

SNOW LAND

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Graduation Project





Site Analysis

Design Ideas

Take a Look

Get Inside

**Trip to
Snowland**

Uludağ, Bursa

Existing
Conditions

User
Groups

Wild
Life

Fauna &
Flora

Water
Elements

Case
Studies

Lit
Review



Uludag is one of the main points of winter tourism in Turkey. Uludağ, which is the center of winter and nature sports, also stands out with its natural richness.



Uludağ located at the western part of the Turkey, and has connection with Marmara Sea.



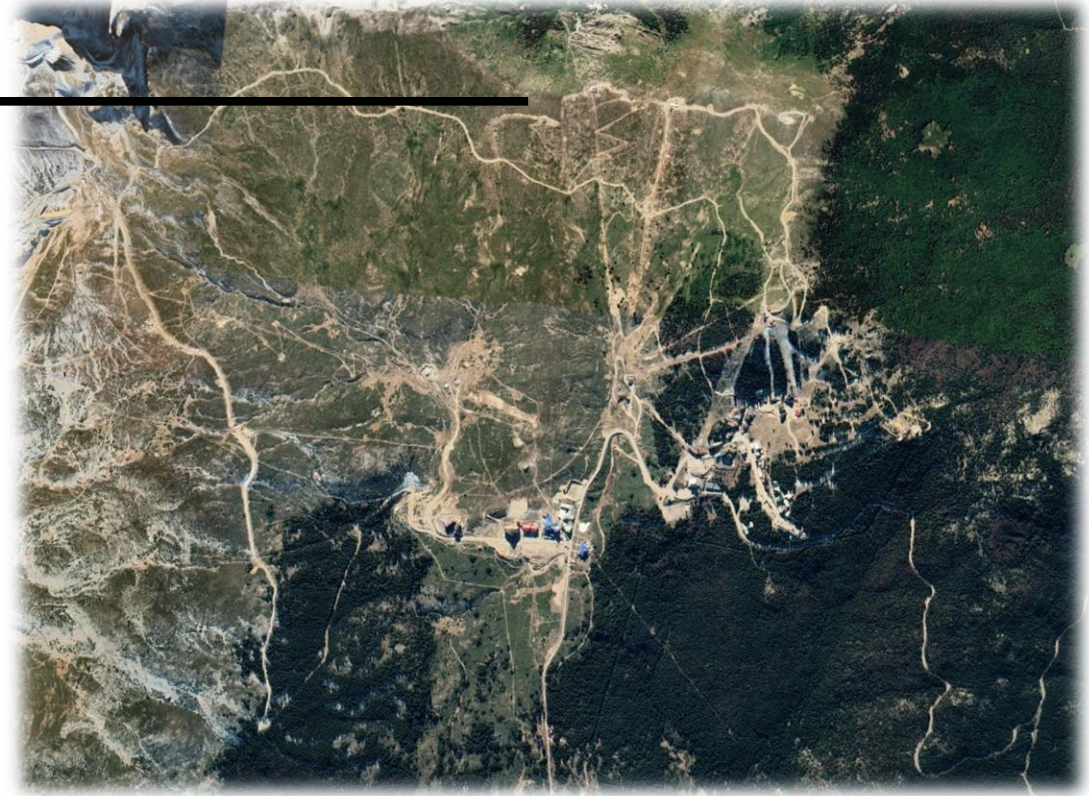


Damaged forest area

Hotel structures that damaged the natural environment

Disconnection between urban life & rural life

Top of the Mountain

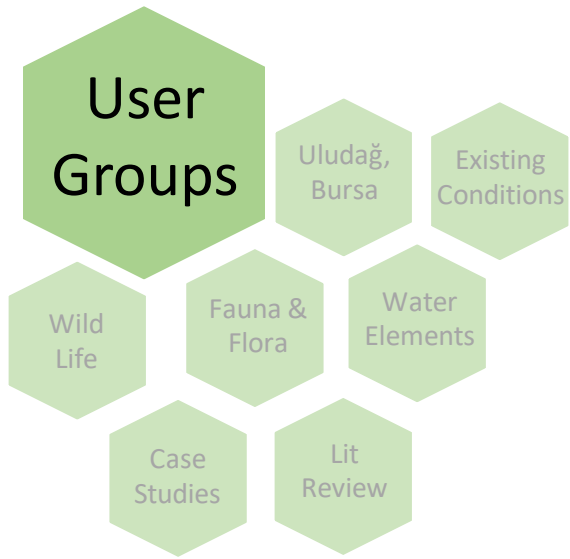


Foothills of the Mountain



Unplanned city organization at the foothills of the mountain

Unconnected green spaces



1. Tourists from all over the World
2. Locals which live in the villages of the mountain

The aim of the project is to provide employment to the villagers and strengthen four season tourism.

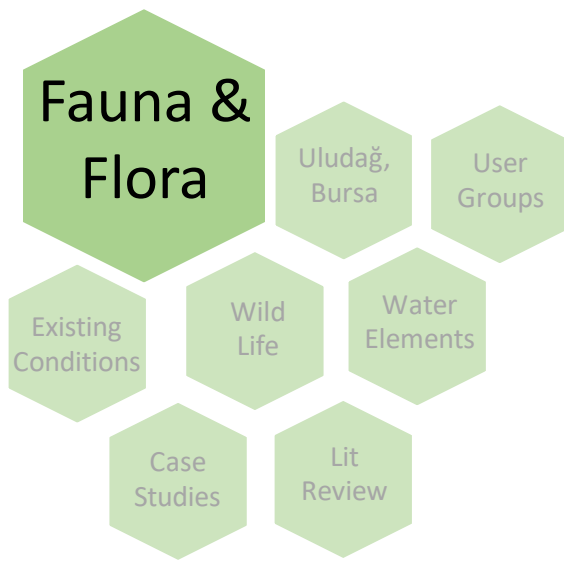




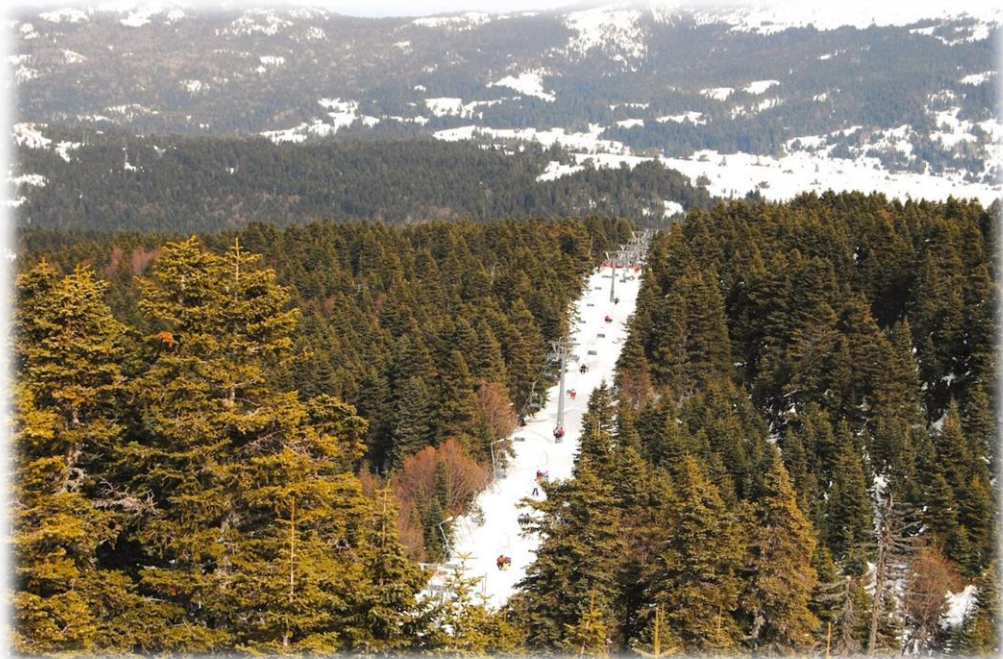
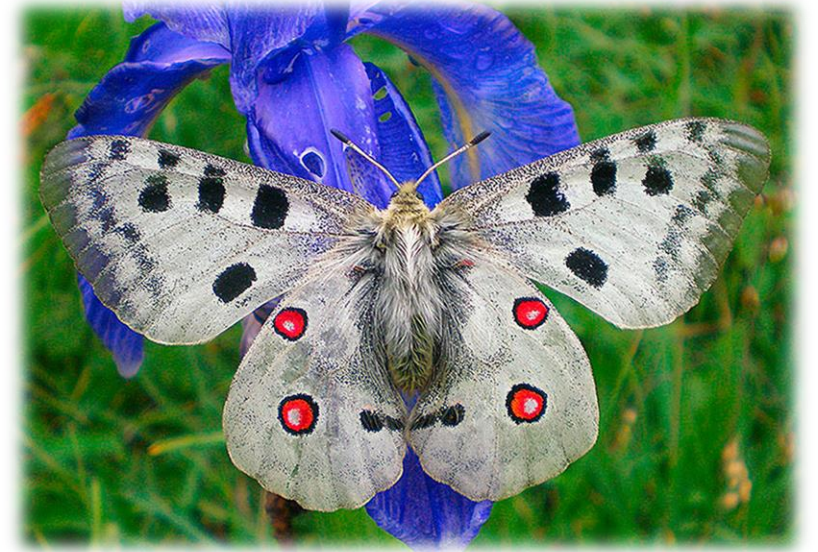
Uludağ is one of the important points of wildlife with the animals it contains. Lots of living and especially endemic species survive in this mountainous area.



The main purpose of the project is to design a sustainable living space without disturbing the natural habitat.



- Typical mediterranean maquis and frigana vegetations are main elements of the Uludağ forest.
- Uludağ is one of the important endemic tree species area, and it creates healthier communities in there.



- Apollo Butterfly and Bearded Vulture is an endemic species unique to Uludağ.
- Except those, fox, coyote, wild cat, badger, squirrel, marten, rabbit, wolf and bears are the wild animals that are live in Uludağ.
- Uludağ has been designated as an important bird area, as it shelters the breeding populations of the bearded vulture and rock eagle.

Water Elements

Uludağ,
Bursa

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Uludağ is the region with the richest natural water resources in Turkey. Many companies supplies water from the waterfalls and rivers in Uludağ. Protection of water resources depleted over time is one of the important points aimed in this project.





Sustainable Eco Tourism

Sustainable tourism is the tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities. Tourism can involve primary transportation to the general location, local transportation, accommodations, entertainment, recreation, nourishment and shopping.

- Conservation of biological and cultural diversity
- Sustainable use of ecological resources
- Support for local economies through increased local revenue, jobs for local populations, and use of local supplies and services
- Community empowerment by sharing participation in management local ecotourism activities
- Increased environmental and cultural awareness





Wetland- Eco System

A wetland is a distinct ecosystem that is flooded by water, either permanently or seasonally, where oxygen-free processes prevail. The primary factor that distinguishes wetlands from other land forms or water bodies is the characteristic vegetation of aquatic plants, adapted to the unique hydric soil. Wetlands play a number of functions, including water purification, water storage, processing of carbon and other nutrients, stabilization of shorelines, and support of plants and animals. Wetlands are also considered the most biologically diverse of all ecosystems, serving as home to a wide range of plant and animal life.

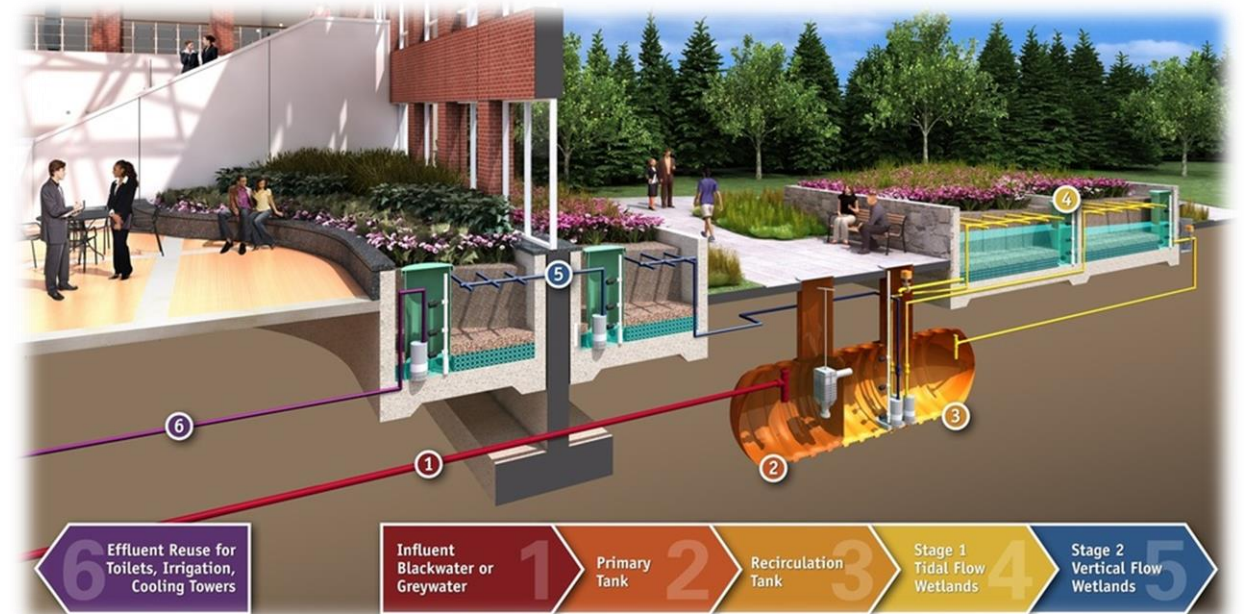




Black Water System

The Living Machine is a form of ecological sewage treatment based on the principles of wetland ecology. The Living Machine uses engineering, plants, and bacteria to efficiently treat and reuse wastewater. The Living Machine is applicable to rural, suburban and urban environments, various scales and climates to treat municipal and some industrial wastewaters.

