



SURVEYOR'S REPORT

**Specific Purpose Survey of the
United States Geological Survey
Recorder Well G-2149
in
Broward County, Florida**

Prepared for:

South Florida Water Management District

3301 Gun Club Road
West Palm Beach, Florida 33406
Ph. (561) 686-8800 (ext. 2978)
Fax (561) 682-0066

Prepared by:

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

Field Date: September 25, 2019
Report Date: December 3, 2019
Report Revision Date: January 8, 2020
PO NO: 9500008146

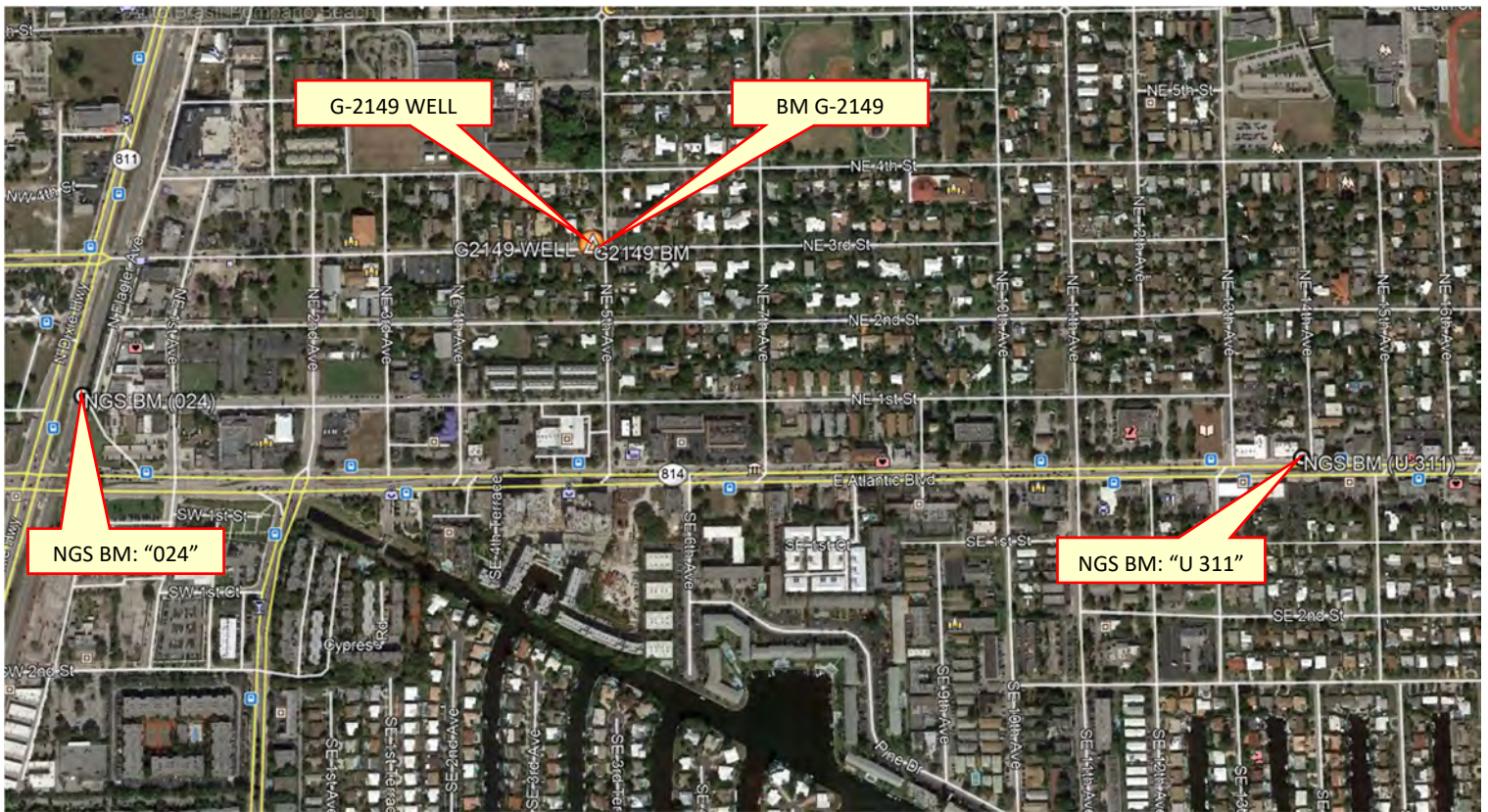
SURVEYOR'S REPORT

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-2149** is located in Section 35, Township 48 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-2149 (G2149 2019)**, add 1.58'. 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 "024" (DO2663), through the well site, and to the NGS Benchmark "U 311" (AD2595). The measurements were collected using a Digital Level and were hand written in Whidden Surveying & Mapping, Inc. Field Book W 212 Page 24, dated September 24, 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-2149 (G2149 2019) were established by observing a 3-minute session of GPS data on September 24, 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 #: 4615113539
- Trimble GPS unit R6-4 Serial #: 0220266504
- Dini Digital Level Serial #: 735642

SURVEYOR'S REPORT

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

A level loop was run from the previously established Site Benchmark G-2149 (G2149 2019), through the ground shot north of the well casing (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 58-61, dated September 25, 2019. Additional data was manually recorded.

GPS METHODS (horizontal position of Well G-2149 monitoring point & USGS Benchmarks)

Latitude and Longitude for Well G-2149 monitoring point (North edge of 2 1/8" metal well head) were established by observing a 3-minute session of GPS data on September 25, 2019 using a Spectra SP-80 and The Florida Permanent Reference Network (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

SURVEYOR'S REPORT


VERTICAL CONTROL POINT

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

NGS Benchmark "024" (DO2663)						
26° 13' 57.25" (N)	80° 07' 31.74" (W)	Published	13.75 ft.	(NAVD88)	4.19 m	Published
			<p>LOCATED 48.0 FT WEST OF THE CENTERLINE OF NORTH FLAGLER AVENUE, 45.0 FT NORTH OF THE CENTERLINE OF NORTHEAST FIRST STREET, 21.8 FT EAST OF THE EAST RAIL OF THE F.E.C. RAIL ROAD, 19.7 FT NORTHWEST OF A DRAINAGE CATCH BASIN, 8.9 FT WEST OF THE WEST EDGE OF THE PAVEMENT OF THE PARKING LOT ALONG THE WEST SIDE OF NORTH FLAGLER AVENUE, 5.6 FT SOUTHEAST OF A SIGN POLE AND 1.0 FT EAST OF A CARSONITE WITNESS POST.</p> <p>NGS BENCHMARK DISK, SET IN DIRT AREA NEXT TO RAILROAD TRACK STAMPING: CITY OF POMPANO BEACH 024 2011 BENCHMARK</p>			

