

SUBMITTAL

C44STA
RFB No. 600000060
CN4600003135

Spec Section No: 02840 1.04
Submittal No: 004
Revision No: N/A
Sent Date: 4/4/16 **CONFORMED**
8/9/16

Spec Section Title: Monitoring Wells
Submittal Title: Well Locations & Elevations - Specific Purpose Survey

Contractor: Blue Goose Construction

Contractors Explanation

Specific Purpose Survey Report for Well Locations and Elevation.
 Signed and Sealed by Betsy Lindsay, Inc. Includes Field Notes.

8/9/16 CONFORMED

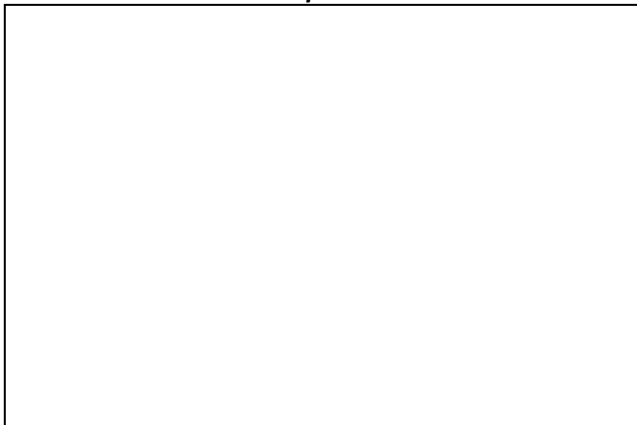
1. Clarifies Pipe Elev in Note at bottom of Chart
2. Adjusted will be noted on As-Built FO # 19
3. Adjusted Methods used per comment.
4. Providing Benchmark Form in Word Format.
Files will be hand delivered on disk due to file size.
Benchmark Forms being provided in PDF form in this Conformed Package for the record as well.
5. This is the Conformed PDF.

Contractors Stamp

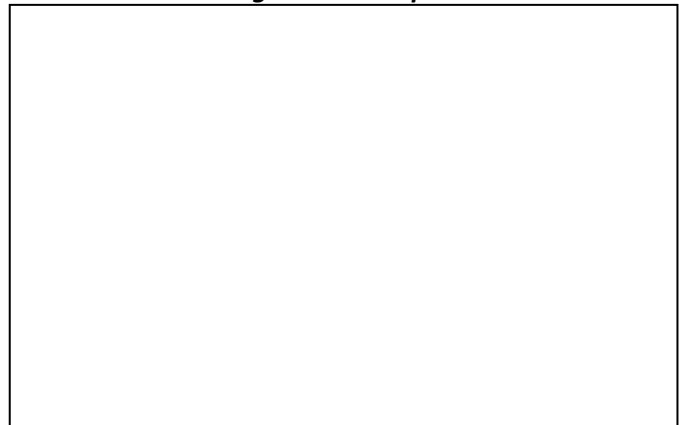
Lisa R. Seavey, C.I.T.
 Contract Administrator



Architects Stamp



Engineers Stamp



South Florida Water Mgmt District

SUBMITTAL

NO.02840-1.04-004

PACKAGE NO: 02840

Phone: 561-686-8800

Fax:

TITLE:	C44STA Well Locations & Elev Survey	REQUIRED START:	04/13/2016
PROJECT:	Stormwater Treatment Area	REQUIRED FINISH:	05/04/2016
DRAWING:		DAYS HELD:	0
STATUS:	NEW	DAYS ELAPSED:	0
BIC:		DAYS OVERDUE:	-21

RECEIVED	FROM	SENT TO	RETURNED BY	FORWARDED TO
BGC	LS	ADA	RB	

Rev No.	Description/Remark	Received	Sent	Returned	Forwarded	Status	Sepias	Prints	Draw Date	Held	Elapse
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001	Well Locations and Elevations Survey Report	04/13/2016	04/13/2016			NEW	0	0		0	0
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South Florida Water Management District SUBMITTAL REVIEW	
<small>Review is for general compliance with contract documents. No responsibility is assumed for correctness of dimensions or details. The contractor shall assume full responsibility for deviations from contract requirements not specifically indicated on this submittal.</small>	
<input type="checkbox"/> Accepted As Submitted	<input checked="" type="checkbox"/> Accepted As Noted
<input type="checkbox"/> Returned For Revision	<input type="checkbox"/> Not Acceptable (Submit Anew)
<input type="checkbox"/> Preliminary Submittal	<input type="checkbox"/> For Reference Only
<input type="checkbox"/> Distribution Copy (Previously Accepted)	

Accepted As Noted



Ricardo E. Brown, P.E.

Digitally signed by
Ricardo Brown
DN: c=US, cn=Ricardo Brown, o=ADA Engineering Inc, ou=Water Resources, email=rbrown@adaenginc.g.inc
Date: 2016.04.26 14:01:58 -04'00'

Accepted as Noted

Notes:

1. The survey of the pipe elevation as stated in the submittal is for the top of 4-inch diameter pipe. The Contractor shall note in the conformed version of this submittal and change the table header labeled "PIPE ELEV" to clarify the proper point of survey elevation.
2. Well ID C44B2A was relocated approximately 100 feet north by Field Order 19, which was issued August 5, 2015. The location as shown in this survey is approximately 90 feet, which is acceptable. The Contractor shall note this change on the conformed version of this submittal and on the As-builts.
3. On page two, METHODS USED, the Contractor shall remove reference made to Second Order Survey standards. The Contractor shall replace with language referring to Third Order Survey standards to match the Contract documents. (Specification 01050-2.03-A-2)
4. The Contractor shall complete the Benchmark Form provided with this response in a MS. Word Doc format. This shall be provided with the conformed copy. (Specification 01050-2.03-A-8)
5. Pending the submittal of one (1) conformed PDF and four (4) conformed hard copies.

