



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
1520 ROYAL PALM SQUARE BLVD., SUITE 310
FORT MYERS, FLORIDA 33919

APRIL 12, 2019

Regulatory Division
West Permits Branch
Fort Myers Permits Section

PUBLIC NOTICE

Permit Application No. SAJ-2018-00856 (SP-MLB)

TO WHOM IT MAY CONCERN: The Jacksonville District of the U.S. Army Corps of Engineers (Corps) has received an application for a Department of the Army permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. §1344) as described below:

APPLICANT: Lee County DOT
C/o David Murphy
P.O. Box 398
Fort Myers, FL 33902

WATERWAY AND LOCATION: The project would affect waters of the United States associated with the Estero Bay Frontal and Tenmile Canal HUC 12: 0309020401. The project site is located within the Six Mile Cypress Slough Preserve – Palomino Lane Borrow Lake at the east end of Penzance Blvd., in Section 10, Township 45 South, Range 26 East, Fort Myers, Lee County, Florida.

Directions to the site are as follows: From I-75 take Exit 131 and head west on Daniels Parkway for ½ mile; make a right on Palomino Lane and continue on for approximately 1 ½ mile; make a right on Penzance Blvd.; follow Penzance to Morgan Hill Road and turn left; the access to the project site is the first gate to the right.

APPROXIMATE CENTRAL COORDINATES: Latitude 26.570605°
Longitude -81.796732°

BACKGROUND: The Corps issued a Nationwide Permit to Lee County Department of Transportation on May 9, 2017 to place 5 cubic yards of fill in 875 linear feet of roadside wetlands for the installation of culverts related to sidewalk and turn lane improvements to Palomino Lane. The work is currently taking place.

PROJECT PURPOSE:

Basic: Aquatic habitat enhancement and establishment.

Overall: Provide compensatory water storage while enhancing the aquatic resources and wildlife habitat within Six Mile Cypress Slough Preserve.

EXISTING CONDITIONS: The proposed project is located within a 14.95 acre project area of a county preserve known as Six Mile Cypress Slough Preserve. The project area consists of an 8.3 acre borrow lake (FLUCCS 742), a 0.5 of disturbed mixed forested wetland (FLUCCS 6179), 5.7 acres of disturbed hydric pine flatwoods (FLUCCS 6259) and 0.45 acre of disturbed lands (FLUCCS 740M). The surrounding area consists of an access road to the north and south, disturbed hydric pine flatwoods to the west, and an interstate (I-75) to the east.

PROPOSED WORK: The applicant seeks authorization for the following: 1) dredging 1.27 acres of freshwater wetlands resulting in the expansion of the existing borrow lake to the west and creation of a littoral shelf / freshwater marsh with appropriate inflow and outflow; 2) filling 0.33 acre of freshwater wetlands resulting in the creation of an island within the expanded borrow lake to provide an upland area for aquatic fauna, sun basking and nesting; 3) filling 0.10 acres of wetland in order to improve the existing berm around the borrow lake; 4) removing 0.32 acre of vegetation for the creation of a maintenance trail.

AVOIDANCE AND MINIMIZATION INFORMATION: The applicant has provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment:

Wetland impacts could not be avoided since the entire area is surrounded by wetlands and preserve. The lowest quality wetlands were chosen to be impacted to minimize the loss of wetland functions.

COMPENSATORY MITIGATION: The applicant has offered the following compensatory mitigation plan to offset unavoidable functional loss to the aquatic environment:

Mitigation for the wetland impact is proposed through the use of 0.34 credits from the Lee County Island Park Preserve.

CULTURAL RESOURCES:

The Corps is not aware of any known historic properties within the permit area. By copy of this public notice, the Corps is providing information for review. Our final determination relative to historic resource impacts is subject to review by and coordination with the State Historic Preservation Officer and those federally recognized tribes with concerns in Florida and the Permit Area.

ENDANGERED SPECIES:

The Corps has determined the proposed project may affect, but is not likely to adversely affect the Eastern indigo snake (*Drymarchon corais couperi*), Red-cockaded woodpecker (*Leuconotopicus borealis*) and Florida bonneted bat (*Eumops floridanus*).

The Corps will request United States Fish and Wildlife Service (USFWS) concurrence with this determination pursuant to Section 7 of the Endangered Species Act.

The Corps has determined the proposed project may affect, but is not likely to adversely affect the Wood stork (*Mycteria americana*). The Corps has concurrence with this determination pursuant to The Corps of Engineers, Jacksonville District, U.S. Fish and Wildlife Service, South Florida Ecological Services Field Office and State of Florida Effect Determination Key for the Wood Stork in South Florida dated May 18, 2010. No further consultation with the USFWS is required.

ESSENTIAL FISH HABITAT (EFH): This notice initiates consultation with the National Marine Fisheries Service on EFH as required by the Magnuson-Stevens Fishery Conservation and Management Act 1996. Our determination is that the proposed project would have no adverse impact on EFH as the project site is located approximately 6 miles inland from the nearest tributary that leads into the Gulf of Mexico.

NOTE: This public notice is being issued based on information furnished by the applicant. This information has not been verified or evaluated to ensure compliance with laws and regulation governing the regulatory program. The jurisdictional line has not been verified by Corps personnel.

AUTHORIZATION FROM OTHER AGENCIES: Water Quality Certification may be required from the Florida Department of Environmental Protection and/or one of the state Water Management Districts.

COMMENTS regarding the potential authorization of the work proposed should be submitted in writing to the attention of the District Engineer through the Fort Myers Permits Section, 1520 Royal Palm Square Blvd., Suite 310, Fort Myers, Florida 33919 within 21 days from the date of this notice. Please reference this permit number, SAJ-2018-00856 (SP-MLB), on all submittals.

The decision whether to issue or deny this permit application will be based on the information received from this public notice and the evaluation of the probable impact to the associated wetlands. This is based on an analysis of the applicant's avoidance and minimization efforts for the project, as well as the compensatory mitigation proposed.

QUESTIONS concerning this application should be directed to the project manager, Michelle Bartley, in writing at the Fort Myers Permits Section, 1520 Royal Palm Square Blvd., Suite 310, Fort Myers, Florida 33919, by e-mail at michelle.l.bartley@usace.army.mil, or by telephone at (239) 334-1975 ext. 0006.

IMPACT ON NATURAL RESOURCES: Preliminary review of this application indicates that an Environmental Impact Statement will not be required. Coordination with U.S.

Fish and Wildlife Service, Environmental Protection Agency (EPA), the National Marine Fisheries Services, and other Federal, State, and local agencies, environmental groups, and concerned citizens generally yields pertinent environmental information that is instrumental in determining the impact the proposed action will have on the natural resources of the area. By means of this notice, we are soliciting comments on the potential effects of the project on threatened or endangered species or their habitat

EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including cumulative impacts thereof; among these are conservation, economics, esthetics, general environmental concerns, wetlands, historical properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food, and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people. Evaluation of the impact of the activity on the public interest will also include application of the guidelines promulgated by the Administrator, EPA, under authority of Section 404(b) of the Clean Water Act of the criteria established under authority of Section 102(a) of the Marine Protection Research and Sanctuaries Act of 1972. A permit will be granted unless its issuance is found to be contrary to the public interest.

The US Army Corps of Engineers (Corps) is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other Interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

COASTAL ZONE MANAGEMENT CONSISTENCY: In Florida, the State approval constitutes compliance with the approved Coastal Zone Management Plan. In Puerto Rico, a Coastal Zone Management Consistency Concurrence is required from the Puerto Rico Planning Board, in the Virgin Islands, the Department of Planning and Natural Resources permit constitutes compliance with the Coastal Zone Management Plan.

REQUEST FOR PUBLIC HEARING: Any person may request a public hearing. The request must be submitted in writing to the District Engineer within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.



SFWMD GeoSpatial Services

Exhibit No: 1

Exhibit Created On:
2018-03-15

LEE COUNTY, FL



Application



REGULATION DIVISION

Project Name: Palomino Lane Borrow Lake
Enhancement



0 500 1,000
Feet



Application Number: 180205-305

sfwmd.gov

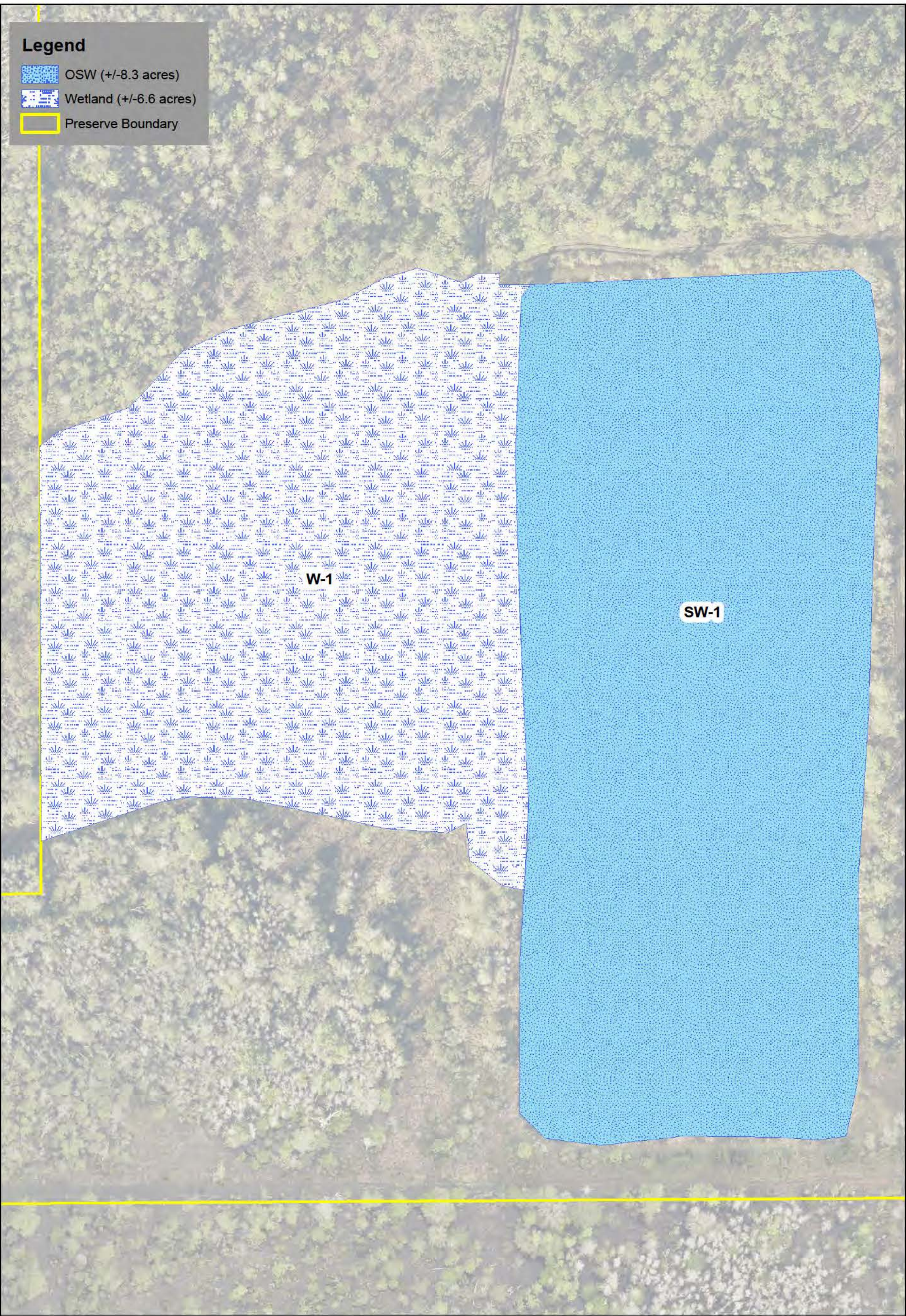
Created by IT GIS Section
South Florida Water Management District