Wetlands are essential for water cleaning to because the filter out the water and clean it from the polutuants and give it back to the river, therefore the water stays clean. They also trap the toxic material that come from the agricultural activity and clean the water. They also decrease the ratio of the shoreline erosion by the help of the plants in the wetlands holding up the soil on the shoreline and they contribute to the aesthatic of the shoreline.



Case Studies

Uludağ, Bursa

User Groups

Wild Life

Fauna & Flora

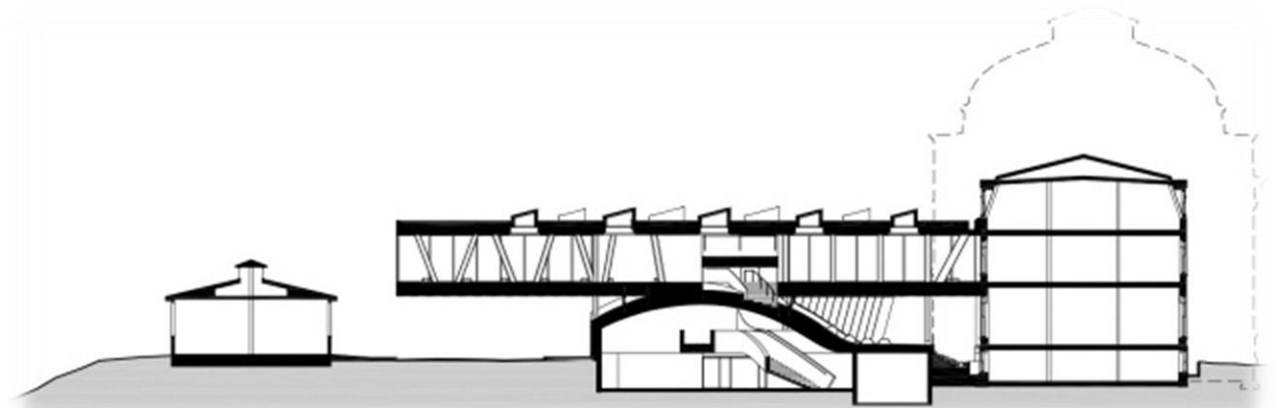
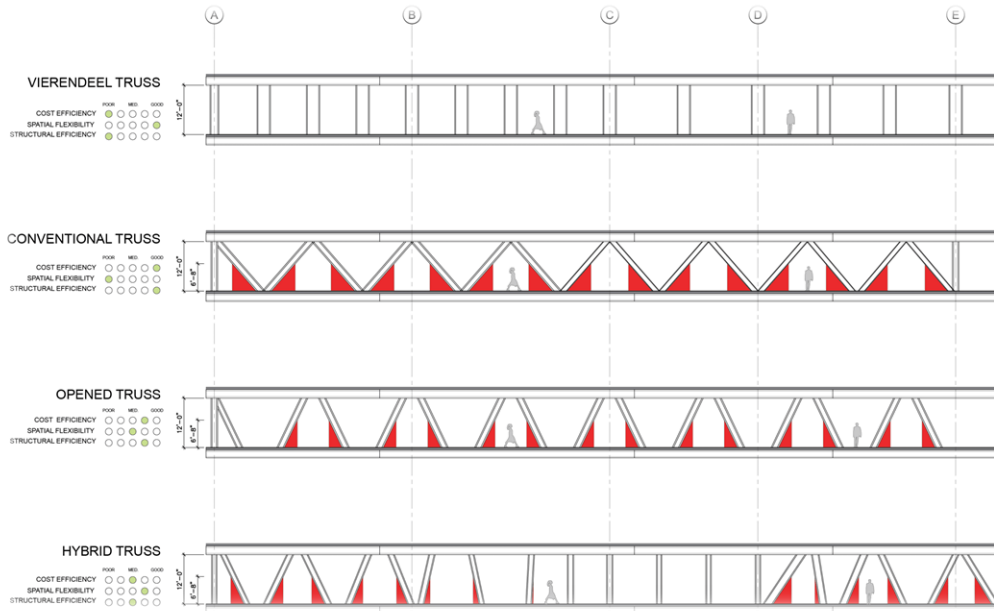
Water Elements

Lit Review

Design Ideas

Milstein Hall at Cornell University, OMA

Structure Case Study - Cantilever Truss System



Casa Etére: Eco- powered mirrored house

Environmentally-friendly building case study



All its power from solar energy; its water supply from collected rainwater; and uses a patterned ultraviolet coating on the mirror making it visible to birds while remaining reflective to the human eye.

An Eco-powered mirrored house on extinct volcano uses bird-friendly glass, designed by Mexco-based Singaporean writer and designer Prashant Ashoka.

Dawang Mountain Resort Changsha

Wetland - Structure Case Study

Case Studies

Uludağ,
Bursa

User
Groups

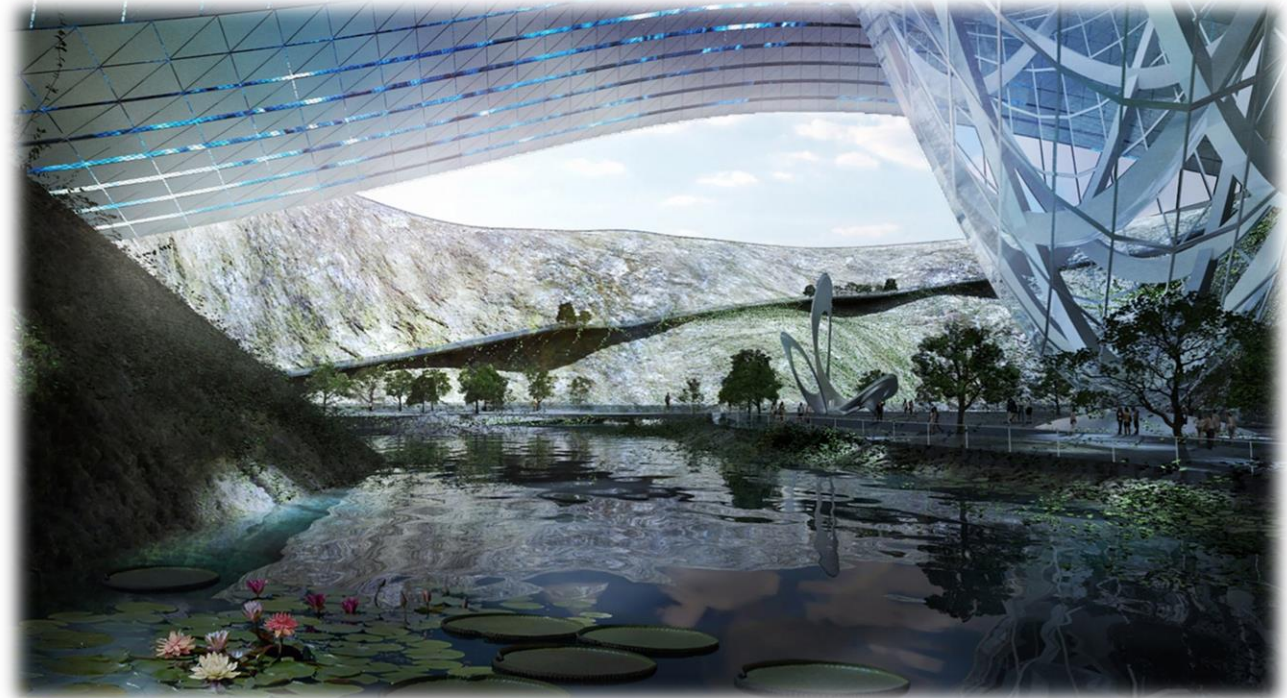
Wild
Life

Fauna &
Flora

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Design
Ideas



The project combines an Entertainment Ice World with an Indoor Ski Slope, a Water Park and supporting restaurant and shopping facilities.

Design Idea

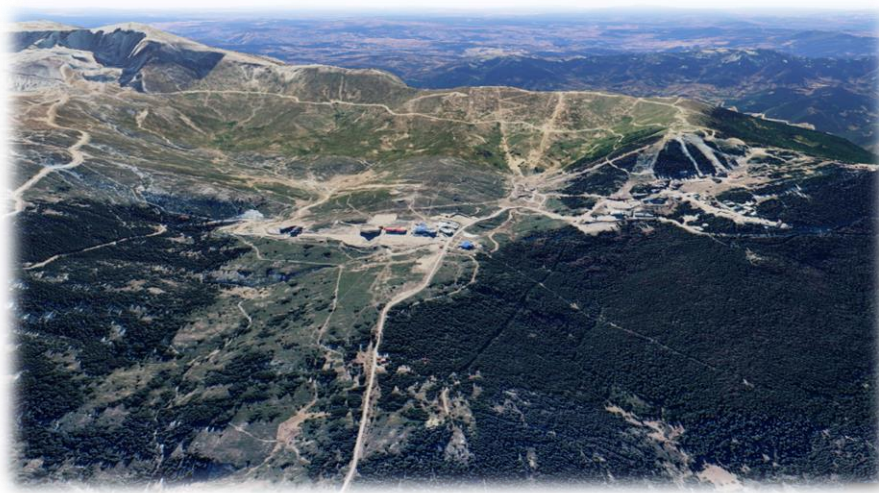
Preserving Areas

Environmental

Main Elements

Site Analysis

1



2



1



2

3

3



Preserving Areas

Design
Idea

Case
Studies

Environ
mental

Lit
Review

Site
Analysis

Main
Elements



Mountain Summit



Preserved Area -
For wild life & ecosystem



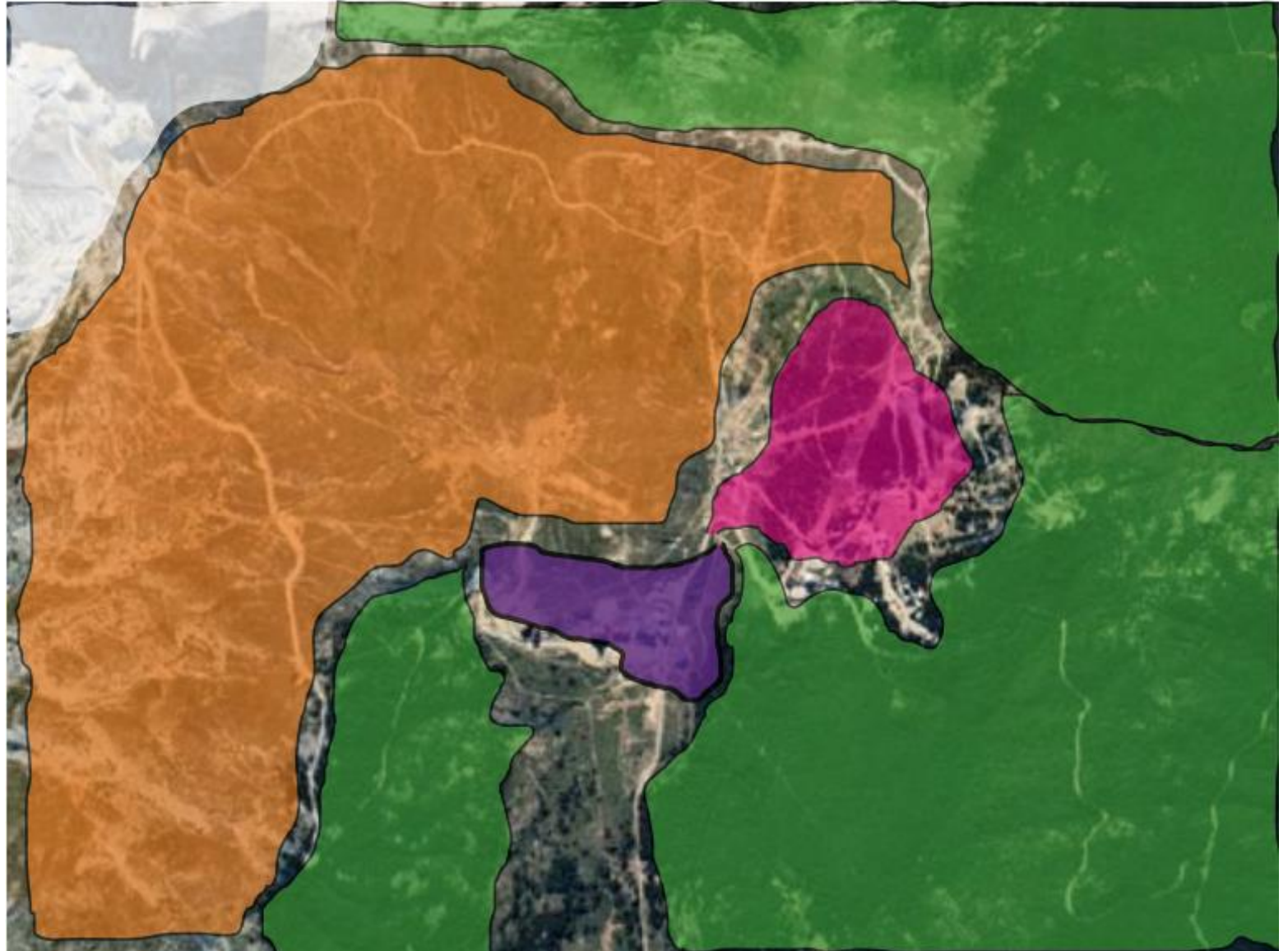
Main Site - Hotel Area Renovation
Used existing infrastructure



