



SURVEYOR'S REPORT

**Specific Purpose Survey of the
United States Geological Survey
Recorder Well G-561
in
Broward County, Florida**

Prepared for:

South Florida Water Management District

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Prepared by:

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Florida Professional Surveyor and Mapper
License Number 5381
State of Florida

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Tel (321) 354-9826

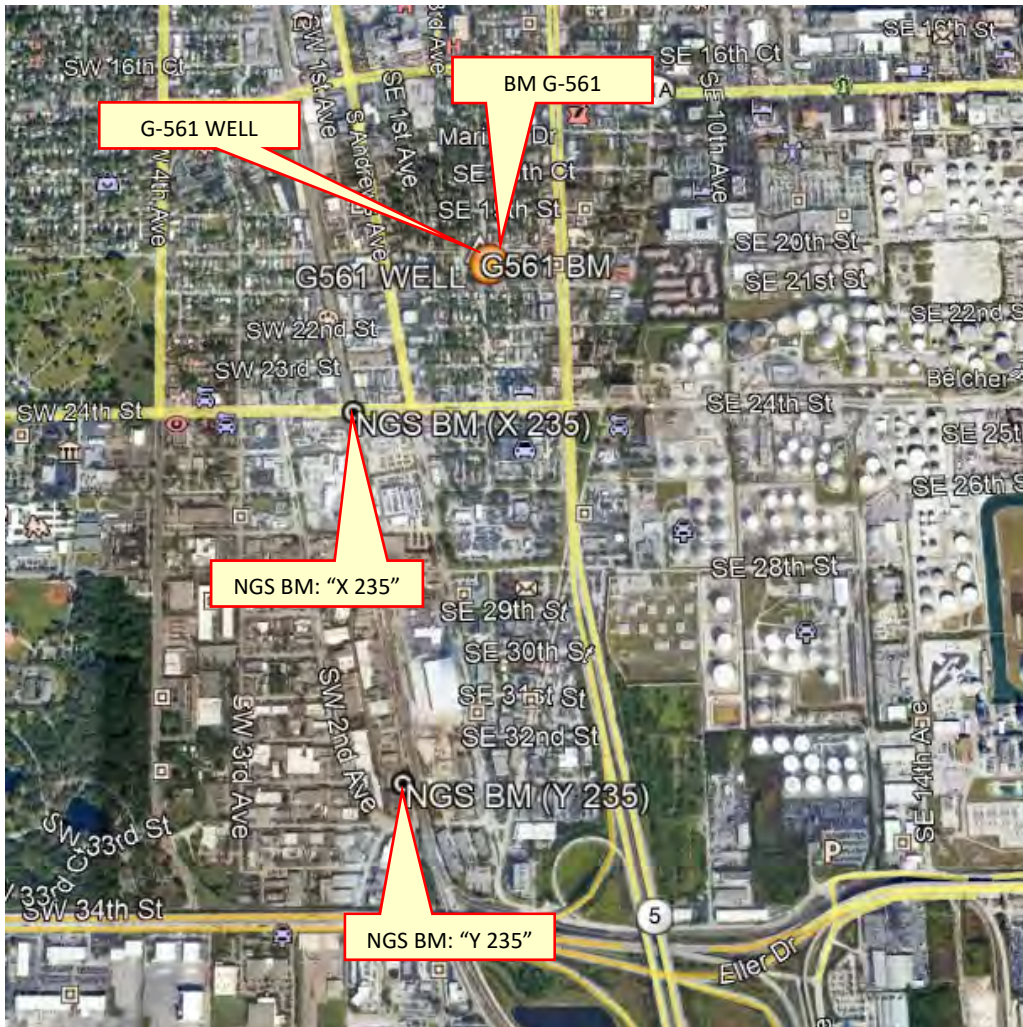
Field Date: September 24-27, 2019
Report Date: December 4, 2019
PO NO: 9500008146

PURPOSE

The objective of this work order is to supply NAVD 88 elevations on the site benchmark, ground elevation at the site, well monitoring point and any USGS benchmarks at the site. In addition, horizontal positions of each well and benchmark need to be provided in the North American Datum of 1983.

LOCATION OF PROJECT

The United States Geological Survey's Recorder Well **G-561** is located in Section 15, Township 50 South, Range 42 East, Broward County, Florida.



General Location (Intended Display scale is "Not to Scale")

PROJECT VERTICAL DATUM

The project vertical datum is the North American Vertical Datum (NAVD) of 1988.

To convert the NAVD 88 elevation to the National Geodetic Vertical Datum of 1929 at station **G-561 (G561 2019), add 1.59'**. These values are based on Corpscon 6.0.1 a US. 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 US. Army Corps of Engineers South Atlantic Division, Jacksonville, FL.

PROJECT HORIZONTAL DATUM

All horizontal data shall be collected in and based on the North American Datum of 1983, 2011 adjustment (NAD 83/11). Horizontal coordinate control shall be established from existing National Geodetic Survey (NGS) 2nd Order control or higher in the area by using GPS, RTK GPS, network RTK GPS, or OPUS derived solutions.

LEVELING METHODS (Site Benchmark)

The leveling for this project was performed in accordance with standard survey practice using conventional third order methods, techniques and equipment.

The allowable error (.02 $\sqrt{\text{miles}}$) on this project meets or exceeds third order closures as required by SFWMD for this project per executed SOW for 4600003706-WO03 and discussions with SFWMD.

A level loop was run from the NGS Benchmark "X 235" (AD2481), through the well site benchmark, and back to the NGS Benchmark "X 235" (AD2481). A GPS base was then set on NGS BM "Y 235" (AD2478) and a GPS Rover was then checked into NGS Benchmark "X 235" to prove its elevation. The measurements were collected using a Digital Level and were hand written in Whidden Surveying & Mapping, Inc. Field Book W 203 Page 67, and field book W212 page 59 dated September 16, 2019 and November 15, 2019, reduced and adjusted electronically. Additional data was manually recorded in the field book.

GPS METHODS (horizontal position of site benchmark)

Latitude and Longitude for Benchmark G-561 (G561 2019) were established by observing a 3-minute session of GPS data on September 24-27, 2019 using a Trimble R-8-3 and The Florida Permanent Reference Network (FPRN). The FPRN network consists of nearly 100 Continuously Operating Reference Stations (CORS) located throughout Florida.

EQUIPMENT USED

- Trimble GPS unit R8-3 Serial #: 5213485282
- Trimble GPS unit SP80 Serial #: 5447900112
- Dini Digital Level Serial #: 735642

LEVELING METHODS (Site: ground elevation-well monitoring point- USGS benchmarks)

A level loop was run from the previously established Site Benchmark G-561 (G561 2019), through the USGS benchmarks "RM 10", "RM 11", and "RM 12", through the ground shot north of the well casing enclosure (ground elevation), through the well monitoring point, and back to the Site Benchmark. The measurements were collected using an Automatic Level and were hand written in Dewberry Engineering, Inc. Field Book S.F.W.M.D. #1, Pages 41-44, dated September 24-27, 2019. Additional data was manually recorded.

GPS METHODS (horizontal position of Well G-561 monitoring point & USGS Benchmarks)

Latitude and Longitude for USGS RM 10 (nail in concrete curb inlet), and USGS RM 12 (Nail in concrete storm catch basin) were established by observing a 3-minute session of GPS data on September 24-27, 2019 using a Spectra SP-80 and The Florida Permanent Reference Network (FPRN). Due to tree canopy and other obstructions, the Latitude and Longitude for the monitoring point of well G-561 and USGS RM 11 were established by chaining distances from nearby references points, said points were utilized using a Spectra SP-80 and the (FPRN). The FPRN network consists of nearly 100 Continuously Operating Reference Stations (CORS) located throughout Florida.


EQUIPMENT USED


- Spectra SP-80 Rover Serial #: 1165
- Topcon AT-G2 Serial #: 1439

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VERTICAL CONTROL POINT

The Vertical Control point utilized and set as part of this survey is the:

NGS Benchmark "X 235" (AD2481)						
26° 05' 33.24" (N)	80° 08' 30.79" (W)	Published	9.25 ft.	(NAVD88)	2.82 m	Published
		<p>THE MARK IS 52.6 FT SOUTH OF THE CENTERLINE OF STATE ROAD 84, 25.4 FT EAST OF THE MOST EASTERN RAIL OF RAILROAD TRACKS, 2 FT EAST OF A METAL WITNESS POST, 1.6 FT SOUTH OF A CHAIN LINK FENCE, AND 1.4 FT EAST OF A CHAIN LINK FENCE. THE MARK IS A DISC SET FLUSH IN THE TOP OF A CONCRETE MONUMENT FLUSH TO GROUND LEVEL</p> <p>NGS BENCHMARK IS A DISC ON A CONCRETE MONUMENT</p> <p>STAMPING: U.S. COAST AND GEODETIC SURVEY BENCHMARK X 235 1965</p>				