NGS Benchmark "U 311" (AD2595)						
26° 13' 54.63" (N)	80° 06' 34.54" (W)	Published	10.76 ft.	(NAVD88)	3.28 m	Published
			<p>LOCATED AT THE INTERSECTION OF NE 14TH AVE AND EAST ATLANTIC BLVD, APPROXIMATELY 25 FT WEST OF CENTERLINE OF NE 14TH AVE, 12.7 FEET EAST OF THE SOUTHEAST CORNER OF BUILDING 10.5 FEET NORTH OF NORTH CURB LINE EXTENDED 2 FEET NORTH OF A STOP SIGN, 2 FEET NORTH OF THE NORTHEGE OF A CONCRETE SIDEWALK.</p> <p>NGS BENCHMARK DISK SET IN GRASS AREA NEXT TO SIDEWALK STAMPING: U.S. COAST AND GEODATIC SURVEY BENCHMARK U 311 1970</p>			

SURVEYOR'S REPORT

BM: G-2149 (Existing on site benchmark)					
26° 14' 3.63" (N)	80° 07' 7.86" (W)	15.32 ft.	(NAVD88)	4.67 m	Level run
NAD_83(2011)		16.90 ft.	(NGVD29)	5.15 m	Converted
			1.58 ft. (conversion factor)		Corpscon 6.0.1
		STATION IS A S.F.W.M.D. BM STAMPED "G2149 2019" SET IN GRASS AREA OFF OF SIDEWALK LOCATED: AT THE NW CORNER OF THE INTERSECTION OF NE 3 RD ST AND NE 5 TH AVENUE			

Field Book W212, Page 24

STA	+ HI	-	EL
024 (BM)			15.98
TP1	4.57	20.32	4.915
TP2	4.354	20.342	5.935
TP3	6.1008	21.814	5.140
TP4	3.984	21.144	5.762
TP5	4.827	20.037	4.787
TP6	5.729	20.827	5.478
G2149			15.347
TP7	5.185	20.514	5.419
TP8	4.457	19.332	4.210
TP9	5.176	20.627	4.861
TP10	4.616	20.357	6.05
TP11	5.199	18.890	5.199
TP12	5.245	18.637	

STA	+ HI	-	EL
5.10			18.319
5.12			5.418
TP13	5.182	20.319	4.308
TP14	6.274	20.025	5.284
TP15	3.85	19.891	6.267
TP16	4.242	16.800	5.420
TP17	5.491	16.078	6.041
0211			18.837

SURVEYOR'S REPORT

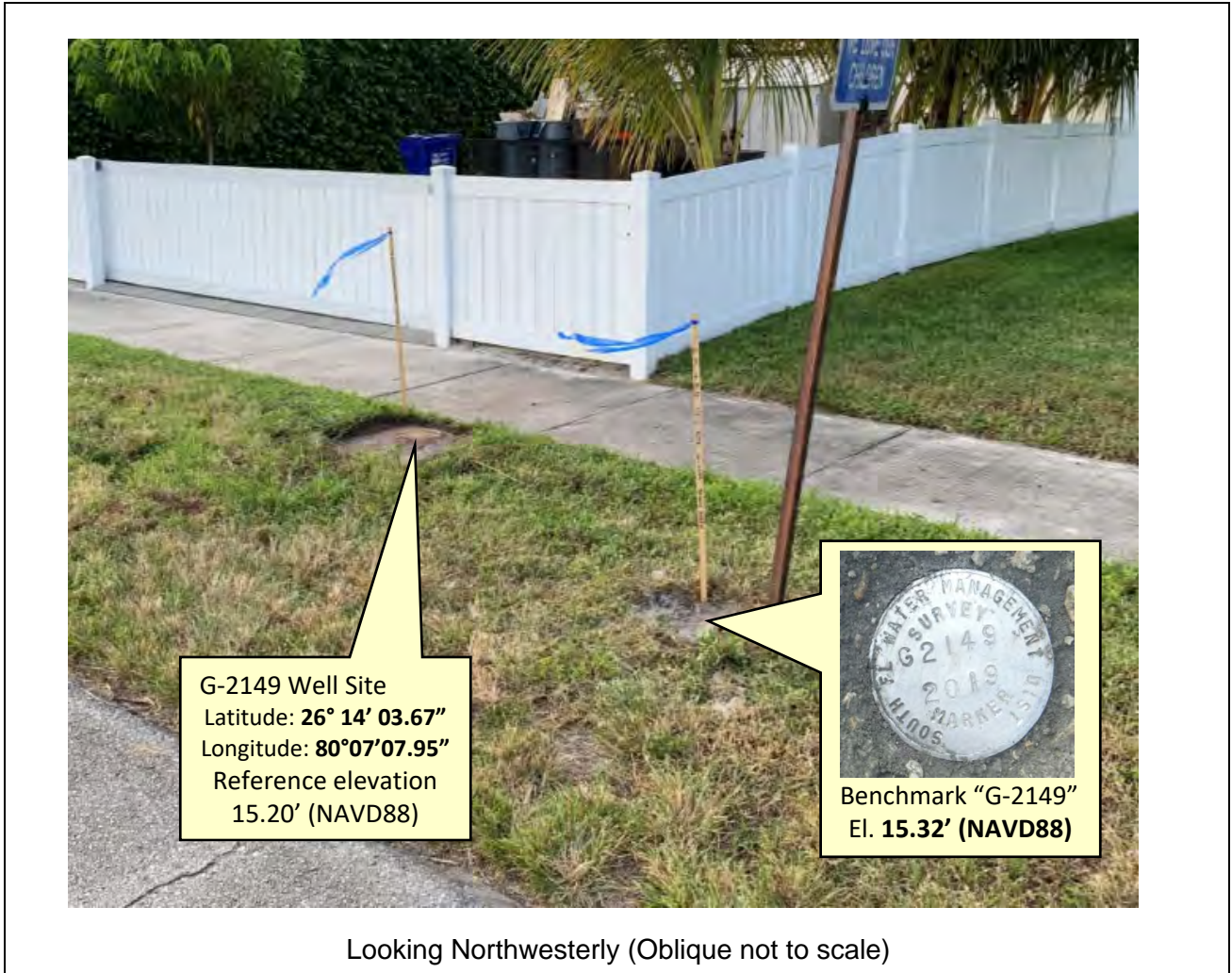
Field Book 212 page 25

STA.	I	H.I.	=	FO
		6.2117 (GUNS.)		4.753
OPI				13.75
	4.742	18.432		
TPI			-	6.719 - 11.773
	1.736	13.307		
M 400			-	5.63 - 7.876

