



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

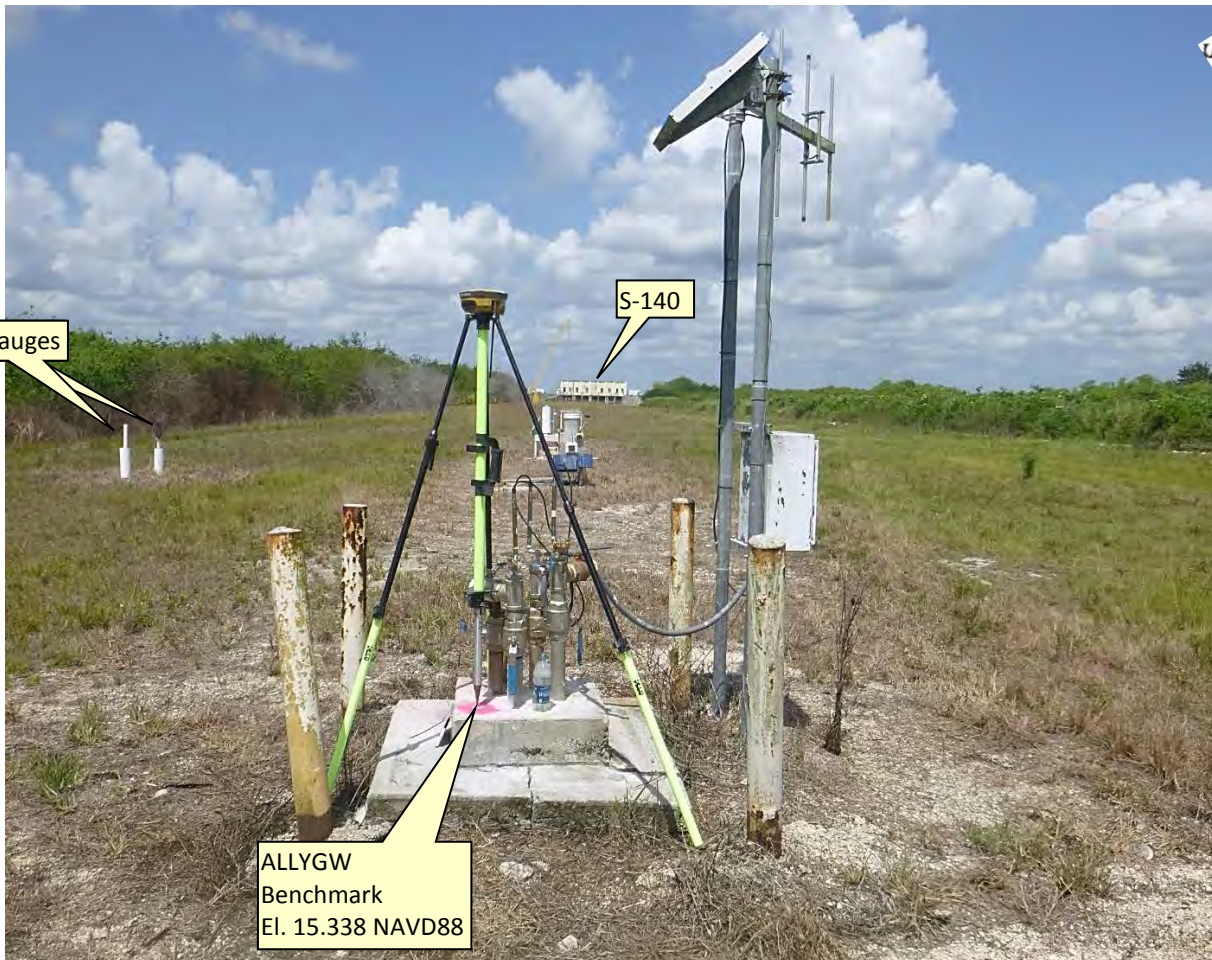
Rev. 1/16

DB Hydro Station names: G-2617 (GW3) G-2618 (GW2) G-2619 (GW1)		DB Hydro Site Name: ALLYGW	Date of Field Work: 04-may-17
Party Chief: Hudson		Field Book: MISC 7C	Page(s) 29-31
Site Benchmark: ALLYGW		Benchmark Elevation (NAVD88) 15.338	Corpscon 6.0.1 Conversion Factor (NAVD88 to NGVD29) +1.453
Reference Elevation(s) (NAVD88): El. 17.24 G-2617 (GW3) El. 17.22 G-2618 (GW2) El. 17.43 G-2619 (GW1)		Existing Tag Elevation (Datum): G-2617 (GW3): None G-2618 (GW2): None G-2619 (GW1): None	Calibration Port Elevation(s) (NAVD88): El. 17.25 G-2617 (GW3) El. 17.22 G-2618 (GW2) El. 17.44 G-2619 (GW1)
Ground Elevation (NAVD88): El. 14.2 NW corner El. 14.1 NE corner El. 14.2 SE corner El. 14.2 SW corner		Lower Pad Elevation (NAVD88): El. 14.7 NW corner El. 14.6 NE corner (damaged) El. 14.7 SE corner El. 14.7 SW corner Upper Pad Elevation (NAVD88) El. 15.31	
Latitude: 26°10'17.04"		Longitude: 80°49'19.34"	

Notes:
NAVD88 – North American Vertical Datum of 1988
NGVD29- National Geodetic Vertical Datum of 1929
Corpscon 6.0.1 - A U.S. Army Corps of Engineers Engineering Research and Development Center Topographic Engineering Center Alexandria, Virginia Windows-based program to convert coordinates and elevations between datum's using vertcon05.txt and vertcon05.05 files supplied by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville Fl.