NGS Benchmark "Y 235" (AD2478)						
26° 05' 03.49" (N)	80° 08' 26.05" (W)	Published	7.89 ft.	(NAVD88)	2.41 m	Published
		<p>IN FORT LAUDERDALE, AT 111 SOUTHWEST 33RD STREET, 92.5 FT WEST OF THE NEAR RAIL OF THE FLORIDA EAST COAST RAILROAD, 28.9 FT WEST OF AND LEVEL WITH THE CENTER OF SOUTHWEST 1ST TERRACE, (28.2 FT) NORTH OF THE NORTHEAST CORNER OF THE DME OFFICE AT 111 SOUTHWEST 33RD STREET, 3.6 FT NORTHWEST OF UTILITY LIGHT POLE NUMBER 3261, 2.3 FT NORTH OF THE SOUTHEAST CORNER OF A CHAIN-LINK FENCE, 1.3 FT EAST OF THE FENCE, 1.3 FT SOUTH OF A WITNESS POST, AND THE MONUMENT IS FLUSH WITH THE GROUND SURFACE.</p> <p>NGS BENCHMARK IS A DISC ON CONCRETE MONUMENT</p> <p>STAMPING: U.S. COAST AND GEODETIC SURVEY BENCHMARK Y 235 1965</p>				

SURVEYOR'S REPORT

BM: G-561 (Existing on site benchmark)					
26° 05'47.15" (N)	80° 08' 19.53" (W)	7.36 ft.	(NAVD88)	2.25 m	Level run
NAD_83(2011)		8.95 ft.	(NGVD29)	2.73 m	Converted
			1.59 ft. (conversion factor)		Corpscon 6.0.1
		STATION IS A S.F.W.M.D. BM STAMPED "G561 2019" SET IN GRASS CONCRETE UTILITY SLAB LOCATED: SOUTH OF THE INTERSECTION OF SE 20 TH STREET AND SE 4 TH AVENUE ON THE CORNER OF A CONCRETE UTILITY SLAB			

Field Book W203, Page 67

STA	+	H.I.	-	E.L.
8235				8.85
	4.571	13.182		
TP 1	4.146	19.101	4.655	9.565
TP 2	5.1088	14.474	-0.591	9.514
TP 3	8.748	12.657	-2.461	6.954
TP 4	8.436	13.177	0.327	7.681
TP 5	4.55	17.436	-0.326	7.455
TP 6	4.449	11.497	1.088	7.598
TP 7	8.476	11.799	-1.024	6.774
TP 8	4.641	18.250	0.852	7.866
TP 9	8.783	17.529	-1.610	6.756
TP 10	3.542	12.956	-0.607	7.568
TP 11	4.647	14.37	0.316	7.279

STA	+	H.I.	-	E.L.
TP 12	7.589	14.434	-0.822	6.856
TP 13	8.025	13.986	2.127	8.793
TP 14	4.845	13.566	-0.166	8.831
TP 15			0.436	9.257 (X=85)

NGS BM "X 235"
Elev. 9.25' (NAVD88)

NGS BM "X 235"
Elev. 9.25' (NAVD88)

Site BM G-561
Elev. 9.36' (NAVD88)

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Field Book 212 page 59

OSGL 11519

RTW 0.005 20 4.855 cm/d 4.855" (2.25m)

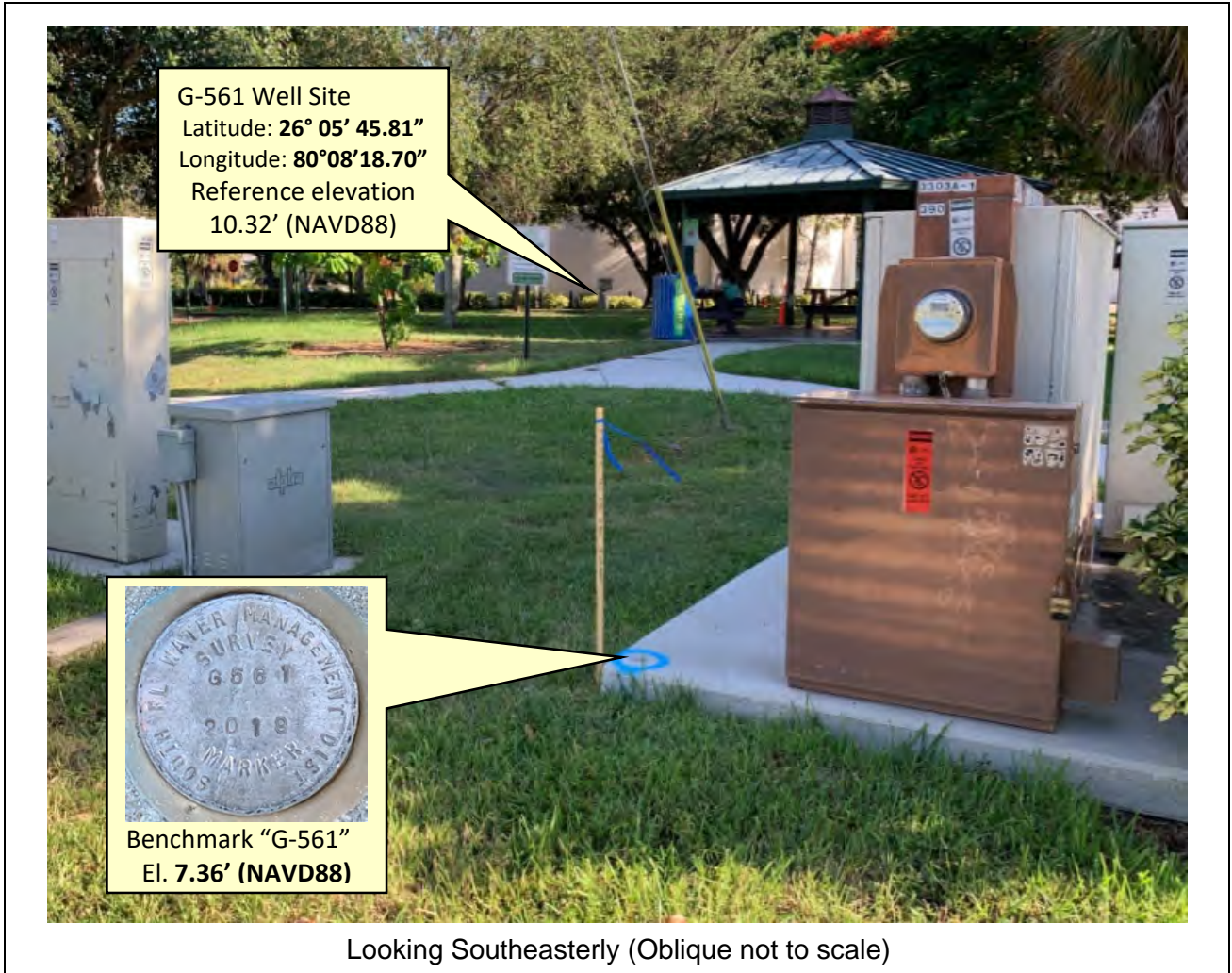
XISSCH 20 4.855 cm/d 4.855" (2m)

H. 0.029
V. 0.008

11-15-19 W 212/89

PROJECT RESULTS

Overall Site




SURVEYOR'S REPORT

Tabular Form

Reference and Ground Elevations: NAVD88			
Well	Ground Elevation	Reference Elevation	Comments
G-561	7.3 ft.	10.32 ft.	NW edge on top of metal base at sharpie mark
Offset to NGVD29: +1.59' (See Project Vertical Datum Notes in Page: 4)			
Well diameter		Casing material	DTW
6"		Corrugated metal pipe	-9.40 ft. (9/27/19 at 5:35 PM)

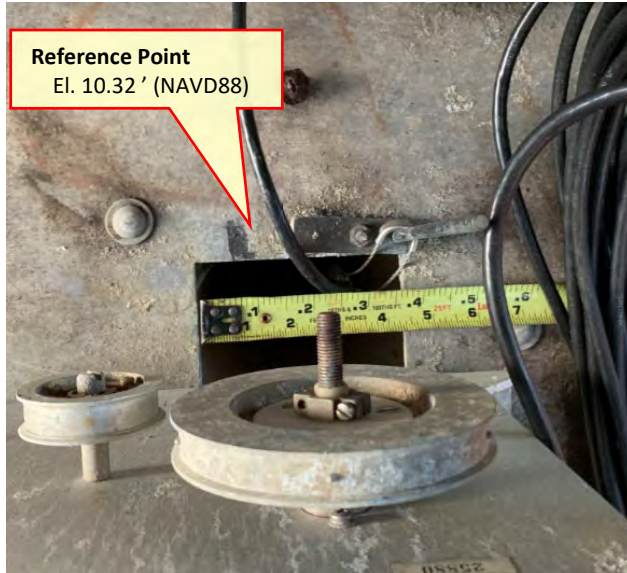
Source & Site Benchmark	NAVD88	NGVD29 (Published)	NGVD29 (Corpscon)
NGS "X 235" (AD2481)	9.25 ft. (Published)	10.84 ft.	
NGS "Y 235" (AD2478)	7.89 ft. (Published)	9.50 ft.	
BM G-561 (SFWMD)	7.36 ft. (Measured)		8.95 ft. (Converted)

Well Photos and Diagrams (Continued)

