



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16

Site Name: PB-1108		Date of Field Work: 13-jun-13	
Party Chief: Giammarco	Field Book: MISC 6M	Page 32	
Site Benchmark: L536 (AJ8749)	Benchmark Elevation (NAVD88) 23.386	Corpscon 6.0.1 Conversion Factor (NAVD88 to NGVD29) +1.519	
Reference Elevation(s) (NAVD88): 24.59 GW1 24.46 GW2	Existing Tag Elevation (Datum): GW1 26.646 written at the site (NGVD29) GW2 26.524 written at the site (NGVD29)	Calibration Port Elevation(s) (NAVD88): Not Applicable	
Ground Elevation (NAVD88): Not taken		Pad Elevation (NAVD88): Not Applicable	
Latitude: 26° 24' 07.4"		Longitude: 80° 14' 12.1" taken from ESRI product	

Notes: Well Tagged in NGVD29.
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 Easterly



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GW1 Brass Tag Close Up



GW1 Reference Mark

GW1 Reference Mark
El. 24.59 NAVD88
El. 26.10 NGVD29



GW2 Brass Tag Close Up



GW2 Reference Mark



GW2 Reference Mark
El. 24.46 NAVD88
El. 25.97 NGVD29

RTU



LOXAHATCHEE WILDLIFE REFUGE
 L40 WELL SITE PB 1108 VERIFY ELEVATION
 ON EAST & WEST WELL SITES

Section 3, Township 47 South, Range 41 East

B.M.	+	HI	-	ELEV
6536	521 2.06	28.60		23.39
			4.40 2.87	24.20
	4.07 3.20	28.27		
			4.02 3.25	24.25
	5.06 2.21	29.31		
			4.72 2.55	24.59
			4.85 2.42	24.46
	4.72 4.75 2.55	29.18		
			4.96 2.32 2.31	24.22
	4.17 3.10	28.39		
			4.15 3.12	24.24
	4.40 2.87	28.64		
6536			5.25 2.02	23.39

F 14.34 - 13.27 = 1.07
 B 13.29 - 14.36 = -1.07
 closes flat

NOTE 0.55% DIFF. FROM WHAT IS MARKED

NAVD 88
 ZEISS N12
 Philly ROD

A GIAMMARCO
 T MAYER

FD IN GOOD CONDITION PER N.G.S. DATA SHEET

23.386 NAVD88
 24.898 NGVD29

7.5889m - 7.128m = 0.4609m (1.512 feet)

E. Well 26.646 CSW1

W WELL GW2 26.524 ✓ ALAN STAMPED AN NAVD88 TAG @ THIS LOCATION; PB 1108

LOXAHATCHEE WILDLIFE REFUGE

NOTE *

6/25/13 REPLACED TAGS SET ON 6/13/13 (DEPICTING NAVD 88 ELEVATIONS) WITH NEW TAGS STAMPED WITH NGVD 29 DATUM WHICH IS A ±1.51 ADJUSTMENT THAT WAS TAKEN FROM A CORPSCOM CONVERSION PER MIKE HORAN

* B.M. SITES ARE BLACK MAGIC MARKER BOXES ON TOP OF & EDGE OF PIPES PROTRUDING UP FROM GROUND, UNDER CAP

* A 3"X1 1/2" BRASS TAG WAS LEFT @ BOTH SITES WITH SITE NAME, GW1-GW2, ELEVATION NGVD 29, DATE SET, BY WHO A.G. T.M. TAGS ARE ATTACHED TO SITES BY WIRE

From the "ngvd29.txt" file provided by NGS for the CERP Geodetic Vertical Control Project.
 Line/Part: L26226 SSN+: mark floated, SSN*: mark constrained, SSN#: mark floated & constrained
 Mark ID SSN PID Designation Geopotential Elevation Codes
 1539 2511 AJ8749 L 536 7.4371 7.5889

