

Alternatives Analysis Report

Blue Lake Shoreline Stabilization

Lee County, Florida

June 2024

Prepared for:

**Blue Lake Community
Development District**

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Fort Myers, FL 33913*

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Blue Lake Shoreline Stabilization Alternatives Analysis

Fort Myers, Florida

June 28, 2024

1 INTRODUCTION

1.1 General

The Blue Lake Community Development District (Blue Lake CDD) engaged Cummins Cederberg, Inc. (Cummins Cederberg) to investigate a retaining wall that experienced damage during Hurricane Ian and to conduct an alternatives analysis to evaluate various options to restore shoreline stabilization along the Blue Lake development's waterfront. A cursory inspection of the existing shoreline was conducted by a Cummins Cederberg coastal engineer on March 5th, 2024. Concurrently, a Cummins Cederberg marine biologist documented the existing environmental conditions at the site. Cummins Cederberg was also tasked by the Blue Lake CDD (Client) to conduct an in-depth assessment of different shoreline stabilization options based on the inspections and subsequent discussions with the Client to provide a baseline document (i.e., alternatives analysis) to support the Client's strategy and decision process on which option to move forward with. This alternatives analysis report provides a summary of the due diligence completed by Cummins Cederberg relative to the environmental permitting and engineering feasibility of different shoreline stabilization options for the existing hardened shoreline on Blue Lake located at 18701/18731 WildBlue Blvd, Fort Myers, FL 33913 (Project).

1.2 Project Introduction

The Project site is located along the shoreline of Blue Lake, within the Blue Lake community, north of Corkscrew Road and south of Alico Road (**Figure 1** and **Figure 2**). The Project site consists of approximately 18,000 linear feet of shoreline. The Project site is influenced by winds from Blue Lake itself, Estero Bay, and the Gulf of Mexico. At approximately 240 acres, the lake's fetch is large enough for wind energy to cause significant wave action, resulting in the need for proper shoreline stabilization. In addition to wind-generated waves, boat and personal watercraft wakes cause wave action likely contributing to shoreline erosion during non-storm conditions. Blue Lake is a non-tidal waterbody that was previously used for mining, filled, and developed to

create the lake front community. The surrounding area is encompassed by protected areas of wetlands, which drain into the Blue Lake community. The lake perimeter features a hardened shoreline with a shallow littoral shelf and steep drop-off depths of up to 20 feet (Hans Wilson & Associates, 2023).

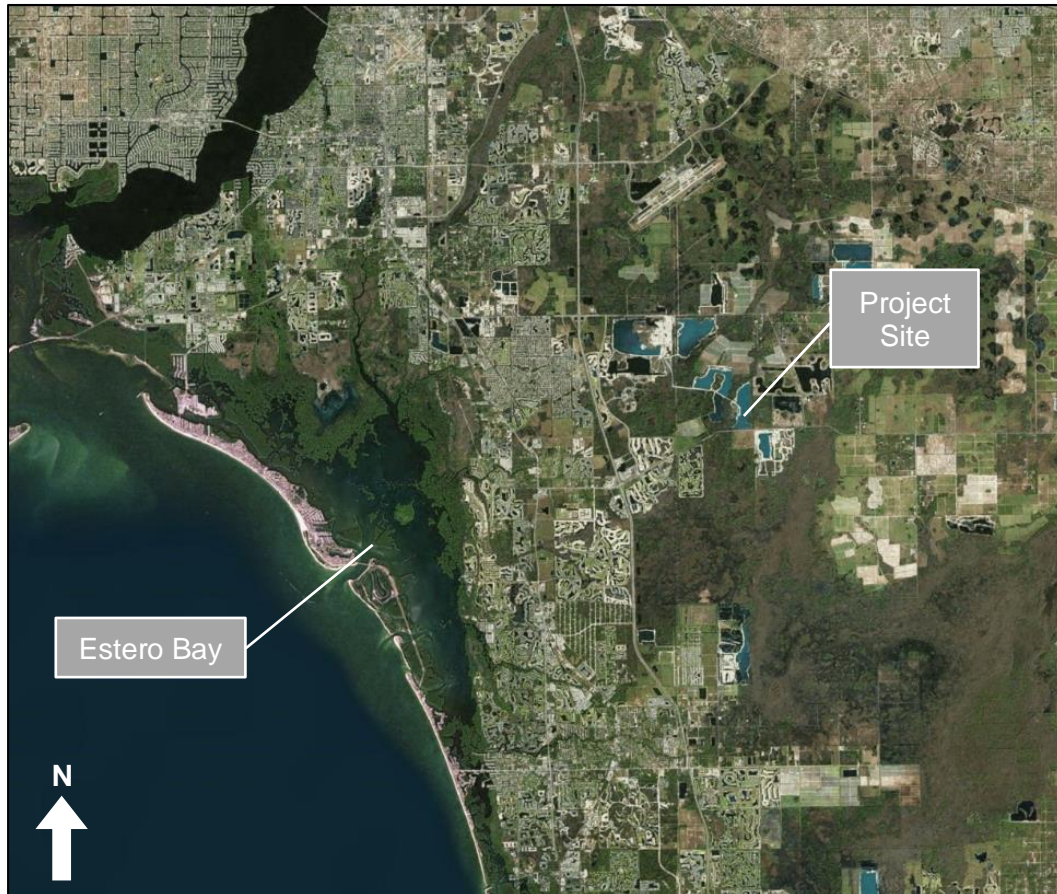


Figure 1. Project location.

1.3 Objective

The primary objective of the alternatives analysis is to evaluate different shoreline stabilization methods (e.g., retaining walls, living shorelines, rock revetments) and layouts (i.e., same vs. expanding footprints) relative to engineering design and environmental permitting. Additional engineering design considerations evaluated include existing shoreline conditions, extreme events, constructability, stormwater runoff and reallocation, scour, sediment transport, and undermining. The environmental permitting factors evaluated include wetland resources (e.g., wetland and terrestrial vegetation), required regulatory authorizations, property ownership, and estimated permitting timeline and fees. General discussions of the next steps for planning, permitting, design, cost, and construction are also presented. This summary is based on Cummins Cederberg's experience, available background information, site inspections, surveys,

an initial review of pertinent regulations as they apply to this specific site, and precedent guidance; it does not constitute a legal opinion.



Figure 2. Project site, red line indicating a hardened shoreline structure.

1.4 Existing Conditions

Cummins Cederberg conducted an initial site visit on March 5, 2024, to become familiar with the Project site and needs of the Blue Lake CDD. During the site visit, general observations of existing environmental conditions were documented, including presence of wetland vegetation (e.g., emergent and aquatic vegetation), as well as upland and littoral shelf plantings.

The vast majority of Blue Lake's shoreline is protected by a vinyl sheet pile retaining wall. The lake features a short stretch of shoreline with riprap revetment placed over a failed portion of retaining wall, located on the north side of the lake (**Photo 1**). The lake also features portions of riprap armoring adjacent to a community boat ramp and lake elevation control weirs. Waterward of sections stabilized by a retaining wall, an emergent littoral shelf was observed in varying widths (with an average of 15 feet from the retaining wall face at the time of the site visit) and consisting

of a rocky substrate with limited vegetation (**Photo 2**). Landward of the retaining wall are residential lots with a raised berm directly behind the retaining wall. The berm height varied between 0.8 to 5.1 feet above the retaining wall cap elevation and were located approximately 6 to 26 feet behind the existing retaining wall. Residential structures and pools were not observed within the immediate vicinity of the retaining wall; however, minor structures including weirs, docks, and outfalls were observed along the shoreline. The retaining wall's exposed height varied between approximately 1 and 4 feet (**Photo 3**). Minor to moderate wave action from boat wake was observed to travel into the littoral shelf and impact the shoreline. Although the wave height was only approximately 1-foot, perpetual action could cause undermining and scour in front of the wall.



Photo 1. Seawall removed/encapsulated with riprap.



Photo 2. Littoral shelf exhibiting limited vegetation.



Photo 3. Seawall exposed height of approximately 1.85 feet.

The vinyl sheet-pile retaining wall was typically observed with a composite deck cap installed shore-perpendicular to form a narrow walking area. The sheet piles themselves have a typical length of 6 ft. The sheet piles are connected to tie-backs through a composite and timber beam, spanning approximately 8 ft back into concrete anchors. The condition of these walls varied throughout the Project extent. In the central sections, the vinyl sheet pile walls displayed slight waterward rotation, scour, upland depressions, and scattered cap damage (**Photo 4**). The vinyl sheet pile walls showed signs of more severe damage and wall failure towards the northern end of the lake (**Photo 5**). Sections of the wall displayed severe waterward rotation, to the point of total wall failure. In some of these sections, the wall's anchoring system was left exposed.

Shoreline vegetation has been documented to provide erosion protection within waterfront systems by lessening wind and wave energy and holding sediment in place. However, it appeared the scarce vegetation provided little protection from erosion. Estimated erosion was observed at approximately one foot of lost sediment on one of the dock pilings as it appeared to have been installed with a concrete footer (**Photo 6**).



Photo 4. Typical central retaining wall.



Photo 5. Severe waterward rotation and wall failure.



Photo 6. Sediment erosion on a dock piling.

1.5 Property Ownership

The submerged lands of the lake and immediate shoreline area or lake maintenance easement area (Parcel No. 20-46-26-L2-1100L.0000, Folio ID No. 10600511), as well as surrounding roadways and rights-of-way (various parcels), are owned by CalAtlantic Group Inc. according to Lee County Property Appraiser. There are three (3) individual community docking facility parcels along the lake's shoreline and one (1) parcel associated with a community boat ramp. One of the docking facility sites (eastern) is owned by CalAtlantic Group Inc. The remaining docking facility parcels, community boat ramp, and other common spaces are owned by the VistaBlue Homeowners Association, Inc. (i.e., operating and maintenance entity for Blue Lake CDD). Adjacent single-family residence parcels surrounding the lake are privately owned. Conservation lands owned primarily by CalAtlantic Group Inc. exist beyond the developed parcels. All parcels mentioned are included within the Blue Lake CDD, which is a local, special-purpose government entity, entirely within unincorporated Lee County, authorized by Chapter 190 of the Florida Statutes and established in August 2018 by the Lee County Board of County Commissioners under Florida Ordinance No. 18-20. The Blue Lake CDD is able to fund, plan, acquire, operate, and maintain community-wide improvements in planned communities within its designated area.

It is important to note that shoreline stabilization methods may impact structures (e.g., personal docks and floating platforms) constructed by adjacent upland homeowners **(Photo 7)** or associations. During the implementation of shoreline stabilization solutions, portions of the existing docks may be required to be temporarily removed or relocated to facilitate construction. A Memorandum of Understanding (MOU), or similar, is recommended prior to any measures being implemented and to ensure all parties potentially involved or impacted are being considered. For the purposes of this analysis, it is assumed that the upland property owners will have no objection to the shoreline improvements.



Photo 7. Single-family residential dock.

2 ENGINEERING CONSIDERATIONS

2.1 Shoreline Stabilization Alternatives

Cummins Cederberg evaluated multiple shoreline stabilization alternatives to minimize erosion and reinforce the shoreline and uplands from wave action during extreme events. The Client should consider the options presented in the following sections relative to construction materials, permitting requirements, and level of environmental impact, as each has potential benefits and drawbacks. Some alternatives can be combined to provide the preferred option based on aesthetics, budget, and functionality. Further, the selected option(s) should be implemented simultaneously along the shoreline, as materials and construction costs may increase over time and the economies of scale afforded by permitting, designing, and mobilizing for construction only once. Below is a description of each shoreline stabilization alternative to reduce further erosion from and provide upland protection against extreme events and vessel wakes. Conceptual renderings of these alternatives and their recommended locations can be found in **Appendix A**.

It is important to note that the viability of these alternatives is based on limited field measurements. Detailed topographic and bathymetric surveying and geotechnical investigations should be performed to confirm design feasibility. Each alternative listed is approximated to have a service life of over 30 years with routine monitoring and maintenance, which is standard for waterfront infrastructure. There appear to be portions of the existing wall that do not yet exhibit signs of failure. These portions could remain in place and monitored, retrofitted to increase stability, or be replaced with the shoreline stabilization alternatives listed below. It is important to note that the original design of the existing retaining wall is unknown so leaving it in place may carry increased risk of failure during extreme events. Additional stormwater management system (SWMS) components (e.g., outfalls, weirs) should be considered during shoreline stabilization efforts to maintain the system's functionality (**Photo 8**).



Photo 8. Lake level control weir.



Photo 9. Submerged stormwater outfall headwall.

2.1.1 Unstabilized Shoreline

An unstabilized shoreline (Existing Conditions) includes leaving the shoreline in its existing condition. The existing retaining wall will remain in place where intact and the shoreline will remain exposed in locations where the retaining wall has failed. In cases where the retaining wall is absent, the shoreline would be directly exposed to wave energy. Without shoreline stabilization, the effects of extreme events and vessel wakes may cause continued erosion of the shoreline. The shoreline and retaining wall should be periodically inspected by a qualified engineer with waterfront structure inspection experience and the shoreline surveyed to monitor the condition both before and after storm events. In locations where the existing retaining wall remains in place, the original design criteria, which is unknown, would remain and may lead to similar failure observed during Hurricane Ian. Restoration of the eroded shoreline with fill to the previously authorized fill template could also be considered.

2.1.2 Re-Graded Shoreline

A re-graded shoreline (Option 1) includes changing the slope upland of the footprint of the existing retaining wall. The slope will be changed from a vertical retaining wall to roughly a 2:1 slope. Decreasing the slope of the shoreline would help to reduce overall wave runup and overtopping, which likely contributed to the original failure, and dissipate wave energy caused by boat wakes and extreme events. This option would provide continued protection for the shoreline and uplands, but not as much as a more hardened shoreline approach. Implementation of this approach will likely require earthwork to be performed from the uplands along residential properties.

2.1.3 Added Fill Shoreline

An added fill shoreline (Option 2) involves increasing the upward slope of the shoreline, seaward of the retaining wall footprint to limit reclamation of upland area. Similar to Option 1, the slope will be changed from a vertical retaining wall to roughly a 2:1 slope. Decreasing the slope of the shoreline would help to reduce overall wave runup and overtopping, which likely contributed to the original failure, and dissipate wave energy caused by boat wakes and extreme events. The shoreline would be graded to a roughly 2:1 slope along approximately half of the exposed littoral shelf with the rest planted with native vegetation. The vegetation holds onto sediment, helping to reduce erosion while providing a natural aesthetic.

It is important to note that this option would provide continued protection for the shoreline and uplands, but not as much as a more hardened shoreline approach as vegetation provides a low level of sediment stabilization during extreme events; however, this option should be considered for use in areas that are sheltered.

2.1.4 Erosion Control Mats

An erosion control mat (Option 3) is a flexible shoreline stabilization product made to adapt to the existing landscape and rest on grade. These mats are typically used along shorelines or in runoff control areas to minimize erosion and retain a specific topographic shape or as boat/kayak ramps. A common form of erosion control mat consists of a series of precast concrete blocks connected

by steel cables to form a mat. The blocks can be open or closed-faced, and different products can have complete coverage of the soil in between the blocks, or the blocks can be spaced to allow vegetation to grow through the mat to limit exposed concrete and have a more natural green appearance (**Photo 10**). It is important to note the erosion control mats will likely require the excavation of existing vegetation, re-grading of the existing embankment, and addition of fill material to prepare the slope.



Photo 10. Vegetation growing through a concrete erosion control mat.

2.1.5 Geocells

Similar to an erosion control mat, Geocells (Option 3 – Alt. 1¹) are an at-grade, interconnected honeycomb-like network that confines and stabilizes soils that would otherwise be unstable under loading. Geocells are an efficient and economical product used for fast-built unpaved roadways and retaining walls, erosion control of slopes, and stormwater control in channels. Made from robust high-density polyethylene (HDPE), geocells offer a robust, durable solution to address shoreline stabilization. The individual cells range from 3" to 9" deep and would require minor excavation to be installed on the existing slope. The geocells are anchored down using proprietary pins. A geotextile fabric would be installed between the soil and Geocells to control soil losses through the voids. The individual cells would be backfilled with crushed stone below water to account for scour. The individual cells above water could be backfilled with soil and sodded to restore the existing grassy slope (**Photo 11**).

¹ No concept drawing provided; Geocells are expected to be similar in profile and footprint to concrete erosion control mats (Option 3).

It is important to note that while this option would provide more protection than Option 1 and Option 2, the level of protection would still be less than a more hardened shoreline approach as the Geocells still allow direct interaction between the waves and soil; however, this option should be considered for use in areas that are sheltered.



Photo 11. Geocells with vegetation.

2.1.6 Erosion Control Socks

Similar to erosion control mats and Geocells (Option 3 – Alt. 2²), erosion control socks are installed at grade and feature a polyethylene mesh that is placed on the existing shoreline. The top of the mesh is anchored upland, into the shoreline, while the bottom is located waterside, often past the waterline. Erosion control socks are folded in half landward to create a pocket. Sediment is then filled into the gap, which is anchored once again, further upland. The socks are able to keep the filled sediment inside, while providing a stabilizing barrier to the existing shoreline. Once installed, erosion control socks can be seeded, sodded, or planted, with vegetation growing up through the mesh (**Photo 12**). Erosion control mats could be effective in regions where wave energy is relatively low, providing protection against shoreline recession and an added barrier to the uplands.

² No concept drawing provided. Erosion control socks are expected to be similar in profile and footprint to concrete erosion control mats (Option 3).



Before



During



After

Photo 12. Erosion control socks.

2.1.7 Modular Block Wall

Modular block walls (Option 4) are typically precast concrete slabs that can be stacked to form a nearly vertical retaining wall (**Photo 13**). The blocks can be simply stacked upon each other and connected into grooves designed in the precast mold, or the blocks can be reinforced through various anchoring measures extending into the soil that the wall retains. Reinforcement is typically only required for walls of elevations multiple stories high or containing heavy loading such as emergency vehicles adjacent to the blocks. The molds often have stamping templates to create a rock appearance, as well as multiple color options to look like limestone, granite, or other types of material. The blocks can also be cast to allow for planting space within a concrete pocket to facilitate vegetation growth and a more natural green aesthetic.

It is important to note that these walls appear to lack adequate scour protection when installed traditionally and are prone to undermining or potential rotation. In order to prevent damage from wave action, these walls would have to be partially buried or armored with a rip-rap toe along the mudline, both of which would increase the overall project cost. Further, the individual units are generally required to be brought in by flatbed or boom truck (Redi-Rock International, LLC, 2020) and would require multiple deliveries to provide enough blocks for the required wall section along the shoreline. Further discussion with local contractors to determine the feasibility of a large-scale installation by barge should be completed prior to selecting this option.



Photo 13. Modular block retaining wall.

2.1.8 Retaining Wall with Toe Stone

A retaining wall with toe stone (Option 5) is typically a sheet pile wall constructed to retain upland soil and create a vertical face along the shoreline (**Photo 14**). The sheet piles help mitigate incoming wave action and cause waves to reflect back into open water. Many different sheet pile materials could be used to reinforce the shoreline including wood, fiber-reinforced polymer (FRP), vinyl, aluminum, concrete, and steel, and each has its own benefits and drawbacks with regards to price, strength, installation methods, durability, and aesthetic. Depending on the amount of loading on the wall, additional reinforcement measures such as tie backs or batter piles may be required to limit cracking, deflection, and overturning of the wall.

Retaining walls would be effective across all areas of the Project shoreline, especially in open areas where the littoral shelf width is particularly narrow or the fetch is large. Wooden retaining walls generally have the shortest service life out of the retaining wall materials and may be difficult to install with the shallow rock layer. Aluminum retaining walls are more brittle compared to FRP, vinyl, concrete, and steel and more prone to bending during normal service with higher retained heights. Steel and concrete retaining walls generally will provide the most robust shoreline stabilization for high retained heights and more extreme service conditions; however, they are not recommended due to their high price and maintenance requirements. A properly designed FRP or vinyl retaining wall with a concrete cap and bead of riprap toe scour protection is more suitable to the Project site's shoreline.

It is our understanding that the Project site has a thick limestone layer located near the surface of the shoreline. The presence of this layer could make the installation of the FRP and vinyl retaining walls more difficult without pre-punching or trenching and should be further evaluated based on a pre-design geotechnical investigation. An option that could also be considered is the use of pin

piles to “toe” the sheet pile into the underlying rock to prevent toe kickout. Truline® manufactures a vinyl retaining wall that incorporates the pin pile into the wall as shown in **Figure 3**.



Photo 14. FRP retaining wall with toe riprap for scour protection.

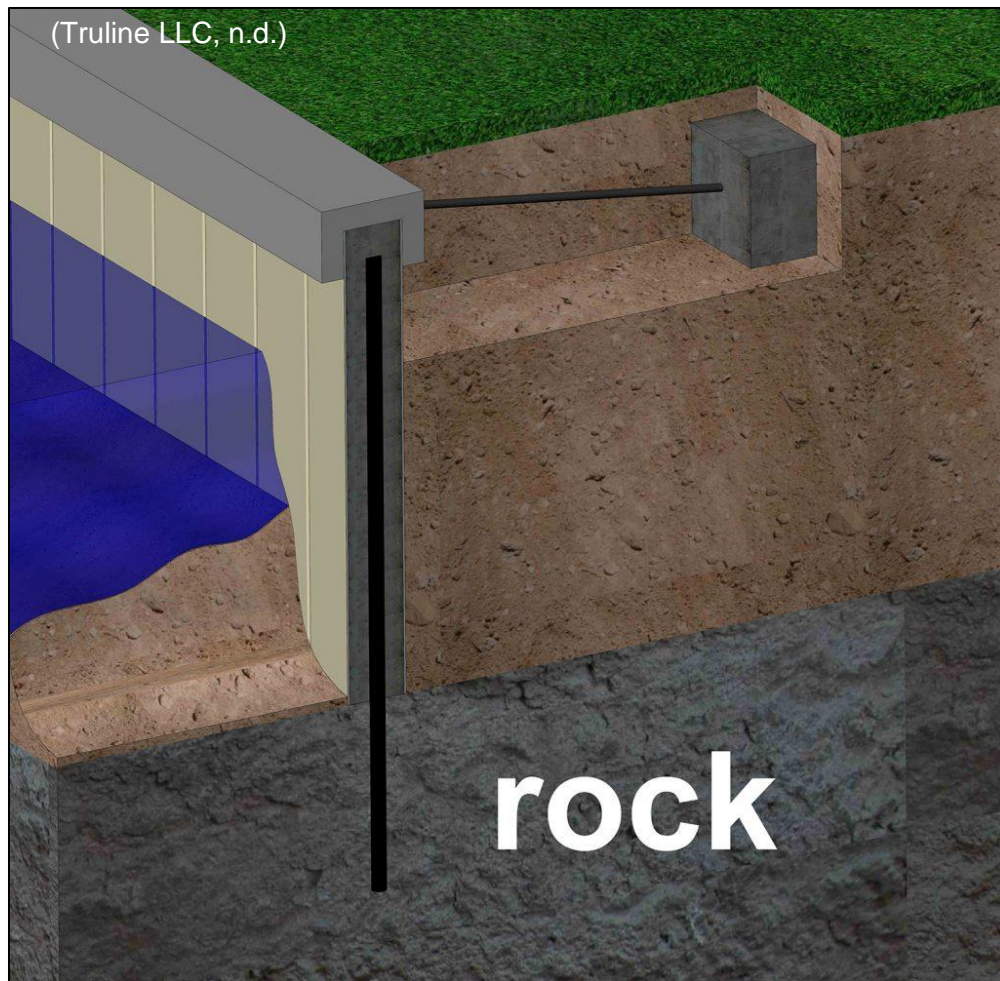


Figure 3. Pin Pile Retaining Wall.

2.1.9 Revetment

A revetment (Option 6) is a sloped shoreline stabilization method typically consisting of larger armor stone and smaller bedding or core stone resting on geotextile (**Photo 15**). Like the erosion control mats, revetments are sloped and used to dissipate incoming wave action and reduce erosion. The size and quantity of rock depends on the slope and available land perpendicular to the shoreline between the water level and upland infrastructure. Revetments are generally sloped on regraded soil ranging on a vertical to horizontal ratio of 1V:1.5H to 1V:3H.

This alternative would be particularly effective in exposed, open areas of shoreline capable of receiving higher wave energy. A revetment is a more horizontal structure and would require a large footprint than a retaining wall. Due to the presence of limestone mines in the area, shipping costs are expected to be lower; however, the length of shoreline would require large quantities of rock for construction. The service life of a revetment is generally longer than manufactured materials as the only damage typically seen by revetments on inland lakes is settlement or displacement of rocks during extreme events, which can easily be put back in place.



Photo 15. Limestone revetment.

2.1.10 Living Shoreline

Living shorelines (Option 7) are a green infrastructure technique using native vegetation alone or in combination with hard armoring to stabilize the shoreline (**Photo 16**). The original design of the Project site's shoreline was proposed as a living shoreline with native plantings. Living shorelines require proper design, construction, and maintenance and typically work best in areas with relatively low wave energy. The soil conditions, plant species, and bed elevations are critical for a successful living shoreline. Typical elements in Florida suitable for this site include upland thrush with rock revetments or sills. Successful strategies are reflective of the general site characteristics such as proximity to development, shoreline condition, bathymetry, and wave energy. Plantings, rocks, and other natural materials are successfully used along shorelines in low to moderate wave energy environments with gradual slopes, such as salt marshes, beaches, bays, and other areas. Moderate wave energy environments typically require some level of armoring to sufficiently absorb wave energy and prevent erosion while allowing for habitat conducive to vegetation growth. It should be noted that living shorelines cannot generally be designed for extreme (i.e., hurricane) conditions and some level of damage after these events should be expected.

This alternative could be utilized throughout the Project site, where littoral shelves are approximately 18 feet wide. The living shoreline proposed for the Project features the use of large armor stones installed as an offshore breakwater to prevent erosion and withstand wave energy, even during storm events. Where put in place, this alternative will likely have lower overall costs,

compared to hardened shoreline options but would require adequate sill width. Living shorelines display an aesthetic appeal with local flora and increase the likelihood of animal presence along the shoreline.



Photo 16. Living shoreline without rock breakwater.

2.2 Additional Considerations

2.2.1 Extreme Events

Water levels, overtopping, and wave action during extreme events should be considered in the final design of the shoreline stabilization to minimize impacts. It is understood that the Project site was damaged by extreme events in the past, such as Hurricane Ian. Prior to initiating the design process, the Client should decide on an acceptable level of risk relative to the robustness of the design to extreme events, as construction cost may increase with additional durability. Typically, waterfront structures at similar sites are designed for the 25-year or 50-year event, which is a storm with a 4% and 2% chance of occurring during any given year respectively. It should be noted that while each shoreline treatment could be installed anywhere along the shoreline, the performance (i.e., durability) of each will vary.

For context, a preliminary analysis of wind speed during Hurricane Ian was completed. The maximum sustained 1-minute wind speed during the storm was 150 mph upon landfall at Cayo Costa (NOAA, 2022). Wave generation is calculated using the 1-hour wind speed to allow for a fully developed sea state. Using methods in the U.S. Army Corps of Engineers Coastal Engineering Manual, the 1-minute wind speed was converted to the 1-hour wind speed. A 150-mph sustained 1-minute wind speed is equivalent to a 120-mph sustained 1-hour wind speed,

which is greater than a 100-year event. It should be noted that the fastest verified wind speed at Ft. Myers Airport was a 110-mph 3-second gust. A similar analysis shows this wind speed to be equivalent to a 73-mph sustained 1-hour wind speed, which corresponds to an approximate 25-year event. The actual wind speed at the Project site is unknown and shows how much variation in wind speed can be observed within a storm.

2.2.2 Wildlife Safety

Being such a large lake with neighboring nature preserves, it is understood that Blue Lake is home to many species of animals, including alligators. The shoreline stabilization alternatives including a nature-based approach, such as re-grading of the shoreline and living shorelines, provide protection for the shoreline and uplands while also creating habitat for local animals. It is important that the Client consider the possibility of wildlife encounters and employ safety measures for residents accordingly.

2.2.3 Constructability

The constructability of each shoreline stabilization method should be considered. Mobilization of materials and equipment between houses may result in damage to personal property to reach the maintenance easement. Requiring a contractor to work from a barge would be preferable but may slow down construction as the barge will have to return to a boat ramp or open space frequently to deliver materials. Also, this restriction may limit the number of contractors that have the resources to perform in-water work. Early coordination between the Owners, Client, Engineer, and Contractor are critical to ensure a smooth construction phase. It is recommended that both upland and water-based work be allowed during the bid process to get the most competitive bid from as many contractors as possible. The Contractor should specify their preferred method so the Client can evaluate bids based on both cost, schedule, and impacts.

2.2.4 Wind Fetch

Blue Lake features relatively large open distances between coastlines for an inland lake. The overwater distance along which wind generates waves is called the fetch. Areas exposed to large fetches are particularly vulnerable, as winds generate larger waves over longer distances given enough time during a storm event. A fetch analysis was performed for Blue Lake, which can be found illustrated below in **Figure 4**. Lines drawn depict the areas with the largest fetch exposure. Where fetch is rather long, it is recommended to utilize a more robust shoreline alternative to withstand wave impacts. It is important to note that Line 6 depicts a narrow fetch, which generally is not conducive to wave generation compared to more open areas. As a result, wave generation in the southern section of the lake from east/west winds is expected to be less than the wider areas of the northern part of the lake. A Proposed Site Plan (**Appendix A: Sheet F-2**), illustrates the recommended locations and types of shoreline treatments for each section.



Figure 4. Fetch analysis.

Table 1. Preliminary wave conditions.

Fetch ID	Distance (ft)	25-Year Storm (4% Chance Per Year)		50-Year Storm (2% Chance Per Year)		100-Year Storm (1% Chance Per Year)	
		Wave Height (ft)	Wave Period (s)	Wave Height (ft)	Wave Period (s)	Wave Height (ft)	Wave Period (s)
1	5,895	1.56	2.26	1.56	2.40	1.56	2.55
2	5,224	1.56	2.17	1.56	2.31	1.56	2.45
3	5,220	1.56	2.17	1.56	2.31	1.56	2.45
4	2,870	1.56	1.78	1.56	1.89	1.56	2.01
5	1,724	1.44	1.50	1.56	1.59	1.56	1.69
6	2,673	1.56	1.73	1.56	1.84	1.56	1.96
7	3,124	1.56	1.83	1.56	1.94	1.56	2.07

Table 2. Extreme wind speeds (1-hr sustained).

Return Period, Years	Wind Speed (mph)
25 (4% Chance Per Year)	69.53
50 (2% Chance Per Year)	80.59
100 (1% Chance Per Year)	93.10

3 ENVIRONMENTAL PERMITTING CONSIDERATIONS

3.1 Existing Resources

The assessment of on-site environmental resources was conducted during a site visit on March 5, 2024, by a Cummins Cederberg biologist. The characteristics and location of resources are important in evaluating the potential impacts associated with future construction activities regulated by the environmental agencies.

During the site visit, shoreline vegetation, with specific attention to wetland vegetation, was identified at the Project site. American Bulrush (*Schoenoplectus americanus*) and softstem bulrush (*Schoenoplectus tabernaemontani*) (**Photo 17**) were observed along the shoreline, primarily within the littoral shelf area, and comprised the majority of the observed vegetation. Other intermixed wetland vegetation, although less common, included pickerelweed (*Pontederia cordata*) (**Photo 18**) and pond cypress (*Taxodium ascendens*). **Table 3** provides a summary of all shoreline vegetation species observed on site. An in-water assessment was not conducted; however, it appears that water depths increase drastically immediately waterward of the emergent littoral shelf. It is anticipated that there is no benthic community of significance that will be a concern within the Project footprint.



Photo 17. Soft rush and bulrush along the project shoreline.



Photo 18. Native pickerel weed and soft rush on the project shoreline.

Table 3. Observed species during site visit.

Scientific Name	Common Name	Location
<i>Schoenoplectus americanus</i>	Bulrush	Emergent zone
<i>Juncus effusus</i>	Soft rush	Littoral zone
<i>Pontederia cordata</i>	Purple pickerel weed	Emergent zone
<i>Ludwigia leptocarpa</i>	Primrose willow	Littoral zone (sparse)
<i>Typha latifolia</i>	Common cat tail	Littoral zone (sparse)
<i>Taxodium ascendens</i>	Pond Cypress	Littoral zone (sparse)
<i>Phyla nodiflora</i>	Turkey tangle frogfruit	Upland (sparse)
<i>Myrica cerifera</i>	Wax myrtle	Littoral zone (sparse)
<i>Salix caroliniana</i>	Carolina Willow	Littoral zone (sparse)
<i>Eupatorium capillifolium</i>	Dog fennel	Littoral zone (sparse)
<i>Nephrolepis exaltata</i>	Boston fern	Littoral zone (sparse)
<i>Cladium jamaicense</i>	Sawgrass	Upland
<i>Stenotaphrum secundatum</i>	Saint Augustine grass	Upland
<i>Paspalum notatum</i>	Bahiagrass	Upland
<i>Spirogyra spp.</i>	Unidentified algae	Submerged

The area surrounding the Blue Lake Community has been deemed conservation lands by regulatory permitting agencies (**Figure 5**). As such, no impacts will be able to be authorized to these areas (not anticipated as a result of the proposed Project).



Figure 5. Conservation lands (green).

3.2 Environmental Permitting

The following section describes the environmental permitting requirements and potential design considerations associated with future construction activities. Publicly available environmental permitting history was also reviewed for the Project site.

In addition to the local building department, shoreline alterations and other in-water improvements are typically regulated by the Florida Department of Environmental Protection (FDEP) or the South Florida Water Management District (SFWMD) at the state level, and by the U.S. Army Corps of Engineers (USACE) at the federal level. These agencies review and regulate the impacts proposed construction may have on the environment (e.g., water quality) and significant wetland

or benthic resources. Regulatory requirements that will apply to proposed work at the Project site are summarized below.

3.2.1 Federal Permitting

The USACE regulates construction, excavation, and fill in, over, or under navigable waters pursuant to Section 10 of the Rivers and Harbors Act of 1899. Additionally, the USACE regulates the discharge of dredged or fill material into waters of the United States, including wetlands, pursuant to Section 404 of the Clean Water Act of 1972. If adverse impacts to marine or wetland resources of significance (endangered or threatened species or designated critical habitat) are proposed, further consultation under Section 7 of the Endangered Species Act (ESA) with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) may be required.

Authorization for the Blue Lake Community was issued under USACE Permit No. SAJ-2003-10995 on January 28, 2016. This permit authorized placement of fill within, and excavation of, jurisdictional wetlands to develop the upland community and establish the Blue Lake boundaries. Impacts to wetlands were offset with compensatory mitigation by converting the surrounding lands to a conservation easement, as previously depicted in **Figure 5**. These lands are to remain in their natural state in perpetuity.

The Project site is not located within tidal waters and impacts to jurisdictional wetlands for the community have already been authorized and mitigated for. Therefore, further authorization from the USACE for shoreline stabilization along the lake is not anticipated to be required for the proposed Project as long as there are no impacts to the conservation easement area.

3.2.2 State Permitting

The State (FDEP or SFWMD) regulates activities in, upon, and over surface waters and wetlands per Part IV of Chapter 373, Florida Statute (F.S.) and Chapter 62-330, Florida Administrative Code (F.A.C.). As prior permitting history exists with SFWMD, they will act as the lead agency for future permitting authorizations.

The Blue Lake Community³ and associated stormwater management system was authorized under SFWMD Permit No. 36-05075-P, originally issued in 2004, and later updated to Permit No. 36-05075-P-02 for this specific development. There have been various modification and conceptual approval requests and approvals, as well as ownership changes, throughout the permitting history of the development project, which has been constructed in multiple phases. Evident from the permitting history, Blue Lake is a water management system that is being viewed as a wet retention area and is subject to the State's Environmental Resource Permit Applicant Handbook Volume II, Part 5: Water Management System Design and Construction Criteria.

³ Referred to as the VistaBlue development in the SFWMD permit. VistaBlue is the operating and maintenance entity.

Certain parameters must be met or a deviation must be obtained; key design specifications relevant to the Project are listed below.

- The minimum shallow, littoral area shall be the lesser of 20% of the wet retention area or 2.5% of the total of the retention area (including side slopes) plus the basin contributing area.
- All wet retention area side slopes shall be designed with side slopes no steeper than 4:1 horizontal to vertical (HV) from top of bank out to a minimum depth of two feet below the control elevation, or an equivalent substitute. Side slopes shall be topsoiled and stabilized through seeding or planting from 2 feet below to 1 foot above the control elevation to promote vegetative growth.
- Retaining walls shall be allowed for no more than 40 percent of the shoreline length; compensating littoral zone must be provided.
- Minimum perimeter maintenance and operation easements of 20 feet width at slopes no steeper than 4:1 HV shall be provided beyond the control elevation water line. Public access for operation and maintenance to/from the easement area must be available.

The latest modification approval letter, dated January 17, 2019 (**Appendix B**), authorized the retaining wall currently stabilizing the Blue Lake shoreline along residential lots, in lieu of the originally proposed riprap breakwater stabilization. The littoral area on Blue Lake is delineated from the existing retaining wall to the shear edge of the lake and equates to approximately 2.95% of the lake area, per the SFWMD permit drawings.

Pursuant to Section 12.4 of the Applicant's Handbook Volume II, all stormwater management systems must be operated and maintained in perpetuity in accordance with the approved design and specifications. If the existing retaining wall is proposed to be replaced within the same footprint as previously authorized, and there are no deviations from the approved drawings in the January 2019 modification, additional authorization from SFWMD is not anticipated to be required. Any deviations (i.e., alternate designs or regrading of the shoreline) will likely require a permit modification request. Depending on the order of magnitude of the modification, permit modification processing time may vary (i.e., minor vs. major modifications). Further coordination with SFWMD to confirm which level of modification will be required is recommended following selection of stabilization methods and prior to initiating modification request submittals.

To secure SFWMD authorization, the applicant will need to provide 1) a cover letter detailing the modification request, 2) modification fee (varies based on modification type), 3) and permit sketches depicting the existing and proposed conditions.

3.2.3 Lee County

Blue Lake is situated within Lee County (County), which has specific local regulations for lake reclamation and surface water management systems. Reclamation of lakes from mining activities

must follow Section 12-119 of the County's Land Development Code (LDC) – Mining and Excavation Reclamation Requirements. These criteria were met as mining was completed and the lake then reclaimed. The lake is now viewed as a surface water management lake and the mining reclamation criteria no longer applies. Any improvements to the lake's shoreline will need to adhere to Section 10 of the LDC. Some key design standards pertinent to this Project from this section include:

- A minimum lake maintenance easement of 20 ft is required [Sec. 10-328(a)].
- Banks of excavations must be sloped at a ratio not greater than 6:1 HV from the top of bank to a water depth of two feet below the dry season water table. The slopes must be no greater than 2:1 HV thereafter [Sec. 10-329(d)(4)].
- Shorelines must be sinuous in configuration [Sec. 10-418(1)].
- A planted littoral shelf is required with a length of 25% of the total linear feet of lake at the control elevation [Sec. 10-418(2)].
 - The littoral shelf must be designed to include a minimum of a 20-foot-wide littoral shelf extending waterward of the control elevation at a depth of no greater than two feet below the control elevation.
 - Littoral shelf areas must be planted with at least four different native herbaceous plant species.
 - The owner is responsible for maintaining the required landscaping in a healthy and vigorous condition at all times.
- Retaining walls, geo-textile tubes, riprap revetments or other similar hardened shoreline structures may comprise up to 20% of the individual lake shoreline but cannot be used adjacent to single-family residential uses [Sec. 10-418(3)].

Notably, the existing retaining wall stabilizes more than 20% of the lake's shoreline and is currently situated adjacent to single-family residences. There are also other slight deviations from the above criteria and others noted in the LDC. Various Development Orders⁴ (DO) and Administrative Amendments (ADD) were approved through Lee County to allow for these deviations. Final ADD documents (i.e., ADD2018-10053, inclusive of 2017 ADD's as attachments) are provided in **Appendix C**.

Major deviations approved include the following:

- Shoreline hardening on 100 percent of the developed shoreline and hardened shoreline adjacent to single-family residential development where shoreline hardening is restricted to a maximum of 20 percent of individual shorelines and where such hardening is typically prohibited adjacent to single-family residential uses.
- Planted littoral shelves ranging between four (4) feet and 18 feet in width where a minimum planted littoral shelf width of 20 feet is typically required.

⁴ DOS2017-00103, DOS2018-00007, DOS2019-00120; DO Case File Documents can be located here with the DO number: <https://docsearch.leegov.com/Home/Index/customSearch/DevReview>.

- A minimum lake maintenance easement width of six (6) feet, whereas a lake maintenance easement width of 20 feet is typically required.
- The use of vertical retaining walls as an alternative to the originally proposed riprap breakwater.

The Project team engaged with Lee County on April 18, 2024, to clarify future works relative to authorization that will be required for alternative shoreline stabilization methods. The conversations were specific to the adjacent WildBlue Lake development, however, it is anticipated that County feedback and concerns will be the same for Blue Lake. The County confirmed that replacement within the same footprint as previously authorized will not require a new deviation process; any deviation from the approved cross-sections in prior authorizations will require zoning action and a new land DO. Once Project design has advanced, it is recommended that additional pre-app discussions with the County be conducted with any proposed cross-sections. Any improvements will require the re-establishment of the littoral shelf plantings and maintenance in perpetuity. This includes reinstalling a retaining wall, the installation of riprap, or further improvements along the Project shoreline. The County's primary concerns are with the establishment/maintenance of littoral shelf plantings and ensuring access is prohibited beyond a safe stabilized slope (6:1 HV); the existing retaining wall currently acts as barrier between the 6:1 HV slope on site and the variable, ungraded slop beyond that (**Figure 6**). Further options may be explored to consider rope rail or fencing options if riprap or another form of shoreline is selected.

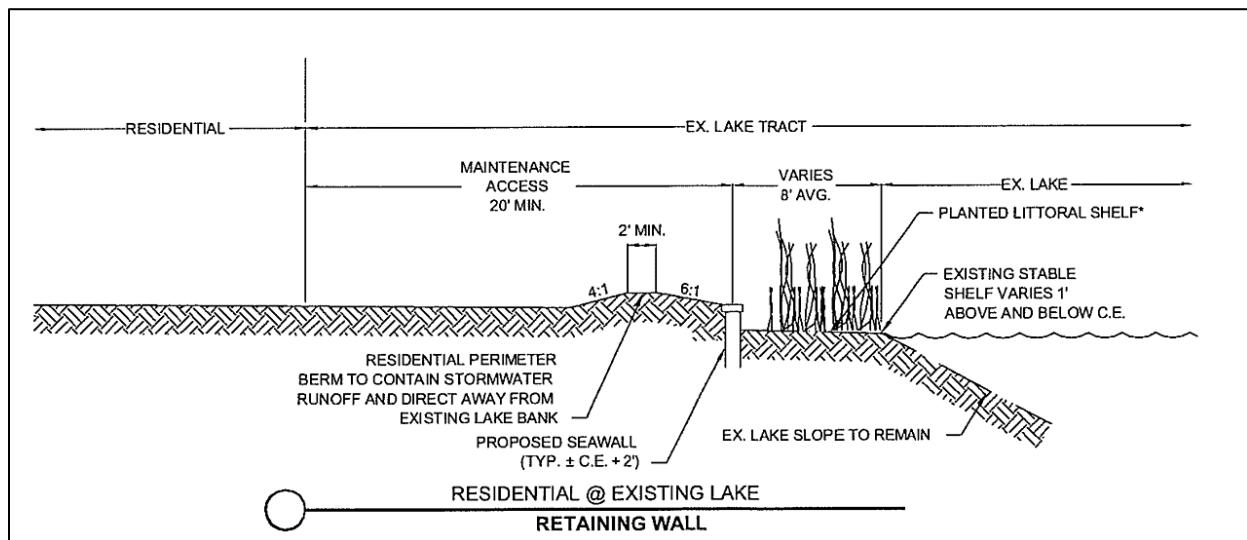


Figure 6. County-approved cross-section from administrative amendment ADD2018-10053.

It may be worth noting that the existing littoral plantings do not appear to be faring well, as evident from the March 2024 site visit. It is not clear from preliminary investigations whether this is due to wave action impacting stabilization and survivorship of the plants, or if soil nutrients of the historically mined lake are not adequate for the selected plantings. Innovative planting options that provide protection and/or additional nutrient-rich soil for the proposed vegetation via planters

may be worth discussing with the permitting agencies to ensure success and reduce replanting needs.

3.2.4 Permitting Timelines

Environmental permitting timelines can vary and will be dependent on final design selection and the extent of each application. It is estimated that any deviation from the previously authorized footprint will take 6 to 8 months or more for application review and processing. The greater the number of deviations from the regulatory codes and previously authorized footprints, the lengthier the permitting timeline will be. During pre-application discussions, the permitting agencies seemed receptive to the fact that the Project site does not meet “typical” criteria for wet retention lakes and that deviations may be required and be able to be accepted as long as adequate and sound justification is provided, to be reviewed on a case-by-case basis. Replacing the existing retaining wall within the same footprint as existing will likely provide for the most expeditious permitting timeline and can be phased out to be completed in advance of other alternative solutions if preferred. However, contractor mobilization/demobilization fees should also be considered.

4 OPINION OF PROBABLE COST

A conceptual opinion of probable cost (OPC) is included for each of the concepts for direct comparison of each option. The costs are based on the conceptual designs and limited survey/geotechnical data available at this conceptual stage; final quantities and unit costs may vary as the design is refined. Further, actual cost may vary due to the final scope/limit of work (i.e., economies of scale), environmental permit requirements, market prices at the time of bidding, and a competitive bid process. It is important to note that these costs only include materials and installation. Mobilization, demolition, environmental compliance, layout/as-built surveys, and other associated soft costs (e.g., permitting, design, construction oversight) are not included. A contingency of 25% and 30% is included to reflect the conceptual phase of the project. As the design progresses, the contingency can be lowered to reflect a more accurate cost.

In general, only the modular block wall, retaining wall with stone, rock revetment, and living shoreline options could be designed for different return period storms. As the wave conditions calculated in Section 2.2.4 are similar for each return period storm, the construction cost difference is estimated to be less than 10% between a solution designed for the 25-year storm event versus the 100-year storm event as the cross-section will only vary slightly.

A range of estimated costs for each alternative per linear foot of treatment is summarized in **Table 4**. The total cost is dependent on the selected shoreline treatment for specific areas and whether the Client elects to remove the existing wall, replace the entire wall, or only replace the failed sections of wall. The total cost of the recommended shoreline treatment presented in the Proposed Site Plan (**Appendix A: Sheet F-2**) ranges from approximately \$33.3M to \$35.0M. An estimated production rate for construction is included. The actual rate will vary based on contractor capability, final design, environmental permit requirements, and existing conditions.

Table 4. Estimated alternative costs per linear foot.

Option	Stabilization Method	Cost (Per LF)	Production Rate (LF/Week)
Existing Conditions	Unstabilized Shoreline	\$0	N/A
1	Re-Graded Shoreline	\$40 - \$45	400-500
2	Added Fill Shoreline	\$65 - \$70	300-400
3	Pre-Cast Concrete Erosion Control Mat	\$370 - \$380	200-300
3 (Alt. 1)	Geocells	\$270 - \$370	100-200
3 (Alt. 2)	Erosion Control Socks	\$180 – \$190	100-200
4	Modular Block Wall	\$2,000 - \$2,100	50-100
5	Vinyl Retaining Wall	\$2,200 - \$2,300	25-50
6	Rock Revetment	\$170 - \$180	50-100
7	Living Shoreline	\$190 - \$200	100-200

Table 5. Total cost based on recommendations.

Stabilization Method	Extent of Application (LF)	Total Cost
Vinyl Retaining Wall	14,583	\$32.1M – \$33.6M
Rock Revetment	1,288	\$220K – \$235K
Any Option	2,182	\$985K – \$1.1M

5 CONCLUSIONS AND RECOMMENDATIONS

Based on coastal engineering experience, environmental permitting requirements, cost, design life, and aesthetic appeal, the following recommendations are made:

1. A vinyl sheet pile retaining wall with a concrete cap and a rip-rap toe is recommended to stabilize the shoreline in residential areas, where the wave exposure is high and the littoral shelf is narrow. This alternative provides protection against large waves, while minimizing the effects of erosion and scour. Retaining walls have a minimal project footprint and can be installed in the previously permitted footprint with no additional environmental permitting.
2. A rock revetment is recommended to stabilize the shoreline in areas where the upland development is non-residential due to the wider footprint required. Rock revetment is feasible in areas where the wave exposure is high and the littoral shelf is relatively wide. This option provides a high degree of protection against scour and waves. Rock revetments are ideal for use in community held areas to provide a natural look at a lower cost.
3. Any of the proposed options could be utilized in areas that are not exposed to large fetches as the wave energy is less. Similarly, any of the solutions could be installed along the entire shoreline but the performance (i.e., durability) would be reduced for the non-hardened treatments in more exposed areas.
4. Upon selecting and installing a solution, the Client should continue to monitor shoreline for erosion along the entire Project site. This may include engaging a licensed surveyor or be as simple as installing a PVC or wooden stake to observe changes prior to a significant capital outlay.
5. A planned waterfront inspection assessment program should be considered to regularly monitor the condition of the shoreline. Based on industry standards, the frequency of said inspection should be no more than 4-5 years, or after a severe coastal storm event. Over time, the Owner may need to consider more frequent assessments due to potential damage, displacement, and/or failure to components of the shoreline stabilization structures or upland infrastructure should there be instances of localized or widespread failure either due to additional deterioration or the effects of a severe coastal storm event.
6. The Client should consider the available budget, permitting timeline, maintenance requirements, service life, construction timeline, and logistics when selecting their preferred alternative. It is also recommended to establish stakeholder involvement prior to making a selection to ensure resident feedback is taken into account.
7. The Client should engage a coastal engineer with experience in permitting and designing waterfront structures. This will help ensure the permitting process is expedited to the

greatest extent practicable and optimize design. Next steps include surveying, and geotechnical investigations of the Project site to support the environmental permitting and engineering design. The final engineering design should consider design loads during extreme events. It is recommended the Client design future shoreline stabilization structures for the 50-year return period storm event to provide the most robust, cost-effective solution for the site.

8. A licensed contractor with experience in shoreline stabilization should perform a site visit to confirm constructability of the shoreline stabilization methods presented herein. Similarly, the Client should select a qualified contractor for the construction phase to ensure the proposed works are constructed per industry standards. Cummins Cederberg is available to meet with potential contractors to discuss the constructability of the proposed project, support the bidding process, and oversee construction to ensure the contractor completes the work in accordance with the construction documents.

A summary of the considerations for each shoreline stabilization option is presented below in **Table 6**.

Table 6. Shoreline stabilization concepts summary.

Method	Benefits	Drawbacks
Existing Conditions	<ul style="list-style-type: none"> No permitting required Minimal impacts to vegetation/upland Mobilization of construction equipment not required 	<ul style="list-style-type: none"> Offers less protection than other options Upland properties likely to be affected by erosion and shoreline recession Better performance in protected areas
Re-graded Shoreline	<ul style="list-style-type: none"> Decreased wave impacts Aesthetically pleasing with native grasses Native grasses will stabilize sediments Slope provides safety as opposed to drop-off with retaining wall Low cost Quick construction 	<ul style="list-style-type: none"> Offers less protection than other options Requires regrading and fill to maintain Permitting challenges Better performance in protected areas
Added Fill Shoreline	<ul style="list-style-type: none"> Decreased wave impacts Aesthetically pleasing with native grasses Native grasses will stabilize sediments Slope provides safety as opposed to drop-off with retaining wall Low cost Quick construction Maintains upland profile 	<ul style="list-style-type: none"> Offers less protection than other options Requires regrading and fill to maintain Permitting challenges Better performance in protected areas

Table 6. Shoreline stabilization concepts summary (cont'd).

