SURVEYOR'S REPORT

Specific Purpose Survey of

Weather Tower Big Pine Upland

Collier County, Florida

Prepared for:

South Florida Water Management District

Prepared by:

301 East Atlantic Boulevard

Pompano Beach, Florida 33060-6643

Ph. (954) 788-3400 Fax (954) 788-3500
Licensed Business (L.B.) 6860

South Florida Water Management District's

Purchase Order number 4500012430

Keith and Associates project number 07050.02,

Task 001

Report Date: September 4, 2007

Submittal: First

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SURVEYOR'S REPORT

PURPOSE

To establish (NAVD 1988 and NGVD 1929) vertical data at the site.
Set a site benchmark and elevate the well.
Locate the antenna base and guy-wires.

LOCATION OF PROJECT

The project is located in Collier County, Florida.

SURVEYOR'S REPORT

ITEMS DELIVERED TO THE DISTRICT

1. **Electronic copy of field notes.**
2. **Electronic copy of all computation sheets.**
3. **CORPSMET 95 file.**
4. **Site photographs.**
5. **Surveyor's Report.**
6. **District Benchmark Sheet.**
7. **AutoCad drawing.**

DATUM FOR THE PROJECT

The vertical datum for the project is National Geodetic Vertical Datum (NGVD) of 1929 and North American Vertical Datum (NAVD) of 1988. NGVD 1929 elevations and offset were derived using Vertcon version 6.0.1. Horizontal datum is NAD (North American Datum) 1983/90.

GPS PROCCEDURES AND EQUIPMENT

Vertical data on the site benchmark was established using the following methods. Due to the obstructions at the site benchmark a PK nail was set in a clear area near the site benchmark. That PK nail was occupied a total of three times consisting of four-hour GPS static sessions each time connecting it to three different National Geodetic Survey first order vertical and horizontal monuments surrounding the PK nail. The National Geodetic Survey monuments were also connected to each other by four-hour GPS static sessions.
Trimble 5700 receivers and Zephyr model number 39105.00 antennas (without ground plane) were used for all static sessions.
The baseline files were processed and adjusted using Trimble Geomatics Office version 1.62. The three adjusted values were averaged to obtain the final elevation of the PK nail. All the baselines passed the Chi Square Test at 95% confidence level. The expected accuracy for the elevations of site benchmark "PINE 2007" is ± 0.10'.
A three-wire level loop was then run from the PK nail to site benchmark "PINE 2007" and back to the PK nail.

HORIZONTAL LOCATIONS

Horizontal locations at the site were obtained using a Trimble 5700 receiver and RTK cellular link.

SURVEYOR'S REPORT

VERTICAL AND HORIZONTAL CONTROL

Q-498	Elevation:	**NAVD 1988**	**29.682'**	**NGVD 1929**	**31.132'**
PID AJ6501	Latitude	26°10'20.62973"		From NGVD 29.txt file	
State/County FL/Collier	Longitude	-80°53'37.72971"			
USGS QUAD California Slough (1974)					
Vertical Order First Class II Horizontal Order First		The horizontal coordinates were established by GPS observations and adjusted by the National Geodetic Survey in February 2007 . The orthometric height was determined by differential leveling and adjusted by the NATIONAL GEODETIC SURVEY in December 2001. The mark is about 28.3 mi (45.5 km) west of Andytown, 2.7 mi (4.3 km) west of Snake Road (I-75 exit 14) , in Section 36, Township 49 South, Range 34 East. To reach the mark from the junction of Snake Road and Interstate Highway 75 (exit 14) near Andytown, go west on Interstate Highway 75 for 2.35 mi (3.78 km) to the east end of bridge number 030283 and the mark on the left, a stainless steel rod driven into the ground at a depth of 14.2 ft (4.3 m) with a NGS logo cap flush with the ground and level with the westbound lanes of Interstate Highway 75, the datum point is recessed 0.4 ft (12.2 cm) below the level of the NGS logo cap. Located 60.3 ft (18.4 m) north of the centerline of the eastbound lanes of Interstate Highway 75, 52.3 ft (15.9 m) south of the centerline of the westbound lanes of Interstate Highway 75, 40.8 ft (12.4 m) northeast of the northeast bridge rail of the eastbound lanes, 33.4 ft (10.2 m) southeast of southeast bridge rail of the westbound lanes and 11.0 ft (3.4 m) east of a carsonite witness post. Note access to the datum point is had through a 5-inch NGS logo cap.			

SURVEYOR'S REPORT

VERTICAL AND HORIZONTAL CONTROL (CONTINUED)

FLGPS RON AZ MK	Elevation:	**NAVD 1988**	**18.182'**	**NGVD 1929**	**19.687'**
PID AC4658	Latitude	26°45'43.45599"		From NGVD 29.txt file	
State/County FL/Miami-Dade	Longitude	-80°46'28.94143"			
USGS QUAD Fortymile Bend (1995)					
Vertical Order First Class II Horizontal Order First		The horizontal coordinates were established by GPS observations and adjusted by the National Geodetic Survey in February 2007. The orthometric height was determined by differential leveling and adjusted by the NATIONAL GEODETIC SURVEY in March 2002. The station is located about 83.02 km (51.60 mi) west of Miami, 37.50 km (23.30 mi) southeast of Monroe Station, in Section 18, T 54 S, R 36 in the south end of the west concrete headwall for a wooden bridge over an east-west canal. Ownership--highway right-of-way. To reach the station from the intersection of U.S. Highway 41 and State Road 997 near Sweetwater, go west for 29.44 km (18.30 mi) on Highway 41 to the junction of Shark Valley Road. Continue west for 0.32 km (0.20 mi) on Highway 41 to a bridge and U.S. Corp spillway facility. Continue west for 0.56 km (0.35 mi) on Highway 41 to a bridge over an east-west canal, an airboat sightseeing facility and the station on right. Located 19.66 m (64.5 ft) north from the approximate center of Highway 41, 9.20 m (30.2 ft) east from a 25-cm palm tree, 4.08 m (13.4 ft)west from the approximate center of bridge and 0.91 m (3.0 ft) north from a carsonite witness post.				

SURVEYOR'S REPORT

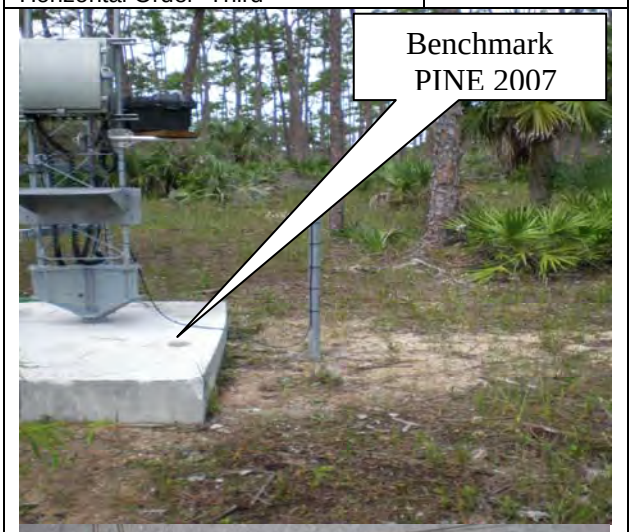
VERTICAL AND HORIZONTAL CONTROL (CONTINUED)

CATHAM 3	Elevation:	**NAVD 1988**	**5.400'**	**NGVD 1929**	**6.831'**
PID AC0569	Latitude	25°51'47.96810"		From NGVD 29.txt file	
State/County FL/Collier	Longitude	-81°06'05.70748"			
USGS QUAD Monroe Station (1995)					
Vertical Order First Class I Horizontal Order First		The horizontal coordinates were established by GPS observations and adjusted by the National Geodetic Survey in February 2007. The orthometric height was determined by differential leveling and adjusted by the NATIONAL GEODETIC SURVEY in June 1991. The mark is about 77.5 km (48.15 mi) southeast of Naples, about 84.15 km (52.29 mi) northwest of west Miami, in Section 15, Township 53 South, Range 32 East, Collier County, Florida. Ownership - Florida Department of Transportation. To reach the mark from the intersection of U.S. Highway 41 (Tamiami Trail) and State Road 29 in Carnestown, go southeast on U.S. Highway 41 6.9 km (4.3 mi) to the post office in Ochopee, continue southeast on U.S. Highway 41 20.3 km (12.61 mi) to the west edge of Monroe Station and the mark on the right, also from the oasis visitor center go northwest on U.S. Highway 41 6.9 km 4.26 mi) and the mark on the left. The mark is 51.02 m (167.4 ft) southwest of the centerline of U.S. Highway 41, 39.01 m (128.0 ft) northwest of (parallel to highway) the west end of the south concrete endwall of a box culvert (beneath U.S. Highway 41), 58.43 m (191.7 ft)southwest of the southwest corner of the south concrete endwall, and 0.30 m (1.0 ft) northeast of a carsonite witness post. The mark is a disk set flush in the top of a concrete monument, projecting 5 cm (0.17 ft) above the ground and about 0.61 m (2.0 ft) below the level of the highway.			

SURVEYOR'S REPORT

VERTICAL CONTROL SITE BENCHMARK

PINE 2007	Elevation:	**NAVD 1988**	**10.9'**	**NGVD 1929**	**12.4'**
	Latitude	25°59'58.4"	Elevation derived from GPS.		Elevation derived from GPS.
State/County FL/Collier	Longitude	-80°55'29.4"			
USGS QUAD West of Horseshoe Head					
Vertical Order Third Horizontal Order Third					



From the intersection of Krome Avenue (S.W. 177th Avenue) and U.S. 41 (Tamami Trail) proceed west on U.S. 41 for approximately 31.7 miles to the intersection U.S. 41 and 11-Mile Road (Oil Well Road) on the right, turn right heading north on 11-Mile Road for approximately 12.5 miles to Weather Tower Big Pine Upland and the mark on the left . The mark is a 3-1/2" SFWMD brass disk set on the concrete pad for the weather tower.

SURVEYOR'S REPORT

SITE PHOTOS

Big Pine Upland Tower

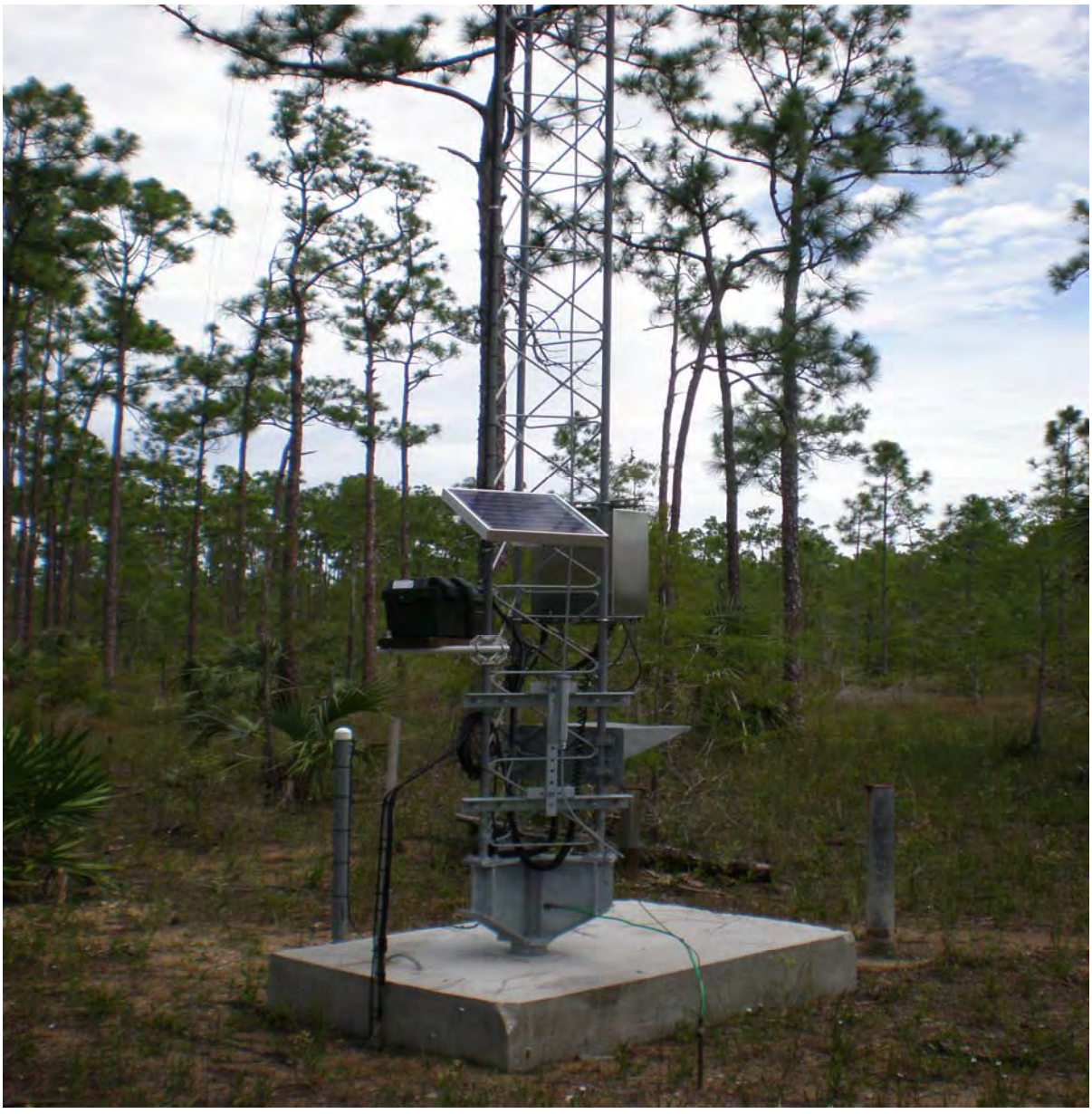
SURVEYOR'S REPORT

SITE PHOTOS (CONTINUED)