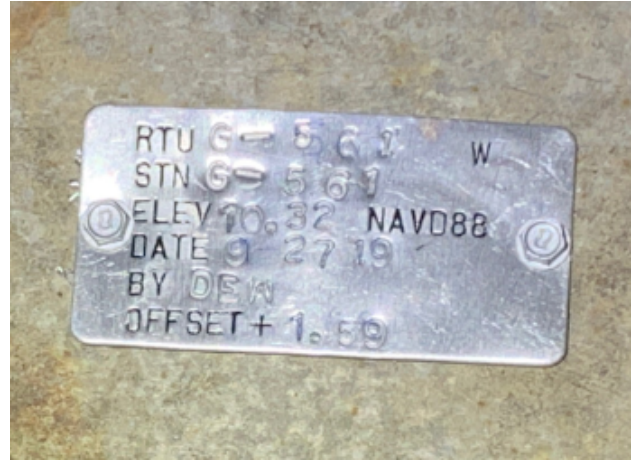
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">PT#</th> <th style="width: 65%;">DESCRIPTION</th> <th style="width: 15%;"></th> <th style="width: 5%;"></th> </tr> </thead> <tbody> <tr> <td>12031</td> <td>MP @ TOP OF PVC CASING</td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: center;">~~~~~</td> </tr> <tr> <td colspan="4">TASK: MEASURE & RECORD DISTANCE FROM MARKING POINT TO WATER LINE.</td> </tr> <tr> <td colspan="4">MEASUREMENT: 4.81'; AS MEASURED FROM BLACK SHARPIE MARK ON NORTH EDGE OF PVC CASING (6.25")</td> </tr> <tr> <td colspan="4">TIME: 1:17 PM</td> </tr> <tr> <td colspan="4" style="text-align: center;">~~~~~</td> </tr> <tr> <td colspan="4">THIS WELL SITE IS LOCATED IN A CONCRETE 'IN-GROUND' or 'BELOW GRADE' ENCLOSURE IN A GRASS AREA TO THE SOUTH WEST OF A COMMUNITY OUTDOOR HOCKEY RINK, JUST OFF THE EASTERN R/W OF NE 3RD AVENUE.</td> </tr> </tbody> </table>	PT#	DESCRIPTION			12031	MP @ TOP OF PVC CASING			~~~~~				TASK: MEASURE & RECORD DISTANCE FROM MARKING POINT TO WATER LINE.				MEASUREMENT: 4.81'; AS MEASURED FROM BLACK SHARPIE MARK ON NORTH EDGE OF PVC CASING (6.25")				TIME: 1:17 PM				~~~~~				THIS WELL SITE IS LOCATED IN A CONCRETE 'IN-GROUND' or 'BELOW GRADE' ENCLOSURE IN A GRASS AREA TO THE SOUTH WEST OF A COMMUNITY OUTDOOR HOCKEY RINK, JUST OFF THE EASTERN R/W OF NE 3RD AVENUE.			
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SURVEYOR'S REPORT

Well Photos and Diagrams (Continued)



Overhead View (Oblique Not to scale)



Surveyors' Notes:

1. All measurements herein are in United States Survey feet and decimal thereof, unless otherwise specified.
2. Underground utilities were not located as part of this survey.
3. This survey report or copies thereof are not valid without the original signature and seal of a Florida licensed Surveyor and Mapper.
4. Additions or deletions to this survey report by other than the signing party (or parties) is prohibited without written consent of the signing party (or parties).
5. To convert from NAVD 88 to NGVD 29 add 1.59 feet. This value is based on 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.
6. Date of last field work: September 24-27, 2019, PO NO: 9500008146
7. SFWMD Data records (on file at the District's headquarters):
8. A. Electronic Data files:
 - Miscellaneous picture files
- B. Conventional reporting
 - Field Book: W203 page 67 and W212 page 59

SURVEYOR'S REPORT

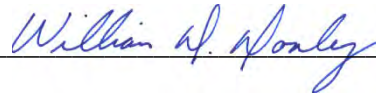
Abbreviations:

Elev.	-	Elevation
DTW	-	Distance to the water table inside the well
BroCo.	-	Broward County
NAVD88	-	North American Vertical Datum of 1988
NGVD29	-	National Geodetic Vertical Datum of 1929
NGS	-	National Geodetic Survey
PSM	-	Professional Surveyor & Mapper
PID	-	Permanent Identifiers
SFWMD	-	South Florida Water Management District
USGS	-	United States Geological Survey
MP	-	Monitoring Point
GS	-	Ground Shot
BM	-	Benchmark
RM	-	Reference Monument

SURVEYOR'S CERTIFICATION

In my professional opinion this Specific Purpose Survey meets applicable portions of the Standards of Practice set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 5J-17, Florida Administrative Code. This report is prepared for the sole and specific use of the South Florida Water Management District and is not assignable.

Last date of Survey
Sept. 27, 2019



William Donley, PSM
Florida Professional Surveyor and Mapper
License Number 5381
State of Florida
Dewberry Engineering, Inc. LB No 8011
131 West Kaley Street, Orlando, FL. 32806
Tel (321) 354-9826



South Florida Water Management District Benchmark Datasheet

Designation: G-561	Project Name: USGS Ph 2, BROWARD	Type: V	State Plane Zone: FL East
Stamping: G561 2019	Field Book Name: W203	Field Book Page: 67	
Established By: DEWBERRY / WHIDDEN	Recovered By: N/A	Recovery Date: N/A	
Surveyor: WILLIAM D. DONLEY	Established Date: 09/16/19	Status: New	

GEOGRAPHIC POSITION INFORMATION			
Section: 15	Township: 50 SOUTH	Range: 42 EAST	
County: BROWARD	Quadrangle: FORT LAUDERDALE SOUTH	Quad Index: 1702	NGS Source BM(s): X 235
NAD83 Adj. Year: 2011	Vertical Datum: NAVD1988	Horizontal Datum: NAD1983	NGS PID(s): AD2481
NAVD88 Elevation (feet): 7.36	NGVD29 Elevation (feet): 8.95	2022 Elevation: N/A	NGS NAVD88 Elev (ft): 9.25
NAVD88 Class: N/A	NGVD29 Class: N/A	Other Elevation: N/A	NGS NAVD88 Elev (m): 2.82
NAVD88 Order: 3	NGVD29 Order: 3	Other Elevation Type: N/A	NGS 2022 Elev (ft): N/A

CORPSCON 6.0.1 CONVERSION FACTOR (NAVD88 TO NGVD29): (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 datums using vertical offsets and vertical datum files created by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville, Florida.)

Vertical Datum Offset: + **1.59** Actual NGS Elevation or ngvd29.txt file: _____ OPUS Ortho Height: **N/A**

Northing (Y) (feet): **607690.7** Easting (X) (feet): **936374.8** Source of Latitude & Longitude: **AVERAGED FPRN & TRIMBLE VRSNOW RTK**

Latitude: **26** **5** **47.15** Longitude: **80** **8** **19.53**

DD° MM' SS" DD° MM' SS"

Latitude (Decimal Degrees): **26.096431** Longitude (Decimal Degrees): **-80.138758**

RECOVERY DATA

How to Reach:

1. FROM I-95, TAKE EXIT 25 FOR FL-84/MARINA MILE BLVD & HEAD EASTERLY FOR 1.7 MILES
2. TURN LEFT ONTO S ANDREWS AVE, CONTINUE 0.25 MILES
3. TURN RIGHT ONTO SE 20TH ST
4. TRAVEL 815 FEET TO THE MARK ON THE RIGHT

Description/Notes: **2" ALUMINUM SFWMD DISK SET IN NE CORNER OF CONCRETE TRANSFORMER PAD.**

