

**THE QUARRY
COMMUNITY DEVELOPMENT DISTRICT
COLLIER COUNTY, FLORIDA**

**STORMWATER LAKES
ANNUAL ASSESSMENT REPORT
MAY 2021**



*Engineers
Architects
Planners
Surveyors
Landscape Architects
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Environmental Scientists
Construction Management*

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**THE QUARRY CDD
STORMWATER LAKES ASSESSMENT REPORT
COLLIER COUNTY, FLORIDA**

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1.0 EXECUTIVE SUMMARY

CPH conducted inspection of the Quarry Community Development District's (TQCDD) stormwater system and associated lakes on April 5th, 2021. The purpose of this inspection was to review the existing lake banks conditions in relation to the permitted design outlined in the South Florida Water Management District (SFWMD) Environmental Resource Permit (ERP) (No 11-02234-P). CPH observed and documented those areas where the Lake banks erosion exceeded 8 inches (8") of stepped erosion following SFWMD Guidelines and Requirements. CPH identified a total of twenty-seven (27) of the thirty (30) lakes maintained and operated by TQCDD to be deficient according to the SFWMD guidelines and requirements. CPH conducted a similar inspection for the three (3) lakes maintained and operated by the Quarry Golf Club which were also found to be deficient accordingly to the SFWMD guidelines and requirements.

The 30 lakes maintained and operated by TQCDD combined for a total perimeter of 77,877LF. 20,238LF have Quarry Golf Course frontage and the balance, 57,639LF are fronted by residential, preserve or R.O.W. This assessment has determined that 15,675LF are in need of repair and/or monitoring. 7,255LF (9%) of the lake's deficient embankments were located adjacent to Golf Course shoreline and 8,420LF (11%) were located adjacent to residential, preserve or Right of Way shoreline respectively. CPH recommends that these deficiencies be corrected as soon as practicable to ensure compliance with the SFWMD permit conditions and limit any potential public safety concerns. Additionally, CPH has provided a recommendation herein prioritizing the most critical areas and identified the need for routine monitoring and maintenance to limit future embankment failures. **Appendix B** provides a detailed summary of deficiencies findings and their respective priorities.

2.0 PROJECT INTRODUCTION

The Quarry, a gated community, is located north of Immokalee Road approximately 3.7 miles east of I-75 in Collier County, Florida. TQCDD consists of approximately 959 acres within Collier County, Florida and lies within portions of Sections 13,14, 23, and 24, Township 48 South, Range 26 East. The residential development harbors approximately 624 single family units, 276 multi-family units, a golf course, a golf club house, a beach club and associated infrastructure and utilities.

TQCDD was established by Collier County Ordinance No. 04-53. It is TQCDD's responsibility to plan, finance, construct, acquire, operate and maintain the public lakes and stormwater infrastructure within the boundaries of The Quarry. TQCDD has the power to levy and impose assessments, rates, and charges to pay for projects that fall within TQCDD's responsibilities. TQCDD has been granted the power to borrow money and issue bonds for the purpose of constructing improvements to the lakes and utilities.

TQCDD is permitted through South Florida Water Management District (SFWMD) under permit number 11-02234-P issued on August 14, 2003, for the development of a residential community with golf courses. The referenced permit area contains The Quarry and a neighboring development, Heritage Bay, totaling

2,562.20 acres, and their combined existing stormwater management lakes system area is 711.2 acres.

TQCDD currently maintains 30 onsite lakes (not including the three Quarry Golf Club owned lakes). These include the many ponds, all of Stone Lake and a portion of Boulder Lake; the balance of which is owned and maintained by the Heritage Bay community. These identified 30 lakes and ponds total 382 acres. The three Quarry Golf Club owned lakes are also studied herein and identified as L57, L59 and L64 (See Attached Overall Map).

At the request of TQCDD Board of Supervisors, CPH performed a visual inspection of stormwater structures located within TQCDD to ensure these are functioning as designed, and to document the existing conditions of each lake and control structures. This record log will be used to identify those areas requiring immediate, long term and preventive maintenance or repairs, and to comply with the SFWMD, Environmental Resource Permit (ERP) conditions.

3.0 METHODOLOGY

A CPH representative conducted field investigations during the week of April 5th, 2021. CPH walked the perimeter of each stormwater lake and control structure searching for the presence of erosion, washouts, sodding deficiencies, visual structural defects, or accumulated debris that could interfere with the proper functioning of the permitted use. The control structures inspected were: L32L30, L40L30, L49, L50L30, L54L30-1, L54L30-2, L55L30, L56L30, L58L30, L59L30-1, L59L30-2, L62L30, L63L30-1, L63L30-2, L64W2, W1L30, W1W2, W1W4 as identified on the ERP. Interconnecting pipes in the existing lakes were also inspected, as allowed by water levels and water turbidity.

CPH also reviewed available information on the SFWMD design permit plans to confirm original lake bank cross section design and control structure locations.

Specific methods used to assess the stormwater lakes and control structures included:

A) Erosion type assessment

The percent of erosion was assessed qualitatively.

B) Control structures assessment

Control structures were assessed individually based on physical structural damage or deficiency.

C) Photography

Color Photographs were taken to document existing conditions

4.0 OBSERVATIONS

CPH recorded observations in all 33 lakes and 18 control structures pursuant to the methodology outlined in

Section 2.0 and 3.0 of this report. Figures provided in **Appendix A** depict the location of erosion problem areas, control structures and existing conditions of interconnecting pipes. The figures also provide a list of recorded observations and maintenance/repairs recommendations.

4.1 Stormwater Lakes

Minor to moderate erosion was observed in some of the lake banks. The minor erosion appeared to be caused by natural occurrences such as weather, wind, and water level fluctuations during low and high water seasons, etc., which are considered acceptable for these type of lakes. Moderate erosion and or lake bank degradation was observed in isolated areas and is likely caused by a broken irrigation system, improperly set irrigation heads, and house or condo roof / lawn concentrated drainage.

No major or substantial washouts or deficiencies, that could prevent the lakes from providing their intended design use or capacity, were observed during this inspection. Nonetheless, a monitoring plan is recommended to avoid future erosion issues.

4.2 Control Structures

The stormwater control structures were structurally sound with no visual construction defects, with the exception of structure L54L30-1 which required re-grouting of a construction joint. CPH observed other structures which were covered with grass clippings and dried grass.

5.0 RECOMMENDATIONS

Specific priorities and recommendations will follow subject to Board of Supervisors review and direction. Optional methods of repair will be developed for consideration including: riprap, slope flattening, fill and vegetation and/or littorals; and other methods as identified.



APPENDIX A

Figures & Photos

**The Quarry CDD
Stormwater Lakes Assessment Report
Collier County, Florida**



LEGEND:

GOLF COURSE HOLE NUMBER

L LAKE NUMBER

COLLIER BLVD.

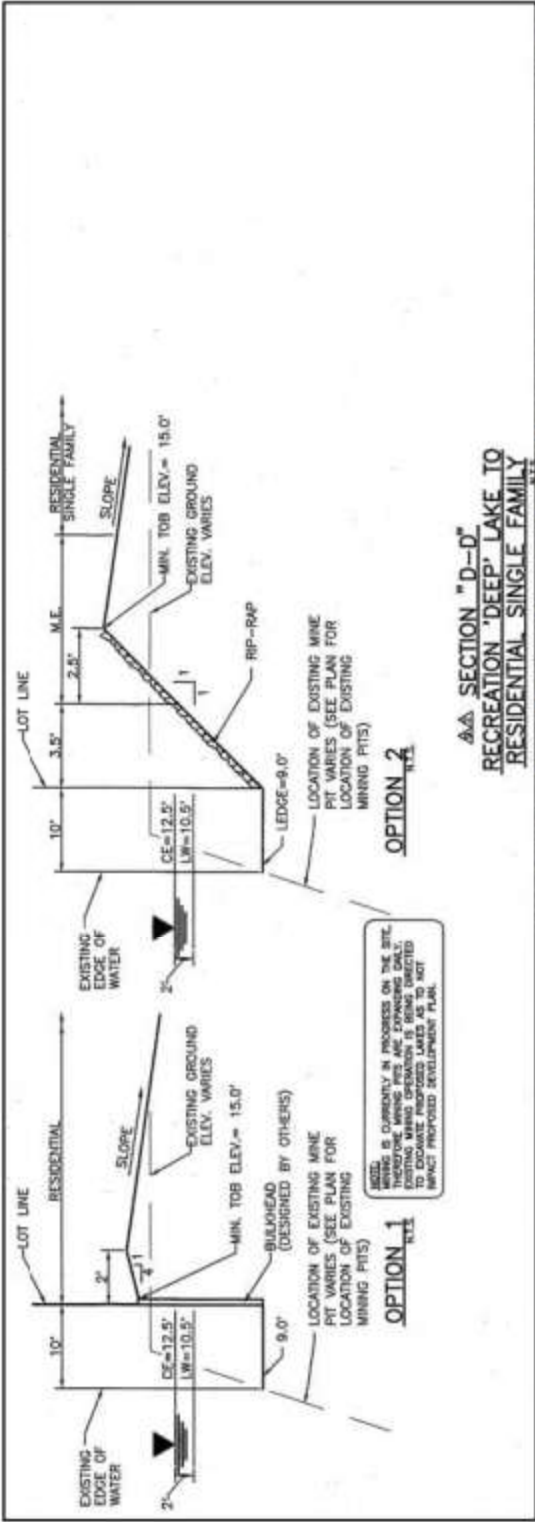
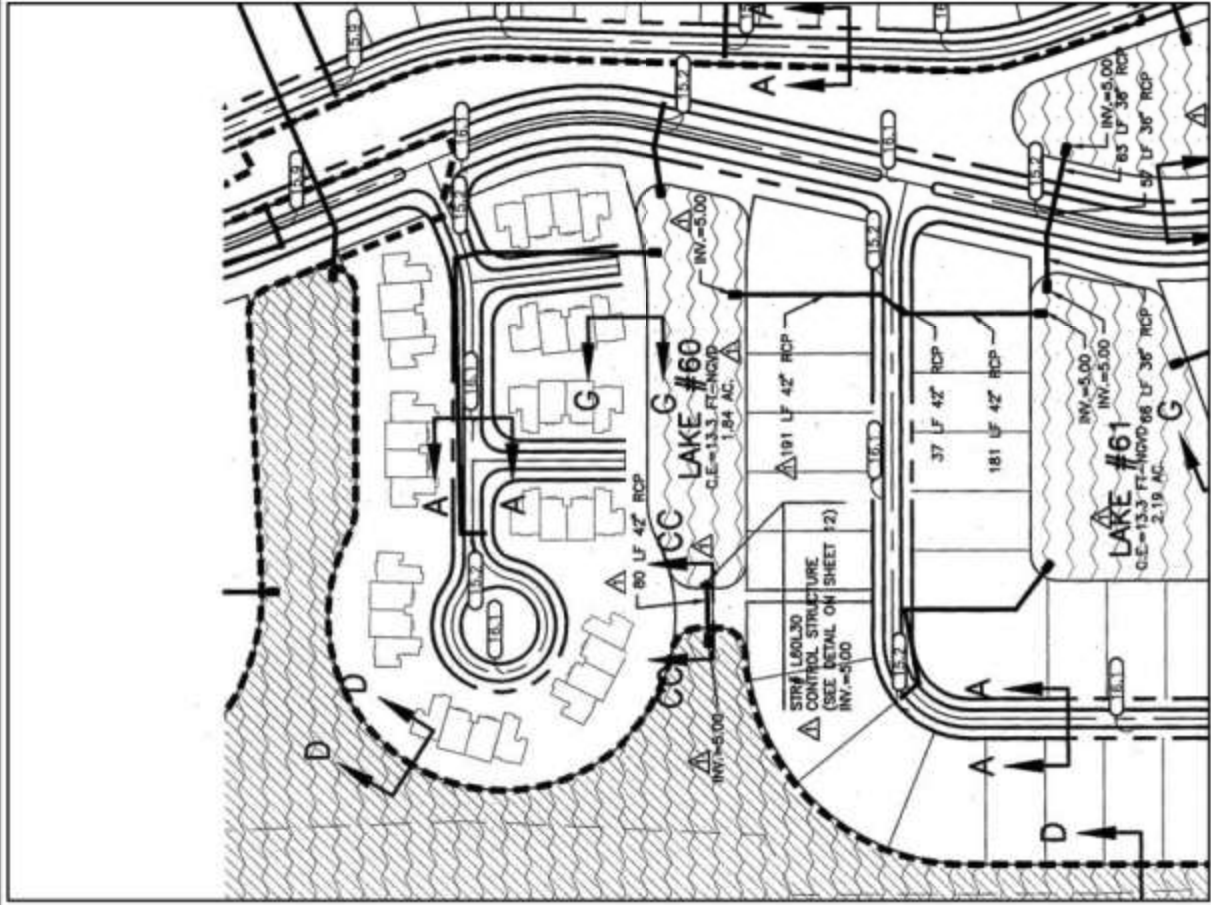
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THE QUARRY COMMUNITY DEVELOPMENT DISTRICT COLLIER COUNTY / FLORIDA											
LAKE BANK CONDITION SURVEY OVERALL LAKE MAP											
Sheet No. M1											
THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS											

Designed By: N/A
Drawn By: J. ALLEN
Checked By: A. LOPEZ
Date: 04/27/2021
Job No.: 02509

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SECTION "D-D"
RECREATION "DEEP" LAKE TO
RESIDENTIAL SINGLE FAMILY

N.T.S.

ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

No.	Date	Revision	Revised By
1	11/11/2011	1	J. ALLEN
2	11/11/2011	2	J. ALLEN
3	11/11/2011	3	J. ALLEN
4	11/11/2011	4	J. ALLEN
5	11/11/2011	5	J. ALLEN
6	11/11/2011	6	J. ALLEN
7	11/11/2011	7	J. ALLEN
8	11/11/2011	8	J. ALLEN
9	11/11/2011	9	J. ALLEN
10	11/11/2011	10	J. ALLEN
11	11/11/2011	11	J. ALLEN
12	11/11/2011	12	J. ALLEN
13	11/11/2011	13	J. ALLEN

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Job No.	102532

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
LAKE 30 AT FLINT CT.

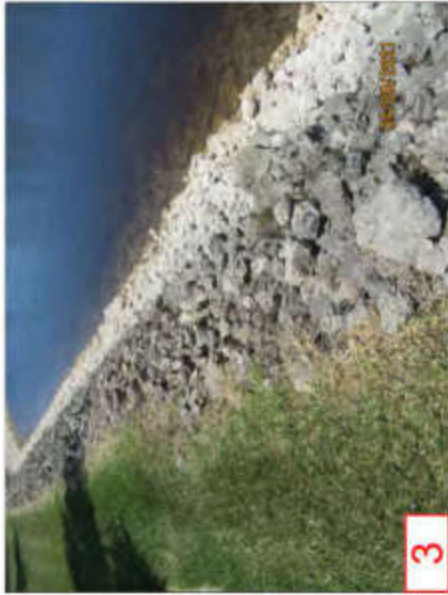
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OBSERVATIONS:

- NO EROSION DEFICIENCIES FOUND.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- PERIODIC MONITORING.

No.	Date	Revision	Description



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Professional Engineer License No. 1387143
Architect License No. AA3880028
Landscaper No. LC88328

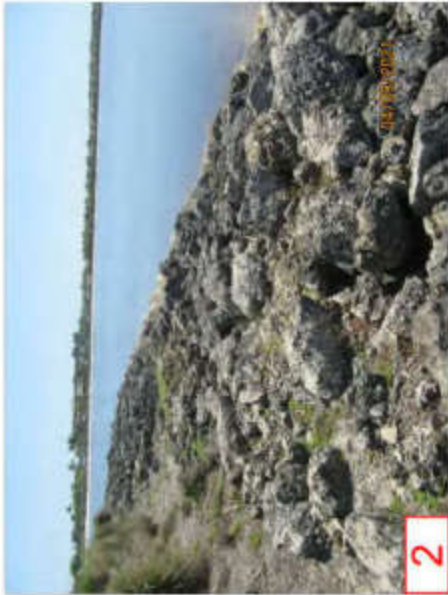
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Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/27/2021
Job No.	02509

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DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 30 AT FLINT CT.



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OBSERVATIONS:

- MODERATE EROSION ADJACENT TO GOLF COURSE LIKELY CAUSED BY EXISTING DRAINAGE PATTERNS OR IRRIGATION WATER (PHOTOS #3 - #8). APPROXIMATELY 365 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- ADD FILL MATERIAL, GEOTEXTILE FABRIC AND 10" - 12" RIPRAP MATERIAL.

No.	Date	Revision	Description
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Architect No. AA3880028
Landscape No. LC88328

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Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/22/2021
Job No.	02509

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COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 30 AT GOLF
HOLE 2

Sheet No.
L30



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OBSERVATIONS:

- MINOR EROSION ADJACENT TO GOLF COURSE (PHOTOS #7 & #9). APPROXIMATELY 120 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- ADD FILL MATERIAL, GEOTEXTILE FABRIC AND 10" - 12" RIPRAP MATERIAL

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Surveyor No. L387143
Architect No. AA3880028
Landscape No. LC88328

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Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/27/2021
Job No.	02509

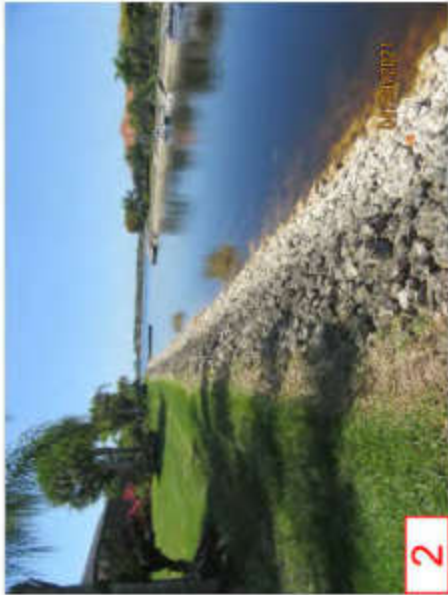
THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 30 AT GOLF
HOLE 3

