



SURVEYOR'S REPORT

**Specific Purpose Survey of the
United States Geological Survey
Recorder Well G-2693
in
Broward County, Florida**

Prepared for:

South Florida Water Management District

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Prepared by:

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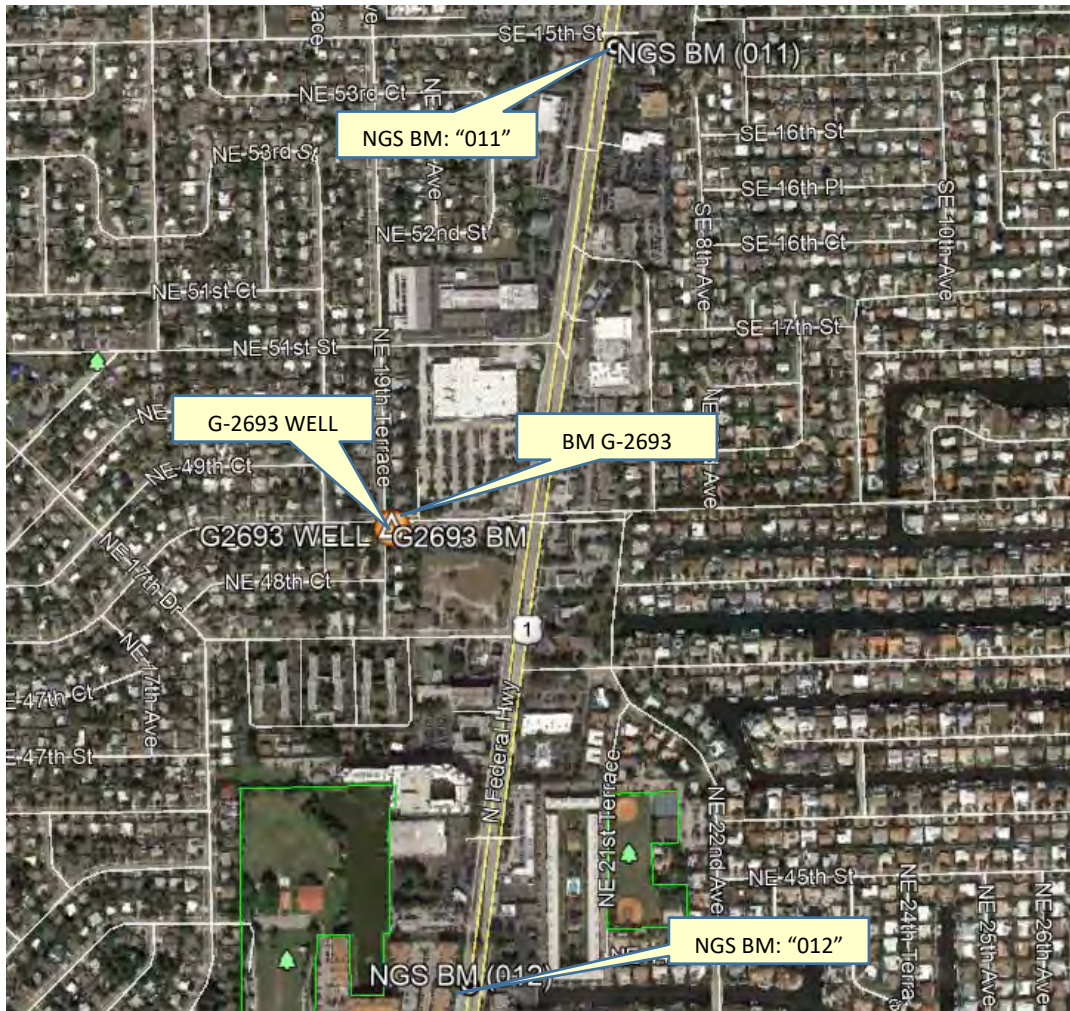
Field Date: September 26, 2019
Report Date: November 26, 2019
Report Revision Date: January 8, 2020
PO NO: 9500008146

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-2693** is located in Section 7, Township 48 South, Range 43 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-2693 (48 ST 86/16/C17), 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 "011" (DO2650), through the well site, and to the NGS Benchmark "012" (DO2651). The measurements were collected using a Digital Level and were hand written in Whidden Surveying & Mapping, Inc. Field Book W 203 Page 71, dated September 18, 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-2693 (48 ST 86/16/C17) were established by observing a 3-minute session of GPS data on September 18, 2019 using a Trimble R-8-S 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

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

A level loop was run from the previously established Site Benchmark G-2693 (48 ST 86/16/C17), through the ground shot north of the well casing (ground elevation), through the well monitoring point, through the USGS benchmark "RM 1", 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 72-74, dated September 26, 2019. Additional data was manually recorded.

GPS METHODS (horizontal position of Well G-2693 monitoring point & USGS Benchmarks)

Latitude and Longitude for Well G-2693 monitoring point (black mark at top of 7 ½" metal casing) and USGS RM 1 (nail & disk in concrete sidewalk) were established by observing a 3-minute session of GPS data on September 26, 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

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VERTICAL CONTROL POINT

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

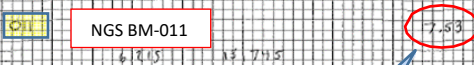
NGS Benchmark "011" (DO2650)						
26° 17' 51.01" (N)	80° 05' 38.31" (W)	Published	7.53 ft.	(NAVD88)	2.30 m	Published
			<p>THE MARK IS LOCATED APPROXIMATELY 60 FEET SOUTH OF THE INTERSECTION OF U.S. HWY 1-NORTH FEDERAL HWY AND SE 15TH ST, 52.0 FEET EAST OF CENTERLINE OF U.S. HWY 1, 13 FEET SW OF CROSS WALK SIGNAL, 6 FEET WEST OF THE WEST EDGE OF SIDEWALK, 4.5 FEET NE OF STREET SIGN, 1.3 FEET WEST OF WITNESS POST</p> <p>NGS BENCHMARK DISK, SET IN GRASS AREA OFF EOP STAMPING: CITY OF POMPANO BEACH 011 2011 BENCHMARK</p>			