Notable Landmarks: **POINCIANA PARK**

Other Source Benchmarks: **N/A**

PICTURES

Aerial View of Overall Site

BM shown circled in blue paint in NE corner of

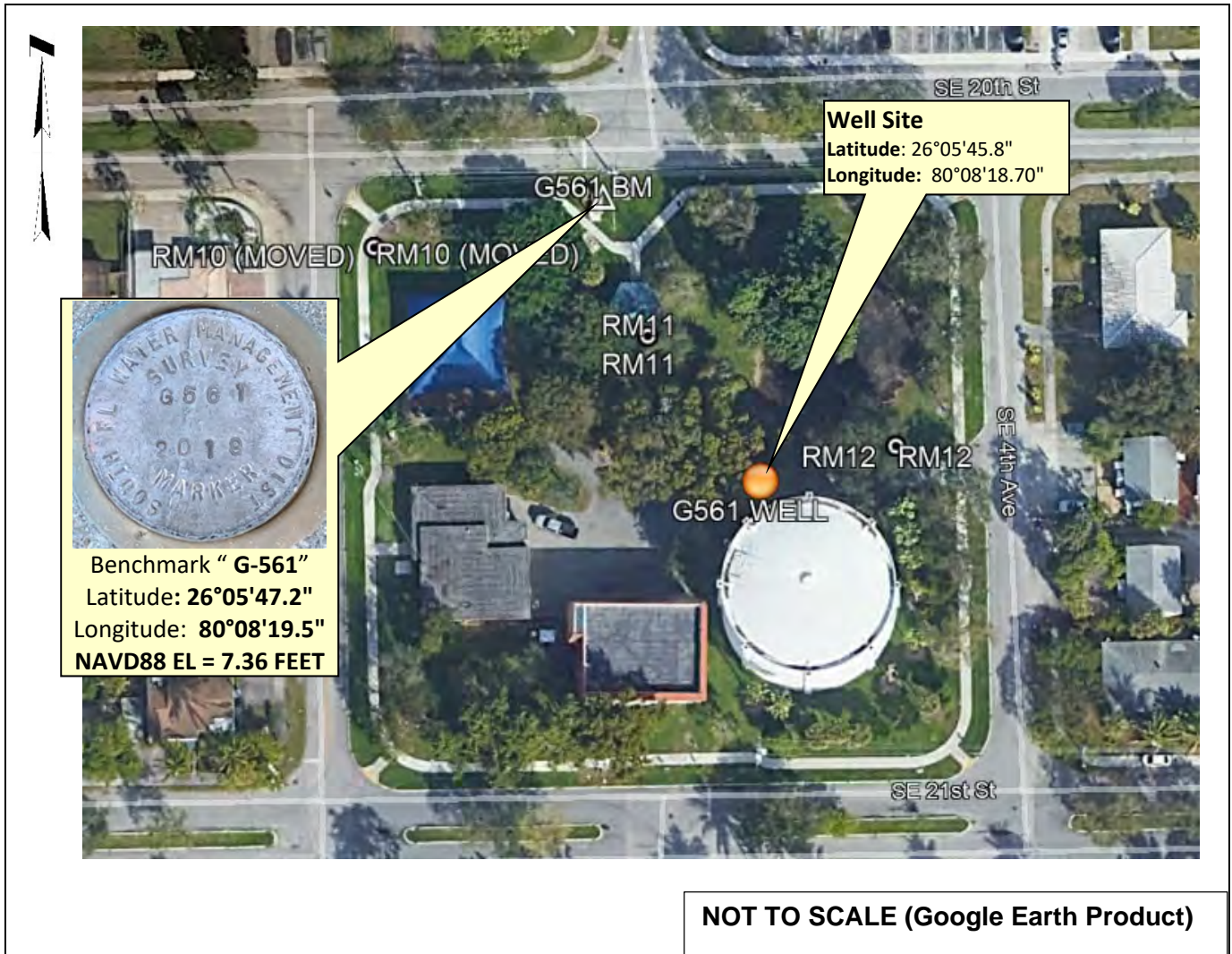
NOT TO SCALE. AERIAL FROM GOOGLE EARTH.

PICTURES

Site Sketch

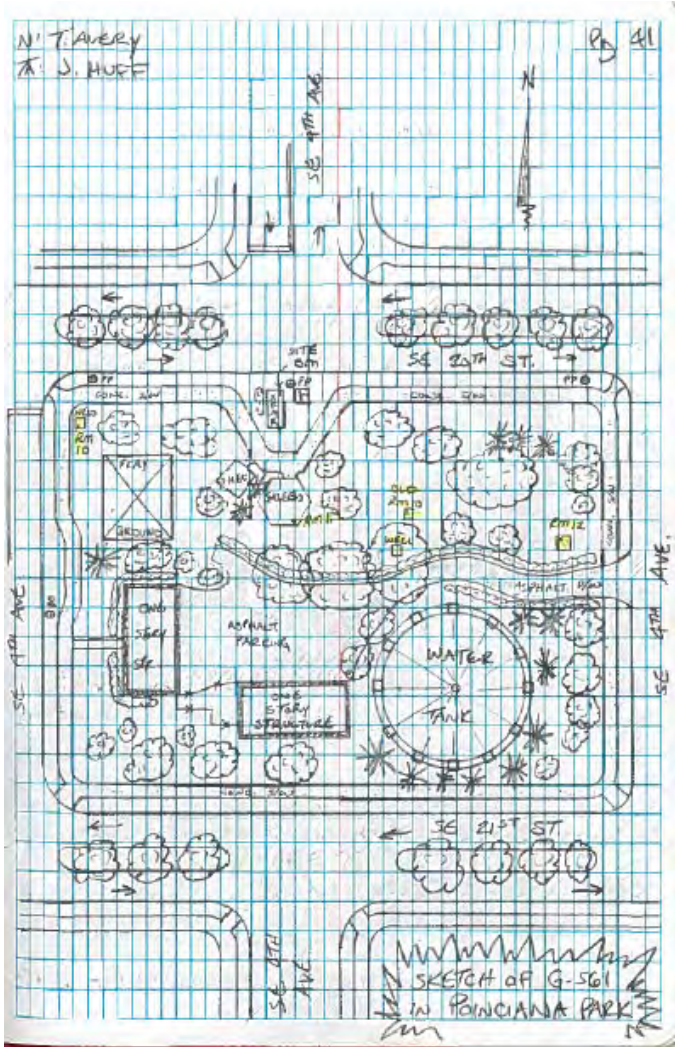


SOUTH FLORIDA WATER MANAGEMENT DISTRICT



SKETCH

FIELD BOOK SFWMD #1, PAGE 41 & 44



SPECTRA SP. 300 S.F. 62.11.10
RANGE 4/11/65 U.S. G.S. WELLS & B.M.S.
TRUMBULL WET SITE G-561 6/27/14

21.55' (1 FT 0 1/2") (PT # 12078)
45.10' (2 FT 0 1/2") (PT # 12074)

12078
N - 641605.39094
E - 938862.661509
12076
N - 641514.880783
E - 938946.311689

MEASUREMENT POINT
WELL ENCLOSURE

600 FT # 5800
N = 641609.10616
E = 938939.682348

22162
AL 12074 → 12078
276° 53' 36"

CONCRETE
RITH

IN ORDER TO OBTAIN A DIRECT READING ON RITH DUE TO LOW CEILING HEIGHT IN GARAGE & TREE CANOPY

UNABLE TO OBTAIN DIRECT GPS READING ON MEASUREMENT POINT FOR WELL ENCLOSURE DUE TO TREE CANOPY

IN ORDER TO OBTAIN A HORIZONTAL LOCATION ON THESE OBJECTS, AN OFFSET (1/2) WAS GIVEN & THEN DEALT WITH THE POINT OF INTEREST. SIMPLY, HOLD THE DISTANCE MINUS OFFSET (1/2) PT # 5, A LATITUDE & DEPARTURE CAN BE CALCULATED FROM POINT E 63.1341" → 12078

52.85' (1 FT 9 1/2") (PT # 12074)

15.70' (2 FT 0 1/2") (PT # 12074)

Office

Project

2 December 2019

INPUT

State Plane, NAD83
0901 - Florida East, U.S. Feet
Vertical - NAVD88, U.S. Feet

OUTPUT

Geographic, NAD83
Vertical - NGVD29 (Vertcon94), U.S. Feet

BM G-561

1/2

Northing/Y: 641673.9
Easting/X: 938817.3
Elevation/Z: 7.36
Convergence: 0 22 43.93093
Scale Factor: 1.000032785
Combined Factor: 1.000036455

Latitude: 26 05 47.15392
Longitude: 80 08 19.52560
Elevation/Z: 8.948

WELL G-561

2/2

Northing/Y: 641538.69
Easting/X: 938893.50
Elevation/Z: 10.32
Convergence: 0 22 44.27618
Scale Factor: 1.000032835
Combined Factor: 1.000036363

Latitude: 26 05 45.80985
Longitude: 80 08 18.69963
Elevation/Z: 11.908

SPECTRA SPEED S.F.W.M.D. CA/24/19
 RIVER #1: USGS WEWS E. RMS CA/27/19
 TAMBIE NGT JOB# 50099999
 T RIVER HT: G-561 WELL SITE: G-561

TASK: OBTAIN HORIZONTAL LOCATIONS ON ALL REF APPROPRIATE STATION & MEASURING POINT

STARTED AS

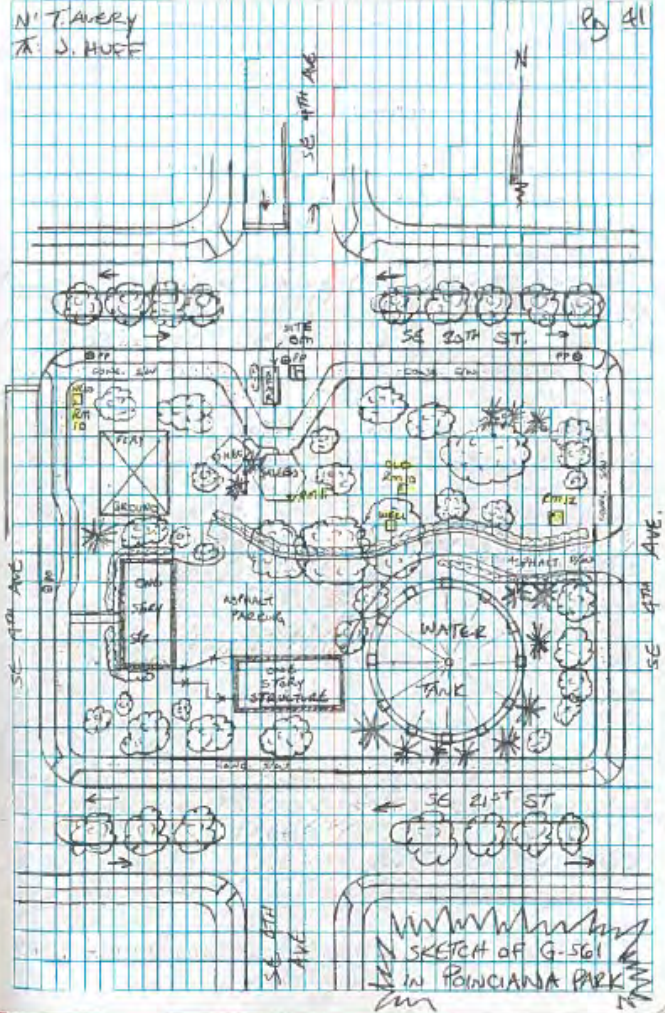
(9/27/19) PT#	(N) ELEV	(E) ELEV	(Z) ELEV	PT#	DESCRIPTION
5/6	2	0.025	-0.067	F 0.059	SOS2 CHK IN RM @ G561
* LOCATED PT #'S 12074-12079					
5/0	2	0.076	-0.030	F 0.045	SOS3 CHK OUT RM @ G561

