MINIMUM TECHNICAL STANDARDS, VOL. 1
FINAL REPORT OF LIDAR CONTROL AND QA/QC CHECKPOINT SURVEY

PROJECT AREA H

STATE OF FLORIDA
DIVISION OF EMERGENCY MANAGEMENT

TASK ORDER NO. 20070525-492720
PURCHASE ORDER 4500091463
CONTRACT NO. 07-HS-34-14-00-22-469

FEBRUARY 18, 2009

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PREPARED BY:
WOOLPERT, INC.
3504 LAKE LYNDA DRIVE, SUITE 400
ORLANDO, FLORIDA 32817-1484
LB 0006777

FEBRUARY 18, 2009

QUALITY

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NOTICE OF PROPRIETARY INFORMATION

MINIMUM TECHNICAL STANDARDS REPORT OF LiDAR GROUND CONTROL SURVEY

Task Order No. 20070525-492720
Purchase Order 4500091463
Contract No. 07-HS-34-14-00-22-469

PROJECT AREA H

For:
State of Florida, Division of Emergency Management
"State Emergency Response Team"
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

Collier County, Florida
Community Development Services
2800 North Horseshoe Drive
Naples, Florida 34104-5917

By:
WOOLPERT, Inc.
Laurel Building
3504 Lake Lynda Drive, Suite 400
Orlando, FL 32817-1484
Tel 407.381.2192 / Fax 407.384.1185
Florida Certificate of Authorization LB 6777

Prepared by:
David Bruno, PSM
Florida Professional Surveyor and Mapper PSM 5670

Summary of Contents

LiDAR Ground Control Survey and QA/QC Survey Report Page

REPORT OF LiDAR GROUND CONTROL SURVEY
PROJECT AREA H
FOR THE
FLORIDA DIVISION OF EMERGENCY MANGEMENT

Introduction

This report contains an outline of the QA/QC Survey that supported LiDAR Data Acquisition in the general area of:

- Project Area H – South Central part of Collier County.

Project Area

Project Area H encompassed approximately +/-516 square miles of the approximately +/-3,774 square miles of the FY2007 State of Florida Division of Emergency Management Ground Control QA/QC Survey Mapping Project.

Purpose

The purpose of this survey was to acquire a minimum of twenty (20) independently surveyed LiDAR Control Points and a minimum of one-hundred twenty (120) three-dimensional LiDAR QA/QC Checkpoints per 500 square miles of project area. To the extent allowed by the terrain, the LiDAR Control Points and Checkpoints were distributed so that points were spaced at intervals of at least 10% of the diagonal distance across the dataset and at least 20% of the points were located in each quadrant of the +/-516 square-mile project area. All field surveying and related activities conformed to the *FEMA Flood Hazard Mapping Program, Guidelines and Specifications for Flood Hazard Mapping Partners Appendix A*.

LiDAR Control Points were defined as observations made on unobstructed, relatively flat, light-colored, hard uniform surfaces. Three-dimensional coordinate values were calculated for these points and then incorporated in the initial processing of the LiDAR data to ensure the proper horizontal and vertical geographical location of the LiDAR data set.

LiDAR QA/QC Checkpoints were ground truth observations distributed within the land cover classes of urban, bare-earth/low grass, brush land/sparse trees and dense trees/forested. These QA/QC Checkpoints were used to verify the accuracy of the LiDAR missions for final DTM and contour deliverables.

Date of Survey

All LiDAR Control Point and LiDAR QA/QC Checkpoint field operations took place between January 22-26, 2008, June 10-13 and June 24-28, 2008.

Map Reference

Maps illustrating project boundaries, LiDAR QA/QC Checkpoints, LiDAR Control Points and GPS control stations for this project area can be found in Appendix E of this report.

Name of Responsible Surveyor

David Bruno, PSM
Woolpert, Inc.
Laurel Building
3504 Lake Lynda Drive, Suite 400
Orlando, Florida 32817-1484
Professional Surveyor and Mapper Number 5670

Name of Company

Woolpert, Inc.
Laurel Building
3504 Lake Lynda Drive, Suite 400
Orlando, Florida 32817-1484
Florida Certificate of Authorization No. LB-0006777

Field and Office Personnel

Alex Antonio
Matthew Brown
Dave Bruno
Tim Cornwell
Brad Hampton
Dragon Illic
Jason Kail
Scott Lamb
Ben Messer
Steve Roberts
Jim Speelman

Abbreviations

1-D – One-Dimensional
2-D – Two-Dimensional
3-D – Three-Dimensional
cm – Centimeter
CP – Certified Photogrammetrist
DOI – Digital Orthophoto Imagery
FAC – Florida Administrative Code
FDEM – Florida Division of Emergency Mapping
FGDC – Federal Geodetic Control Committee
FL – Florida
GPS – Global Positioning System
Inc. – Incorporated
LiDAR – Light Detecting and Ranging
MTS – Florida Minimum Technical Standards (FAC 61G17)
NAD 83/99-HARN – North American Datum 1983 High Accuracy Reference Network 1999 adjustment

NAVD 88 – North American Vertical Datum of 1988
NGS – National Geodetic Survey
NOAA – National Oceanic and Atmospheric Administration
NSSDA – National Standards for Spatial Data Accuracy
PID – Photo Identifiable Point (feature)
QC – Quality Control
RMSE – Root Mean Square Error
RTK – Real-Time Kinematics
STD – Standard Deviations
TGO – Trimble Geomatics Office
TTC – Trimble Total Control
U.S. – United States
Woolpert – Woolpert, Inc

Data Sources

Existing Control Point Coordinates:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282
Phone: (301) 713-3242
Fax: (301) 713-4172
Email: info_center@ngs.noaa.gov
http://www.ngs.noaa.gov/

Monumentation

Woolpert field crews performed a field reconnaissance to verify the existence and suitability of pre-selected existing National Geodetic Survey (NGS) control stations. These existing control stations were utilized to insure that quality X, Y, and Z coordinate values were computed for each of the newly established QA/QC Checkpoints throughout the project area. During the field reconnaissance, field crews recovered and verified nine (9) existing NGS control stations suitable for GPS observations: **15.94, 5229 252 9237, FLGPS 63, I75 90 A43, J 521, Q 527, R 598, S 526** and **W 520.** These NGS Data Sheets, which contain information such as coordinates, error estimates and to-reach descriptions, can be found in Appendix A of this report.

Woolpert installed four (4) new semi-permanent control stations in a pre-determined location for both GPS checkpoint observations and to ensure for a uniform GPS network triangulation consisting of a minimum of 3 GPS base stations. These newly established geodetic control stations; **GARRETT, GATOR, MOCCASIN** and **PANTHER** consisted of an 18-inch long, 5/8-inch diameter rebar with a plastic Woolpert survey cap (LB6777) or an aluminium cap and were set flush with the ground. The station recovery information sheets for these points can be found in Appendix B of this report.

Woolpert field crews also recovered and incorporated **NEW BASE 8**, **COLLIER 115, COLLIER 129**. **NEW BASE 8** was established as a new Woolpert control station for the Collier County Orthophoto portion of this mapping project. **COLLIER 115** and **COLLIER 129** were newly established photo control stations for the Collier County Orthophoto portion of this mapping project. The station recovery information sheets for these points can be found in Appendix B of this report.

Woolpert established a total of 33 LiDAR Control Points, 332 LiDAR QA/QC Checkpoints and 42 intermediate (traverse) control stations to be used for conventional surveying of the dense trees/forested LiDAR QA/QC Checkpoints. All of these stations consisted of one of the following: a PK Nail, 6" spike with a plastic washer, a paint mark, a railroad spike, a hub and tack or a scribe mark.

Methodology

All field reconnaissance, monumentation, observations, data adjustments, and final report development was performed under the direct supervision of David Bruno, PSM 5670, Professional Surveyor and Mapper in Charge. Rapid Static GPS survey techniques, along with conventional survey methods were utilized in collecting the LiDAR Control Points and the LiDAR QA/QC Checkpoints for this project. Woolpert's ISO 9001 2000 certified QA/QC process for ground control and GPS surveys was used as a guideline for this project.

All surveying was performed in such a way as to conform to the *Standards and Specifications for Geodetic Control Networks (1984),* published by the Federal Geodetic Control Committee (FGCC). All GPS measurements pertaining to horizontal photogrammetric ground control were performed to meet or exceed Second Order Horizontal Control as set forth by the FGCC, *Geometric Geodetic Accuracy Standards and Specifications for using GPS Relative Positioning Techniques*, Version 5.0, August 1989. All GPS measurements for establishing vertical control were performed to meet or exceed Third Order Vertical Control Accuracy Standards and Specifications. Furthermore, the procedures used for GPS-Derived elevation differences met or exceeded the *Guidelines for Establishing GPS-Derived Ellipsoidal Heights (Standards: 2 centimeters and 5 centimeters), NGS-58*, November 1977, and/or *Guidelines for Establishing GPS-Derived Orthometric Heights (Standards: 2 centimeters and 5 centimeters), NGS-59*, October 2005.

Rapid Static GPS

Woolpert field crews utilized Rapid Static GPS surveying techniques for measuring 223 of the 332 LiDAR QA/QC Checkpoints, the LiDAR Control Points and the intermediate (traverse) control stations. Rapid Static GPS surveying required a minimum of two receivers to occupy NGS Control Stations and LiDAR QA/QC Checkpoints or LiDAR Control Points for a minimum of 30 minutes, depending upon baseline length, number of satellites, and satellite geometry. This method is compareable in accuracy to static surveying; however, shorter observation time is made possible due to advancements in hardware and software. The final coordinates for the LiDAR Control Points, LiDAR QA/QC Checkpoints and intermediate (traverse) control stations can be found in Appendix C of this report.

