

NORTH WINDERMERE ISLAND



Project History & Description

- The North Windermere development (the “Development”) began in the early 2000’s. In 2003, the developer signed a heads of agreement with the Government of the Commonwealth of the Bahamas and in 2009 the Development received final subdivision approval. The Development has 52 approved for sale single-family lots and cottages and a larger residential/commercial site.
- The Development slowed in the early 2010’s following the global financial crisis but received new financing in 2018.
- As of today, roadways and water infrastructure are complete and electric infrastructure is partially complete. There are two finished homes on the property.
- Currently thirteen (13) Bahamian's work at the Development.

Developer's Environmental Statement

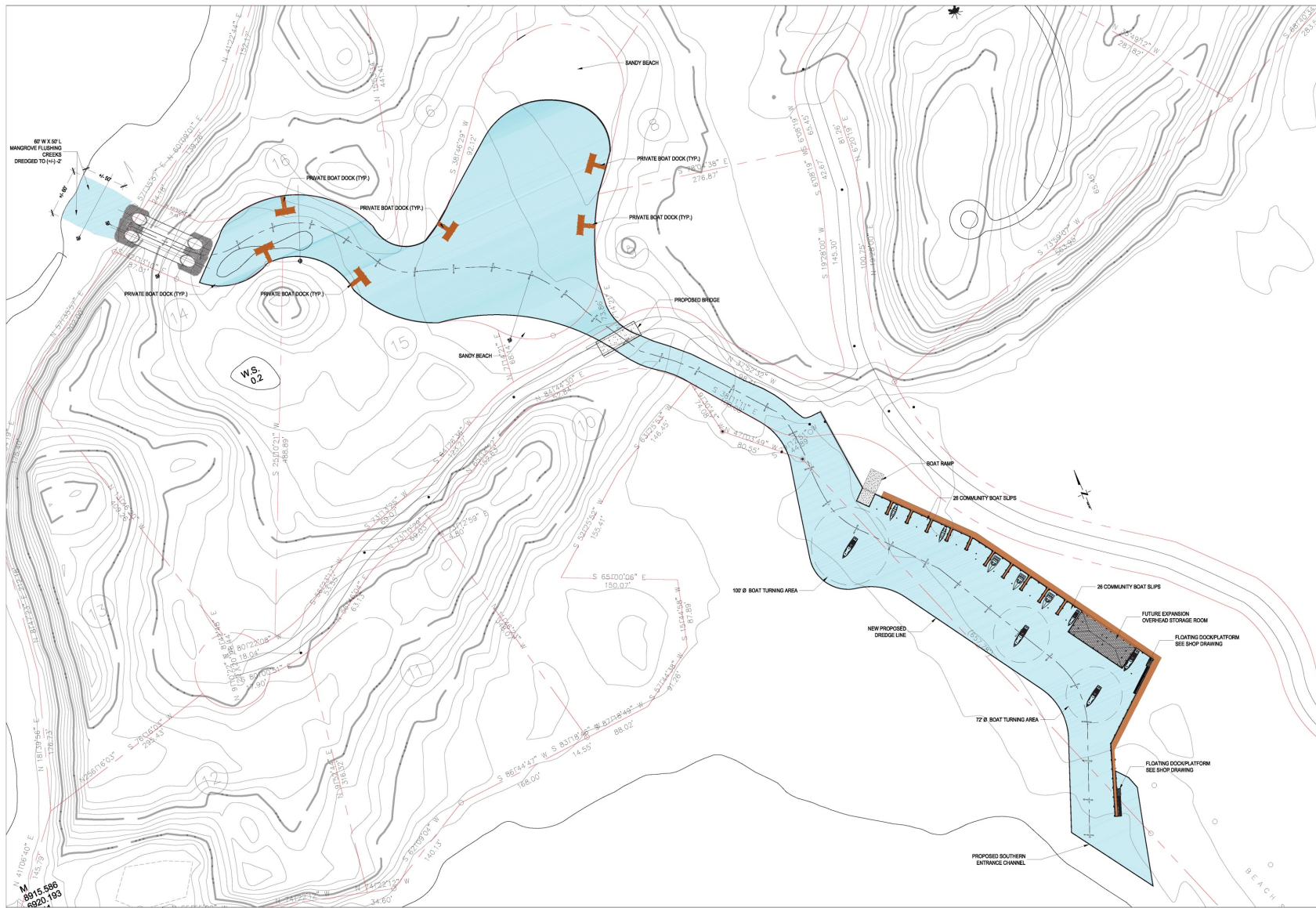
The North Windermere residents and development have a deep respect and appreciation for the natural environment and seek to be a diligent guardian in pursuit of this belief wherever possible. It is policy to carry out all activities in a manner that minimizes environmental impacts, conserves natural resources and provides effective stewardship of the environment. Guidelines formalize the responsible development of the site. North Windermere is committed to making environmental management an integral core value and vital part of the Windermere culture by:

- Utilize a way of building that is deferential to the natural environment and context, integrating structures with landscape rather than imposing on it;
- Protect and enhance the existing marine and land ecologies, the coastline, and the ground water quality;
- Preserve the views of untouched natural landscape for all community members by building low and compact relative to the vegetation;
- Preserve the dense, mature natural vegetation that is a defining characteristic of North Windermere as much as possible;
- Preserve the island's greatest asset of pristine waterfront in its natural state as much as possible
- Respect protected plant species and habitats and minimize tree and brush removal as well as grading and site disturbance;
- Promoting pollution prevention, waste minimization, and conservation;
- Promoting the effective use of innovative environmental technologies and practices;
- Fostering a work environment in which employees and associates are encouraged to report and raise environmental issues without fear of retaliation;
- Continually improving the effectiveness and efficiency of environmental management through assessments and performance and cost metrics, and;
- Complying with applicable laws, regulations and other promulgated environmental requirements.

Boat Basin Project History

- The Boat Basin (the “Project”) began in the 2000’s timeframe and received approval in 2010 conditioned on an approved Environmental Management Plan (“EMP”). In 2018, the Bahamas Environment, Science, and Technology Commission (“BEST”) and the developer agreed to conduct a new baseline study for the Project as the previous study was several years old. The study was conducted in 2018/2019 and a corresponding EMP was submitted after.
- The Boat Basin will be comprised of a timber pile boardwalk capable of berthing 26 vessels while accommodating a maximum vessel size of 37’ and a 3’ draft, allowing residents of North Windermere to safely store and launch recreational watercraft. The Project will be built and excavated from the land to minimize impact to the local area. Dredging is unnecessary as all excavation is going to be land locked and not open to the sound. Once excavation and construction of the docks is complete, the mouths of the basin will be opened.

Project Plans



LAGOON LAYOUT PLAN

SCALE: 1: 600

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Satellite View



Environmental Baseline – FLUSHING STUDY

Purpose: Cummins Cederberg was engaged to prepare an engineering analysis for the boat basin flushing.

- The proposed boat basin configuration achieves 85% flushing in a 24 hours period
- Changing the 3 flushing creeks to 2 large culverts resulted in an 82% higher wetted perimeter and a more optimized flushing time for the proposed boat basin

