



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Rev. 1/16

U.S.G.S. Station Name: G-1221	U.S.G.S. Station Number: 260458080134801	Agency: SFWMD	Date of Field Work: 09/20/19
Party Chief: T. AVERY	Field Book: SFWMD #1	Page(s): 22-24	Report Prepared by: DEWBERRY

SITE SPECIFIC DATA

Site Benchmark: G-1221	Benchmark Elevation(s) (NAVD88): 6.39 feet	Corpscon 6.0.1 Conversion Factor (NAVD88 to NGVD29) + 1.57 feet
Well Reference Elevation (NAVD88): 8.04'	Ground Elevation (NAVD88): 5.6'	Pad Elevation (NAVD88): N/A

GEOGRAPHIC DATA

Section 23	Township 50 SOUTH	Range 41 EAST
Well Latitude: 26°05'08.13"N	Well Longitude: 80°13'45.75"W	Location Source: AVERAGED FPRN & TRIMBLE VRSNOW RTK
State Plane Coordinates:	Northing (Y) = 637548'	Easting (X) = 909100'

Notes: NAVD88 – North American Vertical Datum of 1988; NGVD29- National Geodetic Vertical Datum of 1929; Corpscon 6.0.1 - A U.S. Army Corps of Engineers Engineering Research and Development Center Topographic Engineering Center Alexandria, Virginia Windows-based program to convert coordinates and elevations between datum's using vertcon05.txt and vertcon05.05 files supplied by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville FL.

PICTURES

Benchmark "G-1221"
Latitude: 26°05'08.5"
Longitude: 80°13'45.7"
NAVD88 EL = 6.39 FEET

Well Site
Latitude: 26°05'08.1"
Longitude: 80°13'45.8"

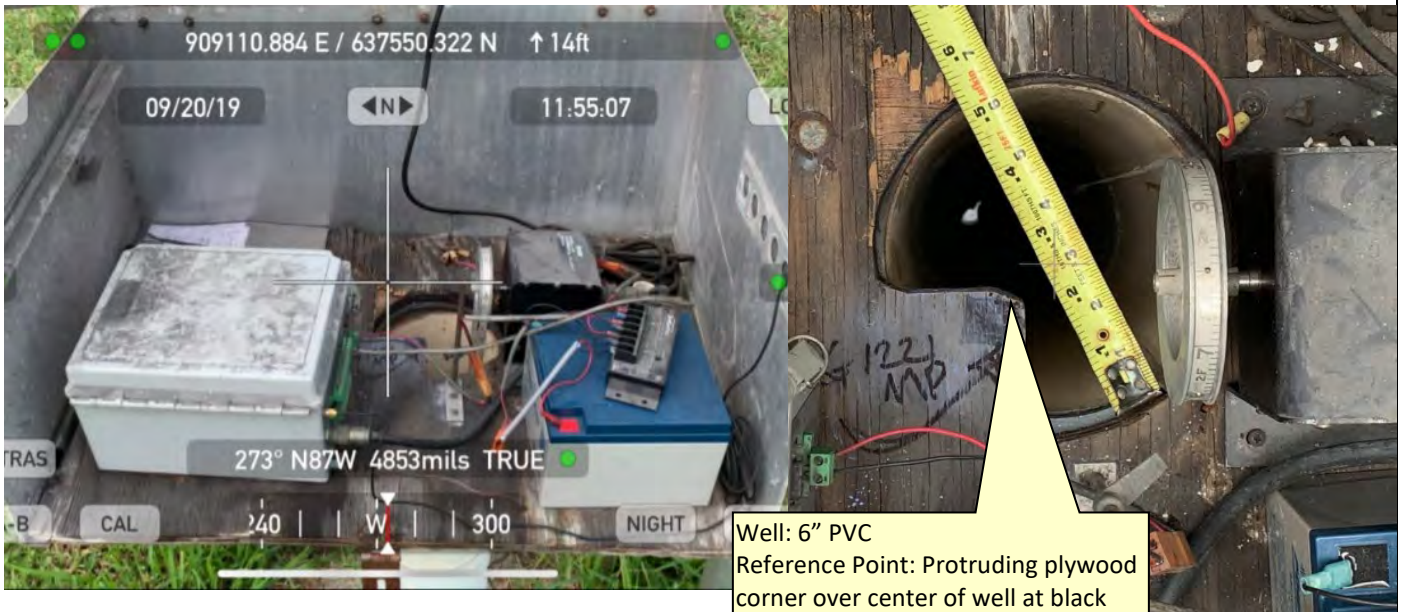
Not to scale (GoogleEarth product)