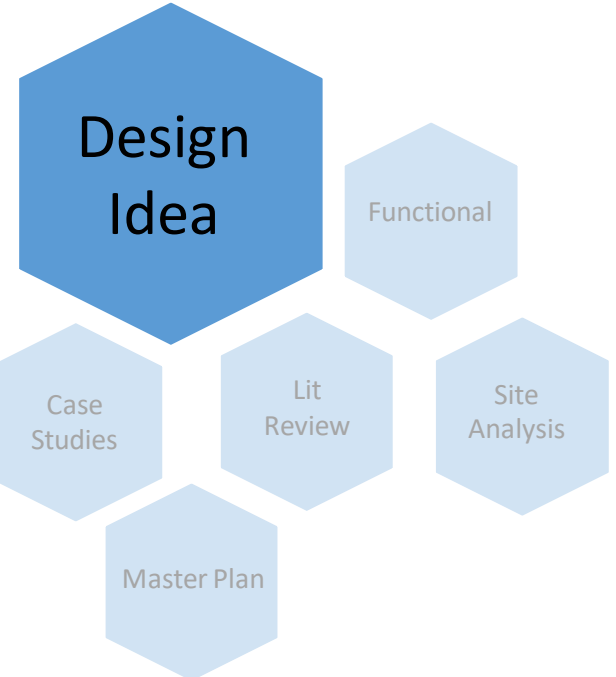
Existing Ski Area & Runways



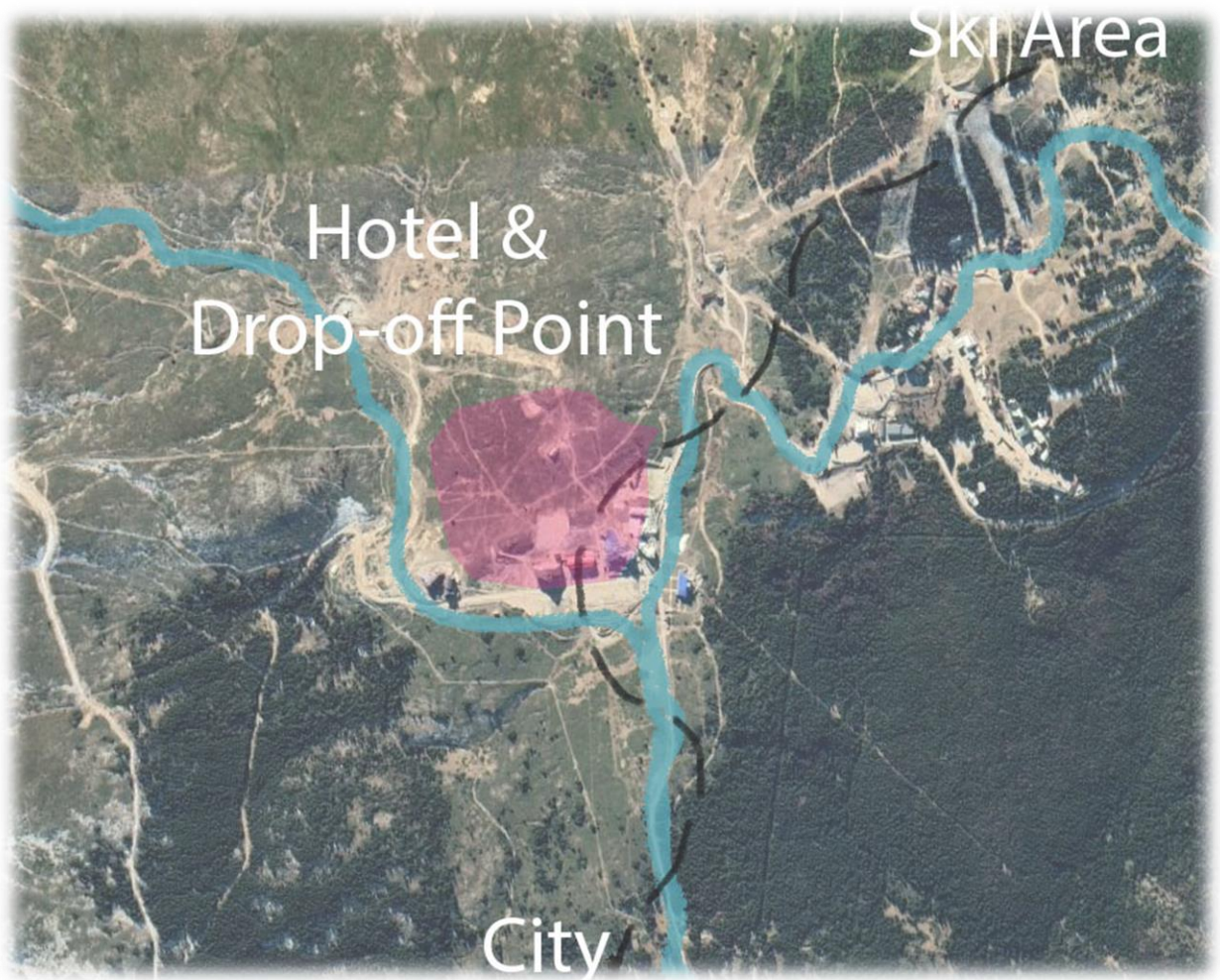
Area to be Afforestation - in order to prevent
erosion
Protecting natural ecosystem and their con-
nections



Main Elements



- Existing hotel area used for buildings in order to use their infrastructure and reduce carbon footprint.
- Take advantage of water elements that are exist in site.
- Using existing hotel ski areas in order not to cut trees and create runways.



