



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16

DB Hydro Station Name: MH-40 (GW1) MF-40U (GWFL2) MF-40L (GWFL3)	DB Hydro Site Name: MFH40	Date of Field Work: 03-oct-17
Party Chief: Strickland	Field Book: Misc 7E	Pages 15 thru 17

SITE SPECIFIC DATA

Site Benchmark: WMD105-15A	Benchmark Elevation (NAVD88) 31.957	Corpscon 6.0.1 Conversion Factor (NAVD88 to NGVD29) +1.444
Reference Elevation(s) (NAVD88): MH-40 (GW1) El. 34.51 MF-40U (GWFL2) El. 33.10 MF-40L (GWFL3) El. 34.20	Existing Brass Tag Elevation (Datum): None Written at the site: MH-40 (GW1) El. 35.95 NGVD29 MF-40U (GWFL2) El. 34.72 NGVD29 MF-40L (GWFL3) El. 35.62 NGVD29	Verification Port Elevation(s) (NAVD88): MH-40 (GW1) Not Applicable MF-40U (GWFL2) El. 33.15 MF-40 (GWFL3) El. 34.23
Ground Elevation (NAVD88) Pad 1: (MF-40L & MF-40U) NE Cor. El. 31.93 SE Cor. El. 31.90 NW Cor. El. 31.95 SW Cor. El. 31.95	Pad 2 (MH-40 (GW-1)) NE Cor. El. 31.94 SE Cor. El. 31.93 NW Cor. El. 31.91 SW Cor. El. 31.90	Pad Elevation (NAVD88): Pad 1: (MF-40L & MF-40U) NE Cor. El. 31.6 SE Cor. El. 31.6 NW Cor. El. 31.8 SW Cor. El. 31.7 Pad 2 (MH-40 (GW-1)) NE Cor. El. 31.5 SE Cor. El. 31.5 NW Cor. El. 31.6 SW Cor. El. 31.7

GEOGRAPHIC DATA

Section 6	Township 38 South	Range 39 East	
Site Benchmark	Latitude: 27°12'21.30462"	Longitude: 80°28'32.47468"	Source: OPUS
	State Plane Coordinates	Northing (Y) = 1044381.563	Easting (X) = 826582.441

Notes:

OPUS – Online Positioning User Service provided by the National Geodetic Survey (NGS)
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

Aerial Overall Site



Benchmark
 "C23 609"
 Latitude: **27°12'23.34"**
 Longitude: **80°28'53.25"**
 El. **33.957 NAVD88**



Benchmark
 "F009 (SF7687)"
 Latitude: **27°12'21.312"**
 Longitude: **80°28'52.821"**
 El. **31.410 NAVD88**

MH-40 (MFH40) Well Site
 Latitude: **27°12'21.3"**
 Longitude: **80°28'32.5"**

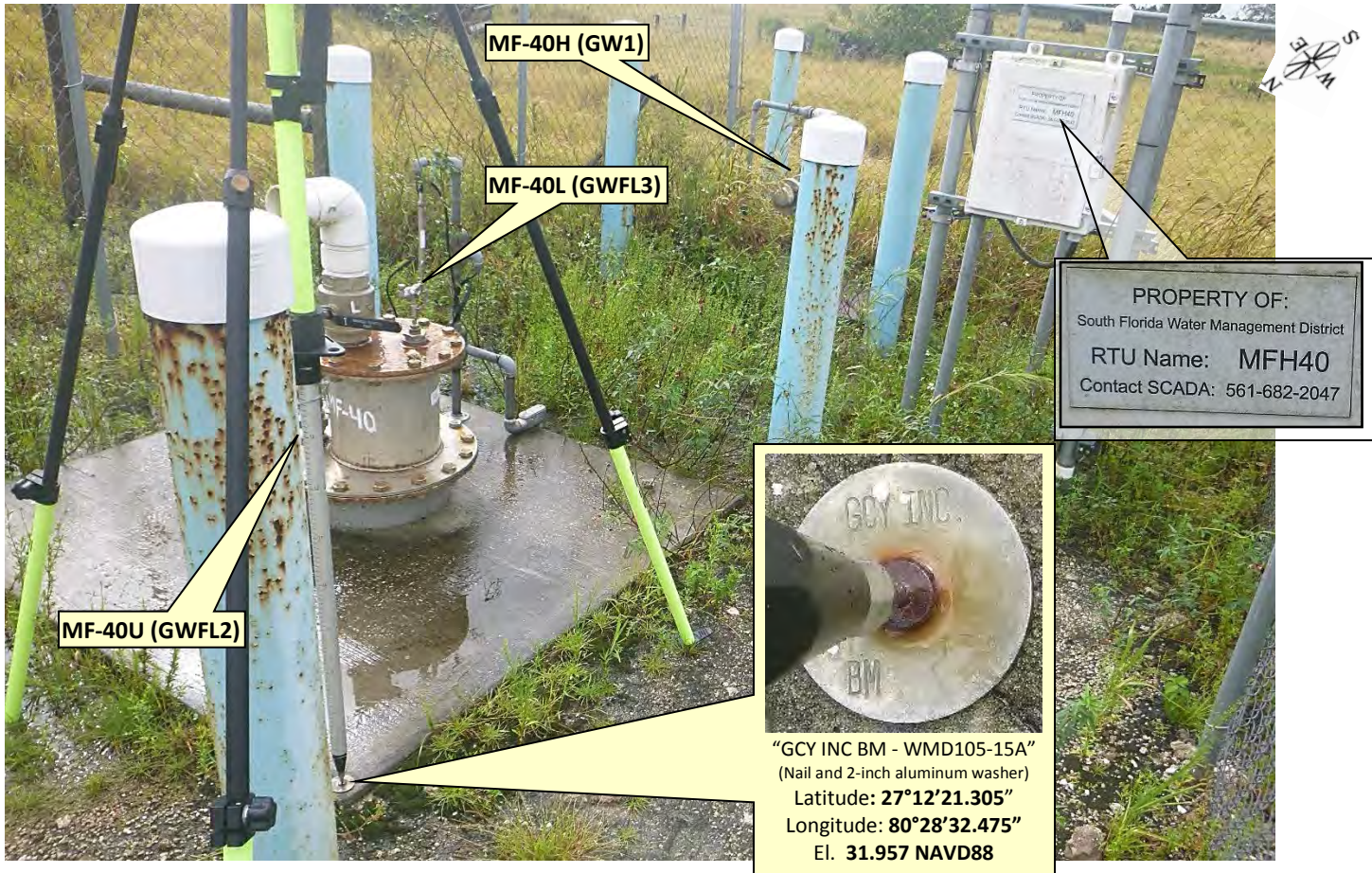
Not to scale (esri product)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