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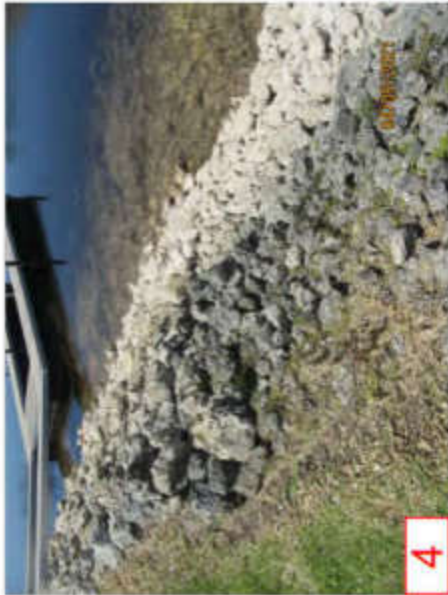
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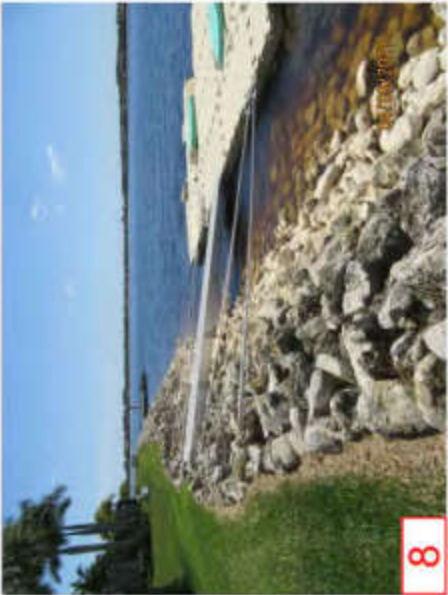
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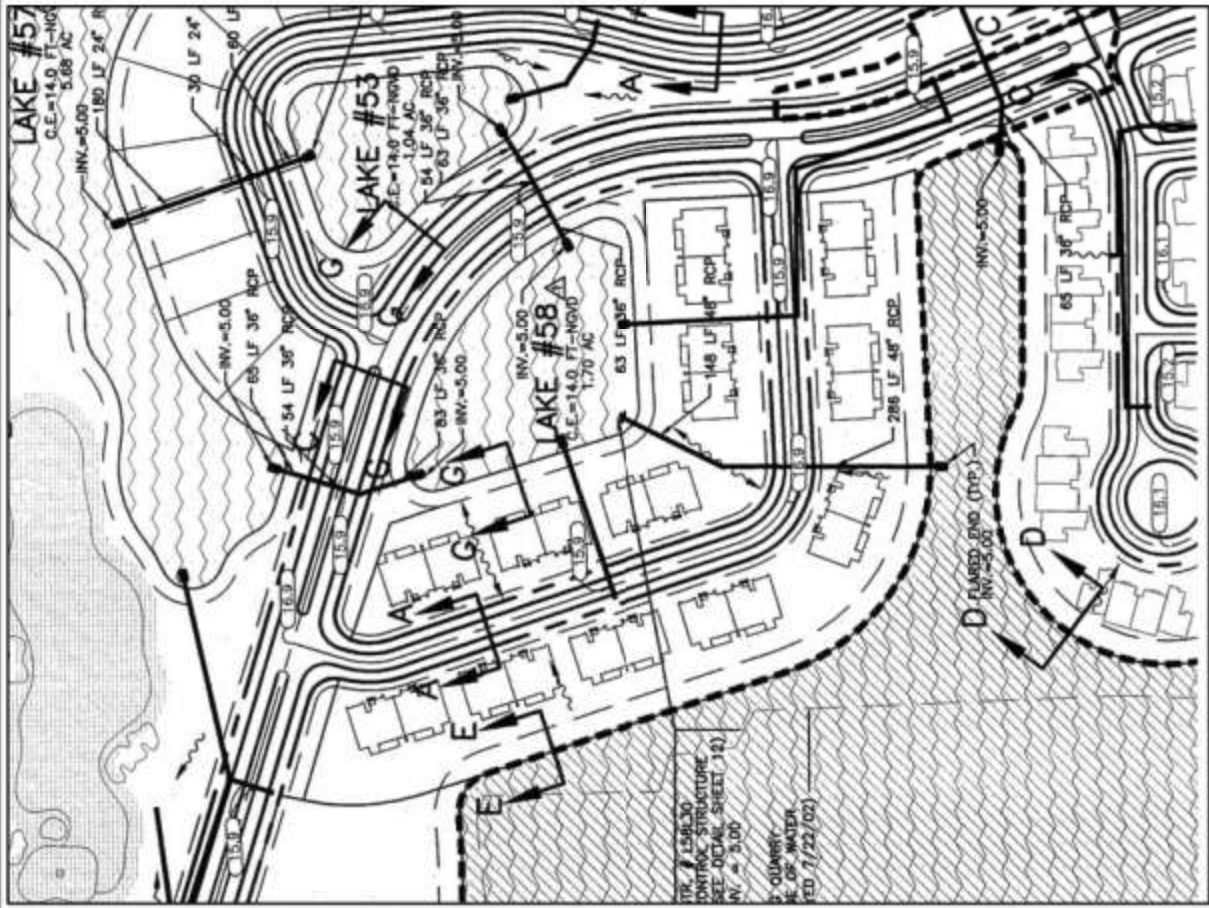
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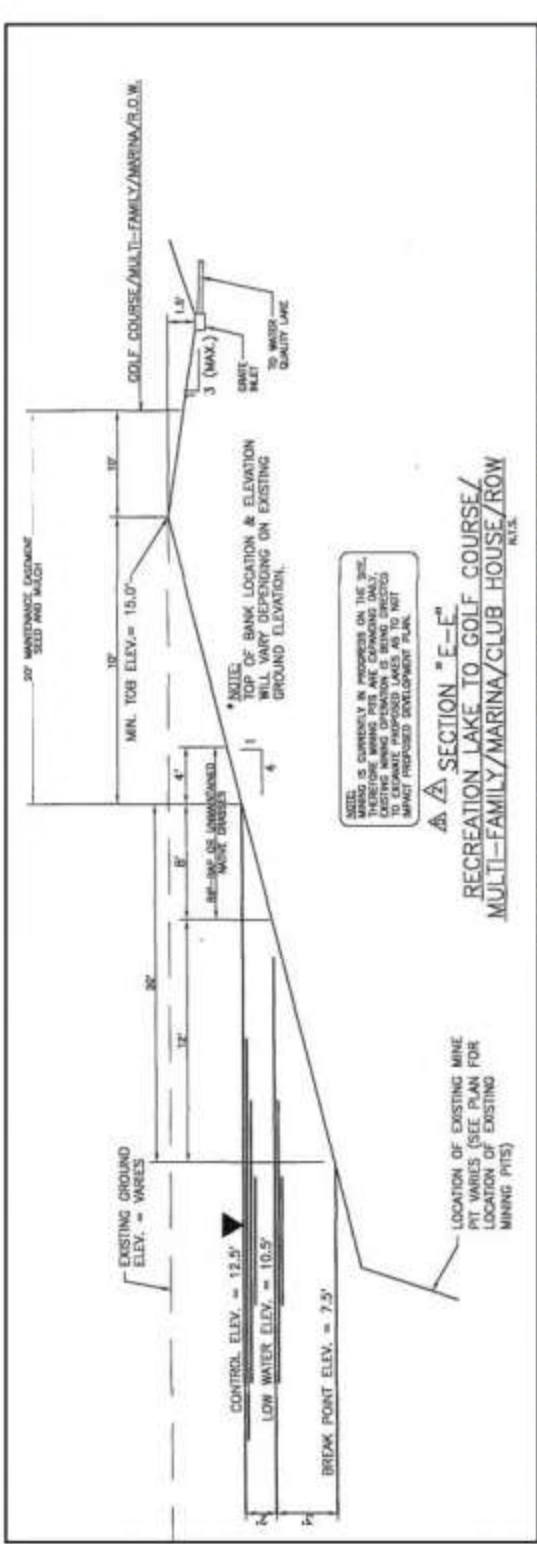
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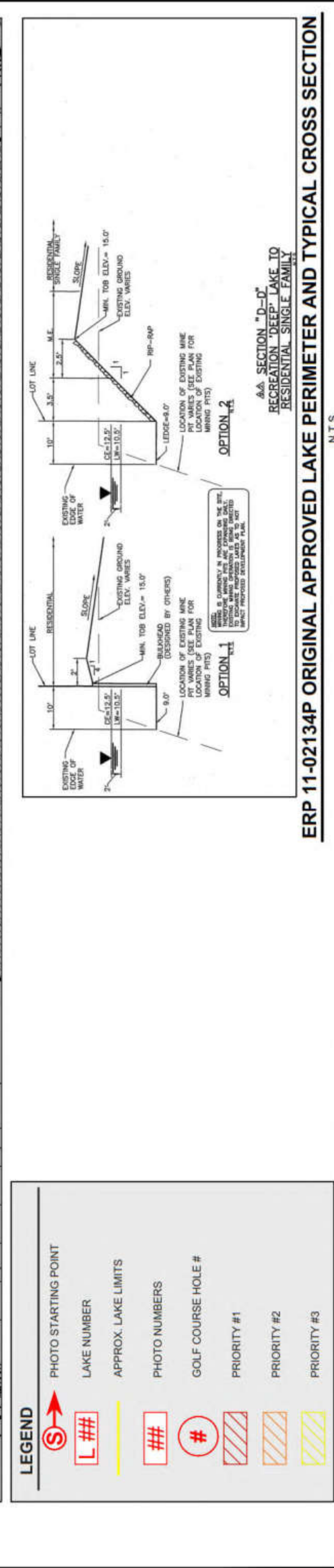
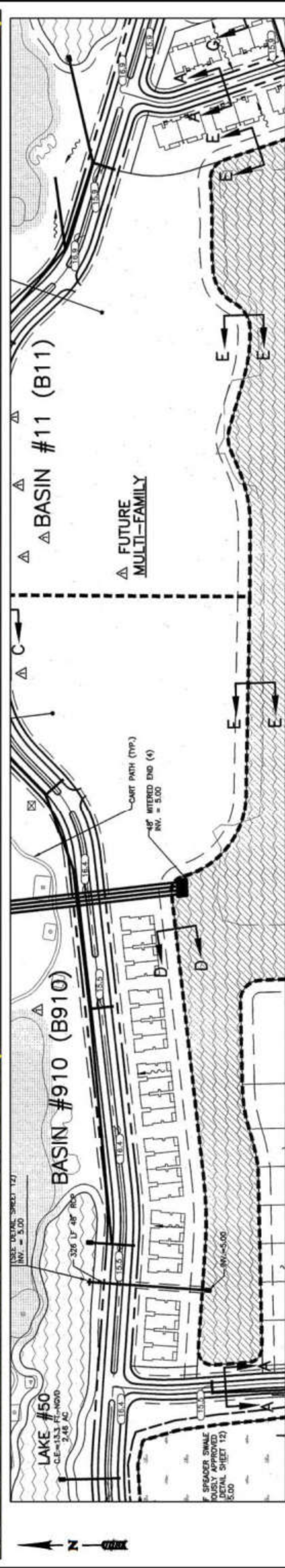


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	PRIORITY #2
	PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

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A Full Service A & E Firm				Designed By: N/A			
CPH, Inc.				Drawn By: J. ALLEN			
2218 Alamo Avenue				Checked By: A. LOPEZ			
San Antonio, TX 78201				Date: 04/22/2011			
Phone: 210.332.5400				JOB NO: 102502			
Fax: 210.332.5401				THE QUARRY COMMUNITY			
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Lake 30 - 2.4mg 3/17/2011 3:53:27 PM, Version: Sheet 1.				LAKE BANK CONDITION SURVEY			
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OBSERVATIONS:

- NO EROSION DEFICIENCIES FOUND.

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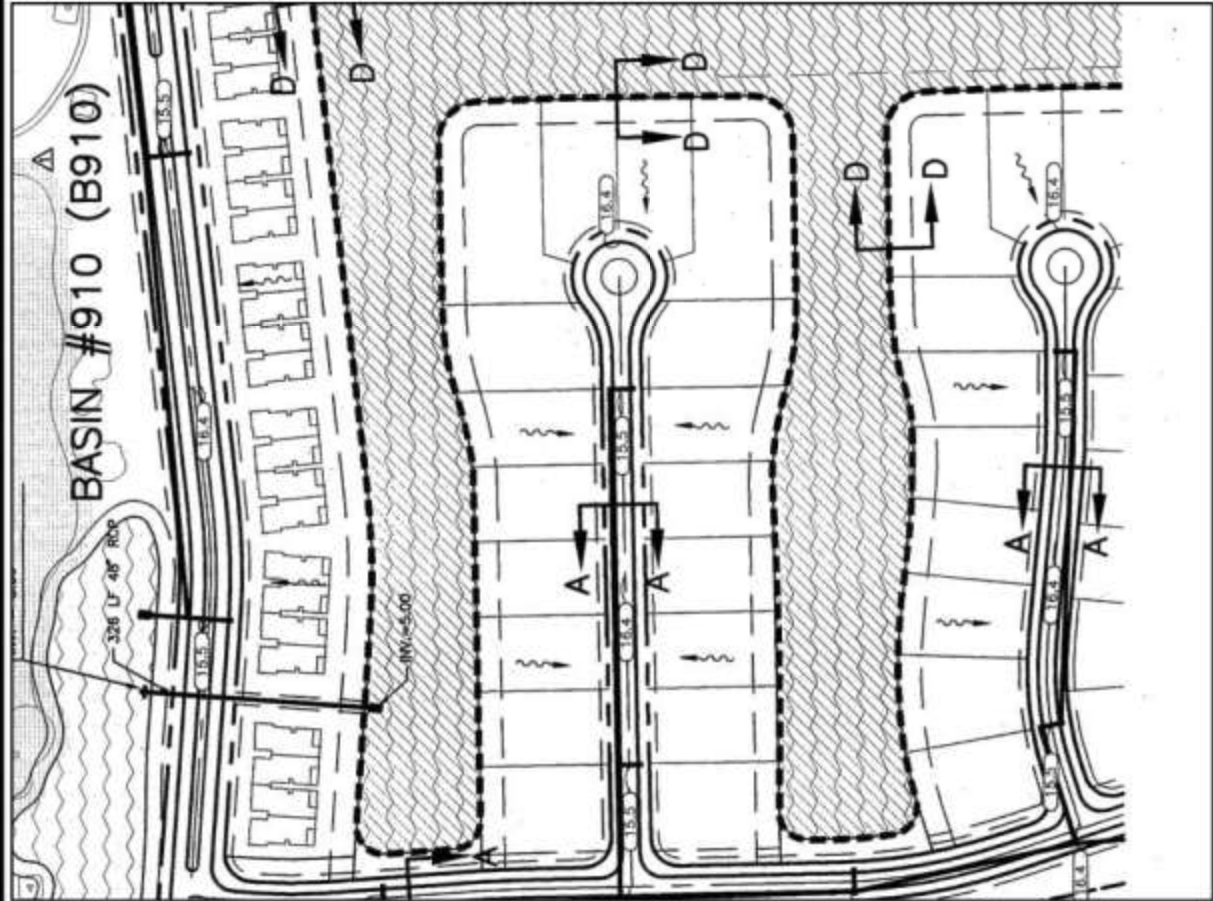
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State of Florida License:
Professional Engineer
Surveyor No. L87143
Architect No. AA3880028
Landscaper No. LC88338

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Drawn By:	J. ALLEN
Checked By:	A. LOPEZ
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Job No.	02509

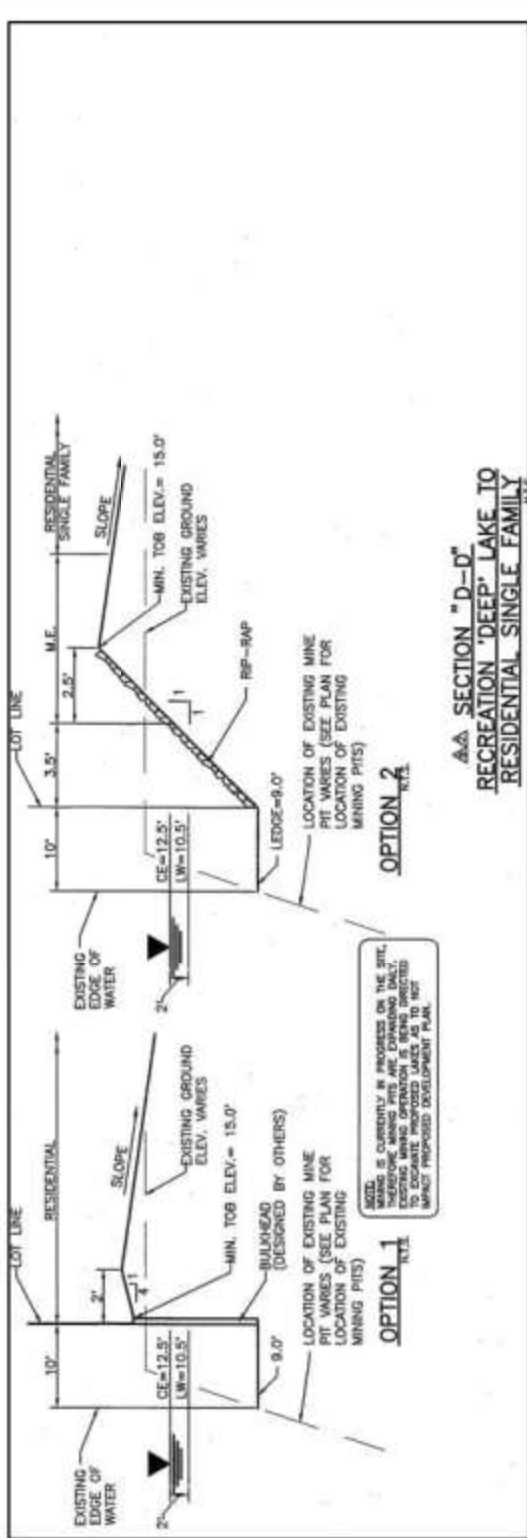
THE QUARRY COMMUNITY
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COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 30 AT QUARRY
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	PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

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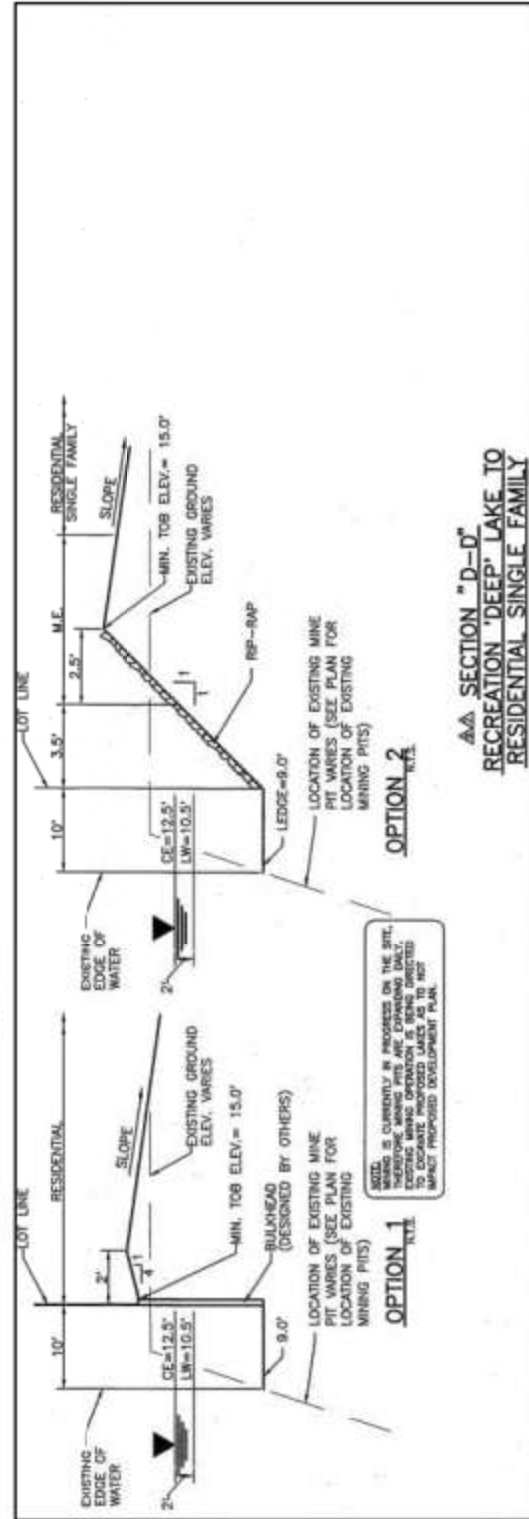
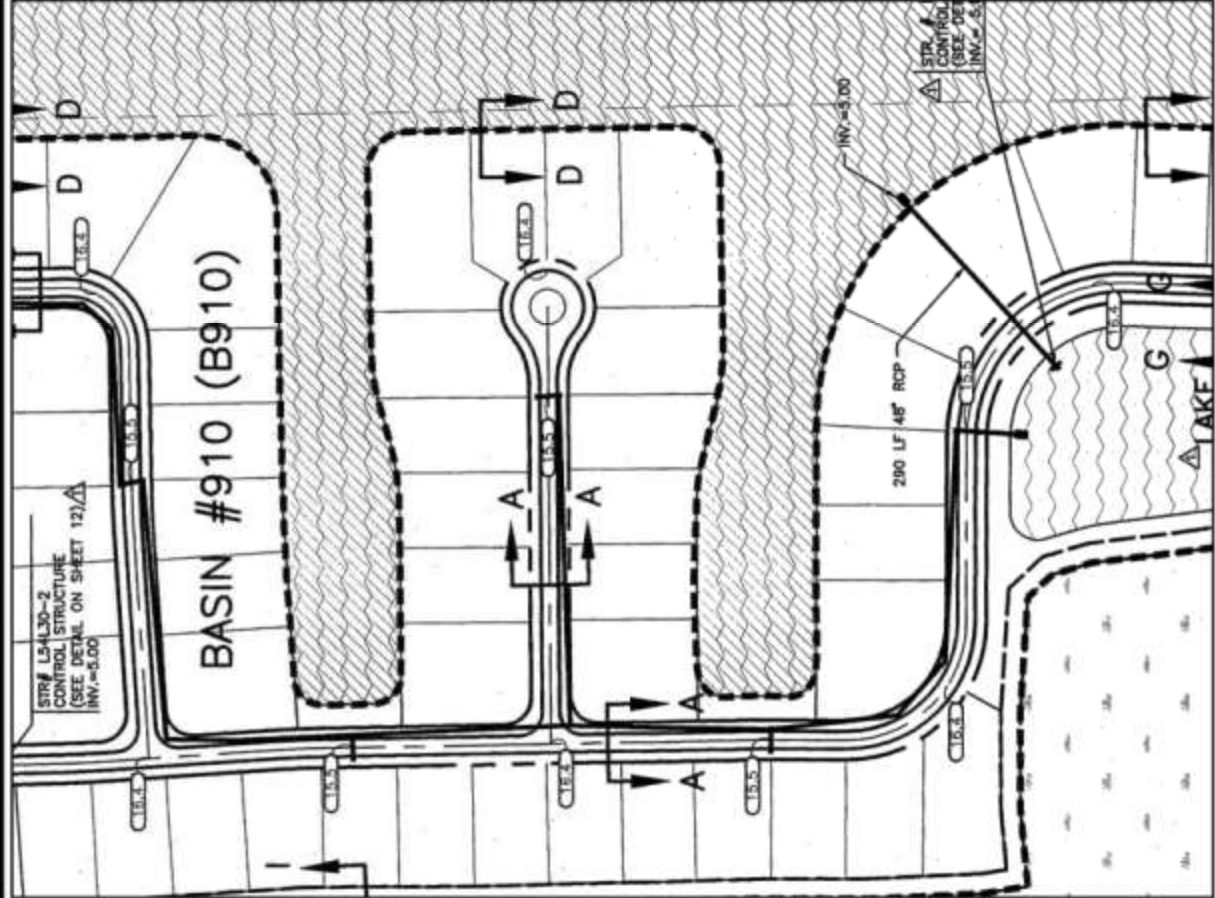
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Planned By		CPH, Inc.	Planned By		CPH, Inc.
State of Florida License		Surveyor No. 187143	State of Florida License		Surveyor No. 187143
Architect No. AA2800028		Landscaper No. LC08028	Architect No. AA2800028		Landscaper No. LC08028

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PH: 333.333.5499		© 2021	PH: 333.333.5499		© 2021

Designed by		N/A	Designed by		N/A
Drawn by		J. ALLEN	Drawn by		J. ALLEN
Checked by		A. LOPEZ	Checked by		A. LOPEZ
Date		04/22/2021	Date		04/22/2021
Job No.		02508	Job No.		02508

THE QUARRY COMMUNITY DEVELOPMENT DISTRICT		LAKE BANK CONDITION SURVEY LAKE 30 AT COPPER ROCK CT.	
COLLIER COUNTY / FLORIDA		L30	



**ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER
AND TYPICAL CROSS SECTION**

<div>www.cphinc.com</div> <div></div> <div>A Full Service A & E Firm 3224 Atlantic Avenue Ft. Myers, FL 33901 Phone: 238-332-5499 Fax: 238-332-5499 www.cphinc.com</div> <div>Plans Prepared by Chief Designer State of Florida License Engineer No. 3215 Surveyor No. LB7143 Architect No. AA2800026 Landscape No. LC000000</div> <div>_____</div> <div>Designed by Drawn by Checked by Date JOB NO.</div> <div>N/A J. ALLEN A. LOPEZ 04/22/2021 12555P</div> <div>THE QUARRY COMMUNITY DEVELOPMENT DISTRICT COLLIER COUNTY / FLORIDA</div> <div>LAKE BANK CONDITION SURVEY LAKE 30 AT GRANITE CT.</div> <div>Sheet No. L30</div>										THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS									
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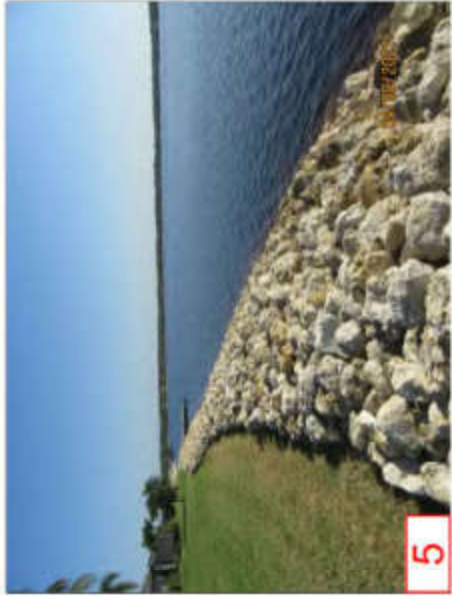
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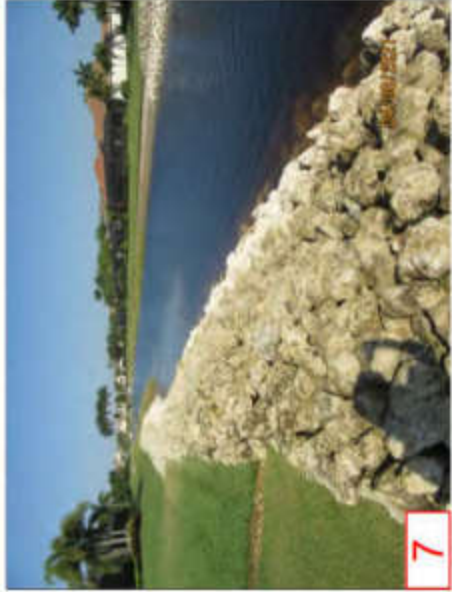
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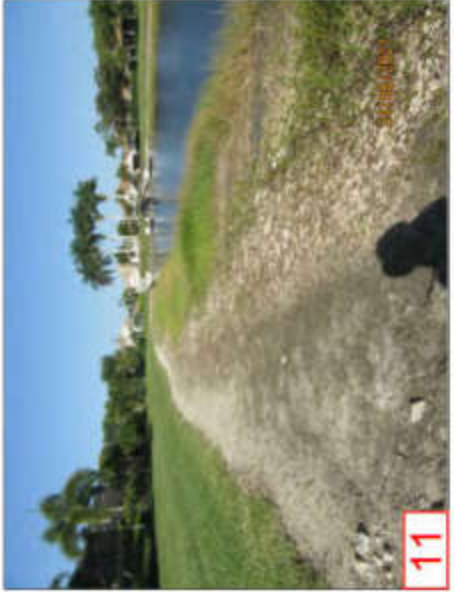
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OBSERVATIONS:

- MINOR EROSION ADJACENT TO RESIDENTIAL LIKELY DUE TO UNDERGROUND DRAINAGE PIPE INSTALLATION (PHOTOS #1, #2 & #13).

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- EXTEND PIPE DIRECTLY INTO THE LAKE.

