

# **SURVEYOR'S REPORT**

Specific Purpose Survey of  
Monitoring Wells Plantation Waste Water Treatment  
Plant (WWTP) Upper and Lower Zones  
Broward 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 4500016343

Keith and Associates project number 07050.07,

Task 001

Report Date: December 15, 2007

Submittal: Final

Revised 06/10/08

Added coordinate values for wells in Project Results section.

## SURVEYOR'S REPORT

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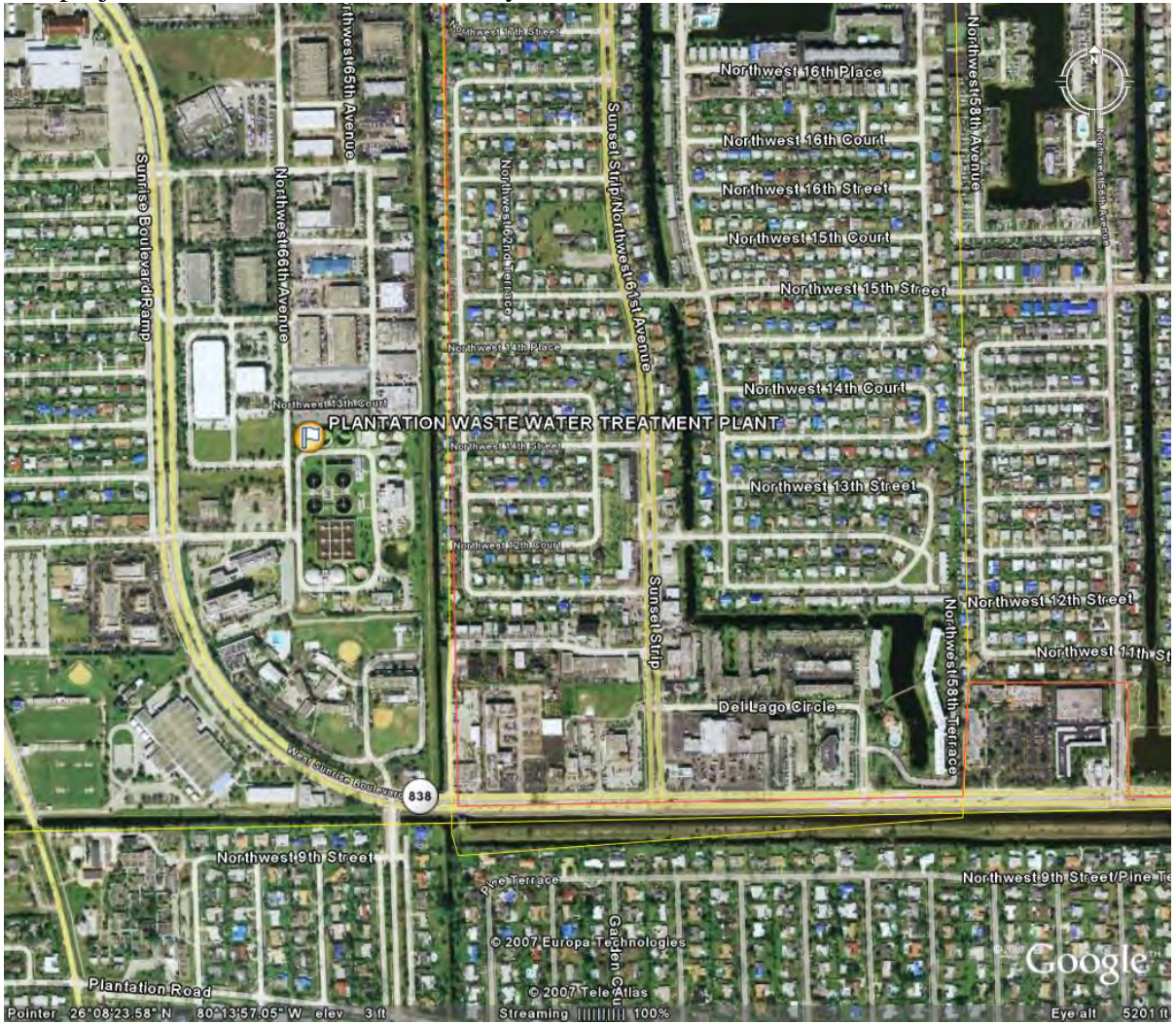
# SURVEYOR'S REPORT

## PURPOSE

To establish (NAVD 1988 and NGVD 1929) vertical data on the existing Wells and set a site benchmark.

## LOCATION OF PROJECT

The project is located in Broward 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 Sheets
7. District Well Excel Sheet
8. Well Activation Excel Sheet

### **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. The NGVD 1929 elevation of Benchmark M-546 was obtained from the NGVD29.txt file as supplied by the South Florida Water Management District. The horizontal datum is NAD (North American Datum) 1983/90.

### **LEVELING METHODS**

Site Benchmark "PLAN WWTP" is a 3-1/2" South Florida Water Management District brass disk set in the concrete pad that surrounds well I W-1. A level loop was run starting at NGS benchmark M-546, through NGS benchmark L-546, through a temporary benchmark turning point 55 (nail and disk LB 6860 in front of a Fire Station at 550 N.W. 65 Avenue), through a second temporary benchmark turning point 56 (a nail and disk LB 6860 in walk, 55' W. of the E. end of the walk on the N. side of the above mentioned Fire Station) and back to NGS benchmark M-546. A second level loop was run starting at the above mentioned temporary benchmark turning point 55, through the above mentioned second temporary benchmark turning point 56, through the site benchmark "PLAN WWTP 2007" and back to temporary benchmark turning point 55. A Leica NA2 conventional level was used for the level run and the site As-Builts. The level runs meet or exceed the closure requirement of "the square root of the level run in miles x 0.03"

## SURVEYOR'S REPORT

### Comments

Elevations shown hereon are NGVD 1929 datum unless noted otherwise.

Party Chief: D. Ferels Field Book: 279 Page Pages 14-19, 21-28, 53-57,

Bench Mark: "PLAN WWTP 2007" El. 8.718', Vertical Datum: NAVD1988

El. 10.323', Vertical Datum: NGVD1929

Offset: 1.605' SFWMD VALUE (subtract this value from NGVD 1929 to convert to NAVD 1988)

Offset: 1.605' NGS VALUE (subtract this value from NGVD 1929 to convert to NAVD 1988)

The offset value referred to as "SFWMD VALUE" was derived by subtracting the NAVD 1988 value from the NGVD 1929 value at NGS benchmark M-546.

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

RTK – Real Time Kinematic

K&A – Keith and Associates

PSM – Professional Surveyor & Mapper

USGS – United States Geological Survey

QUAD – Quadrangle Map

PID - Permanent Identifier

### 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:

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**Date of Survey**  
**December 3, 2007**

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

# SURVEYOR'S REPORT

## VERTICAL CONTROL

<b>M-546</b>		Elevation:	<b>NAVD 1988</b>	<b>35.705'</b>	<b>NGVD 1929</b>	<b>37.310'</b>
PID AJ8707		Latitude	26° 05' 55.90068"	From NGS Data Sheet		From the NGVD29.txt file supplied by the South Florida Water Management District
State/County FL/Broward		Longitude	-80° 15' 03.84126"			
USGS QUAD Fort Lauderdale North						
Vertical Order	First	<p>The orthometric height was determined by differential leveling and adjusted by the NATIONAL GEODETIC SURVEY in May 2002. The mark is about 8.5 km (5.30 mi) west of Fort Lauderdale in Section 16, Township 50 South, Range 41 East, Broward County, Florida. Ownership – Florida Department of Transportation to reach the mark from the intersection of Interstate Highway 75 and U.S. Highway 27 (I-75 exit 13, near Andytown) go east on Interstate Highway 75 8.1 km (5.04 mi) to the junction with Interstate Highway 595 East, exit right onto Interstate Highway 595 East, and go east along Interstate Highway 595 11.6 km (7.20 mi) to the west end of the University Drive overpass and the mark on the left. the mark is 5.03 m (16.5 ft) west of an expansion joint (between bridge and abutment), 3.35 m (11.0 ft) north of the north edge of the eastbound lanes of Interstate Highway 595 and 0.30 m (1.0 ft) east of the west end of a concrete bridge rail. The mark is a disk set flush in the top of a concrete bridge rail atop the north end of the west abutment of the eastbound overpass (bridge no 806358) and is about 0.82 m (2.7 ft) above the level of the I-595.</p>				
Class	II					
Horizontal Order	First					
						



# The NGS Data Sheet

DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.48

1 National Geodetic Survey, Retrieval Date = JUNE 30, 2007

```

AJ8707 *****
AJ8707 DESIGNATION - M 546
AJ8707 PID - AJ8707
AJ8707 STATE/COUNTY- FL/BROWARD
AJ8707 USGS QUAD - COOPER CITY (1983)
AJ8707
AJ8707 *CURRENT SURVEY CONTROL
AJ8707
AJ8707* NAD 83(1999)- 26 05 55.90068(N) 080 15 03.84126(W) ADJUSTED
AJ8707* NAVD 88 - 10.883 (meters) 35.71 (feet) ADJUSTED
AJ8707
AJ8707 X - 970,521.426 (meters) COMP
AJ8707 Y - -5,648,732.280 (meters) COMP
AJ8707 Z - 2,788,895.664 (meters) COMP
AJ8707 LAPLACE CORR- -2.75 (seconds) DEFLEC99
AJ8707 ELLIP HEIGHT- -14.490 (meters) (12/12/02) GPS OBS
AJ8707 GEOID HEIGHT- -25.31 (meters) GEOID03
AJ8707 DYNAMIC HT - 10.865 (meters) 35.65 (feet) COMP
AJ8707 MODELED GRAV- 979,058.3 (mgal) NAVD 88
AJ8707
AJ8707 HORZ ORDER - FIRST
AJ8707 VERT ORDER - FIRST CLASS II
AJ8707 ELLP ORDER - FOURTH CLASS I
AJ8707
AJ8707.The horizontal coordinates were established by GPS observations
AJ8707.and adjusted by the National Geodetic Survey in December 2002.
AJ8707
AJ8707.The orthometric height was determined by differential leveling
AJ8707.and adjusted by the NATIONAL GEODETIC SURVEY in May 2002.
AJ8707
AJ8707.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AJ8707
AJ8707.The Laplace correction was computed from DEFLEC99 derived deflections.
AJ8707
AJ8707.The ellipsoidal height was determined by GPS observations
AJ8707.and is referenced to NAD 83.
AJ8707
AJ8707.The geoid height was determined by GEOID03.
AJ8707
AJ8707.The dynamic height is computed by dividing the NAVD 88
AJ8707.geopotential number by the normal gravity value computed on the
AJ8707.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ8707.degrees latitude (g = 980.6199 gals.).
AJ8707
AJ8707.The modeled gravity was interpolated from observed gravity values.
AJ8707
AJ8707; North East Units Scale Factor Converg.
AJ8707;SPC FL E - 195,782.326 274,915.498 MT 1.00001045 +0 19 46.2
AJ8707;SPC FL E - 642,329.18 901,951.93 sFT 1.00001045 +0 19 46.2
AJ8707;UTM 17 - 2,886,847.508 574,889.937 MT 0.99966925 +0 19 46.2
AJ8707
AJ8707! - Elev Factor x Scale Factor = Combined Factor
AJ8707!SPC FL E - 1.00000228 x 1.00001045 = 1.00001273
AJ8707!UTM 17 - 1.00000228 x 0.99966925 = 0.99967153
AJ8707

```

AJ8707 SUPERSEDED SURVEY CONTROL  
 AJ8707  
 AJ8707 NAVD 88 (12/12/02) 10.88 (m) 35.7 (f) LEVELING 3  
 AJ8707  
 AJ8707.Superseded values are not recommended for survey control.  
 AJ8707.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AJ8707.See file dsdata.txt to determine how the superseded data were derived.  
 AJ8707  
 AJ8707\_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ7489086848 (NAD 83)  
 AJ8707\_MARKER: DD = SURVEY DISK  
 AJ8707\_SETTING: 31 = SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.  
 AJ8707\_SP\_SET: BRIDGE GUARDRAIL  
 AJ8707\_STAMPING: M 546 2001 CERP  
 AJ8707\_MARK LOGO: USE  
 AJ8707\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 AJ8707\_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY  
 AJ8707\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 AJ8707+SATELLITE: SATELLITE OBSERVATIONS - 2002  
 AJ8707  

AJ8707	HISTORY	- Date	Condition	Report By
AJ8707	HISTORY	- 20011017	MONUMENTED	LDBLS
AJ8707	HISTORY	- 2002	GOOD	MAPTEC

 AJ8707  
 AJ8707 STATION DESCRIPTION  
 AJ8707  
 AJ8707'DESCRIBED BY LD BRADLEY LAND SURVEYORS 2001 (JCH)  
 AJ8707'THE MARK IS ABOUT 8.5 KM (5.30 MI) WEST OF FORT LAUDERDALE IN SECTION  
 AJ8707'16,  
 AJ8707'TOWNSHIP 50 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA. OWNERSHIP -  
 AJ8707'FLORIDA  
 AJ8707'DEPARTMENT OF TRANSPORTATION  
 AJ8707'  
 AJ8707'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE HIGHWAY 75 AND  
 AJ8707'U.S.  
 AJ8707'HIGHWAY 27 (I-75 EXIT 13, NEAR ANDYTOWN) GO EAST ON INTERSTATE HIGHWAY  
 AJ8707'75 8.1  
 AJ8707'KM (5.04 MI) TO THE JUNCTION WITH INTERSTATE HIGHWAY 595 EAST, EXIT  
 AJ8707'RIGHT ONTO  
 AJ8707'INTERSTATE HIGHWAY 595 EAST, AND GO EAST ALONG INTERSTATE HIGHWAY 595  
 AJ8707'11.6 KM  
 AJ8707'(7.20 MI) TO THE WEST END OF THE UNIVERSITY DRIVE OVERPASS AND THE  
 AJ8707'MARK ON THE  
 AJ8707'LEFT.  
 AJ8707'  
 AJ8707'THE MARK IS 5.03 M (16.5 FT) WEST OF AN EXPANSION JOINT (BETWEEN  
 AJ8707'BRIDGE AND  
 AJ8707'ABUTMENT), 3.35 M (11.0 FT) NORTH OF THE NORTH EDGE OF THE EASTBOUND  
 AJ8707'LANES OF  
 AJ8707'INTERSTATE HIGHWAY 595 AND 0.30 M (1.0 FT) EAST OF THE WEST END OF A  
 AJ8707'CONCRETE  
 AJ8707'BRIDGERAIL. THE MARK IS A DISK SET FLUSH IN THE TOP OF A CONCRETE  
 AJ8707'BRIDGERAIL  
 AJ8707'ATOP THE NORTH END OF THE WEST ABUTMENT OF THE EASTBOUND OVERPASS  
 AJ8707'(BRIDGE NO  
 AJ8707'806358) AND IS ABOUT 0.82 M (2.7 FT) ABOVE THE LEVEL OF THE I-595  
 AJ8707'EASTBOUND  
 AJ8707'LANES.  
 AJ8707'  
 AJ8707'  
 AJ8707'





AJ8707  
AJ8707 STATION RECOVERY (2002)  
AJ8707  
AJ8707'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)  
AJ8707'THE MARK IS ABOUT 8.5 KM (5.30 MI) WEST OF FORT LAUDERDALE IN SECTION  
AJ8707'16,  
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AJ8707'DEPARTMENT OF TRANSPORTATION  
AJ8707'  
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AJ8707'806358) AND IS ABOUT 0.82 M (2.7 FT) ABOVE THE LEVEL OF THE I-595  
AJ8707'EASTBOUND  
AJ8707'LANES.  
AJ8707'  
AJ8707'  
AJ8707'STATION RECOVERY (2002)  
AJ8707'RECOVERY NOTE BY MAPTECH, INCORPORATED 2002 (CP)  
AJ8707'RECOVERED AS DESCRIBED.  
AJ8707'  
AJ8707'

\*\*\* retrieval complete.  
Elapsed Time = 00:00:01

# SURVEYOR'S REPORT

## VERTICAL CONTROL (CONTINUED)

L-546		Elevation:	NAVD 1988	36.086'	NGVD 1929	37.691'
PID AJ8707		Latitude	26° 05' 55.90068"	From NGS Data Sheet		From the NGVD29.txt file supplied by the South Florida Water Management District
State/County FL/Broward		Longitude	-80° 15' 03.84126"			
USGS QUAD Fort Lauderdale North						
Vertical Order	First	<p>The orthometric height was determined by differential leveling and adjusted by the NATIONAL GEODETIC SURVEY in May 2002. The mark is about 10.1 km (6.27 mi) west of Fort Lauderdale in Section 17, Township 50 South, Range 41 East, Broward County, Florida. Ownership - Florida Department of Transportation to reach the mark from the intersection of Interstate Highway 75 and U.S. Highway 27 (I-75 Exit 13, near Andytown) go east on interstate Highway 75 8.1 km (5.04 mi) to the junction with Interstate Highway 595 East, exit right onto Interstate Highway 595 East, and go east along Interstate Highway 595 10.0 km (6.23 mi) to the west end of the Pine Island Road overpass and the mark on the left. The mark is 5.06 m (16.6 ft) west of an expansion joint (between bridge and abutment), 3.41 m (11.2 ft) north of the north edge of the eastbound lanes of Interstate Highway 595 and 0.43 m (1.4 ft) east of the west end of a concrete bridge rail. The mark is a disk set flush in the top of a concrete bridge rail atop the north end of the west abutment of the eastbound overpass bridge no 806358) and is about 0.82 m (2.7 ft) above the level of the I-595 eastbound lanes.</p>				
Class	II					
Horizontal Order	First					
						
						

# The NGS Data Sheet

DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.48

1 National Geodetic Survey, Retrieval Date = JUNE 30, 2007

AJ8706 \*\*\*\*\*

AJ8706 DESIGNATION - L 546

AJ8706 PID - AJ8706

AJ8706 STATE/COUNTY- FL/BROWARD

AJ8706 USGS QUAD - COOPER CITY (1983)

AJ8706

AJ8706 \*CURRENT SURVEY CONTROL

AJ8706

AJ8706\* NAD 83(1999)- 26 06 10.38879(N) 080 15 57.79349(W) ADJUSTED

AJ8706\* NAVD 88 - 10.999 (meters) 36.09 (feet) ADJUSTED

AJ8706

AJ8706 X - 969,010.723 (meters) COMP

AJ8706 Y - -5,648,792.736 (meters) COMP

AJ8706 Z - 2,789,296.128 (meters) COMP

AJ8706 LAPLACE CORR- -2.63 (seconds) DEFLEC99

AJ8706 ELLIP HEIGHT- -14.344 (meters) (12/12/02) GPS OBS

AJ8706 GEOID HEIGHT- -25.27 (meters) GEOID03

AJ8706 DYNAMIC HT - 10.981 (meters) 36.03 (feet) COMP

AJ8706 MODELED GRAV- 979,058.6 (mgal) NAVD 88

AJ8706

AJ8706 HORZ ORDER - FIRST

AJ8706 VERT ORDER - FIRST CLASS II

AJ8706 ELLP ORDER - FOURTH CLASS I

AJ8706

AJ8706.The horizontal coordinates were established by GPS observations

AJ8706.and adjusted by the National Geodetic Survey in December 2002.