For these surveys, Woolpert field crews utilized Woolpert-owned, Trimble Navigation R8 model 2 GNSS dual-frequency geodetic GPS receivers, Woolpert-owned, Trimble Navigation 5700 dual-frequency geodetic GPS receivers and Woolpert-owned, Trimble Navigation 4000 dual-frequency geodetic GPS receivers. Each observation session utilized a 5-second sync rate, lasting between 30-45 minutes each depending on distance from the furthest base station.

Using rapid-static GPS techniques, the field crews also observed nine (9) existing NGS Control Stations and four (4) newly established control stations in the GPS network in an effort to establish survey quality control coordinates throughout the project. The Rapid Static GPS control network consisted of the following NGS and newly established stations: **15.94, 5229 252 9237, FLGPS 63, I75 90 A43, J 521, Q 527, R 598, S 526** and **W 520.**

Conventional Surveying

Using the paired intermediate (traverse) control stations set with Rapid-Static GPS, Woolpert field crews used a Woolpert-owned Topcon GTS-701 Total Station or a Woolpert-owned Topcon GTS-711 Total Station to acquire ninety-five (95) LiDAR QA/QC Checkpoints in obscured areas (dense trees/forested) where GPS observations were limited as well as nine (9) brush observations and five (5) bare earth/low grass observations. The final coordinates for the LiDAR QA/QC Checkpoints can be found in Appendix C of this report.

Datum Reference and Final Coordinates

All horizontal GPS control was based on the Florida State Plane Coordinate System (East Zone), referenced to North American Datum 1983, adjustment of 1999 (NAD83/99) HARN, expressed in U.S. Survey Feet. All vertical control was based on the North American Vertical Datum of 1988 (NAVD88), also expressed in U.S. Survey Feet.

GPS Data Analysis and Processing

The field crew chief processed all session baselines each day using *Trimble Navigation's* Trimble Geomatics Office (TGO) Version 1.63 baseline processor with the broadcast ephemeris. *Trimble Navigation's* Trimble Geomatics Office (TGO) Wave Software User's Guide (November 1999) was used as a reference. The ratio and root-mean-square error (RMSE) criteria on pages 3-4 to 3-6 of the guide were followed. Other criteria used a maximum of 10.5 percent rejections, along with float-versus-fixed deltas of 10 cm. All cases that failed to meet any of these criteria were rejected and not used. Fixed solutions were obtained for all vector baselines.

Daily processing allowed the field crews to discover any weak links in the network and immediately schedule re-observations of the affected baselines. Once the fieldwork was complete, the processed baselines were then run through a rigorous loop closure analysis. Any baselines that failed this analysis were either reprocessed or removed from the network.

Rapid Static Adjustment

Upon completion of all field data processing, Woolpert performed a minimally constrained and fully constrained least-squares adjustments using *Trimble Navigation's* Trimble Geomatics Office (TGO) version 1.63. After an acceptable minimally constrained least-squares adjustment was obtained, a fully constrained least-squares adjustment was performed by fixing the GPS networks to existing NGS control stations. Geoid 03 was used to convert ellipsoidal heights to orthometric heights. For this survey, the following stations were held fixed:

DIMENSIONS	EXISTING NGS CONTROL STATIONS
3-D Control Stations	**MOCCASIN** and **W 520 (AJ7301)**
2-D Control Stations	**COLLIER 129, FLGPS 63 (AD7899), GATOR, I75 90 A43 (AD8656), J 521 (AJ7313), NEW BASE 8, PANTHER, R 598 (DG8594)** and **S 526 (AJ6593),**
1-D Control Stations	**COLLIER 115** and **Q 527 (AJ7757)**

Accuracy Statement

The positional accuracy of the LiDAR Control Points was 0.05-feet (avg. 0.03-feet) horizontally and 0.11-feet (avg. 0.05-feet) vertically at the 95% confidence level. The positional accuracy of the LiDAR QA/QC checkpoints was 0.06-feet (avg. 0.03-feet) horizontally and 0.15-feet (avg. 0.07-feet) vertically at the 95% confidence level.

The ground control survey meets positional accuracies necessary to support a DTM to meet or exceed a 3.8-foot horizontal accuracy and 0.6-foot fundamental vertical accuracy at the 95% confidence level.

The positional accuracies information can be found in Appendix D of this report.

Notes

1. **THIS REPORT OF SURVEY IS PART OF THE LiDAR MAPPING QA/QC GROUND CONTROL SURVEY. EIGHT (8) GROUND CONTROL LAYOUT MAPS SHALL ACCOMPANY THE SURVEY REPORT. NEITHER THE MAPS NOR THIS REPORT OF SURVEY IS FULL AND COMPLETE WITHOUT THE OTHER. THIS REPORT OF SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER IN RESPONSIBLE CHARGE.**

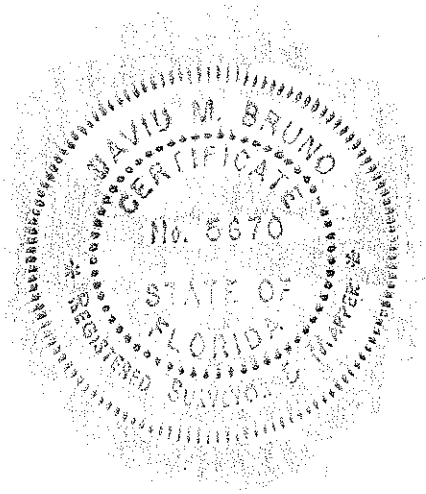
2. **THIS REPORT OF SURVEY CONSISTS OF EIGHTY (80) PAGES AND EACH PAGE SHALL NOT BE CONSIDERED FULL OR COMPLETE UNLESS ATTACHED TO THE OTHER(S). ADDITIONS OR DELETIONS TO SURVEY MAPS AND REPORTS BY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES.**

3. **THIS LiDAR MAPPING QA/QC GROUND CONTROL SURVEY DATA AND REPORT IS CERTIFIED TO THE FLORIDA DIVISION OF EMERGENCY MANAGEMENT AS MEETING OR EXCEEDING, IN QUALITY AND PRECISION, THE STANDARDS APPLICABLE FOR THIS WORK, AS SET FORTH IN CHAPTER 61G17, FLORIDA ADMINISTRATIVE CODE & FEMA GUIDELINES AND SPECIFICATIONS FOR FLOOD HAZARD MAPPING PARTNERS.**

Surveyor and Mapper in Responsible Charge:
David Bruno PSM
Professional Surveyor and Mapper
License Number: LS 5670

Signed: _____

Seal:



APPENDIX A: EXISTING GROUND CONTROL INFORMATION

This appendix contains the published National Geodetic Survey (NGS) data sheets for the geodetic control utilized in Project Area H of the FY2007 State of Florida Division of Emergency Management Ground Control QA/QC Survey Mapping Project.

