduce glare.

Overall, all of this sums up to a sustainable design that impacts health, wellness, environmental qualities, construction, and cultural integration. The Soo Health and Sports Hall becomes a functional part of the community that synthesizes with the needs of the people of all ages.



## Cites Sourced

<https://pvwatts.nrel.gov/pvwatts.php>

<https://covetool.com>

[https://build.usgbc.org/bd+c\\_guide](https://build.usgbc.org/bd+c_guide)



## LEED v4.1 BD+C: Retail Credit Summary: Soo Health and Recreation Center

### **Location and Transportation**

#### LEED for Neighborhood Development Location

- Developed land and in a community that strives for improvement.

#### Sensitive Land Protection

- Land is developed already and doesn't have natural edges along the river. The site is classified as a brownfield and has pre-existing structures already built on it. Bioswales are used to soften the river edge and bring back its natural system.

#### High Priority Site and Equitable Development

- Analysis of the site included residential and commercial studies for what was around the site. The site sits on I-75 Business Spur and is stationed across a few businesses such as a marine supplier and motel. To respond to this, lots of land was plotted south on the site to promote economic growth in the city area. Another need responded to is the majority of the population having physical disabilities from either age or other circumstances. ADA ramping, color wayfinding, handicapped parking, areas of rest, and natural daylight is planned throughout the program to encapsulate these needs.

#### Surrounding Density and Diverse Use

- The site already had a high walkability walking score of 91/100 and a biking score of 62/100 according to the Covetool analysis. However, there was nowhere to walk to. Paths, courtyards, dockwalks, and an observation tower were additional features in the masterplan of the site. Encouraging users in physical activity outside around the building on the site. More trees and vegetation is planted for land growth. Bike lanes built in to reduce carbon transportation.

#### Access to Quality Transit

- Bike lanes and sidewalks on the site are connected to the main entry points off of the I-75 Business Spur and E. Water Street. Bus stations are located further downtown. A huge portion of the population prefers to walk or bike in the warm seasons. Boat tours are a prominent feature in the area and traveling by boat is encouraged on the site by showcasing the river in quality views. The observation tower will have brochures that aid



in informing the public to experience the boat tours instead of spending hours traveling by car to view the areas on tour.

### Bicycle Facilities

- Bike racks will be implemented on site and protected by the harsh weather conditions by being placed under the roof overhang. Potential bike storage facilities can be placed in the plots of land south on the site for full enclosure.

### Reduced Parking Footprint

- Due to the site sharing ground with the Historic Ship Museum, the Downtown Marina, Pullar Stadium, and the Hydropower Plant facility, shared parking is utilized for all of the companies. Parking is broken up by areas of vegetation to reduce carbon footprint. PV paneling will also cover some of the spaces to better utilize the space overall. Rainwater runoff is reduced by using permeable concrete to tackle the environmental harm on site.

### Electric Vehicles

- There are a total of ten charging station parking spaces for electric vehicles. Michigan legislature, house bill no.5391, states that for a parking lot that has more than 101 parking spaces, at least 3% needs to have a charging station. Type 1 and type 2 charging is provided in each space and is easily accessible to the public for universal and ADA purposes. Reducing pollution.

### Sustainable Sites

#### Site Assessment

- The city was labeled as an Urban Forest and this carried on through design intent to strengthen that title by planting more local trees and making sure to not plant invasive trees on the “do-not-plant” ordinance the city has. The current site also has a heavy industrial background and this influenced steel to be the main structural material. Solar angles, wind direction, precipitation range, and slope difference was assessed and involved in the design. Topography, hydrology, climate, vegetation, soil, human use, and human health effects all accounted for.

#### Protect or Restore Habitat

- Vertical wind turbines are used that are specifically scaled down to not interfere with the natural path of birds. The verticality ensures that the turbines are bird safe because of the small amount of space they take up and the curvature of the blade less likely to cause bird



collisions. Biodiversity is encouraged by planting more trees on the site than what currently exists. Forming more greenspace than what was previously on the site.

