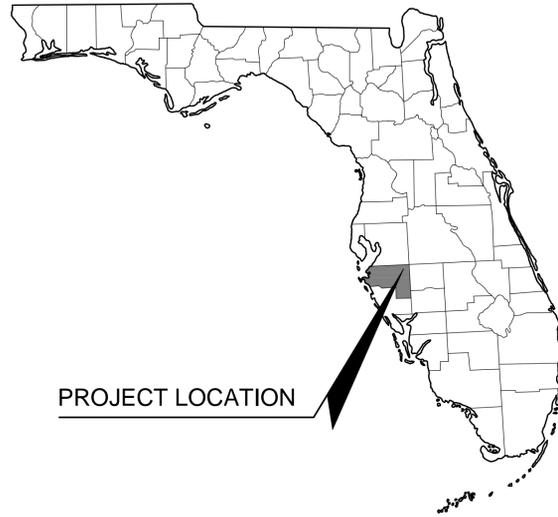


Plotted By: Wynn, Jared - Sheet: Sct:DUETTIE PRESERVE WATERSHED IMPROVEMENTS - PHASE 2 - Layout: C100 COVER SHEET - July 24, 2017 - 05:11:36pm - K:\LAK-Civil\142146055 - Duette Preserve Hydrologic Study\Phase 2\CAD\CONSTRUCT\100 COVER SHEET.dwg  
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PROJECT LOCATION

# CONSTRUCTION PLANS FOR MANATEE COUNTY LAKE MANATEE WATER SUPPLY AND WATER QUALITY IMPROVEMENT - PHASE 2

(MANATEE COUNTY WORK ASSIGNMENT # W1700032)  
JUNE 2017

SECTION 4, 5, 6, TOWNSHIP 34 SOUTH, RANGE 22 EAST  
27°33'09.7"N 82°07'25.3"W

Sheet List Table	
Sheet Number	Sheet Title
C100	COVER SHEET
C200	GENERAL NOTES
C300	OVERALL SITE AERIAL
C400	OVERALL GRADING AND DRAINAGE PLAN
C401-C409	GRADING AND DRAINAGE PLAN
C500	TYPICAL SECTIONS

**PROJECT CONTACTS**

**OWNER/APPLICANT:**  
 MANATEE COUNTY BOARD OF COUNTY COMMISSIONERS  
 MANATEE COUNTY PARKS AND NATURAL RESOURCES DEPARTMENT  
 PO BOX 100  
 BRADENTON, FLORIDA 34205  
 CONTACT: CHARLIE HUNSICKER  
 PHONE: (941) 742-5923

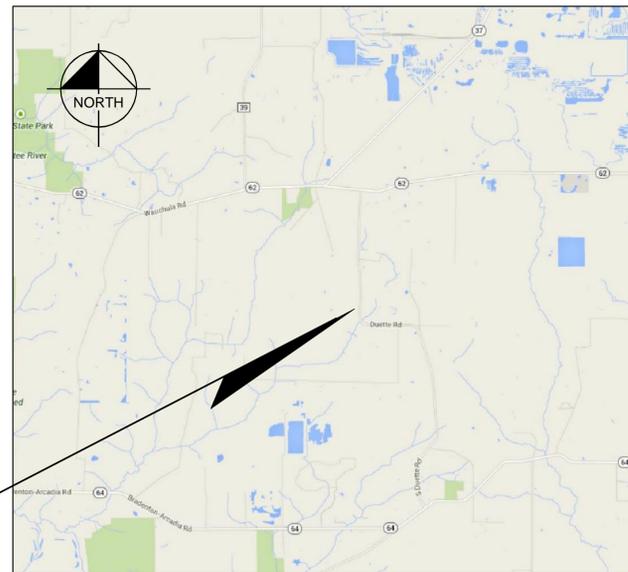
**ENGINEER:**  
 KIMLEY-HORN AND ASSOCIATES, INC.  
 116 SOUTH KENTUCKY AVE  
 LAKELAND, FLORIDA 33801  
 PHONE: 863-701-8702  
 CONTACT: ROBERT "BO" CONERLY, P.E.

**ENVIRONMENTAL SCIENTIST:**  
 MANATEE COUNTY BOARD OF COUNTY COMMISSIONERS  
 1112 MANATEE AVENUE WEST, SUITE 203  
 BRADENTON, FL 34205  
 PHONE: (941)-742-5980  
 CONTACT: ALISSA POWERS P.W.S.

**SURVEYOR:**  
 HYATT SURVEY SERVICES, INC  
 11007 8TH AVENUE EAST  
 BRADENTON, FL 34212  
 PHONE: 941-748-4693  
 CONTACT: RUSSELL P. HYATT, PSM

**LIDAR SOURCE:**  
 SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT  
 PHONE: 352-796-7211

**FLORIDA POWER AND LIGHT:**  
 PHONE: 941-776-5200



VICINITY MAP  
N.T.S.

**GENERAL SITE CONSTRUCTION NOTES**

1. THE PURPOSE OF THIS PROJECT IS ECOLOGICAL RESTORATION. THE CONTRACTORS WORKING ON THIS SITE SHALL TAKE GREAT CARE IN AVOIDING UNNECESSARY IMPACTS TO WETLAND, VEGETATION, AND ANIMALS.
2. THE INFORMATION PROVIDED IN THESE PLANS IS TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF WORK. ALL CONTRACTORS ARE DIRECTED PRIOR TO BIDDING TO CONDUCT INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSIONS REGARDING THE ACTUAL CONDITIONS THAT MAY BE ENCOUNTERED AND UPON WHICH THEIR BIDS WILL BE BASED.
3. THE CONTRACTOR SHALL OBTAIN AND/OR VERIFY EXISTENCE OF ALL REQUIRED PERMITS PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS NOT FURNISHED BY THE OWNER.
4. PRIOR TO THE START OF CONSTRUCTION ACTIVITY IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY "SUNSHINE STATE ONE CALL (1-800-432-4770)", MANATEE COUNTY PUBLIC WORKS DEPARTMENT, FLORIDA POWER & LIGHT, VERIZON AND ANY OTHER UTILITIES (ELECTRIC, PHONE, GAS, CABLE, ETC.) IT IS THE CONTRACTORS RESPONSIBILITY TO TO PROTECT EXISTING UTILITIES FROM DAMAGE.
5. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH NRCS STANDARDS AND SPECIFICATIONS.
6. IF HUMAN REMAINS OR ARCHEOLOGICAL ARTIFACTS ARE DISCOVERED DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR MUST STOP WORK IMMEDIATELY AND PROMPTLY NOTIFY THE PROJECT MANAGER.
7. THE CONTRACTOR SHALL NOT ENTER UPON, OR ALTER THE WETLAND PRESERVE AREAS THAT MAY BE ONSITE OR DIRECTLY ADJACENT TO THE PROJECT AREA EXCEPT AS NOTED IN THESE DRAWINGS. ALL WORK PERFORMED IN THE VICINITY OF OPEN WATER AND/OR WETLANDS IS TO BE PERFORMED IN COMPLIANCE WITH THE ENVIRONMENTAL PERMITS FOR THE SITE. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINE RESULTING FROM VIOLATION OF PERMIT CONDITIONS.
8. IT IS THE CONTRACTORS RESPONSIBILITY TO CALCULATE AND VERIFY ALL CUT AND FILL QUANTITIES OF EARTHWORK FOR THE PROJECT. A BULKING FACTOR SHOULD BE TAKEN INTO ACCOUNT WHEN FIGURING VOLUMES OF FILL PLACEMENT.
9. IMMEDIATELY BEFORE REQUESTING FINAL INSPECTIONS, THE CONTRACTOR SHALL CHECK ALL LINES AND DRESS TO THE PROPER GRADES/CONTOURS. ALL AREAS ARE TO BE STABILIZED AND MAINTAINED UNTIL SPECIFIED. THE CONTRACTOR SHALL MAKE ALLOWANCES WHEN ROUGH GRADING FOR THE FINISHED GRADES IN THESE AREAS.
10. POST GRADING SOIL CONDITIONS SHALL BE APPROPRIATE FOR PLANTING WITH LIMITED COMPACTION AS DETERMINED BY THE PROJECT ECOLOGIST.
11. ANY DISTURBED AREA WILL BE SEEDED/MULCHED, HYDROSEEDDED, OR SODDED OR PLANTED WITH MATERIALS AS SPECIFIED IN THE PLANS.
12. ALL PLANT MATERIAL TO BE INSTALLED SHALL BE HEALTHY, IN GOOD CONDITION, FREE FROM DISEASE AND APPROVED BY A QUALIFIED ECOLOGIST PRIOR TO INSTALLATION.
13. DURING CONSTRUCTION OF SPOIL REMOVAL SITES, WORK WILL BE DONE FORM UPLANDS TO THE EXTENT POSSIBLE. IN AREAS WHERE EQUIPMENT IS USED TO PERFORM SPOIL REMOVAL IS REQUIRED TO CROSS WETLANDS/WATERS OF THE UNITED STATES THE PROJECT ECOLOGIST WILL MONITOR THE OPERATION AND ENSURE MINIMAL DAMAGE TO SOIL AND VEGETATION OCCURS. NO EXCAVATED MATERIAL WILL BE PLACED IN WETLANDS AND ANY ALTERATIONS TO GRADE FROM SPOIL REMOVAL WILL BE REPAIRED.
14. NO DEWATERING IS PROPOSED. IF DEWATERING IS TO OCCUR, PRIOR APPROVAL FROM SWFWMD WILL BE OBTAINED BY CONTRACTOR.