Master Plan

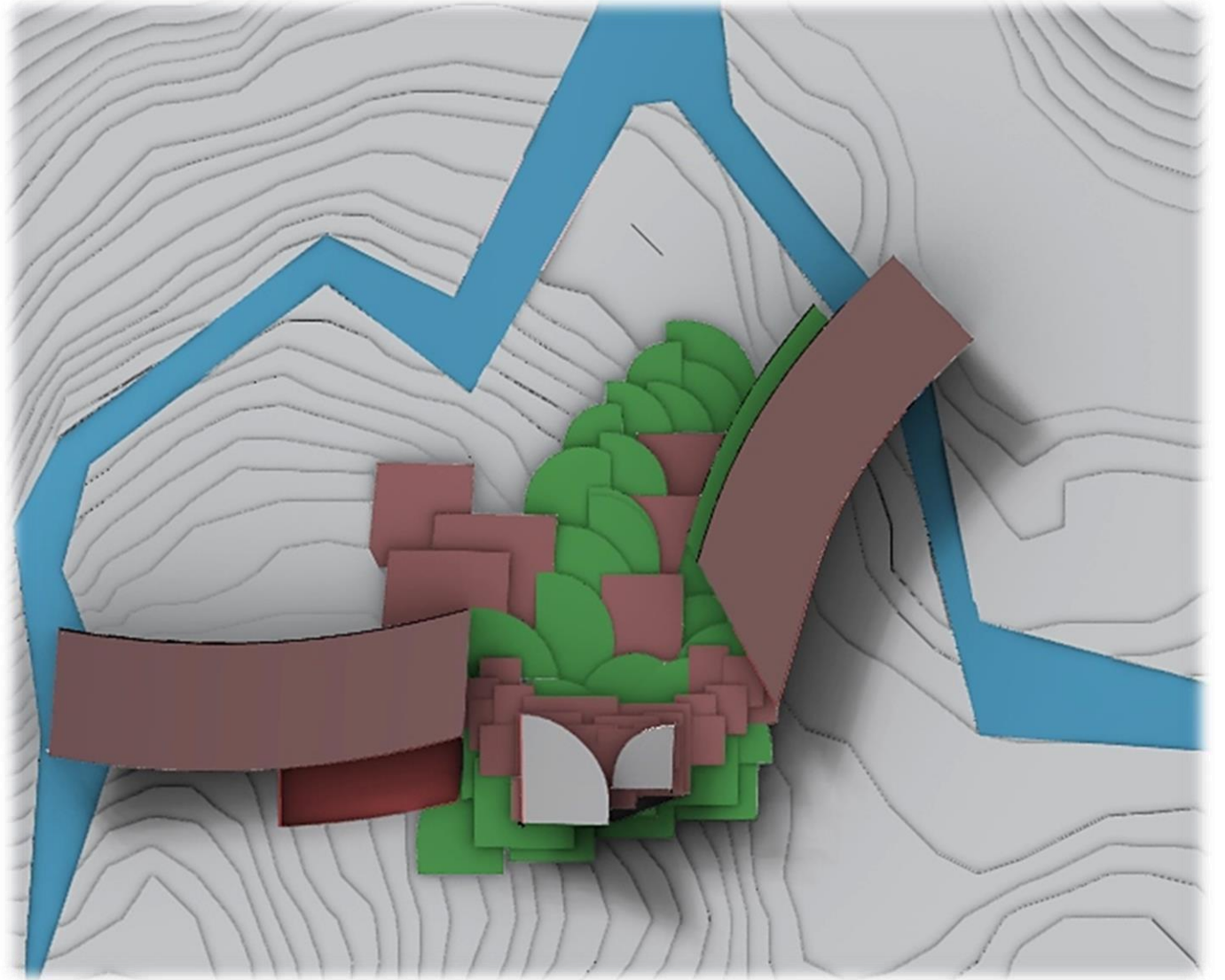
Lit Review

Case Studies

Site Analysis

Design Idea

Render





Function Diagram

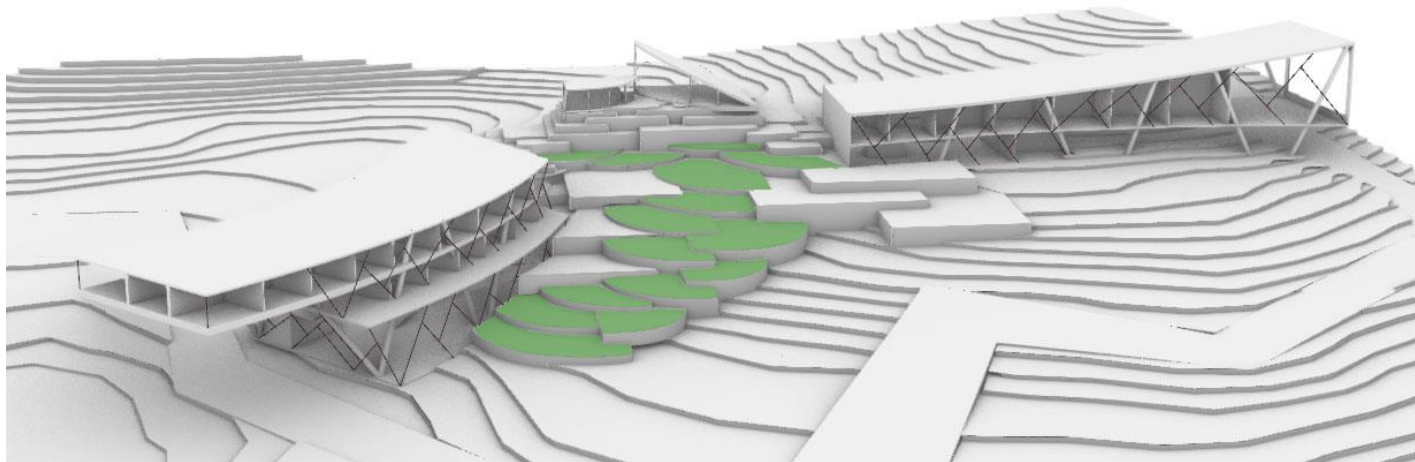
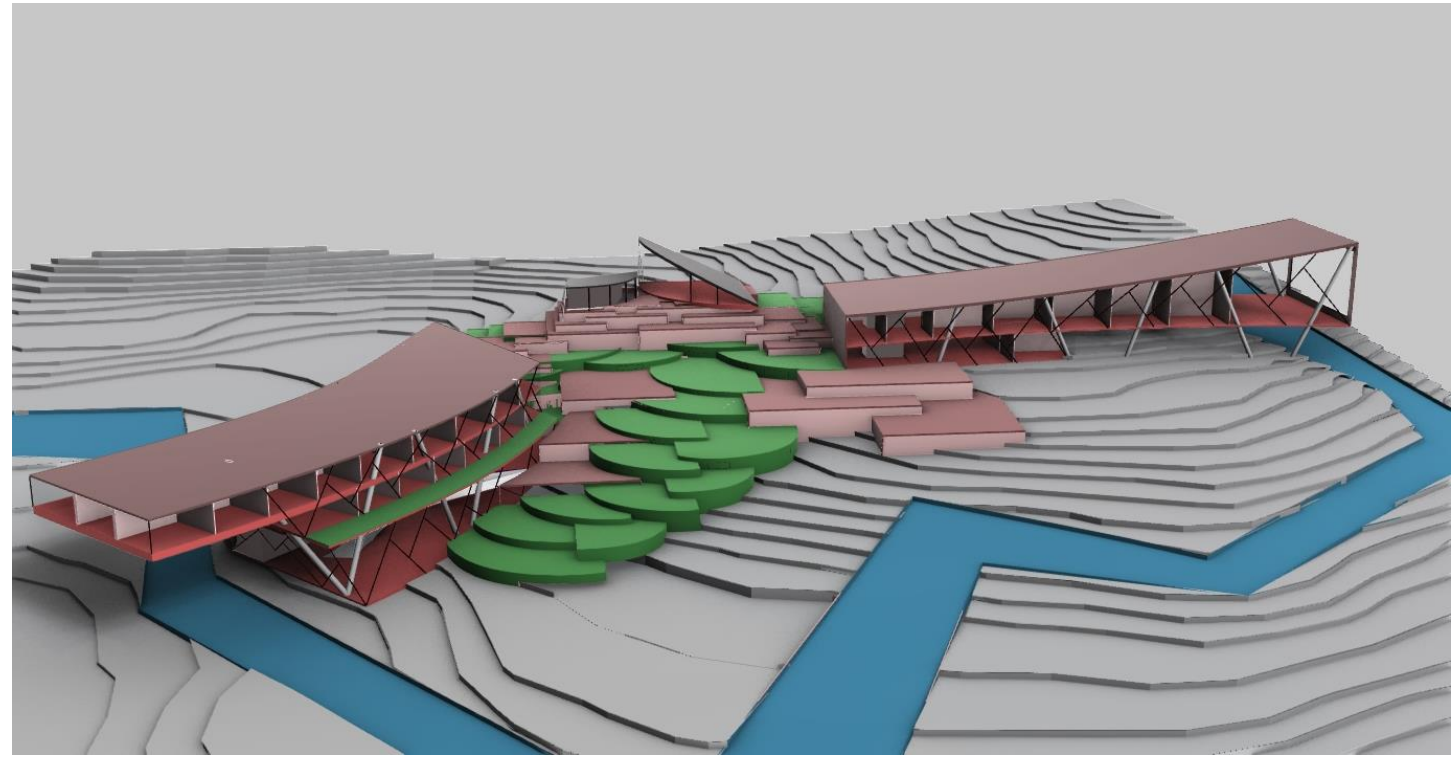
Case Study

Site Analysis

Design Ideas

Render

Ski



Green Landscape Terraces

- Connected with topography
- Connected natural landscape of the area and building
- Ability to ski in winter





Function Diagram

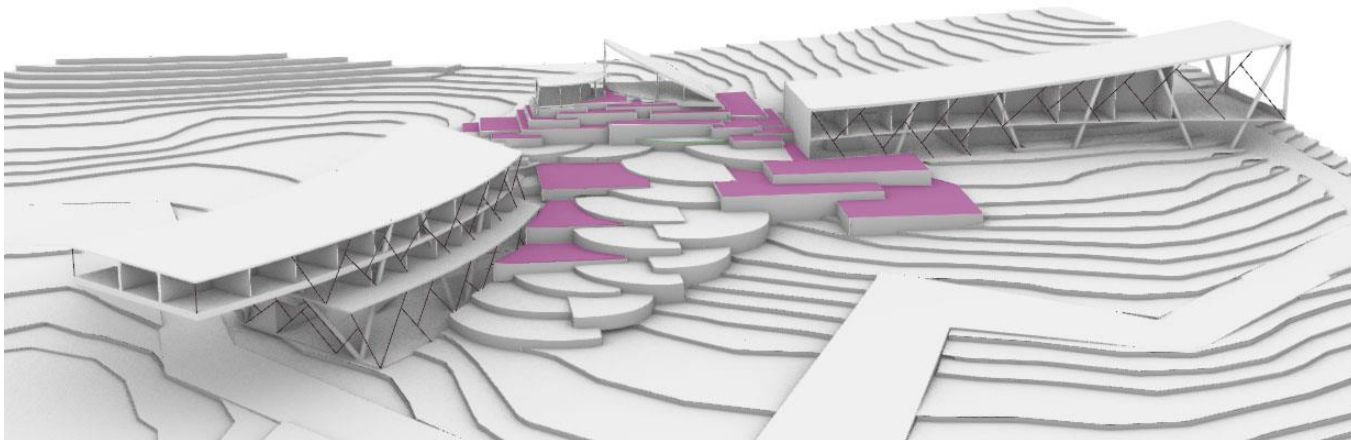
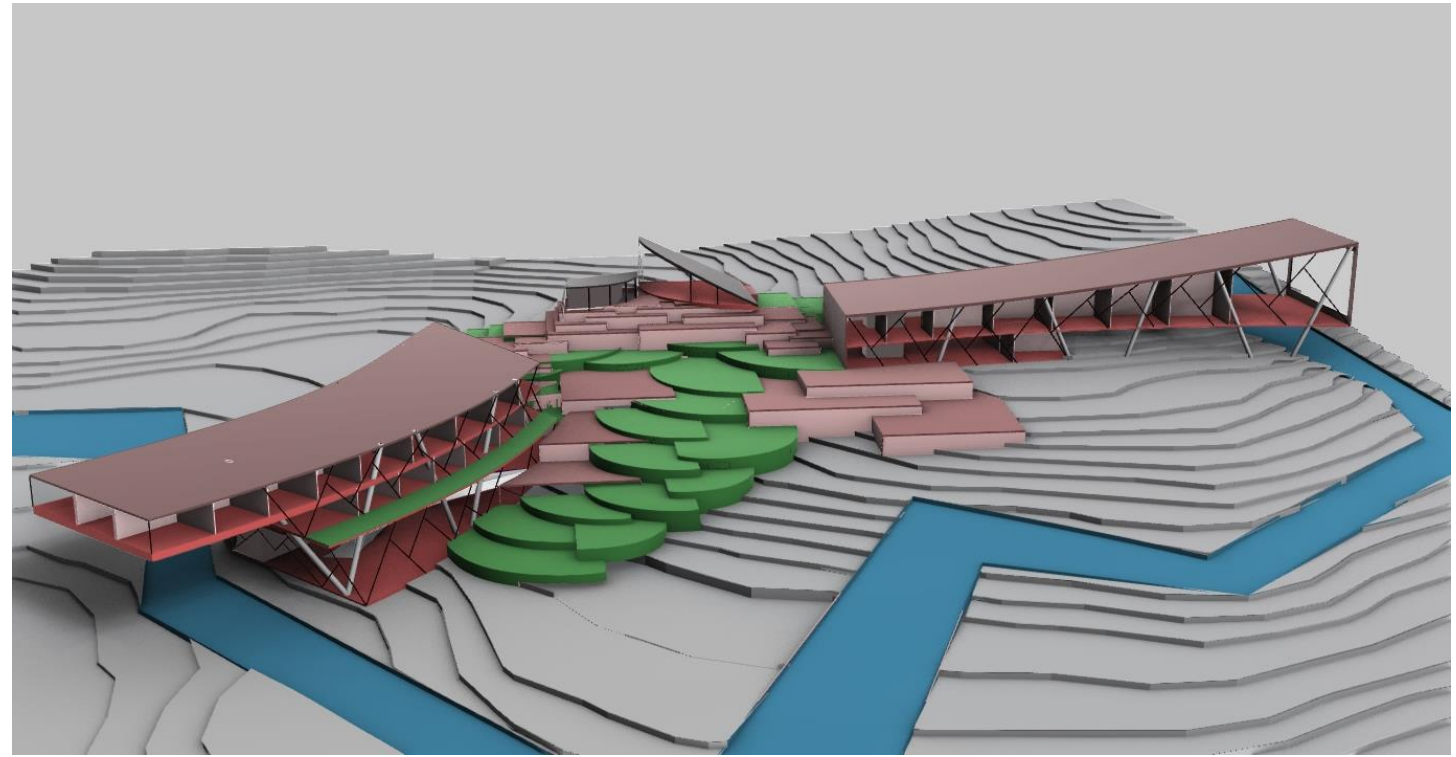
Design Ideas

Green Terraces

Landscape Elements

Site Analysis

Render



Building Terraces

- Connected green circular elements and building forms
- Guest drop-off structure come into existence with their combination