NGS Benchmark "012" (DO2651)						
26° 17' 09.17" (N)	80° 05' 45.45" (W)	Published	9.85 ft.	(NAVD88)	3.00 m	Published
			<p>THE MARK IS LOCATED APPROXIMATELY 250 FEET NORTH OF THE INTERSECTION OF U.S. HWY 1-NORTH FEDERAL HWY AND NE 44TH STRET, 200 FEET NORTH OF THE SOUTH END OF THE BULL NOSE MEDIAN, 85 FEET SOUTH OF A 12-INCH PALM TREE, 19 FEET SW OF A DRAINAGE MANHOLE, 1 FOOT WEST OF WITNESS POST</p> <p>NGS BENCHMARK DISK SET IN GRASS AREA OF MEDIAN BETWEEN ROADS STAMPING: CITY OF POMPANO BEACH 012 2011 BENCHMARK</p>			

SURVEYOR'S REPORT

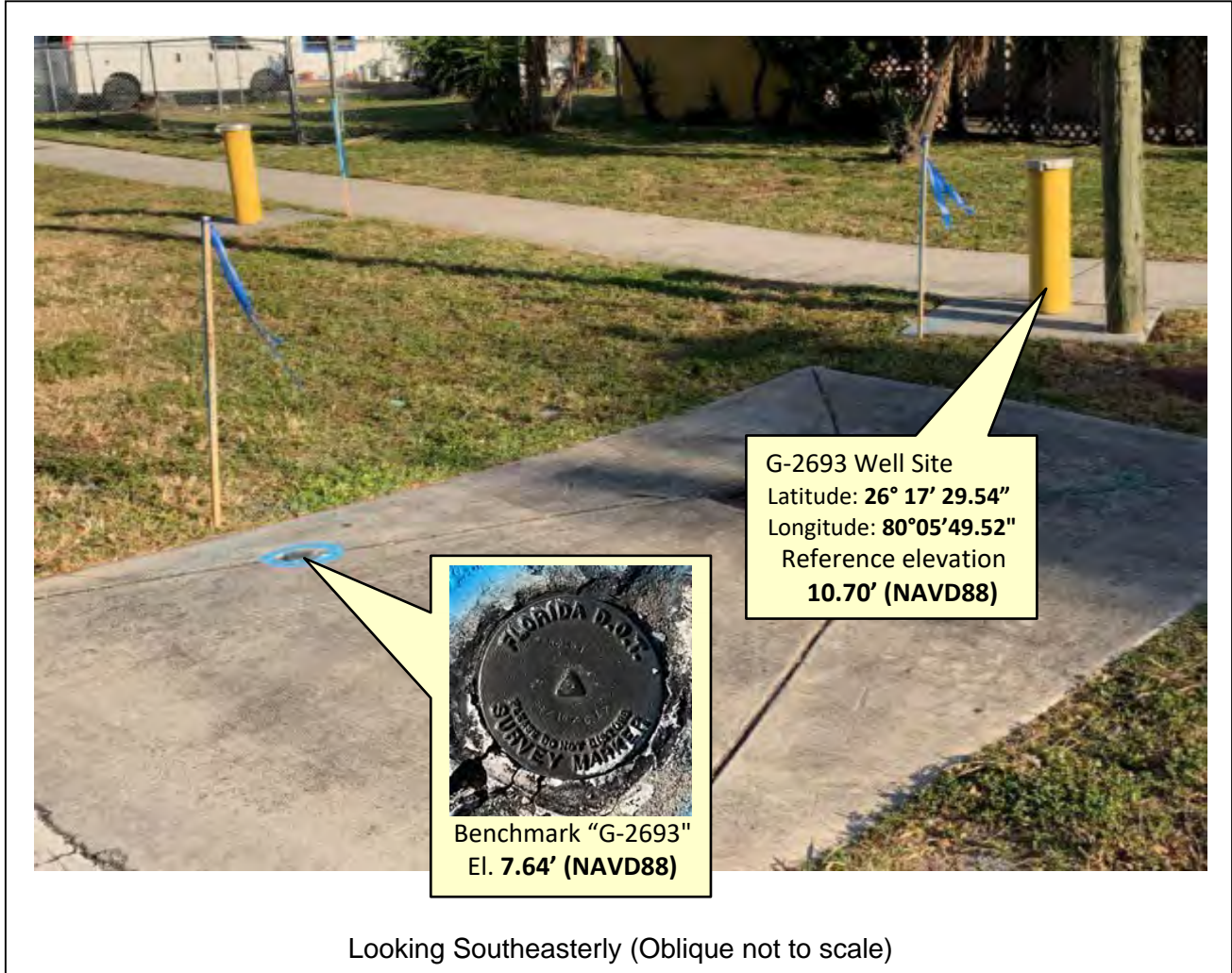
BM: G-2693 (Existing on site benchmark)					
26° 17' 29.68" (N)	80° 05' 49.52" (W)	7.64 ft.	(NAVD88)	2.33 m	Level run
NAD_83(2011)(EPOCH:2010.0000)		9.22 ft.	(NGVD29)	2.81 m	Converted
		1.58 ft.	(conversion factor)		Corpscon 6.0.1
		STATION IS A F.D.O.T. BM STAMPED "48 ST 86/16/C17" SET ON THE NE CORNER OF A DRAIN CONCRETE SLAB. LOCATED: AT THE SW CORNER OF NE 19 TH TERRACE AND NE 49 TH STREET			

Field Book W203, Page 71

62693 - 62693 STA: 4 11 - 7.6 				09/18/19 W203/71							
61815 41455 1122 1123 1124 1125 1126 1127 1128 1129 1130	13715 12461 1122 1123 1124 1125 1126 1127 1128 1129 1130	7.6 6.526 7.321 6.019 6.327 (E 28.9%) 5.773 5.157 7.65 8.252 8.217 5.269	61930 5357 10857 688 4686 1858 1129 1130	18207 10130 5709 1699 12958 1129 1130	8.273 5.157 7.65 8.252 8.217 5.269	5.482 5.027 5.693 5.177 5.211 5.818 4.647 5.441	13193 12958 18254 14204 13881 14524 15328 1129 1130	5.932 8.268 4.869 5.897 6.358 5.185 3.823 5.441	7.647 7.868 8.860 8.262 8.681 8.706 10.621 9.869	(0.152)	
NGS BM-"011" ELEVATION: 7.53' (NAVD 88)						DINA S/N 735642 TRIMBLE RB-3 4615113539 TRIMBLE RB-4 0220266504					