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 PHONE: 863-701-8702  
 WWW.KIMLEY-HORN.COM  
 CA 00000696

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KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
142146055	JUNE 2017	AS SHOWN	RBC	JMW	RBC

COVER SHEET

MANATEE COUNTY LAKE  
 MANATEE WATER SUPPLY AND  
 WATER QUALITY IMPROVEMENT  
 - PHASE 2  
 PREPARED FOR  
 MANATEE BOARD OF COUNTY COMMISSIONERS  
 MANATEE COUNTY, FLORIDA



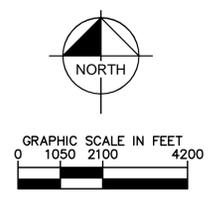
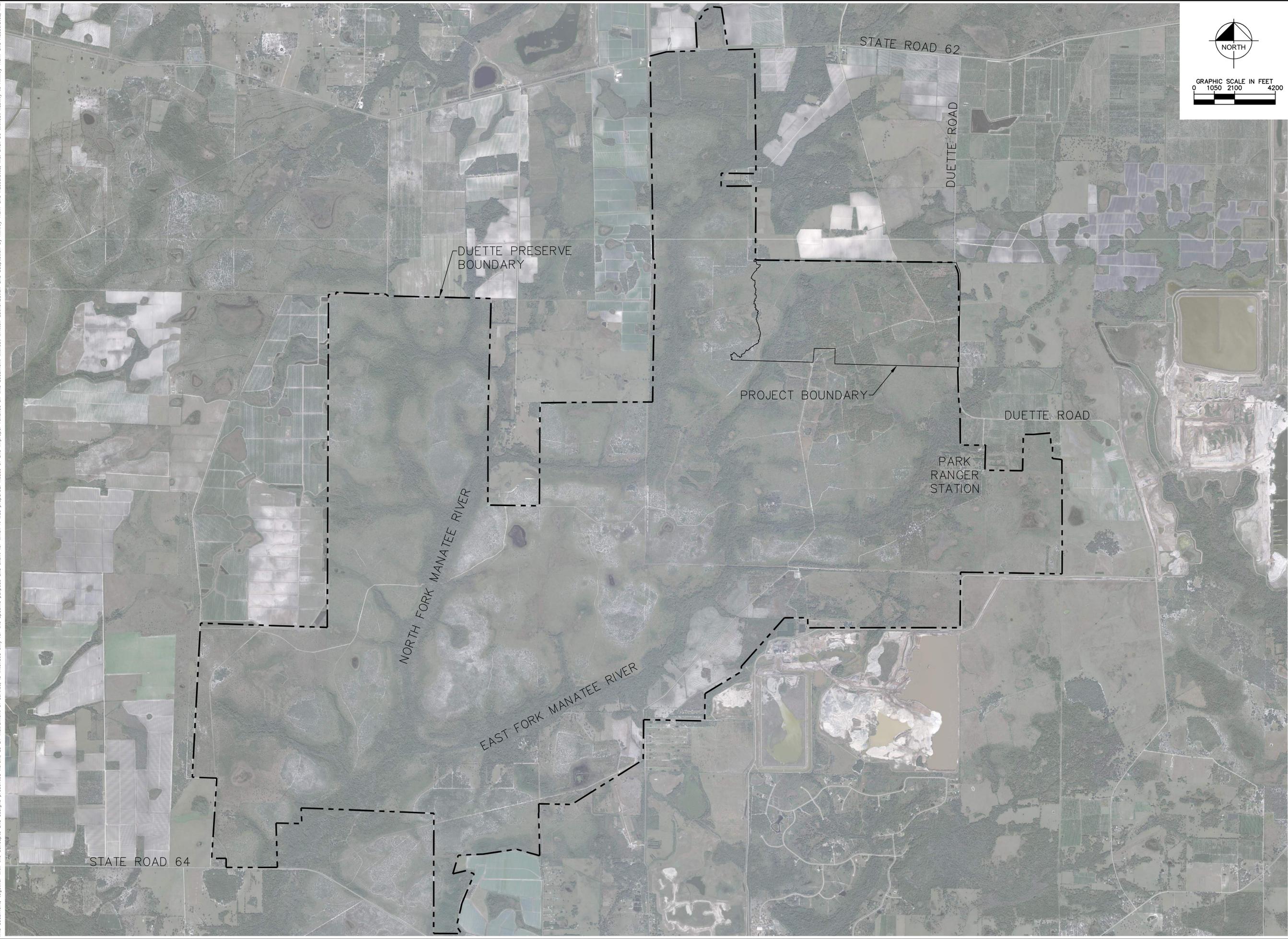
THE SITE CONSTRUCTION STAKEOUT SHALL BE PERFORMED UNDER THE DIRECTION OF A FLORIDA REGISTERED SURVEYOR. AUTOCAD FILES WILL BE FURNISHED TO AID IN THE SITE CONSTRUCTION STAKEOUT. ANY DISCREPANCIES FOUND BETWEEN AUTOCAD FILES AND SITE CONSTRUCTION PLANS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR CLARIFICATION PRIOR TO THAT STAKEOUT.

PREPARED BY  
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SHEET NUMBER  
**C100**



Plotted By: Wynn, Jared. Sheet Set: DUETTE PRESERVE WATERSHED IMPROVEMENTS - PHASE 2. Layout: C300 OVERALL SITE AERIAL. July 24, 2017. 05:06:44pm. K:\LAK-Chil\142146055 - Duette Preserve Hydrologic Study\Phase 2\CAD\CONSTR\C300 OVERALL SITE PLAN.dwg  
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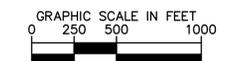
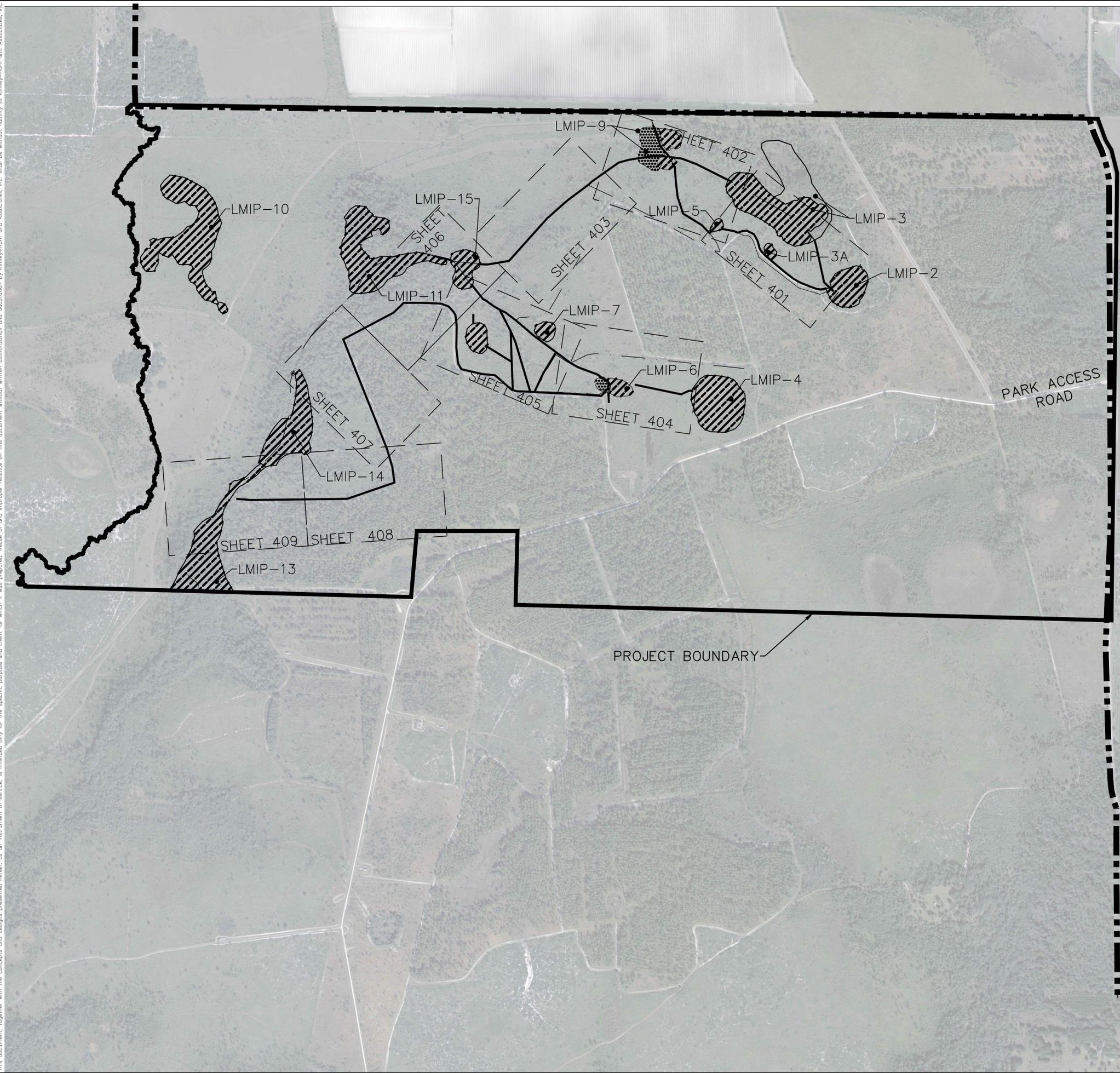
KHA PROJECT	142146055
DATE	JUNE 2017
SCALE	AS SHOWN
DESIGNED BY	RBC
DRAWN BY	JMW
CHECKED BY	RBC

**OVERALL SITE AERIAL**

MANATEE COUNTY LAKE  
 MANATEE WATER SUPPLY AND  
 WATER QUALITY IMPROVEMENT  
 - PHASE 2  
 PREPARED FOR  
 MANATEE BOARD OF COUNTY COMMISSIONERS  
 MANATEE COUNTY, FLORIDA

SHEET NUMBER  
**C300**

Plotted By: Wynn, Jored - Sheet Set: DUELETTE PRESERVE WATERSHED IMPROVEMENTS - PHASE 2 - Layout: C400 SITE PLAN - July 24, 2017 03:27:12pm - K:\AK\_Civil\142146055 - Duette Preserve Hydrologic Study\Phase 2\CADD\CONSTR\C400 SITE PLAN.dwg  
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**LEGEND**

	EXISTING DITCH
	PROPOSED DITCH FILLING
	EXISTING WETLAND LIMITS
	HISTORICAL WETLAND LIMITS
	EXISTING CHANNEL
	DUELETTE PRESERVE BOUNDARY
	PROJECT AREA BOUNDARY
	PROPOSED DITCH BLOCK LOCATION