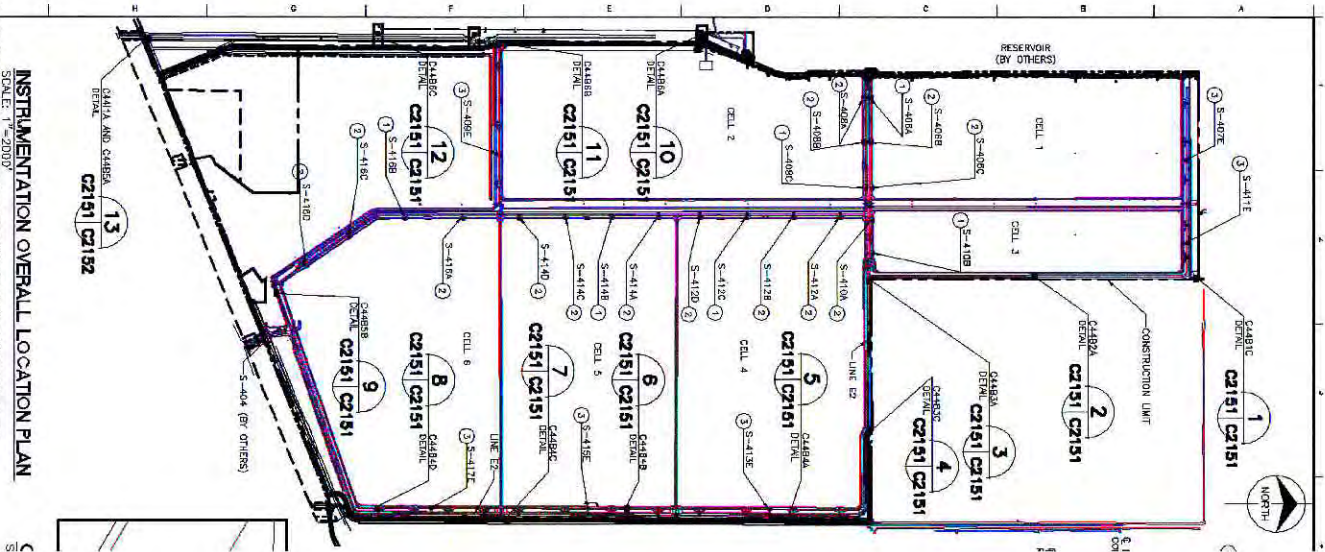


BETSY LINDSAY, INC.
SURVEYING AND MAPPING

**SURVEY REPORT
SPECIFIC PURPOSE SURVEY
WELL LOCATION AND ELEVATION
C-44 RESERVOIR/STA PROJECT STORMWATER TREATMENT AREA
LOCATE AND ELEVATE THE NEWLY CONSTRUCTED WELLS
STA areas Blue Goose
Located in Martin County, Florida**

DESCRIPTION OF WORK AREA:
The C44 Reservoir/STA Project.

S:\14-projects\14-94646\North Florida\CKA_STA_159_C2151\Drawings\For\Construction\31492016\21217-AM\Pub\17\Overall_Plan.dwg



Send all correspondence
7997 SW Jack James Drive
Stuart, FL 34997
(772) 286-5753 • Fax (772) 286-5933

208 North U.S. Highway One, #8
Tequesta, FL 33469
(561) 575-5275

CREW CHIEF USED:

Party chief for horizontal verification; Norge Cid

Party chief for vertical verification: Norge Cid

RESPONSIBLE REGISTERED LAND SURVEYOR: ELIZABETH A. LINDSAY, PLS 4724

THE ACCURACIES OF THIS SURVEY WILL MEET OR EXCEED THIRD ORDER. ALL DATA IS LISTED IN U.S. SURVEY FEET PER THE PUBLISHED DATA SHEETS

The survey control that was verified by this survey is in state plane coordinates NAD83/2011 Florida east zone, U.S. survey feet per the attached data sheets. The vertical datum is NAVD 88 per the attached data sheets.

The conversion factor varies per control point based on the different conversion factors illustrated in the design plans.

METHODS USED:

A peg test was done on the Digital level prior to the level run. On March 2, 2016 we started the level run and completed it on March 8, 2016. A closed level loop was run from from F0012 north the into CP-1. The level loop closed into CP-1 with 0.017' vertical error, exceeding third order standards. A second loop was run from CP-1 north to ALLAP-9. the level loop closed into ALLAP-9 with 0.012 vertical error. A temporary bench mark elevation for each well was established via closed level loop. The well was located with GPS/RTK reference to the Lengeman network and field vieriied by a series of redundant measurments on known points.

Survey Equipment Utilized For This Portion Of The Project Is As Follows:

Trimble R-8 GPS Receivers and base with radio

Topcon DL 101C digital level

PUBLISHED VALUES OF CONTROL USED:

Existing onsite control NAD83/2011 US Survey Feet per data supplied by SFWMD.

105,1001910.4100,856092.6800,28.03,C44RV5 (horizontal only)

106,1001956.2100,848601.8900,28.84,C-44-1 (vertical only)

107,984551.3400,855790.8800,27.37,C-44-2 (vertical only)

108,996557.5300,840627.3200,27.81,C-44-3 (vertical only)

109,1012578.3500,830335.4300,28.90,C-44-4 (vertical only)

110,1001975.4200,848890.7000,26.778,CP-1 (horizontal and vertical 2nd order)

112,982393.7800,850532.4900,30.111,STU-APPLEBAUM-PUB(horizontal & vertical 2nd order)

113,984446.6900,856497.5400,37.19,FO12 (horizontal and vertical 2nd order)

114,1001855.2600,877642.6000,23.88,GC7 D08 (horizontal and vertical 2nd order)

116,1004612.7900,840701.9600,28.83,J12-103-3 PUB (horizontal and vertical 2nd order)

117,1012598.2700,845875.1300,26.93,ALLAP 9 PUB (horizontal and vertical 2nd order)