* IT SHOULD BE NOTED THAT DUE TO LIVE OAK TREE CANOPY AT THE WELL LOCATIONS, HORIZONTAL COORDINATES COULD NOT BE OBTAINED DIRECTLY. THE COORDINATES WILL NEED TO BE CALCULATED FROM OFFSET SHOTS USING A BEARING, AZIMUTH & DISTANCE. SEE PG. 44 FOR FURTHER DETAILS.

PT#s	DESCRIPTION
12074	1M 10 - REC. LEAD NAIL IN CONC. PAD *
12075	RM 12 - REC. LEAD NAIL IN CONC. CATCH BASIN
12076	OFFSET SHOT A-G-561 (O/S DISTANCE = 52.05')
12077	" B-G-561
12078	OFFSET SHOT A-RM 11 (O/S DISTANCE = 22.55')
12079	" B-RM 11

TASK: MEASURE DISTANCE FROM WATER LINE TO MEASURING POINT (BLACK SHARPIE MARK ON TOP OF METAL FACE @ NAIL EDGE) MATERIAL: 6" PVC WELL HEAD, 17" CONG. BASE IN CONG. CORRUGATED METAL PILING 24" x 26" BOX

TIME: 5:35 PM MEASUREMENT: 9.90'



Tolson S.F.W.M.D. 01/29/19
 AT-60 USGS Wells & Bms
 S/N: 1439 Job #: 50009999
 WELL SITE: G-56

TASK: ELEVATE MONITORING POINT @ NW EDGE OF WELL BASE ENCLOSURE, GROUND AROUND ENCLOSURE & ANY REFERENCE MONUMENTATIONS

ELEVATION DESCRIPTION
 BEGIN @ ~~4000~~ ALUMINUM DISC 1/2 TOP OF CONC. FOR WELL SLAB IS BASE FOR

(WHITTEN)
(NAVD 83)

STA ID	RODS	MEAN ELEV.	BACKSIGHT (V)	PI	FORESIGHT (-)	ADJ. ELEV.
Bm	SS1	5.5700	12.93"	4.685	6.525	6.405
	SOS			4.995	6.050	
				4.305		
				38/142'		
Bm				4.685	10.075	7.435
				4.305		
				38/142'		
Bm				4.685	9.570	6.930
				5.140		
				172/876'		
Bm				5.890	9.710	7.300
				5.630		
				5.370		
				58/156'		

N: TAVERY
 T: HUFF

47

SLAB TO NORTH END OF PARK (N. OF ENCLOSURE TRANSFORMER)

FORESIGHT (-)
 DESCRIPTIONS

RM 12 - REC LEAD NAIL IN NW CORNER OF CONCRETE STORM CATCH BASIN, EAST OF WELL ENCLOSURE

RM 11 - REC. LEAD NAIL IN SE CORNER OF CONC. SLAB FOR GAZEBO

RM 10 - REC LEAD NAIL IN CONCRETE SLAB FOR TRASH CAN, @ NW EDGE OF POUCLANA PARK. IT IS BELIEVED THAT THIS CONC SLAB HAS BEEN MOVED FROM ITS ORIGINAL POSITION. BARE SPOT ON GROUND WHERE PREVIOUS DESCRIPTIONS CALL IT OUT IS SAME SPOT AS SLAB @ S. N. OF WELL ENCL.

Tolson S.F.W.M.D 09/24/19
 AT-GA USGS WELLS & B.M.
 S/N: 1A29A JOB #: 50090000
 WELL SITE: G-36

TASK: CONTINUING ELEVATING POINTS OF INTEREST

BACKSIGHT (+)		FORESIGHT (-)		ADJ
STA ID	RDS	MEAN ELEV.	RDS	MEAN ELEV. ELEV
			2.87	
B.M.		105.5700	2.615	2.6150 102.9550 10.315
		12.93	2.36	
			51'155"	

* BREAK SET-UP

	3.925		6.23	
MP	2.90	2.90 105.8550	5.85	5.8533 100.0017 7.3017
		2.505	13.215	5.98
		79'234"		75'309"

* END LEVEL LOOP

N: TAVELY P. 43
 A: J. HUFF

FORESIGHT (-)
 DESCRIPTION

@ MEASURING POINT (BLACK SHARPIE MARK AND
 BASE ENCLOSURE @ NORTH EDGE)

BACK @ STARTING POINT (SITE B.M.)

Check Io = 0.0017

STATION SP-30 S.F.W. r. 0 2/9/77/19
 RIVER #1163 USGS, WELLS & PMS
 TRIMBLE NET SITE: G-561

COGO PT # 50001, N = 641608, 10616; E = 988939, 680368
 27.55' (1st 0/S) (PT # 12078)
 2162" 21711" 45.10' (2nd 0/S) (PT # 12074)

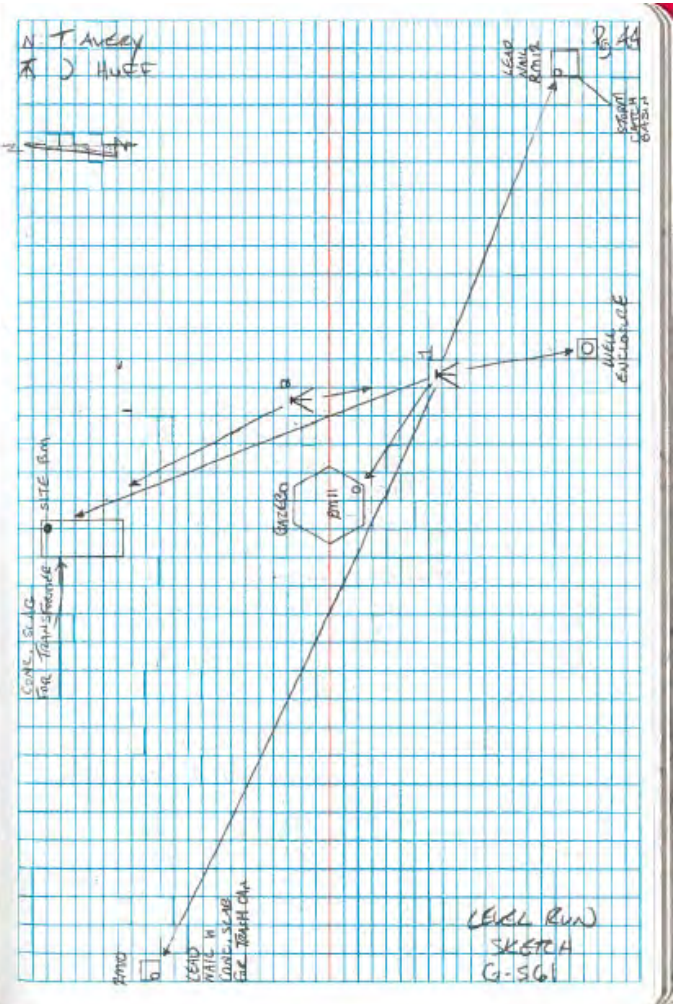
N
 270° 53' 36"

UNABLE TO OBTAIN A DIRECT READING ON RM111 DUE TO LOW CHUCKING HEIGHT ON CHECKS & FEEL NOISEY
 UNABLE TO OBTAIN DIRECT GPS READING ON MEASURING POINT FOR WELL ENCLOSURE DUE TO TREE CANOPY
 IN ORDER TO OBTAIN A HORIZONTAL LOCATION ON THESE OBJECTS, AN OFFSET (PE) WAS GIVEN, & THEN DRAWN, IN LINE WITH THE POINT OF INTEREST. I ONLY TOOK THE DISTANCE & DIRECTION (E) AT #4, A LATITUDE & DEPRESSION CAN BE CALCULATED FROM 12076 E 081° 13' 1" → 12078
 52.85' (1st 0/S) (PT # 12074)
 145.70' (2nd 0/S) (PT # 12077)

MEASURING POINT WELL ENCLOSURE
 COGO PT # 50000
 N = 641514, 880763
 E = 988946, 316899

12078
 N = 641608, 39994
 E = 988869, 467309
 12076
 N = 641514, 880763
 E = 988946, 316899

59.85'