PICTURES

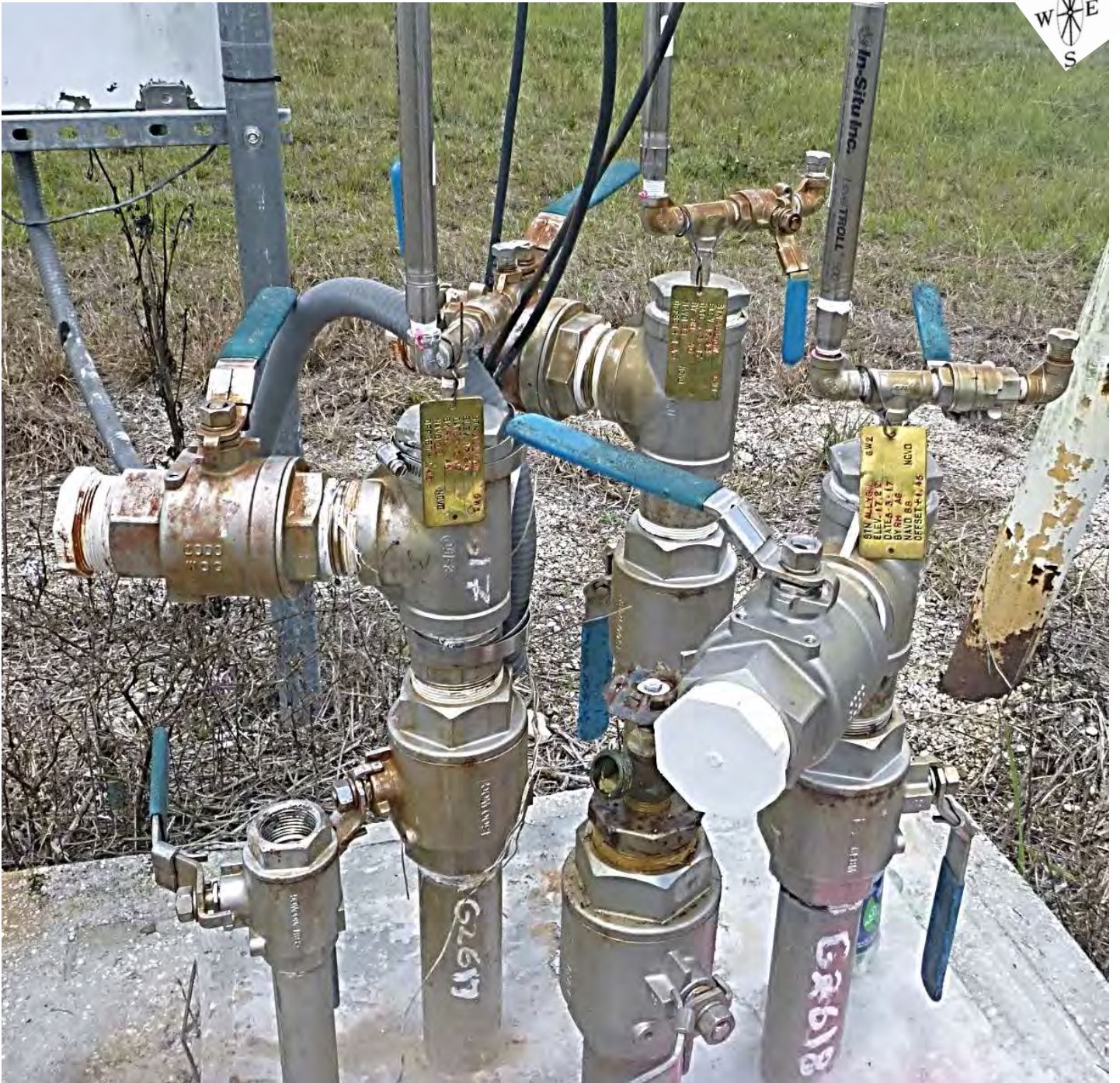
Overall Site



Looking Westerly (04-may-17) (Not to scale)



Well Cluster Close-up

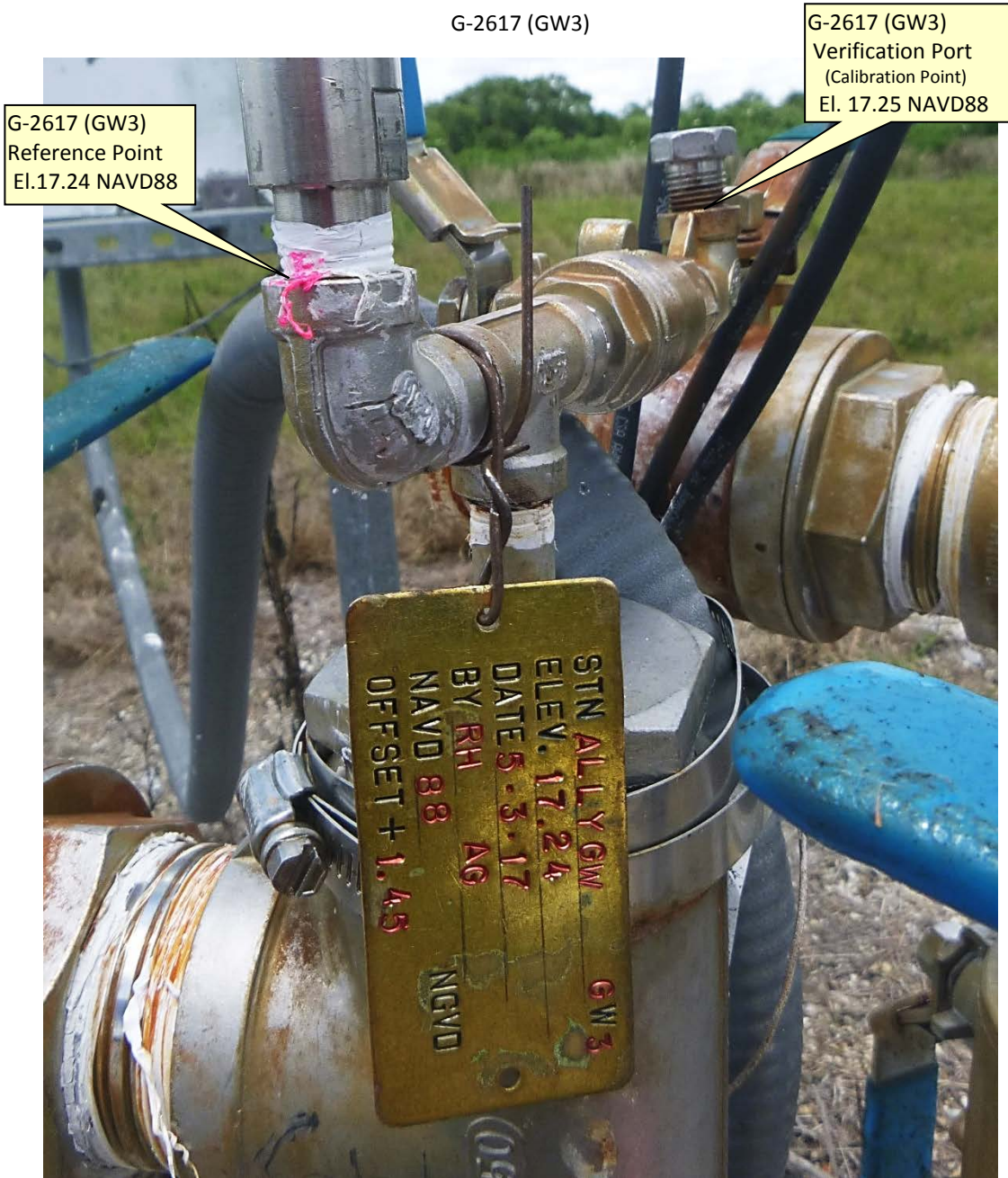


Looking Northerly (04-may-17) (Not to scale)



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Looking Northerly (04-may-17) (Not to scale)

Brass Tag Close-up





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G-2618- (GW 2)

G-2618 (GW2)
Reference Point
El. 17.22 NAVD88

G-2618 (GW2)
Verification Port
(Calibration Point)
El. 17.22 NAVD88



Looking Northerly (04-may-17) (Not to scale)