PROJECT RESULTS

Overall Site





SURVEYOR'S REPORT

Tabular Form

Reference and Ground Elevations: NAVD88			
Well	Ground Elevation	Reference Elevation	Comments
G-2693	7.83 ft.	10.70 ft.	Top of 7 1/2" Metal Casing.
Offset to NGVD29: +1.58' (See Project Vertical Datum Notes in Page: 4)			
Well diameter		Casing material	DTW
2 1/2"		Metal	-7.43 ft. (9/26/19 at 5:10 PM)

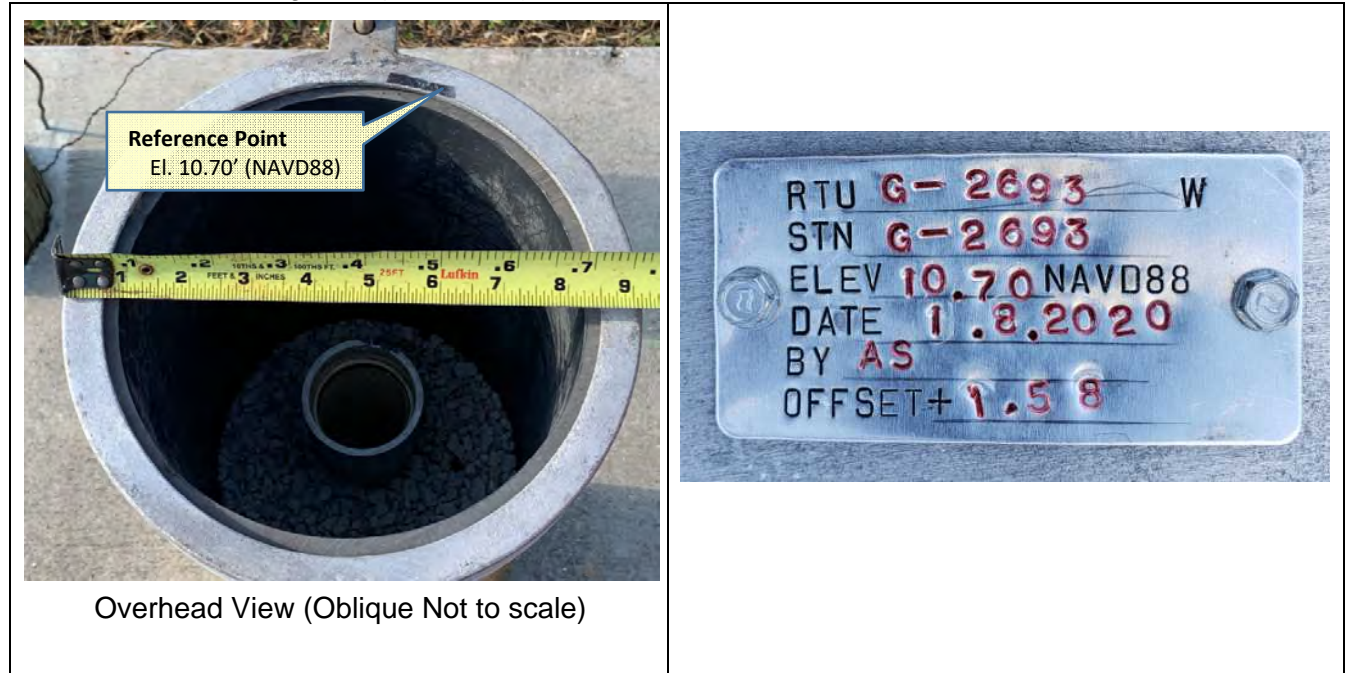
Source & Site Benchmark	NAVD88	NGVD29 (Published)	NGVD29 (Corpscon)
NGS "011" (DO2651)	7.53 ft. (Published)		
NGS "012" (DO2650)	9.85 ft. (Published)		
BM G2693 (SFWMD)	7.64 ft. (Measured)		9.22 ft. (Converted)
RM-1	7.935 ft. (Measured)		

Well Photos and Diagrams (Continued)

	<p>5/0 10 0.083 -0.063 0.081 3043 CHK-OUT BM @ G2693</p> <p>PT # DESCRIPTION</p> <p>12059 MINDF-RM1 "BROWARD COUNTY"</p> <p>12060 N. EDGE, TOP OF CASING @ BLACK SHARPE MARK</p> <p>12061 N. EDGE, TOP OF 2-1/2" WEL HEAD @ BLACK SHARPE MARK</p> <p style="text-align: center;">  </p> <p>TASK: MEASURE & RECORD DISTANCE FROM MONITORING POINT TO WATER LEVEL</p> <p>MEASUREMENT: 7.43 ; AS MEASURED FROM TOP OF 7-1/2" METAL CASING (PT # 12060) @ BLACK SHARPE MARK @ N. EDGE</p> <p>TIME: 5:10 PM</p>
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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 26, 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 pages 72-74

SURVEYOR'S REPORT

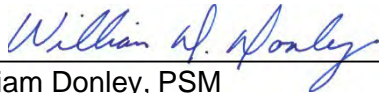
Abbreviations:

- EI.** - 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. 26, 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-2693** Project Name: **USGS Ph 2, BROWARD** Type: **V** State Plane Zone: **FL East**
 Stamping: **48 ST 86/16/C17** Field Book Name: **W203** Field Book Page: **71**
 Established By: **DEWBERRY / WHIDDEN** Recovered By: **DEWBERRY** Recovery Date: **09/26/19**
 Surveyor: **WILLIAM D. DONLEY** Established Date: **9/18/2019(ELEVATION)** Status: **Good**

GEOGRAPHIC POSITION INFORMATION

Section: **7** Township: **48 SOUTH** Range: **43 EAST**
 County: **BROWARD** Quadrangle: **BOCA RATON** NGS Source BM(s): **"012"**
 NAD83 Adj. Year: **2011** Vertical Datum: **NAVD1988** Horizontal Datum: **NAD1983** NGS PID(s): **DO2651**
 NAVD88 Elevation (feet): **7.64** NGVD29 Elevation (feet): **9.215** 2022 Elevation: **N/A** NGS NAVD88 Elev (ft): **9.85**
 NAVD88 Class: **N/A** NGVD29 Class: **N/A** Other Elevation: **N/A** NGS NAVD88 Elev (m): **3.001**
 NAVD88 Order: **3** NGVD29 Order: **N/A** 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 datum's using vertcon05.txt and vertcon05.05 files supplied by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville FL.)