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AJ8706.and is referenced to NAD 83.

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AJ8706.The dynamic height is computed by dividing the NAVD 88

AJ8706.geopotential number by the normal gravity value computed on the

AJ8706.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AJ8706.degrees latitude (g = 980.6199 gals.).

AJ8706

AJ8706.The modeled gravity was interpolated from observed gravity values.

AJ8706

AJ8706; North East Units Scale Factor Converg.

AJ8706;SPC FL E - 196,219.657 273,413.816 MT 1.00000770 +0 19 22.6

AJ8706;SPC FL E - 643,763.99 897,025.16 sFT 1.00000770 +0 19 22.6

AJ8706;UTM 17 - 2,887,284.690 573,388.768 MT 0.99966650 +0 19 22.6

AJ8706

AJ8706! - Elev Factor x Scale Factor = Combined Factor

AJ8706!SPC FL E - 1.00000225 x 1.00000770 = 1.00000995

AJ8706!UTM 17 - 1.00000225 x 0.99966650 = 0.99966875

AJ8706

AJ8706 SUPERSEDED SURVEY CONTROL  
 AJ8706  
 AJ8706 NAVD 88 (12/12/02) 11.00 (m) 36.1 (f) LEVELING 3  
 AJ8706  
 AJ8706.Superseded values are not recommended for survey control.  
 AJ8706.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 AJ8706.See file dsdata.txt to determine how the superseded data were derived.  
 AJ8706  
 AJ8706\_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ7338987285(NAD 83)  
 AJ8706\_MARKER: DD = SURVEY DISK  
 AJ8706\_SETTING: 31 = SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.  
 AJ8706\_SP\_SET: BRIDGE GUARDRAIL  
 AJ8706\_STAMPING: L 546 2001 CERP  
 AJ8706\_MARK LOGO: USE  
 AJ8706\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 AJ8706\_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY  
 AJ8706\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 AJ8706+SATELLITE: SATELLITE OBSERVATIONS - 2002  
 AJ8706  

AJ8706	HISTORY	- Date	Condition	Report By
AJ8706	HISTORY	- 20011017	MONUMENTED	LDBLS
AJ8706	HISTORY	- 2002	GOOD	MAPTEC

 AJ8706  
 AJ8706 STATION DESCRIPTION  
 AJ8706  
 AJ8706'DESCRIBED BY LD BRADLEY LAND SURVEYORS 2001 (JCH)  
 AJ8706'THE MARK IS ABOUT 10.1 KM (6.27 MI) WEST OF FORT LAUDERDALE IN SECTION  
 AJ8706'17,  
 AJ8706'TOWNSHIP 50 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA. OWNERSHIP -  
 AJ8706'FLORIDA  
 AJ8706'DEPARTMENT OF TRANSPORTATION  
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 AJ8706'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE HIGHWAY 75 AND  
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 AJ8706'HIGHWAY 27 (I-75 EXIT 13, NEAR ANDYTOWN) GO EAST ON INTERSTATE HIGHWAY  
 AJ8706'75 8.1  
 AJ8706'KM (5.04 MI) TO THE JUNCTION WITH INTERSTATE HIGHWAY 595 EAST, EXIT  
 AJ8706'RIGHT ONTO  
 AJ8706'INTERSTATE HIGHWAY 595 EAST, AND GO EAST ALONG INTERSTATE HIGHWAY 595  
 AJ8706'10.0 KM  
 AJ8706'(6.23 MI) TO THE WEST END OF THE PINE ISLAND ROAD OVERPASS AND THE  
 AJ8706'MARK ON THE  
 AJ8706'LEFT.  
 AJ8706'  
 AJ8706'THE MARK IS 5.06 M (16.6 FT) WEST OF AN EXPANSION JOINT (BETWEEN  
 AJ8706'BRIDGE AND  
 AJ8706'ABUTMENT), 3.41 M (11.2 FT) NORTH OF THE NORTH EDGE OF THE EASTBOUND  
 AJ8706'LANES OF  
 AJ8706'INTERSTATE HIGHWAY 595 AND 0.43 M (1.4 FT) EAST OF THE WEST END OF A  
 AJ8706'CONCRETE  
 AJ8706'BRIDGERAIL. THE MARK IS A DISK SET FLUSH IN THE TOP OF A CONCRETE  
 AJ8706'BRIDGERAIL  
 AJ8706'ATOP THE NORTH END OF THE WEST ABUTMENT OF THE EASTBOUND OVERPASS  
 AJ8706'(BRIDGE NO  
 AJ8706'806358) AND IS ABOUT 0.82 M (2.7 FT) ABOVE THE LEVEL OF THE I-595  
 AJ8706'EASTBOUND  
 AJ8706'LANES.  
 AJ8706'  
 AJ8706'  
 AJ8706'

AJ8706 STATION RECOVERY (2002)  
AJ8706  
AJ8706'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)  
AJ8706'THE MARK IS ABOUT 10.1 KM (6.27 MI) WEST OF FORT LAUDERDALE IN SECTION  
AJ8706'17,  
AJ8706'TOWNSHIP 50 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA. OWNERSHIP -  
AJ8706'FLORIDA  
AJ8706'DEPARTMENT OF TRANSPORTATION  
AJ8706'  
AJ8706'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE HIGHWAY 75 AND  
AJ8706'U.S.  
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AJ8706'KM (5.04 MI) TO THE JUNCTION WITH INTERSTATE HIGHWAY 595 EAST, EXIT  
AJ8706'RIGHT ONTO  
AJ8706'INTERSTATE HIGHWAY 595 EAST, AND GO EAST ALONG INTERSTATE HIGHWAY 595  
AJ8706'10.0 KM  
AJ8706'(6.23 MI) TO THE WEST END OF THE PINE ISLAND ROAD OVERPASS AND THE  
AJ8706'MARK ON THE  
AJ8706'LEFT.  
AJ8706'  
AJ8706'THE MARK IS 5.06 M (16.6 FT) WEST OF AN EXPANSION JOINT (BETWEEN  
AJ8706'BRIDGE AND  
AJ8706'ABUTMENT), 3.41 M (11.2 FT) NORTH OF THE NORTH EDGE OF THE EASTBOUND  
AJ8706'LANES OF  
AJ8706'INTERSTATE HIGHWAY 595 AND 0.43 M (1.4 FT) EAST OF THE WEST END OF A  
AJ8706'CONCRETE  
AJ8706'BRIDGERAIL. THE MARK IS A DISK SET FLUSH IN THE TOP OF A CONCRETE  
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AJ8706'ATOP THE NORTH END OF THE WEST ABUTMENT OF THE EASTBOUND OVERPASS  
AJ8706'(BRIDGE NO  
AJ8706'806358) AND IS ABOUT 0.82 M (2.7 FT) ABOVE THE LEVEL OF THE I-595  
AJ8706'EASTBOUND  
AJ8706'LANES.  
AJ8706'  
AJ8706'STATION RECOVERY (2002)  
AJ8706'RECOVERY NOTE BY MAPTECH, INCORPORATED 2002 (CP)  
AJ8706'RECOVERED AS DESCRIBED.  
AJ8706'

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

**SURVEYOR'S REPORT**

**PROJECT RESULTS**

<b>Well I W-1 Upper Zone</b>	<b>Well I W-1 Lower Zone</b>
<p>Reference mark: <u>Found marker mark on pipe just left of pressure gauge.</u></p> <p>New Information at the site: Wrote the following information on the side of the well pipe. Mark El. <u>14.093' NGVD 29</u> Mark El. <u>12.488' NAVD 88</u> Initials: <u>K&amp;A</u> Date: <u>12/03/07</u></p> <p>Previous Information at the site: Reference Mark Elevation(s) El. <u>None</u> Date: <u>None</u> Initials: <u>None</u> Reference Mark location: <u>Found marker mark on pipe just left of pressure gauge.</u></p>	<p>Reference mark: <u>Set marker mark on housing under gauge.</u></p> <p>New Information at the site: Wrote the following information on the side of the well pipe. Mark El. <u>12.843' NGVD 29</u> Mark El. <u>11.238' NAVD 88</u> Initials: <u>K&amp;A</u> Date: <u>12/03/07</u></p> <p>Previous Information at the site: Reference Mark Elevation(s) El. <u>None</u> Date: <u>None</u> Initials: <u>None</u> Reference Mark location: <u>Found marker mark on pipe just left of pressure gauge.</u></p>
<p><u>DTW (Distance to water inside well)</u> <u>Unable to obtain, well sealed.</u> Reference mark: <u>N/A</u> El. <u>N/A (NGVD 29)</u> Measurement to water: <u>N/A</u> Date: <u>N/A</u> Time: <u>N/A</u> Ground Elevation next to Well: <u>9.90' (NGVD 1929) (on concrete pad).</u></p> <p><u>NAD 1983/90 Florida East Zone</u> Latitude: <u>26° 08' 27.6"</u> Longitude: <u>- 80° 14' 12.5"</u> Northing:(Y) <u>660606</u> Easting:(X) <u>906528</u></p>	<p><u>DTW (Distance to water inside well)</u> <u>Unable to obtain, well sealed.</u> Reference mark: <u>N/A</u> El. <u>N/A (NGVD 29)</u> Measurement to water: <u>N/A</u> Date: <u>N/A</u> Time: <u>N/A</u> Ground Elevation next to Well: <u>9.89' (NGVD 1929) (on concrete pad).</u></p> <p><u>NAD 1983/90 Florida East Zone</u> Latitude: <u>26° 08' 27.6"</u> Longitude: <u>- 80° 14' 12.5"</u> Northing:(Y) <u>660606</u> Easting:(X) <u>906528</u></p>

SURVEYOR'S REPORT

PROJECT RESULTS

**Well I W-1 Upper Zone**



**12/03/07**

**Keith and Associates**



**SURVEYOR'S REPORT**

**PROJECT RESULTS**

**Well I W-1 Lower Zone**



**12/03/07**

**Keith and Associates**

**SURVEYOR'S REPORT**

**VERTICAL CONTROL (CONTINUED)**

<b>SITE BENCHMARK "PLAN WWPT 2007"</b>		Elevation:	<b>NAVD 1988</b>	<b>8.718'</b>	<b>NGVD 1929</b>	<b>10.323'</b>
		Latitude	26° 08' 27.6"	Derived from the level loop as described in the Leveling Methods section of this report.		Derived from the level loop as described in the Leveling Methods section of this report.
State/County FL/Broward		Longitude	-81° 14' 12.5"			
USGS QUAD Fort Lauderdale North						
Vertical Order      Third Horizontal Order    Third			<p>To reach the mark from the intersection of 595 and University Drive (S.R. 817) in Broward County, head north along University Drive approx. 3.5 miles to an intersection with N.W. 18th Court, turn right onto N.W. 18th Court, heading east and then south along N.W. 18th Court approx. 1.6 miles to an intersection with N.W. 11 Place, turn left, heading east along N.W. 11 Place approx. 700' to the entrance of the Plantation Water Treatment Plant, proceed to the N.W. corner of the plant and the benchmark located on a large concrete pad housing Well I W 1. The benchmark is a 3-1/2" South Florida Water Management Brass Disk set on the east side of Concrete pad and 84' north of the centerline of the asphalt loop road inside the plant.</p>			

**BENCHMARK  
"PLAN WWPT 2007"**





**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**

Rev. 4/01

<b>COUNTY</b> BROWARD	<b>PROJECT</b> PLANTATION WWTP	<b>DESIGNATION</b> PLAN WWTP 2007
<b>SECTION</b> 34	<b>TOWNSHIP</b> 49 SOUTH	<b>RANGE</b> 41 EAST
<b>GEOGRAPHIC INDEX OF QUAD</b>		
Established by <u>KEITH AND ASSOCIATES</u>		<b>NAME OF QUADRANGLE</b> <u>FORT LAUDERDALE</u> <u>NORTH</u>
<b>SURVEYOR</b> <u>D. FERELS</u> <b>DATE</b> <u>12/03/ 2007</u>		<b>FIELD BOOK</b> <u>279</u> <b>PAGES</b> <u>14-28, 53-56</u>
<b>HORIZONTAL DATUM:</b> 1983/90 <b>ZONE</b> EAST		
<b>VERTICAL DATUM:</b> NGVD 1929 <b>AND</b> NAVD 1988		
<b>CONTROL ACCURACY:</b> HORIZONTAL 3rd      VERTICAL 3rd		
<b>STATE PLANE COORDINATES</b>	X 906528	Y 660606      NAVD 1988 EL. 8.718' NGVD 1929 EL. 10.323'
<b>LATITUDE</b> 26°08'27.6"	<b>LONGITUDE</b> 80°14'12.5"	
<b>DESCRIPTION</b>		
To Reach:		
To reach the mark from the intersection of 595 and University Drive (S.R. 817) in Broward County, head north along University Drive approx. 3.5 miles to an intersection with N.W. 18 <sup>th</sup> Court, turn right onto N.W. 18 <sup>th</sup> Court, heading east and then south along N.W. 18 <sup>th</sup> Court approx. 1.6 miles to an intersection with N.W. 11 Place, turn left, heading east along N.W. 11 Place approx. 700' to the entrance of the Plantation Waste Water Treatment Plant, proceed to the N.W. corner of the plant and the benchmark located on a large concrete pad housing Well I W 1. The benchmark is a 3-1/2" South Florida Water Management Brass Disk set on the east side of Concrete pad and 84' north of the centerline of the asphalt loop road inside the plant.		
Notable Land marks:		
Monitoring well I W 1 on same concrete pad as benchmark.		

SKETCH



**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**

Rev. 4/01





7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NAVD 1988 F.B. 279 PGS. 14-28																
STATION	3 WIRE	AVG.(ENG)		HI	3 WIRE	AVG.(ENG)		ELEV.	BM EL.	DIST.		ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
NGS BM	2.700															
M-546	1.440	1.440		37.145					35.705							
	0.180	0.0000														
	4.320															
			252.000													
	3.180				8.917											
TP1	1.950	1.950		31.428	7.667	7.667		29.478			502.00	0.000158698	0.000158698	29.478	8.985	
	0.720	0.0000			6.417	0.0000				0.00						
	5.850				23.001					0.00						
			246.000					250.000								
	2.680				11.383											
TP2	1.730	1.727		23.008	10.147	10.147		21.281			493.30	0.000155948	0.000314645	21.281	6.486	
	0.770	-0.0033			8.910	-0.0003				0.00						
	5.180				30.440					0.00						
			191.000					247.300								
	4.235				9.337											
TP3	2.985	2.985		17.616	8.377	8.377		14.631			383.00	0.000121078	0.000435724	14.631	4.459	
	1.735	0.0000			7.417	0.0000				0.00						
	8.955				25.131					0.00						
			250.000					192.000								
	6.510				7.160											
TP4	5.260	5.260		16.966	5.910	5.910		11.706			500.00	0.000158066	0.000593789	11.705	3.568	
	4.010	0.0000			4.660	0.0000				0.00						
	15.780				17.730					0.00						
			250.000					250.000								
	6.217				6.623											
TP5	4.967	4.967		16.560	5.373	5.373		11.593			500.00	0.000158066	0.000751855	11.592	3.533	
	3.717	0.0000			4.123	0.0000				0.00						
	14.901				16.119					0.00						
			250.000					250.000								

