

SURVEYOR'S REPORT

Specific Purpose Survey of the Monitoring Wells

Structure WLNB

Okeechobee County, Florida

South Florida Water Management District's

Purchase Order number PC 4500009380

Keith and Schnars project number 16434.00,

Task 22186

Report Date: June 7, 2007

Submittal: First

Prepared for:

South Florida Water Management District

Prepared by:



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SURVEYOR'S REPORT

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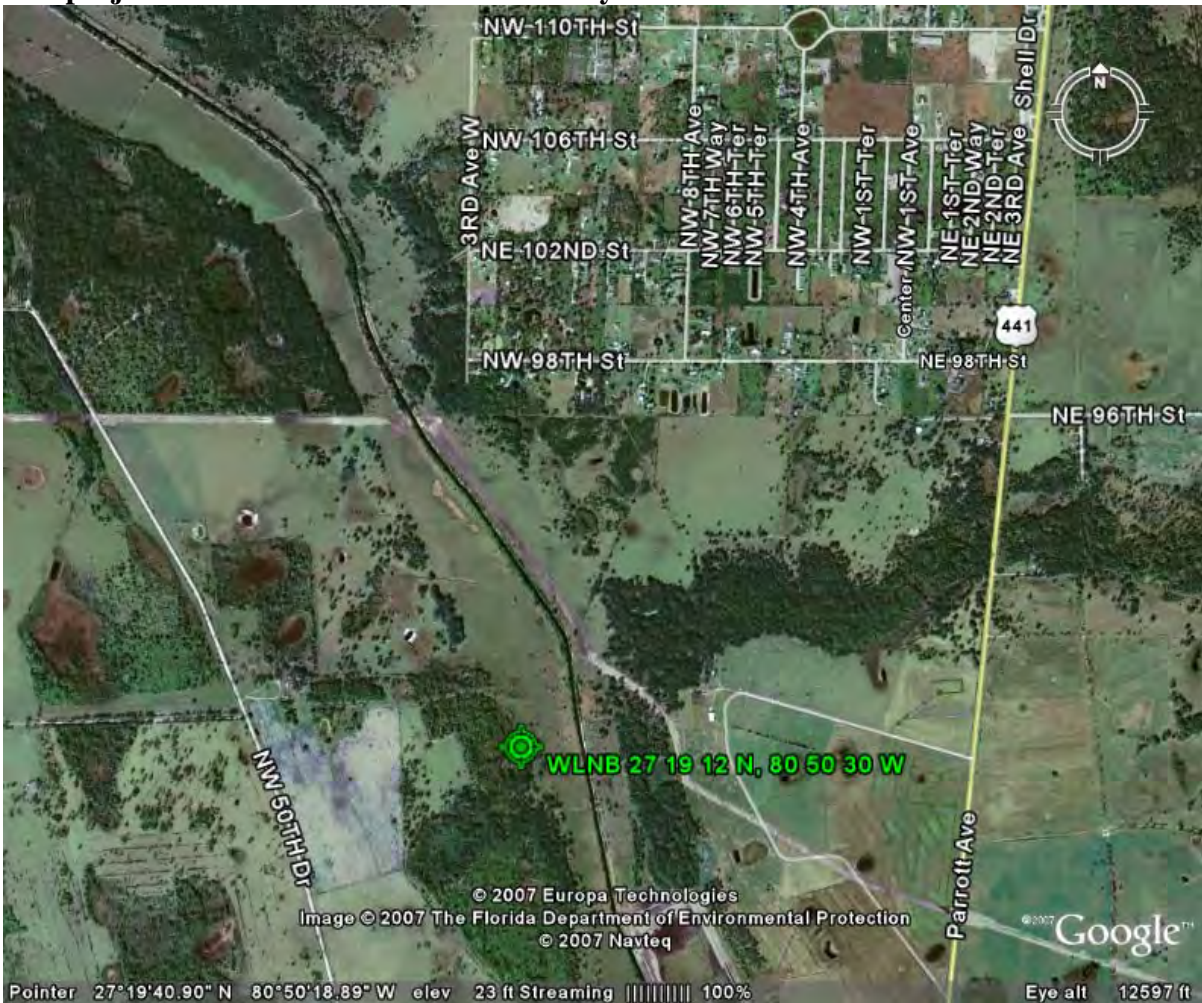
SURVEYOR'S REPORT

PURPOSE

To establish vertical data (NAVD 1988 and NGVD 1929) on the Stilling Wells at the structure.

LOCATION OF PROJECT

The project is located in Okeechobee County.



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.



DATUM FOR THE PROJECT

The vertical datum for the project is National Geodetic Vertical Datum (NGVD) of 1929 and North American Vertical Datum (NAVD) of 1988. NGVD '29 elevations were derived using data provided by the South Florida Water Management District in a file named NGVD29.txt" when applicable, otherwise NGS superseded values were used.

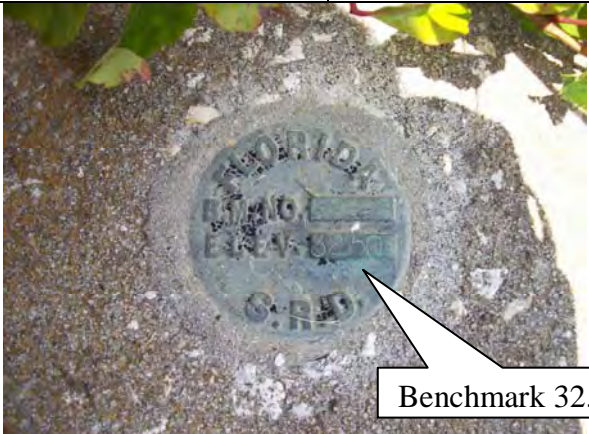

LEVELING METHODS

Benchmark WLNB was constructed at the site. The elevations were established from Benchmarks 32.57 and 32.50 with a Wild NA2 conventional level and three-wire observation method.