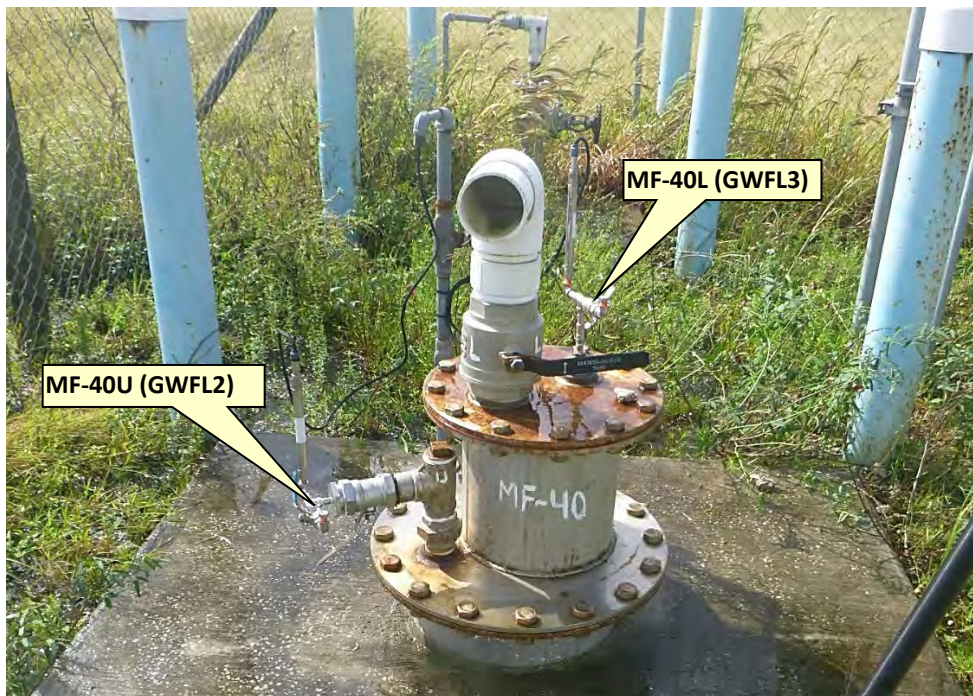
Rev. 1/16

Overall Well Site



Looking Southerly (oblique not to scale) (03-oct-17)

MF-40L & MF-40U



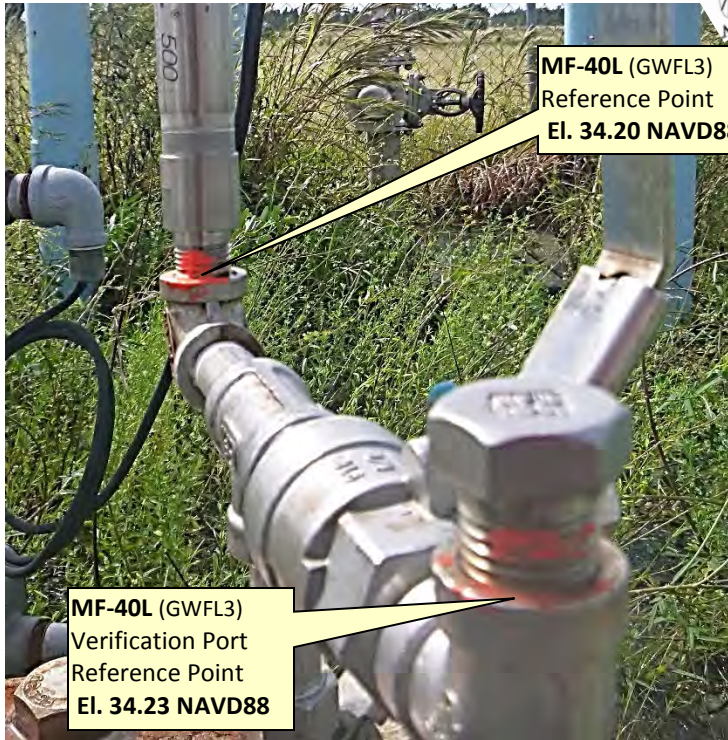
Looking Southerly (oblique not to scale) (03-oct-17)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

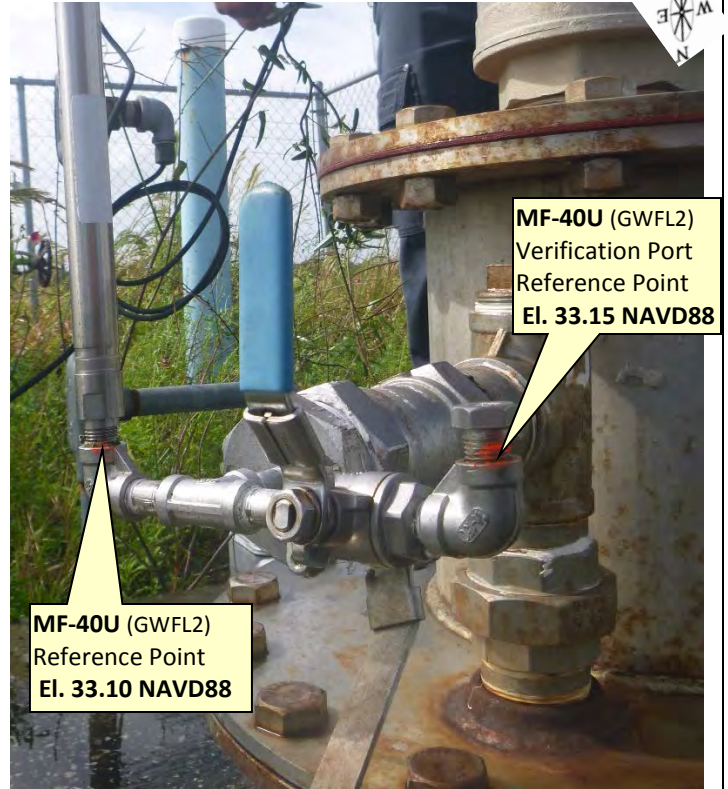
Rev. 1/16

MF-40L Well Head



Looking Southerly (oblique not to scale) (03-oct-17)