4.212/25

PROJECT RESULTS

Overall Site




SURVEYOR'S REPORT

Tabular Form

Reference and Ground Elevations: NAVD88			
Well	Ground Elevation	Reference Elevation	Comments
G-2149	15.28 ft.	15.20 ft.	North edge of 2 1/8" well head in 7" metal well casing
Offset to NGVD29: +1.58' (See Project Vertical Datum Notes in Page: 4)			
Well diameter		Casing material	DTW
2 1/8" Metal Pipe		Metal	-12.69 ft. (9/25/19 at 5:15 PM)

Source & Site Benchmark	NAVD88	NGVD29 (Published)	NGVD29 (Corpscon)
NGS "024" (DO2663)	13.75 ft. (Published)		
NGS "U 311" (AD2595)	10.76 ft. (Published)		
BM G2149 (SFWMD)	15.32 ft. (Measured)		16.90 ft. (Converted)

Well Photos and Diagrams (Continued)

	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">PT#</th> <th style="text-align: left;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>12043</td> <td>N. EDGE OF 2 1/8" METAL WELL HEAD</td> </tr> <tr> <td>12044</td> <td>N. EDGE OF 7" METAL WELL CASING</td> </tr> <tr> <td colspan="2" style="text-align: center;">-----</td> </tr> <tr> <td colspan="2">TASK: MEASURE & RECORD DISTANCE TO WATERLINE FROM MONITORING POINT</td> </tr> <tr> <td colspan="2">MEASUREMENT: 12.69'; AS MEASURED FROM N. EDGE OF 2 1/8" METAL WELL HEAD</td> </tr> <tr> <td colspan="2">Time: 5:15 PM</td> </tr> <tr> <td colspan="2" style="text-align: center;">-----</td> </tr> <tr> <td colspan="2">THIS WELL IS LOCATED ON *NORTHERLY R/W OF NORTH EAST 3RD STREET, APPROXIMATELY 8' 1/2" FROM THE NORTH EDGE OF PAVEMENT, BETWEEN THE EDGE OF PAVEMENT & CONCRETE SIDEWALK.</td> </tr> <tr> <td>WELL @</td> <td>287° 26' 32" E 6.11'</td> </tr> </tbody> </table>	PT#	DESCRIPTION	12043	N. EDGE OF 2 1/8" METAL WELL HEAD	12044	N. EDGE OF 7" METAL WELL CASING	-----		TASK: MEASURE & RECORD DISTANCE TO WATERLINE FROM MONITORING POINT		MEASUREMENT: 12.69'; AS MEASURED FROM N. EDGE OF 2 1/8" METAL WELL HEAD		Time: 5:15 PM		-----		THIS WELL IS LOCATED ON *NORTHERLY R/W OF NORTH EAST 3RD STREET, APPROXIMATELY 8' 1/2" FROM THE NORTH EDGE OF PAVEMENT, BETWEEN THE EDGE OF PAVEMENT & CONCRETE SIDEWALK.		WELL @	287° 26' 32" E 6.11'
PT#	DESCRIPTION																				
12043	N. EDGE OF 2 1/8" METAL WELL HEAD																				
12044	N. EDGE OF 7" METAL WELL CASING																				

TASK: MEASURE & RECORD DISTANCE TO WATERLINE FROM MONITORING POINT																					
MEASUREMENT: 12.69'; AS MEASURED FROM N. EDGE OF 2 1/8" METAL WELL HEAD																					
Time: 5:15 PM																					

THIS WELL IS LOCATED ON *NORTHERLY R/W OF NORTH EAST 3RD STREET, APPROXIMATELY 8' 1/2" FROM THE NORTH EDGE OF PAVEMENT, BETWEEN THE EDGE OF PAVEMENT & CONCRETE SIDEWALK.																					
WELL @	287° 26' 32" E 6.11'																				

SURVEYOR'S REPORT

Well Photos and Diagrams (Continued)



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 1.58 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 25, 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: W212 pages 24-25

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.