The NGS Data Sheet

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

```
DATABASE =  ,PROGRAM = datasheet, VERSION = 7.64
1        National Geodetic Survey,   Retrieval Date = DECEMBER 18, 2008
 AC0637 ***********************************************************************
 AC0637  DESIGNATION -  15.94
 AC0637  PID         -  AC0637
 AC0637  STATE/COUNTY-  FL/COLLIER
 AC0637  USGS QUAD   -  EVERGLADES CITY (1974)
 AC0637
 AC0637                        *CURRENT SURVEY CONTROL
 AC0637  ______________________________________________________________________
 AC0637* NAD 83(2007)-  25 52 18.54520(N)    081 22 57.63349(W)     ADJUSTED
 AC0637* NAVD 88     -         4.513  (meters)      14.81   (feet)  ADJUSTED
 AC0637  ______________________________________________________________________
 AC0637  EPOCH DATE  -        2002.00
 AC0637  X           -     860,425.898 (meters)                     COMP
 AC0637  Y           -  -5,677,689.715 (meters)                     COMP
 AC0637  Z           -   2,766,282.976 (meters)                     COMP
 AC0637  LAPLACE CORR-          -2.36  (seconds)                    DEFLEC99
 AC0637  ELLIP HEIGHT-         -19.121 (meters)          (02/10/07) ADJUSTED
 AC0637  GEOID HEIGHT-         -23.62  (meters)                     GEOID03
 AC0637  DYNAMIC HT  -           4.505 (meters)      14.78  (feet)  COMP
 AC0637
 AC0637  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AC0637  Type    PID    Designation                        North   East  Ellip
 AC0637  ----------------------------------------------------------------------
 AC0637  NETWORK AC0637 15.94                               0.67   0.67   1.37
 AC0637  ----------------------------------------------------------------------
 AC0637  MODELED GRAV-     979,020.6   (mgal)                       NAVD 88
 AC0637
 AC0637  VERT ORDER  -  FIRST     CLASS I
 AC0637
 AC0637.The horizontal coordinates were established by GPS observations
 AC0637.and adjusted by the National Geodetic Survey in February 2007.
 AC0637
 AC0637.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AC0637.See National Readjustment for more information.
 AC0637.The horizontal coordinates are valid at the epoch date displayed above.
 AC0637.The epoch date for horizontal control is a decimal equivalence
 AC0637.of Year/Month/Day.
 AC0637
 AC0637.The orthometric height was determined by differential leveling
 AC0637.and adjusted in September 1992.
 AC0637
 AC0637.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AC0637
 AC0637.The Laplace correction was computed from DEFLEC99 derived deflections.
 AC0637
 AC0637.The ellipsoidal height was determined by GPS observations
 AC0637.and is referenced to NAD 83.
 AC0637
 AC0637.The geoid height was determined by GEOID03.
```

```
AC0637
AC0637.The dynamic height is computed by dividing the NAVD 88
AC0637.geopotential number by the normal gravity value computed on the
AC0637.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AC0637.degrees latitude (g = 980.6199 gals.).
AC0637
AC0637.The modeled gravity was interpolated from observed gravity values.
AC0637
AC0637;                    North         East     Units Scale Factor Converg.
AC0637;SPC FL E     -   170,470.681   161,647.952   MT  0.99995933   -0 10 01.2
AC0637;SPC FL E     -   559,285.89    530,339.99   sFT  0.99995933   -0 10 01.2
AC0637;UTM  17      - 2,861,544.499   461,661.038   MT  0.99961815   -0 10 01.2
AC0637
AC0637!             -  Elev Factor  x  Scale Factor =   Combined Factor
AC0637!SPC FL E     -   1.00000300  x   0.99995933  =   0.99996233
AC0637!UTM  17      -   1.00000300  x   0.99961815  =   0.99962115
AC0637
AC0637|---------------------------------------------------------------------|
AC0637| PID    Reference Object                    Distance      Geod. Az   |
AC0637|                                                          dddmmss.s  |
AC0637| AC0636 14.98                               69.640 METERS 17104      |
AC0637|---------------------------------------------------------------------|
AC0637
AC0637                          SUPERSEDED SURVEY CONTROL
AC0637
AC0637  NAD 83(1999)-  25 52 18.54516(N)    081 22 57.63343(W) AD(       ) 1
AC0637  ELLIP H (12/12/02)  -19.123  (m)                       GP(       ) 4 1
AC0637  NAVD 88 (06/15/91)    4.513  (m)           14.81   (f) UNKNOWN     1 1
AC0637  NGVD 29 (09/01/92)    4.930  (m)           16.17   (f) ADJUSTED    1 1
AC0637
AC0637.Superseded values are not recommended for survey control.
AC0637.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AC0637.See file dsdata.txt to determine how the superseded data were derived.
AC0637
AC0637_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ6166161544(NAD 83)
AC0637_MARKER: DD = SURVEY DISK
AC0637_SETTING: 38 = SET IN THE ABUTMENT OR PIER OF A LARGE BRIDGE
AC0637_SP_SET: ABUTMENT
AC0637_STAMPING: 15.94
AC0637_MARK LOGO: FLDT
AC0637_MAGNETIC: N = NO MAGNETIC MATERIAL
AC0637_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AC0637_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AC0637+SATELLITE: SATELLITE OBSERVATIONS - May 02, 2005
AC0637
AC0637  HISTORY     - Date     Condition        Report By
AC0637  HISTORY     - 1965     MONUMENTED       FLDT
AC0637  HISTORY     - 1965     GOOD             NGS
AC0637  HISTORY     - 1978     GOOD             FLDNR
AC0637  HISTORY     - 1990     GOOD             USPSQD
AC0637  HISTORY     - 19920226 GOOD             NGS
AC0637  HISTORY     - 200110   GOOD             FOST
AC0637  HISTORY     - 20020307 GOOD             MAPTEC
AC0637  HISTORY     - 20050502 GOOD             USPSQD
AC0637
AC0637                          STATION DESCRIPTION
AC0637
```

```
AC0637'DESCRIBED BY NATIONAL GEODETIC SURVEY 1965
AC0637'1 MI N FROM EVERGLADES.
AC0637'ABOUT 1.05 MILES NORTH ALONG STATE HIGHWAY 29 FROM THE CITY HALL
AC0637'AT EVERGLADES, SET IN THE TOP OF THE SIDEWALK DIRECTLY OVER
AC0637'THE WEST END OF THE NORTH CONCRETE ABUTMENT OF HIGHWAY BRIDGE
AC0637'OVER BARRON RIVER, 3.0 FEET WEST OF THE WEST CURB OF THE BRIDGE,
AC0637'2.2 FEET EAST OF THE NORTH END OF THE WEST CONCRETE BANISTER
AC0637'OF THE BRIDGE, 228.0 FEET NORTHWEST OF AND ACROSS THE HIGHWAY
AC0637'FROM B.M. 14.98 (S.R.D.) DESCRIBED AND ABOUT 1 FOOT ABOVE THE
AC0637'LEVEL OF THE HIGHWAY.
AC0637
AC0637                          STATION RECOVERY (1978)
AC0637
AC0637'RECOVERY NOTE BY FL DEPT OF NAT RES 1978
AC0637'RECOVERED AD DESCRIBED.
AC0637
AC0637                          STATION RECOVERY (1990)
AC0637
AC0637'RECOVERY NOTE BY US POWER SQUADRON 1990 (HEA)
AC0637'RECOVERED IN GOOD CONDITION.
AC0637
AC0637                          STATION RECOVERY (1992)
AC0637
AC0637'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992
AC0637'50.6 KM (31.45 MI) EASTERLY ALONG U.S. HIGHWAY 41 FROM THE JUNCTION
AC0637'OF STATE HIGHWAY 84 IN NAPLES, THENCE 4.7 KM (2.90 MI) SOUTHERLY
AC0637'ALONG STATE HIGHWAY 29, IN TOP OF AND 1.4 M (4.6 FT) EAST OF THE WEST
AC0637'END OF THE NORTH CONCRETE ABUTMENT OF A BRIDGE SPANNING BARRON RIVER,
AC0637'5.4 M (17.7 FT) WEST OF AND LEVEL WITH THE CENTERLINE OF THE HIGHWAY.
AC0637
AC0637                          STATION RECOVERY (2001)
AC0637
AC0637'RECOVERY NOTE BY CHARLEY FOSTER AND ASSOCIATES 2001 (JB)
AC0637'THE MONUMENT WAS RECOVERED AS DESCRIBED.
AC0637'
AC0637
AC0637                          STATION RECOVERY (2002)
AC0637
AC0637'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)
AC0637'RECOVERED AS DESCRIBED
AC0637'
AC0637
AC0637                          STATION RECOVERY (2005)
AC0637
AC0637'RECOVERY NOTE BY US POWER SQUADRON 2005 (CAC)
AC0637'RECOVERED IN GOOD CONDITION.

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

The NGS Data Sheet

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

```
DATABASE =  ,PROGRAM = datasheet, VERSION = 7.64
1        National Geodetic Survey,   Retrieval Date = DECEMBER 18, 2008
 AC4820 ***********************************************************************
 AC4820  DESIGNATION -  5229 252 9237
 AC4820  PID         -  AC4820
 AC4820  STATE/COUNTY-  FL/COLLIER
 AC4820  USGS QUAD   -  OCHOPEE (1990)
 AC4820
 AC4820                        *CURRENT SURVEY CONTROL
 AC4820  ______________________________________________________________________
 AC4820* NAD 83(2007)-  25 54 36.05301(N)    081 21 49.63334(W)     ADJUSTED
 AC4820* NAVD 88     -         1.4    (meters)       5.     (feet)  GPS OBS
 AC4820  ______________________________________________________________________
 AC4820  EPOCH DATE  -        2002.00
 AC4820  X           -     862,019.733 (meters)                     COMP
 AC4820  Y           -  -5,675,576.013 (meters)                     COMP
 AC4820  Z           -   2,770,088.459 (meters)                     COMP
 AC4820  LAPLACE CORR-          -2.41  (seconds)                    DEFLEC99
 AC4820  ELLIP HEIGHT-         -22.377 (meters)          (02/10/07) ADJUSTED
 AC4820  GEOID HEIGHT-         -23.76  (meters)                     GEOID03
 AC4820
 AC4820  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AC4820  Type    PID    Designation                       North   East  Ellip
 AC4820  ----------------------------------------------------------------------
 AC4820  NETWORK AC4820 5229 252 9237                       1.90   1.67   3.00
 AC4820  ----------------------------------------------------------------------
 AC4820
 AC4820.The horizontal coordinates were established by GPS observations
 AC4820.and adjusted by the National Geodetic Survey in February 2007.
 AC4820
 AC4820.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AC4820.See National Readjustment for more information.
 AC4820.The horizontal coordinates are valid at the epoch date displayed above.
 AC4820.The epoch date for horizontal control is a decimal equivalence
 AC4820.of Year/Month/Day.
 AC4820
 AC4820
 AC4820.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AC4820
 AC4820.The Laplace correction was computed from DEFLEC99 derived deflections.
 AC4820
 AC4820.The ellipsoidal height was determined by GPS observations
 AC4820.and is referenced to NAD 83.
 AC4820
 AC4820.The geoid height was determined by GEOID03.
 AC4820
 AC4820;                    North         East     Units Scale Factor Converg.
 AC4820;SPC FL E     -   174,696.767   163,552.762   MT  0.99995757   -0 09 32.3
 AC4820;SPC FL E     -   573,150.98    536,589.35    sFT  0.99995757   -0 09 32.3
 AC4820;UTM  17      - 2,865,769.143   463,565.197   MT  0.99961639   -0 09 32.3
 AC4820
```