Method	Benefits	Drawbacks
Concrete Erosion Control Mat	<ul style="list-style-type: none"> ▪ Hardens the shoreline to reduce erosion ▪ Resistant to wave action and currents ▪ Common practice along canals and embankments ▪ Can have vegetation come through precast blocks ▪ Minimal maintenance 	<ul style="list-style-type: none"> ▪ Aesthetics until vegetation established ▪ Requires grading and fill of upland property ▪ Permitting challenges
Geocells	<ul style="list-style-type: none"> ▪ Stabilize the shoreline to reduce erosion ▪ Common practice along canals and embankments ▪ Can be covered by vegetation on top ▪ Low cost ▪ Quick to install 	<ul style="list-style-type: none"> ▪ Requires grading and fill of upland property ▪ Permitting challenges ▪ Offers less protection than other options ▪ Better performance in protected areas
Erosion Control Socks	<ul style="list-style-type: none"> ▪ Stabilize the shoreline to reduce erosion ▪ Resistant to wave action ▪ Can be sodded or planted to conceal ▪ Elevate the shoreline to protect uplands ▪ Low cost ▪ Quick to install 	<ul style="list-style-type: none"> ▪ Requires grading and fill of upland property ▪ Permitting challenges ▪ Offers less protection than other options ▪ Better performance in protected areas
Living Shoreline	<ul style="list-style-type: none"> ▪ Hardens the shoreline to reduce erosion ▪ Aesthetics ▪ Minimal maintenance (self-healing) ▪ Provides animal habitat 	<ul style="list-style-type: none"> ▪ Better performance in sheltered areas ▪ Will likely require environmental monitoring and restoration ▪ May increase animal encounters
Modular Block Wall	<ul style="list-style-type: none"> ▪ Hardens the shoreline to reduce erosion ▪ Vertical structure with smaller impacts to lakebed ▪ Resistant to wave action and currents ▪ Can have vegetation planted within blocks ▪ Different types of stamps for concrete aesthetics 	<ul style="list-style-type: none"> ▪ Long construction duration ▪ Prone to settlement without proper embedment ▪ Costly
Retaining Wall	<ul style="list-style-type: none"> ▪ Hardens the shoreline to reduce erosion ▪ Vertical structure with smaller impacts to lakebed ▪ Resistant to wave action and currents ▪ Common practice along waterways 	<ul style="list-style-type: none"> ▪ Sheets will have to be backfilled ▪ Will likely require a tie back or other anchoring system ▪ Costly ▪ Maintenance of sheet and cap degradation ▪ Potential damage from impacts

Table 6. Shoreline stabilization concepts summary (cont'd).

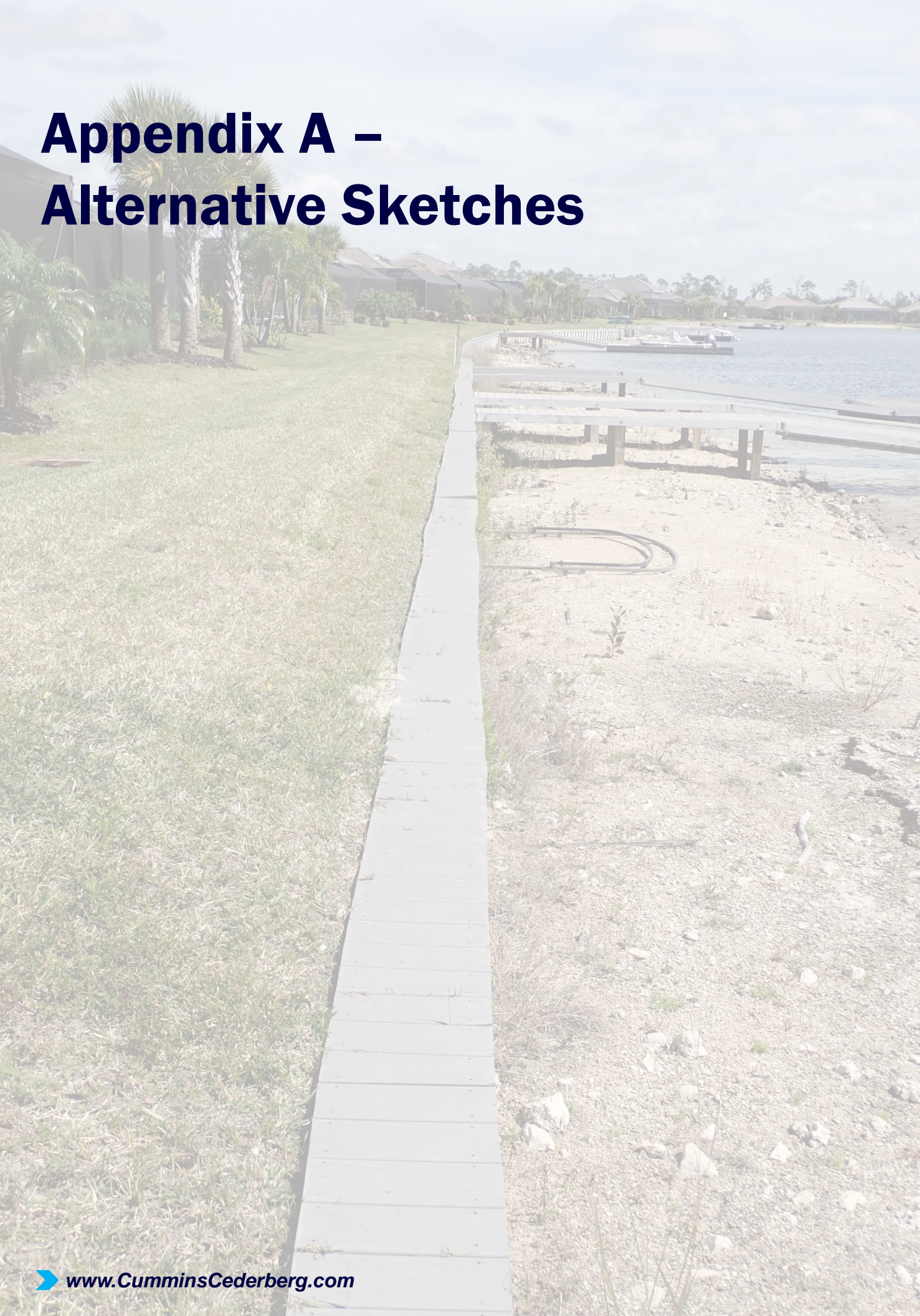
Method	Benefits	Drawbacks
Rock Revetment	<ul style="list-style-type: none"> ▪ Hardens shoreline to reduce erosion ▪ Resistant to wave action and currents ▪ Cost-effective hardened shoreline approach ▪ Can be modified after installation ▪ Minimal maintenance 	<ul style="list-style-type: none"> ▪ Can reduce shoreline accessibility, as rocks are difficult to walk over ▪ Could provide habitat for animals between rocks

The assessment and recommendations presented are based on the data obtained from the field observations and discussions with the Client. This report may not account for unseen variations that may exist in the current conditions or background documents provided. The services performed by Cummins Cederberg are consistent with the degree of care and skill ordinarily exercised by, and consistent with, the standards of the engineering profession practicing at the same time, under similar circumstances, and in a similar location as the Project. No other warranty, expressed or implied, is herewith made.

6 REFERENCES

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Appendix A – Alternative Sketches



BLUE LAKE SHORELINE STABILIZATION

18701/18731 WILDBLUE BLVD.
FORT MYERS, LEE COUNTY
FLORIDA 33913



SHEET INDEX		
	SHEET NUMBER	TITLE
	F-0	COVER SHEET
	F-1	EXISTING CONDITIONS
	F-2	PROPOSED SITE PLAN
	F-3	OPTION 1 RE-GRADED SHORELINE
	F-4	OPTION 2 ADDED FILL SHORELINE
	F-5	OPTION 3 CONCRETE EROSION CONTROL MAT
	F-6	OPTION 4 MODULAR BLOCK WALL
	F-7	OPTION 5 RETAINING WALL WITH TOE STONE
	F-8	OPTION 6 ROCK REVETMENT
	F-9	OPTION 7 LIVING SHORELINE

CLIENT:

BLUE LAKE COMMUNITY
DEVELOPMENT DISTRICT
ATTN: KATHLEEN MENEELY
27499 RIVERVIEW CENTER BLVD., #253
BONITA SPRINGS, FLORIDA 34134

ENGINEER:

CUMMINS | CEDERBERG
Coastal & Marine Engineering

MIAMI | FORT LAUDERDALE | JUPITER
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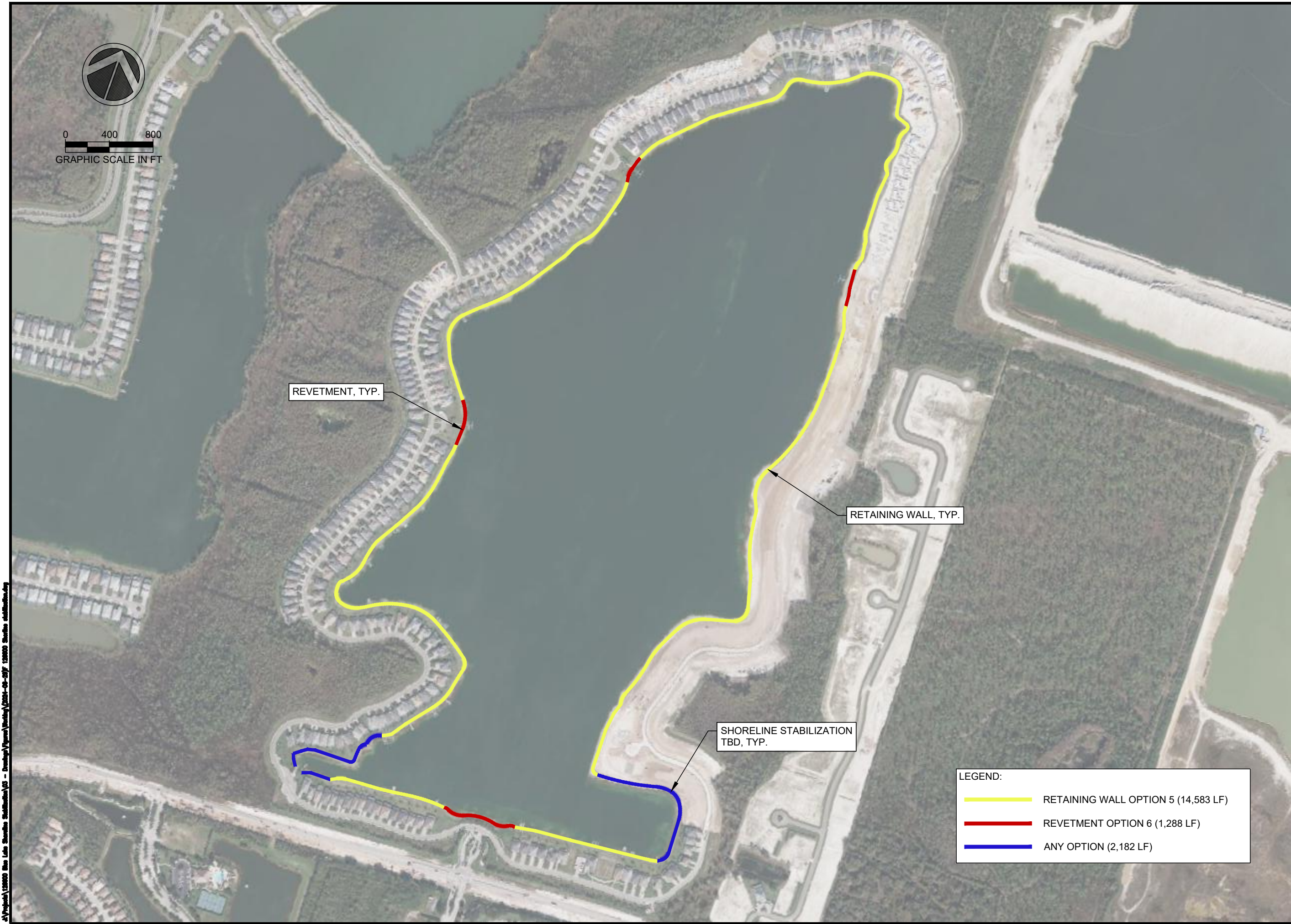
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06/29/2024



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PROJECT:
BLUE LAKE SHORELINE
STABILIZATION

ADDRESS:
18701/18731 WILDBLUE BLVD.
FORT MYERS, FL. 33913

CLIENT:
BLUE LAKE COMMUNITY
DEVELOPMENT
DISTRICT

ADDRESS:
27499 RIVERVIEW CENTER BLVD.,
#253
BONITA SPRINGS, FL 34134

ENGINEER:
CUMMINS CEDERBERG
COASTAL & MARINE ENGINEERING
201 ALHAMBRA CIRCLE, SUITE 601
CORAL GABLES, FL 33134
TEL: +1 305 741-6155 FAX: +1 305-974-1969
WWW.CUMMINSCEDERBERG.COM
COA # 29062

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Coastal & Marine Engineering

SEAL:

CONCEPT DRAWINGS	
ISSUE	DATE
1	06/29/2024

CC PROJECT NO:	126600
DRAWN	GK
CHECKED	JPC
SCALE	REFERS TO 11X17

SHEET TITLE
**PROPOSED
SITE PLAN**

F-2

LEGEND:

RETAINING WALL OPTION 5 (14,583 LF)

RETMETMENT OPTION 6 (1,288 LF)

ANY OPTION (2,182 LF)

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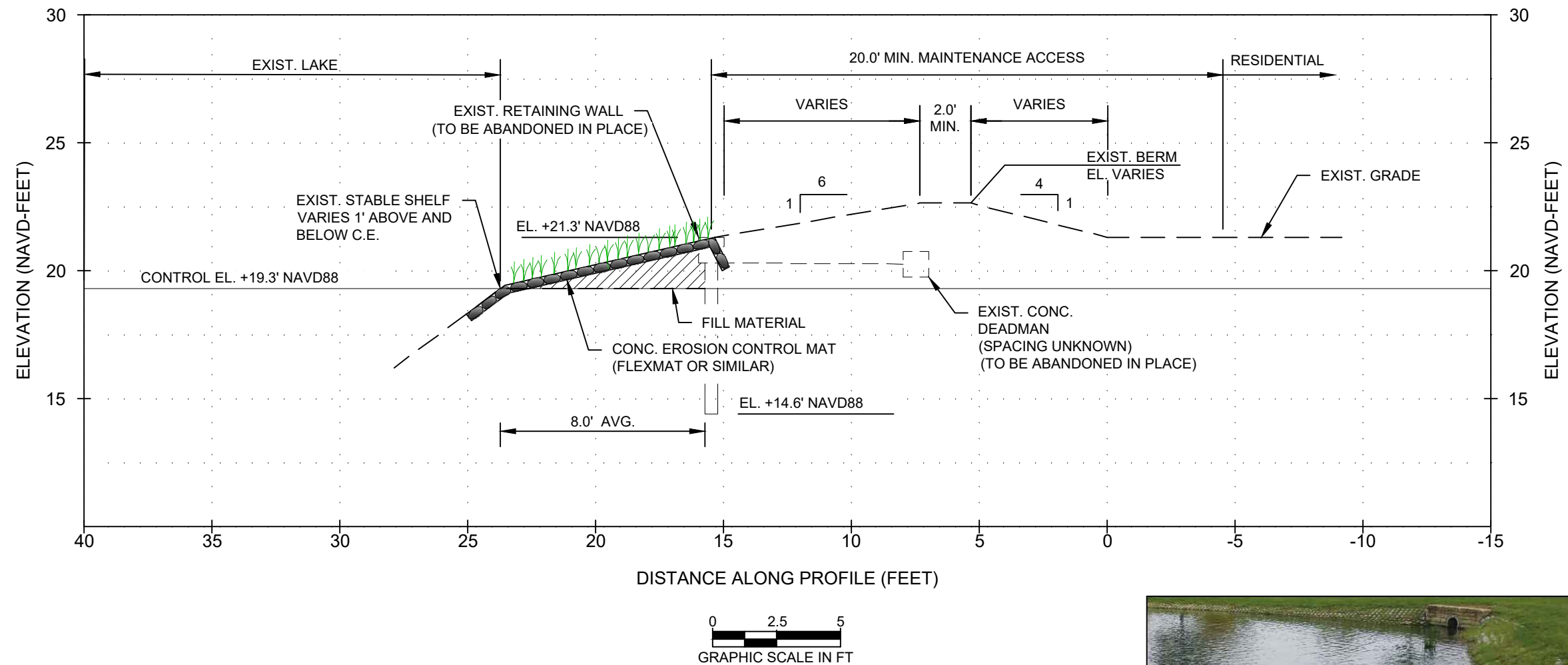
F-3

[illegible]

1. EXISTING CONDITIONS BASED ON BACKGROUND PERMIT DOCUMENTS.
2. EXISTING RETAINING WALL TO BE REMOVED OR ABANDONED IN PLACE.
3. SHEET PILE TIP BASED ON 6' SHEETS OBSERVED DURING SITE VISIT BY CUMMINS CEDERBERG.
4. PLANTED LITTORAL SHELF VEGETATION NOT OBSERVED DURING SITE VISIT BY CUMMINS CEDERBERG.

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OPTION 3 CONCRETE EROSION CONTROL MAT



NOTES:

- EXISTING CONDITIONS BASED ON BACKGROUND PERMIT DOCUMENTS.
- EXISTING RETAINING WALL TO BE REMOVED OR ABANDONED IN PLACE.
- SHEET PILE TIP BASED ON 6' SHEETS OBSERVED DURING SITE VISIT BY CUMMINS CEDERBERG.
- PLANTED LITTORAL SHELF VEGETATION NOT OBSERVED DURING SITE VISIT BY CUMMINS CEDERBERG.



TYPICAL EROSION CONTROL MAT

PROJECT:
BLUE LAKE SHORELINE
STABILIZATION

ADDRESS:
18701/18731 WILDBLUE BLVD.
FORT MYERS, FL. 33913

CLIENT:
BLUE LAKE COMMUNITY
DEVELOPMENT
DISTRICT

ADDRESS:
27499 RIVERVIEW CENTER BLVD.,
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Coastal & Marine Engineering

SEAL:

CONCEPT DRAWINGS	SUBMISSION / REVISION
1	DATE
1	DATE

CC PROJECT NO:	126600
DRAWN	GK
CHECKED	JPC
SCALE	REFERS TO 11X17

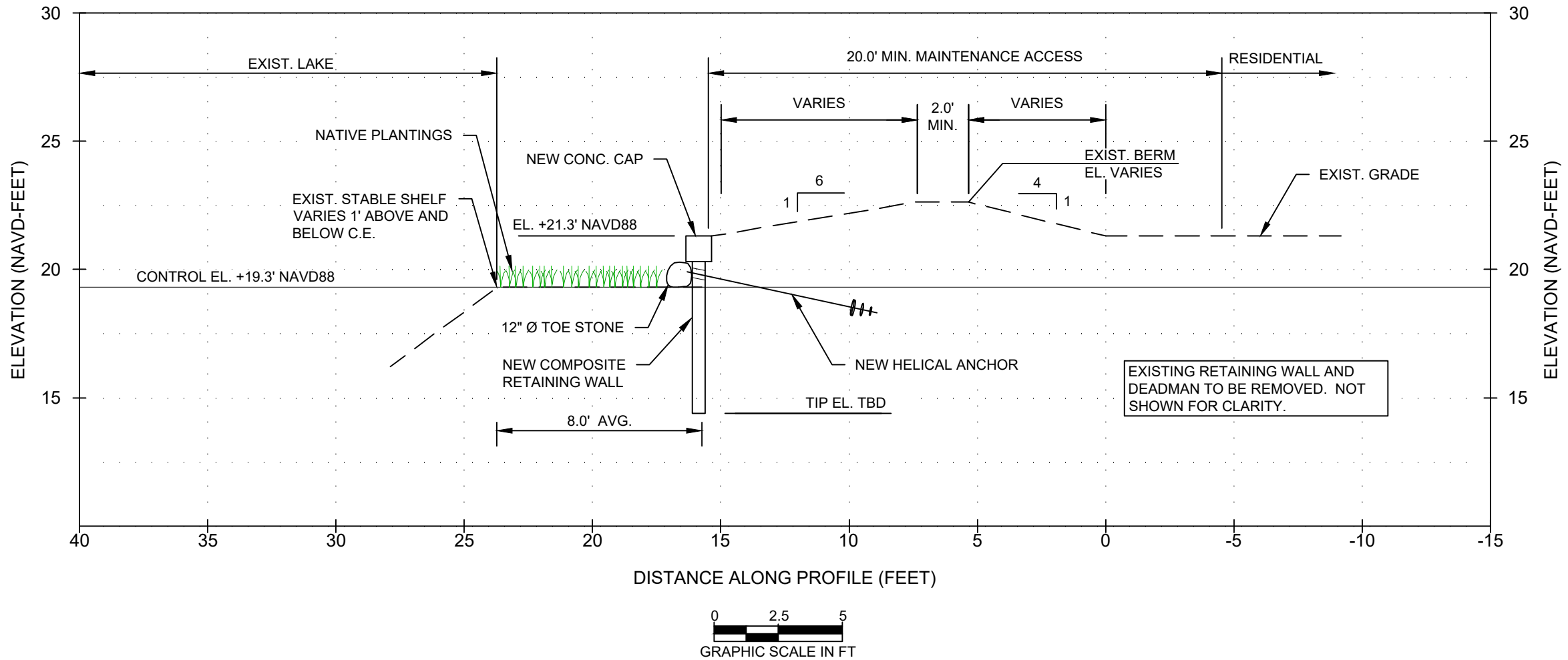
SHEET TITLE

OPTION 3

F-5

OPTION 5

RETAINING WALL WITH TOE STONE



NOTES:

1. EXISTING CONDITIONS BASED ON BACKGROUND PERMIT DOCUMENTS.
2. EXISTING RETAINING WALL TO BE REMOVED OR ABANDONED IN PLACE.
3. SHEET PILE TIP BASED ON 6' SHEETS OBSERVED DURING SITE VISIT BY CUMMINS CEDERBERG.
4. PLANTED LITTORAL SHELF VEGETATION NOT OBSERVED DURING SITE VISIT BY CUMMINS CEDERBERG.
5. INSTALLATION OF COMPOSITE SHEETS CONTINGENT ON DRIVABILITY INTO UNDERLYING ROCK. TO BE CONFIRMED BY GEOTECHNICAL INVESTIGATION. MAY REQUIRE PRE-PUNCHING OR TOE STONE FOR ADDED STABILITY.

PROJECT:
BLUE LAKE SHORELINE
STABILIZATION

ADDRESS:
18701/18731 WILDBLUE BLVD.
FORT MYERS, FL. 33913

CLIENT:
BLUE LAKE COMMUNITY
DEVELOPMENT
DISTRICT

ADDRESS:
27499 RIVERVIEW CENTER BLVD.,
#253
BONITA SPRINGS, FL 34134

ENGINEER:
CUMMINS CEDERBERG
COASTAL & MARINE ENGINEERING
201 ALHAMBRA CIRCLE, SUITE 601
CORAL GABLES, FL 33134
TEL: +1 305 741-6155 FAX: +1 305-974-1969
WWW.CUMMINSCEDERBERG.COM
COA # 29062

CUMMINS | CEDERBERG
Coastal & Marine Engineering

SEAL:

[illegible]

CC PROJECT NO:	126600
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DRAWN	GK
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CHECKED	JPC
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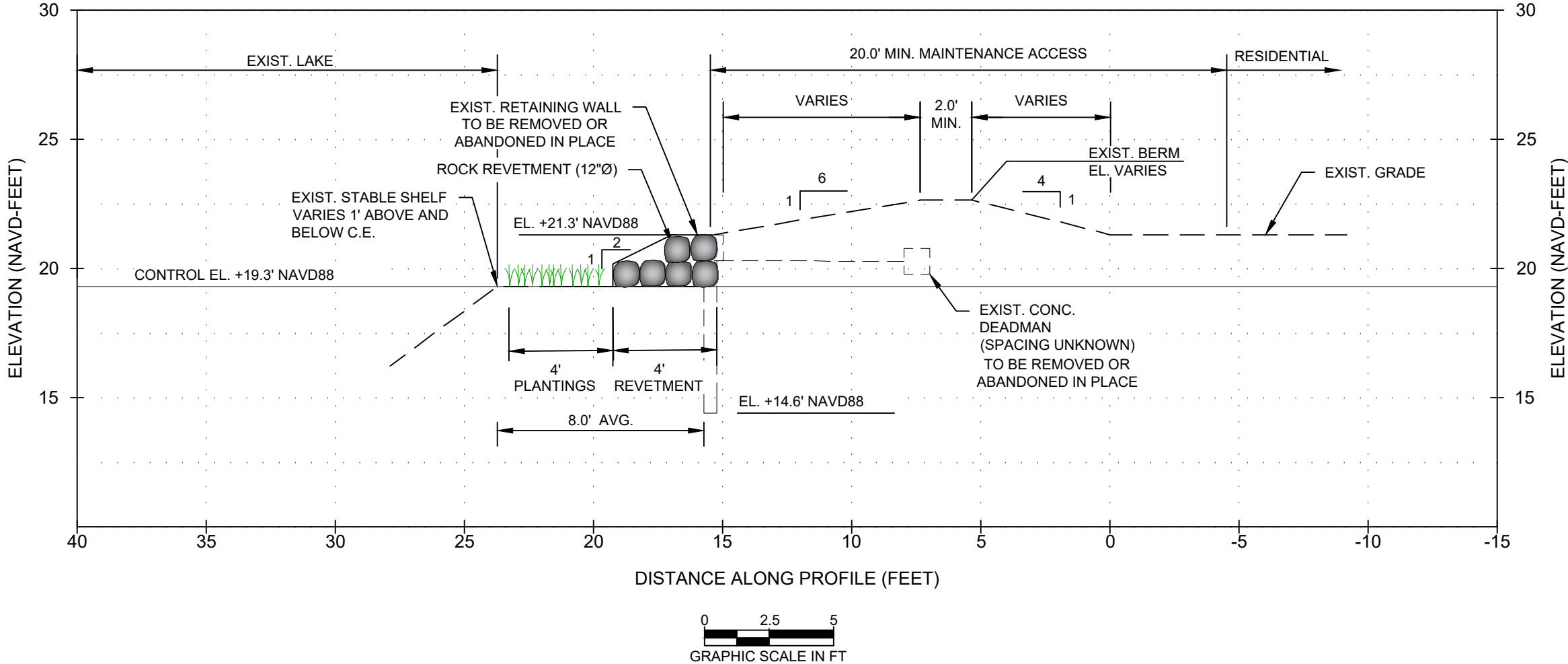
SCALE	REFERS TO 11X17
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SHEET TITLE

OPTION 5

F-7

OPTION 6 ROCK REVETMENT



NOTES

1. EXISTING CONDITIONS BASED ON BACKGROUND PERMIT DOCUMENTS.
2. EXISTING RETAINING WALL TO BE REMOVED OR ABANDONED IN PLACE
3. SHEET PILE TIP BASED ON 6' SHEETS OBSERVED DURING SITE VISIT BY CUMMINS CEDERBERG.
4. PLANTED LITTORAL SHELF VEGETATION NOT OBSERVED DURING SITE VISIT BY CUMMINS CEDERBERG.

PROJECT:
BLUE LAKE SHORELINE
STABILIZATION

ADDRESS:
18701/18731 WILDBLUE BLVD.
FORT MYERS, FL. 33913

CLIENT:
BLUE LAKE COMMUNITY
DEVELOPMENT
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COA # 29062

CUMMINS | CEDERBERG
Coastal & Marine Engineering

SEAL:

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CC PROJECT NO:	126600
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DRAWN	GK
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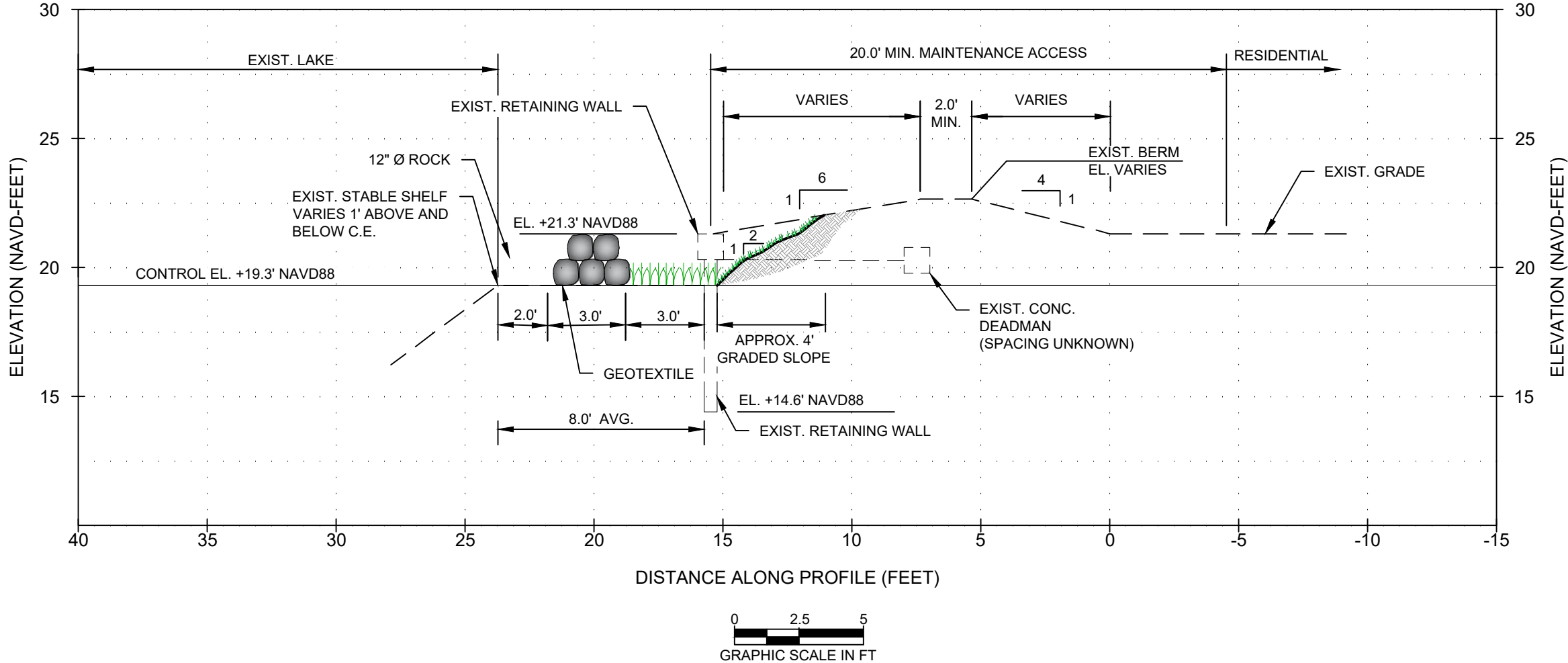
CHECKED	JPC
SCALE	REFERS TO 11X17

SHEET TITLE

OPTION 6

F-8

OPTION 7 LIVING SHORELINE



NOTES:

1. EXISTING CONDITIONS BASED ON BACKGROUND PERMIT DOCUMENTS.
2. EXISTING RETAINING WALL TO BE REMOVED OR ABANDONED IN PLACE.
3. SHEET PILE TIP BASED ON 6' SHEETS OBSERVED DURING SITE VISIT BY CUMMINS CEDERBERG.
4. PLANTED LITTORAL SHELF VEGETATION NOT OBSERVED DURING SITE VISIT BY CUMMINS CEDERBERG.

PROJECT:
BLUE LAKE SHORELINE
STABILIZATION

ADDRESS:
18701/18731 WILDBLUE BLVD.
FORT MYERS, FL. 33913

CLIENT:
BLUE LAKE COMMUNITY
DEVELOPMENT
DISTRICT

ADDRESS:
27499 RIVERVIEW CENTER BLVD.,
#253
BONITA SPRINGS, FL 34134

ENGINEER:
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201 ALHAMBRA CIRCLE, SUITE 601
CORAL GABLES, FL 33134
TEL: +1 305 741-6155 FAX: +1 305-974-1969
WWW.CUMMINSCEDERBERG.COM
COA # 29062

CUMMINS | CEDERBERG
Coastal & Marine Engineering

SEAL:

[illegible]

CC PROJECT NO:	126600
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DRAWN	GK
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CHECKED	JPC
SCALE	REFERS TO 11X17

SHEET TITLE

OPTION 7

F-9

Appendix B – SFWMD Modification Letter (January 2019)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Delivered Via Email

Regulation
Application No.: 190102-9

January 17, 2019

CALATLANTIC GROUP INC
825 CORAL RIDGE DRIVE
CORAL SPRINGS, FL 33071

Dear Permittee:

SUBJECT: Permit No.: 36-05075-P-02
Project : VISTABLUE
Location: Lee County, S20/T46S/R26E

District staff has reviewed the information submitted January 2, 2019, for the permitted development known as Vista Blue under Permit No. 36-05075-P-02. Refer to Exhibit 1.0 for a location map. This modification authorizes the replacement of the rip-rapped breakwater with retaining wall for residential lots abutting Blue Lake within Basins I, and J, previously approved under Application No. 180713-10.

The existing stormwater management lake known as Blue Lake provides water quality treatment and attenuation for the proposed adjacent development after the runoff has been pretreated in the adjacent dry detention areas. Littoral shelf areas are provided within Blue Lake as depicted in Exhibit No. 2.0. Pursuant to Special Condition 1 under Application No. 180713-10, the conceptual phase of this Permit shall expire on August 31, 2038, and the construction phase of this permit shall expire on August 31, 2023.

Based on that information, District staff has determined that the proposed activities are in compliance with the original environmental resource permit and appropriate provisions of paragraph 40E-4.331(2)(b) or 62-330.315(2)(g), Florida Administrative Code. Therefore, these changes have been recorded in our files.

Your permit remains subject to the General Conditions and all other Special Conditions not modified and as originally issued.

Should you have any questions or comments regarding this authorization, please contact this office.

Sincerely,

A handwritten signature in black ink, appearing to read "Brian Rose".

Brian Rose, P.E.
Section Leader
Fort Myers Service Center

c: Barraco and Associates, Inc.
US Home Corporation

NOTICE OF RIGHTS

As required by Sections 120.569 and 120.60(3), Fla. Stat., the following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all of the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a SFWMD decision which affects or may affect their substantial interests shall file a petition for hearing with the Office of the District Clerk of the SFWMD, in accordance with the filing instructions set forth herein, within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, or posting that the SFWMD has or intends to take final agency action, or publication of notice that the SFWMD has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action which materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional Rule 28-106.111, Fla. Admin. Code, point of entry.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Fla. Stat., shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk of the SFWMD. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at SFWMD headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, 3301 Gun Club Road, West Palm Beach, Florida 33406.

- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the SFWMD's security desk does not constitute filing. It will be necessary to request that the SFWMD's security officer contact the Office of the District Clerk. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document. A party who files a document by e-mail shall (1) represent that the original physically signed document will be retained by that party for the duration of the proceeding and of any subsequent appeal or subsequent proceeding in that cause and that the party shall produce it upon the request of other parties; and (2) be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed.

INITIATION OF AN ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Fla. Stat., and Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, SFWMD file number or any other SFWMD identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401–.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

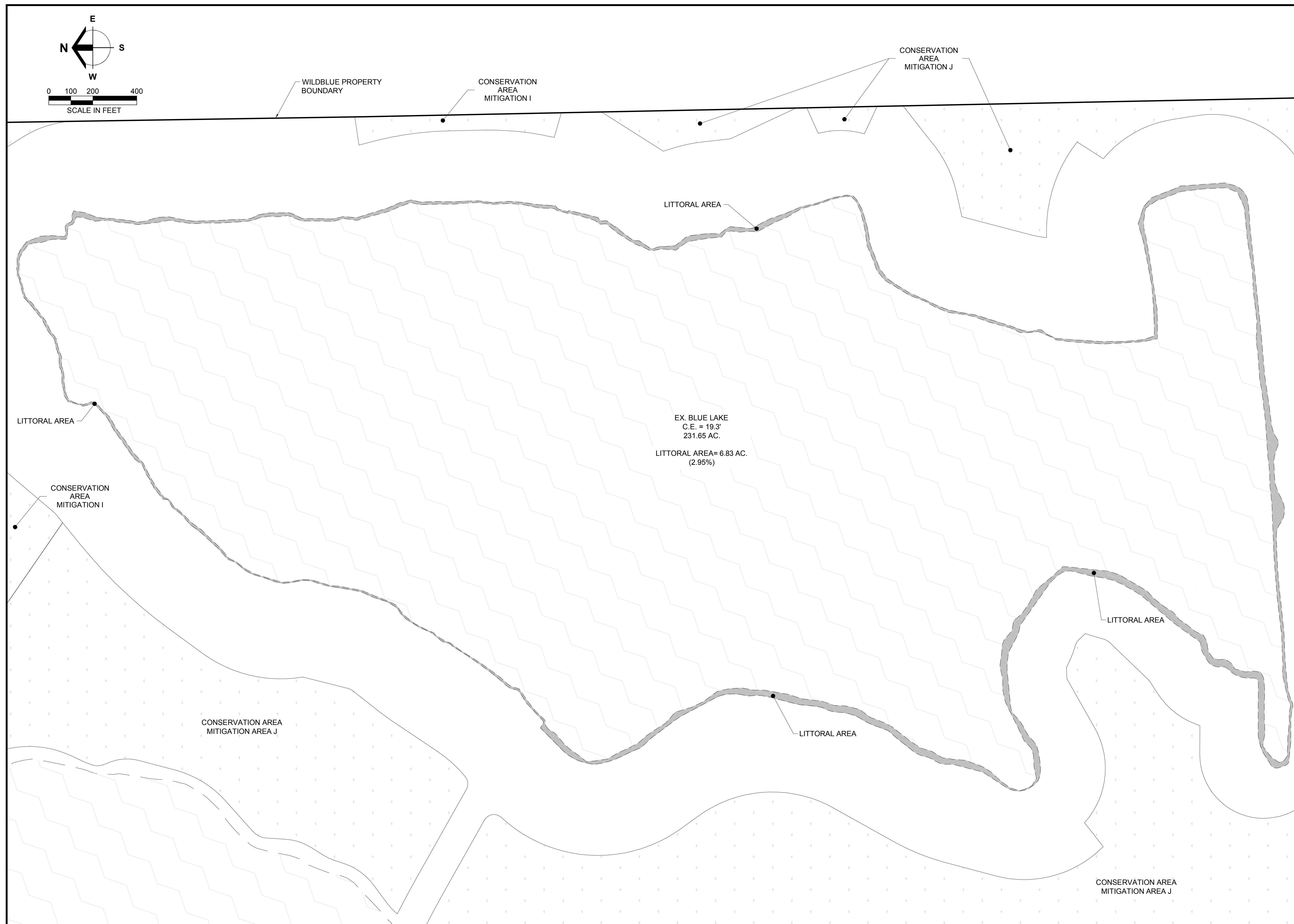
Pursuant to Section 120.68, Fla. Stat., and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal with the Office of the District Clerk of the SFWMD in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the clerk of the appropriate district court of appeal.



SFWMD GeoSpatial Services

Exhibit No: 1	Exhibit Created On: 2019-01-03	LEE COUNTY, FL	<div data-bbox="945 1610 1031 1655" data-label="Image"> </div> <div data-bbox="1058 1614 1194 1651" data-label="Text"> <p>Application</p> </div> <div data-bbox="1337 1606 1428 1768" data-label="Image"> </div> <div data-bbox="917 1663 1212 1697" data-label="Text"> <p>Permit No: 36-05075-P-02</p> </div> <div data-bbox="917 1735 1255 1772" data-label="Text"> <p>Application Number: 190102-9</p> </div>
<div data-bbox="180 1770 271 1860" data-label="Image"> </div> <div data-bbox="352 1671 718 1747" data-label="Text"> <p>REGULATION DIVISION Project Name: VISTABLU</p> </div> <div data-bbox="346 1816 733 1886" data-label="Figure"> </div> <div data-bbox="809 1759 863 1870" data-label="Image"> </div>			





<div>Barraco and Associates, Inc.</div> <div>CIVIL ENGINEERING - LAND SURVEYING LAND PLANNING</div>	
www.barraco.net	
2271 MCGREGOR BLVD., SUITE 100 POST OFFICE DRAWER 2800 FORT MYERS, FLORIDA 33902-2800 PHONE (239) 461-3170 FAX (239) 461-3169	
FLORIDA CERTIFICATES OF AUTHORIZATION ENGINEERING 7995 - SURVEYING LB-6940	
PREPARED FOR	
LENNAR [®]	
LENNAR HOMES 10471 BEN C PRATT / 6 MILE CYPRESS PARKWAY FORT MYERS, FLORIDA 33966	
PHONE (239) 278-1177 FAX (239) 931-4749	
PROJECT DESCRIPTION	
WILDBLUE	
LEE COUNTY, FLORIDA	
THIS PLAN IS PRELIMINARY AND INTENDED FOR CONCEPTUAL PLANNING PURPOSES ONLY. SITE LAYOUT AND LAND USE INTENSITIES OR DENSITIES MAY CHANGE SIGNIFICANTLY BASED UPON SURVEY, ENGINEERING, ENVIRONMENTAL AND / OR REGULATORY CONSTRAINTS AND / OR OPPORTUNITIES.	
DRAWING NOT VALID WITHOUT SEAL, SIGNATURE AND DATE © COPYRIGHT 2019, BARRACO AND ASSOCIATES, INC. REPRODUCTION, CHANGES OR ASSIGNMENTS ARE PROHIBITED	
FILE NAME:	EX LAKE LITTORAL_EXHIBIT.DWG
LOCATION:	J:\23372\DWG\EXHIBITS\
PLOT DATE:	TUE. 1-8-2019 - 4:31 PM
PLOT BY:	SCOTT WHEELER JR
CROSS REFERENCED DRAWINGS	
PLAN REVISIONS	
PLAN STATUS	
EXHIBIT	
BLUE LAKE LITTORAL SHELF EXHIBIT	
PROJECT / FILE NO.	SHEET NUMBER
-	3

Appendix C – Lee County Administrative Amendment ADD2018-10053

ADMINISTRATIVE AMENDMENT (PD) ADD2018-10053

ADMINISTRATIVE AMENDMENT
LEE COUNTY, FLORIDA

WHEREAS, Barraco and Associates, Inc., on behalf of Mike Hueniken, Pulte Home Company, LLC, filed an application for an administrative amendment to a Mixed Use Planned Development known as WildBlue to amend the Master Concept Plan to permit the use of vertical bulkheads as an alternate lake slope stabilization technique along the shoreline of existing lakes (i.e., Blue Lake, WildBlue Lake North, and WildBlue Lake South) and to add an RC-2 amenity area at the northwest corner of WildBlue Lake South on property located between Alico and Corkscrew Roads in Southeast Lee County, described more particularly as:

LEGAL DESCRIPTION: In Sections 7, 8, 17, 18, 19 and 20, Township 46 South, Range 26 East, Lee County, Florida:

ATTACHED AS EXHIBIT "A"

WHEREAS, the subject property is zoned Mixed Use Planned Development (MPD) and is located in the Density Reduction/Groundwater Resource Future Land Use Category as designated by the Lee Plan; and

WHEREAS, the property was originally rezoned by Resolution Z-15-021 and was subsequently amended by ADD2015-00190, ADD2017-00121, ADD2017-00180, ADD2018-00017, ADD2018-00049, ADD2018-00099, and ADD2018-10043; and

WHEREAS, ADD2017-00180 approved relief from Sections 10-329(d)(4) and 10-418(3) of the Lee County Land Development Code (LDC) to allow the lake bank slopes of the existing lakes to be maintained, to allow shoreline hardening along 100 percent of the shoreline of the existing lakes, and to allow shoreline hardening adjacent to single-family residential development (see Exhibit "E"); and

WHEREAS, ADD2017-00180 approved a shoreline design consisting of a rip-rapped breakwater with landward littoral shelf to maintain the stability of the existing lake banks, to protect against erosion resulting from wave action, and to provide the littoral plantings required by the LDC (see Exhibit "E"); and

WHEREAS, the applicant has indicated that installing the rip-rapped breakwater along all of the existing shoreline as approved by ADD2017-00180 is impractical due to the labor intensive nature of installation and difficulty in obtaining adequately sized rock for construction (see Exhibit "D"); and

WHEREAS, the applicant proposes to amend the approved Master Concept Plan to utilize vertical bulkheads as an alternate slope stabilization technique along the shoreline of the existing lakes (see Exhibit "B"); and

WHEREAS, the proposed vertical bulkhead will be located landward of the existing stable shelf and will serve to protect against erosion from wave action in a manner similar to the approved rip-rapped breakwater; and

WHEREAS, the design of the proposed vertical bulkhead directs stormwater runoff away from the existing lakes, provides for a planted littoral shelf that will contain the littoral plantings required by the LDC, and inhibits access to the existing lake banks in a manner consistent with the approved rip-rapped breakwater (see Exhibit “B”); and

WHEREAS, the design of the planted littoral shelf has been refined to establish four planting zones based upon typical submergence depths for each planting zone (see Exhibit “B”); and

WHEREAS, a corresponding planting species list is provided for each planting zone to ensure the survivability of littoral plantings; and

WHEREAS, the design of the proposed vertical bulkhead and associated planted littoral shelf will provide for the same number of required littoral plantings as the approved rip-rapped breakwater, thereby maintaining water quality and providing for native habitat in a manner consistent with prior approvals, the Lee Plan, and Land Development Code; and

WHEREAS, the design of the proposed vertical bulkhead provides for a 20-foot-wide lake maintenance easement as required by the LDC, thereby eliminating approved Deviation 6 in areas incorporating the vertical bulkhead design alternative (see Exhibit “B”); and

WHEREAS, the applicant proposes to further amend the Master Concept Plan to add an additional amenity area at the northwest corner of WildBlue Lake South (see Exhibits “B” and “D”); and

WHEREAS, Resolution Z-15-021 approved a large R-2 amenity area along the westerly shoreline of WildBlue Lake South that was subsequently reduced in size by ADD2017-00180 (see Exhibit “E”); and

WHEREAS, ADD2017-00121 established new residential amenity classifications for amenities around Blue Lake (see Exhibit “F”); and

WHEREAS, the proposed amenity area at the northwest corner of WildBlue Lake South is intended to provide for limited water-oriented uses to reduce the number of resident vehicle miles traveled to access amenity areas; and

WHEREAS, the proposed amendments to the Master Concept Plan will not increase the approved density or intensity of the Mixed Use Planned Development; and

WHEREAS, the Lee County Land Development Code provides for certain administrative changes to planned development master concept plans and planned unit development final development plans; and

WHEREAS, the subject application and plans have been reviewed by the Lee County Department of Community Development in accordance with applicable regulations for compliance with all terms of the administrative approval procedures; and

WHEREAS, it is found that the proposed amendment does not increase density or intensity within the development; does not decrease buffers or open space required by the LDC; does not underutilize public resources or infrastructure; does not reduce total open space, buffering, landscaping or preservation areas; and does not otherwise adversely impact surrounding land uses.

NOW, THEREFORE, IT IS HEREBY DETERMINED that the application for administrative approval for an amendment to the WildBlue Mixed Use Planned Development is **APPROVED subject to the following conditions:**

1. **The development must be in compliance with the amended four-page Master Concept Plan entitled Master Concept Plan, WildBlue dated December 21, 2018, a reduced copy of which is attached hereto as Exhibit "B."**
2. **Development must comply with the amended Schedule of Uses, dated January 4, 2019, attached hereto as Exhibit "C", and the Property Development Regulations approved by ADD2017-00121, attached hereto as Exhibit "F".**
3. **The use of vertical bulkheads is permitted as an alternative to the rip-rapped breakwater and may be utilized at the developer's discretion in accordance with the following:**
 - a. **Prior to the issuance of a local development order for vertical bulkheads along any existing lake shoreline, the plans must depict:**
 - (1) **A planted littoral shelf that is a minimum of eight (8) feet in width;**
 - (2) **A lake maintenance easement that is a minimum of 20 feet in width in accordance with Section 10-328(a) of the Land Development Code;**
 - (3) **Littoral plantings that are installed no greater than two feet below the control elevation; and**
 - (4) **A planting schedule that is in compliance with the cross section and Littoral Plant Species List depicted on the Master Concept Plan attached hereto as Exhibit "B".**
 - b. **Individual segments of vertical bulkhead and rip-rapped breakwater must be a minimum of 125 linear feet in length or the length of three (3) contiguous residential lot widths, whichever is greater.**
 - c. **Transitions between vertical bulkheads and rip-rapped breakwater must be designed in accordance with the Breakwater to Retaining Wall**

Transition plan and profile details depicted on the Master Concept Plan attached hereto as Exhibit “B”.

- d. The use of vertical bulkheads or rip-rapped breakwater for shoreline stabilization is limited to the existing lakes (i.e., Blue Lake, WildBlue Lake North, and WildBlue Lake South). Water Management Lakes, as depicted on the Master Concept Plan attached hereto as Exhibit “B”, must be designed in accordance with the applicable provisions of the Land Development Code.**
- 4. The terms and conditions of the original zoning resolution and subsequent amendments thereto, except as modified herein, remain in full force and effect.**
- 5. If it is determined that inaccurate or misleading information was provided to the County or if this decision does not comply with the LDC when rendered, then, at any time, the Zoning Manager may issue a modified decision that complies with the Code or revoke the decision. If the approval is revoked, the applicant may acquire the necessary approvals by filing an application for public hearing in accordance with Chapter 34.**

Duly passed, adopted, and electronically signed on 1/10/2019 by

Audra Ennis, Zoning Manager
Lee County Community Development

Exhibits

Exhibit A: Legal Description
Exhibit B: Master Concept Plan
Exhibit C: Schedule of Uses
Exhibit D: Request Narrative and Justification
Exhibit E: ADD2017-00180
Exhibit F: ADD2017-00121

REVIEWED
ADD2018-10053
Daniel Munt, Planner
Lee County DCD
10/4/2018

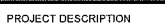
EXHIBIT A

CASE NUMBER: ADD2018-10053

LEGAL DESCRIPTION

**ALL OF WILDBLUE, ACCORDING TO THE PLAT THEREOF, AS
RECORDED IN INSTRUMENT 2017000216031, OF THE PUBLIC
RECORDS OF LEE COUNTY, FLORIDA**

PREPARED FOR



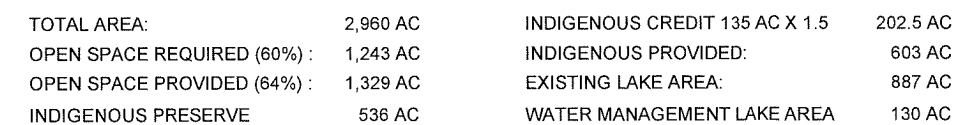
LEE COUNTY, FLORIDA



PLAN REVISIONS

PLAN STATUS

1 OF 4



NOTES:

- PROPOSED IS A REZONING FROM PRFPD & AG-2 TO MIXED USE PLANNED DEVELOPMENT TO PERMIT 1,096 DWELLING UNITS.
- FUTURE LAND USE DESIGNATIONS
DENSITY REDUCTION / GROUNDWATER RESOURCE (DR/GR) 1,982 ACRES
WETLANDS 978 ACRES
- THE PROJECT WILL CONNECT TO LEE COUNTY UTILITIES WATER & SEWER SERVICE. A COMPANION COMPREHENSIVE PLAN AMENDMENT PROPOSES AN AMENDMENT TO LEE PLAN MAPS 6 & 7 TO EXTEND THE FRANCHISE BOUNDARY FROM PROPERTY'S WEST BOUNDARY TO THE EAST BOUNDARY, INCORPORATING THE SUBJECT PROPERTY.
- THE PROPERTY IS NOT LOCATED ON A PUBLIC TRANSIT (LEE TRAN) ROUTE. ROUTE 60 SERVICES MIROMAR OUTLETS, APPROXIMATELY 3 MILES TO THE WEST.