MF-40U Well Head

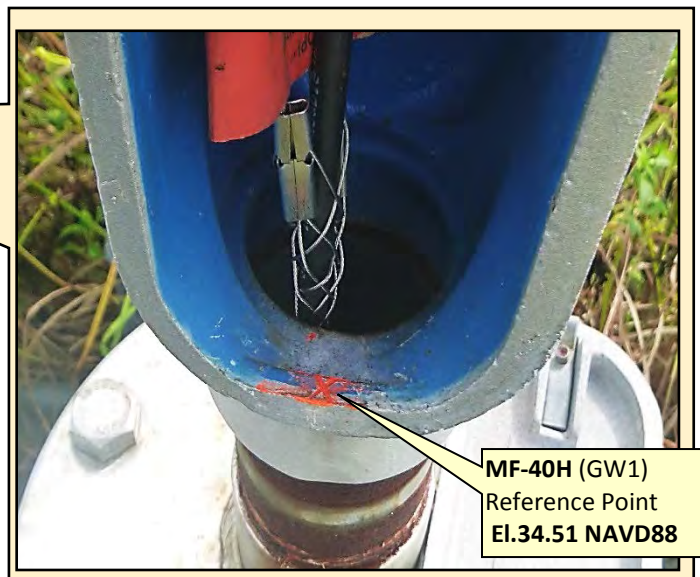


Looking Easterly (oblique not to scale) (03-oct-17)

MH-40



Looking Southerly (oblique not to scale) (03-oct-17)



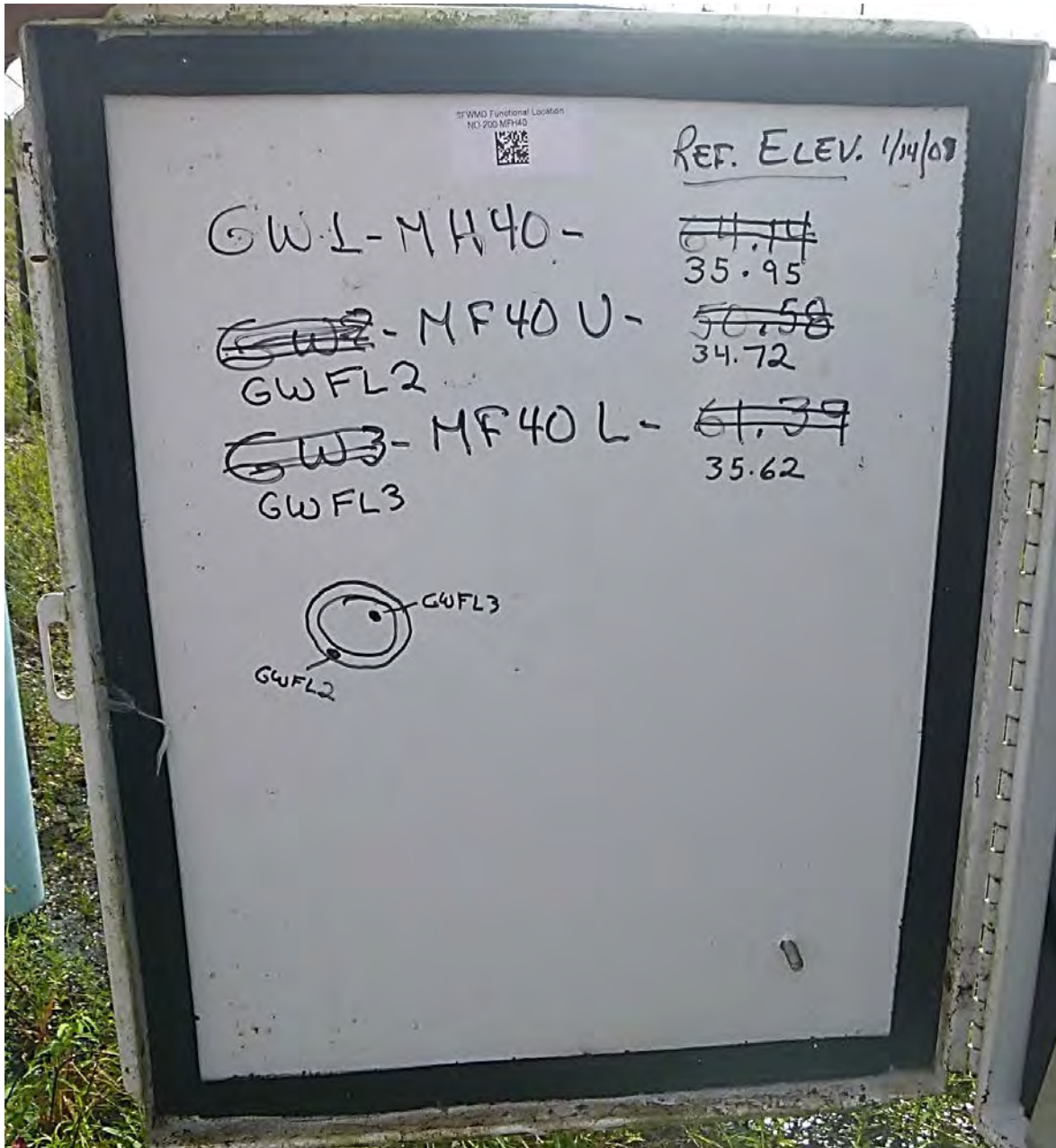
(remove the oblong plate to get the shot)
Looking Easterly (oblique not to scale) (03-oct-17)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

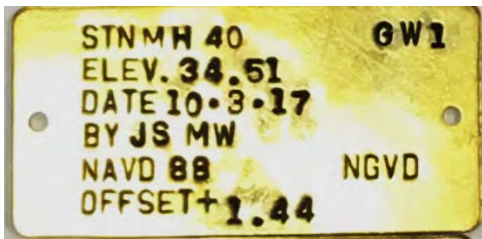
Rev. 1/16

RTU Inside Panel

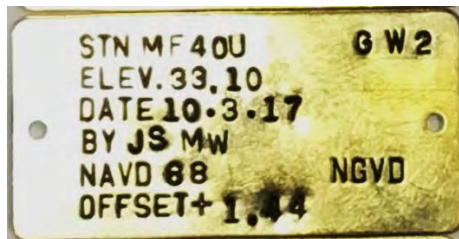


Looking Easterly (oblique not to scale) (03-oct-17)