SURVEYOR'S REPORT
VERTICAL CONTROL

BM 32.57		Elevation:	NAVD 1988	31.32'	NGVD 1929	32.51'
Found in South Florida Water Management District Benchmark Database	Latitude		27°17'43" (Scaled)			
State/County FL/Okeechobee	Longitude		-80°49'39" (Scaled)			
USGS QUAD Taylor Creek SE (1972)						
Vertical Order Class	First II	<p>The mark is about 3.5 mi north of Okeechobee, in Section 34, Township 36 South, Range 35 East. To reach the mark from the intersection of State Road 70 (U.S. Highway 98, Park Street) and U.S. Highway 441 (Parrott Street) in Okeechobee, go north on U.S. Highway 441 (Parrott Street) for 3.6 mi to the north end of the bridge spanning Taylor Creek and The mark on the left, set flush in the top of the northwest bridge wingwall about 1.0 ft above the level of U.S. Highway 441. Located 18.4 ft west of the centerline of U.S. Highway 441 and 0.5 ft East of the west end of the wingwall.</p>				
						
		<p style="text-align: center;">Benchmark 32.57</p>				
		<p style="text-align: center;">Benchmark 32.57</p>				

SURVEYOR'S REPORT
VERTICAL CONTROL

BM 32.50		Elevation:	NAVD 1988	31.285'	NGVD 1929	32.476'
Found in South Florida Water Management District Benchmark Database	Latitude		27°17'43" (Scaled)			
State/County FL/Okeechobee	Longitude		-80°49'39" (Scaled)			
USGS QUAD Taylor Creek SE (1972)						
Vertical Order Class	First II					
		<p>The mark is about 3.5 mi north of Okeechobee, in Section 34, Township 36 South, Range 35 East. To reach the mark from the intersection of State Road 70 (U.S. Highway 98, Park Street) and U.S. Highway 441 (Parrott Street) in Okeechobee, go north on U.S. Highway 441 (Parrott Street) for 3.55 mi to the south end of the bridge spanning Taylor Creek and the mark on the right, set flush in the top of the southeast bridge wingwall about 1.7 ft above the level of the ground and about 1.0 ft above the level of U.S. Highway 441. Located 18.4 ft east of the centerline of U.S. Highway 441 and 0.5 ft west of the east end of the wingwall.</p>				
						

SURVEYOR'S REPORT
PROJECT PHOTO



Well WLNB



Well WLNB

Well WLNB



SURVEYOR'S REPORT
PROJECT PHOTO



Benchmark WLNB



Benchmark WLNB

SURVEYOR'S REPORT

PROJECT RESULTS

Monitoring Well

Monitoring Well WLNB:

Reference mark:

**Set mark on S. side PVC pipe
With initials K&S.**

New Reference

Mark El. 27.739'

(NGVD '29)

(Wrote -1.19' NAVD to 1988).

Water El. 19.369'

(NGVD '29) no water – bottom of
well dry

Initials:

K&S

B.S., C.L., R.C.

Date:

4/24/07

written at the mark:

El. 28.02'

Date: 2-25-00

By: **B.W.,A.W.,S.J.**

Reference Mark location:

Crow's foot next to brass plate

SURVEYOR'S REPORT

Comments:

Party Chief: B. Simmons Field Book: 1176 Page 45
Bench Mark: "32.57" El. 31.32', Vertical Datum: NAVD1988
Offset: 1.190' SFWMD VALUE (add this value to convert to NGVD 1929)
Offset: 1.190' NGS VALUE (add this value to convert to NGVD 1929)
Bench Mark: "32.50" El. 31.285', Vertical Datum: NAVD1988
Offset: 1.191' SFWMD VALUE (add this value to convert to NGVD 1929)
Offset: 1.191' NGS VALUE (add this value to convert to NGVD 1929)
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

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 SCHNARS, PA.
L.B. number 1337

By:

Date of Survey
April 24, 2007

Ernesto J. Garcia, PSM
Professional Surveyor and Mapper
State of Florida
Certificate No. 3878

TAYLOR
CREEK



TAYLOR
CREEK







2/75/00
REF. ELEM.
00002 EN 900-57



MARK ELEM
27-759 (NOV 29)
- 1.19 NAVP TO 1988
KEITH AND SCHAAS
E9, C.E., R.C.



2774
4-24-07
S

NGVD 29



MARK ELEV.
27.739 (NGVD 29)
- 1.19' NAVD TO 1988
KEITH AND SCHNAPS
E.S., C.L., R.C.

W L N B W

ELEV. 27.74

DATE 4-24-07

BY K&S

NAVD

NGVD 29



STATION DESIGNATION

W L N B



YEAR 2007

WATER SUPPLY DISTRICT
DO NOT REMOVE COVER



FLORIDA

B.M. NO. [REDACTED]

ELEV. 3257

S. R. D.

FLORIDA
B.M. NO. [REDACTED]
ELEV. 32.57
S. R. D.

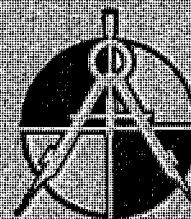


FLORIDA
D.W. NO. [REDACTED]
ELEV. 3250
S. RD.

SFWMD

1176

1176
SFWMD



SINCE 1958

FLT
Geosystems

8411

DATE: 4-18-07

FOR: SFWMD

JOB # 16434.00 TASK 22186

CREW: B. SIMMONS, C. LAFLEUR, R. CRUM

EQUIP: WILD NA-2 LEVEL # 5208541, PHILLY ROD

WEATHER: 75° ± CLEAR, BEAUTIFUL

LOC: OKEECHOBEE COUNTY

STA + MEAN HI - MEAN

	5.60		4.947		37.47
BM	4.95				
32.53	4.35				
	12.93				
	6.25		4710		
	5.19				
BM	4.71				
32.50	3.89				
	3.17				
	2.80				
	14.13				
	6.43				
TP 1	5.32		5.320		
	4.21				
	20.02				
	6.34				
TP 2	5.25		5.250		
	4.16				
	20.02				
	6.47				
TP 3	5.31		5.313		
	4.16				
	20.02				
	15.94				

3 WIRE BENCH RUN

1176/45

FOR "WLNB"

(NOTE SEE PG 11618 FOR ADJUSTMENT SHEET AND DATA SHEETS)

BM ADJ BM
ELEV. ELEV. COMMENTS

		FND FL S.R.D. DISK IN N.W. HEADWALL ON SR 441 @ TAYLOR CREEK ELEV. = 32.57
		NOTE: THIS SET UP WAS ON TAYLOR CREEK BRIDGE
32.530		FND FL S.R.D. DISK IN S.E. HEADWALL ON SR 441 @ TAYLOR CREEK ELEV. = 32.50
30.333		SET PK WL W/E.O.P. SR 441
		" " " " " " " "
		" " " " " " " "