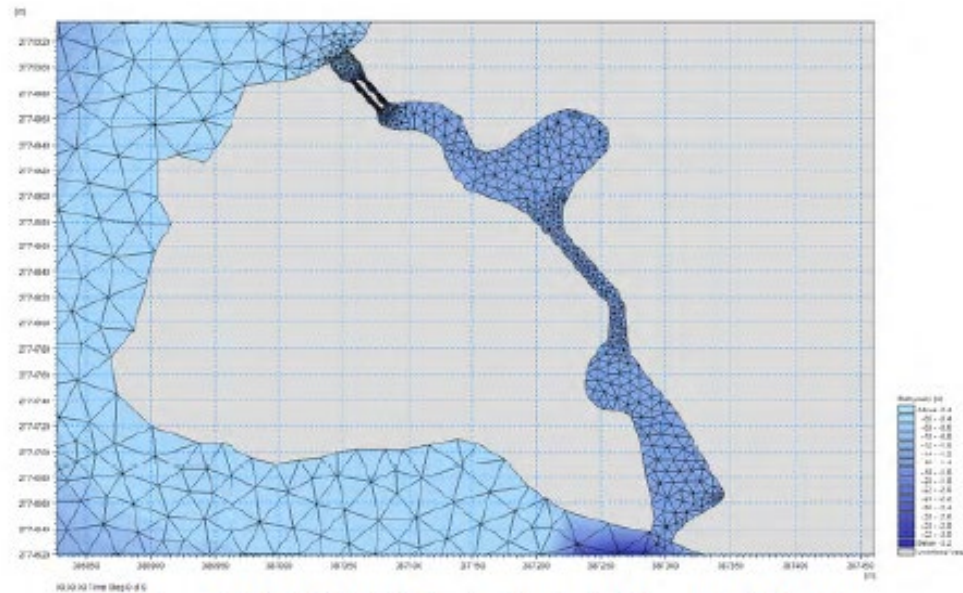


Figure 5.10 Modified Marina Basin in Numerical Model

Environmental Baseline - BOTANICAL

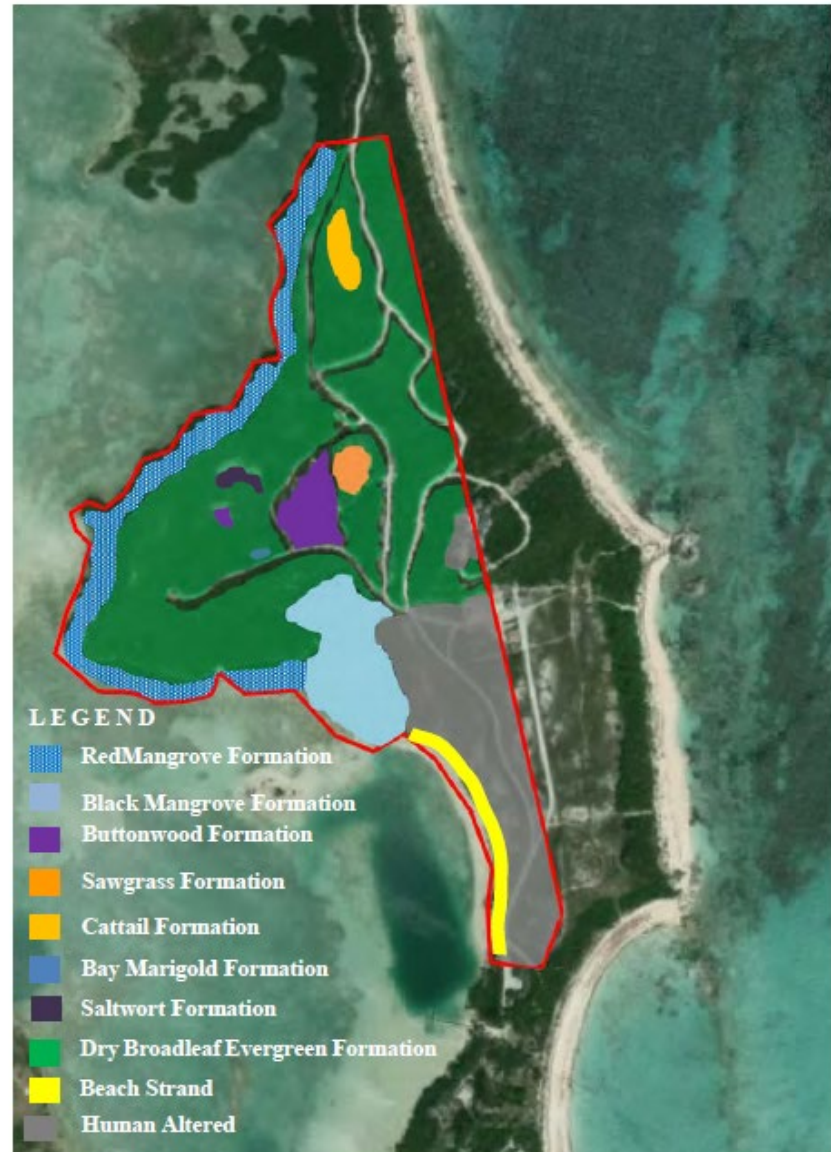
Purpose: To map vegetation types, determine floristic diversity and identify the presence of protected trees and invasive species.