Vertical Datum Offset: + **1.58** Actual NGS Elevation or ngvd29.txt file: **N/A** OPUS Ortho Height: **N/A**
 Northing (Y) (feet): **712700.3** Easting (X) (feet): **951999.2** Source of Latitude & Longitude: **AVERAGED FPRN & TRIMBLE VRSNOW RTK**
 Latitude: **26** **DD"** Longitude: **80** **DD"**
DD" **MM'** **SS"** **MM'** **SS"**
 Latitude (Decimal Degrees): **26.291578** Longitude (Decimal Degrees): **-80.097089**

RECOVERY DATA

How to Reach:
 1. FROM FL-834/NE 36TH STREET, HEAD NORTHEASTERLY ON FL-5/N FEDERAL HWY FOR 1.1 MI
 2. AT TRAFFIC LIGHT, TURN LEFT ON NE 49TH STREET
 3. CONTINUE 0.1 MI TO THE INTERSECTION WITH NE 19th TERRACE AND THE MARK ON THE LEFT, LOCATED IN THE SOUTHEAST QUADRANT OF THE INTERSECTION OF NE 49th STREET AND NE 19th TERRACE.

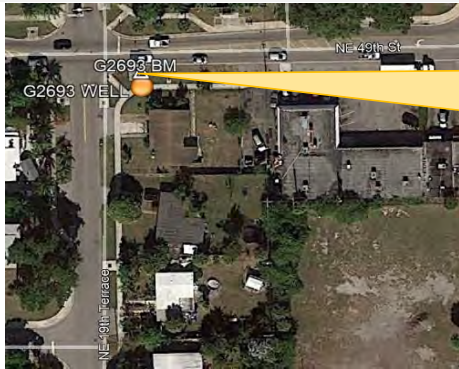
Description/Notes: **FLORIDA D.O.T. SURVEY MARKER DISK FOUND IN CONCRETE STORM SPILLWAY; ESTABLISHED NAVD88 ELEVATION.**

Notable Landmarks: **INTERSECTION OF NE 49th STREET AND NE 19th TERRACE**

Other Source Benchmarks: **NGS BM "011" (D02650)**

PICTURES

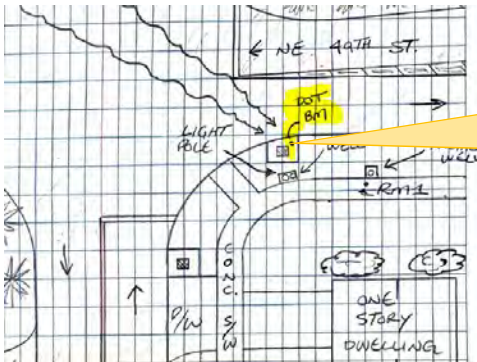
Aerial View of Overall Site



NOT TO SCALE. AERIAL FROM GOOGLE EARTH.

PICTURES

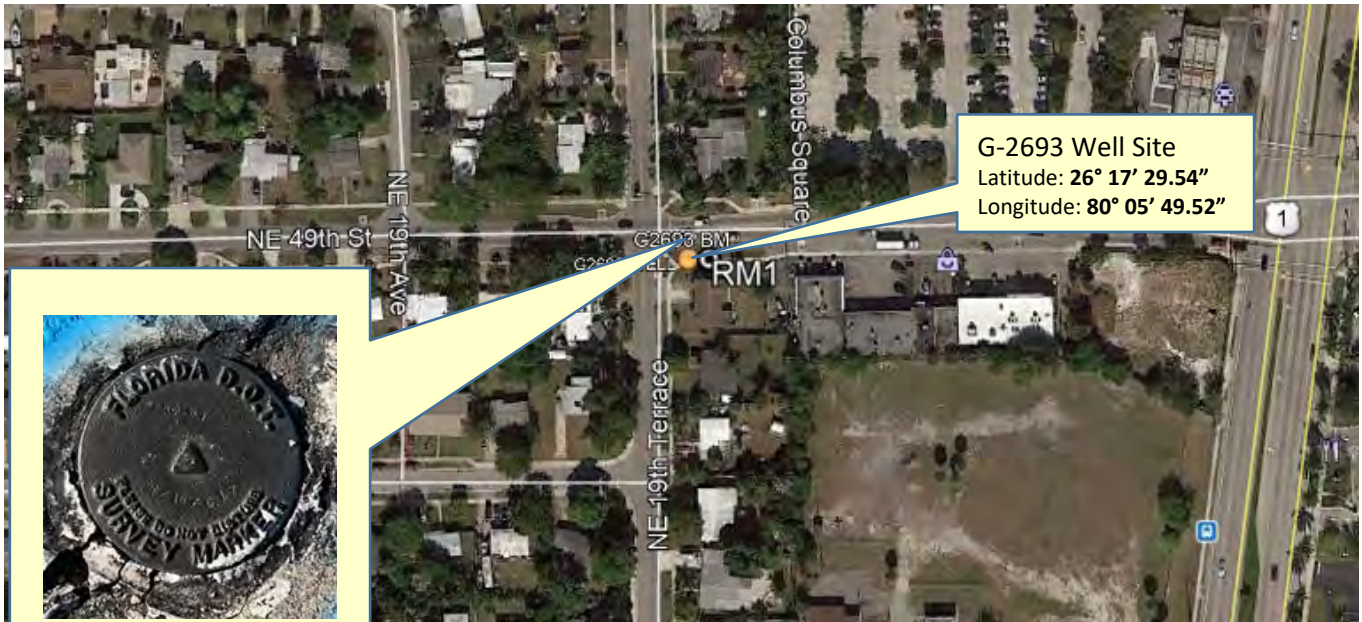
Site Sketch





SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/18



Benchmark "G-2693"
El. 7.64' (NAVD88)