4-12-07

SAME CREW

STA	T	MEAN	HI	-	MEAN
TP 4	7.60			5.01	
	6.51			3.85	3.850
	5.43	213		2.69	
	19.54			11.55	
TP 5	7.01			4.71	
	5.90	221		3.62	3.623
	4.80			2.54	
	17.71			10.87	
TP 6	6.96			6.28	
	5.92	207		5.17	5.173
	4.89			4.07	
	13.77			15.52	
TP 7	6.61			6.08	
	5.57	209		5.04	5.043
	4.52			4.01	
	16.70			15.13	
TP 8	6.85			5.67	
	5.76	218		4.63	4.627
	4.67			3.58	
	17.28			3.88	
TP 9	6.54			6.25	
	5.42	224		5.16	5.163
	4.30			4.08	
	16.26			15.49	

BM ELEV.	ADJ BM ELEV.	COMMENTS
		SET PK NW 1/4 E.O.P. SR 441
		SET PK NW 1/4 E.O.P. NW 50TH DR.
		" " " " " " "
		" " " " " " "
		" " " " " " "
		" " " " " " "
		" " " " " " "

4-18-03
SAME CREW

STA	+	MEAN	HI	-	MEAN
TP 34	6.65	5.583	213	6.34	5.680
	5.58			5.68	
	4.52			4.62	
	<u>16.75</u>			<u>17.04</u>	
TP 35	6.97	5.907	213	5.81	4.743
	5.91			4.74	
	4.84			3.68	
	<u>17.72</u>			<u>14.23</u>	
TP 36	6.03	4.897	227	6.54	5.473
	4.90			5.47	
	3.76			4.41	
	<u>14.69</u>			<u>16.42</u>	
TP 37	4.17	3.113	211	7.02	5.890
	3.11			5.89	
	2.06			4.76	
	<u>9.34</u>			<u>17.67</u>	
TP 38	6.42	5.360	212	6.35	5.300
	5.36			5.30	
	4.30			4.25	
	<u>16.08</u>			<u>15.90</u>	
TP 39	4.94	3.873	213	5.89	4.830
	3.87			4.83	
	2.81			3.77	
	<u>11.62</u>			<u>14.49</u>	

BM ELEV.	ADJ ELEV.	BM ELEV.	COMMENTS
			SET PK NL E/E.O.P. NW. BOTH DR.
			" " " " " " " "
			SET H E T
			" " "
			" " "
			" " "

4-18-07
SAME CREW

STA	+	MEAN	HI	-	MEAN	
TP 40	5.18	215	4.103	6.22	213	5.153
	4.10			5.15		
	3.03			4.09		
	12.31			15.46		
TP 41	4.84	215	3.773	7.07	210	5.990
	3.77			5.99		
	2.71			4.91		
	11.32			17.97		
TP 42	5.53	209	4.537	6.80	213	5.737
	4.54			5.74		
	3.49			4.67		
	13.61			17.21		
TP 43	5.92	208	4.880	7.43	208	6.390
	4.88			6.39		
	3.84			5.35		
	14.64			19.17		
TP 44	5.44	150	4.690	7.71	209	6.663
	4.69			6.66		
	3.94			5.62		
	14.07			19.99		
BM "WLNB"	7.07	222	5.960	6.46	147	5.723
	5.96			5.72		
	4.85			4.99		
	17.88			7.17		

BM ADJ BM
ELEV. ELEV. COMMENTS

SET H¹ T

" " "

" " "

" " "

26.1014

" " "

24.98

SET POURED CONC. MOM. w/SFWMD DISK
@ GUAGE STATION "WLNB"

4-19-07
SAME CREW

STA	+	MEAN	MI	-	MEAN
TP 51	8.49	7.380	222	6.30	5.193
	7.38			5.19	
	6.27			4.09	
	22.14			15.58	
TP 52	5.95	4.840	222	6.15	5.047
	4.84			5.05	
	3.73			3.94	
	4.52			15.14	
TP 53	6.10	5.040	212	6.29	5.180
	5.04			5.18	
	3.98			4.07	
	15.12			15.54	
TP 54	6.83	5.730	220	6.47	5.410
	5.73			5.41	
	4.63			4.35	
	17.19			16.23	
TP 55	6.34	5.243	219	6.66	5.563
	5.24			5.56	
	4.15			4.47	
	15.73			16.69	
TP 56	6.34	5.253	217	6.32	5.230
	5.25			5.23	
	4.17			4.14	
	15.76			15.69	

BM ELEV.	ADJ BM ELEV.	COMMENTS
		SET HGT
		" " "
		" " "
		SET PK NL W/EDP NW SOUTH DR
		" " " " " " " "
		" " " " " " " "

4-19-07
SAME CREWS

STA	+	MEAN	H.I	-	MEAN	
TP 63	7.09	228	5.950	6.18	228	5.040
	5.95			5.04		
	4.81			3.90		
	17.85			15.12		
TP 64	7.00	233	5.833	6.25	228	5.110
	5.83			5.11		
	4.67			3.97		
	17.50			5.33		
TP 65	6.35	226	5.620	6.94	233	5.777
	5.62			5.78		
	4.49			4.61		
	16.86			17.33		
TP 66	6.37	228	5.230	6.59	226	5.460
	5.23			5.46		
	4.09			4.33		
	15.69			16.38		
TP 67	5.81	225	4.633	7.30	229	6.153
	4.68			6.15		
	3.56			5.01		
	14.05			18.46		
TP 68	5.95	237	4.763	7.37	225	6.243
	4.76			6.24		
	3.58			5.12		
	14.29			18.73		

BM ELEV	ADJ ELEV	BM ELEV	COMMENTS
			SEQ PK NW W/E.O.P. NW 50TH DR.
			" " " " " " " "
			" " " " " " " "
			" " " S/E.O.P. " " "
			" " " " " " " "
			" " " " " " " "

4-19-07
SAME CREW

STA	+	MEAN	HI	-	MEAN	
TP 69	6.11	230	4.960	6.80	237	5.617
	4.96			5.62		
	3.81			4.43		
	14.88			16.85		
TP 70	6.78	225	5.653	6.50	229	5.353
	5.65			5.35		
	4.53			4.21		
	16.96			16.06		
TP 71	6.96	224	5.840	6.46	224	5.340
	5.84			5.34		
	4.72			4.22		
	17.52			16.02		
TP 72	7.78	224	6.660	5.52	224	4.400
	6.66			4.40		
	5.54			3.28		
	19.98			13.20		
TP 73	7.19	225	6.067	5.15	224	4.030
	6.07			4.03		
	4.94			2.91		
	18.20			12.09		
TP 74	5.70	224	4.580	7.10	235	5.923
	4.58			5.92		
	3.46			4.35		
	13.74			17.77		