Legend

OSW (+/-8.3 acres)

Wetland (+/-6.6 acres)

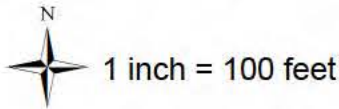
Preserve Boundary



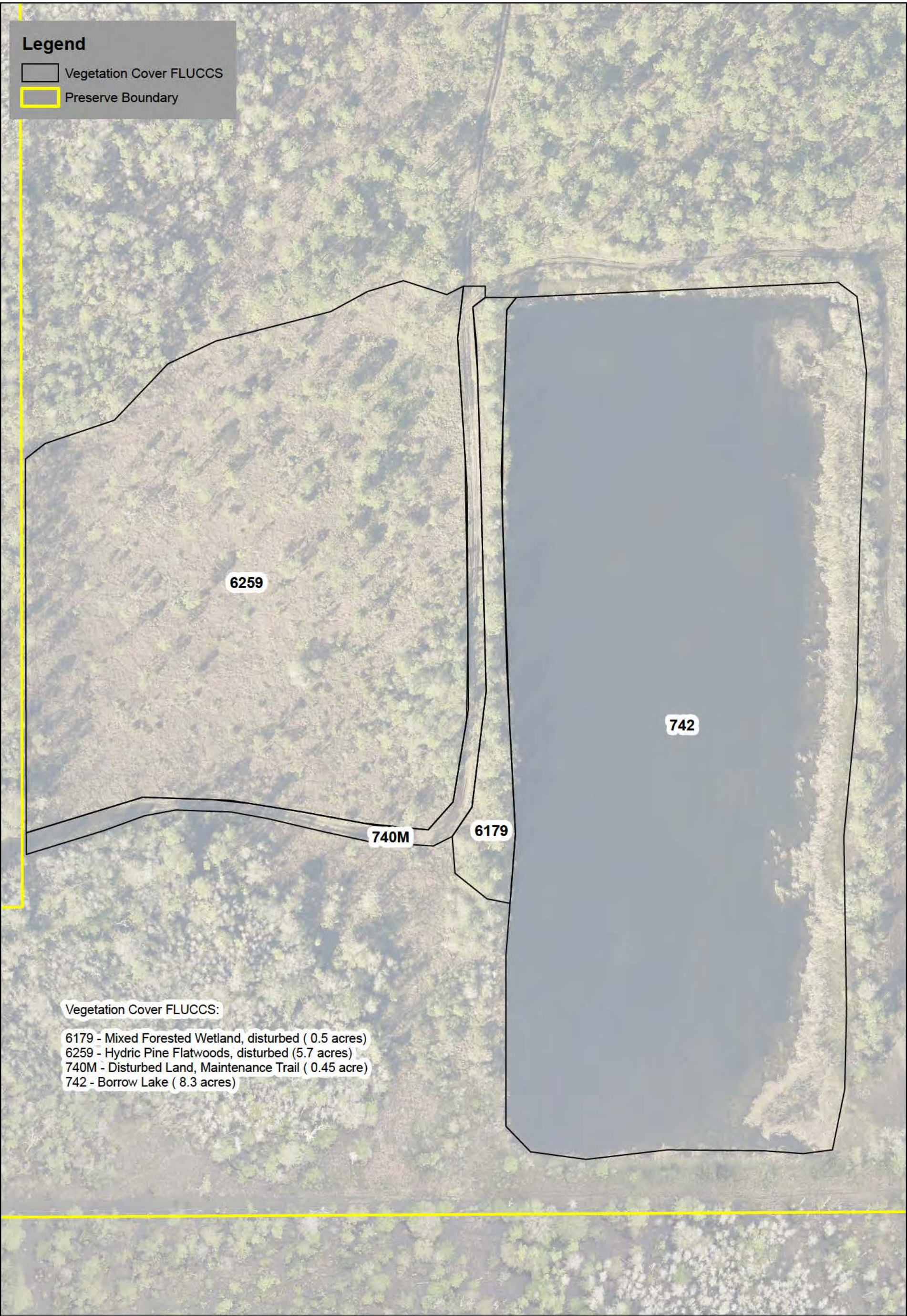
Palomino Borrow Lake Enhancement Project Wetland & OSW

Data Sources: Lee Cty GIS 2016 Aerial; Fieldwork
Date: 4 January 2018

Document Path: I:\2014 Files\ArcGIS\Palomino Lane Lake Proj_Aug2017\WetlandOSWMap_4Jan2018.mxd



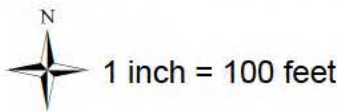
+1.239.628.5616
kim@ecoplanz.com



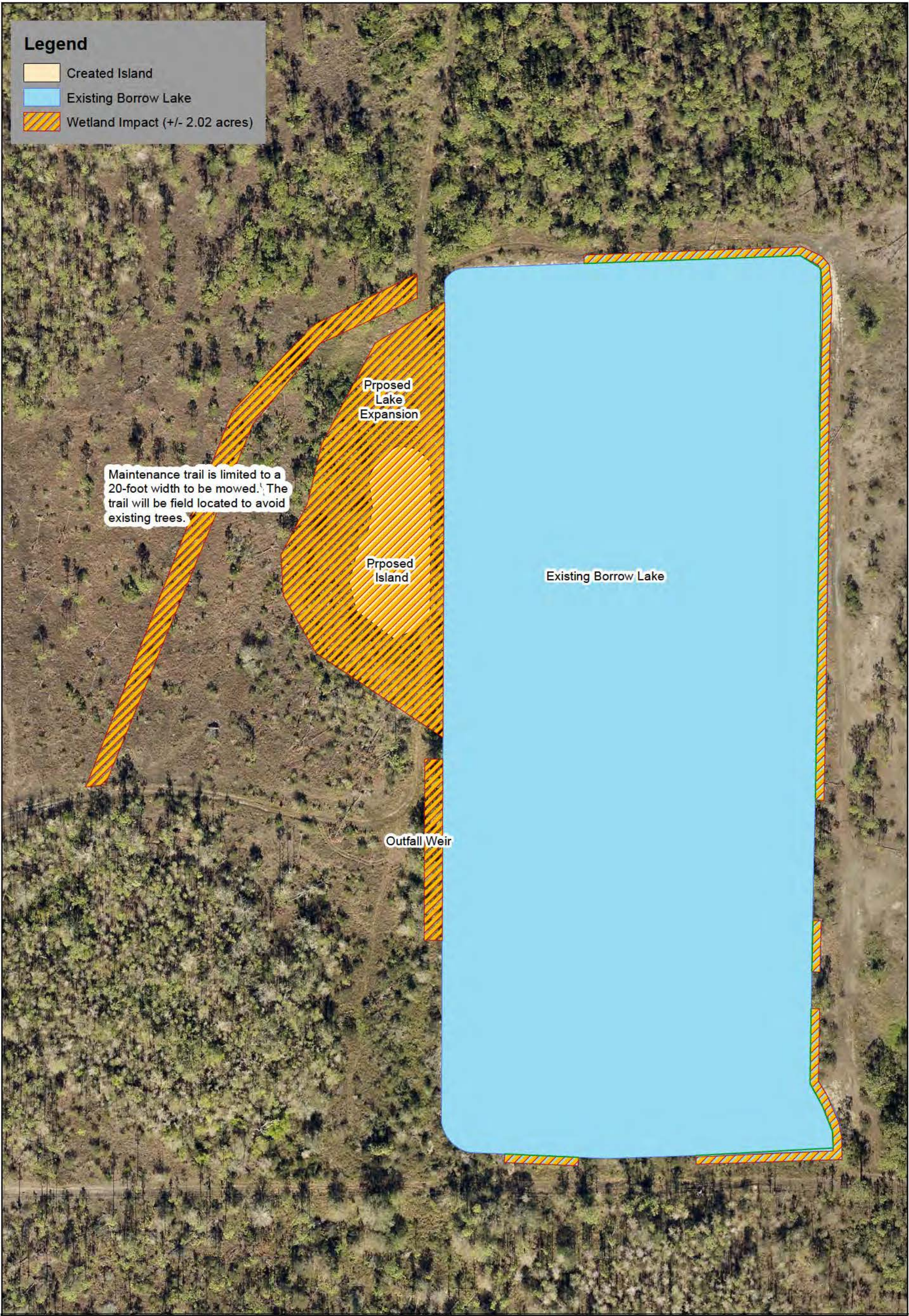
Palomino Borrow Lake Enhancement Project Existing FLUCCS