Big Pine Upland Well

SURVEYOR'S REPORT

SITE PHOTOS (CONTINUED)



Big Pine Upland Solar Panels

SURVEYOR'S REPORT

SITE PHOTOS (CONTINUED)

Big Pine Upland Rain Gauge

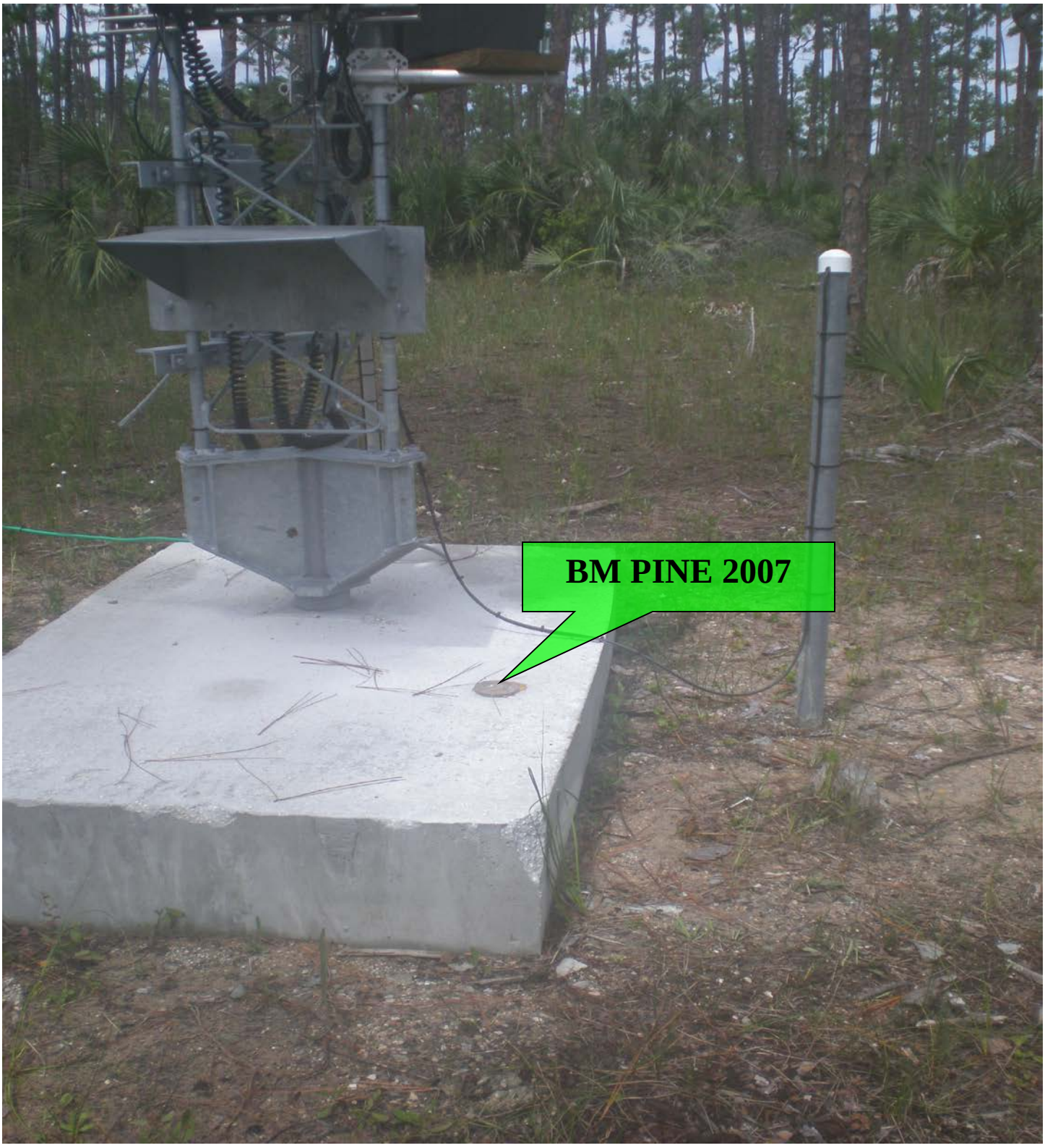
BIG PINE UPLAND SITE

07/23/07

Keith and Associates, Inc.

Weather Tower

BIG PINE UPLAND SITE



07/23/07

Keith and Associates, Inc.

Benchmark PINE 2007 Location

BIG PINE UPLAND SITE

07/23/07

Keith and Associates, Inc.

Benchmark PINE 2007

BIG PINE UPLAND SITE

07/23/07

Keith and Associates, Inc.

Solar Panel

BIG PINE UPLAND SITE

07/23/07

Keith and Associates, Inc.

North Guy Anchor

BIG PINE UPLAND SITE

07/23/07

Keith and Associates, Inc.

Southeast Guy Anchor

BIG PINE UPLAND SITE

07/23/07

Keith and Associates, Inc.

Southwest Guy Anchor

BIG PINE UPLAND SITE

07/23/07

Keith and Associates, Inc.

Well Pipe

SURVEYOR'S REPORT

PROJECT RESULTS

Well Site Big Pine Upland

Reference mark: **Fnd. X-Mark.**

New Information at the site:

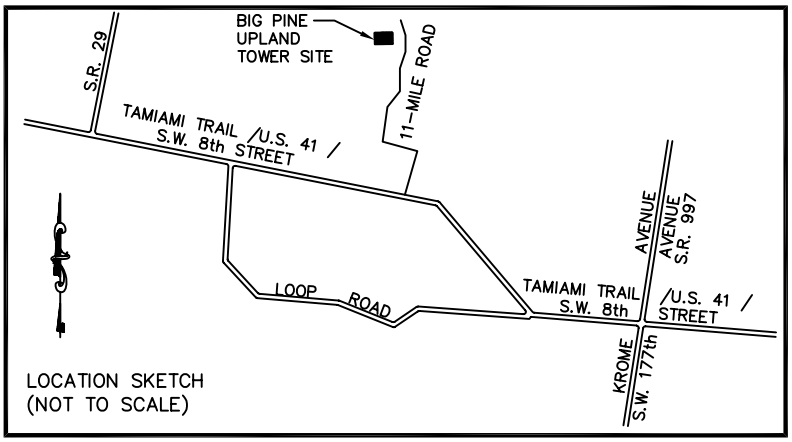
Mark El. **15.4'** (NGVD 29).
Mark El. **14.0'** (NAVD 88).

Initials: **K&A**
Date:**09/24/07**
Offset : **1.45'**

Previous Information at the site:
None
Reference Mark Elevation(s)
El. **N/A**
Date: **N/A**
Initals: **N/A**
Reference Mark location
N/A

DTW (Distance to water inside well)

Reference mark:
Same as Fnd. Mark above
El. **11.4'** (NGVD 29)
Measurement to water: **4.02'**
Date: **09/24/07**
Time: **1:59 p.m.**



GUY ANCHOR
N 605945
E 680460
LAT.26°00'02.5"
LONG.-80°55'33.7"
11.2'
CONCRETE
PAD

SCALE: 1" = 30'

2" METAL WELL PIPE
N 605854
E 680438
LAT.26°00'01.5"
LONG.-80°55'34.0"
REFERENCE MARK
ELEVATION =
15.4" (NGVD 1929)
14.0' (NAVD 1988)

BENCHMARK "PINE 2007", SFWMD
3-1/2" BRASS DISK
NAVD 1988 ELEVATION = 10.9'
NGVD 1929 ELEVATION = 12.4'
N 605854
E 680443
LAT.26°00'01.6"
LONG.-80°55'33.9"

11.4'
RAIN GAUGE
N 605864
E 680395
LAT.26°00'01.7"
LONG.-80°55'34.4"

11.3'
11.4'
11.3'
11.4'

ANTENNA
N 605852
E 680441
E 680441
LAT.26°00'01.5"
LONG.-80°55'33.9"

CONCRETE
PAD
11.4'
GUY ANCHOR
N 605814
E 680352
LAT.26°00'01.2"
LONG.-80°55'34.9"

NOTE:
ELEVATIONS SHOWN HEREON ARE NGVD 1929 UNLESS OTHERWISE NOTED.
HORIZONTAL DATUM SHOWN HEREON IS NAD 1983 WITH THE
1990 ADJUSTMENT APPLIED (83/90)

LEGEND:

B.M. = BENCHMARK
LAT. = LATITUDE
LONG. = LONGITUDE
NAD = NORTH AMERICAN DATUM
NAVD = NORTH AMERICAN VERTICAL DATUM
NGVD = NATIONAL GEODETIC VERTICAL DATUM
SFWMD
7.5' = EXISTING ELEVATION

CONCRETE
PAD
11.2'
GUY ANCHOR
N 605788
E 680512
LAT.26°00'00.9"
LONG.-80°55'33.2"

BIG PINE UPLAND TOWER SITE

TOWER AND EQUIPMENT
LOCATIONS

12

KEITH & ASSOCIATES INC.
consulting engineers
301 EAST ATLANTIC BOULEVARD
POMPANO BEACH, FLORIDA 33060-6643
(954) 788-3400 FAX (954) 788-3500
EMAIL: mail@keith-associates.com LB NO. 6860

SHEET 1 OF 1
DRAWING NO.

DATE 9/3/07
SCALE 1"=30'
FIELD BK. 268
DWNG. BY MMM
CHK. BY AMK

DATE	REVISIONS

SURVEYOR'S REPORT

Comments

Elevations shown hereon are NGVD 1929 datum unless noted otherwise.
Party Chief: D. Ferels , Field Book: 273 Pages 33, 35, 41
Bench Mark: "PINE 2007" El. 10.9', Vertical Datum: NAVD1988
El. 12.4', Vertical Datum: NGVD1929
Offset: 1.45' SFWMD VALUE (subtract this value to convert to NAVD 1988)
Offset: 1.45' NGS VALUE (subtract this value to convert to NAVD 1988)
The offset values referred to as "SFWMD VALUE" and "NGS VALUE" were derived by subtracting the NAVD 1988 value from the NGVD 1929 value at Benchmark PINE 2007. The NGVD 1929 value was derived using Vertcon version 6.0.1.
NAVD 88 - North American Vertical Datum of 1988
NGVD29 -National Geodetic Vertical Datum of 1929
NAD 83 -99 (Horizontal Datum) North American Datum
NGS - National Geodetic Survey
SFWMD - South Florida Water Management District
PVC - Polyvinyl Chloride
L.B. - Licensed Business
GPS – Global Positioning System
RTK – Real Time Kinematic
PK – Parker Krylon

SURVEYOR'S CERTIFICATION

I hereby certify that this Specific Purpose Survey meets applicable portions of the Minimum Technical Standards set forth by the Florida Board of Professional Surveyors and Mappers in Chapter 61-G17, Florida Administrative Code. This report is prepared for the sole and specific use of the South Florida Water Management District and is not assignable.