The NGS Data Sheet

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

```
PROGRAM = datasheet95, VERSION = 8.12.1
1      National Geodetic Survey,  Retrieval Date = APRIL  7, 2017
AJ8749 *****
AJ8749 DESIGNATION - L 536
AJ8749 PID - AJ8749
AJ8749 STATE/COUNTY- FL/PALM BEACH
AJ8749 COUNTRY - US
AJ8749 USGS QUAD - UNIVERSITY PARK (1983)
AJ8749
AJ8749 *CURRENT SURVEY CONTROL
AJ8749
AJ8749* NAD 83(2011) POSITION- 26 23 58.60769(N) 080 14 12.15523(W) ADJUSTED
AJ8749* NAD 83(2011) ELLIP HT- -18.404 (meters) (06/27/12) ADJUSTED
AJ8749* NAD 83(2011) EPOCH - 2010.00
AJ8749* NAVD 88 ORTHO HEIGHT - 7.128 (meters) 23.39 (feet) ADJUSTED
AJ8749
AJ8749 GEOID HEIGHT - -25.528 (meters) GEOID12B
AJ8749 NAD 83(2011) X - 969,437.194 (meters) COMP
AJ8749 NAD 83(2011) Y - -5,633,961.903 (meters) COMP
AJ8749 NAD 83(2011) Z - 2,818,778.586 (meters) COMP
AJ8749 LAPLACE CORR - -2.68 (seconds) DEFLEC12B
AJ8749 DYNAMIC HEIGHT - 7.116 (meters) 23.35 (feet) COMP
AJ8749 MODELED GRAVITY - 979,087.7 (mgal) NAVD 88
AJ8749
AJ8749 VERT ORDER - FIRST CLASS II
AJ8749
AJ8749 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AJ8749 Standards:
AJ8749 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
AJ8749 Horiz Ellip SD_N SD_E SD_h (unitless)
AJ8749 -----
AJ8749 NETWORK 1.53 1.72 0.62 0.61 0.88 -0.32262625
AJ8749 -----
AJ8749 Click here for local accuracies and other accuracy information.
AJ8749
AJ8749
AJ8749.The horizontal coordinates were established by GPS observations
AJ8749.and adjusted by the National Geodetic Survey in June 2012.
AJ8749
AJ8749.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AJ8749.been affixed to the stable North American tectonic plate. See
AJ8749.NA2011 for more information.
AJ8749
AJ8749.The horizontal coordinates are valid at the epoch date displayed above
AJ8749.which is a decimal equivalence of Year/Month/Day.
AJ8749
AJ8749.The orthometric height was determined by differential leveling and
AJ8749.adjusted by the NATIONAL GEODETIC SURVEY
AJ8749.in May 2002.
AJ8749
AJ8749.Significant digits in the geoid height do not necessarily reflect accuracy.
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AJ8749.GEOID12B height accuracy estimate available [here](#).

AJ8749

AJ8749.[Photographs](#) are available for this station.

AJ8749

AJ8749.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AJ8749

AJ8749.The Laplace correction was computed from DEFLEC12B derived deflections.

AJ8749

AJ8749.The ellipsoidal height was determined by GPS observations

AJ8749.and is referenced to NAD 83.

AJ8749

AJ8749.The dynamic height is computed by dividing the NAVD 88

AJ8749.geopotential number by the normal gravity value computed on the

AJ8749.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AJ8749.degrees latitude (g = 980.6199 gals.).