BM ELEV.	ADJ ELEV.	BM ELEV.	COMMENTS
			SET PK NL S/EOP NW SQH OR
			" " " w/EOP " " "
			" " " " " " " "
			" " " " " " " "
			" " " S/EOP " " "
			" " " " " " " "

4-19-07
SAME CREW

STA	+	MEAN	HI	-	MEAN	
TP 81	5.67	208	4.630	6.33	214	5.260
	4.63			5.26		
	3.59			4.19		
	<u>13.89</u>			<u>15.78</u>		
TP 82	6.04	209	4.997	6.65	207	5.617
	5.00			5.62		
	3.95			4.58		
	<u>14.99</u>			<u>16.85</u>		
TP 83	4.53	211	3.477	7.71	210	6.660
	3.48			6.66		
	2.42			5.61		
	<u>10.43</u>			<u>19.98</u>		
TP 84	5.91	206	4.880	7.24	210	6.190
	4.88			6.19		
	3.85			5.14		
	<u>14.64</u>			<u>18.57</u>		
TP 85	6.21	213	5.147	6.12	206	5.090
	5.15			5.09		
	4.08			4.06		
	<u>5.44</u>			<u>15.27</u>		
TP 86	6.33	213	5.263	6.40	213	5.337
	5.26			5.34		
	4.20			4.27		
	<u>15.79</u>			<u>16.01</u>		

BM ADJ BM
ELEV. ELEV. COMMENTS

SET PK ML S/E.O.P. NW 50TH DR.

" " " " " " " "

" " " E/O.P. SRA41

" " " " "

" " " " "

" " " " "

4-19-03

SAME CREW

STA	I	MEAN	h	-	MEAN
	6.63			5.98	
TP 87	5.39	5.787	1.9	4.92	4.917
	4.94			3.85	
	7.36			4.35	
				4.82	
BM 32.50				3.98	3.980
				3.14	
				11.94	

BENCH RUN - CONT.

1176.60

BM ELEV.	ADJ ELEV.	BM	COMMENTS
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SET PK NL E/END SR441

32.56

39,300

FIND FL SRID. DISK IN CONC. HEADWALL
 @ SE COR. TAYLOR CREEK BRIDGE DN.
 SR 441, SEE PL 45 THIS BOOK
 ELEV. = 32.50

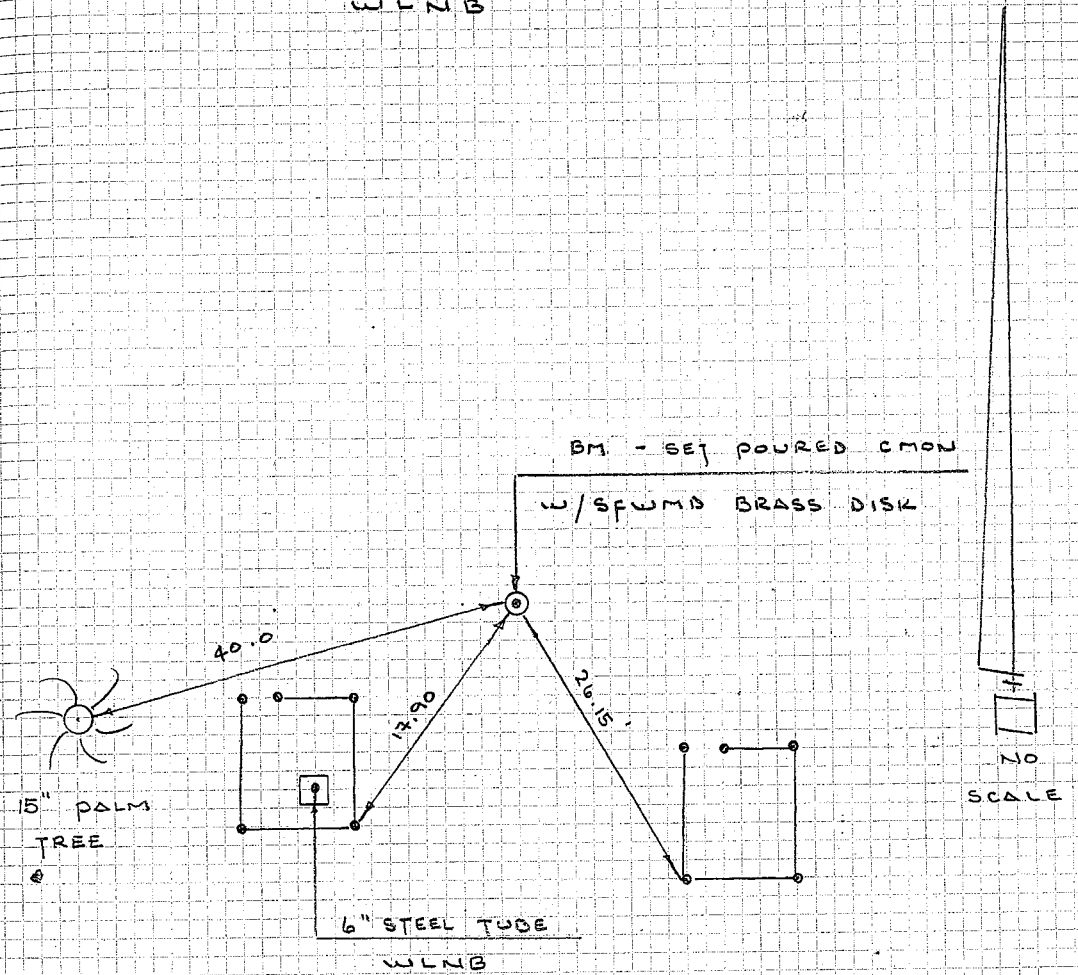
4-24-07
SAME CREW

NOTES

1. USED 25' RETRACTABLE ROD TO MEASURE DOWN 6" STEEL TUBE AND FOUND NO WATER. GROUND WAS @ DEPTH OF 8.33' TO TOP OF TUBE AND PLATFORM.
2. GATE LOCK COMBINATION = 5198 @ NW 50TH DR
C 1723 GRASSY ISLAND RANCH

LOCATION SKETCH FOR MONUMENTATION @ 1176-61

"WLNB"