Data Sources: Lee Cty GIS 2016 Aerial; Fieldwork
Date: 4 January 2018

Document Path: I:\2014 Files\ArcGIS\Palomino Lane Lake Proj_Aug2017\FLUCCS_Existing_4Jan2018.mxd



+1.239.628.5616
kim@ecoplanz.com



SITE IMPROVEMENTS
FOR
**PALOMINO ROAD
BORROW LAKE ENHANCEMENT**

MORGAN HILL ROAD
FORT MYERS, FL 33912

CLIENT:
LEE COUNTY PARKS AND RECREATION
3410 PALM BEACH BOULEVARD
FORT MYERS, FL 33916
(239) 533-7275
CONTACT: CATHY OLSON

DEVELOPMENT CONTACTS:

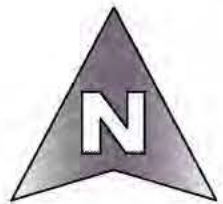
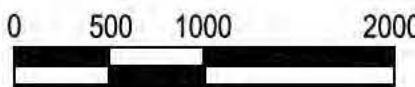
PUBLIC WORKS: LEE COUNTY 1500 MONROE STREET FORT MYERS, FL 33901	ELECTRIC: N/A
STORMWATER: LEE COUNTY 1500 MONROE STREET FORT MYERS, FL 33901	CABLE: N/A
WATER: N/A	TELEPHONE: N/A
SANITARY SEWER: N/A	GAS: N/A

PROJECT INFORMATION:

PARCEL NUMBER:	10-45-25-00-00006.1000
SITE ADDRESS:	[ACCESS UNDETERMINED] MORGAN HILL ROAD FORT MYERS, FL 33912
PARCEL AREA:	43.05 ACRES
BASIN AREA:	18.42 ACRES
PROJECT AREA:	1.94 ACRES
SECTION/TOWNSHIP/RANGE:	10/45/25
ZONING:	AG-2
LAND USE:	LU
FEMA PANEL NUMBER:	PANEL 12071C0433F (DATED 08/28/2008)
FEMA FLOOD ZONE:	ZONE X



PROJECT LOCATION



VICINITY MAP
SCALE: 1" = 1000'

SHEET INDEX:

SHEET NUMBER	SHEET DESCRIPTION	FILE NAME
1	COVER SHEET	17014A01.DWG
2	AERIAL PHOTOGRAPH AND EXISTING CONDITIONS PLAN	17014A05.DWG
3	DRAINAGE IMPROVEMENT PLAN	17014A11.DWG
4	BORROW LAKE ENLARGED PLAN	17014A11.DWG
5	TYPICAL SECTIONS & CONSTRUCTION DETAILS	17014A70.DWG



NOTE: PLANS MAY HAVE BEEN MODIFIED IN SIZE THROUGH REPRODUCTION PROCESSES. PLEASE CONSIDER THIS WHEN OBTAINING SCALED DATA.

ENGINEER OF RECORD
STEPHANIE K. CALDWELL, P.E.
FL P.E. NO. 56103
DATE: 6/11/2018

greensite
engineering, inc.

13300-56 S. CLEVELAND AVENUE, #611
FORT MYERS, FL 33907
PHONE (239) 433-8498
FAX (239) 489-2147
FL CERT OF AUTH #28713
WWW.GREENSITE-ENG.COM

PROJECT NAME
**PALOMINO ROAD
BORROW LAKE
ENHANCEMENT**

SITE IMPROVEMENTS

FORT MYERS, FLORIDA

CLIENT
**LEE COUNTY PARKS
& RECREATION**

3410 PALM BEACH BOULEVARD
FORT MYERS, FL 33916
PHONE: (239) 533-7275
FAX: (239) 455-2300
WWW.LEEGOV.COM

FILE NAME:
17014A01.DWG

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DRAWN BY: SKC CHECKED BY: SKC

PLOT DATE:
MON. 6/11/2018 - 11:46 AM

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NO.	DATE	BY	REVISIONS
10			
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8			
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6			
5			
4			
3			
2			
1			

PLAN STATUS:
PERMIT APPROVAL
NOT FOR CONSTRUCTION

ISSUE DATE:
JUNE 2018

DRAWING TITLE

COVER SHEET

GEI PROJECT NUMBER

17-014

SHEET NUMBER

1



ENGINEER OF RECORD
STEPHANIE K. CALDWELL, P.E.
FL P.E. NO. 56103
DATE: 6/11/2018

greensite engineering, inc.
13300-56 S. CLEVELAND AVENUE, #611
FORT MYERS, FL 33907
PHONE (239) 433-8498
FAX (239) 489-2147
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PROJECT NAME
PALOMINO ROAD BORROW LAKE ENHANCEMENT

SITE IMPROVEMENTS
FORT MYERS, FLORIDA

CLIENT
LEE COUNTY PARKS & RECREATION

3410 PALM BEACH BOULEVARD
FORT MYERS, FL 33916
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FAX: (239) 485-2300
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FILE NAME:
1701A05.DWG

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DRAWN BY: SKC **CHECKED BY:** SKC