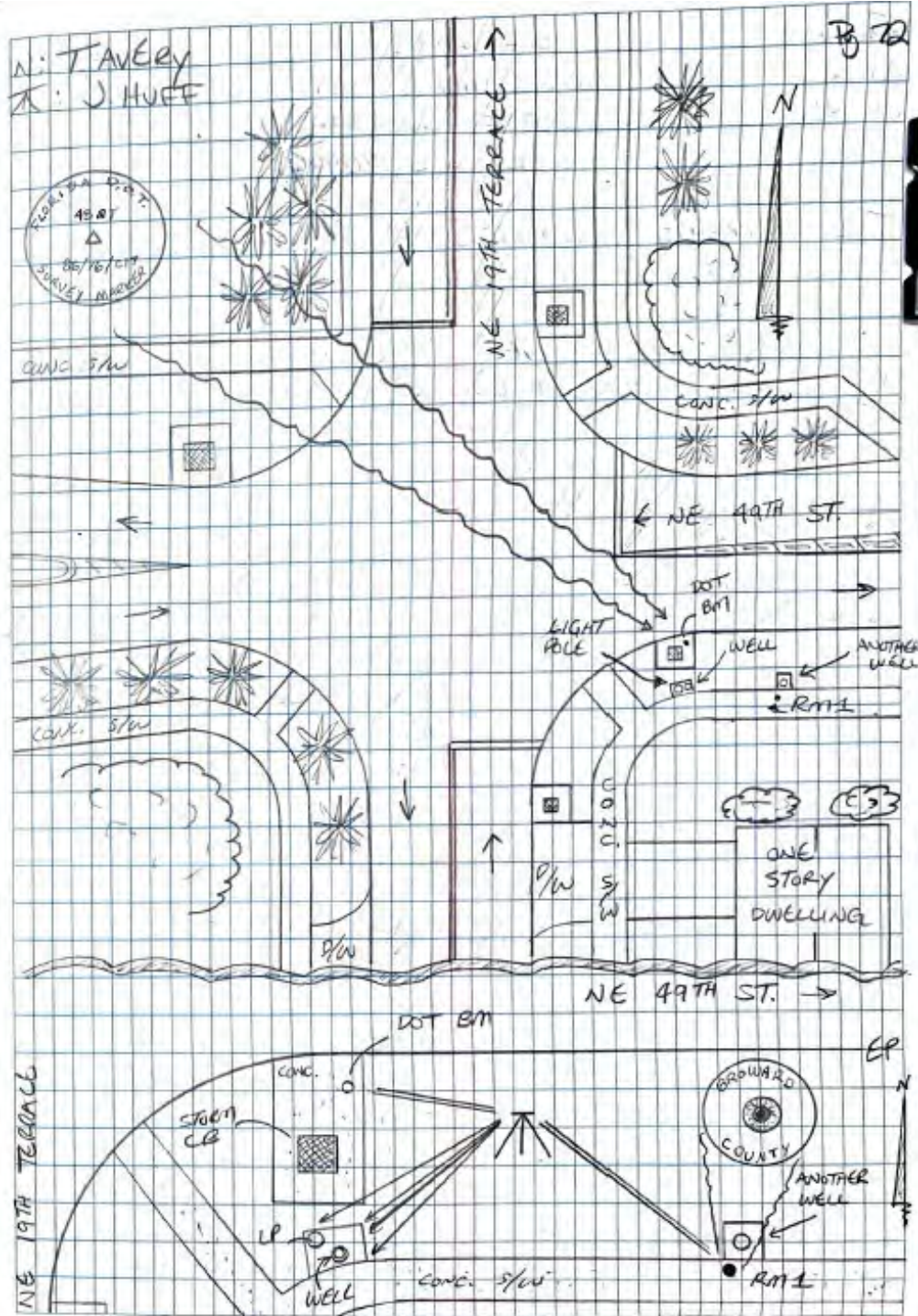
NOT TO SCALE (Google Earth product)



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/18

SKETCH



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 G2693

1/2

Northing/Y: 712700.3
Easting/X: 951999.2
Elevation/Z: 7.64
Convergence: 0 23 59.86113
Scale Factor: 1.000041526
Combined Factor: 1.000045220

Latitude: 26 17 29.67518
Longitude: 80 05 49.52418
Elevation/Z: 9.215

WELL G2693

2/2

Northing/Y: 712686.16'
Easting/X: 951999.83'
Elevation/Z: 10.7
Convergence: 0 23 59.86174
Scale Factor: 1.000041526
Combined Factor: 1.000045074

Latitude: 26 17 29.53510
Longitude: 80 05 49.51834
Elevation/Z: 12.275

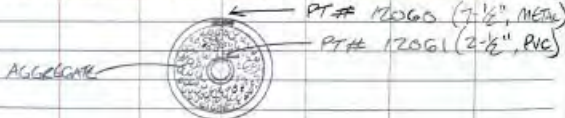
Remark:

SPECTRA SP-80 SFWMID 09/26/19
 ROVER #N 1165 USGS WELLS & BMS
 TRIMBLE NETWORK JOB # 50099999
 HI: 6.562 WELL SITE: 2693

TASK: ESTABLISH HORIZONTAL LOCATIONS OF WELL MONITORING POINT & REF. MONUMENTATION @ SITE

PT#	(N) ELEV	(E) ELEV	(Z) ELEV	PT#	DESCRIPTION
5/8	10	0.076	-0.064	Fa.002	5042 CHK-N BM @ G2803
* LOCATED PT #'S 12059-12061					
5/0	10	0.083	-0.063	C.0.081	5043 CHK-AT BM @ G2803

