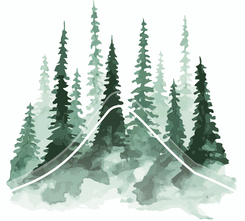
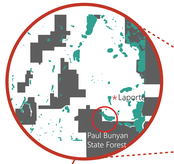


Point of Pines Ecolodge

Promoting Educational Awareness and Resource Management
Through Energy, Food and Water Conservation in North Central Minnesota

Alma LeBaron | LA 572 | Primary Advisor: Jason Kost | Secondary Advisor: Dominic Fischer | Spring 2017

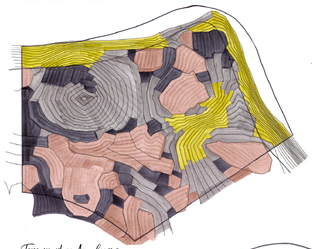


Kabekona Lake
Gabekana in the Ojibwe language means "End of the Trail".

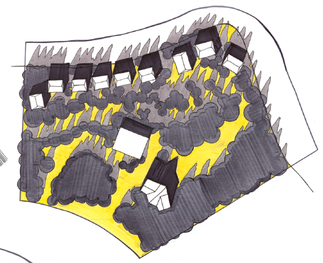
Location:
Laporte, Minnesota

This will guide you through the site to understand how the goals are being met:

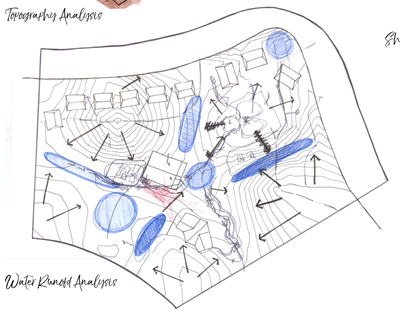
Goals:



Topography Analysis



Shade/Shadow Analysis



Water Runoff Analysis

Community Garden Section

- A Natural Play Area
- B Volleyball Court
- C Main Cabin Lodge
- D Standard Lodge
- E Community Lodge
- F Site Plan Area
- G Dry Creek
- H Lake-shore Front
- I Employee Storage
- J Rain Garden

Master Plan

Goals:

Goals:

10' 20' 30' 40'

Scale: 1"=10'

Site Plan

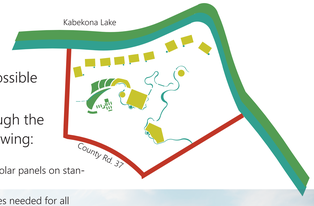
Project Typology & Goals

ec·o·lodge

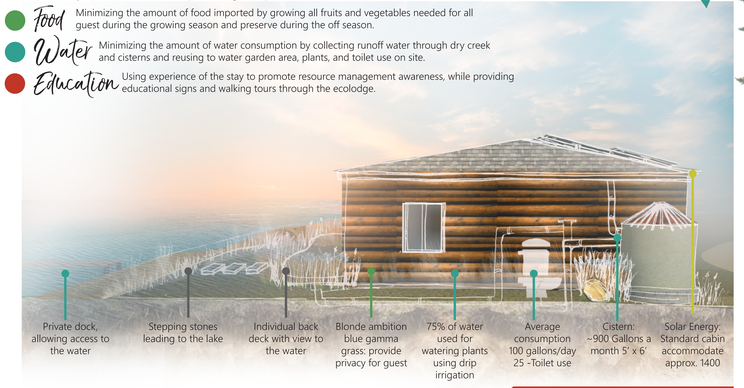
Noun

A type of tourist accommodation designed to have the least possible impact on the natural environment in which it is situated.

Point of Pines Ecolodge aims to educate incoming guests through the experience of their stay with resource management of the following:



- **Energy** Minimizing the amount of energy consumption on site by installing solar panels on standard cabins and implementing a fire pit area.
- **Food** Minimizing the amount of food imported by growing all fruits and vegetables needed for all guest during the growing season and preserve during the off season.
- **Water** Minimizing the amount of water consumption by collecting runoff water through dry creek and cisterns and reusing to water garden area, plants, and toilet use on site.
- **Education** Using experience of the stay to promote resource management awareness, while providing educational signs and walking tours through the ecolodge.