AJ8749

AJ8749.The modeled gravity was interpolated from observed gravity values.

AJ8749

AJ8749. The following values were computed from the NAD 83(2011) position.

AJ8749

AJ8749;		North	East	Units	Scale	Factor	Converg.
AJ8749;SPC FL E	-	229,111.375	276,155.362	MT	1.00001275		+0 20 21.8
AJ8749;SPC FL E	-	751,676.24	906,019.72	sFT	1.00001275		+0 20 21.8
AJ8749;UTM 17	-	2,920,165.184	576,129.378	MT	0.99967155		+0 20 21.8

AJ8749

AJ8749!
- Elev Factor x Scale Factor = Combined Factor

AJ8749!SPC FL E - 1.00000289 x 1.00001275 = 1.00001564

AJ8749!UTM 17 - 1.00000289 x 0.99967155 = 0.99967444

AJ8749

AJ8749_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK7612920165(NAD 83)

AJ8749

AJ8749 SUPERSEDED SURVEY CONTROL

AJ8749

AJ8749	NAD 83(2007)-	26 23 58.60800(N)	080 14 12.15588(W)	AD(2002.00)	0
AJ8749	ELLIP H (02/10/07)	-18.378 (m)		GP(2002.00)	
AJ8749	NAD 83(1999)-	26 23 58.60824(N)	080 14 12.15566(W)	AD()	1
AJ8749	ELLIP H (12/12/02)	-18.370 (m)		GP()	3 1
AJ8749	NAVD 88	7.13 (m)	23.4	(f) LEVELING	3

AJ8749

AJ8749.Superseded values are not recommended for survey control.

AJ8749

AJ8749.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AJ8749.See file [dsdata.pdf](#) to determine how the superseded data were derived.

AJ8749

AJ8749_MARKER: DD = SURVEY DISK

AJ8749_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

AJ8749_STAMPING: L 536 2001 CERP

AJ8749_MARK LOGO: USE

AJ8749_PROJECTION: RECESSED 15 CENTIMETERS

AJ8749_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET

AJ8749_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AJ8749+STABILITY: SURFACE MOTION

AJ8749_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AJ8749+SATELLITE: SATELLITE OBSERVATIONS - August 03, 2009

AJ8749

AJ8749	HISTORY	- Date	Condition	Report By
AJ8749	HISTORY	- 20010912	MONUMENTED	MOREKL
AJ8749	HISTORY	- 20020421	GOOD	MAPTEC
AJ8749	HISTORY	- 20030725	GOOD	FLDEP
AJ8749	HISTORY	- 20090803	GOOD	WANTGP

AJ8749

AJ8749

STATION DESCRIPTION

AJ8749

AJ8749'DESCRIBED BY MORGAN AND EKLUND INC 2001 (MAB)

AJ8749'THE STATION IS LOCATED ABOUT 16.4 KM (10.2 MILES) NORTHWEST OF

AJ8749'DEERFIELD BEACH, ABOUT 21.8

AJ8749'KM (13.5 MILES) SOUTHWEST OF BOYNTON BEACH, ABOUT 31.9 KM (19.8 MILES)

AJ8749'SOUTH SOUTHEAST OF

AJ8749'LOXAHATCHEE IN SECTION 3, TOWNSHIP 47 SOUTH, RANGE 41 EAST.

AJ8749'

AJ8749'OWNERSHIP SOUTH FLORIDA WATER MANAGEMENT DISTRICT

AJ8749'

AJ8749'TO REACH THE STATION FROM THE INTERSECTION OF STATE ROAD 7 / U.S. 441

AJ8749'AND STATE ROAD 827

AJ8749'(LOXAHATCHEE ROAD) GO WEST ON STATE ROAD 827 FOR 10.1 KM (6.3 MILES)

AJ8749'TO ITS END AT THE

AJ8749'ENTRANCE TO LOXAHATCHEE NATIONAL WILDLIFE REFUGE AND L-40 LEVEE

AJ8749'(RUNNING IN A NORTH