Brass Tag Close-up





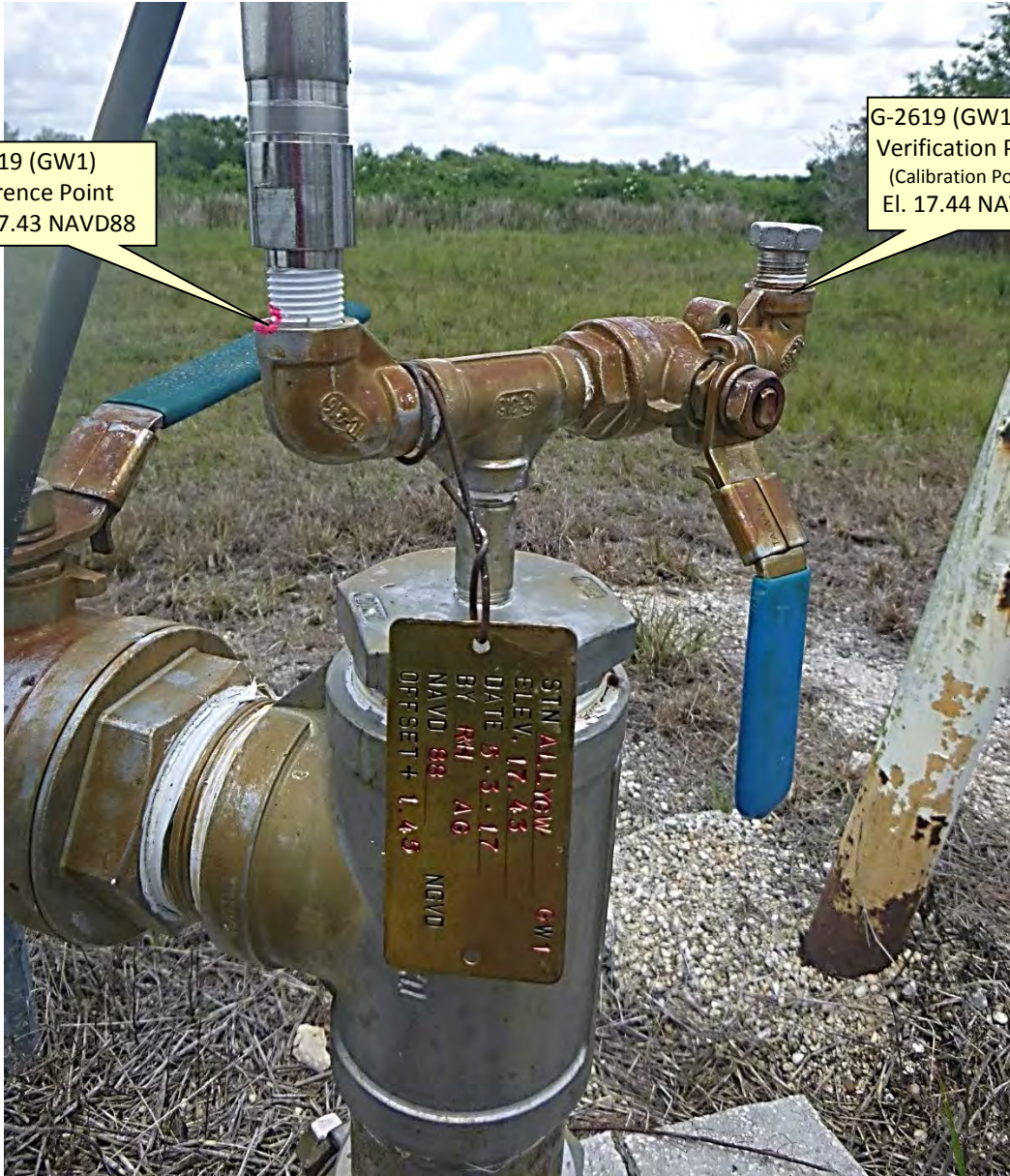
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G-2619- (GW 1)

G-2619 (GW1)
Reference Point
El. 17.43 NAVD88

G-2619 (GW1)
Verification Port
(Calibration Point)
El. 17.44 NAVD88



Looking Northerly (04-may-17) (Not to scale)

Brass Tag Close-up





New Site Benchmark



Benchmark ALLYGW
El. 15.338 NAVD88



Looking Westerly (04-may-17)(Not to scale)

Old Damaged Survey Disk at Site (NOT USED)





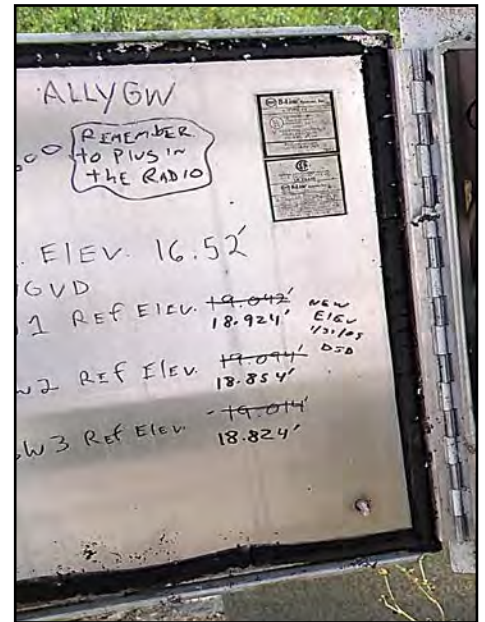
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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RTU Inside Cover (Informational purposes only)



Well Diagram (31-jan-17)



Inside Cover (01-jan-02)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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DESIGNATION: ALLYGW		PROJECT: ALLYGW Well Site	
ESTABLISHED BY: SOUTH FLORIDA WATER MANAGEMENT DISTRICT		SURVEYOR: Hudson	
RECOVERED BY:		DATE: 04-may-17	
GEOGRAPHIC POSITION			
SECTION 3	TOWNSHIP 50 SOUTH	RANGE 35 EAST	
COUNTY Broward	NAME OF QUADRANGLE Lone Palm Head GEOGRAPHIC INDEX OF QUAD: 1807		
HORIZONTAL DATUM: 1927 (1983) Other ____ (circle one) ZONE (E) or W			
VERTICAL DATUM: MSL 1929 (1988) Other ____ (circle one)			
VERTICAL ACCURACY: 1 2 (3)			
STATE PLANE COORDINATE	(N) Y= 668027.15	(E) X= 714532.88	NAVD 88 EL. 15.34 NGVD 29 EL.
CORPSCON 6.0.1 CONVERSION FACTOR (NAVD88 TO NGVD29): +1.453			
LATITUDE: 26°10'17.0361"		LONGITUDE: 80°49'19.3415"	
RECOVERY DATA			
Stamping: ALLYGW 2017			
To Reach: From the intersection of Interstate Highway 75 (Alligator Alley) and United States Highway 27 near Andytown, go west on Interstate Highway 75 for 24 miles to the an off ramp on the right to South Florida Water Management District's (SFWMD's) Levee 28 and Structure 140; turn right and go north on the Levee access road for 0.3 of a mile to a paved road on the right; turn right, east, and go northeast for 210 feet to a road to the right; turn right, and go easterly, northeasterly and easterly 1800 feet along the south side of SFWMD's Canal 60 to the ALLYGW well site and station location. The station is a SFWMD 2-inch aluminum disk grouted into the southeast corner of the top concrete well base, stamped "ALLYGW 2017."			
NOTABLE LAND MARKS:			
NGS SOURCE BENCHMARK: FCE 3119 (AD7259) El. 25.94 NAVD88			
FIELD BOOK MISC 7C PAGES 29-31			

PICTURES

Overall Site



Looking Northerly (04-may-17) (Not to scale)



Benchmark
ALLYGW
El. 15.34 NAVD88





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Field Notes

(27) MISC FB 7-C 5/3/17

SEC.	3	TOP	50	P.A.E.	35
ALLOW					
ESTABLISH REF ELEV & GW 1, 2, 3 FOR PAD.					
REF	1. NOT LIST PROVIDED BY OFFICE 2. OLD WELLS REPORT W/ PHOTOS 3. BUN TRAIL SHEETS				
LEVELS FOR BUN LADDER, THROUGH FEB 31.9, TO TBM & GROUND LEVEL.					
FILE	ALLOW				
LINE	1				
Point No.	ELEV	BUN			
1		27.11 [NOV 29]			
2	27.425				
5	13.355				
RETURN LEVELS					
8	27.423				
9	27.11	27.11			
LEVELS CONT'D Pg 30					

(27) MISC FB 7-C 5/3/17

COMMENTS

BUN LADDER FOR DATA.
NOTE: WADLERANTLY USED WOOD 2" DIA FOR THE BUN THE DIA IS 1.45" TO BE & WHICH BE APPLIED TO TBM OF LINE #2 TO WELLS.