- Botanical & Avian Field Surveys were Performed November 2-3, 2018
- Vegetation Communities
 - Wetlands (Black & Red Mangrove Formations, Sawgrass, Buttonwood, Saltwort, Bay marigold, Cattail)
 - Beach Strand
 - Dry Broad-Leaved Evergreen (DBEF)
 - Human Altered
- Total of 84 Vascular Plant Species
 - 1 Protected Tree: *Guapira discolor*
 - 4 Invasive Species: White Inkberry, Jumbay, Australian Pine, Wedelia



Saltwort Formation

Vegetation Map



Environmental Baseline - AVIAN

Purpose: To identify the presence, abundance, and habitat utilization of avifauna species on site.

Avian Surveys were Performed November 2-3, 2018

- Avifauna
 - Eleven (11) species were recorded
 - Winter Non-Breeding Residents: Cape May Warbler, Lesser Yellowlegs, Blue wing teal
 - Permanent Residents: White-cheeked Pintail, Bananaquit, Common ground dove, Tricolored Heron, Great Antillian Bullfinch, Northern Mockingbird, Yellow-crowned Night Heron, White-crowned Pigeon
 - Habitat Utilization: Activity highest in wetlands with additional activity in DBEF



Cape May Warbler



Bird Nest in Mangroves

Environmental Baseline - MARINE

Purpose: Investigation was focused on identifying and describing benthic habitats and the presence and abundance of marine flora and fauna.

- Benthic Habitat Type: Sand & Silt bottom dominated by manatee grass & various algal type
- Discussion:
 - Site acts as a nursery & feeding ground
 - Majority of activity observed in mangrove root system
 - Low density of fauna within the open flats
 - Commercially Important/Endangered species
 - Green Turtle
 - Queen Conch
 - Mutton Snapper
 - Caribbean Spiny Lobster