PLOT DATE:
MON. 6/11/2018 - 11:48 AM

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PLAN STATUS:
PERMIT APPROVAL
NOT FOR CONSTRUCTION

ISSUE DATE:
JUNE 2018

DRAWING TITLE
AERIAL PHOTOGRAPH AND EXISTING CONDITIONS PLAN

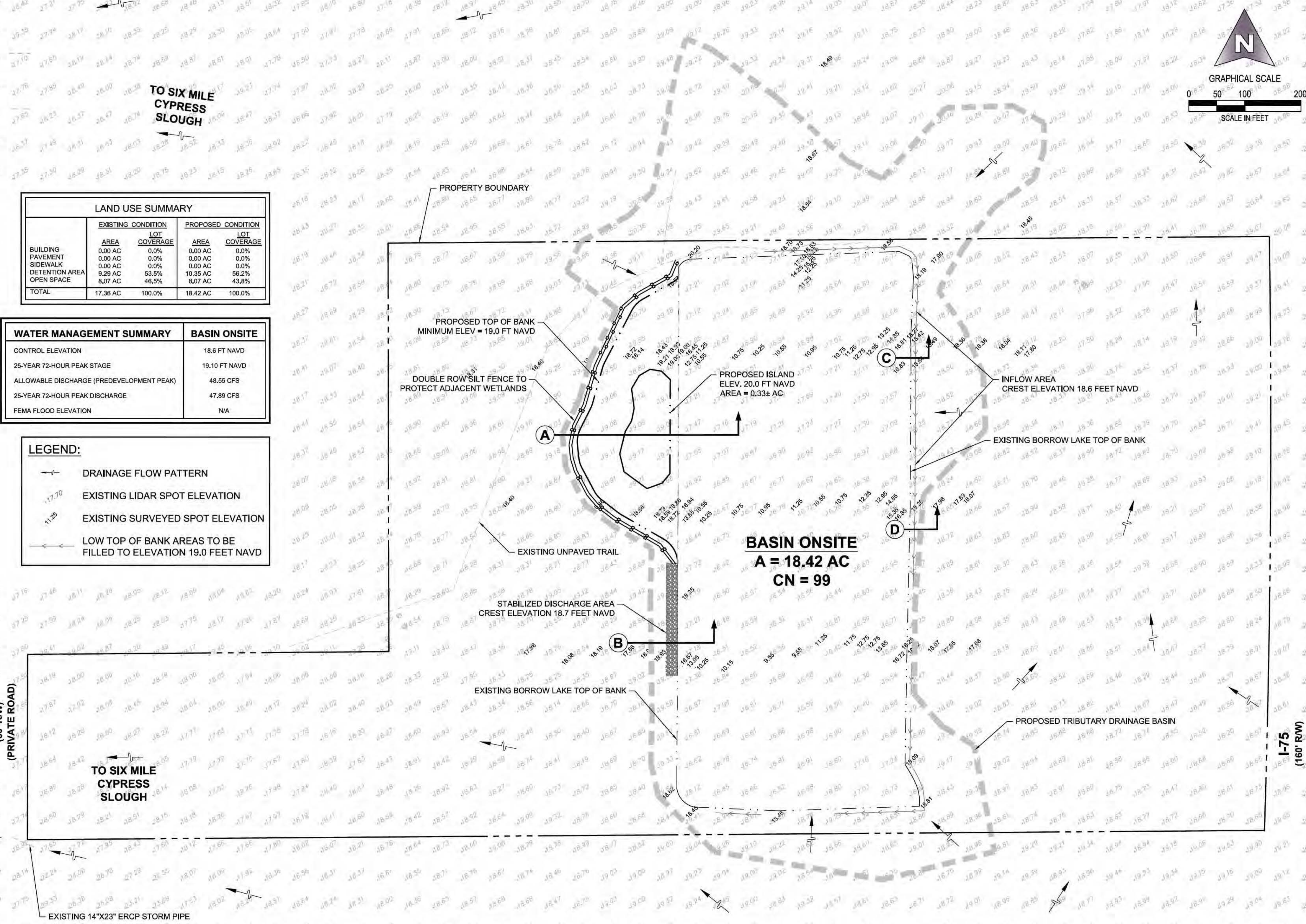
GEI PROJECT NUMBER
17-014

SHEET NUMBER
2

PROJECT PLANTING PLAN			
Expanded Lake Planting Plan:			
Common Name	Scientific Name	Size	Number
Duck potato	<i>Sagittaria lancifolia</i>	Bareroot	750.000000
Pickernelweed	<i>Pontederia cordata</i>	Bareroot	750.000000
Pond apple	<i>Annona glabra</i>	3-gallon	35.000000
Sand cordgrass	<i>Spartina bakeri</i>	2-inch liner	200.000000
Spike rush	Eleocharis cellulosa &/or Eleocharis interstincta	Bareroot	1,000
The duck potato, pikerelweed, and spike rush will be planted on the shoreline slope and throughout the expanded lake area approximately 5-foot on center. The pond apple and sand cordgrass will be planted along the expanded lake shoreline with the cordgrass planted approximately 3 to 4-feet on center, and the pond apple planted randomly no closer than 15-feet on center and no further than 30-feet on center.			
Berm Low Areas on Top of Bank along Existing Lake Edge Planting Plan:			
Common Name	Scientific Name	Size	Number
Pond apple	<i>Annona glabra</i>	3-gallon	100.000000
Sand cordgrass	<i>Spartina bakeri</i>	2-inch liner	1,100
The pond apple and sand cordgrass will be planted on the berm created along the lake shoreline. The cordgrass will be planted approximately 3-feet on center in 3 staggered rows (i.e. 1st row on slope on lake side of berm, 2nd row on top of berm, and 3rd row on backside of berm). The pond apple planted randomly no closer than 15-feet on center and no further than 30-feet on center in areas where the berm is constructed.			
Lake Inflow Area Planting Plan:			
Common Name	Scientific Name	Size	Number
Spike rush	Eleocharis cellulosa &/or	Bareroot	400
	<i>Eleocharis interstincta</i>		
The spike rush will be planted approximately 3-foot on center in the northeast corner of the lake across the inflow area.			
Created Island Shoreline Planting Plan:			
Common Name	Scientific Name	Size	Number
Pond apple	<i>Annona glabra</i>	3-gallon	25.000000
Spike rush	Eleocharis cellulosa &/or	Bareroot	200
	<i>Eleocharis interstincta</i>		
The pond apple and spikerush will be planted along the created island shoreline with the spike rush planted approximately 5-feet on center over a 10-foot width from elevation 18.6 to 17.6 feet NAVD into the littoral slope, and the pond apple planted randomly no closer than 15-feet on center and no further than 30-feet on center from elevation 19.1 to 18.3 feet NAVD.			
Created Island Planting Plan:			
Common Name	Scientific Name	Size	Number
Laurel oak	<i>Quercus laurifolia</i>	3-gallon	10.000000
Myrsine	<i>Rapanea punctata</i>	3-gallon	50.000000
South Florida slash pine	<i>Pinus elliotii densa</i>	3-gallon	10.000000
Wiregrass	<i>Aristida</i> spp.	Bareroot	1,000
The plants will be installed at and above 19.5 feet NAVD in a random manner to mimic a natural mixed hardwood forest with trees planted no closer than 20-feet on center and no further than 40-feet on center, with shrubs planted no closer than 15-feet on center, and wiregrass planted no closer than 3-feet on center.			
Plants must meet the minimum Florida Grades & Standards for restoration planting.			
Plants will be inspected by County staff or their assignee upon delivery and after planting.			
Plants must be clear and free of invasive and/or nuisance species.			
Plants must not be root bound.			
Plants must have been in the 3-gallon container for a minimum of 6-months.			
Plants must be watered upon installation and as needed to insure establishment.			
Plants must be guaranteed for 1-year to insure establishment.			

GENERAL NOTES

- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, FOOT DESIGN STANDARDS INDEX AND ALL LOCAL DEVELOPMENT CODES.
- BENCHMARK DATUM FOR THIS PROJECT IS NATIONAL AMERICAN VERTICAL DATUM (NAVD) OF 1988.
- ALL APPROVALS REQUIRED BY THE OWNER OR ENGINEER OF RECORD IN CONJUNCTION WITH THESE NOTES MUST BE OBTAINED IN WRITING BY THE CONTRACTOR FROM THE APPROPRIATE PARTY. CONTRACTOR IS REQUIRED TO OBTAIN APPROVAL FROM THE ENGINEER FOR ANY DEVIATIONS FROM THE PLANS AND/ OR SPECIFICATIONS.
- CONTRACTOR SHALL ENSURE PERMITS ARE IN PLACE PRIOR TO CONSTRUCTION AND THAT COPIES OF ALL PERMITS ARE RETAINED ON SITE AT ALL TIMES.
- A VEGETATION REMOVAL PERMIT MAY BE REQUIRED PRIOR TO COMMENCEMENT OF ANY SITE WORK. PROTECTIVE BARRIERS MUST BE CONSTRUCTED AND INSPECTED PRIOR TO PERMIT ISSUANCE.
- IF APPLICABLE, CONTRACTOR SHALL NOTIFY OWNER AND CONTACT ALL UTILITY COMPANIES FOR LOCATIONS OF EXISTING UTILITIES IN THE AREA A MINIMUM OF 72 HOURS PRIOR TO COMMENCING CONSTRUCTION. CONTRACTOR SHALL DETERMINE IF UTILITIES OTHER THAN THOSE SHOWN ON THESE PLANS EXIST. CONTRACTOR SHALL NOTIFY THE APPROPRIATE AGENCY A MINIMUM OF 72 HOURS PRIOR TO ALL INSPECTIONS REQUIRED BY THE LOCAL DEVELOPMENT CODE.
- THE LOCATION OF EXISTING UTILITIES, PAVEMENT, VEGETATION, AND OTHER IMPROVEMENTS ARE APPROXIMATE ONLY. THE EXACT SIZES, ELEVATIONS AND LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION OR ORDERING MATERIALS. CONTRACTOR SHALL NOTIFY ENGINEER AND OWNER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
- ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED AND IF IN DANGER OF BEING DESTROYED MUST BE PROPERLY REFERENCED BY THE CONTRACTOR.
- EXISTING IMPROVEMENTS SHALL BE RESTORED TO A CONDITION EQUIVALENT TO THAT WHICH EXISTED PRIOR TO COMMENCING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY RIGHT-OF-WAY, CLEARING, DEWATERING, TREE REMOVAL OR VEGETATION REMOVAL PERMITS REQUIRED FOR THIS PROJECT.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY PLAN DEVIATION SHALL BE IMMEDIATELY REPORTED TO ENGINEER AND OWNER.
- PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY APPROPRIATE EROSION CONTROL DEVICES SHALL BE INSTALLED TO CONTROL AND REDUCE SOIL EROSION AND SEDIMENT TRANSPORT TO OFF-SITE AND/OR ENVIRONMENTALLY SENSITIVE AREAS. CONTRACTOR SHALL MAINTAIN THESE DEVICES THROUGHOUT THE DURATION OF CONSTRUCTION. ALL DEVICES SHALL REMAIN IN PLACE UNTIL THE SURROUNDING AREAS ARE ESTABLISHED.
- THE PROPERTY OWNER OR DESIGNATED AUTHORITY IS RESPONSIBLE FOR THE PERPETUAL MAINTENANCE OF ALL FEATURES OF THE SURFACE WATER MANAGEMENT SYSTEM AS SHOWN IN THESE DRAWINGS AND AS REQUIRED BY LOCAL, STATE AND FEDERAL PERMITS. IT IS FURTHER RECOMMENDED THAT THE SURFACE WATER MANAGEMENT SYSTEM BE INSPECTED SEMI-ANNUALLY.



LAND USE SUMMARY				
	<u>EXISTING CONDITION</u>		<u>PROPOSED CONDITION</u>	
	<u>AREA</u>	<u>LOT COVERAGE</u>	<u>AREA</u>	<u>LOT COVERAGE</u>
BUILDING	0.00 AC	0.0%	0.00 AC	0.0%
PAVEMENT	0.00 AC	0.0%	0.00 AC	0.0%
SIDEWALK	0.00 AC	0.0%	0.00 AC	0.0%
DETENTION AREA	9.29 AC	53.5%	10.35 AC	56.2%
OPEN SPACE	8.07 AC	46.5%	8.07 AC	43.8%
TOTAL	17.36 AC	100.0%	18.42 AC	100.0%

WATER MANAGEMENT SUMMARY		BASIN ONSITE
CONTROL ELEVATION		18.6 FT NAVD
25-YEAR 72-HOUR PEAK STAGE		19.10 FT NAVD
ALLOWABLE DISCHARGE (PREDEVELOPMENT PEAK)		48.55 CFS
25-YEAR 72-HOUR PEAK DISCHARGE		47.89 CFS
FEMA FLOOD ELEVATION		N/A

LEGEND:	
	DRAINAGE FLOW PATTERN
	EXISTING LIDAR SPOT ELEVATION
	EXISTING SURVEYED SPOT ELEVATION
	LOW TOP OF BANK AREAS TO BE FILLED TO ELEVATION 19.0 FEET NAVD

- NO POTENTIAL IMPACTS TO GROUND AND SURFACE WATERS, WETLANDS, FLOOD PLAINS, OR RIVERINE AREAS ARE ANTICIPATED DUE TO CONSTRUCTION OF THIS PROJECT.
- ALL CONSTRUCTION PROJECTS ONE (1) OR MORE ACRES IN SIZE THAT DISCHARGE TO OFFSITE AREAS ARE REQUIRED TO COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR STORMWATER DISCHARGE FROM SMALL AND LARGE CONSTRUCTION ACTIVITIES. IN ORDER TO MEET NPDES REQUIREMENTS, CONTRACTOR IS RESPONSIBLE FOR PREPARING A STORMWATER POLLUTION PREVENTION PLAN (SWPPP), IMPLEMENTING, INSPECTING, MAINTAINING, AND REPORTING ON ALL ELEMENTS OF THE SWPPP, COMPLETING AND SUBMITTING THE REQUIRED NOTICE OF INTENT (NOI) AND NOTICE OF TERMINATION (NOT) FORMS AS THE OPERATOR, AND PAYING ALL ASSOCIATED FEES. FOR PROJECTS LESS THAN ONE (1) ACRE IN SIZE THAT ARE NOT REQUIRED TO COMPLY WITH THE NPDES GENERAL PERMIT, THE CONTRACTOR IS STILL RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO AND DURING CONSTRUCTION IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATION.
- BASE SURVEY INFORMATION INCLUDING BUT NOT LIMITED TO ELEVATIONS, EASEMENTS, RIGHTS-OF-WAY, AND OTHER TOPOGRAPHIC INFORMATION HAS BEEN PREPARED BY OTHER PROFESSIONALS. GREENSITE ENGINEERING, INC. ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THIS INFORMATION.
- AS-BUILT DRAWINGS SHALL BE PROVIDED BY CONTRACTOR TO ENGINEER THREE WEEKS PRIOR TO FINAL INSPECTION. ALL AS-BUILT DATA SHALL BE PROVIDED BY A FLORIDA LICENSED SURVEYOR, SIGNED, SEALED, AND DATED BY THE RESPONSIBLE PARTY.

