jockey's ridge research + education center
outer banks , north carolina

this addition to jockey ridge state park creates an integrated solution for education and research, while investigating a culturally and ecologically charged hybrid project typology the project is a direct response to recent litigation related to offshore oil drilling has threatened North Carolina's beautiful shoreline and biodiversity. furthermore, the Outer Banks have seen a drop in tourism over the past few seasons. with a research and education center, regional alternatives to environmentally costly drilling can be developed, while culturally providing a destination that celebrates and elucidates the fragility and splendor of the OBX.

qualitative parameters

desired qualities

social

tactically adjust the site's historic fill and preserve this area for public use by proposing a vibrant new node for community participation.

structural

sensibly meet the ground, through investigation and revision of historically significant structural strategies in this environmentally fluid context.

aesthetic

begins with an effort to achieve fitness between two entities: the form in question and its context. The form is the solution to the problem; the context defines the problem.

performance

define the qualitative and quantitative measures of sustainability and the data needed to implement and assess these measures for energy consciousness from project inception.

collage

the combination or collection of various things; a method that leads to a composition; the act of assembling various materials resulting in a cohesive whole that creates new, interpretive meaning through its connections between parts; a superimposition of layers.

place

develop the intersection of an architectural intervention with its surroundings, strengthening both.

jockey's ridge

Jockey's Ridge is the tallest active sand dune system in the Eastern United States, and the most striking of the remaining dunes on the Outer Banks. Shifting winds are constantly reshaping the dunes. Jockey's Ridge encompasses three distinct ecological environments: Dunes, Maritime Thicket, and the Roanoke Sound Estuary. The site provides an ecologically and recreationally rich space for conducting research, and engaging the community.

the dunes

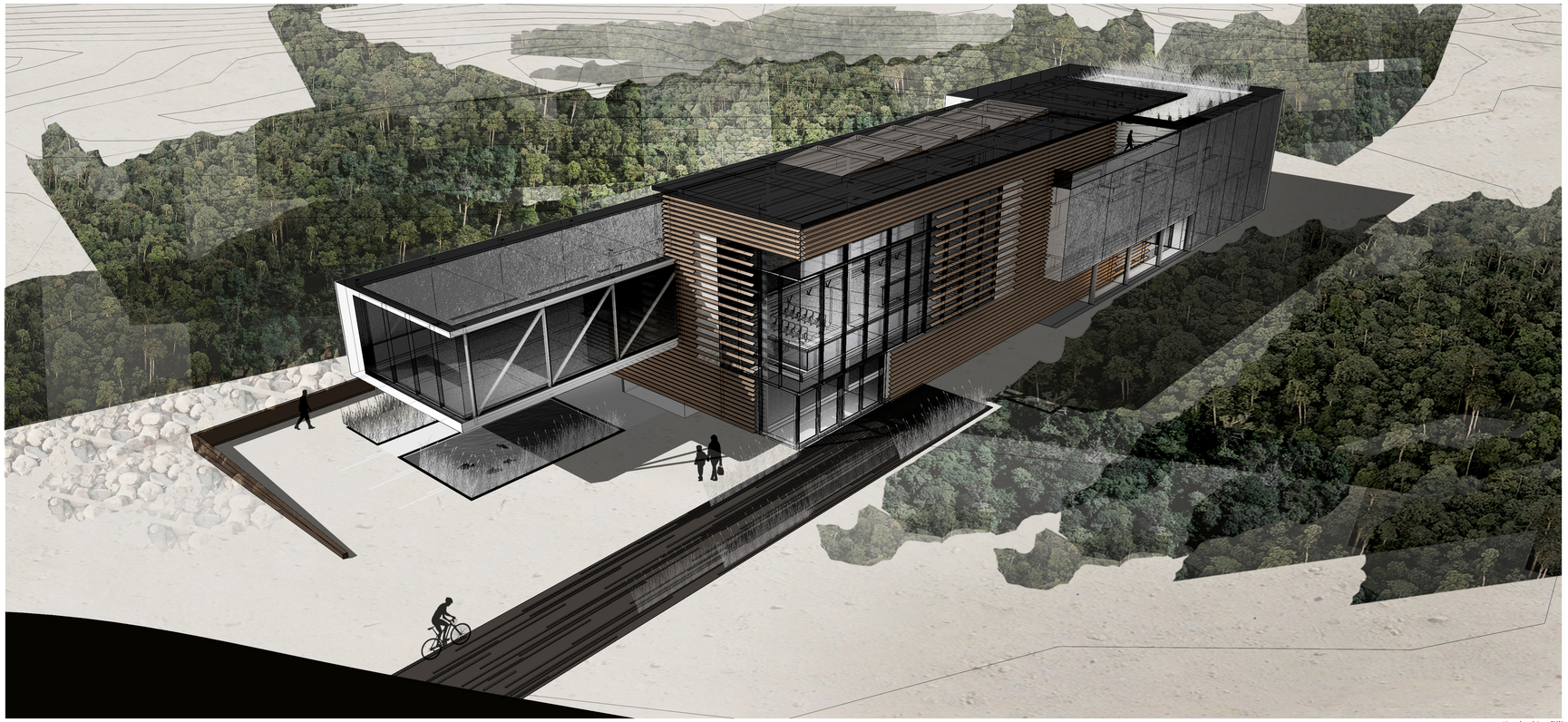
The dunes consist of three peaks and are an example of a Medaño, shifting sand that lacks vegetation. No plants or animals make their home on the dune due to the harsh conditions here.
The area around the base of the dunes hosts a variety of grasses and small plants. One such plant is the American Beach Grass which anchors itself in the sand with help from its 40-foot long root system. The grasses create habitats for small animals and insects. Heavy rains sometimes create temporary pools around the base of the dunes, providing wildlife with fresh water.