Function Diagram

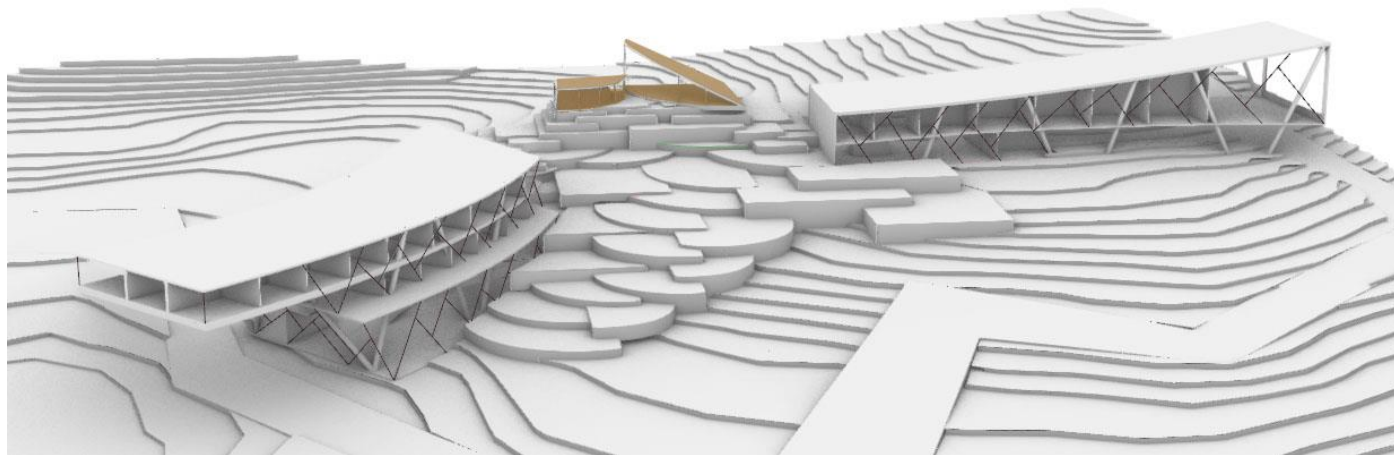
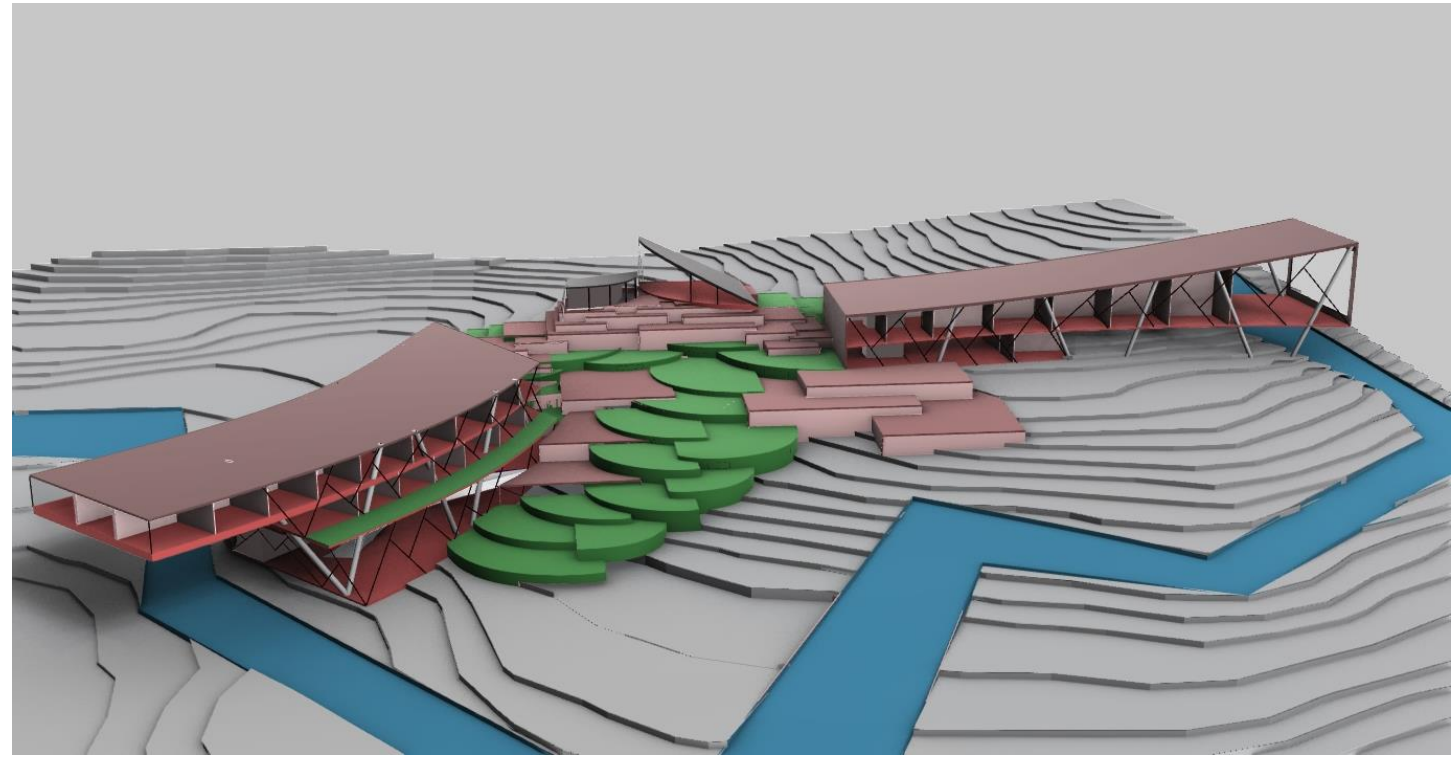
Floor

Green Terraces

Building Terraces

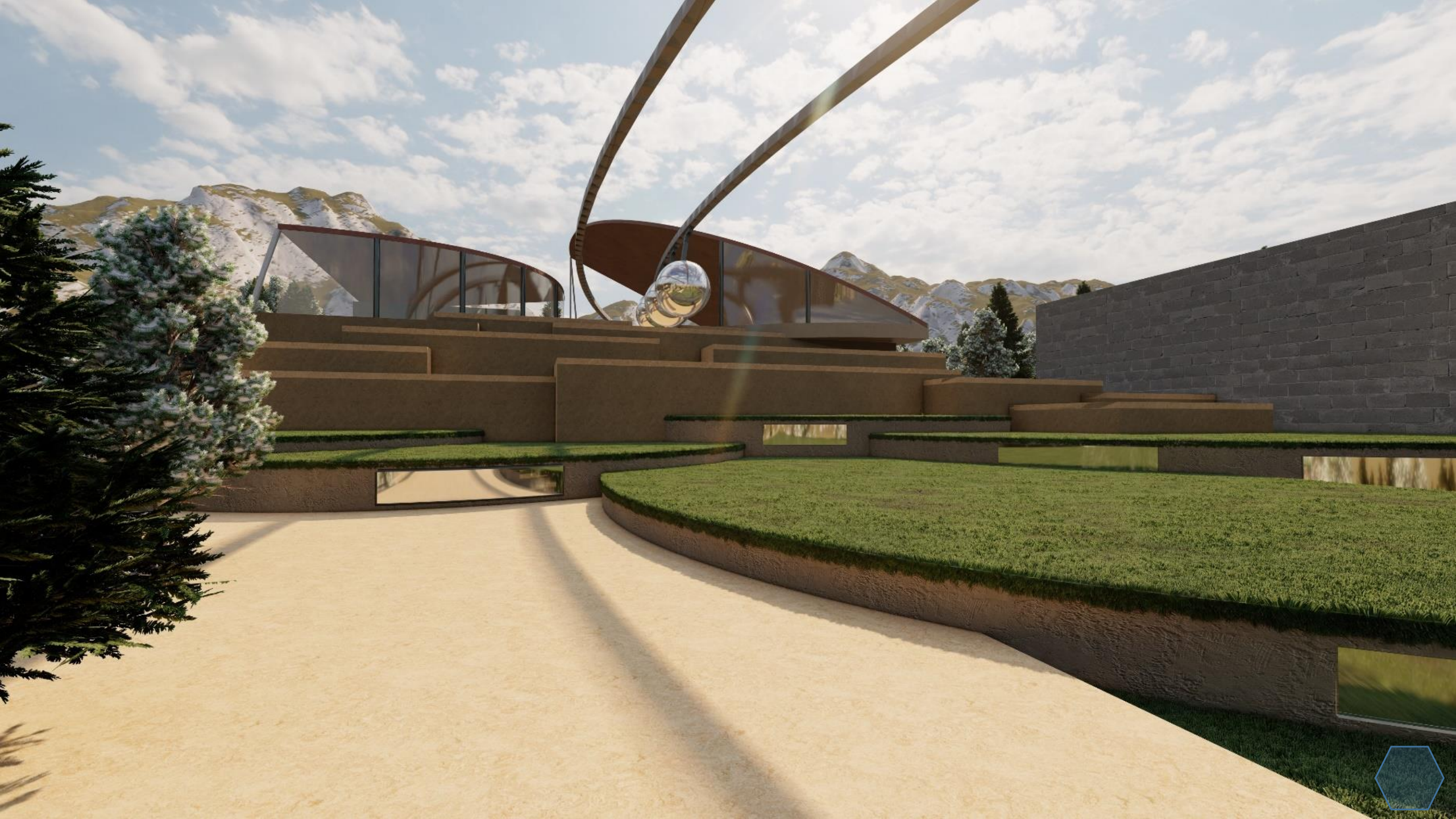
Site Analysis

Render



Guest Drop-Off

- Connected site with city
- Connected main area with existing ski-run
- Connection with hamam and buildings



Function Diagram

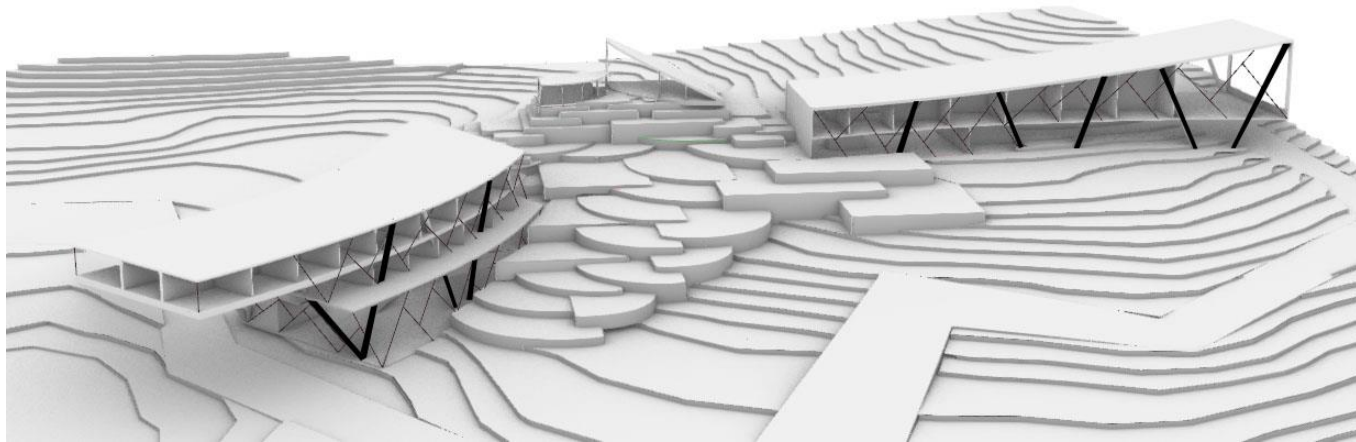
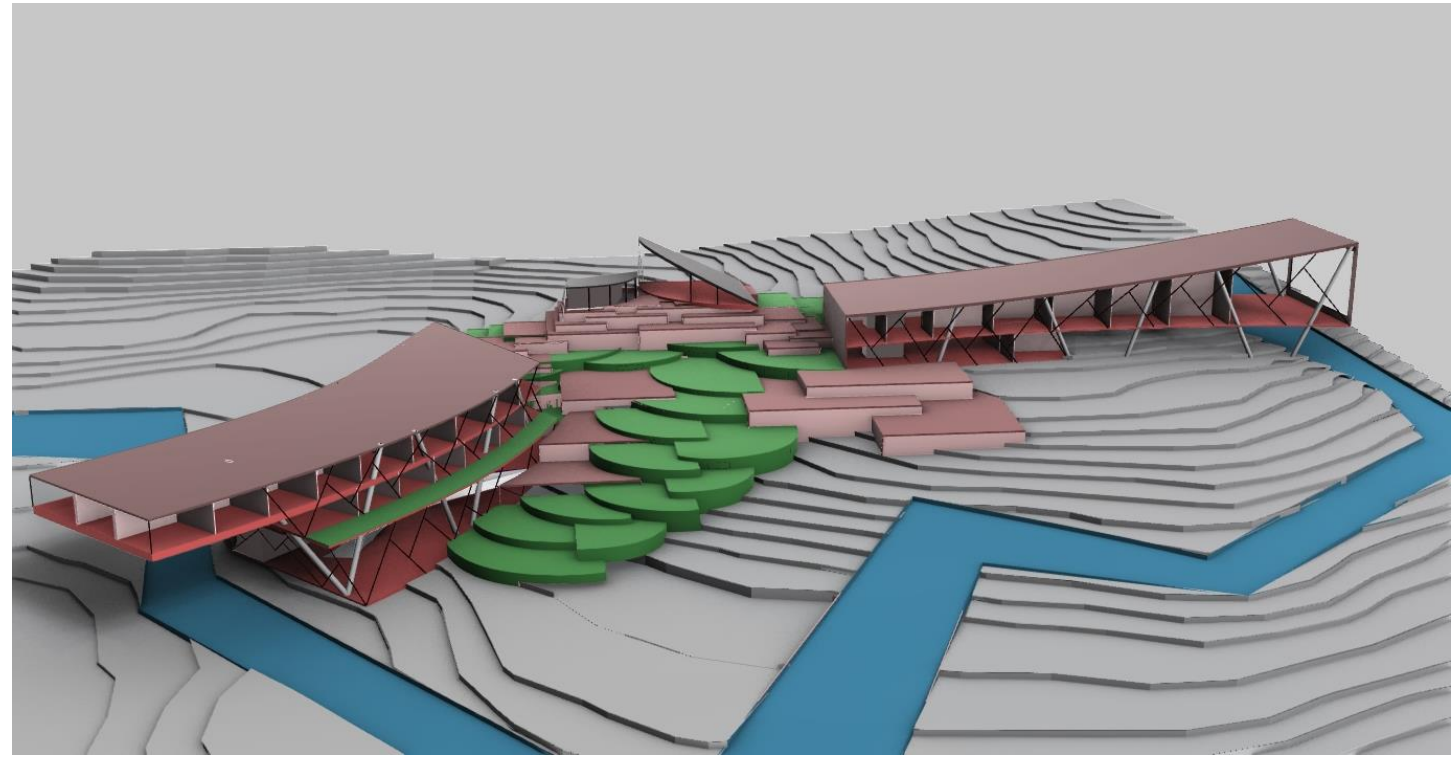
Site Analysis