```
AC4820!             -  Elev Factor  x  Scale Factor =   Combined Factor
AC4820!SPC FL E     -   1.00000352  x   0.99995757  =   0.99996109
AC4820!UTM  17      -   1.00000352  x   0.99961639  =   0.99961990
AC4820
AC4820                          SUPERSEDED SURVEY CONTROL
AC4820
AC4820  NAD 83(1999)-  25 54 36.05306(N)    081 21 49.63386(W) AD(       ) 1
AC4820  ELLIP H (05/31/01)  -22.341  (m)                       GP(       ) 4 1
AC4820  NAD 83(1990)-  25 54 36.05044(N)    081 21 49.63290(W) AD(       ) 1
AC4820  ELLIP H (08/02/93)  -22.287  (m)                       GP(       ) 4 1
AC4820
AC4820.Superseded values are not recommended for survey control.
AC4820.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AC4820.See file dsdata.txt to determine how the superseded data were derived.
AC4820
AC4820_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ6356565769(NAD 83)
AC4820_MARKER: DD = SURVEY DISK
AC4820_SETTING: 0 = UNSPECIFIED SETTING
AC4820_STAMPING: 5229 252 9237 1992
AC4820_MARK LOGO: DENI
AC4820_MAGNETIC: O = OTHER; SEE DESCRIPTION
AC4820_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AC4820+STABILITY: SURFACE MOTION
AC4820_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AC4820+SATELLITE: SATELLITE OBSERVATIONS - 1992
AC4820
AC4820  HISTORY     - Date     Condition        Report By
AC4820  HISTORY     - 1992     MONUMENTED       DENI
AC4820  HISTORY     - 19991231 GOOD             USPSQD
AC4820
AC4820                          STATION DESCRIPTION
AC4820
AC4820'DESCRIBED BY DENI ASSOCIATES INCORPORATED 1992
AC4820'STATION IS LOCATED IN THE SOUTHEAST QUARTER OF SEC.25, TWP 52S, RGE
AC4820'29E, 4 MI (6.4 KM) WEST NORTHWEST OF OCHOPEE, AT CARNESTOWN, IN THE
AC4820'SOUTH QUADRANT OF THE JUNCTION OF U.S.HIGHWAY 41/TAMIAMI TRAIL AND
AC4820'STATE ROUTE 29/CO.ROAD 29, IN THE GRASS ISLAND BETWEEN THE PAVED
AC4820'ACCESS DRIVEWAYS FROM U.S. HWY 41 TO THE COUNTY SHERIFFS OFFICE.
AC4820'STATION IS 166.5 FT (50.7 M) SOUTHWEST OF THE CENTERLINE OF U.S.HWY
AC4820'41/TAMIAMI TRAIL, 368 FT (112.2 M) SOUTHEAST OF THE CENTERLINE OF
AC4820'CO.ROAD 29, 66.3 FT (20.2 M) NORTHEAST OF THE NORTHWEST CORNER OF THE
AC4820'CO. SHERIFFS OFFICE BUILDING, 86.0 FT (26.2 M) SOUTH SOUTHWEST OF
AC4820'THE CENTER OF A DROP INLET, 4.2 FT (1.3 M) NORTHEAST OF A WITNESS
AC4820'POST.
AC4820'STATION MARK IS A DENI ASSOC 3.25 INCH ALUMINUM GPS SURVEY MARK DISK
AC4820'SET IN THE TOP OF 5 INCH DIA BASE OF A METAL FLAG POLE (CUT OFF)
AC4820'FILLED WITH CONCRETE, WITHIN AN 8 INCH DIA CORRUGATED STEEL PIPE
AC4820'SLEEVE FILLED WITH CONCRETE, 36 INCHES IN DEPTH, PROJECTING 7 INCHES
AC4820'ABOVE GROUND LEVEL.
AC4820
AC4820                          STATION RECOVERY (1999)
AC4820
AC4820'RECOVERY NOTE BY US POWER SQUADRON 1999
AC4820'RECOVERED IN GOOD CONDITION.

*** 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 =  ,PROGRAM = datasheet, VERSION = 7.64
1        National Geodetic Survey,   Retrieval Date = DECEMBER 18, 2008
 AD7899 ***********************************************************************
 AD7899  CBN         -  This is a Cooperative Base Network Control Station.
 AD7899  DESIGNATION -  FLGPS 63
 AD7899  PID         -  AD7899
 AD7899  STATE/COUNTY-  FL/COLLIER
 AD7899  USGS QUAD   -  MILES CITY (1983)
 AD7899
 AD7899                        *CURRENT SURVEY CONTROL
 AD7899  ______________________________________________________________________
 AD7899* NAD 83(2007)-  26 08 52.62723(N)    081 15 58.06195(W)     ADJUSTED
 AD7899* NAVD 88     -         4.138  (meters)      13.58   (feet)  ADJUSTED
 AD7899  ______________________________________________________________________
 AD7899  EPOCH DATE  -        2002.00
 AD7899  X           -     869,936.094 (meters)                     COMP
 AD7899  Y           -  -5,662,666.803 (meters)                     COMP
 AD7899  Z           -   2,793,776.287 (meters)                     COMP
 AD7899  LAPLACE CORR-          -2.15  (seconds)                    DEFLEC99
 AD7899  ELLIP HEIGHT-         -20.251 (meters)          (02/10/07) ADJUSTED
 AD7899  GEOID HEIGHT-         -24.39  (meters)                     GEOID03
 AD7899  DYNAMIC HT  -           4.131 (meters)      13.55  (feet)  COMP
 AD7899
 AD7899  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AD7899  Type    PID    Designation                       North   East  Ellip
 AD7899  ----------------------------------------------------------------------
 AD7899  NETWORK AD7899 FLGPS 63                           1.37   1.49   5.12
 AD7899  ----------------------------------------------------------------------
 AD7899  MODELED GRAV-     979,028.4   (mgal)                     NAVD 88
 AD7899
 AD7899  VERT ORDER  -  FIRST     CLASS II
 AD7899
 AD7899.The horizontal coordinates were established by GPS observations
 AD7899.and adjusted by the National Geodetic Survey in February 2007.
 AD7899
 AD7899.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AD7899.See National Readjustment for more information.
 AD7899.The horizontal coordinates are valid at the epoch date displayed above.
 AD7899.The epoch date for horizontal control is a decimal equivalence
 AD7899.of Year/Month/Day.
 AD7899
 AD7899.The orthometric height was determined by differential leveling
 AD7899.and adjusted in December 2001.
 AD7899.No vertical observational check was made to the station.
 AD7899
 AD7899.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AD7899
 AD7899.The Laplace correction was computed from DEFLEC99 derived deflections.
 AD7899
 AD7899.The ellipsoidal height was determined by GPS observations
 AD7899.and is referenced to NAD 83.
```

```
AD7899
AD7899.The geoid height was determined by GEOID03.
AD7899
AD7899.The dynamic height is computed by dividing the NAVD 88
AD7899.geopotential number by the normal gravity value computed on the
AD7899.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AD7899.degrees latitude (g = 980.6199 gals.).
AD7899
AD7899.The modeled gravity was interpolated from observed gravity values.
AD7899
AD7899;                    North         East     Units Scale Factor Converg.
AD7899;SPC FL E     -   201,032.590   173,390.811   MT  0.99994992   -0 07 02.2
AD7899;SPC FL E     -   659,554.42    568,866.35   sFT  0.99994992   -0 07 02.2
AD7899;UTM  17      - 2,892,095.980   473,399.890   MT  0.99960874   -0 07 02.2
AD7899
AD7899!             -  Elev Factor  x  Scale Factor =   Combined Factor
AD7899!SPC FL E     -   1.00000318  x   0.99994992  =   0.99995310
AD7899!UTM  17      -   1.00000318  x   0.99960874  =   0.99961192
AD7899
AD7899:                Primary Azimuth Mark                    Grid Az
AD7899:SPC FL E     -  FLGPS 63 AZ MK                         181 03 46.0
AD7899:UTM  17      -  FLGPS 63 AZ MK                         181 03 46.0
AD7899
AD7899|-----------------------------------------------------------------------|
AD7899| PID    Reference Object                    Distance      Geod. Az   |
AD7899|                                                          dddmmss.s  |
AD7899| AD7925 FLGPS 63 AZ MK                    APPROX. 0.5 KM 1805643.8  |
AD7899|-----------------------------------------------------------------------|
AD7899
AD7899                          SUPERSEDED SURVEY CONTROL
AD7899
AD7899  NAD 83(1999)-  26 08 52.62719(N)    081 15 58.06225(W) AD(       ) B
AD7899  ELLIP H (05/31/01)  -20.284  (m)                       GP(       ) 5 1
AD7899  NAD 83(1990)-  26 08 52.62584(N)    081 15 58.06219(W) AD(       ) B
AD7899  ELLIP H (09/13/90)  -20.230  (m)                       GP(       ) 4 1
AD7899  NGVD 29 (09/13/90)    4.6    (m)           15.     (f) GPS OBS     3
AD7899
AD7899.Superseded values are not recommended for survey control.
AD7899.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AD7899.See file dsdata.txt to determine how the superseded data were derived.
AD7899
AD7899_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ7340092096(NAD 83)
AD7899_MARKER: F = FLANGE-ENCASED ROD
AD7899_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)
AD7899_SP_SET: STAINLESS STEEL ROD IN SLEEVE
AD7899_STAMPING: FLGPS 63 1989
AD7899_MARK LOGO: NGS
AD7899_PROJECTION: FLUSH
AD7899_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
AD7899_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AD7899_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AD7899+SATELLITE: SATELLITE OBSERVATIONS - January 10, 2002
AD7899_ROD/PIPE-DEPTH: 17.3 meters
AD7899_SLEEVE-DEPTH  :  0.9 meters
AD7899
AD7899  HISTORY     - Date     Condition        Report By
AD7899  HISTORY     - 1989     MONUMENTED       NGS
```