FEB 31.9

"BUN" TOP OF 4" DIA PIPE FOUND 1.45" & COURSE TO 200' S.E. OF 50' COG OF 4" DIA 50' SOUTH LEG

FEB 31.9

LADDER ABOVE; ERROR 0.00'

(30) MISC FB 7-C 5/4/17

ALLOW CONT'D Pg 29

LEVELS CONT'D FOR TBM; EAST TO NEW SIDE BUN

LINE # 2					
Point No.	ELEV	BUN			
20		12.37 [20]			
23	15.337				
RETURN LEVELS					
20	12.343	12.37			
ESTAB REF ELEV'S					
STA	+	ME	-	GW	15.34 [20]
GW 1	3.34	17.13		1.75	17.43
"				1.74	17.44
GW 2				1.74	17.22
"				1.94	17.22
GW 3				1.74	17.24
"				1.73	17.25
WOOD PAD				4.50	14.43
"				4.60	14.53
"				4.42	14.70
"				4.53	14.65
GRID				5.0	14.2
"				5.1	14.1
"				5.0	14.2
"				5.0	14.2
PAVED PAD				3.87	15.31
BUN				3.34	15.34
CONT'D Pg 31					

(30) MISC FB 7-C 5/4/17

EQUIP. DIT LEVEL - BAR CODE ROD
ZASS NIZ - ROD

T. W. HUDSON
& GIAMPAOLO

COMMENTS

AD) 20' TBM OF TBM (Pg 29)

"BUN ALLOW 2017 SET" A SEWARD FROM CAP BROOD UP TO THE SE CORN OF THE CENTER, RAISED, GOLF BASE OF WELLS. THE LADDER BASE IS UNSTABLE & OLD BUN IS NOT USABLE.

TBM POINTS ERROR 0.002'

BUN ALLOW ABOVE

North; OVERHEAD

OLD BUN DESTROYED DUE TO BROKEN PAD

PAVED PAD

WOOD PAD

WATER SOURCE

NEW PAD

NEW " "

S.E. " "

S.W. " "

NEW " "

N.E. " "

S.E. " "

S.W. " "

Dist for BUN to WELL #

1. GW 1 = 1.25'

2. GW 2 = 0.70'

3. GW 3 = 1.30'

CENTER OF 2' x 2' PAVED PAD HOUSING WELLS

BUN ALLOW



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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(31)

MISC FB 7-C 5/4/17
COND FB 2 3a

GPS STATIC SUCCESSION TO ESTAB HORZ CONTROL
FOR BM ALIGNW

WPB UNIT # 5410 e BM ALIGNW
START 1049
END 1322
DWT 1.5 M

PHOTOS

- 1-2 Well Location North
- 3 " " West
- 4 " " South
- 5 Old Disposed BM
- 6 New BM
- 7 Cross-UP of 1+2 Looking SW
- 8 " " 1,2,3 " NE4
- 9-10 FEG 3110
- 11-13 LADDER
- 14-16 BM
- 17-20 Cross-UP Wells/Ties Looking North

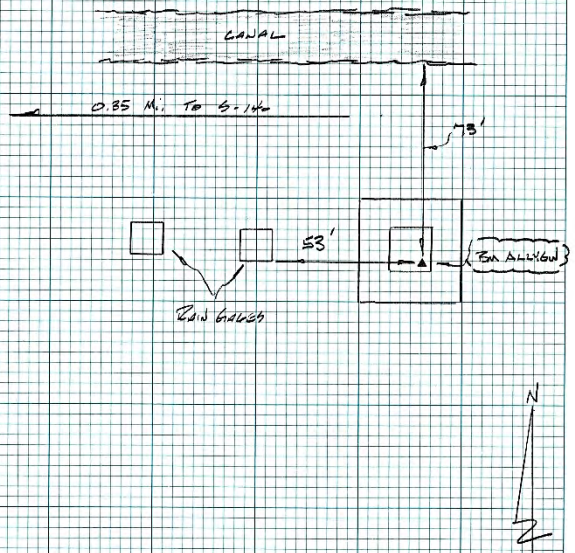
END Surfaj

MISC FB 7-C 5/4/17

(31)

N. HUBBEN
T. GIAMBRICO

EQUR Tapped HASEV



The NGS Data Sheet

See file [dsdata.pdf](#) for more information about the datasheet.