No.	Date	Revision	Description
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Professional Engineer
Surveyor No. LB7143
Architect No. AA32600026
Landscape No. LC088208

Designed By: N/A
Drawn By: J. ALLEN
Checked By: A. LOPEZ
Date: 04/22/2021
Job No. 02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 30 AT GRANITE
CT.

Sheet No.
L30



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OBSERVATIONS:

- EXPOSED GEOTECHNICAL FABRIC (PHOTO 33).
- RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:
 - PROVIDE ADDITIONAL RIPRAP LAYER (10'-12') TO COVER EXPOSED FABRIC.

No.	Date	Revision	No.	Date	Revision
1			1		
2			2		
3			3		
4			4		



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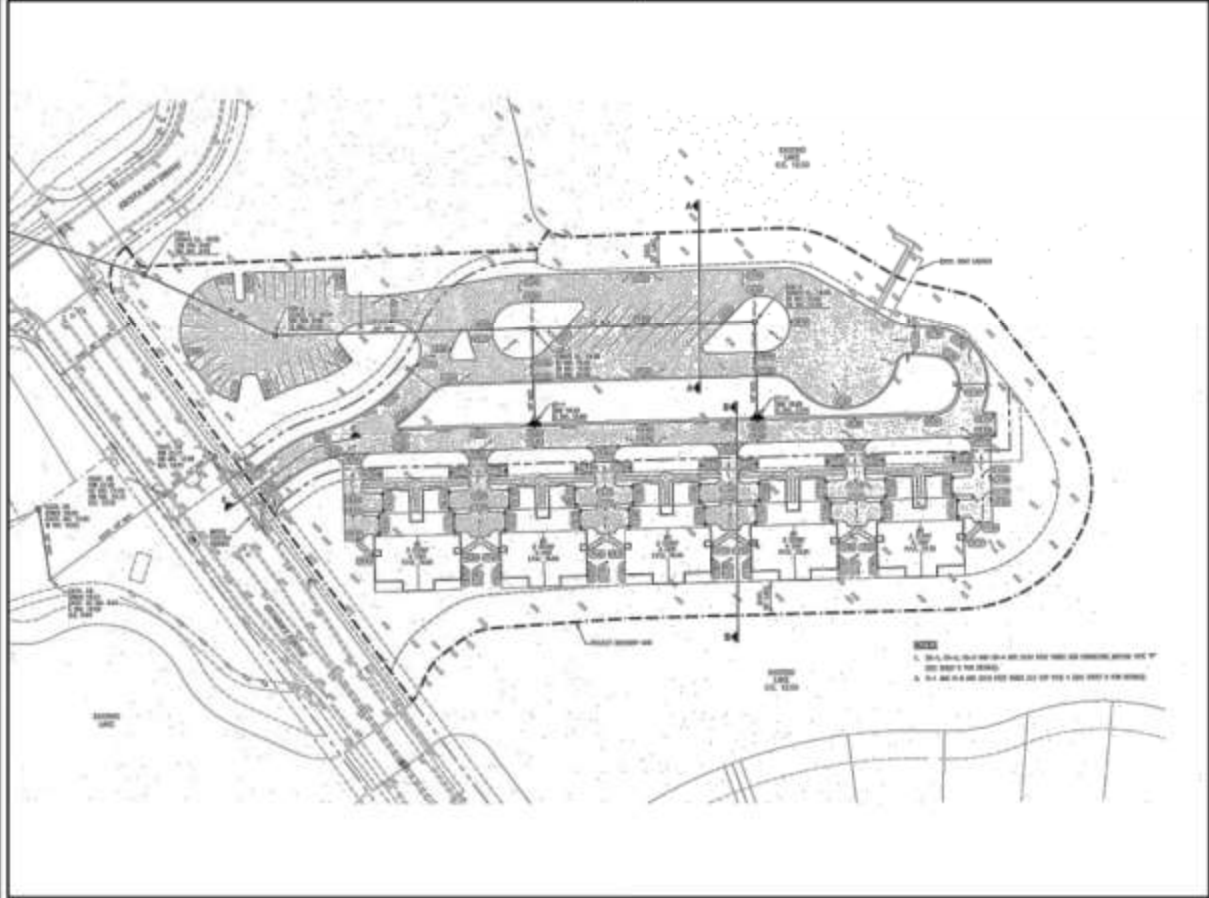
Plans Prepared By:
CPH, Inc.
State of Florida License:
A. LOPEZ (0000000000)
Surveyor No. LB7143
Architect No. AA38000028
Landscape No. LC080208

Designed By: N/A
Drawn By: J. ALLEN
Checked By: A. LOPEZ
Date: 04/27/2021
Job No.: 000000

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

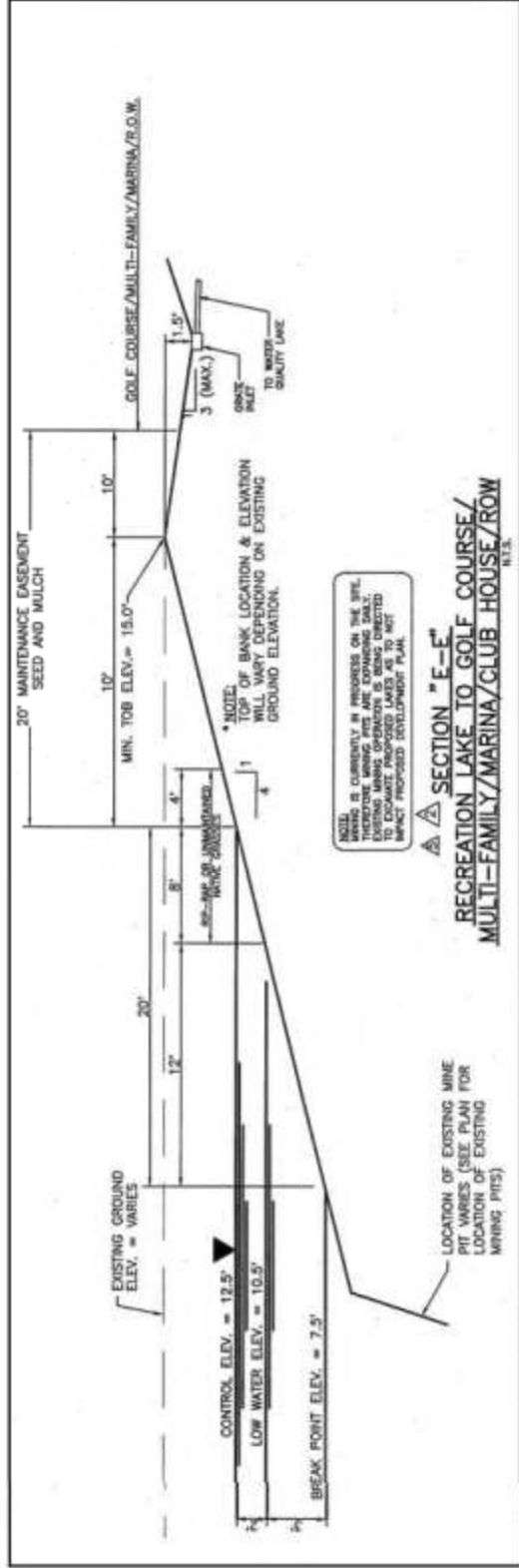
LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 30 AT MARBLE
STONE DR.

Sheet No.
L30



LEGEND

- PHOTO STARTING POINT
- LAKE NUMBER
- APPROX. LAKE LIMITS
- PHOTO NUMBERS
- GOLF COURSE HOLE #
- PRIORITY #1
- PRIORITY #2
- PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Revised By
1	11/1/2021	1	CPH
2	11/1/2021	2	CPH
3	11/1/2021	3	CPH
4	11/1/2021	4	CPH
5	11/1/2021	5	CPH
6	11/1/2021	6	CPH
7	11/1/2021	7	CPH
8	11/1/2021	8	CPH
9	11/1/2021	9	CPH
10	11/1/2021	10	CPH

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Landscape No. 111111

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Landscape No. 111111

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

Designed By
J. ALLEN
Checked By
A. LOPEZ
Date
04/22/2021
Job No.
111111

LAKE BANK CONDITION SURVEY
LAKE 30 AT NAUTICAL LANDING
CIRCLE

Prepared By
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No. 111111
Architect No. 111111
Landscape No. 111111

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Architect No. 111111
Landscape No. 111111

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No. 111111
Architect No. 111111
Landscape No. 111111

Sheet No.
L30



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OBSERVATIONS:

- MODERATE EROSION ADJACENT TO RESIDENTIAL PROPERTIES. (PHOTOS #2 - #5). APPROXIMATELY 575 LF.
- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

Rev.	Date	Revision	No.	Date	Revised:
A			A		
A			A		
A			A		
A			A		



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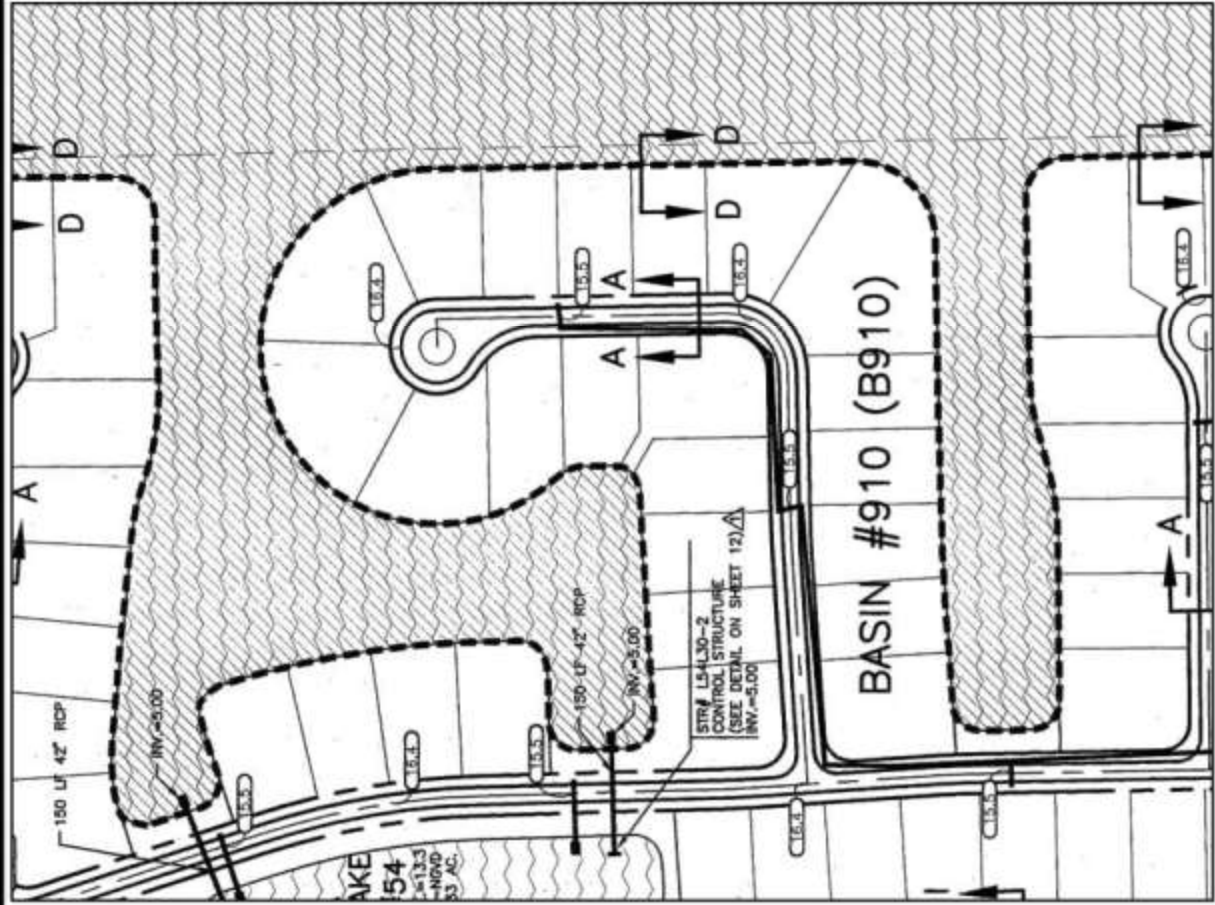
Plans Prepared By:
CPH, Inc.
State of Florida License:
A. Lopez
Surveyor No. 1387143
Architect No. AA3880028
Landscaper No. LC88208

Designed by:	N/A
Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/27/2021
Job No.	02509

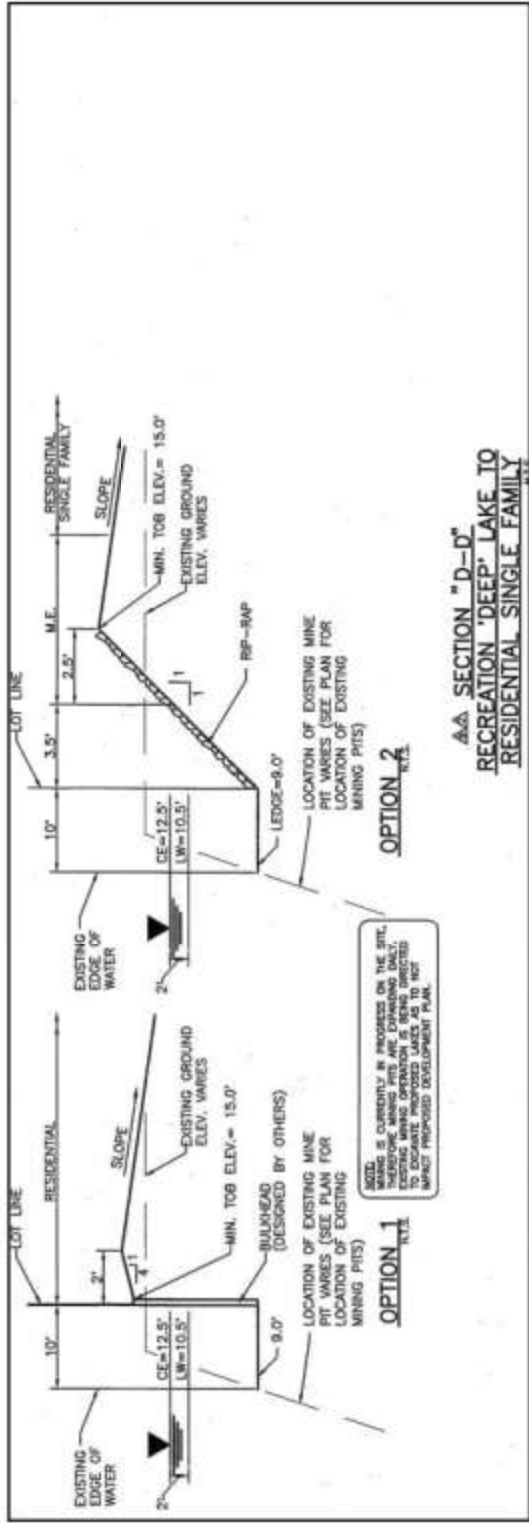
THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 30 AT NAUTICAL
LANDING CIRCLE

Sheet No.
L30



LEGEND	
	PHOTO STARTING POINT
	LAKE NUMBER
	APPROX. LAKE LIMITS
	PHOTO NUMBERS
	GOLF COURSE HOLE #
	PRIORITY #1
	PRIORITY #2
	PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER
AND TYPICAL CROSS SECTION

N.T.S.

No.		Date	Revision	No.		Date	Revision
1				1			
2				2			
3				3			
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16				16			
Plans Prepared By CPH, Inc. State of Florida License: A. J. Allen Surveyor No. 187143 Architect No. AA2880028 Landscape No. LC08208				A Full Service A & E Firm 2318 Alameda Avenue Fort Lauderdale, FL 33304 Tel: 333.332.5489 Fax: 333.332.5489 www.cphcorp.com			
Designed By: N/A				THE QUARRY COMMUNITY DEVELOPMENT DISTRICT COLLIER COUNTY / FLORIDA			
Drawn By: J. ALLEN				LAKE BANK CONDITION SURVEY LAKE 30 AT SLATE CT.			
Checked By: A. J. ALLEN				Sheet No. L30			
Date: 04/27/2021				THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.			



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04/08/2021



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04/08/2021



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04/08/2021



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04/08/2021



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04/08/2021



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04/08/2021



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04/08/2021



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04/08/2021

OBSERVATIONS:

- MODERATE EROSION ADJACENT TO RESIDENTIAL PROPERTIES (PHOTOS #14 - #16). APPROXIMATELY 375 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.

No.	Date	Revision	Revised By
1			
2			
3			
4			



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Surveyor No. LB1143
Architect No. AA2880028
Landscape No. LB88208

Designed By:	N/A
Drawn By:	J. ALLEN
Checked By:	A. LOPEZ
Date:	04/27/2021
Job No.	02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 30 AT SLATE CT.

Sheet No.
L30



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OBSERVATIONS:

- MODERATE EROSION ADJACENT TO RESIDENTIAL PROPERTIES (PHOTOS #1, #2 & #11), APPROXIMATELY 600 LF
- MODERATE EROSION ADJACENT TO GOLF COURSE (PHOTOS #5 - #9), APPROXIMATELY 640 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL, NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.

No.	Date	Revision	Revised By
1			
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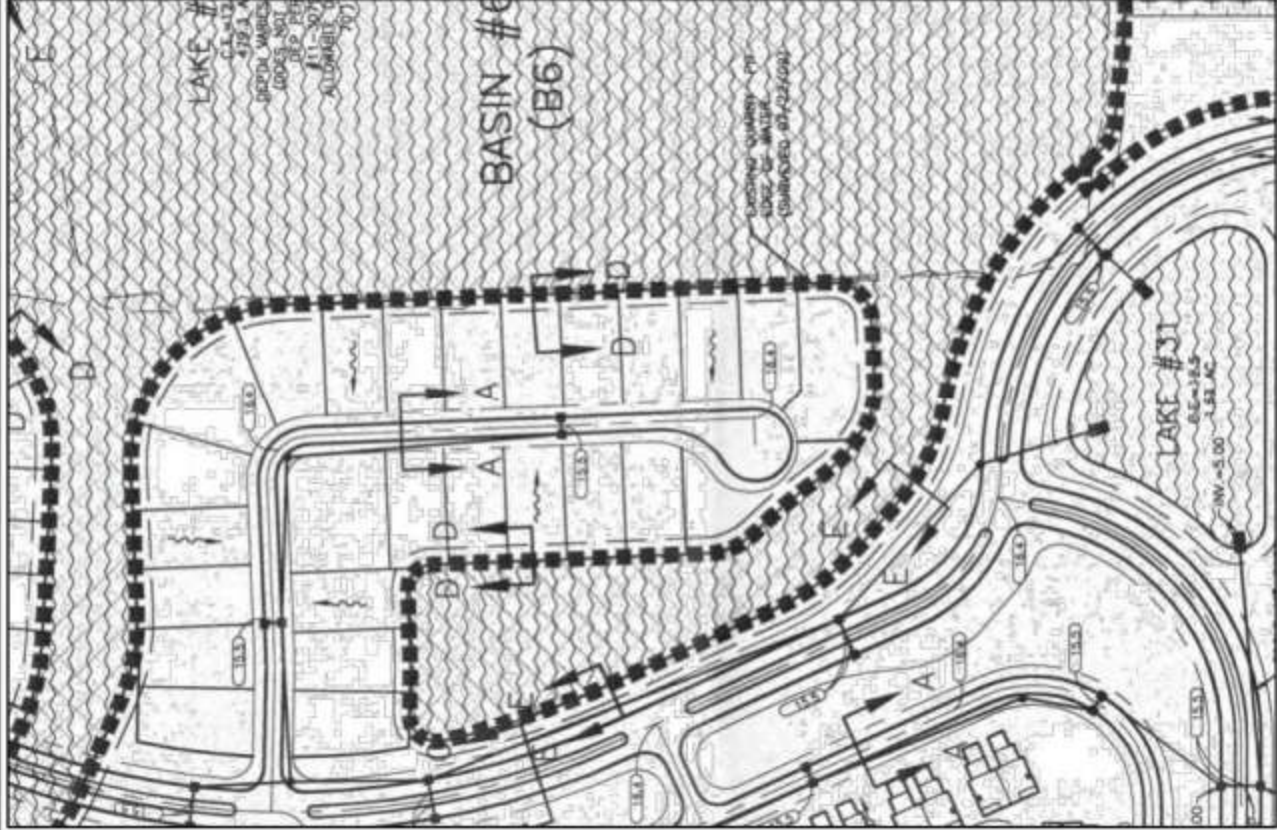
Plans Prepared By:
CPH, Inc.
State of Florida License:
Professional Engineer
Surveyor No. 187143
Architect No. AA3880028
Landscape No. LC088298

Designed By: N/A
Drawn By: J. ALLEN
Checked By: A. LOPEZ
Date: 04/22/2021
Job No. 02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 30 AT
COASTLINE CT.

Sheet No.
L30



LEGEND

S

PHOTO STARTING POINT

L ##

LAKE NUMBER

APPROX. LAKE LIMITS

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PHOTO NUMBERS

#

GOLF COURSE HOLE #

PRIORITY #1

PRIORITY #2

PRIORITY #3

ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

Designed By: N/A		Lake Bank Condition		Survey Lake 30 at Hideaway Harbor Ct.		Sheet No. L30	
Drawn By: J. ALLEN		The Quarry Community Development District		Collier County / Florida		THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.	
Checked By: A. LOPEZ							
Date: 04/22/2021							
Job No. 02509							

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CPH, Inc.