The NGS Data Sheet

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

PROGRAM = datasheet95, VERSION = 8.12.5.2

1 National Geodetic Survey, Retrieval Date = MAY 20, 2019

AD2481 *****

AD2481 DESIGNATION - X 235
 AD2481 PID - AD2481
 AD2481 STATE/COUNTY- FL/BROWARD
 AD2481 COUNTRY - US
 AD2481 USGS QUAD - FORT LAUDERDALE SOUT (1994)

AD2481
 AD2481 *CURRENT SURVEY CONTROL

AD2481*	NAD 83(2011) POSITION-	26 05 33.24356(N)	080 08 30.78674(W)	ADJUSTED
AD2481*	NAD 83(2011) ELLIP HT-	-22.839 (meters)	(06/27/12)	ADJUSTED
AD2481*	NAD 83(2011) EPOCH	- 2010.00		
AD2481*	NAVD 88 ORTHO HEIGHT -	2.820 (meters)	9.25 (feet)	ADJUSTED
AD2481	GEOID HEIGHT	- 25.671 (meters)		GEOID12B
AD2481	NAD 83(2011) X	- 981,335.008 (meters)		COMP
AD2481	NAD 83(2011) Y	- 5,647,167.410 (meters)		COMP
AD2481	NAD 83(2011) Z	- 2,788,265.803 (meters)		COMP
AD2481	LAPLACE CORR	- 3.30 (seconds)		DEFLEC12B
AD2481	DYNAMIC HEIGHT	- 2.815 (meters)	9.24 (feet)	COMP
AD2481	MODELED GRAVITY	- 979,056.0 (mgal)		NAVD 88

AD2481 VERT ORDER - FIRST CLASS II

AD2481 Network accuracy estimates per FGDC Geospatial Positioning Accuracy Standards:

AD2481	FGDC (95% conf, cm)	Standard deviation (cm)			CorrNE
AD2481	Horiz Ellip	SD_N	SD_E	SD_h	(unitless)
AD2481	-----	-----	-----	-----	-----
AD2481	NETWORK 1.62 2.53	0.64	0.68	1.29	-0.17794612
AD2481	-----	-----	-----	-----	-----

AD2481 Click [here](#) for local accuracies and other accuracy information.

AD2481.The horizontal coordinates were established by GPS observations and adjusted by the National Geodetic Survey in June 2012.

AD2481.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has been affixed to the stable North American tectonic plate. See [NA2011](#) for more information.

AD2481.The horizontal coordinates are valid at the epoch date displayed above which is a decimal equivalence of Year/Month/Day.

AD2481.The orthometric height was determined by differential leveling and adjusted by the NATIONAL GEODETIC SURVEY in May 1994.

AD2481.WARNING-Repeat measurements at this control monument indicate possible vertical movement.

AD2481.Significant digits in the geoid height do not necessarily reflect accuracy. GEOID12B height accuracy estimate available [here](#).

AD2481

"X 235" NGS Benchmark Datasheet (2 of 5)

AD2481. [Photographs](#) are available for this station.

AD2481

AD2481.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AD2481

AD2481.The Laplace correction was computed from DEFLEC12B derived deflections.

AD2481

AD2481.The ellipsoidal height was determined by GPS observations

AD2481.and is referenced to NAD 83.

AD2481

AD2481.The dynamic height is computed by dividing the NAVD 88

AD2481.geopotential number by the normal gravity value computed on the

AD2481.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AD2481.degrees latitude (g = 980.6199 gals.).

AD2481

AD2481.The modeled gravity was interpolated from observed gravity values.

AD2481

AD2481. The following values were computed from the NAD 83(2011) position.

AD2481

AD2481;		North	East	Units	Scale Factor	Converg.
AD2481;SPC FL E	-	195,152.437	285,841.981	MT	1.00003213	+0 22 38.8
AD2481;SPC FL E	-	640,262.62	937,799.90	sFT	1.00003213	+0 22 38.8
AD2481;UTM 17	-	2,886,217.833	585,812.692	MT	0.99969092	+0 22 38.8

AD2481

AD2481! - Elev Factor x Scale Factor = Combined Factor

AD2481!SPC FL E - 1.00000359 x 1.00003213 = 1.00003572

AD2481!UTM 17 - 1.00000359 x 0.99969092 = 0.99969451

AD2481

AD2481:		Primary Azimuth Mark	Grid Az
AD2481:SPC FL E	-	190 BCED	267 38 16.7
AD2481:UTM 17	-	190 BCED	267 38 16.7

AD2481

AD2481_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ8581286217(NAD 83)

AD2481

AD2481	PID	Reference Object	Distance	Geod. Az
AD2481				dddmmss.s
AD2481	AD5698	190 BCED	APPROX. 0.5 KM	2680055.5

AD2481

AD2481

SUPERSEDED SURVEY CONTROL

AD2481

AD2481	NAD 83(2007)-	26 05 33.24363(N)	080 08 30.78735(W)	AD(2002.00)	0
AD2481	ELLIP H (02/10/07)	-22.819 (m)		GP(2002.00)	
AD2481	NAD 83(1999)-	26 05 33.24365(N)	080 08 30.78734(W)	AD()	1
AD2481	ELLIP H (12/12/02)	-22.811 (m)		GP()	4 1
AD2481	NAVD 88	2.82 (m)	9.3 (f)	LEVELING	3
AD2481	NAVD 88 (06/15/91)	2.814 (m)	9.23 (f)	SUPERSEDED	1 2
AD2481	NGVD 29 (??/??/92)	3.303 (m)	10.84 (f)	SUPERSEDED	1 2
AD2481	NGVD 29 (09/01/92)	3.303 (m)	10.84 (f)	ADJUSTED	1 2

AD2481

AD2481.Superseded values are not recommended for survey control.

AD2481

AD2481.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AD2481.See file [dsdata.pdf](#) to determine how the superseded data were derived.

AD2481

AD2481_MARKER: DB = BENCH MARK DISK

AD2481_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

AD2481_STAMPING: X 235 1965

AD2481_MARK LOGO: CGS

AD2481_PROJECTION: FLUSH

AD2481_MAGNETIC: N = NO MAGNETIC MATERIAL

AD2481_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AD2481+STABILITY: SURFACE MOTION

AD2481_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AD2481+SATELLITE: SATELLITE OBSERVATIONS - April 12, 2018

"X 235" NGS Benchmark Datasheet (3 of 5)

AD2481				
AD2481	HISTORY	- Date	Condition	Report By
AD2481	HISTORY	- 1965	MONUMENTED	CGS
AD2481	HISTORY	- 1973	GOOD	NGS
AD2481	HISTORY	- 1978	GOOD	FL-011
AD2481	HISTORY	- 1981	GOOD	FLDNR
AD2481	HISTORY	- 1982	GOOD	USPSQD
AD2481	HISTORY	- 19901221	GOOD	NGS
AD2481	HISTORY	- 19980927	GOOD	USPSQD
AD2481	HISTORY	- 20011018	GOOD	LDBLS
AD2481	HISTORY	- 20020512	GOOD	MAPTEC
AD2481	HISTORY	- 20070619	GOOD	FLDEP
AD2481	HISTORY	- 20071219	GOOD	INDIV
AD2481	HISTORY	- 20110118	GOOD	FLDT
AD2481	HISTORY	- 20140618	GOOD	GEOCAC
AD2481	HISTORY	- 20180412	GOOD	WANTGP

AD2481
AD2481 STATION DESCRIPTION

AD2481'DESCRIBED BY COAST AND GEODETIC SURVEY 1965
AD2481'0.4 MI S FROM FORT LAUDERDALE.
AD2481'ABOUT 0.35 MILE SOUTH ALONG THE FLORIDA EAST COAST RAILWAY FROM
AD2481'THE STATION AT FORT LAUDERDALE, IN SECTION 22, R 42 E, T 50 S,
AD2481'13 1/2 RAILS SOUTH OF MILEPOST 343, 25.1 FEET EAST OF THE EAST
AD2481'RAIL OF THE NORTHBOUND TRACK, 8.6 FEET SOUTH OF THE SOUTH CURB
AD2481'OF STATE HIGHWAY 84 (SW 24TH STREET), 1.3 FEET SOUTH OF THE
AD2481'SOUTH EDGE OF A CONCRETE SIDEWALK, 2 FEET WEST OF A STEEL RAIL
AD2481'WHICH IS SET IN GROUND AND PROJECTS 3 FEET ABOVE THE LEVEL OF
AD2481'THE GROUND, ABOUT LEVEL WITH THE TRACK AND SET IN THE TOP OF
AD2481'A CONCRETE POST FLUSH WITH THE GROUND.

AD2481
AD2481 STATION RECOVERY (1973)

AD2481
AD2481'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1973
AD2481'RECOVERED IN GOOD CONDITION.

AD2481
AD2481 STATION RECOVERY (1978)

AD2481
AD2481'RECOVERY NOTE BY BROWARD COUNTY FLORIDA 1978
AD2481'RECOVERED IN GOOD CONDITION.

AD2481
AD2481 STATION RECOVERY (1981)

AD2481
AD2481'RECOVERY NOTE BY FL DEPT OF NAT RES 1981
AD2481'RECOVERED IN GOOD CONDITION.