**NOTES**

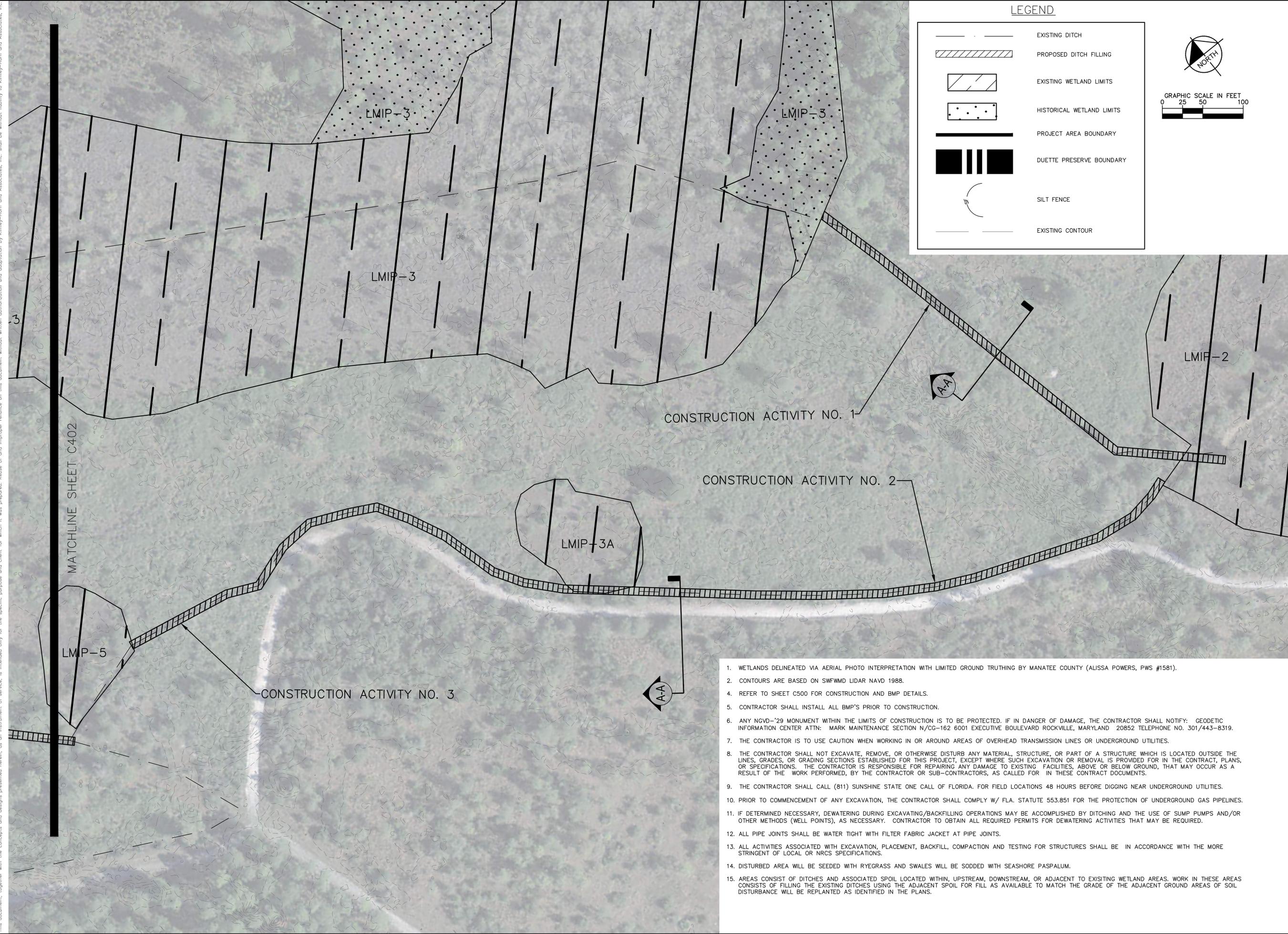
1. WETLANDS DELINEATED VIA AERIAL PHOTO INTERPRETATION WITH LIMITED GROUND TRUTHING BY MANATEE COUNTY (ALISSA POWERS, PWS #1581).

**SEASONAL HIGH WATER INDICATORS TABLE**

ID	LATITUDE	LONGITUDE	SHWL(FT)	INDICATOR
LMIP-3 SHWL 1	27° 33.409'	82°6.858'	121.06	HUMMOCK ON RED MAPLE
LMIP-3 SHWL 2	27° 33.399'	82°6.822'	120.89	HUMMOCK ON RED MAPLE
LMIP-2 SHWL 8	27° 33.273'	82° 6.726'	120.62	EDGE OF EXTERIOR ZONE, GROUND ELEVATION
LMIP-4 SHWL 12	27° 33.013' N	82° 7.026' W	118.62	EDGE OF EXTERIOR ZONE, GROUND ELEVATION
LMIP-7 SHWL 13	27° 33.211' N	82° 7.365' W	117.32	EDGE OF EXTERIOR ZONE, GROUND ELEVATION
LMIP-10 SHWL 3	27° 33' 20.85" N	82° 8' 3.87" W	117.79	TOP OF SHRUB HAMMOCK
LMIP-11 SHWL 9	27° 33' 23.61" N	82° 7' 43.91" W	116.78	MOSS COLLAR ON RED MAPLE
LMIP-11 SHWL10	27° 33' 23.38" N	82° 7' 42.57" W	116.70	MOSS COLLAR/FERN HUMMOCK ON RED MAPLE
LMIP-12 SHWL 4	27° 32' 50.93" N	82° 8' 2.15" W	113.36	RED MAPLE ROOT BUTTRESSING
LMIP-13 SHWL 5	27° 32' 53.58" N	82° 8' 0.014" W	113.20	RED MAPLE ROOT BUTTRESING/FERN HUMMOCK
LMIP-14 SHWL 6	27° 33' 1.157" N	82° 7' 52.97" W	114.27	MOSS COLLAR ON RED MAPLE
LMIP-16 SHWL 11	27° 32.658' N	82° 8.109' W	109.99	EDGE OF WETLAND BY PINE TREE

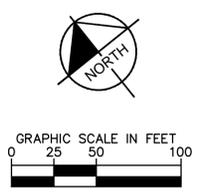
<p><b>Kimley»Horn</b>                  1. 2017 KIMLEY-HORN AND ASSOCIATES, INC.                  116 SOUTH KENTUCKY AVENUE, LAKELAND, FL 33801                  PHONE: 863-701-8702                  WWW.KIMLEY-HORN.COM                  CA 00000696</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;"> <p><b>OVERALL GRADING AND DRAINAGE PLAN</b></p> </td> <td style="width: 50%; text-align: center;"> <p><b>MANATEE COUNTY LAKE                      MANATEE WATER SUPPLY AND WATER QUALITY IMPROVEMENT - PHASE 2</b></p> </td> </tr> <tr> <td style="text-align: center;"> <p>KHA PROJECT 142146055                      DATE JUNE 2017                      SCALE AS SHOWN                      DESIGNED BY RBC                      DRAWN BY JMW                      CHECKED BY RBC</p> </td> <td style="text-align: center;"> <p>MANATEE BOARD OF COUNTY COMMISSIONERS                      MANATEE COUNTY                      FLORIDA</p> </td> </tr> </table>	<p><b>OVERALL GRADING AND DRAINAGE PLAN</b></p>	<p><b>MANATEE COUNTY LAKE                      MANATEE WATER SUPPLY AND WATER QUALITY IMPROVEMENT - PHASE 2</b></p>	<p>KHA PROJECT 142146055                      DATE JUNE 2017                      SCALE AS SHOWN                      DESIGNED BY RBC                      DRAWN BY JMW                      CHECKED BY RBC</p>	<p>MANATEE BOARD OF COUNTY COMMISSIONERS                      MANATEE COUNTY                      FLORIDA</p>		
<p><b>OVERALL GRADING AND DRAINAGE PLAN</b></p>	<p><b>MANATEE COUNTY LAKE                      MANATEE WATER SUPPLY AND WATER QUALITY IMPROVEMENT - PHASE 2</b></p>						
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<p>SHEET NUMBER <b>C400</b></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">REVISIONS</td> <td style="width: 50%;">DATE</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	REVISIONS	DATE				
REVISIONS	DATE						

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**LEGEND**

- EXISTING DITCH
- PROPOSED DITCH FILLING
- EXISTING WETLAND LIMITS
- HISTORICAL WETLAND LIMITS
- PROJECT AREA BOUNDARY
- DUETTE PRESERVE BOUNDARY
- SILT FENCE
- EXISTING CONTOUR



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KHA PROJECT	142146055
DATE	JUNE 2017
SCALE AS SHOWN	RBC
DESIGNED BY	JMW
DRAWN BY	RBC
CHECKED BY	RBC

**GRADING AND DRAINAGE PLAN**

MANATEE COUNTY LAKE  
 MANATEE WATER SUPPLY AND WATER QUALITY IMPROVEMENT  
 - PHASE 2  
 PREPARED FOR  
 MANATEE BOARD OF COUNTY COMMISSIONERS  
 MANATEE COUNTY, FLORIDA