4-24-03
 SAME CREW

STA	+	MEAN	HI	-	MEAN
	5.49				
BM 1	5.44	5.443			
"WLNB"	5.40				
	16.33				
	3.57		2.71		
TBM 1	2.86	2.863	2.66	2.663	
	2.16		2.62		
	8.59		7.99		
			5.38		
TP 44			4.61	4.610	
			3.84		
			13.83		

1176-62
 SET ELEV. @ TOP OF 6" STEEL TUBE
 AND PLATFORM FOR
 "WLNB"

BM ELEV.	ADJ BM ELEV.	COMMENTS
		FND POURED C MON - SEE PAGE 1176/52
		SHOT @ TOP OF 6" STEEL TUBE AND WOOD PLATFORM. MARKED SQUARE W/X IN MIDDLE. "WLNB"
		FND W.B.T - SEE PG 1176/52

Closure Report for file C:\LEVEL\22186

Job No. : 22186
 Benchmark No. : BM3257
 Starting BM Elev. : 31.320
 Ending BM Elev. : 31.277
 Unadjusted Ending Elev. : 31.277
 Closure Error : -0.003
 Length of Level Run : 39,054.000
 Allowable Error : 0.082
 Units : Feet

Closure is within allowable tolerances

Adjustment proportional to total distance

Pt. #	Unadj. Elev.	Adj. Elev.	Description
BM3257	31.320		
TBM1	29.090	29.090	
TBM2	29.280	29.280	
TBM3	29.370	29.370	
TBM4	30.833	30.833	
TBM5	33.723	33.723	
TBM6	34.453	34.453	
TBM7	35.333	35.333	
TBM8	36.282	36.282	
TBM9	36.879	36.879	
TBM10	36.669	36.669	
TBM11	35.976	35.976	
TBM12	35.856	35.856	
TBM13	36.499	36.499	
TBM14	37.103	37.103	
TBM15	35.063	35.064	
TBM16	33.223	33.224	
TBM17	32.590	32.591	
TBM18	32.597	32.598	
TBM19	33.010	33.011	
TBM20	34.117	34.118	
TBM21	35.707	35.708	
TBM22	36.057	36.058	
TBM23	36.287	36.288	
TBM24	35.630	35.631	
TBM25	34.980	34.981	
TBM26	34.400	34.401	
TBM27	33.997	33.998	
TBM28	33.867	33.868	
TBM29	34.163	34.164	
TBM30	34.003	34.004	
TBM31	34.683	34.684	
TBM32	35.023	35.024	
TBM33	35.073	35.074	
TBM34	34.943	34.944	
TBM35	35.783	35.784	
TBM36	36.217	36.218	
TBM37	35.224	35.225	
TBM38	33.037	33.038	

TBM39	33.567	33.568
TBM40	32.287	32.288
TBM41	30.400	30.401
TBM42	28.436	28.437
TBM43	26.583	26.584
TBM44	24.800	24.801
BMIWLNB	23.767	23.769
TBM45	25.660	25.662
TBM46	27.667	27.669
TBM47	28.654	28.656
TBM48	31.224	31.226
TBM49	32.568	32.570
TBM50	33.358	33.360
TBM51	33.258	33.260
TBM52	35.591	35.593
TBM53	35.251	35.253
TBM54	34.881	34.883
TBM55	35.048	35.050
TBM56	35.061	35.063
TBM57	34.681	34.683
TBM58	33.968	33.970
TBM59	34.145	34.147
TBM60	33.915	33.917
TBM61	34.075	34.077
TBM62	34.478	34.480
TBM63	35.068	35.070
TBM64	35.908	35.910
TBM65	35.964	35.966
TBM66	36.024	36.026
TBM67	35.101	35.103
TBM68	33.541	33.543
TBM69	32.687	32.689
TBM70	32.294	32.296
TBM71	32.607	32.609
TBM72	34.047	34.049
TBM73	36.677	36.680
TBM74	36.821	36.824
TBM75	35.828	35.831
TBM76	36.021	36.024
TBM77	36.367	36.370
TBM78	36.824	36.827
TBM79	36.434	36.437
TBM80	35.854	35.857
TBM81	34.887	34.890
TBM82	33.900	33.903
TBM83	32.237	32.240
TBM84	29.524	29.527
TBM85	29.314	29.317

Page 2

TBM86 29.124 29.127
 TBM87 29.470 29.473
 BM3250 31.277 31.280

Closure Report for file C:\LEVEL\22186

Job No. : 22186
 Benchmark No. : BMIWLNB
 Starting BM Elev. : 23.769
 Ending BM Elev. : 24.801
 Unadjusted Ending Elev. : 24.802
 Closure Error : 0.001
 Length of Level Run : 313.000
 Allowable Error : 0.007
 Units : Feet

Closure is within allowable tolerances

Adjustment proportional to total distance

Pt. #	Unadj. Elev.	Adj. Elev.	Description
BMIWLNB	23.769		
WLNB	26.549	26.549	
TBM44	24.802	24.801	

The NGS Data Sheet

DATABASE = Sybase, PROGRAM = datasheet, VERSION = 7.42
 1 National Geodetic Survey, Retrieval Date = MAY 3, 2007
 DG4290 *****
 DG4290 DESIGNATION - 32.57
 DG4290 PID - DG4290
 DG4290 STATE/COUNTY - FL/OKECHOBEE
 DG4290 USGS QUAD - TAYLOR CRBEK SE (1972)
 DG4290
 DG4290 *CURRENT SURVEY CONTROL
 DG4290
 DG4290 *NAD 83 (1986) - 27 17 47. (N) 080 49 40. (W) SCALED
 DG4290 NAVD 88 - 9.547 (meters) 31.32 (feet) ADJUSTED
 DG4290
 DG4290 GROID HEIGHT - -26.65 (meters) GROID03
 DG4290 DYNAMIC HT - 9.532 (meters) 31.27 (feet) COMF
 DG4290 MODELED GRAV - 979,106.9 (mgal) NAVD 88
 DG4290
 DG4290 VERT ORDER - FIRST CLASS II
 DG4290
 DG4290 The horizontal coordinates were scaled from a topographic map and have
 DG4290 an estimated accuracy of +/- 6 seconds.
 DG4290
 DG4290 The orthometric height was determined by differential leveling
 DG4290 and adjusted by the National Geodetic Survey in May 2004.
 DG4290
 DG4290 The geoid height was determined by GROID03.
 DG4290
 DG4290 The dynamic height is computed by dividing the NAVD 88
 DG4290 geopotential number by the normal gravity value computed on the
 DG4290 Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 DG4290 degrees latitude (g = 980.6199 gals.).
 DG4290
 DG4290 The modeled gravity was interpolated from observed gravity values.
 DG4290