7050.07		PARTY CHIEF D. FERELS		DATE	10/02-09/07		NAVD 1988			F.B. 279	PGS. 14-28					
STATION	3 WIRE	AVG.(ENG)		HI	3 WIRE	AVG.(ENG)		ELEV.	BM EL.	DIST.		ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.830				6.777											
<b>TP6</b>	5.575	5.575		16.598	5.537	5.537		11.023			498.00	0.000157433	0.000909288	<b>11.022</b>	3.360	
	4.320	0.0000			4.297	0.0000				0.00						
	16.725				16.611					0.00						
			251.000					248.000								
	9.813				5.160											
<b>TP7</b>	8.563	8.563		21.245	3.917	3.916		12.682			500.00	0.000158066	0.001067354	<b>12.681</b>	3.865	
	7.313	0.0000			2.670	-0.0013				0.00						
	25.689				11.747					0.00						
			250.000					249.000								
	12.710				4.165											
<b>TP8</b>	11.470	11.470		29.800	2.915	2.915		18.330			500.00	0.000158066	0.001225419	<b>18.329</b>	5.587	
	10.230	0.0000			1.665	0.0000				0.00						
	34.410				8.745					0.00						
			248.000					250.000								
	11.520				4.290											
<b>TP9</b>	10.270	10.270		37.030	3.040	3.040		26.760			498.00	0.000157433	0.001382853	<b>26.759</b>	8.156	
	9.020	0.0000			1.790	0.0000				0.00						
	30.810				9.120					0.00						
			250.000					250.000								
	6.400				4.523											
<b>TP10</b>	5.105	5.105		38.862	3.273	3.273		33.757			500.00	0.000158066	0.001540918	<b>33.756</b>	10.289	
	3.810	0.0000			2.023	0.0000				0.00						
	15.315				9.819					0.00						
			259.000					250.000								
	5.775				7.840											
<b>TP11</b>	5.160	5.162		37.464	6.560	6.560		32.302			515.00	0.000162808	0.001703726	<b>32.301</b>	9.845	
	4.550	0.0017			5.280	0.0000				0.00						
	15.485				19.680					0.00						
			122.500					256.000								

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NAVD 1988 F.B. 279 PGS. 14-28															
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS		
	2.120			1.975											
TP12	1.510	1.510	37.599	1.375	1.375	36.089		242.50	0.000076662	0.001780388	36.087	10.999	CHECK NGS BM L-546 PUB.		
NGS BM	0.900	0.0000		0.775	0.0000			0.00					ELEV. = 36.086'		
L-546	4.530			4.125				0.00							
			122.000			120.000									
	7.770			5.917											
TP13	6.490	6.490	38.779	5.307	5.310	32.289		243.00	0.000076820	0.001857207	32.287	9.841			
	5.210	0.0000		4.707	0.0033			0.00							
	19.470			15.931				0.00							
			256.000			121.000									
	4.500			6.330											
TP14	3.250	3.250	36.994	5.035	5.035	33.744		515.00	0.000162808	0.002020015	33.742	10.284			
	2.000	0.0000		3.740	0.0000			0.00							
	9.750			15.105				0.00							
			250.000			259.000									
	4.210			11.497											
TP15	2.960	2.960	29.707	10.247	10.247	26.747		500.00	0.000158066	0.002178081	26.744	8.152			
	1.710	0.0000		8.997	0.0000			0.00							
	8.880			30.741				0.00							
			250.000			250.000									
	3.850			12.635											
TP16	2.600	2.600	20.910	11.395	11.397	18.310		497.50	0.000157275	0.002335356	18.308	5.580			
	1.350	0.0000		10.160	0.0017			0.00							
	7.800			34.190				0.00							
			250.000			247.500									
	4.797			9.495											
TP17	3.543	3.543	16.208	8.245	8.245	12.665		500.00	0.000158066	0.002493421	12.663	3.860			
	2.290	0.0003		6.995	0.0000			0.00							
	10.630			24.735				0.00							
			250.700			250.000									



7050.07		PARTY CHIEF D. FERELS		DATE	10/02-09/07		NAVD 1988			F.B. 279	PGS. 14-28					
STATION	3 WIRE	AVG.(ENG)		HI	3 WIRE	AVG.(ENG)		ELEV.	BM EL.	DIST.		ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.880				8.370											
<b>TP18</b>	5.630	5.630		14.713	7.125	7.125		9.083			499.70	0.000157971	0.002651392	<b>9.081</b>	2.768	
	4.380	0.0000			5.880	0.0000				0.00						
	16.890				21.375					0.00						
			250.000					249.000								
	5.937				6.580											
<b>TP19</b>	4.687	4.687		14.070	5.330	5.330		9.383			500.00	0.000158066	0.002809458	<b>9.381</b>	2.859	
	3.437	0.0000			4.080	0.0000				0.00						
	14.061				15.990					0.00						
			250.000					250.000								
	6.365				5.717											
<b>TP20</b>	5.115	5.115		14.718	4.467	4.467		9.603			500.00	0.000158066	0.002967523	<b>9.600</b>	2.926	
	3.865	0.0000			3.217	0.0000				0.00						
	15.345				13.401					0.00						
			250.000					250.000								
	6.323				6.240											
<b>TP21</b>	5.073	5.073		14.801	4.990	4.990		9.728			500.00	0.000158066	0.003125589	<b>9.725</b>	2.964	
	3.823	0.0000			3.740	0.0000				0.00						
	15.219				14.970					0.00						
			250.000					250.000								
	6.203				5.860											
<b>TP22</b>	4.953	4.953		15.144	4.610	4.610		10.191			500.00	0.000158066	0.003283654	<b>10.188</b>	3.105	
	3.703	0.0000			3.360	0.0000				0.00						
	14.859				13.830					0.00						
			250.000					250.000								
	5.375				6.710											
<b>TP23</b>	4.127	4.125		13.804	5.465	5.465		9.679			499.00	0.000157749	0.003441404	<b>9.676</b>	2.949	
	2.873	-0.0020			4.220	0.0000				0.00						
	12.375				16.395					0.00						
			250.200					249.000								

7050.07																
PARTY CHIEF		D. FERELS		DATE		10/02-09/07		NAVD 1988			F.B. 279		PGS. 14-28			
STATION	3 WIRE	AVG.(ENG)		HI	3 WIRE	AVG.(ENG)		ELEV.	BM EL.	DIST.		ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	7.030				5.650											
TP24	5.780	5.780		15.206	4.375	4.378		9.426			504.20	0.000159393	0.003600797	9.422	2.872	
	4.530	0.0000			3.110	0.0033				0.00						
	17.340				13.135					0.00						
			250.000					254.000								
	5.913				7.170											
TP25	4.663	4.663		13.949	5.920	5.920		9.286			500.00	0.000158066	0.003758863	9.282	2.829	
	3.413	0.0000			4.670	0.0000				0.00						
	13.989				17.760					0.00						
			250.000					250.000								
	6.555				7.797											
TP26	5.305	5.305		12.707	6.547	6.547		7.402			500.00	0.000158066	0.003916928	7.398	2.255	
	4.055	0.0000			5.297	0.0000				0.00						
	15.915				19.641					0.00						
			250.000					250.000								
	4.750				7.100											
TP27	3.505	3.505		10.362	5.850	5.850		6.857			500.00	0.000158066	0.004074994	6.853	2.089	
	2.260	0.0000			4.600	0.0000				0.00						
	10.515				17.550					0.00						
			249.000					250.000								
	6.247				6.870											
TP28	4.997	4.997		9.739	5.620	5.620		4.742			499.00	0.000157749	0.004232743	4.738	1.444	
	3.747	0.0000			4.370	0.0000				0.00						
	14.991				16.860					0.00						
			250.000					250.000								
	5.610				6.800											
TP29	4.360	4.360		8.554	5.545	5.545		4.194			501.00	0.000158382	0.004391125	4.190	1.277	
	3.110	0.0000			4.290	0.0000				0.00						
	13.080				16.635					0.00						
			250.000					251.000								

7050.07		PARTY CHIEF D. FERELS		DATE	10/02-09/07		NAVD 1988			F.B. 279	PGS. 14-28					
STATION	3 WIRE	AVG.(ENG)		HI	3 WIRE	AVG.(ENG)		ELEV.	BM EL.	DIST.		ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.350				6.063											
<b>TP30</b>	5.100	5.100		8.841	4.813	4.813		3.741			500.00	0.000158066	0.004549191	<b>3.736</b>	1.139	
	3.850	0.0000			3.563	0.0000				0.00						
	15.300				14.439					0.00						
			250.000				250.000									
	6.357				6.340											
<b>TP31</b>	5.105	5.103		8.854	5.090	5.090		3.751			500.00	0.000158066	0.004707256	<b>3.746</b>	1.142	
	3.847	-0.0020			3.840	0.0000				0.00						
	15.309				15.270					0.00						
			251.000				250.000									
	6.650				5.923											
<b>TP32</b>	5.400	5.400		9.581	4.673	4.673		4.181			501.00	0.000158382	0.004865638	<b>4.176</b>	1.273	
	4.150	0.0000			3.423	0.0000				0.00						
	16.200				14.019					0.00						
			250.000				250.000									
	6.033				6.870											
<b>TP33</b>	4.783	4.783		8.744	5.620	5.620		3.961			500.00	0.000158066	0.005023704	<b>3.956</b>	1.206	
	3.533	0.0000			4.370	0.0000				0.00						
	14.349				16.860					0.00						
			250.000				250.000									
	6.695				6.430											
<b>TP34</b>	5.430	5.427		8.996	5.175	5.175		3.569			501.00	0.000158382	0.005182085	<b>3.564</b>	1.086	
	4.155	-0.0033			3.920	0.0000				0.00						
	16.280				15.525					0.00						
			254.000				251.000									
	6.830				6.665											
<b>TP35</b>	5.595	5.595		9.171	5.420	5.420		3.576			503.00	0.000159014	0.005341099	<b>3.570</b>	1.088	
	4.360	0.0000			4.175	0.0000				0.00						
	16.785				16.260					0.00						
			247.000				249.000									

7050.07		PARTY CHIEF D. FERELS		DATE	10/02-09/07		NAVD 1988			F.B. 279	PGS. 14-28					
STATION	3 WIRE	AVG.(ENG)		HI	3 WIRE	AVG.(ENG)		ELEV.	BM EL.	DIST.		ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.950				6.590											
<b>TP36</b>	5.700	5.700		9.531	5.340	5.340		3.831			497.00	0.000157117	0.005498217	<b>3.825</b>	1.166	
	4.450	0.0000			4.090	0.0000				0.00						
	17.100				16.020					0.00						
			250.000				250.000									
	6.970				7.063											
<b>TP37</b>	5.735	5.735		9.453	5.813	5.813		3.718			500.00	0.000158066	0.005656282	<b>3.712</b>	1.131	
	4.500	0.0000			4.563	0.0000				0.00						
	17.205				17.439					0.00						
			247.000				250.000									
	7.040				6.387											
<b>TP38</b>	5.795	5.795		10.111	5.137	5.137		4.316			497.00	0.000157117	0.005813399	<b>4.310</b>	1.314	
	4.550	0.0000			3.887	0.0000				0.00						
	17.385				15.411					0.00						
			249.000				250.000									
	5.170				5.170											
<b>TP39</b>	4.330	4.330		10.526	3.915	3.915		6.196			500.00	0.000158066	0.005971465	<b>6.190</b>	1.887	
	3.490	0.0000			2.660	0.0000				0.00						
	12.990				11.745					0.00						
			168.000				251.000									
	6.380				6.050											
<b>TP40</b>	5.140	5.143		10.456	5.213	5.213		5.312			335.30	0.000105999	0.006077464	<b>5.306</b>	1.617	
	3.910	0.0033			4.377	0.0003				0.00						
	15.430				15.640					0.00						
			247.000				167.300									
	6.900				5.790											
<b>TP41</b>	5.650	5.650		11.571	4.535	4.535		5.921			498.00	0.000157433	0.006234897	<b>5.914</b>	1.803	
	4.400	0.0000			3.280	0.0000				0.00						
	16.950				13.605					0.00						
			250.000				251.000									

7050.07		PARTY CHIEF D. FERELS		DATE	10/02-09/07		NAVD 1988			F.B. 279	PGS. 14-28					
STATION	3 WIRE	AVG.(ENG)		HI	3 WIRE	AVG.(ENG)		ELEV.	BM EL.	DIST.		ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	5.977				6.603											
<b>TP42</b>	4.727	4.727		10.945	5.353	5.353		6.218			500.00	0.000158066	0.006392963	<b>6.211</b>	1.893	
	3.477	0.0000			4.103	0.0000				0.00						
	14.181				16.059					0.00						
			250.000				250.000									
	6.503				6.530											
<b>TP43</b>	5.257	5.257		10.921	5.280	5.280		5.665			500.00	0.000158066	0.006551028	<b>5.658</b>	1.725	
	4.010	-0.0003			4.030	0.0000				0.00						
	15.770				15.840					0.00						
			249.300				250.000									
	6.097				6.030											
<b>TP44</b>	4.847	4.847		10.993	4.775	4.775		6.146			500.30	0.000158160	0.006709189	<b>6.140</b>	1.871	
	3.597	0.0000			3.520	0.0000				0.00						
	14.541				14.325					0.00						
			250.000				251.000									
	6.307				6.480											
<b>TP45</b>	5.057	5.057		10.820	5.230	5.230		5.763			500.00	0.000158066	0.006867254	<b>5.756</b>	1.755	
	3.807	0.0000			3.980	0.0000				0.00						
	15.171				15.690					0.00						
			250.000				250.000									
	6.973				6.380											
<b>TP46</b>	5.723	5.723		11.408	5.135	5.135		5.685			499.00	0.000157749	0.007025004	<b>5.678</b>	1.731	
	4.473	0.0000			3.890	0.0000				0.00						
	17.169				15.405					0.00						
			250.000				249.000									
	6.550				6.767											
<b>TP47</b>	5.300	5.300		11.183	5.525	5.525		5.883			498.40	0.000157560	0.007182563	<b>5.876</b>	1.791	
	4.050	0.0000			4.283	0.0000				0.00						
	15.900				16.575					0.00						
			250.000				248.400									

7050.07		PARTY CHIEF D. FERELS		DATE	10/02-09/07		NAVD 1988			F.B. 279	PGS. 14-28					
STATION	3 WIRE	AVG.(ENG)		HI	3 WIRE	AVG.(ENG)		ELEV.	BM EL.	DIST.		ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.675				7.097											
<b>TP48</b>	5.417	5.418		10.755	5.847	5.847		5.336			500.00	0.000158066	0.007340629	<b>5.329</b>	1.624	
	4.163	0.0013			4.597	0.0000				0.00						
	16.255				17.541					0.00						
			251.200				250.000									
	6.680				6.855											
<b>TP49</b>	5.430	5.430		10.575	5.610	5.610		5.145			500.20	0.000158129	0.007498758	<b>5.137</b>	1.566	
	4.180	0.0000			4.365	0.0000				0.00						
	16.290				16.830					0.00						
			250.000				249.000									
	5.985				5.923											
<b>TP50</b>	4.735	4.735		10.635	4.675	4.675		5.900			499.60	0.000157939	0.007656697	<b>5.892</b>	1.796	
	3.485	0.0000			3.427	0.0000				0.00						
	14.205				14.025					0.00						
			250.000				249.600									
	6.633				6.415											
<b>TP51</b>	5.383	5.383		10.853	5.167	5.165		5.470			500.20	0.000158129	0.007814826	<b>5.462</b>	1.665	
	4.133	0.0000			3.913	-0.0020				0.00						
	16.149				15.495					0.00						
			250.000				250.200									
	6.897				6.760											
<b>TP52</b>	5.647	5.647		10.990	5.510	5.510		5.343			500.00	0.000158066	0.007972891	<b>5.335</b>	1.626	
	4.397	0.0000			4.260	0.0000				0.00						
	16.941				16.530					0.00						
			250.000				250.000									
	6.253				6.820											
<b>TP53</b>	5.067	5.067		10.491	5.565	5.565		5.425			501.00	0.000158382	0.008131273	<b>5.417</b>	1.651	
	3.880	-0.0003			4.310	0.0000				0.00						
	15.200				16.695					0.00						
			237.300				251.000									

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NAVD 1988 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	7.057			6.217									
TP54	5.807	5.807	11.263	5.035	5.035	5.456		473.70	0.000149751	0.008281024	5.448	1.661	
	4.557	0.0000		3.853	0.0000			0.00					
	17.421			15.105				0.00					
			250.000			236.400							
	6.107			6.870									
TP55	5.307	5.307	10.990	5.580	5.580	5.683		508.00	0.000160595	0.008441619	5.675	1.730	
N&D 6860	4.507	0.0000		4.290	0.0000			0.00					
	15.921			16.740				0.00					
			160.000			258.000							
	5.260			5.170									
TP56	4.430	4.427	11.080	4.340	4.337	6.654		327.00	0.000103375	0.008544994	6.645	2.025	
	3.590	-0.0033		3.500	-0.0033			0.00					
	13.280			13.010				0.00					
			167.000			167.000							
	6.980			6.195									
TP57	5.715	5.715	11.400	5.395	5.395	5.685		327.00	0.000103375	0.008648369	5.677	1.730	
	4.450	0.0000		4.595	0.0000			0.00					
	17.145			16.185				0.00					
			253.000			160.000							
	6.250			7.210									
TP58	5.060	5.060	10.520	5.940	5.940	5.460		507.00	0.000160279	0.008808647	5.452	1.662	
	3.870	0.0000		4.670	0.0000			0.00					
	15.180			17.820				0.00					
			238.000			254.000							
	6.795			6.280									
TP59	5.540	5.540	10.965	5.095	5.095	5.425		475.00	0.000150162	0.008958810	5.416	1.651	
	4.285	0.0000		3.910	0.0000			0.00					
	16.620			15.285				0.00					
			251.000			237.000							

SET N&D 6860 AT INT ASPH  
WALK AND PAVERS IN FRONT  
OF FIRE STATION 550 N.W.  
65 AVE.