ABBREVIATIONS

BM	BENCH MARK
DESC	DESCRIPTON
ELEV	ELEVATION
GND	GROUND
PNT	POINT NUMBER
SP SCF	STATE PLANE SCALE FACTOR

Send all correspondence

7997 SW Jack James Drive

Stuart, FL 34997

(772) 286-5753 • Fax (772) 286-5933

208 North U.S. Highway One, #8

Tequesta, FL 33469

(561) 575-5275

RESULTS:

top of

PNT #	NORTHING	EASTING	LATITUDE	LONGITUDE	NAME	PIPE ELEV	GND ELEV	BM ELEV
6001	982741.22	849102.27	27.03608218	80.40729855	C44B5B	27.61	24.1	24.53
6004	990191.68	856452.68	27.05648006	80.38460722	C44B4C-1	30.18	27.1	
6005	990187.21	856452.69	27.05646777	80.38460727	C44B4C-2	30.18	27.1	
6006	990182.49	856452.86	27.05645478	80.38460682	C44B4C-3	30.18	27.1	
6016	999293.07	856486.65	27.08151566	80.38436613	C44B4A-1	30.20	27.1	27.24
6017	999288.63	856486.51	27.08150346	80.38436661	C44B4A-2	30.18	27.1	
6019	1001918.00	853551.20	27.05195951	80.2336054	C44B3C	30.93	27.5	27.72
6021	1001938.31	848583.50	27.08889645	80.40861523	C44B3A	31.21	29.3	
6022	1007342.52	848593.27	27.10376222	80.40850711	C44B2A-1	32.52	28.4	29.65
6023	1007337.98	848593.48	27.10374973	80.4085065	C44B2A-2	32.52	28.4	
6024	1007333.45	848593.35	27.10373727	80.40850698	C44B2A-3	32.51	28.4	
6025	1007328.91	848593.30	27.10372479	80.40850721	C44B2A-4	32.51	28.4	
6030	1012539.20	848560.86	27.11805761	80.40853157	C44B1C-1	33.19	29.1	29.81
6031	1012534.68	848560.98	27.1180452	80.40853126	C44B1C-2	33.19	29.1	

Note: pipe elev refers to top of 4-inch diameter pipe.

I HEREBY CERTIFY THAT THE "SPECIFIC PURPOSE SURVEY" AS DESCRIBED HEREIN IS A TRUE AND CORRECT REPRESENTATION OF A FIELD SURVEY MADE UNDER MY DIRECTION AND CHARGE BETWEEN MARCH 2, 2016 AND MARCH 8, 2016 AND SAID "SPECIFIC PURPOSE SURVEY" IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. IT IS FURTHER CERTIFIED THAT THIS "SPECIFIC PURPOSE SURVEY" COMPLIES WITH THE STANDARDS OF PRACTICE FOR "SPECIFIC PURPOSE SURVEY" SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