SHEET NUMBER  
**C401**

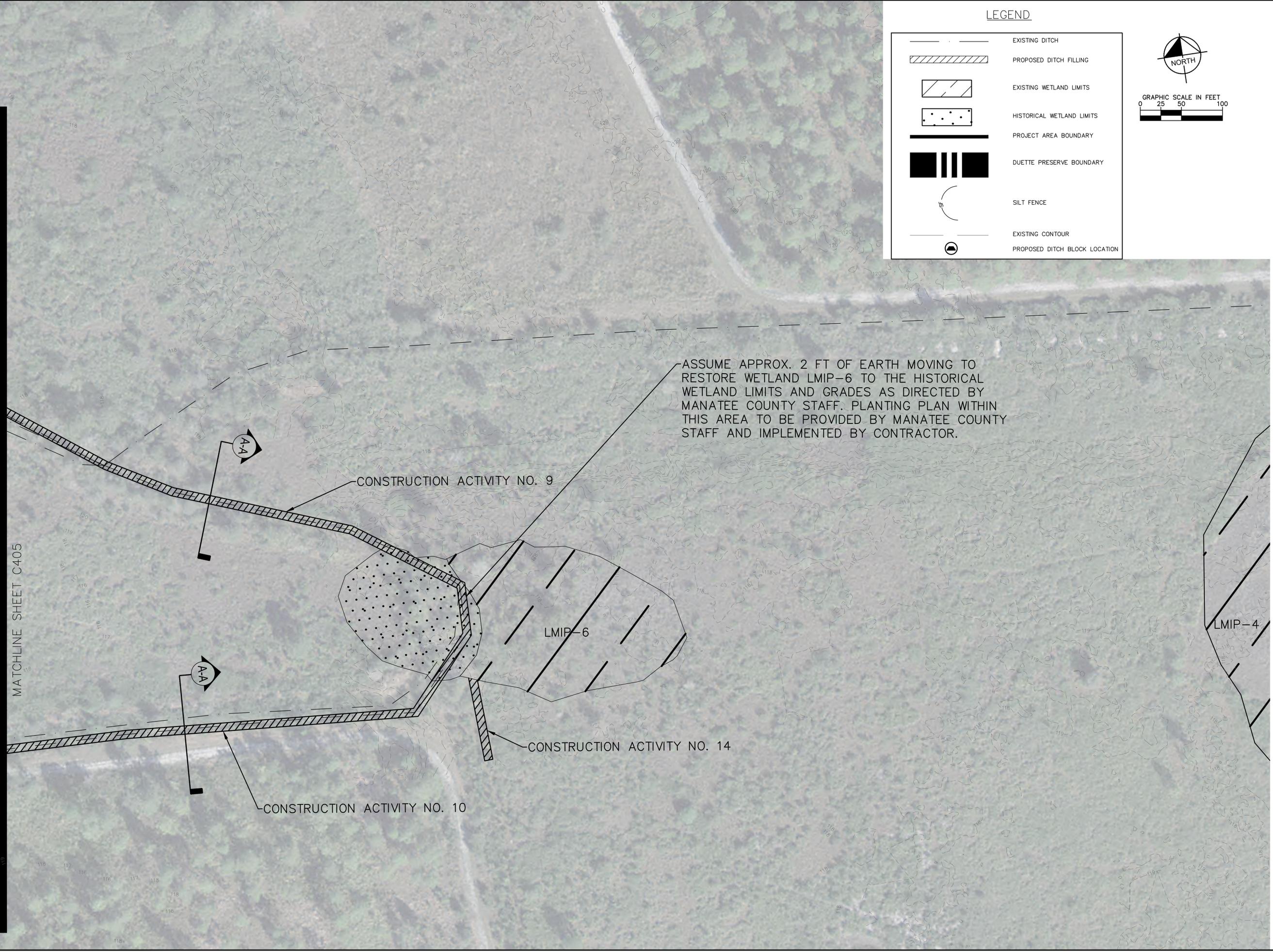
1. WETLANDS DELINEATED VIA AERIAL PHOTO INTERPRETATION WITH LIMITED GROUND TRUTHING BY MANATEE COUNTY (ALISSA POWERS, PWS #1581).
2. CONTOURS ARE BASED ON SWFWMD LIDAR NAVD 1988.
4. REFER TO SHEET C500 FOR CONSTRUCTION AND BMP DETAILS.
5. CONTRACTOR SHALL INSTALL ALL BMP'S PRIOR TO CONSTRUCTION.
6. ANY NGVD-'29 MONUMENT WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, THE CONTRACTOR SHALL NOTIFY: GEODETIC INFORMATION CENTER ATTN: MARK MAINTENANCE SECTION N/CG-162 6001 EXECUTIVE BOULEVARD ROCKVILLE, MARYLAND 20852 TELEPHONE NO. 301/443-8319.
7. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES OR UNDERGROUND UTILITIES.
8. THE CONTRACTOR SHALL NOT EXCAVATE, REMOVE, OR OTHERWISE DISTURB ANY MATERIAL, STRUCTURE, OR PART OF A STRUCTURE WHICH IS LOCATED OUTSIDE THE LINES, GRADES, OR GRADING SECTIONS ESTABLISHED FOR THIS PROJECT, EXCEPT WHERE SUCH EXCAVATION OR REMOVAL IS PROVIDED FOR IN THE CONTRACT, PLANS, OR SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND, THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED, BY THE CONTRACTOR OR SUB-CONTRACTORS, AS CALLED FOR IN THESE CONTRACT DOCUMENTS.
9. THE CONTRACTOR SHALL CALL (811) SUNSHINE STATE ONE CALL OF FLORIDA. FOR FIELD LOCATIONS 48 HOURS BEFORE DIGGING NEAR UNDERGROUND UTILITIES.
10. PRIOR TO COMMENCEMENT OF ANY EXCAVATION, THE CONTRACTOR SHALL COMPLY W/ FLA. STATUTE 553.851 FOR THE PROTECTION OF UNDERGROUND GAS PIPELINES.
11. IF DETERMINED NECESSARY, DEWATERING DURING EXCAVATING/BACKFILLING OPERATIONS MAY BE ACCOMPLISHED BY DITCHING AND THE USE OF SUMP PUMPS AND/OR OTHER METHODS (WELL POINTS), AS NECESSARY. CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS FOR DEWATERING ACTIVITIES THAT MAY BE REQUIRED.
12. ALL PIPE JOINTS SHALL BE WATER TIGHT WITH FILTER FABRIC JACKET AT PIPE JOINTS.
13. ALL ACTIVITIES ASSOCIATED WITH EXCAVATION, PLACEMENT, BACKFILL, COMPACTION AND TESTING FOR STRUCTURES SHALL BE IN ACCORDANCE WITH THE MORE STRINGENT OF LOCAL OR NRCS SPECIFICATIONS.
14. DISTURBED AREA WILL BE SEEDED WITH RYEGRASS AND SWALES WILL BE SODDED WITH SEASHORE PASPALUM.
15. AREAS CONSIST OF DITCHES AND ASSOCIATED SPOIL LOCATED WITHIN, UPSTREAM, DOWNSTREAM, OR ADJACENT TO EXISTING WETLAND AREAS. WORK IN THESE AREAS CONSISTS OF FILLING THE EXISTING DITCHES USING THE ADJACENT SPOIL FOR FILL AS AVAILABLE TO MATCH THE GRADE OF THE ADJACENT GROUND AREAS OF SOIL DISTURBANCE WILL BE REPLANTED AS IDENTIFIED IN THE PLANS.





Plotted By: Norris, Logan Sheet: SCLDUJETTE PRESERVE WATERSHED IMPROVEMENTS - PHASE 2 Layout: C404 July 11, 2018 04:14:38pm K:\LAK-Civil\142146055 - Duette Preserve Hydrologic Study\Phase 2\CAD\CONSTR\C400 SITE PLAN.dwg  
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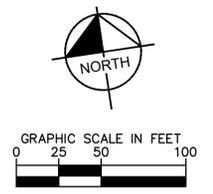
MATCHLINE SHEET C405



ASSUME APPROX. 2 FT OF EARTH MOVING TO RESTORE WETLAND LMIP-6 TO THE HISTORICAL WETLAND LIMITS AND GRADES AS DIRECTED BY MANATEE COUNTY STAFF. PLANTING PLAN WITHIN THIS AREA TO BE PROVIDED BY MANATEE COUNTY STAFF AND IMPLEMENTED BY CONTRACTOR.

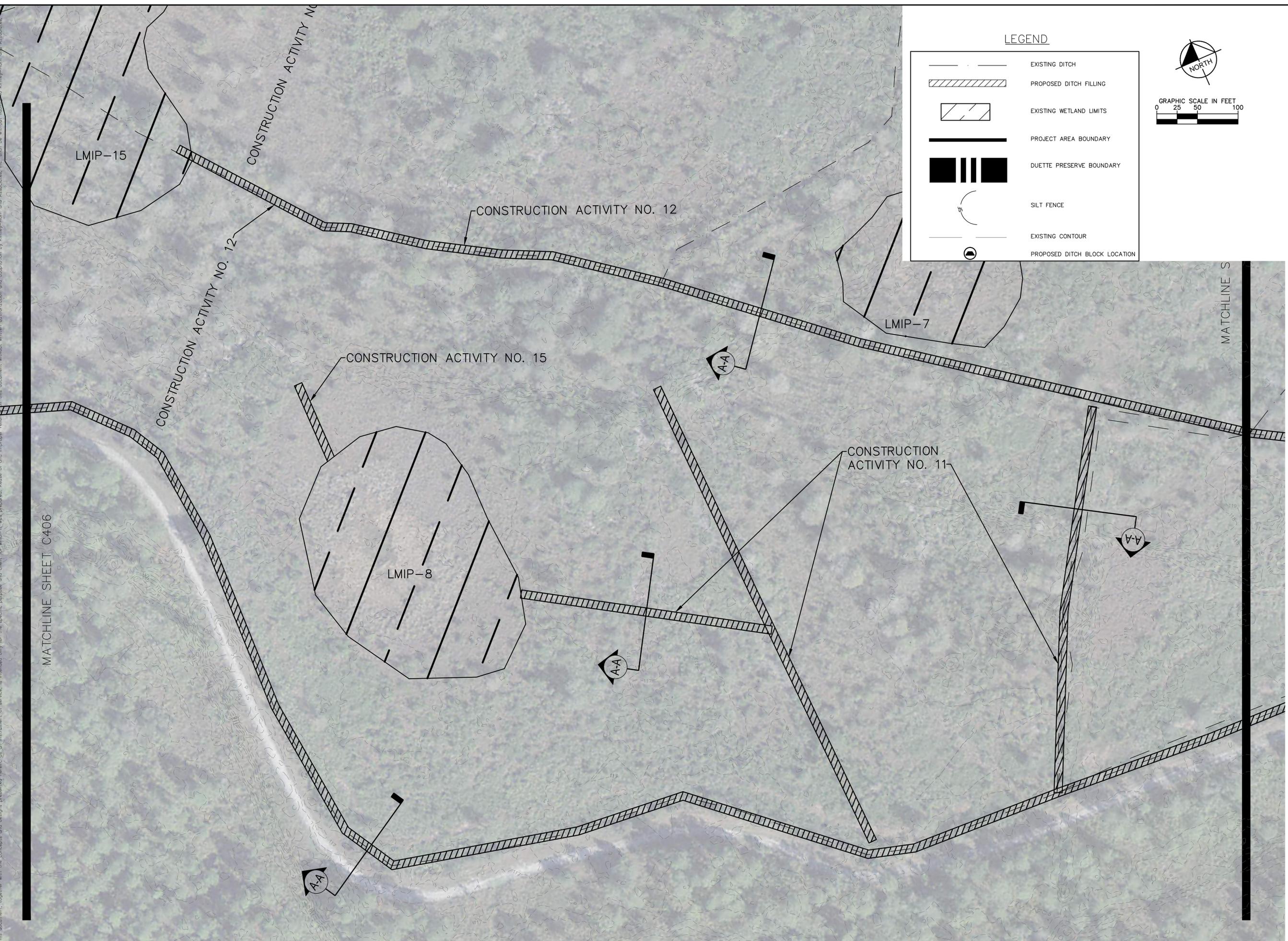
**LEGEND**

	EXISTING DITCH
	PROPOSED DITCH FILLING
	EXISTING WETLAND LIMITS
	HISTORICAL WETLAND LIMITS
	PROJECT AREA BOUNDARY
	DUETTE PRESERVE BOUNDARY
	SILT FENCE
	EXISTING CONTOUR
	PROPOSED DITCH BLOCK LOCATION