Keith and Associates, Inc.
L.B. number 6860

By: _____

Michael M. Mossey, PSM
Professional Surveyor and Mapper
State of Florida
Certificate No. 5660

Date of Survey
September 24, 2007

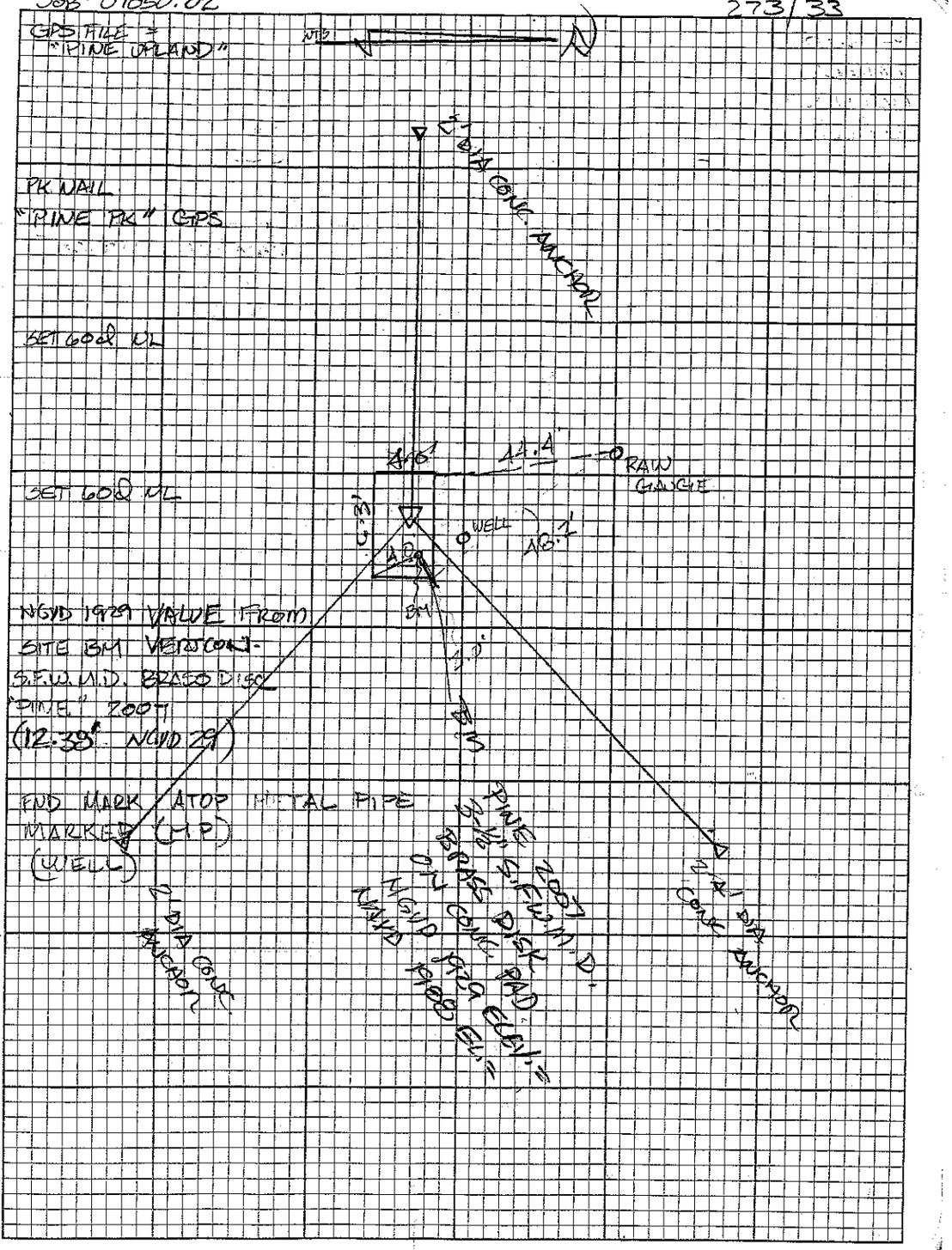
8-13-07 FERELS MCKINNEY GREES

9-24-02 FERELS GREES

S.F.W.M.D. PINE UPLAND

	+	HI	-	NAVD 1988 ELEV.
BM	3.649 3.478 3.305 3.477	15.080'		11.603 OBTAINED BY GPS 4 HOUR OBSERVATIONS FROM 3 DIFFERENT NGS CONTROL POINTS
TP 1	5.285 4.970 4.660 4.972	14.539'	5.690 5.513 5.337 5.513	9.567
TP 2	6.163 5.333 4.513 5.336	14.885'	5.300 4.990 4.680 4.990	9.549
TP 3	4.410 4.098 3.780 4.096	15.021'	4.883 3.958 3.040 3.960	10.925 ADJ. 10.923
TP A	1.720 1.200 0.680 1.200	15.188'	1.302 1.052 0.705 1.033	13.988'
TP 5	5.710 5.185 4.630 5.172	14.656'	6.210 5.700 4.940 5.705	9.484
TP 6	5.800 5.540 5.310 5.560	15.101	5.685 5.435 4.550 5.115	9.541

GPS FILE = "PINE UPLAND"



JOB # 07050.07

273/34

8-13-07
FERRELL
MCKINNEY
GREEN

S.F.W.M.D
PINE UPLAND

	+	#11	-	NAVD 1988 ELEV
BM			3.675	
			3.495	
			3.315	11.606 11.603'
			3.495	

"PINE PK"

B.M. CHECK ERROR

0.003

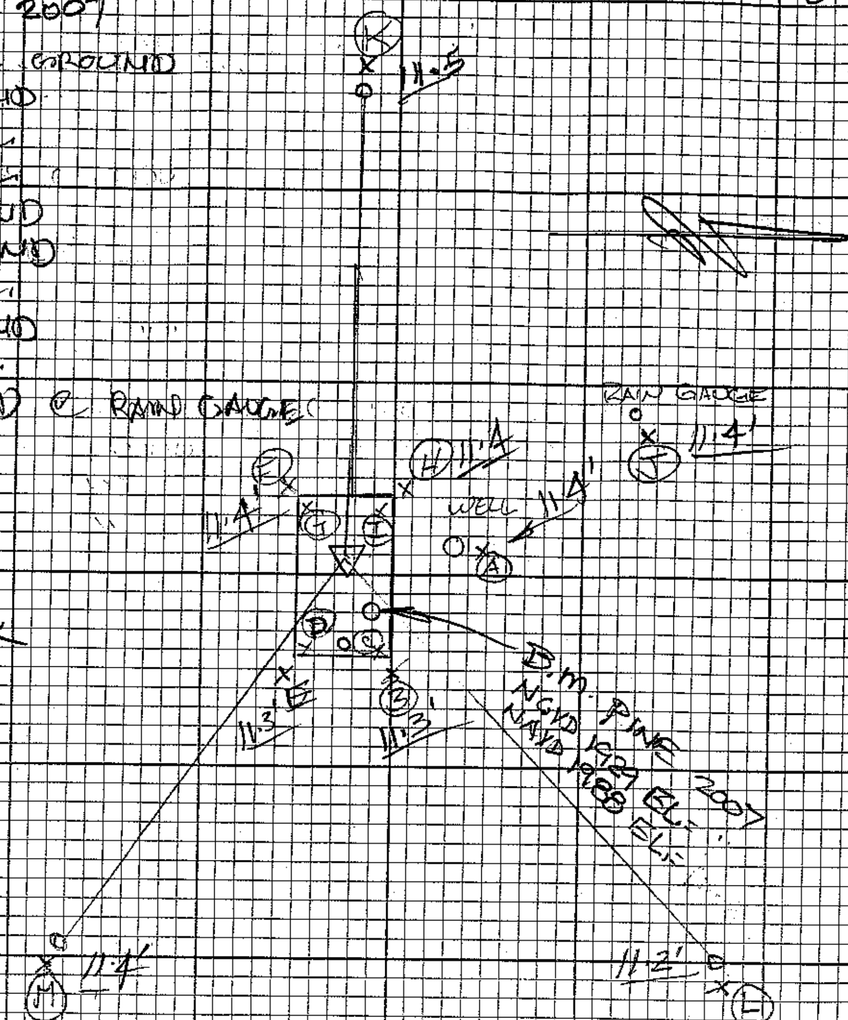
8-13-07
FERELLS
MCKINNEY
GREGS

[illegible]

	+	HI	-	NGVD 1929 ELEV
BM	4.17			12.38
A		16.55	5.18	11.4
B			5.15	11.4
C			4.23	12.3
D			4.23	12.3
E			5.22	11.3
F			5.12	11.4
G			4.23	12.3
H			5.14	11.4
I			4.27	12.3
J			5.10	11.4
K			5.08	11.5
L			5.30	11.2
M			5.20	11.4
T.P.			1.93	14.6
	1.78	16.38		
BM			4.00	12.38

NGVD 1929 VALUE DERIVED FROM VERTCON USING THE GPS, NAVD 1988 DERIVED VALUE

BM PINE 2007
(A) WELL GROUND
(B) GROUND
(C) CONC.
(D) CONC.
(E) GROUND
(F) GROUND
(G) CONC.
(H) GROUND
(I) CONC.
(J) GROUND @ RAIN GAUGE
(K)
(L)
(M)



BM CHECK

7-23-07
273/1
RON AZ MK TO PINE PK. NAIL
9869 (COLLECT #1) 0228 (REC. #2)

X ① RON AZ Hi = 4.785' 1.4585m
X ① PINE PK Hi = 4.820' 1.469m

9-11-07
~~7-24-07~~ 273/8 53
CATHAM 3 TO PINE PK NAIL
9869 (~~COLLECTOR #1~~) 0228 (~~REC #2~~)

✓ ③ CAT 3 Hi = ~~4.805'~~ 4.71' 1.436m ~~1.465m~~
X ③ PINE PK Hi = ~~4.85'~~ 5.04' ~~1.467m~~ 1.536m

7-26-07 273/5
Q-498 TO PINE PK NAIL
9869 (COLLECTOR #1) 0228 (REC. #2)

X ① Q498 Hi = 3.49' 1.064m
X ② PINE PK Hi = 4.87' 1.484m

8-13-07 273/32
CATHAM 3 TO RON AZ
(COLLECTOR #1) 9869 (REC. #2) 0228

✓ ① CAT 3 Hi = 4.75' 1.448m
X ② RON AZ Hi = 4.68' 1.4265m

8-16-07 273/40
9869 (COLLECTOR #1)
RON AZ MK TO 0228 (REC. #2) Q-498

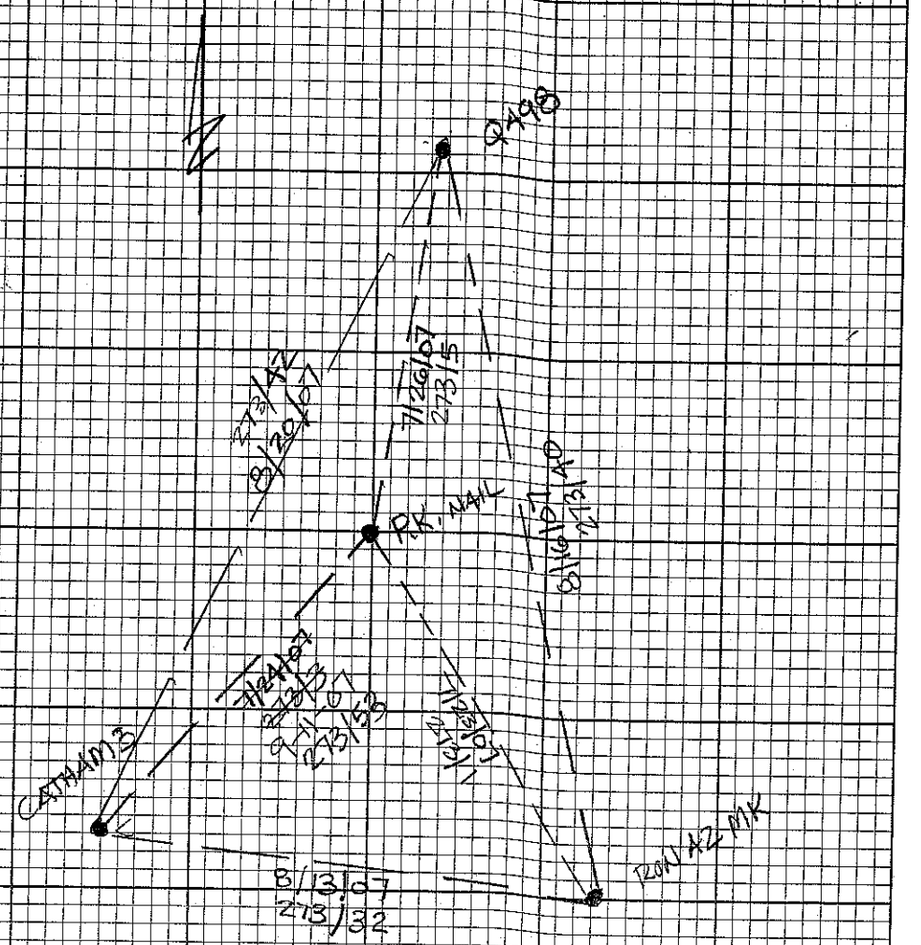
X ③ RON AZ Hi = 4.56' 1.390m
X ② Q-498 Hi = 5.43' 1.655m

8-20-07 273/42
CATHAM 3 9869 TO Q498 0228
REC #1 REC. #2

✓ ② CAT 3 Hi = 4.48' 1.457m
X ③ Q498 Hi = 5.45' 1.661m

0 1050.02
GPS OBSERVATIONS
PINE UPLAND (BIG CYPRESS)

273/41



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/01

COUNTY Collier	**PROJECT** Big Pine Upland Weather Tower	**DESIGNATION** "PINE 2007"
SECTION Est. 28	**TOWNSHIP** 51 South	**RANGE** 34 East

GEOGRAPHIC INDEX OF QUAD

Established by Keith and Associates	**NAME OF QUADRANGLE** West of Horseshoe Head
SURVEYOR D. Ferels **DATE** 09/24/2007	**FIELD BOOK** 273 **PAGES** 33-35, 41

HORIZONTAL DATUM: **1983/99** ZONE **E**

VERTICAL DATUM: NGVD 1929 and NAVD 1988 Benchmark was established by GPS

CONTROL ACCURACY: HORIZONTAL Third VERTICAL Third

STATE PLANE COORDINATES	**X 675481**	**Y 512999**	**NGVD 1929 EL. 12.4'** **NAVD 1988 EL. 10.9'**

LATITUDE **26°00'01.6"** LONGITUDE **-80°55'33.9"**

DESCRIPTION

To Reach:

From the intersection of Krome Avenue (S.W. 177th Avenue) and U.S. 41 (Tamami Trail) proceed west on U.S. 41 for approximately 31.7 miles to the intersection U.S. 41 and 11-Mile Road (Oil Well Road) on the right, turn right heading north on 11-Mile Road for approximately 12.5 miles to Weather Tower Big Pine Upland and the mark on the left.