7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NAVD 1988 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.630			6.873									
TP60	5.380	5.380	10.722	5.623	5.623	5.342		501.00	0.000158382	0.009117191	5.333	1.626	
	4.130	0.0000		4.373	0.0000			0.00					
	16.140			16.869				0.00					
			250.000			250.000							
	6.170			6.503									
TP61	4.920	4.920	10.389	5.253	5.253	5.469		500.00	0.000158066	0.009275257	5.460	1.664	
	3.670	0.0000		4.003	0.0000			0.00					
	14.760			15.759				0.00					
			250.000			250.000							
	6.003			5.735									
TP62	4.753	4.753	10.657	4.485	4.485	5.904		500.00	0.000158066	0.009433323	5.895	1.797	
	3.503	0.0000		3.235	0.0000			0.00					
	14.259			13.455				0.00					
			250.000			250.000							
	6.697			6.750									
TP63	5.455	5.455	10.612	5.500	5.500	5.157		500.00	0.000158066	0.009591388	5.148	1.569	
	4.213	0.0000		4.250	0.0000			0.00					
	16.365			16.500				0.00					
			248.400			250.000							
	6.620			6.525									
TP64	5.375	5.375	10.712	5.275	5.275	5.337		498.40	0.000157560	0.009748948	5.328	1.624	
	4.130	0.0000		4.025	0.0000			0.00					
	16.125			15.825				0.00					
			249.000			250.000							
	6.550			6.087									
TP65	5.300	5.300	11.175	4.837	4.837	5.875		499.00	0.000157749	0.009906697	5.865	1.788	
	4.050	0.0000		3.587	0.0000			0.00					
	15.900			14.511				0.00					
			250.000			250.000							

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NAVD 1988 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.137			6.753									
TP66	4.887	4.887	10.559	5.503	5.504	5.672			499.80	0.000158002	0.010064700	5.662	1.726
	3.637	0.0000		4.255	0.0007			0.00					
	14.661			16.511				0.00					
			250.000			249.800							
	6.080			5.735									
TP67	4.800	4.800	10.800	4.557	4.558	6.000			485.20	0.000153387	0.010218087	5.990	1.826
	3.520	0.0000		3.383	0.0013			0.00					
	14.400			13.675				0.00					
			256.000			235.200							
	5.680			5.957									
TP68	4.430	4.430	10.559	4.673	4.672	6.129			513.20	0.000162239	0.010380325	6.118	1.865
	3.180	0.0000		3.385	-0.0013			0.00					
	13.290			14.015				0.00					
			250.000			257.200							
	6.617			6.145									
TP69	5.367	5.367	11.031	4.895	4.895	5.664			500.00	0.000158066	0.010538391	5.653	1.723
	4.117	0.0000		3.645	0.0000			0.00					
	16.101			14.685				0.00					
			250.000			250.000							
	6.395			6.055									
TP70	5.145	5.145	11.367	4.810	4.808	6.222			499.50	0.000157908	0.010696298	6.212	1.893
	3.895	0.0000		3.560	-0.0017			0.00					
	15.435			14.425				0.00					
			250.000			249.500							
	5.840			6.693									
TP71	4.595	4.595	10.519	5.443	5.443	5.924			500.00	0.000158066	0.010854364	5.913	1.802
	3.350	0.0000		4.193	0.0000			0.00					
	13.785			16.329				0.00					
			249.000			250.000							

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NAVD 1988 F.B. 279 PGS. 14-28															
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS		
	5.940			5.450											
TP72	5.570	5.570	11.889	4.200	4.200	6.319			499.00	0.000157749	0.011012113	6.308	1.923		
	5.200	0.0000		2.950	0.0000			0.00							
	16.710			12.600				0.00							
			74.000			250.000									
	5.375			6.075											
TP73	4.110	4.108	10.313	5.685	5.685	6.204			152.00	0.000048052	0.011060165	6.193	1.888		
	2.840	-0.0017		5.295	0.0000			0.00							
	12.325			17.055				0.00							
			253.500			78.000									
	6.560			7.237											
TP74	5.310	5.310	9.626	5.997	5.997	4.316			501.50	0.000158540	0.011218705	4.304	1.312		
	4.060	0.0000		4.757	0.0000			0.00							
	15.930			17.991				0.00							
			250.000			248.000									
	6.040			7.150											
TP75	4.790	4.790	8.502	5.910	5.913	3.712			497.00	0.000157117	0.011375822	3.701	1.128		
	3.540	0.0000		4.680	0.0033			0.00							
	14.370			17.740				0.00							
			250.000			247.000									
	5.820			5.927											
TP76	4.580	4.580	8.405	4.677	4.677	3.825			500.00	0.000158066	0.011533888	3.814	1.162		
	3.340	0.0000		3.427	0.0000			0.00							
	13.740			14.031				0.00							
			248.000			250.000									
	6.450			6.073											
TP77	5.210	5.210	8.787	4.827	4.828	3.577			496.80	0.000157054	0.011690942	3.565	1.087		
	3.970	0.0000		3.585	0.0013			0.00							
	15.630			14.485				0.00							
			248.000			248.800									

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NAVD 1988 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.430			6.490									
TP78	5.160	5.163	8.735	5.215	5.215	3.572			503.00	0.000159014	0.011849956	3.560	1.085
	3.900	0.0033		3.940	0.0000			0.00					
	15.490			15.645				0.00					
			253.000			255.000							
	6.547			6.010									
TP79	5.297	5.297	9.257	4.775	4.775	3.960			500.00	0.000158066	0.012008021	3.948	1.203
	4.047	0.0000		3.540	0.0000			0.00					
	15.891			14.325				0.00					
			250.000			247.000							
	5.820			6.317									
TP80	4.570	4.570	8.752	5.075	5.075	4.182			498.40	0.000157560	0.012165581	4.170	1.271
	3.320	0.0000		3.833	0.0000			0.00					
	13.710			15.225				0.00					
			250.000			248.400							
	6.020			6.250									
TP81	4.765	4.765	8.517	5.000	5.000	3.752			500.00	0.000158066	0.012323647	3.740	1.140
	3.510	0.0000		3.750	0.0000			0.00					
	14.295			15.000				0.00					
			251.000			250.000							
	5.957			6.015									
TP82	4.713	4.712	8.457	4.770	4.772	3.746			499.50	0.000157908	0.012481554	3.733	1.138
	3.465	-0.0013		3.530	0.0017			0.00					
	14.135			14.315				0.00					
			249.200			248.500							
	6.670			5.490									
TP83	5.415	5.415	9.621	4.255	4.252	4.206			497.20	0.000157180	0.012638735	4.193	1.278
	4.160	0.0000		3.010	-0.0033			0.00					
	16.245			12.755				0.00					
			251.000			248.000							

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NAVD 1988 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.920			6.120									
TP84	5.675	5.675	10.426	4.870	4.870	4.751			501.00	0.000158382	0.012797116	4.738	1.444
	4.430	0.0000		3.620	0.0000			0.00					
	17.025			14.610				0.00					
			249.000			250.000							
	7.010			4.795									
TP85	5.760	5.760	12.631	3.555	3.555	6.871			497.00	0.000157117	0.012954233	6.858	2.090
	4.510	0.0000		2.315	0.0000			0.00					
	17.280			10.665				0.00					
			250.000			248.000							
	7.210			6.470									
TP86	5.955	5.955	13.366	5.220	5.220	7.411			500.00	0.000158066	0.013112299	7.398	2.255
	4.700	0.0000		3.970	0.0000			0.00					
	17.865			15.660				0.00					
			251.000			250.000							
	6.930			5.310									
TP87	5.680	5.680	14.986	4.060	4.060	9.306			501.00	0.000158382	0.013270681	9.292	2.832
	4.430	0.0000		2.810	0.0000			0.00					
	17.040			12.180				0.00					
			250.000			250.000							
	5.210			6.810									
TP88	4.360	4.360	13.786	5.560	5.560	9.426			500.00	0.000158066	0.013428746	9.412	2.869
	3.510	0.0000		4.310	0.0000			0.00					
	13.080			16.680				0.00					
			170.000			250.000							
	11.760			1.960									
TP89	11.570	11.570	24.246	1.110	1.110	12.676			340.00	0.000107485	0.013536231	12.662	3.859
	11.380	0.0000		0.260	0.0000			0.00					
	34.710			3.330				0.00					
			38.000			170.000							

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NAVD 1988 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	10.385			0.897									
TP90	10.183	10.183	33.765	0.663	0.663	23.582			84.70	0.000026776	0.013563007	23.569	7.184
	9.980	-0.0003		0.430	0.0003			0.00					
	30.548			1.990				0.00					
			40.500			46.700							
	6.693			1.937									
TP91	6.010	6.009	38.029	1.745	1.745	32.020			38.40	0.000012139	0.013587950	32.006	9.756
	5.323	-0.0013		1.553	0.0000			0.00					
	18.026			5.235				0.00					
			137.000			38.400							
				2.870									
BM CHECK				2.310	2.310	35.719	35.705		249.00	0.000078717	0.013666667	35.705	10.883
NGS BM				1.750	0.0000			0.00					
M-546				6.930				0.00					
						112.000							
							LOR=	43231.00	CHECK VALUES TO VERIFY SAME				
									OR TO SEE THEY ARE WITHIN				
	TOTAL +=		21632.800			21598.200		0.00	THIRD ORDER SPECS( MAX DIFF. 33 FT.)				
						34.60							
						RAW CLOSURE=	0.014						
						ERROR PER FOOT=	0.000						
						MTS ALLOWABLE ERROR FOR THIRD ORDER=	0.086						
						ACTUAL ERROR=	0.014		RED IF BAD-----GREEN IF GOOD				

copy and insert to expand worksheet

JOB#	7050.07	PARTY CHIEF	D. FERELS	DATE:	November 29, 2007	Datum:	NAVD88	FIELD BOOK 279	PAGES	53-55			
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	6.262												
BM	5.528	5.526	11.201			5.675	5.675						TURNING POINT 55 AS DESCRIBED
	4.789	0.002											IN FIELD BOOK 279, PAGE 22
STADIA		147.300											
	5.099			5.398									
TP1	3.899	3.899	10.542	4.558	4.558	6.643		315.30	0.000019606	0.000019606	6.643	2.025	
	2.699	0.000		3.718	0.000			-20.70					
	11.697			13.674				-20.70					
STADIA		240.000			168.000								
	6.731			6.502									
TP2	5.481	5.481	10.721	5.302	5.302	5.240		480.00	0.000029847	0.000049453	5.240	1.597	
	4.231	0.000		4.102	0.000			0.00					
	16.443			15.906				-20.70					
STADIA		250.000			240.000								
	6.389			5.920									
TP3	5.131	5.132	11.184	4.672	4.670	6.051		500.20	0.000031103	0.000080556	6.051	1.844	
	3.877	-0.001		3.418	0.002			-0.20					
	15.397			14.010				-20.90					
STADIA		251.200			250.200								
	5.456			6.060									
TP4	4.206	4.206	10.570	4.820	4.820	6.364		499.20	0.000031041	0.000111597	6.364	1.940	
	2.956	0.000		3.580	0.000			3.20					
	12.618			14.460				-17.70					
STADIA		250.000			248.000								
	5.819			6.210									
TP5	4.569	4.569	10.179	4.960	4.960	5.610		500.00	0.000031091	0.000142688	5.610	1.710	
	3.319	0.000		3.710	0.000			0.00					
	13.707			14.880				-17.70					
STADIA		250.000			250.000								



JOB#	7050.07	PARTY CHIEF	D. FERELS	DATE:	November 29, 2007	Datum:	NAVD88	FIELD BOOK	279	PAGES	53-55		
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	5.973			4.135									
TP6	4.722	4.722	12.011	2.890	2.890	7.289		499.00	0.000031029	0.000173716	7.288	2.222	
	3.471	0.000		1.645	0.000			1.00					
	14.166			8.670				-16.70					
STADIA		250.200			249.000								
	6.468			6.681									
TP7	5.218	5.218	11.798	5.431	5.431	6.580		500.20	0.000031103	0.000204820	6.579	2.005	
	3.968	0.000		4.181	0.000			0.20					
	15.654			16.293				-16.50					
STADIA		250.000			250.000								
	6.598			5.798									
TP8	5.342	5.340	12.590	4.548	4.548	7.250		500.00	0.000031091	0.000235910	7.249	2.210	
	4.080	0.002		3.298	0.000			0.00					
	16.020			13.644				-16.50					
STADIA		251.800			250.000								
	5.816			7.031									
TP9	4.568	4.567	11.379	5.779	5.778	6.811		502.40	0.000031240	0.000267150	6.811	2.076	
	3.318	0.001		4.525	0.001			1.20					
	13.702			17.335				-15.30					
STADIA		249.800			250.600								
	4.710			6.549									
TP10	4.340	4.340	10.420	5.299	5.299	6.080		499.80	0.000031078	0.000298229	6.079	1.853	
	3.970	0.000		4.049	0.000			-0.20					
	13.020			15.897				-15.50					
STADIA		74.000			250.000								
	6.258			3.630									
TP11	5.844	5.844	12.993	3.271	3.271	7.149		145.90	0.000009072	0.000307301	7.149	2.179	
	5.430	0.000		2.911	0.000			2.10					
	17.532			9.812				-13.40					
STADIA		82.800			71.900								

JOB#	7050.07	PARTY CHIEF	D. FERELS	DATE:	November 29, 2007	Datum:	NAVD88	FIELD BOOK	279	PAGES	53-55		
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	6.128			5.524									
TP12	5.136	5.138	13.023	5.108	5.108	7.885		166.00	0.000010322	0.000317623	7.885	2.403	
	4.150	-0.002		4.692	0.000			-0.40					
	15.414			15.324				-13.80					
STADIA		197.800			83.200								
	4.745			5.330									
TP13	4.607	4.607	13.290	4.340	4.340	8.683		395.80	0.000024611	0.000342235	8.683	2.646	
	4.469	0.000		3.350	0.000			-0.20					
	13.821			13.020				-14.00					
STADIA		27.600			198.000								
	4.679			4.689									
TP14	4.550	4.550	13.268	4.571	4.572	8.718		51.00	0.000003171	0.000345406	8.718	2.657	SET 3-1/2" SFWMD BRASS DISK
	4.421	0.000		4.455	-0.001			4.20					IN CONC. PAD AT PLANTATION
	13.650			13.715				-9.80					WWTP. AT N.W. 11 PL. & SUNRISE
STADIA		25.800			23.400								BLVD. 84' N. OF THE CL OF ROAD
													INSIDE THE PLANT AND ON THE E.
	5.330			4.710									EDGE OF CONC. PAD.
TP15	4.340	4.340	13.021	4.584	4.587	8.681		50.00	0.000003109	0.000348515	8.681	2.646	
	3.350	0.000		4.468	-0.003			1.60					
	13.020			13.762				-8.20					
STADIA		198.000			24.200								
	5.512			6.130									
TP16	5.098	5.097	12.978	5.140	5.140	7.881		396.00	0.000024624	0.000373139	7.881	2.402	
	4.680	0.001		4.150	0.000			0.00					
	15.290			15.420				-8.20					
STADIA		83.200			198.000								
	3.978			6.242									
TP17	3.619	3.619	10.766	5.831	5.831	7.147		165.40	0.000010285	0.000383424	7.146	2.178	
	3.260	0.000		5.420	0.000			1.00					
	10.857			17.493				-7.20					
STADIA		71.800			82.200								

JOB#	7050.07	PARTY CHIEF	D. FERELS	DATE:	November 29, 2007	Datum:	NAVD88	FIELD BOOK	279	PAGES	53-55		
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	6.532			5.052									
TP18	5.278	5.279	11.358	4.688	4.687	6.079		145.00	0.000009016	0.000392440	6.079	1.853	
	4.028	-0.001		4.320	0.001			-1.40					
	15.838			14.060				-8.60					
STADIA		250.400			73.200								
	7.110			5.795									
TP19	5.855	5.855	12.663	4.550	4.550	6.808		499.40	0.000031053	0.000423493	6.808	2.075	
	4.600	0.000		3.305	0.000			1.40					
	17.565			13.650				-7.20					
STADIA		251.000			249.000								
	5.844			6.672									
TP20	4.598	4.598	11.843	5.416	5.419	7.245		501.40	0.000031178	0.000454671	7.244	2.208	
	3.352	0.000		4.168	-0.003			0.60					
	13.794			16.256				-6.60					
STADIA		249.200			250.400								
	7.022			6.510									
TP21	5.772	5.772	12.345	5.270	5.270	6.573		497.20	0.000030917	0.000485588	6.572	2.003	
	4.522	0.000		4.030	0.000			1.20					
	17.316			15.810				-5.40					
STADIA		250.000			248.000								
	4.362			6.317									
TP22	3.118	3.115	10.394	5.063	5.065	7.280		500.20	0.000031103	0.000516691	7.279	2.219	
	1.864	0.003		3.815	-0.002			-0.20					
	9.344			15.195				-5.60					
STADIA		249.800			250.200								
	6.482			6.035									
TP23	5.232	5.232	10.841	4.785	4.785	5.609		499.80	0.000031078	0.000547769	5.609	1.710	
	3.982	0.000		3.535	0.000			-0.20					
	15.696			14.355				-5.80					
STADIA		250.000			250.000								

