



**MARINE DISCOVERY CENTER**

# **MASTER PLAN**

Prepared for Marine Discovery Center  
March 30, 2023



**LITTLE**<sup>®</sup>  
DIVERSIFIED ARCHITECTURAL CONSULTING



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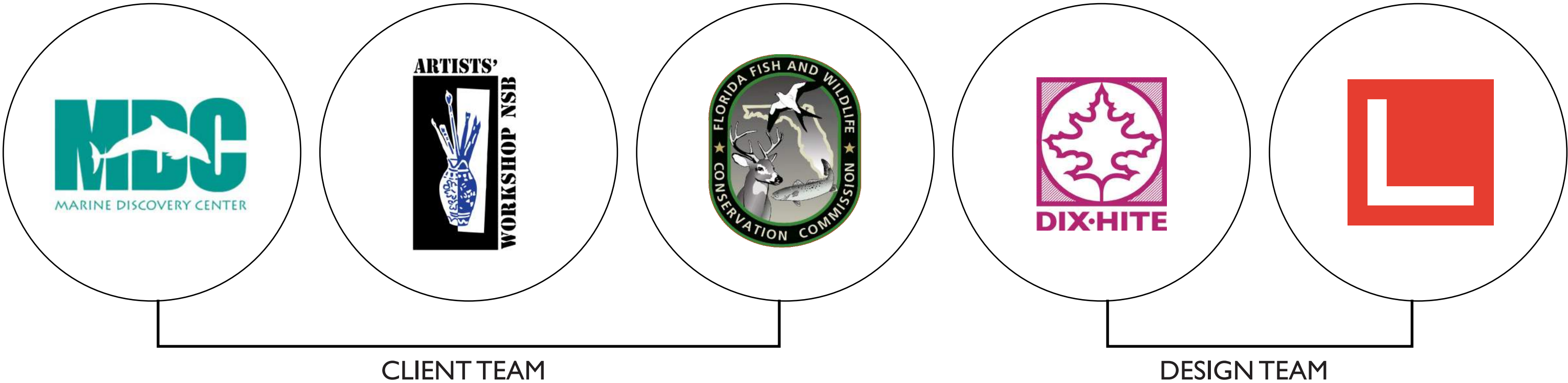
# INTRODUCTION

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In partnership with Florida Fish and Wildlife Conservation Commission (FWWCC), Marine Discovery Center (MDC) and Artists' Workshop of New Smyrna Beach (AWI) have shared the site of the former New Smyrna Beach High School since 2011. Working collaboratively on a variety of projects and events throughout the year, they have a common goal of bringing awareness to Florida's coastal and Indian River Lagoon ecosystems by providing high quality educational programming, research, and passive recreation for children, adults and seniors of all ages. Whether a local resident or visitor from abroad, guests are invited to ***Discover Nature through Art*** as they explore the 22-acre campus, participate in a guided ecotour, or engage in a variety of ***hands-on, feet-wet*** interactive activities, workshops and volunteer opportunities.

The following documents are the result of creative and engaging discussions aimed to address the current and future needs of MDC, AWI, and FFWCC as they work to fulfill their respective missions. The result is a dynamic and sustainable space that will serve as a functional and beloved community asset for years to come.

# PROJECT TEAM





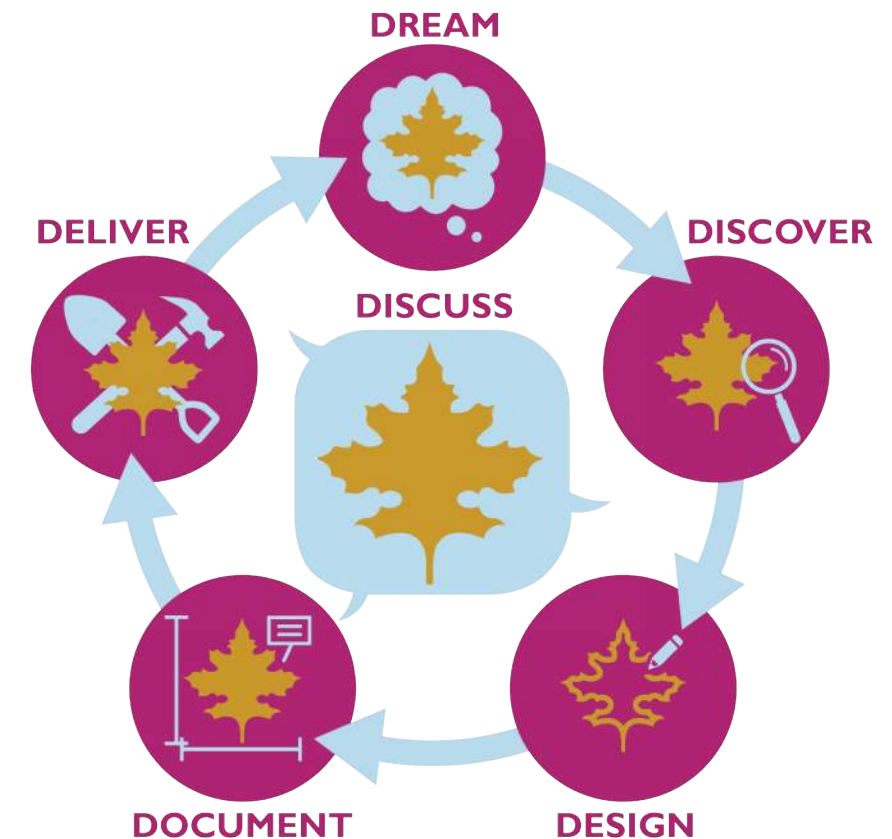
# THE “6D” PROCESS

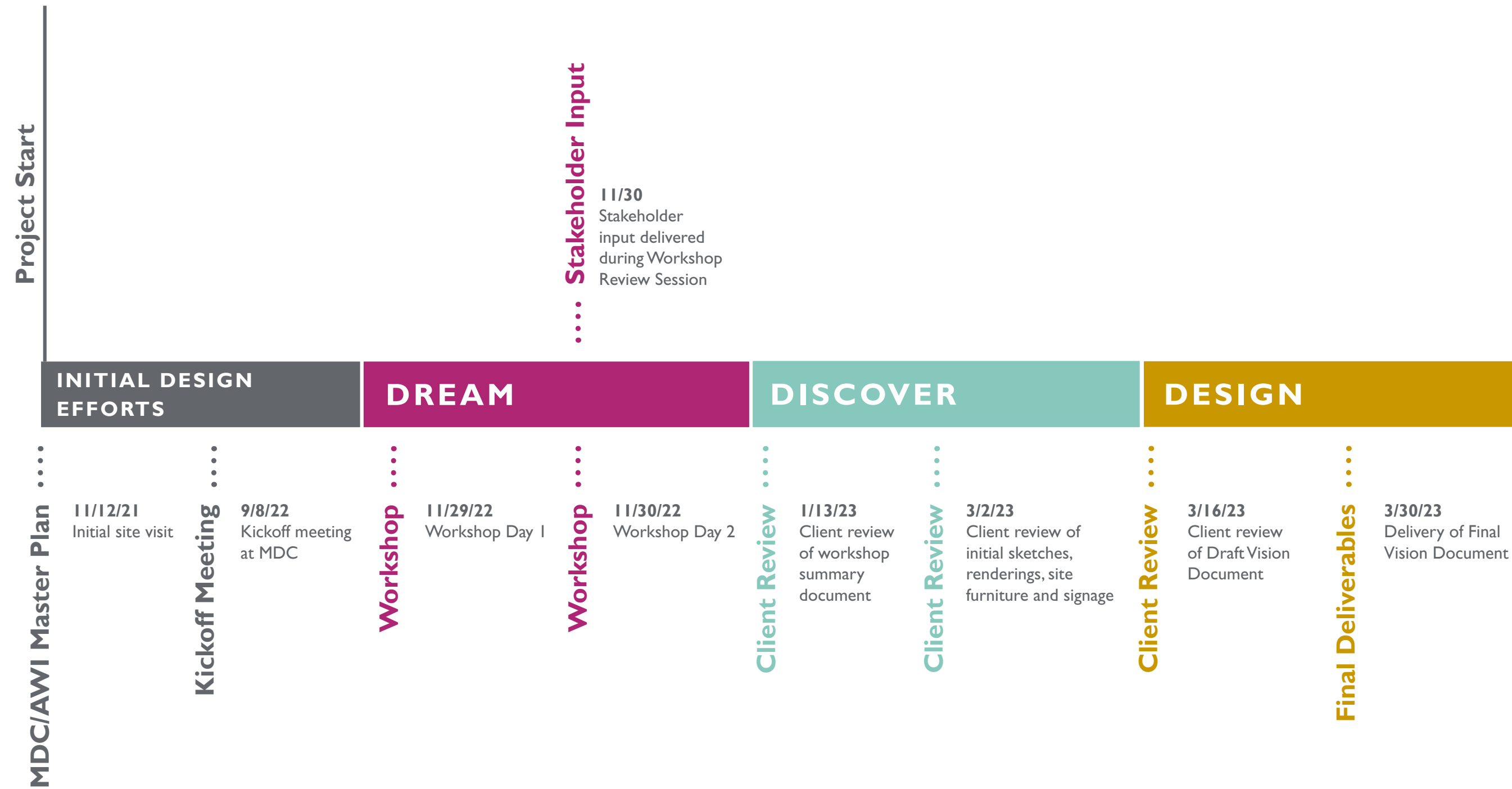
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To help clients meet their goals through excellent design, Dix.Hite applies the “6D approach,” which is transparent and scalable and engages the entire design team in identifying opportunities and constraints collectively.