## Open Space

- The Borehole storage tank has its own multi-functional outdoor gathering space. Along with courtyards to the west of the building and dock-walks north of the building where the wind turbines sit. There is plenty of open space in both the exterior and interior. Interior space having a large entry to meet, gather, and socialize. The gym track encourages physical activity and the cafe invites occupants to socialize. Rest areas are spaced accordingly to code. The sawtooth roof is also easily accessible to socialize, gather, and exercise if the user desires.

## Rainwater Management

- Sawtooth roofing has a natural slope that corresponds to the sun angle. Naturally allowing rain and snow to drain off into water pipes that lead away from the building and reduces water pooling. Bioswales along the river edge absorb most of the rainwater and permeable concrete allows the rainwater to seep through into the ground to be picked up by the aquifer below.

## Heat Island Reduction

- Shade is provided in multiple areas for parking areas and entrance roads. The shade is either by vegetative trees or by PV paneling that covers the parking lots. Roofing material is primarily steel and polycarbonate glazing. Parts of the roof are utilized for PV + T paneling for gathering solar energy and converting it into electricity and hot water.

## Light Pollution Reduction

- Solar powered light poles are shaped to reduce the amount of light being directed upwards to the night sky. Using less artificial lighting and lowered intensity. Along with being solar powered, the light emitted from them is warm and colored in yellowish light to mimic natural lighting. Whilst providing adequate lighting for nighttime occupants and reducing limited visibility to the night sky. Birds and wildlife will be less affected by the on site lighting.

## Water Efficiency

### Outdoor Water Use Reduction



- Permeable concrete is used instead of asphalt for the parking lots, walkways, roads, bike lanes, and outdoor courtyards. Bioswales and directed rainwater drainage will aid in allowing the site's ecosystem to be automatically maintained without potable water consumption.

#### Indoor Water Use Reduction

- N/A

#### Optimize Process Water Use

- N/A

#### Water Metering

- N/A

### **Energy and Atmosphere**

#### Enhanced Commissioning

- The program far exceeds user requirements for energy gain and energy efficiency. It meets requirements for sustainability traits as well. Using solar energy, wind energy, geothermal energy, vegetation, and easy maintenance. Natural ventilation is used to further enhance indoor air quality. Steel increases the durability of the structure and feasibility of construction.

#### Optimize Energy Performance

- There is a surplus of 42% of total energy gained on the site. 127,495kWh/yr was needed for the gym and pool programming. 209,099 kWh/yr for power and 671.806 kWh/yr for heat. The total solar energy gathered overall was 1,304,375 kWh/yr, combined with 131,600 kWh/yr of wind power generated by the vertical wind turbines, this equaled a total of 1,435,975 kWh/yr. Surplus energy will be used for poor seasons, shift in climate, EV parking, plotted land, and future electrical implements.

#### Advanced Energy Metering

- With a 42% surplus of total energy gained above new zero, the borehole storage tank will act as a geothermal battery to retain all of the energy generated. Surplus energy will be used for poor seasons, shift in climate, EV parking, plotted land, and future electrical implements.



### Grid Harmonization

- Temperature sensors will be used in conjunction with HVAC systems. It will measure temperature, humidity, and air quality in order to adjust automatically to the interior spaces. Thermal energy storage will be utilized with the geothermal borehole storage tank, allowing shifts in power usage.

### Renewable Energy

- Solar power and Wind power from solar panels and vertical wind turbines. Along with a radiant paneling floor system for large interior spaces like the gym and pool. Natural ventilation used throughout the whole building and DOAS system. Greenhouse gasses like CO<sub>2</sub> are reduced through sequestrial growth in the tree planting system. Each tree reduces the carbon footprint and overtime, as the trees get taller and older, the more carbon they intake. A Kit of Parts for pre-fabrication is used as well for reduced travel emission costs and construction equipment.