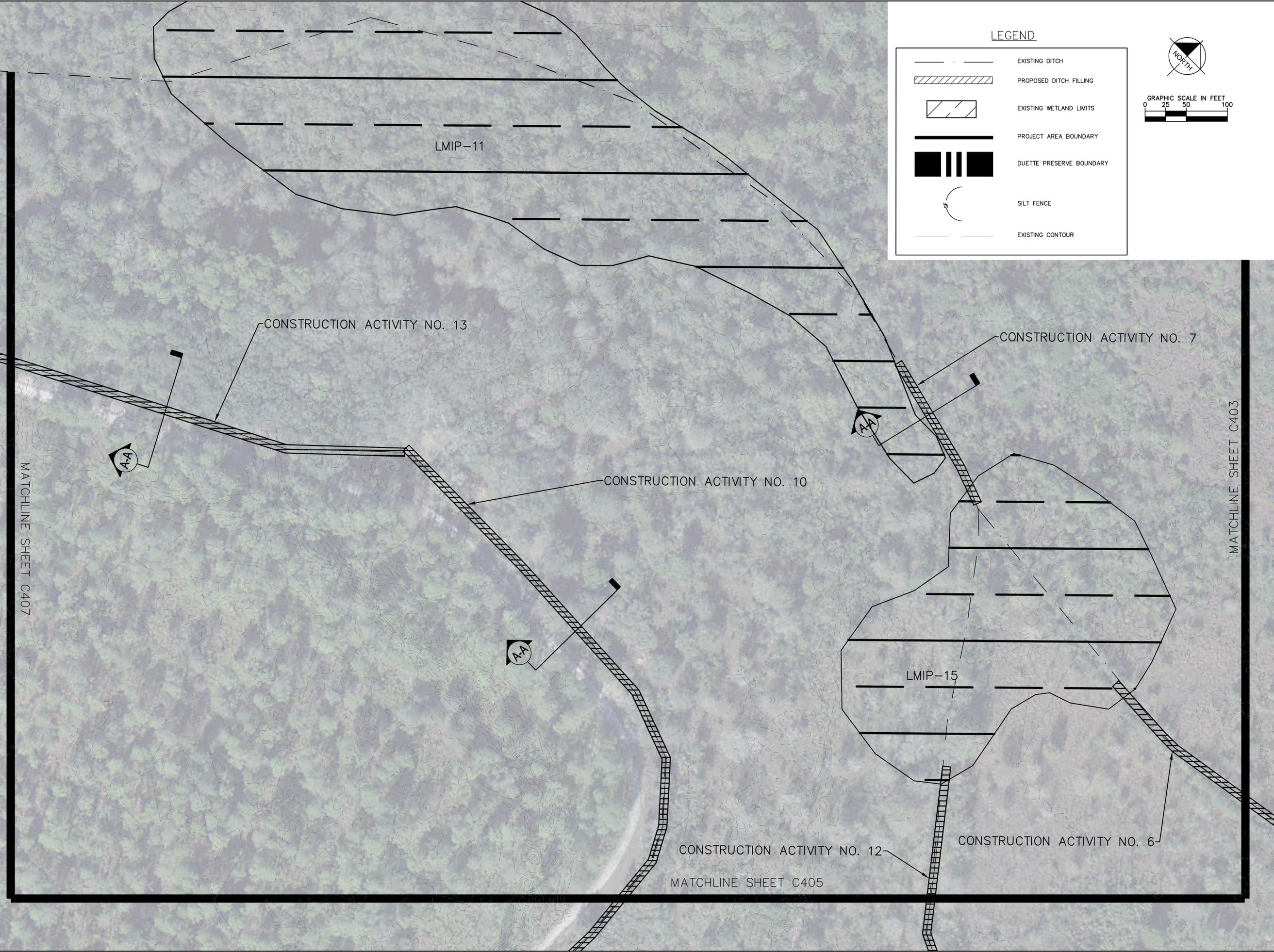
<b>Kimley»Horn</b>		© 2017 KIMLEY-HORN AND ASSOCIATES, INC. 116 SOUTH KENTUCKY AVENUE, LAKELAND, FL 33801 PHONE: 863-701-8702 WWW.KIMLEY-HORN.COM CA 00000696
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KHA PROJECT 142146055 DATE JUNE 2017 SCALE AS SHOWN DESIGNED BY RBC DRAWN BY JMW CHECKED BY RBC	<b>GRADING AND DRAINAGE PLAN</b>	
MANATEE COUNTY LAKE MANATEE WATER SUPPLY AND WATER QUALITY IMPROVEMENT - PHASE 2 PREPARED FOR MANATEE BOARD OF COUNTY COMMISSIONERS MANATEE COUNTY FLORIDA		
SHEET NUMBER		C404

Plotted By: DeYoung, Matthew Sheet Set: DUETTE PRESERVE WATERSHED IMPROVEMENTS - PHASE 2 Layout: C405 June 26, 2018 03:04:53pm K:\LAK\_Civil\42146055 - Duette Preserve Hydrologic Study\Phase 2\CAD\CONSTR\C400 SITE PLAN.dwg  
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<p><b>MANATEE COUNTY LAKE          MANATEE WATER SUPPLY AND          WATER QUALITY IMPROVEMENT          - PHASE 2</b>          PREPARED FOR  <b>MANATEE BOARD OF COUNTY COMMISSIONERS          MANATEE COUNTY          FLORIDA</b></p>		<p><b>Grading and          Drainage Plan</b></p>	<p>KHA PROJECT 142146055          DATE JUNE 2017          SCALE AS SHOWN          DESIGNED BY RBC          DRAWN BY JMW          CHECKED BY RBC</p>	<p>This item has been digitally signed and sealed by Robert B. Conarty, P.E. on July 11, 2018 using a Digital Signature.</p> <p>Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.</p>	<p><b>Kimley»Horn</b>          1 2017 KIMLEY-HORN AND ASSOCIATES, INC.          116 SOUTH KENTUCKY AVENUE, LAKELAND, FL 33801          PHONE: 863-701-8702          WWW.KIMLEY-HORN.COM          CA 00000696</p>	<table border="1"> <tr> <th>NO.</th> <th>REVISIONS</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	REVISIONS	DATE	BY												
NO.	REVISIONS	DATE	BY																			
<p>SHEET NUMBER <b>C405</b></p>		<p>DATE</p>																				

Plotted By: Wm. Jared Salduette PRESERVE WATERSHED IMPROVEMENTS - PHASE 2 - Layout: C406 July 24, 2017 04:01:47pm K:\AK\_Civil\142146055 - Duette Preserve Hydrologic Study\Phase 2\CAD\CONSTR\C400 SITE PLAN.dwg  
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**LEGEND**

- EXISTING DITCH
- ▨ PROPOSED DITCH FILLING
- ▧ EXISTING WETLAND LIMITS
- PROJECT AREA BOUNDARY
- █ DUETTE PRESERVE BOUNDARY
- ⤵ SF SILT FENCE
- EXISTING CONTOUR