maritime thicket

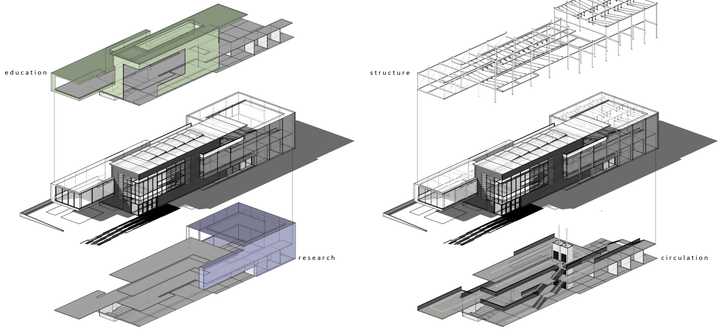
The maritime thicket of live oaks, persimmons, red cedar, wax myrtle, bayberry, sweet gum, red oaks, and pines grows best in areas protected by the large dune. The height of the dune provides protection from both wind and salt blown off the ocean. The effects of the wind and salt stunts the growth of trees, causing them to look like shrubs. Larger animals such as foxes, deer, and raccoon find protection in this environment.

roanoke sound estuary

The Roanoke Sound Estuary is a rich habitat for a variety of plant, animal and bird life. Cattails, sawgrass, giant cordgrass and black needlerush provide habitats for many waterfowl and serve as fish nurseries. The sound is also home to the Blue Crab, an important commercial fisheries industry in North Carolina.