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Well Site and Well Head



Well: 6" PVC
Reference Point: Protruding plywood corner over center of well at black mark.

Reference Point El. =
8.04 feet NAVD88

Distance to water =
-6.97 feet from reference point
(09/27/19 at 12:01 PM)



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New Aluminum Tag





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USGS RMs

NOTE: THERE ARE NO USGS REFERENCE MONUMENTS IN THE VICINITY OF WELL G-1221.



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Site Benchmark



Site BM: G2147



Latitude: 26°05'08.5"
 Longitude: 80°13'45.7"
 NAVD88 EL = 6.39 FEET





Source Benchmarks



NGS Benchmark "10.462" (AD5781)



Latitude: 26°05'40.5"
Longitude: 80°13'44.1"
NAVD88 EL = 8.93 FEET



South Florida Water Management District Benchmark Datasheet

Designation: G-1221	Project Name: USGS Ph 2, BROWARD	Type: V	State Plane Zone: FL East
Stamping: G1221 2019	Field Book Name: W210	Field Book Page: 54	
Established By: DEWBERRY / WHIDDEN	Recovered By: N/A	Recovery Date: N/A	
Surveyor: WILLIAM D. DONLEY	Established Date: 10/21/19	Status: New	

GEOGRAPHIC POSITION INFORMATION

Section: 23	Township: 50 SOUTH	Range: 41 EAST
County: BROWARD	Quadrangle: FORT LAUDERDALE SOUTH	Quad Index: 1702
NAD83 Adj. Year: 2011	Vertical Datum: NAVD1988	Horizontal Datum: NAD1983
NAVD88 Elevation (feet): 6.39	NGVD29 Elevation (feet): 7.991	2022 Elevation: N/A
NAVD88 Class: N/A	NGVD29 Class: N/A	Other Elevation: N/A
NAVD88 Order: 3	NGVD29 Order: N/A	Other Elevation Type: N/A

CORPSCON 6.0.1 CONVERSION FACTOR (NAVD88 TO NGVD29): (A U.S. Army Corps of Engineers Engineering Research and Development Center Topographic Engineering Center Alexandria, Virginia Windows-based program to convert coordinates and elevations between datum's using vertcon05.txt and vertcon05.05 files supplied by the U.S. Army Corps of Engineers South Atlantic Division, Jacksonville FL)

Vertical Datum Offset: + 1.60	Actual NGS Elevation or ngvd29.txt file: N/A	OPUS Ortho Height: N/A
Northing (Y) (feet): 637579.7	Easting (X) (feet): 909101.2	Source of Latitude & Longitude: AVERAGED FPRN & TRIMBLE VRSNOW RTK
Latitude: 26	5	80
DD°	MM'	SS"
Longitude: 80	13	45.73
DD°	MM'	SS"
Latitude (Decimal Degrees): 26.085681	Longitude (Decimal Degrees): -80.229369	

RECOVERY DATA

How to Reach: **1. FROM W STATE RD 84, HEAD SOUTHWEST ON COLLEGE AVE FOR 0.5 MI**
2. TURN LEFT ON NOVA DR, CONTINUE 0.4 MI TO THE MARK ON THE RIGHT

Description/Notes: **2" ALUMINUM SFWMD DISK SET IN 6" CONCRETE CURB AT THE SOUTHERLY EDGE OF SIDEWALK, IMMEDIATELY EAST OF TRAFFIC SIGNAL CABINET;**
NOTE: AERIAL IMAGE BELOW DOES NOT REFLECT RECENT CONSTRUCTION. SEE TERRESTRIAL PHOTO FOR CURRENT SITE CONDITIONS.