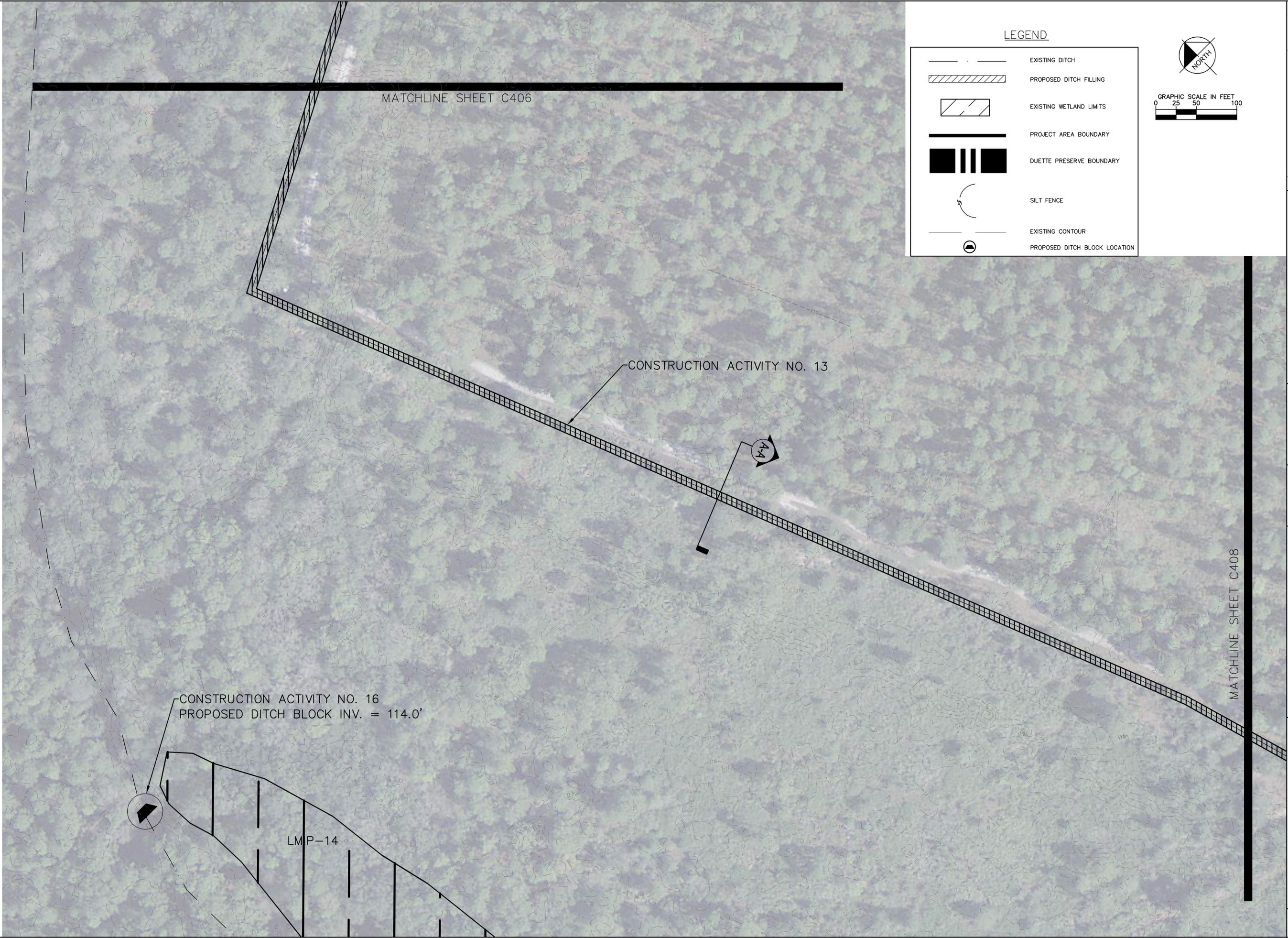
**GRAPHIC SCALE IN FEET**

0 25 50 100

**NORTH**

<b>MANATEE COUNTY LAKE          MANATEE WATER SUPPLY AND          WATER QUALITY IMPROVEMENT          - PHASE 2</b> PREPARED FOR <b>MANATEE BOARD OF COUNTY COMMISSIONERS          MANATEE COUNTY</b>	SHEET NUMBER <b>C406</b>
	<b>GRADING AND          DRAINAGE PLAN</b>
KHA PROJECT 142146055 DATE JUNE 2017 SCALE AS SHOWN DESIGNED BY RBC DRAWN BY JMW CHECKED BY RBC	This item has been digitally signed and sealed by Robert B. Conery, P.E. on July 11, 2018 using a Digital Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.
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Plotted By: Wm. Jared Street Salduete Preserve Watershed Improvements - Phase 2 - Layout: C407 July 24, 2017 04:05:49pm K:\LAK-GVA\142146055 - Duette Preserve Hydrologic Study\Phase 2\CAD\CONSTR\C400 SITE PLAN.dwg  
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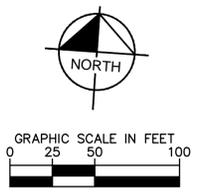
MANATEE COUNTY LAKE MANATEE WATER SUPPLY AND WATER QUALITY IMPROVEMENT - PHASE 2 PREPARED FOR MANATEE BOARD OF COUNTY COMMISSIONERS MANATEE COUNTY, FLORIDA	<b>GRADING AND                  DRAINAGE PLAN</b>	This item has been digitally signed and sealed by Robert B. Conery, P.E. on July 11, 2018 using a Digital Signature.  Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.	<b>Kimley»Horn</b> © 2017 KIMLEY-HORN AND ASSOCIATES, INC. 116 SOUTH KENTUCKY AVENUE, LAKELAND, FL 33801 PHONE: 863-701-8702 WWW.KIMLEY-HORN.COM CA 0000696	No. _____ REVISIONS _____ DATE _____ BY _____
SHEET NUMBER <b>C407</b>	KHA PROJECT 142146055 DATE JUNE 2017 SCALE AS SHOWN DESIGNED BY RBC DRAWN BY JMW CHECKED BY RBC			

Plotted By: DeYoung, Matthew Sheet Set: DUETTE PRESERVE WATERSHED IMPROVEMENTS - PHASE 2 Layout: C408 June 27, 2018 08:35:49am K:\LAK-Civil\142146055 - Duette Preserve Hydrologic Study\Phase 2\CAD\CONSTR\C400 SITE PLAN.dwg  
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**LEGEND**

-  EXISTING DITCH
-  PROPOSED DITCH FILLING
-  EXISTING WETLAND LIMITS
-  PROJECT AREA BOUNDARY
-  DUETTE PRESERVE BOUNDARY
-  SILT FENCE
-  EXISTING CONTOUR



CONSTRUCTION ACTIVITY NO. 13



No.	REVISIONS	DATE	BY

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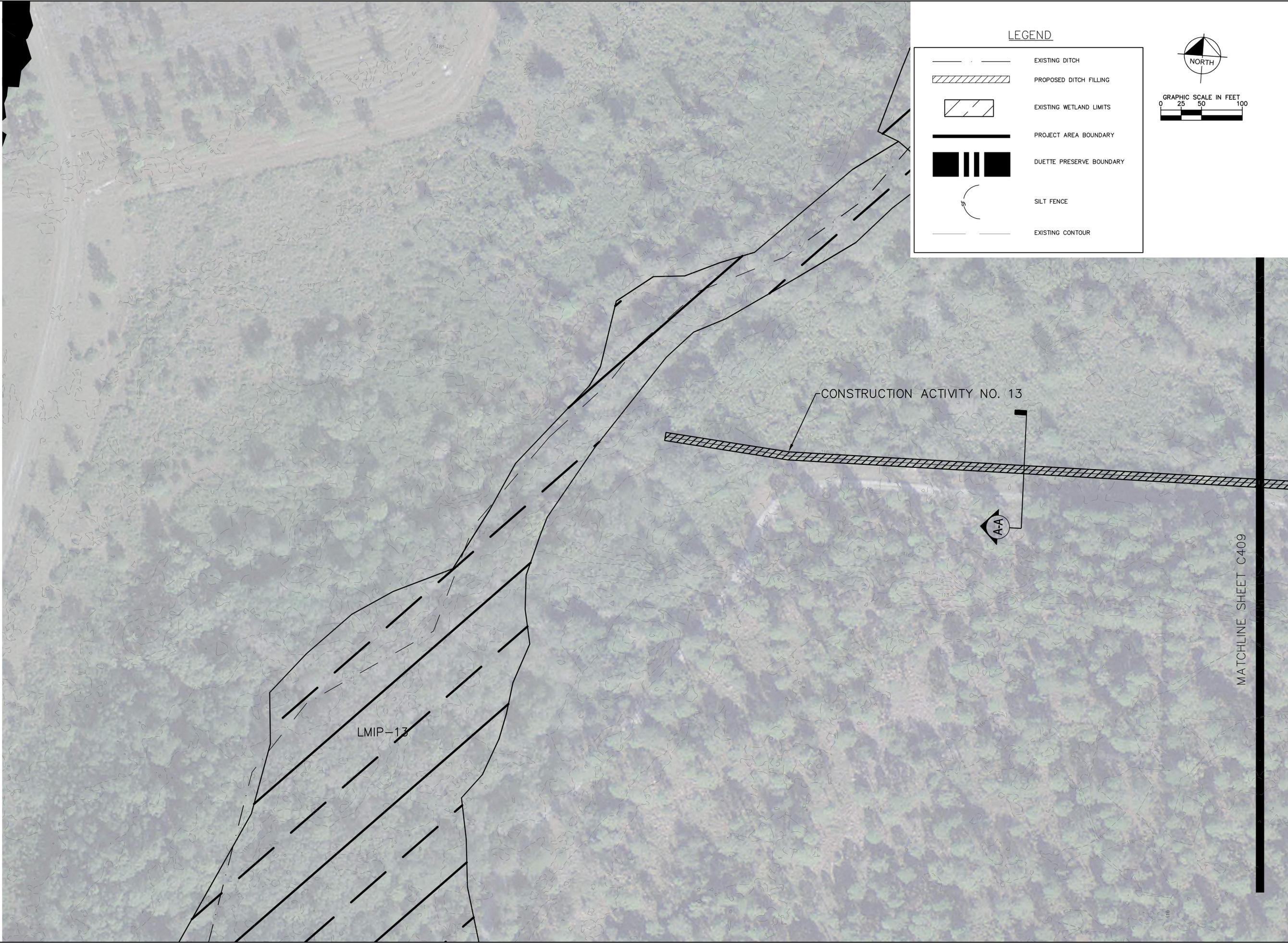
KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
142146055	JUNE 2017	AS SHOWN	RBC	JMW	RBC

**GRADING AND DRAINAGE PLAN**

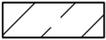
MANATEE COUNTY LAKE  
 MANATEE WATER SUPPLY AND WATER QUALITY IMPROVEMENT  
 - PHASE 2  
 PREPARED FOR  
 MANATEE BOARD OF COUNTY COMMISSIONERS  
 MANATEE COUNTY  
 FLORIDA

SHEET NUMBER  
**C408**

Plotted By: Wm. Jared Sweet Sat-Duette Preserve Watershed Improvements - Phase 2 Layout: C409 July 24, 2017 04:21:02pm K:\AK\_GWA\142146055 - Duette Preserve Hydrologic Study\Phase 2\CAD\CONSTR\C409 SITE PLAN.dwg  
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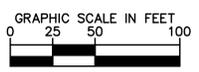
**LEGEND**

-  EXISTING DITCH
-  PROPOSED DITCH FILLING
-  EXISTING WETLAND LIMITS
-  PROJECT AREA BOUNDARY
-  DUETTE PRESERVE BOUNDARY
-  SILT FENCE
-  EXISTING CONTOUR