State of Florida License:

Professional Engineer

Surveyor No. 187143

Architect No. AA3880028

Landscaper No. LC08208

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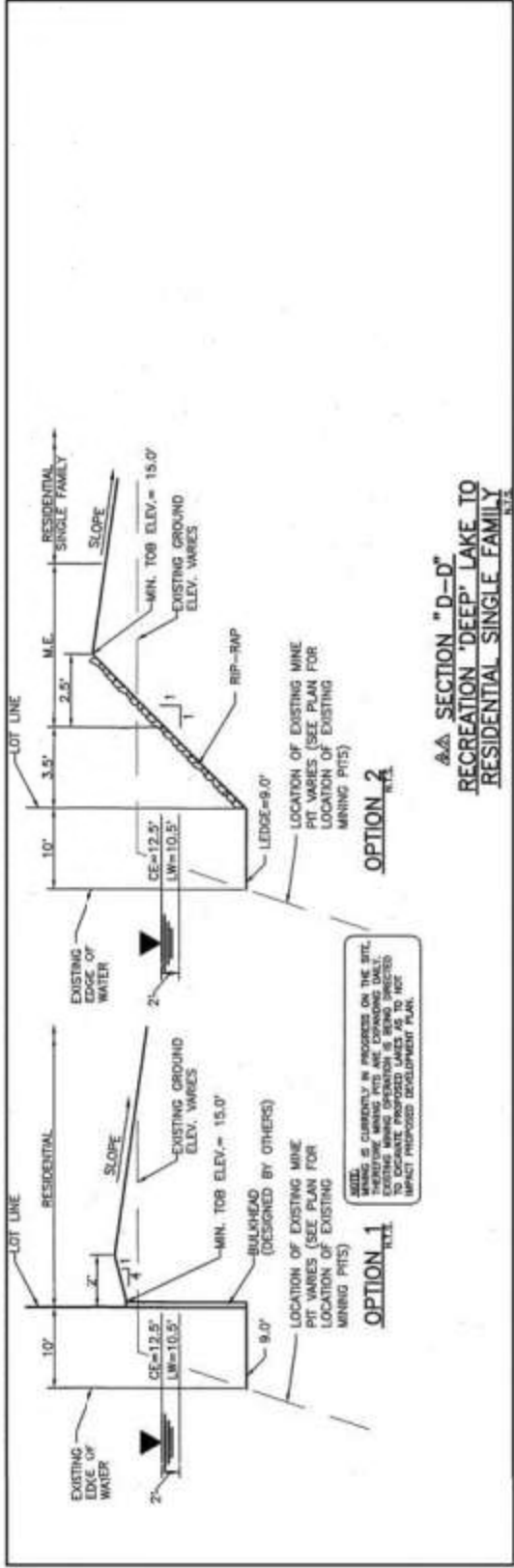
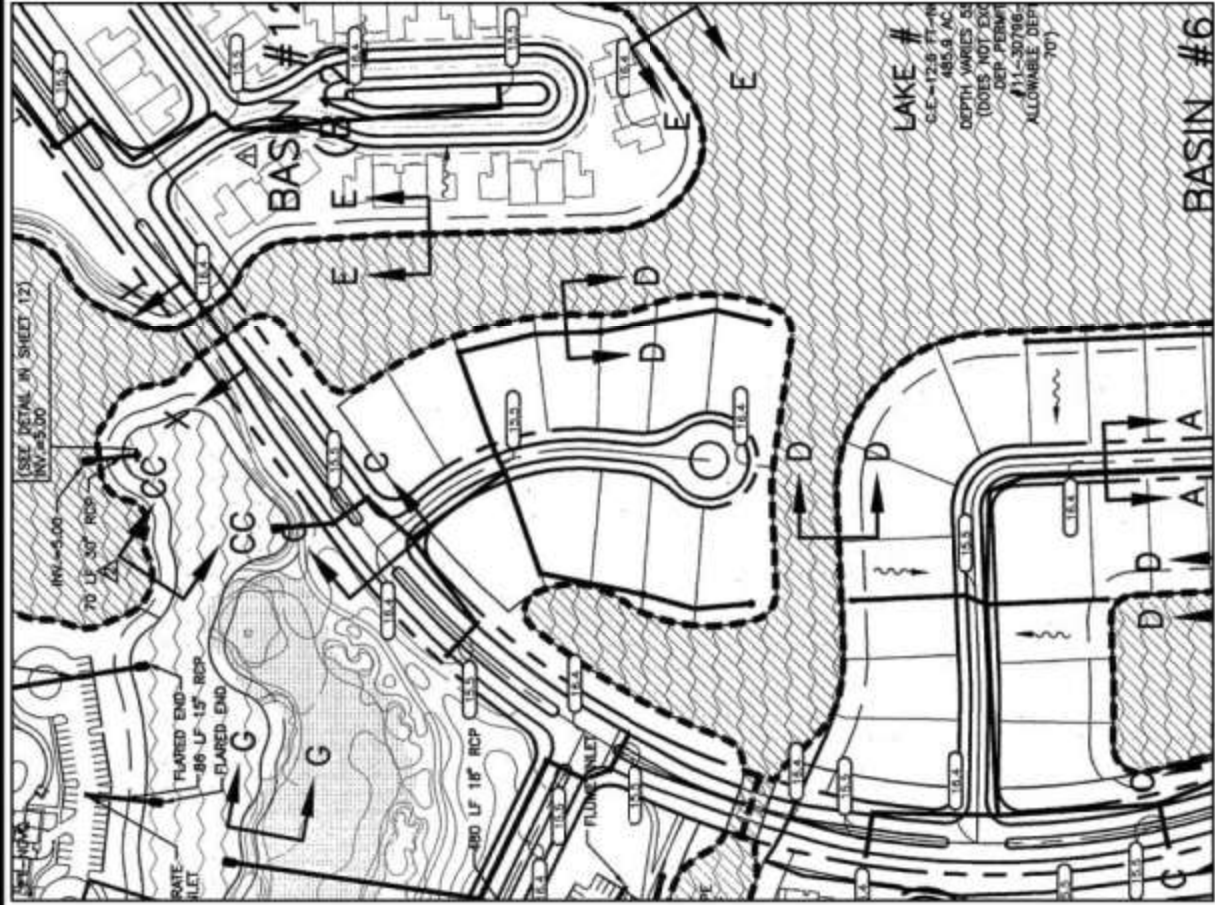
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No.	Date	Revision	Description
1			
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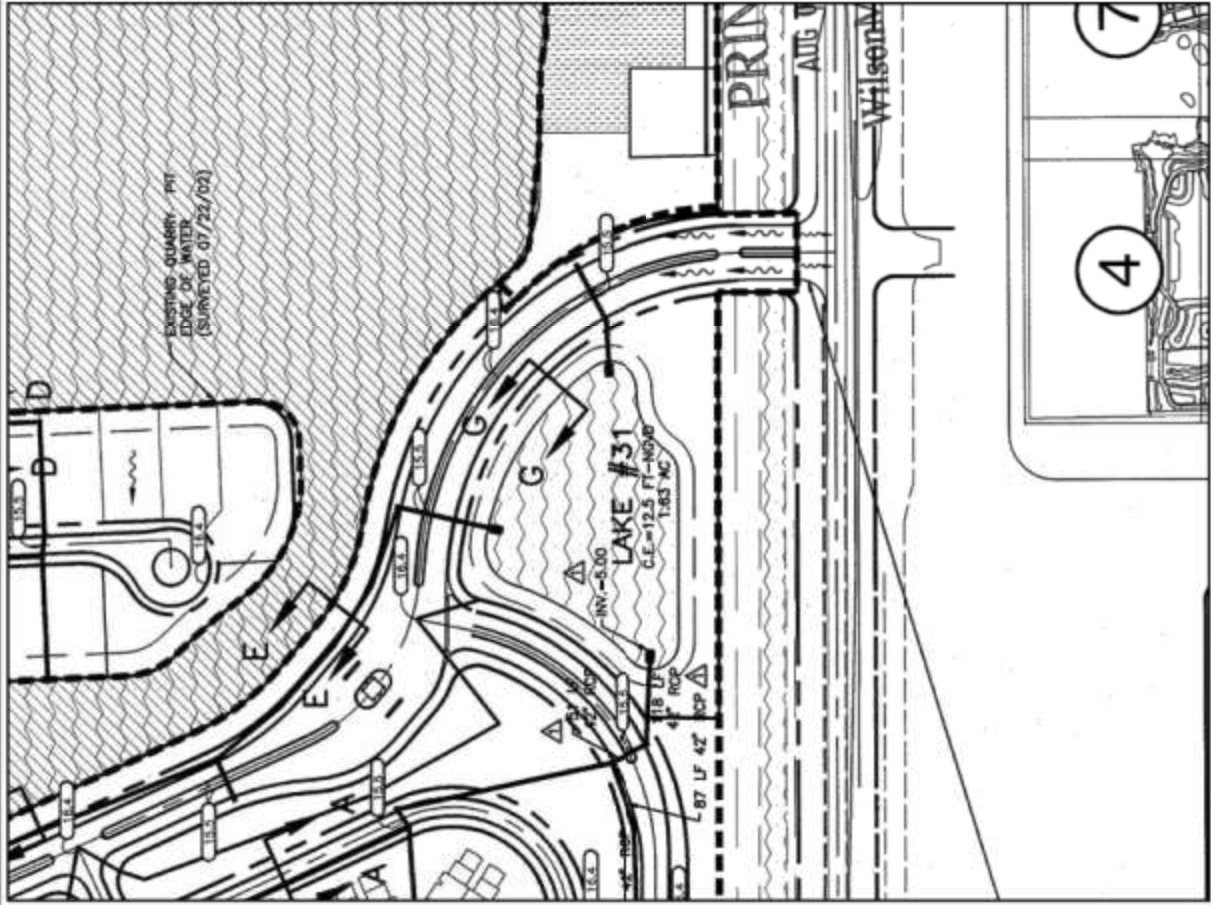
ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

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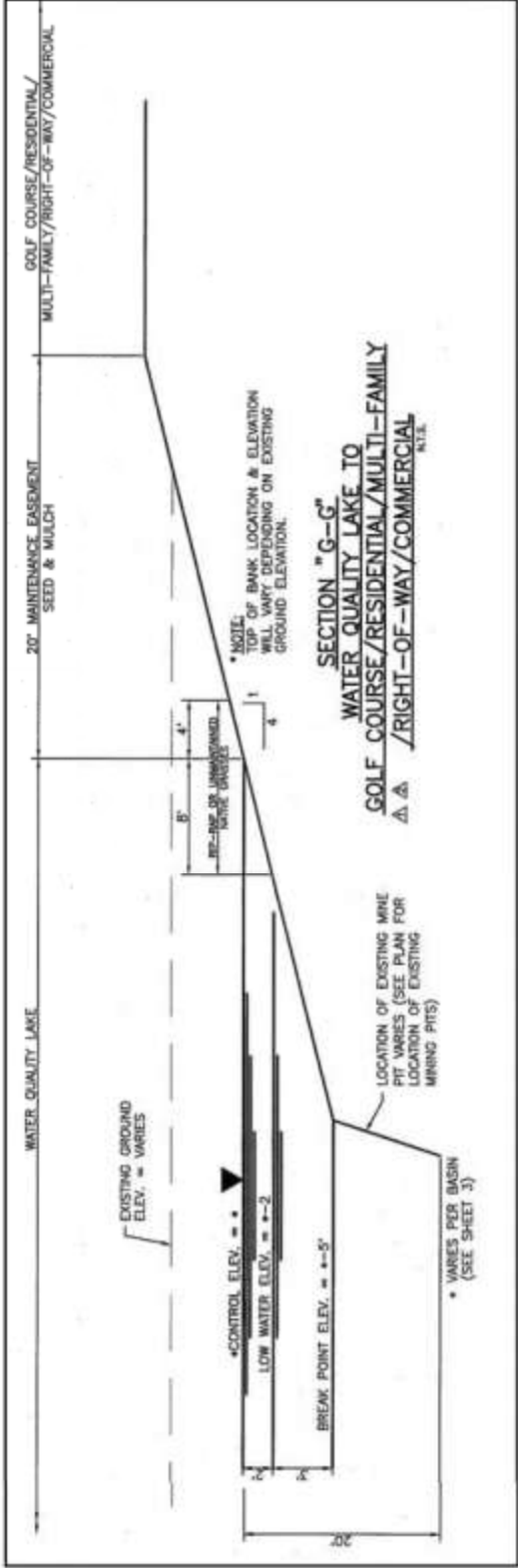
- LEGEND**
- PHOTO STARTING POINT
 - LAKE NUMBER
 - APPROX. LAKE LIMITS
 - PHOTO NUMBERS
 - GOLF COURSE HOLE #
 - PRIORITY #1
 - PRIORITY #2
 - PRIORITY #3

No.	Date	Revision	Revised By
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16			

Designed By: N/A	Checked By: J. ALLEN	Drawn By: J. ALLEN	Scale: 1"=100'
Project No: 11-02134P	Sheet No: L30	Project Name: LAKE 30 AT SPINNER COVE LN.	Project Location: THE QUARRY COMMUNITY DEVELOPMENT DISTRICT, COLLIER COUNTY, FLORIDA



- LEGEND**
- PHOTO STARTING POINT
 - LAKE NUMBER
 - APPROX. LAKE LIMITS
 - PHOTO NUMBERS
 - GOLF COURSE HOLE #
 - PRIORITY #1
 - PRIORITY #2
 - PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Revised By
1	07/11/2011	1	J. ALLEN
2	07/11/2011	2	A. LOPEZ
3	07/11/2011	3	A. LOPEZ
4	07/11/2011	4	A. LOPEZ

Plans Prepared By
CPH, Inc.
State of Florida License
No. 1101143
Architect No. 1101143
Landscape No. 1101143



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THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
LAKE 31

Sheet No.
L31



OBSERVATIONS:

- NO EROSION DEFICIENCIES FOUND.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- PERIODIC MONITORING.

No.	Date	Revision	Description
1			
2			
3			
4			



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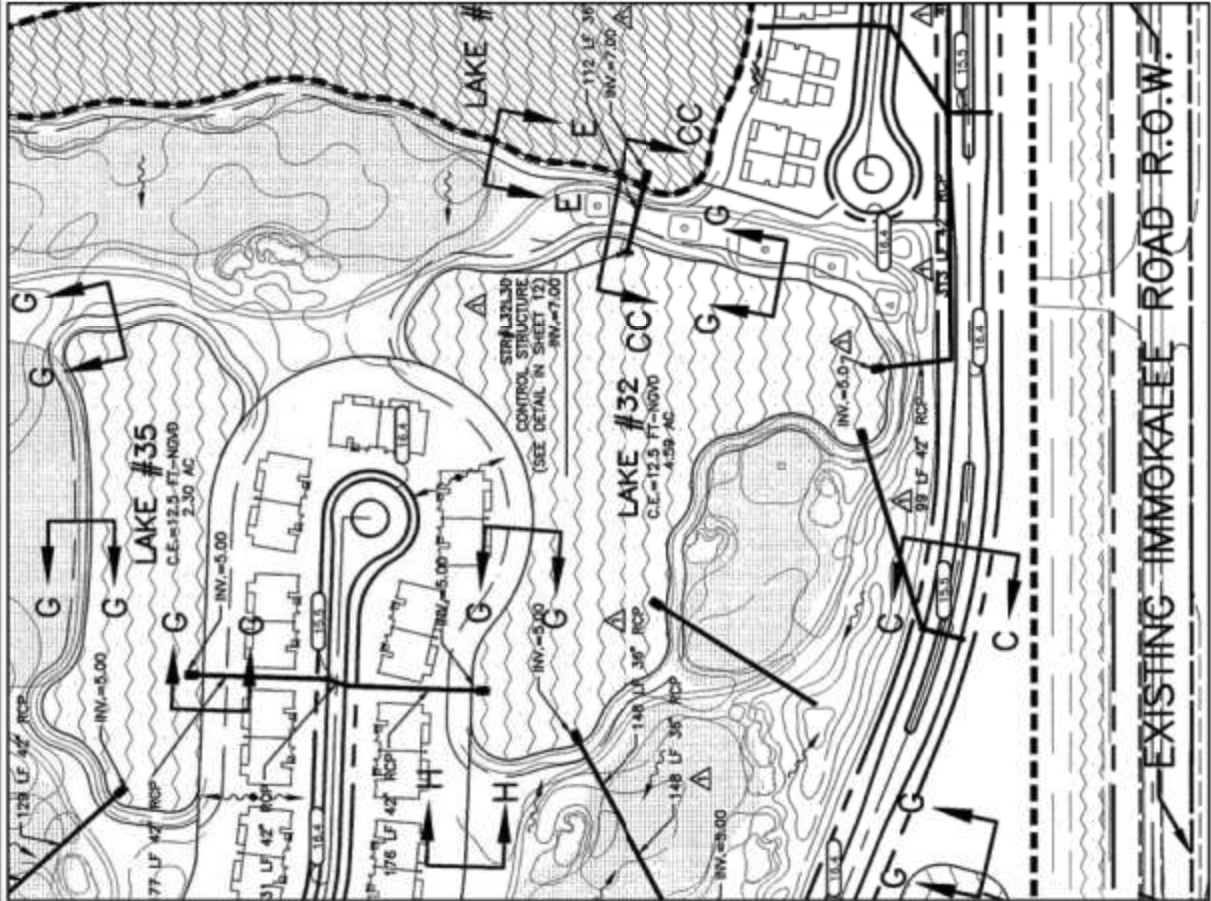
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State of Florida License:
Professional Engineer
Surveyor No. L87143
Architect No. AA3880028
Landscape No. LC88208

Designed by:	N/A
Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/22/2021
Job No.	02509

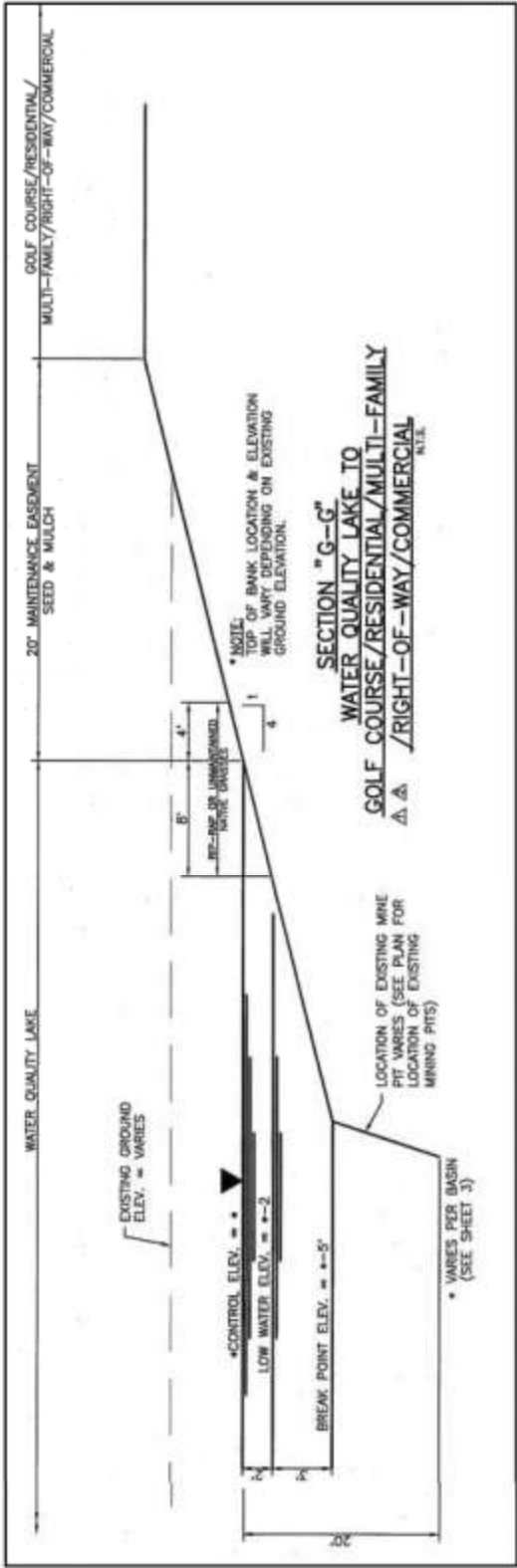
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DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 31

Sheet No.
L31



LEGEND	
	PHOTO STARTING POINT
	LAKE NUMBER
	APPROX. LAKE LIMITS
	PHOTO NUMBERS
	GOLF COURSE HOLE #
	PRIORITY #1
	PRIORITY #2
	PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Revised By
1	11/11/2011	1	J. ALLEN
2	11/11/2011	2	J. ALLEN
3	11/11/2011	3	J. ALLEN
4	11/11/2011	4	J. ALLEN

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Drawn By: J. ALLEN
Checked By: J. ALLEN
Date: 11/11/2011

Designed By: J. ALLEN
Checked By: J. ALLEN
Date: 11/11/2011

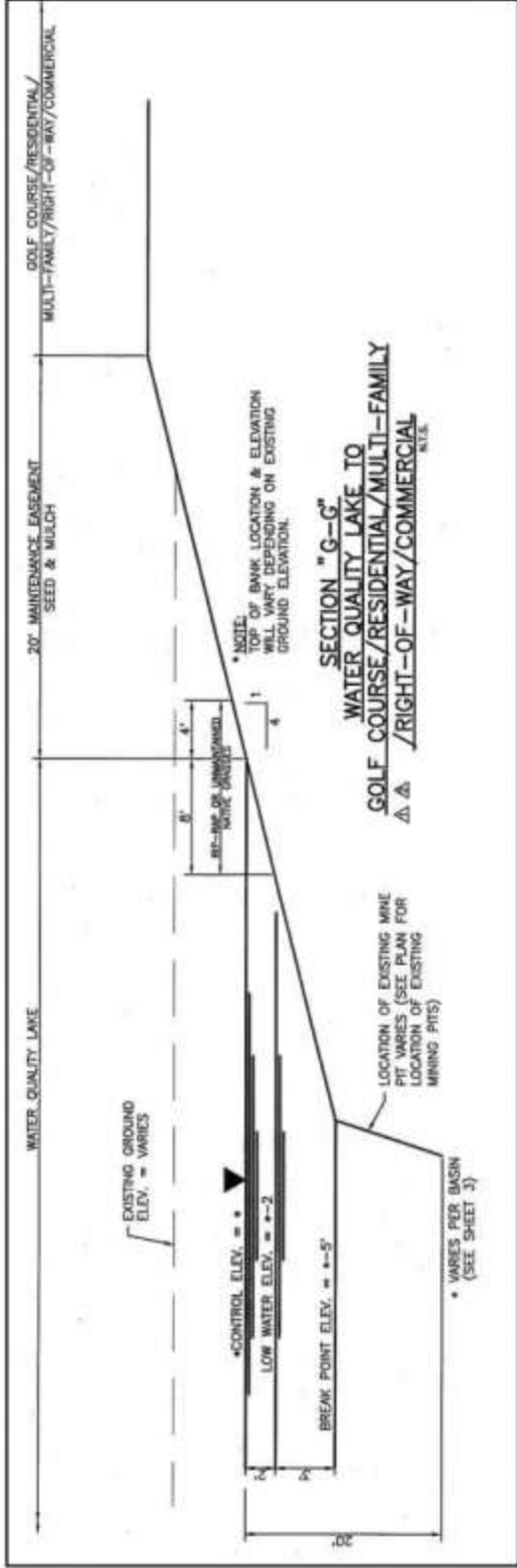
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DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
LAKE 32

Sheet No.
L32



LEGEND	
	PHOTO STARTING POINT
	LAKE NUMBER
	APPROX. LAKE LIMITS
	PHOTO NUMBERS
	GOLF COURSE HOLE #
	PRIORITY #1
	PRIORITY #2
	PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Description
1	11/17/2017	1	Original
2	11/17/2017	2	Revised
3	11/17/2017	3	Revised
4	11/17/2017	4	Revised
5	11/17/2017	5	Revised
6	11/17/2017	6	Revised
7	11/17/2017	7	Revised
8	11/17/2017	8	Revised

Planned By CPH, Inc.	
State of Florida License Surveyor No. 187143	
Architect No. AA3880028	
Landscaper No. LCR08208	

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Tampa, FL 33606	
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The Quarry Community Development District	
Collier County / Florida	

Lake Bank Condition Survey	
Lake 33	

Sheet No.	
L33	



1



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OBSERVATIONS:

- MODERATE EROSION ADJACENT TO R.O.W. (PHOTOS #1 & #6), APPROXIMATELY 180 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.