The approach is easily understood and provides an open process for discussion and agreement on data and decisions. The process fosters collaboration and supports Dix.Hite team members to hold the 6D method integral to the firm’s culture and creativity. We have successfully applied this process to numerous design projects.

The name, “6D,” refers to the steps in the process: dream, discover, design, discuss, document and deliver. Each step of the way, progress is checked against the dream, helping ensure that the outcomes meet the intent and that the results fulfill the vision. The 6Ds also provide a framework for overall project management. As details of the project are uncovered, the approach is adapted to meet specific goals, deliverables, and time frames.







# DREAM

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The ideal master site plan for MDC, AWI, and FFWCC blends green infrastructure, functional facilities, inspiring architecture, and creative landscapes that foster eco-education, artistic expression, social engagement, and a deep appreciation for the protection of the Indian River Lagoon. Seamlessly blending the needs of each organization required creative thinking and careful consideration of the physical, ecological, cultural and social aspects of the site and the intended uses and users.



# MISSION STATEMENTS

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## **Marine Discovery Center's**

mission is to protect and restore Florida's Coastal and Indian River Lagoon ecosystems through education, research and community stewardship.

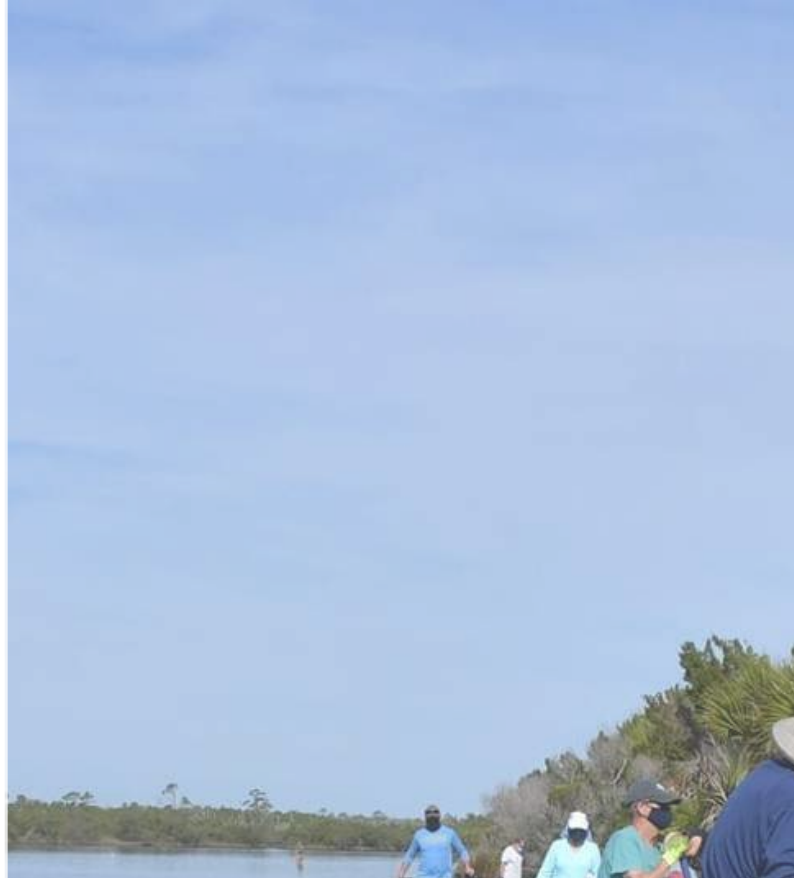
## **The Artist's Workshop of New Smyrna Beach**

strives to enrich our natural coastal community by offering a supportive, vibrant environment that provides opportunities to learn, create, exhibit, and appreciate art.