Notable Landmarks: **SOUTH FLORIDA EDUCATION CENTER SIGN**

Other Source Benchmarks: **NGS "10.463"**

PICTURES

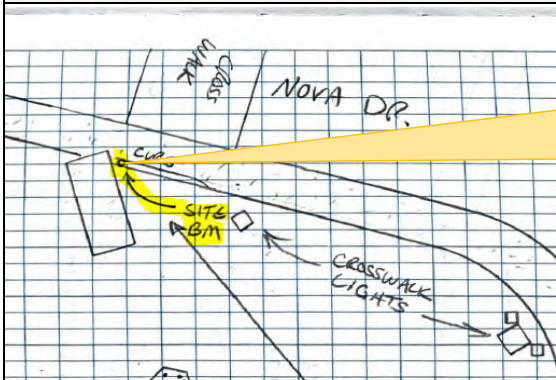
Aerial View of Overall Site



NOT TO SCALE. AERIAL FROM GOOGLE EARTH.

PICTURES

Site Sketch





"10.462" Benchmark Datasheet (1 of 3)

The NGS Data Sheet

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

PROGRAM = datasheet95, VERSION = 8.12.5.4

1 National Geodetic Survey, Retrieval Date = OCTOBER 22, 2019

AD5781 *****

AD5781 DESIGNATION - 10.462
AD5781 PID - AD5781
AD5781 STATE/COUNTY- FL/BROWARD
AD5781 COUNTRY - US
AD5781 USGS QUAD - FORT LAUDERDALE SOUT (1994)

*CURRENT SURVEY CONTROL

AD5781* NAD 83(1986) POSITION- 26 05 40.62 (N) 080 13 44.14 (W) HD HELD1
AD5781* NAVD 88 ORTHO HEIGHT - 2.721 (meters) 8.93 (feet) ADJUSTED

AD5781 GEOID HEIGHT - -25.408 (meters) GEOID18
AD5781 DYNAMIC HEIGHT - 2.717 (meters) 8.91 (feet) COMP
AD5781 MODELED GRAVITY - 979,057.9 (mgal) NAVD 88

AD5781 VERT ORDER - FIRST CLASS II

AD5781.The horizontal coordinates were determined by differentially corrected
AD5781.hand held GPS observations or other comparable positioning techniques
AD5781.and have an estimated accuracy of +/- 3 meters.

AD5781.The orthometric height was determined by differential leveling and
AD5781.adjusted by the NATIONAL GEODETIC SURVEY
AD5781.in June 1991.

AD5781.Significant digits in the geoid height do not necessarily reflect accuracy.
AD5781.GEOID18 height accuracy estimate available here.

AD5781.Click here to see if photographs exist for this station.

AD5781.The dynamic height is computed by dividing the NAVD 88
AD5781.geopotential number by the normal gravity value computed on the
AD5781.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AD5781.degrees latitude (g = 980.6199 gals.).

AD5781.The modeled gravity was interpolated from observed gravity values.

AD5781; North East Units Estimated Accuracy
AD5781;SPC FL E - 195,325.0 277,132.9 MT (+/- 3 meters HHL GPS)

AD5781_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RNJ7710686390(NAD 83)

SUPERSEDED SURVEY CONTROL

AD5781 NGVD 29 (09/01/92) 3.210 (m) 10.53 (f) ADJUSTED 1 2

AD5781.Superseded values are not recommended for survey control.

AD5781



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"10.462" Benchmark Datasheet (2 of 3)

AD5781.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AD5781.See file [dsdata.pdf](#) to determine how the superseded data were derived.