JOB#	7050.07	PARTY CHIEF	D. FERELS	DATE:	November 29, 2007	Datum:	NAVD88	FIELD BOOK	279	PAGES	53-55		
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	6.269			5.728									
TP24	5.019	5.019	11.382	4.478	4.478	6.363		500.00	0.000031091	0.000578860	6.363	1.939	
	3.769	0.000		3.228	0.000			0.00					
	15.057			13.434				-5.80					
STADIA		250.000			250.000								
	6.033			6.576									
TP25	4.782	4.782	10.837	5.328	5.328	6.055		499.70	0.000031072	0.000609932	6.054	1.845	
	3.531	0.000		4.079	0.000			0.30					
	14.346			15.983				-5.50					
STADIA		250.200			249.700								
	6.161			6.849									
TP26	5.140	5.140	10.378	5.599	5.599	5.238		250.00	0.000015545	0.000641035	5.237	1.596	
	4.119	0.000		4.349	0.000			-250.00					
	15.420			16.797				-5.30					
STADIA		204.200			250.000								
				5.742									
BM				4.702	4.702	5.676	5.675	412.20	0.000025631	0.000666667	5.675	1.730	BM CHECK AT ABOVE DESC.
				3.662	0.000			-3.80					TURNING POINT 55, FIELD BOOK
				14.106				-9.10					279, PAGE 22
					208.000								
							LOR=	10721.30	CHECK VALUES TO VERIFY SAME				
									OR TO SEE THEY ARE WITHIN				
	TOTAL +=	5356.100		TOTAL -=	5365.200			10721.30	THIRD ORDER SPECS( MAX DIFF. 33 FT.)				
					-9.10								
					RAW CLOSURE=		0.001						
					ERROR PER FOOT=		0.000						
					MTS ALLOWABLE ERROR FOR THIRD ORDER=		0.043						
					ACTUAL ERROR=		0.001	RED IF BAD-----GREEN IF GOOD					

copy and insert to expand worksheet

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28															
STATION	3 WIRE	AVG.(ENG)	DATE	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS	
NGS BM	2.700														
M-546	1.440	1.440		38.750				37.310							
	0.180	0.0000													
	4.320														
			252.000												
	3.180				8.917										
TP1	1.950	1.950		33.033	7.667	7.667	31.083			502.00	0.000158698	0.000158698	31.083	9.474	
	0.720	0.0000			6.417	0.0000			0.00						
	5.850				23.001				0.00						
			246.000				250.000								
	2.680				11.383										
TP2	1.730	1.727		24.613	10.147	10.147	22.886			493.30	0.000155948	0.000314645	22.886	6.976	
	0.770	-0.0033			8.910	-0.0003			0.00						
	5.180				30.440				0.00						
			191.000				247.300								
	4.235				9.337										
TP3	2.985	2.985		19.221	8.377	8.377	16.236			383.00	0.000121078	0.000435724	16.236	4.949	
	1.735	0.0000			7.417	0.0000			0.00						
	8.955				25.131				0.00						
			250.000				192.000								
	6.510				7.160										
TP4	5.260	5.260		18.571	5.910	5.910	13.311			500.00	0.000158066	0.000593789	13.310	4.057	
	4.010	0.0000			4.660	0.0000			0.00						
	15.780				17.730				0.00						
			250.000				250.000								
	6.217				6.623										
TP5	4.967	4.967		18.165	5.373	5.373	13.198			500.00	0.000158066	0.000751855	13.197	4.023	
	3.717	0.0000			4.123	0.0000			0.00						
	14.901				16.119				0.00						
			250.000				250.000								

7050.07		PARTY CHIEF D. FERELS		DATE 10/02-09/07		NGVD 1929		F.B. 279		PGS. 14-28				
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS	
	6.830			6.777										
<b>TP6</b>	5.575	5.575	18.203	5.537	5.537	12.628		498.00	0.000157433	0.000909288	<b>12.627</b>	3.849		
	4.320	0.0000		4.297	0.0000			0.00						
	16.725			16.611				0.00						
			251.000			248.000								
	9.813			5.160										
<b>TP7</b>	8.563	8.563	22.850	3.917	3.916	14.287		500.00	0.000158066	0.001067354	<b>14.286</b>	4.354		
	7.313	0.0000		2.670	-0.0013			0.00						
	25.689			11.747				0.00						
			250.000			249.000								
	12.710			4.165										
<b>TP8</b>	11.470	11.470	31.405	2.915	2.915	19.935		500.00	0.000158066	0.001225419	<b>19.934</b>	6.076		
	10.230	0.0000		1.665	0.0000			0.00						
	34.410			8.745				0.00						
			248.000			250.000								
	11.520			4.290										
<b>TP9</b>	10.270	10.270	38.635	3.040	3.040	28.365		498.00	0.000157433	0.001382853	<b>28.364</b>	8.645		
	9.020	0.0000		1.790	0.0000			0.00						
	30.810			9.120				0.00						
			250.000			250.000								
	6.400			4.523										
<b>TP10</b>	5.105	5.105	40.467	3.273	3.273	35.362		500.00	0.000158066	0.001540918	<b>35.361</b>	10.778		
	3.810	0.0000		2.023	0.0000			0.00						
	15.315			9.819				0.00						
			259.000			250.000								
	5.775			7.840										
<b>TP11</b>	5.160	5.162	39.069	6.560	6.560	33.907		515.00	0.000162808	0.001703726	<b>33.906</b>	10.334		
	4.550	0.0017		5.280	0.0000			0.00						
	15.485			19.680				0.00						
			122.500			256.000								

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28															
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS		
	2.120			1.975											
TP12	1.510	1.510	39.204	1.375	1.375	37.694		242.50	0.000076662	0.001780388	37.692	11.489	CHECK NGS BM L-546 PUB.		
NGS BM	0.900	0.0000		0.775	0.0000			0.00					ELEV. = 37.691'		
L-546	4.530			4.125				0.00							
			122.000			120.000									
	7.770			5.917											
TP13	6.490	6.490	40.384	5.307	5.310	33.894		243.00	0.000076820	0.001857207	33.892	10.330			
	5.210	0.0000		4.707	0.0033			0.00							
	19.470			15.931				0.00							
			256.000			121.000									
	4.500			6.330											
TP14	3.250	3.250	38.599	5.035	5.035	35.349		515.00	0.000162808	0.002020015	35.347	10.774			
	2.000	0.0000		3.740	0.0000			0.00							
	9.750			15.105				0.00							
			250.000			259.000									
	4.210			11.497											
TP15	2.960	2.960	31.312	10.247	10.247	28.352		500.00	0.000158066	0.002178081	28.349	8.641			
	1.710	0.0000		8.997	0.0000			0.00							
	8.880			30.741				0.00							
			250.000			250.000									
	3.850			12.635											
TP16	2.600	2.600	22.515	11.395	11.397	19.915		497.50	0.000157275	0.002335356	19.913	6.069			
	1.350	0.0000		10.160	0.0017			0.00							
	7.800			34.190				0.00							
			250.000			247.500									
	4.797			9.495											
TP17	3.543	3.543	17.813	8.245	8.245	14.270		500.00	0.000158066	0.002493421	14.268	4.349			
	2.290	0.0003		6.995	0.0000			0.00							
	10.630			24.735				0.00							
			250.700			250.000									

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28															
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS		
	6.880			8.370											
TP18	5.630	5.630	16.318	7.125	7.125	10.688		499.70	0.000157971	0.002651392	10.686	3.257			
	4.380	0.0000		5.880	0.0000			0.00							
	16.890			21.375				0.00							
			250.000			249.000									
	5.937			6.580											
TP19	4.687	4.687	15.675	5.330	5.330	10.988		500.00	0.000158066	0.002809458	10.986	3.348			
	3.437	0.0000		4.080	0.0000			0.00							
	14.061			15.990				0.00							
			250.000			250.000									
	6.365			5.717											
TP20	5.115	5.115	16.323	4.467	4.467	11.208		500.00	0.000158066	0.002967523	11.205	3.415			
	3.865	0.0000		3.217	0.0000			0.00							
	15.345			13.401				0.00							
			250.000			250.000									
	6.323			6.240											
TP21	5.073	5.073	16.406	4.990	4.990	11.333		500.00	0.000158066	0.003125589	11.330	3.453			
	3.823	0.0000		3.740	0.0000			0.00							
	15.219			14.970				0.00							
			250.000			250.000									
	6.203			5.860											
TP22	4.953	4.953	16.749	4.610	4.610	11.796		500.00	0.000158066	0.003283654	11.793	3.595			
	3.703	0.0000		3.360	0.0000			0.00							
	14.859			13.830				0.00							
			250.000			250.000									
	5.375			6.710											
TP23	4.127	4.125	15.409	5.465	5.465	11.284		499.00	0.000157749	0.003441404	11.281	3.438			
	2.873	-0.0020		4.220	0.0000			0.00							
	12.375			16.395				0.00							
			250.200			249.000									



7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	7.030			5.650									
TP24	5.780	5.780	16.811	4.375	4.378	11.031		504.20	0.000159393	0.003600797	11.027	3.361	
	4.530	0.0000		3.110	0.0033			0.00					
	17.340			13.135				0.00					
			250.000			254.000							
	5.913			7.170									
TP25	4.663	4.663	15.554	5.920	5.920	10.891		500.00	0.000158066	0.003758863	10.887	3.318	
	3.413	0.0000		4.670	0.0000			0.00					
	13.989			17.760				0.00					
			250.000			250.000							
	6.555			7.797									
TP26	5.305	5.305	14.312	6.547	6.547	9.007		500.00	0.000158066	0.003916928	9.003	2.744	
	4.055	0.0000		5.297	0.0000			0.00					
	15.915			19.641				0.00					
			250.000			250.000							
	4.750			7.100									
TP27	3.505	3.505	11.967	5.850	5.850	8.462		500.00	0.000158066	0.004074994	8.458	2.578	
	2.260	0.0000		4.600	0.0000			0.00					
	10.515			17.550				0.00					
			249.000			250.000							
	6.247			6.870									
TP28	4.997	4.997	11.344	5.620	5.620	6.347		499.00	0.000157749	0.004232743	6.343	1.933	
	3.747	0.0000		4.370	0.0000			0.00					
	14.991			16.860				0.00					
			250.000			250.000							
	5.610			6.800									
TP29	4.360	4.360	10.159	5.545	5.545	5.799		501.00	0.000158382	0.004391125	5.795	1.766	
	3.110	0.0000		4.290	0.0000			0.00					
	13.080			16.635				0.00					
			250.000			251.000							

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.350			6.063									
TP30	5.100	5.100	10.446	4.813	4.813	5.346		500.00	0.000158066	0.004549191	5.341	1.628	
	3.850	0.0000		3.563	0.0000			0.00					
	15.300			14.439				0.00					
			250.000			250.000							
	6.357			6.340									
TP31	5.105	5.103	10.459	5.090	5.090	5.356		500.00	0.000158066	0.004707256	5.351	1.631	
	3.847	-0.0020		3.840	0.0000			0.00					
	15.309			15.270				0.00					
			251.000			250.000							
	6.650			5.923									
TP32	5.400	5.400	11.186	4.673	4.673	5.786		501.00	0.000158382	0.004865638	5.781	1.762	
	4.150	0.0000		3.423	0.0000			0.00					
	16.200			14.019				0.00					
			250.000			250.000							
	6.033			6.870									
TP33	4.783	4.783	10.349	5.620	5.620	5.566		500.00	0.000158066	0.005023704	5.561	1.695	
	3.533	0.0000		4.370	0.0000			0.00					
	14.349			16.860				0.00					
			250.000			250.000							
	6.695			6.430									
TP34	5.430	5.427	10.601	5.175	5.175	5.174		501.00	0.000158382	0.005182085	5.169	1.575	
	4.155	-0.0033		3.920	0.0000			0.00					
	16.280			15.525				0.00					
			254.000			251.000							
	6.830			6.665									
TP35	5.595	5.595	10.776	5.420	5.420	5.181		503.00	0.000159014	0.005341099	5.175	1.577	
	4.360	0.0000		4.175	0.0000			0.00					
	16.785			16.260				0.00					
			247.000			249.000							

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.950			6.590									
TP36	5.700	5.700	11.136	5.340	5.340	5.436		497.00	0.000157117	0.005498217	5.430	1.655	
	4.450	0.0000		4.090	0.0000			0.00					
	17.100			16.020				0.00					
			250.000			250.000							
	6.970			7.063									
TP37	5.735	5.735	11.058	5.813	5.813	5.323		500.00	0.000158066	0.005656282	5.317	1.621	
	4.500	0.0000		4.563	0.0000			0.00					
	17.205			17.439				0.00					
			247.000			250.000							
	7.040			6.387									
TP38	5.795	5.795	11.716	5.137	5.137	5.921		497.00	0.000157117	0.005813399	5.915	1.803	
	4.550	0.0000		3.887	0.0000			0.00					
	17.385			15.411				0.00					
			249.000			250.000							
	5.170			5.170									
TP39	4.330	4.330	12.131	3.915	3.915	7.801		500.00	0.000158066	0.005971465	7.795	2.376	
	3.490	0.0000		2.660	0.0000			0.00					
	12.990			11.745				0.00					
			168.000			251.000							
	6.380			6.050									
TP40	5.140	5.143	12.061	5.213	5.213	6.917		335.30	0.000105999	0.006077464	6.911	2.107	
	3.910	0.0033		4.377	0.0003			0.00					
	15.430			15.640				0.00					
			247.000			167.300							
	6.900			5.790									
TP41	5.650	5.650	13.176	4.535	4.535	7.526		498.00	0.000157433	0.006234897	7.519	2.292	
	4.400	0.0000		3.280	0.0000			0.00					
	16.950			13.605				0.00					
			250.000			251.000							

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28															
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS		
	5.977			6.603											
TP42	4.727	4.727	12.550	5.353	5.353	7.823		500.00	0.000158066	0.006392963	7.816	2.382			
	3.477	0.0000		4.103	0.0000			0.00							
	14.181			16.059				0.00							
			250.000			250.000									
	6.503			6.530											
TP43	5.257	5.257	12.526	5.280	5.280	7.270		500.00	0.000158066	0.006551028	7.263	2.214			
	4.010	-0.0003		4.030	0.0000			0.00							
	15.770			15.840				0.00							
			249.300			250.000									
	6.097			6.030											
TP44	4.847	4.847	12.598	4.775	4.775	7.751		500.30	0.000158160	0.006709189	7.745	2.361			
	3.597	0.0000		3.520	0.0000			0.00							
	14.541			14.325				0.00							
			250.000			251.000									
	6.307			6.480											
TP45	5.057	5.057	12.425	5.230	5.230	7.368		500.00	0.000158066	0.006867254	7.361	2.244			
	3.807	0.0000		3.980	0.0000			0.00							
	15.171			15.690				0.00							
			250.000			250.000									
	6.973			6.380											
TP46	5.723	5.723	13.013	5.135	5.135	7.290		499.00	0.000157749	0.007025004	7.283	2.220			
	4.473	0.0000		3.890	0.0000			0.00							
	17.169			15.405				0.00							
			250.000			249.000									
	6.550			6.767											
TP47	5.300	5.300	12.788	5.525	5.525	7.488		498.40	0.000157560	0.007182563	7.481	2.280			
	4.050	0.0000		4.283	0.0000			0.00							
	15.900			16.575				0.00							
			250.000			248.400									

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.675			7.097									
TP48	5.417	5.418	12.360	5.847	5.847	6.941		500.00	0.000158066	0.007340629	6.934	2.113	
	4.163	0.0013		4.597	0.0000			0.00					
	16.255			17.541				0.00					
			251.200			250.000							
	6.680			6.855									
TP49	5.430	5.430	12.180	5.610	5.610	6.750		500.20	0.000158129	0.007498758	6.742	2.055	
	4.180	0.0000		4.365	0.0000			0.00					
	16.290			16.830				0.00					
			250.000			249.000							
	5.985			5.923									
TP50	4.735	4.735	12.240	4.675	4.675	7.505		499.60	0.000157939	0.007656697	7.497	2.285	
	3.485	0.0000		3.427	0.0000			0.00					
	14.205			14.025				0.00					
			250.000			249.600							
	6.633			6.415									
TP51	5.383	5.383	12.458	5.167	5.165	7.075		500.20	0.000158129	0.007814826	7.067	2.154	
	4.133	0.0000		3.913	-0.0020			0.00					
	16.149			15.495				0.00					
			250.000			250.200							
	6.897			6.760									
TP52	5.647	5.647	12.595	5.510	5.510	6.948		500.00	0.000158066	0.007972891	6.940	2.115	
	4.397	0.0000		4.260	0.0000			0.00					
	16.941			16.530				0.00					
			250.000			250.000							
	6.253			6.820									
TP53	5.067	5.067	12.096	5.565	5.565	7.030		501.00	0.000158382	0.008131273	7.022	2.140	
	3.880	-0.0003		4.310	0.0000			0.00					
	15.200			16.695				0.00					
			237.300			251.000							

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28															
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS		
	7.057			6.217											
TP54	5.807	5.807	12.868	5.035	5.035	7.061		473.70	0.000149751	0.008281024	7.053	2.150			
	4.557	0.0000		3.853	0.0000			0.00							
	17.421			15.105				0.00							
			250.000			236.400									
	6.107			6.870											
TP55	5.307	5.307	12.595	5.580	5.580	7.288		508.00	0.000160595	0.008441619	7.280	2.219	SET N&D 6860 AT INT ASPH		
N&D 6860	4.507	0.0000		4.290	0.0000			0.00					WALK AND PAVERS IN FRONT		
	15.921			16.740				0.00					OF FIRE STATION 550 N.W.		
			160.000			258.000							65 AVE.		
	5.260			5.170											
TP56	4.430	4.427	12.685	4.340	4.337	8.259		327.00	0.000103375	0.008544994	8.250	2.515			
	3.590	-0.0033		3.500	-0.0033			0.00							
	13.280			13.010				0.00							
			167.000			167.000									
	6.980			6.195											
TP57	5.715	5.715	13.005	5.395	5.395	7.290		327.00	0.000103375	0.008648369	7.282	2.219			
	4.450	0.0000		4.595	0.0000			0.00							
	17.145			16.185				0.00							
			253.000			160.000									
	6.250			7.210											
TP58	5.060	5.060	12.125	5.940	5.940	7.065		507.00	0.000160279	0.008808647	7.057	2.151			
	3.870	0.0000		4.670	0.0000			0.00							
	15.180			17.820				0.00							
			238.000			254.000									
	6.795			6.280											
TP59	5.540	5.540	12.570	5.095	5.095	7.030		475.00	0.000150162	0.008958810	7.021	2.140			
	4.285	0.0000		3.910	0.0000			0.00							
	16.620			15.285				0.00							
			251.000			237.000									