Green Terraces

Building Terraces

Guest Drop-Off

Structural Diagram



Structural Elements

- Cantilever Truss System

Structural Diagram

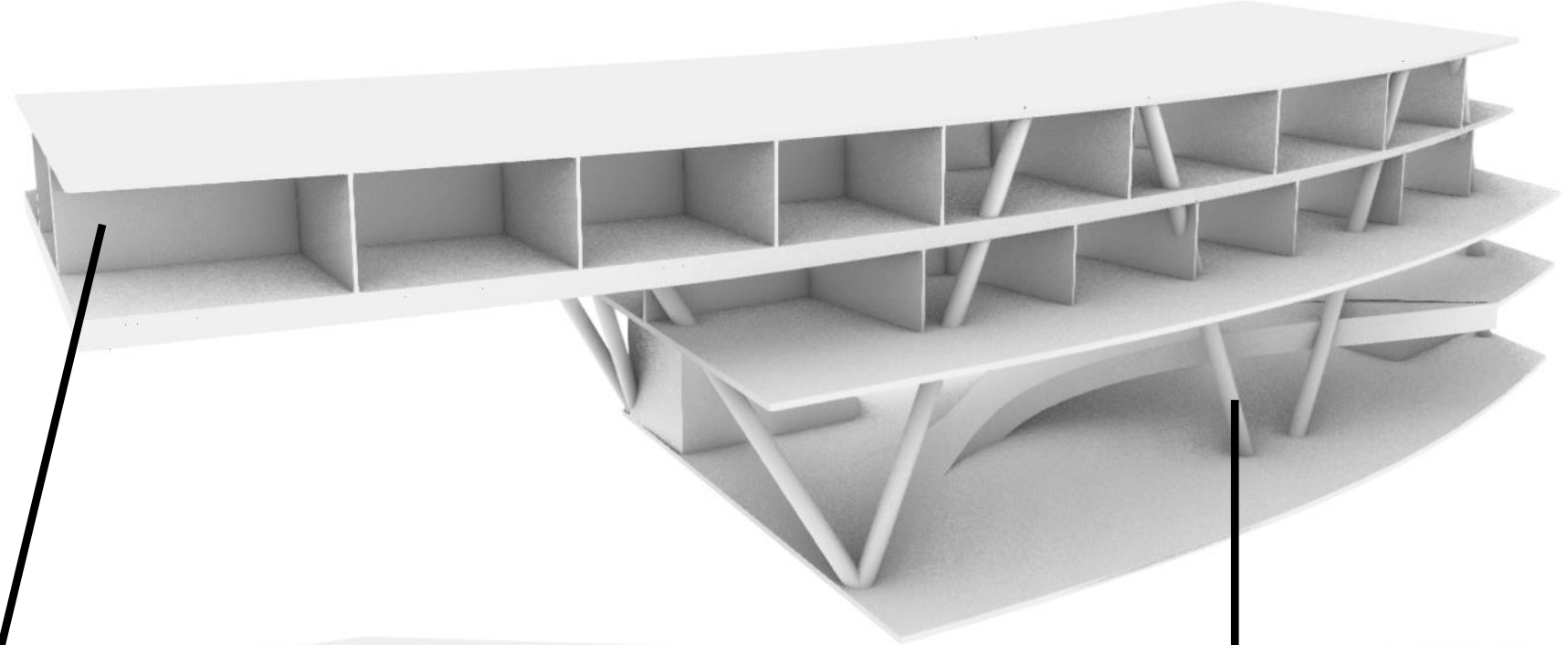
Green Terraces

Function Diagram

Building Terraces

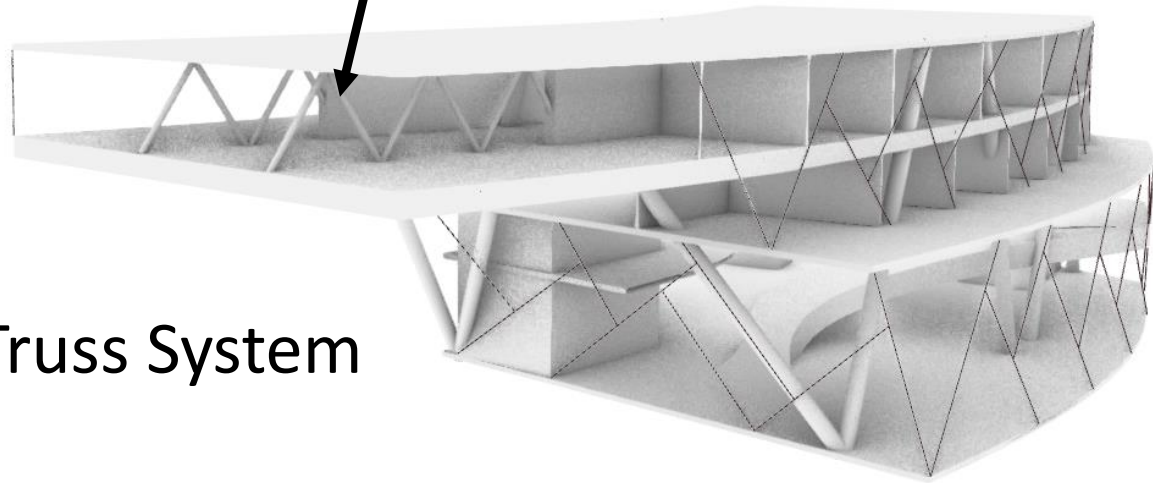
Guest Drop-off

Render



Truss System

Cantilever Truss System





Function Diagram

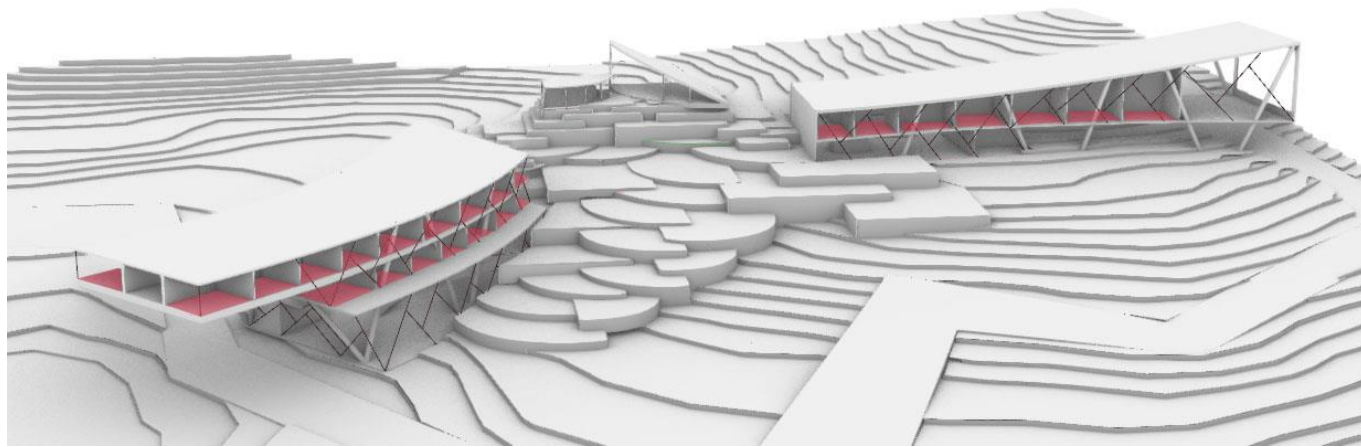
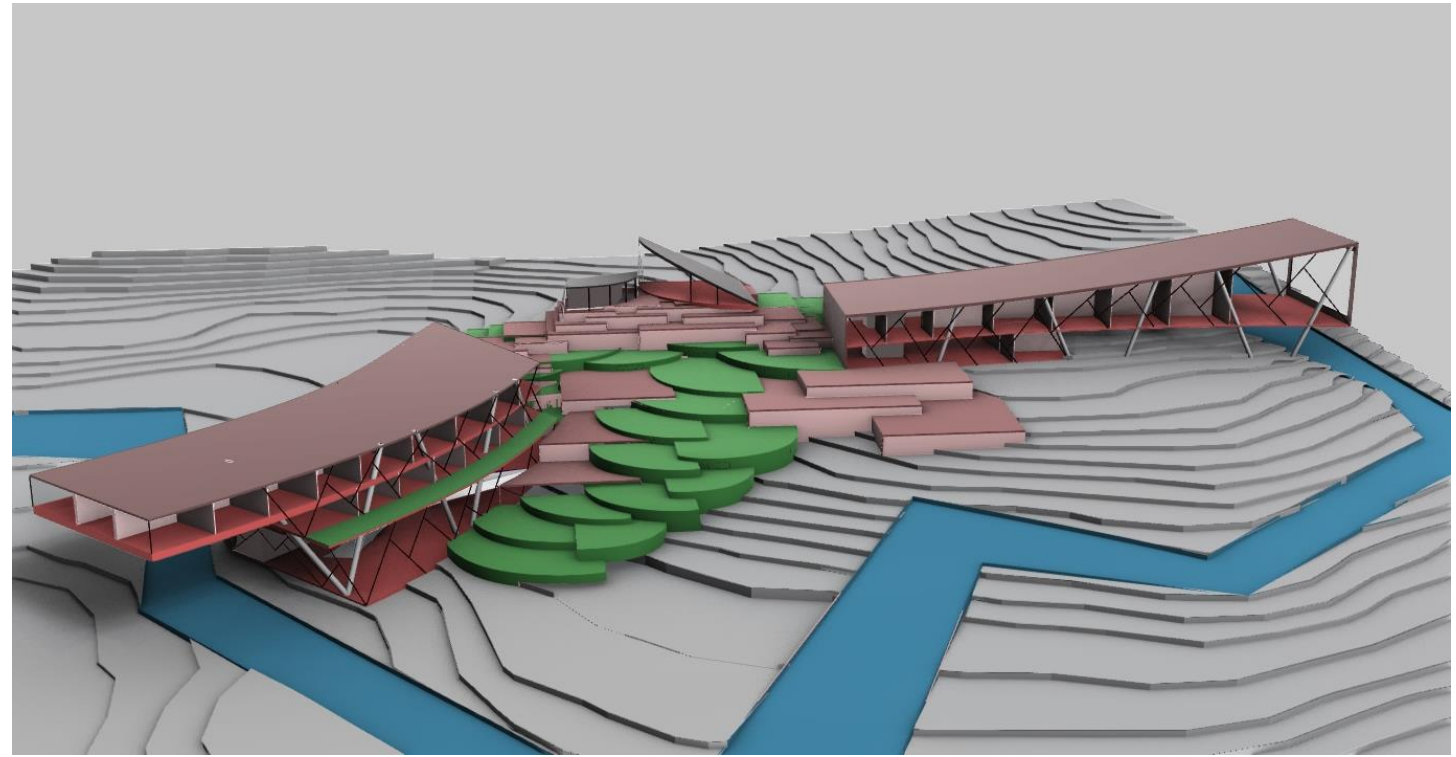
Structural