AD2481
AD2481 STATION RECOVERY (1982)

AD2481
AD2481'RECOVERY NOTE BY US POWER SQUADRON 1982
AD2481'CHANGE DESC: MARKER NOW INSIDE CHAIN LINK FENCE OF LUMBER YARD.

AD2481
AD2481 STATION RECOVERY (1990)

AD2481
AD2481'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990
AD2481'IN FORT LAUDERDALE, AT THE INTERSECTION OF SOUTHWEST 24TH STREET
AD2481'(STATE HIGHWAY 84) AND THE FLORIDA EAST COAST RAILROAD, 7.7 M (25.3
AD2481'FT) EAST OF AND LEVEL WITH THE NEAR RAIL, 5.3 M (17.4 FT) SOUTH OF
AD2481'THE CENTER OF THE EASTBOUND LANES OF THE STREET, 1.0 M (3.3 FT) EAST
AD2481'OF A WITNESS POST, 0.7 M (2.3 FT) SOUTHEAST OF A CHAIN-LINK FENCE
AD2481'CORNER, AND THE MONUMENT PROJECTS 0.1 M (0.3 FT) ABOVE THE GROUND
AD2481'SURFACE.

AD2481
AD2481 STATION RECOVERY (1998)

AD2481
AD2481'RECOVERY NOTE BY US POWER SQUADRON 1998

"X 235" NGS Benchmark Datasheet (4 of 5)

AD2481 RECOVERED IN GOOD CONDITION.

AD2481

AD2481 STATION RECOVERY (2001)

AD2481

AD2481 RECOVERY NOTE BY LD BRADLEY LAND SURVEYORS 2001 (JCH)

AD2481 THE MARK IS ABOUT 0.8 KM (0.47 MI) WEST OF PORT EVERGLADES IN SECTION
AD2481 22,

AD2481 TOWNSHIP 50 SOUTH, RANGE 42 EAST, BROWARD COUNTY, FLORIDA.

AD2481

AD2481 TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE HIGHWAY 75 AND
AD2481 U.S.

AD2481 HIGHWAY 27 (I-75 EXIT 13, NEAR ANDYTOWN) GO EAST ON INTERSTATE HIGHWAY
AD2481 75 8.1

AD2481 KM (5.04 MI) TO THE JUNCTION WITH INTERSTATE HIGHWAY 595 EAST, EXIT
AD2481 RIGHT ONTO

AD2481 INTERSTATE HIGHWAY 595 EAST, AND GO EAST ALONG INTERSTATE HIGHWAY 595
AD2481 16.3 KM

AD2481 (10.13 MI) TO THE JUNCTION WITH STATE ROAD 84, GO EAST ON STATE ROAD
AD2481 84 6.7 KM

AD2481 (4.19 MI) TO THE INTERSECTION WITH THE FLORIDA EAST COAST RAILROAD AND
AD2481 THE

AD2481 MARK ON THE RIGHT. ALSO TO REACH THE MARK FROM THE INTERSECTION OF
AD2481 STATE ROAD

AD2481 84 AND EISENHOWER BOULEVARD IN PORT EVERGLADES, GO WEST ON STATE ROAD
AD2481 84 1.0

AD2481 KM (0.62 MI) TO THE ENTRANCE-EXIT OF PORT EVERGLADES, CONTINUE WEST ON
AD2481 STATE

AD2481 ROAD 84 0.8 KM (0.47 MI) TO THE STATION ON THE INTERSECTION WITH THE
AD2481 FLORIDA

AD2481 EAST COAST RAILROAD AND THE MARK ON THE LEFT.

AD2481

AD2481 THE MARK IS 16.03 M (52.6 FT) SOUTH OF THE CENTERLINE OF STATE ROAD
AD2481 84, 7.74 M

AD2481 (25.4 FT) EAST OF THE MOST EASTERN RAIL OF RAILROAD TRACTS, 0.61 M
AD2481 (2.0 FT)

AD2481 EAST OF A METAL WITNESS POST, 0.49 M (1.6 FT) SOUTH OF A CHAIN LINK
AD2481 FENCE, AND

AD2481 0.43 M (1.4 FT) EAST OF A CHAIN LINK FENCE. THE MARK IS A DISK SET
AD2481 FLUSH IN

AD2481 THE TOP OF A CONCRETE MONUMENT FLUSH WITH THE LEVEL OF THE GROUND

AD2481 ABOUT THE

AD2481 SAME LEVEL AS THE HIGHWAY.

AD2481

AD2481

AD2481 STATION RECOVERY (2002)

AD2481

AD2481 RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)

AD2481 THE MARK IS ABOUT 0.8 KM (0.47 MI) WEST OF PORT EVERGLADES IN SECTION
AD2481 22,

AD2481 TOWNSHIP 50 SOUTH, RANGE 42 EAST, BROWARD COUNTY, FLORIDA.

AD2481

AD2481 TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE HIGHWAY 75 AND
AD2481 U.S.