NAVD88 Brass Tag (to be added)



NAVD88 Brass Tag (to be added)



NAVD88 Brass Tag (to be added)





SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16

DESIGNATION: WMD105-15A	PROJECT: MH-40, MF-40L& MF-40U (MFH40) Well Site
ESTABLISHED BY: GCY INC.	SURVEYOR: Strickland
RECOVERED BY: SOUTH FLORIDA WATER MANAGEMENT DISTRICT	DATE: 03-oct-17

GEOGRAPHIC POSITION

SECTION 6	TOWNSHIP 38 SOUTH	RANGE 39 EAST
------------------	--------------------------	----------------------

COUNTY: Martin	NAME OF QUADRANGLE: 2604
	GEOGRAPHIC INDEX OF QUAD: Indiantown NW

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= 1044381.563	(E) X= 826582.441	NAVD 88 EL. 31.957
			NGVD 29 EL. 33.39

CORPSCON 6.0.1 CONVERSION FACTOR (NAVD88 TO NGVD29): **+1.444**

LATITUDE: 27°12'21.30462"	LONGITUDE: 80°28'32.47468"
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RECOVERY DATA

Stamping: **GCY INC. BM**

To Reach: From the intersection of SW Martin Highway and SW Allapattah Road (State Road 609) go north on SW Allapattah Road, 3 miles to South Florida Water Management District's Canal 23 and a gate on the right; turn right go thru the gate and immediately turn left (parallel to SW Allapattah Road) and go northerly and easterly, 230 feet to a berm road gate on the south side of the canal; go thru the gate and continue easterly along the berm road a distance of 1670 feet to MFH40 well site and station location.

The station is a 2-inch aluminum disk and nail set near the northwest corner of the well pad for (MF-40L and MF-40U) well. The station is stamped "GCY INC. BM."

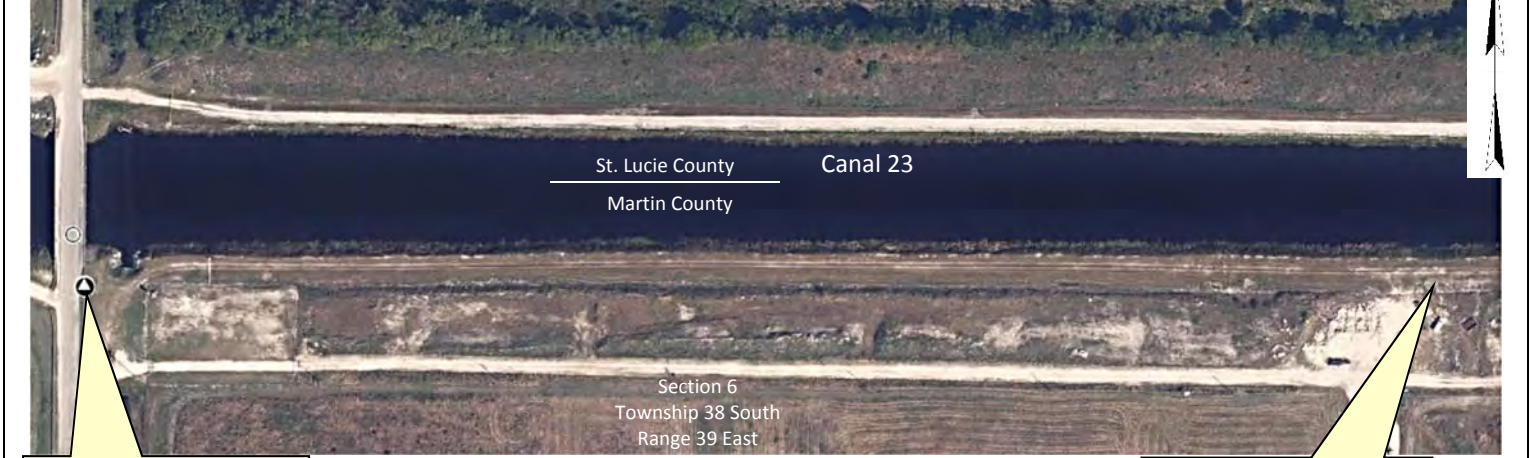
NOTABLE LAND MARKS:

NGS SOURCE BENCHMARK: **F009 (AF7687)**

FIELD BOOK: **MISC 7E PAGE 15**

PICTURES

Overall Site



Source Benchmark
"F009 (SF7687)
Latitude: **27°12'21.312"**
Longitude: **80°28'52.821"**
El. **31.410 NAVD88**

Not to scale (esri product)

Benchmark
"GCY INC BM - WMD105-15A"
(Nail and 2-inch aluminum washer)
Latitude: **27°12'21.305"**
Longitude: **80°28'32.475"**
El. **31.957 NAVD88**