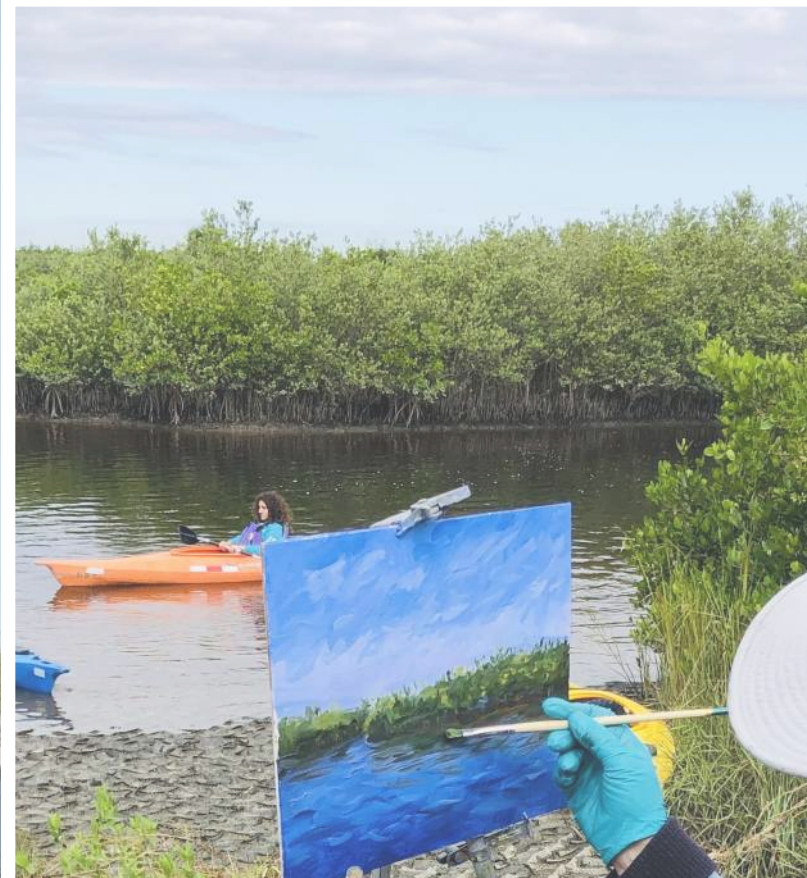




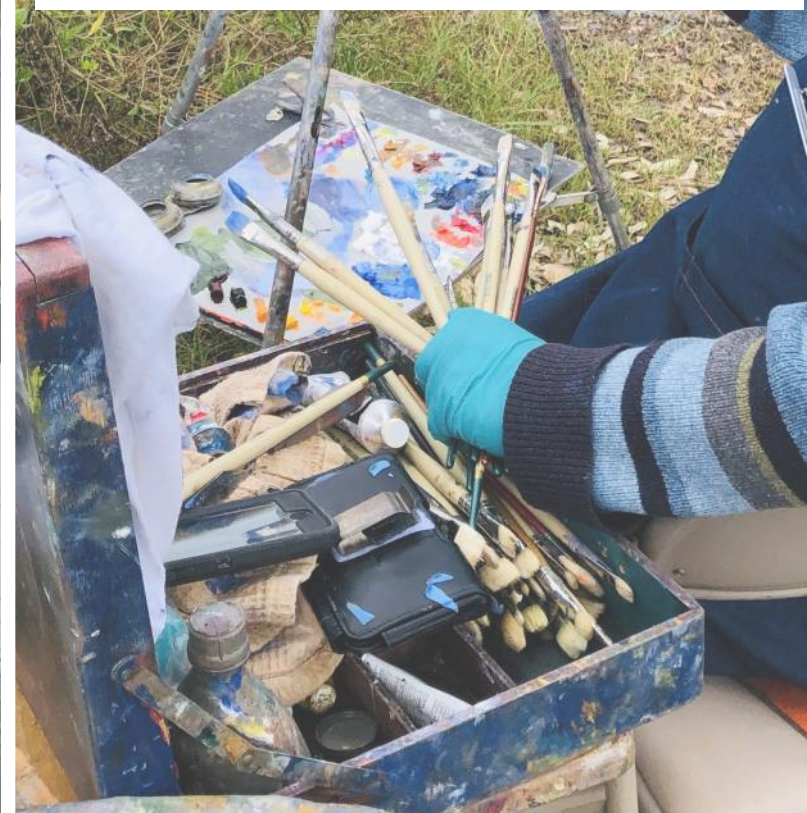
## EDUCATION



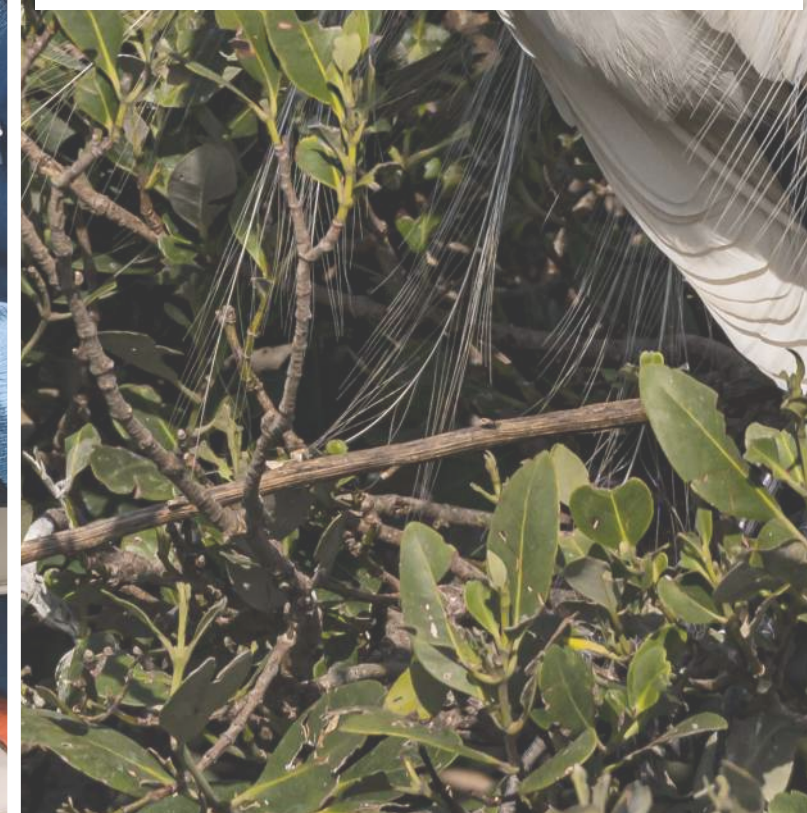
## COMMUNITY



## WELLNESS



## CONSERVATION





# DISCOVER

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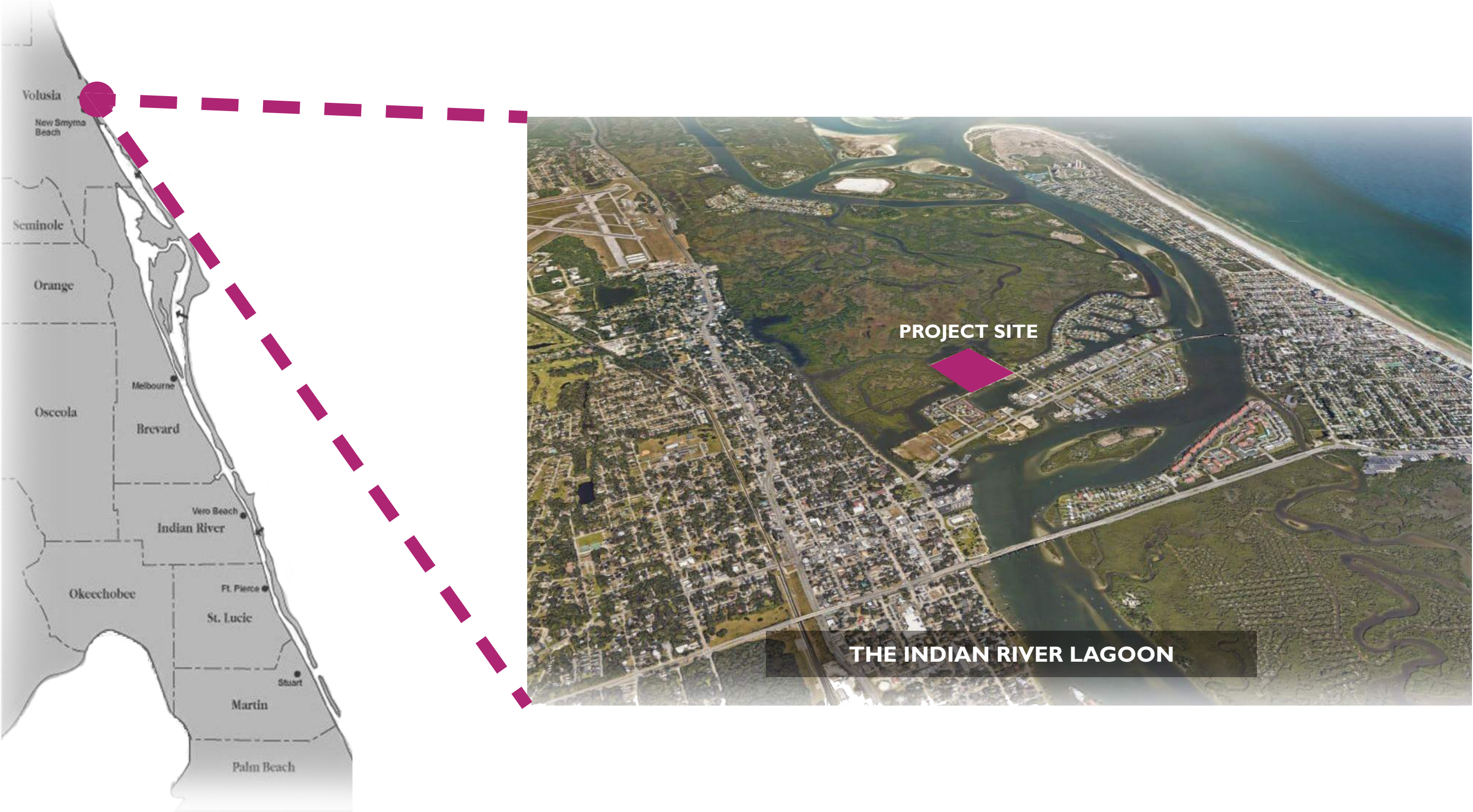
Home to over 4,300 species of flora and fauna, the Indian River Lagoon (IRL) is one of the most biodiverse ecosystems in North America.

This master site plan created for Marine Discovery Center, Artists' Workshop New Smyrna Beach and the Florida Fish and Wildlife Conservation Commission invites water from the IRL's Mosquito Lagoon into the site, providing countless opportunities to engage locals and visitors of all ages with the beauty and diversity of this precious natural resource. Additionally, utilizing this water to facilitate the cultivation of various seagrass species solidifies the Marine Discovery Center as a critical component to the health and wellness of the IRL ecosystem.





# SITE CONTEXT MAP





# EXISTING SITE CONDITIONS

## LEGEND

- 1 Marine Discovery Center / Artist's Workshop building
- 2 Kayak Launch/Kayak Shack/Restrooms
- 3 Amphitheater
- 4 Play Space
- 5 Mt. Morgan
- 6 Parking
- 7 Seagrass Tanks
- 8 Oyster Shells
- 9 Bike Path/Trailhead

NOTE:  
-Trailhead cannot be relocated  
-Restrooms cannot be relocated  
-Seagrass tanks will be in north lot  
-Amphitheater cannot be relocated





# EXISTING SITE



VIEW FROM MT. MORGAN



VIEW OF EXISTING BUILDING AND PAVILION



VIEW OF ESTUARY FROM KAYAK LAUNCH





# WORKSHOP

The images to the right were captured during a 2-day visioning workshop held at the Southeast Volusia Chamber of Commerce in New Smyrna Beach, Florida. The workshop followed an initial project kickoff meeting held at Marine Discovery Center on September 8, 2022. The original visioning workshop was scheduled for September 28 and 29th but was rescheduled due to the effects of Hurricane Ian. Representation from MDC, AWI, FFWCC, DixHite + Partners Landscape Architecture, Little Diversified Architectural Consulting, project stakeholders and community members instead met on November 30 and December 1, 2022, to determine the preliminary vision and design direction which will guide Marine Discover Center, Artists' Workshop NSB, and Florida Fish and Wildlife Conservation Commission through the coming decades of growth and development.





# COMPARABLE PROJECTS

The following projects were studied to help determine spatial requirements, relationships and functions relevant to the Marine Discovery Center master plan. These locations were chosen on the basis of their geographic and operational values aligning closely with those of the Marine Discover Center and Artist's Workshop.





# FLORIDA OCEANOGRAPHIC SOCIETY



Florida Oceanographic Society is a non-profit organization founded in 1964 with the mission to inspire environmental stewardship of Florida’s coastal ecosystems through education, research and advocacy.

**LOCATION:** Stuart, FL

**SIZE:** 57 acre

**ESTABLISHED:** 1964

## PROGRAMMATIC ELEMENTS

- |                          |                      |                                 |
|--------------------------|----------------------|---------------------------------|
| 1 750,000 gal. Lagoon    | 6 Waterworks Zone    | 11 Sea Turtle Pavilion          |
| 2 Coastal Center         | 7 Butterfly Garden   | 12 Children’s Activity Pavilion |
| 3 Exploration Lab        | 8 Island             | 13 Stingray Pavilion            |
| 4 Ocean Deck             | 9 Parking Lot        | 14 Touch Tank                   |
| 5 1,100 sq. ft Gift Shop | 10 Sea Life Monument | 15 Seagrass Nursery Tank        |





# LOGGERHEAD MARINELIFE CENTER

Loggerhead Marineline Center is one of Florida's most visited nonprofit scientific destinations focused on ocean and sea turtle conservation.