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PROGRAM = datasheet95, VERSION = 8.12.1
1      National Geodetic Survey,  Retrieval Date = MAY  9, 2017
AD7259 *****
AD7259 DESIGNATION -   FCE 3119
AD7259 PID          -   AD7259
AD7259 STATE/COUNTY-  FL/BROWARD
AD7259 COUNTRY      -   US
AD7259 USGS QUAD    -   LONE PALM HEAD (1973)
AD7259
AD7259                      *CURRENT SURVEY CONTROL
AD7259
AD7259* NAD 83(1990) POSITION- 26 10 17.40073(N) 080 49 38.61805(W)  ADJUSTED
AD7259* NAVD 88 ORTHO HEIGHT -    7.905 (meters)          25.94 (feet) ADJUSTED
AD7259
AD7259 GEOID HEIGHT   -          -24.677 (meters)                GEOID12B
AD7259 LAPLACE CORR   -           0.58 (seconds)                DEFLEC12B
AD7259 DYNAMIC HEIGHT -           7.892 (meters)          25.89 (feet) COMP
AD7259 MODELED GRAVITY -    979,044.6 (mgal)                    NAVD 88
AD7259
AD7259 HORZ ORDER    -   SECOND
AD7259 VERT ORDER    -   FIRST      CLASS II
AD7259
AD7259.The horizontal coordinates were established by classical geodetic methods
AD7259.and adjusted by the National Geodetic Survey in May 1991.
AD7259.
AD7259.The orthometric height was determined by differential leveling and
AD7259.adjusted by the NATIONAL GEODETIC SURVEY
AD7259.in May 2003.
AD7259
AD7259.WARNING-Repeat measurements at this control monument indicate possible
AD7259.vertical movement.
AD7259
AD7259.Significant digits in the geoid height do not necessarily reflect accuracy.
AD7259.GEOID12B height accuracy estimate available here.
AD7259
AD7259.The Laplace correction was computed from DEFLEC12B derived deflections.
AD7259
AD7259.The dynamic height is computed by dividing the NAVD 88
AD7259.geopotential number by the normal gravity value computed on the
AD7259.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AD7259.degrees latitude (g = 980.6199 gals.).
AD7259
AD7259.The modeled gravity was interpolated from observed gravity values.
AD7259
AD7259. The following values were computed from the NAD 83(1990) position.
AD7259
AD7259;
AD7259;          North          East          Units Scale Factor Converg.
AD7259;SPC FL E   -   203,625.581  217,254.760  MT  0.99994485  +0 04 34.1
AD7259;SPC FL E   -   668,061.59   712,776.66   sFT 0.99994485  +0 04 34.1
AD7259;UTM  17    -   2,894,688.087  517,248.873  MT  0.99960367   +0 04 34.1
AD7259

```


AD7259! - Elev Factor x Scale Factor = Combined Factor
AD7259!SPC FL E - 1.00000264 x 0.99994485 = 0.99994748
AD7259!UTM 17 - 1.00000264 x 0.99960367 = 0.99960630
AD7259
AD7259_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ1724894688(NAD 83)
AD7259
AD7259 SUPERSEDED SURVEY CONTROL
AD7259
AD7259 NAD 83(1986)- 26 10 17.40123(N) 080 49 38.62483(W) AD() 2
AD7259 NAD 27 - 26 10 16.09160(N) 080 49 39.39644(W) AD() 2
AD7259 NAVD 88 (12/11/01) 7.901 (m) 25.92 (f) SUPERSEDED 2 2
AD7259 NGVD 29 8.42 (m) 27.6 (f) LEVELING 3
AD7259
AD7259.Superseded values are not recommended for survey control.
AD7259
AD7259.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AD7259.See file [dsdata.pdf](#) to determine how the superseded data were derived.
AD7259
AD7259_MARKER: DD = SURVEY DISK
AD7259_SETTING: 35 = SET IN A MAT FOUNDATION OR CONCRETE SLAB OTHER THAN
AD7259+WITH SETTING: PAVEMENT
AD7259_SP_SET: WATER CONTROL STRUCTURE
AD7259_STAMPING: FCE 3119 1969 JACKSONVILLE FLA.
AD7259_MARK LOGO: USE
AD7259_MAGNETIC: N = NO MAGNETIC MATERIAL
AD7259_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AD7259+STABILITY: SURFACE MOTION
AD7259_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AD7259+SATELLITE: SATELLITE OBSERVATIONS - May 26, 2010
AD7259
AD7259 HISTORY - Date Condition Report By
AD7259 HISTORY - 1971 MONUMENTED USE
AD7259 HISTORY - 19950511 GOOD FLDT
AD7259 HISTORY - 20001017 GOOD FLDEP
AD7259 HISTORY - 20100526 GOOD WOOLPT
AD7259
AD7259 STATION DESCRIPTION
AD7259
AD7259'DESCRIBED BY US ENGINEERS 1971 (NCA)
AD7259'(THE MARK WAS USED AS REFERENCE MARK TO TRIANGULATION STATION
AD7259'LADDER).
AD7259'
AD7259'THE DISK IS STAMPED FCE 3119 1969.
AD7259'
AD7259'A TRAVERSE MEASUREMENT WAS MADE TO STATION LADDER. THE
AD7259'MEASUREMENT BEING (174.67 FT.) OR 53.2405 METERS.
AD7259'
AD7259'FOR THE TO REACH AND THE DESCRIPTION OF THE STATION, REFER TO
AD7259'THE DESCRIPTION OF STATION LADDER.
AD7259
AD7259 STATION RECOVERY (1995)
AD7259
AD7259'RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 1995 (CDM)
AD7259'RECOVERED AS DESCRIBED.
AD7259
AD7259 STATION RECOVERY (2000)
AD7259
AD7259'RECOVERY NOTE BY FL DEPT OF ENV PRO 2000 (JLM)
AD7259'THE MARK IS ABOUT 27.5 MI (44.3 KM) WEST OF ANDYTOWN, 2.5 MI (4.0 KM)
AD7259'WEST OF SNAKE ROAD (I-75 EXIT 14) , AT STRUCTURE 140, ESTIMATED

AD7259'SECTION 3, TOWNSHIP 50 SOUTH, RANGE 35 EAST. TO REACH THE MARK FROM
AD7259'THE JUNCTION OF SNAKE ROAD AND INTERSTATE HIGHWAY 75 (EXIT 14) NEAR
AD7259'ANDYTOWN, GO EAST ON INTERSTATE HIGHWAY 75 FOR 1.8 MI (2.9 KM) TO THE
AD7259'EAST END OF THE BRIDGE OVER CANAL L-28, CONTINUE EAST ON INTERSTATE