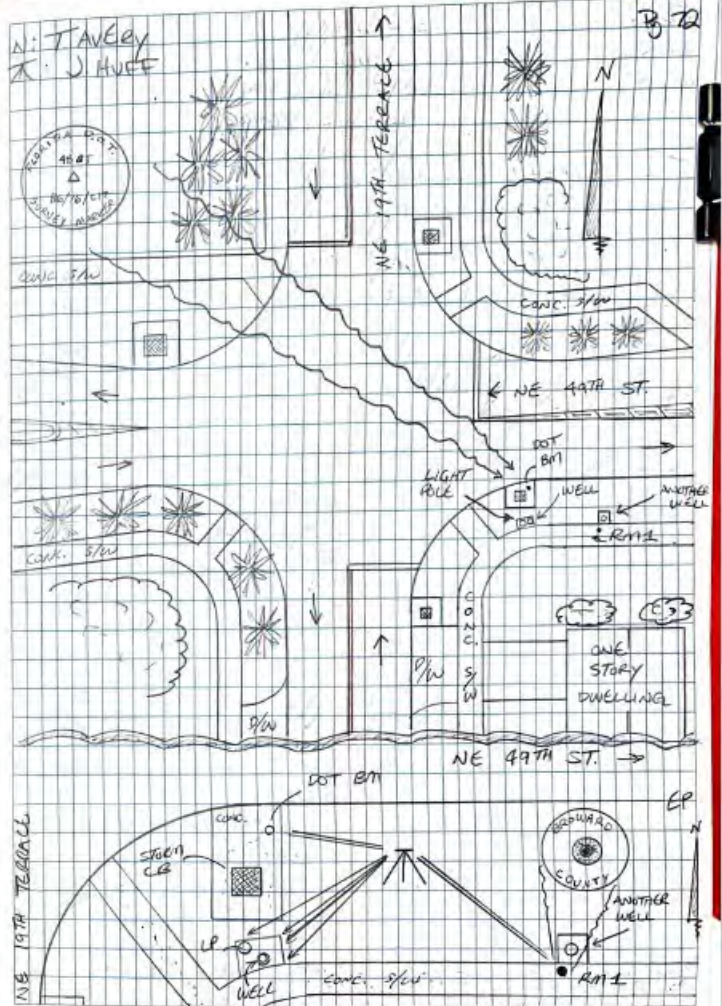
PT# DESCRIPTION
 12059 MNDF-RM1 "BROWARD COUNTY"
 12060 N. EDGE, TOP OF CASING @ BLACK SHARPE MARK
 12061 N. EDGE, TOP OF 2-1/2" WELL HEAD @ BLACK SHARPE MARK



TASK: MEASURE & RECORD DISTANCE FROM MONITORING POINT TO WATER LEVEL

MEASUREMENT: 7.43 ; AS MEASURED FROM TOP OF 7-1/2" METAL CASING (PT# 12060) @ BACK SHARPE MARK @ N. EDGE

THIS WELL IS LOCATED SOUTH EAST OF THE INTERSECTION @ NE 49TH ST. & NE 19TH TERRACE, ON THE R/W, @ FRONT OF S/W (SIDEWALK), NEXT TO A LIGHT POLE.



Tolson
 AF-62
 S/N 1439

SFWMD
 USGS WELLS & BMs
 Job # 50099999
 WELL SITE: 2693

09/26/19

TASK: ELEVATE MONITORING POINT, REFERENCE
 MONUMENTATIONS, & GROUND @ WELL SITE

BACKSIGHT (+)		IK		FORESIGHT (-)		ASMD ADJ.	
STA ID	RDS	MEAN	ELEV	RDS	MEAN	ELEV	ELEV
							100.00
	4.92			4.545			
BM	4.85	4.850	104.8000	4.465	4.465	100.2850	8.1050
	4.78		12.19	4.385			
	14'/14'			16'/30'			
				4.625			
"	"	"	"	4.565	4.5633	100.2850	7.9267
				4.500			
				12.5'/26.5'			
				4.565			
"	"	"	"	4.495	4.4967	100.3850	7.9933
				4.43			
				13.5'/21.5'			
				4.53			
"	"	"	"	4.45	4.4483	100.4050	8.0417
				4.365			
				16.5'/30.5'			
				4.735			
"	"	"	"	4.665	4.6650	100.4850	7.8250
				4.595			
				14'/28'			

N: TAVERLY
 IN J. HUFF

P. 73

BEGIN @	ELEVATION	DESCRIPTION
	100.00	3" METAL FL DOT
	7.64	SURVEY MARKER IN TOP
	(unmarked)	OF CONC. SLAB FOR
	(NAVD 88)	STORM CATCH BASIN, SOUTH
		OF EP FOR NE 90TH ST.

FORESIGHT (-)
 DESCRIPTION

NW CORNER OF CONCRETE SLAB AROUND WELL CASING

NE CORNER OF CONCRETE SLAB AROUND WELL CASING

SE CORNER OF CONCRETE SLAB AROUND WELL CASING

SW CORNER OF CONCRETE SLAB AROUND WELL CASING

GS (GROUND SURF. N. OF WELL CASING)

Topcon SFWM D 09/26/19
 AT:GZ USGS WELLS & RMs
 S/N 1439 JOB #: 50099949
 WELL SITE: G-2693

TASK: CONTINUE ELEVATING POINTS OF INTEREST

STA ID	RDs	MEAN	ELEV	TR	FORESIGHT (-) (ASMD AD)	MEAN	ELEV	ELEV
						2.555		
Bm			104.8500 2.485		2.4817	104.9643 10.0083		
			12.49		2.405			
					15' / 29'			
					1.865			
"					1.79	1.7900	105.0000 10.7000	
					1.715			
					15' / 29'			
					4.625			
"					4.555	4.5550	100.0000 7.9550	
					4.485			
					14' / 28'			

* BREAK SET-UP

			4.655		4.91			
			4.585	4.5883	104.8833 4.885	4.8833	10.0000 7.6400	
			4.525		12.5211	4.795		
			13' / 41'			17.5 / 50.5		

* END LEVEL LOOP

N: T. AVERY
 T. J. HUFF

FORESIGHT (-)
 DESCRIPTION:

MP (MEASURING POINT @ N. EDGE OF 2-1/2" Pvc WELL HEAD, AS INDICATED BY BLACK SHARPE MARK) ~~NEITHER COULD BE TRUE MP~~

MP (MEASURING POINT @ N. EDGE OF 7-1/2" METAL CASING, AS INDICATED BY BLACK SHARPE MARK, PT # 12060)