AD5781

AD5781_MARKER: DD = SURVEY DISK

AD5781_SETTING: 36 = SET IN A MASSIVE STRUCTURE

AD5781_SP_SET: BOAT LOCK WALL

AD5781_STAMPING: 10.462 MSL 1939

AD5781_MARK LOGO: USE

AD5781_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

AD5781_SATELLITE: THE SITE LOCATION WAS REPORTED AS NOT SUITABLE FOR

AD5781+SATELLITE: SATELLITE OBSERVATIONS - December 22, 2013

AD5781

AD5781	HISTORY	- Date	Condition	Report By
AD5781	HISTORY	- 1939	MONUMENTED	USE
AD5781	HISTORY	- 1978	GOOD	FL-011
AD5781	HISTORY	- 19910716	GOOD	USPSQD
AD5781	HISTORY	- 19940307	GOOD	USPSQD
AD5781	HISTORY	- 20010416	GOOD	GCYI
AD5781	HISTORY	- 20020114	GOOD	NGS
AD5781	HISTORY	- 20131222	GOOD	GEOCAC
AD5781	HISTORY	- 20160125	POOR	WANTGP

AD5781

STATION DESCRIPTION

AD5781

AD5781'DESCRIBED BY BROWARD COUNTY FLORIDA 1978

AD5781'1.9 MI NORTH FROM DAVIE.

AD5781'ABOUT 1.9 MILES NORTH OF DAVIE CITY HALL. FROM THE INTERSECTION OF

AD5781'STATE ROAD 84 AND U.S. 441 PROCEED 1.8 MILES NORTHWEST ALONG

AD5781'STATE ROAD 84 TO THE MARK. THE MARK IS LOCATED 765 FEET WEST OF THE

AD5781'PROJECTED CENTERLINE OF DAVIE ROAD AT THE NORTH NEW RIVER CANAL LOCK

AD5781'NUMBER 1. THE MARK IS 130 FEET NORTH OF THE NORTH EDGE OF PAVEMENT OF

AD5781'THE WESTBOUND LANES OF STATE ROAD 84. THE MARK IS A U.S. CORPS OF

AD5781'ENGINEERS DISK.

AD5781

STATION RECOVERY (1991)

AD5781

AD5781'RECOVERY NOTE BY US POWER SQUADRON 1991 (JHH)

AD5781'RECOVERED IN GOOD CONDITION.

AD5781

STATION RECOVERY (1994)

AD5781

AD5781'RECOVERY NOTE BY US POWER SQUADRON 1994

AD5781'RECOVERED IN GOOD CONDITION.

AD5781

STATION RECOVERY (2001)

AD5781

AD5781'RECOVERY NOTE BY G.C.Y., INCORPORATED 2001 (PA)

AD5781'RECOVERED IN GOOD CONDITION.

AD5781

STATION RECOVERY (2002)

AD5781

AD5781'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2002 (DB)

AD5781'THIS REPORT WAS SUBMITTED BY THE US POWER SQUADRONS.

AD5781

STATION RECOVERY (2013)

AD5781

AD5781'RECOVERY NOTE BY GEOCACHING 2013 (RKG)

AD5781'RECOVERED IN GOOD CONDITION BY GEOCACHER GUNGADOY.

AD5781

STATION RECOVERY (2016)

AD5781



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AD5781
AD5781'RECOVERY NOTE BY WANTMAN GROUP INC 2016 (MS)
AD5781'MARK RECOVERED IN POOR CONDITION.

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



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Dewberry Field Notes (1 of 3)

TWP: SFWMD
 AT-GZ USGS WELLS & BMs
 S/N: 11430 JOB # S002 004A
 WELL SITE G-1221

TASK: ELEVATE MONITORING POINT & GROUND W/ FRONT OF WELL CASING ENCLOSURE

ELEVATION	DESCRIPTION				
BEGIN @ 7.00 6.39	ALUMINUM DISC W/ TIP OF (WHIDDEN) (NAVID)				
BACKSIGHT (+)	FORESIGHT (-)	ADJ.			
STA ID	READINGS	MEAN ELEV	READINGS	MEAN ELEV	ELEV.