AD7259'HIGHWAY 75 FOR 0.1 MI (0.2 KM) TO THE JUNCTION OF A PAVED ROAD ON THE
AD7259'RIGHT, TURN RIGHT ON THE PAVED ROAD AND GO SOUTH THEN WEST THEN NORTH
AD7259'PASSING UNDER INTERSTATE HIGHWAY 75 FOR 0.2 MI (0.3 KM) TO A METAL
AD7259'GATE, CONTINUE NORTH ON LEVEE ROAD 28 FOR 0.2 MI (0.3 KM) TO A LOCKED
AD7259'GATE, CONTINUE NORTH ON LEVEE ROAD 28 FOR 0.1 MI (0.2 KM) TO THE
AD7259'JUNCTION OF A PAVED ENTRANCE TO STRUCTURE NUMBER 140 ON THE RIGHT,
AD7259'TURN RIGHT ON THE ENTRANCE ROAD AND GO NORTHEASTERLY FOR ABOUT 100.0
AD7259'FT (30.5 M) TO THE SOUTH END OF STRUCTURE NUMBER S-140 AND THE MARK ON
AD7259'THE RIGHT, SET FLUSH IN THE TOP OF THE SOUTHEAST CORNER OF STRUCTURE
AD7259'NUMBER 140 FLUSH WITH THE GROUND AND LEVEL WITH THE LEVEL ROAD.
AD7259'LOCATED 147.7 FT (45.0 M) SOUTH-SOUTHEAST OF REFERENCE DISK LADDER RM
AD7259'1, 15.2 FT (4.6 M) EAST OF THE SOUTHEAST CORNER OF THE BUILDING AND
AD7259'6.0 FT (1.8 M) WEST OF A CHAINLINK FENCE CORNER. NOTE FOR KEY CONTACT
AD7259'SOUTH FLORIDA WATER MANAGEMENT, REGIONAL DIRECTOR, CLEWISTON FIELD
AD7259'STATION, PHONE NUMBER 813-983-1431 AND MICCOSUKEE ADMINISTRATION
AD7259'OFFICE COMPLEX, PHONE NUMBER 305-223-8380.

AD7259

AD7259

STATION RECOVERY (2010)

AD7259

AD7259'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2010 (JAC)

AD7259'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:02

SEC. 3 TWP. 50 RGE. 35
 ALLYGW

ESTABLISH REF. ELEV. @ GW 1, 2, 3 PER REG.

- REFS
1. INST. LIST PROVIDED BY OFFICE
 2. OLD WELL REPORT w/ PHOTOS
 3. BWR DESL SHEETS

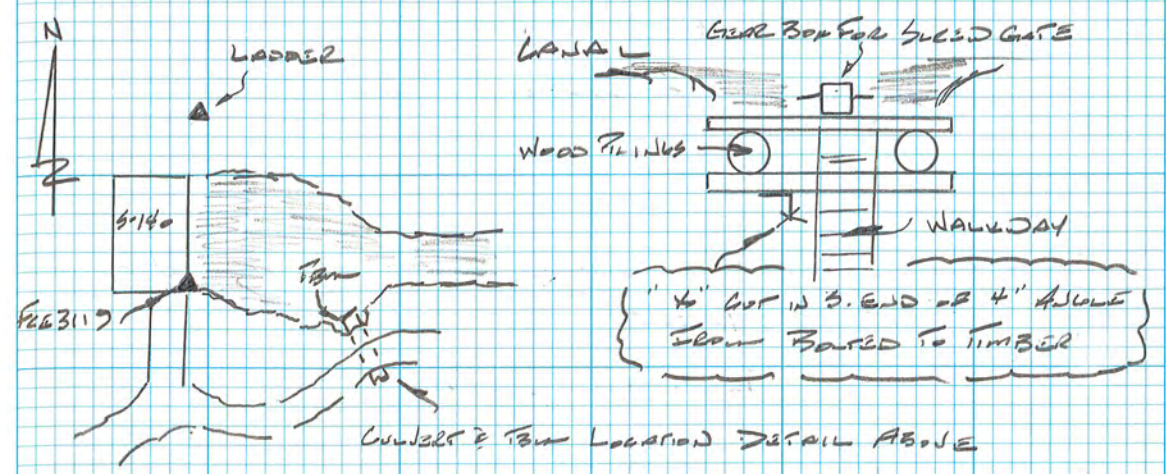
LEVELS FOR BWR LADDER, THROUGH FLE 3119, TO TBW @ GROUND LEVEL.

FILE ALLYGW

LINE 1

POINT No.	ELEV	BWR
1		27.11 [NGVD 29]
2	27.425	
5	13.855	
RETURN LEVELS		
8	27.423	
9	27.11	27.11

LEVELS CONT'D PG 30



CONVERT TBW LOCATION DETAIL ABOVE

COMMENTS

BWR LADDER PER DESL.
 NOTE: INADVERTENTLY USED NGVD 29 FOR THIS RUN. THE O/S IS 1.45' TO 88 & WILL BE APPLIED TO TBW ON LINE #2 TO WELL.

FLE 3119

"TBW" TOP OF 4" ANGLE IRON DRIVEN 1/2 FT @ CORNER +/- 200' S.E. OF 50 COR OF 4-140 SEE SKETCH ABOVE

FLE 3119

LADDER ABOVE; ERROR 0.00'

ALIGNW COND FC PG 29

LEVELS COND FC TAB; EAST TO NEW SITE BUN

LINE # 2	POINT No.	ELEV	Bun
	20		12.37 [88]
	23	15.337	
		RETURN LEVELS	
	26	12.368	12.37

STA	+	ESTAB REF ELEV'S	ELEV
		HC	15.34 [88]
	3.84	17.18	
GW1		1.75	17.43
"		1.74	17.44
GW2		1.76	17.22
"		1.76	17.22
GW3		1.94	17.24
"		1.93	17.25
LOWER PAD		4.50	14.68
"		4.60	14.58
"		4.48	14.70
"		4.53	14.65
GRD		5.0	14.2
"		5.1	14.1
"		5.0	14.2
"		5.0	14.2
RAISED PAD		3.87	15.31
Bun		3.84	15.34

CONTD PG 31

ERDIF.

DINI LEVEL - BAR CODE ROD
ZEISS N12 - ROD

T M HUDSON
G BIANNAPELO

Comments

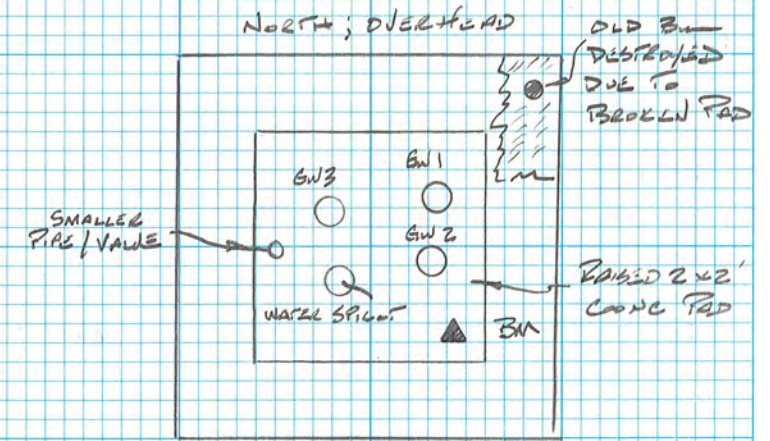
ADJ TO ELEV ON TAB (Pg. 29)

"Bun ALIGNW 2017 SET" A SPWMD ALLOW CAP
GRADED INTO THE SE COR OF THE CENTER, RAISED,
CONC BASE OF WELL. THE LOWER BASE IS UNSTABLE
& OLD Bun IS NOT USEABLE.

TAB ABOVE ERROR 0.002'

Bun ALIGNW ABOVE

- REF PT.
- VER PT
- REF PT
- VER PT
- REF PT
- VER PT
- N.W. COR
- N.E. "
- S.E. "
- S.W. "



* DIST FR Bun TO WELL *

- 1. GW1 = 1.25'
- 2. GW2 = 0.70'
- 3. GW3 = 1.30'

CENTER OF 2'x2' RAISED PAD HOUSING WELLS

Bun ALIGNW

GPS STATIC SELECTION TO ESTAB HORZ CONTROL FOR BM ALLYGW

WPB UNIT # 5410 @ BM ALLYGW

START 1049

END 1322

ANT HT 1.5 M

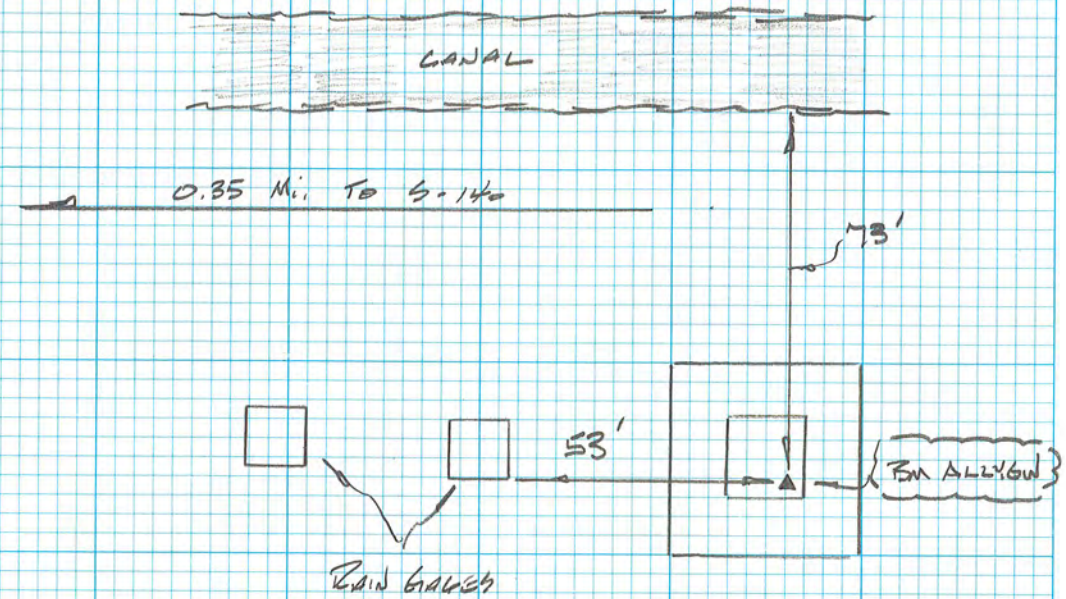
PHOTOS

- 1-2 WELL Looking North
- 3 " " West
- 4 " " South
- 5 OLD DESTROYED BM
- 6 New BM
- 7 CLOSE-UP GW 1 & 2 Looking SW
- 8 " " " 1, 2, 3 " NE4
- 9-10 FUG 3119
- 11-13 LADDER
- 14-16 BM
- 17-20 CLOSE-UP WELLS/TAPS Looking North

END Survey

AD HUDSON
J & GIAMMARCO

Equip Topcon H.P.S.E ✓



Project Information		Coordinate System	
Name:		Name:	Default
Size:		Datum:	WGS 1984
Modified:	2/15/2012 8:48:57 AM (UTC:-7)	Zone:	Default
Time zone:	Mountain Standard Time	Geoid:	
Reference number:		Vertical datum:	
Description:			

Level Report

Imported file: [ALLYGW.DAT](#)
Instrument: DiNi
Standard error per kilometer of double leveling: 0.00230 ft
Standard error per turn/station setup: 0.00000 ft
Creation option: Delta elevations
Description usage: Feature codes

Run - 1 Raw Observations

Raw Misclosure: ?
Σ BS Distances: 581.000 ft
Σ FS Distances: 576.640 ft
Run Length: 1157.640 ft
Reduction: Adjusted Values

Create	Point ID	BS	IS	FS	Δ Elevation	Raw Elevation	Correction	Adj. Elevation	Type	Distance	Description
<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/> 5.33300 ft			0.00000 ft	25.625 ft	0.00000 ft	25.625 ft	Computed	64.830 ft	LADDE 3
<input type="checkbox"/>	2			<input checked="" type="checkbox"/> 5.01800 ft	0.31500 ft	25.940 ft	0.00000 ft	25.940 ft ?	Benchmark	109.810 ft	FCE 3
	2	<input checked="" type="checkbox"/> 5.50300 ft								95.700 ft	FCE 3
<input type="checkbox"/>	3			<input checked="" type="checkbox"/> 7.27300 ft	-1.77000 ft	24.170 ft	0.00114 ft	24.171 ft	Computed	130.250 ft	3
	3	<input checked="" type="checkbox"/> 0.95700 ft								47.440 ft	3
<input type="checkbox"/>	4			<input checked="" type="checkbox"/> 7.94500 ft	-6.98800 ft	17.182 ft	0.00132 ft	17.183 ft	Computed	41.010 ft	3