BM 1 - REC. MND STAMPED "BRUARD COUNTY", LOCATED IN CONC S/W, DUE EAST OF WELL

BACK @ STARTING POINT (SITE Bm):

Check In = 0.00'

T. Avery

62893 - 62698				
STA.	A	H1	-	EL
011				7.53
	6.215	13.745		
TP1			4.919	8.826
	4.635	12.461		
TP2			6.111	7.321
	4.596	11.706		
TP3			5.862	6.034
	4.893	10.909		
TP (V)			4.532	6.377 (6.285)
	3.630	10.207		
TP4			5.901	4.772
	5.357	10.130		
TP5			4.479	5.151
	4.854	5.709		
TP6			3.209	7.65
	6.33	13.98		
TP7			8.88	8.52
	4.806	12.958		
TP8			4.041	8.217
	12.58	5.264		

09/18/19				
STA	A	H1	-	EL
82693 (TP10)				5.932
	5.486	12.133		7.647 (0.52)
TP11			8.265	7.868
	5.067	12.755		
TP12			4.869	8.066
	5.693	12.754		
TP13			6.347	8.362
	8.117	14.104		
TP14			8.135	8.681
	5.211	13.891		
TP15			5.135	8.706
	5.810	14.524		
TP16			3.863	10.621
	4.647	15.328		
012			5.441	8.867

DINA S/N 735642
 TRIMBLE RB-3 2615113539
 TRIMBLE RL-2 0220266504

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
DO2650 *****
DO2650 DESIGNATION - 011
DO2650 PID - DO2650
DO2650 STATE/COUNTY- FL/BROWARD
DO2650 COUNTRY - US
DO2650 USGS QUAD - BOCA RATON (1983)
DO2650
DO2650 *CURRENT SURVEY CONTROL
DO2650
DO2650* NAD 83(1986) POSITION- 26 17 51. (N) 080 05 38. (W) SCALED
DO2650* NAVD 88 ORTHO HEIGHT - 2.296 (meters) 7.53 (feet) ADJUSTED
DO2650
DO2650 GEOID HEIGHT - -25.918 (meters) GEOID12B
DO2650 DYNAMIC HEIGHT - 2.293 (meters) 7.52 (feet) COMP
DO2650 MODELED GRAVITY - 979,076.6 (mgal) NAVD 88
DO2650
DO2650 VERT ORDER - SECOND CLASS II
DO2650
DO2650.The horizontal coordinates were scaled from a topographic map and have
DO2650.an estimated accuracy of +/- 6 seconds.
DO2650.
DO2650.The orthometric height was determined by differential leveling and
DO2650.adjusted by the NATIONAL GEODETIC SURVEY
DO2650.in December 2012.
DO2650
DO2650.Significant digits in the geoid height do not necessarily reflect accuracy.
DO2650.GEOID12B height accuracy estimate available here.
DO2650
DO2650.Photographs are available for this station.
DO2650
DO2650.The dynamic height is computed by dividing the NAVD 88
DO2650.geopotential number by the normal gravity value computed on the
DO2650.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DO2650.degrees latitude (g = 980.6199 gals.).
DO2650
DO2650.The modeled gravity was interpolated from observed gravity values.
DO2650
DO2650; North East Units Estimated Accuracy
DO2650;SPC FL E - 217,890. 290,490. MT (+/- 180 meters Scaled)
DO2650
DO2650_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK904089(NAD 83)
DO2650
DO2650 SUPERSEDED SURVEY CONTROL
DO2650
DO2650.No superseded survey control is available for this station.
DO2650
DO2650_MARKER: DB = BENCH MARK DISK
DO2650_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
DO2650_STAMPING: 011 2011
DO2650_MARK LOGO: FL2570
DO2650_PROJECTION: RECESSED 5 CENTIMETERS
DO2650_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT
DO2650_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DO2650+STABILITY: SURFACE MOTION
    
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DO2650_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DO2650+SATELLITE: SATELLITE OBSERVATIONS - December 22, 2011

DO2650

DO2650	HISTORY	- Date	Condition	Report By
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DO2650	HISTORY	- 20111222	MONUMENTED	STONER
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DO2650

STATION DESCRIPTION

DO2650

DO2650'DESCRIBED BY STONER AND ASSOCIATES INC 2011 (DWS)

DO2650'THE MARK IS ABOUT 6.8 MI (10.9 KM) EAST OF WEST DIXIE BEND, 4.6 MI
DO2650'(7.4 KM) NORTH-NORTHEAST OF POMPANO BEACH, 4.2 MI (6.8 KM) SOUTH OF
DO2650'BOCA RATON, IN SECTION 7, TOWNSHIP 48 SOUTH, RANGE 43 EAST. OWNERSHIP
DO2650'IS THE FLORIDA DEPARTMENT OF TRANSPORTATION.

DO2650'

DO2650'TO REACH THE MARK FROM THE INTERSECTION OF WEST ATLANTIC BOULEVARD AND
DO2650'NORTH DIXIE HIGHWAY IN POMPANO BEACH, GO EAST ON ATLANTIC BOULEVARD
DO2650'FOR 1.5 MI (2.4 KM) TO THE INTERSECTION OF FEDERAL HIGHWAY (U.S.
DO2650'HIGHWAY 1). TURN LEFT ON NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1) AND
DO2650'GO NORTH FOR 4.6 MI (7.4 KM) TO THE MARK ON THE RIGHT, SET IN THE TOP
DO2650'OF A 10-INCH (25 CM) ROUND CONCRETE MONUMENT RECESSED 0.2 FT (6 CM)
DO2650'BELOW THE LEVEL OF THE GROUND AND 0.5 FT (15 CM) ABOVE THE LEVEL OF
DO2650'NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1).