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.630			6.873									
TP60	5.380	5.380	12.327	5.623	5.623	6.947		501.00	0.000158382	0.009117191	6.938	2.115	
	4.130	0.0000		4.373	0.0000			0.00					
	16.140			16.869				0.00					
			250.000			250.000							
	6.170			6.503									
TP61	4.920	4.920	11.994	5.253	5.253	7.074		500.00	0.000158066	0.009275257	7.065	2.153	
	3.670	0.0000		4.003	0.0000			0.00					
	14.760			15.759				0.00					
			250.000			250.000							
	6.003			5.735									
TP62	4.753	4.753	12.262	4.485	4.485	7.509		500.00	0.000158066	0.009433323	7.500	2.286	
	3.503	0.0000		3.235	0.0000			0.00					
	14.259			13.455				0.00					
			250.000			250.000							
	6.697			6.750									
TP63	5.455	5.455	12.217	5.500	5.500	6.762		500.00	0.000158066	0.009591388	6.753	2.058	
	4.213	0.0000		4.250	0.0000			0.00					
	16.365			16.500				0.00					
			248.400			250.000							
	6.620			6.525									
TP64	5.375	5.375	12.317	5.275	5.275	6.942		498.40	0.000157560	0.009748948	6.933	2.113	
	4.130	0.0000		4.025	0.0000			0.00					
	16.125			15.825				0.00					
			249.000			250.000							
	6.550			6.087									
TP65	5.300	5.300	12.780	4.837	4.837	7.480		499.00	0.000157749	0.009906697	7.470	2.277	
	4.050	0.0000		3.587	0.0000			0.00					
	15.900			14.511				0.00					
			250.000			250.000							

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28															
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS		
	6.137			6.753											
TP66	4.887	4.887	12.164	5.503	5.504	7.277		499.80	0.000158002	0.010064700	7.267	2.215			
	3.637	0.0000		4.255	0.0007			0.00							
	14.661			16.511				0.00							
			250.000			249.800									
	6.080			5.735											
TP67	4.800	4.800	12.405	4.557	4.558	7.605		485.20	0.000153387	0.010218087	7.595	2.315			
	3.520	0.0000		3.383	0.0013			0.00							
	14.400			13.675				0.00							
			256.000			235.200									
	5.680			5.957											
TP68	4.430	4.430	12.164	4.673	4.672	7.734		513.20	0.000162239	0.010380325	7.723	2.354			
	3.180	0.0000		3.385	-0.0013			0.00							
	13.290			14.015				0.00							
			250.000			257.200									
	6.617			6.145											
TP69	5.367	5.367	12.636	4.895	4.895	7.269		500.00	0.000158066	0.010538391	7.258	2.212			
	4.117	0.0000		3.645	0.0000			0.00							
	16.101			14.685				0.00							
			250.000			250.000									
	6.395			6.055											
TP70	5.145	5.145	12.972	4.810	4.808	7.827		499.50	0.000157908	0.010696298	7.817	2.383			
	3.895	0.0000		3.560	-0.0017			0.00							
	15.435			14.425				0.00							
			250.000			249.500									
	5.840			6.693											
TP71	4.595	4.595	12.124	5.443	5.443	7.529		500.00	0.000158066	0.010854364	7.518	2.292			
	3.350	0.0000		4.193	0.0000			0.00							
	13.785			16.329				0.00							
			249.000			250.000									



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STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	5.940			5.450									
TP72	5.570	5.570	13.494	4.200	4.200	7.924		499.00	0.000157749	0.011012113	7.913	2.412	
	5.200	0.0000		2.950	0.0000			0.00					
	16.710			12.600				0.00					
			74.000			250.000							
	5.375			6.075									
TP73	4.110	4.108	11.918	5.685	5.685	7.809		152.00	0.000048052	0.011060165	7.798	2.377	
	2.840	-0.0017		5.295	0.0000			0.00					
	12.325			17.055				0.00					
			253.500			78.000							
	6.560			7.237									
TP74	5.310	5.310	11.231	5.997	5.997	5.921		501.50	0.000158540	0.011218705	5.909	1.801	
	4.060	0.0000		4.757	0.0000			0.00					
	15.930			17.991				0.00					
			250.000			248.000							
	6.040			7.150									
TP75	4.790	4.790	10.107	5.910	5.913	5.317		497.00	0.000157117	0.011375822	5.306	1.617	
	3.540	0.0000		4.680	0.0033			0.00					
	14.370			17.740				0.00					
			250.000			247.000							
	5.820			5.927									
TP76	4.580	4.580	10.010	4.677	4.677	5.430		500.00	0.000158066	0.011533888	5.419	1.652	
	3.340	0.0000		3.427	0.0000			0.00					
	13.740			14.031				0.00					
			248.000			250.000							
	6.450			6.073									
TP77	5.210	5.210	10.392	4.827	4.828	5.182		496.80	0.000157054	0.011690942	5.170	1.576	
	3.970	0.0000		3.585	0.0013			0.00					
	15.630			14.485				0.00					
			248.000			248.800							

7050.07		PARTY CHIEF D. FERELS		DATE		10/02-09/07		NGVD 1929			F.B. 279		PGS. 14-28			
STATION	3 WIRE	AVG.(ENG)		HI	3 WIRE	AVG.(ENG)		ELEV.	BM EL.	DIST.		ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.430				6.490											
TP78	5.160	5.163		10.340	5.215	5.215		5.177			503.00	0.000159014	0.011849956	5.165	1.574	
	3.900	0.0033			3.940	0.0000				0.00						
	15.490				15.645					0.00						
			253.000					255.000								
	6.547				6.010											
TP79	5.297	5.297		10.862	4.775	4.775		5.565			500.00	0.000158066	0.012008021	5.553	1.693	
	4.047	0.0000			3.540	0.0000				0.00						
	15.891				14.325					0.00						
			250.000					247.000								
	5.820				6.317											
TP80	4.570	4.570		10.357	5.075	5.075		5.787			498.40	0.000157560	0.012165581	5.775	1.760	
	3.320	0.0000			3.833	0.0000				0.00						
	13.710				15.225					0.00						
			250.000					248.400								
	6.020				6.250											
TP81	4.765	4.765		10.122	5.000	5.000		5.357			500.00	0.000158066	0.012323647	5.345	1.629	
	3.510	0.0000			3.750	0.0000				0.00						
	14.295				15.000					0.00						
			251.000					250.000								
	5.957				6.015											
TP82	4.713	4.712		10.062	4.770	4.772		5.351			499.50	0.000157908	0.012481554	5.338	1.627	
	3.465	-0.0013			3.530	0.0017				0.00						
	14.135				14.315					0.00						
			249.200					248.500								
	6.670				5.490											
TP83	5.415	5.415		11.226	4.255	4.252		5.811			497.20	0.000157180	0.012638735	5.798	1.767	
	4.160	0.0000			3.010	-0.0033				0.00						
	16.245				12.755					0.00						
			251.000					248.000								

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	6.920			6.120									
TP84	5.675	5.675	12.031	4.870	4.870	6.356		501.00	0.000158382	0.012797116	6.343	1.933	
	4.430	0.0000		3.620	0.0000			0.00					
	17.025			14.610				0.00					
			249.000			250.000							
	7.010			4.795									
TP85	5.760	5.760	14.236	3.555	3.555	8.476		497.00	0.000157117	0.012954233	8.463	2.579	
	4.510	0.0000		2.315	0.0000			0.00					
	17.280			10.665				0.00					
			250.000			248.000							
	7.210			6.470									
TP86	5.955	5.955	14.971	5.220	5.220	9.016		500.00	0.000158066	0.013112299	9.003	2.744	
	4.700	0.0000		3.970	0.0000			0.00					
	17.865			15.660				0.00					
			251.000			250.000							
	6.930			5.310									
TP87	5.680	5.680	16.591	4.060	4.060	10.911		501.00	0.000158382	0.013270681	10.897	3.322	
	4.430	0.0000		2.810	0.0000			0.00					
	17.040			12.180				0.00					
			250.000			250.000							
	5.210			6.810									
TP88	4.360	4.360	15.391	5.560	5.560	11.031		500.00	0.000158066	0.013428746	11.017	3.358	
	3.510	0.0000		4.310	0.0000			0.00					
	13.080			16.680				0.00					
			170.000			250.000							
	11.760			1.960									
TP89	11.570	11.570	25.851	1.110	1.110	14.281		340.00	0.000107485	0.013536231	14.267	4.349	
	11.380	0.0000		0.260	0.0000			0.00					
	34.710			3.330				0.00					
			38.000			170.000							

7050.07 PARTY CHIEF D. FERELS DATE 10/02-09/07 NGVD 1929 F.B. 279 PGS. 14-28

STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. EL.	METRIC	REMARKS
	10.385			0.897									
TP90	10.183	10.183	35.370	0.663	0.663	25.187		84.70	0.000026776	0.013563007	25.174	7.673	
	9.980	-0.0003		0.430	0.0003			0.00					
	30.548			1.990				0.00					
			40.500			46.700							
	6.693			1.937									
TP91	6.010	6.009	39.634	1.745	1.745	33.625		38.40	0.000012139	0.013587950	33.611	10.245	
	5.323	-0.0013		1.553	0.0000			0.00					
	18.026			5.235				0.00					
			137.000			38.400							
				2.870									
BM CHECK				2.310	2.310	37.324	37.310	249.00	0.000078717	0.013666667	37.310	11.372	
NGS BM				1.750	0.0000			0.00					
M-546				6.930				0.00					
						112.000							
							LOR=	43231.00	CHECK VALUES TO VERIFY SAME				
									OR TO SEE THEY ARE WITHIN				
	TOTAL +=		21632.800			21598.200		0.00	THIRD ORDER SPECS( MAX DIFF. 33 FT.)				
						34.60							
						RAW CLOSURE=	0.014						
						ERROR PER FOOT=	0.000						
						MTS ALLOWABLE ERROR FOR THIRD ORDER=	0.086						
						ACTUAL ERROR=	0.014		RED IF BAD----GREEN IF GOOD				

copy and insert to expand worksheet

JOB#	7050.07	PARTY CHIEF	D. FERELS	DATE:	November 29, 2007	Datum:	NGVD29	FIELD BOOK	279	PAGES	53-55		
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	6.262												
BM	5.528	5.526	12.806			7.280	7.280						TURNING POINT 55 AS DESCRIBED
	4.789	0.002											IN FIELD BOOK 279, PAGE 22
STADIA		147.300											
	5.099			5.398									
TP1	3.899	3.899	12.147	4.558	4.558	8.248		315.30	0.000019606	0.000019606	8.248	2.514	
	2.699	0.000		3.718	0.000			-20.70					
	11.697			13.674				-20.70					
STADIA		240.000			168.000								
	6.731			6.502									
TP2	5.481	5.481	12.326	5.302	5.302	6.845		480.00	0.000029847	0.000049453	6.845	2.086	
	4.231	0.000		4.102	0.000			0.00					
	16.443			15.906				-20.70					
STADIA		250.000			240.000								
	6.389			5.920									
TP3	5.131	5.132	12.789	4.672	4.670	7.656		500.20	0.000031103	0.000080556	7.656	2.334	
	3.877	-0.001		3.418	0.002			-0.20					
	15.397			14.010				-20.90					
STADIA		251.200			250.200								
	5.456			6.060									
TP4	4.206	4.206	12.175	4.820	4.820	7.969		499.20	0.000031041	0.000111597	7.969	2.429	
	2.956	0.000		3.580	0.000			3.20					
	12.618			14.460				-17.70					
STADIA		250.000			248.000								
	5.819			6.210									
TP5	4.569	4.569	11.784	4.960	4.960	7.215		500.00	0.000031091	0.000142688	7.215	2.199	
	3.319	0.000		3.710	0.000			0.00					
	13.707			14.880				-17.70					
STADIA		250.000			250.000								

JOB#	7050.07	PARTY CHIEF	D. FERELS	DATE:	November 29, 2007	Datum:	NGVD29	FIELD BOOK	279	PAGES	53-55		
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	5.973			4.135									
TP6	4.722	4.722	13.616	2.890	2.890	8.894		499.00	0.000031029	0.000173716	8.893	2.711	
	3.471	0.000		1.645	0.000			1.00					
	14.166			8.670				-16.70					
STADIA		250.200			249.000								
	6.468			6.681									
TP7	5.218	5.218	13.403	5.431	5.431	8.185		500.20	0.000031103	0.000204820	8.184	2.495	
	3.968	0.000		4.181	0.000			0.20					
	15.654			16.293				-16.50					
STADIA		250.000			250.000								
	6.598			5.798									
TP8	5.342	5.340	14.195	4.548	4.548	8.855		500.00	0.000031091	0.000235910	8.854	2.699	
	4.080	0.002		3.298	0.000			0.00					
	16.020			13.644				-16.50					
STADIA		251.800			250.000								
	5.816			7.031									
TP9	4.568	4.567	12.984	5.779	5.778	8.416		502.40	0.000031240	0.000267150	8.416	2.565	
	3.318	0.001		4.525	0.001			1.20					
	13.702			17.335				-15.30					
STADIA		249.800			250.600								
	4.710			6.549									
TP10	4.340	4.340	12.025	5.299	5.299	7.685		499.80	0.000031078	0.000298229	7.684	2.342	
	3.970	0.000		4.049	0.000			-0.20					
	13.020			15.897				-15.50					
STADIA		74.000			250.000								
	6.258			3.630									
TP11	5.844	5.844	14.598	3.271	3.271	8.754		145.90	0.000009072	0.000307301	8.754	2.668	
	5.430	0.000		2.911	0.000			2.10					
	17.532			9.812				-13.40					
STADIA		82.800			71.900								

JOB#	7050.07	PARTY CHIEF	D. FERELS	DATE:	November 29, 2007	Datum:	NGVD29	FIELD BOOK	279	PAGES	53-55		
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	6.128			5.524									
TP12	5.136	5.138	14.628	5.108	5.108	9.490		166.00	0.000010322	0.000317623	9.490	2.892	
	4.150	-0.002		4.692	0.000			-0.40					
	15.414			15.324				-13.80					
STADIA		197.800			83.200								
	4.745			5.330									
TP13	4.607	4.607	14.895	4.340	4.340	10.288		395.80	0.000024611	0.000342235	10.288	3.136	
	4.469	0.000		3.350	0.000			-0.20					
	13.821			13.020				-14.00					
STADIA		27.600			198.000								
	4.679			4.689									
TP14	4.550	4.550	14.873	4.571	4.572	10.323		51.00	0.000003171	0.000345406	10.323	3.146	SET 3-1/2" SFWMD BRASS DISK
	4.421	0.000		4.455	-0.001			4.20					IN CONC. PAD AT PLANTATION
	13.650			13.715				-9.80					WWTP. AT N.W. 11 PL. & SUNRISE
STADIA		25.800			23.400								BLVD. 84' N. OF THE CL OF ROAD
	5.330			4.710									INSIDE THE PLANT AND ON THE E.
TP15	4.340	4.340	14.626	4.584	4.587	10.286		50.00	0.000003109	0.000348515	10.286	3.135	EDGE OF CONC. PAD.
	3.350	0.000		4.468	-0.003			1.60					
	13.020			13.762				-8.20					
STADIA		198.000			24.200								
	5.512			6.130									
TP16	5.098	5.097	14.583	5.140	5.140	9.486		396.00	0.000024624	0.000373139	9.486	2.891	
	4.680	0.001		4.150	0.000			0.00					
	15.290			15.420				-8.20					
STADIA		83.200			198.000								
	3.978			6.242									
TP17	3.619	3.619	12.371	5.831	5.831	8.752		165.40	0.000010285	0.000383424	8.751	2.667	
	3.260	0.000		5.420	0.000			1.00					
	10.857			17.493				-7.20					
STADIA		71.800			82.200								

JOB#	7050.07	PARTY CHIEF	D. FERELS	DATE:	November 29, 2007	Datum:	NGVD29	FIELD BOOK	279	PAGES	53-55		
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	6.532			5.052									
TP18	5.278	5.279	12.963	4.688	4.687	7.684		145.00	0.000009016	0.000392440	7.684	2.342	
	4.028	-0.001		4.320	0.001			-1.40					
	15.838			14.060				-8.60					
STADIA		250.400			73.200								
	7.110			5.795									
TP19	5.855	5.855	14.268	4.550	4.550	8.413		499.40	0.000031053	0.000423493	8.413	2.564	
	4.600	0.000		3.305	0.000			1.40					
	17.565			13.650				-7.20					
STADIA		251.000			249.000								
	5.844			6.672									
TP20	4.598	4.598	13.448	5.416	5.419	8.850		501.40	0.000031178	0.000454671	8.849	2.697	
	3.352	0.000		4.168	-0.003			0.60					
	13.794			16.256				-6.60					
STADIA		249.200			250.400								
	7.022			6.510									
TP21	5.772	5.772	13.950	5.270	5.270	8.178		497.20	0.000030917	0.000485588	8.177	2.492	
	4.522	0.000		4.030	0.000			1.20					
	17.316			15.810				-5.40					
STADIA		250.000			248.000								
	4.362			6.317									
TP22	3.118	3.115	11.999	5.063	5.065	8.885		500.20	0.000031103	0.000516691	8.884	2.708	
	1.864	0.003		3.815	-0.002			-0.20					
	9.344			15.195				-5.60					
STADIA		249.800			250.200								
	6.482			6.035									
TP23	5.232	5.232	12.446	4.785	4.785	7.214		499.80	0.000031078	0.000547769	7.214	2.199	
	3.982	0.000		3.535	0.000			-0.20					
	15.696			14.355				-5.80					
STADIA		250.000			250.000								