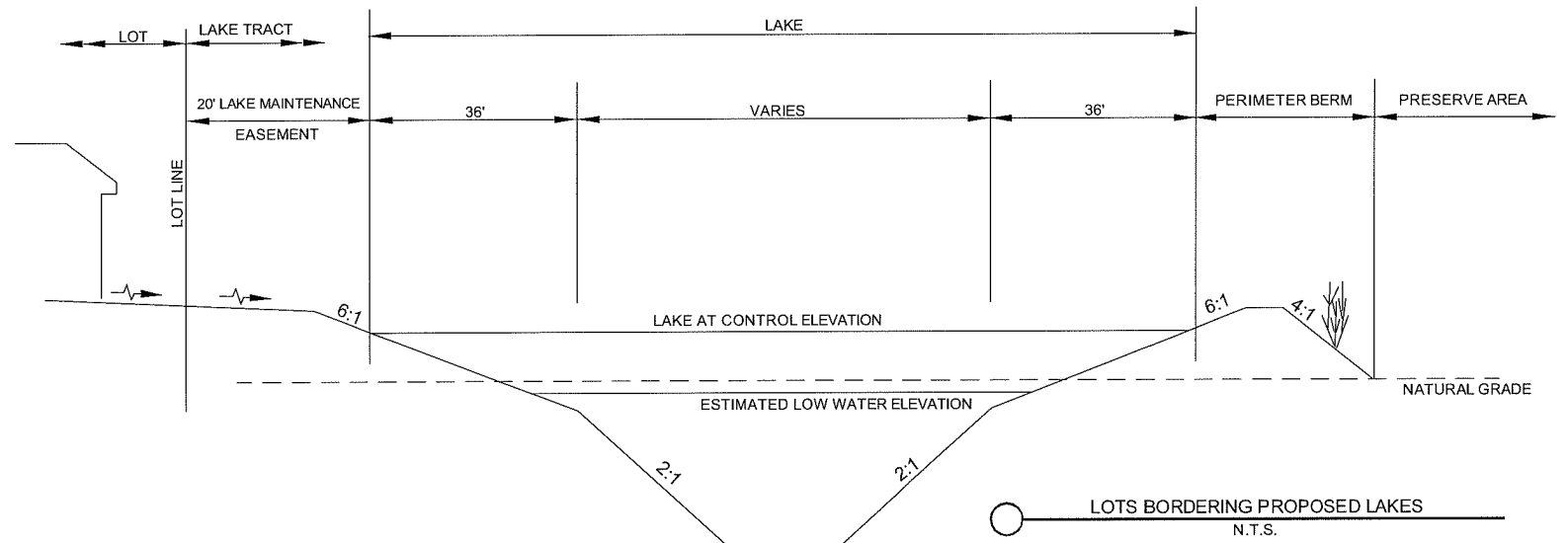
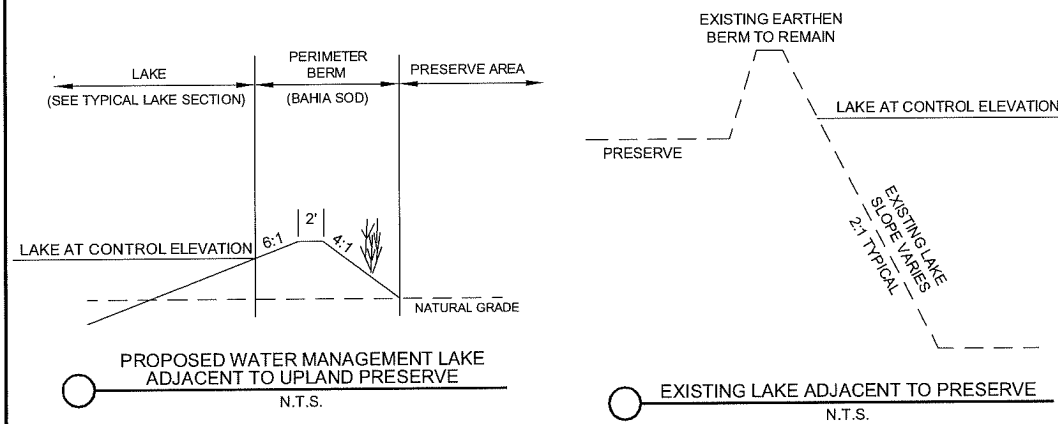
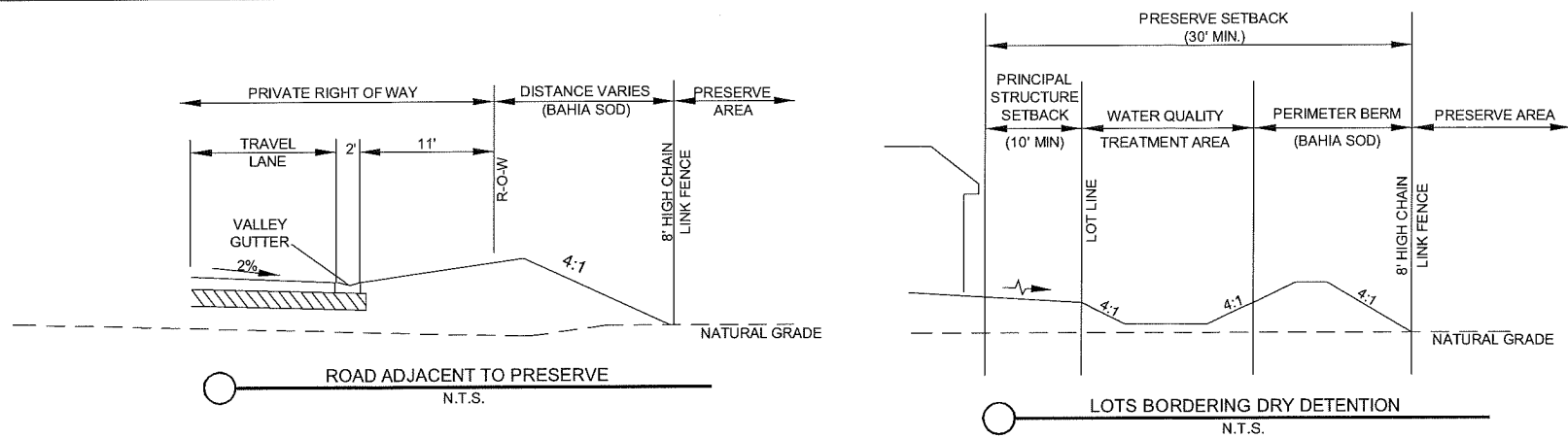
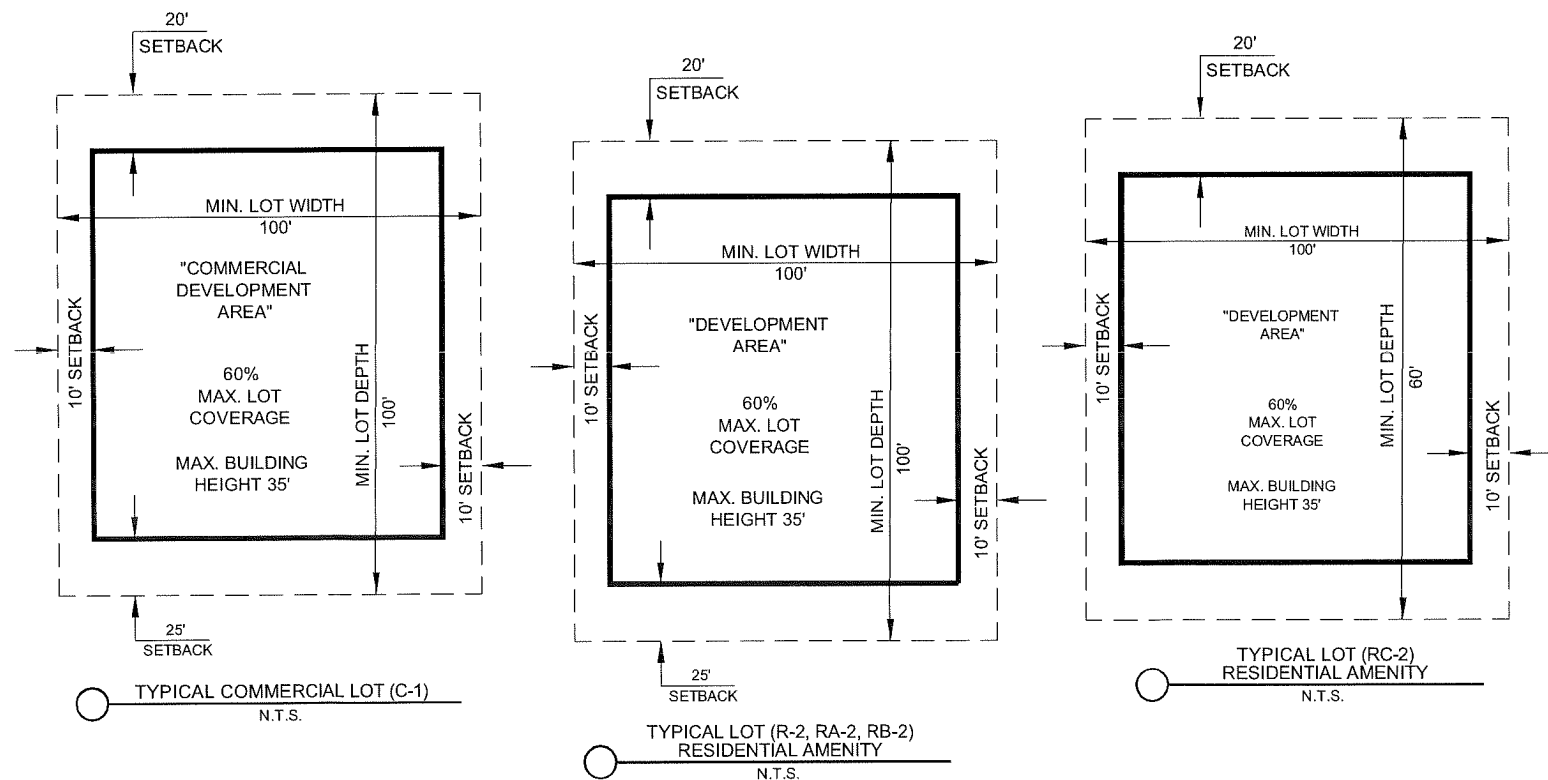
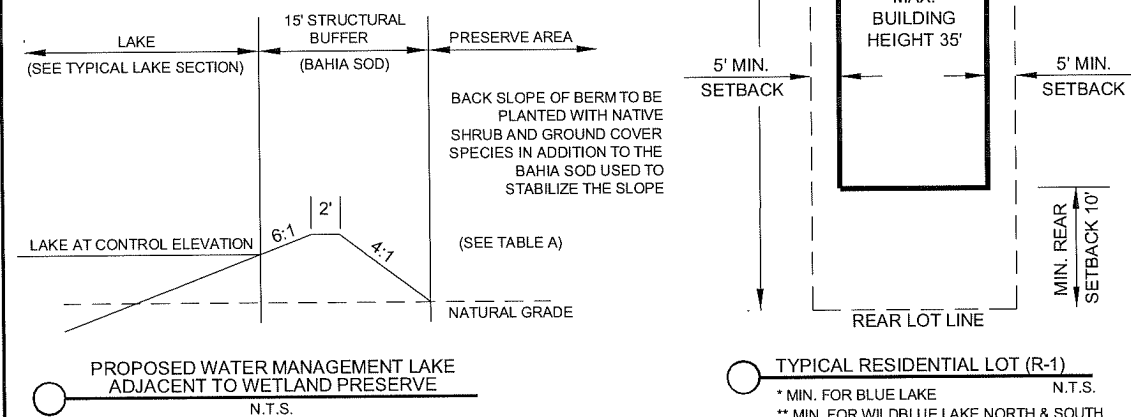


TABLE A				
COMMON NAME	SCIENTIFIC NAME	MINIMUM HEIGHT	MINIMUM CONTAINER SIZE	PLANTING INSTRUCTIONS
SHRUB PLANTINGS				
MYRSINE	MYRSINE CUBANA	3 FT	1 GAL	8 FT ON CENTER
WAX MYRTLE	MYRICA CERIFERA	3 FT	1 GAL	8 FT ON CENTER
GROUND COVER PLANTINGS				
CORDGRASS	SPARTINA BAKERI	12 IN	4 IN	3 FT ON CENTER
FAKAHATCHEE GRASS	TRIPSACUM DACTYLOIDES	12 IN	4 IN	3 FT ON CENTER



Barraco and Associates, Inc.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING
www.barraco.net
2271 MCGREGOR BLVD., SUITE 100
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PHONE (239) 461-3170
FAX (239) 461-3169
FLORIDA CERTIFICATES OF AUTHORIZATION
ENGINEERING 7995 - SURVEYING LB-6940

PREPARED FOR
Pulte Homes
PULTE HOME CORPORATION
24311 WALDEN CENTER DRIVE
SUITE 300
BONITA SPRINGS, FLORIDA 34134
PHONE (239) 498-7711
FAX (239) 498-7707
WWW.PULTEHOMES.COM

PROJECT DESCRIPTION
WildBlue
LEE COUNTY, FLORIDA

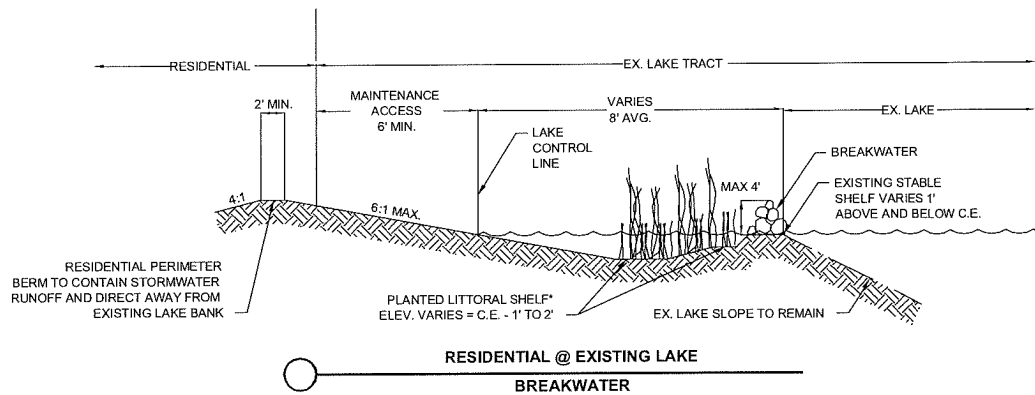
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FILE NAME: 23675-Z02.DWG
LOCATION: J:\23675\SDWG\ZONING\2018
PLOT DATE: THU, 11-8-2018 - 10:57 AM
PLOT BY: TIM GAVIN

CROSS REFERENCED DRAWINGS	
PLAN REVISIONS	
9-10-18	
PLAN STATUS	

MASTER CONCEPT PLAN
TYPICAL SECTIONS
PROJECT / FILE NO. SHEET NUMBER
2 OF 4

DEVIATIONS:

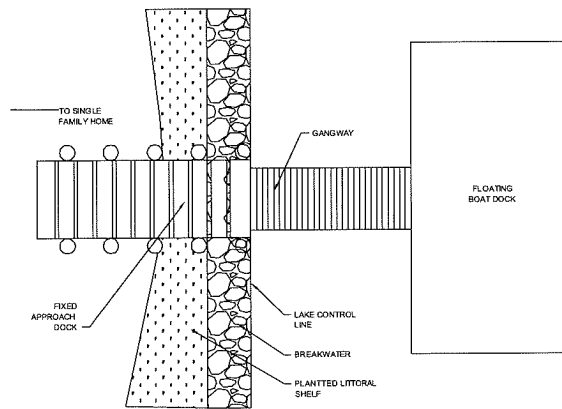
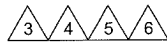
- 1 SECTION 10-329(d)(4) TO ALLOW NO MODIFICATIONS TO THE EXISTING LAKE SHORE IN ONE LOCATION ON WILDBLUE LAKE NORTH AND SOUTH.
- 2 SECTION 30-152(2)d.2., TO ALLOW A DEVELOPMENT OF MORE THAN 25 UNITS, A SINGLE FACE UP TO 210 SQUARE FEET IN AREA.
- 3 SECTION 10-329(d)(4) TO ALLOW EXISTING LAKE BANKS ADJACENT TO RESIDENTIAL TO REMAIN AS IS.
- 4 SECTION 10-418(3) TO ALLOW 100% HARDENED SHORELINE ADJACENT TO DEVELOPMENT.
- 5 SECTION 10-418(2)(c) TO ALLOW A LITTORAL SHELVE 4' TO 18' + IN WIDTH.
- 6 SECTION 10-328(a) TO ALLOW A MINIMUM LAKE MAINTENANCE EASEMENT ACCESS WIDTH OF 6'.
- 7 SECTION 10-329(d)(3) TO ALLOW MAXIMUM DEPTH OF 45 FEET AND ELIMINATE REQUIREMENTS FOR A DEEP LAKE MANAGEMENT PLAN AND POST-CONSTRUCTION BATHYMETRIC SURVEY.
- 8 SECTION 32-625(d)(4)(a) TO ALLOW A 25' FREE STANDING LUMINAIRE HEIGHT ALONG THE SPINE ROADS AND ON C-1 COMMERCIAL PARCEL.



*NOTE:

- AS FIELD CONDITIONS ALLOW, A LITTORAL SHELVE 1' BELOW CONTROL ELEVATION SHALL BE CONSTRUCTED TO A WIDTH OF 4'. AS FIELD CONDITIONS FURTHER ALLOW, A LITTORAL SHELVE 2' BELOW CONTROL SHALL BE CONSTRUCTED TO A WIDTH OF 4'. ALL ADDITIONAL AVAILABLE WIDTH SHALL BE EQUALLY DISTRIBUTED TO EACH SHELVE DEPTH. BOTH LITTORAL SHELVES TOGETHER WITH THE 6:1 SLOPE SHALL PROVIDE ADEQUATE AREA TO ACHIEVE A TOTAL LITTORAL PLANT COUNT CONSISTENT WITH THE LAND DEVELOPMENT CODE.
- FINAL DESIGN MAY BE ALTERED IN ACCORDANCE WITH LAND DEVELOPMENT CODE CRITERIA.
- LITTORAL ZONES, WITH TYPICAL SUBMERGENCE DEPTHS DEFINED BELOW, SHALL BE PLANTED WITH LITTORAL SPECIES LISTED ON SHEET 4 OF MASTER CONCEPT PLAN.

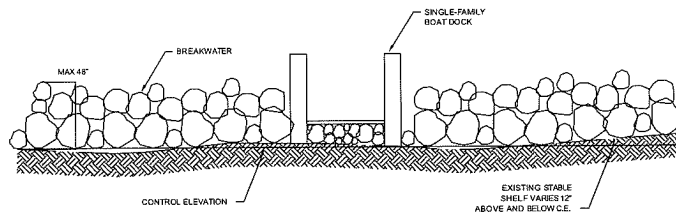
ZONE 1: 0-3"
ZONE 2: 3-12"
ZONE 3: 12-24"
ZONE 4: 24'-36"



TYPICAL SINGLE-FAMILY DOCK
(PLAN VIEW)

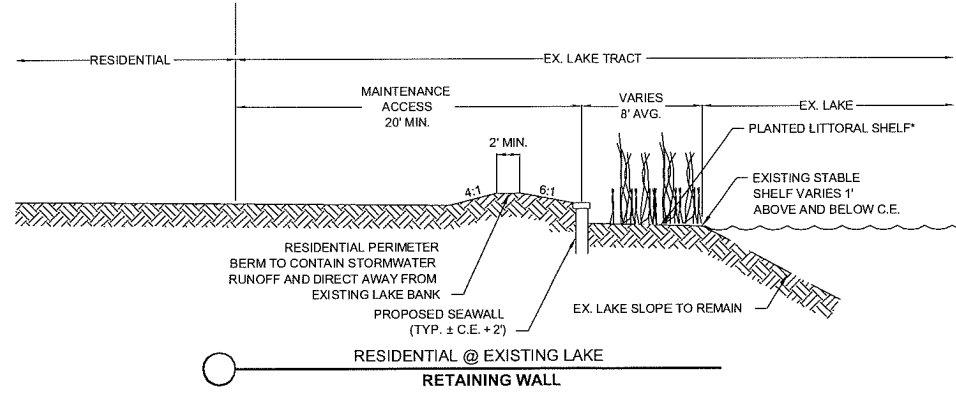
N.T.S.

NOTE: WHERE THE RIP-RAPPED BREAKWATER IS REMOVED FOR CONSTRUCTION OF A BOAT DOCK, THE DOCK, GANGWAY, AND FLOATING DOCK SHALL ACT TO MITIGATE WAVE ACTION AND PROTECT THE STABILIZATION OF THE SHORELINE.



TYPICAL SINGLE-FAMILY DOCK
(PROFILE VIEW)

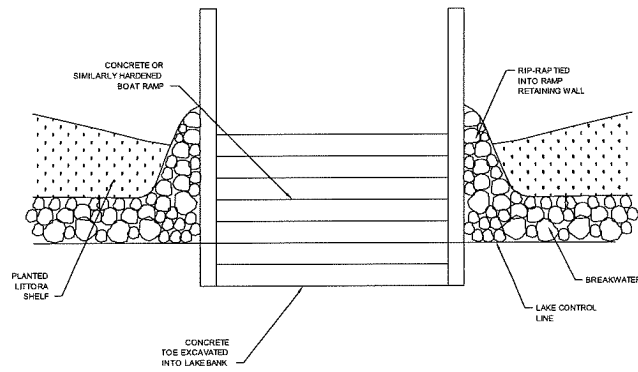
N.T.S.



*NOTE:

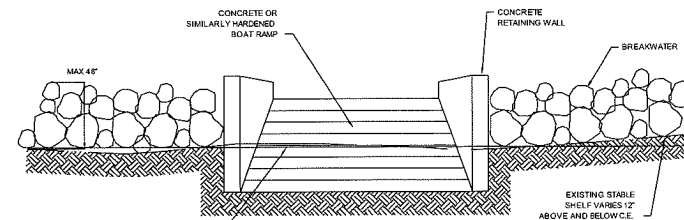
- FINAL DESIGN MAY BE ALTERED IN ACCORDANCE WITH LAND DEVELOPMENT CODE CRITERIA.
- TOTAL LITTORAL PLANT COUNT SHALL BE CONSISTENT WITH THE LAND DEVELOPMENT CODE AND SHALL CONSIST OF A COMBINATION OF EXISTING LITTORAL VEGETATION AND NEWLY PLANTED LITTORALS.
- OPTIONAL RETAINING WALL LOCATIONS ARE SHOWN ON THE MCP. IN THE EVENT FIELD CONDITIONS WARRANT INSTALLATION OF RIP-RAP BREAKWATER SECTION INSTEAD OF PROPOSED RETAINING WALL, THE BREAKWATER LENGTH SHALL NOT BE LESS THAN 3 CONTIGUOUS LOTS.
- LITTORAL ZONES, WITH TYPICAL SUBMERGENCE DEPTHS DEFINED BELOW, SHALL BE PLANTED WITH LITTORAL SPECIES LISTED ON SHEET 4 OF MASTER CONCEPT PLAN.

ZONE 1: 0-3"
ZONE 2: 3-12"
ZONE 3: 12-24"
ZONE 4: 24'-36"



TYPICAL BOAT RAMP
(PLAN VIEW)

N.T.S.



TYPICAL BOAT RAMP
(PROFILE VIEW)

N.T.S.

NOTE: THESE DETAILS DEPICT A SINGLE METHOD FOR CONSTRUCTION OF THE PROPOSED SINGLE-FAMILY DOCKS AND BOAT RAMPS. VARYING MEANS AND METHODS MAY BE UTILIZED IN LIEU OF THOSE DEPICTED SUCH THAT THE INTEGRITY OF THE LAKE SHORELINE AND BREAKWATER IS MAINTAINED.

Barraco
and Associates, Inc.

CIVIL ENGINEERING - LAND SURVEYING
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FLORIDA CERTIFICATES OF AUTHORIZATION
ENGINEERING 7995 - SURVEYING LB-6940

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SUITE 300
BONITA SPRINGS, FLORIDA 34134

PHONE (239) 498-7711
FAX (239) 498-7707

WWW.PULTEHOMES.COM

PROJECT DESCRIPTION

WildBlue

LEE COUNTY, FLORIDA

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FILE NAME: 23675-Z03.DWG

LOCATION: J:\23675\DWG\ZONING\2018

PLOT DATE: THU, 11-8-2018 - 10:58 AM

PLOT BY: TIM GAVIN

CROSS REFERENCED DRAWINGS

PLAN REVISIONS

NO.	DATE	DESCRIPTION
1	9-10-18	

PLAN STATUS

**MASTER CONCEPT
PLAN
TYPICAL SECTIONS**

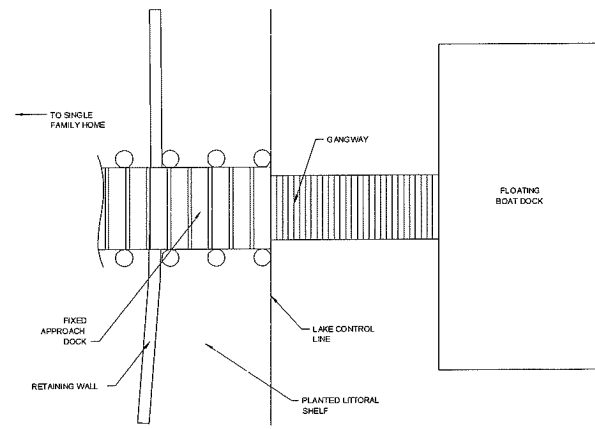
PROJECT / FILE NO. SHEET NUMBER

3 OF 4

LITTORAL PLANTING SPECIES LIST¹

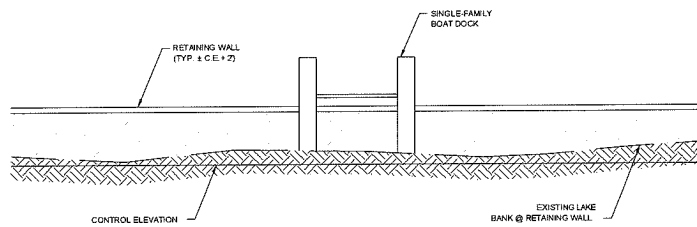
Common Name	Scientific Name	Minimum Container Size	Planting Density (On Center)
Zone 1 – Tree Plantings ²			
Bald cypress	<i>Taxodium distichum</i>	7 gal.	15 ft.
Dahoon holly	<i>Ilex cassine</i>	7 gal.	15 ft.
Laurel oak	<i>Quercus laurifolia</i>	7 gal.	15 ft.
Live oak	<i>Quercus virginiana</i>	7 gal.	15 ft.
Pond apple	<i>Annona glabra</i>	7 gal.	15 ft.
Pop ash	<i>Fraxinus caroliniana</i>	7 gal.	15 ft.
Red maple	<i>Acer rubrum</i>	7 gal.	15 ft.
South Florida slash pine	<i>Pinus elliptici</i> var. <i>densa</i>	7 gal.	15 ft.
Swamp bay	<i>Persea palustris</i>	7 gal.	15 ft.
Sweet bay magnolia	<i>Magnolia virginiana</i>	7 gal.	15 ft.
Sweetgum	<i>Liquidambar styraciflua</i>	7 gal.	15 ft.
Zone 1 – Herbaceous Plantings			
Blue Maidencane	<i>Amphicarpum muhlenbergianum</i>	BR	2 ft.
Cordgrass	<i>Spartina bakeri</i>	BR	2 ft.
Golden canna	<i>Canna flaccida</i>	BR	2 ft.
Guilford Paspalum	<i>Paspalum monostachyum</i>	2 in.	2 ft.
Maidencane	<i>Panicum hemitomon</i>	BR	2 ft.
Muhly grass	<i>Muhlenbergia capillaris</i>	2 in.	2 ft.
Sawgrass	<i>Cladium jamaicense</i>	2 in.	2 ft.
Soft rush	<i>Juncus effusus</i>	BR	2 ft.
Swamp lily	<i>Crinum americanum</i>	BR	2 ft.
Water hyssop	<i>Bacopa</i> spp.	BR	2 ft.
Zone 2 – Herbaceous Plantings			
Arrowhead	<i>Sagittaria lancifolia</i>	BR	2 ft.
Blue flag iris	<i>Iris virginicus</i>	BR	2 ft.
Buttush	<i>Scirpus</i> spp.	BR	2 ft.
Cordgrass	<i>Spartina bakeri</i>	BR	2 ft.
Golden canna	<i>Canna flaccida</i>	BR	2 ft.
Maidencane	<i>Panicum hemitomon</i>	BR	2 ft.
Pickersweed	<i>Pontederia cordata</i>	BR	2 ft.
Sawgrass	<i>Cladium jamaicense</i>	2 in.	2 ft.
Soft rush	<i>Juncus effusus</i>	BR	2 ft.
Spikerush	<i>Eleocharis</i> spp.	BR	2 ft.
Water hyssop	<i>Bacopa</i> spp.	BR	2 ft.
Zone 3 – Herbaceous Plantings			
Arrowhead	<i>Sagittaria lancifolia</i>	BR	2 ft.
Buttush	<i>Scirpus</i> spp.	BR	2 ft.
Fireflag	<i>Thalia geniculata</i>	BR	2 ft.
Pickersweed	<i>Pontederia cordata</i>	BR	2 ft.
Soft rush	<i>Juncus effusus</i>	BR	2 ft.
Spikerush	<i>Eleocharis</i> spp.	BR	2 ft.
Zone 4 – Herbaceous Plantings			
Fireflag	<i>Thalia geniculata</i>	BR	2 ft.
Floating-hearts	<i>Nymphoides aquatica</i>	BR	2 ft.
Spatter-Dock	<i>Nyphar luteum</i>	BR	2 ft.
Waterlily	<i>Nymphaea odorata</i>	BR	2 ft.

¹Littoral plantings must include a minimum of four different native herbaceous plant species. Additional native species may be included in the planting list prior to DO approval.
²Native wetland trees may be substituted for up to 25 percent of the total number of herbaceous plants required. One tree (minimum 10-foot height, 2-inch caliper, 4-foot spread) may be substituted for 100 herbaceous plants.
BR – bare root



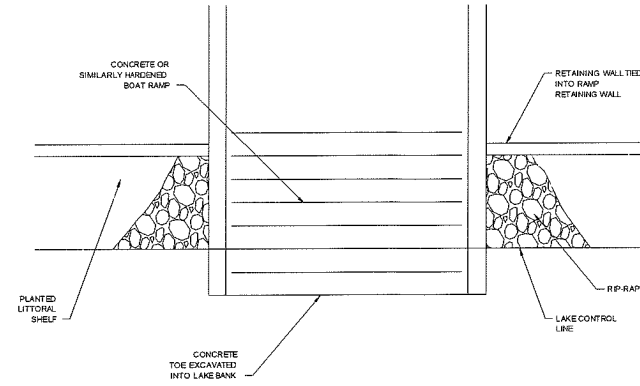
TYPICAL SINGLE-FAMILY DOCK @ RETAINING WALL
(PLAN VIEW)

N.T.S.



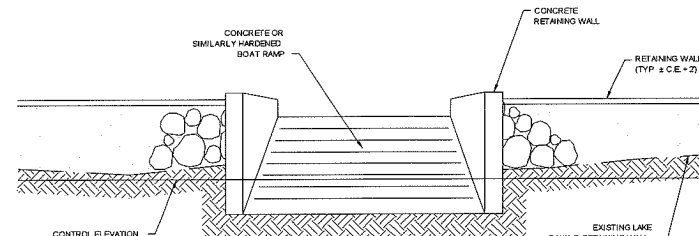
TYPICAL SINGLE-FAMILY DOCK @ RETAINING WALL
(PROFILE VIEW)

N.T.S.



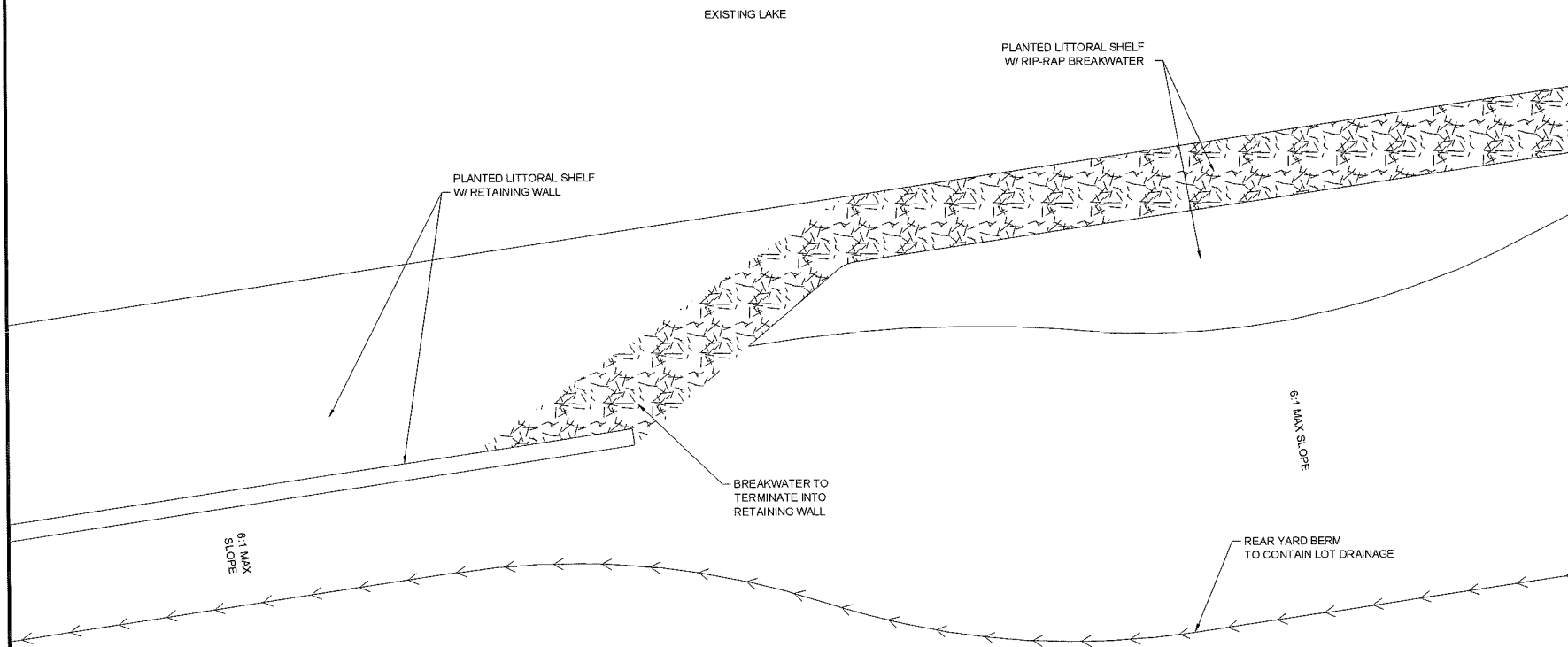
TYPICAL BOAT RAMP @ RETAINING WALL
(PLAN VIEW)

N.T.S.



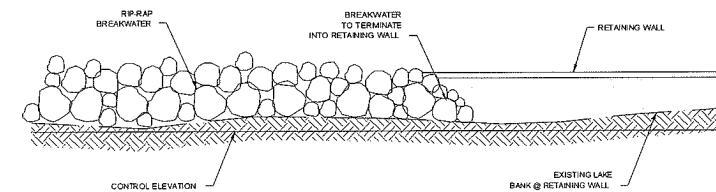
TYPICAL BOAT RAMP @ RETAINING WALL
(PROFILE VIEW)

N.T.S.



BREAKWATER TO RETAINING WALL TRANSITION
(PLAN VIEW)

N.T.S.



BREAKWATER TO RETAINING WALL TRANSITION
(PROFILE VIEW)

N.T.S.

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SUITE 300
BONITA SPRINGS, FLORIDA 34134

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FAX (239) 498-7707

WWW.PULTEHOMES.COM

PROJECT DESCRIPTION

WildBlue

LEE COUNTY, FLORIDA

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FILE NAME | 23675-Z04.DWG

LOCATION | J:\23675\DWG\ZONING\2018\

PLOT DATE | MON. 11-26-2018 - 3:08 PM

PLOT BY | TIM GAVIN

CROSS REFERENCED DRAWINGS

PLAN REVISIONS

9-10-18	

PLAN STATUS

MASTER CONCEPT
PLAN
TYPICAL SECTIONS

PROJECT / FILE NO.

SHEET NUMBER

4 OF 4

EXHIBIT C



Schedule of Uses Amended January 4, 2019

Residential, R-1

Accessory uses and structures
Dwelling unit, Single-family
Entrance Gate & Gatehouse
Essential Services
Essential Service Facilities, Group I
Excavation, Water Retention
Fences, wall
Home Occupation
Models, Model Home, Display Center, Sales Center
Parking lot, accessory - restricted to the amenity area or models
Residential accessory uses
Signs- In accordance with Chapter 30 of the LDC
Temporary Uses, limited to a Temporary Contractor's Office and Equipment Storage Shed

Residential, R-2**

** The Landbridge in the R-2 area adjacent to WildBlue Lake North is limited to Boat Docks, Docking Facilities, Roads and Utilities

Accessory uses and structures

Club, private

Administrative Office

ATM

Boat motors, sales and service

Boat parts, sales and installation

Boat ramp

Boat rental

Community Gardens

Consumption on premises

Docks & Docking Facilities, Limited per Condition 21 .b

Food & Beverage Service, limited

Marine supplies

Parking lot, accessory

Restaurant or refreshment facility

Rental or leasing establishment, Group I, limited to bicycles and such things as beach

chairs, umbrellas, boats and other beach related items, etc. excluding jet skis,
wave runners, sea doos and other similar personal watercraft and also excluding
mopeds and scooters.

Sale of Marine Fuel and lubricants
Specialty Retail Shops, Groups I & II
Storage, Outdoor

Entrance Gates & Gatehouse

Essential Services

Essential Service Facilities, Group I

Excavation, Water Retention

Recreational Facilities – Personal, Private on-site

Signs in accordance with Chapter 30

Temporary Uses, limited to a Temporary Contractor's Office and Equipment Storage
Shed

Blue Lake Residential Amenity, RA-2

Accessory uses and structures

Club, private

Administrative Office

ATM

Boat ramp

Community Gardens

Consumption on premises

Docks & Docking Facilities, Limited per Condition 21

Food & Beverage Service, limited

Parking lot, accessory

Restaurant or refreshment facility

Rental or leasing establishment, Group I, limited to bicycles and such things a beach
chairs, umbrellas, boats and other beach related items, etc. excluding jet skis,
wave runners, sea doos and other similar personal watercraft and also excluding
mopeds and scooters.

Specialty Retail Shops, Groups I & II
Storage, Outdoor

Entrance Gates & Gatehouse

Essential Services

Essential Service Facilities, Group I

Excavation, Water Retention

Recreational Facilities – Personal, Private on-site

Signs in accordance with Chapter 30

Temporary Uses, limited to a Temporary Contractor's Office and Equipment Storage
Shed

Blue Lake Residential Amenity, RB-2

Accessory uses and structures

Club, private

- Administrative Office

- ATM

- Boat ramp

- Community Gardens

- Consumption on premises

- Docks & Docking Facilities, Limited per Condition 21

- Food & Beverage Service, limited

- Parking lot, accessory

- Restaurant or refreshment facility

- Rental or leasing establishment, Group I, limited to bicycles and such things a beach chairs, umbrellas, boats and other beach related items, etc. excluding jet skis, wave runners, sea doos and other similar personal watercraft and also excluding mopeds and scooters.

- Specialty Retail Shops, Groups I & II

- Storage, Outdoor

Entrance Gates & Gatehouse

Essential Services

Essential Service Facilities, Group I

Excavation, Water Retention

Recreational Facilities – Personal, Private on-site

Signs in accordance with Chapter 30

Temporary Uses, limited to a Temporary Contractor's Office and Equipment Storage Shed

Blue Lake and WildBlue Lake South Residential Amenity, RC-2

Club, private

- Boat ramp

- Docks & Docking Facilities, Limited per Condition 21.

- Parking lot, accessory

Essential Services

Essential Service Facilities, Group I

Recreational Facilities – Personal, Private on-site

Signs in accordance with Chapter 30

Temporary Uses, limited to a Temporary Contractor's Office and Equipment Storage Shed

Commercial, C-1

Accessory uses and structures
Administrative offices
Animal Clinic
Auto Parts Store
Bait and tackle shop
Banks and Financial Establishments, Group I
Boat Parts store
Business services, Group I, Group II (limited to Parcel and Express Service only)
Car Wash
Cleaning and maintenance services
Clothing stores, general
Consumption on premises
Convenience food and beverage store
Cultural facilities
Day Care, Child & Adult
Department store
Drive Thru, with any permitted use
Drugstore pharmacy
Essential services
Essential service facilities, Group I
Excavation, Water retention
Fences, wall
Food stores, Group I
Gift and souvenir shop
Hardware Store
Hobby, toy and game shops
Household and office furnishings, Groups I & II
Laundry & Dry Cleaning, Group I
Lawn & Garden Supply
Medical office
Nonstore Retailers, Group I
Package Store
Parking Lot, Accessory
Personal services, Group I
Pet services
Pet shop
Photofinishing laboratory
Place of Worship
Post office
Printing and publishing

Real estate sales office
Rental & Leasing
Repair shops, Group I, II
Restaurants, Groups I, II, and III
Self Service Fuel Pumps
Schools, commercial
Signs in accordance with Chapter 30
Specialty retail shops, Groups I, II
Studios
Supermarket
Temporary uses
Theater, indoor
Used merchandise stores, Group I
Variety store
Warehouse, mini

EXHIBIT D**WildBlue
ADMINISTRATIVE AMENDMENT****REQUEST STATEMENT**

An Administrative Amendment is sought for WildBlue MPD to allow an alternate lake slope stabilization technique. Located on page 3 of the enclosed Master Concept Plan, a cross section has been added to the upper right corner of the plan depicting a retaining wall on the existing lakes.

The residential area along the southern portion of Blue Lake is under construction and portions of the breakwater have been installed. It was learned during this early phase that placement of the breakwater is labor intensive and therefore very costly to install. Additionally, availability of properly sized rock rip-rap is proving to be problematic for the project. For these reasons the applicant is proposing an alternate retaining wall design. Consistent with the previously approved rip-rapped breakwater cross section, the proposed retaining wall shall maintain the integrity of the existing stable lake bank and is needed to mitigate the anticipated potential wave action on the large existing lakes. The combination of the existing stable lake bank and the proposed retaining wall shall protect the health, safety, and welfare of future residents along the existing lakes.

Construction of the proposed retaining wall shall include removal of existing loose overburden above the existing stable lake bank shelf, as needed, and installation of a sheetpile wall landward of the existing lake control line by vibrating it into place. As the proposed section demonstrates, a littoral planting shelf will be provided on the water side of the retaining wall in accordance with the Land Development Code. This littoral shelf shall vary in size and shall have an average width of 8 feet with littoral plants being installed in accordance with the Land Development Code. Also shown by the cross section a minimum lake maintenance width of 20 feet shall be provided between the residential rear lot lines and the existing lake control line. The retaining wall shall be placed to maximize the littoral shelf area waterward of the retaining wall, while also maintaining the minimum 20-foot lake maintenance easement. However, in some instances the retaining wall may be required to be installed closer to the existing lake control line in order to accommodate boat dock installation and boating use of the lake. Per the Boat Management Plan, in order to preserve boater safety a maximum protrusion of 50' into the existing lakes from the applicable control line is allowed for single-family docking facilities. Where the sub-surface lake bank extends into the existing lakes at shallow elevations for great distances, the proposed retaining wall may need to be installed within proximity to the existing lake edge in order to maintain that control line. This will allow future single-family docks to extend into the existing lakes to a location where lake depths are sufficient to accommodate boating uses, while also not exceeding the maximum 50' protrusion from the applicable control line.

As previously approved under ADD2017-00180, Deviation 4 allowed shoreline hardening on 100 percent of the developed shoreline and to permit hardened shoreline adjacent to single-family residential development. In accordance with this Deviation approval, compensatory littoral plants shall be provided for wherever the retaining wall or rip-rapped breakwater sections are constructed. It is anticipated that the entirety of the developed shoreline along the residential rear-yards shall consist of the retaining wall section, however in some instances existing conditions may necessitate the installation of the rip-rapped breakwater. In such instances, the rip-rapped breakwater shall extend no less than three contiguous lot widths.

In accordance with the Lee Plan, the proposed shoreline retaining wall installation shall serve to improve water quality within the existing lakes and enhance native wildlife habitat. Through the removal of existing loose stockpile material along the shoreline of the lakes, planted littoral shelves with compensatory plantings in accordance with the Land Development Code shall be created waterward of the proposed retaining walls along the entire perimeter of the developed shoreline. These planted littoral shelves shall serve to enhance the water quality of the existing lakes while also creating habitat for the native wildlife.

A small change to the MCP is also included within this amendment. Located on the northwest shoreline of Wildblue Lake South, a small R-2 area has been added to allow neighborhood amenities.

The requested amendment does not alter utilization of public resources, preserves, open space, height or buffers and therefore is consistent with the requirements of LDC Section 34-380 regarding administrative zoning approvals.

ADMINISTRATIVE AMENDMENT (PD) ADD2017-00180

ADMINISTRATIVE AMENDMENT
LEE COUNTY, FLORIDA

WHEREAS, Alico East Fund, LLC, c/o Donald R. Schrottenboer filed an application for an administrative amendment to a Mixed Use Planned Development known as WildBlue to amend the Master Concept Plan to relocate a Residential, R-2 Amenity area on WildBlue Lake North, to remove a Residential, R-2 Amenity area in the southwesterly portion of the subject property, to reduce the size of a Residential, R-2 Amenity area along WildBlue Lake South, to provide for new areas of Residential, R-1 development within areas previously dedicated to Residential, R-2 Amenity areas, to establish the locations of three internal gates within the development, to revise and supplement typical cross sections, to amend the Mitigation Activity Schedule governing wetland mitigation, monitoring, and maintenance, and to request five deviations relative to existing lakes on property located between Alico and Corkscrew Roads in Southeast Lee County, described more particularly as:

LEGAL DESCRIPTION: In Sections 17 and 20, Township 46 South, Range 26 East, Lee County, Florida:

ATTACHED AS EXHIBIT "A"

WHEREAS, the subject property is located in the Density Reduction/Groundwater Resource Future Land Use Category as designated by the Lee Plan; and

WHEREAS, the property was originally rezoned by Resolution Z-15-021 and was subsequently amended by ADD2017-00121; and

WHEREAS, Resolution Z-15-021 and ADD2017-00121 establish a Master Concept Plan, a Schedule of Uses, Property Development Regulations, and Conditions intended to govern the subsequent development of the subject property; and

WHEREAS, the applicant has filed a request to further amend the Master Concept Plan to reconfigure portions of the proposed development, to revise and supplement previously approved cross sections, and to establish new cross sections (see Exhibit "B"); and

WHEREAS, the applicant proposes the following amendments to the Master Concept Plan:

- (1) The previously approved Residential, R-2 Amenity area will be relocated from the existing peninsula at the southerly portion of WildBlue Lake North to an existing peninsula located along the westerly portion of WildBlue Lake North;
- (2) The previously approved Residential, R-2 Amenity area in the southwesterly portion of the development will be removed and replaced with a Residential, R-1 development area; and

- (3) The previously approved Residential, R-2 Amenity area located along the westerly portion of WildBlue Lake South will be reconfigured to reduce the size of the amenity area to provide for additional Residential, R-1 development areas adjacent to the amenity area;
- (4) The previously approved Commercial, C-1 development area located in the southwesterly portion of the development will be reconfigured to accommodate modified roadway alignments within the development;
- (5) The previously approved spine road providing access to development areas located to the west of WildBlue Lake South will be realigned to accommodate the proposed reconfiguration of development areas;
- (6) The previously approved cross sections will be revised and supplemented to provide for consistency and clarity regarding the applicability of cross sections throughout the development;
- (7) A new cross section will be established for Residential, R-1 development taking place along existing lakes to reflect deviation requests relative to the maintenance of lake bank slopes along existing lakes;
- (8) New typical cross sections will be established for single-family docks and for boat ramps within approved amenity areas; and

WHEREAS, the proposed amendments to the Master Concept Plan will not increase the approved density or intensity of the proposed development; and

WHEREAS, a permanent entry gate and three optional internal gates are proposed to regulate access to the proposed development from Corkscrew Road and to certain Residential, R-1 development areas within the proposed development (see Exhibit "B"); and

WHEREAS, Resolution Z-15-021 requires internal gates and gatehouses to neighborhoods within the project to be approved by administrative amendment (see Exhibit "C"); and

WHEREAS, the applicant has requested an amendment to the Mitigation Activity Schedule approved by Resolution Z-15-021 (see Exhibit "C"); and

WHEREAS, the requested amendment to the Mitigation Activity Schedule is intended to provide for an updated timeline for mitigation activities and does not propose any change to the obligation of the applicant with respect to the restoration of mitigation areas throughout the project (see Exhibit "D"); and

WHEREAS, the applicant has requested five deviations from the Land Development Code (LDC) relative to physical characteristics and design of lake banks and associated

planted littoral shelves along existing lakes (Blue Lake, WildBlue Lake North, and WildBlue Lake South) (see Exhibit "E"); and

WHEREAS, Section 10-329(d)(4) of the Land Development Code requires lake banks to be sloped at a ratio of not greater than six horizontal feet to one vertical foot (6:1) from the top of bank to a water depth of two feet below the dry season water table; and

WHEREAS, the applicant has filed a deviation request to maintain existing lake bank slopes, which range between 7.5:1 and 1:1, along existing lakes (see Exhibit "F"); and

WHEREAS, the applicant has also filed a request to deviate from Section 10-418(3) of the LDC to permit shoreline hardening on 100 percent of the developed shoreline and to permit hardened shoreline adjacent to single-family residential development where shoreline hardening is restricted to a maximum of 20 percent of individual shorelines and where such hardening is prohibited adjacent to single-family residential uses; and

WHEREAS, the applicant's justification for the requested deviations note that the existing lakes have developed a stable bank since the cessation of mining activities on the subject property and that the requested deviations will provide for the continued stability of lake banks along the existing lakes, will protect against erosion, and will provide more usable open space on Residential, R-1 lots (see Exhibit "E"); and

WHEREAS, the applicant's justification for the requested deviations also notes that compliance with Section 10-329(d)(4) of the LDC requires excavations that would destabilize existing lake banks, thereby posing a potential threat to the health, safety, and welfare of future property owners along existing lakes (see Exhibit "E"); and

WHEREAS, the applicant has provided an analysis of the physical composition of the existing lake bank slopes and a summary of the ability of the existing lake bank slopes to withstand anticipated winds and wave heights (see Exhibit "G"); and

WHEREAS, the applicant proposes to limit the potential for erosion by directing stormwater runoff away from the existing lake banks and by constructing a rip-rapped breakwater on top of existing lake banks to ensure the continued stability of existing lake banks (see Exhibits "B", "E", and "H"); and

WHEREAS, the applicant proposes to utilize elevated gangways, floating docks, and hardened boat ramp facilities to protect and further stabilize existing lake bank slopes while providing for water access to the existing lakes (see Exhibit "B"); and

WHEREAS, the applicant has also filed a request to deviate from Section 10-418(2)c of the LDC to permit planted littoral shelves ranging between four (4) feet and 18 feet in width where a minimum planted littoral shelf width of 20 feet is required; and

WHEREAS, the applicant proposes to provide a planted littoral shelf of a varying width along the entirety of the developed shoreline to inhibit access to the existing lake banks (see Exhibit "H"); and

WHEREAS, the applicant's justification in support of the deviation request notes that the proposed planted littoral shelf exceeds the minimum planted littoral shelf size requirement established by the LDC and that inhibiting access to existing lake banks will protect public health, safety, and welfare (see Exhibit "E"); and

WHEREAS, the applicant has also requested a deviation from Section 10-328(a) of the LDC to permit a minimum lake maintenance easement width of six (6) feet, whereas a lake maintenance easement width of 20 feet is required; and

WHEREAS, the applicant's justification for the requested deviation notes that the varying width of the planted littoral shelf, which is proposed to provide for water quality and habitat for wading birds and other aquatic species, will limit the width of the required lake maintenance easement in locations where the planted littoral shelf is at its greatest width (see Exhibit "E"); and

WHEREAS, the applicant's justification for the requested deviation notes that a minimum lake maintenance easement width of six (6) feet is sufficient for vehicles utilized for herbicide application, littoral maintenance, and slope and shelf grading and maintenance; and

WHEREAS, the applicant's justification for the requested deviation notes that maintenance activities will occur in the dry season and that the planted littoral shelf width will be utilized for access if larger equipment is required to perform lake bank maintenance along the existing lakes; and

WHEREAS, the applicant has also requested a deviation from Section 10-329(d)(3) of the LDC to eliminate the requirements of a maximum depth and Deep Lake Management Plan for existing lakes only, whereas a maximum excavation depth of 20 feet is permitted and whereas a Deep Lake Management Plan must be approved for lakes greater than 12 feet in depth; and

WHEREAS, the existing lakes identified on the Master Concept Plan are a result of previous mining activity that took place on the subject property and preserving the existing lakes will protect public health, safety, and welfare ; and

WHEREAS, the requested deviations enhance the objectives of the planned development and protect public health, safety, and welfare by ensuring the stability of existing lake bank slopes, providing for additional stabilization to limit erosion and protect development areas, and providing for enhanced planting areas for water quality and suitable habitat; and

WHEREAS, the Lee County Land Development Code provides for certain administrative changes to planned development master concept plans and planned unit development final development plans; and

WHEREAS, the subject application and plans have been reviewed by the Lee County Department of Community Development in accordance with applicable regulations for compliance with all terms of the administrative approval procedures; and

WHEREAS, it is found that the proposed amendment does not increase density or intensity within the development; does not decrease buffers or open space required by the LDC; does not underutilize public resources or infrastructure; does not reduce total open space, buffering, landscaping or preservation areas; and does not otherwise adversely impact surrounding land uses.

NOW, THEREFORE, IT IS HEREBY DETERMINED that the application for administrative approval for an amendment to the WildBlue Mixed Use Planned Development is **APPROVED subject to the following conditions:**

1. **The development must be in compliance with the amended three-page Master Concept Plan entitled WildBlue Mixed Use Planned Development, dated December 11, 2017, a reduced copy of which is attached hereto as Exhibit "B."**
2. **Condition 12 of Resolution Z-15-021 is hereby amended as follows:**

The local development order application must include a restoration schedule in substantial compliance with the three-page "WildBlue Mitigation Activity Schedule by Mitigation Area," last revised December 2017, attached hereto as Exhibit "D." ~~May 2015, date-stamped "Received Jul 20 2015 Community Development," attached as Exhibit "H,"~~ and the single-page "WildBlue Mitigation Areas Map," date-stamped "Received Jul 20, 2015 Community Development," and attached to Resolution Z-15-021 as Exhibit "I."