The mark is a 3-1/2" SFWMD brass disk set on the concrete pad for the weather tower.

of Krome Avenue (S.W. 177th Avenue).

Notable Land marks:

SKETCH **See Attached photos.**

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/01

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
PROGRAM = datasheet95, VERSION = 8.8
1         National Geodetic Survey,   Retrieval Date = MAY  9, 2016
 AC0569 ***********************************************************************
 AC0569  DESIGNATION -  CATHAM 3
 AC0569  PID         -  AC0569
 AC0569  STATE/COUNTY-  FL/COLLIER
 AC0569  COUNTRY     -  US
 AC0569  USGS QUAD   -  MONROE STATION (1995)
 AC0569
 AC0569                        *CURRENT SURVEY CONTROL
 AC0569  ______________________________________________________________________
 AC0569* NAD 83(2011) POSITION- 25 51 47.96851(N) 081 06 05.70594(W)   NO CHECK
 AC0569* NAD 83(2011) ELLIP HT-   -22.598 (meters)        (06/27/12)   NO CHECK
 AC0569* NAD 83(2011) EPOCH   -  2010.00
 AC0569* NAVD 88 ORTHO HEIGHT -     1.646 (meters)        5.40   (feet) ADJUSTED
 AC0569  ______________________________________________________________________
 AC0569  NAD 83(2011) X  -    888,332.987 (meters)                      COMP
 AC0569  NAD 83(2011) Y  - -5,673,802.689 (meters)                      COMP
 AC0569  NAD 83(2011) Z  -  2,765,434.778 (meters)                      COMP
 AC0569  LAPLACE CORR    -         -1.21  (seconds)                     DEFLEC12B
 AC0569  GEOID HEIGHT    -        -24.221 (meters)                      GEOID12B
 AC0569  DYNAMIC HEIGHT  -          1.643 (meters)        5.39   (feet) COMP
 AC0569  MODELED GRAVITY -    979,008.6   (mgal)                        NAVD 88
 AC0569
 AC0569  VERT ORDER      -  FIRST     CLASS I
 AC0569
 AC0569  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 AC0569  Standards:
 AC0569         FGDC (95% conf, cm)      Standard deviation (cm)      CorrNE
 AC0569            Horiz  Ellip           SD_N   SD_E   SD_h       (unitless)
 AC0569  ------------------------------------------------------------------
 AC0569  NETWORK    6.88  11.21           2.75   2.87   5.72     -0.10956726
 AC0569  ------------------------------------------------------------------
 AC0569  Click here for local accuracies and other accuracy information.
 AC0569
 AC0569
 AC0569.The horizontal coordinates were established by GPS observations
 AC0569.and adjusted by the National Geodetic Survey in June 2012.
 AC0569
 AC0569.NAD 83(2011) refers to NAD 83 coordinates where the reference
 AC0569.frame has been affixed to the stable North American tectonic plate. See
 AC0569.NA2011 for more information.
 AC0569
 AC0569.The horizontal coordinates are valid at the epoch date displayed above
 AC0569.which is a decimal equivalence of Year/Month/Day.
 AC0569
 AC0569.No horizontal observational check was made to the station.
 AC0569.
 AC0569.The orthometric height was determined by differential leveling and
 AC0569.adjusted by the NATIONAL GEODETIC SURVEY
 AC0569.in June 1991.
```