**LOCATION:** Juno Beach, FL

**SIZE:** 24 acre

**ESTABLISHED:** 1983



## PROGRAMMATIC ELEMENTS

- |   |                   |
|---|-------------------|
| 1 65,000 sq. ft Facility<br>-Veterinary Hospital<br>-Exhibit Hall<br>-Classroom Space | 4 Playground      |
| 2 Nature Trail  | 5 Parking         |
| 3 Guarded Beach   | 6 Picnic Pavilion |
|   | 7 Turtle Tanks    |





# ENVIRONMENTAL LEARNING CENTER



The ELC is an attractive destination for people of all ages to frequently return to for adventure, learning, and wellness ELC's mission is to educate, inspire and empower people of all ages to be stewards of the environment.

**LOCATION:** Vero Beach, FL

**SIZE:** 64 acre

**ESTABLISHED:** 1988

## PROGRAMMATIC ELEMENTS

- |                           |                       |                     |                      |
|---------------------------|-----------------------|---------------------|----------------------|
| 1 Welcome Center          | 6 Butterfly Garden    | 11 Campus Cottage   | 16 Teaching Platform |
| 2 Restroom/Break Room     | 7 Gazebo              | 12 Maintenance Barn | 17 Canoe Launch      |
| 3 Classroom Building      | 8 Storage Shed        | 13 Historic Home    | 18 Boardwalk         |
| 4 Administration Building | 9 Covered Picnic Area | 14 Pole Barn        |                      |
| 5 Imagination Station     | 10 Pond               | 15 Boat Dock        |                      |





# SULLIVAN PARK MARINE SCIENCE CENTER



A children's museum designed to be a wonderland of marine experiences featuring actual and virtual technology-based exhibits.

**LOCATION:** Deerfield Beach, FL

**ESTABLISHED:** Estimated 2024

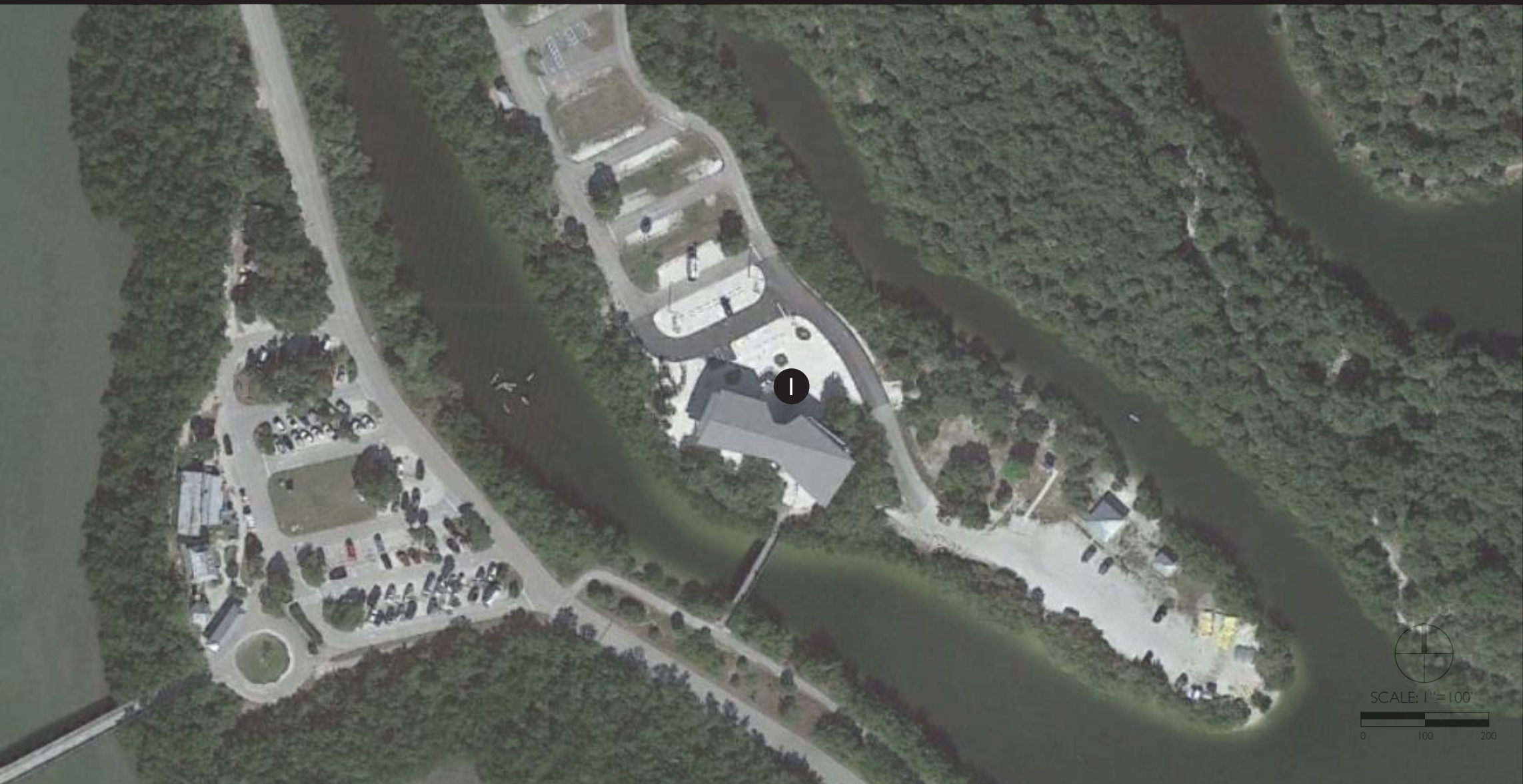
## PROGRAMMATIC ELEMENTS

- 1 Illuminated Coral Reef
- 2 Theatre
- 3 Exhibits
- 4 Simulated Airboat Ride
- 5 Aquariums





# LOVERS KEY WELCOME AND DISCOVERY CENTER



The design of this Welcome and Discovery Center pays homage to this beautiful backdrop, with columns designed to model mangrove roots, and glass walls that open to large observation decks. It is the perfect setting for listening to music, attending a lecture or to just enjoy the natural beauty of Lovers Key State Park

**LOCATION:** Fort Meyers Beach, FL

**ESTABLISHED:** 2021

## LEGEND

- 1 2,100 sqft Building  
Exhibit Hall  
Community Room





# DESIGN

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Our Dix.Hite Design Ethos is a design approach ensuring that every project has an opportunity to positively contribute, or as we like to say, “push the needle” on four quadrants of focus to enrich the lives of citizens and of nature itself:

**Social** - equality, education, and opportunity for interactions both people and community;

**Environmental** - integrated infrastructure that is Nature forward;

**Economic** - both opportunities and long term care;

**Spirit** - Humanity's hardwired attraction and need for Nature.





# PROGRAM

## MDC PROGRAMMATIC ELEMENTS

- Visitor Center
- Gift Shop
- Exhibit
- Research and Educational space
- Event space
- Exterior activity areas
- Restoration areas
- Nature play areas
- Workspaces
- Kayak Launch
- Boat Launch
- Vehicular, Bicycle, and Pedestrian Circulation
- Pollinator Garden

## AWI PROGRAMMATIC ELEMENTS

- New AWI Building
- 3 Studio Spaces
- Clay Studio
- Kiln Room
- Pavilions
- Studio Decks
- Gallery/Gift Shop
- Art Library