3. **Deviation 3, which requests relief from Section 10-329(d)(4) of the Land Development Code to maintain existing lake bank slopes ranging between 7.5:1 and 1:1 along existing lakes abutting development areas, whereas a maximum lake bank slope of six horizontal to one vertical (6:1) from the top of bank to a water depth of two feet below the dry season water table is permitted, is hereby APPROVED subject to the following conditions:**
 - a. Prior to the issuance of a building permit for any docking facility, single-family dock, or other similar water-oriented structure, permit plans must demonstrate a minimum vertical clearance of two feet across the entire width of the planted littoral shelf to promote survivability of plant material within the planted littoral shelf. Vertical clearance must be measured from control elevation to the lowest horizontal structural member of the dock and its attendant components.
 - b. An annual monitoring report for the breakwater, planted littoral shelf, and conservation area berms must be submitted to the Development Services Manager for review. The annual monitoring report must provide a summary of impacts to lake banks adjacent to development areas and conservation area berms resulting from erosion and must contain information regarding the survivability of plant material within planted littoral shelves around existing lakes.

4. **Deviation 4, which requests relief from Section 10-418(3) of the LDC to permit shoreline hardening on 100 percent of the developed shoreline and to permit hardened shoreline adjacent to single-family residential development where shoreline hardening is restricted to a maximum of 20 percent of individual shorelines and where such hardening is prohibited adjacent to single-family residential uses, is hereby APPROVED.**
5. **Deviation 5, which requests relief from Section 10-418(2)c of the LDC to permit planted littoral shelves ranging between four (4) feet and 18 feet in width where a minimum planted littoral shelf width of 20 feet is required, is hereby APPROVED.**
6. **Deviation 6, which requests relief from Section 10-328(a) of the LDC to permit a minimum lake maintenance easement width of six (6) feet, whereas a lake maintenance easement width of 20 feet is required, is hereby APPROVED subject to the following conditions:**
 - a. Approval of this deviation is limited to areas of lake tracts encompassing existing lakes where abutting residential lots exhibit lot depths of less than or equal to 130 feet. These areas are subject to the following requirements:
 - i. The combined width of the lake maintenance easement and the planted littoral shelf must be a minimum of 18 feet as measured from the rear lot line of any Residential, R-1 lot exhibiting a lot depth of less than or equal to 130 feet to the lake side of the planted littoral shelf.
 - ii. A minimum planted littoral shelf width of four (4) feet must be provided.
 - iii. A minimum lake maintenance easement width of six (6) feet must be provided.
 - iv. Development Order approval is required prior to the commencement of any maintenance activity impacting the breakwater, existing lake banks, or planted littoral shelves.
 - v. Any maintenance-related impacts to the planted littoral shelf or the plant material within the planted littoral shelf must be remediated upon completion of maintenance activities.
7. **Deviation 7, which requests relief from Section 10-329(d)(3) of the LDC to eliminate the requirements of a maximum depth and Deep Lake Management Plan for existing lakes only, whereas a maximum excavation depth of 20 feet is permitted and whereas a Deep Lake Management Plan must be approved for lakes greater than 12 feet in depth, is hereby APPROVED.**
8. **The terms and conditions of the original zoning resolution and subsequent amendments thereto, except as modified herein, remain in full force and effect.**
9. **If it is determined that inaccurate or misleading information was provided to the County or if this decision does not comply with the LDC when rendered, then, at any time, the Zoning Manager may issue a modified decision that complies with the Code or revoke the decision. If the approval is revoked, the**

applicant may acquire the necessary approvals by filing an application for public hearing in accordance with Chapter 34.

Duly passed, adopted, and electronically signed on 12/21/2017 by

Audra Ennis, Zoning Manager
Lee County Community Development

Exhibits

Exhibit A: Legal Description

Exhibit B: Master Concept Plan

Exhibit C: Z-15-021

Exhibit D: Mitigation Activity Schedule

Exhibit E: Schedule of Deviations

Exhibit F: Existing Lake Bank Slope Exhibit

Exhibit G: Lake Bank Analysis Summary Memorandum

Exhibit H: Existing Lake Bank Exhibit

EXHIBIT A

CASE NUMBER: ADD2017-00180

REVIEWED
ADD2017-00180
Mike Laskowski, Planning
Technician
Lee County - DCD Planning
12/21/2017

STRAP NUMBERS:

17-46-26-L1-050F1.0000

19-46-26-L2-050F2.0000

20-46-26-L2-050F3.0000

08-46-26-L2-050C2.00CE

18-46-26-L3-050C1.00CE

17-46-26-L4-050C4.00CE

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17-46-26-L3-050C3.00CE

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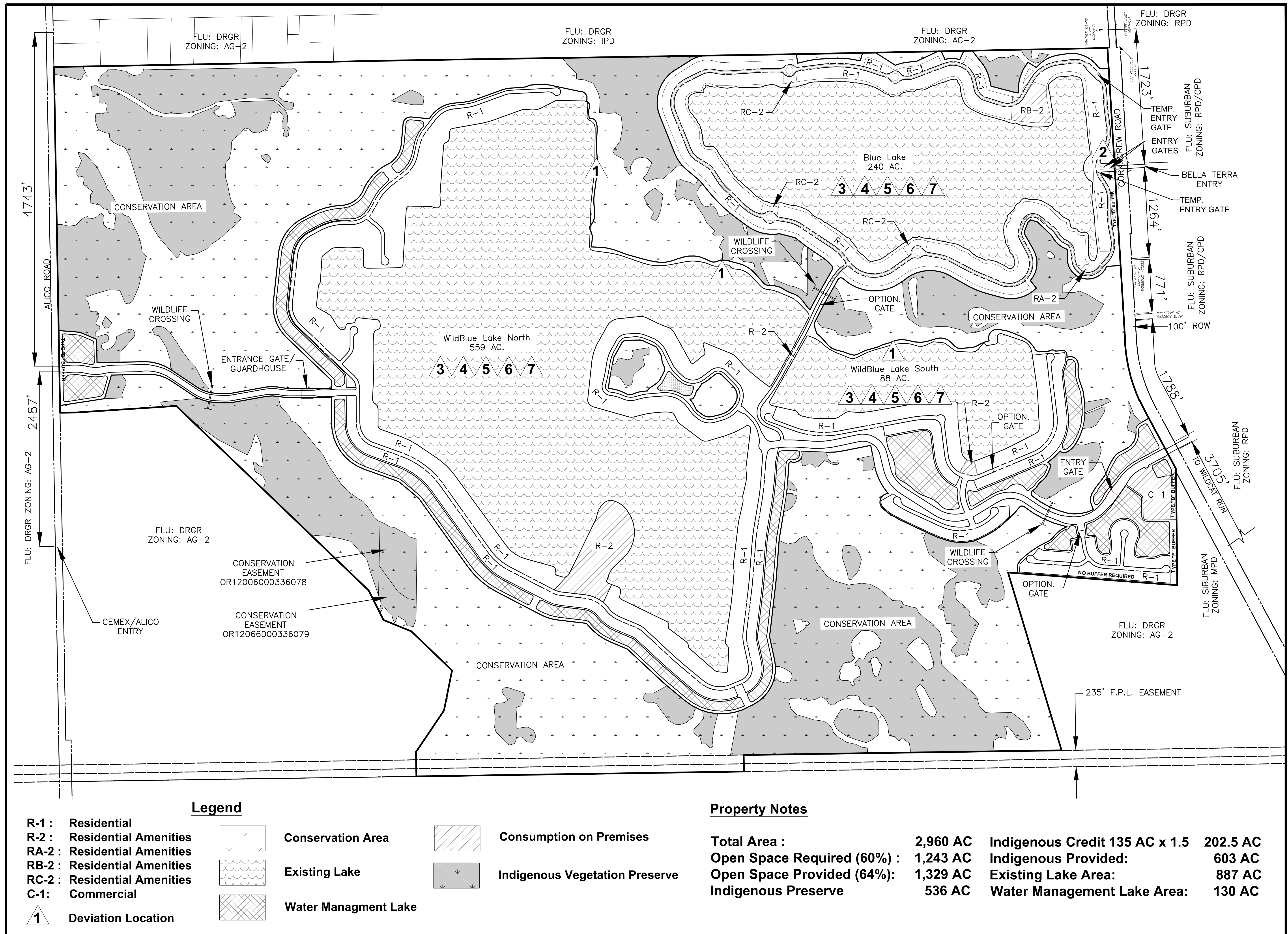
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20-46-26-L2-050C8.00CE

20-46-26-L2-050C9.00CE

20-46-26-L3-05C10.00CE

EXHIBIT B



PROJECT:

WildBlue

MIXED USE PLANNED DEVELOPMENT

LOCATION: UNDETERMINED

CLIENT:

ALICO EAST FUND, LLC.
UNIVERSITY DRIVE
FORT MYERS, FL

CONSULTANT:

MORRIS DEPEW

ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS
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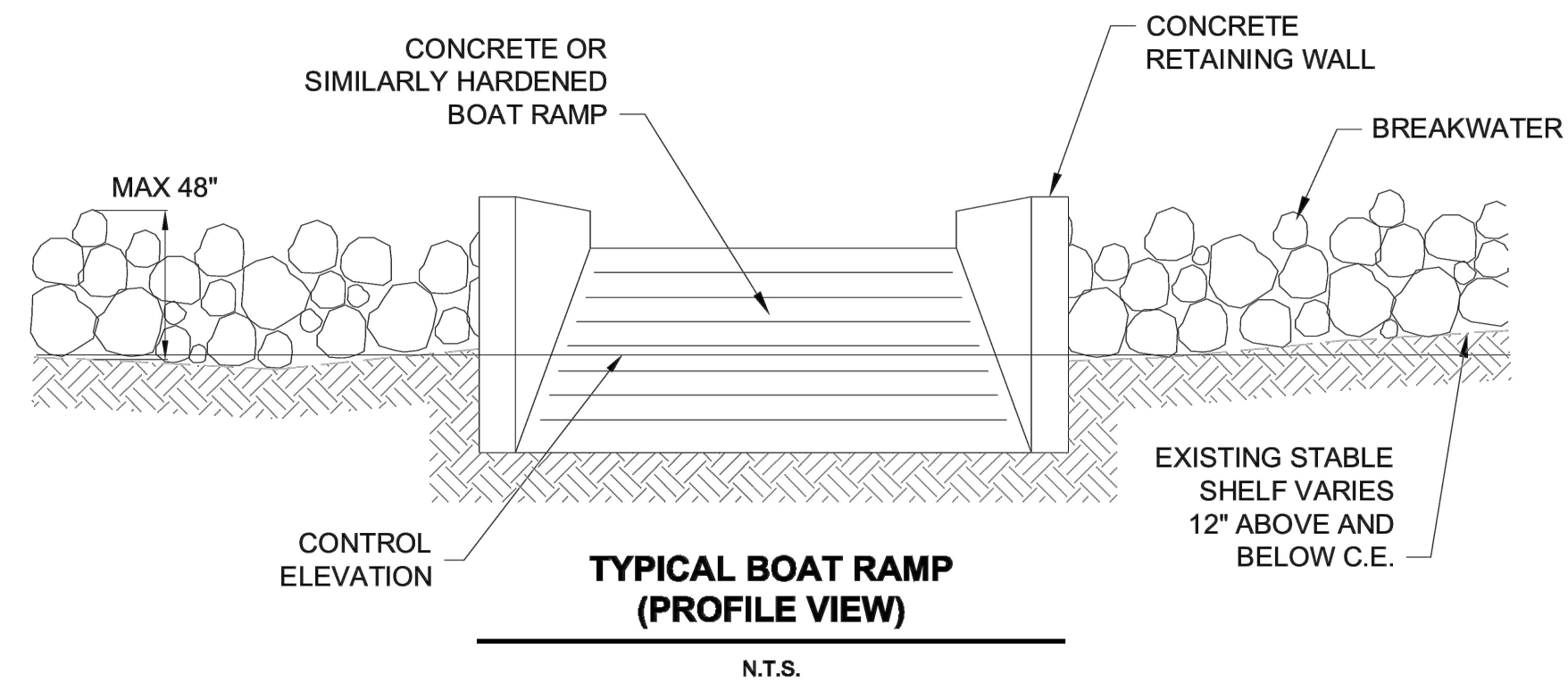
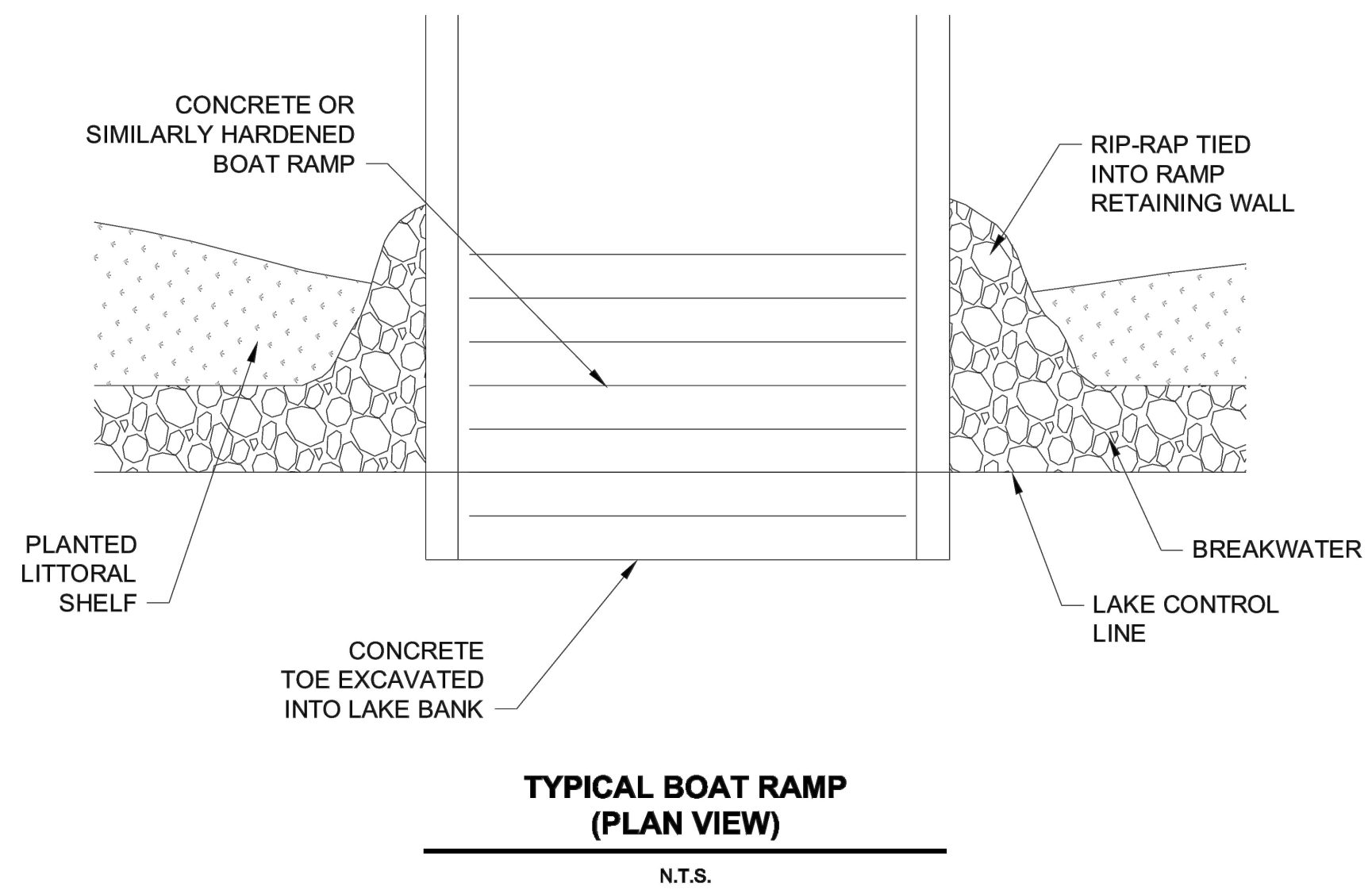
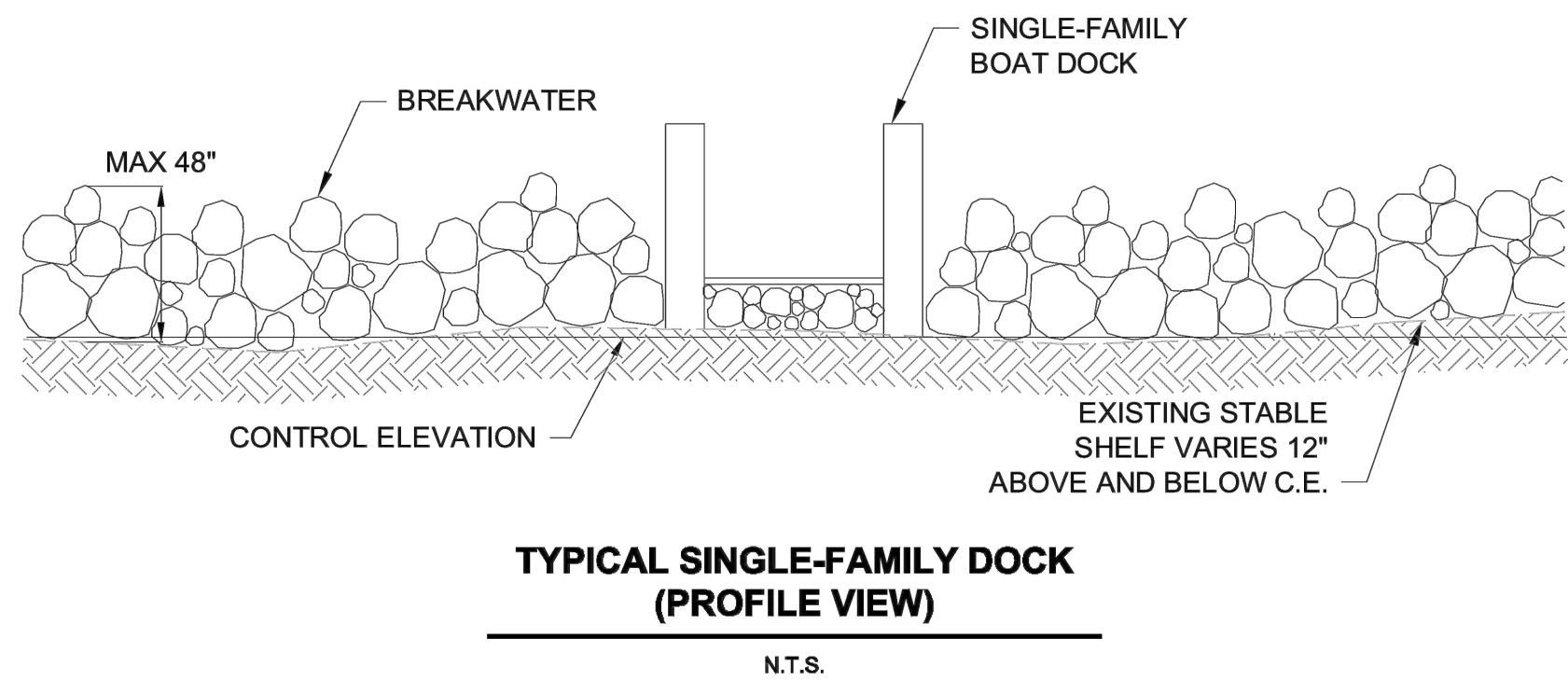
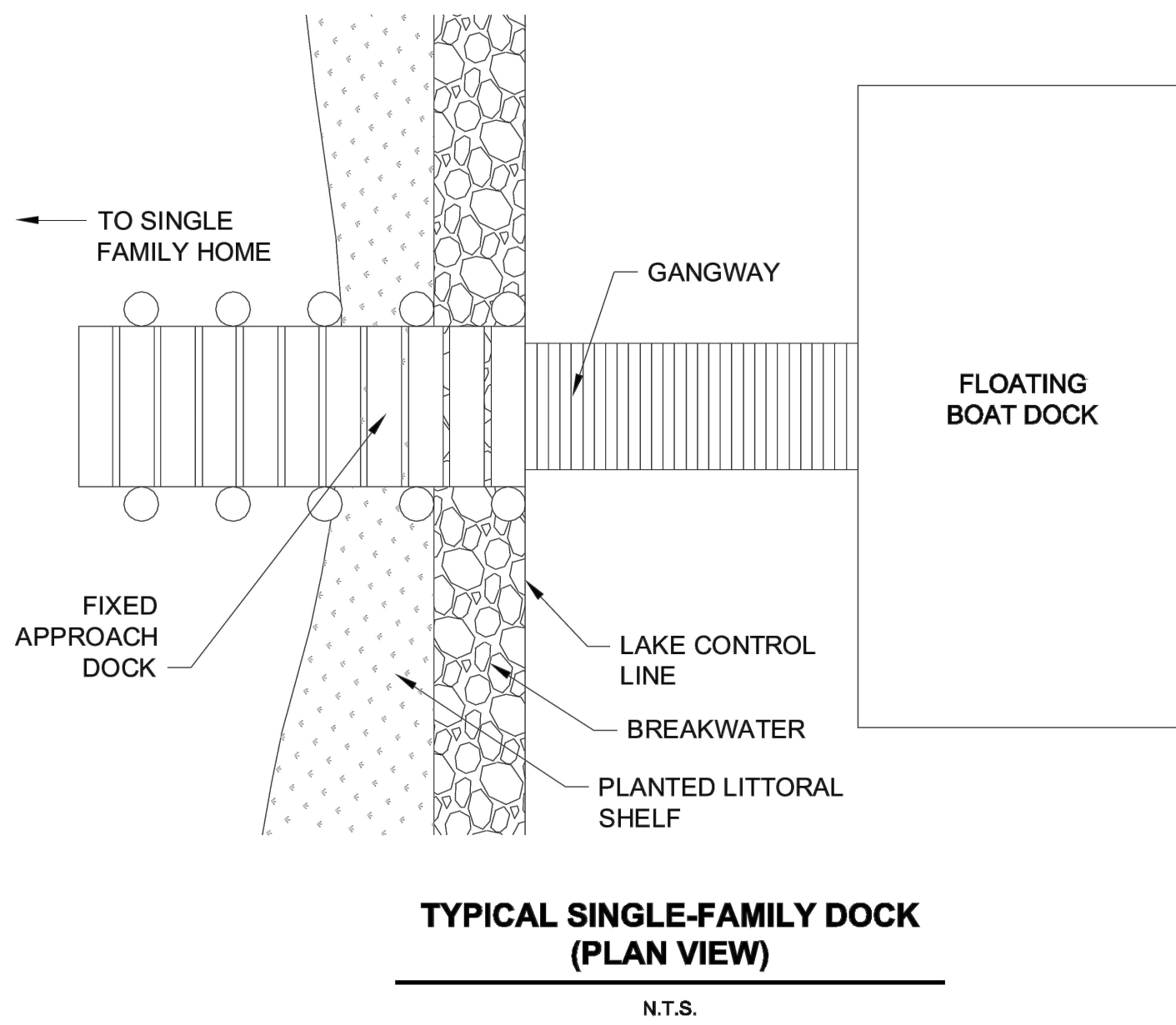
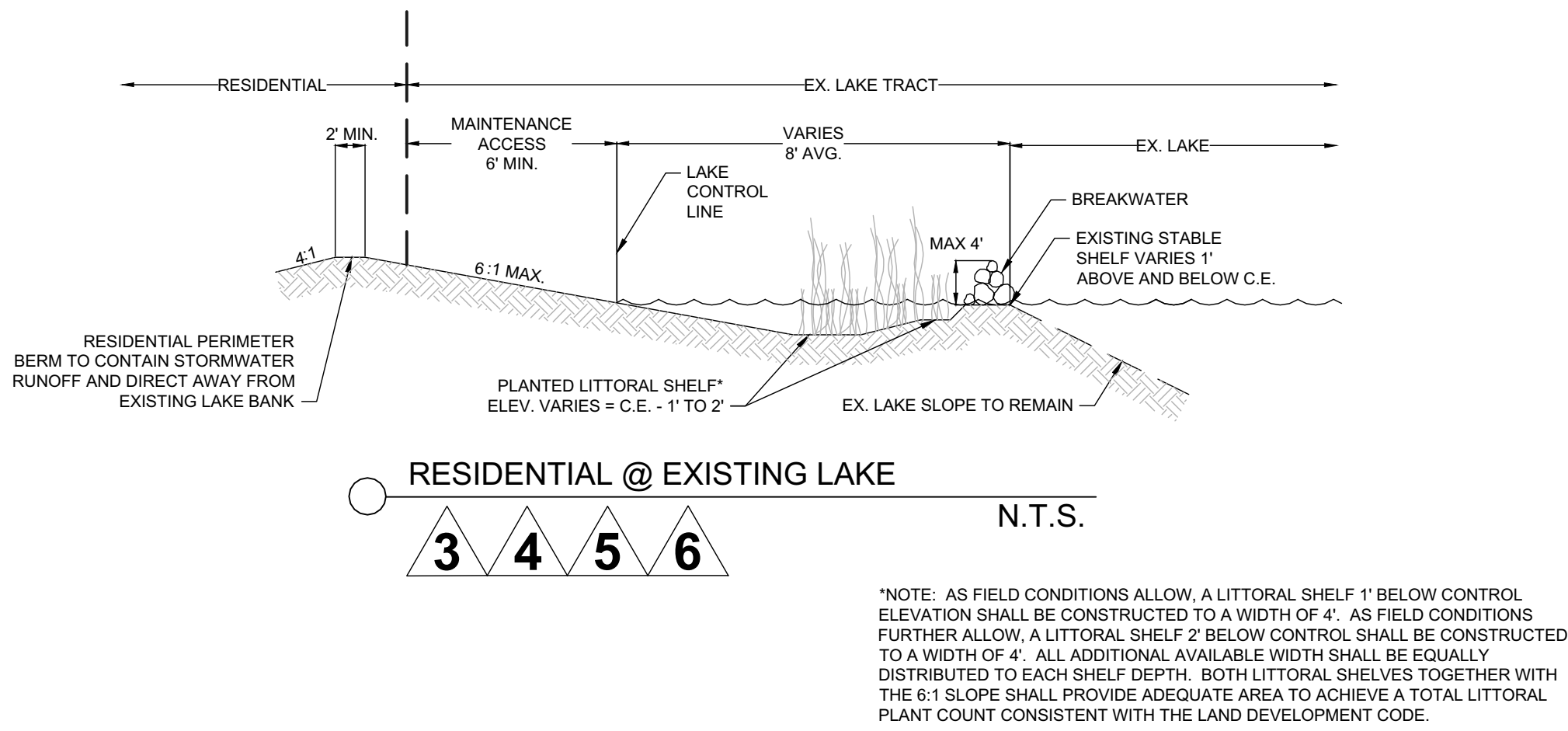
PREPARED BY:

REVISIONS	DATE

PROJECT MANAGER: TME
DRAWING BY: DAL
JURISDICTION: LEE COUNTY
DATE: 12/12/2017
SHEET TITLE: MASTER CONCEPT PLAN
SHEET NUMBER: 1 OF 3
SCALE 1"=600'
JOB/FILE NUMBER: 12037-20

Deviations:

- 1
- Section 10-329(d)(4) to allow no modifications to the existing lake shore in one location on WildBlue Lake North and South.
- 2
- Section 30-152(2)d.2., to allow a development of more than 25 units, a single face up to 210 square feet in area.
- 3
- Section 10-329(d)(4) to allow existing lake banks adjacent to residential to remain as is.
- 4
- Section 10-418(3) to allow 100% hardened shoreline adjacent to development.
- 5
- Section 10-418(2)(c) to allow a littoral shelf 4' to 18'+ in width.
- 6
- Section 10-328(a) to allow a minimum lake maintenance access width of 6'.
- 7
- Section 10-329(d)(3) to allow a maximum depth of 45 feet and eliminate requirements for a deep lake management plan and post-construction bathymetric survey.



NOTE: THESE DETAILS DEPICT A SINGLE METHOD FOR CONSTRUCTION OF THE PROPOSED SINGLE-FAMILY DOCKS AND BOAT RAMPS. VARYING MEANS AND METHODS MAY BE UTILIZED IN LIEU OF THOSE DEPICTED SUCH THAT THE INTEGRITY OF THE LAKE SHORELINE AND BREAKWATER IS MAINTAINED.

PROJECT:

WildBlue

MIXED USE PLANNED DEVELOPMENT

LOCATION:

UNDETERMINED

CLIENT:

ALICO EAST FUND, LLC.
UNIVERSITY DRIVE
FORT MYERS, FL

CONSULTANT:

MORRIS DEPEW
ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS
FL CA NO. 6532 / FL CERT NO. LB6691 / LC26000330

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Miramar Beach, FL 32550
Toll free: 866-337-7341

PREPARED BY:

REVISIONS DATE

PROJECT MANAGER: TME

DRAWING BY: DAL

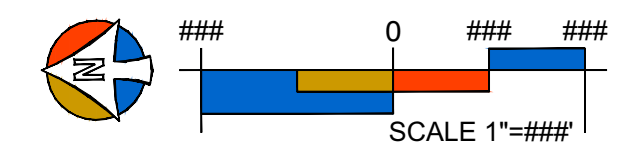
JURISDICTION: LEE COUNTY

DATE: 12/11/2017

SHEET TITLE:

MASTER CONCEPT
PLAN TYPICAL
SECTIONS

SHEET NUMBER: 3 OF 3



JOB/FILE NUMBER: 12037-20

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EXHIBIT C

RESOLUTION NUMBER Z-15-021

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS
OF LEE COUNTY, FLORIDA

WHEREAS, the property owner, Alico East Fund, LLC, filed an application to rezone a 2,960.03± acre parcel from Agriculture District (AG-2) and Private Recreation Facility Planned Development (PRFPD) to Mixed Use Planned Development (MPD) in reference to Wildblue; and

WHEREAS, a public hearing before the Lee County Zoning Hearing Examiner was advertised and held on July 23, 2015 and July 24, 2015; and

WHEREAS, the Hearing Examiner gave full consideration to the evidence in the record for Case #DCI2014-00009 and recommended Approval of the Request; and

WHEREAS, a second public hearing was advertised and held on October 21, 2015, before the Lee County Board of Commissioners; and,

WHEREAS, the Lee County Board of Commissioners gave full and complete consideration to the recommendations of the staff, the Hearing Examiner, the documents on record and the testimony of all interested persons.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS:

SECTION A. REQUEST

The applicant filed a request to rezone a 2,960.03± acre parcel from AG-2 and PRFPD to MPD, to allow up to 1,000 dwelling units and 40,000 square feet of commercial development on property legally described in Exhibit "A." Maximum building height will be 35 feet. The project will connect to central water and sanitary sewer service. Blasting was not requested.

The property is located in the Density Reduction/Groundwater Resource (DRGR) and Wetlands Future Land Use Categories and is legally described in attached Exhibit "A." The request is APPROVED, SUBJECT TO the conditions and deviations specified in Sections B and C below.

SECTION B. CONDITIONS:

All references to uses are as defined or listed in the Lee County Land Development Code (LDC).

1. Master Concept Plan/Development Parameters

Development must be substantially consistent with the two-page Master Concept Plan (MCP) entitled "WildBlue Mixed Use Planned Development," dated-stamped "Received Jul 27 2015 Community Development," and attached as Exhibit "C," except as modified by the conditions below.

10-21-15 Z

Development must comply with the LDC at time of local development order approval, except where deviations have been approved herein. Subsequent changes to the MCP may require further review and approval through the public hearing process.

The project is approved for up to a maximum of 1,000 dwelling units and 40,000 square feet total floor area of commercial use. [Maximum allowable density was determined based on Lee Plan Policy 33.3.4.3.a and c.]

2. Uses and Site Development Regulations

- a. The Schedule of Uses is set forth in attached Exhibit "D."
- b. Site Development Regulations are set forth in attached Exhibit "E."

3. Lake Management Plan

The approved local development order must include a Lake Management Plan that:

- a. Applies best management practices for fertilizers;
- b. Provides for erosion control and bank stabilization; and
- c. Establishes maintenance requirements in a Lake Maintenance Plan.

4. Fencing Lots and Roads abutting Preserves

The developer must install 8' tall chain link fencing alongside lots and roads that abut preserve areas consistent with the illustration on the attached single-page plan entitled "Wildblue Aerial with Proposed Wildlife Crossing and Fencing," date-stamped "Received Jan 12, 2015 Community Development," and attached as Exhibit "F."

These fenced areas must also be reflected on the approved development order plans.

5. Wildlife Crossings

The developer must construct wildlife crossings under roads that traverse preserve areas. There must be a project total of 3 wildlife crossings consistent with the illustration on attached Exhibit "F." The wildlife crossings must consist of, at minimum, 8 foot by 10 foot box culverts.

Wildlife crossings are in addition to culverts required for water conveyance.

6. Human-Wildlife Coexistence

The developer must submit a Human-Wildlife Coexistence Plan with the Protected Species Management Plan at the time of local development order application. The Plans must include the following:

- Illumination Guidelines. The Developer and future property owners must ensure project lighting does not directly illuminate indigenous preserve and restoration areas. This lighting standard must be reflected in the indigenous management plan and in a note on development order plans. These illumination guidelines must also be reflected in the project deed restrictions.
- Florida Panther and Florida Black Bear Management. The application for local development order approval must include a Florida Panther and Florida Black Bear Management Plan. The Management Plan must include a resident informational brochure explaining maintenance of preserve areas as panther and bear habitat. The brochure must also explain resident requirements for bear-proof dumpsters and bear-proof individual trash receptacles. Individual trash receptacles for residential units may not exceed 40 gallons in size and must have two handles and a tight fitting lid consistent with the directives of Lee County Ordinance No. 11-27. These requirements must be reflected in the project deed restrictions.
- American Alligator and Listed Wading Bird Species Management. The application for local development order approval must include American alligator and listed wading bird species management plans prepared in accordance with LDC §10-474. Management plans must include a resident informational brochure on living with American alligators and wading birds as well as the importance of the littoral areas and adjacent preserves for providing nesting and foraging habitat. The development order plans must also reflect the placement and details of signs to be located between lake, preserve and residential buildings that will warn: 1) alligators may be present, and 2) it is dangerous and illegal to feed or harass alligators. Similar warnings must be included in the project deed restrictions.

7. Recreational Use of Water Management Lakes

Recreational use on the Water Management Lakes abutting conservation areas is prohibited.

Note: "Water Management Lakes" are labeled on the MCP.

8. Open Space

Development order plans must reflect a minimum of 1,329 acres open space.

9. Conservation Areas

Development order plans must reflect a minimum of 1,329 acres of conservation area consistent with the MCP. The developer must execute recorded conservation easements over the conservation areas granting third party enforcement rights to Lee County in accordance with Lee Plan Policy 33.3.4(2)(e).

10. Platting of Conservation Areas

The developer must plat conservation areas into separate tract(s). Prior to issuance of certificate of compliance for first local development order, the developer must dedicate the conservation areas to a Uniform Community Development District (UCDD) or Master Homeowners Association (HOA) that will assume responsibility for perpetual maintenance of conservation areas consistent with the restoration requirements in this zoning approval. This condition does not apply to development orders that solely authorize the development of project infrastructure, model homes and a temporary sales center.

11. Restoration Plan

Restoration activities must be conducted in substantial compliance with the "WildBlue Indigenous Preserve Management Plan," date-stamped "Received Jan 12 2015 Community Development" and attached as Exhibit "G."

The developer must submit a restoration plan with the local development order application that includes the following features: (a) engineered grading plans for areas to be re-graded, (b) information on exotic/nuisance plant removal and maintenance, and (c) success criteria for restoration plants with a minimum 80% survival rate for five years.

The developer must temporarily irrigate restoration areas using water trucks or other irrigation sources, to allow establishment of the plants.

12. Restoration Schedule

The local development order application must include a restoration schedule in substantial compliance with the three-page "WildBlue Mitigation Activity Schedule By Mitigation Area," last revised May 2015, date-stamped "Received Jul 20 2015 Community Development," attached as Exhibit "H;" and the single-page "WildBlue Mitigation Areas Map," date-stamped "Received Jul 20, 2015 Community Development," and attached as Exhibit "I."

13. Monitoring Report

The developer must submit an annual monitoring report for 5 years after initial completion of restoration and exotic removal within the indigenous areas, describing the conditions of the restoration area for each phase. Failure to submit the report is a violation of this zoning approval.

The monitoring report must include photo stations and mortality, estimated causes for mortality, growth of the vegetation and other factors reflecting the functional health of restored areas.

Lee County Environmental Sciences Staff will conduct periodic inspections to ensure the accuracy of monitoring reports.

14. Dry Detention Plantings

The landscape plans submitted with development order applications must include a planting plan for the bottom elevation of dry detention areas. The planting plan must include appropriate native herbaceous vegetation (minimum 1-gallon container size; 5 feet on-center).

15. Native Vegetation

The developer must utilize 100% native vegetation in required buffers.

16. Central Irrigation System

The project must utilize a centralized irrigation system that draws source water from Existing Lakes. The centralized irrigation system must comply with Lee County Ordinance No. 05-10, as amended. (Lee County Water Conservation Ordinance)

Irrigation control boxes and irrigation wells are prohibited on individual residential lots. The deed restrictions and development order plans must reflect these irrigation design requirements.

17. Landscaping on Single-Family Lots

The developer must utilize 75% native vegetation for landscaping single-family lots. Local development order notes must reflect the requirement for 75% native vegetation, and include a native planting list to be shared with the HOA and developers of single-family home sites.

18. Storm Water Management

- a. The developer must demonstrate the design of the storm water management system ensures water leaving the project meets state and federal water quality standards. The developer must obtain authorization from the Lee County Division of Natural Resources prior to discharging project storm water into the County's MS4 system.
- b. Local development order applications must demonstrate the project is compatible with maintaining surface and groundwater levels at historic levels using hydrologic modeling, the incorporation of increased storage capacity, and inclusion of green infrastructure. Modeling must also show no adverse impacts will result to properties upstream, downstream, and adjacent to the project. Offsite mitigation may be required to demonstrate compatibility with these objectives.

19. Vehicular/Pedestrian Impacts

- a. This zoning approval does not address mitigation of vehicular or pedestrian traffic impacts. Additional conditions consistent with the LDC may be required to obtain a local development order.

- b. The developer must provide an off-road shared use bike path/sidewalk along at least one side of every project roadway. The shared use path must be 5 feet wide and separated from the travel lanes of the roadway. This separation from the travel lanes may be achieved by the installation of a structural curb/gutter that prevents normal vehicular traffic on the path.

20. Potable Water, Sanitary Sewer, Reclaimed Water

The project must connect to water and sanitary sewer services as a condition of development order approval for vertical construction.

The project must connect to reclaimed water if available at time of development order approval.

21. Boat Slips & Boat Ramps

- a. Each single-family home lot located on an Existing Lake is permitted one boat dock with two slips. Boat docks are prohibited on Water Management Lakes (see Condition 7). One boat ramp is permitted in each Residential Amenities area along an Existing Lake.
- b. In addition to the docks/slips on single-family home sites, a project total of 100 boat slips are permitted along the Existing Lakes within Residential Amenities (R-2) areas designated on the MCP. These boat slips will be allocated as follows: 50 boat slips on WildBlue Lake North, 25 boat slips on WildBlue Lake South, and 25 boat slips on Blue Lake.

Note: References to "Existing Lake" and "Water Management Lake" and lake names are consistent with those shown on the MCP.

22. Lee Plan Consistency

Zoning approval does not guarantee local development order approval. Development orders must satisfy the requirements of the Lee Plan Planning Communities Map and Acreage Allocation Table, Map 16 and Table 1 (b), as well as the remainder of the Lee Plan.

23. Concurrency

Zoning approval does not constitute a finding that the project meets the concurrency requirements of the Lee Plan or LDC. The developer must demonstrate compliance with concurrency requirements prior to issuance of a local development order.

24. Solid Waste Management

- a. Development order plans for vertical development must comply with the LDC and County Solid Waste Ordinance for the pick-up/disposal of solid waste and recyclables.

- b. Dumpsters and individual trash receptacles must be bear proof. Trash receptacles for residential units may not exceed 40 gallons in size and must have two handles and a tight fitting lid in accordance with the County Solid Waste Ordinance. The developer must include these requirements in the deed restrictions.

25. Traffic

The developer must mitigate project traffic impacts and pay a proportionate share of needed roadway improvements established by the study referenced in Lee Plan Policy 38.1.9. The project's proportionate share obligation will be determined consistent with the methodology set forth in Lee County Administrative Code AC-13-16. The timing and method of payment will be set forth in a Development Agreement executed in accordance with the Florida Development Agreement Act.

26. Entrance Gate/Gatehouse

Entrance gates and gatehouses may be located at the entrances to the development from Alico Road and Corkscrew Road. Internal gatehouses to neighborhoods within the project may be permitted by administrative amendment. Internal gate and gatehouses must permit unencumbered pedestrian and bicycle movement between neighborhoods within the project.

27. Natural Resource Conditions

- a. Domestic Wells Prohibited. The County will not permit domestic wells on the property. The developer will ensure Lee County Utilities will be the source of potable water for the property. The developer will also ensure that irrigation will be provided via a central irrigation system using the existing lakes onsite. The HOA documents including Declarations and Covenants must prohibit the installation of domestic wells for potable or irrigation water. County staff will review the HOA documents to confirm the inclusion of the prohibition on domestic wells during development order review.
- b. Wellfield Protection. A portion of the property lies within Wellfield Protection Zones for the County public water supply. Storage, handling, use of production of certain hazardous or toxic substances within protection zones have potential for contaminating public water supplies. The HOA documents including Declarations and Covenants specify that only licensed professionals authorized by Lee County may perform activities such as the application of fertilizers, pesticides, insecticides, herbicides, nematicides, or other chemicals on the property. The developer must submit a list of Best Management Practices to address potential degradation of groundwater due to storage and use of regulated substances on site during construction and operation of the facility with the application for the first development order.

- c. Land Bridge Separation. The developer must maintain the existing “land-bridge separation” between the WildBlue Lakes North and South (former haul road). The HOA documents must include language on maintaining the integrity of the road so that the hydraulic separation provided by the land bridge is not diminished. The County may not authorize a direct hydraulic connection between WildBlue Lakes North and South.
- d. Hydrologic Enhancement of Slough System. The developer must enhance the hydrology of the slough system in the northeast portion of the property south of Alico Road. The developer must submit hydrologic enhancement plans to County DNR for review and approval with the application for the first development order. The hydrologic enhancement plans must focus on restoration and accommodation of existing and historic flow-ways and the regional slough system.

The enhancement plans must include the following features to address these goals:

- i. Exotic vegetation and stump removal, re-grading, replanting, success criteria, long term monitoring and maintenance;
 - ii. Calculations/analyses to demonstrate conveyance improvements will avoid/minimize downstream adverse impacts; and
 - iii. Comparison of peak stages and peak flows for pre- and post-development phases at site boundaries for 25 year – 3 day, and 100 year – 3 day designed storms
- e. Monitoring of Drainage Conditions. The developer must maintain and monitor the drainage capacity of the historical flow-ways onsite, consistent with the “WildBlue Indigenous Preserve Management Plan” (attached as Exhibit “G”) and “WildBlue Mitigation Activity Schedule by Mitigation Area” (attached as Exhibit “H”).

The developer must submit plans demonstrating the design and the extent of monitoring with the application for the first development order. The plans must be reviewed and approved by Lee County Division of Natural Resources Staff prior to the issuance of the first development order.

The developer(s) must submit a certification to Lee County Division of Natural Resources Staff once every two years ensuring drainage capacities of the two flow-ways are maintained at original design levels. The certification must be signed and sealed by a Professional Engineer registered in the State of Florida.

- f. Water Quality Monitoring Plan. The Developer must submit a Water Quality Monitoring Plan for review and approval by County staff prior to the approval of the first development order. The Water Quality Monitoring Plan should follow the format set forth in the single-page "Five Steps in the Design of a Water Quality Monitoring Plan," date-stamped "Received Jul 10 2015 Community Development," and attached as Exhibit "J."

The design of the storm water management system must ensure water leaving the project meets state and federal water quality standards. The Water Quality Monitoring Plan must include annual assessment of water quality data, trend analysis, identification of potential issues, and where necessary, recommended corrective actions for changes in the Lake Maintenance Plan. Water quality monitoring and reporting shall be continued in perpetuity.

- g. Lake Management Plan. The Developer must submit a Lake Management Plan for review and approval by County staff prior to the approval of the first development order. The Lake Management Plan must incorporate the Lake Maintenance Plan and the Water Quality Monitoring Plan. The Developer/HOA must review the Lake Management Plan annually and take necessary remedial actions, where appropriate.
- h. Lake Bank Stabilization. The Lake Management Plan must include lake bank design plans to stabilize littoral areas from erosion by wind and wave action.
- i. Dewatering Effluent. The Developer must retain dewatering effluent on site. Discharge of dewatering effluent into existing lakes is prohibited.

28. Development Permits

Issuance of a county development permit does not establish a right to obtain permits from state or federal agencies. Further, it does not establish liability on the part of the county if the Developer: (a) does not obtain requisite approvals or fulfill obligations imposed by state or federal agencies or (b) undertakes actions that result in a violation of state or federal law.

29. Boat Safety.

The developer must adopt and implement a Boating Management Plan.

- a. Purpose. The purpose of the Boating Management Plan is to:
 - i. Protect the public health, safety and welfare of individuals using the Existing Lakes;
 - ii. Preserve water quality; and

iii. Reduce the likelihood of shoreline erosion.

b. Preparation of Plan.

The developer must develop the Boating Management Plan following the study of safe operating speeds for recreational vessels and carrying capacity of the Existing Lakes.

c. Content of Plan.

The Boating Management Plan must address the following items pertaining to recreational use:

- i. Type and features of vessels using the lake;
- ii. Navigational impediments;
- iii. Features desired in docking facilities;
- iv. Safe operating speeds for recreational vessels;
- v. Responsible handling of bilge water and holding tanks;
- vi. Restrictions on personal watercraft defined in Chapter 372.02, F.S.;
- vii. Vessel size and power limitations;
- viii. Fuel handling and spill emergency plans;
- ix. Operating restrictions; and
- x. Other rules to achieve the purposes enumerated in subsection a. above.

d. Compliance

The Developer must submit a copy of the Boating Management Plan with the application for the first development order for vertical development.

e. Marina Management Plan

The Developer must prepare a Marina Management Plan setting forth the BMPs to attenuate pollution sources originating from vessels. The Marina Management Plan must address the following items:

- i. Location, operational standards and performance criteria for boat maintenance activities, including fuel and oil containment facilities;

- ii. Best Management Practices for vessel management, including: hull maintenance, boat washing, dispensing of fuel, bilge maintenance, boat ramp activities, battery management and boating byproducts;
- iii. Contingency plan with procedures to address the potential contamination of water bodies;
- iv. Educational pamphlets/program for boaters; and
- v. Hurricane plan describing measures to be taken to minimize damage to property and environment.

The Developer must submit a copy of the proposed Marina Management Plan to the Lee County Division of Environmental Sciences with the application for the first development order for development including marine-type uses.

30. Berm

The developer will retain the existing berm along the northeast property line as depicted on single-page Exhibit "K," unless permitting agencies require its removal.

SECTION C. DEVIATION:

1. Bank Slope Deviation. Deviation (1) seeks relief from the LDC §10-329(d)(4) requirement to provide bank slopes at a ratio not greater than six horizontal to one vertical from the top of bank to a water depth of two feet below the dry season water table, to allow no modification to the existing lake shore in areas where reclamation efforts would negatively impact planned preservation, restoration and enhancement activities, namely, in areas slated for conservation. This deviation is APPROVED SUBJECT TO the following conditions:
 - a. The Developer must submit an enhanced Lake Maintenance Plan at the time of development order application. The Lake Maintenance Plan must be reviewed and approved by the Lee County Division of Natural Resources prior to local development order approval.
 - b. Development order plans must demonstrate an adequate transition from the 6:1 side slopes proposed in residential areas to the side slopes in areas proposed for preservation and conservation (existing condition).

SECTION D. EXHIBITS:

The following exhibits are attached to this resolution and incorporated by reference:

- Exhibit A: Legal description of the property
- Exhibit B: Zoning Map (with the subject parcel indicated)
- Exhibit C: The Master Concept Plan
- Exhibit D: Schedule of Uses
- Exhibit E: Site Development Regulations

- Exhibit F: WildBlue Protected Species Management and Human-Wildlife Coexistence Plan
- Exhibit G: WildBlue Indigenous Preserve Management Plan
- Exhibit H: WildBlue Mitigation Activity Schedule By Mitigation Area
- Exhibit I: WildBlue Mitigation Areas Map
- Exhibit J: Water Quality Monitoring Plan
- Exhibit K: Existing berm

SECTION E. FINDINGS AND CONCLUSIONS:

1. The applicant has proven entitlement to the rezoning to Mixed Use Planned Development by demonstrating compliance with the Lee Plan, the LDC, and other codes and regulations. See Lee Plan Vision Statement Paragraph 18 (Southeast Lee County), Lee Plan Goals 2, 5, 6, 33, 60, 61, 63, 77, 107, 114, 115, 117 Objectives 2.2, 5.1, 10.1.5, 33.2, 33.3, and 117.2 and Policies 2.1.2, 4.1.1, 5.1.1, 6.1.3, 33.3.4, 135.1.9; Lee Plan Map 17; LDC §§ 34-411(a), (c), (h) and 34-612.
2. As conditioned, the request to rezone the property to the Mixed Use Planned Development zoning district is:
 - a. Consistent with the densities, intensities and general uses set forth in the Lee Plan. See Lee Plan Objectives 8.2, 33.3 (Environmental Enhancement and Preservation Community), Policies 1.5.1, 5.1.7, 33.3.4.3 (density), 135.1.9, 158.3.5. See *also*, LDC §34-413.
 - b. Compatible with existing and planned uses in the surrounding Tradeport, University Community, Suburban, Wetland and DR/GR areas. See Lee Plan Policies 2.1.2, 2.2.1, 5.1.5, 5.1.7, 6.1.3, 6.1.4, 135.9.5; LDC §34-411(c) and (i).
 - c. Will not adversely affect environmentally critical areas and natural resources. See Lee Plan Goals 60, 63, 77, 107, 114, 115 Objectives 33.2, 33.3 (protection, preservation and restoration of strategic regional hydrological and wildlife connections), 60.4, 60.5, 61.2, 77.1, 77.3, 104.1, 107.8 (gopher tortoise), 117.2 (Xeriscape landscape design); Policies 5.2.5, 10.1.5, 26.5.4 (well field protection), 33.2.1 (connecting wildlife corridors and conservation areas), 33.2.1, 33.3.4., 60.1.2, 60.5.1, 60.5.2, 60.5.3., 107.2.4 (protection of natural plant communities), 107.2.10, 107.3.1 (upland preservation to promote wildlife diversity), 107.10.2 (wood stork), 107.10.3, 107.11.4 (bear and panther), 114.1.2, 115.1.3, 117.1.1, 117.2.1; Standard 11.4, and LDC §§ 10-415(b)(1)(c), 10-474, 34-411(g) and (h).
 - d. Will not place an undue burden upon existing or planned transportation infrastructure. The project will be served by streets with the capacity to carry traffic generated by the development. Project residents and employees will have access to nearby commercial development by means of automotive, pedestrian and bicycle connections. See Lee Plan Policies 4.1.2, 6.1.3, *see also* Lee Plan Policies 33.3.4.2, 38.1.6, 39.1.1; LDC §34-411(d) and (e).
3. Urban services are available and adequate to serve the proposed land use. See Lee Plan Glossary, Lee Plan Goal 2, Objective 2.1, Policies 2.2.1, 6.1.4, 33.3.4.2 and Standards 11.1 and 11.2; LDC §34-411(d).

4. The proposed mix of uses is appropriate at the proposed location. See Lee Plan Objective 128.5, Policies 5.1.3, 6.1.1, 6.1.2, and Lee Plan Glossary.
5. The recommended conditions and applicable regulations provide sufficient safeguards to protect the public interest. See Lee Plan Goals 63, 114, 115, Objectives 114.1, and 128.6, Policies 5.1.5, 5.2.2, 26.5.4, 63.1.2, 107.2.13, 115.1.1, 115.1.2, 115.1.3, 115.1.4, 128.5.2, 128.6.3, 128.6.6, 135.9.6; See also LDC Chapters 14, 26, LDC §§34-377(a)(2)(c); 34-411(c), (i), and (k).
6. The recommended conditions are reasonably related to the impacts expected from the proposed development. See Lee Plan Objectives 128.5 and 128.6., Policies 5.1.5, 6.1.1.e; Lee Plan Standard 11.3; and LDC §34-932 (b) and (c).
7. The deviation, as conditioned:
 - a. Enhances the planned development, and
 - b. Preserves and promote the general intent of the LDC to protect the public health, safety and welfare.