No.	Date	Revision	Description
1			
2			
3			
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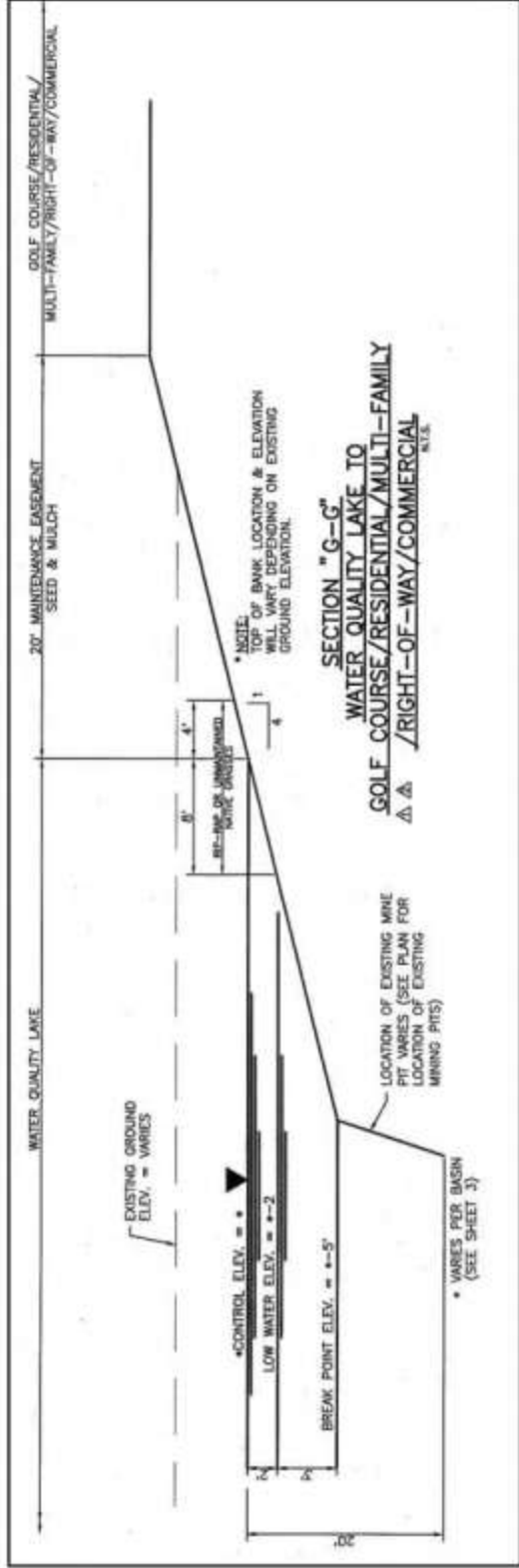
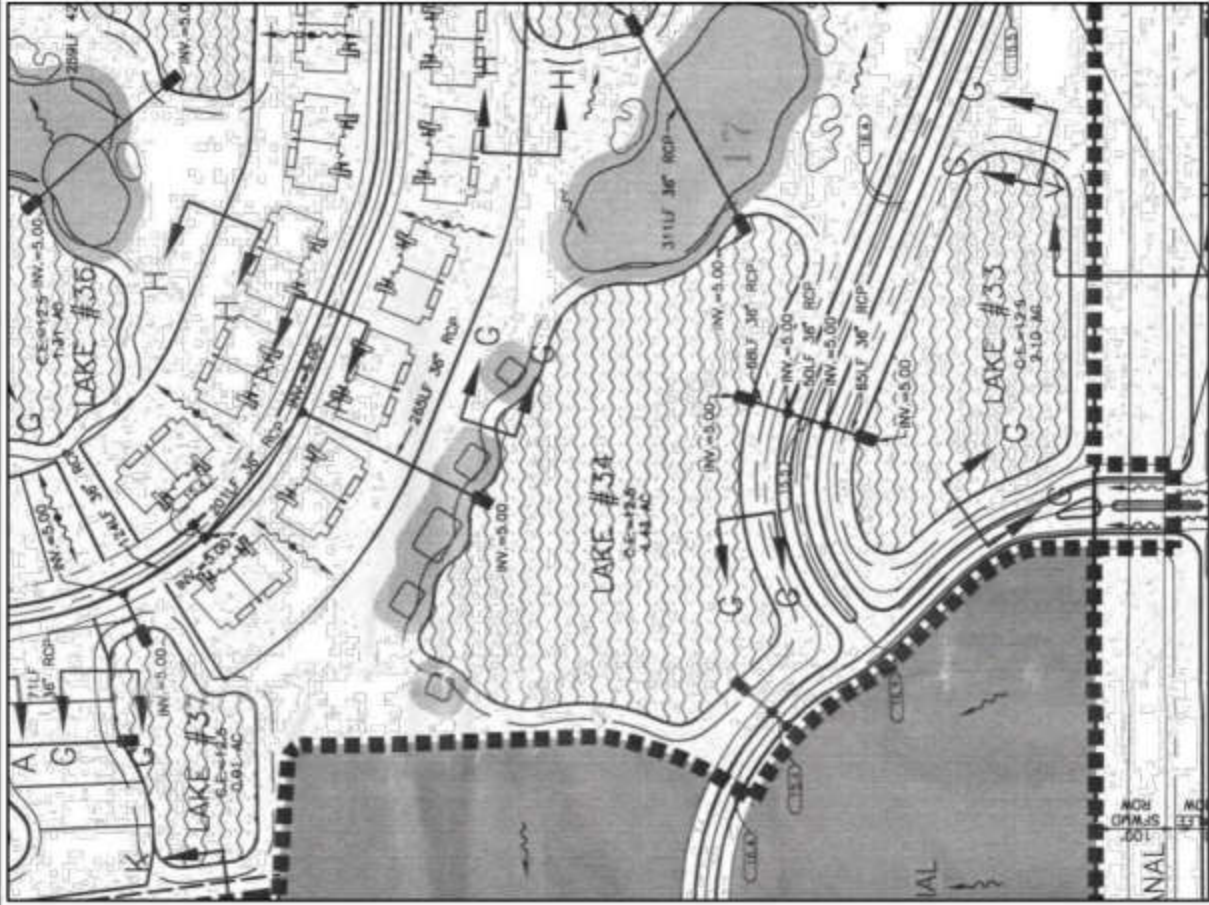
Plans Prepared By:
CPH, Inc.
State of Florida License:
Professional Engineer
Surveyor No. 137143
Architect No. AA2880028
Landscape No. LC88238

Designed by:	N/A
Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/27/2017
Job No.	00509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 33

Sheet No.
L33



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Description
1	11/17/2010	1	Original
2	11/17/2010	2	Revised
3	11/17/2010	3	Revised
4	11/17/2010	4	Revised
5	11/17/2010	5	Revised
6	11/17/2010	6	Revised
7	11/17/2010	7	Revised
8	11/17/2010	8	Revised
9	11/17/2010	9	Revised
10	11/17/2010	10	Revised
11	11/17/2010	11	Revised
12	11/17/2010	12	Revised
13	11/17/2010	13	Revised
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16	11/17/2010	16	Revised
17	11/17/2010	17	Revised

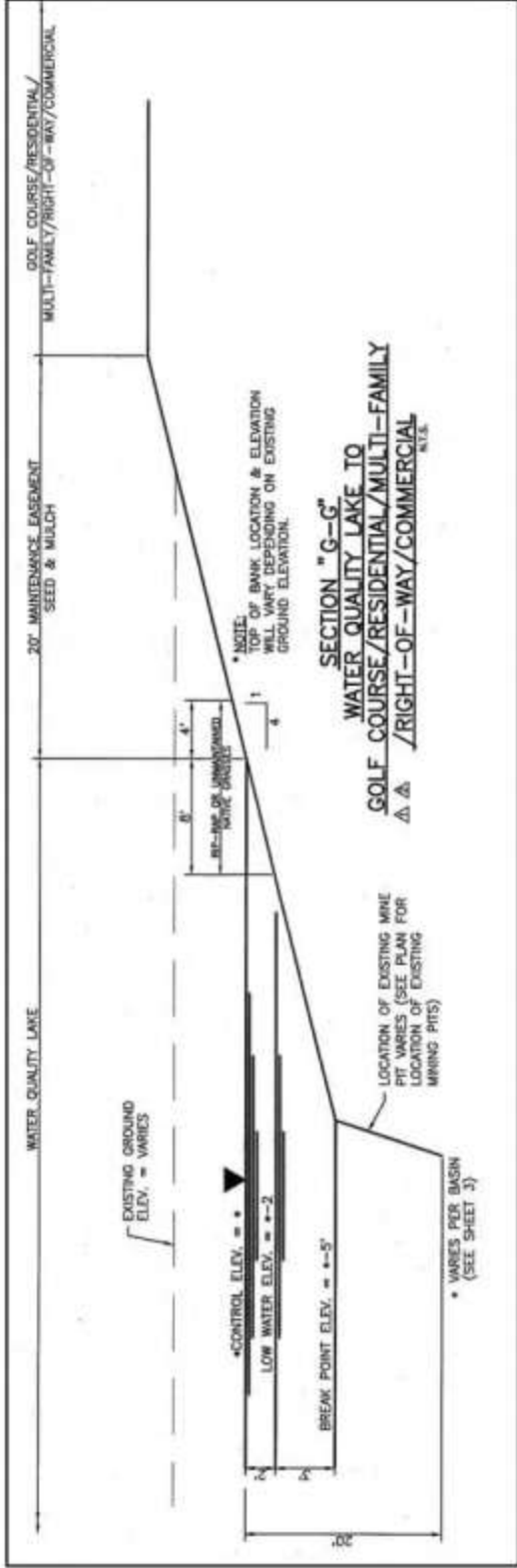
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Architect No. AA38800028	
Landscaper No. LC080208	

THE QUARRY COMMUNITY DEVELOPMENT DISTRICT	
COLLIER COUNTY / FLORIDA	

LAKE BANK CONDITION SURVEY	
LAKE 34	

Sheet No.	
L34	



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Description
1	11/11/2021		Original
2	11/11/2021		Revised
3	11/11/2021		Revised
4	11/11/2021		Revised

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Plans Prepared By:
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State of Florida License:
Surveyor No. 187143
Architect No. AA3880028
Landscape No. LC080208

Designed By: N/A
Drawn By: J. ALLEN
Checked By: A. LOPEZ
Date: 04/27/2021
Job No.: 02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
LAKE 35

Sheet No.
L35



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8

OBSERVATIONS:

- MODERATE EROSION ADJACENT TO PRESERVE AREAS (PHOTO #4), APPROXIMATELY 50 LF.
- STORM PIPE CONNECTION PARTIALLY COVERED WITH SEDIMENTS (PHOTO #2).

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- CLEAN STORM PIPE.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6'-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.

Rev.	Date	Revision	No.	Date	Revision
1			1		
2			2		
3			3		
4			4		



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Plans Prepared By:
CPH, Inc.
State of Florida License:
Professional Engineer
Surveyor No. 1387143
Architect No. AA3888028
Landscaper No. LC88328

Designed by: N/A
Drawn by: J. ALLEN
Checked by: A. LOPEZ
Date: 04/27/2021
Job No. 02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

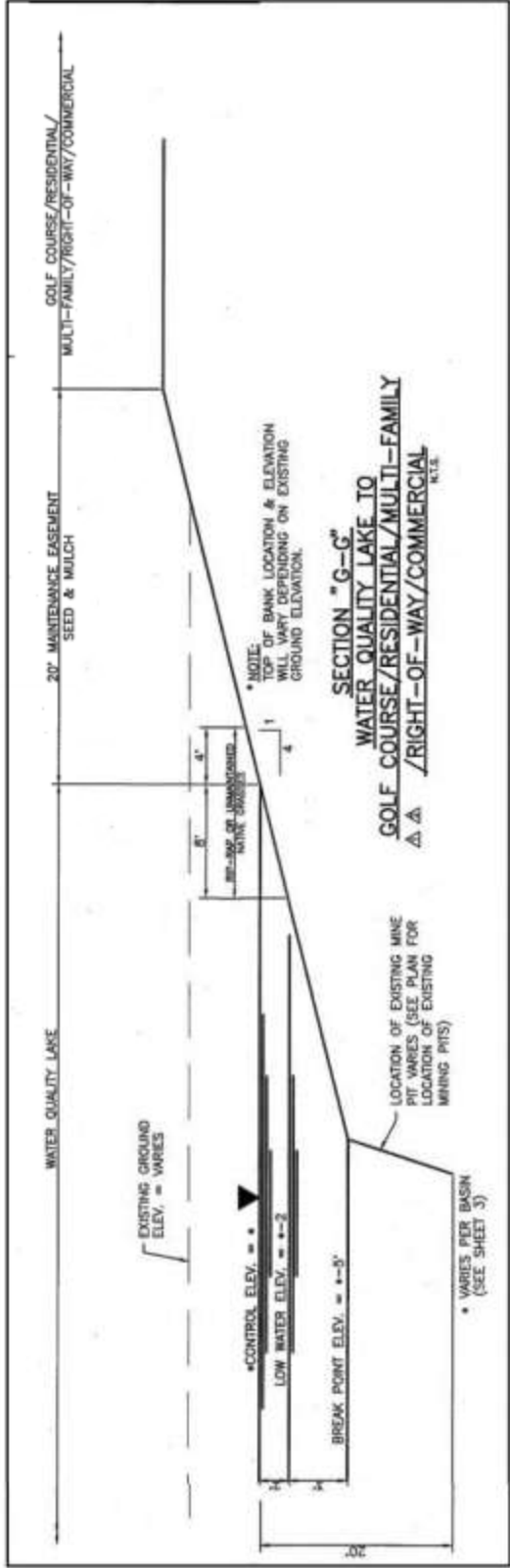
LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 37

Sheet No.
L37



LEGEND

- PHOTO STARTING POINT
- LAKE NUMBER
- APPROX. LAKE LIMITS
- PHOTO NUMBERS
- GOLF COURSE HOLE #
- PRIORITY #1
- PRIORITY #2
- PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Revised By
1	11/11/2011	1	J. ALLEN
2	11/11/2011	2	J. ALLEN
3	11/11/2011	3	J. ALLEN
4	11/11/2011	4	J. ALLEN
5	11/11/2011	5	J. ALLEN
6	11/11/2011	6	J. ALLEN
7	11/11/2011	7	J. ALLEN
8	11/11/2011	8	J. ALLEN
9	11/11/2011	9	J. ALLEN
10	11/11/2011	10	J. ALLEN
11	11/11/2011	11	J. ALLEN
12	11/11/2011	12	J. ALLEN
13	11/11/2011	13	J. ALLEN
14	11/11/2011	14	J. ALLEN

Prepared By	CPH, Inc.
Drawn By	J. ALLEN
Checked By	A. LOPEZ
Date	04/22/2011
Job No.	102502

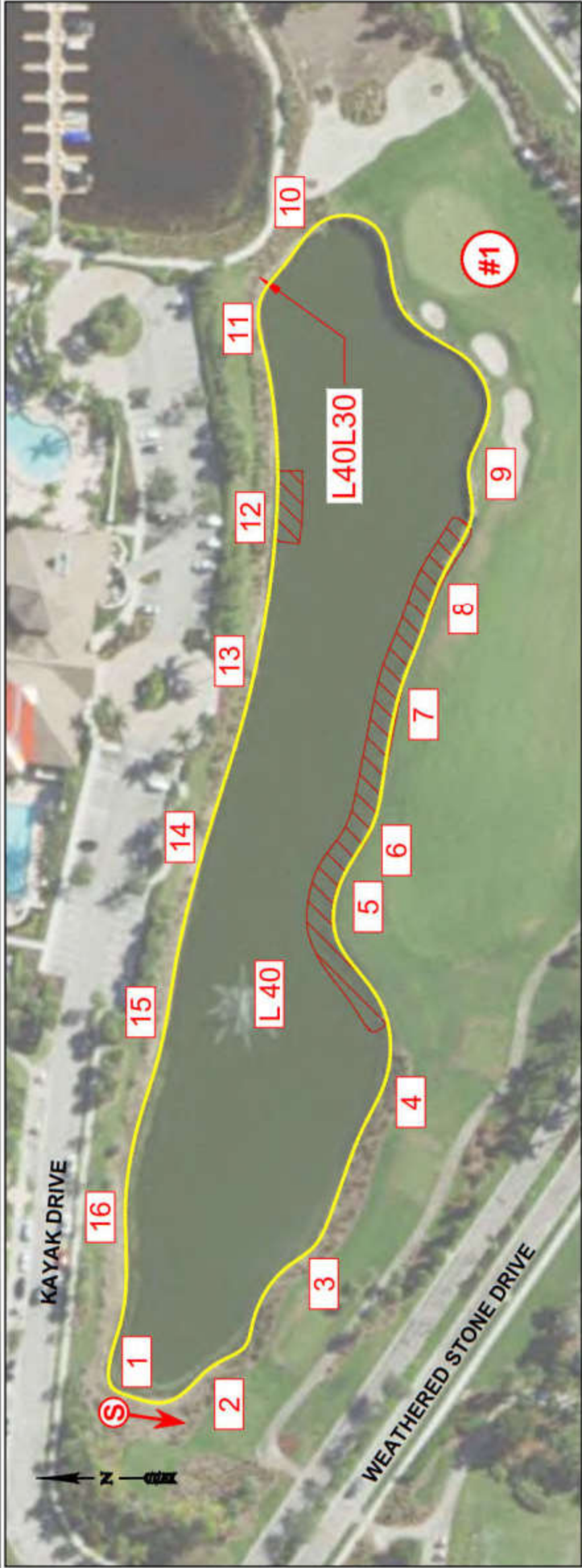
Full Service A & E Firm	CPH, Inc.
2218 Alameda Avenue	
Fort Lauderdale, FL 33311	
Phone: 313.333.3400	
Architect No. AAZ000000000	
Landscape No. L200000000	

Designed By	N/A
Drawn By	J. ALLEN
Checked By	A. LOPEZ
Date	04/22/2011
Job No.	102502

THE QUARRY COMMUNITY DEVELOPMENT DISTRICT	COLLIER COUNTY / FLORIDA
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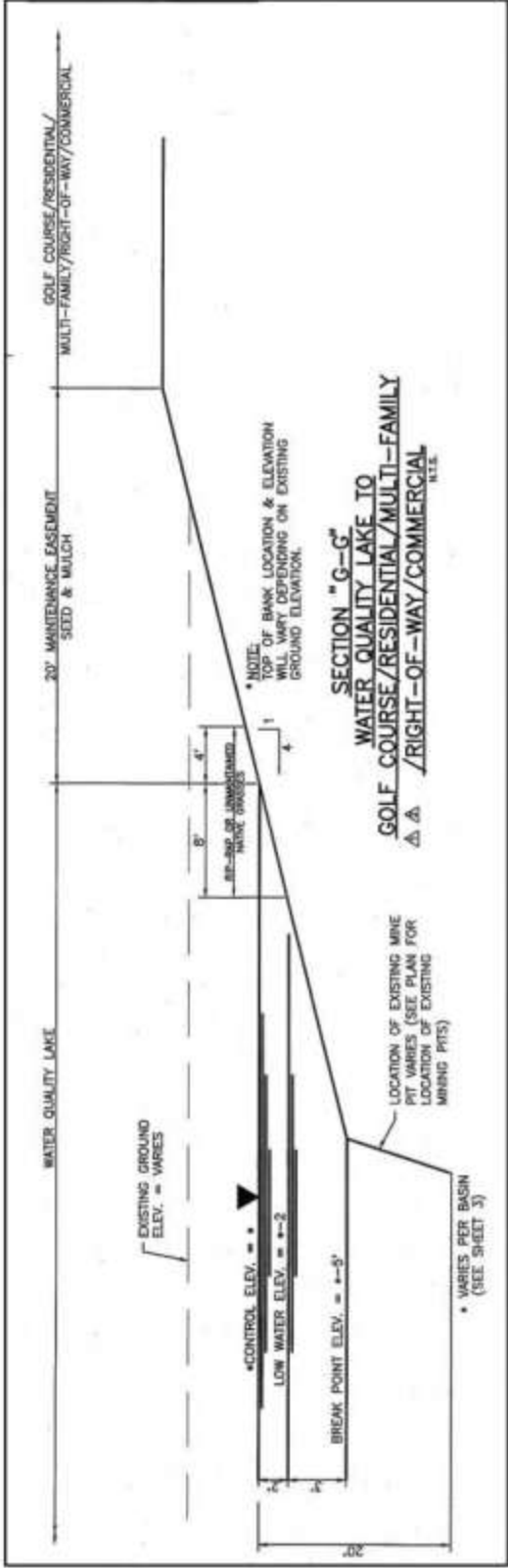
LAKE BANK CONDITION SURVEY	LAKE 38
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Sheet No.	L38
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LEGEND

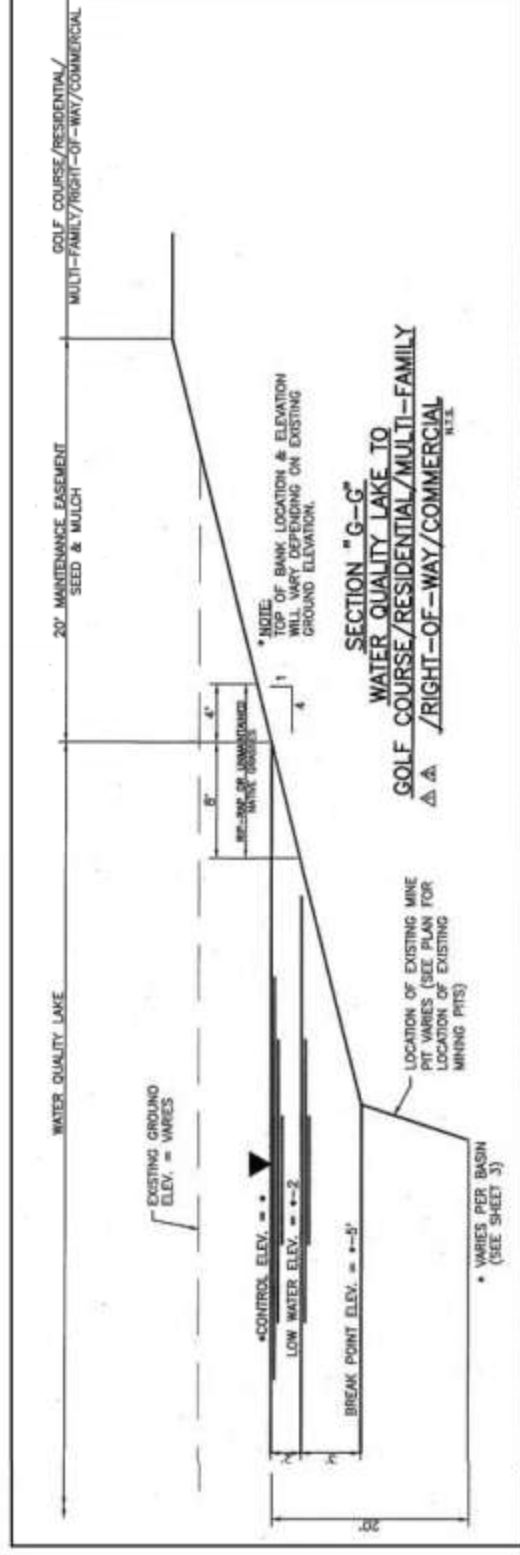
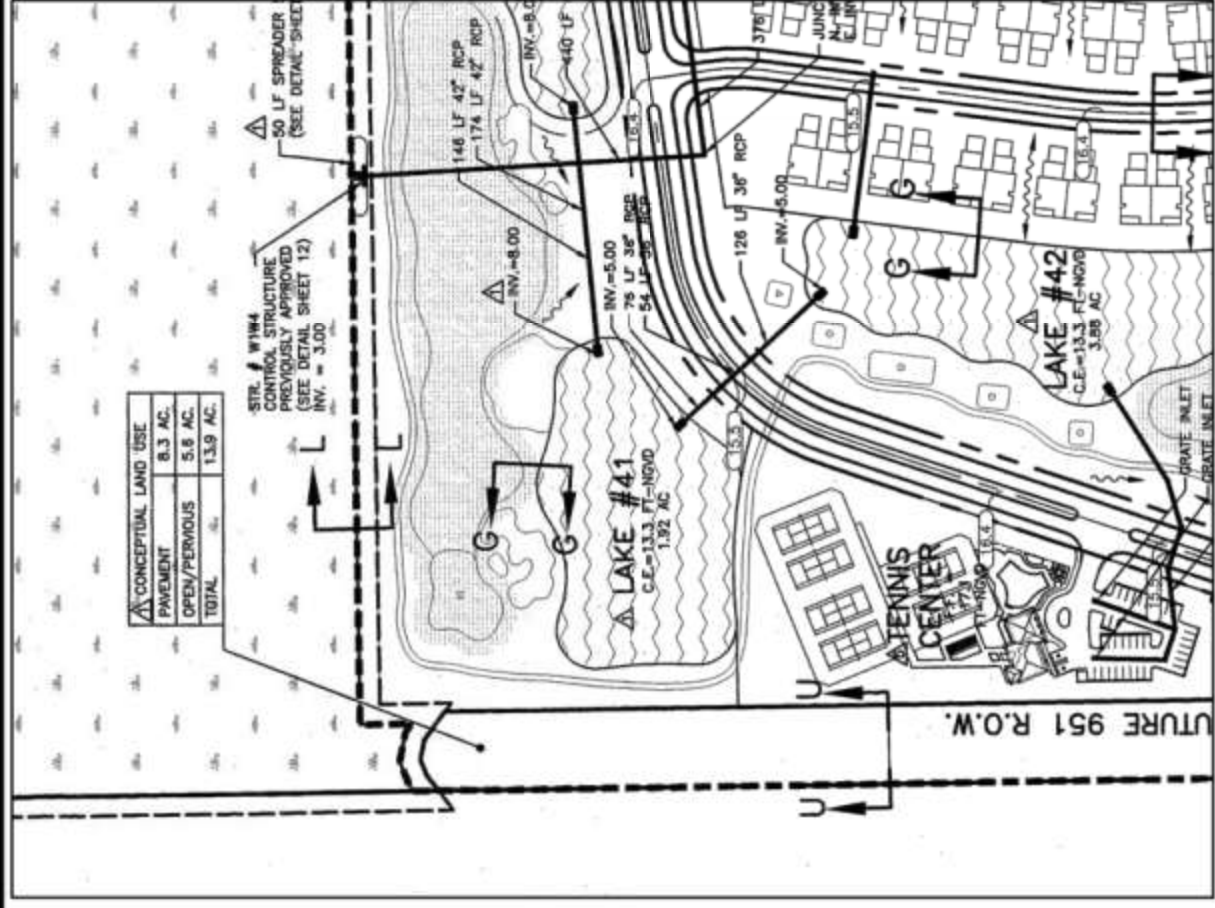
- PHOTO STARTING POINT
- LAKE NUMBER
- APPROX. LAKE LIMITS
- PHOTO NUMBERS
- GOLF COURSE HOLE #
- PRIORITY #1
- PRIORITY #2
- PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.		Date	Revision	No.		Date	Revision	No.		Date	Revision
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ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	No.	Date	Revision
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Designed by:	NMA
Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/27/2021
ASD No.	LA5586

LAKE BANK CONDITION SURVEY
LAKE 41

Sheet No.