BETSY LINDSAY, INC.
SURVEYING AND MAPPING

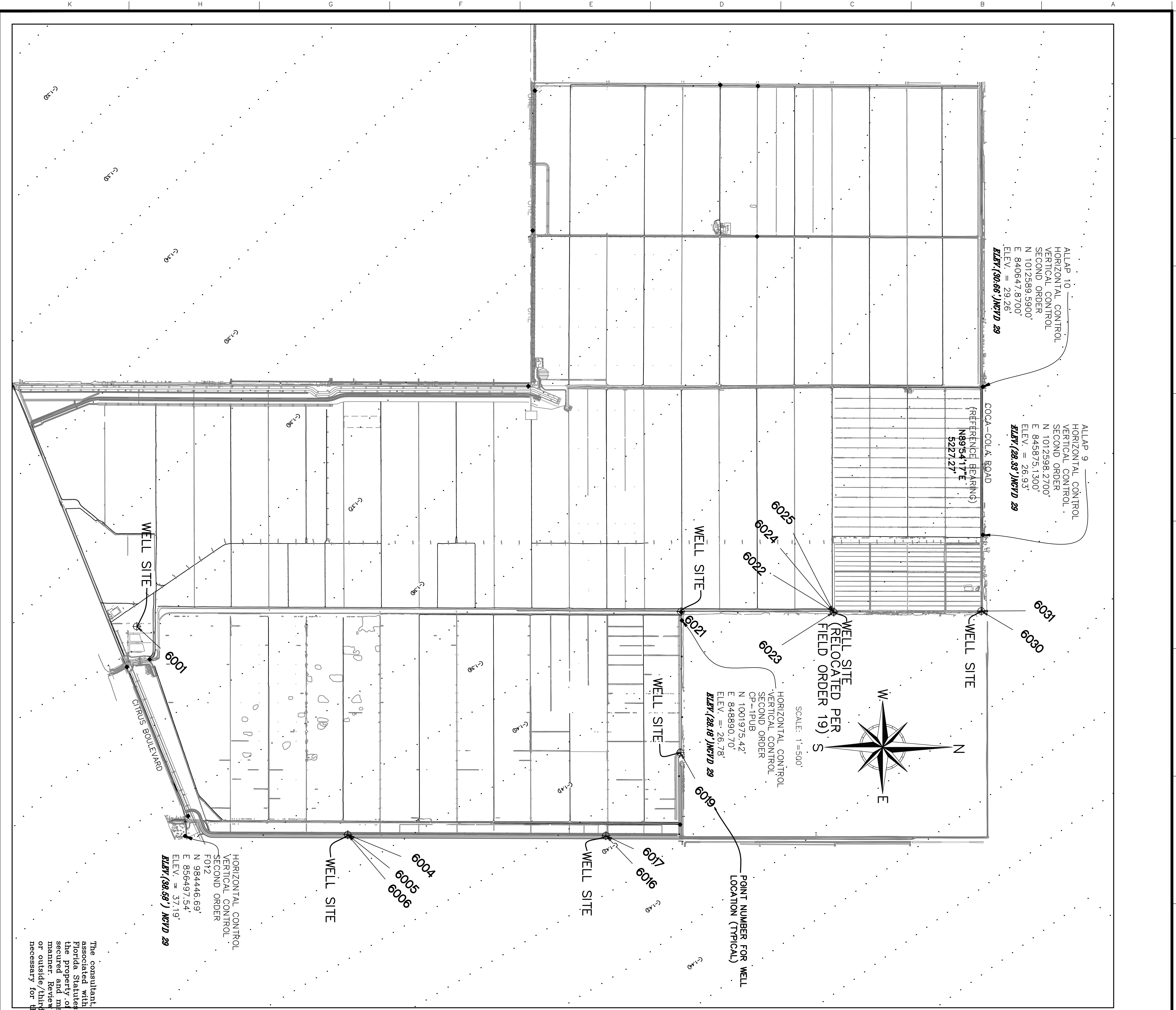

ELIZABETH A. LINDSAY, P.L.S.
FLORIDA REGISTRATION NO. 4724

NOT VALID WITHOUT THE SIGNATURE
AND ORIGINAL RAISED SEAL OF A
FLORIDA LICENSED SURVEYOR AND MAPPER

Betsy Lindsay, Inc., 7997 S.W. Jack James Drive, Stuart, Florida 34997
Florida Certificate of Authorization Number LB-0006852. E-mail address: blindsay@betsylindsay.com

Send all correspondence
7997 SW Jack James Drive
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208 North U.S. Highway One, #8
Tequesta, FL 33469
(561) 575-5275



The consultant, contractor or other parties associated with this project shall comply with Florida Statutes Chapter 119. These plans are the property of the District and must be secured and maintained in a confidential manner. Review by any unauthorized individual or outside/firm party not performing work necessary for this project is prohibited.

MONITORING WELL DATA

PNT #	NORTHING	EASTING	LATITUDE	LONGITUDE	NAME	PIPE ELEV	GRID ELEV	BM ELEV
6001	982741.22	849102.27	27.03608218	80.40729655	C44B5B	27.61	24.1	24.53
6004	990191.68	856452.68	27.05648006	80.39460722	C44B1C-1	30.18	27.1	
6005	990187.21	856452.69	27.05646777	80.39460727	C44B1C-2	30.18	27.1	
6006	990182.49	856452.86	27.05645478	80.39460682	C44B1C-3	30.18	27.1	
6016	999293.07	856486.65	27.08151596	80.39439613	C44B4A-1	30.20	27.1	27.24
6017	999298.63	856486.51	27.08150346	80.39439661	C44B4A-2	30.18	27.1	
6019	1001918.00	853551.20	27.05195951	80.2339054	C44B3C	30.93	27.5	27.72
6021	1001938.31	848583.50	27.08898945	80.40891523	C44B3A	31.21	29.3	
6022	1007342.52	848593.27	27.10376222	80.40890711	C44B2A-1	32.52	28.4	29.65
6023	1007337.98	848593.48	27.10374973	80.40890695	C44B2A-2	32.52	28.4	
6024	1007333.45	848593.35	27.10373727	80.40890698	C44B2A-3	32.51	28.4	
6025	1007328.91	848593.30	27.10372479	80.40890721	C44B2A-4	32.51	28.4	
6030	1012539.20	848560.86	27.11805761	80.40853157	C44B1C-1	33.19	29.1	29.81
6031	1012534.68	848560.98	27.11804452	80.40853126	C44B1C-2	33.19	29.1	

NOTE: THE PIPE ELEV. IN THE WELL DATA ABOVE REFERS TO THE TOP OF 4-INCH DIAMETER PIPE

B
BETSY LINDSAY, INC.
SURVEYING AND MAPPING

7997 S.W. JACK JAMES DRIVE, STUART, FL 34997
 (772)286-5753 (772)286-5833 FAX
 LICENSED BUSINESS NO. 6852
 REVISED PER SFWMD COMMENTS 6-16-16

ABBREVIATIONS

BL BETSY LINDSAY, INC.
 ELEV ELEVATION
 NAVD NORTH AMERICAN VERTICAL DATUM
 RH REQUEST FOR INFORMATION

SURVEY NOTES

1. THE HORIZONTAL DATUM IS STATE PLANE COORDINATE SYSTEM, FLORIDA EAST ZONE, NORTH AMERICAN DATUM OF 1983, ADJUSTMENT OF 2011, U.S. SURVEY FEET. REFERENCE A BEARING OF N89°54'17"E ALONG A LINE BETWEEN MONUMENTS "ALLAP 10" AND "ALLAP 9".
2. THE VERTICAL DATUM OF THE POINTS LISTED HEREIN IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. THE CONVERSION FACTOR FROM NAVD 88 TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD 1929) IS BETWEEN +1.36 FEET TO +1.42 FEET.
4. THE MONITORING WELLS TOPOGRAPHIC INFORMATION AS SHOWN HEREON WAS LOCATED IN THE AREAS UTILIZING GPS WITH RIK AND REFERENCED TO ON-SITE CONTROL POINTS F012 AND CP-IPUB.
5. THE ELEVATIONS OF THE TOP OF THE 4-INCH DIAMETER PIPE ARE IN COMPLIANCE WITH THIRD ORDER VERTICAL TOLERANCE.
6. THE PURPOSE OF THIS SPECIFIC PURPOSE SURVEY IS TO LOCATE AND IDENTIFY THE MONITORING WELLS AND ILLUSTRATE THE RELEVANT INFORMATION ASSOCIATED WITH EACH WELL LOCATION.

SURVEY CERTIFICATION

I HEREBY CERTIFY THAT THE "SPECIFIC PURPOSE SURVEY" AS SHOWN HEREON IS A TRUE AND CORRECT REPRESENTATION OF A FIELD SURVEY MADE UNDER MY DIRECTION AND CHARGE MARCH 2, 2016 THROUGH MARCH 8, 2016, AND SAID "SPECIFIC PURPOSE SURVEY" IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. IT IS FURTHER CERTIFIED THAT THIS "SPECIFIC PURPOSE SURVEY" COMPLETES WITH THE STANDARDS OF PRACTICE FOR "SPECIFIC PURPOSE SURVEY" SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 55-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.02, FLORIDA STATUTES.