Commissioner John Manning made a motion to adopt the foregoing resolution, seconded by Commissioner Larry Kiker. The vote was as follows:

John Manning	Aye
Cecil L Pendergrass	Aye
Larry Kiker	Aye
Brian Hamman	Aye
Frank Mann	Absent

DULY PASSED AND ADOPTED this 21st day of October 2015.

ATTEST:
LINDA DOGGETT, CLERK

BOARD OF COUNTY COMMISSIONERS
OF LEE COUNTY, FLORIDA

BY: *Shirley King*
Deputy Clerk

BY: *Brian Hamman*
Brian Hamman, Chair



APPROVED AS TO FORM FOR THE
RELIANCE OF LEE COUNTY ONLY

Michael D. Jacob
Michael D. Jacob
Managing Assistant County Attorney
County Attorney's Office



Stantec Consulting Services Inc.
3800 Colonial Blvd., Suite 100
Fort Myers FL 33966
Tel: (239) 939-1020
Fax: (239) 939-3412

**LEGAL DESCRIPTION
WILDBLUE PD
SECTIONS 7, 8, 17, 18, 19 & 20
TOWNSHIP 46 SOUTH, RANGE 26 EAST
LEE COUNTY, FLORIDA**

A parcel of land lying in Sections 7, 8, 17, 18, 19 and 20, Township 46 South, Range 26 East, Lee County, Florida, lying South of Alico Road, and being more particularly described as follows:

COMMENCE at the intersection of the West line of a Florida Power & Light Easement (110 feet wide) as described in Official Records Book 221, page 191 of the public records of Lee County, Florida, and the maintained South right-of-way line of Alico Road (100 feet wide); thence, along said maintained South right-of-way line of Alico Road, N.88°59'33"E., 5232.33 feet to the **POINT OF BEGINNING**; thence, continue, along said South line N.88°59'33"E., 4904.75 feet an intersection with the East line of the Northeast one-quarter of said Section 8; thence, along said East line of the Northeast one-quarter of Section 8, S.01°05'22"E., 2,311.14 feet; thence, along the East line of the Southeast one-quarter of said Section 8, S.01°05'17"E., 2,643.61 feet to the Southeast corner of said Section 8; thence, along the East line of the Northeast one-quarter of said Section 17, S.00°53'05"E., 2,806.42 feet; thence, along the East line of the Southeast one-quarter of said Section 17, S.00°55'01"E., 2,805.88 feet to the Northeast corner of the aforementioned Section 20; thence, along the East line of the Northeast one-quarter of said Section 20, S.01°09'17"E., 2,639.23 feet; thence, along the East line of the Southeast one-quarter of said Section 20, S.01°09'17"E., 1,733.42 feet to an intersection with the Northerly right-of-way of Corkscrew Road described as parcel 102B in Official Records Instrument #2008000174785 of the aforementioned public records; thence, along said Northerly right-of-way S.86°32'28"W., 4,155.04 feet; thence, continue, along said Northerly right-of-way described as Parcel 102B-SE in Official Records Instrument #2008000174785 of the aforementioned public records, for the following three (3) courses:

1. N.03°40'07"W., 5.00 feet;
2. S.86°32'28"W., 18.98 feet;
3. along the arc of a tangent circular curve concave Southerly, having for its elements a radius of 2385.00 feet, a central angle of 11°47'38", a chord distance of 490.07 feet, a chord bearing of S.80°39'49"W., an arc distance of 490.93 feet;

Applicant's Legal Counsel
By CSJ 4/16/14

DCI 2014-00009

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Design with community in mind

COMMUNITY DEVELOPMENT

EXHIBIT A



February 3, 2014
Page 2 of 3

Reference: WildBlue

thence, continue, along said Northerly right-of-way of Corkscrew Road and along the arc of a circular curve concave Southerly, having for its elements a radius of 870.17 feet, a central angle of $3^{\circ}07'09''$, a chord distance of 47.37 feet, a chord bearing of $S.74^{\circ}15'44''W.$, an arc distance of 47.37 feet; thence, continue, along said Northerly right-of-way of Corkscrew Road described as Parcel 102A-SE in Official Records Instrument #2008000174785 of the aforementioned public records for the following two (2) courses:

1. along the arc of a non-tangent circular curve concave Southerly, having for its elements a radius of 2385.00 feet, a central angle of $7^{\circ}42'54''$, a chord distance of 320.90 feet, a chord bearing of $S.69^{\circ}46'02''W.$, an arc distance of 321.15 feet;
2. $S.24^{\circ}05'25''E.$, 5.00 feet;

thence, continue, along said Northerly right-of-way of Corkscrew Road described as Parcel 102-A, in Official Records Instrument #2008000174785, of the aforementioned public records for the following two (2) courses:

1. along the arc of a non-tangent circular curve concave Southerly, having for its elements a radius of 2380.00 feet, a central angle of $4^{\circ}07'35''$, a chord distance of 171.37 feet, a chord bearing of $S.63^{\circ}50'47''W.$, an arc distance of 171.41 feet;
2. $S.61^{\circ}47'00''W.$, 933.33 feet

to an intersection with the South line of the Southeast one-quarter of the aforementioned Section 19; thence, along said South line, $S.89^{\circ}22'06''W.$, 1,649.18 feet; thence $N.04^{\circ}16'08''E.$, 2,407.10 feet; thence, $S.73^{\circ}15'13''W.$, 2,634.32 feet to the East line of a Florida Power & Light easement (125 feet wide) as described in Official Records Book 730, page 622 of the aforementioned public records; thence, along the East line of said easement for the following three (3) courses:

1. $N.00^{\circ}48'26''W.$, 978.60 feet;
2. $N.00^{\circ}50'13''W.$, 2639.97 feet;
3. $N.00^{\circ}50'47''W.$, 888.10 feet

to an intersection with the North line of the South 890.43 feet of the west 565 feet of the aforementioned Section 18; thence, along said North line $S.89^{\circ}23'43''W.$, 235.00 feet to an intersection with the West line of a Florida Power & Light Easement (110 feet wide) as described in Official Records Book 221, page 191 of the aforementioned public records; thence, along said West line, $N.00^{\circ}50'47''W.$, 4644.62 feet; thence, leaving said West line $N.89^{\circ}09'13''E.$, 352.36 feet; thence, $S.49^{\circ}04'56''E.$, 32.52 feet; thence, $S.56^{\circ}00'04''E.$, 671.79 feet; thence, $S.78^{\circ}37'05''E.$, 581.08 feet; thence, $N.43^{\circ}48'39''E.$, 800.00 feet;



February 3, 2014
Page 3 of 3

Reference: WildBlue

thence, N.22°12'13"E., 426.30 feet; thence, N.63°23'30"E., 468.41 feet; thence, N.43°48'39"E., 3780.80 feet; thence, N.03°42'39"W., 1427.54 feet; thence, N.01°00'27"W., 223.27 feet to the **POINT OF BEGINNING**.

Said parcel contains 2960.03 acres, more or less.

SEE ATTACHED SKETCH.

Bearings herein are based on the Florida State Plane Coordinate System (North American Datum of 1983 / 1990 adjustment - NAD83/90) Florida West Zone, fixing the South line of the Southwest one-quarter of Section 19, Township 46 South, Range 26 East, Lee County, Florida, as S.89°21'56"W.

This description is not complete and valid without the attached sketch and the signature and raised seal of a Florida licensed Surveyor and Mapper.

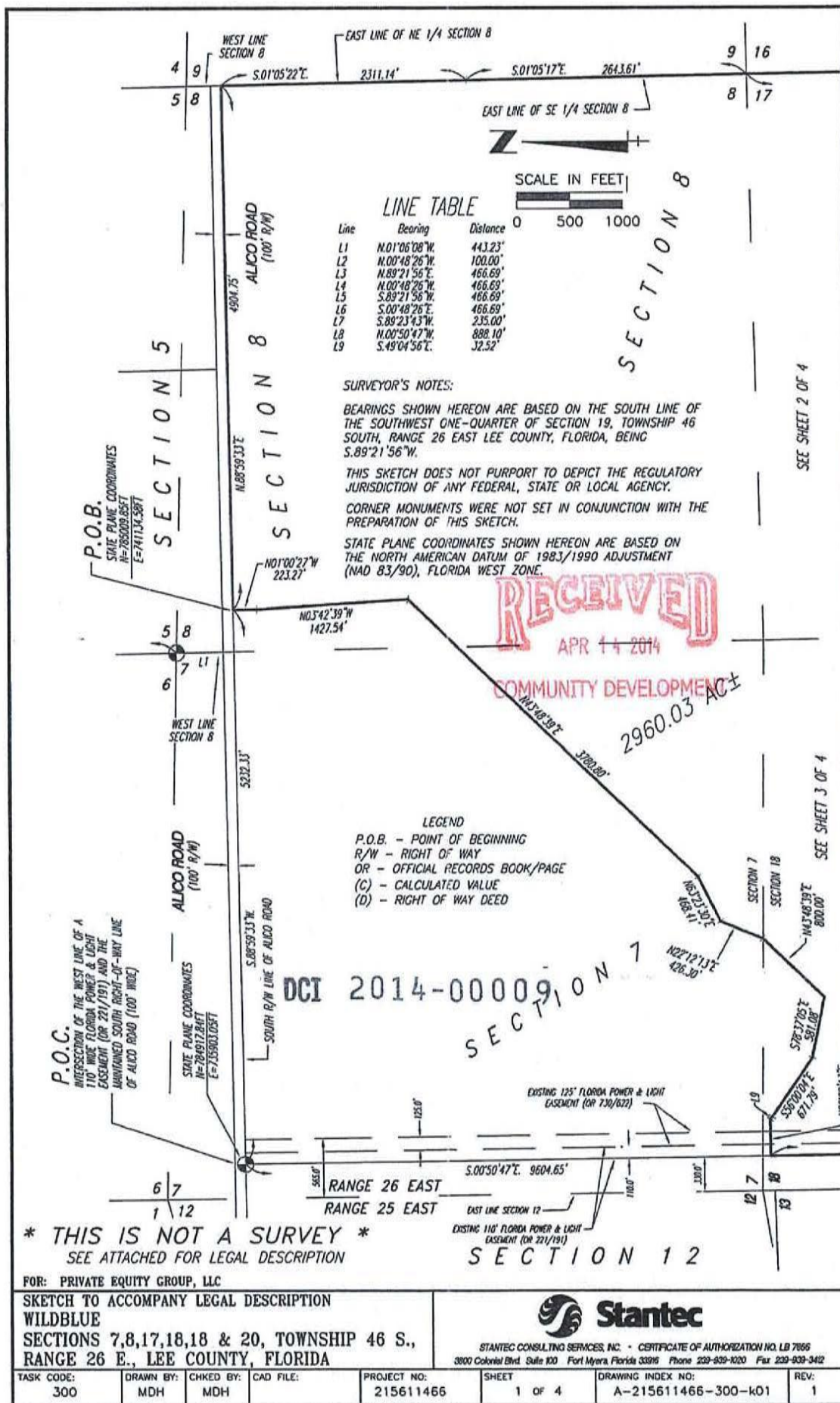
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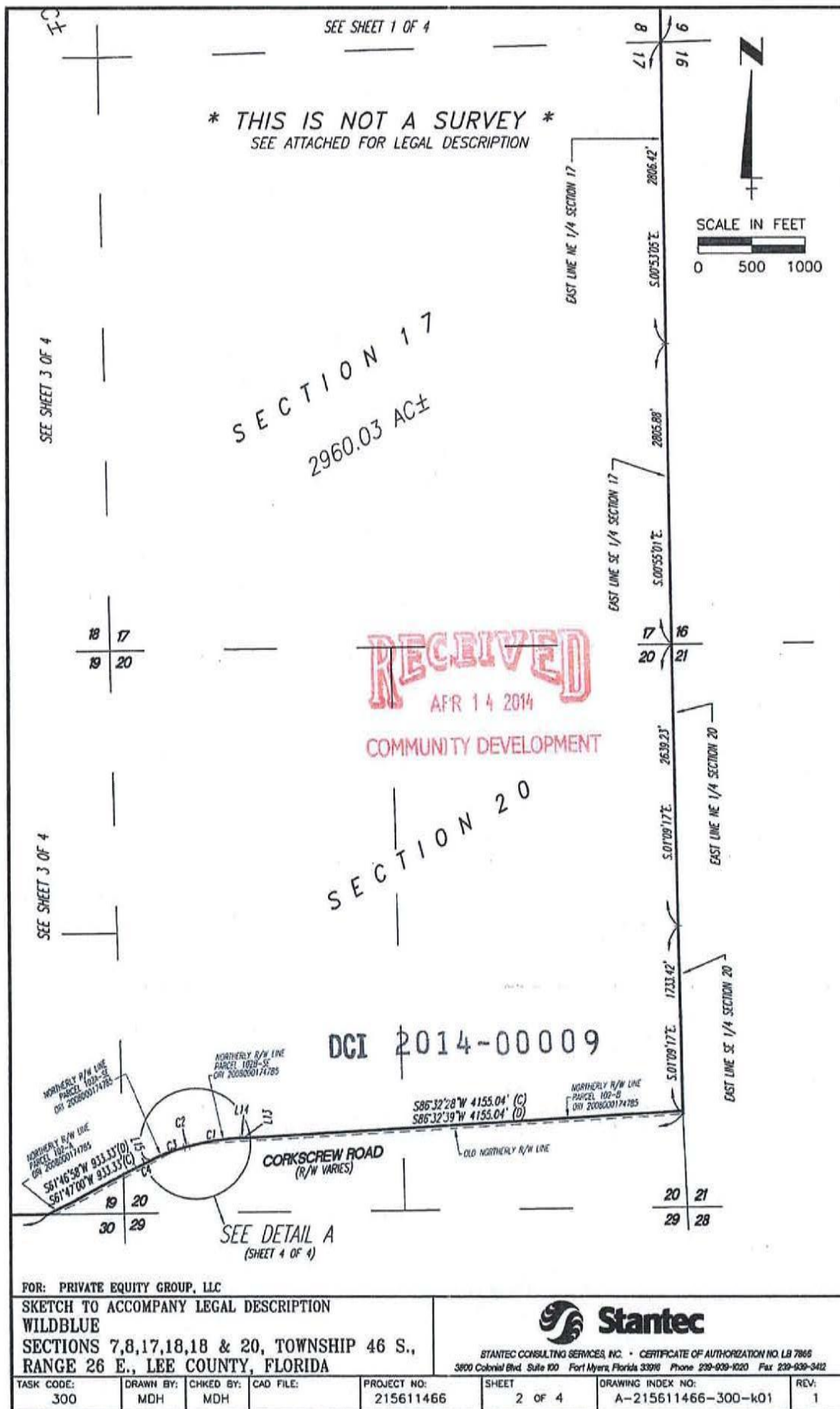
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Licensed Business No. LB7866
State of Florida

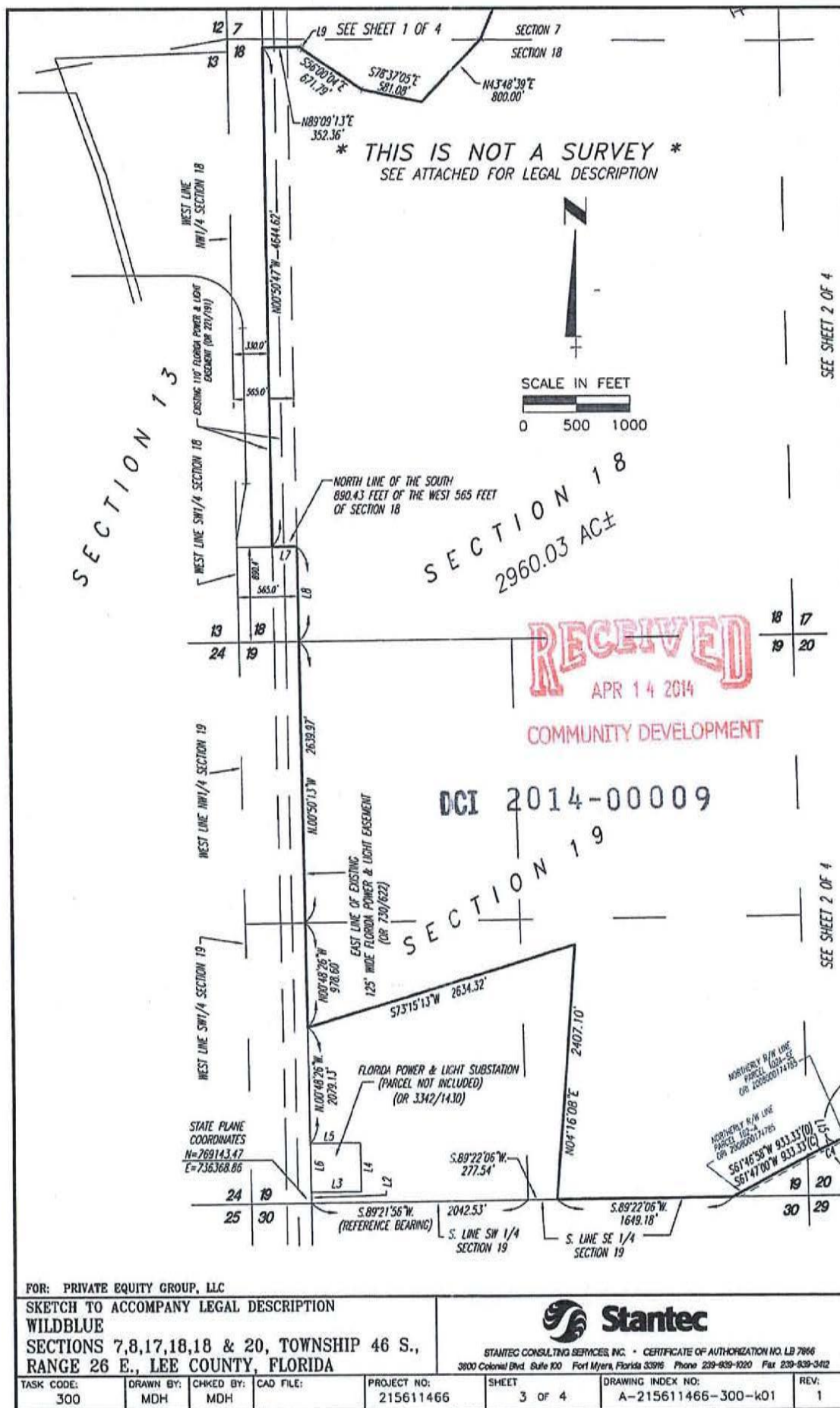
Mark D. Haines
Professional Surveyor No. LS5312
State of Florida

2/3/14
Date:

Proj: 215611466
Date: February 3, 2014
File: v:\2156\active\215611466\survey\task_300_wildblue_pd_legal\docs\leg_private_equity_group_wildblue_pd_20140131.docx







* THIS IS NOT A SURVEY *
SEE ATTACHED FOR LEGAL DESCRIPTION

CURVE TABLE

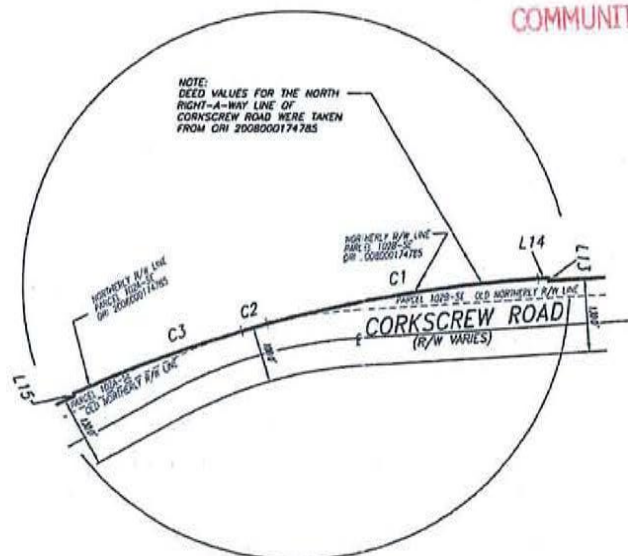
NO.	RADIUS	DELTA	LENGTH	CHORD	CHORD BEARING
C1	2385.00'(C)	11°47'38"(C)	490.93'(C)	490.07'(C)	S80°39'49"W(C)
	2385.00'(D)	11°46'21"(D)	490.05'(D)	489.19'(D)	S80°39'28"W(D)
C2	870.17'(C)	3°07'09"(C)	47.37'(C)	47.37'(C)	S74°15'44"W(C)
C3	2385.00'(C)	7°42'54"(C)	321.15'(C)	320.90'(C)	S69°46'02"W(C)
	2385.00'(D)	7°39'07"(D)	318.52'(D)	318.29'(D)	S69°43'45"W(D)
C4	2380.00'(C)	4°07'35"(C)	171.41'(C)	171.37'(C)	S63°50'47"W(C)

LINE TABLE

Line	Bearing	Distance
L13	N.03°40'07"W.(C)	5.00'(C&D)
	N.03°42'13"W.(D)	
L14	S.86°32'28"W.(C)	18.98'(C&D)
	S.86°32'39"W.(D)	
L15	S.24°05'25"E.(C)	5.00'(C&D)
	S.24°05'48"E.(D)	

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COMMUNITY DEVELOPMENT



DETAIL A
SCALE: 1" = 250'

DCI 2014-00009

FOR: PRIVATE EQUITY GROUP, LLC

SKETCH TO ACCOMPANY LEGAL DESCRIPTION
WILDBLUE
SECTIONS 7,8,17,18,18 & 20, TOWNSHIP 46 S.,
RANGE 26 E., LEE COUNTY, FLORIDA



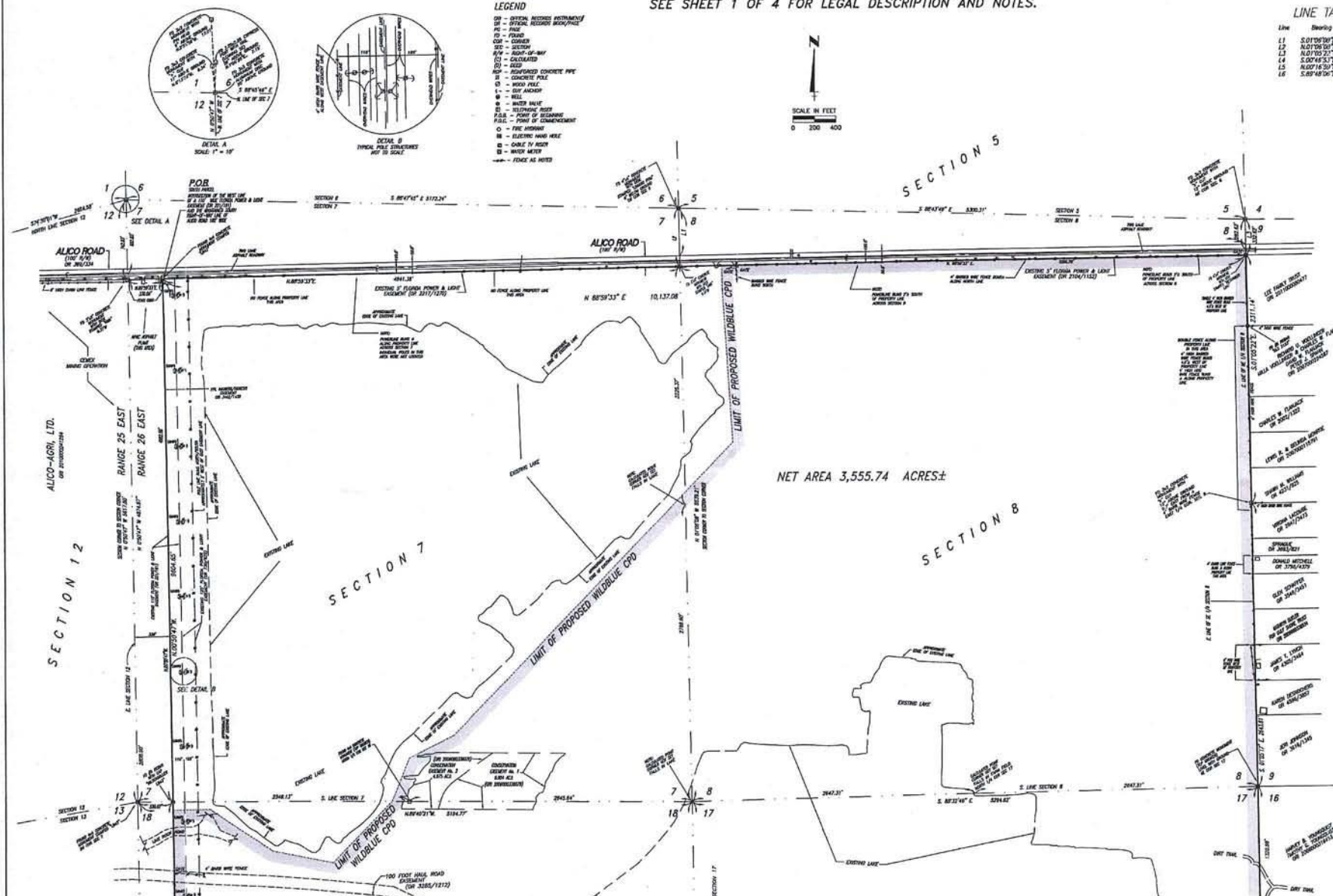
STANTEC CONSULTING SERVICES, INC. • CERTIFICATE OF AUTHORIZATION NO. LB 7866
3800 Colonial Blvd., Suite 100 Fort Myers, Florida 33916 Phone 239-939-1020 Fax 239-939-3412

TASK CODE: 300	DRAWN BY: MDH	CHKD BY: MDH	CAD FILE:	PROJECT NO: 215611466	SHEET 4 OF 4	DRAWING INDEX NO: A-215611466-300-k01	REV: 1
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LINE TABLE



Line	Bearing	Distance
11	S.01°06'00"E.	443.2
12	N.01°06'00"W.	543.2
13	N.01°05'22"W.	232.6
14	S.00°46'53"E.	50.00
15	N.00°16'50"E.	80.28
16	S.89°48'00"E.	80.00



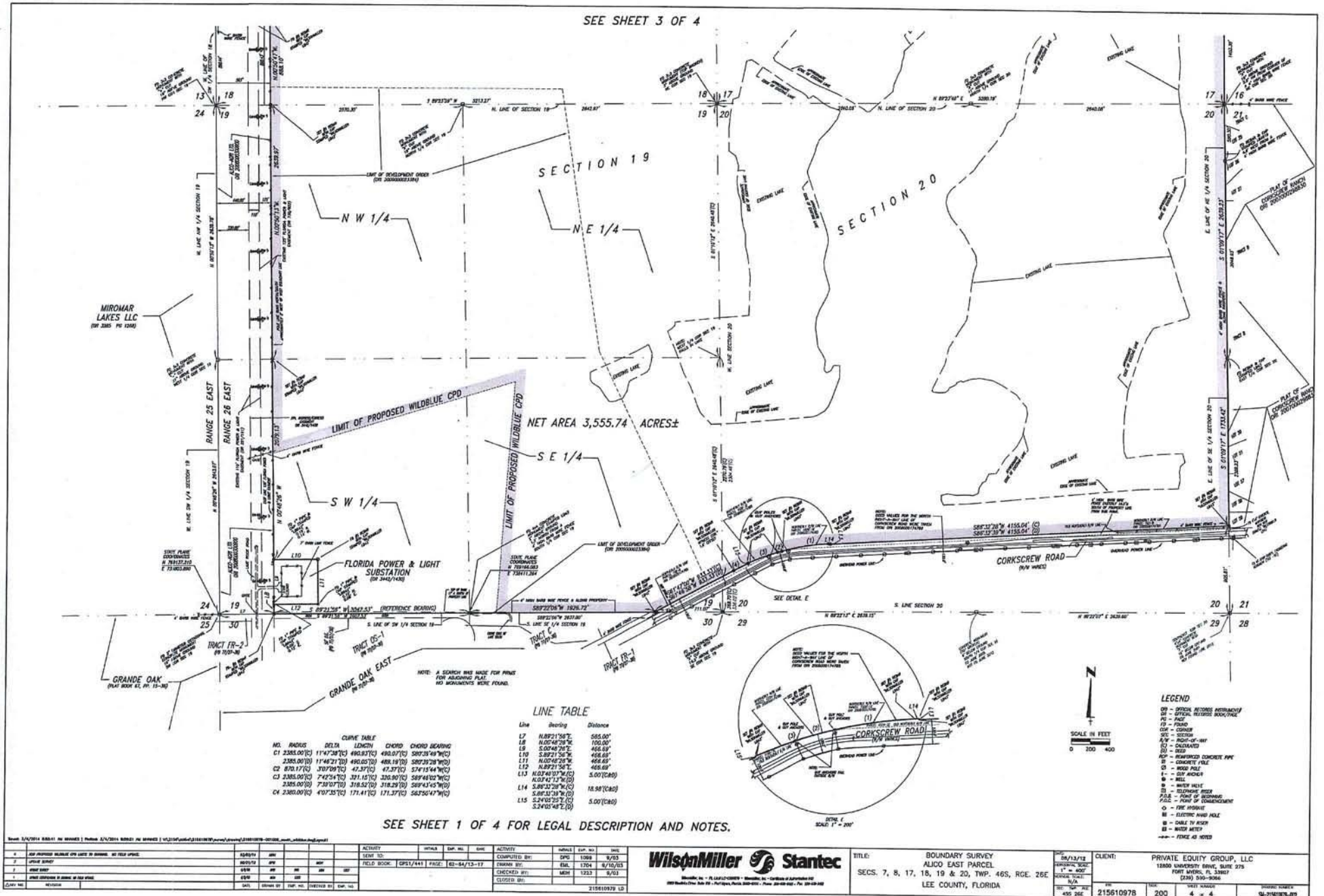
SEE SHEET 3 OF 4

WilsonMiller **Stantec**

TITLE: BOUNDARY SURVEY
ALICO EAST PARCEL
SECS. 7, 8, 17, 18, 19 & 20, TWP. 46S, RGE. 26E
LEE COUNTY, FLORIDA

DATE: 06/13/12	CLIENT: PRIVATE EQUITY GROUP, LLC		
REPORTING STATE: 1* = 405*	12800 UNIVERSITY DRIVE, SUITE 275 FORT MYERS, FL 33907 (238) 540-9086		
REPORTING TYPE: N/A	PIN: 125610978	SALE: 200	INVEST NUMBER: 2 = 4
ALL OTHER INFO: ATR, INC.			CHARITY NUMBER: 04-215610978

SEE SHEET 3 OF 4



SEE SHEET 1 OF 4 FOR LEGAL DESCRIPTION AND NOTES.

[illegible]

DCI2014-00009

Zoning Map

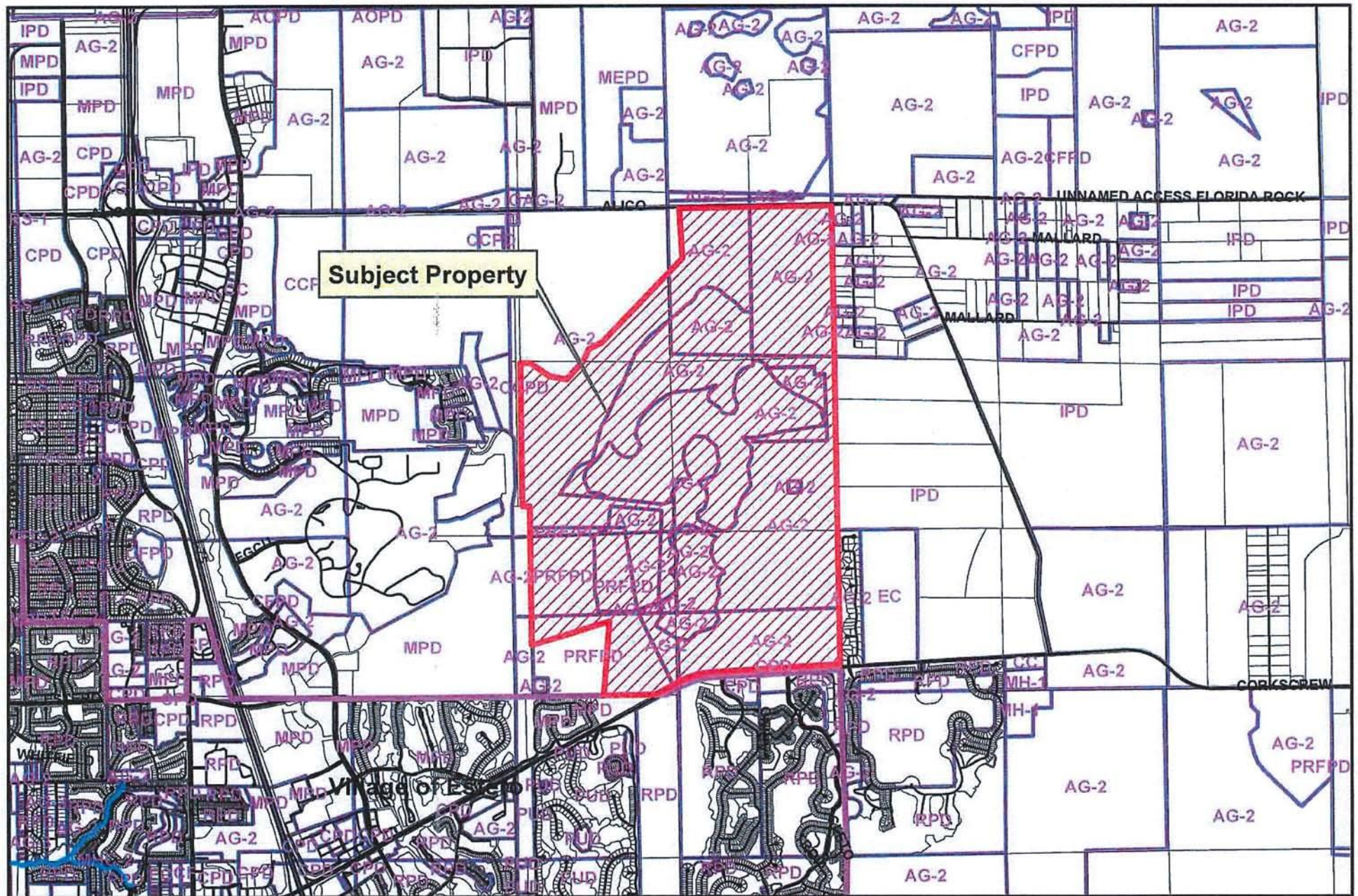
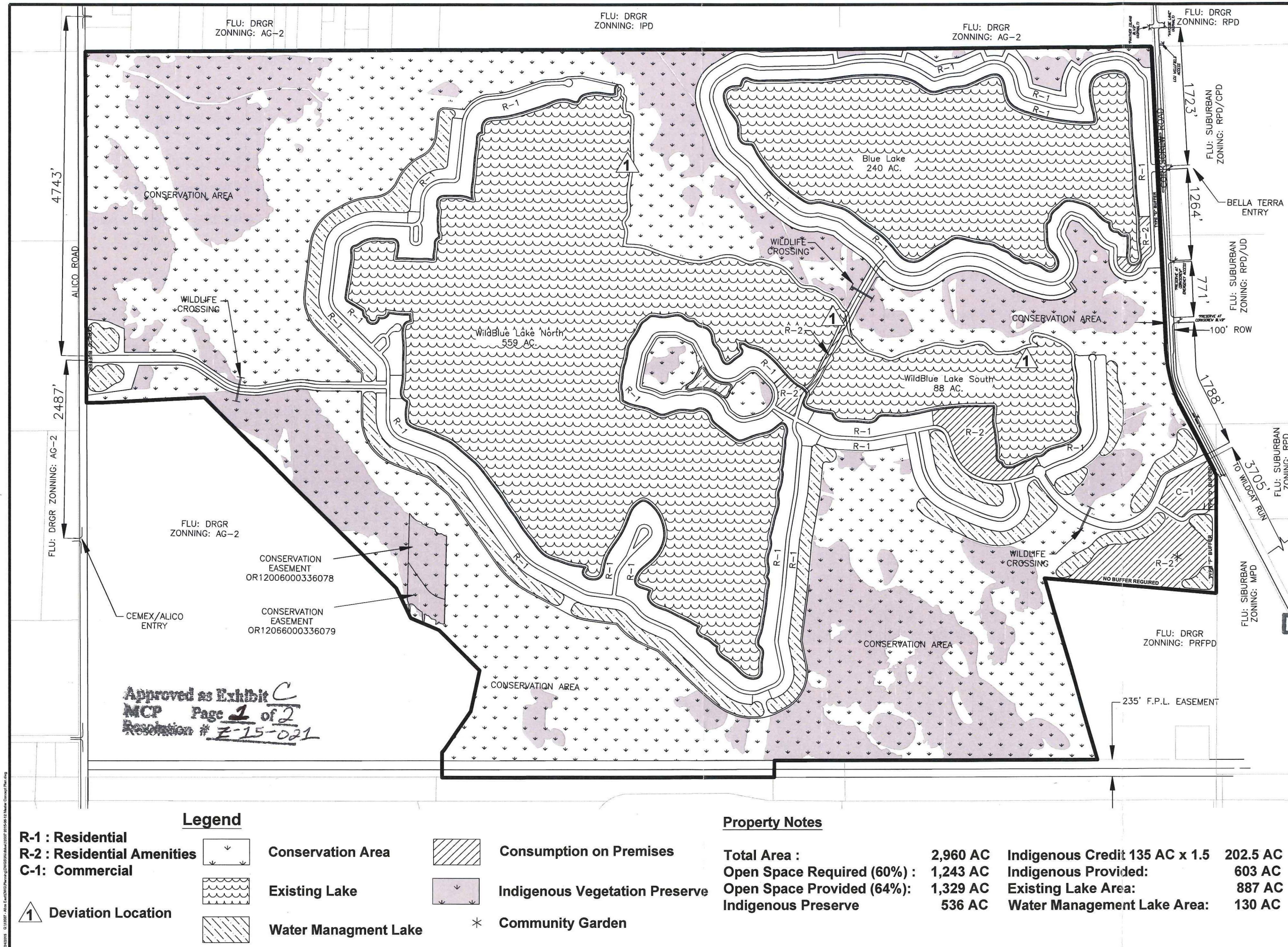


EXHIBIT B

0 1 2 Miles



Approved as Exhibit C
MCP Page 1 of 2
Resolution # E-15-021

Legend

- | | | | | |
|-----------------------------|--------------------|----------------------|--|--------------------------------|
| R-1 : Residential | | Conservation Area | | Consumption on Premises |
| R-2 : Residential Amenities | | Existing Lake | | Indigenous Vegetation Preserve |
| C-1: Commercial | | Water Managment Lake | | Community Garden |
| | Deviation Location | | | |

Property Notes

Total Area :	2,960 AC	Indigenous Credit 135 AC x 1.5	202.5 AC
Open Space Required (60%) :	1,243 AC	Indigenous Provided:	603 AC
Open Space Provided (64%):	1,329 AC	Existing Lake Area:	887 AC
Indigenous Preserve	536 AC	Water Management Lake Area:	130 AC

PROJECT:
WildBlue
MIXED USE PLANNED DEVELOPMENT
ADDRESS:
UNDETERMINED

DEVELOPER:
ALICO EAST FUND, LLC.
UNIVERSITY DRIVE
FORT MYERS, FL.

CONSULTANT:
MORRIS DEPEW
ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS
FL CA NO. 552 / FL CEMT NO. L8991 / LC28000333
Fort Myers: 2891 Center Pointe Drive, Suite 100, Fort Myers, Florida 33916 (239) 337-3993
Tallahassee: 327 Office Plaza, Suite 113, Tallahassee, Florida 32301 (850) 224-6988
Gainesville: 414 SW 140th Terrace, Suite 100, Newberry, FL 32569 (352) 378-3450
Destin: 755 Grand Boulevard, Suite B105-152, Miramar Beach, FL 32250 (904) 266-3973

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JUL 27 2015
COMMUNITY DEVELOPMENT
2014-00009

REVISIONS	DATE
Open Space Calculations	6/12/2015
Modification to WildBlue Lake crossing, now R-2.	7/09/2015

PROJECT MANAGER:	TIME
DRAWING BY:	ALR
JURISDICTION:	Lee County
DATE:	7/24/2015
TITLE:	Master Concept Plan

SHEET NUMBER: 1 of 2
SCALE:
JOB/FILE NUMBER: 12037

Notes:

1. Proposed is a rezoning from PRFPD & AG-2 to Mixed Use Planned Development to permit 1,000 dwelling units.
2. Future Land Use Designations
Density Reduction / Groundwater Resource (DR/GR) 1,982 Acres
Wetlands 978 Acres
3. The project will connect to Lee County Utilities Water & Sewer Service. A companion comprehensive plan amendment proposes an amendment to Lee Plan Maps 6&7 to extend the franchise boundary from property's West boundary to the East boundary, incorporating the subject property.
4. The property is not located on a public transit (LeeTran) route. Route 60 services Miromar Outlets, approximately 3 miles to the West.

Deviations:

- 1 Section 10-329(d)(4) to allow no modifications to the existing lake shore in one location on WildBlue Lake North and South.

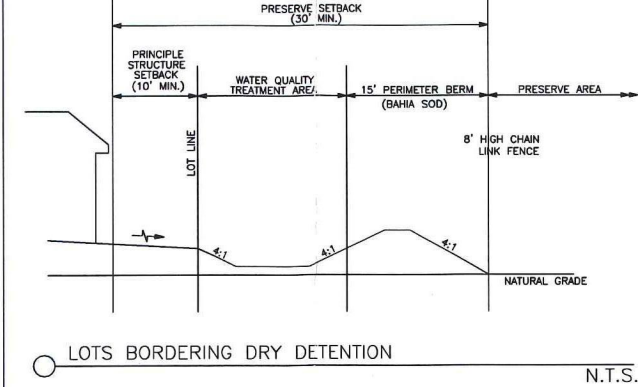
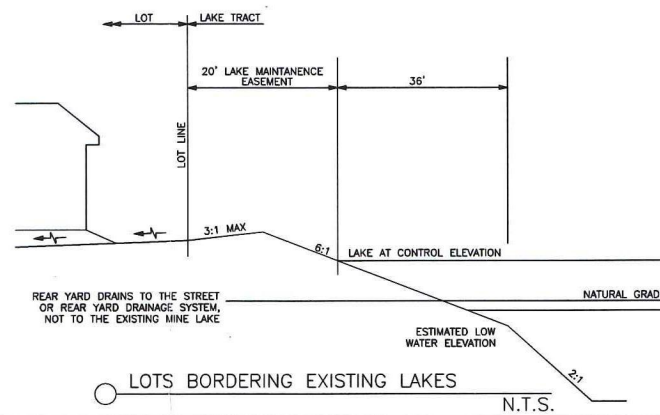
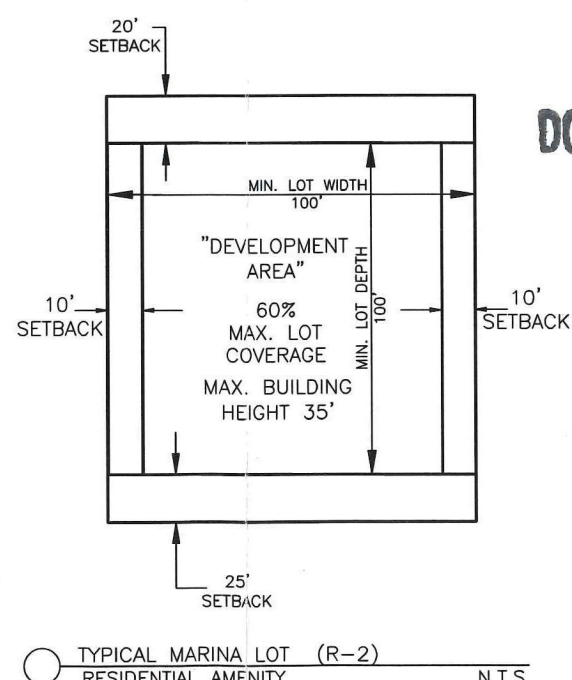
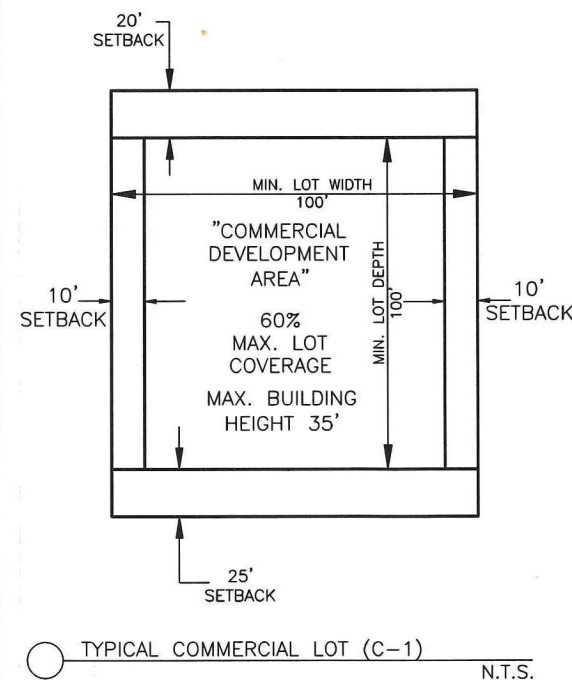
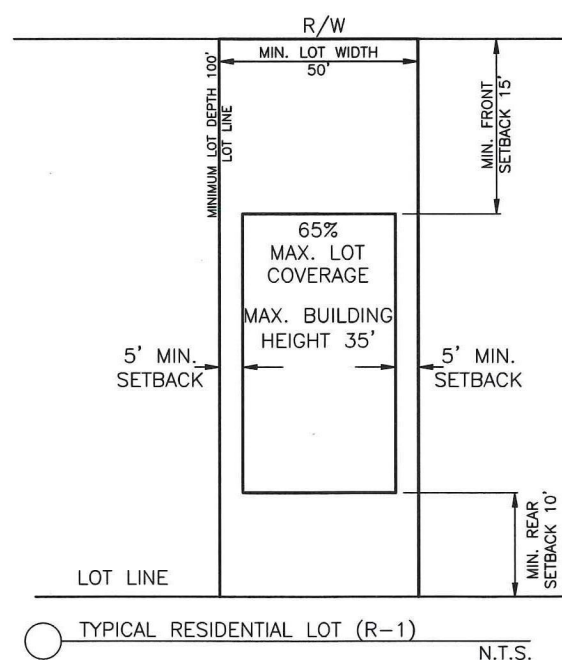
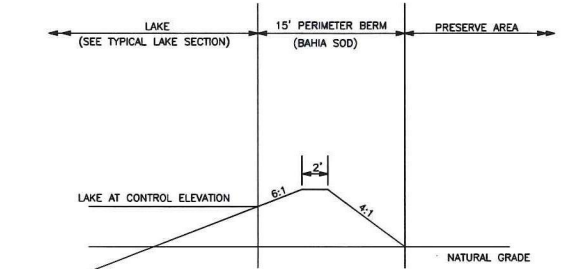
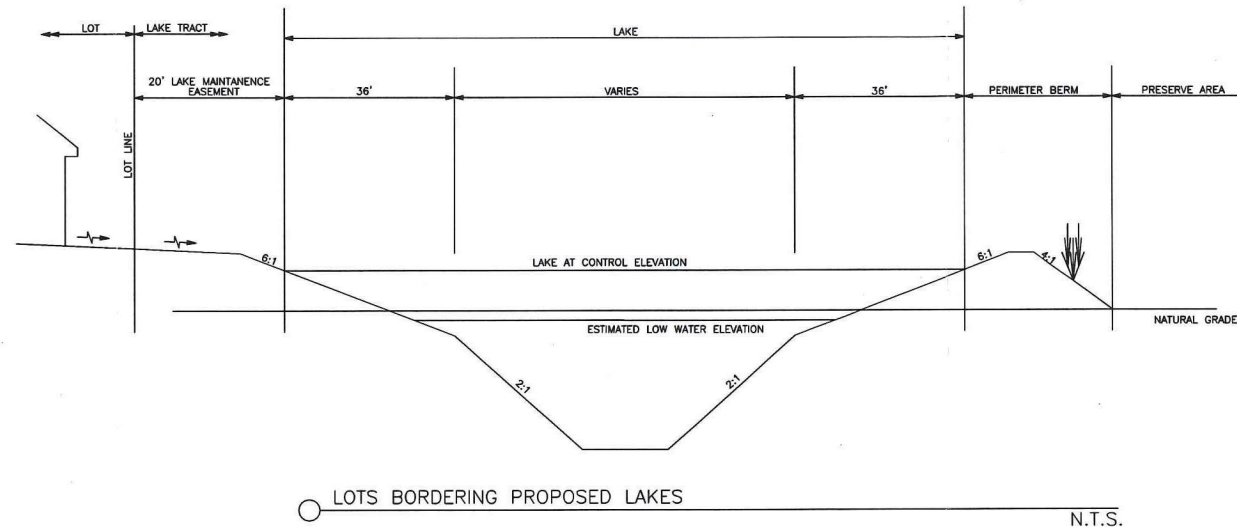
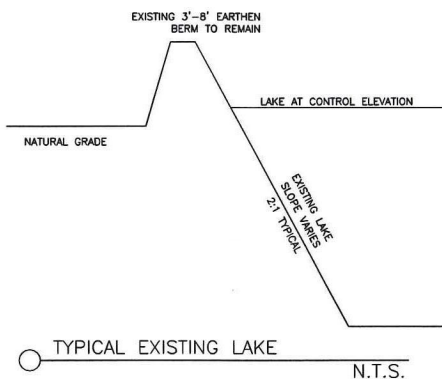
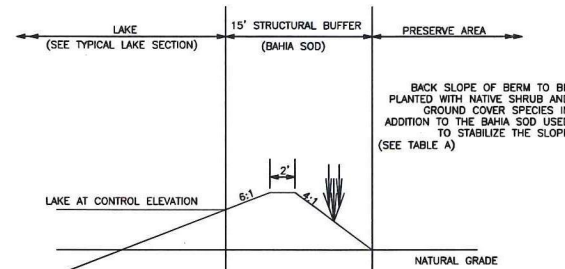


TABLE A

COMMON NAME	SCIENTIFIC NAME	MINIMUM HEIGHT	MINIMUM CONTAINER SIZE	PLANTING INSTRUCTION
SHRUB PLANTINGS				
MYRSINE	MYRSINE CUBANA	3 Ft.	1 GAL.	8 FT ON CENTER
WAX MYRTLE	MYRTICA CERIFERA	3 Ft.	1 GAL.	8 FT ON CENTER
GROUND COVER PLANTINGS				
CORDGRASS	SPARTINA BAKERI	12 In.	4 In.	3 FT ON CENTER
FAKAHATCHEE GRASS	TRIPSACUM DACTYLOIDES	12 In.	4 In.	3 FT ON CENTER



Approved as Exhibit C
MCP Page 2 of 2
Resolution # Z-15-041

PROJECT:

WildBlue

MIXED USE PLANNED DEVELOPMENT

ADDRESS:

UNDETERMINED

DEVELOPER:

ALICO EAST FUND, LLC.
UNIVERSITY DRIVE
FORT MYERS, FL.

CONSULTANT:

MORRIS DEPEW

ENGINEERS • PLANNERS • SURVEYORS
LANDSCAPE ARCHITECTS

Fort Myers: 2891 Center Pointe Drive, Suite 100, Fort Myers, Florida 33916, (239) 337-3994, Fax: (239) 337-3994, Toll free: 866-337-7341

Tallahassee: 327 Office Plaza, Suite 113, Tallahassee, Florida 32301, (904) 224-6888

Gainesville: 414 SW 140th Terrace, Suite 100, Newberry, FL 32569, (352) 378-3450

Destin: 755 Grand Boulevard, Suite B105-152, Miramar Beach, FL 32550, Toll free: 866-337-7341

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REVISIONS

DATE

PROJECT MANAGER: TIME

DRAWING BY: ALR

JURISDICTION: Lee County

DATE: 7/24/2015

TITLE: Master Concept Plan Typical Sections

SHEET NUMBER: 2 of 2

SCALE:

JOB/FILE NUMBER: 12037



Mixed Use Planned Development Schedule of Uses

Residential, R-1

Accessory uses and structures
Dwelling unit, Single-family
Entrance Gate & Gatehouse
Essential Services
Essential Service Facilities, Group I
Excavation, Water Retention
Fences, wall
Home Occupation
Models, Model Home, Display Center, Sales Center
Parking lot, accessory - restricted to the amenity area or models
Residential accessory uses
Signs- In accordance with Chapter 30 of the LDC
Temporary Uses, limited to a Temporary Contractor's Office and Equipment Storage Shed

Residential, R-2**

** The Landbridge in the R-2 area adjacent to WildBlue Lake North is limited to Boat Docks, Docking Facilities, Roads and Utilities.