**NORTH**



**GRAPHIC SCALE IN FEET**



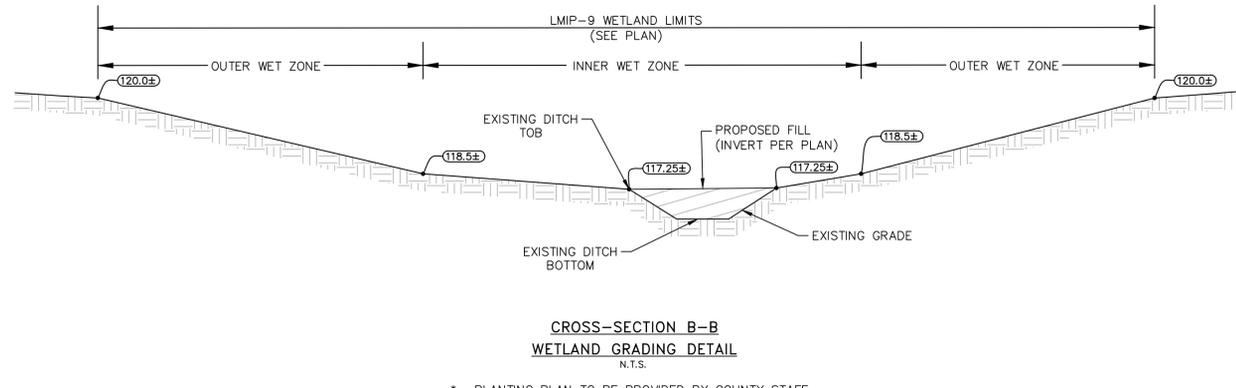
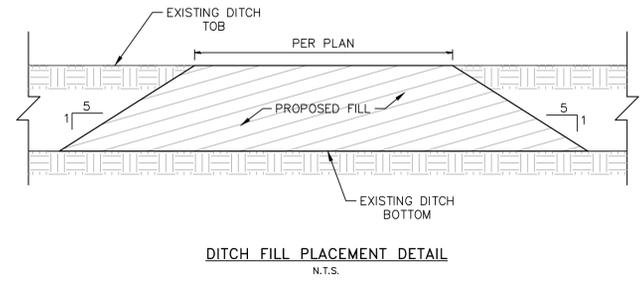
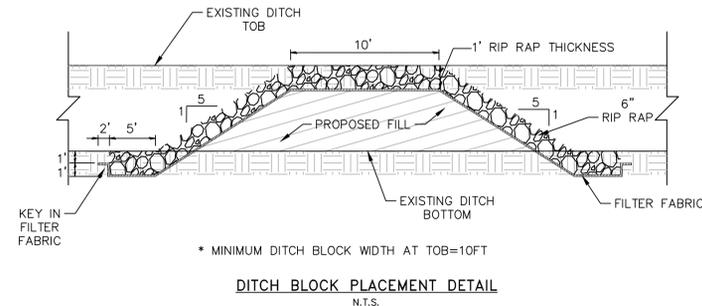
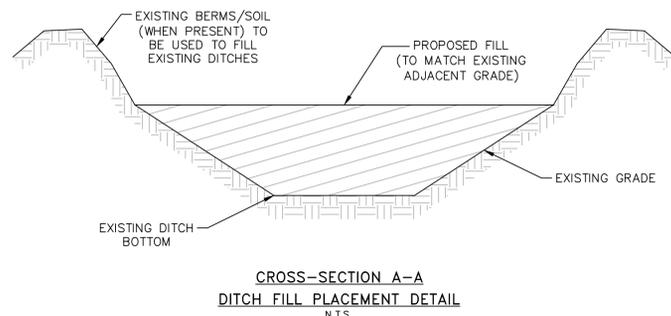
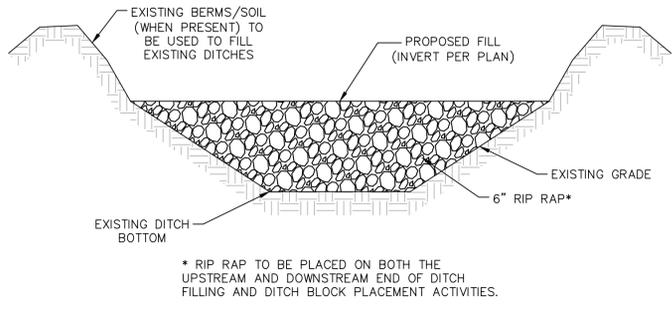
MATCHLINE SHEET C409

<p><b>MANATEE COUNTY LAKE          MANATEE WATER SUPPLY AND          WATER QUALITY IMPROVEMENT          - PHASE 2</b></p> <p style="font-size: small;">PREPARED FOR  <b>MANATEE BOARD OF COUNTY COMMISSIONERS          MANATEE COUNTY</b></p>	<p><b>GRADING AND          DRAINAGE PLAN</b></p>	<p><b>Kimley»Horn</b></p> <p style="font-size: x-small;">© 2017 KIMLEY-HORN AND ASSOCIATES, INC.          116 SOUTH KENTUCKY AVENUE, LAKELAND, FL 33801          PHONE: 863-701-8702          WWW.KIMLEY-HORN.COM          CA 0000696</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>No.</th> <th>DATE</th> <th>BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	No.	DATE	BY													<p>PROJECT          142146055</p> <p>DATE          JUNE 2017</p> <p>SCALE          AS SHOWN</p> <p>DESIGNED BY          REC</p> <p>DRAWN BY          JMW</p> <p>CHECKED BY          REC</p>
No.	DATE	BY																	
<p>SHEET NUMBER  <b>C409</b></p>																			

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Plotted By: Norris, Logan Sheet: SCHDUJETTE PRESERVE WATERSHED IMPROVEMENTS - PHASE 2 Layout: C500 TYPICAL SECTIONS July 11, 2018 04:50:10pm K:\NAK\_Civil\142146055 - Duette Preserve Hydrologic Study\Phase 2\CAD\CONSTR\C500 TYPICAL SECTIONS.dwg  
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**EROSION AND SILTATION CONTROL:**

- GENERAL: ALL EROSION AND SILTATION CONTROL METHODS SHALL BE IMPLEMENTED PRIOR TO THE START OF CONSTRUCTION. DURING CONSTRUCTION, CLEARED AREAS SHALL BE COVERED BY MULCHES SUCH AS STRAW, HAY AND FILTER FABRIC. ALL STORM SEWER INLETS IN THE VICINITY OF THE PROJECT SHALL BE PROTECTED BY SEDIMENT TRAPS OR HAY BALES. THESE SHALL BE MAINTAINED AND MODIFIED DURING THE CONSTRUCTION PROCESS TO MINIMIZE DOWNSTREAM SILTATION. WHEN CONSTRUCTION IS COMPLETED, DETENTION AREAS WILL BE RESHAPED, CLEANED OF SILT, MUD AND DEBRIS, AND RE-SODED TO PROPERLY DETAIN THE INTENDED STORM QUANTITIES.
- PROTECTION AND STABILIZATION OF ON-SITE SOIL STOCKPILES: FILL MATERIAL STOCKPILES SHALL BE PROTECTED AT ALL TIMES BY ON-SITE DRAINAGE CONTROLS THAT PREVENT EROSION OF THE STOCKPILED MATERIAL. CONTROL OF DUST FROM SUCH STOCKPILES MAY BE REQUIRED, DEPENDING UPON THEIR LOCATION AND THE EXPECTED LENGTH OF TIME THE STOCKPILES WILL BE PRESENT. IN NO CASE SHALL ANY UNSTOCKPILED MATERIAL REMAIN MORE THAN THIRTY (30) CALENDAR DAYS AFTER SUBSTANTIAL PROJECT COMPLETION.
- SEDIMENT BASINS AND SEDIMENT TRAPPING MEASURES: PERIMETER BERMS, SEDIMENT BARRIERS, VEGETATIVE BUFFERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT AND/OR PREVENT THE TRANSPORT OF SEDIMENT ONTO ADJACENT PROPERTIES, OR INTO EXISTING BODIES OF WATER, MUST BE INSTALLED, CONSTRUCTED OR, IN THE CASE OF VEGETATIVE BUFFERS, PROTECTED FROM DISTURBANCE, AS A FIRST STEP IN THE LAND ALTERATION PROCESS. SUCH SYSTEMS SHALL BE FULLY OPERATIVE BEFORE ANY OTHER DISTURBANCE OF THE SITE BEGINS. EARTHEN STRUCTURES INCLUDING BUT NOT LIMITED TO BERMS, EARTH FILTERS, DAMS OR DIKES SHALL BE STABILIZED AND PROTECTED FROM DRAINAGE DAMAGE OR EROSION WITHIN ONE WEEK OF INSTALLATION.
- ALL EROSION AND SILTATION CONTROL DEVICES: SHALL BE REGULARLY INSPECTED AND MAINTAINED, (ESPECIALLY AFTER EACH RAINFALL) AND WILL BE CLEANED OUT AND/OR REPAIRED AS REQUIRED.
- DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO RAIN SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE STORMWATER SYSTEM.
- APPLICATION RATES AND METHODS FOR USE OF FERTILIZERS AND PESTICIDES AT THE CONSTRUCTION SITE SHALL CONFORM WITH ALL LOCAL AND STATE ORDINANCES. NUTRIENTS SHALL BE APPLIED ONLY AT RATES NECESSARY TO ESTABLISH AND MAINTAIN VEGETATION SUCH THAT DISCHARGES WILL NOT CAUSE OR CONTRIBUTE TO VIOLATIONS OF STATE SURFACE OR GROUNDWATER QUALITY STANDARDS.
- OFF-SITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED BY CONTRACTOR.

**DEMOLITION NOTES (IF NECESSARY):**

- CONTRACTOR SHALL SUBMIT DEMOLITION SCHEDULE TO OWNER PRIOR TO PROCEEDING WITH DEMOLITION ACTIVITIES.
- EXTENT OF SITE CLEARING IS SHOWN ON DRAWINGS.
- PROVIDE PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS INDICATED ON PLAN "EXISTING TO REMAIN."
- RESTORE DAMAGED IMPROVEMENTS TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO PARTIES HAVING JURISDICTION.
- REMOVE WASTE MATERIALS AND UNSUITABLE AND EXCESS TOPSOIL FROM PROPERTY AND DISPOSE OF OFF SITE IN A LEGAL MANNER.
- LOCATE EXISTING ABOVE-GROUND AND UNDERGROUND UTILITIES IN AREAS OF WORK. IF UTILITIES ARE TO REMAIN IN PLACE, PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION DURING DEMOLITION OPERATION.
- SHOULD UNCHARTED, OR INCORRECTLY CHARTED, PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING DEMOLITION, CONSULT PROJECT ENGINEER AND UTILITY OWNER FOR IMMEDIATE ACTION.
- DEMOLISH AND COMPLETELY REMOVE FROM SITE MATERIAL INDICATED ON PLAN OR NOTES "TO BE REMOVED."
- PROTECT: STRUCTURES AND OTHER FACILITIES FROM DAMAGE CAUSED BY: SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT, OTHER HAZARDS CREATED BY THE DEMOLITION OPERATION.
- CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EXISTING CONDITIONS OR BETTER. FURTHERMORE, CONTRACTOR SHALL PROVIDE TO THE ENGINEER A PHOTOGRAPH OF PRE-CONSTRUCTION CONDITIONS AND POST-CONSTRUCTION CONDITIONS AS NOTED ON PLANS.