BETSY LINDSAY, INC.
 SURVEYING AND MAPPING

ELIZABETH A. LINDSAY, P.L.S.
 AND ORIGINAL (CHASED) SEAL OF A
 FLORIDA LICENSED SURVEYOR AND MAPPER



ISSUED FOR CONSTRUCTION



SOUTH FLORIDA WATER MANAGEMENT DISTRICT
 ENGINEERING AND CONSTRUCTION BUREAU
 OPERATIONS, MAINTENANCE AND CONSTRUCTION DIVISION

PHONE: 561-686-8800
 3301 GUN CLUB ROAD
 WEST PALM BEACH, FLORIDA 33406

SURVEYOR: E.A.L.	DATE: 02/09/2015	SCALE: AS SHOWN
DRAWN:	DATE: 08/20/14	DATE: 08/20/14
CHECKED:	DATE: 08/20/14	DATE: 08/20/14
ISSUED FOR CONSTRUCTION	REV. #	REVISION DESCRIPTION

C-44 RESERVOIR/STA PROJECT
STORMWATER TREATMENT AREA
SPECIFIC PURPOSE SURVEY
 MONITORING WELL LOCATES

PROJECT ID. NO. 100548
 DRAWING NO. 1 OF 1

DATE: 04/02/16

HDR
 HDR Engineering, Inc. 3000
 1000 N. US HWY 1
 Tampa, FL 33604
 P: 813.289.3444
 F: 813.289.3447
 H: www.hdr.com

REGISTERED PROFESSIONAL ENGINEER
 IN THE STATE OF FLORIDA
 LICENSE NO. 4724



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 8/07

DESIGNATION C44B1C		PROJECT C44 STORM WATER TREATMENT AREA	
ESTABLISHED BY: BETSY LINDSAY, INC. RECOVERED BY		SURVEYOR: Elizabeth A. Lindsay DATE <u>March 8, 2016</u>	
GEOGRAPHIC POSITION			
SECTION 2	TOWNSHIP 39 S.	RANGE 39 E,	
COUNTY MARTIN	NAME OF QUADRANGLE INDIANTOWN GEOGRAPHIC INDEX OF QUAD 2504		
HORIZONTAL DATUM: 1927 (1983) Other _____ (circle one) ZONE (E) or W			
VERTICAL DATUM: MSL 1929 (1988) Other _____ (circle one)			
CONTROL ACCURACY: HORIZONTAL 1 2 3 <u>N/A</u> (circle one) VERTICAL 1 2 (3)			
STATE PLANE COORDINATE FL. E.	X 848560.86	Y 1012539.20	NAVD 88 ELEV. <u>29.81</u> NGVD 29 ELEV. <u>31.25</u>
C44 DESIGN PLANS CONVERSION FACTOR (NAVD88 TO NGVD29): <u>1.42</u>			
LATITUDE 27.11805761		LONGITUDE 80.40853157	
RECOVERY DESCRIPTION			
Stamping: BL LB6852 TRAV PT			
To Reach: From the intersection of SR 710 (Warfield Blvd) and CR 726 (SW Citrus Blvd) go easterly 4.85 miles to Barb B Ranch Road, a dirt road located west of the C44 spillway. Head northerly along the dirt road for 3.39 miles. Thence turn west for 1.51 miles; thence north 2.02 miles to the well site. The bench mark is in concrete base of the well.			
Notable Land marks: well structure			
FIELD BOOK C442		PAGE <u>42-50</u>	
SKETCH			



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Rev. 8/07





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DESIGNATION C44B2A		PROJECT C44 STORM WATER TREATMENT AREA	
ESTABLISHED BY: BETSY LINDSAY, INC. RECOVERED BY		SURVEYOR: Elizabeth A. Lindsay DATE <u>March 8, 2016</u>	
GEOGRAPHIC POSITION			
SECTION 11	TOWNSHIP 39 S.	RANGE 39 E,	
COUNTY MARTIN	NAME OF QUADRANGLE INDIANTOWN GEOGRAPHIC INDEX OF QUAD 2504		
HORIZONTAL DATUM: 1927 (1983) Other _____ (circle one) ZONE (E) or W			
VERTICAL DATUM: MSL 1929 (1988) Other _____ (circle one)			
CONTROL ACCURACY: HORIZONTAL 1 2 3 <u>N/A</u> (circle one) VERTICAL 1 2 (3)			
STATE PLANE COORDINATE FL. E.	X 848593.27	Y 1007342.52	NAVD 88 ELEV. <u>29.65</u> NGVD 29 ELEV. <u>31.06</u>
C44 DESIGN PLANS CONVERSION FACTOR (NAVD88 TO NGVD29): <u>1.41</u>			
LATITUDE 27.10376222		LONGITUDE 80.40850711	
RECOVERY DESCRIPTION			
Stamping: BL LB6852 TRAV PT			
To Reach: From the intersection of SR 710 (Warfield Blvd) and CR 726 (SW Citrus Blvd) go easterly 4.85 miles to Barb B Ranch Road, a dirt road located west of the C44 spillway. Head northerly along the dirt road for 3.39 miles. Thence turn west for 1.51 miles; thence north 1.02 to the well site. The bench mark is in concrete base of the well.			
Notable Land marks: well structure			
FIELD BOOK C442		PAGE <u>42-50</u>	
SKETCH			



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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Rev. 8/07