	4	<input checked="" type="checkbox"/> 2.25200 ft								42.290 ft	3
<input type="checkbox"/>	5			<input checked="" type="checkbox"/> 7.06500 ft	-4.81300 ft	12.369 ft	0.00149 ft	12.370 ft	Computed	46.850 ft	TBM 3
	5	<input checked="" type="checkbox"/> 7.02900 ft								46.820 ft	TBM 3
<input type="checkbox"/>	6			<input checked="" type="checkbox"/> 2.21600 ft	4.81300 ft	17.182 ft	0.00167 ft	17.184 ft	Computed	42.320 ft	3
		<input checked="" type="checkbox"/> 7.87600									

	6	ft								40.880 ft	3
<input type="checkbox"/>	7		<input checked="" type="checkbox"/> 0.82500 ft	7.05100 ft	24.233 ft	0.00185 ft	24.235 ft	Computed		47.900 ft	3
	7	<input checked="" type="checkbox"/> 7.18600 ft								132.870 ft	3
<input type="checkbox"/>	8		<input checked="" type="checkbox"/> 5.48200 ft	1.70400 ft	25.937 ft	0.00300 ft	25.940 ft ?	Benchmark		94.030 ft	FCE 3
	8	<input checked="" type="checkbox"/> 4.98900 ft								110.170 ft	FCE 3
<input checked="" type="checkbox"/>	9		<input checked="" type="checkbox"/> 5.30300 ft	-0.31400 ft	25.623 ft	0.00300 ft	25.626 ft	Computed		64.470 ft	LADD 3

Run - 1 (N1) Reduced Observations

Observation	Status	Raw Δ Elevation	Correction	Final Δ Elevation	Setups	Length	Σ BS Readings	Σ FS Readings	Std. Error
1-9 (E1)	Enabled	-0.00200 ft	0.00300 ft	0.00100 ft	8	1157.640 ft	41.12500 ft	41.12700 ft	0.01152 ft

Run - 2 Raw Observations

Raw Misclosure: -0.00300 ft
 Σ BS Distances: 1564.340 ft
 Σ FS Distances: 1566.950 ft
 Run Length: 3131.290 ft
 Reduction: Adjusted Values

Create	Point ID	BS	IS	FS	Δ Elevation	Raw Elevation	Correction	Adj. Elevation	Type	Distance	Description
<input checked="" type="checkbox"/>	20	<input checked="" type="checkbox"/> 6.88000 ft			0.00000 ft	12.370 ft	0.00000 ft	12.370 ft ▲	Benchmark	253.740 ft	TBM 3
<input type="checkbox"/>	21			<input checked="" type="checkbox"/> 4.81000 ft	2.07000 ft	14.440 ft	0.00047 ft	14.440 ft	Computed	253.280 ft	3
	21	<input checked="" type="checkbox"/> 3.58300 ft								249.870 ft	3
<input type="checkbox"/>	22			<input checked="" type="checkbox"/> 4.10600 ft	-0.52300 ft	13.917 ft	0.00094 ft	13.918 ft	Computed	255.810 ft	3
	22	<input checked="" type="checkbox"/> 5.18500 ft								273.420 ft	3
<input type="checkbox"/>	23			<input checked="" type="checkbox"/> 3.76600 ft	1.41900 ft	15.336 ft	0.00150 ft	15.338 ft	Computed	280.540 ft	ALLY 3
	23	<input checked="" type="checkbox"/> 3.80500 ft								279.400 ft	ALLY 3
<input type="checkbox"/>	24			<input checked="" type="checkbox"/> 5.22400 ft	-1.41900 ft	13.917 ft	0.00206 ft	13.919 ft	Computed	273.650 ft	3
	24	<input checked="" type="checkbox"/> 4.61200 ft								254.760 ft	3
<input type="checkbox"/>	25			<input checked="" type="checkbox"/> 4.10600 ft	0.50600 ft	14.423 ft	0.00253 ft	14.426 ft	Computed	250.030 ft	3
		<input checked="" type="checkbox"/> 5.05700								253.150	

	25	ft							ft	3
<input checked="" type="checkbox"/>	26		<input checked="" type="checkbox"/> 7.11300 ft	-2.05600 ft	12.367 ft	0.00300 ft	12.370 ft ▲	Benchmark	253.640 ft	TBM 3

Run - 2 (N2) Reduced Observations

Observation	Status	Raw Δ Elevation	Correction	Final Δ Elevation	Setups	Length	Σ BS Readings	Σ FS Readings	Std. Error
20-26 (E2)	Enabled	-0.00300 ft	0.00300 ft	0.00000 ft	6	3131.290 ft	29.12200 ft	29.12500 ft	0.03338 ft

Run - 2 (N2) Reduced Coordinates

Point ID	Status	Elevation
20	Enabled	12.37000 ft
26	Enabled	12.37000 ft

Date: 5/4/2017 4:20:33 PM	Project:	Trimble Business Center
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From: opus
To: Ehmke, Howard
Subject: OPUS solution : log0504o.tps OP1494356346119
Date: Tuesday, May 09, 2017 2:59:54 PM

FILE: log0504o.tps OP1494356346119

1009 WARNING! No antenna type was selected. No antenna offsets or
1009 pattern will be applied. Coordinates with reduced accuracy
1009 will be returned for the antenna phase center.
1009

NGS OPUS SOLUTION REPORT

=====

All computed coordinate accuracies are listed as peak-to-peak values.
For additional information: <https://www.ngs.noaa.gov/OPUS/about.jsp#accuracy>

USER: hehmke@sfwmd.gov DATE: May 09, 2017
RINEX FILE: log0124o.17o TIME: 18:59:36 UTC

SOFTWARE: page5 1209.04 master97.pl 160321 START: 2017/05/04 14:49:00
EPHEMERIS: igr19474.eph [rapid] STOP: 2017/05/04 17:22:00
NAV FILE: brdc1240.17n OBS USED: 6136 / 6608 : 93%
ANT NAME: NONE NONE # FIXED AMB: 46 / 49 : 94%
ARP HEIGHT: 1.5 OVERALL RMS: 0.019(m)

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2017.3388)

X: 913617.181(m) 0.008(m) 913616.392(m) 0.008(m)
Y: -5654623.723(m) 0.044(m) -5654622.129(m) 0.044(m)
Z: 2796108.013(m) 0.030(m) 2796107.839(m) 0.030(m)

LAT: 26 10 17.03611 0.007(m) 26 10 17.05539 0.007(m)
E LON: 279 10 40.65854 0.012(m) 279 10 40.63965 0.012(m)
W LON: 80 49 19.34146 0.012(m) 80 49 19.36035 0.012(m)
EL HGT: -19.969(m) 0.052(m) -21.571(m) 0.052(m)
ORTHO HGT: 4.705(m) 0.089(m) [NAVD88 (Computed using GEOID12B)]

UTM COORDINATES STATE PLANE COORDINATES

	UTM (Zone 17)	SPC (0901 FL E)	