William D. Donley

Last date of Survey
Sept. 25, 2019

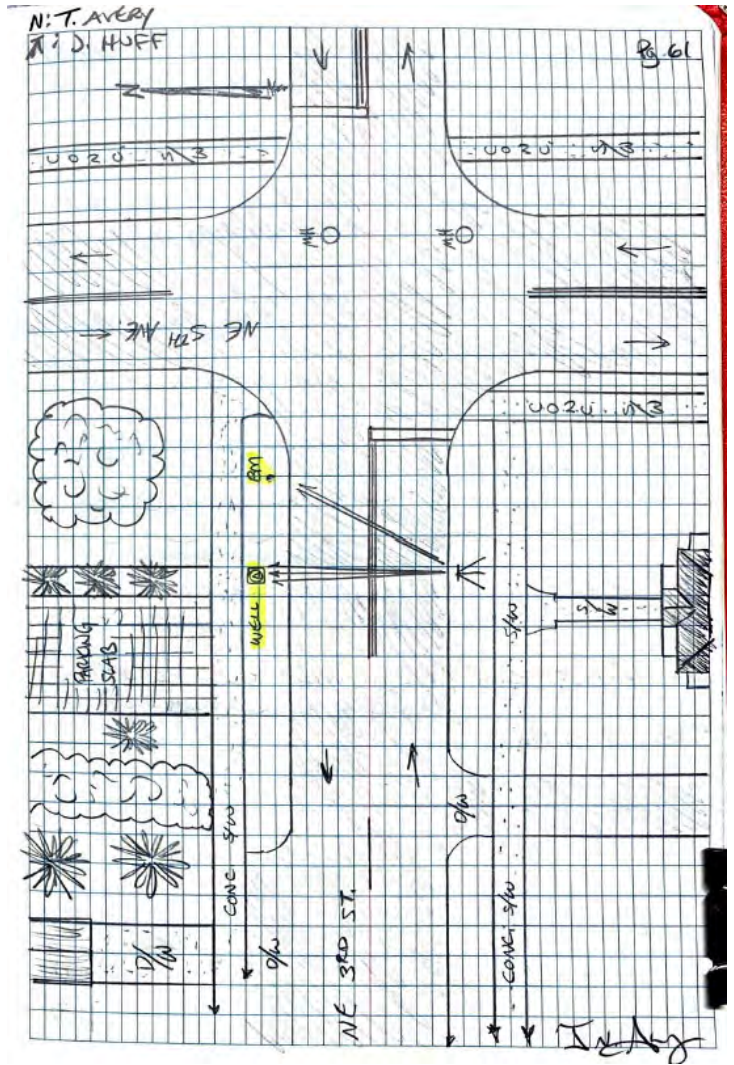
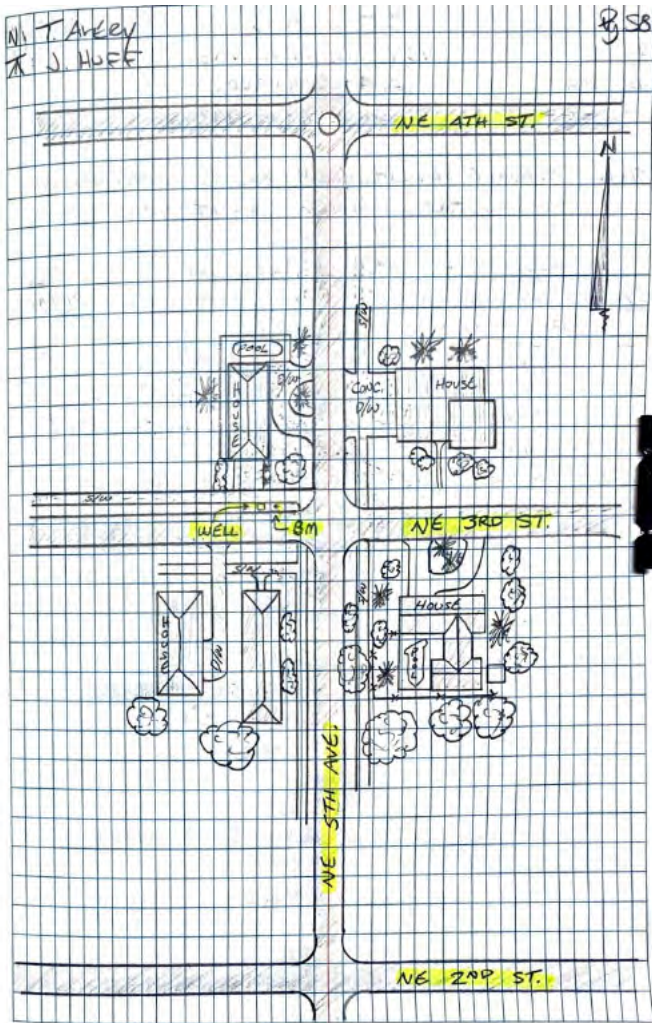
William Donley, PSM
Florida Professional Surveyor and Mapper
License Number 5381
State of Florida
Dewberry Engineering LLC, Inc. LB No 8011
131 West Kaley Street, Orlando, FL. 32806
Tel (321) 354-9826



South Florida Water Management District Benchmark Datasheet			
Designation: <u>G-2149</u>	Project Name: <u>USGS PH 2, BROWARD</u>	Type: <u>V</u>	State Plane Zone: <u>FL East</u>
Stamping: <u>G2149 2019</u>	Field Book Name: <u>W212</u>	Field Book Page: <u>26</u>	
Established By: <u>DEWBERRY / WHIDDEN</u>	Recovered By: <u>N/A</u>	Recovery Date: <u>N/A</u>	
Surveyor: <u>WILLIAM D. DONLEY</u>	Established Date: <u>09/24/19</u>	Status: <u>New</u>	
GEOGRAPHIC POSITION INFORMATION			
Section: <u>35</u>	Township: <u>48 SOUTH</u>	Range: <u>42 EAST</u>	
County: <u>BROWARD</u>	Quadrangle: <u>POMPAHO BEACH</u>	Quad Index: <u>1801</u>	NGS Source BM(s): <u>U 311 / 024</u>
NAD83 Adj. Year: <u>2011</u>	Vertical Datum: <u>NAVD1988</u>	Horizontal Datum: <u>NAD1983</u>	NGS PID(s): <u>AD2595 / DD2663</u>
NAVD88 Elevation (feet): <u>15.32</u>	NGVD29 Elevation (feet): <u>16.895</u>	2022 Elevation: <u>N/A</u>	NGS NAVD88 Elev (ft): <u>10.76 / 13.75</u>
NAVD88 Class: <u>N/A</u>	NGVD29 Class: <u>N/A</u>	Other Elevation: <u>N/A</u>	NGS NAVD88 Elev (m): <u>3.279 / 4.19</u>
NAVD88 Order: <u>3</u>	NGVD29 Order: <u>N/A</u>	Other Elevation Type: <u>N/A</u>	NGS 2022 Elev (ft): <u>N/A</u>
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 datum's using vertical offset and on-ground file supplied by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville, FL)			
Vertical Datum Offset: <u>+ 1.58</u>	Actual NGS Elevation or ngvd29.txt file: <u>N/A</u>	OPUS Ortho Height: <u>N/A</u>	
Northing (Y) (feet): <u>691847.0</u>	Easting (X) (feet): <u>945010.7</u>	Source of Latitude & Longitude: <u>AVERAGED FPN & TRIMBLE VRSNOW RTK</u>	
Latitude: <u>26</u>	Longitude: <u>80</u>	<u>7</u>	<u>7.86</u>
Latitude (Decimal Degree): <u>26.234342</u>	Longitude (Decimal Degree): <u>-80.118850</u>		
RECOVERY DATA			
How to Reach:	<ol style="list-style-type: none"> FROM W ATLANTIC BLVD, HEAD NORTH ON N DIXIE HWY FOR 0.2 MI TURN RIGHT ONTO NE 3RD ST, CONTINUE 0.4 MI TO THE MARK ON THE LEFT, LOCATED APPROXIMATELY 14.5 FEET NORTH OF CENTERLINE OF NE 3RD ST AND 51 FEET WEST OF CENTERLINE OF NE 5TH AVENUE. 		
Description/Notes:	2" ALUMINUM SFWMD DISK SET IN A POURED IN PLACE CONCRETE MONUMENT		
Notable Landmarks:	301 NE 5 AVE, POMPAHO BEACH, FL 33060		
Other Source Benchmarks:	NGS 'N 400' (AD8001)		
PICTURES			
Aerial View of Overall Site			
NOT TO SCALE. AERIAL FROM GOOGLE EARTH.			
PICTURES			
Site Sketch			