DESIGNATION C44B3C		PROJECT C44 STORM WATER TREATMENT AREA	
ESTABLISHED BY: BETSY LINDSAY, INC. RECOVERED BY		SURVEYOR: Elizabeth A. Lindsay DATE <u>March 8, 2016</u>	
GEOGRAPHIC POSITION			
SECTION 13	TOWNSHIP 39 S.	RANGE 39 E,	
COUNTY MARTIN	NAME OF QUADRANGLE INDIANTOWN GEOGRAPHIC INDEX OF QUAD 2504		
HORIZONTAL DATUM: 1927 (1983) Other _____ (circle one) ZONE (E) or W			
VERTICAL DATUM: MSL 1929 (1988) Other _____ (circle one)			
CONTROL ACCURACY: HORIZONTAL 1 2 3 <u>N/A</u> (circle one) VERTICAL 1 2 (3)			
STATE PLANE COORDINATE FL. E.	X 853551.20	Y 1001918.00	NAVD 88 ELEV. <u>27.72</u> NGVD 29 ELEV. <u>29.13</u>
C44 DESIGN PLANS CONVERSION FACTOR (NAVD88 TO NGVD29): <u>1.41</u>			
LATITUDE 27.05195951		LONGITUDE 80.2336054	
RECOVERY DESCRIPTION			
Stamping: BL LB6852 TRAV PT			
To Reach: From the intersection of SR 710 (Warfield Blvd) and CR 726 (SW Citrus Blvd) go easterly 4.85 miles to Barb B Ranch Road, a dirt road located hwest of the C44 spillway. Head northerly along the dirt road for 3.39 miles. Thence turn west for 0.57 to the well site. The bench mark is in concrete base of the well.			
Notable Land marks: well structure			
FIELD BOOK C442		PAGE <u>42-50</u>	
SKETCH			



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

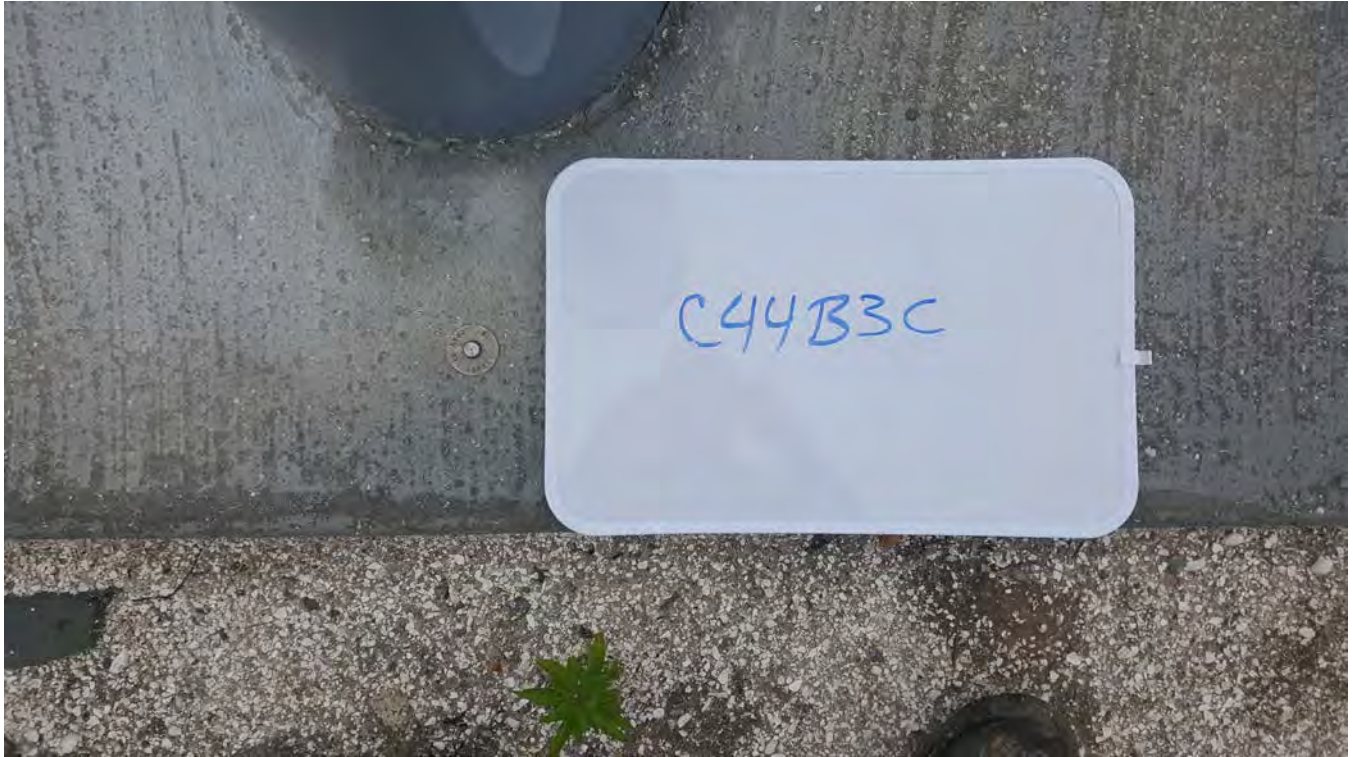
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Rev. 8/07





SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 8/07

DESIGNATION C44B4A		PROJECT C44 STORM WATER TREATMENT AREA	
ESTABLISHED BY: BETSY LINDSAY, INC. RECOVERED BY		SURVEYOR: Elizabeth A. Lindsay DATE <u>March 8, 2016</u>	
GEOGRAPHIC POSITION			
SECTION 13	TOWNSHIP 39 S.	RANGE 39 E,	
COUNTY MARTIN	NAME OF QUADRANGLE INDIANTOWN GEOGRAPHIC INDEX OF QUAD 2504		
HORIZONTAL DATUM: 1927 (1983) Other _____ (circle one) ZONE (E) or W			
VERTICAL DATUM: MSL 1929 (1988) Other _____ (circle one)			
CONTROL ACCURACY: HORIZONTAL 1 2 3 <u>N/A</u> (circle one) VERTICAL 1 2 (3)			
STATE PLANE COORDINATE FL. E.	X 856486.65	Y 999293.07	NAVD 88 ELEV. <u>27.24</u> NGVD 29 ELEV. <u>28.66</u>
C44 plans CONVERSION FACTOR (NAVD88 TO NGVD29): <u>1.42</u>			
LATITUDE 27.08151566		LONGITUDE 80.38436613	
RECOVERY DESCRIPTION			
Stamping: BL LB6852 TRAV PT			
To Reach: From the intersection of SR 710 (Warfield Blvd) and CR 726 (SW Citrus Blvd) go easterly 4.85 miles to Barb B Ranch Road, a dirt road located west of a C44 spillway. Head northerly along the dirt road for 2.89 miles to the well site. The bench mark is in concrete base of the well.			
Notable Land marks: well structure			
FIELD BOOK C442		PAGE <u>42-50</u>	
SKETCH			



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 8/07





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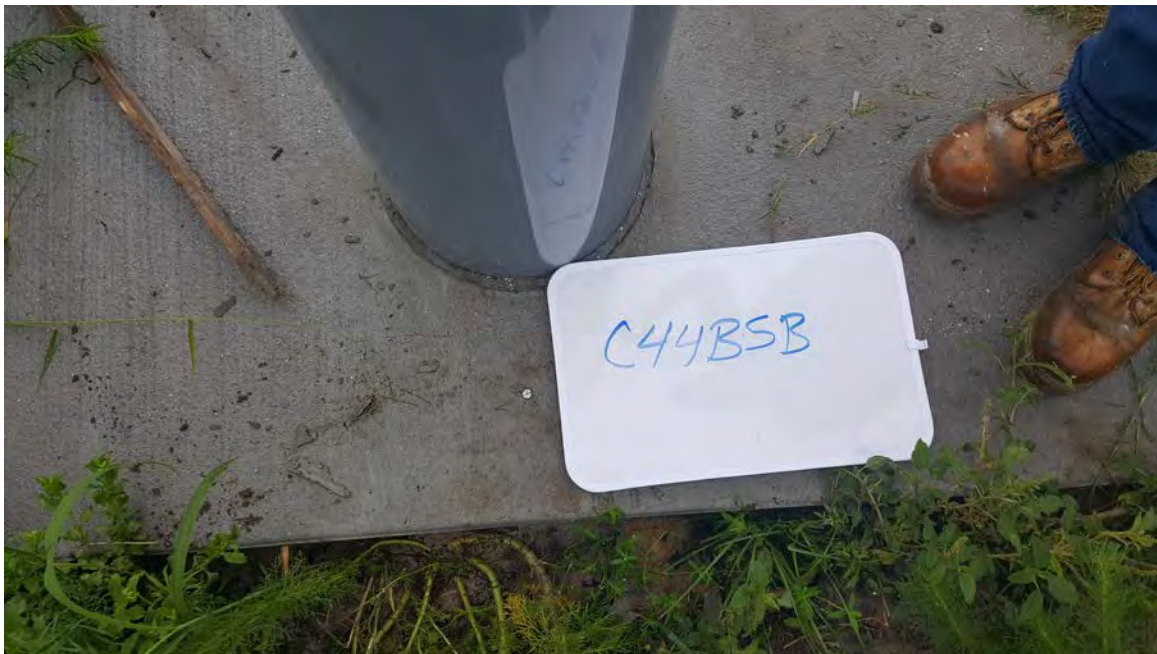
Rev. 8/07

DESIGNATION C44B5B		PROJECT C44 STORM WATER TREATMENT AREA	
ESTABLISHED BY: BETSY LINDSAY, INC. RECOVERED BY		SURVEYOR: Elizabeth A. Lindsay DATE <u>March 8, 2016</u>	
GEOGRAPHIC POSITION			
SECTION 35	TOWNSHIP 39 S.	RANGE 39 E,	
COUNTY MARTIN	NAME OF QUADRANGLE INDIANTOWN GEOGRAPHIC INDEX OF QUAD 2504		
HORIZONTAL DATUM: 1927 (1983) Other _____ (circle one) ZONE (E) or W			
VERTICAL DATUM: MSL 1929 (1988) Other _____ (circle one)			
CONTROL ACCURACY: HORIZONTAL 1 2 3 <u>N/A</u> (circle one) VERTICAL 1 2 (3)			
STATE PLANE COORDINATE FL. E.	X 849102.27	Y 982741.22	NAVD 88 ELEV. <u>24.53</u> NGVD 29 ELEV. <u>25.89</u>
C44 plans CONVERSION FACTOR (NAVD88 TO NGVD29): <u>1.36</u>			
LATITUDE 27.03608218		LONGITUDE 80.40729855	
RECOVERY DESCRIPTION			
Stamping: BL LB6852 TRAV PT			
To Reach: From the intersection of SR 710 (Warfield Blvd) and CR 726 (SW Citrus Blvd) go easterly 3.72 miles to a dirt road located southwest of the C44 spillway. Head northerly along the dirt road for 0.2 miles. Turn westerly for 0.2 mile. Turn southerly for 0.1 mile to well site. The bench mark is in concrete base of the well.			
Notable Land marks: well structure			
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SKETCH			



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C-44

NC	C-44	Well Locates	Bench Kms
ET		Description	
6003		WP10 AB	
Sta		HI	BH
		6.446	28.45
C44RV3		34.265	27.853
BH WP10		7.043	28.45
C44RV3		6.815	28.45
			$\epsilon = \delta$
6004		WP7A AB	
6005		WP7B AB	
6006		WP7C AB	
6007		BH WP7	
6008		CK 113 FO12	HE = 0.068 VE = 0.005
6009		CK 113 FO12	HE = 0.017 VE = 0.01
6010		WPS A AB	
6011		WPS B AB	
6012		BH WPS	
6013		WP9 AB	
6014		BH WP9	
6015		WP3 AB	
6016		WP2 A AB	
6017		WP2 B AB	
6018		WP2 C AB	
6019		WP2 D AB	
6020		BH TP38	
6021		BH TP10	