Northing (Y) [meters]	2894677.592	203615.083	Y= 668027.1515
Easting (X) [meters]	517783.986	217790.056	X= 714532.8754
Convergence [degrees]	0.07849118	0.07849118	
Point Scale	0.99960390	0.99994508	
Combined Factor	0.99960704	0.99994822	

US NATIONAL GRID DESIGNATOR: 17RNJ1778394677(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DG9798	PBCH WEST PALM CORS ARP	N265046.638	W0801309.299	95924.4
DF9225	ZMA1 MIAMI WAAS 1 CORS ARP	N254928.585	W0801909.066	63330.3

DH3834 LAUD LAUDERDALE CORS ARP N261146.341 W0801023.014 64930.6

NEAREST NGS PUBLISHED CONTROL POINT

AD7259 FCE 3119 N261017.400 W0804938.618 535.4

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

Office

Project

10 May 2017

INPUT

Geographic, flhp gn - Florida HPGN
Vertical - NAVD88, U.S. Feet

OUTPUT

State Plane, flhp gn - Florida HPGN
0901 - Florida East, U.S. Feet
Vertical - NGVD29 (Custom), U.S. Feet

ALLYGW

1/1

Latitude: 26 10 17.0361
Longitude: 80 49 19.3415
Elevation/Z: 0

Northing/Y: 668027.151
Easting/X: 714532.871
Elevation/Z: 1.453
Convergence: 0 04 42.56824
Scale Factor: 0.999945083
Combined Factor: 0.999948884

Remark:

Corpscon v6.0.1, U.S. Army Corps of Engineers

DBHYDRO | by station

STATION INFORMATION

Station	G-2617
Site	ALLYGW
Type	SUBSTATION
Latitude (ddmmss.sss)	261017.046
Longitude (ddmmss.sss)	804919.375
X Coord (ft) NAD83	714531.246
Y Coord (ft) NAD83	668029.482
County	Broward
Basin	CONSERVATION AREA 3A
Section	3
Township	50
Range	35
Show Map	Google Map
Well Info	Info
Description	Substation of ALLY-TW (1648-1726 ft bls)
Notes	1780 ft east of S-140 Structure on C-60 canal
Nearby Stations	Nearby Stations
Attachments	None Available

Query returned 1 station record(s).

Get Sample Data

Get Time Series Data

DBHYDRO | by station

STATION INFORMATION

Station	G-2618
Site	ALLYGW
Type	SUBSTATION
Latitude (ddmmss.sss)	261017.046
Longitude (ddmmss.sss)	804919.375
X Coord (ft) NAD83	714531.246
Y Coord (ft) NAD83	668029.482
County	Broward
Basin	CONSERVATION AREA 3A
Section	3
Township	50
Range	35
Show Map	Google Map
Well Info	Info
Description	Substation of ALLY-TW (1104-1164 ft bls)
Notes	1780 ft east of S-140 Structure on C-60 canal
Nearby Stations	Nearby Stations
Attachments	None Available

Query returned 1 station record(s).

Get Sample Data

Get Time Series Data

DBHYDRO | by station

STATION INFORMATION

Station	G-2619
Site	ALLYGW
Type	SUBSTATION
Latitude (ddmmss.sss)	261017.046
Longitude (ddmmss.sss)	804919.375
X Coord (ft) NAD83	714531.246
Y Coord (ft) NAD83	668029.482
County	Broward
Basin	CONSERVATION AREA 3A
Section	3
Township	50
Range	35
Show Map	Google Map
Well Info	Info
Description	Substation of ALLY-TW (895-1052 ft bls)
Notes	1780 ft east of S-140 Structure on C-60 canal
Nearby Stations	Nearby Stations
Attachments	None Available

Query returned 1 station record(s).

Get Sample Data

Get Time Series Data

REGISTRATION WORKSHEET - ALLYGW Addendum

Site Name: **ALLYGW** Today's Date: **5/10/2017** Type Recorder: **CR1000**
 Activity: **Addendum** Effective Date: **5/4/2017** Start Date of Data :
 Customer: **Steve Krupa** Bus. Area: **5720** Agency: **SFWMD** Internal Order:
 Project Manager: **Howard Ehmke** Bus. Area: **Survey & Mapping** Agency: **SFWMD** Fund:
 Project Name: Legal Mandate:

Short Common Name / Description: ALLYGW

Proj. Mgr. Notes: This addendum was performed to add NAVD 88 surveying data for the reference elevation. To convert to NGVD 29 add +1.453ft.

Site Directions: The site is located approximately 300 yards east of pumping station S140.

Site Address (if any):

Transportation: **Std Vehicle** Lock type or combination: **Abloy S** #

Recorder Location/Purpose: **Stand-Alone Recorder (Non-Flow Site)** Structure Type:

Array ID Configuration table attached **NO**

SURVEY INFORMATION

B.M. Elevation: **ALLYGW** Date: **5/4/2017** Stamp: **SFWMD**
 Agency: **#REF!** Type: **ALUM** Datum: **NAVD 88**

Benchmark Location/ Description

COMMUNICATIONS INFORMATION

Communications System: Loggernet Server: Loggernet IP Address:
 Tower: Communication Type: R.F. Code/Modem Address: R.F. Access Point:
 Phone Number:
 RTU Address: Gateways:

WELL INFORMATION

Sensor	Customer Ref	Ref Elev	Elev Date	Top of Well	Bottom of Well	Ground Elev	Benchmark Elev	Benchmark Datum	Ref Elevation Location
GW1	G2619	17.43	5/4/2017	17.43		14.1	15.338	NAVD88	
GW2	G2618	17.22	5/4/2017	17.22		14.1	15.338	NAVD88	
GW3	G2617	17.24	5/4/2017	17.24		14.1	15.338	NAVD88	

Sensor	GW Sensor Location Offset	Meas Pt Elevation	GW Land Elevation	Depth of Well	Type of Well	Top of Monitored Interval	Base of Monitored Interval	Parameter Transmitted								
GW1																
GW2																
GW3																

COORDINATE INFORMATION

Item/Parm	Lat	Long	X-Coord	Y-Coord	Sec	Township	Range	Quad	Basin	County	Description
GW1	N26° 10' 17.03	W80° 49' 19.3	714533	668027	3	50	35	WCA3		Broward	
GW2	N26° 10' 17.03	W80° 49' 19.3	714533	668027	3	50	35	WCA3		Broward	
GW3	N26° 10' 17.03	W80° 49' 19.3	714533	668027	3	50	35	WCA3		Broward	