SKETCH

FIELD BOOK SFWMD #1, PAGE 58 & 61



Office

Project

4 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

WELL G-2149

1/2

Northing/Y: 691850.43
Easting/X: 945002.60
Elevation/Z: 15.20
Convergence: 0 23 22.27469
Scale Factor: 1.000036836
Combined Factor: 1.000040152

Latitude: 26 14 03.66883
Longitude: 80 07 07.95123
Elevation/Z: 16.775

BM G-2149

2/2

Northing/Y: 691847
Easting/X: 945010.7
Elevation/Z: 15.32
Convergence: 0 23 22.31343
Scale Factor: 1.000036842
Combined Factor: 1.000040152

Latitude: 26 14 03.63432
Longitude: 80 07 07.86254
Elevation/Z: 16.895

SPECTRA SP-00 S.F.W. M.D. 09/23/19
 S/N: 1165 U.S.G.S. WELLS & BMS
 TRIMBLE NET JOB #: S0099999
 HI: G.SGZ WELL SITE: G-2149

TASK: OBTAIN HORIZONTAL LOCATIONS OF MONITORING POINT & ALL REFERENCE MONUMENTATION.

PT#	(N) ELEV	(E) ELEV	(E) ELEV	PT#	DESCRIPTION
s/o 7	0.034	0.055	0.016	S032	CHE-W B.M. @ 2149
* LOCATED PT #'S 12043 & 12044					
s/o 7	0.009	-0.020	0.105	S033	CHEOUT B.M. @ 2149

PT# DESCRIPTION

12043 N. EDGE OF 2 1/8" METAL WELL HEAD
 12044 N. EDGE OF 7" METAL WELL CASING

TASK: MEASURE & RECORD DISTANCE TO WATERLINE FROM MONITORING POINT

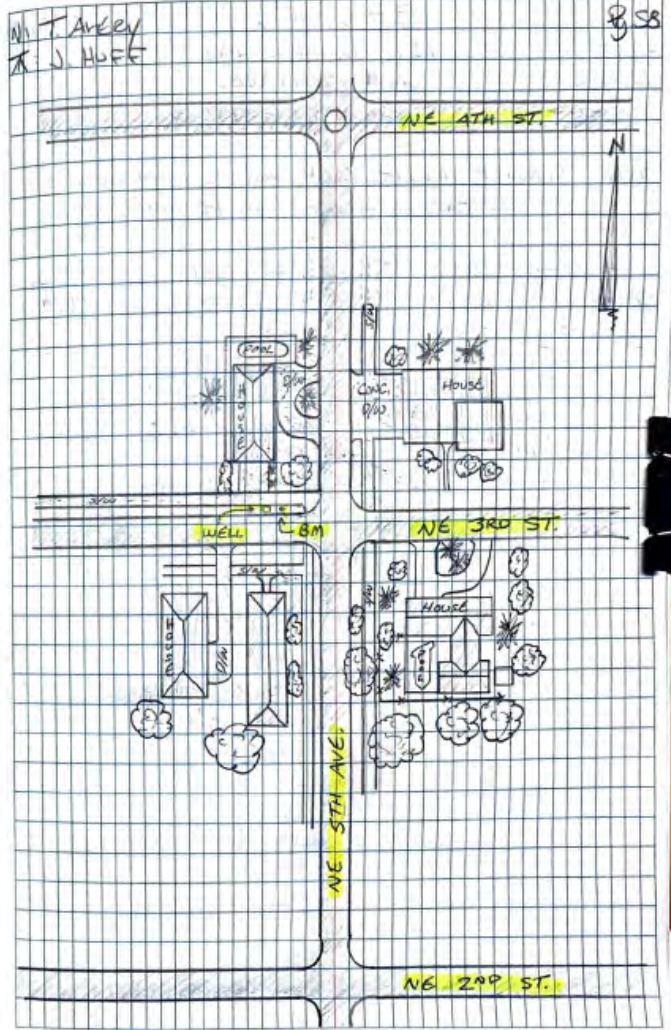
MEASUREMENT: 12.69'; AS MEASURED FROM N. EDGE OF 2 1/8" METAL WELL HEAD
 TIME: 5:15 PM

THIS WELL IS LOCATED ON NORTHERLY R/W OF NORTH EAST 3RD STREET, APPROXIMATELY 8' FROM THE NORTH EDGE OF PAVEMENT, BETWEEN THE EDGE OF PAVEMENT & CONCRETE SIDEWALK.

WELL @ 287° 26' 32"
 61' 2"

NE 3RD ST.

NOT TO SCALE



TOPCON		S. C. W. M. D.		09/25/19		
AT-GZ		USGS WELLS & BMS				
S/N 1439		JOB # 5009 9949				
		WELL SITE: G-219A				
TASK: ELEVATE MONITORING POINT, REFERENCE MONUMENTATION & GRAVIM AT WELL SITE						
BACKSIGHT (+)		PI		FORESIGHT (-)		ADJ
STA ID	RD = MEAN	ELEV.	RDs	MEAN	ELEV.	ELEV.
	5.165			5.185		15.32 15.32
Bm	5.01	5.01	10.507	5.015	5.015	15.285
	4.655	20.33		4.845	34' / 65'	15.315
	31' / 31'					
				5.195		
"		20.33		5.025	5.025	15.285 15.305
				4.855	34' / 65'	
				5.19		
"		20.33		5.025	5.0267	15.285 15.303
				4.865	32.5' / 63.5'	15.303
				5.15		
"		20.33		4.99	4.9917	15.285 15.338
				4.835	31.5' / 62.5'	
				5.225		
"		20.33		5.045	5.0483	15.285 15.282
				4.875	35' / 66'	

15.32

(WHIDDEN)
(NAVD 88)