Green Terraces

Building Terraces

Accessibility

Floor Diagram



Floor System

Function Diagram

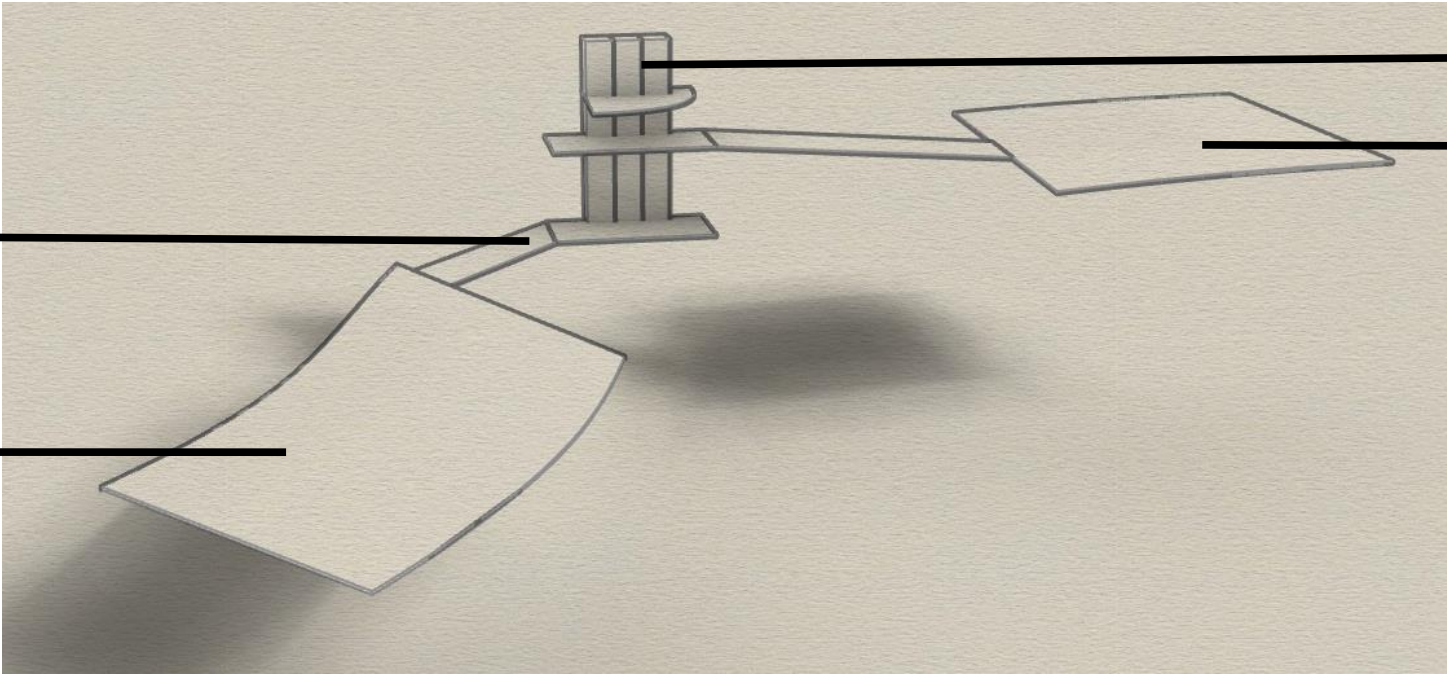
Structural

Green Terraces

Building Terraces

Guest Drop- Off

Floor Diagram



Elevators

Building

Underground Connections

Building

Functional

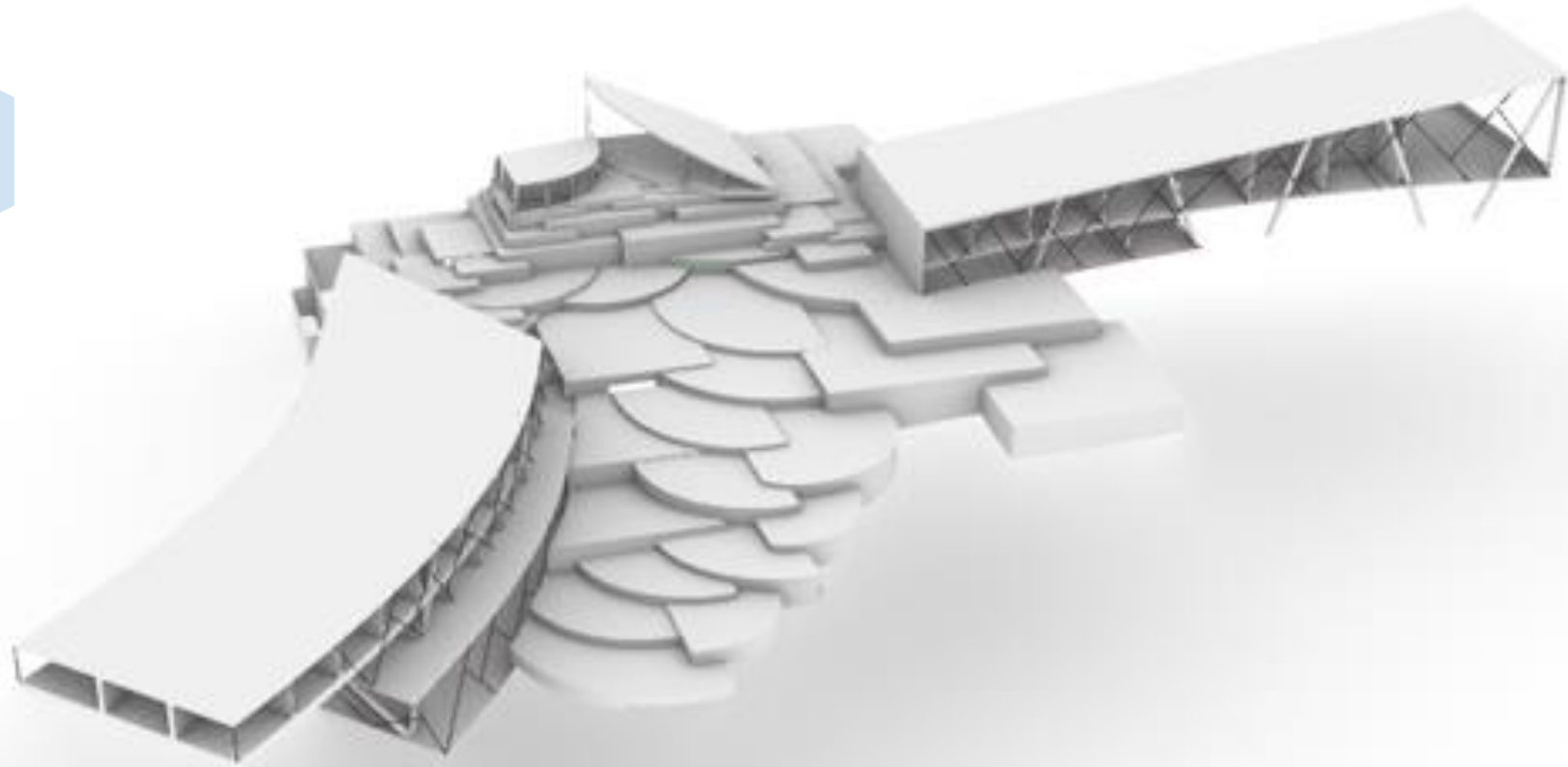
Design Ideas

Green Terraces

Building Terraces

Structural

Section Diagram



Functional

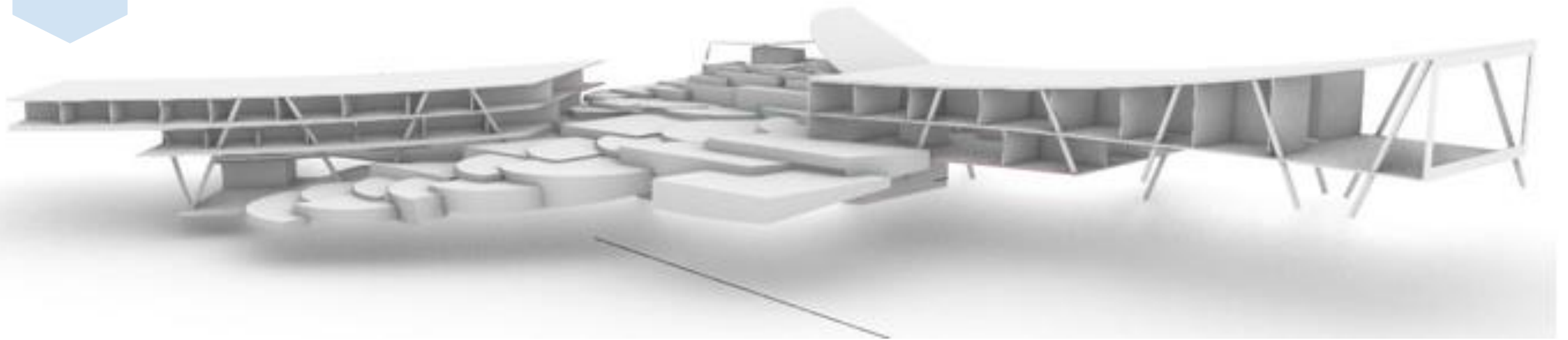
Building
Terraces

Site
Analysis

Hamam

Green
Terraces

Section
Diagram



Functional

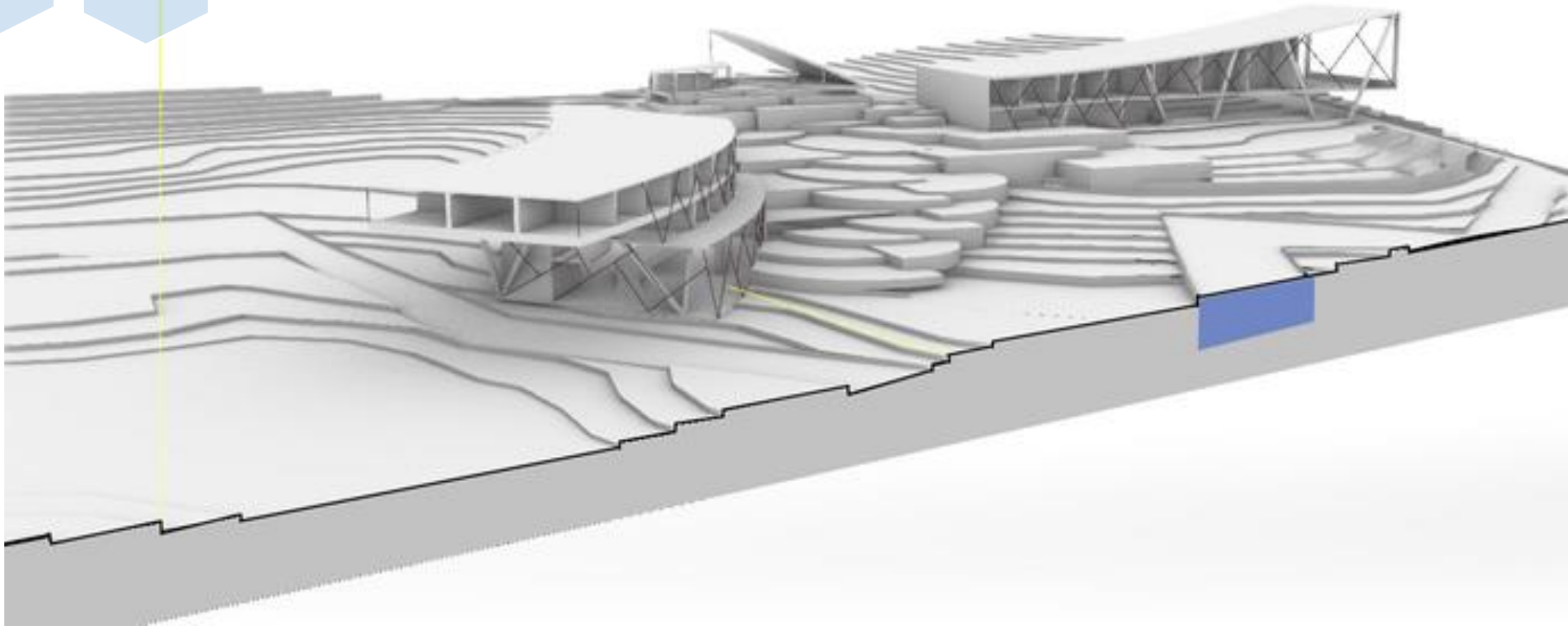
Building
Terraces

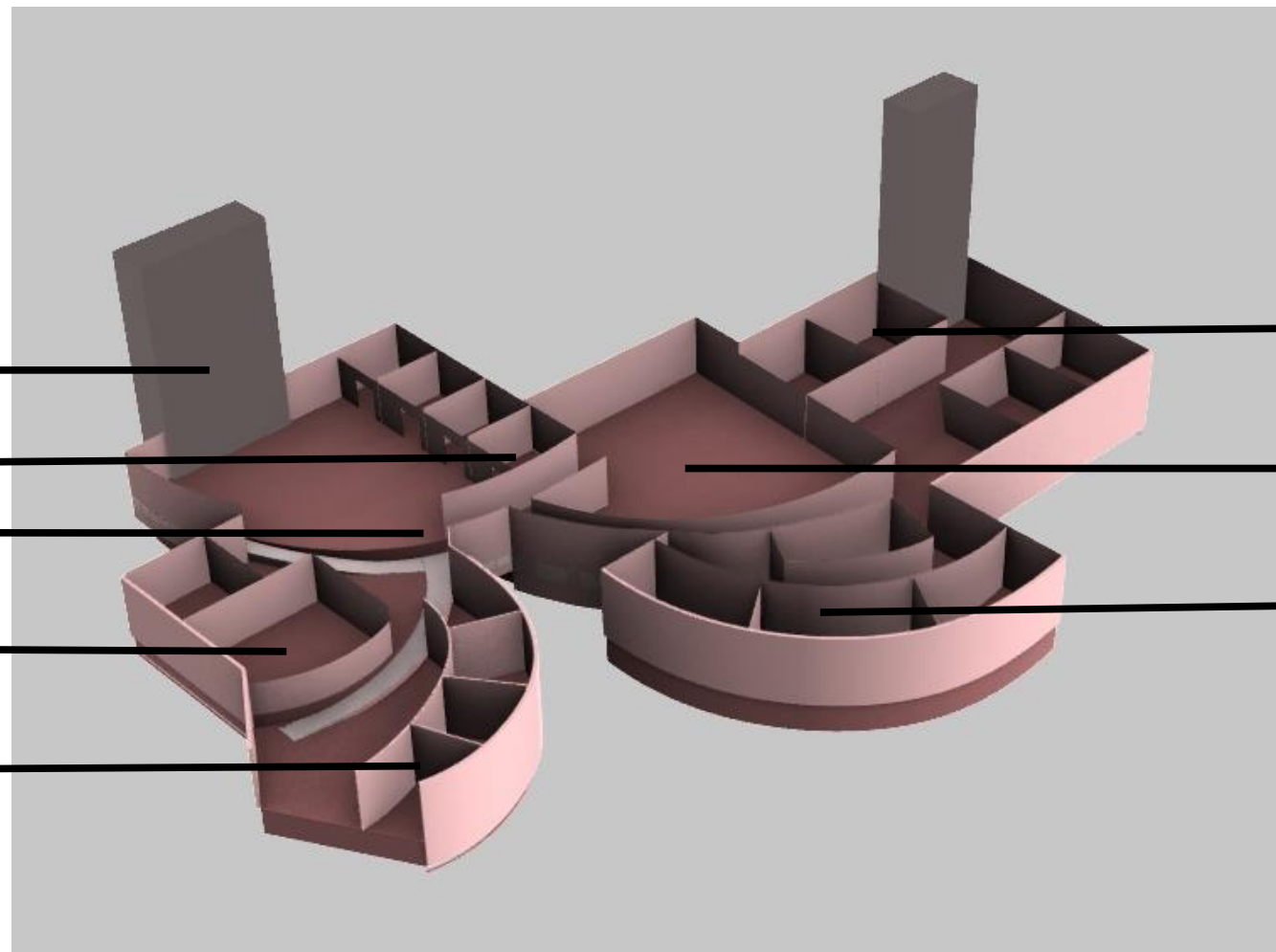
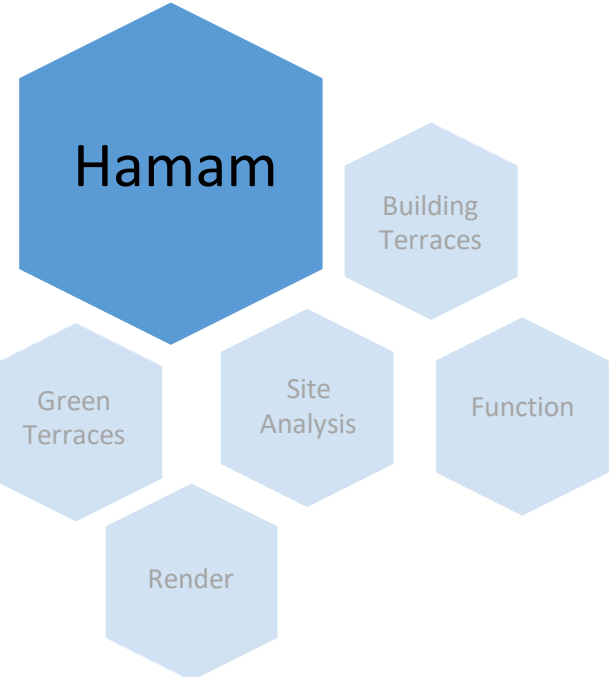
Green
Terraces

Site
Analysis

Design
Ideas

Hamam





- Elevators ←
- Ski Equipment Storage ←
- Reception of Hamam ←
- Private Hamam Rooms ←
- Fitting Rooms ←
- Fitting Rooms →
- Hamam & Pool →
- Hamam Rooms →



Elevations

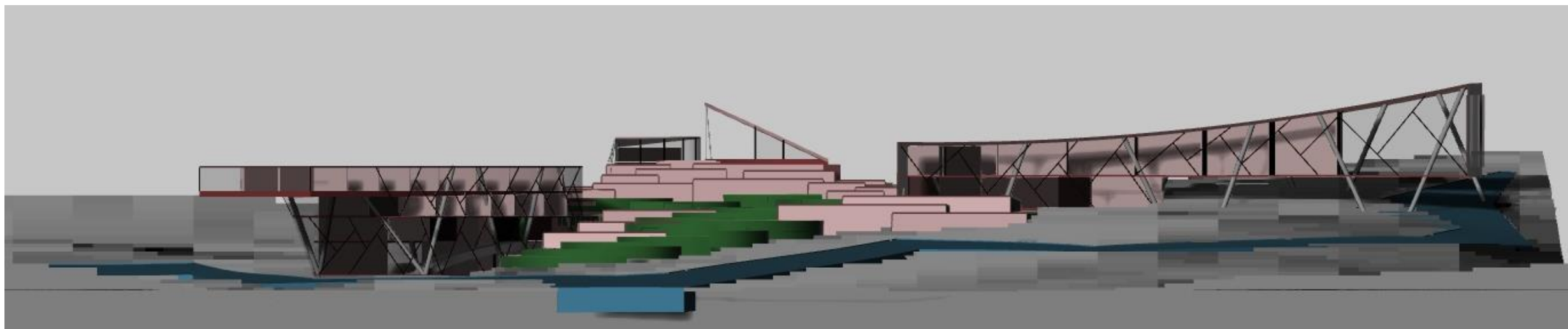