JOB#	7050.07	PARTY CHIEF	D. FERELS	DATE:	November 29, 2007	Datum:	NGVD29	FIELD BOOK	279	PAGES	53-55		
STATION	3 WIRE	AVG.(ENG)	HI	3 WIRE	AVG.(ENG)	ELEV.	BM EL.	DIST.	ERROR	ACCUM.	ADJ. ELEV.	METRIC	DESCRIPTION
	6.269			5.728									
TP24	5.019	5.019	12.987	4.478	4.478	7.968		500.00	0.000031091	0.000578860	7.968	2.429	
	3.769	0.000		3.228	0.000			0.00					
	15.057			13.434				-5.80					
STADIA		250.000			250.000								
	6.033			6.576									
TP25	4.782	4.782	12.442	5.328	5.328	7.660		499.70	0.000031072	0.000609932	7.659	2.334	
	3.531	0.000		4.079	0.000			0.30					
	14.346			15.983				-5.50					
STADIA		250.200			249.700								
	6.161			6.849									
TP26	5.140	5.140	11.983	5.599	5.599	6.843		250.00	0.000015545	0.000641035	6.842	2.085	
	4.119	0.000		4.349	0.000			-250.00					
	15.420			16.797				-5.30					
STADIA		204.200			250.000								
				5.742									
BM				4.702	4.702	7.281	7.280	412.20	0.000025631	0.000666667	7.280	2.219	BM CHECK AT ABOVE DESC.
				3.662	0.000			-3.80					TURNING POINT 55, FIELD BOOK
				14.106				-9.10					279, PAGE 22
					208.000								
							LOR=	10721.30	CHECK VALUES TO VERIFY SAME OR TO SEE THEY ARE WITHIN				
	TOTAL +=	5356.100		TOTAL -=	5365.200			10721.30	THIRD ORDER SPECS( MAX DIFF. 33 FT.)				
					-9.10								
					RAW CLOSURE=		0.001						
					ERROR PER FOOT=		0.000						
					MTS ALLOWABLE ERROR FOR THIRD ORDER=		0.043						
					ACTUAL ERROR=		0.001		RED IF BAD-----GREEN IF GOOD				

copy and insert to expand worksheet

10-2-07		S. F. W. M. D.			
FERELS		PLANTATION WATER TREATMENT			
GREENS		PLANT.			
	+	HI	-	NAVD 9883 ELEV	NGVD 1929 ELEV = 37.310
BM	2.700			35.705	
(52)	1.440				OFFSET 1.605'
	0.180				
	1.440	37.145			
TP1	3.180		8.917		
(51)	1.950	(250)	7.667		
	0.770		6.417		
	1.950	31.428	7.667	29.478	
TP2	2.680		11.383		
(191)	1.730	(247)	10.147		
	0.770		8.910		
	1.727	23.008	10.147	21.281	
TP3	4.235		9.337		
(50)	2.985	(192)	8.377		
	1.735		7.417		
	2.985	17.616	8.377	14.631	
TP4	6.510		7.160		
(250)	5.260	(250)	5.910		
	4.010		4.660		
	5.260	16.966	5.910	11.706	
TP5	6.217		6.623		
(250)	4.967	(250)	5.373		
	3.717		4.123		
	4.967	16.560	5.373	11.593	
TP6	6.830		6.777		
(251)	5.575	(246)	5.537		
	4.320		4.297		
	5.575	16.398	5.537	11.023	

FND ARMY CORPS OF ENGINEERS BRASS DISC. IN CONC WALL  
OF BRIDGE OVER UNIVERSITY DR. @ 575 EAST BOUND  
STAMPED M 596 2001

SET 60 & 10L

10-2-07 FERRELL GREEN		S. F. W. M. D. PLANTATION WATER TREATMENT PLANT		NAVD 1988 ELEV
	+	HI	-	
TP7	9.813		5.160	
	(250) 8.563		(249) 3.917	
	7.313		2.670	
	8.563	21.245	3.916	12.682
TP8	12.710		4.165	
	(248) 11.470		(250) 2.915	
	10.230		1.665	
	11.470	29.800	2.915	18.330
TP9	11.320		4.290	
	(250) 10.270		(250) 3.040	
	9.020		1.790	
	10.270	37.030	3.040	26.760
TP10	6.400		4.523	
	(259) 5.105		(250) 3.273	
	3.810		2.023	
	5.105	38.862	3.273	33.757
TP11	5.775		7.840	
	(233) 5.140		(240) 6.560	
	4.550		5.280	
	5.162	37.464	6.560	32.302
TP12	2.120		1.975	
	(122) 1.510		(120) 1.375	
	0.900		0.775	
	1.510	37.599	1.375	36.089
TP13	7.770		5.917	
	(256) 6.490		(12) 5.307	
	5.210		4.707	
	6.490	38.779	5.310	32.289

SET WOOD NL

"

"

X-MARK IN CONC BRIDGE

BOLT OF GR.

FWD CORP OF ENGINEERS - U.S. ARMY (BRASS DISC)  
IN CONC BRIDGE WALL N.W. COR OF EAST BOUND 595  
@ PINE ISLAND

STAMPED L546 2001 (CERP)

NAVD 1988 ELEV. = 36.089

NGVD 1929 EL = 37.691'

OFFSET 1.605'

10-2-07  
FERRELLS  
GREENS

S. F. W. M. D.  
PLANTATION WATER TREATMENT PLANT

	+	HI	-	NAVD 1988 ELEV.
TP 14	4.500		6.530	
(250)	3.250		5.085	
	2.000		3.740	
	3.250	36.994	5.035	33.744
TP 15	4.210		11.497	
(250)	2.960		10.247	
	1.710		8.997	
	2.960	29.707	10.247	26.747
TP 16	3.850		12.635	
(247)	2.600		11.395	
	1.350		10.160	
	2.600	20.910	11.397	18.310
TP 17	4.797		9.495	
(251)	3.543		8.245	
	2.290		6.995	
	3.543	16.208	8.245	12.665
TP 18	6.880		8.370	
(250)	5.630		7.125	
	4.380		5.880	
	5.630	14.713	7.125	9.083
TP 19	5.937		6.580	
(250)	4.687		5.330	
	3.437		4.080	
	4.687	14.070	5.330	9.383
TP 20	6.365		5.717	
(250)	5.115		4.467	
	3.865		3.217	
	5.115	14.718	4.467	9.603

II-MARK W CONC BRIDGE

SET 60" NL

||

||

SET K&A PK NL - DISC

SET NL IN ASPH.

||



103.07  
FEELS  
GREEN

S. F. W. M. D.  
PLANTATION WATER TREATMENT PLANT

NAVD 1988  
ELEV

	+	HI	-	
TP 21	6.323		6.240	
	(250) 5.073		(250) 4.990	
	3.823		3.740	
	5.073	14.801	4.990	9.728
TP 22	6.203		5.860	
	(250) 4.953		(250) 4.610	
	3.703		3.360	
	4.953	15.144	4.610	10.191
TP 23	5.375		6.710	
	(250) 4.127		(250) 5.465	
	2.873		4.220	
	4.125	13.804	5.465	9.679
TP 24	7.030		5.650	
	(250) 5.780		(250) 4.375	
	4.530		3.110	
	5.780	15.206	4.375	9.426
TP 25	5.913		7.170	
	(250) 4.663		(250) 5.920	
	3.413		4.670	
	4.663	13.949	5.920	9.286
TP 26	6.555		7.797	
	(250) 5.305		(250) 6.547	
	4.055		5.297	
	5.305	12.707	6.547	7.462
TP 27	4.750		7.100	
	(250) 3.505		(250) 5.850	
	2.260		4.600	
	3.505	10.362	5.850	6.857

SET NL IN ASPH

"

"

SET NL IN CONC SWK

SET NL IN WEST E/P UNIVERSITY DR.

"

SET NL IN CONC SWK WEST SIDE UNIVERSITY DR.

10-3-07  
FERELS  
GREEN

S. F. D. M. D.  
PLANTATION WATER TREATMENT PLANT

	+	HI	-	NAVD 1988 ELEV
TP28	6.247 (250) 4.997 3.747 4.997	9.739	6.870 5.620 (250) 4.370 5.620	4.742
TP29	5.610 (250) 4.360 3.110 4.360	8.554	6.800 5.545 (251) 4.290 5.545	4.194
TP30	6.350 (250) 5.100 3.850 5.100	8.841	6.063 (250) 4.813 3.563 4.813	3.741
TP31	6.357 (251) 5.105 3.847 5.103	8.854	6.340 (250) 5.090 3.840 5.090	3.751
TP32	6.650 (250) 5.400 4.150 5.400	9.581	5.923 (250) 4.673 3.423 4.673	4.181
TP33	6.033 (250) 4.783 3.533 4.783	8.744	6.870 (250) 5.620 4.370 5.620	3.961
TP34	6.695 (251) 5.43 4.155 5.427	8.996	6.430 (251) 5.175 3.920 5.175	3.569

SET NL IN ASPH SWK EAST SIDE UNIVERSITY DR.

SET GO d NL

SET HUB & TAC

SET NL IN ASPH SWK

SET HUB & TAC

SET NL IN ASPH SWK

SET HUB & TAC

10.4.07

FEREES

GIREES

S. F. W. M. D.

## PLANTATION WATER TREATMENT PLANT

	+	HI	-	NAVD1988 ELEV
TP35	6.830		6.665	
(241)	5.595		(241) 5.420	
	4.360		4.175	
	5.595	9.171	5.420	3.576
TP36	6.950		6.590	
(250)	5.700		(250) 5.340	
	4.450		4.090	
	5.700	9.531	5.340	3.831
TP37	6.970		7.063	
(247)	5.735		(250) 5.813	
	4.500		4.563	
	5.735	9.453	5.813	3.718
TP38	7.040		6.387	
(249)	5.795		(250) 5.137	
	4.550		3.887	
	5.795	10.111	5.137	4.316
TP39	5.170		5.170	
(168)	4.330		(251) 3.915	
	3.490		2.660	
	4.330	10.526	3.915	6.196
TP40	6.380		6.050	
(241)	5.140		(161) 5.213	
	3.910		4.377	
	5.143	10.456	5.213	5.313
TP41	6.900		5.790	
(250)	5.650		(251) 4.535	
	4.400		3.280	
	5.650	11.571	4.535	5.921

JOB# 07050.07

279.19

SET HUB &amp; TAC

SET HUB &amp; TAC

SET HUB &amp; TAC

SET HUB &amp; TAC

SET NL IN ASPH (KEA NL-DISC)

SET NL IN CONC SWR SOUTH SIDE BROWARD BLVD  
(KEA NL-DISC)

SET NL IN ASPH DRIVE CASSIDY BLVD (WEST SIDE)

CONT. ON PAGE 21

10-8-07

S. F. W. M. D.

FEEELS  
PINDOCK

PLANTATION WATER TREATMENT PLANT

	F	H1	-	NAVD 1983 ELEV.
TP42	5.977		6.603	
	(250) 4.727		(250) 5.353	
	3.477		4.103	
	4.727	10.945	5.353	6.218
TP43	6.503		6.530	
	(249) 5.257		(250) 5.280	
	4.010		4.030	
	5.257	10.922	5.280	5.665
TP44	6.097		6.030	
	(250) 4.847		4.775	
	3.597		(251) 3.520	
	4.847	10.994	4.775	6.147
TP45	6.307		6.480	
	(250) 5.057		(250) 5.230	
	3.807		3.980	
	5.057	10.821	5.230	5.764
TP46	6.973		6.380	
	(250) 5.723		(249) 5.135	
	4.473		3.890	
	5.723	11.409	5.135	5.686
TP47	6.550		6.767	
	(250) 5.300		(249) 5.525	
	4.050		4.283	
	5.300	11.184	5.525	5.881
TP48	6.675		7.097	
	(251) 5.417		(250) 5.847	
	4.163		4.597	
	5.417	10.755	5.847	5.337

Job# 07050.07

279-21

SET NL IN ASPH SWK WEST SIDE CASSIDY BLVD

||

||

SET NL IN ASPH DRIVE WEST SIDE CASSIDY BLVD

SET NL IN ASPH DRIVE SOUTH SIDE NW 5 ST

SET NL IN SOUTH EP NW 5 ST

SET NL IN CONC SWK SOUTH SIDE NW 5 ST

3.500



10-8-07 FERRELL PINDEX		S.F.W.M.D. PLANTATION WATER TREATMENT PLANT			
	+	HI	-	NAVD 1988 ELEV	NAVD 1988 ADJ ELEV.
TP 49	6.680 (249) 5.430 4.180 5.430	10.575	6.855 5.610 4.365 5.610	5.45	
TP 50	5.985 (250) 4.735 3.485 4.735	10.635	5.923 4.675 3.427 4.675	5.900	
TP 51	6.633 (251) 5.383 4.133 5.383	10.853	6.415 5.167 3.913 5.165	5.470	
TP 52	6.897 (252) 5.647 4.397 5.647	10.990	6.960 5.510 4.260 5.510	5.343	
TP 53	6.253 (253) 5.067 3.880 5.067	10.492	6.820 5.565 4.310 5.565	5.425	
TP 54	7.057 (254) 5.807 4.557 5.807	11.264	6.217 5.035 3.853 5.035	5.457	
TP 55	6.107 (255) 5.307 4.507 5.307	10.991	6.870 5.580 4.290 5.580	5.684	5.675

SET NL IN ASPH S.E. COR. NW 5 ST & NW 3 AV.

SET NL IN CONCR EP NW 5 ST

SET NL IN CONC SWK SOUTH SIDE NW 5 ST

SET NL IN ASPH S.E. COR. NW TOAV'S RD WEST

SET NL IN ASPH SWK SOUTH SIDE NW 5 ST

||

SET K&A NL-DISC IN ASPH SWK WHERE IT MEETS TRAILERS  
IN FRONT OF FILL STATION  
550 N.W. 65 AVE (26,705) -0.004

10.8.07	S. F. W. M. D.					
FERELS	PLANTATION WATER TREATMENT PLANT					
PINNOCK					NAVD 1988	NAVD 1988
	F	H1	-	NAVD 1988	ADJ.	ELEV
				ELEV		ELEV
TP56	5.260		5.170			
	(161) 4.430		(161) 4.340			
	3.590		3.500			
	4.427	11.081	4.337	6.654		6.645
TP57	6.980		6.195			
	(259) 5.715		(160) 5.395			
	4.450		4.595			
	5.715	11.401	5.395	5.686		
TP58	6.250		7.210			
	(250) 5.060		(250) 5.940			
	3.870		4.670			
	5.060	10.52	5.940	5.461		
TP59	6.795		6.280			
	(25) 5.540		(231) 5.095			
	4.285		3.910			
	5.540	10.916	5.095	5.426		
TP 60	6.630		6.813			
	(250) 5.385		(250) 5.623			
	4.130		4.373			
	5.380	10.723	5.623	5.343		
TP 61	6.170		6.503			
	(250) 4.920		(250) 5.253			
	3.670		4.003			
	4.920	10.390	5.253	5.470		
TP 62	6.063		5.735			
	(250) 4.753		(250) 4.485			
	3.503		3.235			
	4.753	10.658	4.485	5.905		

SET K&A NL-DISC IN CONC SWK  
 55' WEST OF EAST END OF SWK  
 ON THE NORTH SIDE OF FIRE STATION ADMINISTRATIVE BLDG  
 (27,032') - 0.009

10.08.07 S.F.W.M.D.  
 FERELS PLANTATION WATER TREATMENT PLANT  
 PINNOCK

	+	HI	-	NAVD 1988 ELEV
TP63	6.697		6.750	
(249)	5.455		(250) 5.500	
	4.213		4.250	
	5.455	10.613	5.500	5.158
TP64	6.620		6.525	
(249)	5.375		(250) 5.275	
	4.130		4.025	
	5.375	10.713	5.275	5.333
TP65	6.550		6.087	
(250)	5.300		(250) 4.837	
	4.050		3.587	
	5.300	11.176	4.837	5.876
TP66	6.137		6.753	
(250)	4.887		(250) 5.503	
	3.637		4.253	
	4.887	10.567	5.503	5.673
TP67	6.080		5.735	
(250)	4.800		(250) 4.557	
	3.520		3.383	
	4.800	10.802	4.558	6.602
TP68	5.680		5.957	
(250)	4.430		(250) 4.673	
	3.180		3.385	
	4.430	10.565	4.672	6.130
TP69	6.617		6.145	
(250)	5.367		(250) 4.895	
	4.117		3.645	
	5.367	11.032	4.895	5.665

SET K&A NL-DISC IN WEST EP CASADY END @ ASPH. DRIVE  
 265' +/- SOUTH OF SOUTH EP NW 5 ST

10-9-07

FERELS  
GREG

S. F. W. M. D.

PLANTATION WATER TREATMENT PLANT

NAVD 1988  
ELEV

	+	HI	-	
TP70	6.395		6.055	
	(250) 5.145		(250) 4.810	
	3.895		3.560	
	5.145	11.367	4.808	6.224
TP71	5.820		6.693	
	(249) 4.595		(250) 5.443	
	3.350		4.193	
	4.595	10.521	5.443	5.926
TP72	5.940		5.450	
	(74) 5.570		(250) 4.200	
	5.200		2.950	
	5.570	11.891	4.200	6.321
TP73	5.375		6.095	
	(250) 4.110		(18) 5.685	
	2.890		5.295	
	4.108	10.314	5.685	6.206
TP74	6.560		7.237	
	(250) 5.310		(249) 5.997	
	4.060		4.757	
	5.310	9.827	5.997	4.317
TP75	6.040		7.150	
	(250) 4.790		(247) 5.910	
	3.540		4.680	
	4.790	8.504	5.913	3.714
TP76	5.820		5.921	
	(248) 4.580		(250) 4.677	
	3.340		3.427	
	4.580	8.407	4.677	3.827