**NATURE PLAY**



**OUTDOOR LABS**



**RESTORATION AREAS**



**WAYFINDING SIGNAGE**



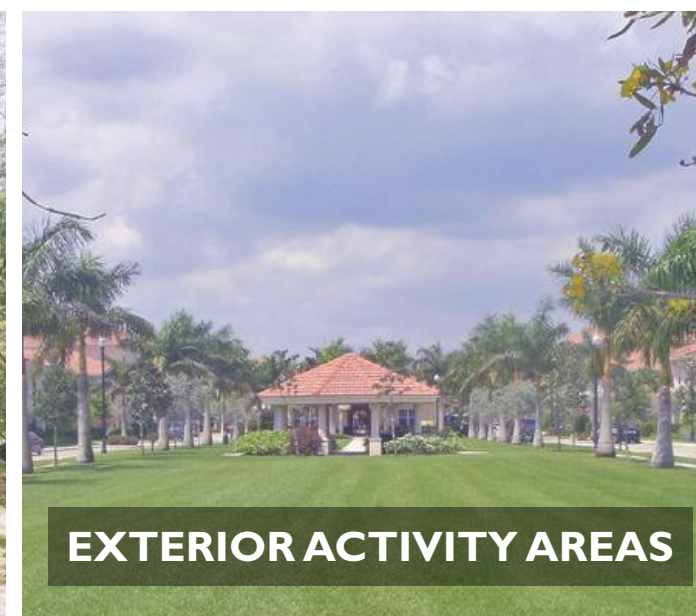
**KAYAK LAUNCH**



**PEDESTRIAN TRAILS**



**GATHERING SPACES**



**EXTERIOR ACTIVITY AREAS**

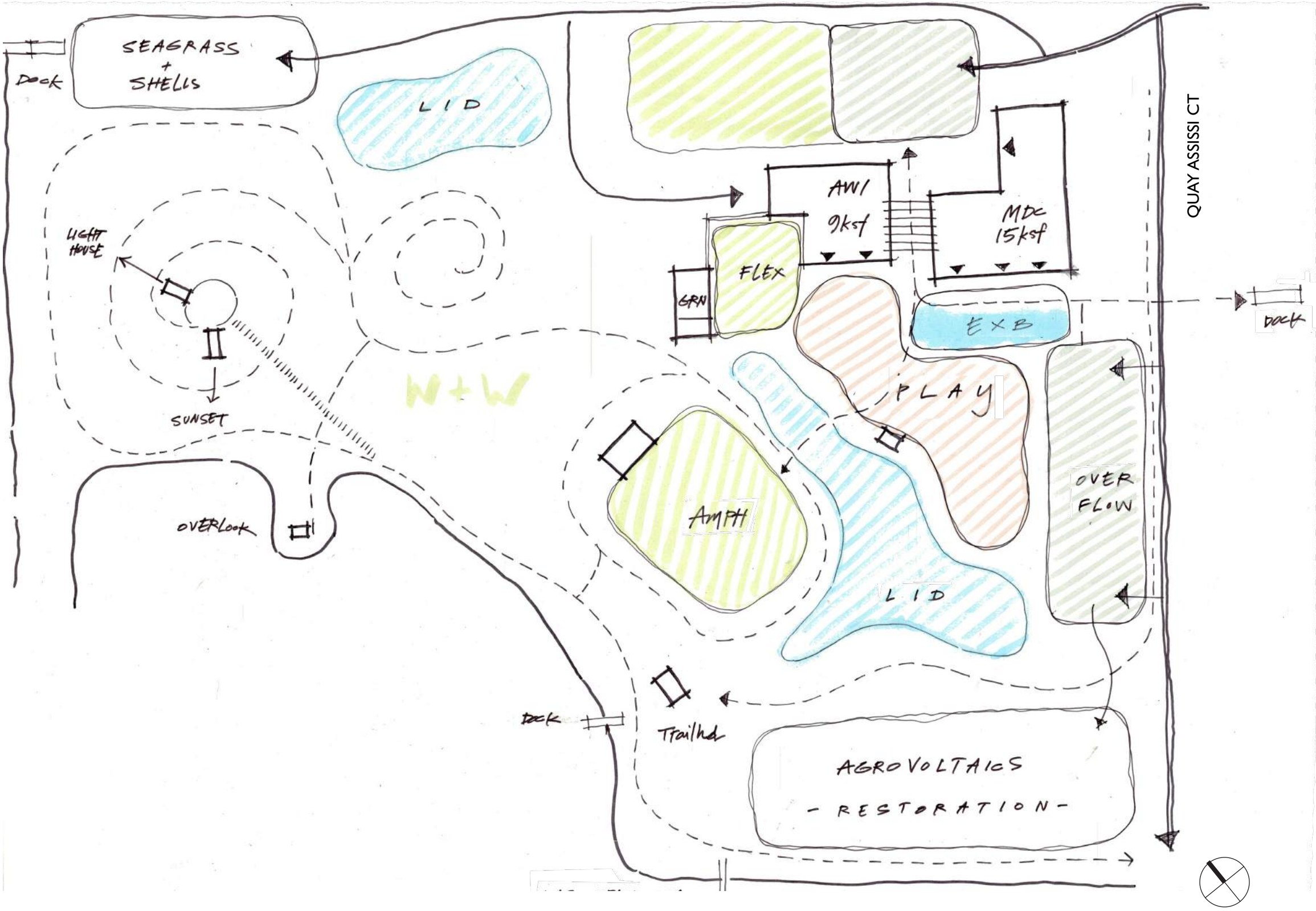


**EVENT SPACES**



# FUNCTIONAL DIAGRAM A

BARRACUDA BLVD



## PROS

- Building centralized in existing area
- Building acts as entry to site
- Oyster shell prep area + Seagrass tanks remain in current location
- Keeps new development co-located to site perimeter
- Allows for large interconnected ecological transect
- Utilizes existing parking areas to limit carbon release with minor enhancements
- Locates "Green Room" to provide multiple functions with AWI campus

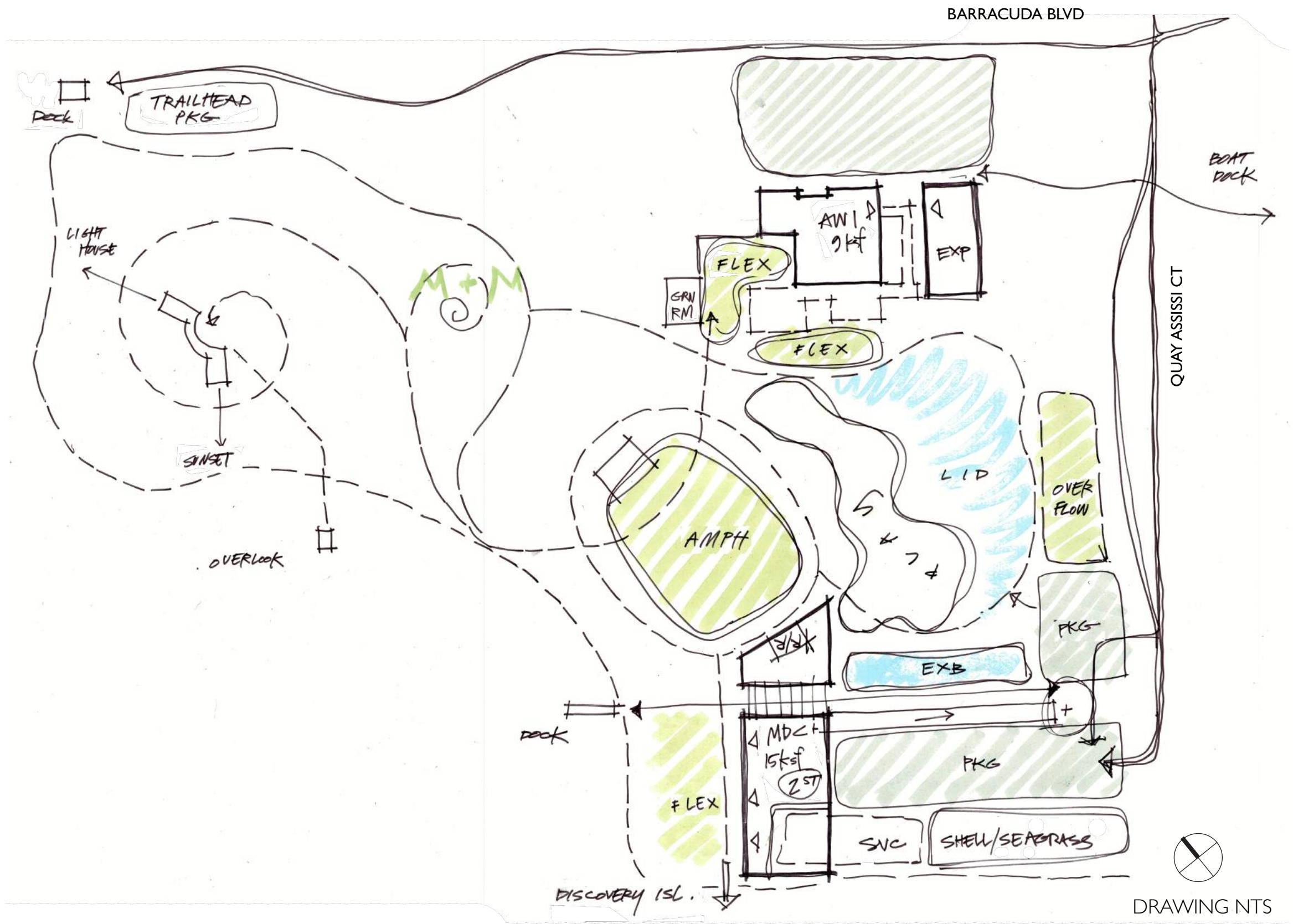
## CONS

- ROW restriction on Barracuda
- Building removed from water and views
- Limited building engagement with ecological context
- Existing west parking lot not highly utilized for guest experience
- All guest immersion is external





# FUNCTIONAL DIAGRAM B



## PROS

- Elevated MDC building with storage/service access
- Trailhead remains
- Location of MDC offers guest immersion with views of and access to the IRL
- Creates destination for MDC and entry progression (compression and release)
- Opportunity for AWI “campus” and identity
- Zone of play and structured outdoor activity between buildings
- Effective incorporation of amphitheater with multi-levels of access to performance

## CONS

- Cannot relocate oysters and seagrass
- Location of trailhead and restrooms
- Low probability of disconnecting and reconstructing Quay Assisi Court from property to west





# SITE PLAN

- 1 MDC Education and Research Center
- 2 Artist's Workshop
- 3 Visitors Center
- 4 Florida Fish & Wildlife Conservation Commission
- 5 Restrooms/Trail head
- 6 Concessions/Kayak Shack
- 7 Amphitheater Stage
- 8 Nature Playscape
- 9 Mt. Morgan Overlook
- 10 Boat Dock(s)
- 11 Kayak Launch/Beach
- 12 Bike Trail
- 13 Nature Trail
- 14 Parking
- 15 Overflow Parking
- 16 Low Impact Development
- 17 Seagrass Nursery + Oyster Bed Shoreline Restoration
- 18 Saltwater Lagoon
- 19 Estuary
- 20 Living Shoreline
- 21 Native Plant Garden
- 22 Compost Station







PERSPECTIVE VIEW





# *REGENERATION*

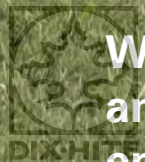
## *TOWARDS ECOLOGICAL RESTORATION*

***A regenerative project is one that improves the environmental, social, economic, and physical health of the surrounding community.***

We live in a brilliantly complex and infinitely diverse natural world. Over billions of years, this diversity evolved to facilitate a symbiotic balance amongst all the interconnected systems of life.