Accessory uses and structures

Club, private

Administrative Office

ATM

Boat motors, sales and service

Boat parts, sales and installation

Boat ramp

Boat rental

Community Gardens

Consumption on premises

Docks & Docking Facilities, Limited to 100 per Condition 21.b.

Food & Beverage Service, limited

Marine supplies

Parking lot, accessory

Restaurant or refreshment facility

WildBlue – Schedule of Uses

Page | 2

7/27/2015

Rental or leasing establishment, Group I, limited to bicycles and such things as beach chairs, umbrellas, boats and other beach related items, etc. excluding jet skis, wave runners, sea doos and other similar personal watercraft and also excluding mopeds and scooters.

Sale of Marine Fuel and Lubricants

Specialty Retail Shops, Groups I & II

Storage, Outdoor

Entrance Gates & Gatehouse

Essential Services

Essential Service Facilities, Group I

Excavation, Water Retention

Recreational Facilities – Personal, Private on-site,

Signs in accordance with Chapter 30

Temporary Uses, limited to a Temporary Contractor's Office and Equipment Storage Shed

Commercial, C-1

Accessory uses and structures

Administrative offices

Animal Clinic

Auto Parts Store

Bait and tackle shop

Banks and Financial Establishments, Group I

Boat Parts store

Business services, Group I, Group II (limited to Parcel and Express Service only)

Car Wash

Cleaning and maintenance services

Clothing stores, general

Consumption on premises

Convenience food and beverage store

Cultural facilities

Day Care, Child & Adult

Department store

Drive Thru, with any permitted use

Drugstore pharmacy

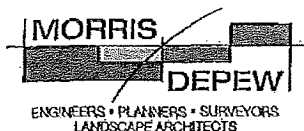
Essential services

Essential service facilities, Group I

Excavation, Water retention

Fences, wall

Food stores, Group I



WildBlue – Schedule of Uses

Page | 3

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Gift and souvenir shop
Hardware Store
Hobby, toy and game shops
Household and office furnishings, Groups I & II
Laundry & Dry Cleaning, Group I
Lawn & Garden Supply
Medical office
Nonstore Retailers, Group I
Package Store
Parking Lot, Accessory
Personal services, Group I
Pet services
Pet shop
Photofinishing laboratory
Place of Worship
Post office
Printing and publishing
Real estate sales office
Rental & Leasing
Repair shops, Group I, II
Restaurants, Groups I, II, and III
Self Service Fuel Pumps
Schools, commercial
Signs in accordance with Chapter 30
Specialty retail shops, Groups I, II
Studios
Supermarket
Temporary uses
Theater, indoor
Used merchandise stores, Group I
Variety store
Warehouse, mini



Property Development Regulations

Residential Uses											
Land Use	Minimum Lot Area	Minimum Lot Width	Minimum Lot Depth	Minimum Front Setback	Minimum Side Setback	Minimum Rear Setback	Min. Rear Accessory Setback	Maximum Bldg. Height	Max Lot Coverage	Water Body Primary Setback	Water Body Accessory Setback
Single Family	5,000 SF	50 FT	100 FT	15 FT	5 FT	10 FT	0 FT	35 FT	65%	0 FT	0 FT

Non-Residential Uses								
Land Use	Minimum Lot Area	Minimum Lot Width	Minimum Lot Depth	Minimum Front Setback	Minimum Side Setback	Minimum Rear Setback	Maximum Bldg. Height	Max Lot Coverage
Non-Residential	10,000 SF	100 FT	100 FT	20 FT	10 FT	25 FT	35 FT	60%

EXHIBIT E



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J:\2017\12PEG2120\GIS\2014\PROTECTED SPECIES MANAGEMENT PLAN\FIGURES\APPENDIX B AERIAL WITH PROPOSED LOCATIONS OF WILDLIFE CROSSINGS AND FENCING 12-18-14.MXD - 12/18/2014 @ 11:26:33 AM



EXHIBIT F

LEGEND

- WILDBLUE
- PRESERVE AREAS
- DEVELOPMENT
- LAKES
- WILDLIFE CROSSING
- FENCING
- CORKSCREW ROAD UNDERPASS

2014-000009

0 600 1,200 Feet

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NOTES:

AERIAL PHOTOGRAPHS WERE ACQUIRED THROUGH THE LEE COUNTY PROPERTY APPRAISER'S OFFICE WITH A FLIGHT DATE OF JANUARY THROUGH MARCH 2014.

PROPERTY BOUNDARY PER STANTEC, INC. DRAWING NO. ALICO_EAST_SURVEY_SOUTH_PARCEL_215610978. DWG DATED JULY 2, 2012.

MASTER CONCEPT PLAN PER MORRIS DEPEW INC. DRAWING NO. 12037 2014-12-17 MASTER CONCEPT PLAN.DWG DATED DECEMBER 17, 2014.

DRAWN BY H.H.	DATE 6/2/14	13620 Metropolis Avenue Suite 200 Fort Myers, Florida 33912 Phone (239) 274-0067 Fax (239) 274-0069
REVIEWED BY C.G.R.	DATE 6/2/14	
REVISED H.H.	DATE 12/17/14	



WILDBLUE
AERIAL WITH PROPOSED
WILDLIFE CROSSING
AND FENCING

DRAWING No. 12PEG2120
SHEET No. APPENDIX B

**WILDBLUE
INDIGENOUS PRESERVE MANAGEMENT PLAN**

Revised December 2014

DCI 2014-00009

Prepared For:

Alico East Fund, LLC
12800 University Drive, Suite 275
Fort Myers, Florida 33907
(239) 590-9066

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Prepared By:

Passarella & Associates, Inc.
13620 Metropolis Avenue, Suite 200
Fort Myers, Florida 33912
(239) 274-0067

EXHIBIT G

Project No. 12PEG2120

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1.0 INTRODUCTION

The following outlines the Lee County Indigenous Preserve Management Plan for WildBlue (Project) located in Sections 7, 8, 17, 18, 19, and 20; Township 46 South; Range 26 East; Lee County. The conservation areas total 1,318± acres. The conservation areas are depicted in Appendix A and the following is a breakdown of the preserve acreage:

- 536± acres of indigenous wetlands and uplands;
- 623± acres of wetland and upland enhancement (habitats with greater than 50 percent exotics and open disturbed lands);
- 59± acres of upland restoration from farm fields and mining land;
- 6± acres of wetland restoration through the removal and restoration of a mining haul road, ditches, and berms;
- 94± acres of wetland creation from existing farm fields, berms, and ditches; and
- 11± acres of flow-way enhancement in the northeast portion of the preserve area.

According to Lee County's open space requirements outlined in Land Development Code (LDC) Chapter 10-415, the Project is required to retain 592± acres of indigenous vegetation. The conservation areas, which total 1,329± acres, include 536± acres of existing indigenous wetlands and uplands with less than 50 percent exotic vegetation. To meet the open space requirements, the Project will utilize open space credit for retaining large areas of upland habitat as outlined in LDC Chapter 10-415(b)(3). There are 135± acres of contiguous upland habitats within the indigenous preserve, which will provide an additional credit of 67± acres. Therefore, the total indigenous preserve provided is calculated to be 603± acres. The indigenous wetland and upland habitats will be enhanced through the removal of exotic vegetation.

In addition to enhancing 536± acres of indigenous habitats, approximately 793 acres of additional wetlands and uplands will be enhanced and restored in accordance with the Wetland Mitigation/Monitoring/Maintenance Plan (to be approved as part of South Florida Water Management District (SFWMD) Environmental Resource Permit (ERP) Application No. 140516-10). These 793± acres are comprised of highly disturbed lands and habitats with greater than 50 percent coverage by exotic vegetation. Restoration of these areas is not needed to meet the Lee County indigenous vegetation preserve requirements. Of the 793± acres, 623± acres of wetlands and uplands with greater than 50 percent exotic vegetation, and other open, disturbed areas will be enhanced through exotic removal and supplemental plantings. Approximately 11 acres in the northeast flow-way portion of the preserve area, south of Alico Road culverts, will be cleared of exotics, re-graded and planted with native freshwater marsh vegetation in order to facilitate the flow of water into the site from the north. A total of 59± acres of farm fields and mining lands will be restored to native upland habitat. Also, native herbaceous wetland habitat will be created from 94± acres of upland farm fields, berms, and ditches adjacent to the Stewart Cypress Slough, and 6± acres of mining haul roads and berms that currently bisect the sloughs will be removed and restored to native wetland habitat. Furthermore, 11± acres of flow-way enhancement, consisting of exotic removal, re-

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grading, and planting, will be conducted in the northeast portion of the Project's conservation area. The on-site conservation areas, totaling 1,329± acres, will be placed in a conservation easement granted to the SFWMD with third party rights granted to the U.S. Army Corps of Engineers and Lee County.

2.0 EXISTING INDIGENOUS VEGETATION HABITATS

The indigenous wetlands total 275± acres and include willow, cypress, pine-cypress, hydric pine, wetland forested mix, wetland shrub, freshwater marsh, and wet prairie habitats. The indigenous upland habitats total 261± acres and include palmetto prairie, pine flatwoods, and mixed hardwood-conifer habitats. The Project's indigenous vegetation areas are native habitats with less than 50 percent exotics and are identified in Appendix A. Listed below are the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (Florida Department Of Transportation 1999) descriptions of the indigenous wetland and upland habitats proposed for preservation and enhancement.

2.1 Indigenous Wetland Habitats

Willow, Disturbed (0-24% Exotics) (FLUCFCS Code 6189 E1)

The canopy of this wetland habitat is open. The sub-canopy consists of willow (*Salix caroliniana*), buttonbush (*Cephalanthus occidentalis*), primrose willow (*Ludwigia peruviana*), and Brazilian pepper (*Schinus terebinthifolius*). The ground cover includes maidencane (*Panicum hemitomon*), arrowhead (*Sagittaria lancifolia*), and fireflag (*Thalia geniculata*).

Willow, Disturbed (25-49% Exotics) (FLUCFCS Code 6189 E2)

The vegetation composition in this wetland community is similar to FLUCFCS Code 6189 E1 with 25 to 49 percent Brazilian pepper and primrose willow in the canopy and sub-canopy.

Cypress, Disturbed (0-24% Exotics) (FLUCFCS Code 6219 E1)

The canopy of this wetland habitat contains bald cypress (*Taxodium distichum*) and melaleuca (*Melaleuca quinquenervia*). The sub-canopy consists of bald cypress, wax myrtle (*Myrica cerifera*), Brazilian pepper, cabbage palm (*Sabal palmetto*), cocoplum (*Chrysobalanus icaco*), and swamp bay (*Persea palustris*). The ground cover includes swamp fern (*Blechnum serrulatum*), Asiatic pennywort (*Centella asiatica*), maidencane, torpedograss (*Panicum repens*), frog-fruit (*Phyla nodiflora*), water pennywort (*Hydrocotyle umbellata*), bog hemp (*Boehmeria cylindrica*), loosestrife (*Lythrum alatum*), and climbing hempvine (*Mikania scandens*).

Cypress, Disturbed (25-49% Exotics) (FLUCFCS Code 6219 E2)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6219 E1 with 25 to 49 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

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Cypress/Pine/Cabbage Palm, Disturbed (0-24% Exotics) (FLUCFCS Code 6249 E1)

The canopy of this wetland habitat consists of slash pine (*Pinus elliottii*), bald cypress, melaleuca, and scattered cabbage palm. The sub-canopy consists of slash pine, bald cypress, melaleuca, wax myrtle, and Brazilian pepper. The ground cover includes white-top sedge (*Rhynchospora colorata*), knotroot foxtail (*Setaria parviflora*), beaksedge (*Rhynchospora microcarpa*), blue maidencane (*Amphicarpum muhlenbergianum*), rosy camphorweed (*Pluchea rosea*), pineland heliotrope (*Heliotropium polyphyllum*), and Leavenworth's tickseed (*Coreopsis leavenworthii*). Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

Cypress/Pine/Cabbage Palm, Disturbed (25-49% Exotics) (FLUCFCS Code 6249 E2)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6249 E1 with 25 to 49 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy. Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

Pine, Hydric, Disturbed (0-24% Exotics) (FLUCFCS Code 6259 E1)

The canopy of this wetland habitat consists of slash pine and melaleuca. The sub-canopy consists of slash pine, melaleuca, wax myrtle, and Brazilian pepper. The ground cover includes white-top sedge, knotroot foxtail, beaksedge, blue maidencane, rosy camphorweed, pineland heliotrope, torpedograss, Leavenworth's tickseed, and gulfdune paspalum (*Paspalum monostachyum*). Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

Pine, Hydric, Disturbed (25-49% Exotics) (FLUCFCS Code 6259 E2)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6259 E1 with 25 to 49 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Mixed Wetland Forest, Disturbed (0-24% Exotics) (FLUCFCS Code 6309 E1)

The canopy of this wetland habitat consists of slash pine, bald cypress, melaleuca, scattered cabbage palm, and laurel oak (*Quercus laurifolia*). The sub-canopy consists of slash pine, bald cypress, melaleuca, wax myrtle, myrsine (*Myrsine cubana*), and Brazilian pepper. The ground cover includes swamp fern, water pennywort, maidencane, and sawgrass (*Cladium jamaicense*). Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

Wetland Shrub, Disturbed (25-49% Exotics) (FLUCFCS Code 6319 E2)

The canopy of this wetland habitat is mostly open with scattered slash pine, bald cypress, and melaleuca. The sub-canopy contains wax myrtle, saltbush (*Baccharis halimifolia*), slash pine, Brazilian pepper, bald cypress, willow, and melaleuca. Ground cover includes water pennywort, swamp fern, torpedograss, maidencane, and gulfdune paspalum.

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Freshwater Marsh, Disturbed (0-24% Exotics) (FLUCFCS Code 6419 E1)

The canopy of this wetland habitat is typically open. The sub-canopy may contain willow. The ground cover includes maidencane, fireflag, and cattail (*Typha* sp.).

Freshwater Marsh, Disturbed (25-49% Exotics) (FLUCFCS Code 6419 E2)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6419 E1 with 25 to 49 percent coverage by melaleuca, torpedograss, and/or cattail.

Wet Prairies, Disturbed (0-24% Exotics) (FLUCFCS Code 6439 E1)

The canopy of this wetland habitat is open. The sub-canopy consists of melaleuca, wax myrtle, and slash pine. The ground cover includes gulfdune paspalum, knotroot foxtail, beaksedge, pineland heliotrope, torpedograss, rosy camphorweed, sand cordgrass (*Spartina bakeri*), bushy bluestem (*Andropogon glomeratus*), and scattered saw palmetto (*Serenoa repens*).

Wet Prairies, Disturbed (25-49% Exotics) (FLUCFCS Code 6439 E2)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6439 E1 with 25 to 49 percent coverage by melaleuca and torpedograss.

2.2 Indigenous Upland Habitats

Palmetto Prairie, Disturbed (0-24% Exotics) (FLUCFCS Code 3219 E1)

The canopy of this upland community contains scattered slash pine and melaleuca. The sub-canopy consists of slash pine, melaleuca, wax myrtle, and Brazilian pepper. The ground cover is dominated by saw palmetto.

Palmetto Prairie, Disturbed (25-49% Exotics) (FLUCFCS Code 3219 E2)

The vegetation composition of this upland community is similar to FLUCFCS Code 3219 E1 with 25 to 49 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Pine Flatwoods, Disturbed (0-24% Exotics) (FLUCFCS Code 4119 E1)

The canopy of this upland habitat contains slash pine and melaleuca. The sub-canopy contains myrsine, melaleuca, cabbage palm, and Brazilian pepper. The ground cover includes saw palmetto, spermacoce (*Spermacoce verticillata*), Brazilian pepper, bracken fern (*Pteridium aquilinum*), wiregrass (*Aristida stricta*), and gulfdune paspalum. Portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

Pine Flatwoods, Disturbed (25-49% Exotics) (FLUCFCS Code 4119 E2)

The vegetation composition of this upland community is similar to FLUCFCS Code 4119 E1 with 25 to 49 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy. Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

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Pine, Disturbed (25-49% Exotics) (FLUCFCS Code 4159 E2)

The canopy of this upland habitat contains slash pine, cabbage palm, laurel oak, and melaleuca. The sub-canopy consists of wax myrtle, slash pine, and Brazilian pepper. The ground cover includes broomsedge (*Andropogon virginicus*), wiregrass, muscadine grapevine (*Vitis rotundifolia*), pennyroyal (*Piloblephis rigida*), chocolateweed (*Melochia corchorifolia*), caesarweed (*Urena lobata*), and scattered saw palmetto.

Hardwood/Conifer Mixed, Disturbed (0-24% Exotics) (FLUCFCS Code 4349 E1)

The canopy of this wetland habitat consists of slash pine, melaleuca, live oak (*Quercus virginiana*), and cabbage palm. The sub-canopy consists of myrsine, wax myrtle, Brazilian pepper, and melaleuca. The ground cover includes saw palmetto, bracken fern, and muscadine grapevine. Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

3.0 INDIGENOUS PRESERVATION

3.1 Method and Frequency of Pruning and Trimming

Exotic removal is scheduled to begin after the applicable permits and approvals have been attained. The conservation area has been divided into six separate mitigation areas that correspond to six development areas. The enhancement activities within each mitigation area will be completed concurrently with construction of the corresponding development area. The timing of the work will be in accordance with the mitigation activity schedule to be approved by the SFWMD as part of ERP Application No. 140516-10.

After the initial removal of exotics, semi-annual inspections of the preserves will occur for the first two years. During these inspections, the Project area will be traversed by a qualified ecologist. Locations of nuisance and/or exotic species will be identified for immediate treatment with an appropriate herbicide. Any additional potential problems will also be noted and corrective actions taken. Once exotic/nuisance species levels have been reduced to acceptable limits (i.e., less than five percent cover), inspections of the Project area will be conducted annually.

Maintenance will be conducted in perpetuity to ensure that the conservation areas are free of exotic vegetation (as currently defined by the Florida Exotic Pest Plant Council (EPPC)) immediately following maintenance and that exotic and nuisance species will constitute no more than five percent of total combined cover.

3.2 Methods to Remove and Control Exotic and Nuisance Plants

Exotic and nuisance vegetation will be removed/treated by hand methods where coverage by exotic vegetation is less than 50 percent. Hand treatment will be either felling of exotic trees, hand removal, and herbicide treatment of the stumps; or hand pulling. The hand treatment of exotic and nuisance vegetation will include one or more of the

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following methods: (1) cut exotics within 12 inches of ground elevation, hand remove cut vegetation, and treat remaining stump with approved herbicide; (2) girdle standing Brazilian pepper, melaleuca, and Australian pine (*Casuarina equisetifolia*) with diameter at breast height (DBH) greater than 4 inches and apply approved herbicide to cambium; (3) foliar application of approved herbicide to Brazilian pepper, melaleuca saplings, Australian pine, and downy rose-myrtle (*Rhodomyrtus tomentosa*); (4) foliar application of approved herbicide or hand pulling of exotic seedlings; and (5) foliar application of approved herbicide to nuisance grasses.

Where exotics exceed 50 percent, mechanical equipment may be utilized to aid in the removal of exotic species. Existing vehicle trails will be used, as available, to access remote areas of the preserve. All efforts will be made to preserve native trees when conducting the exotic removal with mechanized equipment. To minimize adverse impacts to the ground surface, machinery that exerts a relatively low impact on the ground surface (i.e., tracked skid steer, feller buncher) will be utilized within the mechanical removal areas.

The conservation areas will be monitored for excessive ground cover and sub-canopy growth. Ground cover and sub-canopy growth will be maintained to enhance maximum wildlife use. Prescribed burning will be used as a management tool to maintain the native vegetation communities within the conservation areas. The objectives of prescribed burning will be to aid in the control of exotic vegetation and woody shrubs (i.e., wax myrtle and saltbush), reduce fuel loads and the danger of wildfire, stimulate the growth and diversity of herbaceous vegetation, and improve wildlife habitat. Required permits from the appropriate regulatory authorities will be obtained prior to implementation of prescribed burns.

Exotics to be treated include, but are not limited to, the 21 species of prohibited invasive exotic species listed in Section 10-420(h) of the LDC (Table 1). The preserves will be maintained free of invasive exotics listed in Table 1 in perpetuity.

Table 1. Prohibited Invasive Exotics

Common Name	Scientific Name
Air potato	<i>Dioscorea alata</i>
Australian pines	All <i>Casuarina</i> species
Bishopwood	<i>Bischofia javanica</i>
Brazilian pepper	<i>Schinus terebinthifolius</i>
Carrotwood	<i>Cupaniopsis anacardioides</i>
Chinese tallow	<i>Sapium sebiferum</i>
Cork tree	<i>Thespesia populnea</i>
Cuban laurel fig	<i>Ficus microcarpa</i>
Downy rose-myrtle	<i>Rhodomyrtus tomentosus</i>

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Table 1. (Continued)

Common Name	Scientific Name
Earleaf acacia	<i>Acacia auriculiformis</i>
Japanese climbing fern	<i>Lygodium japonicum</i>
Java plum	<i>Syzygium cumini</i>
Melaleuca	<i>Melaleuca quinquenervia</i>
Murray red gum	<i>Eucalyptus camaldulensis</i>
Old World climbing fern	<i>Lygodium microphyllum</i>
Rose apple	<i>Syzygium jambos</i>
Rosewood	<i>Dalbergia sissoo</i>
Tropical soda apple	<i>Solanum viarum</i>
Wedelia	<i>Wedelia trilobata</i>
Weeping fig	<i>Ficus benjamina</i>
Woman's tongue	<i>Albizia lebbek</i>

3.3 Debris Removal

Exotic vegetative debris will be removed from the indigenous preserves within 100 feet of development areas. In areas beyond 100 feet from the development line, and where the density of exotics is less than 50 percent, if it is determined that existing trails into the preserve allow for the removal of exotic debris by truck, then this option may be pursued. If vehicle access is not available, trees greater than four inches DBH will be girdled, treated with approved herbicide and left standing, or vegetative debris will be cut and stacked in piles at approximately 100 foot intervals. If left on the site, smaller cuttings will be stacked butt end to the ground into a nearly vertical position (i.e., teepee method). Larger cuttings will be cut and stacked side by side into an area approximately 6 feet on a side. Cuttings will be stacked perpendicular to the previous layer up to a height of approximately 4 feet (i.e., log cabin method).

4.0 EXISTING NON-INDIGENOUS VEGETATION HABITATS

The following are the existing on-site wetland and upland vegetative communities that are not used in the indigenous vegetation preserve calculations for the Project. Enhancement and restoration activities will be conducted in accordance with the Wetland Mitigation/Monitoring/Maintenance Plan (to be approved as part of SFWMD ERP Application No. 140516-10). Habitats with 50 to 75 percent exotics meet the County's definition of indigenous vegetation. However, they are not included in the indigenous vegetation calculations due to the proposed use of mechanical equipment to aid in the removal of exotics, as preferred by the SFWMD. The areas not used in the indigenous vegetation preserve calculations are identified as "non-indigenous" on the map provided

as Appendix A. Existing non-indigenous wetlands within the conservation areas total 459± acres and non-indigenous uplands total 164± acres.

4.1 Non-Indigenous Wetland Habitats

Brazilian Pepper, Hydric (FLUCFCS Code 4221)

The canopy and sub-canopy of this wetland area are dominated by Brazilian pepper. The ground cover typically contains water pennywort and Asiatic pennywort.

Melaleuca, Hydric (FLUCFCS Code 4241)

The canopy of this wetland area is dominated by melaleuca. The sub-canopy contains melaleuca with scattered slash pine, wax myrtle, and myrsine. The ground cover typically includes muhly grass (*Muhlenbergia capillaris*), Asiatic pennywort, torpedograss, broomsedge, yellow-eyed grass (*Xyris* sp.), fingergrass (*Eustachys* sp.), blue maidencane, nutrush (*Scleria* sp.), beaksedge, and knotroot foxtail. Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

Cypress, Disturbed (50-75% Exotics) (FLUCFCS Code 6219 E3)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6219 E2 with 50 to 75 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Cypress, Disturbed (76-100% Exotics) (FLUCFCS Code 6219 E4)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6219 E3 with 76 to 100 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Cypress/Pine/Cabbage Palm, Disturbed (50-75% Exotics) (FLUCFCS Code 6249 E3)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6249 E2 with 50 to 75 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Cypress/Pine/Cabbage Palm, Disturbed (76-100% Exotics) (FLUCFCS Code 6249 E4)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6249 E3 with 76 to 100 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Pine, Hydric, Disturbed (50-75% Exotics) (FLUCFCS Code 6259 E3)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6259 E2 with 50 to 75 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy. Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

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Pine, Hydric, Disturbed (76-100% Exotics) (FLUCFCS Code 6259 E4)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6259 E3 with 76 to 100 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy. Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

Wetland Shrub, Disturbed (76-100% Exotics) (FLUCFCS Code 6319 E4)

The vegetation composition in this wetland community is similar to FLUCFCS Code 6319 E2 with 76 to 100 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Freshwater Marsh, Disturbed (50-75% Exotics) (FLUCFCS Code 6419 E3)

The vegetation composition in this wetland community is similar to FLUCFCS Code 6419 E2 with 50 to 75 percent coverage by melaleuca, torpedograss, and/or cattail.

Wet Prairies, Disturbed (50-75% Exotics) (FLUCFCS Code 6439 E3)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6439 E2 with 50 to 75 percent coverage by melaleuca and torpedograss.

Wet Prairies, Disturbed (76-100% Exotics) (FLUCFCS Code 6439 E4)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6439 E3 with 76 to 100 percent coverage by melaleuca and torpedograss.

Disturbed Land, Hydric (FLUCFCS Code 7401)

The canopy and sub-canopy of this wetland area are mostly open with scattered melaleuca, slash pine, and wax myrtle. The ground cover includes torpedograss, beaksedge, white-top sedge, knotroot foxtail, rosy camphorweed, Leavenworth's tickseed, frog-fruit, dog fennel (*Eupatorium capillifolium*), and yellow-eyed grass. Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

4.2 Non-Indigenous Upland HabitatsMine (FLUCFCS Code 168)

This code denotes areas used for an inactive limerock mining operation. Portions remain devoid of vegetation and other areas have since re-vegetated with various combinations of trees, shrubs, and ground cover species common to disturbed areas. Where present, the canopy consists of scattered melaleuca, lead tree (*Leucaena leucocephala*), Australian pine, and live oak. The sub-canopy is similar to the canopy with scattered wax myrtle and willow. The ground cover is dominated by cogongrass (*Imperata cylindrica*) and spermacoce.

Unimproved Pasture (FLUCFCS Code 212)

This code is used to identify upland pasture that is no longer maintained or used for cattle grazing. The canopy is open or may contain scattered cabbage palm. The sub-canopy consists of cabbage palm, melaleuca, Brazilian pepper, and wax myrtle. The ground

cover includes bahiagrass (*Paspalum notatum*), dog fennel, broomsedge, and horseweed (*Conyza canadensis*).

Palmetto Prairie, Disturbed (50-75% Exotics) (FLUCFCS Code 3219 E3)

The vegetation composition of this upland community is similar to FLUCFCS Code 3219 E2 with 50 to 75 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Palmetto Prairie, Disturbed (76-100% Exotics) (FLUCFCS Code 3219 E4)

The vegetation composition of this upland community is similar to FLUCFCS Code 3219 E3 with 76 to 100 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Pine Flatwoods, Disturbed (50-75% Exotics) (FLUCFCS Code 4119 E3)

The vegetation composition of this upland community is similar to FLUCFCS Code 4119 E2 with 50 to 75 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy. Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

Pine Flatwoods, Disturbed (76-100% Exotics) (FLUCFCS Code 4119 E4)

The vegetation composition of this upland community is similar to FLUCFCS Code 4119 E3 with 76 to 100 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Pine, Disturbed (76-100% Exotics) (FLUCFCS Code 4159 E4)

The vegetation composition of this upland community is similar to FLUCFCS Code 4159 E2 with 76 to 100 percent melaleuca in the canopy and sub-canopy. Small portions of this habitat type on-site are currently being restored per Lee County Compliance Agreement dated July 20, 2012.

Brazilian Pepper (FLUCFCS Code 422)

The canopy and sub-canopy of this upland area are dominated by Brazilian pepper. The ground cover is typically open.

Melaleuca (FLUCFCS Code 424)

The canopy and sub-canopy of this upland area are dominated by melaleuca with scattered slash pine, wax myrtle, myrsine, and Brazilian pepper. The ground cover typically includes Bermuda grass (*Cynodon dactylon*) with scattered saw palmetto and Brazilian pepper.

Wax Myrtle (76-100% Exotics) (FLUCFCS Code 429 E4)

The canopy of this upland habitat is mostly open with scattered slash pine and melaleuca. The sub-canopy is dominated by wax myrtle with scattered saltbush, Brazilian pepper, and melaleuca. Ground cover includes scattered torpedograss, dog fennel, muscadine grapevine, and melaleuca.

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Hardwood/Conifer Mixed, Disturbed (50-75% Exotics) (FLUCFCS Code 4349 E3)

The vegetation composition of this upland community is similar to FLUCFCS Code 4349 E1 with 50 to 75 percent melaleuca and/or Brazilian pepper in the canopy and sub-canopy.

Disturbed Land (FLUCFCS Code 740)

The canopy and sub-canopy of this upland area are mostly open with melaleuca, Brazilian pepper, and slash pine. The ground cover includes frog-fruit, bahiagrass, beggar-ticks (*Bidens alba*), big carpetgrass (*Axonopus furcatus*), cogongrass, richardia (*Richardia* sp.), and spermacoce.

Spoil Area (FLUCFCS Code 743)

The canopy of this upland area consists of melaleuca, and the sub-canopy consists of Brazilian pepper, myrsine, and cabbage palm. The ground cover includes saw palmetto, broomsedge, Brazilian pepper, and Bermuda grass.

Berm (FLUCFCS Code 747)

The canopy of this upland area consists of scattered willow, slash pine, melaleuca, cabbage palm, and laurel oak. The sub-canopy consists of wax myrtle, slash pine, and Brazilian pepper. The ground cover is mostly open with scattered saw palmetto and spermacoce.

5.0 ENHANCEMENT OF NON-INDIGENOUS AREAS

Wetland and upland enhancement and restoration activities will be conducted in highly disturbed and exotic infested areas on-site in accordance with the Wetland Mitigation/Monitoring/Maintenance Plan (to be approved as part of SFWMD ERP Application No. 140516-10). The locations of these areas are shown on Appendix A.

5.1 Non-Indigenous Wetland and Upland Enhancement

Approximately 623 acres of wetland and upland areas that are not needed to meet the indigenous vegetation requirement will be enhanced by the removal of exotic species and supplemental plantings of native vegetative species. Mechanical equipment may be utilized to assist in the removal of exotic species in these areas. The vegetative debris will be removed from these areas in order to allow for successful supplemental plantings. Existing vehicle trails will be used, as available, to access remote areas of the preserve. All efforts will be made to preserve native trees when conducting the exotic removal with mechanized equipment. To minimize adverse impacts to the ground surface, machinery that exerts a relatively low impact on the ground surface (i.e., tracked skid steer, feller buncher) will be utilized within the mechanical removal areas. The non-indigenous wetland and upland enhancement areas are identified in Appendix A.

Wetland enhancement activities will occur in 459± acres of non-indigenous wetlands. Wetland plantings will be selected to replace the type of native vegetation that occurs in the adjacent or nearby wetland habitats. Wetland tree plantings will include a minimum

of three of the six tree species listed in Table 2, shrub plantings will include a minimum of two of the five species listed in Table 2, and ground cover plantings will include a minimum of six of the ten ground cover species listed in Table 2. The species selected for planting will depend on market availability at the time the plantings are to occur.

Table 2. Supplemental Wetland Planting List

Common Name	Scientific Name	Minimum Height	Minimum Container Size	Planting Instruction (On Center)
Tree Plantings (at least 3 species)				
Cypress	<i>Taxodium</i> sp.	5 ft.	3 gal.	15 ft.
Dahoon Holly	<i>Ilex cassine</i>	5 ft.	3 gal.	15 ft.
Pop Ash	<i>Fraxinus caroliniana</i>	5 ft.	3 gal.	15 ft.
Red Maple	<i>Acer rubrum</i>	5 ft.	3 gal.	15 ft.
Slash Pine	<i>Pinus elliottii</i>	5 ft.	3 gal.	15 ft.
Laurel Oak	<i>Quercus laurifolia</i>	5 ft.	3 gal.	15 ft.
Shrub Plantings (at least 2 species)				
Wax Myrtle	<i>Myrica cerifera</i>	3 ft.	1 gal.	10 ft.
Myrsine	<i>Myrsine cubana</i>	3 ft.	1 gal.	10 ft.
Gallberry	<i>Ilex glabra</i>	3 ft.	1 gal.	10 ft.
Buttonbush	<i>Cephalanthus occidentalis</i>	3 ft.	1 gal.	10 ft.
Pond Apple	<i>Annona glabra</i>	3 ft.	1 gal.	10 ft.
Ground Cover Plantings (at least 6 species)				
Cordgrass	<i>Spartina bakeri</i>	12 in.	2 in.	5 ft.
Wiregrass	<i>Aristida stricta</i>	12 in.	2 in.	5 ft.
Gulfdune Paspalum	<i>Paspalum monostachyum</i>	12 in.	2 in.	5 ft.
Muhly Grass	<i>Muhlenbergia capillaris</i>	12 in.	2 in.	5 ft.
Sawgrass	<i>Cladium jamaicense</i>	12 in.	2 in.	5 ft.
Blue Maidencane	<i>Amphicarpum muhlenbergianum</i>	12 in.	2 in.	5 ft.
Swamp Lily	<i>Crinum americanum</i>	12 in.	2 in.	5 ft.
Maidencane	<i>Panicum hemitomon</i>	12 in.	2 in.	5 ft.
Spikerush	<i>Eleocharis interstincta</i>	12 in.	2 in.	5 ft.
Pickerelweed	<i>Pontederia cordata</i>	12 in.	2 in.	5 ft.

Upland enhancement activities will occur in 164± acres of non-indigenous uplands. Upland plantings will be selected to replace the type of native vegetation that occurs in the adjacent or nearby upland habitats. Upland tree plantings will include a minimum of three of the five tree species listed in Table 3, and ground cover plantings will include a minimum of four of the six ground cover species listed in Table 3. The species selected for planting will depend on market availability at the time the plantings are to occur.

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Table 3. Supplemental Upland Planting List

Common Name	Scientific Name	Minimum Height	Minimum Container Size	Planting Instruction (On Center)
Tree Plantings (at least 3 species)				
Slash Pine	<i>Pinus elliottii</i>	6 ft.	3 gal.	15 ft.
Cabbage Palm	<i>Sabal palmetto</i>	6 ft.	3 gal.	15 ft.
Live Oak	<i>Quercus virginiana</i>	6 ft.	3 gal.	15 ft.
Gumbo-Limbo	<i>Bursera simaruba</i>	6 ft.	3 gal.	15 ft.
Dahoon Holly	<i>Ilex cassine</i>	6 ft.	3 gal.	15 ft.
Ground Cover Plantings (at least 4 species)				
Saw Palmetto	<i>Serenoa repens</i>	12 in.	2 in.	5 ft.
Cordgrass	<i>Spartina bakeri</i>	12 in.	2 in.	5 ft.
Muhly Grass	<i>Muhlenbergia capillaris</i>	12 in.	2 in.	5 ft.
Wiregrass	<i>Aristida stricta</i>	12 in.	2 in.	5 ft.
Broomgrass	<i>Andropogon virginicus</i>	12 in.	2 in.	5 ft.
Wild Coffee	<i>Psychotria</i> sp.	12 in.	2 in.	5 ft.

5.2 Upland Restoration

Upland restoration will be conducted in 59± acres of farm fields, mining lands, ditches cut through uplands, and other disturbed lands. Restoration will consist of the removal of fill material, removal of berms and backfilling of ditches, grading, and planting. These areas will be graded, as needed, to match existing upland ground elevations. Once the grading activities are completed, native tree and ground cover plantings will be installed using the plant species and planting specifications listed in Table 3. The goal of the upland restoration is to achieve native plant communities including, but not limited to, pine forest and palmetto prairie.

Seeding to establish upland ground cover may be used as an alternative to installing ground cover plantings within the upland restoration areas. After the ground surface has been mechanically cleared and graded, one to two herbicide applications will be conducted to eliminate undesirable ground cover species. After the herbicide has been successfully applied, the ground surface will be prepared for seeding using a disking and rolling method. Once the ground surface has been fully prepared, seeding with native ground cover will occur in the upland restoration areas. The seed source will be obtained from and applied by a professional experienced with direct seeding as a method of upland restoration. The seed source will be harvested from a local area and will include a mixture of regionally-appropriate native graminoid species. The seed source mixture will include a variety of species to optimize ground cover diversity to the maximum extent possible. Upland tree and shrub species will be planted in accordance with Table 3 after seeding has established a native ground cover. Supplemental ground cover planting will be conducted in accordance with Table 3 in areas where the seeding does not establish appropriately.

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5.3 Wetland Restoration – Removal of Haul Roads and Berms

Approximately 6 acres of wetland restoration will be conducted by the removal of an elevated mining haul road that crosses the northern slough and by the removal of berms and backfilling of ditches that were cut through wetlands. The haul road currently occupies 3± acres. The remaining 3± acres of wetland restoration will occur in areas currently occupied by berms, ditches, and other disturbed lands that were historically constructed through wetlands. The locations of the wetland restoration areas are shown on Appendix A.

Restoration will consist of the removal of the fill material, backfilling of ditches where needed, grading, and planting. Prior to grading, the limits of grading will be flagged for review and approval by SFWMD staff. These areas will be graded to match existing ground elevations in the adjacent wetlands. An as-built survey of the graded site will be performed to ensure the desired elevations have been obtained. After review and approval of the final grades by SFWMD staff, the areas will be planted using plant species and planting specifications listed in Table 4. Plantings will be selected to replace the type of native herbaceous vegetation that occurs in the adjacent or nearby wetland habitats. The goal of the removal and restoration of the haul road areas is to achieve native plant communities including, but not limited to, wet prairie and freshwater marsh.

5.4 Wetland Creation

The Project's Wetland Mitigation/Monitoring/Maintenance Plan (to be approved as part of SFWMD ERP Application No. 140516-10) also includes 94± acres of herbaceous wetland creation. Wetlands will be created from existing farm fields, berms and ditches in locations shown on Appendix A. Prior to clearing and grading, the limits of grading will be flagged for review and approval by SFWMD staff. After exotic vegetation has been removed, the cleared areas will be graded to wetland elevations. The grading plan for these areas will include the establishment of wading bird foraging habitat. These areas will be graded to varying depths to allow the concentration of prey for wading birds at alternating times of the year as water levels seasonally rise and recede. If available, a six inch layer of wetland topsoil will be spread on the graded area to achieve final grades. Due to the presence of exotic and nuisance species within the potential donor sites (i.e., impact areas), it is not anticipated wetland topsoil will be available for use in the graded areas. An as-built survey of the graded site will be performed to ensure the desired elevations have been obtained. After review and approval of the final grades by SFWMD staff, the area will be planted using the species and planting specifications listed in Table 4. The species selected for planting will depend on market availability at the time the plantings are to occur.

5.5 Northeast Flow-Way Enhancement

At the request of County staff, the hydrology of the Stewart Slough in the northeast preserve area will be enhanced. Hydrologic enhancement will consist of removing exotics, re-grading, and planting approximately 11 acres of wetlands to facilitate the flow

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of water from the Alico Road culverts in the northeast portion of the preserve through the slough system to the southwest. The area to be re-graded and planted currently has greater than 75 percent coverage by exotic vegetation. Following exotic removal, these areas will be re-graded to wetland elevations and planted with native herbaceous vegetation consistent with freshwater marsh systems in Southwest Florida. The location of the flow-way enhancement area is shown on Appendix A.

Prior to grading, the limits of grading will be flagged for review and approval by County and SFWMD staff. These areas will be graded to match existing ground elevations in the adjacent wetlands. An as-built survey of the graded site will be performed to ensure the desired elevations have been obtained. After review and approval of the final grades by staff, the areas will be planted using plant species and planting specifications listed in Table 4. Plantings will be selected to replace the type of native herbaceous vegetation that occurs in the adjacent or nearby wetland habitats.

Table 4. Planting List for Wetland Restoration and Creation Areas

Common Name	Scientific Name	Minimum Height	Minimum Container Size	Planting Density (On Center)
Cordgrass	<i>Spartina bakeri</i>	12 in.	4 in.	3 ft.
Gulfdune Paspalum	<i>Paspalum monostachyum</i>	12 in.	4 in.	3 ft.
Blue Maidencane	<i>Amphicarpum muhlenbergianum</i>	12 in.	2 in.	3 ft.
Maidencane	<i>Panicum hemitomon</i>	12 in.	2 in.	3 ft.
Pickernelweed	<i>Pontederia cordata</i>	12 in.	2 in.	3 ft.
Arrowhead	<i>Sagittaria lancifolia</i>	12 in.	2 in.	3 ft.
Spikerush	<i>Eleocharis interstincta</i>	12 in.	2 in.	3 ft.
Sawgrass	<i>Cladium jamaicense</i>	12 in.	2 in.	3 ft.
Alligator Flag	<i>Thalia geniculata</i>	12 in.	2 in.	3 ft.
Giant Bulrush	<i>Scirpus californicus</i>	12 in.	2 in.	3 ft.
Spatter-Dock	<i>Nyphar luteum</i>	24 in.	1 gal.	15 ft.
Waterlily	<i>Nymphaea odorata</i>	24 in.	1 gal.	15 ft.
Floating-hearts	<i>Nymphoides aquatic</i>	24 in.	1 gal.	15 ft.

6.0 MONITORING REPORTS

A monitoring report documenting the initial condition of the conservation areas will be submitted to Lee County Division of Environmental Sciences (DES) staff prior to development order approval. A similar report will be submitted to DES staff for each mitigation phase after the initial exotic removal and restoration activities have been completed and prior to Certificate of Compliance approval. Reports will also include a brief description of anticipated maintenance work to be conducted over the next year.

The results of quantitative vegetation monitoring conducted in the conservation areas, as well as a list of observed wildlife species, will also be included.

The applicant will submit five annual monitoring reports for each mitigation phase describing the conditions of the conservations areas to DES. The monitoring reports will include mortality of vegetation, estimated causes of mortality, growth of the vegetation and other factors that demonstrate the functional health of the conservations areas, and photograph stations. Periodic inspections will be conducted by Lee County DES staff to ensure the accuracy of the monitoring reports.

7.0 PRESERVE SIGNAGE

Signs identifying the preserve as a “nature preserve area” will be installed along the boundary of the preserve. The signage will include language stating, “No dumping allowed.” The signs will be no closer than ten feet from residential property lines, be limited to a maximum height of four feet and a maximum size of two square feet. The approximate locations of the preserve signs are depicted on Appendix A and a typical preserve sign is attached as Appendix B.

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8.0 REFERENCES

Florida Department of Transportation. 1999. Florida Land Use, Cover and Forms Classification System. Procedure No. 550-010-001-a. Third Edition.

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APPENDIX A

LEE COUNTY INDIGENOUS VEGETATION PLAN

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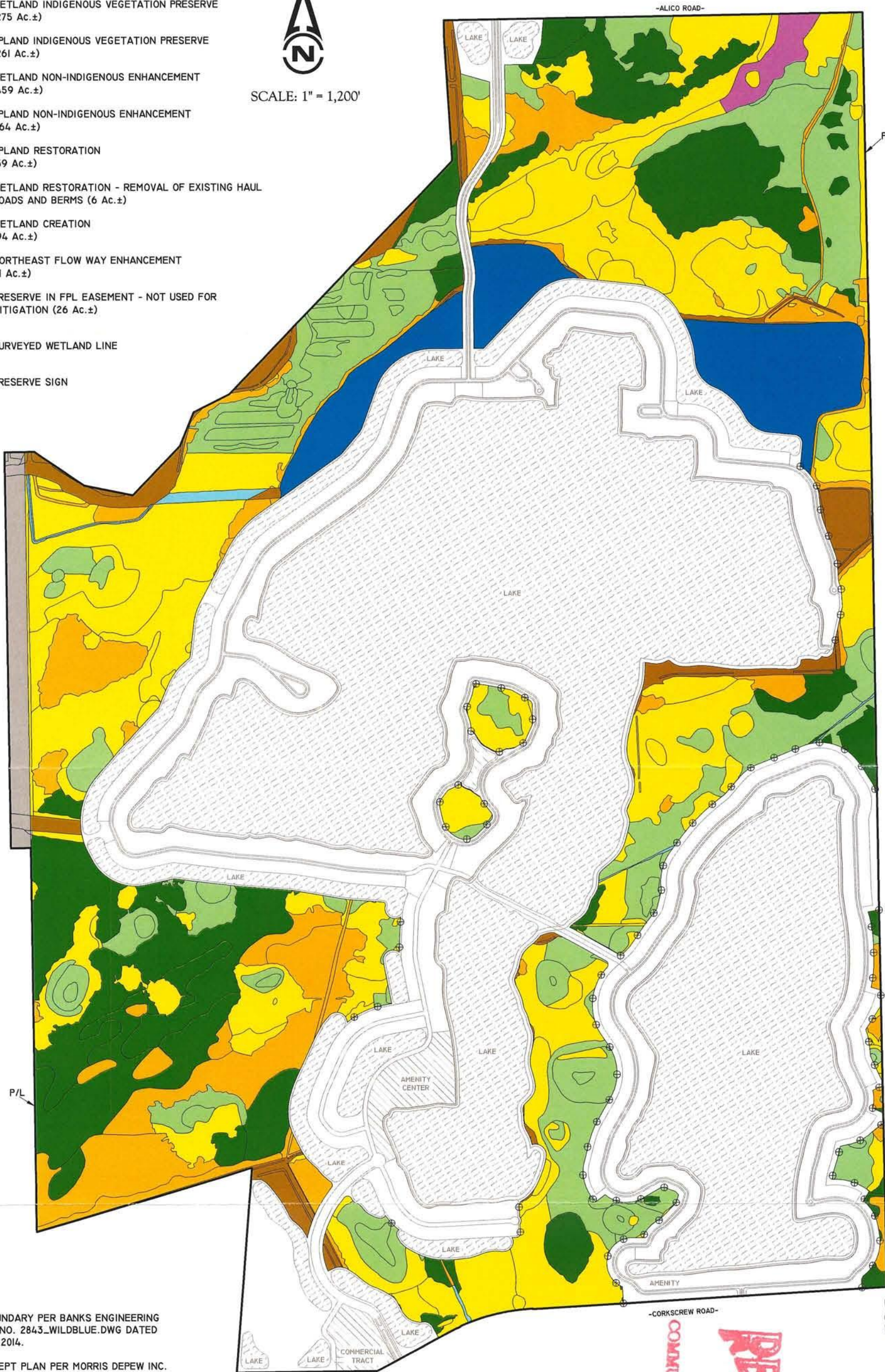
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- LEGEND:
- WETLAND INDIGENOUS VEGETATION PRESERVE (275 Ac.±)
 - UPLAND INDIGENOUS VEGETATION PRESERVE (261 Ac.±)
 - WETLAND NON-INDIGENOUS ENHANCEMENT (459 Ac.±)
 - UPLAND NON-INDIGENOUS ENHANCEMENT (164 Ac.±)
 - UPLAND RESTORATION (59 Ac.±)
 - WETLAND RESTORATION - REMOVAL OF EXISTING HAUL ROADS AND BERMS (6 Ac.±)
 - WETLAND CREATION (94 Ac.±)
 - NORTHEAST FLOW WAY ENHANCEMENT (11 Ac.±)
 - PRESERVE IN FPL EASEMENT - NOT USED FOR MITIGATION (26 Ac.±)
- ✓ SURVEYED WETLAND LINE
- ⊕ PRESERVE SIGN

SCALE: 1" = 1,200'



NOTES:

PROPERTY BOUNDARY PER BANKS ENGINEERING INC. DRAWING NO. 2843_WILDBLUE.DWG DATED FEBRUARY 28, 2014.

MASTER CONCEPT PLAN PER MORRIS DEPEW INC. DRAWING NO. 12037 2014-12-17 MASTER CONCEPT PLAN.DWG DATED DECEMBER 17, 2014.

SURVEYED WETLAND LINES PER STOUTENCRAMER, INC. DRAWING NO. ALICO FIELD LOCATION.DWG DATED MAY 20, 2013.

LAKE LIMITS PER STOUTENCRAMER, INC. DRAWING NO. ALICO LAKES-BENCHMARKS.DWG DATED JULY 10, 2013.

DRAWN BY	H.H./F.L.	DATE	3/28/14	13620 Metropolis Avenue
REVIEWED BY	K.C.P.	DATE	3/28/14	Suite 200
REVISED	H.H.	DATE	12/18/14	Fort Myers, Florida 33912
				Phone (239) 274-0067
				Fax (239) 274-0069



PASSARELLA & ASSOCIATES

WILDBLUE
LEE COUNTY INDIGENOUS
VEGETATION PLAN

DRAWING No.	12PEG2120
SHEET No.	APPENDIX A

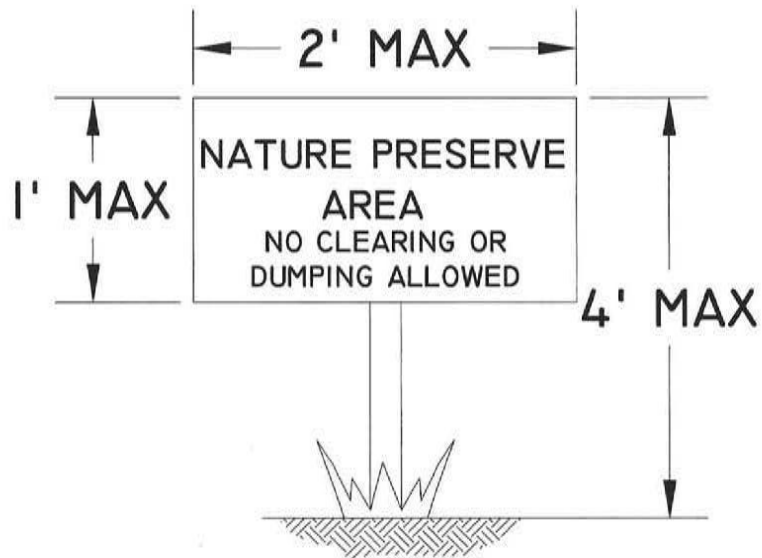
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APPENDIX B
TYPICAL PRESERVE SIGNAGE

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**TYPICAL
PRESERVE SIGNAGE**
N.T.S.

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APPENDIX B. TYPICAL PRESERVE SIGNAGE
WILDBLUE

DRAWN BY	DATE
H.H.	6/2/14
REVIEWED BY	DATE
C.G.R.	6/2/14
REVISED	DATE



**PASSARELLA
& ASSOCIATES INC**

**WILDBLUE
MITIGATION ACTIVITY SCHEDULE
BY MITIGATION AREA**

Revised May 2015

Activities associated with the implementation of the wetland mitigation, monitoring, and maintenance shall be in accordance with the following work schedule. Mitigation Areas are listed in the sequence that the mitigation work is anticipated to occur.