268# 07050.07

279-25

3,148



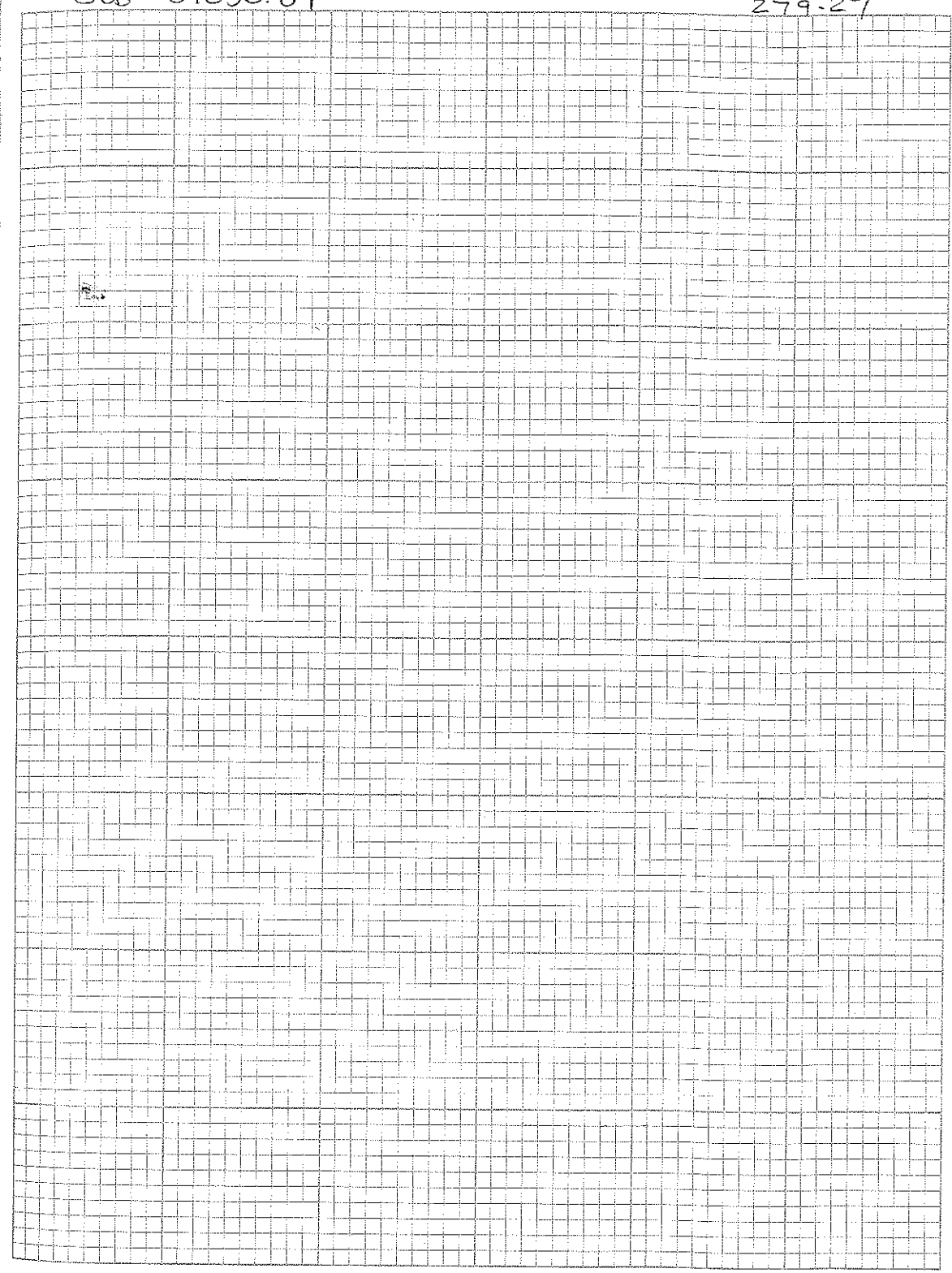
10-9-87 S.F.W.M.D.  
PERCELS PLANTATION WATER TREATMENT PLANT  
GREENS

	+	LI	-	NAVD 1983 ELEV
TP77	6.450		6.073	
	(248) 5.210		4.827	
	3.970		3.585	
	5.210	8.789	4.828	3.579
TP78	6.430		6.490	
	(253) 5.160		(255) 5.215	
	3.900		3.990	
	5.163	8.737	5.215	3.574
TP79	6.517		6.010	
	(250) 5.297		(247) 4.775	
	4.047		3.540	
	5.297	9.259	4.775	3.962
TP80	5.820		6.317	
	(250) 4.570		(247) 5.075	
	3.320		3.833	
	4.570	8.754	5.075	4.184
TP81	6.020		6.250	
	(251) 4.765		(250) 5.000	
	3.510		3.750	
	4.765	8.519	5.000	3.754
TP82	5.957		6.015	
	(249) 4.713		(249) 4.770	
	3.465		3.530	
	4.712	8.459	4.772	3.747
TP83	6.670		5.490	
	(251) 5.415		(248) 4.255	
	4.160		3.010	
	5.415	9.622	4.252	4.207

3,498

10-9-07 S.F.W.M.D.  
 FERELS PLANTATION WATER TREATMENT PLANT  
 GRES

	+	HI	-	NAVD 1988 ELEV.
TP84	6.920		6.120	
(242)	5.675		(250) 4.870	
	4.430		3.620	
	5.675	10.427	4.870	4.752
TP85	7.010		4.795	
(250)	5.760		(248) 3.555	
	4.510		2.315	
	5.760	12.632	3.555	6.872
TP86	7.210		6.470	
(251)	5.955		(250) 5.220	
	4.700		3.970	
	5.955	13.367	5.220	7.412
TP87	6.930		5.310	
(250)	5.680		(250) 4.060	
	4.430		2.810	
	5.680	14.987	4.060	9.307
TP88	5.210		6.810	
(110)	4.360		(250) 5.560	
	3.510		4.310	
	4.360	13.787	5.560	9.427
TP89	11.760		1.960	
(38)	11.570		(170) 1.110	
	11.380		0.260	
	11.570	24.247	1.110	12.677
TP90	10.385		0.897	
(41)	10.183		(41) 0.663	
	9.980		0.430	
	10.183	33.766	0.664	23.583



109-07

S. F. W. M. D.

PEELS PLANTATION WATER TREATMENT PLANT  
CREES

	+	HI	-	NAVD 1988 ELEV
TP91	6.693		1.937	
	(137) 6.010		(39) 1.745	
	5.323		1.553	
	4.009	38.030	1.745	32.021
BM			2.870	
M546			2.310	
		(12)	1.750	
			2.310	35.720

Job # 07050.07

279-28

(ELEV. = 35,705)

TOTAL DIST 43,237'

11-29-07

PERUGS

GREEN

S. F. W. M. D.  
PLANTATION WWTP

	+	HI	-	NAVD 1988 ELEV
BM	6.262			5.675
	5.526			
(147)	4.789			
	5.526	11.201		
TP 1	5.099		5.398	
	3.899		4.558	
(240)	2.699	(108)	3.718	
	3.899	10.542	4.558	6.643
TP 2	6.731		6.502	
	5.481		6.302	
(250)	4.231	(240)	4.102	
	5.481	10.721	5.302	5.240
TP 3	6.389		5.920	
	5.131		4.672	
(251)	3.817	(250)	3.418	
	5.132	11.183	4.670	6.051
TP 4	5.456		6.060	
	4.206		4.820	
(250)	2.956	(248)	3.580	
	4.206	10.509	4.820	6.363
TP 5	5.819		6.210	
	4.569		4.960	
(250)	3.319	(250)	3.710	
	4.569	10.178	4.960	5.609
TP 6	5.973		4.135	
	4.722		2.890	
(250)	3.471	(249)	1.645	
	4.722	12.010	2.890	7.288

07050.07

279-53

AKA TP55 REF PG 22

AKA TP56 REF PG 23

NAVD 1988 ELEV = 6.625

SET NL IN ASPH. CUR

" " "

SET NL IN ASPH @ THE S.E. COR OF NW 85TH'S NW 65AV

SET NL IN EAST LP NW 65AV

SET WOOD NL

3013



11-29-07  
FERELS  
GREES

S.F.W.M.D.  
PLANTATION W.W.T.P.

	+	HI	-	NAVD 1988 ELEV
TP 7	6.468		6.681	
	5.218		5.431	
	(250) 3.968		(250) 4.181	
	5.218	11.797	5.431	6.579
TP 8	6.598		5.798	
	5.342		4.548	
	(252) 4.085		(250) 3.298	
	5.340	12.589	4.548	7.249
TP 9	5.816		7.031	
	4.568		5.779	
	(250) 3.318		(250) 4.525	
	4.567	11.378	5.778	6.811
TP 10	4.710		6.549	
	4.340		5.299	
	(74) 3.970		(250) 4.049	
	4.340	10.419	5.299	6.079
TP 11	6.258		3.630	
	5.844		3.271	
	(83) 5.430		(72) 2.911	
	5.844	12.992	3.271	7.148
TP 12	6.128		5.524	
	5.136		5.108	
	(98) 4.150		(83) 4.692	
	5.138	13.022	5.108	7.884
TP 13	4.745		5.330	
	4.607		4.340	
	(28) 4.469		(98) 3.350	
	4.607	13.289	4.340	8.682

SET HOBS TAC

"

"

"

"

SET 602 NL

SET 602 NL

11-29-07

FEBELS

GREENS

S. F. W. M. D.

PLANTATION D. W. T. P.

07050.07

279-55

		HI		NAVD 1988 ELEV	ADJ ELEV
TP 14	4.679		4.689		
	4.550		4.571		
(26)	4.421	(23)	4.455		
	4.550	13.267	4.572	8.717	8.718
TP 15	5.330		4.710		
	4.340		4.584		
(198)	3.350	(24)	4.408		
	4.340	13.020	4.587	8.680	
TP 16	5.512		6.130		
	5.098		5.140		
(83)	4.680	(198)	4.150		
	5.097	12.977	5.140	7.880	
TP 17	3.978		6.242		
	3.619		5.831		
(112)	3.260	(82)	5.420		
	3.619	0.765	5.831	7.146	
TP 18	6.532		5.052		
	5.278		4.688		
(250)	4.028	(13)	4.320		
	5.279	11.357	4.687	6.078	
TP 19	7.110		5.795		
	5.855		4.550		
(251)	4.600	(249)	3.305		
	5.855	12.662	4.550	6.807	
TP 20	5.844		6.672		
	4.598		5.410		
(249)	3.352	(250)	4.168		
	4.598	11.841	5.419	7.243	

GET STWARD BRASS DISC W/ CONC STAMPED "PLANO/WTP" 2007  
 @ 595 UNIVERSITY DR. GO NORTH UNTIL SURGE BLVD. GO EAST  
 ON SURGE BLVD TO 11 PLACE TURN LEFT GO TO DEAD END  
 OF PLANTATION W/ 11 PLACE TURN RIGHT THEN LEFT THEN LEFT TURN RIGHT PASS 2  
 LARGE TANKS ON RIGHT TO MARK ON RIGHT 84% NORTH OF 11  
 ROAD ON THE EAST EDGE OF CONC PAD

2028

11-29-07  
FERELS  
GREENS

S. F. W. M. D.  
PLANTATION W. W. T. P.

	+	HI	-	NAVD 1988 ELEV
TP 21	7.022		6.510	
	5.772		5.270	
(250)	4.522	(248)	4.030	
	5.772	12.343	5.270	6.571
TP 22	4.302		6.317	
	3.118		5.063	
(250)	1.864	(250)	3.815	
	3.115	10.393	5.065	7.278
TP 23	4.482		6.035	
	5.232		4.785	
(250)	3.982	(250)	3.535	
	5.232	10.840	4.785	5.603
TP 24	6.269		5.728	
	5.019		4.478	
(250)	3.769	(250)	3.228	
	5.019	11.301	4.478	6.362
TP 25	6.033		6.076	
	4.782		5.328	
(250)	3.531	(250)	4.079	
	4.782	10.835	5.328	6.053
TP 26	6.161		6.849	
	5.140		5.599	
(204)	4.119	(250)	4.349	
	5.140	10.376	5.599	5.236
BM			5.742	
			4.702	
		(208)	3.662	
			4.702	5.674

AKA TP55 REF. PG. 22  
NAVD 1988 ELEV = 5.675  
ERROR = 0.001  
TOTAL DIST. = 10,719

12-03-07

FEBELS

MCKINNEY

WREHAM

S. F. W. M. D.  
PLANTATION W. W. T. P.

NAVD 1988

NGVD 1929

ELEV

ELEV

8.718

10.323'

BM

4.255

HI

12.973

-

"PLANWWTP"

TP 1

0.353

12.841

0.485

12.488

14.093'

SS. 1

4.550

8.291

9.896'

T.P. 2

1.600

3.241

1.200

11.645

5.240

S.S. 2

4.960

8.281

9.886'

BM

4.520

8.721

10.326'

BM

3.920

12.638

8.718

10.323'

TP 3

1.635

12.873

1.400

11.238

12.843'

BM

4.155

8.718

10.323'

07050.07

279-57

GPS FILE "PLANWWTP"

GPS@ BM "PLANWWTP"

START TIME = 1:05 PM

END TIME = 1:30 PM

HI = 4.15' 1.2649(m)

EPN = 0220285238

DESC.

S.F.W.M.D. BRASS BISC

OFFSET 1.605

UPPER ZONE MWI

FOUND MARKER LINE ON  
PIPE JUST LEFT OF PRESSURENTS  
GAUGE

CONC PAD @ UPPER ZONE

MWI

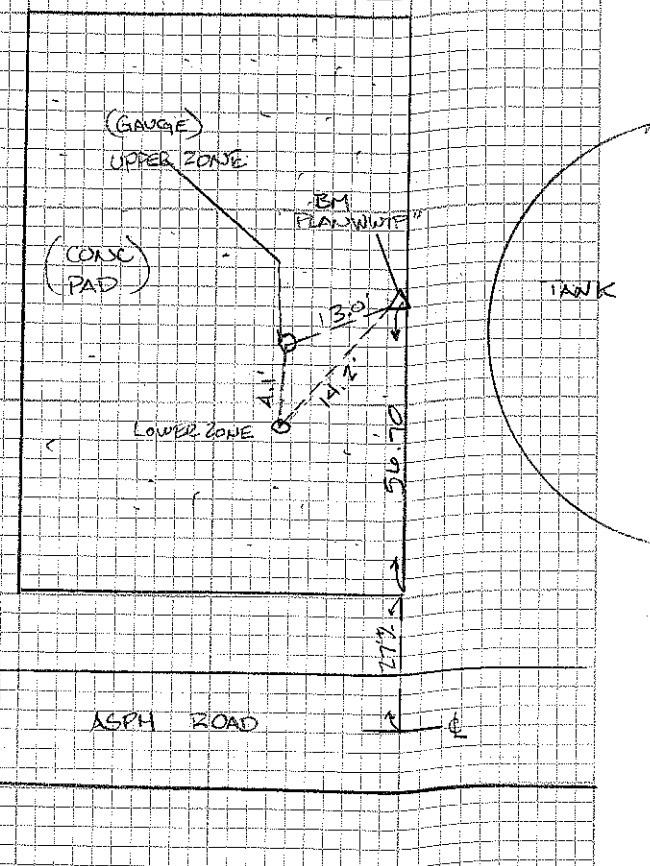
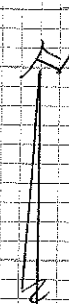
LOWER ZONE

CONC PAD @ LOWER ZONE

(PLANWWTP)

LOWER ZONE (B)

SET MARKER LINE ON  
HOUSING BELOW GAUGE



# Office

## Project

28 July 2017

### INPUT

Geographic, flhp gn - Florida HPGN  
Vertical - NAVD88, U.S. Feet

### OUTPUT

State Plane, flhp gn - Florida HPGN  
0901 - Florida East, U.S. Feet  
Vertical - NGVD29 (Custom), U.S. Feet

---

## PLAN WWTP

1/1

**Latitude:** 26 08 27.6  
**Longitude:** 80 14 12.5  
**Elevation/Z:** 0

**Northing/Y:** 657672.992  
**Easting/X:** 906542.606  
**Elevation/Z:** 1.581  
**Convergence:** 0 20 10.55679  
**Scale Factor:** 1.000013058  
**Combined Factor:** 1.000016965

---

Remark:

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

# DBHYDRO | by station

## STATION INFORMATION

Station	PLA-MZU
Site	PLA-MZU
Type	WELL
Latitude (ddmmss.sss)	260827.525
Longitude (ddmmss.sss)	801412.72
X Coord (ft) NAD83	906522.601
Y Coord (ft) NAD83	657665.302
County	Broward
Basin	NORTH NEW RIVER CANAL WEST
Section	34
Township	49
Range	41
Show Map	<a href="#">Google Map</a>
Well Info	<a href="#">Info</a>
Description	PLANTATION WWTP MONITOR WELL, MONITORED INTERVAL=1608-1638', 16DIA.
Notes	
Nearby Stations	<a href="#">Nearby Stations</a>
Attachments	<a href="#">Show Attachments</a>

Query returned 1 station record(s).

Get Sample Data



# DBHYDRO | by station

## STATION INFORMATION

Station	PLA-MZL
Site	PLA-MZL
Type	WELL
Latitude (ddmmss.sss)	260827.525
Longitude (ddmmss.sss)	801412.72
X Coord (ft) NAD83	906522.601
Y Coord (ft) NAD83	657665.302
County	Broward
Basin	NORTH NEW RIVER CANAL WEST
Section	34
Township	49
Range	41
Show Map	<a href="#">Google Map</a>
Well Info	<a href="#">Info</a>
Description	PLANTATION WWTP MONITOR WELL, MONITORED INTERVAL=2189'-2239',6"DIA.
Notes	
Nearby Stations	<a href="#">Nearby Stations</a>
Attachments	<a href="#">Show Attachments</a>

Query returned 1 station record(s).

Get Sample Data