Sta	Description	WGS84	RTK
6028	BH TP46	SIREC	
6029	BH TP50	SIREC	
6030	WP1A AB		
6031	WP1B AB		
6032	CK 117	$\epsilon = 0.022$	$VE = 0.165$
DATA COLLECTED W/ GPS RTK			
ROOF TOP L-NET			

NO		C-44			
ET	3.9447	41.1347	5.8619	35.2728	BH
ST	5.0065	40.2793	5.8619	35.2728	BH
113	1.2692	32.0329	5.1566	30.7637	
TP1	6.9115	33.8660	5.0764	26.9565	
TP2	3.8451	32.2679	5.4452	28.4229	
TP3	3.8754	32.7757	3.3676	28.9003	
TP4	3.9438	32.8849	3.8346	28.9411	
TP5	6.6959	34.0193	5.5615	27.3234	
TP6	5.1422	34.2001	4.9614	29.0579	
TP7	4.8463	33.7401	5.3063	28.8938	
TP8	3.1752	30.2517	6.6636	27.0765	
TP9	5.1955	33.6264	1.8208	28.4309	
TP10	5.4710	34.0197	4.9977	28.6287	
TP11	5.6778	34.3835	5.3940	28.7057	
TP12	5.7839	34.3288	5.8446	28.5389	
TP13	4.9224	33.9614	5.2838	29.0390	
TP14	6.6596	33.7680	6.8530	27.1084	
TP15	5.3234	33.8320	5.2584	28.5096	
TP16	5.2475	33.7932	5.2873	28.5457	
TP17	5.1785	33.8062	5.1655	28.6277	
TP18	5.4102	34.0422	5.1742	28.6320	
TP19	6.9610	33.9050	7.0982	26.9444	BH
TP20			5.2793	28.6257	
TP21					

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		03-03-16			
	DIST B		DIST F		Point
	239.28				FO12
	211.22		215.28		NAVD88
	141.96		106.76		
	141.28		146.82		
	193.12		301.32		
	157.32		300.06		
	271.88		176.80		6014A
	178.66		398.40		6013A
	191.46		231.92		
	296.64		264.62		
	190.64		339.78		6012A
	203.56		185.04		
	193.08		269.62		
	184.04		197.62		
	214.30		203.26		
	184.80		275.64		
	220.10		234.56		6007A
	218.00		223.54		
	187.88		213.40		
	222.74		215.22		
	290.00		229.32		
	236.40		300.72		6011A
			293.92		

NO	C-44	Bench	Dist	Point
ET	Bench	Dist	Point	
Sta	+	HI	-	BM
TP-21	5.7136	34.3393	28.6257	
TP-22	5.8374	34.4375	28.6001	
TP-23	5.7946	34.3044	28.5098	
TP-24	5.4828	34.0762	28.5934	
TP-25	6.6041	34.1957	27.5916	BM
TP-26	5.5744	34.1956	28.6212	
TP-27	4.9856	33.5721	28.5865	
TP-28	5.2247	33.7799	28.5552	
TP-29	5.3749	33.8771	28.5022	
TP-30	6.1018	33.7824	27.6730	BM
TP-31	5.0766	34.0355	28.9589	
TP-32	4.5167	33.4976	28.9909	
TP-33	4.7498	33.6950	28.9452	
BHWPS	6.1059	33.3449	27.239	BM
TP-34	4.3832	33.3967	29.0135	
TP-35	4.6674	33.624	28.9566	
TP-36	4.7293	33.8065	29.0772	
TP-37	4.4281	33.5173	29.0894	
TP-38	4.6303	32.6244	27.7941	BM
TP-39	4.6454	32.5185	27.8731	
TP-40	3.1566	31.9185	28.7619	
TP-41	3.1543	31.7186	28.5643	
TP-42			27.8980	BM

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03-03-16	DIST B	DIST F	Point
	255.84		
	319.76	293.92	
	267.76	281.54	
	248.88	297.22	
	299.24	233.84	6010A
	268.26	257.02	
	256.00	212.60	
	293.90	244.66	
	202.64	176.20	
	216.70	199.40	6009A
	207.44	250.26	
	293.10	220.84	
	111.68	271.44	
	186.34	130.62	6018A
	238.94	221.32	
	273.88	265.06	
	259.74	283.54	
	278.58	262.58	
	215.36	330.48	6026A
	266.28	275.74	
	242.60	260.28	
	290.56	223.04	
		321.24	6027A

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NC	ET	Bench	HI	Bench	Low	Point	BH
	Sta.	+		-			
	TP-42	4.3365	32.2345		27.8980		
	TP-43	3.4349	31.6169	4.0525	28.1820		
	BHW-4	4.8699	32.5858	3.9010	27.7159		BI
	TP-44	4.4253	32.9571	4.0540	28.5318		
	TP-45	4.3447	32.6251	4.6767	28.2804		
	TP-46	4.3898	33.0525	3.9624	28.6627		BM
	TP-47	4.4891	32.8182	4.7234	28.3291		
	TP-48	4.6648	32.9227	4.5603	28.2579		
	TP-49	4.6393	32.8412	4.6208	28.3019		
	TP-50	4.3207	32.9307	4.2312	28.6100		BH
	TP-51	4.3115	32.6836	4.5586	28.3721		
	TP-52	4.6785	32.9658	4.3963	28.2823		
	CP-170B			6.2029	26.7629		26.78
							-0.0171

DIST B	DIST F	Point
288.26		6027A
201.38	239.76	
158.68	150.82	6020A
242.06	246.34	
167.42	290.34	
244.96	152.92	6028A
272.54	250.40	
257.64	286.88	
318.46	233.62	
329.14	269.48	6029A
292.18	306.98	
72.62	208.10	
	84.42	

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