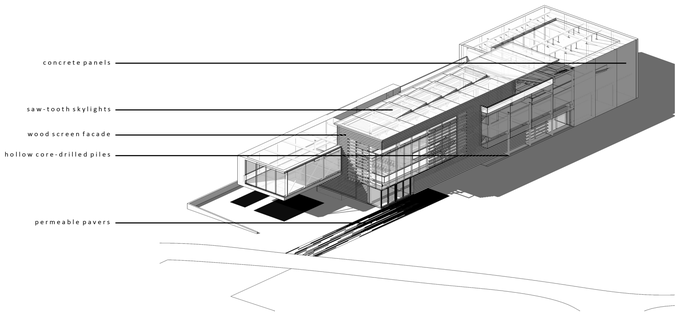


perspective looking NW



site plan

perspective looking NE



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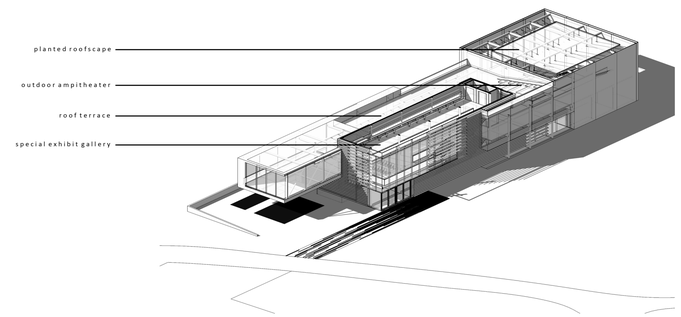

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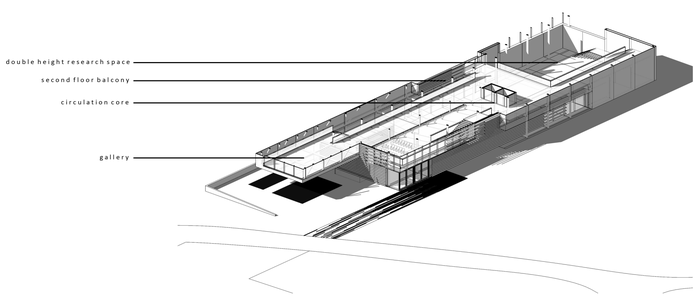

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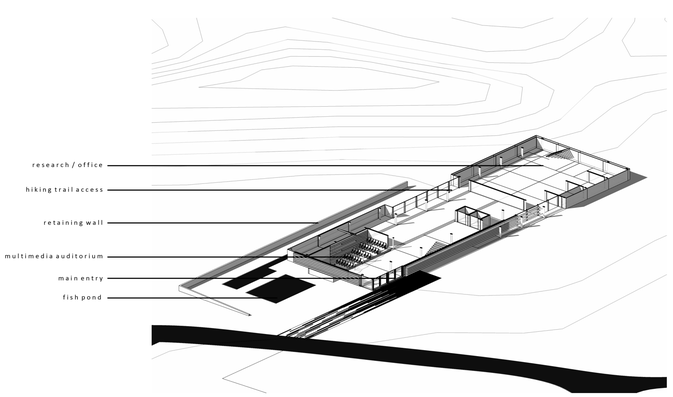

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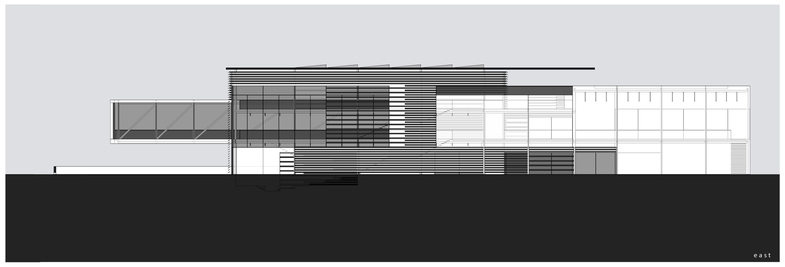
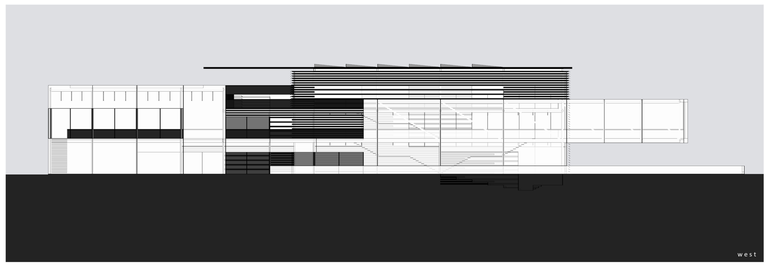
transverse section perspective

longitudinal section perspective



east

north



west

south