AD2481 HIGHWAY 27 (I-75 EXIT 13, NEAR ANDYTOWN) GO EAST ON INTERSTATE HIGHWAY
AD2481 75 8.1

AD2481 KM (5.04 MI) TO THE JUNCTION WITH INTERSTATE HIGHWAY 595 EAST, EXIT
AD2481 RIGHT ONTO

AD2481 INTERSTATE HIGHWAY 595 EAST, AND GO EAST ALONG INTERSTATE HIGHWAY 595
AD2481 16.3 KM

AD2481 (10.13 MI) TO THE JUNCTION WITH STATE ROAD 84, GO EAST ON STATE ROAD
AD2481 84 6.7 KM

AD2481 (4.19 MI) TO THE INTERSECTION WITH THE FLORIDA EAST COAST RAILROAD AND
AD2481 THE

AD2481 MARK ON THE RIGHT. ALSO TO REACH THE MARK FROM THE INTERSECTION OF
AD2481 STATE ROAD

The NGS Data Sheet

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

```
PROGRAM = datasheet95, VERSION = 8.12.5.4
1      National Geodetic Survey, Retrieval Date = NOVEMBER 15, 2019
AD2478 *****
AD2478 TIDAL BM - This is a Tidal Bench Mark.
AD2478 DESIGNATION - Y 235
AD2478 PID - AD2478
AD2478 STATE/COUNTY- FL/BROWARD
AD2478 COUNTRY - US
AD2478 USGS QUAD - FORT LAUDERDALE SOUT (1994)
AD2478
AD2478 *CURRENT SURVEY CONTROL
AD2478
AD2478* NAD 83(2011) POSITION- 26 05 03.49050(N) 080 08 26.05196(W) ADJUSTED
AD2478* NAD 83(2011) ELLIP HT- -23.269 (meters) (06/27/12) ADJUSTED
AD2478* NAD 83(2011) EPOCH - 2010.00
AD2478* NAVD 88 ORTHO HEIGHT - 2.406 (meters) 7.89 (feet) ADJUSTED
AD2478
AD2478 GEOID HEIGHT - -25.671 (meters) GEOID18
AD2478 NAD 83(2011) X - 981,533.519 (meters) COMP
AD2478 NAD 83(2011) Y - -5,647,541.215 (meters) COMP
AD2478 NAD 83(2011) Z - 2,787,443.261 (meters) COMP
AD2478 LAPLACE CORR - -3.45 (seconds) DEFLEC18
AD2478 DYNAMIC HEIGHT - 2.402 (meters) 7.88 (feet) COMP
AD2478 MODELED GRAVITY - 979,055.2 (mgal) NAVD 88
AD2478
AD2478 VERT ORDER - FIRST CLASS I
AD2478
AD2478 Network accuracy estimates per FGDC Geospatial Positioning Accuracy
AD2478 Standards:
AD2478 FGDC (95% conf, cm) Standard deviation (cm) CorrNE
AD2478 Horiz Ellip SD_N SD_E SD_h (unitless)
AD2478 -----
AD2478 NETWORK 2.40 3.72 0.93 1.02 1.90 -0.17010123
AD2478 -----
AD2478 Click here for local accuracies and other accuracy information.
AD2478
AD2478
AD2478.The horizontal coordinates were established by GPS observations
AD2478.and adjusted by the National Geodetic Survey in June 2012.
AD2478
AD2478.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has
AD2478.been affixed to the stable North American tectonic plate. See
AD2478.NA2011 for more information.
AD2478
AD2478.The horizontal coordinates are valid at the epoch date displayed above
AD2478.which is a decimal equivalence of Year/Month/Day.
AD2478
AD2478.The orthometric height was determined by differential leveling and
AD2478.adjusted by the NATIONAL GEODETIC SURVEY
AD2478.in June 1991.
AD2478
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"Y 235" NGS Benchmark Datasheet (2 of 4)

AD2478.Significant digits in the geoid height do not necessarily reflect accuracy.
AD2478.GEOID18 height accuracy estimate available [here](#).

AD2478

AD2478.This Tidal Bench Mark is designated as VM 19064

AD2478.by the [CENTER FOR OPERATIONAL OCEANOGRAPHIC PRODUCTS AND SERVICES](#).

AD2478

AD2478.Click [here](#) to see if photographs exist for this station.

AD2478

AD2478.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AD2478

AD2478.The Laplace correction was computed from DEFLEC18 derived deflections.

AD2478

AD2478.The ellipsoidal height was determined by GPS observations

AD2478.and is referenced to NAD 83.

AD2478

AD2478.The dynamic height is computed by dividing the NAVD 88

AD2478.geopotential number by the normal gravity value computed on the

AD2478.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AD2478.degrees latitude (g = 980.6199 gals.).

AD2478

AD2478.The modeled gravity was interpolated from observed gravity values.

AD2478

AD2478. The following values were computed from the NAD 83(2011) position.

AD2478

	North	East	Units	Scale	Factor	Converg.
AD2478;SPC FL E	- 194,237.650	285,979.596	MT	1.00003242	+0 22	40.5
AD2478;SPC FL E	- 637,261.36	938,251.39	sFT	1.00003242	+0 22	40.5
AD2478;UTM 17	- 2,885,303.358	585,950.260	MT	0.99969121	+0 22	40.5

AD2478

AD2478! - Elev Factor x Scale Factor = Combined Factor

AD2478!SPC FL E - 1.00000366 x 1.00003242 = 1.00003608

AD2478!UTM 17 - 1.00000366 x 0.99969121 = 0.99969486

AD2478

AD2478_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ8595085303(NAD 83)

AD2478

SUPERSEDED SURVEY CONTROL

AD2478

AD2478	NAD 83(2007)-	26 05 03.49057(N)	080 08 26.05259(W)	AD(2002.00)	0
AD2478	ELLIP H (02/10/07)	-23.250 (m)		GP(2002.00)	
AD2478	NAD 83(1999)-	26 05 03.49059(N)	080 08 26.05258(W)	AD()	1
AD2478	ELLIP H (12/12/02)	-23.243 (m)		GP()	4 1
AD2478	NAVD 88	2.41 (m)	7.9 (f)	LEVELING	3
AD2478	NGVD 29 (??/??/92)	2.896 (m)	9.50 (f)	SUPERSEDED	1 1
AD2478	NGVD 29 (09/01/92)	2.896 (m)	9.50 (f)	ADJUSTED	1 1

AD2478

AD2478.Superseded values are not recommended for survey control.

AD2478

AD2478.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AD2478.See file [dsdata.pdf](#) to determine how the superseded data were derived.

AD2478

AD2478_MARKER: DB = BENCH MARK DISK

AD2478_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

AD2478_STAMPING: Y 235 1965

AD2478_MARK LOGO: CGS

AD2478_PROJECTION: FLUSH

AD2478_MAGNETIC: N = NO MAGNETIC MATERIAL

AD2478_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AD2478+STABILITY: SURFACE MOTION

AD2478_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AD2478+SATELLITE: SATELLITE OBSERVATIONS - August 16, 2018

"Y 235" NGS Benchmark Datasheet (3 of 4)

AD2478				
AD2478	HISTORY	- Date	Condition	Report By
AD2478	HISTORY	- 1965	MONUMENTED	CGS
AD2478	HISTORY	- 1973	GOOD	NGS
AD2478	HISTORY	- 1978	GOOD	FL-011
AD2478	HISTORY	- 1982	GOOD	USPSQD
AD2478	HISTORY	- 1988	MARK NOT FOUND	USPSQD
AD2478	HISTORY	- 19901221	GOOD	NGS
AD2478	HISTORY	- 19980927	GOOD	USPSQD
AD2478	HISTORY	- 20020521	GOOD	MAPTEC
AD2478	HISTORY	- 20070619	GOOD	FLDEP
AD2478	HISTORY	- 20091221	GOOD	INDIV
AD2478	HISTORY	- 20101006	GOOD	FLDT
AD2478	HISTORY	- 20120904	GOOD	AMEC
AD2478	HISTORY	- 20140701	GOOD	INDIV
AD2478	HISTORY	- 20170413	GOOD	WANTGP
AD2478	HISTORY	- 20180816	GOOD	LOCSUR

STATION DESCRIPTION

AD2478
AD2478'DESCRIBED BY COAST AND GEODETIC SURVEY 1965
AD2478'1 MI S FROM FORT LAUDERDALE.
AD2478'ABOUT 0.95 MILE SOUTH ALONG THE FLORIDA EAST COAST RAILWAY FROM
AD2478'THE STATION AT FORT LAUDERDALE, IN SECTION 22, R 42 E, T 50 S,
AD2478'0.3 MILE NORTH OF MILEPOST 344, 285 FEET NORTH OF THE NORTH LANE
AD2478'OF SW 33RD STREET, 93.4 FEET WEST OF AND ACROSS SIDE TRACK AND SW
AD2478'1ST TERRACE FROM THE WEST RAIL OF THE SOUTHBOUND TRACK, 3.2 FEET
AD2478'NORTH OF THE SOUTHEAST CORNER OF A CYCLONE FENCE AROUND A TRUCK
AD2478'SALES PLANT, 1 FOOT EAST OF THE EAST SIDE OF FENCE, 30 FEET WEST
AD2478'OF THE CENTER LINE OF SW 1ST TERRACE, 4 FEET NORTHWEST OF A POWER
AD2478'LINE POLE, 1.3 FEET SOUTH OF A METAL WITNESS POST, 1 1/2 FEET
AD2478'BELOW THE LEVEL OF THE TRACK AND SET IN THE TOP OF A CONCRETE
AD2478'POST PROJECTING 2 INCHES ABOVE THE LEVEL OF THE GROUND.

STATION RECOVERY (1973)

AD2478
AD2478'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1973
AD2478'RECOVERED IN GOOD CONDITION.

STATION RECOVERY (1978)

AD2478
AD2478'RECOVERY NOTE BY BROWARD COUNTY FLORIDA 1978
AD2478'RECOVERED IN GOOD CONDITION.

STATION RECOVERY (1982)

AD2478
AD2478'RECOVERY NOTE BY US POWER SQUADRON 1982
AD2478'CHANGE DESC: EXCEPT NOT TRUCK SALES--NOW RYDER RENTAL TRUCK STORAGE.

STATION RECOVERY (1988)

AD2478
AD2478'RECOVERY NOTE BY US POWER SQUADRON 1988 (JHH)
AD2478'MARK NOT FOUND.

STATION RECOVERY (1990)

AD2478
AD2478'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990
AD2478'IN FORT LAUDERDALE, AT 111 SOUTHWEST 33RD STREET, 28.2 M (92.5 FT)
AD2478'WEST OF THE NEAR RAIL OF THE FLORIDA EAST COAST RAILROAD, 8.8 M (28.9
AD2478'FT) WEST OF AND LEVEL WITH THE CENTER OF SOUTHWEST 1ST TERRACE, 8.6 M

"Y 235" NGS Benchmark Datasheet (4 of 4)

AD2478' (28.2 FT) NORTH OF THE NORTHEAST CORNER OF THE DME OFFICE AT 111
AD2478'SOUTHWEST 33RD STREET, 1.1 M (3.6 FT) NORTHWEST OF UTILITY LIGHT POLE
AD2478'NUMBER 3261, 0.7 M (2.3 FT) NORTH OF THE SOUTHEAST CORNER OF A
AD2478'CHAIN-LINK FENCE, 0.4 M (1.3 FT) EAST OF THE FENCE, 0.4 M (1.3 FT)
AD2478'SOUTH OF A WITNESS POST, AND THE MONUMENT IS FLUSH WITH THE GROUND
AD2478'SURFACE.

AD2478

AD2478 STATION RECOVERY (1998)

AD2478

AD2478'RECOVERY NOTE BY US POWER SQUADRON 1998

AD2478'RECOVERED IN GOOD CONDITION.

AD2478

AD2478 STATION RECOVERY (2002)

AD2478

AD2478'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)

AD2478'RECOVERED AS DESCRIBED,

AD2478'

AD2478

AD2478 STATION RECOVERY (2007)

AD2478

AD2478'RECOVERY NOTE BY FL DEPT OF ENV PRO 2007 (JRH)

AD2478'RECOVERED AS DESCRIBED.

AD2478

AD2478 STATION RECOVERY (2009)

AD2478

AD2478'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2009 (ED)

AD2478'RECOVERED IN GOOD CONDITION.

AD2478

AD2478 STATION RECOVERY (2010)

AD2478

AD2478'RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 2010 (PED)

AD2478'RECOVERED AS DESCRIBED

AD2478

AD2478 STATION RECOVERY (2012)

AD2478

AD2478'RECOVERY NOTE BY AMEC EARTH & ENVIRONMENTAL 2012 (RLE)

AD2478'RECOVERED IN GOOD CONDITION.

AD2478

AD2478 STATION RECOVERY (2014)

AD2478

AD2478'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2014 (PED)

AD2478'RECOVERD

AD2478

AD2478 STATION RECOVERY (2017)

AD2478

AD2478'RECOVERY NOTE BY WANTMAN GROUP INC 2017 (JKA)

AD2478'RECOVERED IN GOOD CONDITION.

AD2478

AD2478 STATION RECOVERY (2018)

AD2478

AD2478'RECOVERY NOTE BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 2018 (ATP)

AD2478'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

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