	North	East	Units	Estimated Accuracy
DG4290				
DG4290, SEC FL B	328,260	217,050	MT	(+/- 180 meters Scaled)

 DG4290
 DG4290 SUPERSDED SURVEY CONTROL
 DG4290
 DG4290 No superseded survey control is available for this station.
 DG4290
 DG4290 U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNL170192 (NAD 83)
 DG4290 MARKER: DD = SURVEY DISK
 DG4290 SETTING: 36 = SET IN A MASSIVE STRUCTURE
 DG4290 SP_SET: BRIDGE WINGWALL
 DG4290 STAMPING: 32.57
 DG4290 MARK LOGO: FLSRD
 DG4290 MAGNETIC: N = NO MAGNETIC MATERIAL
 DG4290 STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 DG4290 SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 DG4290 SATELLITE: SATELLITE OBSERVATIONS - June 01, 2002
 DG4290

HISTORY	Date	Condition	Report By
DG4290			
DG4290		UNK	MONUMENTED
DG4290	20020601	GOOD	FLSRD
DG4290			FLDEP

 DG4290
 DG4290 STATION DESCRIPTION

DG4290
 DG4290 DESCRIBED BY FL DEPT OF ENV PRO 2002 (JLM)
 DG4290 THE MARK IS ABOUT 3.5 MI NORTH OF OKEECHOBEE, IN SECTION 34, TOWNSHIP
 DG4290 36 SOUTH, RANGE 35
 DG4290 EAST.
 DG4290
 DG4290 TO REACH THE MARK FROM THE INTERSECTION OF STATE ROAD 70 (U.S. HIGHWAY
 DG4290 98, PARK STREET)
 DG4290 AND U.S. HIGHWAY 441 (PARROTT STREET) IN OKEECHOBEE, GO NORTH ON U.S.
 DG4290 HIGHWAY 441
 DG4290 (PARROTT STREET) FOR 3.6 MI TO THE NORTH END OF THE BRIDGE SPANNING
 DG4290 TAYLOR CREEK AND
 DG4290 THE MARK ON THE LEFT, SET FLUSH IN THE TOP OF THE NORTHWEST BRIDGE
 DG4290 WINGWALL ABOUT 1.0
 DG4290 FT ABOVE THE LEVEL OF U.S. HIGHWAY 441.
 DG4290
 DG4290 LOCATED 18.4 FT WEST OF THE CENTERLINE OF U.S. HIGHWAY 441 AND 0.5 FT
 DG4290 EAST OF THE WEST
 DG4290 END OF THE WINGWALL.
 DG4290

The NGS Data Sheet

DATABASE = Sybase, PROGRAM = datasheet, VERSION = 7.42
 1 National Geodetic Survey, Retrieval Date = MAY 3, 2007
 DG4289 *****
 DG4289 DESIGNATION - 32.50
 DG4289 PID - DG4289
 DG4289 STATE/COUNTY - FL/OKECHOBEE
 DG4289 USGS QUAD - TAYLOR CRBEK SE (1972)
 DG4289
 DG4289 *CURRENT SURVEY CONTROL
 DG4289

	North	East	Units	Estimated Accuracy
DG4289				
DG4289, NAVD 88	9.535	31.28	(feet)	ADJUSTED

 DG4289
 DG4289 GROID HEIGHT - -26.65 (meters) GROID03
 DG4289 DYNAMIC HT - 9.520 (meters) 31.23 (feet) COMF
 DG4289 MODELED GRAV - 979,106.6 (mgal) NAVD 88
 DG4289
 DG4289 VERT ORDER - FIRST CLASS II
 DG4289
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 DG4289 an estimated accuracy of +/- 6 seconds.
 DG4289
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 DG4289 The geoid height was determined by GROID03.
 DG4289
 DG4289 The dynamic height is computed by dividing the NAVD 88
 DG4289 geopotential number by the normal gravity value computed on the
 DG4289 Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 DG4289 degrees latitude (g = 980.6199 gals.).
 DG4289
 DG4289 The modeled gravity was interpolated from observed gravity values.

	North	East	Units	Estimated Accuracy
DG4289				
DG4289, SPC FL B	328,160	217,100	MT	(+/- 180 meters Scaled)

 DG4289
 DG4289 SUPERSDED SURVEY CONTROL
 DG4289
 DG4289 No superseded survey control is available for this station.
 DG4289
 DG4289 U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNL170191 (NAD 83)
 DG4289 MARKER: DD = SURVEY DISK
 DG4289 SETTING: 36 = SET IN A MASSIVE STRUCTURE
 DG4289 SP_SET: BRIDGE WINGWALL
 DG4289 STAMPING: 32.50
 DG4289 MARK LOGO: FLSRD
 DG4289 MAGNETIC: N = NO MAGNETIC MATERIAL
 DG4289 STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 DG4289 SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 DG4289 SATELLITE: SATELLITE OBSERVATIONS - June 01, 2002
 DG4289

HISTORY	Date	Condition	Report By
DG4289			
DG4289		UNK	MONUMENTED
DG4289	20020601	GOOD	FLSRD
DG4289			FLDEP

 DG4289
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DG4289
 DG4289 DESCRIBED BY FL DEPT OF ENV PRO 2002 (JLM)
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 DG4289 36 SOUTH, RANGE 35
 DG4289 EAST.
 DG4289
 DG4289 TO REACH THE MARK FROM THE INTERSECTION OF STATE ROAD 70 (U.S. HIGHWAY
 DG4289 98, PARK STREET)
 DG4289 AND U.S. HIGHWAY 441 (PARROTT STREET) IN OKEECHOBEE, GO NORTH ON U.S.
 DG4289 HIGHWAY 441
 DG4289 (PARROTT STREET) FOR 3.55 MI TO THE SOUTH END OF THE BRIDGE SPANNING
 DG4289 TAYLOR CREEK AND
 DG4289 THE MARK ON THE RIGHT, SET FLUSH IN THE TOP OF THE SOUTHEAST BRIDGE
 DG4289 WINGWALL ABOUT 1.7
 DG4289 FT ABOVE THE LEVEL OF THE GROUND AND ABOUT 1.0 FT ABOVE THE LEVEL OF
 DG4289 U.S. HIGHWAY 441.
 DG4289
 DG4289 LOCATED 18.4 FT EAST OF THE CENTERLINE OF U.S. HIGHWAY 441 AND 0.5 FT
 DG4289 WEST OF THE EAST END
 DG4289 OF THE WINGWALL.
 DG4289

Identification_Information:

Citation:

Citation_Information:

Originator: Ernesto Garcia, P. S. M. (ed.)
Publication_Date: 20070607
Publication_Time: Unknown
Title: S. F. W. M. D. Monitoring Well
Edition: Well Site WLN.B.
Series_Information:
Publication_Information:
Publication_Place: Not Published
Publisher: None
Online_Linkage: egarcia@keithandschnars.com
Larger_Work_Citation:
Citation_Information:
Series_Information:
Publication_Information:

Description:

Abstract:

South Florida Water Management District
Well Site WLN.B.