Red Mangrove roots
with Porcupine Fish



Substrate covered in silt

Environmental Impacts and Mitigation

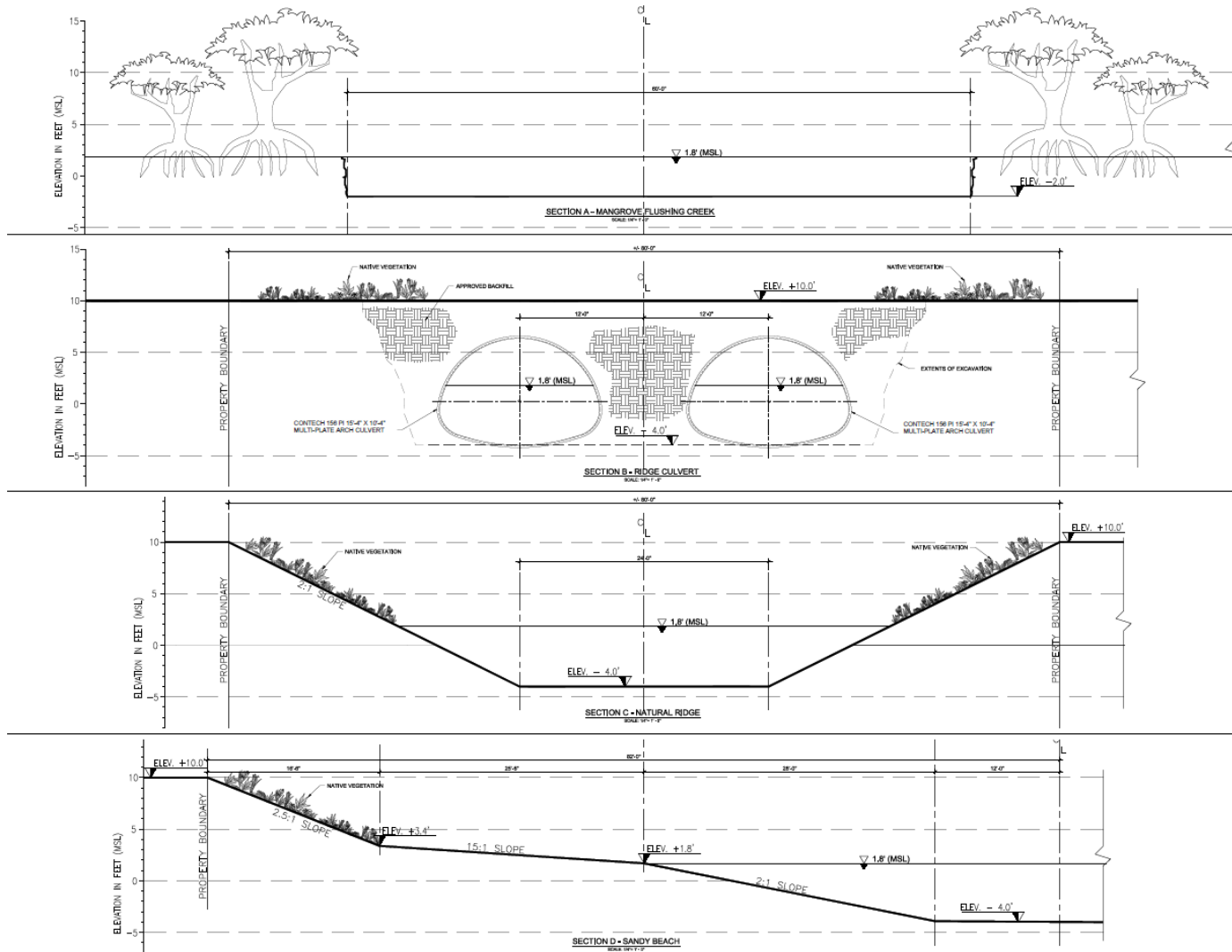
Impacts

- The 3.82 Boat Basin will result in the loss of the interior saltwort and buttonwood formation wetlands and DBEF.
- The culverts and basin entrance will result in the loss of red and black mangrove individuals