Proposed Completion Date	Mitigation Activity
Mitigation Area GH (344± Acres)	
January 31, 2016	Submit Baseline Monitoring Report
February 1, 2016	Commence Enhancement Activities
June 30, 2016	Complete Enhancement Activities
August 31, 2016	Submit Time-Zero Monitoring Report
August 31, 2017	Submit First Annual Monitoring Report
August 31, 2018	Submit Second Annual Monitoring Report
August 31, 2019	Submit Third Annual Monitoring Report
August 31, 2020	Submit Fourth Annual Monitoring Report
August 31, 2021	Submit Fifth Annual Monitoring Report
Mitigation Area J (189± Acres)	
January 31, 2017	Submit Baseline Monitoring Report
February 1, 2017	Commence Enhancement Activities
June 30, 2017	Complete Enhancement Activities
August 31, 2017	Submit Time-Zero Monitoring Report
August 31, 2018	Submit First Annual Monitoring Report
August 31, 2019	Submit Second Annual Monitoring Report
August 31, 2020	Submit Third Annual Monitoring Report
August 31, 2021	Submit Fourth Annual Monitoring Report
July 31, 2022	Submit Fifth Annual Monitoring Report
Mitigation Area F (354± Acres)	
January 31, 2018	Submit Baseline Monitoring Report
February 1, 2018	Commence Enhancement Activities
June 30, 2018	Complete Enhancement Activities
August 31, 2018	Submit Time-Zero Monitoring Report
August 31, 2019	Submit First Annual Monitoring Report

Mitigation Activity Schedule by Mitigation Area (Continued)

Proposed Completion Date	Mitigation Activity
Mitigation Area F (354± Acres) (Continued)	
August 31, 2020	Submit Second Annual Monitoring Report
August 31, 2021	Submit Third Annual Monitoring Report
August 31, 2022	Submit Fourth Annual Monitoring Report
August 31, 2023	Submit Fifth Annual Monitoring Report
Mitigation Area I (113± Acres)	
January 31, 2019	Submit Baseline Monitoring Report
February 1, 2019	Commence Enhancement Activities
June 30, 2019	Complete Enhancement Activities
August 31, 2019	Submit Time-Zero Monitoring Report
August 31, 2020	Submit First Annual Monitoring Report
August 31, 2021	Submit Second Annual Monitoring Report
August 31, 2022	Submit Third Annual Monitoring Report
August 31, 2023	Submit Fourth Annual Monitoring Report
August 31, 2024	Submit Fifth Annual Monitoring Report
Mitigation Area E (254± Acres)	
January 31, 2020	Submit Baseline Monitoring Report
February 1, 2020	Commence Enhancement Activities
June 30, 2020	Complete Enhancement Activities
August 31, 2020	Submit Time-Zero Monitoring Report
August 31, 2021	Submit First Annual Monitoring Report
August 31, 2022	Submit Second Annual Monitoring Report
August 31, 2023	Submit Third Annual Monitoring Report
August 31, 2024	Submit Fourth Annual Monitoring Report
August 31, 2025	Submit Fifth Annual Monitoring Report
Mitigation Area CD (50± Acres)	
January 31, 2021	Submit Baseline Monitoring Report
February 1, 2021	Commence Enhancement Activities
June 30, 2021	Complete Enhancement Activities
August 31, 2021	Submit Time-Zero Monitoring Report
August 31, 2022	Submit First Annual Monitoring Report
August 31, 2023	Submit Second Annual Monitoring Report

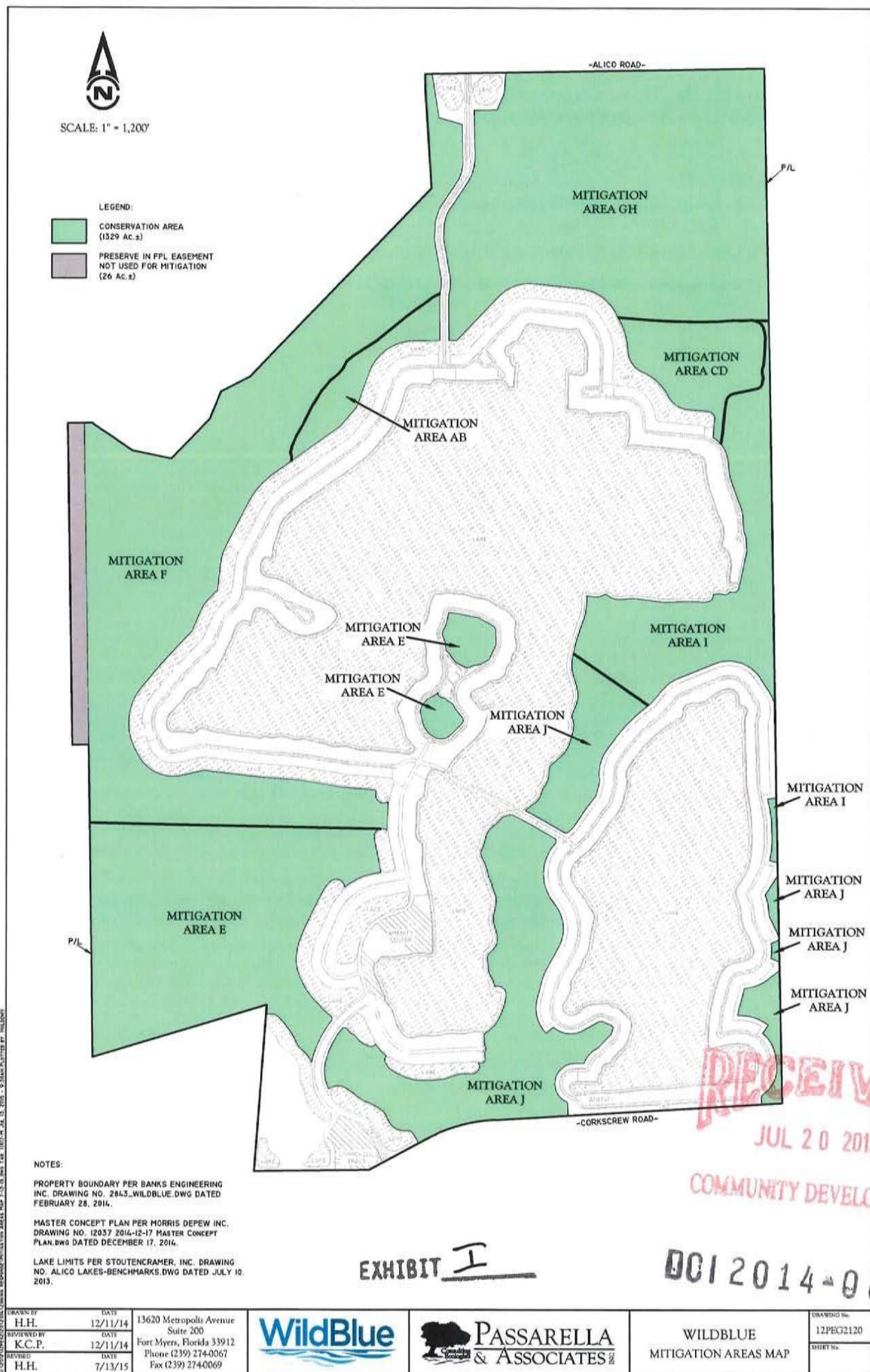
DCI 2014-00009

Mitigation Activity Schedule by Mitigation Area (Continued)

Proposed Completion Date	Mitigation Activity
Mitigation Area CD (50± Acres) (Continued)	
August 31, 2024	Submit Third Annual Monitoring Report
August 31, 2025	Submit Fourth Annual Monitoring Report
August 31, 2026	Submit Fifth Annual Monitoring Report
Mitigation Area AB (25± Acres)	
January 31, 2022	Submit Baseline Monitoring Report
February 1, 2022	Commence Enhancement Activities
June 30, 2022	Complete Enhancement Activities
August 31, 2022	Submit Time-Zero Monitoring Report
August 31, 2023	Submit First Annual Monitoring Report
August 31, 2024	Submit Second Annual Monitoring Report
August 31, 2025	Submit Third Annual Monitoring Report
August 31, 2026	Submit Fourth Annual Monitoring Report
August 31, 2027	Submit Fifth Annual Monitoring Report

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DCI 2014-00009





Five Steps in the Design of a Water Quality Monitoring Plan

1. Define Information Expectations

- a) Determine water quality concerns and management goals.
- b) Identify statistical methods to be used.
- c) State statistical conclusions to be drawn & how conclusions relate to monitoring goals.
- d) Describe means of reporting conclusions

2. Confirm Statistical Design Criteria

- a) Statistically characterize water quality of population to be sampled.
- b) State if assumptions of chosen statistical methods are met.

3. Design Monitoring Network

- a) What to measure (analytes).
- b) Define the Data Quality Objectives (DQO).
- c) How frequently to sample (monthly, quarterly)
- d) Where to sample (cells, grids, EMAP, fixed structures)

4. Develop Operating Plans and Procedures

- a) Sampling routes, equipment, training, etc.
- b) Field sampling and analysis procedures.
- c) Sample preservation and transportation.
- d) Laboratory analyses and QA procedures.
- e) Data Verification Protocols.
- f) Data storage and retrieval
- g) Data analysis software for chosen statistical methods.

5. Develop Information Reporting Procedures

- a) Type, format & frequency of reporting.
- b) Distribution of reports.
- c) Automation of reporting.
- d) Evaluation of information relative to expectations defined in step 1.

DCI 2014-00009
EXHIBIT J

MORRIS

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Area in which existing berm is to remain, subject to approval by permitting agencies.



Area in which existing berm is to remain, subject to approval by permitting agencies.

Berm to Remain

EXHIBIT K

EXHIBIT D

**WILDBLUE
MITIGATION ACTIVITY SCHEDULE
BY MITIGATION AREA**

Revised December 2017

Activities associated with the implementation of the wetland mitigation, monitoring, and maintenance shall be in accordance with the following work schedule. Mitigation Areas are listed in the sequence that the mitigation work is anticipated to occur.

Proposed Completion Date	Mitigation Activity
Mitigation Area GH (344± Acres)	
January 31, 2018	Submit Baseline Monitoring Report
February 1, 2018	Commence Enhancement Activities
June 30, 2018	Complete Enhancement Activities
August 31, 2018	Submit Time-Zero Monitoring Report
August 31, 2019	Submit First Annual Monitoring Report
August 31, 2020	Submit Second Annual Monitoring Report
August 31, 2021	Submit Third Annual Monitoring Report
August 31, 2022	Submit Fourth Annual Monitoring Report
August 31, 2023	Submit Fifth Annual Monitoring Report
Mitigation Area J (189± Acres)	
January 31, 2019	Submit Baseline Monitoring Report
February 1, 2019	Commence Enhancement Activities
June 30, 2019	Complete Enhancement Activities
August 31, 2019	Submit Time-Zero Monitoring Report
August 31, 2020	Submit First Annual Monitoring Report
August 31, 2021	Submit Second Annual Monitoring Report
August 31, 2022	Submit Third Annual Monitoring Report
August 31, 2023	Submit Fourth Annual Monitoring Report
July 31, 2024	Submit Fifth Annual Monitoring Report
Mitigation Area F (354± Acres)	
January 31, 2020	Submit Baseline Monitoring Report
February 1, 2020	Commence Enhancement Activities
June 30, 2020	Complete Enhancement Activities
August 31, 2020	Submit Time-Zero Monitoring Report

Mitigation Activity Schedule by Mitigation Area (Continued)

Proposed Completion Date	Mitigation Activity
Mitigation Area F (354± Acres) (Continued)	
August 31, 2021	Submit First Annual Monitoring Report
August 31, 2022	Submit Second Annual Monitoring Report
August 31, 2023	Submit Third Annual Monitoring Report
August 31, 2024	Submit Fourth Annual Monitoring Report
August 31, 2025	Submit Fifth Annual Monitoring Report
Mitigation Area I (113± Acres)	
January 31, 2021	Submit Baseline Monitoring Report
February 1, 2021	Commence Enhancement Activities
June 30, 2021	Complete Enhancement Activities
August 31, 2021	Submit Time-Zero Monitoring Report
August 31, 2022	Submit First Annual Monitoring Report
August 31, 2023	Submit Second Annual Monitoring Report
August 31, 2024	Submit Third Annual Monitoring Report
August 31, 2025	Submit Fourth Annual Monitoring Report
August 31, 2026	Submit Fifth Annual Monitoring Report
Mitigation Area E (254± Acres)	
January 31, 2022	Submit Baseline Monitoring Report
February 1, 2022	Commence Enhancement Activities
June 30, 2022	Complete Enhancement Activities
August 31, 2022	Submit Time-Zero Monitoring Report
August 31, 2023	Submit First Annual Monitoring Report
August 31, 2024	Submit Second Annual Monitoring Report
August 31, 2025	Submit Third Annual Monitoring Report
August 31, 2026	Submit Fourth Annual Monitoring Report
August 31, 2027	Submit Fifth Annual Monitoring Report
Mitigation Area CD (50± Acres)	
January 31, 2023	Submit Baseline Monitoring Report
February 1, 2023	Commence Enhancement Activities
June 30, 2023	Complete Enhancement Activities
August 31, 2023	Submit Time-Zero Monitoring Report
August 31, 2024	Submit First Annual Monitoring Report

Mitigation Activity Schedule by Mitigation Area (Continued)

Proposed Completion Date	Mitigation Activity
Mitigation Area CD (50± Acres) (Continued)	
August 31, 2025	Submit Second Annual Monitoring Report
August 31, 2026	Submit Third Annual Monitoring Report
August 31, 2027	Submit Fourth Annual Monitoring Report
August 31, 2028	Submit Fifth Annual Monitoring Report
Mitigation Area AB (25± Acres)	
January 31, 2024	Submit Baseline Monitoring Report
February 1, 2024	Commence Enhancement Activities
June 30, 2024	Complete Enhancement Activities
August 31, 2024	Submit Time-Zero Monitoring Report
August 31, 2025	Submit First Annual Monitoring Report
August 31, 2026	Submit Second Annual Monitoring Report
August 31, 2027	Submit Third Annual Monitoring Report
August 31, 2028	Submit Fourth Annual Monitoring Report
August 31, 2029	Submit Fifth Annual Monitoring Report

EXHIBIT E



**Mixed Use Planned Development
Schedule of Deviations**

- 1. Deviation from LDC Section 10-329(d)(4) to allow the lake banks adjacent to the preserve areas to remain was requested and approved as part of Z-15-021.**
- 2. Deviation from LDC Section 30-152(2)d.2., to allow a development of more than 25 units to have a single sided sign with a maximum of 210 square feet in area was requested as part of ADD2017-0121.**
- 3. Deviation from LDC Section 10-329(d)(4) which requires lake banks to be sloped at a ratio of not greater than six horizontal to one vertical (6:1) from the top of bank to a water depth of two feet below the dry season water table to allow existing lake banks slopes, which range from 7.5:1 to 1:1, to be maintained in their existing condition. This deviation is requested for the continued stability of banks of existing lakes for the primary purpose of personal and recreational use of the existing lakes.**

Justification: This deviation applies to the existing lake bank slopes throughout the entirety of the WildBlue Mixed Use Planned Development. The three large existing lakes within WildBlue are the result of former mining activities that occurred on site. Mining activities ceased in 2008 and since that time, the existing lakes have developed a stable bank, consisting of stockpiled excavated material upon a rock shelf which is capable of withstanding wave action generated over the large water surface fetches. As can be seen in Exhibit 1, the existing slopes range from 1:1 in isolated locations to 7.5:1, with a majority of the lake bank slopes ranging between 2:1 and 4:1. Preserving these existing banks maintains the stable shelf, protecting the proposed development from erosion while also providing more usable open space for the residential lots.

In order to achieve the lake bank slopes required by LDC Section 10-329(d)(4), excavation of the existing stable shelves to a depth of two feet below the dry season water table would be necessary, with 6:1 slopes being excavated landward to a top of bank elevation. This excavation would destabilize the existing lake banks and pose a potential threat to the health, safety, and welfare of future property owners along the existing lakes. By preserving the existing stable lake bank, a stable shelf is maintained. To demonstrate how surface water runoff quantities and flow velocities will be controlled to prevent bank erosion, as required by LDC Section 10-

329(d)(5)(d), the applicant agrees to a condition prohibiting the residential areas abutting the existing lakes from draining directly into the existing lakes. Storm water runoff from the developed areas will be directed away from the lake banks and, as such, erosion resulting from overland sheet flow is not a concern and does not necessitate a 6:1 slope.

By maintaining the existing stable lake shelf, an enhanced bank with appropriate slope protection measures is proposed to be constructed landward to the top of bank. These slope protection measures include a rip-rapped breakwater constructed on the stable shelf and a planted littoral shelf located landward of the breakwater, as depicted in Exhibit 2 and Sheet 3 of the Master Concept Plan. Together, these elements provide stable lake banks, capable of withstanding the anticipated dynamic wave action, while also improving water quality and providing a habitat for aquatic species and wading birds. Additionally, the breakwater and littoral shelf shall serve to discourage entry into portions of the lake which exhibit bank slopes steeper than 4:1 below the water surface, thereby protecting the public health, safety, and welfare.

Residential and amenity docking facilities shall be constructed with an approach gangway spanning the proposed breakwater/littoral shelf areas and a hinged transition ramp providing access to a floating boat dock, or equivalent concepts such that the proposed breakwater is maintained continuously along the lake frontage. Boat ramp facilities shall be designed in accordance with Lee County LDC and constructed of concrete, or similarly hardened, with a slope not to exceed 6:1 to a depth of at least 2' below the dry season water table elevation. Construction of boat ramps will necessitate excavation of the existing stable shelf but will act to provide a significantly more stable lake bank, as the ramp will be constructed of concrete or similar hardened stabilization technique. The sides of any proposed boat ramps will consist of sheetpiled retaining walls, or similar construction techniques, such that the adjacent preserved shoreline shelves are not impacted or destabilized. The breakwater within the adjacent proposed shoreline section shall terminate at the boat ramp retaining wall, leaving no unprotected shoreline. A depiction of typical boat dock and boat ramp construction methods and their incorporation into the rip-rapped breakwater has been provided, attached as Exhibit 5 and Sheet 3 of the Master Concept Plan.

As such, the proposed deviation request will enhance the proposed development and will not be a detriment to public safety, health or welfare. Additional justification information is attached in the form of a site and lake bank analysis prepared by Joshua W. Maxwell, P.E., of Turrell Hall and Associates, Inc., Marine and Environmental Consulting, attached as Exhibit 4. Based on site visits, wind and wave analysis, lake size and orientation Mr. Maxwell concludes disturbing the existing shoreline in order to satisfy the LDC Section 10-329(d)(4) will result in the loss of existing shoreline stability.

4. Deviation from LDC Section 10-418(3) which limits hardened shoreline structures to 20 percent of an individual shoreline and restricts use adjacent to single-family residential uses to allow hardened shoreline along all residential and amenity uses up to 100 percent of the developed shoreline.

Justification: This deviation request applies to the portions of the existing lake shorelines which are intended to be developed. Due to the large water surface areas and extended fetches of the existing lakes, wave action is anticipated along the shoreline. As detailed in the lake bank analysis prepared by Turrell Hall and Associates, Inc., attached as Exhibit 4, storm events have the potential to create waves in excess of 3 feet in height within these large lakes. This wave action creates the potential for erosion of the lake bank, resulting in possible loss of property and poses a risk to the public health, safety, and welfare. As observed in field reconnaissance, and shown in the existing lake bank photographs included in Exhibit 1, unstable material located landward of the existing stable lake shelf is subject to severe erosion. In order to mitigate this wave action, a hardened shoreline consisting of a rip-rapped breakwater as depicted on the attached Exhibit 2 is proposed along the portion of the lake shoreline proposed for development. The reinforced shoreline enhancement will protect the lake banks from erosion and preserve the health, safety, and welfare of future property owners along the lake shoreline. As part of the proposed lake bank section, planted littoral shelves are proposed landward of the breakwater to enhance water quality and provide habitat for aquatic species and wading birds. Within the proposed planted littoral shelves, compensatory littoral plantings shall be provided in accordance with LDC Section 10-418(3) to mitigate for the proposed shoreline hardening. The planted littoral shelf configuration and proposed planting plan has been attached as Exhibit 3. The proposed breakwater, which shall consist of relatively large rip-rap material, will be porous in nature and shall allow movement of lake water in and out of the planted littoral shelf. Additionally, portions of the stable existing lake bank which are below the lake control elevation will accommodate a consistent flushing of lake water through the shelf area, which will extend along the perimeter of the developed shoreline. This inundation of lake water will assist in the survivability of the planted littorals within the shelf area and enhance the water quality of the system. This deviation enhances the use of the existing lakes while also protecting the resource and users of these lakes.

5. Deviation from LDC Section 10-418(2)(c) which requires Planted Littoral Shelves to be designed to include a minimum of a 20' wide littoral shelf extending waterward of the control elevation to allow a littoral shelf which varies in width from 4' to 18+'.

Justification: This deviation request applies to the shoreline along the existing lakes. Because the existing lake banks below the control elevation exceed slopes greater than four horizontal to one vertical (4:1), certain measures are necessary along the

shoreline to protect the public health, safety, and welfare from these steeper slopes. In addition to the proposed rip-rapped breakwater, a planted littoral shelf is proposed along the entire extent of the developed shoreline to inhibit direct access to the existing lake slopes. According to LDC Section 10-418(2)(a), the Planted Littoral Shelf length must be calculated at 25 percent of the total linear feet of the lake at control elevation. The proposed littoral shelf shall be constructed along the entire length of the developed shoreline, far exceeding the length requirement of the LDC. To accommodate the existing conditions of the existing lake bank and the proposed lake bank cross section, the planted littoral shelf width is proposed to be narrowed from the minimum 20' requirement to widths that vary from 4' to 18+'. All other shelf configuration and plant calculation requirements of the LDC shall be satisfied, as shown in Exhibit 3. This deviation enhances the water quality and ecological habitat of the existing lakes while also protecting the resources and users of these lakes.

6. Deviation from LDC Section 10-328(a) which requires a 20' wide lake maintenance easement around all lakes to allow a minimum lake maintenance access width of 6'.

Justification: This deviation request applies to the lake maintenance access along the portions of the existing lakes which are proposed to be developed. Due to the necessity of the rip-rapped breakwater to mitigate wave action, there are two locations where the lake control line intersects the lake bank; the first location is at the breakwater and the second is where the Planted Littoral Shelf intersects the 6:1 lake bank. The Planted Littoral Shelf areas, as described in Deviation 5 and shown in Exhibits 2 and 3, shall vary in width from 4' to 18+'. Because of this meandering width, the applicant is requesting a deviation to allow a minimum width of 6' for maintenance access where the planted littoral shelf is at its greatest width. On average, the lake maintenance access width will typically be 20'; however, in order to provide as much planted littoral area as possible for water quality and habitat for wading birds and other aquatic species, the applicant is proposing to widen the shelf to its fullest extent, where possible, which narrows the maintenance access to a minimum of 6' in isolated locations. When measuring the maintenance access width from the lake control line at the proposed breakwater, the width will exceed 20' in all locations.

Due to the nature of the maintenance requirements for the Planted Littoral Shelf, a minimum width of 6' is sufficient for access via side-by-side vehicles for herbicide application and littoral maintenance or via small grading equipment, such as compact track loaders and excavators, for slope and shelf grading and maintenance. Herbicide application may also occur from the lake side of the breakwater, which eliminates the need for a landside maintenance access. Repair or maintenance of the rip-rapped breakwater may be completed using compact track loaders or compactors as well, utilizing the 6' access width. In the event larger equipment is needed to perform maintenance to the rip-rapped breakwater, the entire width from the breakwater to the Existing Lake Tract boundary becomes the work area and, as such, may be utilized for access. These maintenance activities would occur during

the dry season when the planted littoral shelf could be utilized for access. The width from the proposed breakwater to the Existing Lake Tract boundary is a minimum of 20' in all instances and is capable of accommodating larger scale equipment which may be needed in this case. Any impacts to the littoral shelf, or its plantings, would be remediated upon completion of the breakwater maintenance activities.

This deviation enhances the water quality and ecological habitat of the existing lakes by provide surplus Planted Littoral Shelf area where possible. Additionally, the proposed development shall be enhanced by not impacting the rear tract boundary of the proposed residential uses in order to accommodate an unnecessarily wide lake maintenance access. All required maintenance activities will be able to be performed within the provided access widths and no impacts to public health, safety, and welfare occur as a result of this deviation request.

7. Deviation from the LDC §10-329(d)(3) which establishes water retention or detention excavations may not be greater than 12 feet to permit a maximum depth of 45 feet and eliminate the requirements of a Deep Lake Management Plan and a post-construction bathymetric survey

Justification: The existing lakes identified on the Master Concept Plan (MCP) are existing features of the subject property resulting from the previously approved mining activity. These areas were excavated per ZAB-86-62 and SEZ2000-00034 which established a maximum excavation depth of 45' or to the confining layer and did not require a Deep Lake Management Plan or post construction bathymetric surveys. By working within existing physical conditions of the subject property this deviation will enhance the planned development and its economic feasibility.



**Mixed Use Planned Development
Schedule of Deviations**

EXHIBIT 1

Existing Sections Consisting of 10 WildBlue Lake North, 2 for WildBlue South, and 3 for Blue Lake



**Mixed Use Planned Development
Schedule of Deviations**

EXHIBIT 2

Lake Bank Exhibit

PREPARED FOR

PROJECT DESCRIPTION

WildBlue

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FILE NAME J:\23473_ADD EXHIBIT.DWG

LOCATION J:\23473\DWG\EXHIBITS\

PLOT DATE MON. 12-11-2017 - 2:28 PM

PLOT BY TIM GAVIN

CROSS REFERENCED DRAWINGS

PLAN REVISIONS

PLAN STATUS

APPROVAL SUBMITTALS PLANS
NOT FOR CONSTRUCTION

EXHIBIT 2

PROJECT / FILE NO.

23473

SHEET NUMBER

EXH

EXISTING LAKE SHORE
TO REMAIN UNCHANGED
ADJACENT TO CONSERVATION
AREAS PER DEVIATION 1 OF
RESOLUTION Z-15-021

CONSERVATION AREA

EXISTING BERM TO REMAIN
IN ACCORDANCE WITH
ERP# 36-05075-P

PERIMETER BERM TO
TIE INTO EXISTING BERM

BREAKWATER
TO TERMINATE
INTO PERIMTER BERM

REAR YARD BERM TO
TERMINATE INTO
PERIMETER BERM

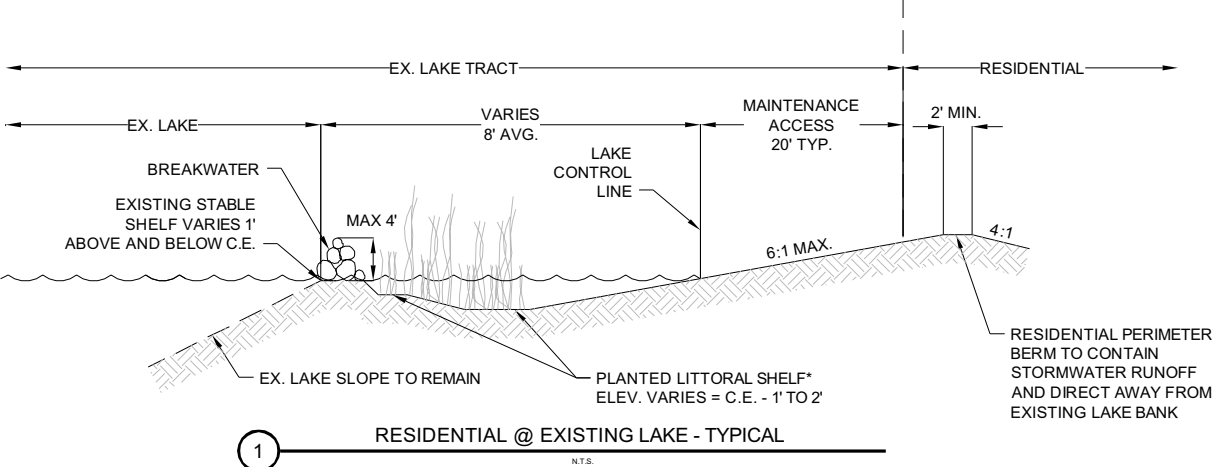
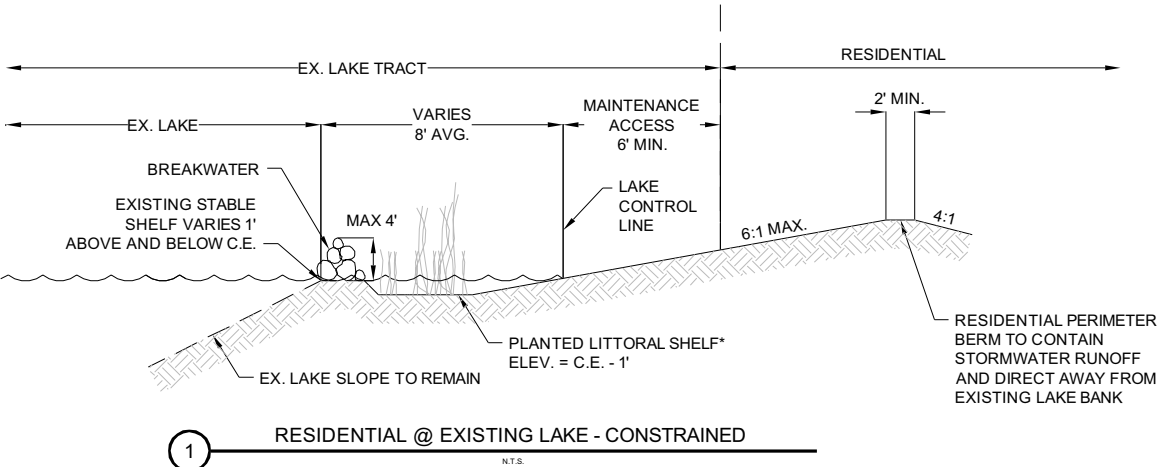
SFWMD PERIMETER
BERM

EXISTING LAKE

PLANTED LITTORAL SHELF
W/ RIP-RAP BREAKWATER

REAR YARD BERM
TO CONTAIN LOT DRAINAGE
PER ERP #36-05075-P

6:1 MAX
SLOPE



*NOTE: AS FIELD CONDITIONS ALLOW, A LITTORAL SHELF 1' BELOW CONTROL ELEVATION SHALL BE CONSTRUCTED TO A WIDTH OF 4'. AS FIELD CONDITIONS FURTHER ALLOW, A LITTORAL SHELF 2' BELOW CONTROL SHALL BE CONSTRUCTED TO A WIDTH OF 4'. ALL ADDITIONAL AVAILABLE WIDTH SHALL BE EQUALLY DISTRIBUTED TO EACH SHELF DEPTH. BOTH LITTORAL SHELVES TOGETHER WITH THE 6:1 SLOPE SHALL PROVIDE ADEQUATE AREA TO ACHIEVE A TOTAL LITTORAL PLANT COUNT CONSISTENT WITH THE LAND DEVELOPMENT CODE.



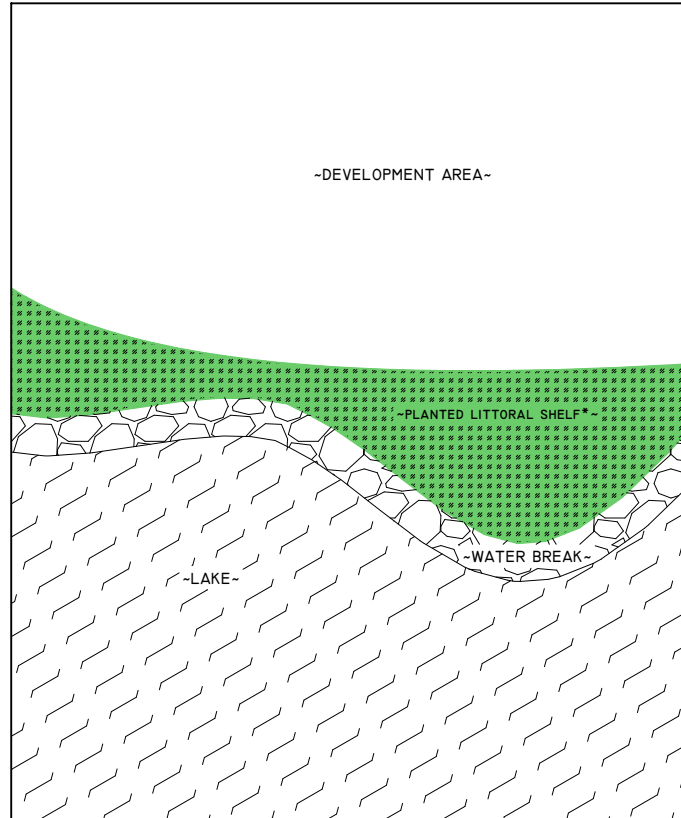
**Mixed Use Planned Development
Schedule of Deviations**

EXHIBIT 3

Typical Planting Plan for proposed Littoral Shelf



SCALE: 1" = 20'



Littoral Planting Species

Cordgrass (*Spartina bakeri*)
 Arrowhead (*Sagittaria lancifolia*)
 Pickerelweed (*Pontederia cordata*)
 Golden Canna (*Canna flaccida*)
 Blue Flag Iris (*Iris hexagona savannarum*)

LEGEND:



PLANTED LITTORAL SHELF



WATER BREAK



LAKE

*PLANTED LITTORAL SHELF WILL RANGE FROM 4' TO 18'+ WIDE.

LITTORAL PLANTING SPECIES MAY VARY BASED ON COMMERCIAL AVAILABILITY AND MAY INCLUDE ADDITIONAL NATIVE SPECIES NOT LISTED.

TYPICAL PLANTING PLAN
 WILDBLUE

DRAWN BY	DATE
H.H.	9/20/17
REVIEWED BY	DATE
L.E.	9/20/17
REVISED	DATE



PASSARELLA
 & ASSOCIATES INC



**Mixed Use Planned Development
Schedule of Deviations**

EXHIBIT 4

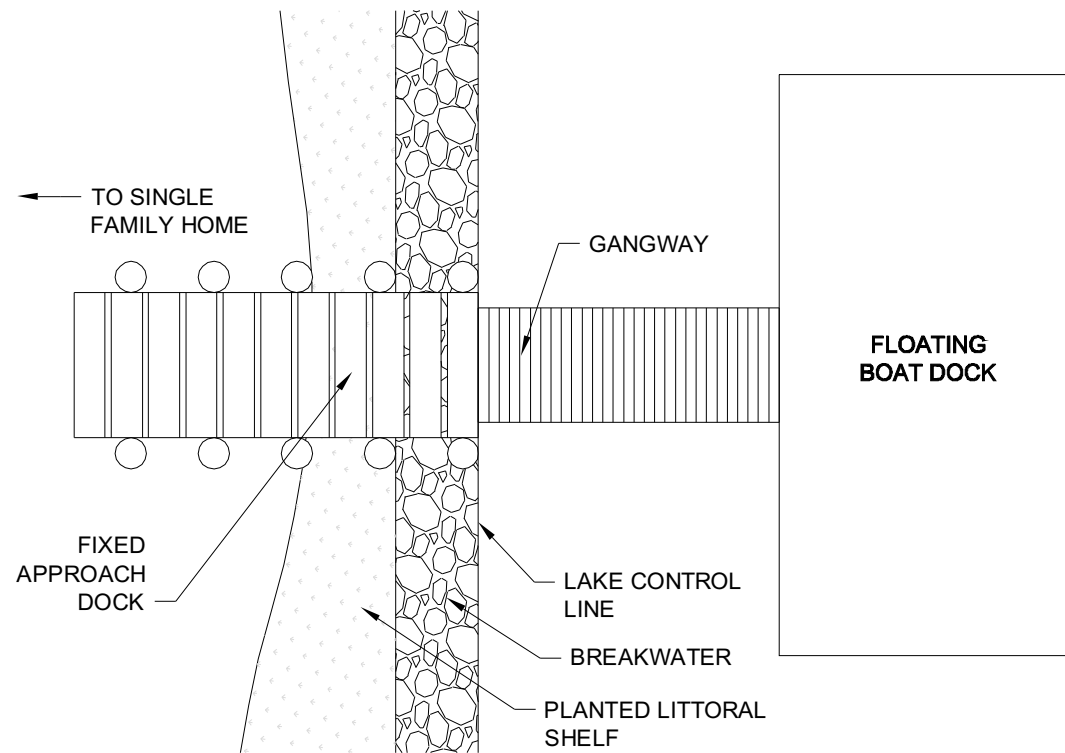
Memo from Turrell, Hall and Associates



**Mixed Use Planned Development
Schedule of Deviations**

EXHIBIT 5

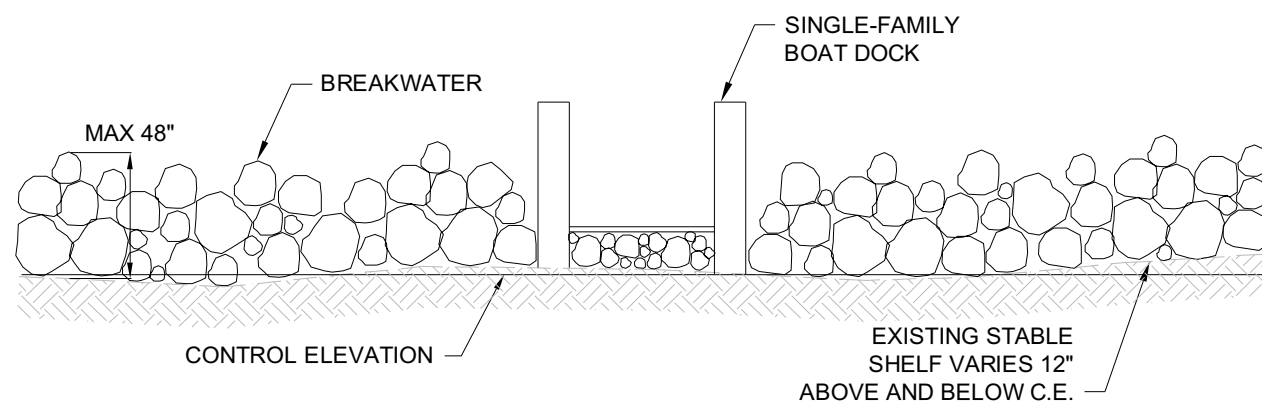
Typical Single Family Dock and Boat Ramp



**TYPICAL SINGLE-FAMILY DOCK
(PLAN VIEW)**

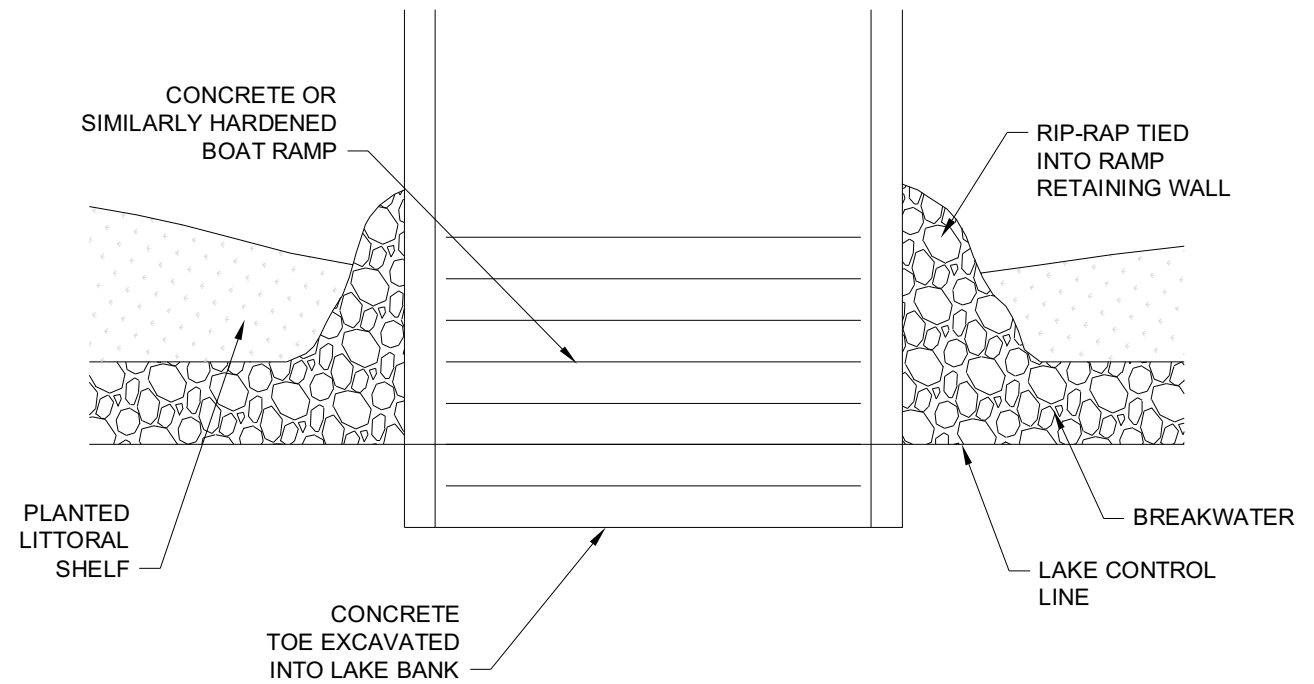
N.T.S.

NOTE: WHERE THE RIP-RAPPED BREAKWATER IS REMOVED FOR CONSTRUCTION OF A BOAT DOCK, THE DECK, GANGWAY, AND FLOATING DOCK SHALL ACT TO MITIGATE WAVE ACTION AND PROTECT THE STABILIZATION OF THE SHORELINE.



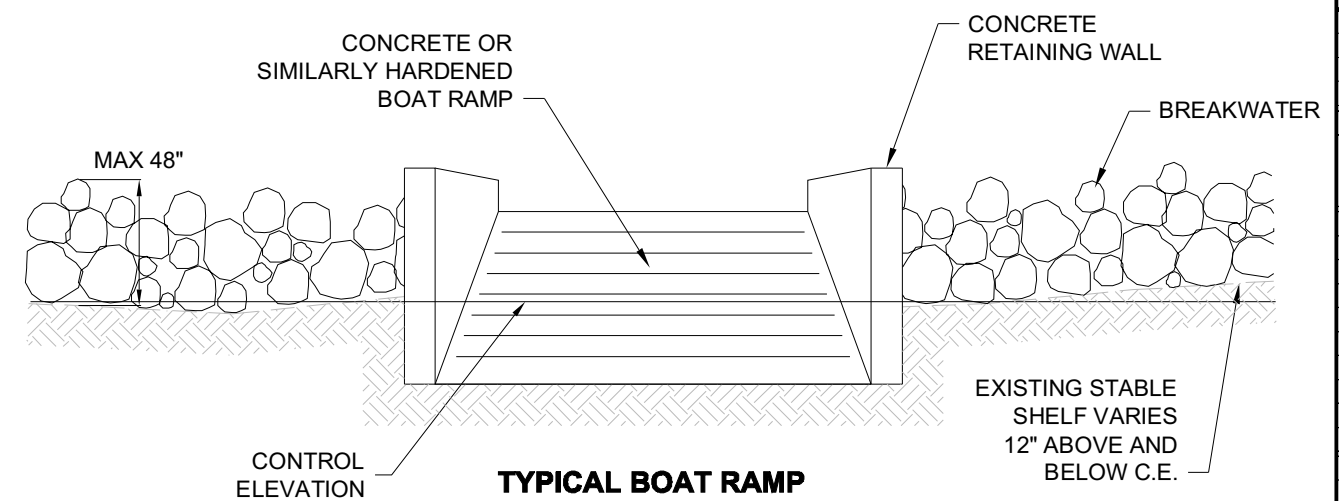
**TYPICAL SINGLE-FAMILY DOCK
(PROFILE VIEW)**

N.T.S.



**TYPICAL BOAT RAMP
(PLAN VIEW)**

N.T.S.



**TYPICAL BOAT RAMP
(PROFILE VIEW)**

N.T.S.

NOTE: THESE DETAILS DEPICT A SINGLE METHOD FOR CONSTRUCTION OF THE PROPOSED SINGLE-FAMILY DOCKS AND BOAT RAMPS. VARYING MEANS AND METHODS MAY BE UTILIZED IN LIEU OF THOSE DEPICTED SUCH THAT THE INTEGRITY OF THE LAKE SHORELINE AND BREAKWATER IS MAINTAINED.

PREPARED FOR

PROJECT DESCRIPTION

WildBlue

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FILE NAME	23473_ADD DETAILS DWG
LOCATION	J:\23473\DWG\EXHIBITS\
PLOT DATE	THU. 12-7-2017 - 4:43 PM
PLOT BY	TIM GAVIN

CROSS REFERENCED DRAWINGS

PLAN REVISIONS

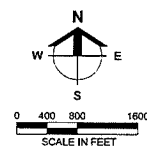
PLAN STATUS

APPROVAL SUBMITTALS PLANS
NOT FOR CONSTRUCTION

EXHIBIT 5

PROJECT / FILE NO.	SHEET NUMBER
23473	

ADD2017-00180 Lee County ePlan



(10) SECTION NUMBER AND LOCATION

NOTE:

1. ALL ELEVATIONS ARE IN NAVD 1988 DATUM
2. ALL SECTION ELEVATIONS BASED UPON TOPOGRAPHIC SURVEY DATED 2016.

PREPARED FOR

PHONE (239) 590-9006
FAX (239) 590-9085

PROJECT DESCRIPTION	PROJECT NUMBER	PROJECT DATE	PROJECT STATUS
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LEE COUNTY, FLORIDA

ENGINEER OF RECORD
TIMOTHY B. GAVIN, P.E., FOR THE FIRM
FLORIDA P.E. NO. 70675 - TIMG2@BARRACONET

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FILE NAME	23416_ANNING LAKE KEY.DWG
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LOCATION	J524102W/G10 EXHIBITS EXISTING LAKE
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PLOT DATE	WED. 5-7-2017 - 2:09 PM
Plot 100 m	Plot 200 m

1001 BY GUY SUSAN

CROSS REFERENCED DRAWINGS

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PLAN REVISIONS

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PLAN STATUS

EXHIBIT

EXISTING LAKE

SECTIONS

EXHIBIT 1

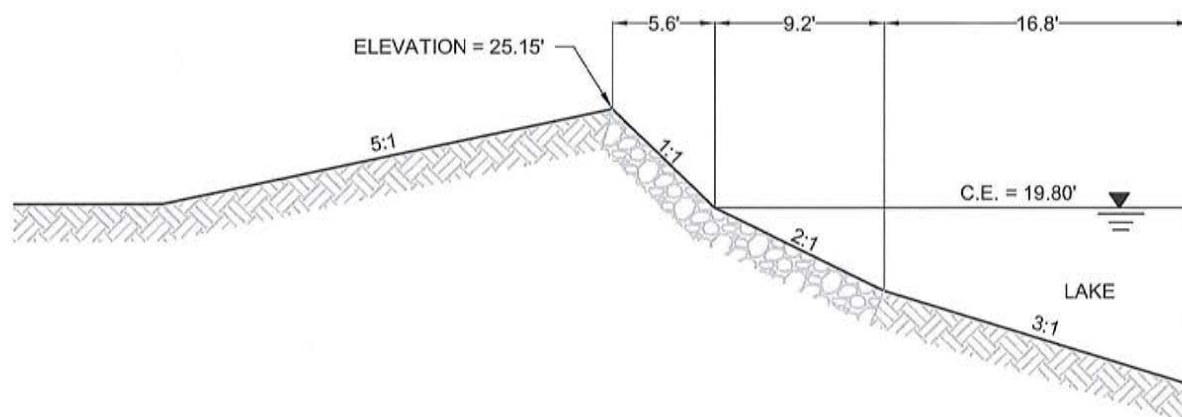
PROJECT / FILE NO.	DRAWING NUMBER
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STREET ADDRESS	STREET ADDRESS
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23416	
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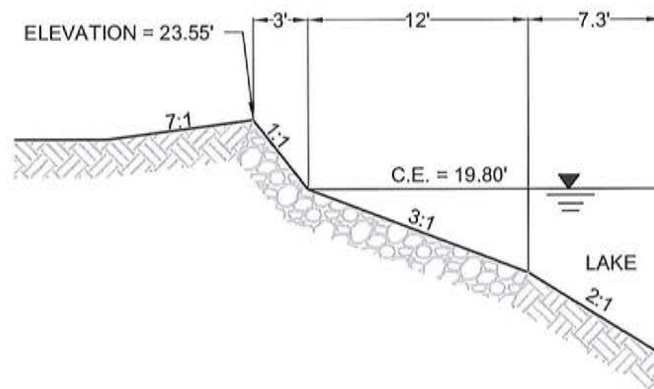


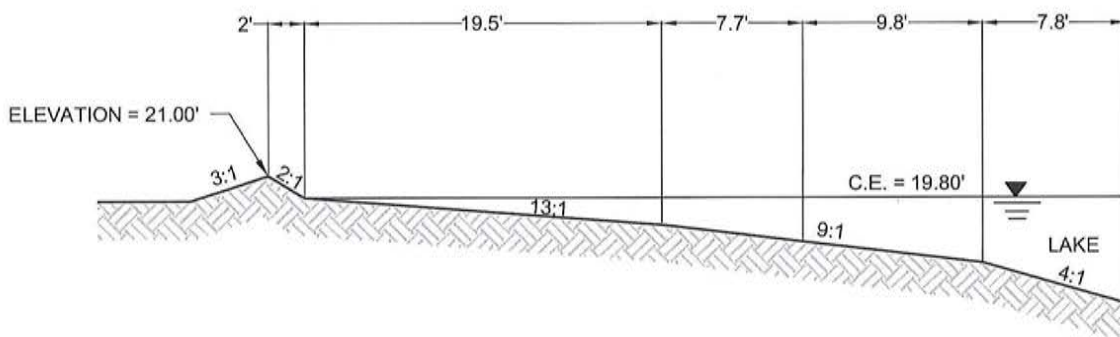
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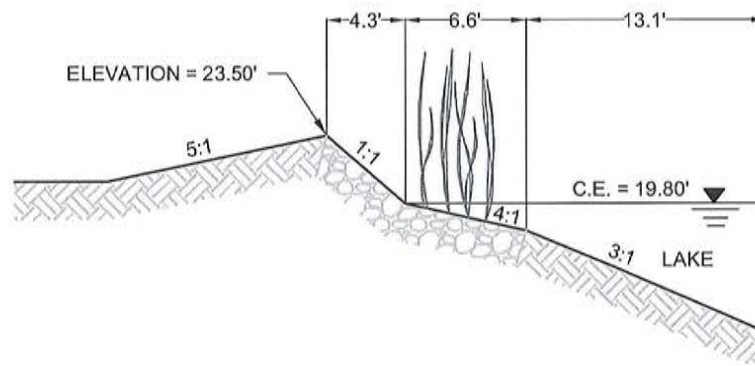




DEC/22/2016





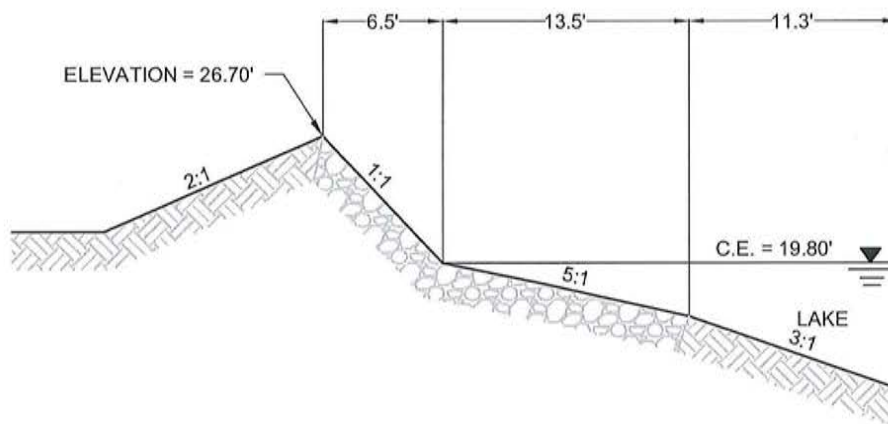


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FLORIDA CERTIFICATES OF AUTHORIZATION
ENGINEERING 7903 - SURVEYING LB 4590

EXISTING LAKE BANKS
WILDBLUE
SECTION 4

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DESIGN BY	

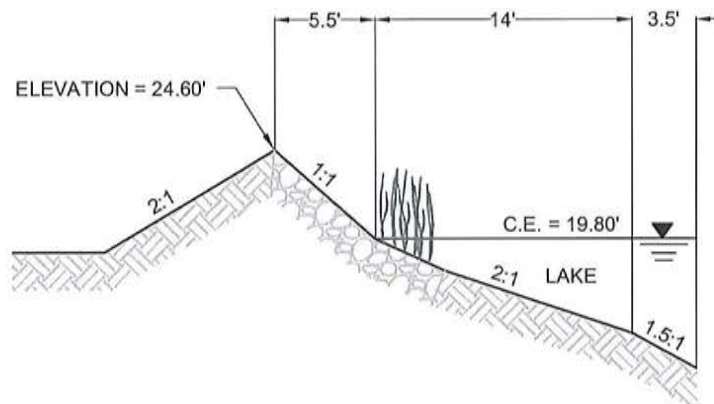


Barraco
and Associates, Inc.