	5.39			6.115	
Bm	5.23	5.2317	10.5797 6.005	6.0067	99.2250 5.615
	5.075		11.622	5.90	
	31.5/31.5'			21.6'/52'	

			3.69		
Bm	10.5797 3.58	3.5783	10.6533 8.044		
	11.622	3.965			
		22.5'/54'			

* BENCH SETUP

	3.945			5.64	
IN	3.83	3.8300	10.5797 5.9850	5.9850	99.9988 6.389
	3.715		11.874	5.33	
	23'/72'			31'/102'	

* END LEVEL LOOP

N: TAVELY
 X: J. HUFF

CURB, EPOXY'D IN, N. OF WELL ENCLOSURE

FORESIGHT (-)
DESCRIPTION

GROUND SHOT (N OF CASING ENCLOSURE)

MP (MEASURING POINT - TIPPED PLYWOOD BASE OF WELL ENCLOSURE)

BACK @ STARTING POINT (SITE Bm)

check In = -0.001



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Dewberry Field Notes (2 of 3)

SPECTOR SP80 S.F.W.M.D. 09/20/19
 RAINIER S/N: USGS WEELS & BMS 09/27/19
 TRIMBLE NRT JOB # 5009 999A
 IFT. - G. 562 WELL SITE: G-1221

TASKS: DETERMINE HORIZONTAL LOCATIONS AND
 REFERENCE MONUMENTATION & MEASURING
 POINT ON WELL SITE

PT #	(N) EAC	(E) EAC	(S) EAC	PT #	DESCRIPTION	
3/0	4	0.028	0.037	0.028	5020	CHK W/ IFT @ G-1221
* LOCATED PT # 12026						
3/0	A.	0.015	0.001	F.0.001	5021	CHK OUT ETC @ 1221

PT #	DESCRIPTION
12026	MP @ TOP OF BASE @ PROTRUDING BASE CORNER

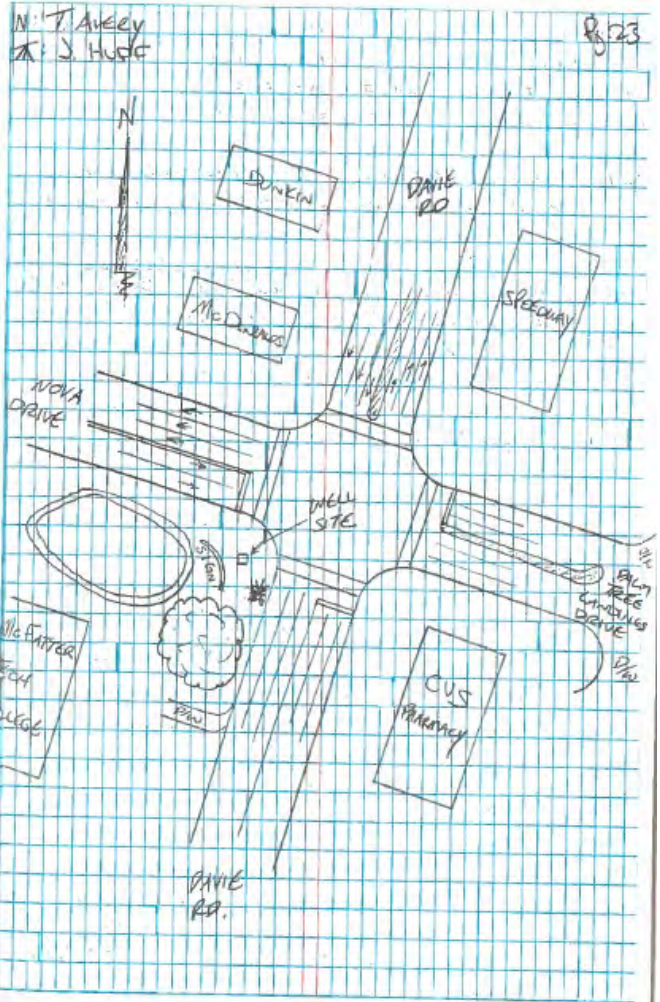
9/20/19

TASK: MEASURE DISTANCE TO WATERLINE FROM
 MEASURING POINT (TOP OF ENCLOSURE BASE @
 PROTRUDING CORNER DIRC TOP OF WELL OPENING)

TIME: 12:01 pm

MEASURE: 6.91'