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16



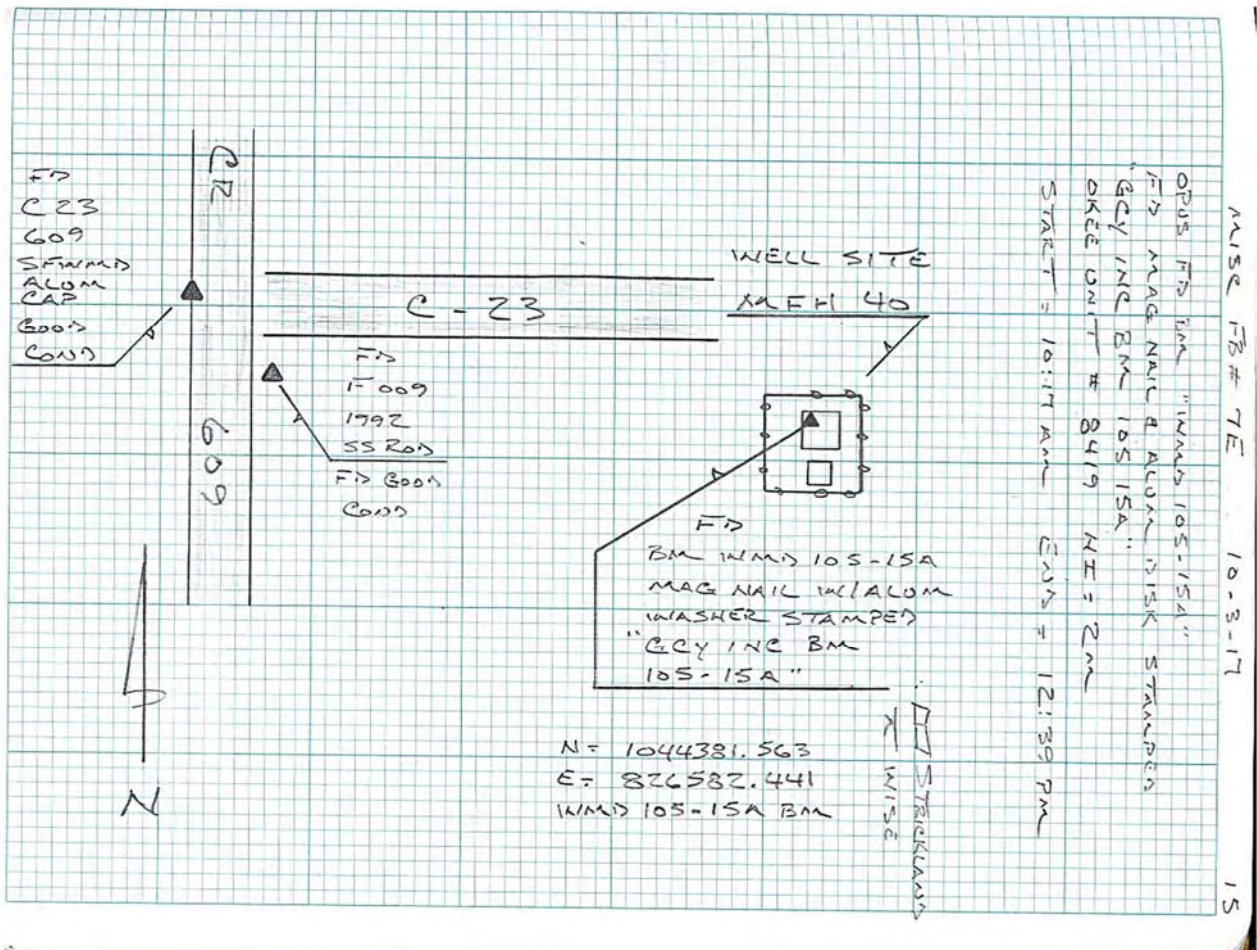
Looking Southerly (oblique not to scale) (03-oct-17)



Benchmark

"GCY INC BM - WMD105-15A"
 (Nail and 2-inch aluminum washer)
 Latitude: 27°12'21.305"
 Longitude: 80°28'32.475"
 El. 31.957 NAVD88

Sketch from Field Book Misc 7E page 15



From the "ngvd29.txt" file provided by NGS for the CERP Geodetic Vertical Control Project.
 Line/Part: L26245 SSN+: mark floated, SSN*: mark constrained, SSN#: mark floated & constrained
 Mark ID SSN PID Designation Geopotential Elevation Codes
 1801 3154 AF7687 F009 9.5115 9.7057

The NGS Data Sheet

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

PROGRAM = datasheet95, VERSION = 8.12.3

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1      National Geodetic Survey,      Retrieval Date = SEPTEMBER 28, 2017
AF7687 *****
AF7687 DESIGNATION - F009
AF7687 PID - AF7687
AF7687 STATE/COUNTY- FL/MARTIN
AF7687 COUNTRY - US
AF7687 USGS QUAD - INDIAN TOWN NW (1983)
AF7687
AF7687 *CURRENT SURVEY CONTROL
AF7687
AF7687* NAD 83(2011) POSITION- 27 12 21.31258(N) 080 28 52.82113(W) ADJUSTED
AF7687* NAD 83(2011) ELLIP HT- -17.807 (meters) (06/27/12) ADJUSTED
AF7687* NAD 83(2011) EPOCH - 2010.00
AF7687* NAVD 88 ORTHO HEIGHT - 9.269 (meters) 30.41 (feet) ADJUSTED
AF7687
AF7687 GEOID HEIGHT - -27.086 (meters) GEOID12B
AF7687 NAD 83(2011) X - 938,712.030 (meters) COMP
AF7687 NAD 83(2011) Y - -5,598,320.373 (meters) COMP
AF7687 NAD 83(2011) Z - 2,898,518.884 (meters) COMP
AF7687 LAPLACE CORR - -1.47 (seconds) DEFLEC12B
AF7687 DYNAMIC HEIGHT - 9.255 (meters) 30.36 (feet) COMP
AF7687 MODELED GRAVITY - 979,106.2 (mgal) NAVD 88
AF7687
AF7687 VERT ORDER - FIRST CLASS II
AF7687
AF7687 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AF7687 Standards:
AF7687 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
AF7687 Horiz Ellip SD_N SD_E SD_h (unitless)
AF7687 -----
AF7687 NETWORK 0.81 1.04 0.35 0.31 0.53 0.08469434
AF7687 -----
AF7687 Click here for local accuracies and other accuracy information.
AF7687
AF7687
AF7687.The horizontal coordinates were established by GPS observations
AF7687.and adjusted by the National Geodetic Survey in June 2012.
AF7687
AF7687.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AF7687.been affixed to the stable North American tectonic plate. See
AF7687.NA2011 for more information.
AF7687
AF7687.The horizontal coordinates are valid at the epoch date displayed above
AF7687.which is a decimal equivalence of Year/Month/Day.
AF7687
AF7687.The orthometric height was determined by differential leveling and
AF7687.adjusted by the NATIONAL GEODETIC SURVEY
AF7687.in November 2015.
AF7687
AF7687.Significant digits in the geoid height do not necessarily reflect accuracy.
AF7687.GEOID12B height accuracy estimate available here.
AF7687
AF7687.Photographs are available for this station.
AF7687
AF7687.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AF7687

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AF7687.The Laplace correction was computed from DEFLEC12B derived deflections.

AF7687

AF7687.The ellipsoidal height was determined by GPS observations

AF7687.and is referenced to NAD 83.

AF7687

AF7687.The dynamic height is computed by dividing the NAVD 88

AF7687.geopotential number by the normal gravity value computed on the

AF7687.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AF7687.degrees latitude (g = 980.6199 gals.).