FLORIDA CERTIFICATE OF AUTHORIZATION
ENGINEERING 7995 - SURVEYING LB-6940

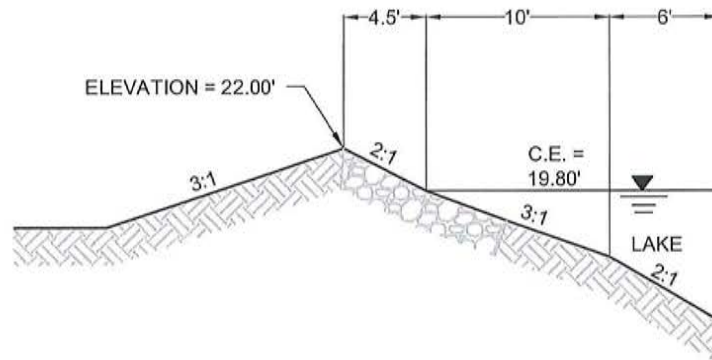
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SECTION 5

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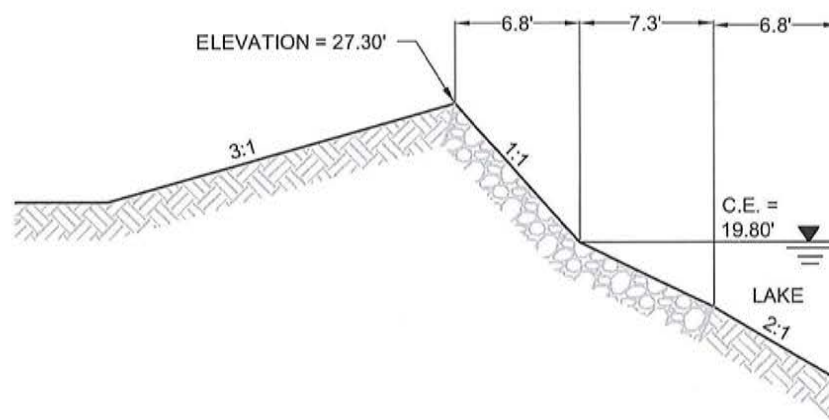


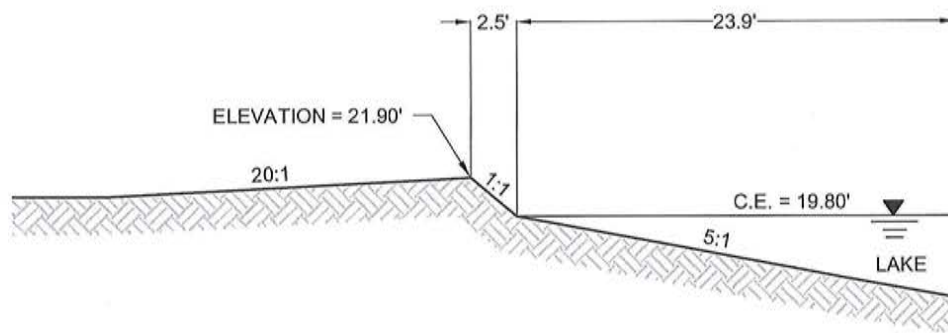
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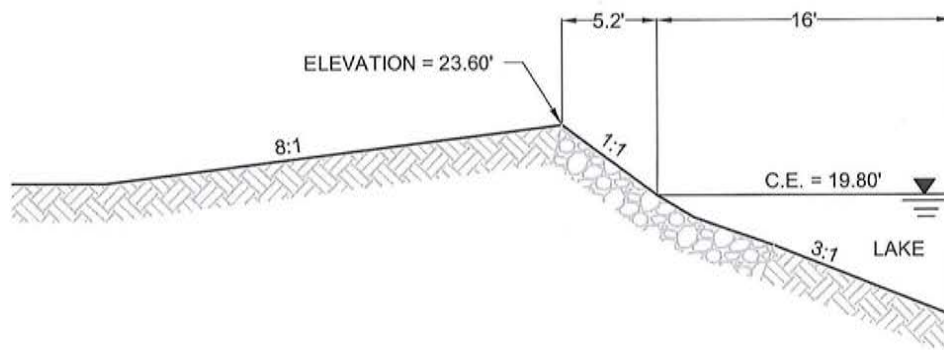
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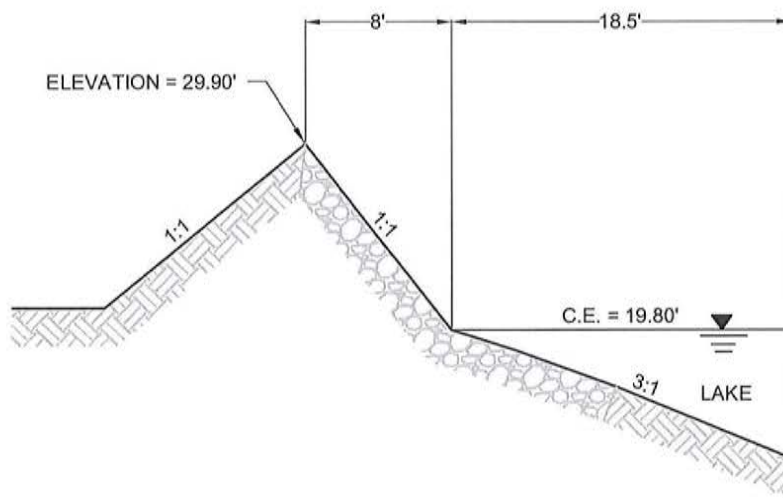


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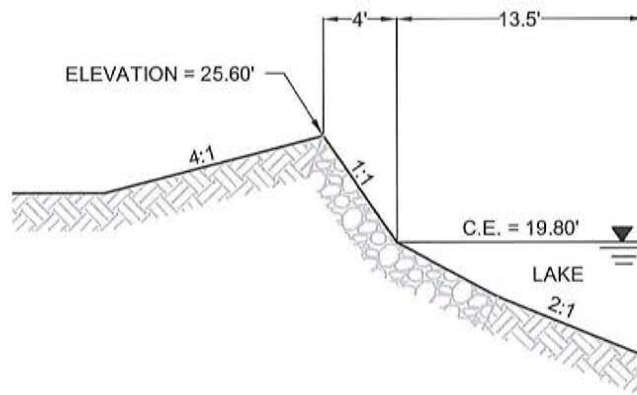


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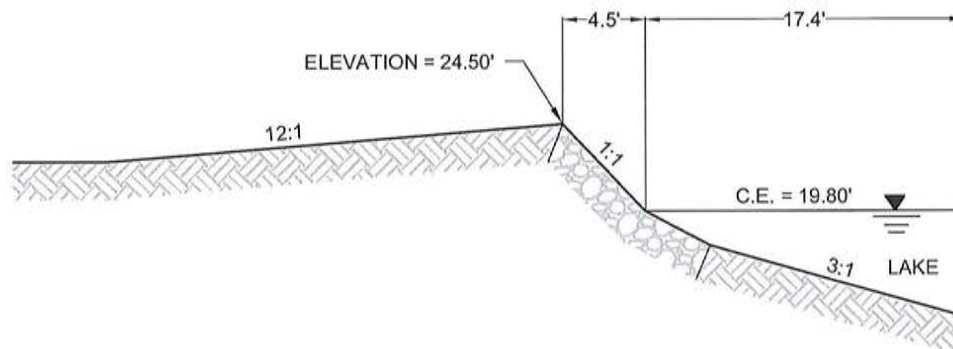


DEC/22/2016





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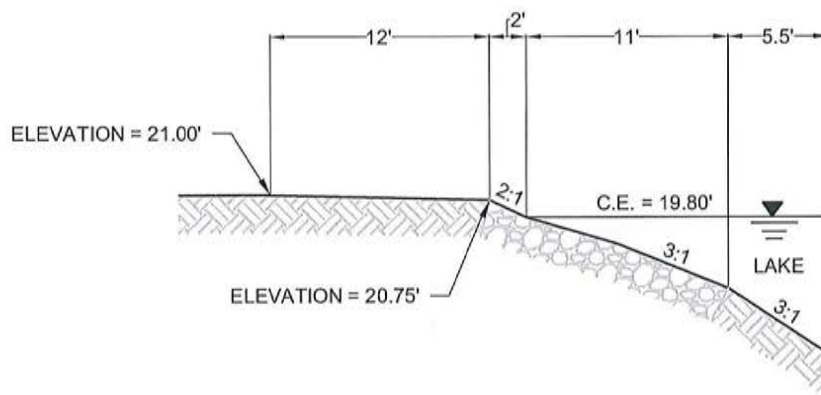
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ENGINEERING 7995 - SURVEYING LB-6500

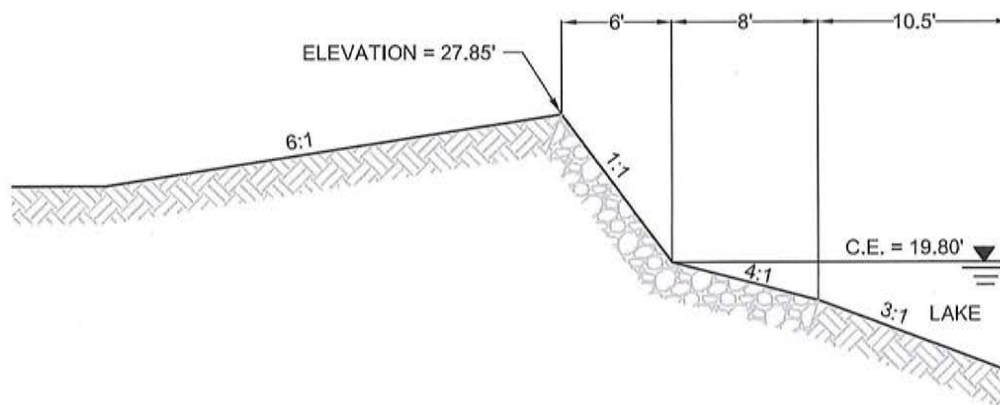
EXISTING LAKE BANKS
WILDBLUE
SECTION 13

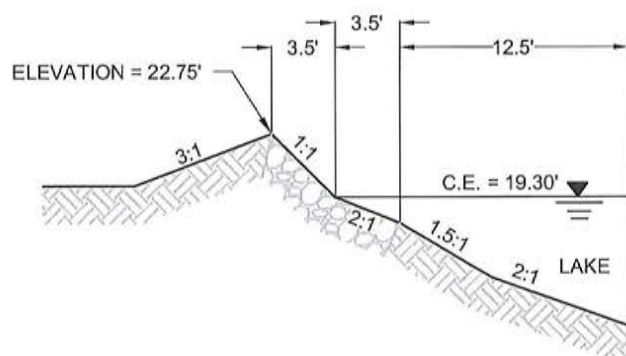
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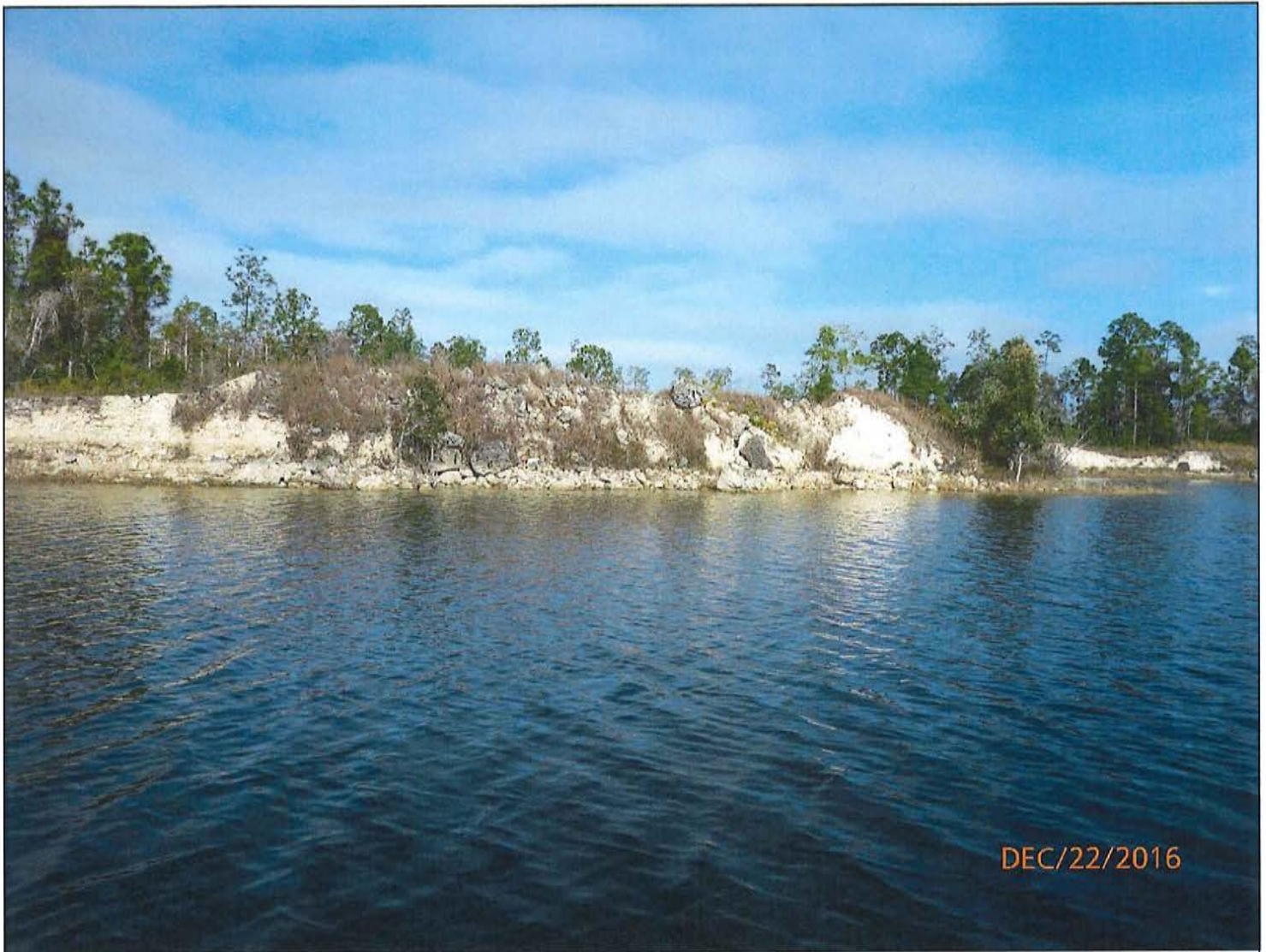


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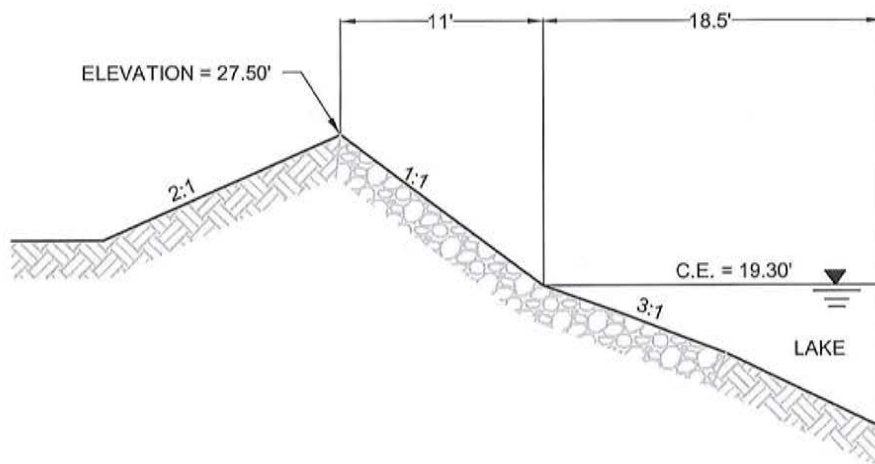






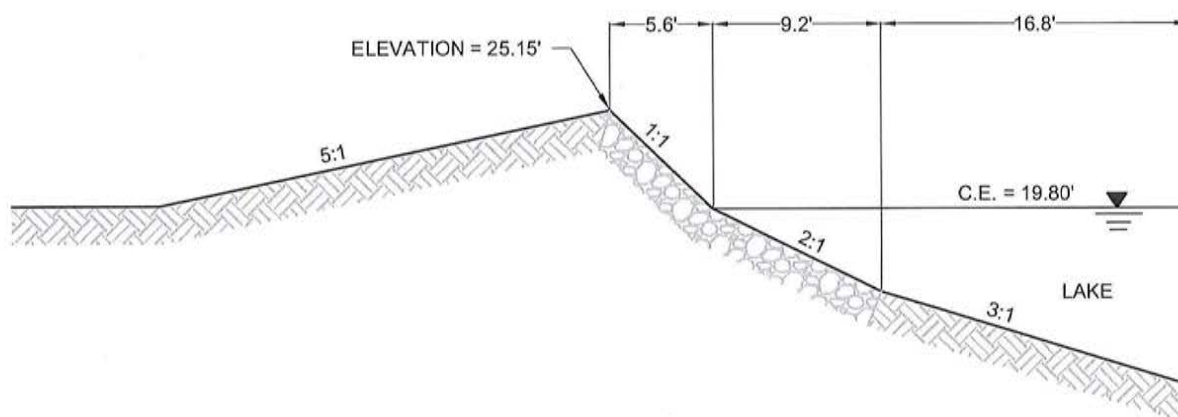


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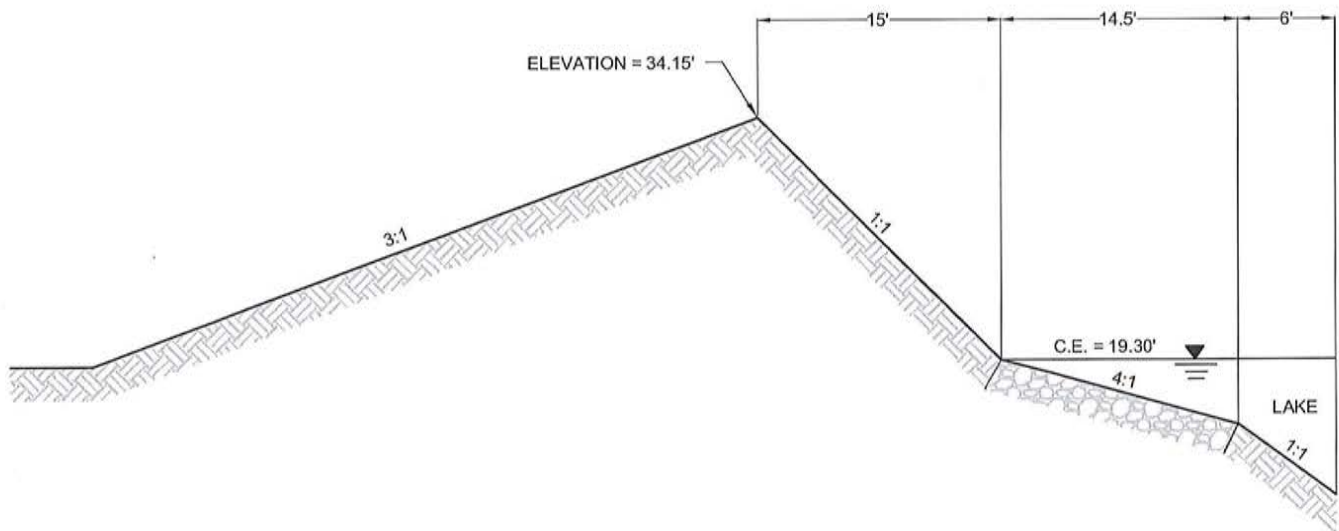


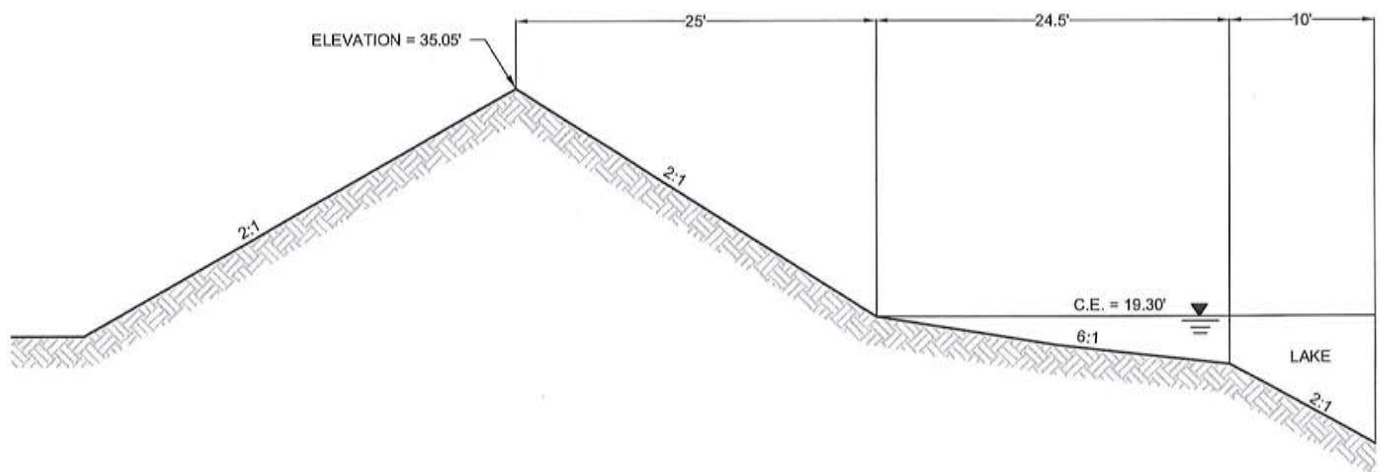
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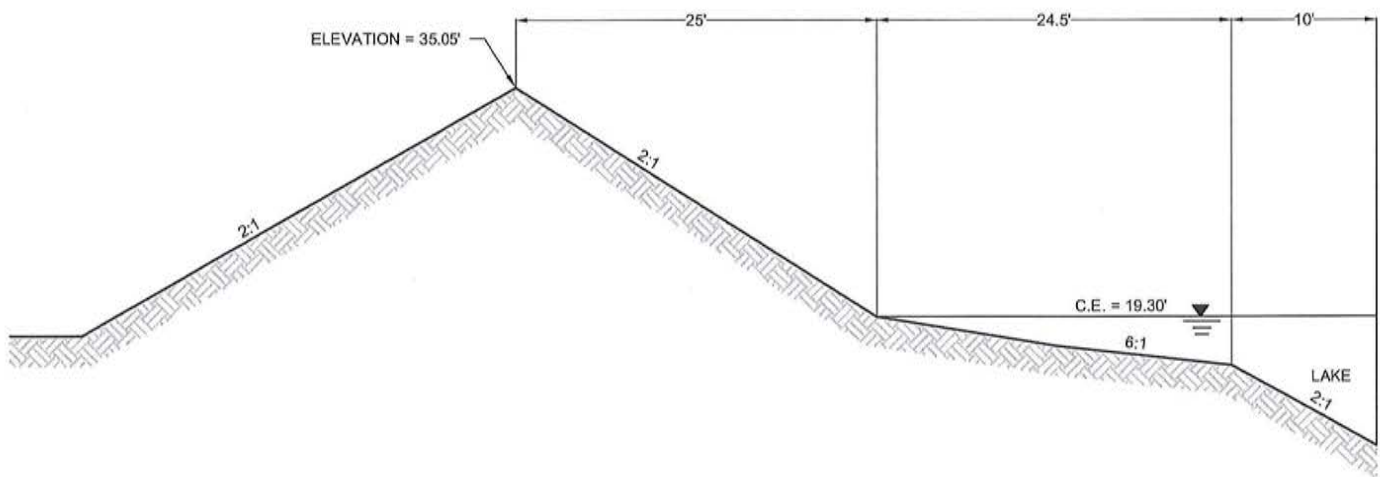
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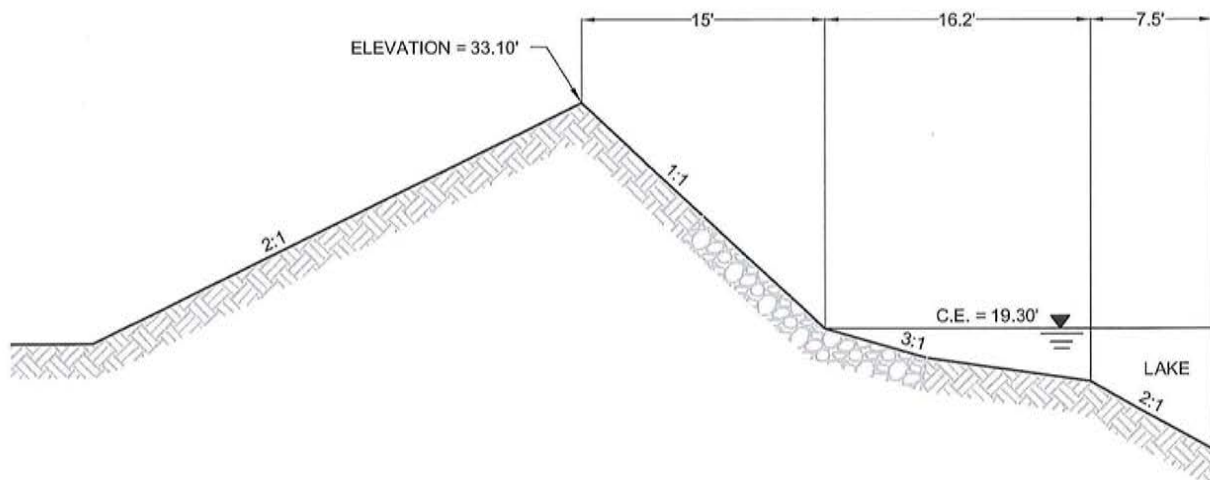


DEC/22/2016





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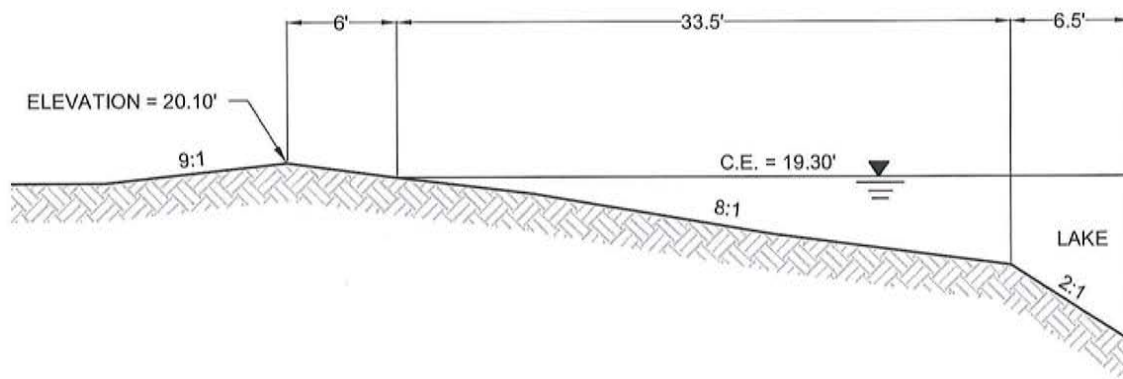
FLORIDA CERTIFICATES OF AUTHORIZATION
ENGINEERING 7095 - SURVEYING LB-6940

EXISTING LAKE BANKS
WILDBLUE
SECTION 22

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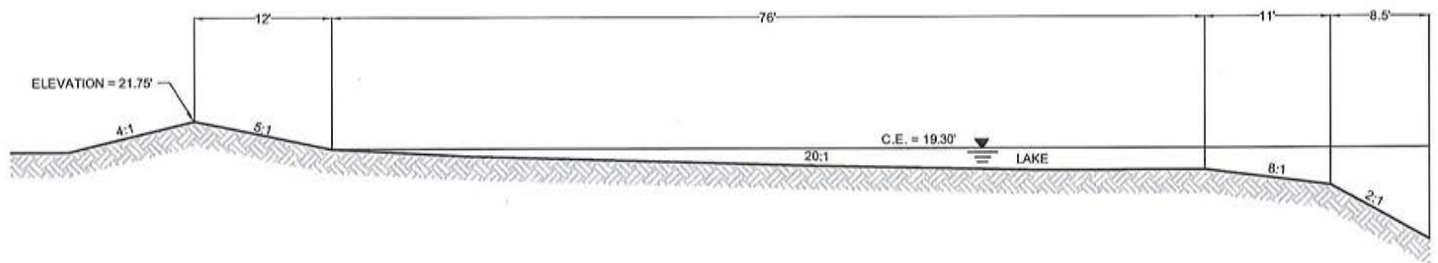


DEC/22/2016





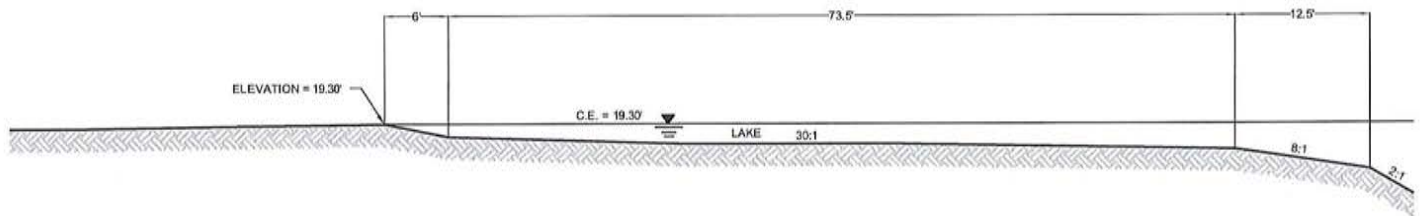
DEC/22/2016



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FLORIDA CERTIFICATES OF AUTHORIZATION
ENGINEERING 7995 - SURVEYING LB-6940

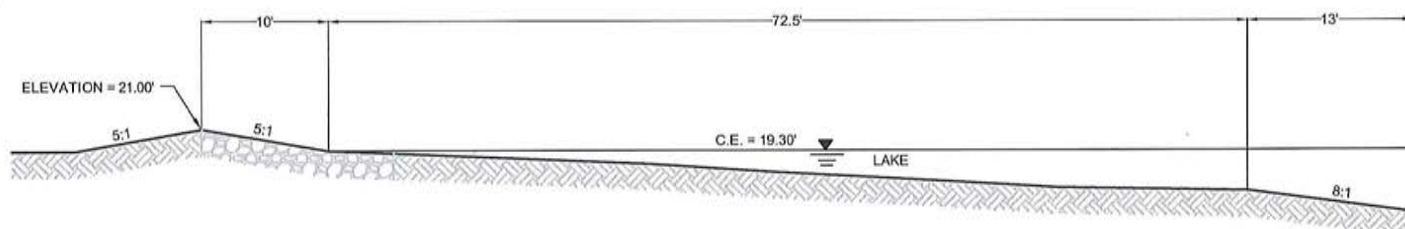
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WILDBLUE
SECTION 24

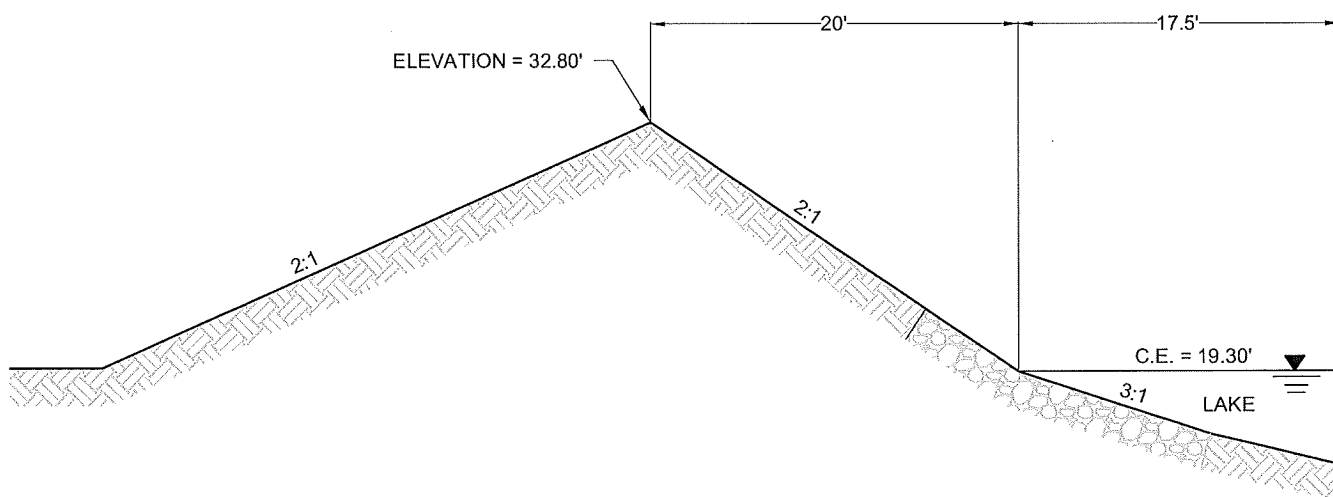
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PLOT BY	SCOTT ENGLISH
DESIGN BY	





DEC/22/2016



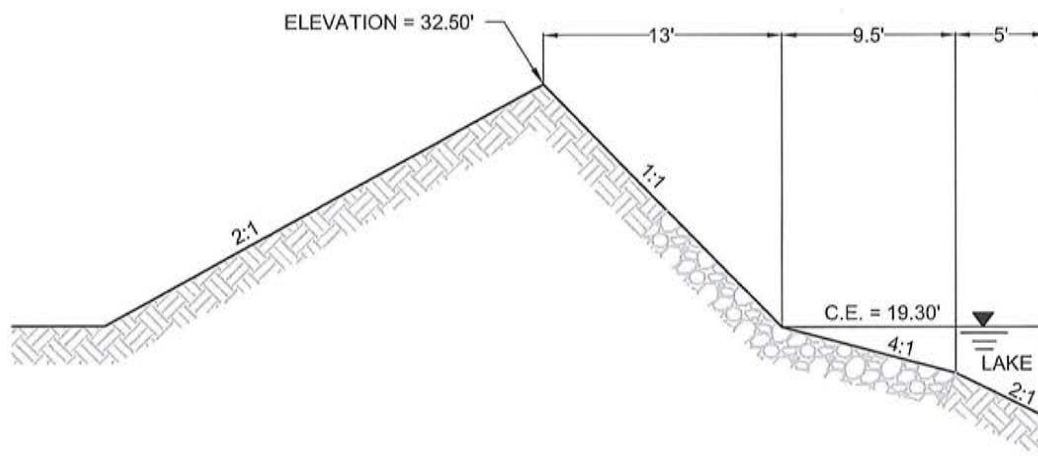


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ENGINEERING 7995 - SURVEYING LB-6940

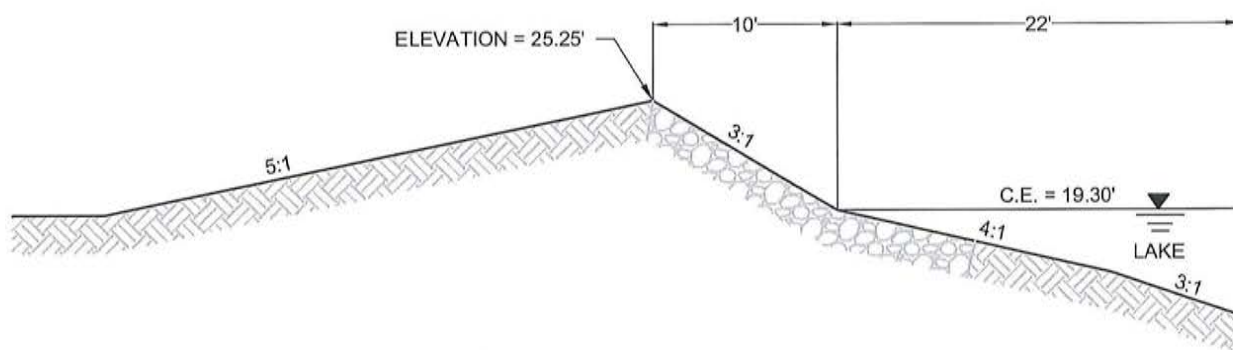
EXISTING LAKE BANKS
WILDBLUE
SECTION 27

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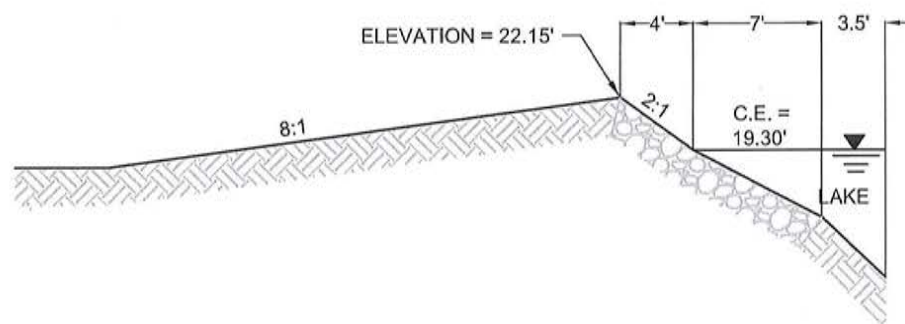


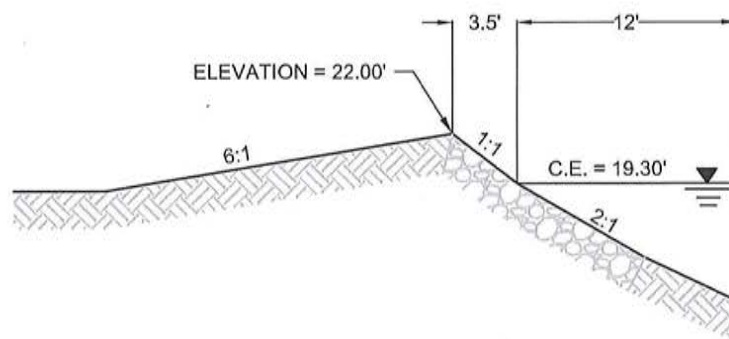
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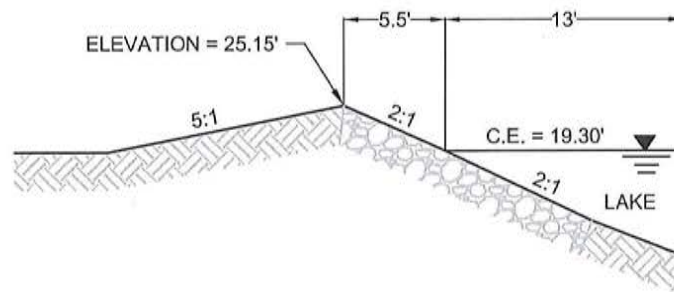
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DEC/22/2016





DEC/22/2016

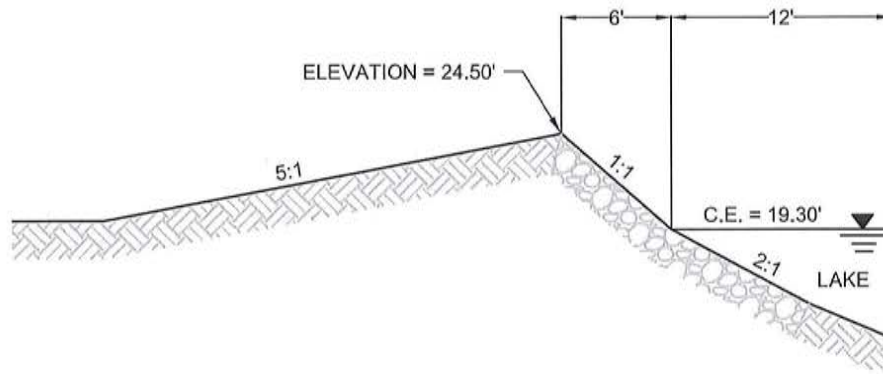


EXHIBIT G



TURRELL, HALL & ASSOCIATES, INC.

MARINE & ENVIRONMENTAL CONSULTING

3584 Exchange Avenue • Naples, Florida 34104-3732 • 239-643-0166 • Fax (239) 643-6632 • tuna@THAnaples.com

April 6, 2017

Carl Barraco, P.E. / President
Barraco and Associates, Inc.
2271 McGregor Boulevard
Fort Myers, FL 33901

RE: Wild Blue - LDC Deviation for Lake Bank Slopes

Mr. Barraco,

We conducted a site visit on March 10, 2017 to the Wild Blue property off of Alico Road to analyze the existing lake banks and proposed bank slopes for the future development. The existing conditions mostly consist of scattered rock from left over quarry stone, on a naturally occurring rock layer with the remainder of the shoreline naturally growing herbaceous plants.

The existing rocky substrate more than satisfies the minimum grain/rock sizes necessary for a stable bank consisting of a 1:4 slope, or even a 1:2 slope. This is determined by utilizing the normal winds present at the subject property and calculating the minimum grain/rock size utilizing the US Army Corps of Engineers Shoreline Protection Manual.

We have calculated the maximum wave heights capable within the lakes from the prevailing breeze and storm events. Under normal circumstances wave heights will not exceed 6" and storm events have the potential to create waves in excess of 3ft in height in the largest of the lakes. In the areas where the fetch is limited, which is the majority of the shoreline, natural lake banks consisting of the existing conditions or herbaceous planting should be stable during both normal and storm conditions. Using properly sized riprap or other hardened structures in the areas with the longest fetch will help ensure a stable shoreline during storm events.

Based on of the stability of the existing shoreline we believe these lakes qualify for consideration for a deviation from the LDC Section 10-329(d)(4). The erosion of the current shoreline has been minimal over the past decade due to the naturally occurring geological features already present along the banks. Since the mining of the lakes ended nearly a decade ago the lakes have had the opportunity to experience multiple seasons of prevailing breezes along with the occasional severe storm event. Aerial research demonstrates no evidence of erosion areas, even in the zones with the longest fetch. Disturbing the existing shoreline, required to satisfy LDC Section 10-329(d)(4), will result in the loss of existing shoreline stability, resulting in greater opportunity for erosion.

Based on our review of the site, analysis of the shoreline, calculated wave heights within the lakes and aerial research we recommend a deviation of the standard 1:6 bank slope requirement from the Land Development Code of Lee County.

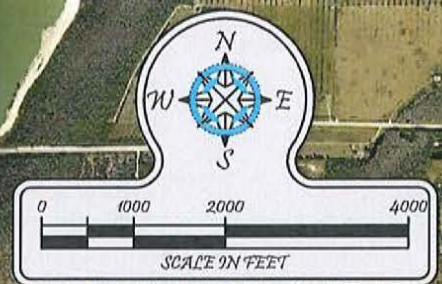
Regards,

Joshua W. Maxwell, P.E. / Chief Engineer

P:\1728-Wild Blue-Lee CIVCAD\EXHIBIT\1728-AERIAL.dwg

Digitally signed by
Joshua W. Maxwell
DN: c=US, st=Florida,
l=Naples,
ou=Engineering,
o=Turrell, Hall &
Associates, Inc.,
cn=Joshua W. Maxwell,
email=josh@t-h-a.com
STATE OF FLORIDA
PROFESSIONAL ENGINEER
No. 81247
DATE: May 23, 2017 4:07 PM
16:58:55 -04'00'

ALICO RD



ALICO RD

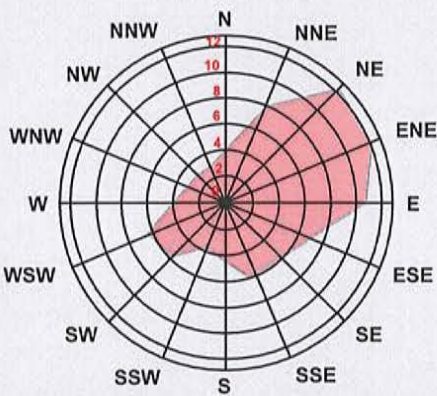
WILDBLUE
LAKE NORTH

BLUE
LAKE

WILDBLUE
LAKE SOUTH

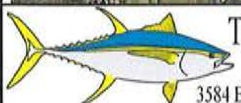
CORKSCREW RD

WIND DIRECTION DISTRIBUTION IN (%%)
YEAR



NOTES:

- <> WIND DATA ACQUIRED FROM WINDFINDER.COM
(STATION: SOUTHWEST FLORIDA AIRPORT)
- <> AERIAL PHOTOGRAPHY ACQUIRED FROM LEE
COUNTY PROPERTY APPRAISER (YEAR: 2016)
- <> THIS EXHIBIT WAS CREATED FOR THE LDC
DEVIATION LETTER DATE: 04/06/17.

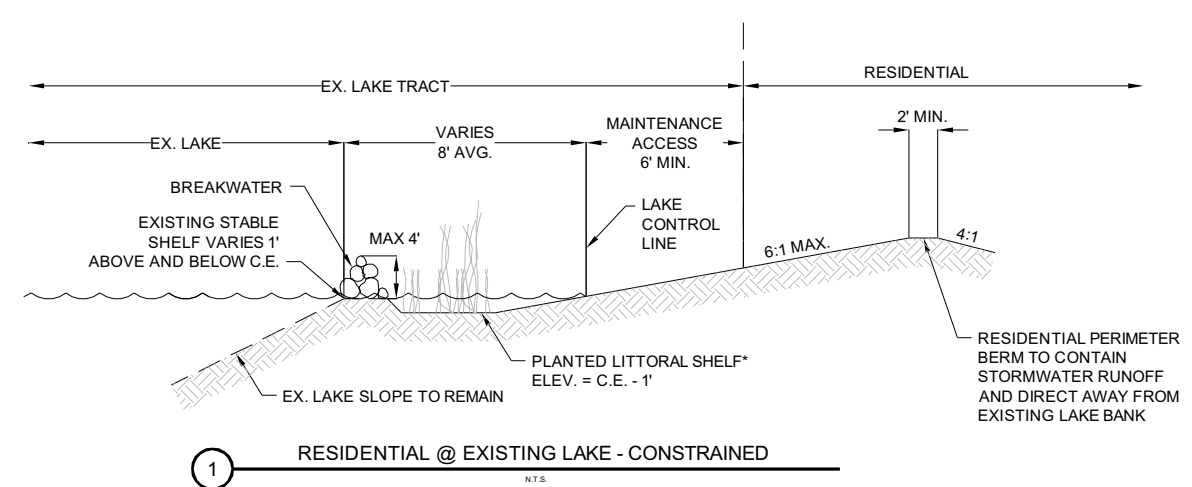
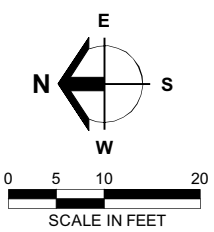
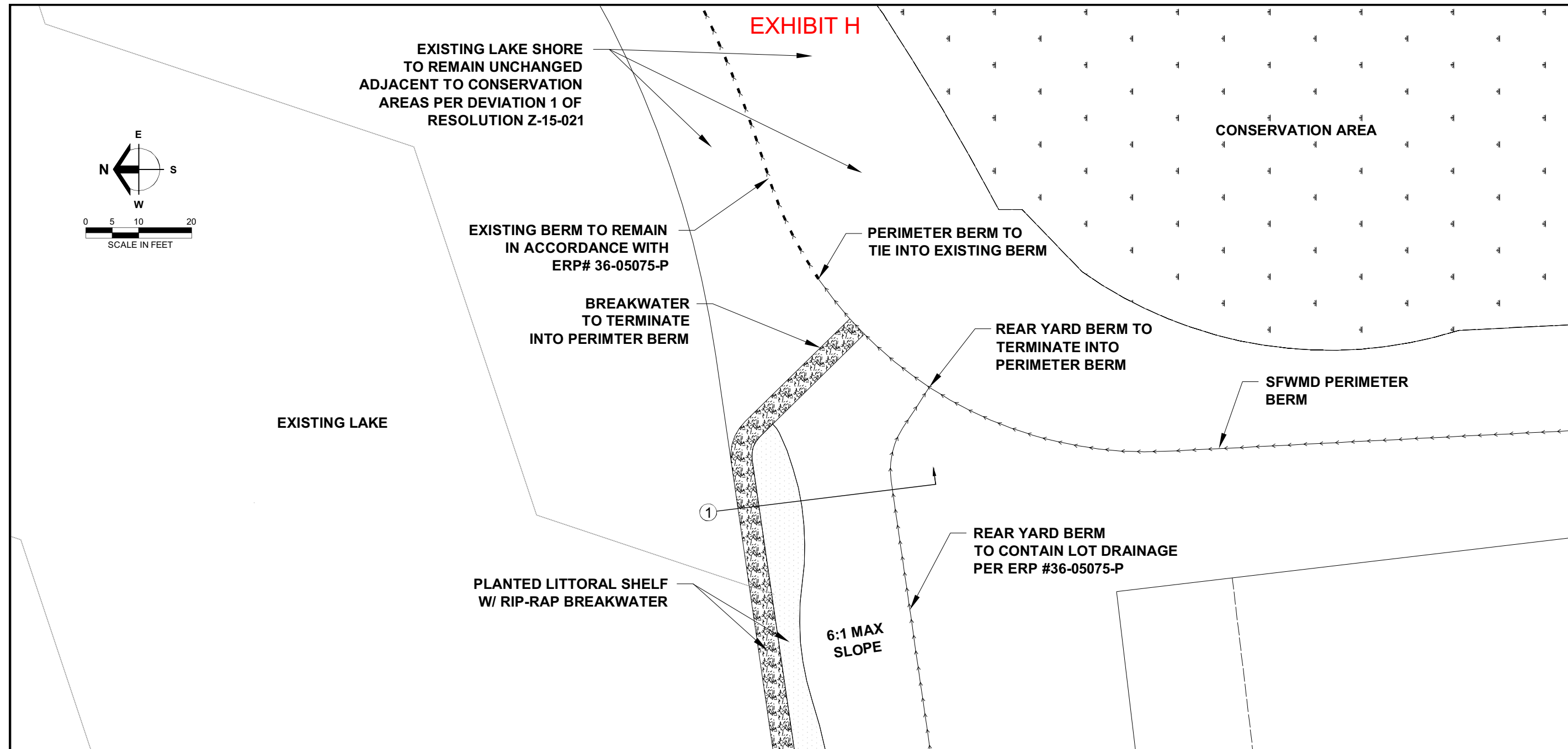


Turrell, Hall & Associates, Inc.
Marine & Environmental Consulting
3584 Exchange Ave. Suite B. Naples, FL 34104-3732
Email: tuna@turrell-associates.com Phone: (239) 643-0166 Fax: (239) 643-6632

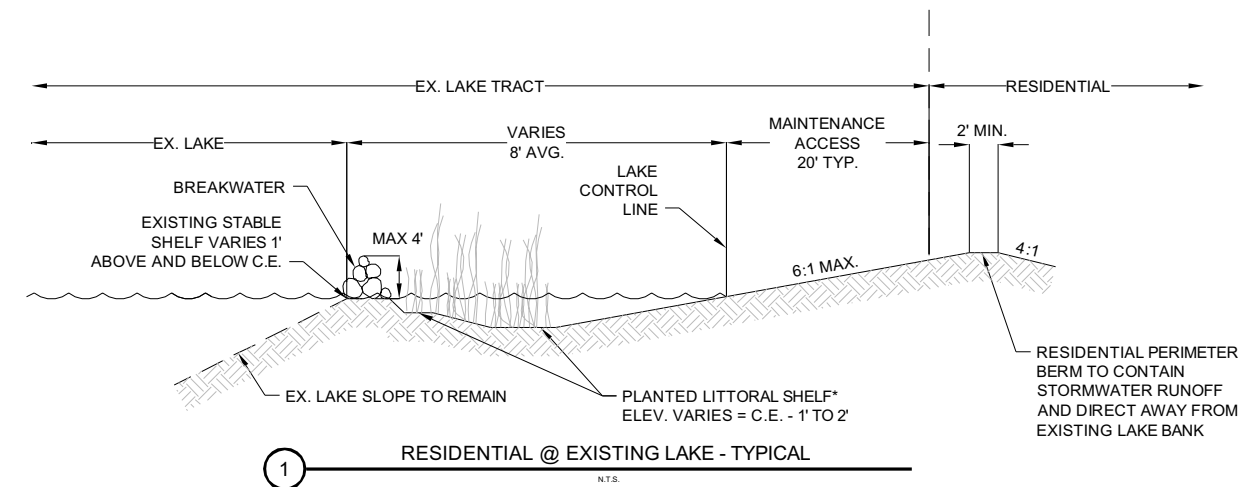
WILDBLUE

EXISTING LAKES

DESIGNED	JWM	REVISION	TAB NAME	Aerial
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DATE	04-06-17	N/A	SCALE	AS SHOWN
JOB NO.	1728	N/A		
SECTION- 7,8,17-20 TOWNSHIP- 46 S RANGE- 26 E				



*NOTE: AS FIELD CONDITIONS ALLOW, A LITTORAL SHELF 1' BELOW CONTROL ELEVATION SHALL BE CONSTRUCTED TO A WIDTH OF 4'. AS FIELD CONDITIONS FURTHER ALLOW, A LITTORAL SHELF 2' BELOW CONTROL SHALL BE CONSTRUCTED TO A WIDTH OF 4'. ALL ADDITIONAL AVAILABLE WIDTH SHALL BE EQUALLY DISTRIBUTED TO EACH SHELF DEPTH. BOTH LITTORAL SHELVES TOGETHER WITH THE 6:1 SLOPE SHALL PROVIDE ADEQUATE AREA TO ACHIEVE A TOTAL LITTORAL PLANT COUNT CONSISTENT WITH THE LAND DEVELOPMENT CODE.



Barraco
and Associates, Inc.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING - LANDSCAPE DESIGN
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FORT MYERS, FLORIDA 33902-2800
PHONE (239) 461-3170
FAX (239) 461-3169
FLORIDA CERTIFICATES OF AUTHORIZATION
ENGINEERING 7995 - SURVEYING LB-6940

PREPARED FOR

PROJECT DESCRIPTION

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FILE NAME J:\23473\DWG\EXHIBITS\23473_ADD EXHIBIT.DWG

LOCATION J:\23473\DWG\EXHIBITS\

PLOT DATE MON. 12-11-2017 - 2:28 PM

PLOT BY TIM GAVIN

CROSS REFERENCED DRAWINGS

PLAN REVISIONS

PLAN STATUS

APPROVAL SUBMITTALS PLANS
NOT FOR CONSTRUCTION

EXHIBIT 2

PROJECT / FILE NO. 23473

SHEET NUMBER EXH