Goals:

Standard Lodge Section

Goals:

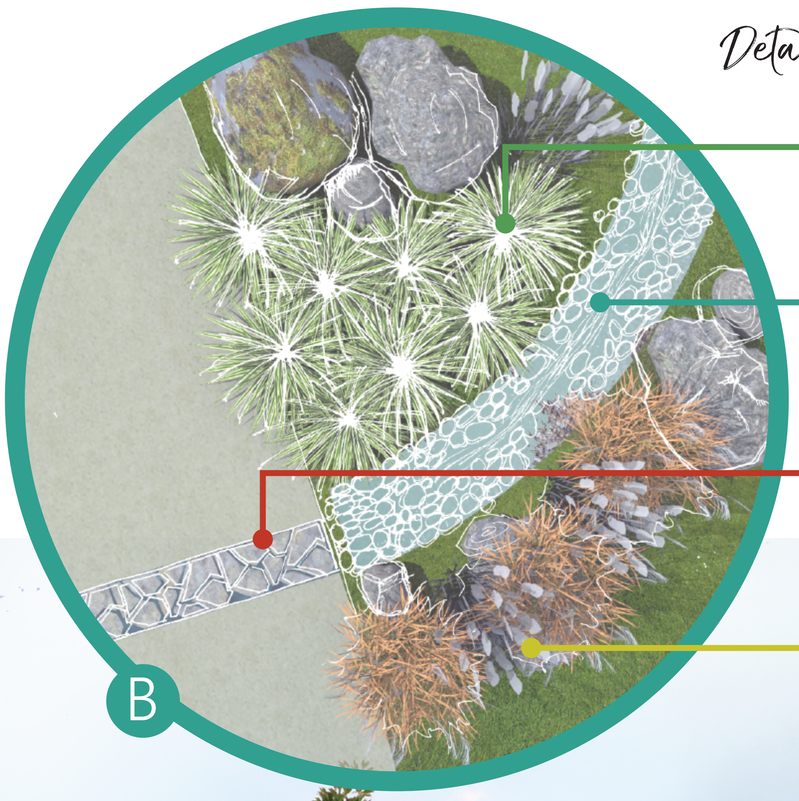
Rain Garden Perspective

Community Area Perspective

Goals:

How it works:

The community area acts a central gathering space for all guests at Point of Pines ecolodge. Allowing all of the components to come together to promote resource management awareness. The raised bed garden helps engage guest with food production, while the backyard patio allows for a community meal. The series of dry creeks travel through the space, while the cistern and lighted grass area promote the educational awareness.



Detail: Dry Creek Crossing

Plants
Carex lacustris - Lake Sedge
Grows is near shallow water, full or partial sun, and wet conditions.

Dry Creek
Follows the slope of the site, collecting the water and re-using it to water the plants on site.

Dry Creek Crossing
Allows guests to see where the water crosses. Stone embedded in the concrete, allowing water to cross but close enough for guests to walk.

Lighted Grass
Structures that simulate grass, powered by solar panels to be lighted at night. Serving as an educational feature of the site, allowing guest to see how solar panel energy works through the experience.

Goals:

Raised Garden
~48 sqft per guest

Honeycrisp™ Apple
Malus x 'MN 1711'

Corten Steel in ground to maintain boarder between plants.

Fiberglass Cistern
Community needs
Size: 5'x6'
900 Gal

Perennials:
Aesthetically pleasing while using water collected on site to maintain.

Natural Energy
Fire Pit Area

Solar Energy
Accommodate ~1400 watts
for individual family needs

Fiberglass Cistern
Community needs
Size: 10'x6'
3500 Gal

Educational Sign:
Understanding how the water is collected and distributed.

Solar Energy
Community Area

Goals:

Scale: 1"-5'

5' 10' 15' 20'

Community Area Section

How it works:

Point of Pines' central rain garden, collects runoff water throughout the site. Acts as both a central amenity and cleaning system for the site's gray water. The naturalized system for water is designed to work with the existing topography through a series of dry creeks. The rain garden will then clean the water through bioremediation before the water is reused for the garden area or used as storage. Other public amenities around the rain garden include natural seating, native plants, recreational activities and a fire pit area.

Goals:

Rain Garden Section

Detail: Educational Energy

Lighted Grass

Structures that simulate grass, powered by solar panels to be lighted at night. Serving as an educational feature of the site, allowing guest to see how solar panel energy works through the experience.

Grasses

Low maintenance grasses, with high water resistance.

Dry Creek

Follows the slope of the site, collecting the water and re-using it to water the plants on site.

Goals:

How it works:

The natural play area acts as both a recreational and educational space. Using recycled materials from the removed trees on site, and using it as a educational experience for the kids playing. Helping them understand how the recycling process works and being able to implement the same concepts at home. While using it as a play area.

Goals:

Natural Play Area Perspective