```
AD7899  HISTORY     - 19920730 GOOD            DENI
AD7899  HISTORY     - 19950117 GOOD            FLDT
AD7899  HISTORY     - 20020110 GOOD            FLDEP
AD7899
AD7899                          STATION DESCRIPTION
AD7899
AD7899'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989
AD7899'THE STATION IS LOCATED ABOUT 27.6 KM (17.15 MI) NORTH-NORTHEAST OF
AD7899'OCHOPEE, IN THE BIG CYPRESS SWAMP OFF STATE ROUTE 84 (ALLIGATOR ALLEY)
AD7899'THAT IS UNDER CONSTRUCTION AND WILL BE INTERSTATE HIGHWAY 75 IN THE
AD7899'FUTURE, WITHIN THE RIGHT-OF-WAY OF COUNTY ROUTE 839, IN SECTION 1, T
AD7899'50 S, R 30 E.  OWNERSHIP--COLLIER COUNTY.
AD7899'TO REACH THE STATION FROM THE INTERSECTION OF INTERSTATE HIGHWAY 75
AD7899'SOUTHBOUND LANE AND COUNTY ROAD 839, NORTH OF OCHOPEE, GO SOUTH ALONG
AD7899'COUNTY ROAD 839 FOR 0.08 KM (0.05 MI) TO THE END OF PAVEMENT, START OF
AD7899'GRAVEL ROAD AND A SIGN ON RIGHT (ENTERING BIG CYPRESS NATIONAL
AD7899'PRESERVE).  CONTINUE AHEAD ON THE GRAVEL ROAD FOR 0.72 KM (0.45 MI) TO
AD7899'THE STATION ON LEFT.
AD7899'THE STATION IS RECESSED 10 CM BELOW GROUND.  LOCATED 7.3 M (24.0 FT)
AD7899'WEST OF THE WEST EDGE OF CANAL, 8.1 M (26.6 FT) EAST OF CENTER OF
AD7899'COUNTY ROAD 839, 15.1 M (49.5 FT) SOUTH OF A 15-INCH CABBAGE PALM TREE
AD7899'AND 5.1 M (16.7 FT) WEST OF A CARSONITE WITNESS POST.
AD7899'DESCRIBED BY R.L. MALLOY.
AD7899
AD7899                          STATION RECOVERY (1992)
AD7899
AD7899'RECOVERY NOTE BY DENI ASSOCIATES INCORPORATED 1992
AD7899'RECOVERED IN GOOD CONDITION.
AD7899
AD7899                          STATION RECOVERY (1995)
AD7899
AD7899'RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 1995 (CDM)
AD7899'RECOVERED AS DESCRIBED BY R.L. MALLOY.
AD7899
AD7899                          STATION RECOVERY (2002)
AD7899
AD7899'RECOVERY NOTE BY FL DEPT OF ENV PRO 2002 (JLM)
AD7899'RECOVERED AS DESCRIBED.
AD7899'