AF7687

AF7687.The modeled gravity was interpolated from observed gravity values.

AF7687

AF7687. The following values were computed from the NAD 83(2011) position.

AF7687

AF7687;		North	East	Units	Scale Factor	Converg.
AF7687;SPC FL E	-	318,326.052	251,382.908	MT	0.99997376	+0 14 13.7
AF7687;SPC FL E	-	1,044,374.72	824,745.42	sFT	0.99997376	+0 14 13.7
AF7687;UTM 17	-	3,009,349.422	551,365.376	MT	0.99963257	+0 14 13.7
AF7687!	-	Elev Factor	x	Scale Factor	=	Combined Factor
AF7687!SPC FL E	-	1.00000280	x	0.99997376	=	0.99997656
AF7687!UTM 17	-	1.00000280	x	0.99963257	=	0.99963537

AF7687

AF7687_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNL5136509349(NAD 83)

AF7687

SUPERSEDED SURVEY CONTROL

AF7687

AF7687	NAD 83(2007)-	27 12 21.31263(N)	080 28 52.82167(W)	AD(2002.00)	0
AF7687	ELLIP H (02/10/07)	-17.792 (m)		GP(2002.00)	
AF7687	NAD 83(1999)-	27 12 21.31276(N)	080 28 52.82206(W)	AD()	1
AF7687	ELLIP H (06/19/01)	-17.765 (m)		GP()	4 1
AF7687	NAD 83(1990)-	27 12 21.31132(N)	080 28 52.82122(W)	AD()	1
AF7687	ELLIP H (03/30/94)	-17.731 (m)		GP()	3 2
AF7687	NAVD 88 (05/02/02)	9.268 (m)	30.41 (f)	SUPERSEDED	1 2
AF7687	NAVD 88 (03/30/94)	9.2 (m)	GEOID93 model used	GPS OBS	

AF7687

AF7687.Superseded values are not recommended for survey control.

AF7687

AF7687.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AF7687.See file [dsdata.pdf](#) to determine how the superseded data were derived.

AF7687

AF7687_MARKER: F = FLANGE-ENCASED ROD

AF7687_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL

AF7687+WITH SETTING: INFORMATION.

AF7687_STAMPING: F009 1992

AF7687_MARK LOGO: NGS

AF7687_PROJECTION: FLUSH

AF7687_MAGNETIC: N = NO MAGNETIC MATERIAL

AF7687_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AF7687+STABILITY: SURFACE MOTION

AF7687_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AF7687+SATELLITE: SATELLITE OBSERVATIONS - December 20, 2015

AF7687_ROD/PIPE-DEPTH: 2.7 meters

AF7687

AF7687	HISTORY	-	Date	Condition	Report By
AF7687	HISTORY	-	1992	MONUMENTED	KEISCH
AF7687	HISTORY	-	19930913	GOOD	GENGRP
AF7687	HISTORY	-	19950208	GOOD	SFLWMD
AF7687	HISTORY	-	20010906	GOOD	FOST
AF7687	HISTORY	-	20050815	GOOD	GCYI
AF7687	HISTORY	-	20050815	GOOD	GCYI
AF7687	HISTORY	-	20060817	GOOD	FLDEP
AF7687	HISTORY	-	20100730	GOOD	FL-085
AF7687	HISTORY	-	20150113	GOOD	FLDEP
AF7687	HISTORY	-	20151220	GOOD	WOOLPT

AF7687

AF7687 STATION DESCRIPTION
AF7687
AF7687'DESCRIBED BY KEITH AND SCHNARS - LAKELAND 1992
AF7687'THE STATION IS LOCATED ABOUT 14 MI (22.5 KM) WEST OF STUART NEAR THE
AF7687'MARTIN COUNTY/ST LUCIE COUNTY LINE IN THE EAST RIGHT-OF-WAY OF C.R.
AF7687'609 IN SECTION 6, TOWNSHIP 38 SOUTH, RANGE 39 EAST, MARTIN COUNTY,
AF7687'FLORIDA.
AF7687'TO REACH THE STATION FROM THE INTERSECTION OF C.R. 714 AND C.R. 609,
AF7687'NORTH OF INDIANTOWN, GO NORTH ON C.R. 609 FOR 3.1 MI (5.0 KM) TO
AF7687'CANAL C-23, THE COUNTY LINE, AND THE STATION ON THE RIGHT. THE
AF7687'STATION LIES SOUTH OF THE CANAL, 32.7 FT (10.0 M) SOUTH OF THE SOUTH
AF7687'END OF A CONCRETE HEADWALL, 3.5 FT (1.1 M) EAST OF A METAL GUARDRAIL,
AF7687'78.4 FT (23.9 M) WEST OF A BARBED WIRE FENCE, AND EAST OF A CARSONITE
AF7687'WITNESS POST.
AF7687'ACCESS TO THE DATUM POINT--THE STATION IS RECESSED INSIDE A NGS LOGO
AF7687'CAP MOUNTED ON A 5 INCH DIAMETER PVC PIPE SET IN A CONCRETE COLLAR
AF7687'SET FLUSH WITH THE GROUND.
AF7687'REFERENCES--
AF7687'FOUND X-CUT IN CONCRETE HEADWALL, MAGNETIC AZIMUTH OF 11 DEGREES AT
AF7687'35.68 FT (10.88 M) .
AF7687'KEITH AND SCHNARS NAIL AND DISC, SET IN WOOD FENCE CORNER, MAGNETIC
AF7687'AZIMUTH OF 90 DEGREES AT 78.38 FT (23.89 M) .
AF7687'KEITH AND SCHNARS NAIL AND DISC, SET IN WOOD P.I. POWER POLE, MAGNETIC
AF7687'AZIMUTH OF 160 DEGREES AT 148.70 FT (45.32 M) .
AF7687'FOUND NAIL AND DISC STAMPED TINKLE PAUGH SURVEYORS, SET IN TOP OF
AF7687'WOOD GUARDRAIL, MAGNETIC AZIMUTH OF 350 DEGREES AT 9.02 FT (2.75 M) .
AF7687
AF7687 STATION RECOVERY (1993)
AF7687
AF7687'RECOVERY NOTE BY GENESIS GROUP INCORPORATED SE 1993 (JEL)
AF7687'URECOVERED AS DESCRIBED.
AF7687
AF7687 STATION RECOVERY (1995)
AF7687
AF7687'RECOVERY NOTE BY S FL WATER MGMT DIST 1995 (MEH)
AF7687'RECOVERED AS DESCRIBED.
AF7687
AF7687 STATION RECOVERY (2001)
AF7687
AF7687'RECOVERY NOTE BY CHARLEY FOSTER AND ASSOCIATES 2001 (JB)
AF7687'THE MONUMENT WAS RECOVERED AS DESCRIBED.
AF7687'
AF7687
AF7687 STATION RECOVERY (2005)
AF7687
AF7687'RECOVERY NOTE BY G.C.Y., INCORPORATED 2005 (JES)
AF7687'RECOVERED IN GOOD CONDITION.
AF7687
AF7687 STATION RECOVERY (2005)
AF7687
AF7687'RECOVERY NOTE BY G.C.Y., INCORPORATED 2005 (JES)
AF7687'RECOVERED AS DESCRIBED.
AF7687
AF7687 STATION RECOVERY (2006)
AF7687
AF7687'RECOVERY NOTE BY FL DEPT OF ENV PRO 2006 (BPJ)
AF7687'RECOVERED AS DESCRIBED.
AF7687
AF7687 STATION RECOVERY (2010)
AF7687
AF7687'RECOVERY NOTE BY MARTIN COUNTY FLORIDA 2010
AF7687'RECOVERED IN GOOD CONDITION.
AF7687
AF7687 STATION RECOVERY (2015)
AF7687
AF7687'RECOVERY NOTE BY FL DEPT OF ENV PRO 2015 (BPJ)