```
AC0569
AC0569.Significant digits in the geoid height do not necessarily reflect accuracy.
AC0569.GEOID12B height accuracy estimate available here.
AC0569
AC0569.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AC0569
AC0569.The Laplace correction was computed from DEFLEC12B derived deflections.
AC0569
AC0569.The ellipsoidal height was determined by GPS observations
AC0569.and is referenced to NAD 83.
AC0569
AC0569.The dynamic height is computed by dividing the NAVD 88
AC0569.geopotential number by the normal gravity value computed on the
AC0569.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AC0569.degrees latitude (g = 980.6199 gals.).
AC0569
AC0569.The modeled gravity was interpolated from observed gravity values.
AC0569
AC0569. The following values were computed from the NAD 83(2011) position.
AC0569
AC0569;                    North         East     Units Scale Factor Converg.
AC0569;SPC FL E     -   169,477.823   189,818.399   MT  0.99994246   -0 02 39.5
AC0569;SPC FL E     -   556,028.49    622,762.53   sFT  0.99994246   -0 02 39.5
AC0569;UTM  17      - 2,860,551.980   489,821.873   MT  0.99960128   -0 02 39.5
AC0569
AC0569!             -  Elev Factor  x  Scale Factor =   Combined Factor
AC0569!SPC FL E     -   1.00000355  x   0.99994246  =   0.99994601
AC0569!UTM  17      -   1.00000355  x   0.99960128  =   0.99960483
AC0569
AC0569:                Primary Azimuth Mark                    Grid Az
AC0569:SPC FL E     -  CATHAM 3 AZ MK                         090 31 36.5
AC0569:UTM  17      -  CATHAM 3 AZ MK                         090 31 36.5
AC0569
AC0569|---------------------------------------------------------------------|
AC0569| PID    Reference Object                    Distance      Geod. Az   |
AC0569|                                                          dddmmss.s  |
AC0569| AC4474 CATHAM 2                             24.837 METERS 02523      |
AC0569| AC4758 CATHAM 3 AZ MK                      APPROX. 0.6 KM 0902857.0  |
AC0569| AC4462 AIRWAY BCN 18 N OF 40 MI BEND       APPROX.19.8 KM 0993036.8  |
AC0569| AC0570 CATHAM 3 RM 3                        26.427 METERS 19136      |
AC0569| AC0567 CATHAM 3 RM 4                        29.935 METERS 27321      |
AC0569| CW8059 CATHAM 2 RM 2                        27.622 METERS 31843      |
AC0569|---------------------------------------------------------------------|
AC0569
AC0569                          SUPERSEDED SURVEY CONTROL
AC0569
AC0569  NAD 83(2007)-  25 51 47.96857(N)    081 06 05.70671(W) AD(2002.00) 0
AC0569  ELLIP H (02/10/07)  -22.561  (m)                       GP(2002.00)
AC0569  NAD 83(1999)-  25 51 47.96810(N)    081 06 05.70748(W) AD(       ) 1
AC0569  ELLIP H (12/12/02)  -22.556  (m)                       GP(       ) 4 1
AC0569  NAD 83(1990)-  25 51 47.96628(N)    081 06 05.70742(W) AD(       ) 1
AC0569  NAD 83(1986)-  25 51 47.96342(N)    081 06 05.71597(W) AD(       ) 1
AC0569  NAD 27      -  25 51 46.60794(N)    081 06 06.45491(W) AD(       ) 1
AC0569  NAVD 88 (12/12/02)    1.65   (m)            5.4    (f) LEVELING    3
AC0569  NGVD 29 (??/??/92)    2.082  (m)            6.83   (f) ADJ UNCH    1 1
AC0569  NGVD 29 (07/19/86)    2.08   (m)            6.8    (f) LEVELING    3
AC0569
AC0569.Superseded values are not recommended for survey control.
AC0569
AC0569.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
```

AC0569.See file dsdata.txt to determine how the superseded data were derived.
AC0569
AC0569_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ8982160551(NAD 83)
AC0569
AC0569_MARKER: DS = TRIANGULATION STATION DISK
AC0569_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AC0569_STAMPING: CATHAM 3 1961
AC0569_MARK LOGO: CGS
AC0569_PROJECTION: PROJECTING 5 CENTIMETERS
AC0569_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
AC0569_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AC0569+STABILITY: SURFACE MOTION
AC0569_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AC0569+SATELLITE: SATELLITE OBSERVATIONS - July 19, 2007
AC0569

AC0569	HISTORY	- Date	Condition	Report By
AC0569	HISTORY	- 1961	MONUMENTED	CGS
AC0569	HISTORY	- 1965	GOOD	CGS
AC0569	HISTORY	- 1965	GOOD	CGS
AC0569	HISTORY	- 1971	GOOD	LOCENG
AC0569	HISTORY	- 1983	GOOD	USPSQD
AC0569	HISTORY	- 1990	MARK NOT FOUND	USPSQD
AC0569	HISTORY	- 19920226	GOOD	NGS
AC0569	HISTORY	- 19991231	GOOD	USPSQD
AC0569	HISTORY	- 20010909	GOOD	LDBLS
AC0569	HISTORY	- 2002	GOOD	MAPTEC
AC0569	HISTORY	- 20070719	GOOD	INDIV
AC0569	HISTORY	- 20130624	MARK NOT FOUND	FL-021

AC0569
AC0569 STATION DESCRIPTION
AC0569
AC0569'DESCRIBED BY COAST AND GEODETIC SURVEY 1961 (SCM)
AC0569'STATION IS LOCATED ABOUT 17-1/2 MILES EAST OF THE VILLAGE OF
AC0569'EVERGLADES ABOUT 13.0 MILES SOUTHEAST OF OCHOPEE AND ABOUT 0.15
AC0569'MILE WEST OF MONROE STATION. STATION, A STANDARD DISK SET IN
AC0569'A 12X12 INCH CONCRETE MONUMENT AND STAMPED CATHAM 3 1961 IS ABOUT
AC0569'50 YARDS SOUTHWEST OF THE SOUTHWEST CORNER OF A CONCRETE BRIDGE,
AC0569'47-1/2 FEET SOUTHWEST OF A UTILITY POLE AND 0.5 FEET WEST OF A
AC0569'STEEL WITNESS POST WITH METAL SIGN. THE MARK PROJECTS 6
AC0569'INCHES.
AC0569'
AC0569'CATHAM 2 1956, A STANDARD DISK SET IN A 12X12 INCH CONCRETE
AC0569'MONUMENT AND STAMPED CATHAM 2 1956 IS 95 FEET SOUTH OF THE
AC0569'CENTERLINE OF U.S. HIGHWAY NO. 41 AND 49 FEET NORTHWEST OF A
AC0569'UTILITY POLE. THE MARK IS FLUSH WITH THE GROUND.
AC0569'
AC0569'TO REACH FROM THE JUNCTION OF U.S. HIGHWAY NO. 41 AND STATE
AC0569'HIGHWAY NO. 27 WHICH IS ABOUT 20 MILES NORTH OF HOMESTEAD, GO
AC0569'WEST ON U.S. HIGHWAY NO. 41 FOR 21.8 MILES TO FORKS AT FORTY
AC0569'MILE BEND. CONTINUE NORTHWEST ON U.S. HIGHWAY NO. 41 FOR 20.4
AC0569'MILES TO MONROE STATION ON LEFT (SOUTH) SIDE OF HIGHWAY.
AC0569'CONTINUE WEST ON U.S. HIGHWAY NO. 41 FOR 0.15 MILE TO STATION ON
AC0569'LEFT (SOUTH) SIDE OF HIGHWAY AS DESCRIBED.
AC0569'
AC0569'TO REACH AZIMUTH MARK FROM STATION, GO EAST ON U.S. HIGHWAY
AC0569'NO. 41 FOR 0.35 MILE TO AZIMUTH MARK ON LEFT (NORTH) SIDE OF
AC0569'HIGHWAY AS DESCRIBED.
AC0569'
AC0569'REFERENCE MARK NO. 2, A STANDARD DISK SET IN A 12X12 INCH
AC0569'CONCRETE MONUMENT AND STAMPED CATHAM 2 NO 2 1956 IS 106 FEET

AC0569'SOUTH OF THE CENTERLINE OF U.S. HIGHWAY NO. 41 AND 30 FEET
AC0569'NORTHEAST OF A 12 INCH TREE. THE MARK PROJECTS 2 INCHES.
AC0569'
AC0569'REFERENCE MARK NO 3, A STANDARD DISK SET IN A 12X12 INCH CONCRETE
AC0569'MONUMENT AND STAMPED CATHAM 3 NO 3 1961 IS 18-1/2 FEET EAST OF
AC0569'AN 8 INCH CYPRESS TREE 20-1/2 FEET NORTHWEST OF AN 8 INCH CYPRESS
AC0569'TREE AND 24-1/2 FEET NORTHEAST OF A 12 INCH CYPRESS TREE. THE
AC0569'MARK PROJECTS 8 INCHES.
AC0569'
AC0569'REFERENCE MARK NO. 4, A STANDARD DISK SET IN A 12X12 INCH
AC0569'CONCRETE MONUMENT AND STAMPED CATHAM 3 NO 4 1961 IS 46-1/2 FEET
AC0569'SOUTHEAST OF A UTILITY POLE AND 55-1/2 FEET SOUTH OF A 12 INCH
AC0569'CYPRESS TREE. THE MARK PROJECTS 6 INCHES.
AC0569'
AC0569'A TRAVERSE CONNECTION WAS MADE TO CATHAM 2 1956 AND THE DISTANCE
AC0569'IS SHOWN.
AC0569'
AC0569'AZIMUTH MARK, A STANDARD DISK SET IN A 12X12 INCH CONCRETE
AC0569'MONUMENT AND STAMPED CATHAM 3 1961 IS 25-1/2 FEET NORTH OF
AC0569'CENTERLINE OF U.S. HIGHWAY NO. 41, 4-1/2 FEET WEST OF AN 18 INCH
AC0569'TREE WITH TRIANGLE BLAZE, 11 FEET SOUTH OF THE SOUTH BANK OF CANAL
AC0569'AND 2.5 FEET WEST OF WITNESS POST WITH METAL SIGN. THE MARK
AC0569'PROJECTS 6 INCHES.
AC0569'
AC0569'HEIGHT OF LIGHT ABOVE STATION MARK 34 METERS.
AC0569
AC0569 STATION RECOVERY (1965)
AC0569
AC0569'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1965 (RRG)
AC0569'THE STATION, REFERENCE MARKS, AND AZIMUTH MARK FOUND IN GOOD
AC0569'CONDITION.
AC0569'
AC0569'THE STATION IS LOCATED AT MONROE STATION, ABOUT 0.05 MILE WEST
AC0569'OF THE JUNCTION OF U.S. HIGHWAY 41 AND STATE HIGHWAY 94, 168 FEET
AC0569'SOUTH OF THE CENTER LINE OF U.S. HIGHWAY 41, 210 FEET SOUTHWEST
AC0569'OF THE SOUTHWEST CORNER OF HIGHWAY BRIDGE NO. 96, 1.0 FOOT WEST
AC0569'OF A METAL WITNESS POST, ABOUT 2 FEET BELOW THE LEVEL OF THE
AC0569'HIGHWAY AND SET IN THE TOP OF A CONCRETE POST PROJECTING 0.6
AC0569'FOOT. THE STANDARD TRIANGULATION STATION DISK IS STAMPED
AC0569'CATHAM 3 1961.
AC0569'
AC0569'CATHAM 3 R.M. 3, IS A REFERENCE MARK DISK STAMPED CATHAM 3 NO 3
AC0569'1961, 254 FEET SOUTH OF THE CENTER LINE OF U.S. HIGHWAY 41,
AC0569'86.6 FEET SOUTH-SOUTHWEST OF THE STATION MARK, 1.5 FEET NORTHEAST
AC0569'OF A METAL WITNESS POST, ABOUT 3 FEET BELOW THE LEVEL OF THE
AC0569'HIGHWAY AND SET IN THE TOP OF A CONCRETE POST PROJECTING 0.6
AC0569'FOOT.
AC0569'
AC0569'CATHAM 3 R.M. 4, IS A REFERENCE MARK DISK STAMPED CATHAM 4 NO 4
AC0569'1961, 173 FEET SOUTH OF THE CENTER LINE OF THE HIGHWAY, 289 FEET
AC0569'SOUTHWEST OF THE SOUTHWEST CORNER OF THE HIGHWAY BRIDGE NO. 96,
AC0569'98.2 FEET WEST OF THE STATION MARK, 2.0 FEET EAST OF A METAL
AC0569'WITNESS POST, 2 FEET BELOW THE LEVEL OF THE HIGHWAY AND SET IN
AC0569'THE TOP OF A CONCRETE POST PROJECTING 0.7 FOOT.
AC0569'
AC0569'CATHAM AZIMUTH IS LOCATED ABOUT 0.3 MILE EAST OF THE STATION
AC0569'ALONG THE NORTH SIDE OF THE HIGHWAY, 25 FEET NORTH OF THE CENTER
AC0569'LINE OF THE HIGHWAY, 6 FEET SOUTH OF THE SOUTH EDGE OF THE CANAL,
AC0569'2.0 FEET WEST OF A METAL WITNESS POST, ABOUT LEVEL WITH THE
AC0569'HIGHWAY AND SET IN THE TOP OF A CONCRETE POST PROJECTING 0.5

AC0569'FOOT.
AC0569
AC0569 STATION RECOVERY (1965)
AC0569
AC0569'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1965
AC0569'AT MONROE STATION.
AC0569'AT MONROE STATION, 261 FEET SOUTHWEST OF THE CENTER OF THE
AC0569'JUNCTION OF U.S. HIGHWAY 41 AND STATE HIGHWAY 94, 168 FEET
AC0569'SOUTH OF THE CENTER LINE OF U.S. HIGHWAY 41, 47 1/2 FEET SOUTHWEST
AC0569'OF TELEPHONE POLE NO. 18124, 210 FEET SOUTHWEST OF THE SOUTHWEST
AC0569'CORNER OF HIGHWAY BRIDGE NO. 96, 86.6 FEET NORTH-NORTHEAST OF
AC0569'CATHAM 3 R. M. 3 DESCRIBED, 98.2 FEET EAST OF CATHAM 3 R.M. 4
AC0569'DESCRIBED, 1.0 FEET WEST OF A METAL WITNESS POST, ABOUT 2 FEET
AC0569'BELOW THE LEVEL OF THE HIGHWAY AND SET IN THE TOP OF A CONCRETE
AC0569'POST PROJECTING 0.6 FOOT.
AC0569
AC0569 STATION RECOVERY (1971)
AC0569
AC0569'RECOVERY NOTE BY LOCAL ENGINEER (INDIVIDUAL OR FIRM) 1971 (ERB)
AC0569'CATHAM 3 1961 EXCELLENT
AC0569'
AC0569'CATHAM 3 NO. 3 1961 EXCELLENT
AC0569'
AC0569'CATHAM 3 NO. 4 1961 EXCELLENT
AC0569'
AC0569'CATHAM 2 NO. 2 1956 EXCELLENT
AC0569'
AC0569'CATHAM 2 1956 EXCELLENT
AC0569'
AC0569'CATHAM 3 1961 (AZ MARK) EXCELLENT
AC0569'
AC0569'DESCRIPTION IS ADEQUATE.
AC0569
AC0569 STATION RECOVERY (1983)
AC0569
AC0569'RECOVERY NOTE BY US POWER SQUADRON 1983
AC0569'AT MONROE STATION, 261 FEET SOUTHWEST OF THE CENTER OF THE JUNCTION
AC0569'OF U.S. HIGHWAY 41 AND STATE HIGHWAY 94, 168 FEET SOUTH OF CENTERLINE
AC0569'OF U.S. HIGHWAY 41, 47 1/2 FEET SOUTHWEST OF TELEPHONE POLE NO 18124,
AC0569'210 FEET SOUTHWEST OF THE SOUTHWEST CORNER OF HIGHWAY BRIDGE NO 96
AC0569'(030096), 86.6 FEET NORTH NORTHEAST OF CATHAM 3 RM 3, 98.2 FEET EAST
AC0569'OF CATHAM 3 R.M. 4, 1.0 FEET WEST OF A METAL WITNESS POST, ABOUT 2
AC0569'FEET BELOW THE LEVEL OF T HE HIGHWAY AND SET IN THE TOP OF A CONCRETE
AC0569'POST PROJECTING 0.6 FEET.
AC0569
AC0569 STATION RECOVERY (1990)
AC0569
AC0569'RECOVERY NOTE BY US POWER SQUADRON 1990 (HEA)
AC0569'MARK NOT FOUND.
AC0569
AC0569 STATION RECOVERY (1992)
AC0569
AC0569'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992
AC0569'78.0 KM (48.45 MI) EASTERLY ALONG U.S. HIGHWAY 41 FROM THE JUNCTION
AC0569'OF STATE HIGHWAY IN NAPLES, 64.1 M (210.3 FT) SOUTHWEST OF THE
AC0569'SOUTHWEST CORNER OF A BRIDGE, 51.2 M (168.0 FT) SOUTH OF THE
AC0569'CENTERLINE OF THE HIGHWAY, 29.9 M (98.1 FT) EAST OF REFERENCE MARK 4,
AC0569'0.6 M (2.0 FT) BELOW THE LEVEL OF THE HIGHWAY, 0.3 M (1.0 FT)
AC0569'NORTHEAST OF A WITNESS POST, AND THE MONUMENT PROJECTS 0.08 M (0.26
AC0569'FT) ABOVE THE GROUND SURFACE.

AC0569
AC0569 STATION RECOVERY (1999)
AC0569
AC0569'RECOVERY NOTE BY US POWER SQUADRON 1999
AC0569'RECOVERED IN GOOD CONDITION.
AC0569
AC0569 STATION RECOVERY (2001)
AC0569
AC0569'RECOVERY NOTE BY LD BRADLEY LAND SURVEYORS 2001 (JCH)
AC0569'THE MARK IS ABOUT 77.5 KM (48.15 MI) SOUTHEAST OF NAPLES, ABOUT 84.15
AC0569'KM (52.29
AC0569'MI) NORTHWEST OF WEST MIAMI, IN SECTION 15, TOWNSHIP 53 SOUTH, RANGE
AC0569'32 EAST,
AC0569'COLLIER COUNTY, FLORIDA. OWNERSHIP - FLORIDA DEPARTMENT OF
AC0569'TRANSPORTATION.
AC0569'
AC0569'TO REACH THE MARK FROM THE INTERSECTION OF U.S. HIGHWAY 41 (TAMIAMI
AC0569'TRAIL) AND
AC0569'STATE ROAD 29 IN CARNESTOWN, GO SOUTHEAST ON U.S. HIGHWAY 41 6.9 KM
AC0569'(4.3 MI) TO
AC0569'THE POST OFFICE IN OCHOPEE, CONTINUE SOUTHEAST ON U.S. HIGHWAY 41 20.3
AC0569'KM
AC0569'(12.61 MI) TO THE WEST EDGE OF MONROE STATION AND THE MARK ON THE
AC0569'RIGHT, ALSO
AC0569'FROM THE OASIS VISITOR CENTER GO NORTHWEST ON U.S. HIGHWAY 41 6.9 KM
AC0569'(4.26 MI)
AC0569'AND THE MARK ON THE LEFT.
AC0569'
AC0569'THE MARK IS 51.02 M (167.4 FT) SOUTHWEST OF THE CENTERLINE OF U.S.
AC0569'HIGHWAY 41,
AC0569'39.01 M (128.0 FT) NORTHWEST OF (PARALLEL TO HIGHWAY) THE WEST END OF
AC0569'THE SOUTH
AC0569'CONCRETE ENDWALL OF A BOX CULVERT (BENEATH U.S. HIGHWAY 41), 58.43 M
AC0569'(191.7 FT)
AC0569'SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTH CONCRETE ENDWALL, AND
AC0569'0.30 M
AC0569'(1.0 FT) NORTHEAST OF A CARSONITE WITNESS POST. THE MARK IS A DISK SET
AC0569'FLUSH IN
AC0569'THE TOP OF A CONCRETE MONUMENT, PROJECTING 5 CM (0.17 FT) ABOVE THE
AC0569'GROUND AND
AC0569'ABOUT 0.61 M (2.0 FT) BELOW THE LEVEL OF THE HIGHWAY.
AC0569'
AC0569'NOTE - A MAGNET WAS BURIED 6 CM (0.2 FT) BELOW THE LEVEL OF THE
AC0569'GROUND, 0.18 M
AC0569'(0.6 FT) NORTH OF THE MARK.
AC0569
AC0569 STATION RECOVERY (2002)
AC0569
AC0569'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)
AC0569'THE MARK IS ABOUT 77.5 KM (48.15 MI) SOUTHEAST OF NAPLES, ABOUT 84.15
AC0569'KM (52.29
AC0569'MI) NORTHWEST OF WEST MIAMI, IN SECTION 15, TOWNSHIP 53 SOUTH, RANGE
AC0569'32 EAST,
AC0569'COLLIER COUNTY, FLORIDA. OWNERSHIP - FLORIDA DEPARTMENT OF
AC0569'TRANSPORTATION.
AC0569'
AC0569'TO REACH THE MARK FROM THE INTERSECTION OF U.S. HIGHWAY 41 (TAMIAMI
AC0569'TRAIL) AND
AC0569'STATE ROAD 29 IN CARNESTOWN, GO SOUTHEAST ON U.S. HIGHWAY 41 6.9 KM
AC0569'(4.3 MI) TO

AC0569'THE POST OFFICE IN OCHOPEE, CONTINUE SOUTHEAST ON U.S. HIGHWAY 41 20.3
AC0569'KM
AC0569'(12.61 MI) TO THE WEST EDGE OF MONROE STATION AND THE MARK ON THE
AC0569'RIGHT, ALSO
AC0569'FROM THE OASIS VISITOR CENTER GO NORTHWEST ON U.S. HIGHWAY 41 6.9 KM
AC0569'(4.26 MI)
AC0569'AND THE MARK ON THE LEFT.
AC0569'
AC0569'THE MARK IS 51.02 M (167.4 FT) SOUTHWEST OF THE CENTERLINE OF U.S.
AC0569'HIGHWAY 41,
AC0569'39.01 M (128.0 FT) NORTHWEST OF (PARALLEL TO HIGHWAY) THE WEST END OF
AC0569'THE SOUTH
AC0569'CONCRETE ENDWALL OF A BOX CULVERT (BENEATH U.S. HIGHWAY 41), 58.43 M
AC0569'(191.7 FT)
AC0569'SOUTHWEST OF THE SOUTHWEST CORNER OF THE SOUTH CONCRETE ENDWALL, AND
AC0569'0.30 M
AC0569'(1.0 FT) NORTHEAST OF A CARSONITE WITNESS POST. THE MARK IS A DISK SET
AC0569'FLUSH IN
AC0569'THE TOP OF A CONCRETE MONUMENT, PROJECTING 5 CM (0.17 FT) ABOVE THE
AC0569'GROUND AND
AC0569'ABOUT 0.61 M (2.0 FT) BELOW THE LEVEL OF THE HIGHWAY.
AC0569'
AC0569'NOTE - A MAGNET WAS BURIED 6 CM (0.2 FT) BELOW THE LEVEL OF THE
AC0569'GROUND, 0.18 M
AC0569'(0.6 FT) NORTH OF THE MARK.
AC0569'
AC0569'STATION RECOVERY (2002)
AC0569'RECOVERY NOTE BY MAPTECH, INCORPORATED 2002 (CP)
AC0569'RECOVERED AS DESCRIBED.
AC0569
AC0569 STATION RECOVERY (2007)
AC0569
AC0569'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2007 (AM)
AC0569'RECOVERED BY KEITH AND ASSOCIATES
AC0569
AC0569 STATION RECOVERY (2013)
AC0569
AC0569'RECOVERY NOTE BY COLLIER COUNTY FLORIDA 2013 (MLB)
AC0569'MARK NOT FOUND.

*** retrieval complete.
Elapsed Time = 00:00:03

From the "ngvd29.txt" file provided by NGS for the CERP Geodetic Vertical Control Project.
Line/Part: L26219 SSN+: mark floated, SSN*: mark constrained, SSN#: mark floated & constrained

Mark ID	SSN	PID	Designation	Geopotential	Elevation	Codes
1379	0882	AC4658	FLGPS RON AZ MK	5.8806	6.0007	

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
PROGRAM = datasheet95, VERSION = 8.8
1         National Geodetic Survey,   Retrieval Date = MAY  9, 2016
 AC4658 ***********************************************************************
 AC4658  DESIGNATION -  FLGPS RON AZ MK
 AC4658  PID         -  AC4658
 AC4658  STATE/COUNTY-  FL/MIAMI-DADE
 AC4658  COUNTRY     -  US
 AC4658  USGS QUAD   -  FORTYMILE BEND (1995)
 AC4658
 AC4658                        *CURRENT SURVEY CONTROL
 AC4658  ______________________________________________________________________
 AC4658* NAD 83(2011) POSITION- 25 45 43.45632(N) 080 46 28.94147(W)   ADJUSTED
 AC4658* NAD 83(2011) ELLIP HT-   -18.686 (meters)        (06/27/12)   ADJUSTED
 AC4658* NAD 83(2011) EPOCH    -  2010.00
 AC4658* NAVD 88 ORTHO HEIGHT -     5.542 (meters)       18.18   (feet) ADJUSTED
 AC4658  ______________________________________________________________________
 AC4658  NAD 83(2011) X  -    921,471.664 (meters)                      COMP
 AC4658  NAD 83(2011) Y  - -5,673,467.008 (meters)                      COMP
 AC4658  NAD 83(2011) Z  -  2,755,338.390 (meters)                      COMP
 AC4658  LAPLACE CORR    -         -1.29  (seconds)                     DEFLEC12B
 AC4658  GEOID HEIGHT    -        -24.214 (meters)                      GEOID12B
 AC4658  DYNAMIC HEIGHT  -          5.533 (meters)       18.15   (feet) COMP
 AC4658  MODELED GRAVITY -    979,026.9   (mgal)                        NAVD 88
 AC4658
 AC4658  VERT ORDER      -  FIRST     CLASS II
 AC4658
 AC4658  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 AC4658  Standards:
 AC4658         FGDC (95% conf, cm)      Standard deviation (cm)      CorrNE
 AC4658            Horiz  Ellip           SD_N   SD_E   SD_h       (unitless)
 AC4658  ------------------------------------------------------------------
 AC4658  NETWORK    3.13   4.17           1.30   1.26   2.13     -0.07231582
 AC4658  ------------------------------------------------------------------
 AC4658  Click here for local accuracies and other accuracy information.
 AC4658
 AC4658
 AC4658.The horizontal coordinates were established by GPS observations
 AC4658.and adjusted by the National Geodetic Survey in June 2012.
 AC4658
 AC4658.NAD 83(2011) refers to NAD 83 coordinates where the reference
 AC4658.frame has been affixed to the stable North American tectonic plate. See
 AC4658.NA2011 for more information.
 AC4658
 AC4658.The horizontal coordinates are valid at the epoch date displayed above
 AC4658.which is a decimal equivalence of Year/Month/Day.
 AC4658
 AC4658.The orthometric height was determined by differential leveling and
 AC4658.adjusted by the NATIONAL GEODETIC SURVEY
 AC4658.in March 2002.
 AC4658
 AC4658.Significant digits in the geoid height do not necessarily reflect accuracy.
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AC4658.GEOID12B height accuracy estimate available here.
AC4658
AC4658.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AC4658
AC4658.The Laplace correction was computed from DEFLEC12B derived deflections.
AC4658
AC4658.The ellipsoidal height was determined by GPS observations
AC4658.and is referenced to NAD 83.
AC4658
AC4658.The dynamic height is computed by dividing the NAVD 88
AC4658.geopotential number by the normal gravity value computed on the
AC4658.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AC4658.degrees latitude (g = 980.6199 gals.).
AC4658
AC4658.The modeled gravity was interpolated from observed gravity values.
AC4658
AC4658. The following values were computed from the NAD 83(2011) position.
AC4658
AC4658;                    North         East     Units Scale Factor Converg.
AC4658;SPC FL E     -   158,276.488   222,599.874   MT  0.99994748   +0 05 52.5
AC4658;SPC FL E     -   519,278.78    730,313.09    sFT  0.99994748   +0 05 52.5
AC4658;UTM  17      - 2,849,354.466   522,592.163   MT  0.99960630   +0 05 52.5
AC4658
AC4658!             -  Elev Factor  x  Scale Factor =   Combined Factor
AC4658!SPC FL E     -   1.00000294  x   0.99994748  =   0.99995042
AC4658!UTM  17      -   1.00000294  x   0.99960630  =   0.99960923
AC4658
AC4658:                Primary Azimuth Mark                     Grid Az
AC4658:SPC FL E     -  T 237                                    091 12 13.7
AC4658:UTM  17      -  T 237                                    091 12 13.7
AC4658
AC4658|---------------------------------------------------------------------|
AC4658| PID    Reference Object                    Distance      Geod. Az   |
AC4658|                                                          dddmmss.s |
AC4658| AC0523 T 237                             APPROX. 0.5 KM 0911806.2 |
AC4658| AC4647 FLGPS RON                         APPROX. 0.5 KM 0922526.6 |
AC4658|---------------------------------------------------------------------|
AC4658
AC4658                          SUPERSEDED SURVEY CONTROL
AC4658
AC4658  NAD 83(2007)-  25 45 43.45649(N)    080 46 28.94187(W) AD(2002.00) 0
AC4658  ELLIP H (02/10/07)  -18.659  (m)                       GP(2002.00)
AC4658  NAD 83(1999)-  25 45 43.45599(N)    080 46 28.94143(W) AD(       ) 1
AC4658  ELLIP H (12/13/01)  -18.675  (m)                       GP(       ) 5 1
AC4658  NAD 83(1990)-  25 45 43.45467(N)    080 46 28.94114(W) AD(       ) 1
AC4658  NAVD 88 (12/12/02)    5.54   (m)           18.2    (f) LEVELING    3
AC4658  NGVD 29 (02/04/91)    6.0    (m)  RAPSU86 model used   GPS OBS
AC4658
AC4658.Superseded values are not recommended for survey control.
AC4658
AC4658.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AC4658.See file dsdata.txt to determine how the superseded data were derived.
AC4658
AC4658_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ2259249354(NAD 83)
AC4658
AC4658_MARKER: DH = HORIZONTAL CONTROL DISK
AC4658_SETTING: 34 = SET IN THE FOOTINGS OF SMALL/MEDIUM STRUCTURES
AC4658_SP_SET: BRIDGE RETAINING WALL
AC4658_STAMPING: FLGPS RON AZ MK 1989
AC4658_MARK LOGO: NGS
```