*** 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 =  ,PROGRAM = datasheet, VERSION = 7.64
1        National Geodetic Survey,   Retrieval Date = DECEMBER 18, 2008
 AD7899 ***********************************************************************
 AD7899  CBN         -  This is a Cooperative Base Network Control Station.
 AD7899  DESIGNATION -  FLGPS 63
 AD7899  PID         -  AD7899
 AD7899  STATE/COUNTY-  FL/COLLIER
 AD7899  USGS QUAD   -  MILES CITY (1983)
 AD7899
 AD7899                        *CURRENT SURVEY CONTROL
 AD7899  ______________________________________________________________________
 AD7899* NAD 83(2007)-  26 08 52.62723(N)    081 15 58.06195(W)     ADJUSTED
 AD7899* NAVD 88     -         4.138  (meters)      13.58   (feet)  ADJUSTED
 AD7899  ______________________________________________________________________
 AD7899  EPOCH DATE  -        2002.00
 AD7899  X           -     869,936.094 (meters)                     COMP
 AD7899  Y           -  -5,662,666.803 (meters)                     COMP
 AD7899  Z           -   2,793,776.287 (meters)                     COMP
 AD7899  LAPLACE CORR-          -2.15  (seconds)                    DEFLEC99
 AD7899  ELLIP HEIGHT-         -20.251 (meters)          (02/10/07) ADJUSTED
 AD7899  GEOID HEIGHT-         -24.39  (meters)                     GEOID03
 AD7899  DYNAMIC HT  -           4.131 (meters)      13.55  (feet)  COMP
 AD7899
 AD7899  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AD7899  Type    PID    Designation                       North   East  Ellip
 AD7899  ----------------------------------------------------------------------
 AD7899  NETWORK AD7899 FLGPS 63                           1.37   1.49   5.12
 AD7899  ----------------------------------------------------------------------
 AD7899  MODELED GRAV-     979,028.4   (mgal)                     NAVD 88
 AD7899
 AD7899  VERT ORDER  -  FIRST     CLASS II
 AD7899
 AD7899.The horizontal coordinates were established by GPS observations
 AD7899.and adjusted by the National Geodetic Survey in February 2007.
 AD7899
 AD7899.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AD7899.See National Readjustment for more information.
 AD7899.The horizontal coordinates are valid at the epoch date displayed above.
 AD7899.The epoch date for horizontal control is a decimal equivalence
 AD7899.of Year/Month/Day.
 AD7899
 AD7899.The orthometric height was determined by differential leveling
 AD7899.and adjusted in December 2001.
 AD7899.No vertical observational check was made to the station.
 AD7899
 AD7899.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AD7899
 AD7899.The Laplace correction was computed from DEFLEC99 derived deflections.
 AD7899
 AD7899.The ellipsoidal height was determined by GPS observations
 AD7899.and is referenced to NAD 83.
```

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AD7899
AD7899.The geoid height was determined by GEOID03.
AD7899
AD7899.The dynamic height is computed by dividing the NAVD 88
AD7899.geopotential number by the normal gravity value computed on the
AD7899.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AD7899.degrees latitude (g = 980.6199 gals.).
AD7899
AD7899.The modeled gravity was interpolated from observed gravity values.
AD7899
AD7899;                    North         East     Units Scale Factor Converg.
AD7899;SPC FL E     -   201,032.590   173,390.811   MT  0.99994992   -0 07 02.2
AD7899;SPC FL E     -   659,554.42    568,866.35   sFT  0.99994992   -0 07 02.2
AD7899;UTM  17      - 2,892,095.980   473,399.890   MT  0.99960874   -0 07 02.2
AD7899
AD7899!             -  Elev Factor  x  Scale Factor =   Combined Factor
AD7899!SPC FL E     -   1.00000318  x   0.99994992  =   0.99995310
AD7899!UTM  17      -   1.00000318  x   0.99960874  =   0.99961192
AD7899
AD7899:                Primary Azimuth Mark                    Grid Az
AD7899:SPC FL E     -  FLGPS 63 AZ MK                         181 03 46.0
AD7899:UTM  17      -  FLGPS 63 AZ MK                         181 03 46.0
AD7899
AD7899|---------------------------------------------------------------------|
AD7899| PID    Reference Object                    Distance      Geod. Az   |
AD7899|                                                          dddmmss.s |
AD7899| AD7925 FLGPS 63 AZ MK                    APPROX. 0.5 KM 1805643.8 |
AD7899|---------------------------------------------------------------------|
AD7899
AD7899                          SUPERSEDED SURVEY CONTROL
AD7899
AD7899  NAD 83(1999)-  26 08 52.62719(N)    081 15 58.06225(W) AD(       ) B
AD7899  ELLIP H (05/31/01)  -20.284  (m)                       GP(       ) 5 1
AD7899  NAD 83(1990)-  26 08 52.62584(N)    081 15 58.06219(W) AD(       ) B
AD7899  ELLIP H (09/13/90)  -20.230  (m)                       GP(       ) 4 1
AD7899  NGVD 29 (09/13/90)    4.6    (m)           15.     (f) GPS OBS     3
AD7899
AD7899.Superseded values are not recommended for survey control.
AD7899.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AD7899.See file dsdata.txt to determine how the superseded data were derived.
AD7899
AD7899_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ7340092096(NAD 83)
AD7899_MARKER: F = FLANGE-ENCASED ROD
AD7899_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)
AD7899_SP_SET: STAINLESS STEEL ROD IN SLEEVE
AD7899_STAMPING: FLGPS 63 1989
AD7899_MARK LOGO: NGS
AD7899_PROJECTION: FLUSH
AD7899_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
AD7899_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AD7899_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AD7899+SATELLITE: SATELLITE OBSERVATIONS - January 10, 2002
AD7899_ROD/PIPE-DEPTH: 17.3 meters
AD7899_SLEEVE-DEPTH  :  0.9 meters
AD7899
AD7899  HISTORY     - Date     Condition        Report By
AD7899  HISTORY     - 1989     MONUMENTED       NGS
```

```
AD7899  HISTORY     - 19920730 GOOD             DENI
AD7899  HISTORY     - 19950117 GOOD             FLDT
AD7899  HISTORY     - 20020110 GOOD             FLDEP
AD7899
AD7899                          STATION DESCRIPTION
AD7899
AD7899'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989
AD7899'THE STATION IS LOCATED ABOUT 27.6 KM (17.15 MI) NORTH-NORTHEAST OF
AD7899'OCHOPEE, IN THE BIG CYPRESS SWAMP OFF STATE ROUTE 84 (ALLIGATOR ALLEY)
AD7899'THAT IS UNDER CONSTRUCTION AND WILL BE INTERSTATE HIGHWAY 75 IN THE
AD7899'FUTURE, WITHIN THE RIGHT-OF-WAY OF COUNTY ROUTE 839, IN SECTION 1, T
AD7899'50 S, R 30 E.  OWNERSHIP--COLLIER COUNTY.
AD7899'TO REACH THE STATION FROM THE INTERSECTION OF INTERSTATE HIGHWAY 75
AD7899'SOUTHBOUND LANE AND COUNTY ROAD 839, NORTH OF OCHOPEE, GO SOUTH ALONG
AD7899'COUNTY ROAD 839 FOR 0.08 KM (0.05 MI) TO THE END OF PAVEMENT, START OF
AD7899'GRAVEL ROAD AND A SIGN ON RIGHT (ENTERING BIG CYPRESS NATIONAL
AD7899'PRESERVE).  CONTINUE AHEAD ON THE GRAVEL ROAD FOR 0.72 KM (0.45 MI) TO
AD7899'THE STATION ON LEFT.
AD7899'THE STATION IS RECESSED 10 CM BELOW GROUND.  LOCATED 7.3 M (24.0 FT)
AD7899'WEST OF THE WEST EDGE OF CANAL, 8.1 M (26.6 FT) EAST OF CENTER OF
AD7899'COUNTY ROAD 839, 15.1 M (49.5 FT) SOUTH OF A 15-INCH CABBAGE PALM TREE
AD7899'AND 5.1 M (16.7 FT) WEST OF A CARSONITE WITNESS POST.
AD7899'DESCRIBED BY R.L. MALLOY.
AD7899
AD7899                          STATION RECOVERY (1992)
AD7899
AD7899'RECOVERY NOTE BY DENI ASSOCIATES INCORPORATED 1992
AD7899'RECOVERED IN GOOD CONDITION.
AD7899
AD7899                          STATION RECOVERY (1995)
AD7899
AD7899'RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 1995 (CDM)
AD7899'RECOVERED AS DESCRIBED BY R.L. MALLOY.
AD7899
AD7899                          STATION RECOVERY (2002)
AD7899
AD7899'RECOVERY NOTE BY FL DEPT OF ENV PRO 2002 (JLM)
AD7899'RECOVERED AS DESCRIBED.
AD7899'

*** retrieval complete.
Elapsed Time = 00:00:00
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The NGS Data Sheet

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

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DATABASE =  ,PROGRAM = datasheet, VERSION = 7.65
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 18, 2009
 AD8656 ***********************************************************************
 AD8656  DESIGNATION -  I75 90 A43
 AD8656  PID         -  AD8656
 AD8656  STATE/COUNTY-  FL/COLLIER
 AD8656  USGS QUAD   -  CATHERINE ISLAND (1990)
 AD8656
 AD8656                        *CURRENT SURVEY CONTROL
 AD8656  ______________________________________________________________________
 AD8656* NAD 83(2007)-  26 09 14.01680(N)    081 23 53.91295(W)     ADJUSTED
 AD8656* NAVD 88     -         6.085  (meters)      19.96   (feet)  ADJUSTED
 AD8656  ______________________________________________________________________
 AD8656  EPOCH DATE  -        2002.00
 AD8656  X           -     856,826.978 (meters)                     COMP
 AD8656  Y           -  -5,664,373.791 (meters)                     COMP
 AD8656  Z           -   2,794,368.153 (meters)                     COMP
 AD8656  LAPLACE CORR-          -2.23  (seconds)                    DEFLEC99
 AD8656  ELLIP HEIGHT-         -18.017 (meters)          (02/10/07) ADJUSTED
 AD8656  GEOID HEIGHT-         -24.09  (meters)                     GEOID03
 AD8656  DYNAMIC HT  -           6.075 (meters)      19.93  (feet)  COMP
 AD8656
 AD8656  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AD8656  Type    PID    Designation                        North   East  Ellip
 AD8656  ----------------------------------------------------------------------
 AD8656  NETWORK AD8656 I75 90 A43                           1.14   1.16   2.35
 AD8656  ----------------------------------------------------------------------
 AD8656  MODELED GRAV-     979,039.7   (mgal)                     NAVD 88
 AD8656
 AD8656  VERT ORDER  -  FIRST     CLASS II
 AD8656
 AD8656.The horizontal coordinates were established by GPS observations
 AD8656.and adjusted by the National Geodetic Survey in February 2007.
 AD8656
 AD8656.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AD8656.See National Readjustment for more information.