DO2650'

DO2650'LOCATED 60.0 FT (18.3 M) SOUTH OF THE INTERSECTION OF NORTH FEDERAL
DO2650'HIGHWAY (U.S. HIGHWAY 1) AND NORTHEAST 54TH STREET, 52.0 FT (15.8 M)
DO2650'EAST OF THE CENTERLINE OF NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1), 12.8
DO2650'FT (3.9 M) SOUTHWEST OF A CROSS WALK SIGNAL, 6.0 FT (1.8 M) WEST OF
DO2650'THE WEST EDGE OF THE SIDEWALK, 4.5 FT (1.4 M) NORTHEAST OF A STREET
DO2650'SIGN, 4.0 FT (1.2 M) SOUTH OF THE SOUTH EDGE OF THE CROSSWALK AND 1.3
DO2650'FT (0.4 M) WEST OF A CARSONITE WITNESS POST.

DO2650'

DO2650'NOTE REBAR ROD IS IMBEDDED IN THE MONUMENT.

*** retrieval complete.

Elapsed Time = 00:00:04

The NGS Data Sheet

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

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PROGRAM = datasheet95, VERSION = 8.12.5.2
1      National Geodetic Survey,  Retrieval Date = MAY 20, 2019
DO2651 *****
DO2651 DESIGNATION - 012
DO2651 PID - DO2651
DO2651 STATE/COUNTY- FL/BROWARD
DO2651 COUNTRY - US
DO2651 USGS QUAD - BOCA RATON (1983)
DO2651
DO2651 *CURRENT SURVEY CONTROL
DO2651
DO2651* NAD 83(1986) POSITION- 26 17 09. (N) 080 05 45. (W) SCALED
DO2651* NAVD 88 ORTHO HEIGHT - 3.001 (meters) 9.85 (feet) ADJUSTED
DO2651
DO2651 GEOID HEIGHT - -25.907 (meters) GEOID128
DO2651 DYNAMIC HEIGHT - 2.997 (meters) 9.83 (feet) COMP
DO2651 MODELED GRAVITY - 979,075.5 (mgal) NAVD 88
DO2651
DO2651 VERT ORDER - SECOND CLASS II
DO2651
DO2651.The horizontal coordinates were scaled from a topographic map and have
DO2651.an estimated accuracy of +/- 6 seconds.
DO2651.
DO2651.The orthometric height was determined by differential leveling and
DO2651.adjusted by the NATIONAL GEODETIC SURVEY
DO2651.in December 2012.
DO2651
DO2651.Significant digits in the geoid height do not necessarily reflect accuracy.
DO2651.GEOID128 height accuracy estimate available here.
DO2651
DO2651.Photographs are available for this station.
DO2651
DO2651.The dynamic height is computed by dividing the NAVD 88
DO2651.geopotential number by the normal gravity value computed on the
DO2651.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DO2651.degrees latitude (g = 980.6199 gals.).
DO2651
DO2651.The modeled gravity was interpolated from observed gravity values.
DO2651
DO2651; North East Units Estimated Accuracy
DO2651;SPC FL E - 216,600. 290,300. MT (+/- 180 meters Scaled)
DO2651
DO2651_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNK902076(NAD 83)
DO2651
DO2651 SUPERSEDED SURVEY CONTROL
DO2651
DO2651.No superseded survey control is available for this station.
DO2651
DO2651_MARKER: DB = BENCH MARK DISK
DO2651_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
DO2651_STAMPING: 012 2011
DO2651_MARK LOGO: FL2570
DO2651_PROJECTION: RECESSED 5 CENTIMETERS
DO2651_MAGNETIC: R = STEEL ROD IMBEDDED IN MONUMENT
DO2651_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DO2651+STABILITY: SURFACE MOTION

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DO2651_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DO2651+SATELLITE: SATELLITE OBSERVATIONS - December 22, 2011

DO2651

DO2651	HISTORY	- Date	Condition	Report By
DO2651	HISTORY	- 20111222	MONUMENTED	STONER

DO2651

DO2651 STATION DESCRIPTION

DO2651

DO2651'DESCRIBED BY STONER AND ASSOCIATES INC 2011 (DWS)

DO2651'THE MARK IS ABOUT 6.9 MI (11.1 KM) EAST-SOUTHEAST OF WEST DIXIE BEND,

DO2651'5.1 MI (8.2 KM) SOUTH OF BOCA RATON, 3.8 MI (6.1 KM) NORTH-NORTHEAST

DO2651'OF POMPANO BEACH, IN SECTION 18, TOWNSHIP 48 SOUTH, RANGE 43 EAST.

DO2651'OWNERSHIP IS THE FLORIDA DEPARTMENT OF TRANSPORTATION.

DO2651'

DO2651'TO REACH THE MARK FROM THE INTERSECTION OF WEST ATLANTIC BOULEVARD AND

DO2651'NORTH DIXIE HIGHWAY IN POMPANO BEACH, GO EAST ON EAST ATLANTIC

DO2651'BOULEVARD FOR 1.5 MI (2.4 KM) TO THE INTERSECTION OF FEDERAL HIGHWAY

DO2651'(U.S. HIGHWAY 1). TURN LEFT ON NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1)

DO2651'AND GO NORTH FOR 3.8 MI (6.1 KM) TO THE MARK ON THE LEFT, SET IN THE

DO2651'TOP OF A 10-INCH (25 CM) ROUND CONCRETE MONUMENT RECESSED 0.2 FT (6

DO2651'CM) BELOW THE LEVEL OF THE GROUND AND 0.3 FT (9 CM) ABOVE THE LEVEL OF

DO2651'NORTH FEDERAL HIGHWAY (U.S. HIGHWAY 1).

DO2651'

DO2651'LOCATED 250.0 FT (76.2 M) NORTH OF THE INTERSECTION OF NORTH FEDERAL

DO2651'HIGHWAY (U.S. HIGHWAY 1) AND NORTHEAST 44TH STREET, 200.0 FT (61.0 M)

DO2651'NORTH OF THE SOUTH END OF THE BULL NOSE MEDIAN, 85.4 FT (26.0 M) SOUTH

DO2651'OF A 12-INCH (30 CM) PALM TREE, 19.2 FT (5.9 M) SOUTHWEST OF A

DO2651'DRAINAGE MANHOLE AND 1.0 FT (0.3 M) WEST OF A CARSONITE WITNESS POST.

DO2651'

DO2651'NOTE REBAR ROD IS IMBEDDED IN THE MONUMENT.

*** retrieval complete.

Elapsed Time = 00:00:04