L41

[illegible]

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS



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11

OBSERVATIONS:

- RIPRAP LOSS ADJACENT QUARRY DR (PHOTOS #1 AND #2), APPROXIMATELY 150 LF.
- MODERATE EROSION ADJACENT TO GOLF COURSE (PHOTOS #6 - #11), APPROXIMATELY 350 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.

Rev.	Date	Revision	No.	Date	Revised:
1			1		
2			2		
3			3		
4			4		



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Tampa, FL 33606
PH: 333.333.5489
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Plans Prepared By:
CPH, Inc.
State of Florida License:
Professional Engineer
Surveyor No. L87143
Architect No. AA3880028
Landscape No. LC88328

Designed by:	N/A
Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/27/2023
Job No.	00509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 41

Sheet No.
L41

OBSERVATIONS:

- MODERATE EROSION ADJACENT TO RESIDENTIAL PROPERTIES AND R.O.W. AREAS (PHOTOS #2 - #5). APPROXIMATELY 480 LF.
- MODERATE EROSION ADJACENT TO GOLF COURSE (PHOTOS #8, #9, #12, #14, #15 AND #16). APPROXIMATELY 690 LF.
- AREA TO BE MONITORED ADJACENT TO GOLF COURSE (PHOTOS #12 & #13). APPROXIMATELY 744 LF.

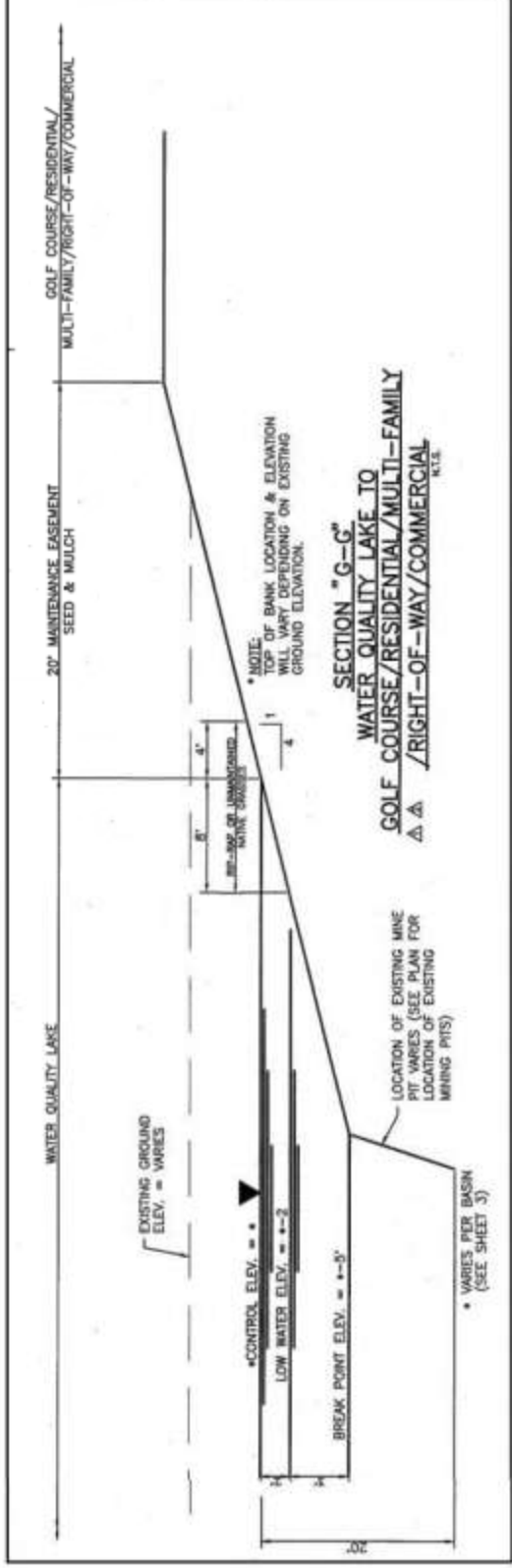
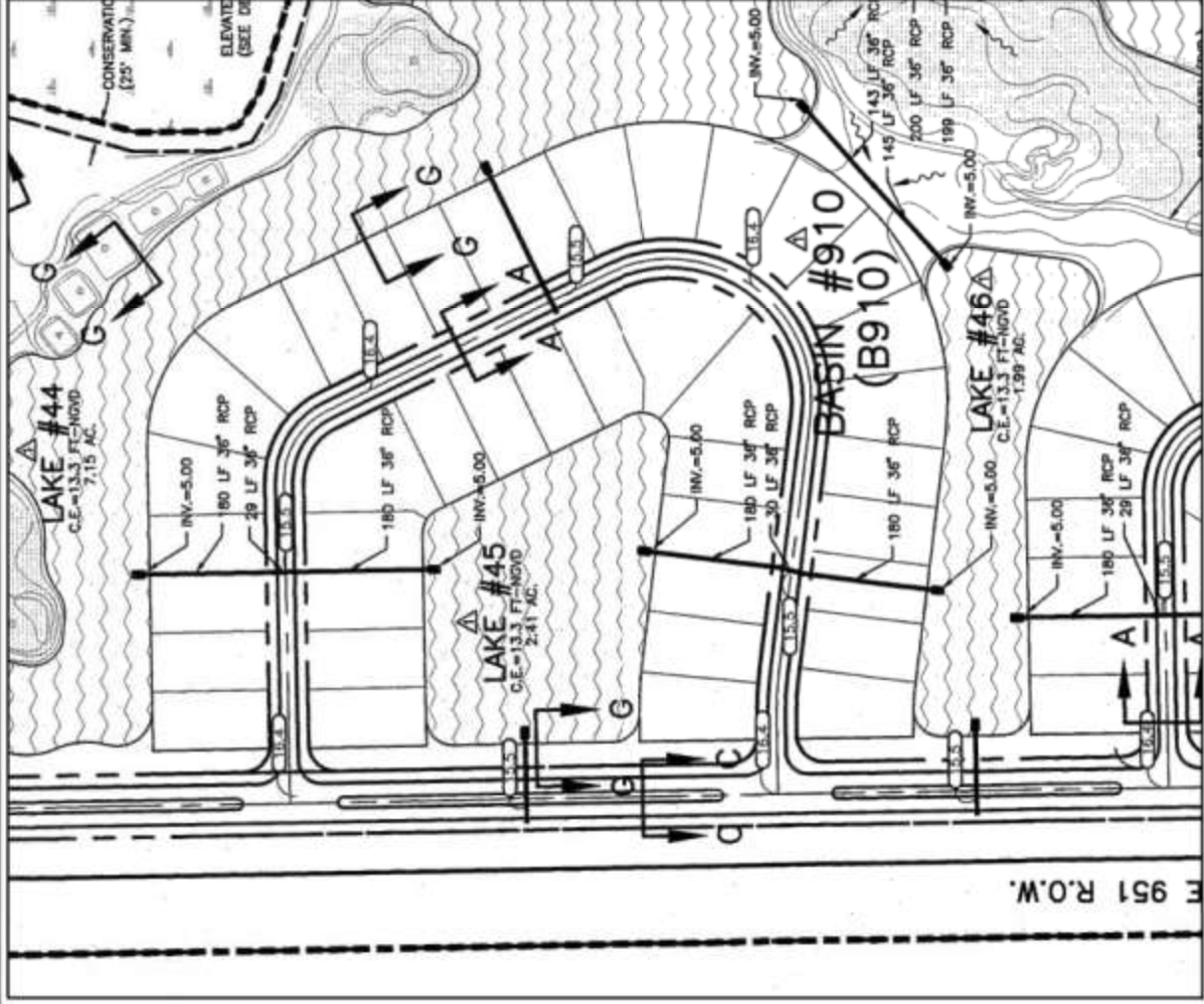
RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6'-8" RIPRAP LAYER AND KEY-WAY (6'-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.





ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Revised By
1	11/11/2011	1	J. ALLEN
2	11/11/2011	2	A. LOPEZ
3	11/11/2011	3	A. LOPEZ
4	11/11/2011	4	A. LOPEZ
5	11/11/2011	5	A. LOPEZ
6	11/11/2011	6	A. LOPEZ
7	11/11/2011	7	A. LOPEZ
8	11/11/2011	8	A. LOPEZ
9	11/11/2011	9	A. LOPEZ

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CPH, Inc.
State of Florida License:
Engineer No. 187143
Architect No. AA2880028
Landscape No. LC2880028

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
LAKE 45

Sheet No.
L45



24-06-2021 24-06-2021



24-06-2021 24-06-2021



24-06-2021 24-06-2021



24-06-2021 24-06-2021



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24-06-2021 24-06-2021



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OBSERVATIONS:

- MODERATE EROSION ADJACENT TO RESIDENTIAL PROPERTIES AND ROW AREAS (PHOTOS #1 - #9), APPROXIMATELY 1,285 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.

Rev.	Date	Revision	No.	Date	Revision
1			1		
2			2		
3			3		
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CPH, Inc.
State of Florida License:
Professional Engineer
Surveyor No. 1387143
Architect No. AA3880028
Landscape No. LC88328

Designed by: N/A
Drawn by: J. ALLEN
Checked by: A. LOPEZ
Date: 04/27/2021
Job No. 02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 45

Sheet No.
L45



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OBSERVATIONS:

- MODERATE EROSION ADJACENT TO RESIDENTIAL PROPERTIES AND ROW AREAS (PHOTOS #2, #3, #5 - #9). APPROXIMATELY 580 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6'-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.

Rev.	Date	Revision	No.	Date	Revised By
1			1		
2			2		
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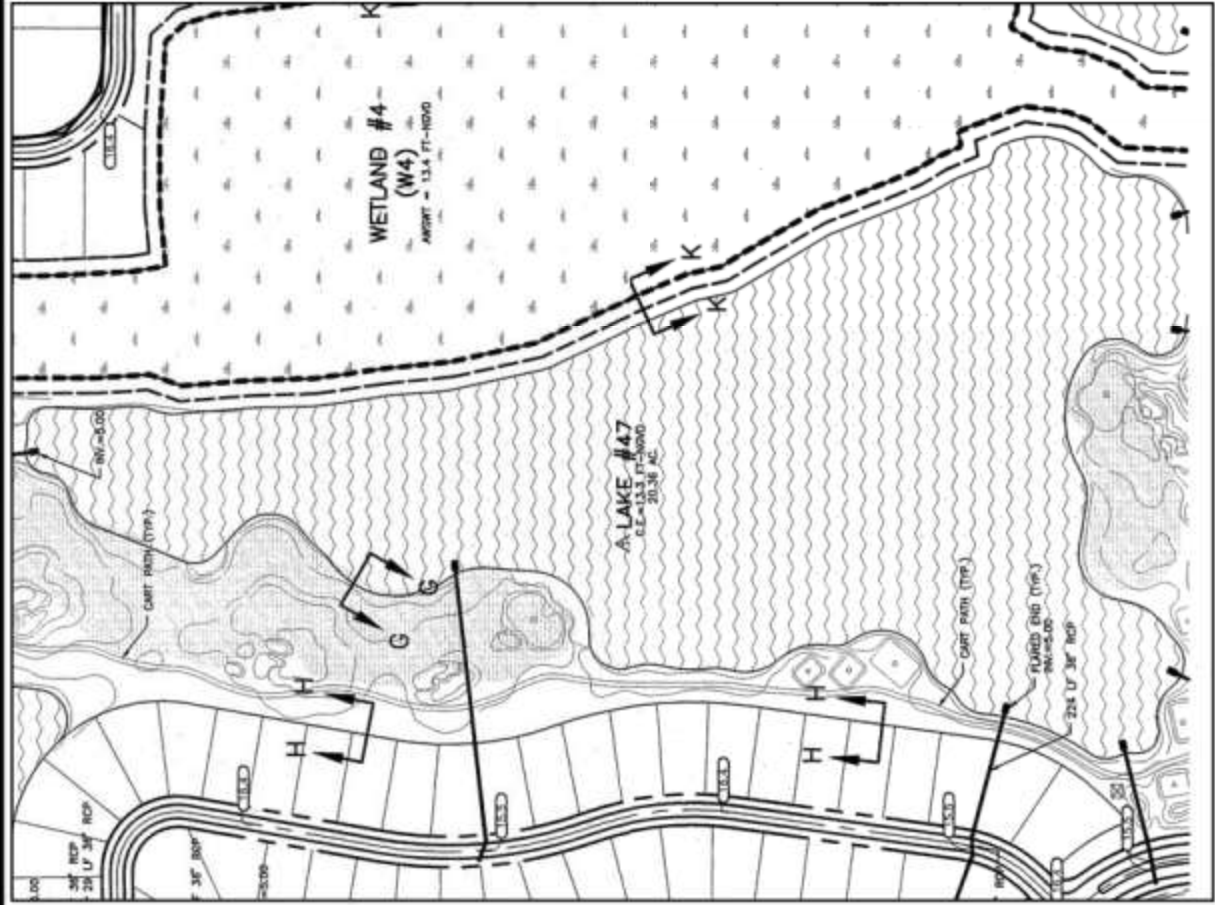
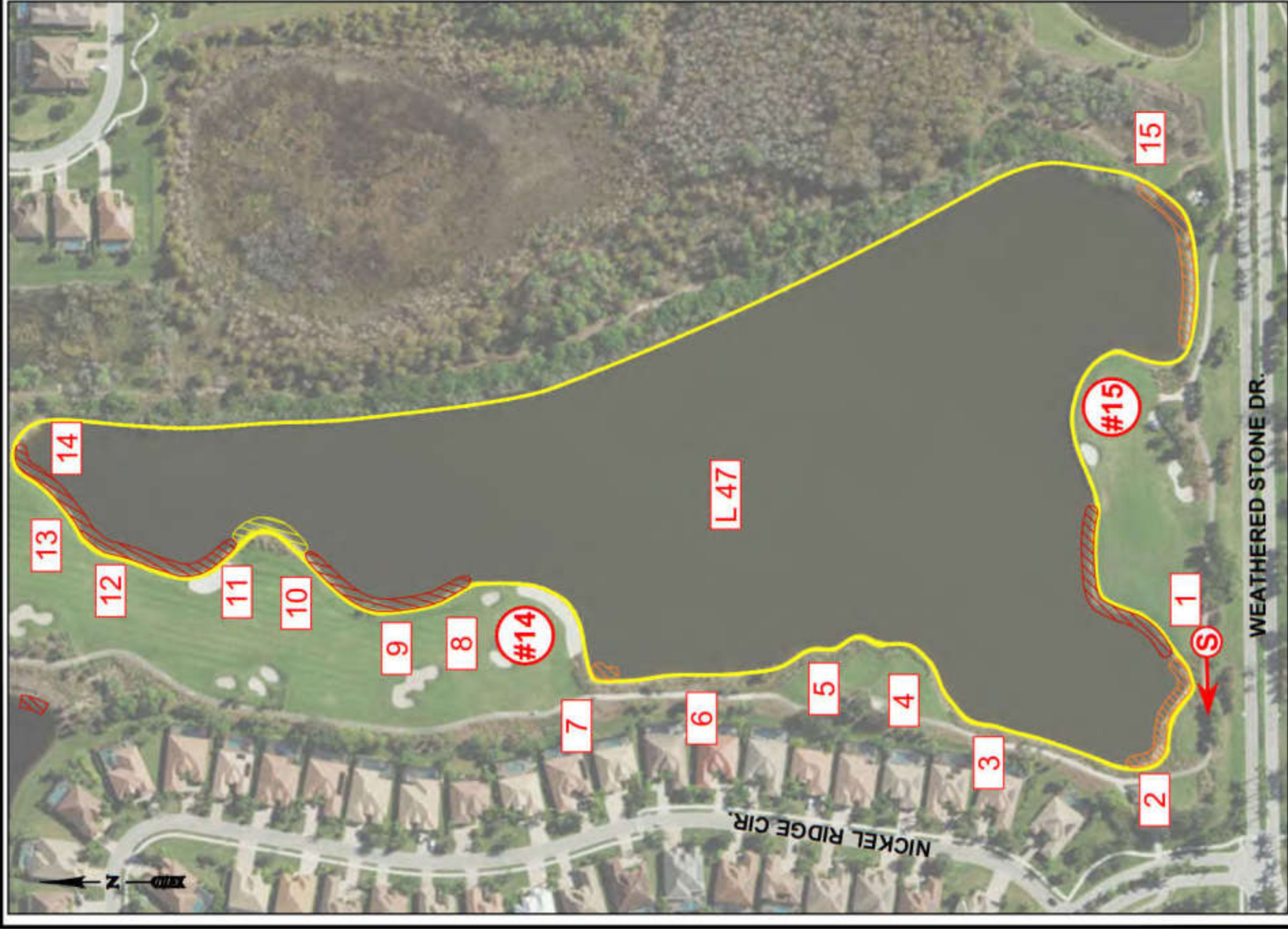
Plans Prepared By:
CPH, Inc.
State of Florida License:
Professional Engineer
Surveyor No. 137143
Architect No. AA2880028
Landscape No. LC88238

Designed By: N/A
Drawn By: J. ALLEN
Checked By: A. LOPEZ
Date: 04/27/2021
Job No.: 02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 46

Sheet No.
L46



LEGEND

PHOTO STARTING POINT

LAKE NUMBER

APPROX. LAKE LIMITS

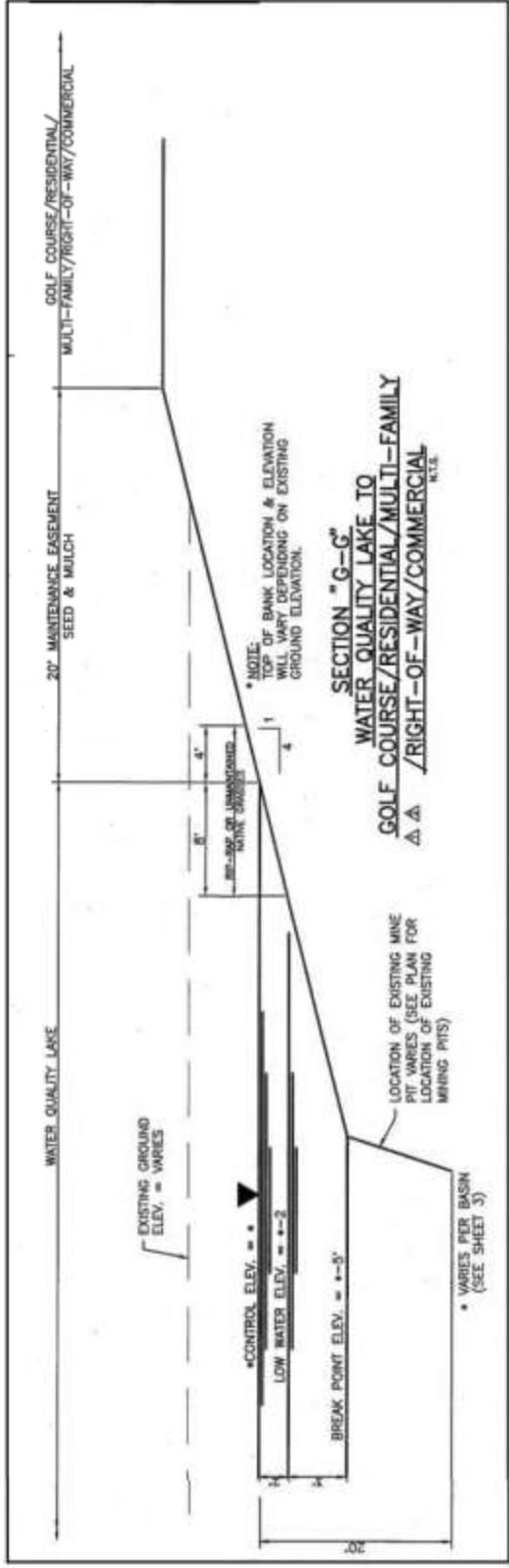
PHOTO NUMBERS

GOLF COURSE HOLE #

PRIORITY #1

PRIORITY #2

PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Revised By
1	11/02/2011	1	J. ALLEN
2	11/02/2011	2	A. LOPEZ
3	11/02/2011	3	A. LOPEZ
4	11/02/2011	4	A. LOPEZ
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12	11/02/2011	12	A. LOPEZ
13	11/02/2011	13	A. LOPEZ
14	11/02/2011	14	A. LOPEZ
15	11/02/2011	15	A. LOPEZ

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DESIGNED BY: J. ALLEN
DRAWN BY: A. LOPEZ
CHECKED BY: A. LOPEZ
DATE: 04/22/2011
JOB NO: 102502

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
LAKE 47

Sheet No.
L47

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS.

OBSERVATIONS:

- MODERATE EROSION ADJACENT TO RESIDENTIAL PROPERTIES (PHOTOS #7 - #12). APPROXIMATELY 350 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6'-8") TO PROTECT LAKE BANK.