 AD8656.The horizontal coordinates are valid at the epoch date displayed above.
 AD8656.The epoch date for horizontal control is a decimal equivalence
 AD8656.of Year/Month/Day.
 AD8656
 AD8656.The orthometric height was determined by differential leveling
 AD8656.and adjusted in January 2002.
 AD8656.WARNING-Repeat measurements at this control monument indicate possible
 AD8656.vertical movement.
 AD8656
 AD8656.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AD8656
 AD8656.The Laplace correction was computed from DEFLEC99 derived deflections.
 AD8656
 AD8656.The ellipsoidal height was determined by GPS observations
 AD8656.and is referenced to NAD 83.
```

```
AD8656
AD8656.The geoid height was determined by GEOID03.
AD8656
AD8656.The dynamic height is computed by dividing the NAVD 88
AD8656.geopotential number by the normal gravity value computed on the
AD8656.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AD8656.degrees latitude (g = 980.6199 gals.).
AD8656
AD8656.The modeled gravity was interpolated from observed gravity values.
AD8656
AD8656;                    North         East     Units Scale Factor Converg.
AD8656;SPC FL E     -   201,724.599   160,176.445   MT  0.99996075   -0 10 32.1
AD8656;SPC FL E     -   661,824.79    525,512.22   sFT  0.99996075   -0 10 32.1
AD8656;UTM  17      - 2,892,787.753   460,190.032   MT  0.99961957   -0 10 32.1
AD8656
AD8656!             -  Elev Factor  x  Scale Factor =   Combined Factor
AD8656!SPC FL E     -   1.00000283  x   0.99996075  =   0.99996358
AD8656!UTM  17      -   1.00000283  x   0.99961957  =   0.99962240
AD8656
AD8656:                Primary Azimuth Mark                    Grid Az
AD8656:SPC FL E     -  I75 90 A44                              089 05 13.9
AD8656:UTM  17      -  I75 90 A44                              089 05 13.9
AD8656
AD8656|---------------------------------------------------------------------|
AD8656| PID    Reference Object                    Distance      Geod. Az   |
AD8656|                                                          dddmmss.s |
AD8656| AH1941 I75 90 A44                        APPROX. 0.9 KM 0885441.8 |
AD8656|---------------------------------------------------------------------|
AD8656
AD8656                          SUPERSEDED SURVEY CONTROL
AD8656
AD8656  NAD 83(1999)-  26 09 14.01667(N)    081 23 53.91346(W) AD(       ) 1
AD8656  ELLIP H (05/31/01)  -18.004  (m)                       GP(       ) 4 1
AD8656  NAD 83(1990)-  26 09 14.01480(N)    081 23 53.91270(W) AD(       ) 1
AD8656  ELLIP H (08/02/93)  -17.986  (m)                       GP(       ) 4 1
AD8656  NAVD 88 (12/11/01)    6.092  (m)           19.99   (f) UNKNOWN     2 2
AD8656
AD8656.Superseded values are not recommended for survey control.
AD8656.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AD8656.See file dsdata.txt to determine how the superseded data were derived.
AD8656
AD8656_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ6019092788(NAD 83)
AD8656_MARKER: DD = SURVEY DISK
AD8656_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AD8656_SP_SET: CONCRETE POST
AD8656_STAMPING: I75 90 A43
AD8656_MARK LOGO: FLDT
AD8656_PROJECTION: RECESSED 10 CENTIMETERS
AD8656_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
AD8656_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AD8656+STABILITY: SURFACE MOTION
AD8656_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AD8656+SATELLITE: SATELLITE OBSERVATIONS - April 04, 2002
AD8656
AD8656  HISTORY     - Date     Condition        Report By
AD8656  HISTORY     - 1990     MONUMENTED       FLDT
AD8656  HISTORY     - 19920730 GOOD             DENI
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AD8656  HISTORY     - 19940220 GOOD            FLDT
AD8656  HISTORY     - 20010611 GOOD            LDBLS
AD8656  HISTORY     - 20020404 GOOD            MAPTEC
AD8656
AD8656                          STATION DESCRIPTION
AD8656
AD8656'DESCRIBED BY DENI ASSOCIATES INCORPORATED 1992
AD8656'DESCRIBED BY DENI ASSOCIATES, INC.
AD8656'STATION IS LOCATED IN THE NORTH HALF OF SEC.3 (PROJECTED), TWP 50S,
AD8656'RGE 29E, 24.6 MI (39.6 KM) EAST OF NAPLES, 9.0 MI (14.5 KM) EAST OF
AD8656'THE EVERGLADES BLVD OVERPASS OF I-75/STATE ROUTE 84, 3.3 MI (5.3 KM)
AD8656'WEST OF THE JUNCTION OF I-75/SR 84 AND STATE ROUTE 29, EXIT 14, IN THE
AD8656'MEDIAN OF I-75 AT THE WEST END OF THE I-75 BRIDGES OVER A CANAL.
AD8656'STATION MARK IS A STANDARD FLORIDA DEPARTMENT OF TRANSPORTATION BRASS
AD8656'DISK, STAMPED---I75 90 A43---, SET IN THE TOP OF A ROUND CONCRETE
AD8656'MONUMENT, 6 INCHES BELOW GROUND LEVEL, 56.7 FT (17.3 M) SOUTH OF THE
AD8656'CENTER OF THE WESTBOUND LANE, 55.1 FT (16.8 M) NORTH OF THE CENTER OF
AD8656'THE EASTBOUND LANE, 37.O FT SOUTHWEST OF THE SOUTHWEST CORNER OF THE
AD8656'WEST END OF THE SOUTH CONCRETE RAIL OF THE WESTBOUND BRIDGE, 35.4 FT
AD8656'(10.8 M) NORTHWEST OF THE NORTHWEST CORNER OF THE WEST END OF THE
AD8656'NORTH CONCRETE RAIL OF THE EASTBOUND BRIDGE, 3.6 FT (1.1 M) WEST OF
AD8656'THE TOP OF THE RIP-RAP BANK OF CANAL, 3.2 FT (1.0 M) WEST OF A METAL
AD8656'WITNESS POST.
AD8656
AD8656                          STATION RECOVERY (1994)
AD8656
AD8656'RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 1994 (CDM)
AD8656'STATION IS LOCATED APPROXIMATELY 24.6 MILES (39.6 KM) NORTHEAST OF
AD8656'NAPLES, IS IN MEDIAN OF INTERSTATE HIGHWAY 75 ON WEST SIDE OF A CANAL
AD8656'BRIDGE. TO REACH STATION FROM INTERSECTION OF STATE ROAD 951 AND
AD8656'INTERSTATE HIGHWAY 75, PROCEED 17.9 MILES (28.8 KM) SOUTH ALONG
AD8656'INTERSTATE HIGHWAY 75 TO BRIDGE NUMBER 030228 AND STATION. STATION IS
AD8656'RECESSED 0.33 FOOT, (10.06 CM) IS 3.5 WEST OF METAL WITNESS POST, 4.0
AD8656'FEET (1.2 M) WEST OF WEST EDGE OF RIPRAP WALL, 35.6 FEET (10.9 M)
AD8656'NORTH OF NORTHWEST CORNER OF EASTBOUND LANE CONCRETE BRIDGE ABUTMENT,
AD8656'37.0 FEET (11.3 M) SOUTH OF SOUTHWEST CORNER OF WESTBOUND LANE
AD8656'CONCRETE BRIDGE ABUTMENT.
AD8656
AD8656                          STATION RECOVERY (2001)
AD8656
AD8656'RECOVERY NOTE BY LD BRADLEY LAND SURVEYORS 2001 (JCH)
AD8656'THE MARK IS ABOUT 96.2 KM (59.75 MI) WEST OF ANDYTOWN, ABOUT 28.9 KM
AD8656'(17.95
AD8656'MI) EAST OF I-75 (EXIT 15) OVERPASS OVER COUNTY ROAD 951 NEAR NAPLES
AD8656'IN
AD8656'COLLIER COUNTY FLORIDA. OWNERSHIP-FLORIDA DEPARTMENT OF TRANSPORTATION
AD8656'TO REACH THE MARK FROM THE INTERSECTION OF I-75 AND STATE ROAD NO. 29
AD8656'(I-75
AD8656'EXIT 14 A, ABOUT 45.1 KM (28.0 MI) EAST OF NAPLES) GO WEST ON I-75,
AD8656'5.3 KM
AD8656'(3.3 MI) TO THE WEST END OF CONCRETE BRIDGE NO. 030229 AND THE MARK ON
AD8656'THE
AD8656'LEFT IN THE MEDIAN.
AD8656'
AD8656'THE MARK IS SET FLUSH IN THE TOP OF A 12 INCH DIAMETER CONCRETE POST
AD8656'RECESSED
AD8656'0.09 M (0.3 FT) BELOW THE LEVEL OF THE GROUND, AND ABOUT THE SAME
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AD8656'LEVEL AS I-
AD8656'75 TRAFFIC LANES, 17.34 M (56.9 FT) SOUTH OF THE CENTERLINE OF THE
AD8656'WESTBOUND
AD8656'LANES OF I-75, 16.82 M (55.2 FT) NORTH OF THE CENTERLINE OF THE
AD8656'EASTBOUND
AD8656'LANES OF I- 75, 11.34 M (37.2 FT) SOUTHWEST OF THE SOUTHWEST CORNER OF
AD8656'THE
AD8656'CONCRETE GUARDRAIL ON THE SOUTHWEST ABUTMENT OF BRIDGE NO. 030229
AD8656'(WESTBOUND
AD8656'BRIDGE), 10.82 M (35.5 FT) NORTHWEST OF THE NORTHWEST CORNER OF THE
AD8656'CONCRETE
AD8656'GUARDRAIL ON THE NORTHWEST ABUTMENT OF BRIDGE NO. 030228 (EASTBOUND
AD8656'BRIDGE),
AD8656'1.10 M (3.6 FT) WEST OF THE TOP OF THE SLOPED RIP RAP EMBANKMENT, AND
AD8656'0.94 M
AD8656'(3.1 FT) WEST OF A CONCRETE WITNESS POST.
AD8656'
AD8656'NOTE - A MAGNET WAS BURIED AT THE NORTH EDGE OF THE CONCRETE MONUMENT,
AD8656'ABOUT
AD8656'0.06 M (0.2 FT) LOWER THAT THE TOP OF THE CONCRETE MONUMENT.
AD8656'
AD8656'
AD8656'
AD8656'
AD8656'
AD8656
AD8656                          STATION RECOVERY (2002)
AD8656
AD8656'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CP)
AD8656'RECOVERED AS DESCRIBED.
AD8656'

*** retrieval complete.
Elapsed Time = 00:00:00
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The NGS Data Sheet

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

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DATABASE =  ,PROGRAM = datasheet, VERSION = 7.65
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 18, 2009
 AJ7313 ***********************************************************************
 AJ7313  DESIGNATION -  J 521
 AJ7313  PID         -  AJ7313
 AJ7313  STATE/COUNTY-  FL/COLLIER
 AJ7313  USGS QUAD   -  DEEP LAKE (1982)
 AJ7313
 AJ7313                        *CURRENT SURVEY CONTROL
 AJ7313  ______________________________________________________________________
 AJ7313* NAD 83(2007)-  26 04 03.48150(N)    081 20 39.94472(W)      ADJUSTED
 AJ7313* NAVD 88     -         3.579  (meters)      11.74   (feet)  ADJUSTED
 AJ7313  ______________________________________________________________________
 AJ7313  EPOCH DATE  -        2002.00
 AJ7313  X           -     862,785.921 (meters)                      COMP
 AJ7313  Y           -  -5,667,721.362 (meters)                      COMP
 AJ7313  Z           -   2,785,785.682 (meters)                      COMP
 AJ7313  LAPLACE CORR-          -2.35  (seconds)                     DEFLEC99
 AJ7313  ELLIP HEIGHT-         -20.541 (meters)          (02/10/07) ADJUSTED
 AJ7313  GEOID HEIGHT-         -24.10  (meters)                      GEOID03
 AJ7313  DYNAMIC HT  -           3.574 (meters)      11.73  (feet)  COMP
 AJ7313
 AJ7313  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AJ7313  Type    PID    Designation                        North   East  Ellip
 AJ7313  ----------------------------------------------------------------------
 AJ7313  NETWORK AJ7313 J 521                               1.14   1.33   2.47
 AJ7313  ----------------------------------------------------------------------
 AJ7313  MODELED GRAV-     979,028.3   (mgal)                        NAVD 88
 AJ7313