ELEVATION	DESCRIPTION
BEGIN @ 140.00	ALUMINUM DISC FOUND IN CAST CONCRETE @ GRADE, ON NORTH SIDE OF NE 3RD STREET NEAR INTERSECTION WITH NE 5TH AVENUE, LOCATED BETWEEN EP & SIDEWALK.
FORESIGHT (-)	DESCRIPTION
	SW CORNER OF CONC. SLAB AROUND WELL CASING
	NE CORNER OF CONC. SLAB AROUND WELL CASING
	SE CORNER OF CONC. SLAB AROUND WELL CASING
	EW CORNER OF CONC. SLAB AROUND WELL CASING
	GROUND SHOT (NORTH OF CONC. SLAB AROUND WELL CASING)

Tolson
 AT-GZ
 S/N: 1439

S.F.W.M.D.
 USGS WELLS & BMS
 JOB #: 5009-9999
 WELL SITE: G-2199

02/25/19

TASK: CONTINUE ELEVATING POINTS OF INTEREST

BACKSIGHT (+)	PI	FORESIGHT (-)	ADJ. ELEV.
STA ID	RDS	MEAN	ELEV.
			5.305
Bm		105.01	5.14
		20.33	4.97
			$33.5' / 69.5'$
			5.08
Bm		105.01	4.91
		20.33	4.745
			$33.5' / 69.5'$
* BREAK SET-UP			
			5.36
			5.445
MP	5.145	5.1933	105.2017
			5.290
			5.2917
			100.0000
			15.319
			5.140
			$30.5' / 28.5'$

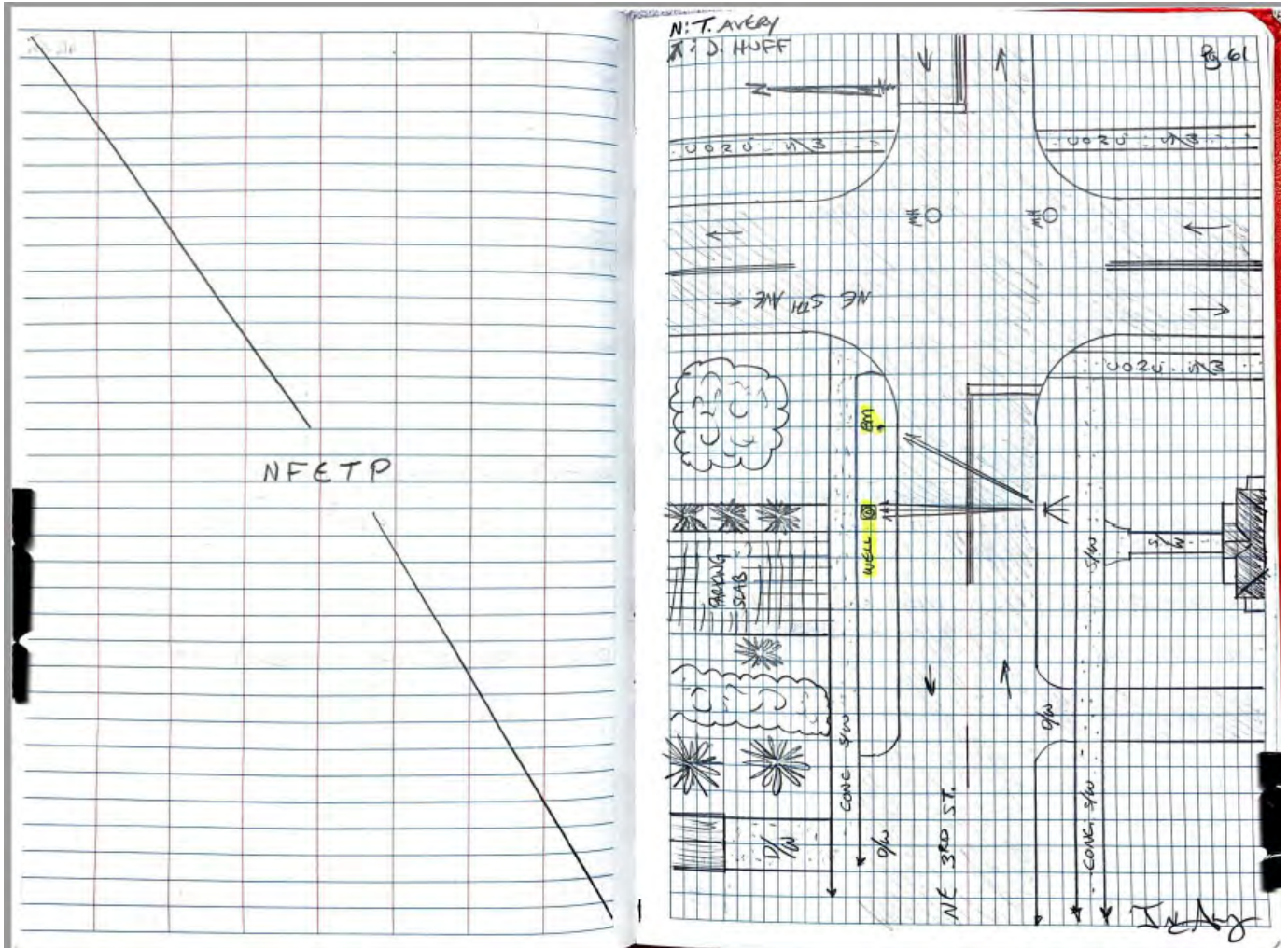
* END LEVEL LOOP

* NO REF. DOCUMENTATION FOUND ON SITE

N: T. Avery
 PI: J. Aves

8/60

FORESIGHT (-)	DESCRIPTION
	NORTH EDGE OF 2" PVC PIPE METAL NAIL HEAD (MEASURING POINT)
	NORTH EDGE OF METAL CARBID (MEASURING POINT)
	BACK @ STARTING POINT (SITE B.M.)
	CHECK IN = + 0.002 ✓