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3278 Alhambra Avenue
Ft. Myers, FL 33901
Ph: 231.532.5400

2021

Plans Prepared By
CPH, Inc.
State of Florida License:
Engineer No. 3215
Surveyor No. LB7143
Architect No. AA2800026
Landscape No. LC000298

1

**THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT**
COLLIER COUNTY / FLORIDA

**LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 48**



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CONTROL STRUCTURE 224
26°16'51.84"N / 81°41'17.32"W

OBSERVATIONS:

- MINOR EROSION ADJACENT TO R.O.W. (PHOTO #4). APPROXIMATELY 100 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.

No.	Date	Revision	Description
1			
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Plans Prepared By:
CPH, Inc.
State of Florida License:
Professional Engineer
Surveyor No. 137143
Architect No. AA2880028
Landscape No. LC88238

Designed by: N/A
Drawn by: J. ALLEN
Checked by: A. LOPEZ
Date: 04/27/2021
Job No.: 02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 49

Sheet No.
L49



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OBSERVATIONS:

- NO EROSION DEFICIENCIES FOUND

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- PERIODIC INSPECTIONS.

No.	Date	Revision	No.	Date	Revision
1			1		
2			2		
3			3		
4			4		



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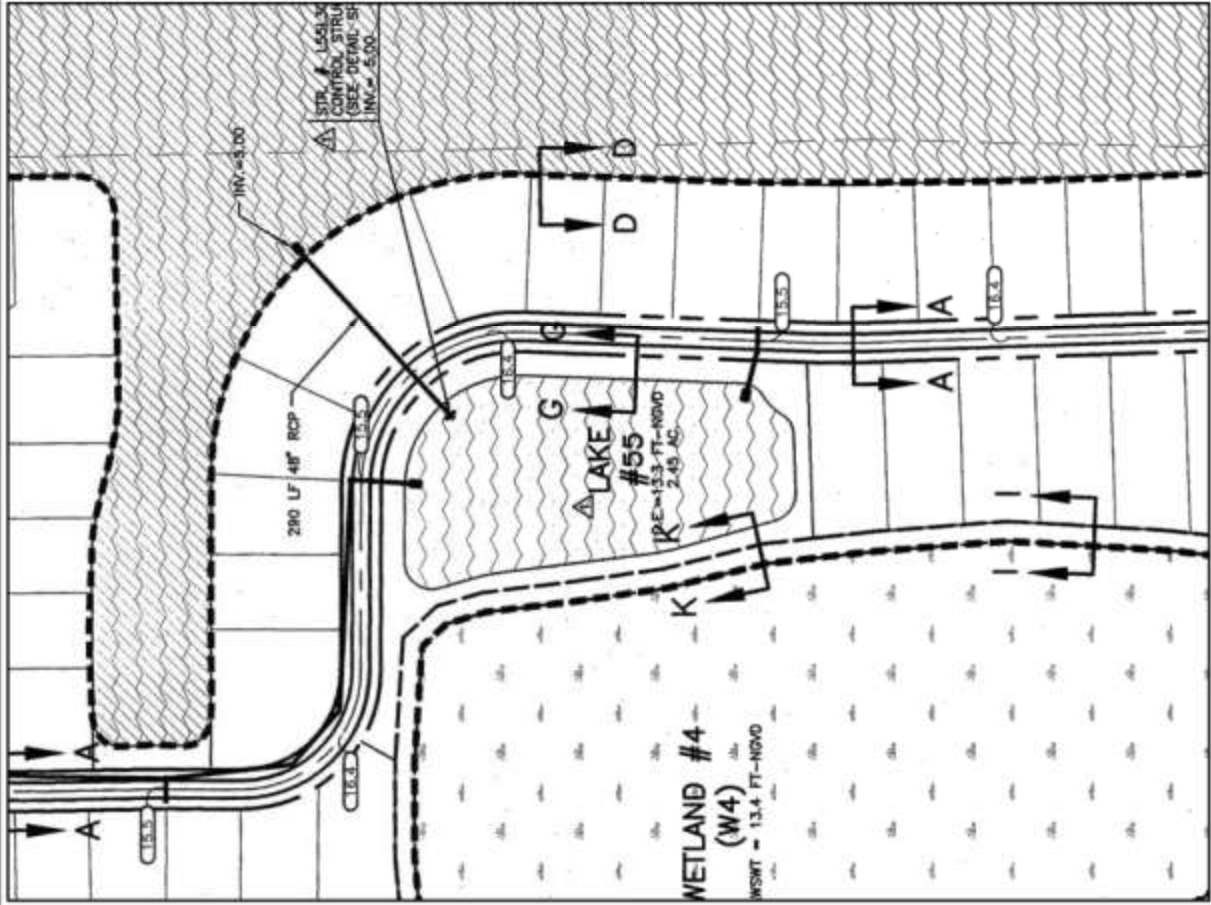
Plans Prepared By:
CPH, Inc.
State of Florida License:
Engineer No. 1281
Architect No. AA2889028
Landscape No. 1288028

Designed By:	N/A
Drawn By:	J. ALLEN
Checked By:	A. LOPEZ
Date:	04/22/2021
Job No.	125532

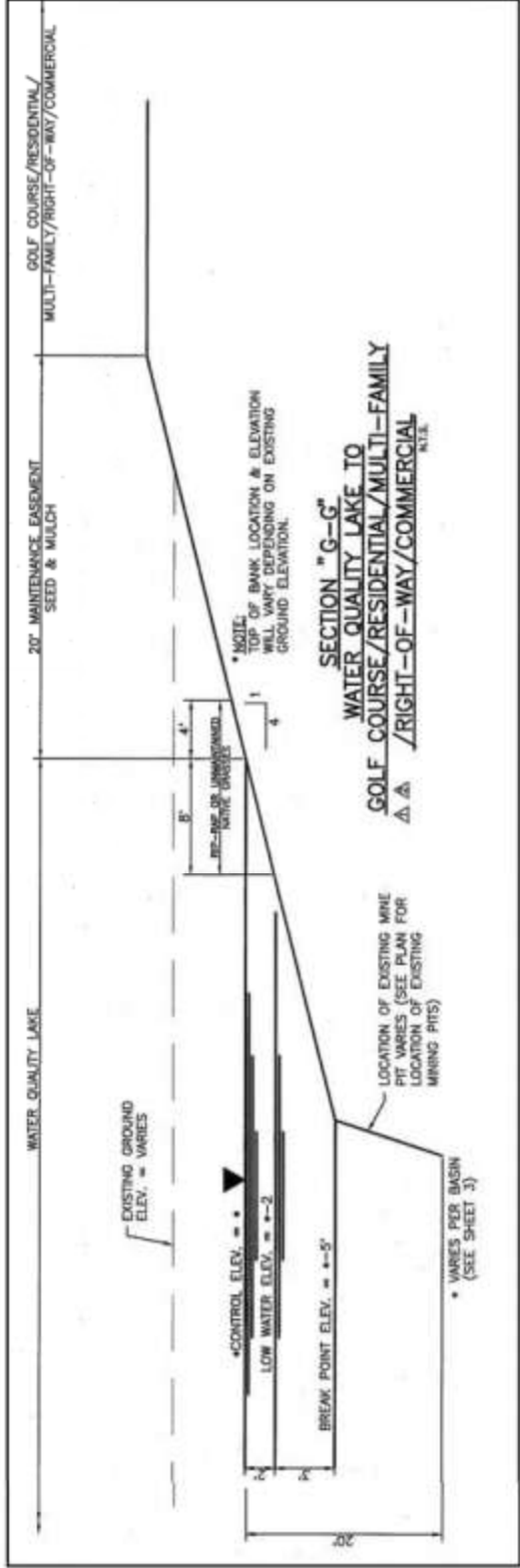
THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 53

Sheet No.
L53



LEGEND	
	PHOTO STARTING POINT
	LAKE NUMBER
	APPROX. LAKE LIMITS
	PHOTO NUMBERS
	GOLF COURSE HOLE #
	PRIORITY #1
	PRIORITY #2
	PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Revised By
1	11/11/2021	1	J. ALLEN
2	11/11/2021	2	A. LOPEZ
3	11/11/2021	3	A. LOPEZ
4	11/11/2021	4	A. LOPEZ
5	11/11/2021	5	A. LOPEZ
6	11/11/2021	6	A. LOPEZ
7	11/11/2021	7	A. LOPEZ

Prepared By: CPH, Inc.
Reviewed By: J. ALLEN
Checked By: A. LOPEZ
Date: 11/11/2021
Project: ERP 11-02134P
Sheet: 55 of 55



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THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY, FLORIDA

LAKE BANK CONDITION SURVEY
LAKE 55

Sheet No.
L55

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS



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CONTROL STRUCTURE L55L30
26°17'05.52"N / 81°40'57.51"W

OBSERVATIONS:

- MODERATE EROSION ADJACENT TO R.O.W. AND RESIDENTIAL PROPERTY (PHOTOS #2 & #4). APPROXIMATE 120 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.

Rev.	Date	Revision	No.	Date	Revision
1			1		
2			2		
3			3		
4			4		



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Landscape No. LC883298

Designed by:	N/A
Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/22/2021
Job No.	02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 5

Sheet No.
L55



LEGEND

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PHOTO STARTING POINT

L ##

LAKE NUMBER

APPROX. LAKE LIMITS

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PHOTO NUMBERS

#

GOLF COURSE HOLE #

PRIORITY #1

PRIORITY #2

PRIORITY #3

ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Revised By
1	11/11/2021	1	CPH, Inc.
2	11/11/2021	2	CPH, Inc.
3	11/11/2021	3	CPH, Inc.
4	11/11/2021	4	CPH, Inc.
5	11/11/2021	5	CPH, Inc.

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Reviewed By: J. Allen
Checked By: A. Lopez
Date: 04/22/2021

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY, FLORIDA

LAKE BANK CONDITION SURVEY
LAKE 56

Sheet No.
L56

THIS SHEET NOT VALID FOR CONSTRUCTION WITHOUT COMPLETE SET OF PLANS

OBSERVATIONS:

- MODERATE EROSION ADJACENT TO R.O.W. (PHOTO #4).
- APPROXIMATELY 80 LF.
- CONTROL STRUCTURE (L54L30-2) TOP COVERED WITH GRASS CLIPPINGS.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6'-8") TO PROTECT LAKE BANK.
- CLEAN CONTROL STRUCTURE TOP.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.



CONTROL STRUCTURE L56L30
26°16'52.06"N / 81°40'57.34"W



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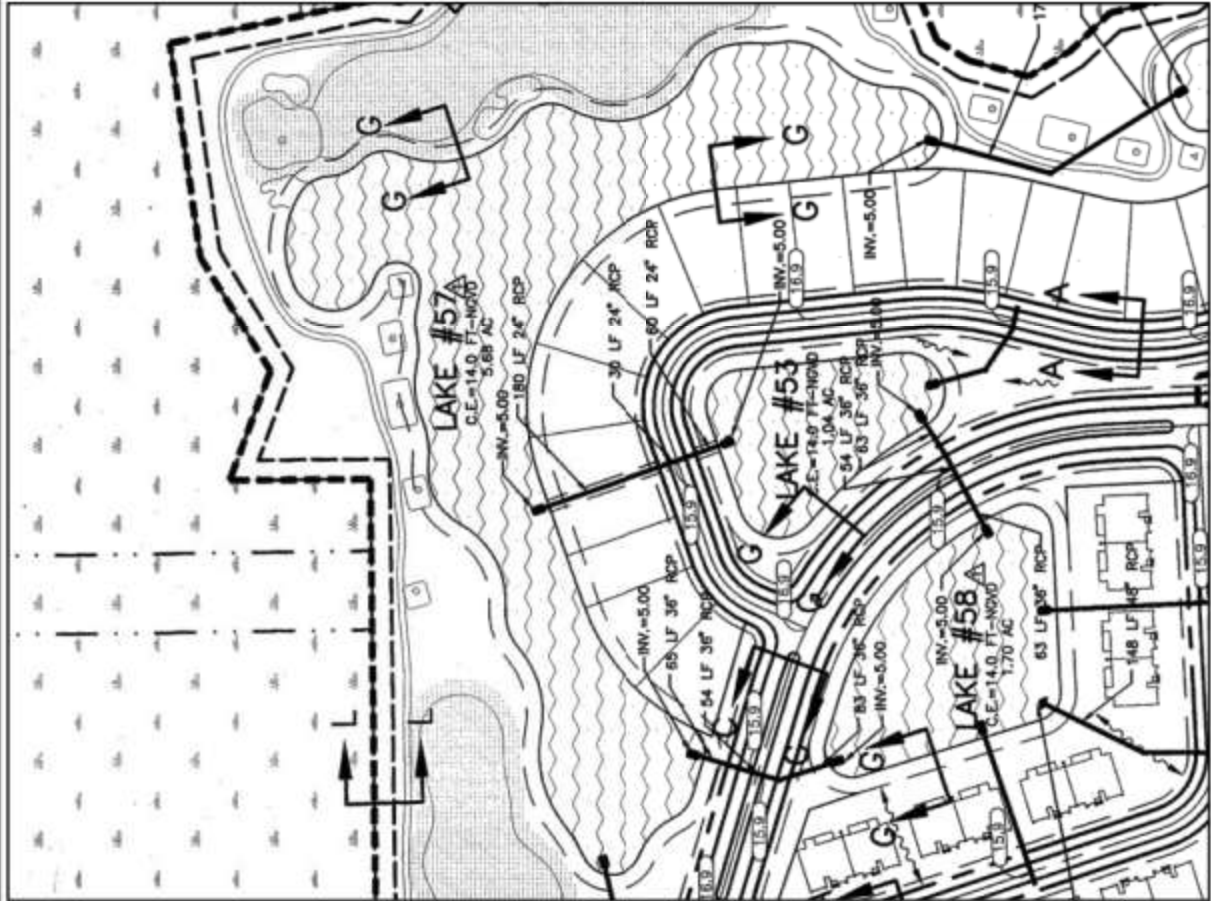
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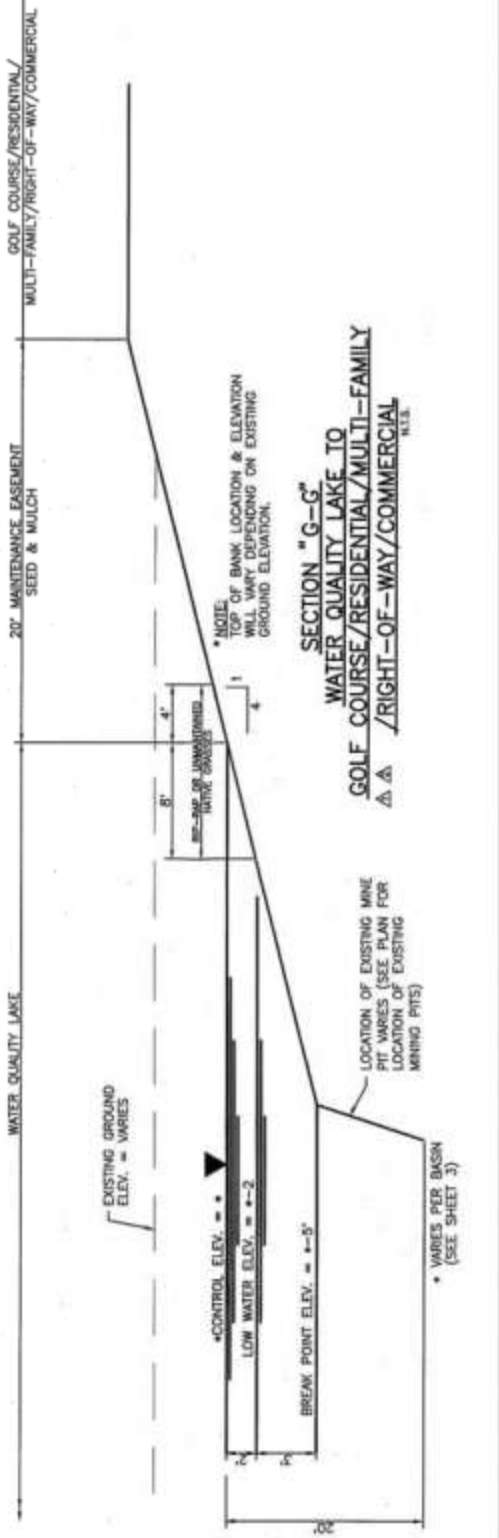


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LEGEND

- PHOTO STARTING POINT
- LAKE NUMBER
- APPROX. LAKE LIMITS
- PHOTO NUMBERS
- GOLF COURSE HOLE #
- PRIORITY #1
- PRIORITY #2
- PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Revised By
1	11/11/11	1	CPH
2	11/11/11	2	CPH
3	11/11/11	3	CPH
4	11/11/11	4	CPH
5	11/11/11	5	CPH
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11	11/11/11	11	CPH
12	11/11/11	12	CPH
13	11/11/11	13	CPH
14	11/11/11	14	CPH
15	11/11/11	15	CPH
16	11/11/11	16	CPH

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Architect No. 111111111111
Landscape No. 111111111111

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DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

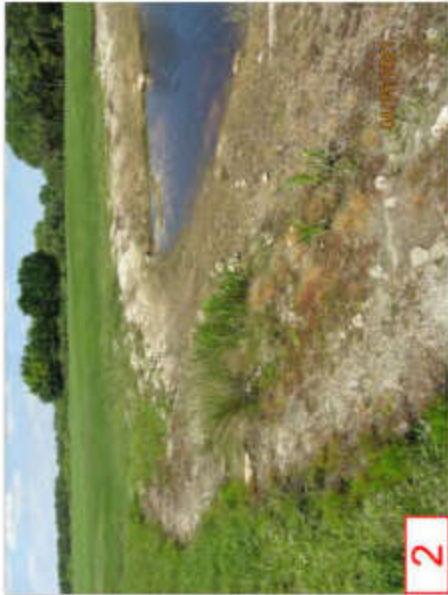
DESIGNED BY: J. ALLEN
DRAWN BY: A. LOPEZ
CHECKED BY: A. LOPEZ
DATE: 04/22/2011
JOB NO: 111111111111

GOLF CLUB POND
LAKE BANK CONDITION SURVEY
LAKE 57

Sheet No.
L57



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OBSERVATIONS:

- Moderate erosion adjacent to golf course (Photos #1 - #4 & #9), approximately 1,450 LF.
- Moderate erosion adjacent to residential properties (Photos #12 & #15), approximately 120 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- Reconfigure 4:1 slope with new fill material. New fill material to be compacted per original design specifications.
- Install 6"-8" riprap layer and key-way (6"-8") to protect lake bank.

ALTERNATE RECOMMENDATIONS

- Introduce the use of littoral planting.
- The use of littoral planting shall be started on testing spots to confirm plants adaptation and survivability.

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OBSERVATIONS:

- MODERATE EROSION ADJACENT TO RESIDENTIAL PROPERTIES (PHOTO #5), APPROXIMATELY 60 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.



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CONTROL STRUCTURE L58L30

04/17/2021 12:41:18 PM

No.	Date	Revision	Description
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Architect No. AA3880028
Landscape No. LC88328

Designed by:	N/A
Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/22/2021
Job No.	02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 58



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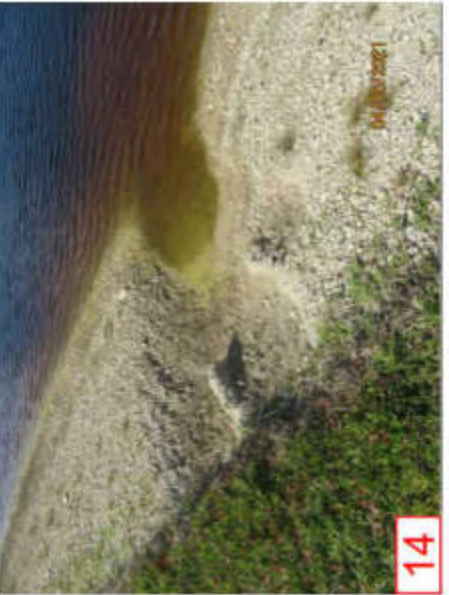
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CONTROL STRUCTURE L59L30-1
26°17'32.75"N / 81°40'22.81"W



CONTROL STRUCTURE L59L30-2
26°17'32.435"N / 81°40'22.90"W

OBSERVATIONS:

- RIPRAP LOSS OBSERVED ADJACENT TO RESIDENTIAL PROPERTIES AND PRESERVE AREA (PHOTOS #1 - #4), APPROXIMATELY 700 LF.
- MODERATE EROSION ADJACENT TO GOLF COURSE (PHOTOS #8 & #9), APPROXIMATELY 300 LF.
- MODERATE EROSION ADJACENT TO RESIDENTIAL PROPERTIES (PHOTOS #11, #14 & #16), APPROXIMATELY 190 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.



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OBSERVATIONS:

- MODERATE EROSION ADJACENT TO RESIDENTIAL PROPERTIES (PHOTOS #3, #4, #6, #7). APPROXIMATELY 150 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6'-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.