### Enhanced Refrigerant Management

- N/A

## Materials and Resources

### Building Life-Cycle Impact Reduction

- Adaptive reuse is utilized with materials and structures on the pre-existing site. Any standing structure will either be relocated or broken down to be reused in the main structure of the design itself. Asphalt will be broken down and properly recycled from waste to be put its performance to other uses.

### Environmental Product Declarations

- N/A

### Sourcing of Raw Materials

- Steel is all recyclable and reused from past projects and future projects. All dirt and soil excavated will be reused on the site to level out the inclined slope and for vegetative purposes. Therefore, causing minimal waste of both material and natural resources. The steel manufacturing also uses very low amounts of fossil fuel in Michigan, further reducing emission cost.

### Material Ingredients



- A Kit of Parts strategy is used in the strategic planning of the design. A compartment of repetitive parts that can fit anywhere along the structural grid to provide flexibility in programming. Pre-Fabrication used close to the site to reduce greenhouse gas emissions in both travel and construction equipment cost. Also reducing time and energy in doing so. This will ensure less waste in material and that every material is used accordingly.

#### Construction and Demolition Waste Management

- Easy entrances and pathways on the site for construction services along with waste management. Pre-fabrication reduces overall waste for material, time, and cost in construction.

### Indoor Environment Quality

#### Enhanced Indoor Air Quality Strategies

- Natural ventilation system is used throughout the design, especially in rooms with high humidity levels like the gym and pool. Temperature sensors will measure indoor air quality and adjust ventilation as needed from the outside to the inside.

#### Low-Emitting Material

- N/A

#### Construction Indoor Air Quality Management Plan

- N/A

#### Indoor Air Quality Assessment

- N/A

#### Thermal Comfort

- The design will have a DOAS system with radiant and ASHP air cooled chiller. An enthalpy wheel will also be installed. Radiant floor paneling system with drainage floors where need be in the programming will ensure stable temperature control to increase human comfort levels in compliance with the psychrometric chart. Smaller spaces each have ventilation and thermal control of the space.

#### Interior Lighting



- All sources of lighting used are natural. Skylights on the roof and in the interior invite sunlight into the spaces for both of the levels in the building. Translucent glazing will prohibit glare and reduce the amount of heat built up in the space for direct sunlight as a response to daylight studies.

## Daylight

- Large windows, skylights, and translucent glazing is used in the design to invite daylight into most of the spaces. Translucent glazing reduces and mitigates direct sunlight from the cardinal directions of east, west, and south. Southern direct light is also blocked using sun shelves that the roof overhang provides, reducing further glare. Wall percentage is 65% while the total of facade windows is 35%. Due to the colder climate, sunlight warmth is needed more throughout the shorter days, but too much square footage of window allowance will start making the room cooler than intended.

## Quality Views

- The west of the site shows the historic boat museum and the Tower of History, an important landmark to the city. To the north is the river, most of the facade is windowed off in order to showcase the river. The indoor pool forms a connection between swimming in water and looking at water outside. The east direction also has the river and the sunrise to look forward to, along with the hydroelectric power plant. To the south is filled with views of trees and the city. Finally, the Observation Tower covers all of this with panoramic views all round.

## Innovation

### Innovation

- Using the borehole storage tank as an outdoor event gathering space. Not only utilizing the large space, but bringing the public's attention to it for educational purposes. Instead of having it pushed to the side, it's used as the main entrance sign for the program and accessible to all with ADA ramping. Bringing a fantastic opportunity to learn more about the benefits of geothermal energy and giving it social purposes.