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
D02663 *****
D02663 DESIGNATION - 024
D02663 PID - D02663
D02663 STATE/COUNTY- FL/BROWARD
D02663 COUNTRY - US
D02663 USGS QUAD - FORT LAUDERDALE NORTH (1995)
D02663
D02663 *CURRENT SURVEY CONTROL
D02663
D02663* NAD 83(1986) POSITION- 26 13 57. (N) 080 07 31. (W) SCALED
D02663* NAVD 88 ORTHO HEIGHT - 4.190 (meters) 13.75 (feet) ADJUSTED
D02663
D02663 GEOID HEIGHT - -25.786 (meters) GEOID12B
D02663 DYNAMIC HEIGHT - 4.184 (meters) 13.73 (feet) COMP
D02663 MODELED GRAVITY - 979,070.7 (mgal) NAVD 88
D02663
D02663 VERT ORDER - SECOND CLASS II
D02663
D02663.The horizontal coordinates were scaled from a topographic map and have
D02663.an estimated accuracy of +/- 6 seconds.
D02663.
D02663.The orthometric height was determined by differential leveling and
D02663.adjusted by the NATIONAL GEODETIC SURVEY
D02663.in December 2012.
D02663
D02663.Significant digits in the geoid height do not necessarily reflect accuracy.
D02663.GEOID12B height accuracy estimate available here.
D02663
D02663.Photographs are available for this station.
D02663
D02663.The dynamic height is computed by dividing the NAVD 88
D02663.geopotential number by the normal gravity value computed on the
D02663.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
D02663.degrees latitude (g = 980.6199 gals.).
D02663
D02663.The modeled gravity was interpolated from observed gravity values.
D02663
D02663; North East Units Estimated Accuracy
D02663;SPC FL E - 210,670. 287,400. MT (+/- 180 meters Scaled)
D02663
D02663_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK873017(NAD 83)
D02663
D02663 SUPERSEDED SURVEY CONTROL
D02663
D02663.No superseded survey control is available for this station.
D02663
D02663_MARKER: DB = BENCH MARK DISK
D02663_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
D02663_STAMPING: 024 2011
D02663_MARK LOGO: FL2570
D02663_PROJECTION: RECESSED 5 CENTIMETERS
D02663_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT
D02663_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
D02663+STABILITY: SURFACE MOTION

```

"024" NGS Benchmark Datasheet (2 of 2)

D02663_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
D02663+SATELLITE: SATELLITE OBSERVATIONS - July 17, 2014

D02663

D02663	HISTORY	- Date	Condition	Report By
D02663	HISTORY	- 20120103	MONUMENTED	STONER
D02663	HISTORY	- 20140717	GOOD	GEOCAC

D02663

D02663 STATION DESCRIPTION

D02663

D02663'DESCRIBED BY STONER AND ASSOCIATES INC 2012 (DWS)

D02663'THE MARK IS ABOUT 7.7 MI (12.4 KM) NORTH OF FORT LAUDERDALE, 7.4 MI
D02663'(11.9 KM) SOUTHEAST OF WEST DIXIE BEND, IN POMPANO BEACH, IN SECTION
D02663'35, TOWNSHIP 48 SOUTH, RANGE 42 EAST. OWNERSHIP IS THE CITY OF
D02663'POMPANO BEACH.

D02663'

D02663'TO REACH THE MARK FROM THE INTERSECTION OF EAST ATLANTIC BOULEVARD AND
D02663'NORTH DIXIE HIGHWAY IN POMPANO BEACH, GO EAST ON EAST ATLANTIC
D02663'BOULEVARD FOR 0.1 MI (0.2 KM) TO THE INTERSECTION OF FIRST AVENUE.
D02663'TURN LEFT ON NORTHEAST FIRST AVENUE AND GO NORTH FOR 0.5 MI (0.8 KM)
D02663'TO THE INTERSECTION OF NORTHEAST FIRST STREET. TURN LEFT ON NORTHEAST
D02663'FIRST STREET AND GO WEST FOR 0.5 MI (0.8 KM) TO A 90 DEGREE CURVE
D02663'RIGHT TO NORTH FLAGLER AVENUE. TURN RIGHT ON NORTH FLAGLER AVENUE AND
D02663'GO NORTH FOR 50.0 FT (15.2 M) TO THE MARK ON THE LEFT, SET IN THE TOP
D02663'OF A 10-INCH (25 CM) ROUND CONCRETE MONUMENT RECESSED 0.2 FT (6 CM)
D02663'BELOW THE LEVEL OF THE GROUND AND 0.5 FT (15 CM) ABOVE THE LEVEL OF
D02663'NORTH FLAGLER AVENUE.

D02663'

D02663'LOCATED 48.0 FT (14.6 M) WEST OF THE CENTERLINE OF NORTH FLAGLER
D02663'AVENUE, 45.0 FT (13.7 M) NORTH OF THE CENTERLINE OF NORTHEAST FIRST
D02663'STREET, 21.8 FT (6.6 M) EAST OF THE EAST RAIL OF THE F.E.C. RAIL
D02663'ROAD, 19.7 FT (6.0 M) NORTHWEST OF A DRAINAGE CATCH BASIN, 8.9 FT (2.7
D02663'M) WEST OF THE WEST EDGE OF THE PAVEMENT OF THE PARKING LOT ALONG THE
D02663'WEST SIDE OF NORTH FLAGLER AVENUE, 5.6 FT (1.7 M) SOUTHEAST OF A SIGN
D02663'POLE AND 1.0 FT (0.3 M) EAST OF A CARSONITE WITNESS POST.

D02663'

D02663'NOTE REBAR ROD IS IMBEDDED IN THE MONUMENT.

D02663

D02663 STATION RECOVERY (2014)

D02663

D02663'RECOVERY NOTE BY GEOCACHING 2014 (KEN)

D02663'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:04

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

AD2595 *****

AD2595 DESIGNATION - U 311

AD2595 PID - AD2595

AD2595 STATE/COUNTY- FL/BROWARD

AD2595 COUNTRY - US

AD2595 USGS QUAD - POMPANO BEACH (1983)

AD2595

AD2595 *CURRENT SURVEY CONTROL

AD2595

AD2595* NAD 83(1986) POSITION- 26 13 54.7 (N) 080 06 34.6 (W) HD_HELD2

AD2595* [NAVD 88](#) ORTHO HEIGHT - 3.279 (meters) 10.76 (feet) ADJUSTED

AD2595

AD2595 GEOID HEIGHT - -25.836 (meters) GEOID128

AD2595 DYNAMIC HEIGHT - 3.274 (meters) 10.74 (feet) COMP