Purpose:

To establish reference elevations in NAVD 1988 and
NGVD 1929 datum at the Monitoring Well(s).

Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:
Calendar_Date: 20070607
Range_of_Dates/Times:
Multiple_Dates/Times:

Currentness_Reference: Publication Date

Status:

Progress: Complete
Maintenance_and_Update_Frequency: Unknown

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: 80°50'28"
East_Bounding_Coordinate: 80°50'28"
North_Bounding_Coordinate: 27°19'16"
South_Bounding_Coordinate: 27°19'16"

Keywords:

Theme:

Theme_Keyword_Thesaurus: Specific Purpose Survey
Theme_Keyword: Monitoring Well(s)

Place:

Place_Keyword_Thesaurus: Okeechobee County
Place_Keyword: S. F. W. M. D. Monitoring Well WLN.B.
Place_Keyword: SEC. 21 - T36S - R34E

Stratum:

Temporal:

Access_Constraints:

Key for lock needed to gain access to Monitoring
Wells. Lock combination 5198

Use_Constraints: None

Point_of_Contact:

Contact_Information:

Contact_Person_Primary:
Contact_Person: Howard J. Ehmke
Contact_Organization: South Florida Water Management

District

Contact_Organization_Primary:
Contact_Position: P. S. M.
Contact_Address:
Address_Type: mailing and physical address
Address:
Acceler 8
Suite 150
2301 Centerpark West Drive
City: West Palm Beach
State_or_Province: Florida

WLNb.gen
Postal_Code: 33409
Country: USA
Contact_Voice_Telephone: (561) 242-5520 ext 4064
Contact_Electronic_Mail_Address: hehmke@sfwmd.gov
Hours_of_Service: 8:00 am to 5:00 pm EST

Security_Information:

Cross_Reference:

Citation_Information:

Series_Information:

Publication_Information:

Data_Quality_Information:

Attribute_Accuracy:

Attribute_Accuracy_Report:

The horizontal location of the benchmark was taken from a hand held G.P.S. unit. The vertical data was collected using a Wild NA2 Level. Coordinates are based on the Florida State Plane Coordinate System, East Zone, NAD 83/90. Elevations are based on NAVD 1988 with an offset supplied to convert to NGVD 1929.

Logical_Consistency_Report:

Vertical data on the monitoring well was established using the site benchmark.

Completeness_Report:

27.739' (NGVD 1929) WLNb Monitoring Well.
Offset written at well (-) 1.19' to NAVD 1988.

Positional_Accuracy:

Horizontal_Positional_Accuracy:

Horizontal_Positional_Accuracy_Report:

The horizontal position of the benchmark was established using a hand held GPS.

Quantitative_Horizontal_Positional_Accuracy_Assessment:

Horizontal_Positional_Accuracy_Value: Lat. 27°19'16" Long.

80°50'28"

Horizontal_Positional_Accuracy_Explanation: Value derived

by hand-held GPS unit.

Vertical_Positional_Accuracy:

Vertical_Positional_Accuracy_Report:

The onsite benchmark was used to establish the elevations on the monitoring well(s) in this report.

Quantitative_Vertical_Positional_Accuracy_Assessment:

Vertical_Positional_Accuracy_Value: 0.003 ft. NAVD88

Vertical_Positional_Accuracy_Explanation: Better than

0.03ft. x sq. root of miles of the level loop.

Lineage:

Source_Information:

Source_Citation:

Citation_Information:

Series_Information:

Publication_Information:

Larger_Work_Citation:

Citation_Information:

Series_Information:

Publication_Information:

Source_Time_Period_of_Content:

Time_Period_Information:

Single_Date/Time:

Range_of_Dates/Times:

Multiple_Dates/Times:

Process_Step:

Process_Description:

Differential leveling was performed using a Topcon Wild NA2 level. The onsite benchmark FG-1 was used to determine the monitoring well elevation. Elevations were written at the wells in NGVD 1929 with an offset provided to convert the elevations to NAVD 1988.

Process_Date: 20070607

Process_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Organization_Primary:

WLN.B. gen
Contact_Address:

Spatial_Data_Organization_Information:

Spatial_Reference_Information:

Horizontal_Coordinate_System_Definition:

Geographic:

Latitude_Resolution: 27°19'16"

Longitude_Resolution: 80°50'28"

Geographic_Coordinate_Units: Degrees, minutes, and decimal

seconds

Geodetic_Model:

Vertical_Coordinate_System_Definition:

Altitude_System_Definition:

Depth_System_Definition:

Entity_and_Attribute_Information:

Detailed_Description:

Entity_Type:

Attribute:

Attribute_Domain_Values:

Attribute_Value_Accuracy_Information:

Overview_Description:

Distribution_Information:

Distributor:

Contact_Information:

Contact_Person_Primary:

Contact_Organization_Primary:

Contact_Organization: Keith and Schnars, P. A.

Contact_Person: Ernesto J. Garcia, P. S. M.

Contact_Position: Project Manager Lakeland

Contact_Address:

Address_Type: mailing and physical address

Address: 2525 Drane Field Rd., Suite 7

City: Lakeland

State_or_Province: Florida

Postal_Code: 33811

Country: Polk

Contact_Voice_Telephone: (863)-646-4771

Contact_Facsimile_Telephone: (863)-646-3378

Contact_Electronic_Mail_Address: kgl ass@keithandschnars.com

Hours_of_Service: 8:00-5:00 est.