AJ8749'SOUTH DIRECTION), TURN RIGHT AND GO NORTH ON L-40 LEVEE, PASSING

AJ8749'THROUGH A GATE AT

AJ8749'DRAINAGE STRUCTURE S-39 AND CROSSING THE HILLSBORO CANAL, ALONG THE

AJ8749'LEVEE FOR 9.3 KM

AJ8749'(5.8 MILES) TO THE MARK IN THE CENTERLINE OF THE LEVEE.

AJ8749'

AJ8749'THE MARK IS 254.2 METERS (834.0 FEET) SOUTH OF THE SOUTH END OF A TURN

AJ8749'AROUND AREA, 12.6

AJ8749'METERS (41.3 FEET) EAST OF THE WEST TOE OF L-40 LEVEE, 4.1 METERS

AJ8749'(13.3 FEET) WEST OF A

AJ8749'CARSONITE WITNESS POST AND 3.0 METERS (9.8 FEET) EAST OF THE WEST TOP

AJ8749'OF L-40 LEVEE.

AJ8749'

AJ8749'NOTE A MAGNET WAS PLACED 0.21 METERS (0.7 FEET) SOUTH OF AND 0.1

AJ8749'METERS (0.3 FEET) BELOW

AJ8749'THE MARK.

AJ8749

AJ8749

STATION RECOVERY (2002)

AJ8749

AJ8749'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)

AJ8749'THE STATION IS LOCATED ABOUT 16.4 KM (10.2 MILES) NORTHWEST OF

AJ8749'DEERFIELD BEACH, ABOUT 21.8

AJ8749'KM (13.5 MILES) SOUTHWEST OF BOYNTON BEACH, ABOUT 31.9 KM (19.8 MILES)

AJ8749'SOUTH SOUTHEAST OF

AJ8749'LOXAHATCHEE IN SECTION 3, TOWNSHIP 47 SOUTH, RANGE 41 EAST.

AJ8749'

AJ8749'OWNERSHIP SOUTH FLORIDA WATER MANAGEMENT DISTRICT

AJ8749'

AJ8749'TO REACH THE STATION FROM THE INTERSECTION OF STATE ROAD 7 / U.S. 441

AJ8749'AND STATE ROAD 827

AJ8749'(LOXAHATCHEE ROAD) GO WEST ON STATE ROAD 827 FOR 10.1 KM (6.3 MILES)

AJ8749'TO ITS END AT THE

AJ8749'ENTRANCE TO LOXAHATCHEE NATIONAL WILDLIFE REFUGE AND L-40 LEVEE

AJ8749'(RUNNING IN A NORTH

AJ8749'SOUTH DIRECTION), TURN RIGHT AND GO NORTH ON L-40 LEVEE, PASSING

AJ8749'THROUGH A GATE AT

AJ8749'DRAINAGE STRUCTURE S-39 AND CROSSING THE HILLSBORO CANAL, ALONG THE

AJ8749'LEVEE FOR 9.3 KM

AJ8749'(5.8 MILES) TO THE MARK IN THE CENTERLINE OF THE LEVEE.

AJ8749'

AJ8749'THE MARK IS 254.2 METERS (834.0 FEET) SOUTH OF THE SOUTH END OF A TURN

AJ8749'AROUND AREA, 12.6

AJ8749'METERS (41.3 FEET) EAST OF THE WEST TOE OF L-40 LEVEE, 4.1 METERS
AJ8749'(13.3 FEET) WEST OF A
AJ8749'CARSONITE WITNESS POST AND 3.0 METERS (9.8 FEET) EAST OF THE WEST TOP
AJ8749'OF L-40 LEVEE.
AJ8749'
AJ8749'NOTE A MAGNET WAS PLACED 0.21 METERS (0.7 FEET) SOUTH OF AND 0.1
AJ8749'METERS (0.3 FEET) BELOW
AJ8749'THE MARK.
AJ8749'
AJ8749'STATION RECOVERY (2002)
AJ8749'RECOVERY NOTE BY MAPTECH, INCORPORATED 2002 (CP)
AJ8749'RECOVERED AS DESCRIBED.
AJ8749
AJ8749 STATION RECOVERY (2003)
AJ8749
AJ8749'RECOVERY NOTE BY FL DEPT OF ENV PRO 2003 (JLM)
AJ8749'THE MARK IS ABOUT 13.5 MI SOUTHWEST OF BOYNTON BEACH, 10.2 MI
AJ8749'NORTHWEST OF DEERFIELD BEACH, IN LOXAHATCHEE NATIONAL WILDLIFE REFUGE
AJ8749'CONSERVATION AREA NO 1, IN SECTION 3, TOWNSHIP 47 SOUTH, RANGE 41
AJ8749'EAST.
AJ8749'
AJ8749'TO REACH THE MARK FROM THE SAWGRASS EXPRESSWAY OVERPASS AND THE