The MDC has long held a critical role in the support and restoration of critical species infrastructure within our ecosystem. The success of that work has created regenerative outcomes that stretch far beyond the borders of this site in New Smyrna. Regenerative work like this is the key to creating a resilient future where actions and planning today do not compromise the needs of future generations (for all species of flora and fauna).

We must once again create a sustainable balance between humans and nature, and to do so, we must take steps to ensure our built environment exists in harmony with the natural world.





# *ECOLOGICAL HARMONY*

A regenerative framework anchored the creation of this masterplan and helped develop a foundation for the principles within to guide the work in achieving a far reaching, ecologically restorative, effect. This framework utilized a performance-based mindset to ensure that the strategies developed and applied will enhance and uplift the mission of the MDC and its partners now and in the years ahead.

Five simple steps helped guide the team toward creating a synthesis of ecology and education, leveraging the engagement of your work and its influence on the community and the world at large to reduce the size of your environmental footprint while maximizing its regenerative impacts.

***MEASURE*** { resources }

***THINK UPSTREAM*** { origination }

***ACT DOWNSTREAM*** { circularity }

***EDUCATE*** { transparency }

***INFLUENCE - ADVOCATE*** { NETWORK OF MUTUALITY }



03.30.2023

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MARINE DISCOVERY CENTER





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# ARTIST'S WORKSHOP BUILDING







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# MARINE DISCOVERY CENTER BUILDING







# FUTURE MARINE DISCOVERY CENTER BUILDING





LITTLE®  
DIVERSIFIED ARCHITECTURAL CONSULTING

# FUTURE MARINE DISCOVERY CENTER BUILDING





# OPERATIONAL ETHOS

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We look for design opportunities in each focus area using the design program defined during Day I of the workshop. These focus areas are organized into four key overlays:

## **WELLNESS**

Opportunities and spaces that allow one to tend to their dimensions of wellness

## **CULTURE**

Opportunity for visitors to discover nature through art in the combined culture of Marine Discovery Center, Artists' Workshop NSB and Florida Fish and Wildlife Conservation Commission

## **LEARNING**

Opportunities to expand one's knowledge of culture, wellness, and stewardship through hands-on, feet-wet experiences in nature

## **STEWARDSHIP**

Opportunities to enhance our understanding and practice of environmental conservation





# A DAY IN THE LIFE


The following diagrams follow four visitors from different demographics as they spend a day exploring the Marine Discovery Center and Artist's Workshop campus. Their activities are characterized by the operational ethos principles of Wellness, Culture, Learning and Stewardship.




**A child enjoys a week of eco-art camp,** combining their love of outdoor play, nature and art while learning about the Indian River Lagoon.



**A retired adult travels to AWI** to participate in a painting class or attend a gallery show.



**An adult comes to MDC to** volunteer and work alongside MDC conservation staff and FFWCC to complete a shoreline restoration project.

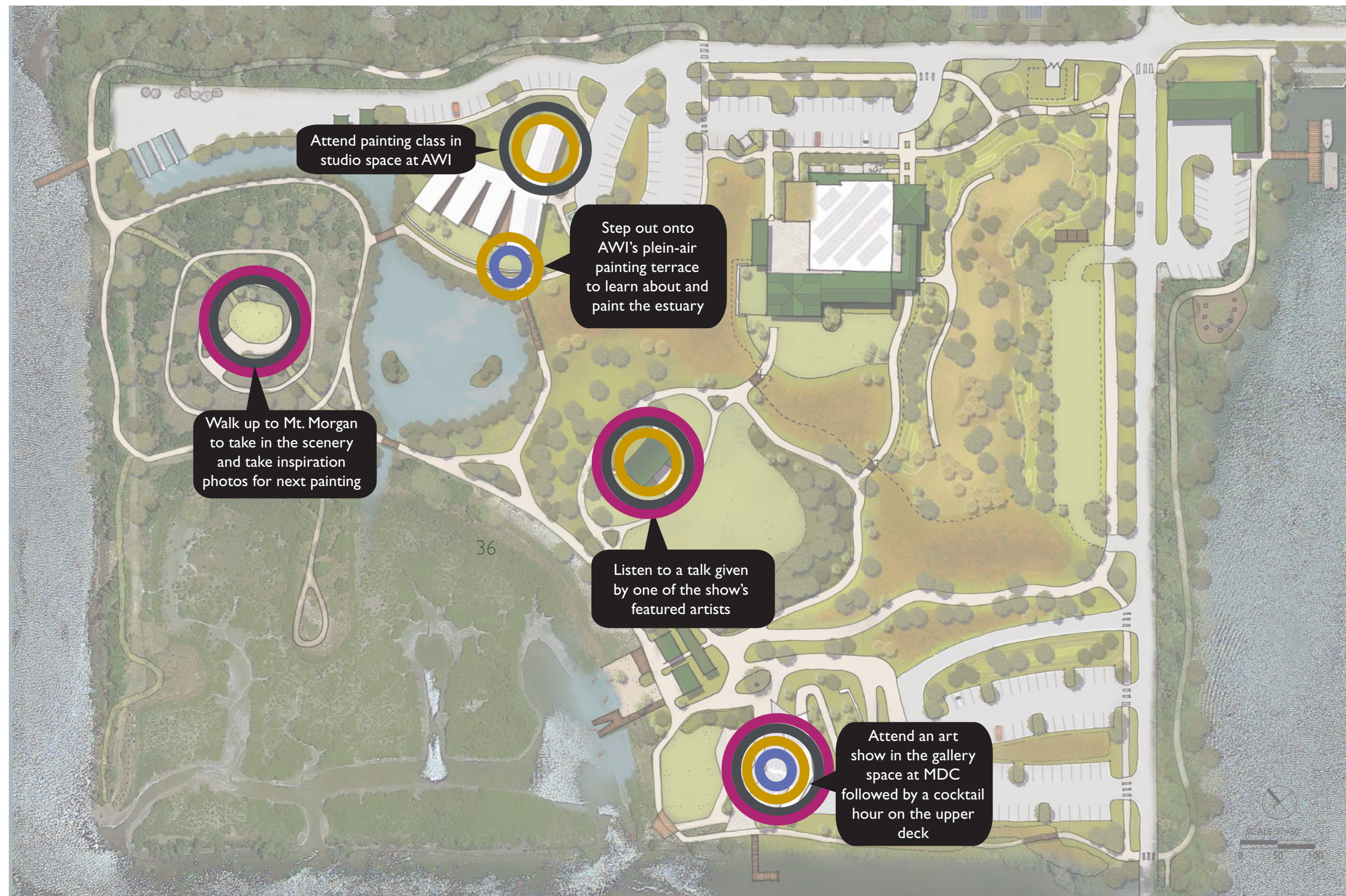


**A Family spends the afternoon** exploring trails, enjoying the nature playscape and learning about our diverse eco-system in MDC's interactive indoor exhibit space