PROJECT PHASING NOTES

THE PROJECT INFRASTRUCTURE SHALL BE CONSTRUCTED IN A SINGLE PHASE.

SITE PREPARATION NOTES

- UNLESS OTHERWISE DIRECTED BY OWNER OR ENGINEER, CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THE PROPERTY, RIGHT-OF-WAY, AND EASEMENTS AS INDICATED ON THE DRAWINGS. AT NO TIME SHALL CONTRACTOR DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF DAMAGED AREAS ON SURROUNDING PROPERTIES SHALL BE REPAIRED BY CONTRACTOR ON AN IMMEDIATE BASIS. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.
- AREAS TO RECEIVE CLEARING AND GRUBBING SHALL INCLUDE ALL AREAS TO BE OCCUPIED BY THE PROPOSED IMPROVEMENTS, AREAS FOR FILL, AND SITE GRADING, AND BORROW SITES. REMOVE TREES OUTSIDE OF THESE AREAS ONLY AS INDICATED ON THE DRAWINGS OR AS APPROVED IN WRITING BY ENGINEER OR ECOLOGIST.
- EXERCISE EXTREME CARE DURING THE CLEARING AND GRUBBING OPERATIONS. DO NOT DAMAGE EXISTING STRUCTURES, PIPES, OR UTILITIES.
- GRUBBING SHALL CONSIST OF REMOVAL AND DISPOSAL OF STUMPS, ROOTS LARGER THAN 2" IN DIAMETER, AND MATTED ROOTS. REMOVE TO A DEPTH OF NOT LESS THAN 18" BELOW ORIGINAL SURFACE LEVEL OF THE GROUND.

- ALL COMBUSTIBLE DEBRIS AND REFUSE FROM SITE PREPARATION OPERATIONS SHALL BE REMOVED TO LEGAL OFFSITE DISPOSAL AREAS.
- GRADING:
- GRADING SHOWN ON THESE PLANS ARE PROVIDED TO CONTRACTOR TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. CONTRACTOR SHALL BE EXPECTED TO GRADE THE ENTIRE SITE TO PROVIDE POSITIVE DRAINAGE IN ALL AREAS THROUGHOUT THE SITE. SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT, CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED.
- NEWLY GRADED AREAS SHALL BE PROTECTED FROM TRAFFIC AND EROSION. ALL SETTLEMENT OR WASHING AWAY THAT MAY OCCUR FROM ANY CAUSE PRIOR TO SEEDING OR ACCEPTANCE SHALL BE REPAIRED AND GRADES RE-ESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES AT NO ADDITIONAL COST TO OWNER.
- EXCAVATION, TRENCHING, FILL:
- CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT, F.S. 553.00-553.04. ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIALS TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.
- LAKE CONSTRUCTION SHALL RESULT IN THE FINISHED LAKE HAVING SIDE SLOPES AND DIMENSIONS THAT ARE IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE THAT THESE REQUIREMENTS HAVE BEEN MET. IF THE CONSTRUCTED SIDE SLOPES ARE STEEPER THAN THE REQUIRED SIDE SLOPES, OR THE LAKE VOLUME IS NOT WITHIN THREE (3) PERCENT OF THE DESIGN VOLUME, THE CONTRACTOR MAY BE REQUIRED TO MAKE CORRECTIONS TO THE LAKE AT NO ADDITIONAL COST TO OWNER.
- PROVIDE BARRIERS, WARNING LIGHTS, AND OTHER PROTECTIVE DEVICES AT ALL EXCAVATIONS.
- FURNISH, INSTALL, AND MAINTAIN, WITHOUT ADDITIONAL COMPENSATION, SHEETING, BRACING, AND SHORING SUPPORT REQUIRED TO KEEP EXCAVATIONS WITHIN THE PROPERTY OR EASEMENTS PROVIDED, TO SUPPORT THE SIDES OF THE EXCAVATION, AND TO PREVENT ANY MOVEMENT WHICH MAY DAMAGE ADJACENT PAVEMENTS OR STRUCTURES, DAMAGE OR DELAY THE WORK, OR ENDANGER LIFE AND HEALTH. VOIDS OUTSIDE THE SUPPORTS SHALL BE IMMEDIATELY FILLED AND COMPACTED.
- ALL EXCAVATIONS SHALL BE MADE BY OPEN CUT UNLESS OTHERWISE INDICATED. SLOPE SIDES OF TRENCHES IN ACCORDANCE WITH OSHA REQUIREMENTS.
- ALL BEDDING, FILL, AND BACKFILL MATERIAL SHALL BE SUITABLE SOILS OR FLOWABLE FILL, WHERE TRENCH OR EXCAVATION IS WITHIN THE INFLUENCE AREA OF ROADWAYS, STRUCTURES, FOUNDATIONS, OR SLABS. PLACE BACKFILL IN LAYERS OF 8-INCH LOOSE DEPTH. IN ALL OTHER AREAS, PLACE FILL AND BACKFILL IN LAYERS OF 12-INCH LOOSE DEPTH.

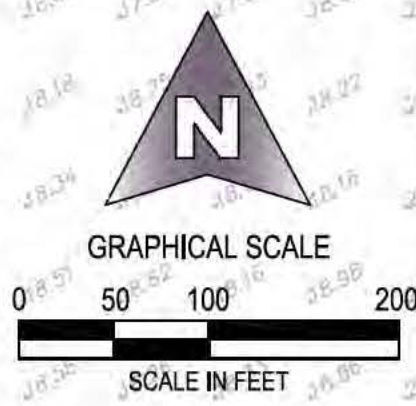
GENERAL DRAINAGE NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR THE ONSITE SURFACE WATER MANAGEMENT SYSTEM DURING SITE WORK CONSTRUCTION.

- EXCAVATION OF DETENTION AREAS AND UNDERGROUND UTILITIES ARE ANTICIPATED WITHOUT A DEWATERING PERMIT. IF CONDITIONS PROVE TO MAKE WET EXCAVATION UNDESIRABLE, CONTRACTOR SHALL APPLY FOR A DEWATERING PERMIT THROUGH SOUTH FLORIDA WATER MANAGEMENT DISTRICT AND/OR LEE COUNTY.
- EXISTING OFF-SITE DRAINAGE PATTERNS SHALL BE MAINTAINED DURING CONSTRUCTION.

EROSION CONTROL NOTES

- PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY APPROPRIATE EROSION CONTROL DEVICES SHALL BE INSTALLED TO CONTROL AND MINIMIZE SOIL EROSION AND SEDIMENT TRANSPORT TO OFF-SITE AND/OR ENVIRONMENTALLY SENSITIVE (JURISDICTIONAL) AREAS. THE CONTRACTOR SHALL MAINTAIN THESE DEVICES THROUGHOUT THE DURATION OF CONSTRUCTION. ALL DEVICES SHALL REMAIN IN PLACE UNTIL PERMANENT EROSION CONTROL IS ESTABLISHED.
- THE CONTRACTOR SHALL SUPPLEMENT THIS PLAN AS MAY BE REQUIRED TO CONTROL AND MINIMIZE SOIL EROSION BASED ON THE CONTRACTORS MEANS, METHODS AND TECHNIQUE OF CONSTRUCTION.
- CONTRACTOR SHALL INSPECT EROSION AND SEDIMENTATION CONTROLS ONCE EVERY SEVEN (7) CALENDAR DAYS AND IMMEDIATELY FOLLOWING A RAIN EVENT OF 1/4 INCH OR GREATER DURING CONSTRUCTION. REMOVE ANY SEDIMENT BUILDUP, REPAIR AND REINSTALL ANY DAMAGED OR MISSING SEDIMENT CONTROL MEASURES. INSTALL ADDITIONAL MEASURES IF INSPECTION REVEALS ADDITIONAL SEDIMENTATION CONTROL IS NECESSARY.
- THESE DETAILS REPRESENT TYPICAL BEST MANAGEMENT PRACTICES FOR SOIL EROSION CONTROL. THEY MAY NOT SATISFY ALL REQUIREMENTS FOR COMPLIANCE WITH REGULATORY AGENCIES AND/OR SPECIFIC PERMIT CONDITIONS.
- CONTRACTOR SHALL OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND LOCAL REGULATORY AGENCY AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL CREATE, IMPLEMENT AND MAINTAIN A STORMWATER POLLUTION PREVENTION PLAN AS REQUIRED BY THE NPDES GENERAL PERMIT.
- AREAS LOCATED ADJACENT TO WETLAND / UPLAND PRESERVE AREAS SHALL BE STABILIZED IMMEDIATELY UPON ACHIEVING FINAL GRADE.
- EROSION CONTROL DEVICES WILL BE INSTALLED ALONG THE BOUNDARY OF CONSERVATION AREAS, PRESERVES, AND/OR WETLAND AREAS (IF APPLICABLE) PRIOR TO CONSTRUCTION. THESE DEVICES CONSIST OF SILT SCREENING AND, IF NECESSARY, STAKED BALES (OR EQUIVALENT). THESE DEVICES SHALL REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND THE ADJACENT CONSTRUCTION ZONES ARE ESTABLISHED.
- CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL METHODS UPON COMPLETION OF SOIL STABILIZATION FOR THE PROJECT. AT THAT TIME CONTRACTOR SHALL FILE AN NPDES STORMWATER POLLUTION PREVENTION PLAN NOTICE OF TERMINATION (NOT) WITH THE FDEP.
- DURING CONSTRUCTION, INLET OPENINGS, WHERE APPROPRIATE, SHALL BE COVERED WITH FILTER FABRIC (MRAFI 140N OR APPROVED EQUAL) TO PREVENT DEBRIS FROM FALLING INTO THE INLET.
- FOR ADDITIONAL EROSION CONTROL DETAILS NOT SHOWN ON THIS SHEET, SEE FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL, PUBLISHED BY FDEP.