AC4658_MAGNETIC: N = NO MAGNETIC MATERIAL
AC4658_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AC4658+STABILITY: SURFACE MOTION
AC4658_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AC4658+SATELLITE: SATELLITE OBSERVATIONS - February 16, 2016
AC4658
AC4658 HISTORY - Date Condition Report By
AC4658 HISTORY - 1989 MONUMENTED NGS
AC4658 HISTORY - 20010920 GOOD LDBLS
AC4658 HISTORY - 2002 GOOD MAPTEC
AC4658 HISTORY - 20070724 GOOD INDIV
AC4658 HISTORY - 20120530 GOOD INDIV
AC4658 HISTORY - 20130916 GOOD SFLWMD
AC4658 HISTORY - 20160216 GOOD INDIV
AC4658
AC4658 STATION DESCRIPTION
AC4658
AC4658'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989
AC4658'THE STATION IS LOCATED ABOUT 83.02 KM (51.60 MI) WEST OF MIAMI, 37.50
AC4658'KM (23.30 MI) SOUTHEAST OF MONROE STATION, IN SECTION 18, T 54 S, R 36
AC4658'E, IN THE SOUTH END OF THE WEST CONCRETE HEADWALL FOR A WOODEN BRIDGE
AC4658'OVER AN EAST-WEST CANAL. OWNERSHIP--HIGHWAY RIGHT-OF-WAY.
AC4658'TO REACH THE STATION FROM THE INTERSECTION OF U.S. HIGHWAY 41 AND
AC4658'STATE ROAD 997 NEAR SWEETWATER, GO WEST FOR 29.44 KM (18.30 MI) ON
AC4658'HIGHWAY 41 TO THE JUNCTION OF SHARK VALLEY ROAD. CONTINUE WEST FOR
AC4658'0.32 KM (0.20 MI) ON HIGHWAY 41 TO A BRIDGE AND U.S. CORP SPILLWAY
AC4658'FACILITY. CONTINUE WEST FOR 0.56 KM (0.35 MI) ON HIGHWAY 41 TO A
AC4658'BRIDGE OVER AN EAST-WEST CANAL, AN AIRBOAT SIGHTSEEING FACILITY AND
AC4658'THE STATION ON RIGHT.
AC4658'LOCATED 19.66 M (64.5 FT) NORTH FROM THE APPROXIMATE CENTER OF HIGHWAY
AC4658'41, 9.20 M (30.2 FT) EAST FROM A 25-CM PALM TREE, 4.08 M (13.4 FT)
AC4658'WEST FROM THE APPROXIMATE CENTER OF BRIDGE AND 0.91 M (3.0 FT) NORTH
AC4658'FROM A CARSONITE WITNESS POST.
AC4658'DESCRIBED BY R.L. MALLOY.
AC4658
AC4658 STATION RECOVERY (2001)
AC4658
AC4658'RECOVERY NOTE BY LD BRADLEY LAND SURVEYORS 2001 (JCH)
AC4658'THE MARK IS ABOUT 114.2 KM (70.94 MI) SOUTHEAST OF NAPLES, ABOUT 47.5
AC4658'KM (29.50
AC4658'MI) WEST OF WEST MIAMI IN DADE COUNTY, FLORIDA. OWNERSHIP - MICCOSUKEE
AC4658'INDIAN
AC4658'TRIBE.
AC4658'
AC4658'TO REACH THE MARK FROM THE INTERSECTION OF U.S. HIGHWAY 41 (TAMIAMI
AC4658'TRAIL) AND
AC4658'THE FLORIDA TURNPIKE (ABOUT 8.5 KM (5.25 MI) WEST OF WEST MIAMI), GO
AC4658'WEST ON
AC4658'U.S. HIGHWAY 41 (TAMIAMI TRAIL) 9.7 KM (6.0 MI) TO ITS INTERSECTION
AC4658'WITH STATE
AC4658'ROAD 997, CONTINUE WEST ON U.S. HIGHWAY 41 28.9 KM (17.94 MI) TO
AC4658'CONCRETE WEIR,
AC4658'STRUCTURE S12B, CONTINUE WEST ON U.S. HIGHWAY 41 0.5 KM (0.32 MI) TO A
AC4658'MICCOSUKEE INDIAN AIRBOAT TOUR FACILITY AND THE MARK ON THE RIGHT.
AC4658'
AC4658'THE MARK IS 4.7 KM (2.89 MI) EAST ON U.S. HIGHWAY 41 FROM CONCRETE
AC4658'WEIR
AC4658'STRUCTURE NUMBER S12A, 19.96 M (65.5 FT) NORTH OF THE CENTERLINE OF
AC4658'THE
AC4658'HIGHWAY, 4.05 M (13.3 FT) WEST OF THE CENTER OF A WOOD DECKED BRIDGE,