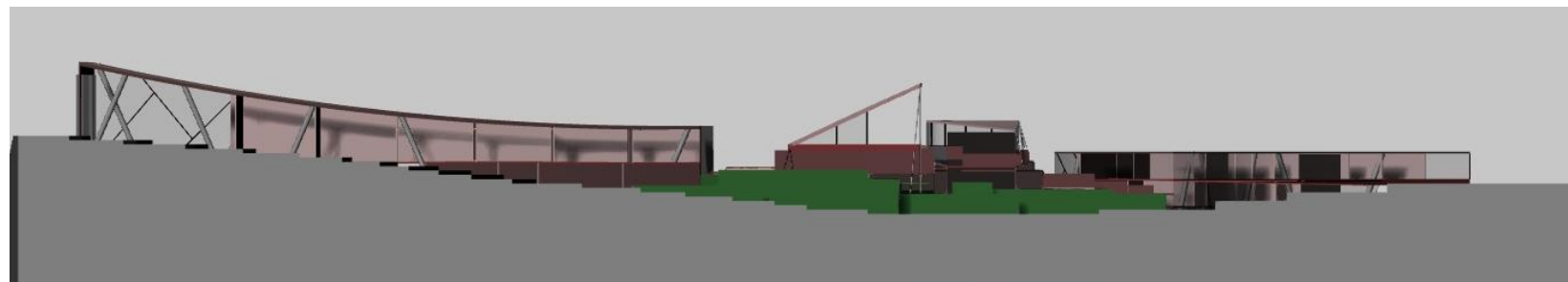
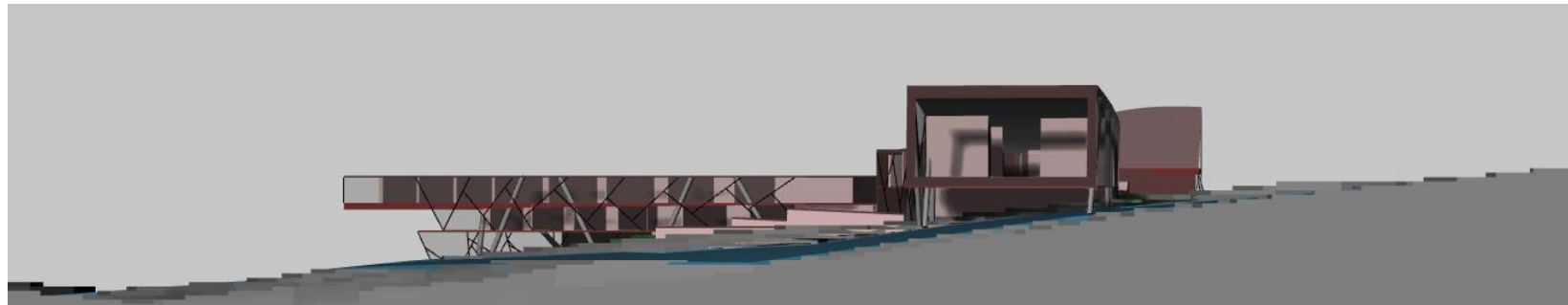
Building
Terraces

Green
Terraces

Site
Analysis

Take a
Lookk

Environ
mental



Environmental

Building Terraces

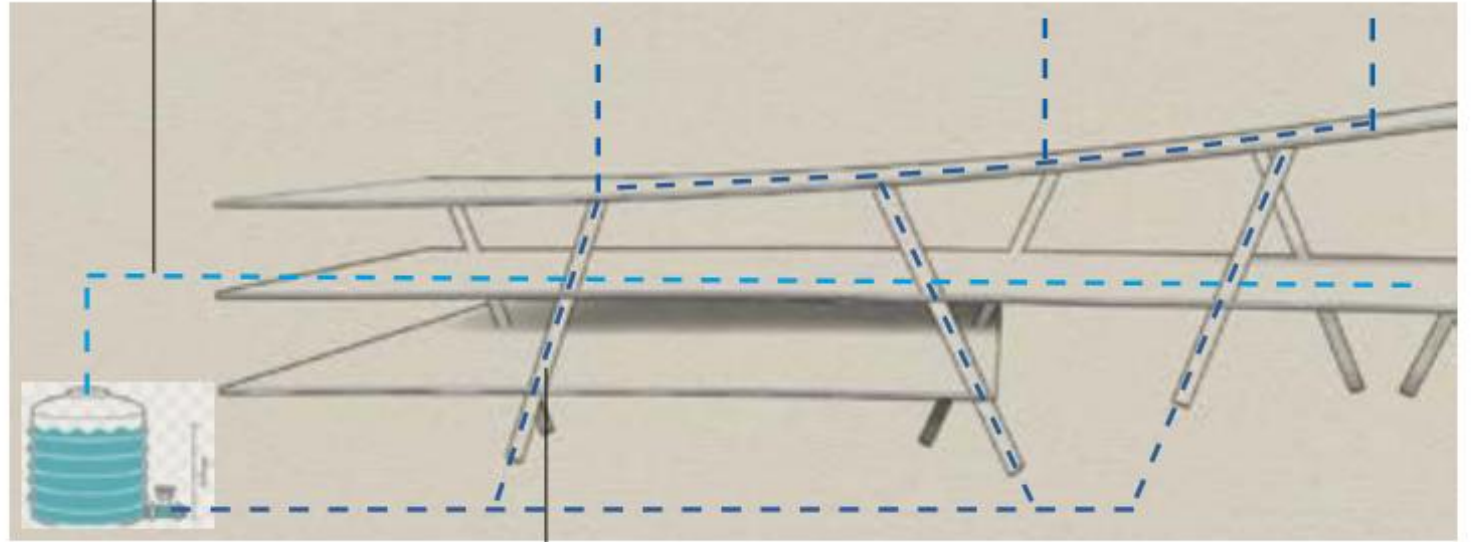
Functional

Site Analysis

Guest Drop-Off

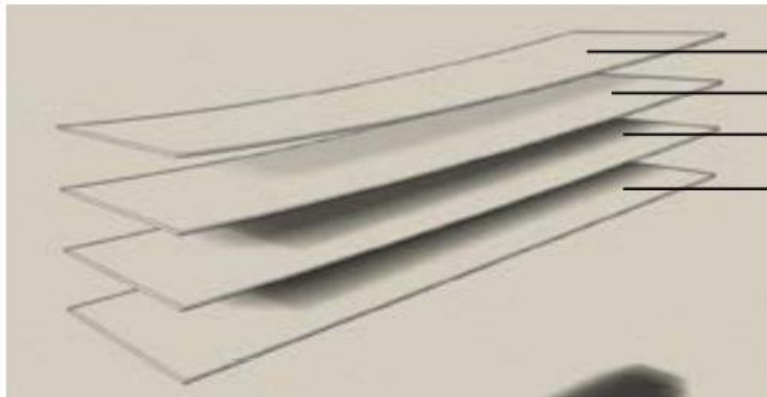
Take a Look

Collected Water used in room toilet flushes



Structural steel columns collect rain & snow water

Layers of the Roof Structure



Heat thermal layer to collect snow and rainwater

Waterproof insulation layer

Structural layer

Glass-fibre-reinforced gypsum

Take a
Look

Floor

Function

Green
Terraces

Site
Analysis

Render









Get
Inside

Floor

Green
Terraces

Structural

Site
Analysis

Render



Lobby

Design Ideas

Green Terraces

Structural

Site Analysis

Render



Restaurant

Design
Team

Structural

Site
Analysis

Green
Terraces

Render



Hamam Entrance

Design
Ideas

Green
Terraces

Structural

Site
Analysis

Trip