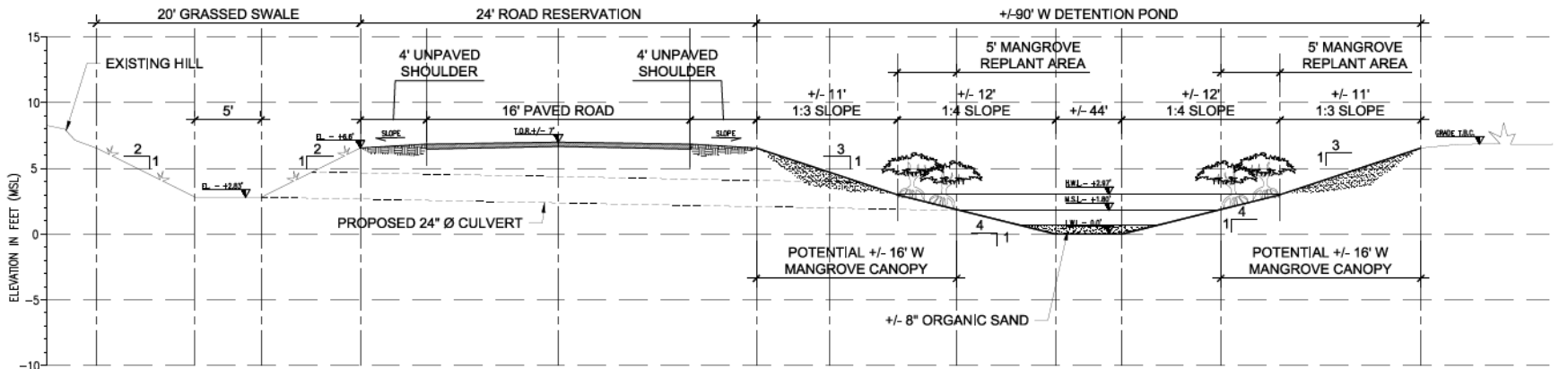
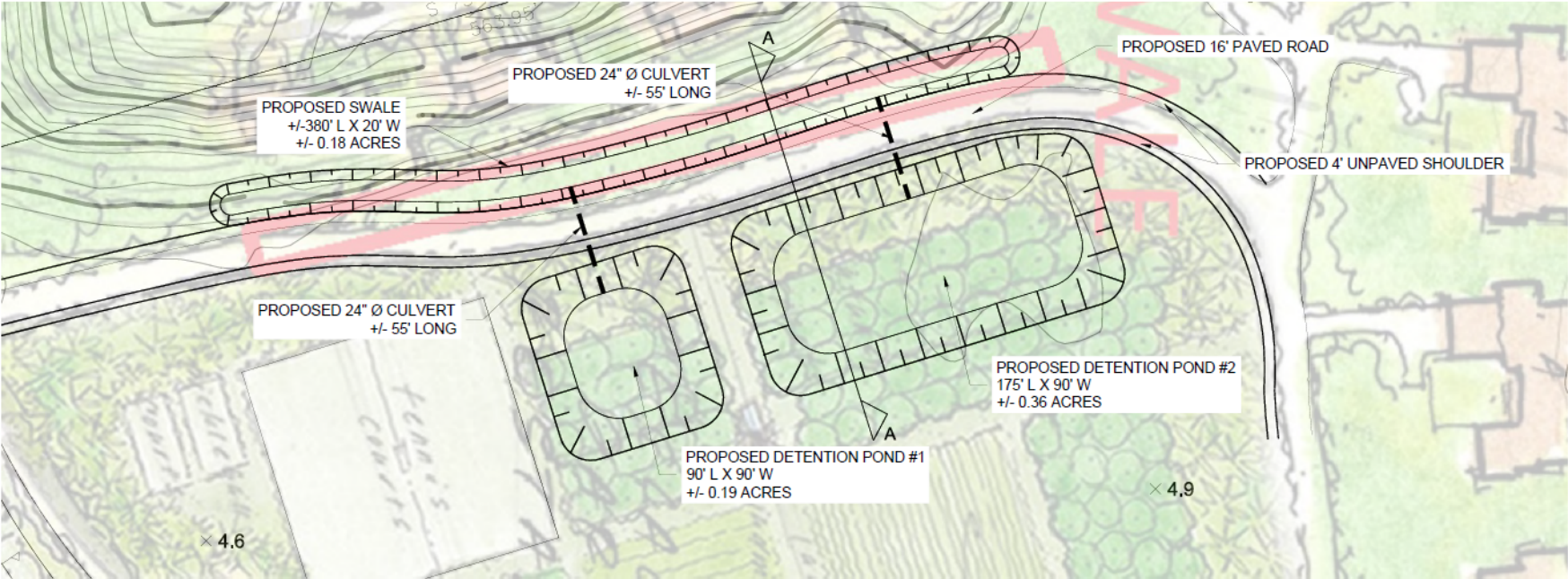
Mitigation

- Create 0.8 acres of waterfowl habitat in vicinity of agricultural area
- Removal of mangrove individuals only where necessary for culvert installation
- Use of BMPs during to construction to limit sediment impacts
- Boat basin to be excavated with land plugs at northern culverts and southern entrance
- Turbidity monitoring during plug removal
- Planting of mangrove seedlings immediately following culvert installation
- Long-term goal for mangrove self-recruitment to achieve optimal replanting and resilience
- Subdivision Design Guidelines: 75% of the lot land must be reserved with a 25' vegetation buffer on the property's perimeter.

Environmental Mitigation - Basin Design



Environmental Mitigation - Waterfowl Mitigation



SECTION A - TYP. ENBANKMENT DETAIL

SCALE: 1/8" = 1'-0"

PROJECT | WINDERMERE ISLAND DEVELOPMENT

Project Contractor

- Bahamas Marine Construction (“BMC”) has been contracted to build the North Windermere Boat basin.
- Since the early 1980’s BMC has been designing and building an extensive variety of private and public marine facilities throughout the Bahamas. Some of the company’s major construction accomplishments include the earthworks of the Atlantis Phase II marina and tunnel, the marine facility at Blue Lagoon, and the marina for the Ocean Club Residences.
- BMC has a team of trained professionals familiar with the environmental resources located in the Bahamas which allows them to work with DEPP and ensure all construction remains in compliance with the environmental regulations, policies, and best practices.

Questions and comments can be made to

inquiries@depp.gov.bs

or

info@northwindermere.com

and must be received by
Thursday August 19th at 5pm.