AF7687'RECOVERED AS DESCRIBED.

AF7687

AF7687

STATION RECOVERY (2015)

AF7687

AF7687'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2015 (RMC)

AF7687'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:03



The NGS Data Sheet

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

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PROGRAM = datasheet95, VERSION = 8.12.3
1      National Geodetic Survey,  Retrieval Date = SEPTEMBER 28, 2017
AJ8597 *****
AJ8597 DESIGNATION - C 23 609
AJ8597 PID - AJ8597
AJ8597 STATE/COUNTY- FL/ST LUCIE
AJ8597 COUNTRY - US
AJ8597 USGS QUAD - INDIAN TOWN NW (1983)
AJ8597
AJ8597 *CURRENT SURVEY CONTROL
AJ8597
AJ8597* NAD 83(1986) POSITION- 27 12 23.6 (N) 080 28 53.4 (W) HD HEILD2
AJ8597* NAVD 88 ORTHO HEIGHT - 10.350 (meters) 33.96 (feet) ADJUSTED
AJ8597
AJ8597 GEOID HEIGHT - -27.086 (meters) GEOID12B
AJ8597 DYNAMIC HEIGHT - 10.334 (meters) 33.90 (feet) COMP
AJ8597 MODELED GRAVITY - 979,106.2 (mgal) NAVD 88
AJ8597
AJ8597 VERT ORDER - FIRST CLASS II
AJ8597
AJ8597.The horizontal coordinates were established by autonomous hand held GPS
AJ8597.observations and have an estimated accuracy of +/- 10 meters.
AJ8597.
AJ8597.The orthometric height was determined by differential leveling and
AJ8597.adjusted by the NATIONAL GEODETIC SURVEY
AJ8597.in May 2002.
AJ8597
AJ8597.Significant digits in the geoid height do not necessarily reflect accuracy.
AJ8597.GEOID12B height accuracy estimate available here.
AJ8597
AJ8597.Photographs are available for this station.
AJ8597
AJ8597.The dynamic height is computed by dividing the NAVD 88
AJ8597.geopotential number by the normal gravity value computed on the
AJ8597.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ8597.degrees latitude (g = 980.6199 gals.).
AJ8597
AJ8597.The modeled gravity was interpolated from observed gravity values.
AJ8597
AJ8597; North East Units Estimated Accuracy
AJ8597;SPC FL E - 318,396. 251,367. MT (+/- 10 meters HH2 GPS)
AJ8597
AJ8597_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNL5134909419(NAD 83)
AJ8597
AJ8597 SUPERSEDED SURVEY CONTROL
AJ8597
AJ8597.No superseded survey control is available for this station.
AJ8597
AJ8597_MARKER: DD = SURVEY DISK
AJ8597_SETTING: 31 = SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.
AJ8597_SP_SET: GUARDRAIL
AJ8597_STAMPING: C-23 609
AJ8597_MARK LOGO: SFLWMD
AJ8597_MAGNETIC: N = NO MAGNETIC MATERIAL
AJ8597_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
AJ8597_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR
AJ8597+SATELLITE: SATELLITE OBSERVATIONS - January 13, 2015

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AJ8597
 AJ8597 HISTORY - Date Condition Report By
 AJ8597 HISTORY - 1994 MONUMENTED SFLWMD
 AJ8597 HISTORY - 20010906 GOOD FOST
 AJ8597 HISTORY - 20060817 GOOD FLDEP
 AJ8597 HISTORY - 20150113 GOOD FLDEP

STATION DESCRIPTION

AJ8597'DESCRIBED BY CHARLEY FOSTER AND ASSOCIATES 2001 (JB)
 AJ8597'THE MONUMENT IS LOCATED 13.0 MILES (20.92 KM) NORTH OF INDIANTOWN, FL.
 AJ8597'AND 14.0 MILES (22.53 KM) WEST
 AJ8597'OF PALM CITY, FL., SECTION 36, TOWNSHIP 37 SOUTH, RANGE 38 EAST.
 AJ8597'
 AJ8597'OWNERSHIP IS ST. LUCIE COUNTY RIGHT OF WAY.
 AJ8597'
 AJ8597'TO REACH THE MONUMENT FROM THE INTERSECTION OF COUNTY ROAD 714 AND
 AJ8597'COUNTY ROAD 609, 11.1 MILES
 AJ8597'(17.86 KM) WEST OF THE JUNCTION OF THE FLORIDA TURNPIKE, STATE ROAD
 AJ8597'714 AND COUNTY ROAD 714 IN
 AJ8597'PALM CITY FL., GO NORTH ON COUNTY ROAD 609 FOR 3.0 MILES (4.83 KM) TO
 AJ8597'MONUMENT LOCATION ON WEST
 AJ8597'SIDE (LEFT) OF HIGHWAY AT THE NORTHWEST END OF BRIDGE NO. 940026 AT
 AJ8597'GUARDRAIL ATTACHMENT.
 AJ8597'
 AJ8597'THE MONUMENT IS 21.5 FEET (6.55 M) WEST OF THE CENTERLINE OF COUNTY
 AJ8597'ROAD 609, 67.0 FEET (20.42 M)
 AJ8597'SOUTH OF THE CENTER OF A DIRT CANAL/ORANGE GROVE ACCESS ROAD, 5.1 FEET
 AJ8597'(1.55 M) SOUTHEAST OF THE
 AJ8597'EAST POST OF A SIGN READING C-23 SFLWMD PROTECTING OUR WATER
 AJ8597'RESOURCES, 1.6 FEET (0.49 M) SOUTH
 AJ8597'OF THE END OF CONCRETE GUARDRAIL ANCHOR AT NORTHWEST CORNER OF BRIDGE.