AD2595 MODELED GRAVITY - 979,070.3 (mgal) NAVD 88

AD2595

AD2595 VERT ORDER - SECOND CLASS 0

AD2595

AD2595.The horizontal coordinates were established by autonomous hand held GPS

AD2595.observations and have an estimated accuracy of +/- 10 meters.

AD2595.

AD2595.The orthometric height was determined by differential leveling and

AD2595.adjusted by the NATIONAL GEODETIC SURVEY

AD2595.in June 1991.

AD2595

AD2595.Significant digits in the geoid height do not necessarily reflect accuracy.

AD2595.GEOID128 height accuracy estimate available [here](#).

AD2595

AD2595.[Photographs](#) are available for this station.

AD2595

AD2595.The dynamic height is computed by dividing the NAVD 88

AD2595.geopotential number by the normal gravity value computed on the

AD2595.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AD2595.degrees latitude (g = 980.6199 gals.).

AD2595

AD2595.The modeled gravity was interpolated from observed gravity values.

AD2595

AD2595;		North	East	Units	Estimated Accuracy
AD2595;SPC FL E	-	210,607.	288,965.	MT	(+/- 10 meters HH2 GPS)

AD2595

AD2595_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK8893401666(NAD 83)

AD2595

AD2595 SUPERSEDED SURVEY CONTROL

AD2595

AD2595 NGVD 29 (??/??/92) 3.761 (m) 12.34 (f) ADJ UNCH 2 0

AD2595

AD2595.Superseded values are not recommended for survey control.

AD2595

AD2595.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AD2595.See file [dsdata.pdf](#) to determine how the superseded data were derived.

AD2595

AD2595_MARKER: DB = BENCH MARK DISK

AD2595_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

AD2595_STAMPING: U 311 1970

U 311" NGS Benchmark Datasheet (2 of 3)

AD2595_MARK LOGO: CGS
 AD2595_PROJECTION: FLUSH
 AD2595_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 AD2595+STABILITY: SURFACE MOTION
 AD2595_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 AD2595+SATELLITE: SATELLITE OBSERVATIONS - January 29, 2016

AD2595	HISTORY	- Date	Condition	Report By
AD2595	HISTORY	- 1970	MONUMENTED	NGS
AD2595	HISTORY	- 1973	GOOD	NGS
AD2595	HISTORY	- 1983	GOOD	LOCSUR
AD2595	HISTORY	- 1987	GOOD	USPSQD
AD2595	HISTORY	- 1988	GOOD	USPSQD
AD2595	HISTORY	- 1989	GOOD	USPSQD
AD2595	HISTORY	- 1990	GOOD	USPSQD
AD2595	HISTORY	- 19910615	GOOD	USPSQD
AD2595	HISTORY	- 19951230	MARK NOT FOUND	USPSQD
AD2595	HISTORY	- 19980927	GOOD	USPSQD
AD2595	HISTORY	- 20021121	GOOD	USPSQD
AD2595	HISTORY	- 20160129	GOOD	GEOCAC

AD2595
 AD2595 STATION DESCRIPTION
 AD2595

AD2595'DESCRIBED BY NATIONAL GEODETIC SURVEY 1970
 AD2595'AT POMPANO BEACH.
 AD2595'AT POMPANO BEACH, ABOUT 0.4 MILE WEST ALONG STATE HIGHWAY 814
 AD2595'(ATLANTIC BLVD) FROM THE INTERSECTION OF U.S. HIGHWAY 1, 31 FEET
 AD2595'NORTH OF THE CENTER LINE OF THE WESTBOUND LANE OF THE HIGHWAY, 26
 AD2595'FEET WEST OF THE APPROXIMATE CENTER LINE OF NE 14 TH AVENUE, 2
 AD2595'FEET NORTH OF THE NORTH EDGE OF A CONCRETE SIDEWALK, 2 FEET
 AD2595'NORTHWEST OF A STOP SIGN, ABOUT LEVEL WITH THE HIGHWAY AND SET
 AD2595'IN THE TOP OF A CONCRETE POST FLUSH WITH THE GROUND.

AD2595
 AD2595 STATION RECOVERY (1973)
 AD2595

AD2595'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1973
 AD2595'RECOVERED IN GOOD CONDITION.

AD2595
 AD2595 STATION RECOVERY (1983)
 AD2595

AD2595'RECOVERY NOTE BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 1983
 AD2595'12.7 FEET EAST OF THE SOUTHEAST CORNER OF BUILDING 10.5 FEET NORTH OF
 AD2595'NORTH CURB LINE EXTENDED 2 FEET NORTH OF A STOP SIGN, 2 FEET NORTH OF
 AD2595'THE NORTHEGE OF A CONCRETE SIDEWALK.

AD2595
 AD2595 STATION RECOVERY (1987)
 AD2595

AD2595'RECOVERY NOTE BY US POWER SQUADRON 1987 (JHH)
 AD2595'RECOVERED IN GOOD CONDITION.

AD2595
 AD2595 STATION RECOVERY (1988)
 AD2595

AD2595'RECOVERY NOTE BY US POWER SQUADRON 1988 (CEP)
 AD2595'RECOVERED IN GOOD CONDITION.

AD2595
 AD2595 STATION RECOVERY (1989)
 AD2595

AD2595'RECOVERY NOTE BY US POWER SQUADRON 1989 (FEC)
 AD2595'RECOVERED IN GOOD CONDITION.

AD2595
 AD2595 STATION RECOVERY (1990)
 AD2595

AD2595'RECOVERY NOTE BY US POWER SQUADRON 1990 (JHH)
 AD2595'RECOVERED IN GOOD CONDITION.

AD2595

U 311" NGS Benchmark Datasheet (3 of 3)

AD2595 STATION RECOVERY (1991)
AD2595
AD2595'RECOVERY NOTE BY US POWER SQUADRON 1991 (JHH)
AD2595'RECOVERED IN GOOD CONDITION.
AD2595
AD2595 STATION RECOVERY (1995)
AD2595
AD2595'RECOVERY NOTE BY US POWER SQUADRON 1995
AD2595'MARK NOT FOUND.
AD2595
AD2595 STATION RECOVERY (1998)
AD2595
AD2595'RECOVERY NOTE BY US POWER SQUADRON 1998
AD2595'RECOVERED IN GOOD CONDITION.
AD2595
AD2595 STATION RECOVERY (2002)
AD2595
AD2595'RECOVERY NOTE BY US POWER SQUADRON 2002 (RT)
AD2595'RECOVERED IN GOOD CONDITION.
AD2595
AD2595 STATION RECOVERY (2016)
AD2595
AD2595'RECOVERY NOTE BY GEOCACHING 2016 (KEN)
AD2595'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:04