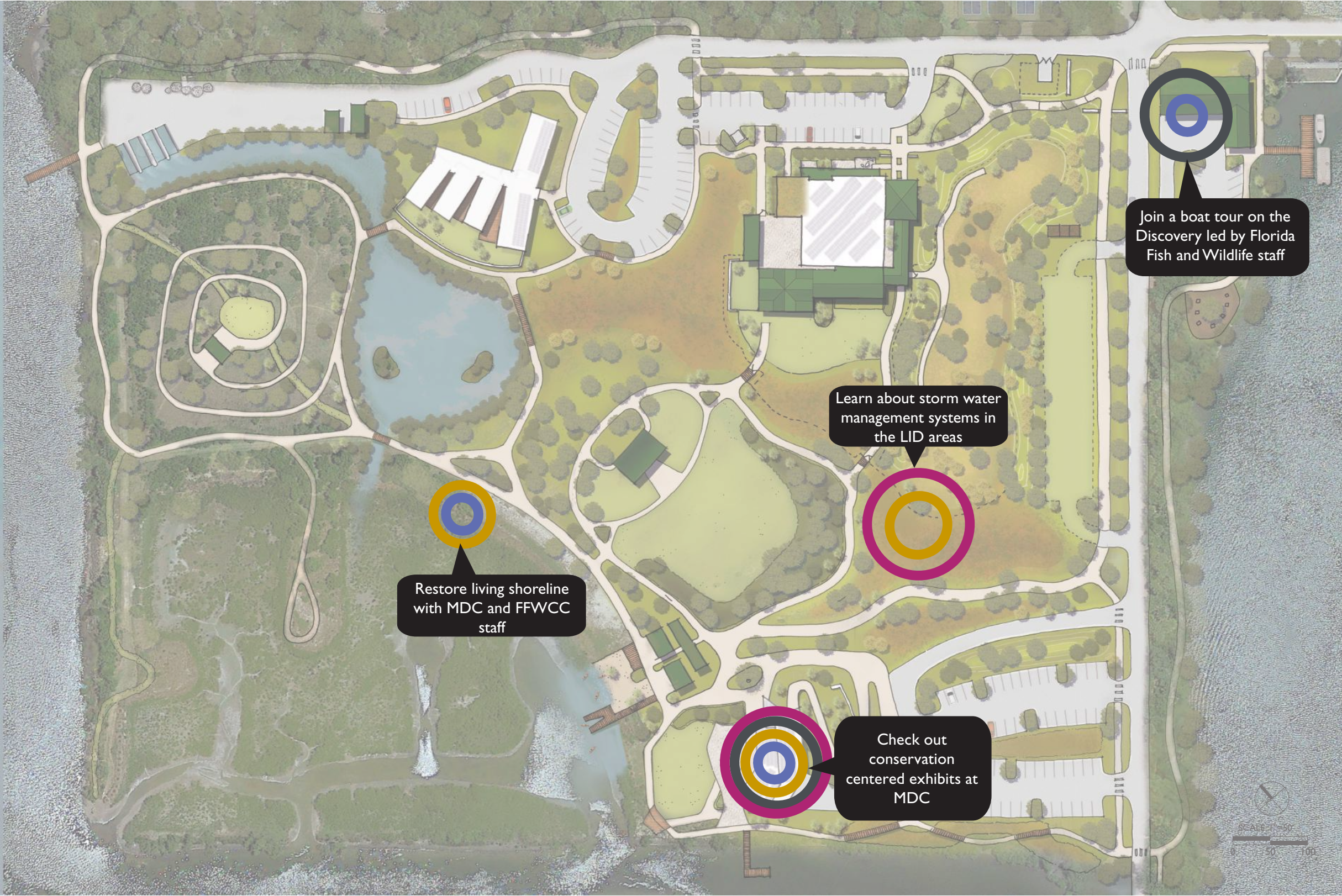






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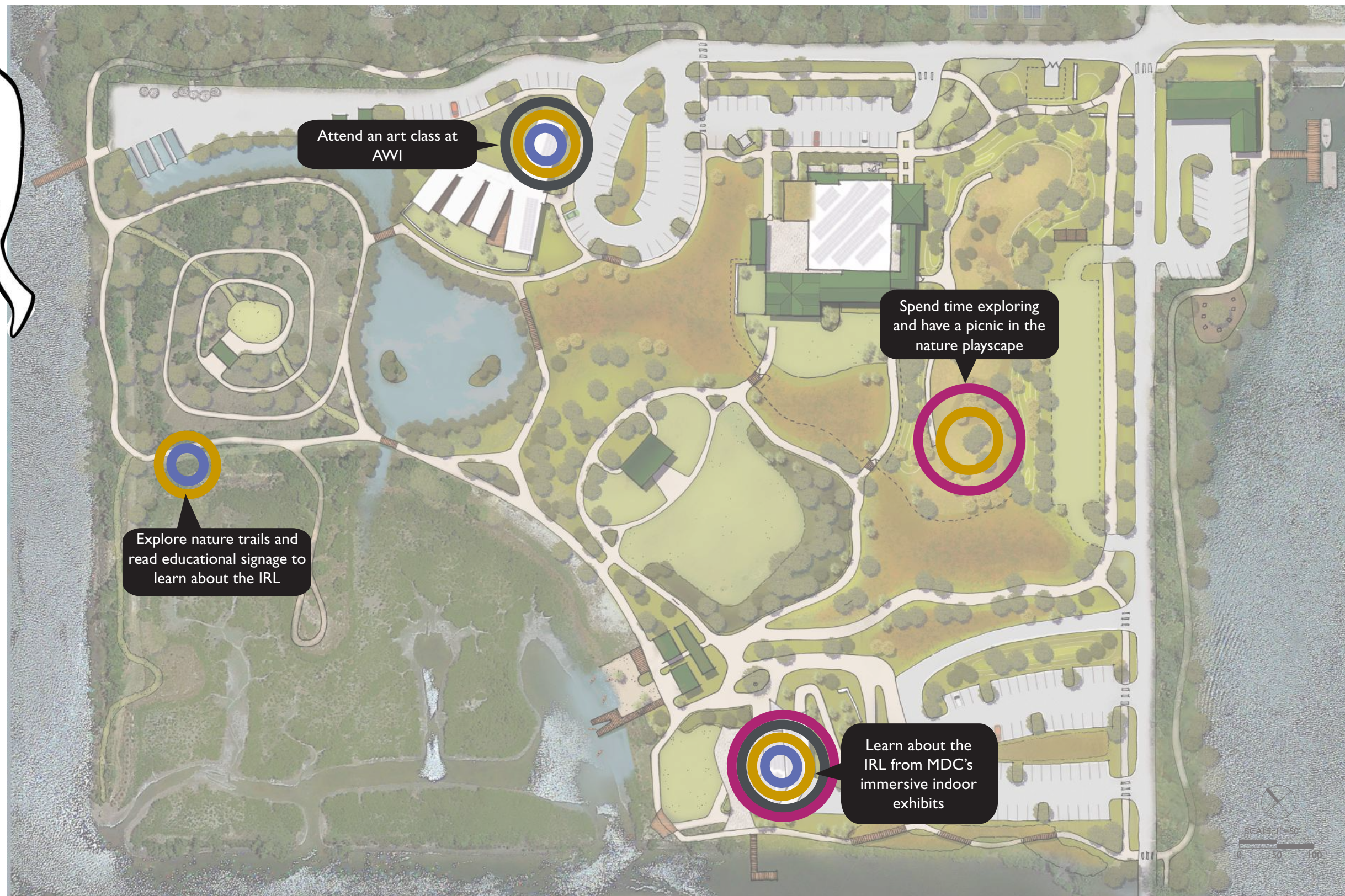






**A Family spends the afternoon**

exploring trails, enjoying the nature playscape and learning about our diverse eco-system in MDC's interactive indoor exhibit space