LOCATION: SITE IS LOCATED ON SOUTH WESTERLY
 CORNER OF NOVA DR. & DANIE RD.
 ON R/W IN FRONT OF McFATTER TECH
 SIGW





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Dewberry Field Notes (3 of 3)

SFWMD
 ROUTE 1165 U.S. GS WELLS & BM'S
 TEMPLE NET JOB # S009 9949
 HT: 6.542 WELLS SITE: G-1221

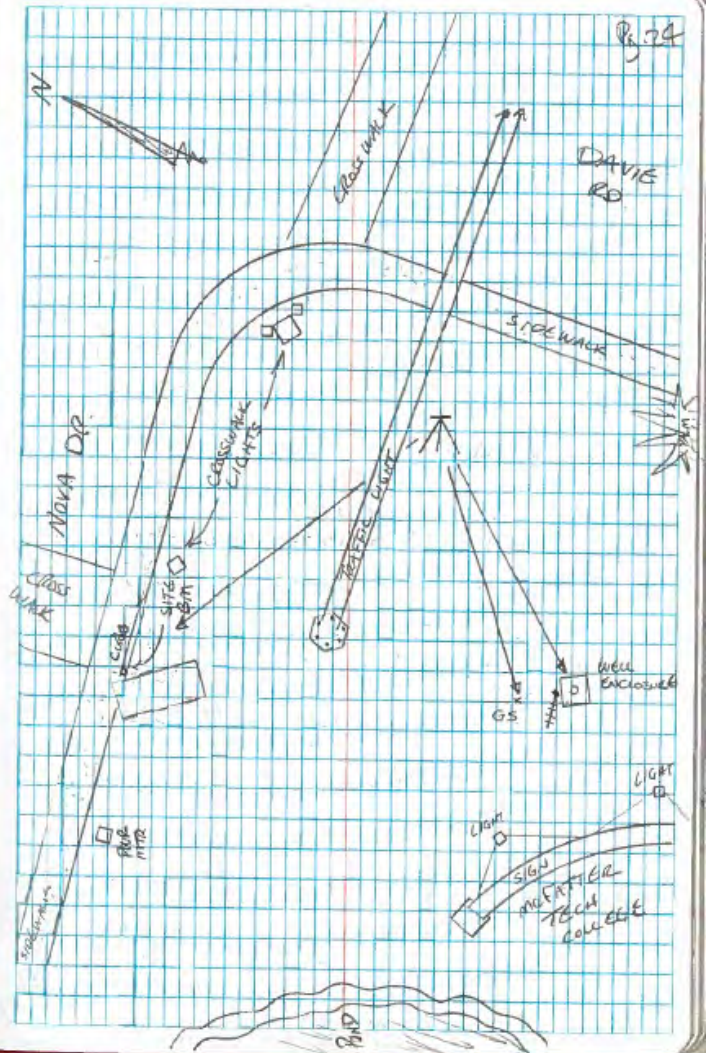
09/29/19

TASK: RE-LOCATE SITE BENCHMARK, WELL MEASURING POINT, & ANY REFERENCE MONUMENTATION AT SITE.

PT #	(N) ELEV	(E) ELEV	(Z) ELEV	PT #	DESCR.	DATUM
5/0	4	0.028	0.037	F0.028	5020	CG 1221 BM 1221
* LOCATED PT # 12026						
5/0	4	0.015	0.001	F0.069	5021	CG 0216 BM 1221

PT # DESCRIPTION
 12026 MP @ TOP OF BASE (PROTRUSING CORNER)

* THE POINTS WERE RELOCATED DUE TO DATA COLLECTOR BEING STOLEN.





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Whidden Field Notes

G1821

000000 G1821
DATA W/SPEED @ 225M
Log HRS → GC Shot
to 10.462

* DURING STATIC LOGGING SESSION
TRIMBLE SP5885 ON 2meters ROD
WAS USED TO CHECK INTO MGS
CONTROL POINT 10.462 AD578

PUBLISHED ELEV; 8.93
OBSERVED; 8.97

$\Delta V = 0.04$

W210/54

BLACK MAREGGI