**DEWATERING NOTES (IF NECESSARY):**

- DURING THE EXCAVATION OF THE STORMWATER PONDS, THE CONTRACTOR MUST CONSTRUCT A SEDIMENT BASIN TO PROVIDE A DISCHARGE POINT FOR DEWATERING. THE SEDIMENT BASIN CAN BE A CELL IN THE PROPOSED EXCAVATION AREA OF A POND OR IT CAN BE A BERMED AREA ABOVE GROUND. ALL DEWATERING MUST BE HELD IN THE SEDIMENT AREA UNTIL THE WATER IS CLEAN SUCH THAT THERE WOULD BE NO TURBID DISCHARGE. AFTER THE WATER IN THE SEDIMENT BASIN IS CLEAN, THE WATER MAY BE RELEASED INTO THE ON-SITE WETLANDS PROVIDED THERE IS NO ADVERSE IMPACT TO THE EXISTING WATER QUALITY.
- UNDER NO CIRCUMSTANCES WILL THE DISCHARGE FROM THE DEWATERING BE DIRECTLY INTO ON-SITE WETLANDS.
- DURING EXCAVATION THE CONTRACTOR SHALL NOT PENETRATE THE EXISTING CLAY LAYER IF PRESENT. IF THE CONTRACTOR ENCOUNTERS THE CLAY LAYER, HE/SHE IS TO PLACE A MINIMUM OF 2 FEET OF SANDY MATERIAL OVER THE CLAY AND TERMINATE THE DEPTH OF THE EXCAVATION.
- IF CONTRACTOR ENCOUNTERS SILTY/CLAY SAND, WHICH CAUSE THE WATER TO BECOME TURBID, HE/SHE SHALL TREAT THE SEDIMENT BASIN WITH A CHEMICAL ADDITIVE SUCH AS ALUM IN ORDER TO PROMOTE THE COAGULATION AND SETTLEMENT OF THE PARTICLES FOR THE WATER TO BECOME LESS TURBID. IF TURBID WATER IS ENCOUNTERED DURING EXCAVATION OF THE PONDS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY TO DETERMINE THE COURSE OF ACTION THAT IS APPROPRIATE TO ELIMINATE THE TURBIDITY AND ALLOW DISCHARGE THAT MEETS AFTER QUALITY STANDARDS.

**SECTION 1 GENERAL EROSION CONTROL:**

- GENERAL EROSION CONTROL BEST MANAGEMENT PRACTICES SHALL BE EMPLOYED TO MINIMIZE SOIL EROSION AND POTENTIAL POND SLOPE FAILURES. WHILE THE VARIOUS TECHNIQUES REQUIRED WILL BE SITE AND PLAN SPECIFIC, THEY SHOULD BE EMPLOYED AS SOON AS POSSIBLE DURING CONSTRUCTION ACTIVITIES.
- CLEARED SITE DEVELOPMENT AREAS NOT CONTINUALLY USED FOR CONSTRUCTION ACTIVITIES SHALL BE SITE AND PLAN SPECIFIC, THEY SHOULD BE EMPLOYED AS SOON AS POSSIBLE DURING CONSTRUCTION ACTIVITIES.

**SECTION 2 PROTECTION OF SURFACE WATER QUALITY DURING AND AFTER CONSTRUCTION:**

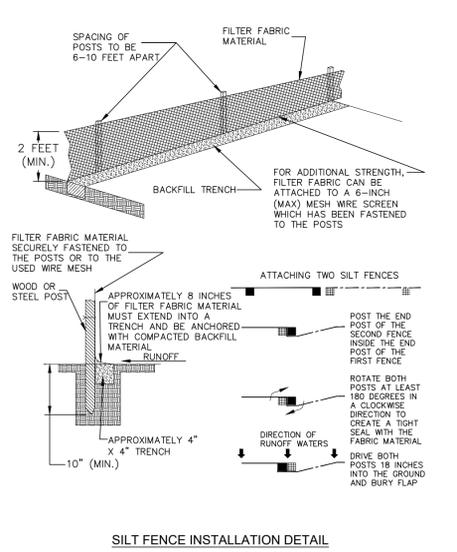
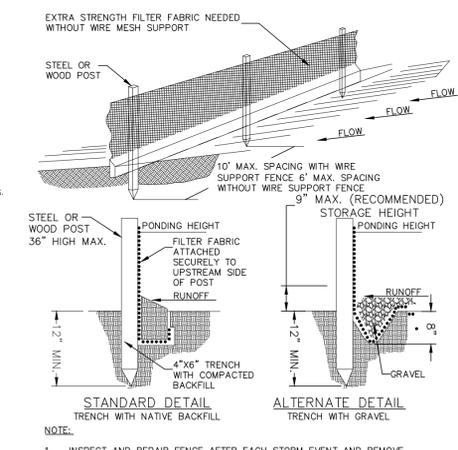
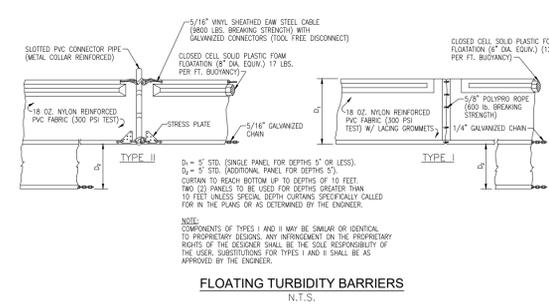
- SURFACE WATER QUALITY SHALL BE MAINTAINED BY EMPLOYING THE FOLLOWING BEST MANAGEMENT PRACTICES IN THE CONSTRUCTION PLANNING AND CONSTRUCTION OF ALL IMPROVEMENTS.
- WHERE PRACTICAL, STORMWATER SHALL BE CONVEYED BY SWALES.
- EROSION CONTROL MEASURES SHALL BE EMPLOYED TO MINIMIZE TURBIDITY OF SURFACE WATERS LOCATED DOWNSTREAM OF ANY CONSTRUCTION ACTIVITY. WHILE THE VARIOUS MEASURES REQUIRED WILL BE SITE SPECIFIC, THEY SHALL BE EMPLOYED AS NEEDED IN ACCORDANCE WITH THE FOLLOWING:
  - IN GENERAL, EROSION SHALL BE CONTROLLED AT THE FURTHEST PRACTICAL UPSTREAM LOCATION.
  - STORMWATER INLETS SHALL BE PROTECTED DURING CONSTRUCTION AS SHOWN IN FOOT INDEX 102 AND SEDIMENT/SUMPS WITHIN SUCH AREAS TO CONTAIN SPILLS OF OIL, GREASE OR LUBRICANTS. CONTRACTORS SHALL HAVE AVAILABLE, AND SHALL USE ABSORBENT FILTER PADS TO CLEAN UP SPILLS AS SOON AS POSSIBLE AFTER OCCURRENCE.
- HEAVY CONSTRUCTION EQUIPMENT PARKING AND MAINTENANCE AREAS SHALL BE DESIGNED TO PREVENT OIL, GREASE, AND LUBRICANTS FROM ENTERING SITE DRAINAGE FEATURES INCLUDING STORMWATER COLLECTION AND TREATMENT SYSTEMS. CONTRACTORS SHALL PROVIDE BROAD DIKES, HAY BALES OR SILT SCREENS AROUND, AND SEDIMENT/SUMPS WITHIN SUCH AREAS TO CONTAIN SPILLS OF OIL, GREASE OR LUBRICANTS. CONTRACTORS SHALL HAVE AVAILABLE, AND SHALL USE ABSORBENT FILTER PADS TO CLEAN UP SPILLS AS SOON AS POSSIBLE AFTER OCCURRENCE.
- SILT BARRIERS: ANY SILT WHICH ACCUMULATES BEHIND THE BARRIERS AND ANY FILL USED TO ANCHOR THE BARRIERS SHALL BE REMOVED PROMPTLY AFTER THE END OF THE MAINTENANCE PERIOD SPECIFIED FOR THE BARRIERS.
- PREVENT EROSION FROM SHEET FLOW ACROSS BARE GROUND FROM ENTERING A LAKE OR SWALE BY INSTALLING A TEMPORARY SEDIMENT SUMP AS REQUIRED. THE TEMPORARY SEDIMENT SUMP SHALL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED ON THE GROUND DRAINING TO THE SUMP.

**BEST MANAGEMENT PRACTICES:**

THIS PLAN HAS BEEN PREPARED TO ENSURE COMPLIANCE WITH APPROPRIATE CONDITIONS OF LOCAL, STATE, AND FEDERAL REGULATIONS. THE PLAN ADDRESSES THE FOLLOWING AREAS:

- GENERAL EROSION CONTROL.
- PROTECTION OF SURFACE WATER QUALITY DURING AND AFTER CONSTRUCTION.
- CONTROL OF WIND EROSION.

THE VARIOUS TECHNIQUES OR ACTIONS IDENTIFIED UNDER EACH SECTION INDICATE THE APPROPRIATE SITUATION WHEN THE TECHNIQUES SHOULD BE EMPLOYED. IT SHOULD BE NOTED THAT THE MEASURES IDENTIFIED ON THIS PLAN ARE ONLY SUGGESTED BMP(S). THE CONTRACTOR SHALL PROVIDE POLLUTION PREVENTION AND EROSION CONTROL MEASURES AS SPECIFIED IN FOOT INDEX #102 AND AS NECESSARY FOR EACH SPECIFIC APPLICATION.



KHA PROJECT 142146055		DATE JUNE 2017		SCALE AS SHOWN		DESIGNED BY RBC		DRAWN BY JMW		CHECKED BY RBC							
<p style="text-align: center;"><b>MANATEE COUNTY LAKE MANATEE WATER SUPPLY AND WATER QUALITY IMPROVEMENT - PHASE 2</b></p> <p style="text-align: center;">PREPARED FOR MANATEE BOARD OF COUNTY COMMISSIONERS MANATEE COUNTY, FLORIDA</p>																	
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