AC4658'0.70 M
AC4658'(2.3 FT) SOUTH OF THE NORTH EDGE OF A RETAINING WALL, 0.15 M (0.5 FT)
AC4658'NORTH OF
AC4658'THE SOUTH EDGE OF A RETAINING WALL. MARK IS A DISK SET FLUSH IN THE
AC4658'TOP OF THE
AC4658'WEST END OF THE SOUTH CONCRETE ABUTMENT (RETAINING WALL) OF A WOOD
AC4658'DECKED
AC4658'BRIDGE SPANNING A CANAL ABOUT 1.82 M (6.0 FT) ABOVE THE LEVEL OF THE
AC4658'HIGHWAY.
AC4658'
AC4658'
AC4658
AC4658 STATION RECOVERY (2002)
AC4658
AC4658'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)
AC4658'THE MARK IS ABOUT 114.2 KM (70.94 MI) SOUTHEAST OF NAPLES, ABOUT 47.5
AC4658'KM (29.50
AC4658'MI) WEST OF WEST MIAMI IN DADE COUNTY, FLORIDA. OWNERSHIP - MICCOSUKEE
AC4658'INDIAN
AC4658'TRIBE.
AC4658'
AC4658'TO REACH THE MARK FROM THE INTERSECTION OF U.S. HIGHWAY 41 (TAMIAMI
AC4658'TRAIL) AND
AC4658'THE FLORIDA TURNPIKE (ABOUT 8.5 KM (5.25 MI) WEST OF WEST MIAMI), GO
AC4658'WEST ON
AC4658'U.S. HIGHWAY 41 (TAMIAMI TRAIL) 9.7 KM (6.0 MI) TO ITS INTERSECTION
AC4658'WITH STATE
AC4658'ROAD 997, CONTINUE WEST ON U.S. HIGHWAY 41 28.9 KM (17.94 MI) TO
AC4658'CONCRETE WEIR,
AC4658'STRUCTURE S12B, CONTINUE WEST ON U.S. HIGHWAY 41 0.5 KM (0.32 MI) TO A
AC4658'MICCOSUKEE INDIAN AIRBOAT TOUR FACILITY AND THE MARK ON THE RIGHT.
AC4658'
AC4658'THE MARK IS 4.7 KM (2.89 MI) EAST ON U.S. HIGHWAY 41 FROM CONCRETE
AC4658'WEIR
AC4658'STRUCTURE NUMBER S12A, 19.96 M (65.5 FT) NORTH OF THE CENTERLINE OF
AC4658'THE
AC4658'HIGHWAY, 4.05 M (13.3 FT) WEST OF THE CENTER OF A WOOD DECKED BRIDGE,
AC4658'0.70 M
AC4658'(2.3 FT) SOUTH OF THE NORTH EDGE OF A RETAINING WALL, 0.15 M (0.5 FT)
AC4658'NORTH OF
AC4658'THE SOUTH EDGE OF A RETAINING WALL. MARK IS A DISK SET FLUSH IN THE
AC4658'TOP OF THE
AC4658'WEST END OF THE SOUTH CONCRETE ABUTMENT (RETAINING WALL) OF A WOOD
AC4658'DECKED
AC4658'BRIDGE SPANNING A CANAL ABOUT 1.82 M (6.0 FT) ABOVE THE LEVEL OF THE
AC4658'HIGHWAY.
AC4658'
AC4658'STATION RECOVERY (2002)
AC4658'RECOVERY NOTE BY MAPTECH, INCORPORATED 2002 (CP)
AC4658'RECOVERED AS DESCRIBED.
AC4658'
AC4658'
AC4658
AC4658 STATION RECOVERY (2007)
AC4658
AC4658'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2007 (DF)
AC4658'RECOVERED BY KEITH AND ASSOCIATES
AC4658
AC4658 STATION RECOVERY (2012)
AC4658

```
AC4658'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2012 (MAR)
AC4658'RECOVERED IN GOOD CONDITION.
AC4658
AC4658                          STATION RECOVERY (2013)
AC4658
AC4658'RECOVERY NOTE BY S FL WATER MGMT DIST 2013 (TM)
AC4658'RECOVERED AS DESCRIBED
AC4658
AC4658                          STATION RECOVERY (2016)
AC4658
AC4658'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2016 (JKG)
AC4658'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:04
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From the "ngvd29.txt" file provided by NGS for the CERP Geodetic Vertical Control Project.
Line/Part: L26224 SSN+: mark floated, SSN*: mark constrained, SSN#: mark floated & constrained

Mark ID	SSN	PID	Designation	Geopotential	Elevation	Codes
640	2003	AJ6501	Q 498	9.2993	9.4891	

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
PROGRAM = datasheet95, VERSION = 8.8
1         National Geodetic Survey,   Retrieval Date = MAY  9, 2016
 AJ6501 ***********************************************************************
 AJ6501  DESIGNATION -  Q 498
 AJ6501  PID         -  AJ6501
 AJ6501  STATE/COUNTY-  FL/COLLIER
 AJ6501  COUNTRY     -  US
 AJ6501  USGS QUAD   -  CALIFORNIA SLOUGH (1974)
 AJ6501
 AJ6501                         *CURRENT SURVEY CONTROL
 AJ6501  ______________________________________________________________________
 AJ6501* NAD 83(2011) POSITION- 26 10 20.62972(N) 080 53 37.72883(W)   ADJUSTED
 AJ6501* NAD 83(2011) ELLIP HT-   -15.676 (meters)        (06/27/12)   ADJUSTED
 AJ6501* NAD 83(2011) EPOCH    -  2010.00
 AJ6501* NAVD 88 ORTHO HEIGHT -     9.047 (meters)       29.68   (feet) ADJUSTED
 AJ6501  ______________________________________________________________________
 AJ6501  NAD 83(2011) X  -    906,525.824 (meters)                     COMP
 AJ6501  NAD 83(2011) Y  - -5,655,719.412 (meters)                     COMP
 AJ6501  NAD 83(2011) Z  -  2,796,209.162 (meters)                     COMP
 AJ6501  LAPLACE CORR    -          0.88  (seconds)                    DEFLEC12B
 AJ6501  GEOID HEIGHT    -        -24.726 (meters)                     GEOID12B
 AJ6501  DYNAMIC HEIGHT  -          9.032 (meters)       29.63   (feet) COMP
 AJ6501  MODELED GRAVITY -    979,036.1   (mgal)                       NAVD 88
 AJ6501
 AJ6501  VERT ORDER      -  FIRST     CLASS II
 AJ6501
 AJ6501  Network accuracy estimates per FGDC Geospatial Positioning Accuracy
 AJ6501  Standards:
 AJ6501         FGDC (95% conf, cm)     Standard deviation (cm)      CorrNE
 AJ6501            Horiz  Ellip           SD_N   SD_E   SD_h      (unitless)
 AJ6501  ------------------------------------------------------------------
 AJ6501  NETWORK    0.95   1.55           0.40   0.38   0.79      0.09062593
 AJ6501  ------------------------------------------------------------------
 AJ6501  Click here for local accuracies and other accuracy information.
 AJ6501
 AJ6501
 AJ6501.The horizontal coordinates were established by GPS observations
 AJ6501.and adjusted by the National Geodetic Survey in June 2012.
 AJ6501
 AJ6501.NAD 83(2011) refers to NAD 83 coordinates where the reference
 AJ6501.frame has been affixed to the stable North American tectonic plate. See
 AJ6501.NA2011 for more information.
 AJ6501
 AJ6501.The horizontal coordinates are valid at the epoch date displayed above
 AJ6501.which is a decimal equivalence of Year/Month/Day.
 AJ6501
 AJ6501.The orthometric height was determined by differential leveling and
 AJ6501.adjusted by the NATIONAL GEODETIC SURVEY
 AJ6501.in December 2001.
 AJ6501
 AJ6501.Significant digits in the geoid height do not necessarily reflect accuracy.
```