# ARCHITECTURAL CHARACTER



RENEWABLE ENERGY



LAB SPACE



EXTERIOR CHARACTER



EXTERIOR CHARACTER



CLASSROOM SPACE



NATURAL LIGHT



OUTDOOR WORK SPACE



INDOOR/OUTDOOR FLEX



INDOOR/OUTDOOR FLOW



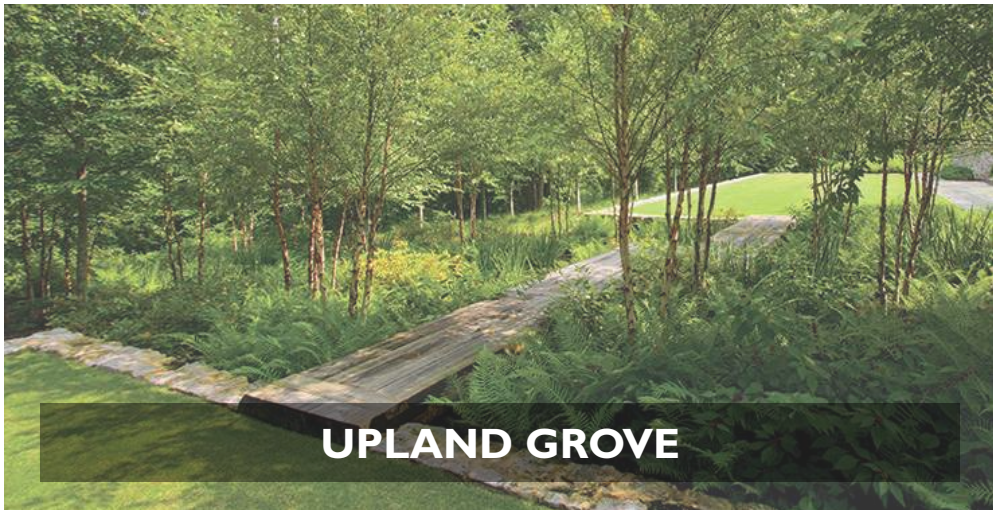
# NATIVE LANDSCAPE CHARACTER



LITTORAL EDGES



NATURE PATH



UPLAND GROVE



SEASONAL INTEREST



NATIVE GRASSES



POLLINATOR GARDEN



SALT MARSH



WETLAND + LID



MEADOW



# HARDSCAPE CHARACTER



**BOARDWALK**



**MODERN GEOMETRY**



**OVERHEAD STRUCTURE**



**BOARDWALK**



**MINIMALIST FORM**



**OBSERVATION PLATFORM**



**SHADE STRUCTURES**



**MESH RAILING**



**GABION WALL**



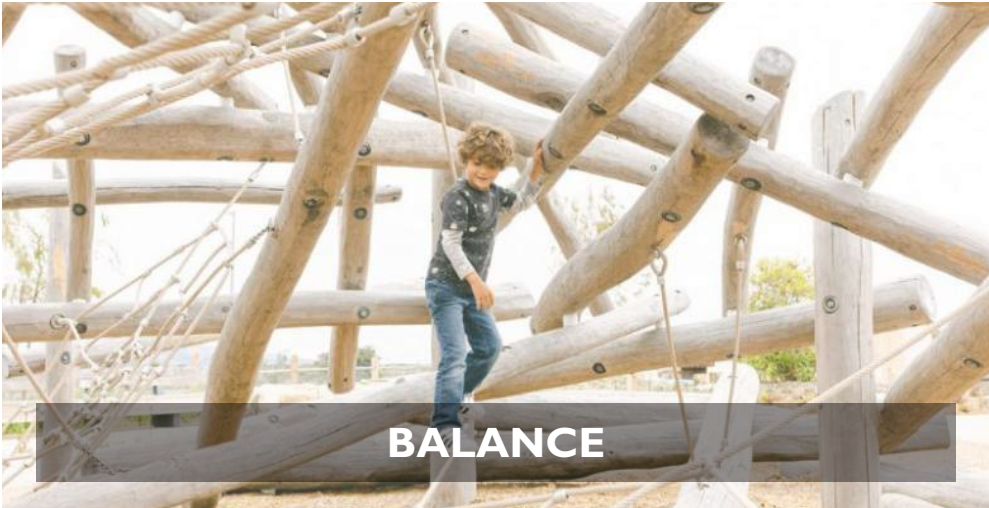
# MATERIAL CHARACTER





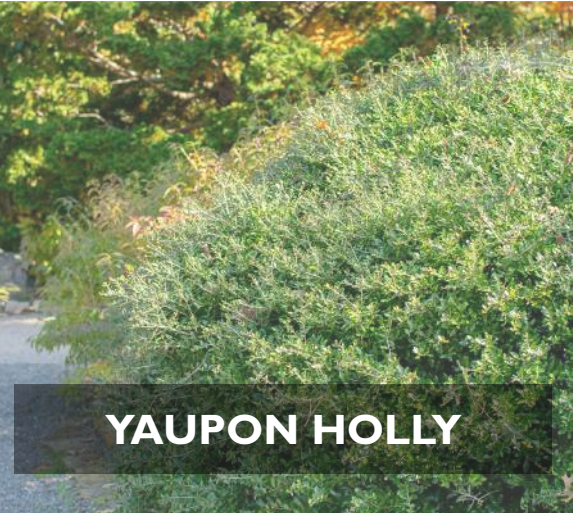
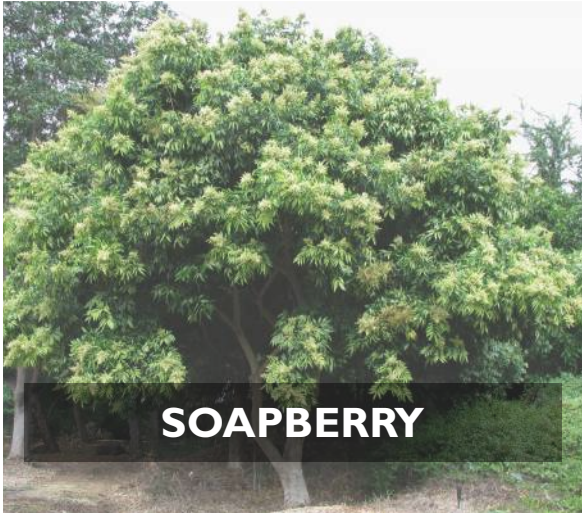
# NATURE PLAYSCAPE CHARACTER

NATURAL MATERIALS/ORGANIC FORMS/EXPRESSIVE



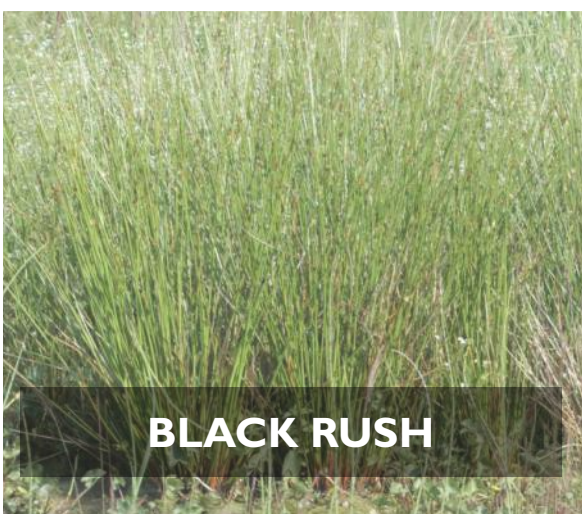
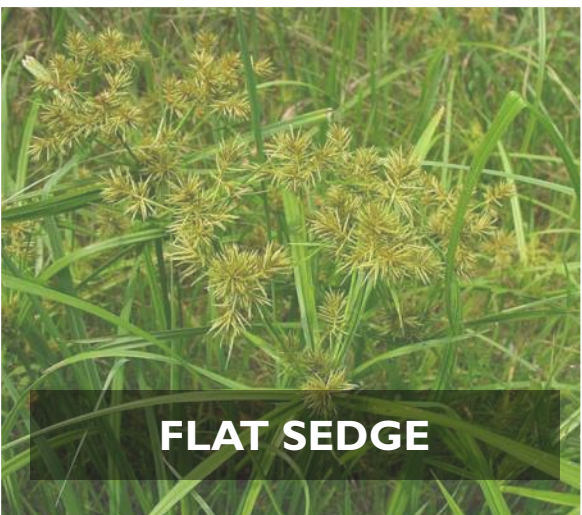
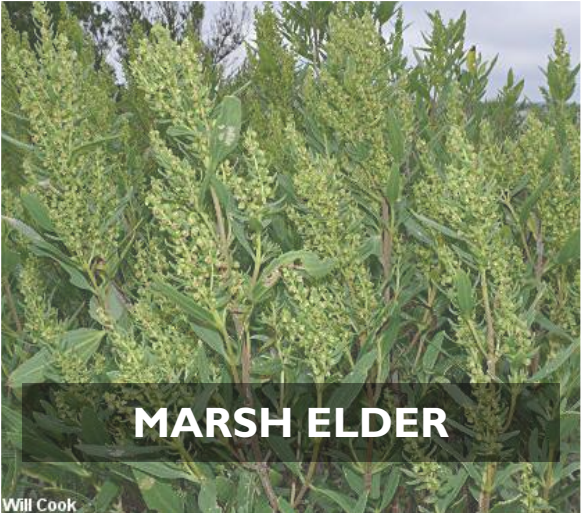


# PLANT PALETTE - UPLAND





# PLANT PALETTE - SALT MARSH





# PLANT PALETTE - WETLAND



**COMMON PAWPAW**



**SWEETGUM**



**BLACK GUM**



**SWEETBAY MAGNOLIA**



**BALD CYPRESS**



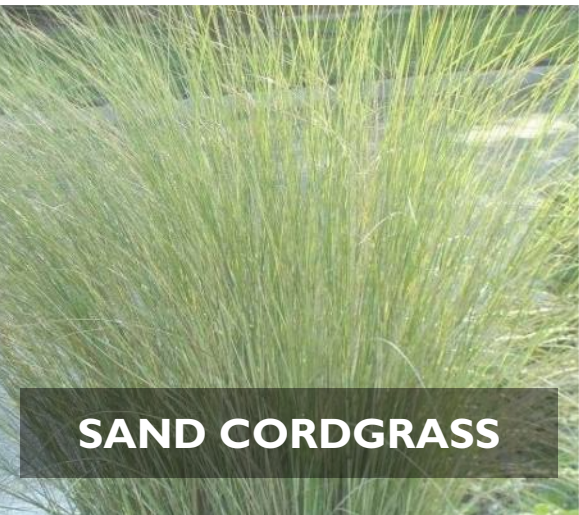
**SABAL PALM**



**TICKSEED**



**DWARF FAKAHATCHEE**



**SAND CORDGRASS**



**LEATHER FERN**



**BUTTONBUSH**



**STAGGERBUSH**



**BLUE-EYED GRASS**



**TUFTED BROOMSEDE**



**MILKWEED**