### LEED Accredited Professional

- N/A

## Regional Priority

### Regional Priority



- N/A

Regional Priority

- N/A

Regional Priority

- N/A

Regional Priority

- N/A





**LEED v4.1 BD+C: Retail**  
Project Checklist

Project Name: Soo Health and Recreation Center  
Date: 6/19/24

Y ? N

**1** **0** **0** Credit Integrative Process

**1**

**27 0 0 Location and Transportation 16**

<b>12</b>		Credit	LEED for Neighborhood Development Location	16
<b>1</b>		Credit	Sensitive Land Protection	1
<b>2</b>		Credit	High Priority Site and Equitable Development	2
<b>5</b>		Credit	Surrounding Density and Diverse Uses	5
<b>4</b>		Credit	Access to Quality Transit	5
<b>1</b>		Credit	Bicycle Facilities	1
<b>1</b>		Credit	Reduced Parking Footprint	1
<b>1</b>		Credit	Electric Vehicles	1

**7 2 0 Sustainable Sites 10**

Y		Prereq	Construction Activity Pollution Prevention	Required
<b>1</b>		Credit	Site Assessment	1
<b>2</b>		Credit	Protect or Restore Habitat	2
<b>1</b>		Credit	Open Space	1
<b>2</b>		Credit	Rainwater Management	3
	<b>2</b>	Credit	Heat Island Reduction	2
<b>1</b>		Credit	Light Pollution Reduction	1

**2 6 4 Water Efficiency 12**

Y		Prereq	Outdoor Water Use Reduction	Required
Y		Prereq	Indoor Water Use Reduction	Required
Y		Prereq	Building-Level Water Metering	Required
	<b>1 1</b>	Credit	Outdoor Water Use Reduction	2
	<b>5 2</b>	Credit	Indoor Water Use Reduction	7
<b>2</b>		Credit	Optimize Process Water Use	2
	<b>1</b>	Credit	Water Metering	1

**27 4 2 Energy and Atmosphere 33**

Y		Prereq	Fundamental Commissioning and Verification	Required
Y		Prereq	Minimum Energy Performance	Required
Y		Prereq	Building-Level Energy Metering	Required
Y		Prereq	Fundamental Refrigerant Management	Required
<b>6</b>		Credit	Enhanced Commissioning	6
<b>15 3</b>		Credit	Optimize Energy Performance	18
	<b>1</b>	Credit	Advanced Energy Metering	1
<b>1 1</b>		Credit	Grid Harmonization	2
<b>5</b>		Credit	Renewable Energy	5
	<b>1</b>	Credit	Enhanced Refrigerant Management	1

**5 7 1 Materials and Resources 13**

Y		Prereq	Storage and Collection of Recyclables	Required
<b>2 3</b>		Credit	Building Life-Cycle Impact Reduction	5
	<b>2</b>	Credit	Environmental Product Declarations	2
	<b>1 1</b>	Credit	Sourcing of Raw Materials	2
<b>2</b>		Credit	Material Ingredients	2
<b>1 1</b>		Credit	Construction and Demolition Waste Management	2

**9 2 4 Indoor Environmental Quality 15**

Y		Prereq	Minimum Indoor Air Quality Performance	Required
Y		Prereq	Environmental Tobacco Smoke Control	Required
<b>1 1</b>		Credit	Enhanced Indoor Air Quality Strategies	2
<b>3</b>		Credit	Low-Emitting Materials	3
	<b>1</b>	Credit	Construction Indoor Air Quality Management Plan	1
	<b>1 1</b>	Credit	Indoor Air Quality Assessment	2
<b>1</b>		Credit	Thermal Comfort	1
	<b>2</b>	Credit	Interior Lighting	2
<b>3</b>		Credit	Daylight	3
<b>1</b>		Credit	Quality Views	1

**5 1 0 Innovation 6**

<b>5</b>		Credit	Innovation	5
	<b>1</b>	Credit	LEED Accredited Professional	1

**4 0 0 Regional Priority 4**

<b>1</b>		Credit	Regional Priority: Specific Credit	1
<b>1</b>		Credit	Regional Priority: Specific Credit	1
<b>1</b>		Credit	Regional Priority: Specific Credit	1
<b>1</b>		Credit	Regional Priority: Specific Credit	1

**87 22 # TOTALS** Possible Points: **110**

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum 80 to 110