STATION RECOVERY (2006)

AJ8597'RECOVERY NOTE BY FL DEPT OF ENV PRO 2006 (BPJ)
 AJ8597'RECOVERED AS DESCRIBED.

STATION RECOVERY (2015)

AJ8597'RECOVERY NOTE BY FL DEPT OF ENV PRO 2015 (BPJ)



Wise, Michael

From: opus <opus@ngs.noaa.gov>
Sent: Tuesday, October 03, 2017 3:08 PM
To: Wise, Michael
Subject: OPUS solution : BM_WMD10515A OP1507057594059

FILE: BM_WMD10515A OP1507057594059

2005 NOTE: The IGS precise and IGS rapid orbits were not available
2005 at processing time. The IGS ultra-rapid orbit was/will be used to
2005 process the data.
2005

NGS OPUS SOLUTION REPORT

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

USER: mwise@SFWMD.gov DATE: October 03, 2017
RINEX FILE: bm_w276o.17o TIME: 19:07:48 UTC

SOFTWARE: page5 1603.24 master90.pl 160321 START: 2017/10/03 14:17:00
EPHEMERIS: igu19692.eph [ultra-rapid] STOP: 2017/10/03 16:39:00
NAV FILE: brdc2760.17n OBS USED: 5403 / 5874 : 92%
ANT NAME: TPSHIPER_V NONE # FIXED AMB: 36 / 42 : 86%
ARP HEIGHT: 2 OVERALL RMS: 0.023(m)

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) IGS08 (EPOCH:2017.7552)

X: 939264.339(m) 0.008(m) 939263.537(m) 0.008(m)
Y: -5598228.237(m) 0.025(m) -5598226.656(m) 0.025(m)
Z: 2898518.863(m) 0.008(m) 2898518.698(m) 0.008(m)

LAT: 27 12 21.30462 0.012(m) 27 12 21.32496 0.012(m)
E LON: 279 31 27.52532 0.011(m) 279 31 27.50610 0.011(m)
W LON: 80 28 32.47468 0.011(m) 80 28 32.49390 0.011(m)
EL HGT: -17.376(m) 0.020(m) -18.957(m) 0.020(m)
ORTHO HGT: 9.718(m) 0.037(m) [NAVD88 (Computed using GEOID12B)]

UTM COORDINATES STATE PLANE COORDINATES

UTM (Zone 17) SPC (0901 FL E)

Northing (Y) [meters]	3009351.506	318328.137	N- 1044381.563
Easting (X) [meters]	551925.110	251942.832	E- 826582.441
Convergence [degrees]	0.23971574	0.23971574	
Point Scale	0.99963328	0.99997447	
Combined Factor	0.99963601	0.99997720	

US NATIONAL GRID DESIGNATOR: 17RNL5192509351(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH3757	WACH WAUCHULA CORS ARP	N273051.042	W0815256.615	143301.4
DE9138	OKCB OKEECHOBEE CORS ARP	N271557.715	W0805119.181	38187.5
DI3564	CCV6 CAPE CANAVERAL 6 CORS ARP	N282735.827	W0803243.702	139134.7

NEAREST NGS PUBLISHED CONTROL POINT

AF7687	F009	N271221.312	W0802852.821	559.9
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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

4 October 2017

INPUT

State Plane, flhpgn - Florida HPGN
0901 - Florida East, Meters
Vertical - NAVD88, U.S. Feet

OUTPUT

Geographic, flhpgn - Florida HPGN
Vertical - NGVD29 (Custom), U.S. Feet

MHF-40

1/1

Northing/Y: 318328.137

Easting/X: 251942.832

Elevation/Z: 0

Convergence: 0 14 22.97666

Scale Factor: 0.999974470

Combined Factor: 0.999978718

Latitude: 27 12 21.30463

Longitude: 80 28 32.47469

Elevation/Z: 1.444

Remark:

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

DBHYDRO | by station

STATION INFORMATION

Station	MF-40L
Site	MFH40
Type	SUBSTATION
Latitude (ddmmss.sss)	271221.4
Longitude (ddmmss.sss)	802832.5
X Coord (ft) NAD83	826580.032
Y Coord (ft) NAD83	1044391.078
County	Martin
Basin	C-23
Section	6
Township	38
Range	39
Show Map	Google Map
Well Info	Info
Description	Lower Monitor Interval (1100 - 1200 ft bls)
Notes	
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	MF-40U
Site	MFH40
Type	SUBSTATION
Latitude (ddmmss.sss)	271221.4
Longitude (ddmmss.sss)	802832.5
X Coord (ft) NAD83	826580.032
Y Coord (ft) NAD83	1044391.078
County	Martin
Basin	C-23
Section	6
Township	38
Range	39
Show Map	Google Map
Well Info	Info
Description	Upper Monitor interval (790 - 970 ft bls)
Notes	
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	MH-40
Site	MFH40
Type	WELL
Latitude (ddmmss.sss)	271221.232
Longitude (ddmmss.sss)	802832.46
X Coord (ft) NAD83	826583.743
Y Coord (ft) NAD83	1044374.162
County	Martin
Basin	C-23
Section	6
Township	38
Range	39
Show Map	Google Map
Well Info	Info
Description	HAWTHORN MONITOR WELL ON C-23 CANAL
Notes	
Nearby Stations	Nearby Stations
Attachments	None Available

Query returned 1 station record(s).

Get Time Series Data