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PROJECT NAME

**PALOMINO ROAD
BORROW LAKE
ENHANCEMENT**

SITE IMPROVEMENTS

FORT MYERS, FLORIDA

CLIENT

**LEE COUNTY PARKS
& RECREATION**

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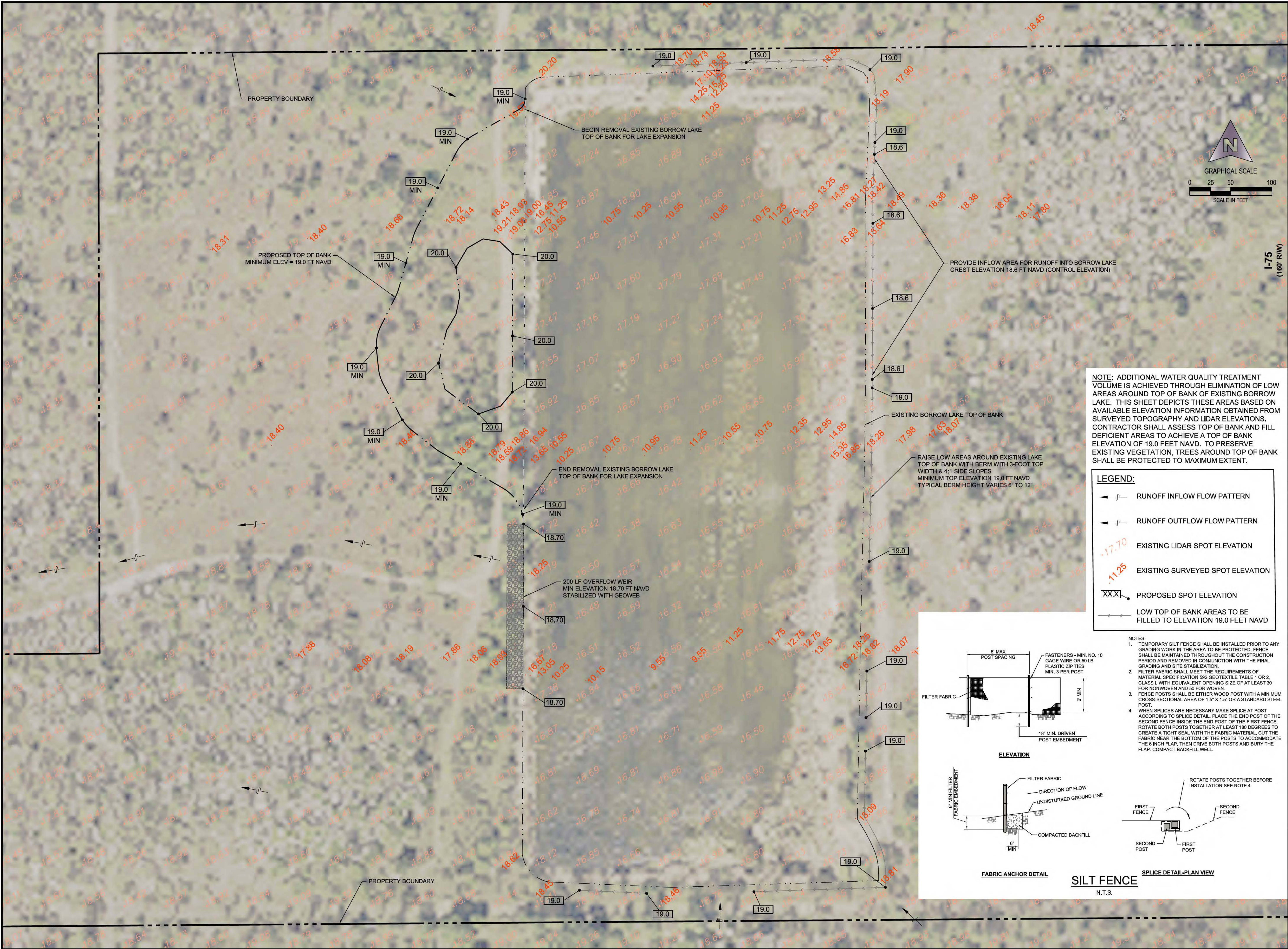
**DRAINAGE
IMPROVEMENT PLAN**

GEI PROJECT NUMBER

17-014

SHEET NUMBER

3



ENGINEER OF RECORD
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PROJECT NAME
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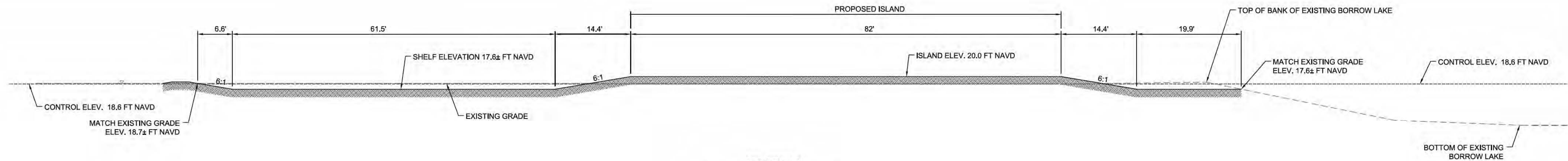
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PLAN STATUS:
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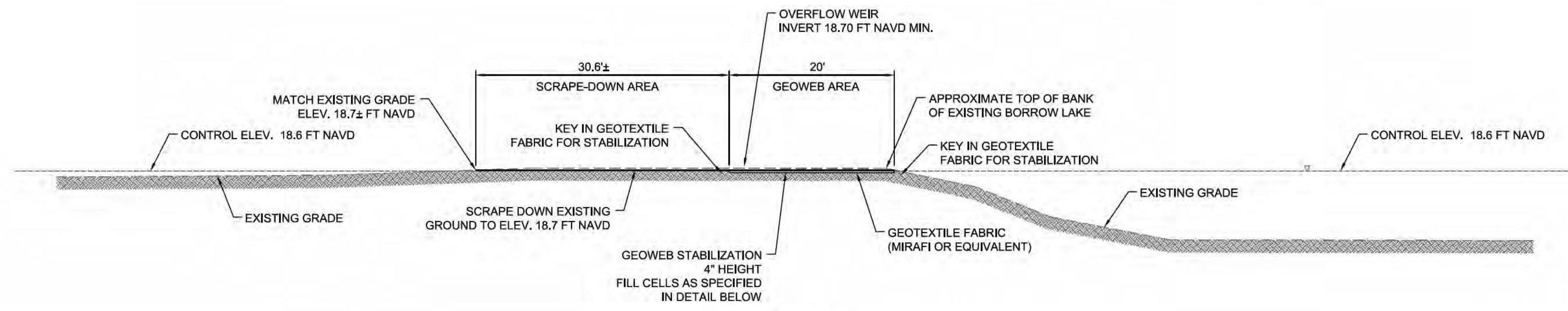
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ENLARGED PLAN**

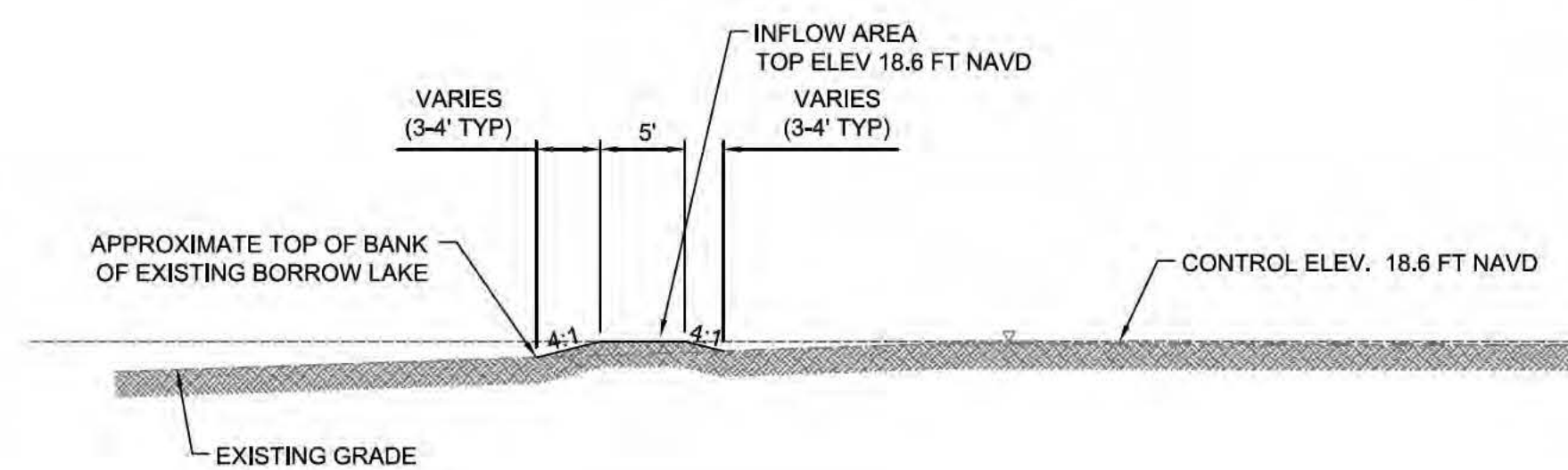
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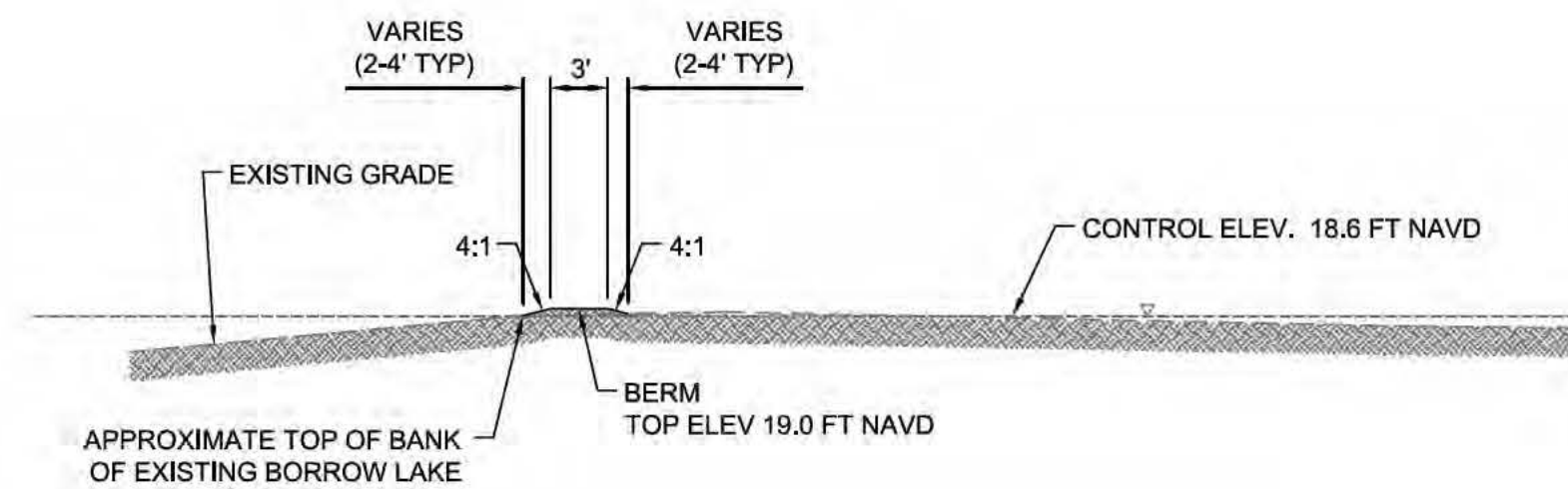
SECTION A-A
(LAKE EXPANSION / ISLAND)
1" = 10'