AJ8749'JUNCTION OF U.S. HIGHWAY 441 (STATE ROAD 7) IN PARKLAND, GO NORTH ON
AJ8749'U.S. HIGHWAY 441 (STATE ROAD 7) FOR 1.8 MI TO THE JUNCTION OF
AJ8749'LOXAHATCHEE ROAD (COUNTY ROAD 827) ON THE LEFT, JUST SOUTH OF THE
AJ8749'BROWARD-PALM BEACH COUNTY LINE, TURN LEFT ON LOXAHATCHEE ROAD (COUNTY
AJ8749'ROAD 827) AND GO NORTHWESTERLY FOR 6.3 MI TO THE END OF THE PAVEMENT,
AJ8749'THE END OF LOXAHATCHEE ROAD (COUNTY ROAD 827) AND THE ENTRANCE TO
AJ8749'LOXAHATCHEE NATIONAL WILDLIFE REFUGE, CONTINUE AHEAD ON THE GRAVE
AJ8749'ENTRANCE ROAD FOR 0.05 MI TO THE TOP OF THE LEVEE AND THE T-JUNCTION
AJ8749'OF THE NORTH-SOUTH LEVEE ROAD (L-36 LEFT, L-40 RIGHT), TURN RIGHT ON
AJ8749'LEVEE ROAD (L-40) AND GO NORTH FOR 0.05 MI TO A LOCKED GATE AT
AJ8749'Structure S-39, PASSING THROUGH THE GATE CONTINUE NORTH THEN
AJ8749'NORTHEAST ON THE LEVEE ROAD (L-40) (CROSSING OVER A SMALL BRIDGE FOR
AJ8749'THE HILLSBORO CANAL) FOR 5.75 MI TO THE MARK IN THE APPROXIMATE CENTER
AJ8749'OF THE LEVEE ROAD, SET IN THE TOP OF A CONCRETE MONUMENT RECESSED 0.6
AJ8749'FT BELOW THE LEVEL OF THE GROUND AND BELOW THE LEVEL OF THE LEVEE
AJ8749'ROAD.
AJ8749'
AJ8749'LOCATED 834.0 FT SOUTH OF THE SOUTH END OF THE TURNOUT, 41.3 FT EAST
AJ8749'OF THE WEST TOE OF LEVEE L-40, 13.3 FT WEST OF A CARSONITE WITNESS
AJ8749'POST AND 9.8 FT EAST OF THE WEST TOP OF THE BANK OF LEVEE L-40.
AJ8749'
AJ8749'NOTE MARKER EQUIPPED WITH MAGNETIC MATERIAL.
AJ8749'
AJ8749'NOTE FOR KEY CONTACT SOUTH FLORIDA WATER MANAGEMENT DISTRICT AT
AJ8749'1-800-432-2045.
AJ8749
AJ8749 STATION RECOVERY (2009)
AJ8749
AJ8749'RECOVERY NOTE BY WANTMAN GROUP INC 2009 (PBA)
AJ8749'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:06

Office

Project

7 April 2017

INPUT

Geographic, flhpgn - Florida HPGN
Vertical - NAVD88, U.S. Feet

OUTPUT

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

PB1108

1/1

Latitude: 26 23 58.60769
Longitude: 80 14 12.15523
Elevation/Z: 0

Northing/Y: 751676.235
Easting/X: 906019.716
Elevation/Z: 1.519
Convergence: 0 20 21.83077
Scale Factor: 1.000012755
Combined Factor: 1.000016689

Remark:

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

DBHYDRO | by station

STATION INFORMATION

Station	PB-1108
Site	PB1108
Type	WELL
Latitude (ddmss.sss)	262404.274
Longitude (ddmss.sss)	801412.17
X Coord (ft) NAD83	906014.957
Y Coord (ft) NAD83	752248.359
County	Palm Beach
Basin	HILLSBORO CANAL
Section	3
Township	47
Range	41
Show Map	Google Map
Well Info	Info
Description	GROUNDWATER WELL #2 AT LOXAHATCHEE WILDLIFE REFUGE.
Notes	
Nearby Stations	Nearby Stations
Attachments	Show Attachments

Query returned 1 station record(s).

Get Sample Data

Get Time Series Data



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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