Distribution_Liability: None

Standard_Order_Process:

Digital_Form:

Digital_Transfer_Information:

Digital_Transfer_Option:

Online_Option:

Computer_Contact_Information:

Network_Address:

Dialup_Instructions:

Offline_Option:

Recording_Capacity:

Available_Time_Period:

Time_Period_Information:

Single_Date/Time:

Range_of_Dates/Times:

Multiple_Dates/Times:

Metadata_Reference_Information:

Metadata_Date: 20070607

Metadata_Contact:

Contact_Information:

Contact_Person_Primary:

Contact_Person: Ernesto J. Garcia, P. S. M.

Contact_Organization: Keith and Schnars, P. A.

Contact_Organization_Primary:

Contact_Position: Project Manager Lakeland

Contact_Address:

Address_Type: mailing and physical address

Address: 2525 Drane Field Rd., Suite 7

City: Lakeland

State_or_Province: FL

Postal_Code: 33811

WLN.B. gen

Country: USA

Contact_Voice_Telephone: (863) 646-4771

Contact_Facsimile_Telephone: (863) 646-3378

Contact_Electronic_Mail_Address: kglass@keithandschnars.com

Hours_of_Service: 8:00 am to 5:00 pm EST

Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata

Metadata_Standard_Version: 19940608

Metadata_Security_Information:



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/01





SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 4/01



The NGS Data Sheet

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

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DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.42
1 National Geodetic Survey, Retrieval Date = FEBRUARY 23, 2007
DG4290 *****
DG4290 DESIGNATION - 32.57
DG4290 PID - DG4290
DG4290 STATE/COUNTY- FL/OKEECHOBEE
DG4290 USGS QUAD - TAYLOR CREEK SE (1972)
DG4290
DG4290 *CURRENT SURVEY CONTROL
DG4290
DG4290 * NAD 83(1986)- 27 17 47. (N) 080 49 40. (W) SCALED
DG4290 * NAVD 88 - 9.547 (meters) 31.32 (feet) ADJUSTED
DG4290
DG4290 GEOID HEIGHT- -26.65 (meters) GEOID03
DG4290 DYNAMIC HT - 9.532 (meters) 31.27 (feet) COMP
DG4290 MODELED GRAV- 979,106.9 (mgal) NAVD 88
DG4290
DG4290 VERT ORDER - FIRST CLASS II
DG4290
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DG4290 .an estimated accuracy of +/- 6 seconds.
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DG4290 .geopotential number by the normal gravity value computed on the
DG4290 .Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
DG4290 .degrees latitude (g = 980.6199 gals.).
DG4290
DG4290 .The modeled gravity was interpolated from observed gravity values.
DG4290
DG4290 ;
DG4290 ; SPC FL E - North East Units Estimated Accuracy
DG4290 ; 328,260. 217,050. MT (+/- 180 meters Scaled)
DG4290
DG4290 SUPERSEDED SURVEY CONTROL
DG4290
DG4290 No superseded survey control is available for this station.
DG4290
DG4290 U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNL170192(NAD 83)
DG4290 _MARKER: DD = SURVEY DISK
DG4290 _SETTING: 36 = SET IN A MASSIVE STRUCTURE
DG4290 _SP_SET: BRIDGE WINGWALL
DG4290 _STAMPING: 32.57
DG4290 _MARK LOGO: FLSRD
DG4290 _MAGNETIC: N = NO MAGNETIC MATERIAL
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DG4290 _SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DG4290 +SATELLITE: SATELLITE OBSERVATIONS - June 01, 2002
DG4290
DG4290 HISTORY - Date Condition Report By
DG4290 HISTORY - UNK MONUMENTED FLSRD
DG4290 HISTORY - 20020601 GOOD FLDEP
DG4290
DG4290 STATION DESCRIPTION
DG4290
DG4290 'DESCRIBED BY FL DEPT OF ENV PRO 2002 (JLM)
DG4290 'THE MARK IS ABOUT 3.5 MI NORTH OF OKEECHOBEE, IN SECTION 34, TOWNSHIP
DG4290 '36 SOUTH, RANGE 35
DG4290 'EAST.
DG4290 '
DG4290 'TO REACH THE MARK FROM THE INTERSECTION OF STATE ROAD 70 (U.S. HIGHWAY
DG4290 '98, PARK STREET)
DG4290 'AND U.S. HIGHWAY 441 (PARROTT STREET) IN OKEECHOBEE, GO NORTH ON U.S.
DG4290 'HIGHWAY 441
DG4290 '(PARROTT STREET) FOR 3.6 MI TO THE NORTH END OF THE BRIDGE SPANNING
DG4290 'TAYLOR CREEK AND

```

DATASHEETS

DG4290' THE MARK ON THE LEFT, SET FLUSH IN THE TOP OF THE NORTHWEST BRIDGE
DG4290' WINGWALL ABOUT 1.0
DG4290' FT ABOVE THE LEVEL OF U.S. HIGHWAY 441.
DG4290'
DG4290' LOCATED 18.4 FT WEST OF THE CENTERLINE OF U.S. HIGHWAY 441 AND 0.5 FT
DG4290' EAST OF THE WEST
DG4290' END OF THE WINGWALL.
DG4290'

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

The NGS Data Sheet

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

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DATABASE = Sybase ,PROGRAM = datasheet, VERSION = 7.42
1 National Geodetic Survey, Retrieval Date = FEBRUARY 23, 2007
DG4289 *****
DG4289 DESIGNATION - 32.50
DG4289 PID - DG4289
DG4289 STATE/COUNTY- FL/OKEECHOBEE
DG4289 USGS QUAD - TAYLOR CREEK SE (1972)
DG4289
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DG4289
DG4289 * NAD 83(1986)- 27 17 44. (N) 080 49 38. (W) SCALED
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DG4289
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DG4289 ; North East Units Estimated Accuracy
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DG4289
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DG4289 HISTORY - UNK MONUMENTED FLSRD
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DG4289 'EAST.
DG4289 '
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DATASHEETS

DG4289' THE MARK ON THE RIGHT, SET FLUSH IN THE TOP OF THE SOUTHEAST BRIDGE
DG4289' WINGWALL ABOUT 1.7
DG4289' FT ABOVE THE LEVEL OF THE GROUND AND ABOUT 1.0 FT ABOVE THE LEVEL OF
DG4289' U.S. HIGHWAY 441.
DG4289'
DG4289' LOCATED 18.4 FT EAST OF THE CENTERLINE OF U.S. HIGHWAY 441 AND 0.5 FT
DG4289' WEST OF THE EAST END
DG4289' OF THE WINGWALL.
DG4289'

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