Rev.	Date	Revision	No.	Date	Revision
A			A		
A			A		
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A			A		



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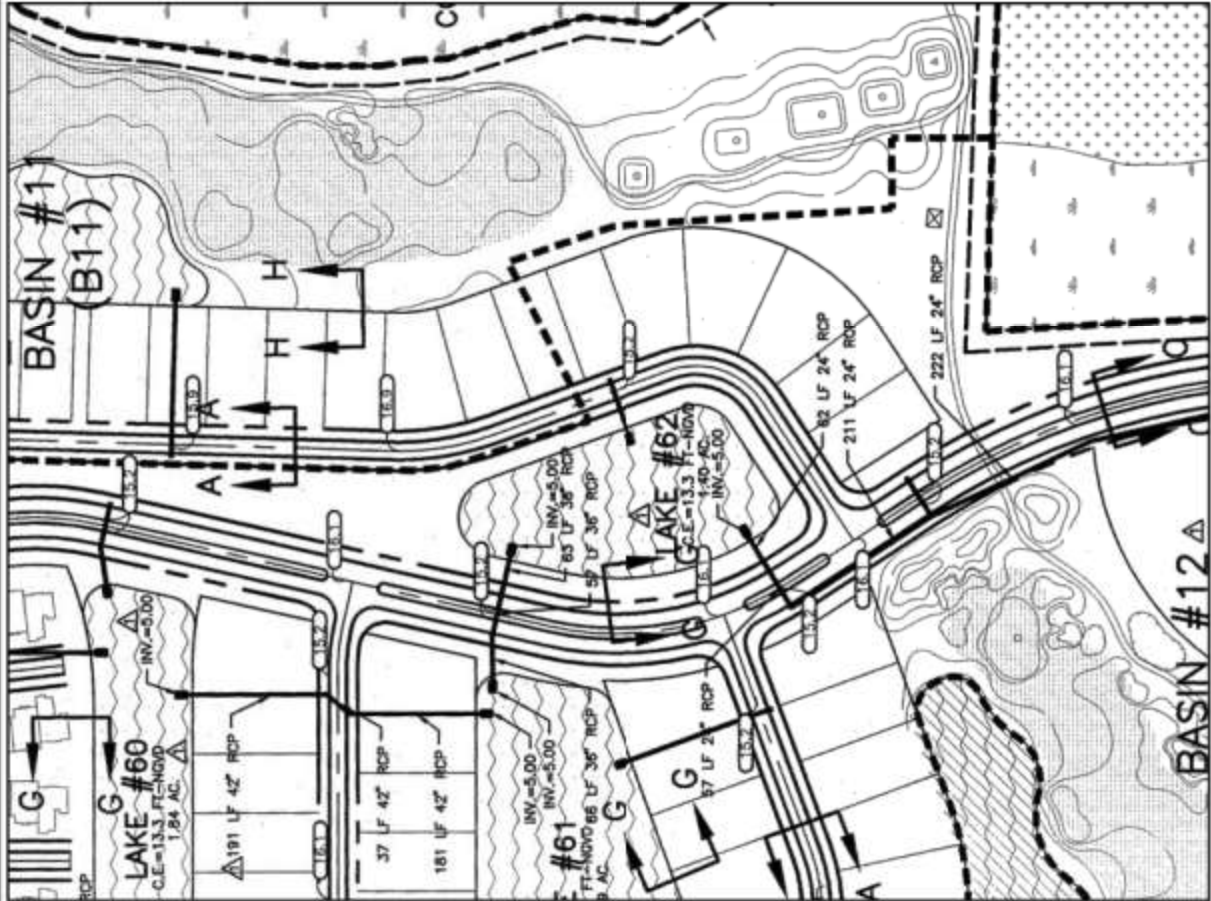
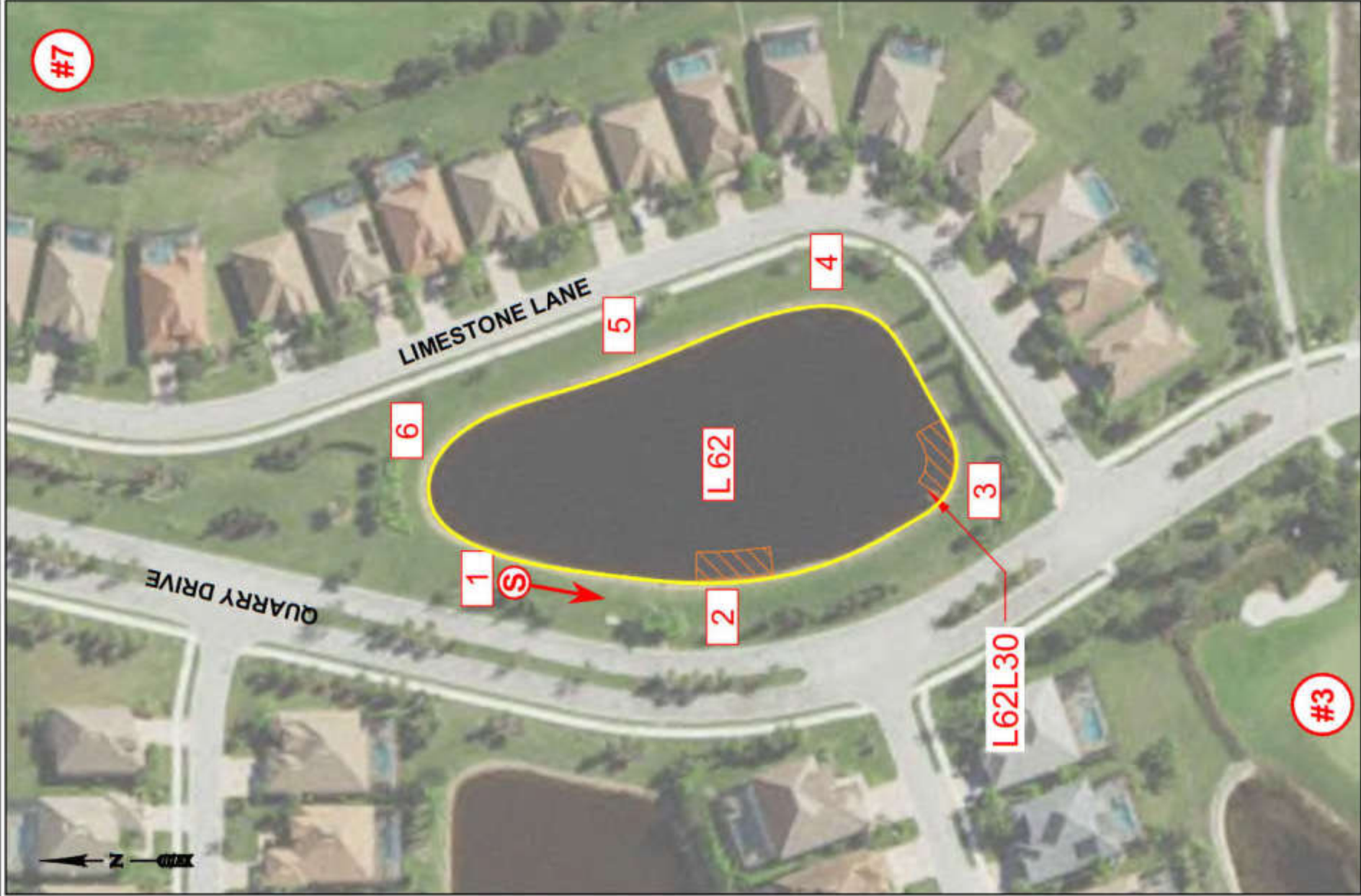
Plans Prepared By:
CPH, Inc.
State of Florida License:
Professional Engineer
Surveyor No. 137143
Architect No. AA3880028
Landscape No. LC88328

Designed by:	N/A
Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/27/2021
Job No.	02509

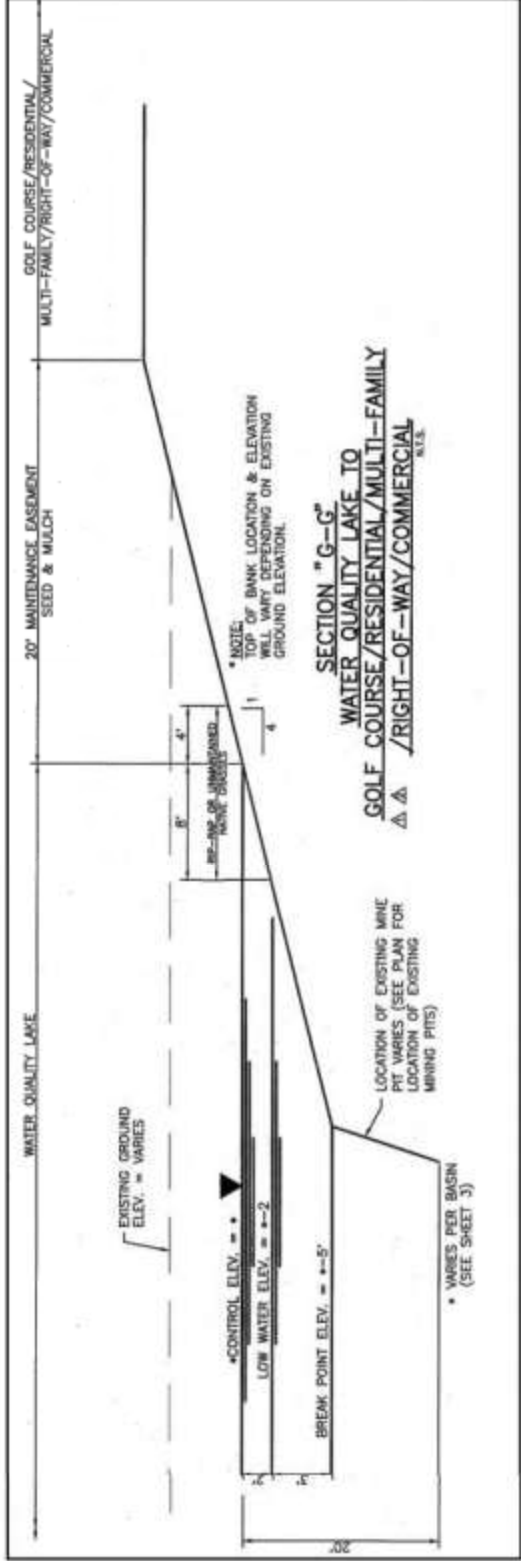
THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 61

Sheet No.
L61



LEGEND	
	PHOTO STARTING POINT
	LAKE NUMBER
	APPROX. LAKE LIMITS
	PHOTO NUMBERS
	GOLF COURSE HOLE #
	PRIORITY #1
	PRIORITY #2
	PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	Revised By
1	11/11/2011	1	J. ALLEN
2	11/11/2011	2	A. LOPEZ
3	11/11/2011	3	A. LOPEZ
4	11/11/2011	4	A. LOPEZ
5	11/11/2011	5	A. LOPEZ
6	11/11/2011	6	A. LOPEZ
7	11/11/2011	7	A. LOPEZ
8	11/11/2011	8	A. LOPEZ
9	11/11/2011	9	A. LOPEZ
10	11/11/2011	10	A. LOPEZ

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THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
LAKE 62

Sheet No.
L62



04/05/2023



04/05/2023



04/05/2023



04/05/2023

OBSERVATIONS:

- MODERATE EROSION ADJACENT TO R.O.W. (PHOTOS #1 -#3). APPROXIMATELY 110 LF.
- CONTROL STRUCTURE (L62L30) TOP COVERED WITH DEAD WEEDS AND GRASS CLIPPINGS.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.
- CLEAN CONTROL STRUCTURE TOP GRATE.

ALTERNATE RECOMMENDATIONS

- INTRODUCE THE USE OF LITTORAL PLANTING.
- THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.



04/05/2023



04/05/2023



CONTROL STRUCTURE L62L30
26°17'19.61"N / 81°40'22.40"W

Rev.	Date	Revision	No.	Date	Revision
1			1		
2			2		
3			3		
4			4		



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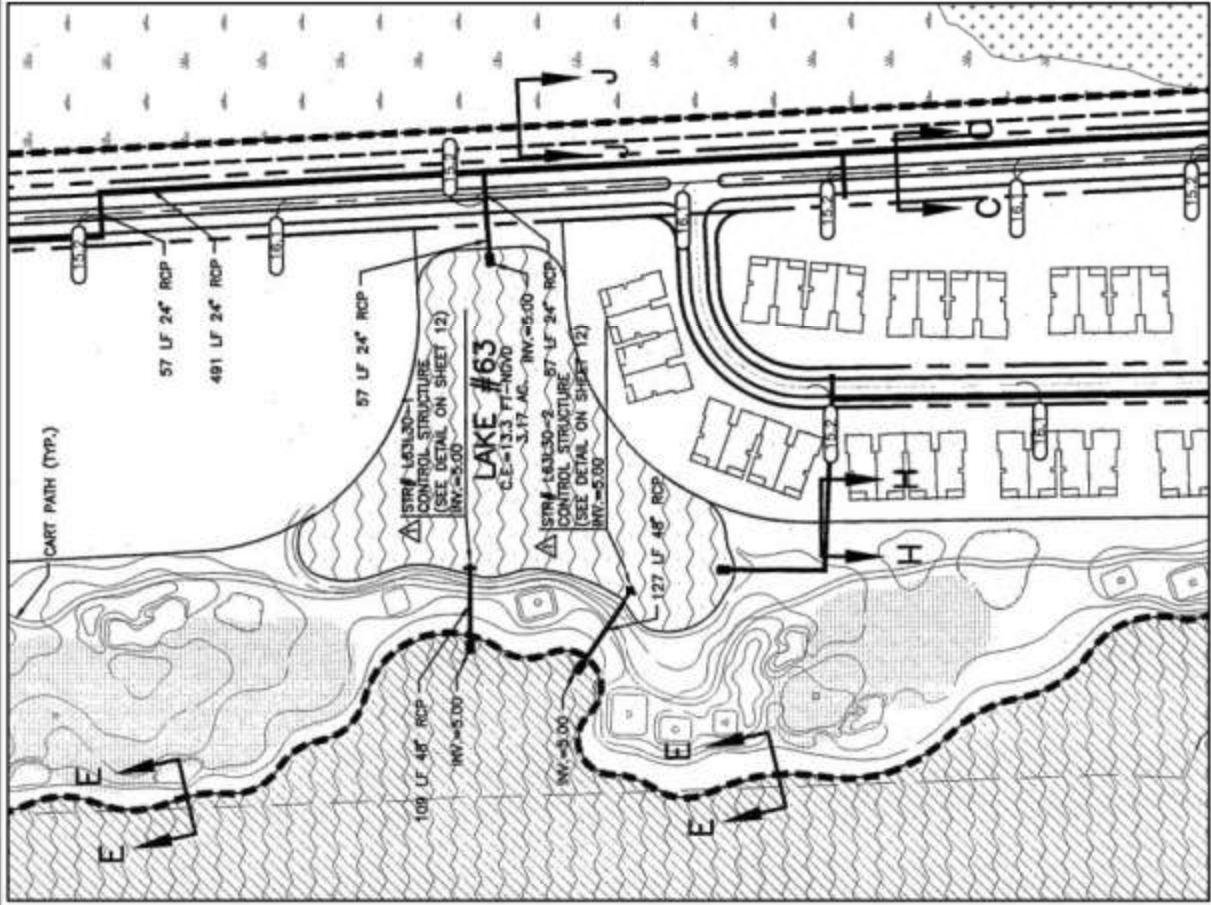
Plans Prepared By:
CPH, Inc.
State of Florida License:
Surveyor No. 1387143
Architect No. AA3880028
Landscape No. LC88328

Designed by:	N/A
Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/27/2021
Job No.	00509

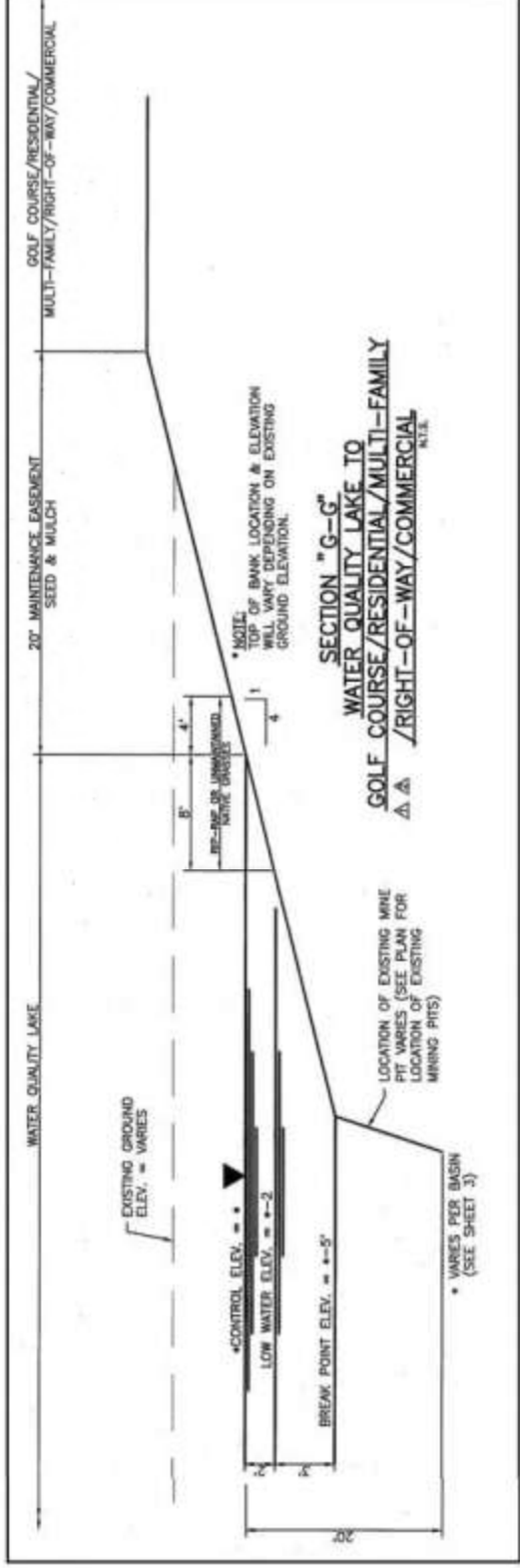
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DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 62

Sheet No.
L62



LEGEND	
	PHOTO STARTING POINT
	LAKE NUMBER
	APPROX. LAKE LIMITS
	PHOTO NUMBERS
	GOLF COURSE HOLE #
	PRIORITY #1
	PRIORITY #2
	PRIORITY #3



ERP 11-02134P ORIGINAL APPROVED LAKE PERIMETER AND TYPICAL CROSS SECTION

N.T.S.

No.	Date	Revision	By	Check	Appr.
1	11/11/2011	1	J. ALLEN		
2	11/11/2011	2	J. ALLEN		
3	11/11/2011	3	J. ALLEN		
4	11/11/2011	4	J. ALLEN		
5	11/11/2011	5	J. ALLEN		
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10	11/11/2011	10	J. ALLEN		
11	11/11/2011	11	J. ALLEN		
12	11/11/2011	12	J. ALLEN		
13	11/11/2011	13	J. ALLEN		
14	11/11/2011	14	J. ALLEN		

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Landscape No. 11111

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Checked By:	A. LOPEZ
Date:	04/22/2011
Job No.	11111

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
LAKE 63

Sheet No.
L63

OBSERVATIONS:

- MODERATE EROSION ADJACENT TO PRESERVE AREA (PHOTOS #7, #8, #10 & #11) APPROXIMATELY 315 LF.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- RECONFIGURE 4:1 SLOPE WITH NEW FILL MATERIAL. NEW FILL MATERIAL TO BE COMPACTED PER ORIGINAL DESIGN SPECIFICATIONS.
- INSTALL 6"-8" RIPRAP LAYER AND KEY-WAY (6"-8") TO PROTECT LAKE BANK.

ALTERNATE RECOMMENDATIONS

- **INTRODUCE THE USE OF LITTORAL PLANTING.**
- **THE USE OF LITTORAL PLANTING SHALL BE STARTED ON TESTING SPOTS TO CONFIRM PLANTS ADAPTATION AND SURVIVABILITY.**



Plans Prepared By
CPH, Inc.
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Landscape No. LC890298

1

**THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA**

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 63A

Sheet No. **L63A**



1



2



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4



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11

OBSERVATIONS:

- NO EROSION DEFICIENCIES FOUND.

RECOMMENDATIONS TO MEET ORIGINAL INTENDED DESIGN:

- PERIODIC MONITORING.

No.	Date	Revision	Description
1			
2			
3			
4			



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Designed by:	N/A
Drawn by:	J. ALLEN
Checked by:	A. LOPEZ
Date:	04/27/2021
Job No.	02509

THE QUARRY COMMUNITY
DEVELOPMENT DISTRICT
COLLIER COUNTY / FLORIDA

LAKE BANK CONDITION SURVEY
PHOTOS - LAKE 63B

Sheet No.
L63B



APPENDIX B

Deficiencies Summary

**The Quarry CDD
Stormwater Lakes Assessment Report
Collier County, Florida**

The Quarry CDD - Deficiencies Summary

				Golf Course Shoreline					Residential / Preserve / R.O.W. Shoreline					Combined Shoreline					
Lake #	Lake Perimeter LF	Perimeter Adjacent to Golf Course LF	Adjacent to Residential / Preserve/ R.O.W.	Erosion Deficiencies LF	Priority #1 LF	Priority #2 LF	*Priority #3 LF	Percentage	Erosion Deficiencies LF	Priority #1 LF	Priority #2 LF	*Priority #3 LF	Percentage	Priority #1 LF	Priority #2 LF	*Priority #3 LF	Total LF	Total %	Lake Bank Slope
30	26,350	3,596	22,754	1,225	640	585	0	5%	2,220	1,304	916	0	8%	1,944	1,501	0	3,445	13%	4:1, 1:1
31	1,070	0	1,070	0	0	0	0	0%	0	0	0	0	0%	0	0	0	0	0%	4:1
32	2,272	1,660	612	570	570	0	0	25%	120	120	0	0	5%	690	0	0	690	30%	4:1
33	1,279	0	1,279	0	0	0	0	0%	180	0	180	0	14%	0	180	0	180	14%	4:1
34	1,901	859	1,042	0	0	0	0	0%	260	260	0	0	14%	260	0	0	260	14%	4:1
35	1,555	1,010	545	335	0	0	335	22%	0	0	0	0	0%	0	0	335	335	22%	4:1
36	1,023	521	502	180	0	0	180	18%	210	0	0	210	21%	0	0	390	390	38%	4:1
37	801	0	801	0	0	0	0	0%	50	50	0	0	6%	50	0	0	50	6%	4:1
38	2,940	945	1,995	260	40	220	0	9%	900	900	0	0	31%	940	220	0	1,160	39%	4:1
40	2,127	1,198	929	450	450	0	0	21%	30	30	0	0	1%	480	0	0	480	23%	4:1
41	1,155	632	523	350	350	0	0	30%	150	0	0	150	13%	350	0	150	500	43%	4:1
42	2,593	1,413	1,180	850	850	0	0	33%	150	150	0	0	6%	1,000	0	0	1,000	39%	4:1
44	4,668	2,777	1,891	690	690	0	0	15%	480	480	0	0	10%	1,170	0	0	1,170	25%	4:1
45	1,285	0	1,285	0	0	0	0	0%	1,285	260	1,025	0	100%	260	1,025	0	1,285	100%	4:1
46	1,562	238	1,324	0	0	0	0	0%	580	53	527	0	37%	53	527	0	580	37%	4:1
47	5,460	3,193	2,267	1,565	1,037	528	0	29%	0	0	0	0	0%	1,037	528	0	1,565	29%	4:1
48	2,646	0	2,646	0	0	0	0	0%	350	0	350	0	13%	0	350	0	350	13%	4:1
49	723	0	723	0	0	0	0	0%	100	0	0	100	14%	0	0	100	100	14%	4:1
50	2,754	1,468	1,286	780	530	250	0	28%	50	0	50	0	2%	530	300	0	830	30%	4:1
53	851	0	851	0	0	0	0	0%	0	0	0	0	0%	0	0	0	0	0%	4:1
54	1,301	0	1,301	0	0	0	0	0%	70	70	0	0	5%	70	0	0	70	5%	4:1
55	1,330	0	1,330	0	0	0	0	0%	120	45	75	0	9%	45	75	0	120	9%	4:1
56	1,704	0	1,704	0	0	0	0	0%	80	80	0	0	5%	80	0	0	80	5%	4:1
58	970	0	970	0	0	0	0	0%	60	60	0	0	6%	60	0	0	60	6%	4:1
61	1,122	0	1,122	0	0	0	0	0%	150	0	150	0	13%	0	150	0	150	13%	4:1
62	1,250	0	1,250	0	0	0	0	0%	110	0	110	0	9%	0	110	0	110	9%	4:1
63	1,382	728	654	0	0	0	0	0%	400	235	165	0	29%	235	165	0	400	29%	4:1
63A	1,618	0	1,618	0	0	0	0	0%	315	0	315	0	19%	0	315	0	315	19%	4:1
63B	2,185	0	2,185	0	0	0	0	0%	0	0	0	0	0%	0	0	0	0	0%	4:1
Total	77,877	20,238	57,639	7,255	5,157	1,583	515	9%	8,420	4,097	3,863	460	11%	9,254	5,446	975	15,675	20%	
Golf Course Owned Lakes (For Information Only)																			
57	3,504			1,450	363	1,087	0	41%	120	120	0	0	3%	483	1,087	0	1,570	45%	4:1
59	2,407			300	300	0	0	12%	890	0	190	700	37%	300	190	700	1,190	49%	4:1
64	3,953			1,100	0	1,100	0	28%	0	0	0	0	0%	0	1,100	0	1,100	28%	4:1
Total	9,864			2,850	663	2,187	0	29%	1,010	120	190	700	10%	783	2,377	700	3,860	39%	

* Priority #3 refers to those areas requiring minimal erosion repair work or close monitoring to avoid future erosion issues