SECTION B-B
(DISCHARGE WEIR)
1" = 10'



SECTION C-C
(INFLOW AREA)
1" = 10'



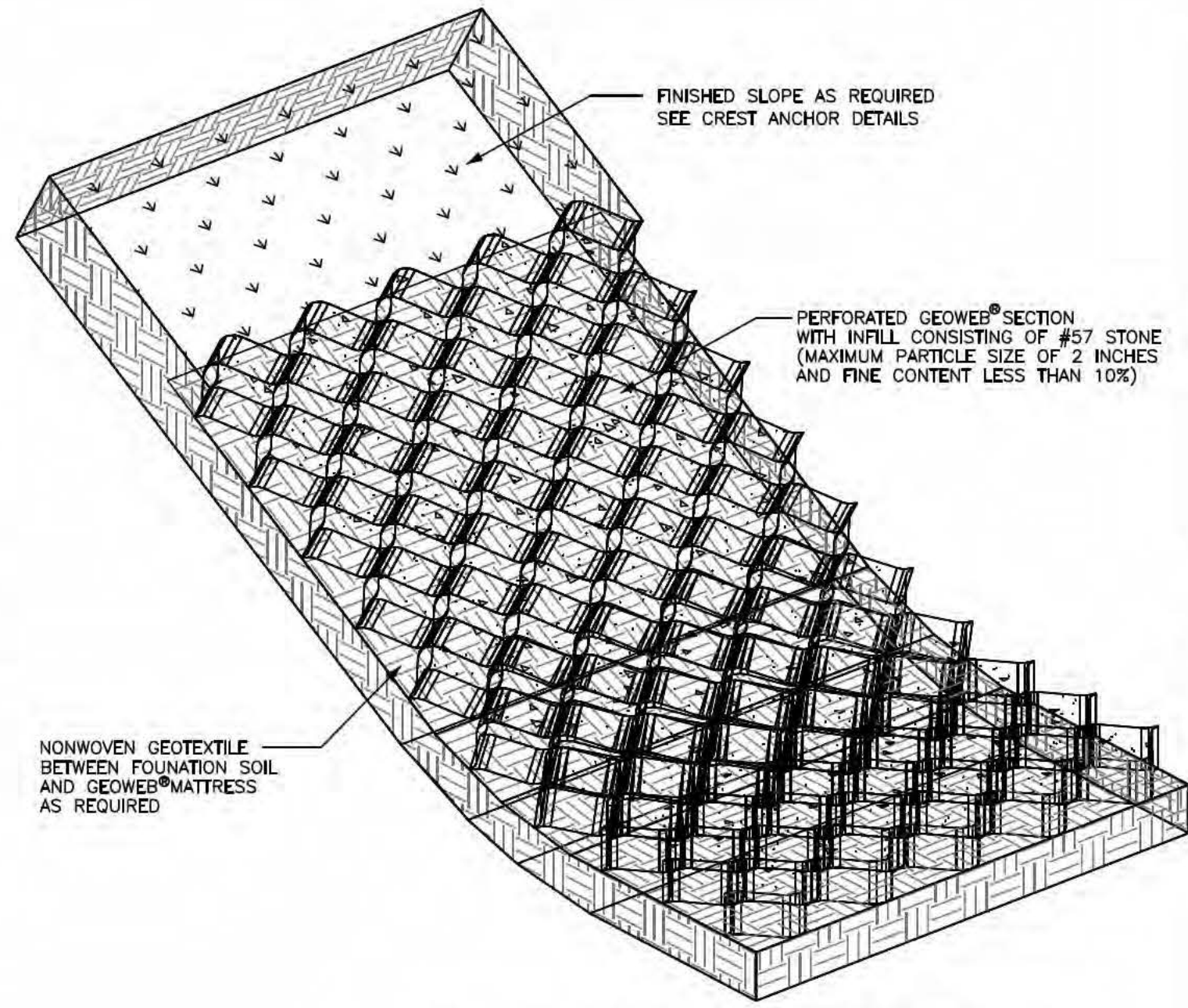
SECTION D-D
(BERMED LOW AREAS AT TOP OF BANK)
1" = 10'

NOTES:

1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
2. GEOWEB® SECTIONS SHALL BE FILLED WITH A SPECIFIED INFILL MATERIAL (SOIL, STONE, CONCRETE) WHICH IS SUITABLE FOR THE HYDRAULIC CONDITIONS (TO BE SPECIFIED BY THE DESIGNER). STONE INFILL IS NOT RECOMMENDED BELOW THE WATER LEVEL OF OPEN CHANNELS OR DITCHES EXCEPT AS NOTED BELOW.
3. GEOWEB® SECTIONS SHALL BE ANCHORED, AS NECESSARY, TO RESIST SLIDING DUE TO GRAVITATIONAL FORCES AND/OR CHANNEL FLOW. ANCHOR MATERIALS INCLUDE STAKE ANCHORS AND/OR POLYMER TENDONS (TO BE SPECIFIED BY DESIGNER WHEN PLACED ON SLOPES STEEPER THAN 3H:1V OR IF PLACED BELOW WATER LEVEL).
4. PROVIDE GEOTEXTILE MATERIAL IN ACCORDANCE WITH TASK FORCE 25 GUIDELINES OR LOCAL STANDARDS.
5. INSTALL GEOTEXTILE MATERIAL ALONG ALL INTERFACE AREAS WITH GROUND CONTACT. THE ENDS OF GEOTEXTILE STRIPS SHALL BE BURIED IN TRENCHES AT THE CREST OF SLOPES OR TERMINATION POINT OF GEOWEB® MATTRESS ON SLOPES.
6. REFER TO DRAWINGS GWGEN1F, GWGEN2F, GWGEN3F, GWSL1F, GWSL2F AND GWSL3F, GWSL4F, GWSL5F AND GWSL6F FOR ADDITIONAL INFORMATION AND DETAILS.
7. TENDON MATERIAL MAY BE POLYPROPYLENE, POLYESTER, OR ARAMID (KEVLAR) AS REQUIRED BY DESIGN.

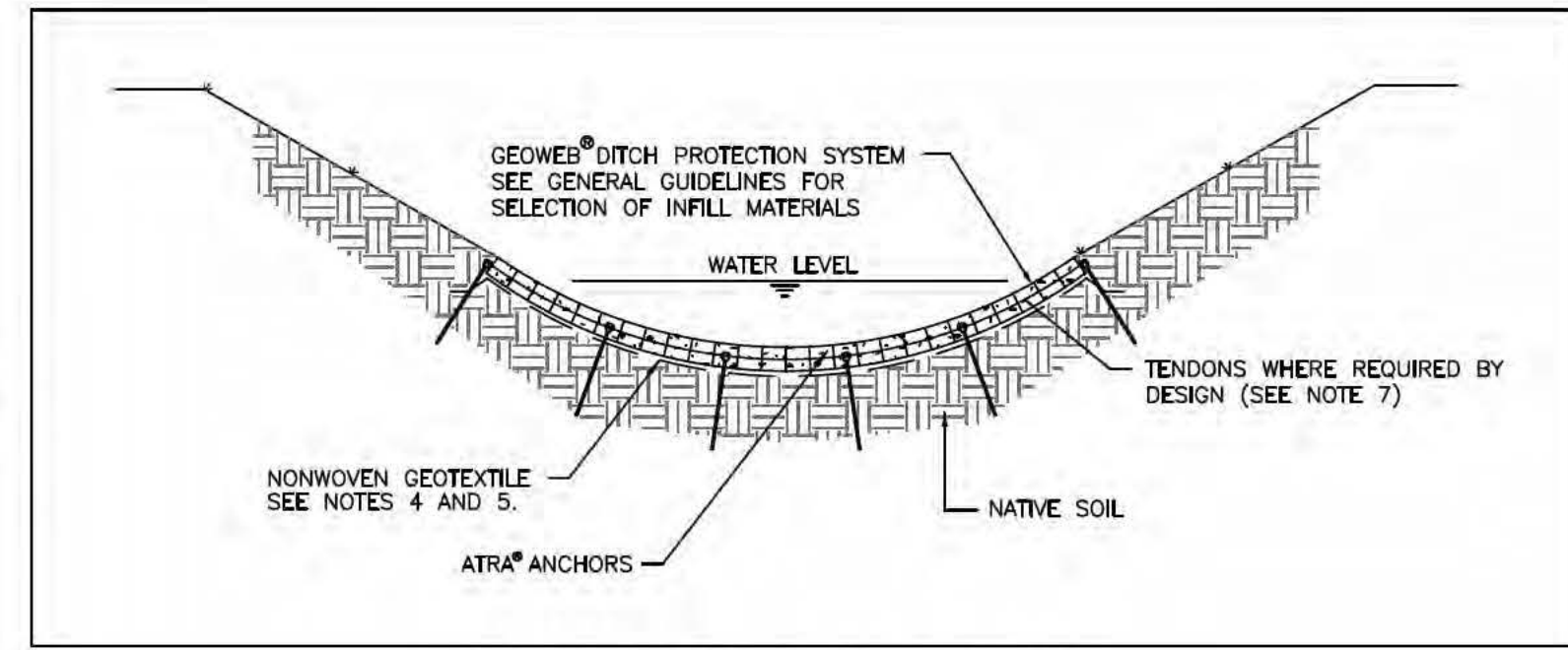
GENERAL GUIDELINES FOR SELECTION OF INFILL MATERIALS:

- STONE INFILL:
- PEAK FLOW VELOCITY LESS THAN 1.0 m/s (3.3 fps) - GRADED STONE
 - PEAK FLOW VELOCITY LESS THAN 2.0 m/s (6.6 fps) - 38 mm (1 1/2") MEDIAN STONE SIZE
 - PEAK FLOW VELOCITY LESS THAN 3.0 m/s (10 fps) - 125 mm (5") MEDIAN STONE SIZE (GW40 GEOWEB SECTIONS)
 - PEAK FLOW VELOCITY GREATER THAN 3.5 m/s (11.5 fps) - STONE INFILL NOT RECOMMENDED

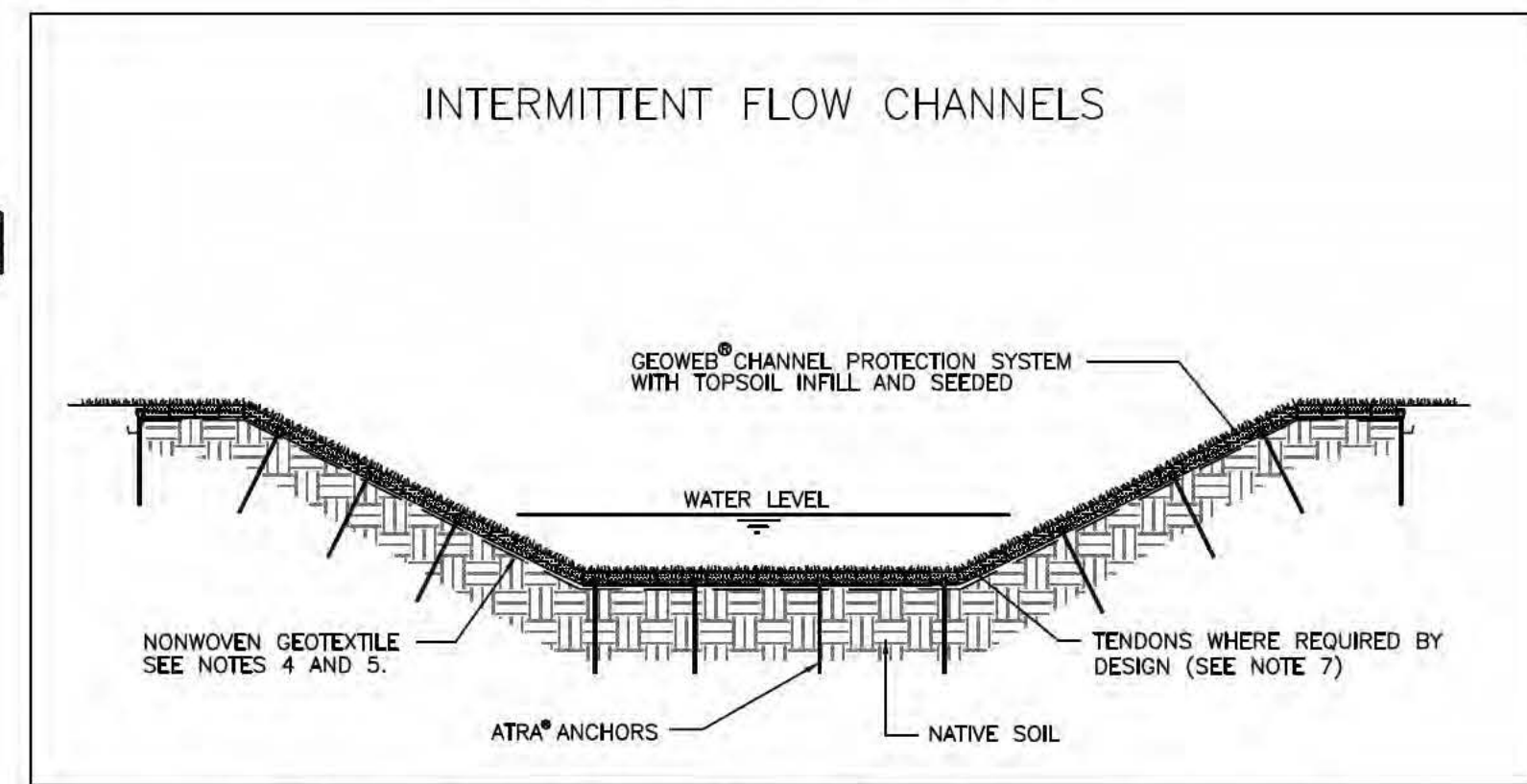


PARTIAL ISOMETRIC CHANNEL SYSTEM

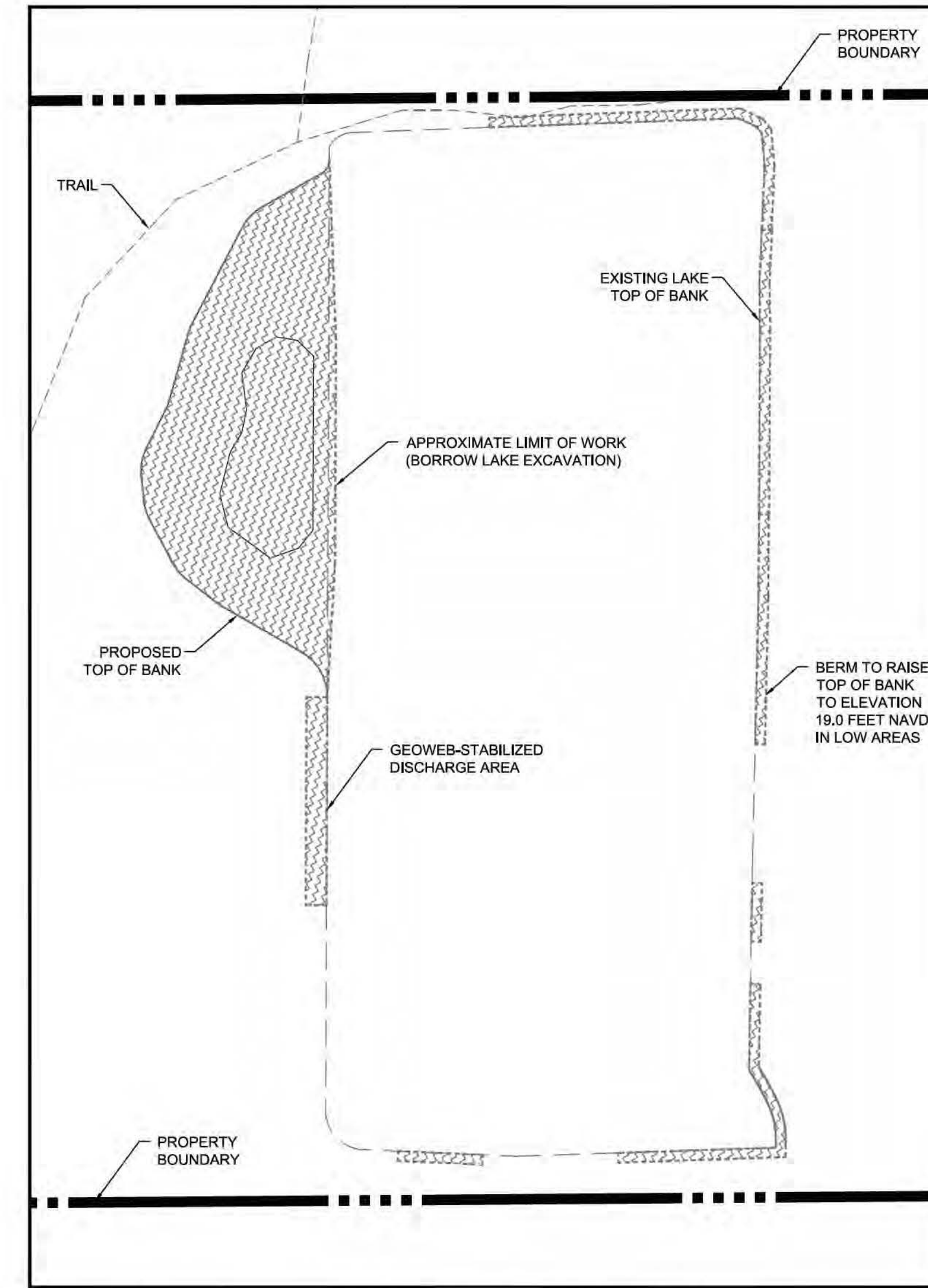
GEOWEB STABILIZATION
NOT TO SCALE



DITCH PROTECTION SYSTEM



SOIL FILLED (GRASS) CHANNEL PROTECTION SYSTEM



BORROW LAKE WORK LIMITS
SCALE: 1"=100'

ENGINEER OF RECORD
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**TYPICAL SECTIONS &
CONSTRUCTION DETAILS**

GEI PROJECT NUMBER
17-014
SHEET NUMBER

5