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AJ6501.GEOID12B height accuracy estimate available here.
AJ6501
AJ6501.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ6501
AJ6501.The Laplace correction was computed from DEFLEC12B derived deflections.
AJ6501
AJ6501.The ellipsoidal height was determined by GPS observations
AJ6501.and is referenced to NAD 83.
AJ6501
AJ6501.The dynamic height is computed by dividing the NAVD 88
AJ6501.geopotential number by the normal gravity value computed on the
AJ6501.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ6501.degrees latitude (g = 980.6199 gals.).
AJ6501
AJ6501.The modeled gravity was interpolated from observed gravity values.
AJ6501
AJ6501. The following values were computed from the NAD 83(2011) position.
AJ6501
AJ6501;                    North         East     Units Scale Factor Converg.
AJ6501;SPC FL E     -   203,717.824   210,614.957   MT  0.99994257   +0 02 48.6
AJ6501;SPC FL E     -   668,364.23    690,992.57   sFT  0.99994257   +0 02 48.6
AJ6501;UTM  17      - 2,894,780.297   510,611.336   MT  0.99960139   +0 02 48.6
AJ6501
AJ6501!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ6501!SPC FL E     -   1.00000246  x   0.99994257  =   0.99994503
AJ6501!UTM  17      -   1.00000246  x   0.99960139  =   0.99960385
AJ6501
AJ6501|-------------------------------------------------------------------|
AJ6501| PID    Reference Object                    Distance      Geod. Az  |
AJ6501|                                                          dddmmss.s |
AJ6501| AH2084 I75 G 36                            23.304 METERS 35057     |
AJ6501|-------------------------------------------------------------------|
AJ6501
AJ6501                          SUPERSEDED SURVEY CONTROL
AJ6501
AJ6501  NAD 83(2007)-  26 10 20.62985(N)    080 53 37.72947(W) AD(2002.00) 0
AJ6501  ELLIP H (02/10/07)  -15.659  (m)                       GP(2002.00)
AJ6501  NAD 83(1999)-  26 10 20.62973(N)    080 53 37.72971(W) AD(       ) 1
AJ6501  ELLIP H (12/12/02)  -15.651  (m)                       GP(       ) 2 2
AJ6501  NAVD 88 (12/12/02)    9.05   (m)           29.7    (f) LEVELING    3
AJ6501
AJ6501.Superseded values are not recommended for survey control.
AJ6501
AJ6501.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AJ6501.See file dsdata.txt to determine how the superseded data were derived.
AJ6501
AJ6501_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ1061194780(NAD 83)
AJ6501
AJ6501_MARKER: F = FLANGE-ENCASED ROD
AJ6501_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
AJ6501_STAMPING: Q 498 2000
AJ6501_MARK LOGO: NGS
AJ6501_PROJECTION: RECESSED 12 CENTIMETERS
AJ6501_MAGNETIC: N = NO MAGNETIC MATERIAL
AJ6501_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AJ6501_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ6501+SATELLITE: SATELLITE OBSERVATIONS - July 24, 2007
AJ6501_ROD/PIPE-DEPTH: 4.3  meters
AJ6501
AJ6501  HISTORY     - Date     Condition        Report By
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AJ6501  HISTORY     - 2000     MONUMENTED       FLDEP
AJ6501  HISTORY     - 20010516 GOOD             LDBLS
AJ6501  HISTORY     - 2002     GOOD             MAPTEC
AJ6501  HISTORY     - 20070724 GOOD             INDIV
AJ6501
AJ6501                          STATION DESCRIPTION
AJ6501
AJ6501'DESCRIBED BY FL DEPT OF ENV PRO 2000 (JLM)
AJ6501'THE MARK IS ABOUT 28.3 MI (45.5 KM) WEST OF ANDYTOWN, 2.7 MI (4.3 KM)
AJ6501'WEST OF SNAKE ROAD (I-75 EXIT 14) , IN SECTION 36, TOWNSHIP 49 SOUTH,
AJ6501'RANGE 34 EAST. TO REACH THE MARK FROM THE JUNCTION OF SNAKE ROAD AND
AJ6501'INTERSTATE HIGHWAY 75 (EXIT 14) NEAR ANDYTOWN, GO WEST ON INTERSTATE
AJ6501'HIGHWAY 75 FOR 2.35 MI (3.78 KM) TO THE EAST END OF BRIDGE NUMBER
AJ6501'030283 AND THE MARK ON THE LEFT, A STAINLESS STEEL ROD DRIVEN INTO THE
AJ6501'GROUND AT A DEPTH OF 14.2 FT (4.3 M) WITH A NGS LOGO CAP FLUSH WITH
AJ6501'THE GROUND AND LEVEL WITH THE WESTBOUND LANES OF INTERSTATE HIGHWAY
AJ6501'75, THE DATUM POINT IS RECESSED 0.4 FT (12.2 CM) BELOW THE LEVEL OF
AJ6501'THE NGS LOGO CAP. LOCATED 60.3 FT (18.4 M) NORTH OF THE CENTERLINE OF
AJ6501'THE EASTBOUND LANES OF INTERSTATE HIGHWAY 75, 52.3 FT (15.9 M) SOUTH
AJ6501'OF THE CENTERLINE OF THE WESTBOUND LANES OF INTERSTATE HIGHWAY 75,
AJ6501'40.8 FT (12.4 M) NORTHEAST OF THE NORTHEAST BRIDGE RAIL OF THE
AJ6501'EASTBOUND LANES, 33.4 FT (10.2 M) SOUTHEAST OF SOUTHEAST BRIDGE RAIL
AJ6501'OF THE WESTBOUND LANES AND 11.0 FT (3.4 M) EAST OF A CARSONITE WITNESS
AJ6501'POST. NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A 5-INCH NGS LOGO
AJ6501'CAP.
AJ6501
AJ6501                          STATION RECOVERY (2001)
AJ6501
AJ6501'RECOVERY NOTE BY LD BRADLEY LAND SURVEYORS 2001 (JCH)
AJ6501'THE MARK IS ABOUT 45.5 KM (28.3 MI) WEST OF ANDYTOWN, ABOUT 79.3 KM
AJ6501'(49.3 MI)
AJ6501'EAST OF I-75 (EXIT 15) OVERPASS OVER COUNTY ROAD 951 NEAR NAPLES IN
AJ6501'ESTIMATED
AJ6501'SECTION 1, TOWNSHIP 50 SOUTH, RANGE 34 EAST, COLLIER COUNTY, FLORIDA.
AJ6501'OWNERSHIP-FLORIDA DEPARTMENT OF TRANSPORTATION
AJ6501'
AJ6501'TO REACH THE MARK FROM THE INTERSECTION OF I-75 AND SNAKE ROAD (I-75
AJ6501'EXIT 14,
AJ6501'41.8 KM (26.0 MI) WEST OF ANDYTOWN) GO WEST ON I-75 3.8 KM (2.35 MI)
AJ6501'TO THE
AJ6501'EAST END OF A CONCRETE BRIDGE, NO. STR H 030283, AND THE MARK ON THE
AJ6501'LEFT IN
AJ6501'THE MEDIAN OF I-75.
AJ6501'
AJ6501'THE MARK IS A STAINLESS STEEL ROD DRIVEN INTO THE GROUND WITH AN NGS
AJ6501'LOGO CAP
AJ6501'FLUSH WITH THE GROUND. THE DATUM POINT IS RECESSED 0.12 M (0.4 FT)
AJ6501'BELOW THE
AJ6501'LEVEL OF THE NGS LOGO CAP AND APPROXIMATELY LEVEL WITH BOTH LANES OF
AJ6501'I-75,
AJ6501'18.29 M (60.0 FT) NORTH FROM THE CENTERLINE OF THE EASTBOUND LANES OF
AJ6501'I-75,
AJ6501'15.97 M (52.4 FT) SOUTH FROM THE CENTERLINE OF THE WESTBOUND LANES OF
AJ6501'I-75,
AJ6501'12.41 M (40.7 FT) NORTHEAST OF THE NORTHEAST GUARDRAIL OF THE
AJ6501'EASTBOUND LANES,
AJ6501'10.33 M (33.9 FT) SOUTHEAST OF THE SOUTHEAST GUARDRAIL OF THE
AJ6501'WESTBOUND LANES,
AJ6501'3.66 M (12.0 FT) EAST FROM THE TOP OF SLOPE (SLOPE DOWN TO CANAL
AJ6501'BELOW) AND
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AJ6501'3.29 M (10.8 FT) EAST OF A CARSONITE WITNESS POST.
AJ6501'
AJ6501'NOTE - A MAGNET WAS PLACED INSIDE THE SLEEVE, BELOW THE LOGO CAP
AJ6501'(ACCESS
AJ6501'COVER).
AJ6501
AJ6501                          STATION RECOVERY (2002)
AJ6501
AJ6501'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)
AJ6501'RECOVERED AS DESCCRIBED
AJ6501'
AJ6501'NOTE  SEE L26127
AJ6501'
AJ6501'STATION RECOVERY (2002)
AJ6501'
AJ6501'RECOVERY NOTE BY MAPTECH, INCORPORATED 2002 (CP)
AJ6501'RECOVERED AS DESCRIBED.
AJ6501
AJ6501                          STATION RECOVERY (2007)
AJ6501
AJ6501'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2007 (DF)
AJ6501'RECOVERED BY KEITH AND ASSOCIATES

*** retrieval complete.
Elapsed Time = 00:00:02
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G PINE UPLAND		PARTY CHIEF	D. FERELS	DATE:	August 13, 2007			Datum:	*NAVD88*	FIELD BOOK 273	PAGES	33.000	
STATION	**3 WIRE**	**AVG.(ENG)**	**HI**	**3 WIRE**	**AVG.(ENG)**	**ELEV.**	**BM EL.**	**DIST.**	**ERROR**	**ACCUM.**	**ADJ. ELEV.**	**METRIC**	**DESCRIPTION**
	3.649												
BM	3.478	3.477	15.080			11.603	**11.603**						PK NAIL (ELEVATION ESTABLISHED
	3.305	0.001											BY GPS (4) 4-HOUR OBSERVATIONS
													FROM 3 DIFFERENT NGS MONUMENTS
STADIA		34.400											
	5.285			5.690									
TP1	4.970	4.972	14.539	5.513	5.513	9.567		69.70	0.000169421	0.000169421	**9.567**	2.916	
	4.660	-0.002		5.337	0.000			-0.90					
	14.915			16.540				-0.90					
STADIA		62.500			35.300								
	6.163			5.300									
TP2	5.333	5.336	14.885	4.990	4.990	9.549		124.50	0.000302625	0.000472047	**9.548**	2.910	
	4.513	-0.003		4.680	0.000			0.50					
	16.009			14.970				-0.40					
STADIA		165.000			62.000								
	4.410			4.883									
TP3	4.098	4.096	15.021	3.958	3.960	10.925		349.30	0.000849052	0.001321099	**10.923**	3.329	SET 3-1/2" SFWMD BRASS DISK
	3.780	0.002		3.040	-0.002			-19.30					IN CONCRETE PAD FOR WEATHER
	12.288			11.881				-19.70					TOWER BIG PINE UPLAND
STADIA		63.000			184.300								

G PINE UPLAND		PARTY CHIEF	D. FERELS	DATE:	August 13, 2007			Datum:	*NAVD88*	FIELD BOOK 273	PAGES	33.000	
STATION	**3 WIRE**	**AVG.(ENG)**	**HI**	**3 WIRE**	**AVG.(ENG)**	**ELEV.**	**BM EL.**	**DIST.**	**ERROR**	**ACCUM.**	**ADJ. ELEV.**	**METRIC**	**DESCRIPTION**
	1.720			1.362									
TP4	1.200	1.200	15.188	1.032	1.033	13.988		128.70	0.000312834	0.001633933	**13.986**	4.263	FOUND MARK ON TOP OF METAL
	0.680	0.000		0.705	-0.001			-2.70					PIPE, NORTH SIDE OF TOWER.
	3.600			3.099				-22.40					
STADIA		104.000			65.700								
	5.710			6.470									
TP5	5.175	5.172	14.656	5.700	5.703	9.484		257.00	0.000624696	0.002258629	**9.482**	2.890	
	4.630	0.003		4.940	-0.003			-49.00					
	15.515			17.110				-71.40					
STADIA		108.000			153.000								
	5.800			5.680									
TP6	5.560	5.560	15.101	5.115	5.115	9.541		113.00	0.000274672	0.002795819	**9.538**	2.907	
	5.320	0.000		4.550	0.000			-113.00					
	16.680			15.345				-76.40					
STADIA		48.000			113.000								
				3.675									
BM				3.495	3.495	11.606	**11.603**	84.00	0.000204181	0.003000000	**11.603**	3.537	BM CHECK ON PK NAIL AS DESCRIBED ABOVE
				3.315	0.000			12.00					
				10.485				-64.40					
					36.000								
							LOR=	1234.20	**CHECK VALUES TO VERIFY SAME**				
									OR TO SEE THEY ARE WITHIN				
	TOTAL + =	584.900		**TOTAL - =**	649.300			1234.20	**THIRD ORDER SPECS(MAX DIFF. 33 FT.)**				
					-64.40								
					RAW CLOSURE=		0.003						
					ERROR PER FOOT=		0.000						
		MTS ALLOWABLE ERROR FOR THIRD ORDER=					0.015						
					ACTUAL ERROR=		0.003	RED IF BAD-----GREEN IF GOOD					

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G PINE UPLAND		PARTY CHIEF	D. FERELS	DATE:	August 13, 2007			Datum:	*NGVD29*	FIELD BOOK 273	PAGES	33.000	
STATION	**3 WIRE**	**AVG.(ENG)**	**HI**	**3 WIRE**	**AVG.(ENG)**	**ELEV.**	**BM EL.**	**DIST.**	**ERROR**	**ACCUM.**	**ADJ. ELEV.**	**METRIC**	**DESCRIPTION**
	3.649												
BM	3.478	3.477	16.530			13.053	**13.053**						PK NAIL (ELEVATION ESTABLISHED
	3.305	0.001											BY GPS (4) 4-HOUR OBSERVATIONS
													FROM 3 DIFFERENT NGS MONUMENTS
STADIA		34.400											NGVD 1929 VALUE DERIVED FROM VERTCON
	5.285			5.690									
TP1	4.970	4.972	15.989	5.513	5.513	11.017		69.70	0.000000000	0.000000000	**11.017**	3.358	
	4.660	-0.002		5.337	0.000			-0.90					
	14.915			16.540				-0.90					
STADIA		62.500			35.300								
	6.163			5.300									
TP2	5.333	5.336	16.335	4.990	4.990	10.999		124.50	0.000000000	0.000000000	**10.999**	3.352	
	4.513	-0.003		4.680	0.000			0.50					
	16.009			14.970				-0.40					
STADIA		165.000			62.000								
	4.410			4.883									
TP3	4.098	4.096	16.471	3.958	3.960	12.375		349.30	0.000000000	0.000000000	**12.375**	3.772	SET 3-1/2" SFWMD BRASS DISK
	3.780	0.002		3.040	-0.002			-19.30					IN CONCRETE PAD FOR WEATHER
	12.288			11.881				-19.70					TOWER BIG PINE UPLAND
STADIA		63.000			184.300								

G PINE UPLAND		PARTY CHIEF	D. FERELS	DATE:	August 13, 2007			Datum:	*NGVD29*	FIELD BOOK 273	PAGES	33.000	
STATION	**3 WIRE**	**AVG.(ENG)**	**HI**	**3 WIRE**	**AVG.(ENG)**	**ELEV.**	**BM EL.**	**DIST.**	**ERROR**	**ACCUM.**	**ADJ. ELEV.**	**METRIC**	**DESCRIPTION**
	1.720			1.362									
TP4	1.200	1.200	16.638	1.032	1.033	15.438		128.70	0.000000000	0.000000000	**15.438**	4.705	FOUND MARK ON TOP OF METAL
	0.680	0.000		0.705	-0.001			-2.70					PIPE, NORTH SIDE OF TOWER.
	3.600			3.099				-22.40					
STADIA		104.000			65.700								
	5.710			6.470									
TP5	5.175	5.172	16.106	5.700	5.703	10.934		257.00	0.000000000	0.000000000	**10.934**	3.333	
	4.630	0.003		4.940	-0.003			-49.00					
	15.515			17.110				-71.40					
STADIA		108.000			153.000								
	5.800			5.680									
TP6	5.560	5.560	16.551	5.115	5.115	10.991		113.00	0.000000000	0.000000000	**10.991**	3.350	
	5.320	0.000		4.550	0.000			-113.00					
	16.680			15.345				-76.40					
STADIA		48.000			113.000								
				3.675									
BM				3.495	3.495	13.056	**13.053**	84.00	0.000000000	0.000000000	**13.056**	3.979	BM CHECK ON PK NAIL AS DESCRIBED ABOVE
				3.315	0.000			12.00					
				10.485				-64.40					
					36.000								
							LOR=	1234.20	**CHECK VALUES TO VERIFY SAME**				
									OR TO SEE THEY ARE WITHIN				
	TOTAL + =	584.900		**TOTAL - =**	649.300			1234.20	**THIRD ORDER SPECS(MAX DIFF. 33 FT.)**				
					-64.40								
					RAW CLOSURE=		0.003						
					ERROR PER FOOT=								
		MTS ALLOWABLE ERROR FOR THIRD ORDER=					0.015						
					ACTUAL ERROR=		0.003	RED IF BAD-----GREEN IF GOOD					

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