 AJ7313  VERT ORDER  -  FIRST     CLASS II
 AJ7313
 AJ7313.The horizontal coordinates were established by GPS observations
 AJ7313.and adjusted by the National Geodetic Survey in February 2007.
 AJ7313
 AJ7313.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AJ7313.See National Readjustment for more information.
 AJ7313.The horizontal coordinates are valid at the epoch date displayed above.
 AJ7313.The epoch date for horizontal control is a decimal equivalence
 AJ7313.of Year/Month/Day.
 AJ7313
 AJ7313.The orthometric height was determined by differential leveling
 AJ7313.and adjusted in February 2002.
 AJ7313
 AJ7313.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AJ7313
 AJ7313.The Laplace correction was computed from DEFLEC99 derived deflections.
 AJ7313
 AJ7313.The ellipsoidal height was determined by GPS observations
 AJ7313.and is referenced to NAD 83.
 AJ7313
 AJ7313.The geoid height was determined by GEOID03.
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AJ7313
AJ7313.The dynamic height is computed by dividing the NAVD 88
AJ7313.geopotential number by the normal gravity value computed on the
AJ7313.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ7313.degrees latitude (g = 980.6199 gals.).
AJ7313
AJ7313.The modeled gravity was interpolated from observed gravity values.
AJ7313
AJ7313;                    North         East     Units Scale Factor Converg.
AJ7313;SPC FL E     -   192,152.966   165,538.216   MT  0.99995583   -0 09 04.9
AJ7313;SPC FL E     -   630,421.86    543,103.30   sFT  0.99995583   -0 09 04.9
AJ7313;UTM  17      - 2,883,219.386   465,549.974   MT  0.99961465   -0 09 04.9
AJ7313
AJ7313!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ7313!SPC FL E     -   1.00000323  x   0.99995583  =   0.99995906
AJ7313!UTM  17      -   1.00000323  x   0.99961465  =   0.99961788
AJ7313
AJ7313                          SUPERSEDED SURVEY CONTROL
AJ7313
AJ7313  NAD 83(1999)-  26 04 03.48150(N)    081 20 39.94498(W) AD(       ) 1
AJ7313  ELLIP H (12/12/02)  -20.543  (m)                       GP(       ) 4 1
AJ7313  NAVD 88 (12/12/02)    3.58   (m)           11.7    (f) LEVELING    3
AJ7313
AJ7313.Superseded values are not recommended for survey control.
AJ7313.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AJ7313.See file dsdata.txt to determine how the superseded data were derived.
AJ7313
AJ7313_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ6555083219(NAD 83)
AJ7313_MARKER: DD = SURVEY DISK
AJ7313_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AJ7313_STAMPING: J 521 2001 CERP
AJ7313_MARK LOGO: USE
AJ7313_PROJECTION: RECESSED 5 CENTIMETERS
AJ7313_MAGNETIC: N = NO MAGNETIC MATERIAL
AJ7313_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AJ7313+STABILITY: SURFACE MOTION
AJ7313_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ7313+SATELLITE: SATELLITE OBSERVATIONS - March 07, 2002
AJ7313
AJ7313  HISTORY     - Date     Condition        Report By
AJ7313  HISTORY     - 200105   MONUMENTED       FOST
AJ7313  HISTORY     - 20020307 GOOD             MAPTEC
AJ7313
AJ7313                          STATION DESCRIPTION
AJ7313
AJ7313'DESCRIBED BY CHARLEY FOSTER AND ASSOCIATES 2001 (JB)
AJ7313'THE MONUMENT IS LOCATED 14.0 MILES (22.53 KM) SOUTH OF SUNNILAND, FL.
AJ7313'AND 15.0 MILES (24.14 KM) NORTH
AJ7313'OF EVERGLADES CITY, FL. IN SECTION 32, TOWNSHIP 50 SOUTH, RANGE 30
AJ7313'EAST.
AJ7313'
AJ7313'OWNERSHIP IS THE FLORIDA DEPARTMENT OF TRANSPORTATION.
AJ7313'
AJ7313'TO REACH THE MONUMENT FROM THE STATE ROAD 29 AND I-75 INTERCHANGE, IN
AJ7313'MILES CITY,  GO SOUTH 6.1 MILES (9.82 KM)
AJ7313'ON STATE ROAD 29 AND THE MONUMENT IS ON THE EAST SIDE (LEFT) OF THE
AJ7313'ROAD. THE MONUMENT IS 11.0
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AJ7313'MILES (17.70 KM) NORTH OF THE INTERSECTION OF US HIGHWAY 41 AND STATE
AJ7313'ROAD 29.
AJ7313'
AJ7313'THE MONUMENT IS 49.0 FEET (14.94 M) EAST OF THE CENTERLINE OF STATE
AJ7313'ROAD 29, 1.0 FEET (0.30 M) SOUTH OF
AJ7313'THE END OF THE EAST GUARDRAIL ON THE NORTH SIDE OF A DRIVE, 4.8 FEET
AJ7313'(1.46 M) NORTHEAST OF A PK NAIL
AJ7313'IN AN ASPHALT DRIVE, 15.0 FEET (4.57 M) SOUTHEAST OF THE SOUTHEAST
AJ7313'CORNER OF THE NORTH HEADWALL
AJ7313'OF A DRIVEWAY CULVERT, 20.0 FEET (6.10 M) NORTHEAST OF THE NORTHEAST
AJ7313'CORNER OF THE SOUTH
AJ7313'HEADWALL OF A DRIVEWAY CULVERT AND 1.0 FEET (0.30 M)) SOUTH OF A
AJ7313'CARSONITE WITNESS POST. NOTE A
AJ7313'MAGNET WAS BURIED NEARBY AT AN UNSPECIFIED POSITION.
AJ7313
AJ7313                          STATION RECOVERY (2002)
AJ7313
AJ7313'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)
AJ7313'RECOVERED AS DESCRIBED
AJ7313'

*** retrieval complete.
Elapsed Time = 00:00:00
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The NGS Data Sheet

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

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DATABASE =  ,PROGRAM = datasheet, VERSION = 7.65
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 18, 2009
 AJ7757 ***********************************************************************
 AJ7757  DESIGNATION -  Q 527
 AJ7757  PID         -  AJ7757
 AJ7757  STATE/COUNTY-  FL/COLLIER
 AJ7757  USGS QUAD   -  GATOR HOOK SWAMP (1973)
 AJ7757
 AJ7757                        *CURRENT SURVEY CONTROL
 AJ7757  ______________________________________________________________________
 AJ7757* NAD 83(2007)-  25 52 24.90936(N)    081 11 49.72808(W)     ADJUSTED
 AJ7757* NAVD 88     -         1.749  (meters)       5.74   (feet)  ADJUSTED
 AJ7757  ______________________________________________________________________
 AJ7757  EPOCH DATE  -        2002.00
 AJ7757  X           -     878,792.747 (meters)                     COMP
 AJ7757  Y           -  -5,674,786.531 (meters)                     COMP
 AJ7757  Z           -   2,766,457.808 (meters)                     COMP
 AJ7757  LAPLACE CORR-          -1.77  (seconds)                    DEFLEC99
 AJ7757  ELLIP HEIGHT-         -22.297 (meters)          (02/10/07) ADJUSTED
 AJ7757  GEOID HEIGHT-         -24.05  (meters)                     GEOID03
 AJ7757  DYNAMIC HT  -           1.746 (meters)       5.73  (feet)  COMP
 AJ7757
 AJ7757  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AJ7757  Type    PID    Designation                       North   East  Ellip
 AJ7757  ----------------------------------------------------------------------
 AJ7757  NETWORK AJ7757 Q 527                              1.43   1.37   2.90
 AJ7757  ----------------------------------------------------------------------
 AJ7757  MODELED GRAV-     979,010.1   (mgal)                       NAVD 88
 AJ7757
 AJ7757  VERT ORDER  -  FIRST     CLASS II
 AJ7757
 AJ7757.The horizontal coordinates were established by GPS observations
 AJ7757.and adjusted by the National Geodetic Survey in February 2007.
 AJ7757
 AJ7757.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AJ7757.See National Readjustment for more information.
 AJ7757.The horizontal coordinates are valid at the epoch date displayed above.
 AJ7757.The epoch date for horizontal control is a decimal equivalence
 AJ7757.of Year/Month/Day.
 AJ7757
 AJ7757.The orthometric height was determined by differential leveling
 AJ7757.and adjusted in March 2002.
 AJ7757
 AJ7757.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AJ7757
 AJ7757.The Laplace correction was computed from DEFLEC99 derived deflections.
 AJ7757
 AJ7757.The ellipsoidal height was determined by GPS observations
 AJ7757.and is referenced to NAD 83.
 AJ7757
 AJ7757.The geoid height was determined by GEOID03.
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AJ7757
AJ7757.The dynamic height is computed by dividing the NAVD 88
AJ7757.geopotential number by the normal gravity value computed on the
AJ7757.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ7757.degrees latitude (g = 980.6199 gals.).
AJ7757
AJ7757.The modeled gravity was interpolated from observed gravity values.
AJ7757
AJ7757;                    North         East     Units Scale Factor Converg.
AJ7757;SPC FL E     -   170,625.466   180,242.185   MT  0.99994599   -0 05 09.7
AJ7757;SPC FL E     -   559,793.72    591,344.57   sFT  0.99994599   -0 05 09.7
AJ7757;UTM  17      - 2,861,699.231   480,248.926   MT  0.99960482   -0 05 09.7
AJ7757
AJ7757!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ7757!SPC FL E     -   1.00000350  x   0.99994599  =   0.99994949
AJ7757!UTM  17      -   1.00000350  x   0.99960482  =   0.99960832
AJ7757
AJ7757                          SUPERSEDED SURVEY CONTROL
AJ7757
AJ7757  NAD 83(1999)-  25 52 24.90920(N)    081 11 49.72950(W) AD(       ) 1
AJ7757  ELLIP H (12/12/02)  -22.284  (m)                       GP(       ) 4 1
AJ7757  NAVD 88 (12/12/02)    1.75   (m)            5.7    (f) LEVELING    3
AJ7757
AJ7757.Superseded values are not recommended for survey control.
AJ7757.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AJ7757.See file dsdata.txt to determine how the superseded data were derived.
AJ7757
AJ7757_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ8024961699(NAD 83)
AJ7757_MARKER: F = FLANGE-ENCASED ROD
AJ7757_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
AJ7757+WITH SETTING: INFORMATION.
AJ7757_STAMPING: Q 527 2001 CERP
AJ7757_MARK LOGO: NONE
AJ7757_PROJECTION: RECESSED 12 CENTIMETERS
AJ7757_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
AJ7757_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AJ7757_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ7757+SATELLITE: SATELLITE OBSERVATIONS - 2002
AJ7757_ROD/PIPE-DEPTH: 0.74 meters
AJ7757
AJ7757  HISTORY     - Date     Condition        Report By
AJ7757  HISTORY     - 20010908 MONUMENTED       LDBLS
AJ7757  HISTORY     - 2002     GOOD             MAPTEC
AJ7757
AJ7757                          STATION DESCRIPTION
AJ7757
AJ7757'DESCRIBED BY LD BRADLEY LAND SURVEYORS 2001 (JCH)
AJ7757'THE MARK IS ABOUT 67.9 KM (42.16 MI) SOUTHEAST OF NAPLES, ABOUT 93.8
AJ7757'KM (58.28
AJ7757'MILES) NORTHWEST OF WEST MIAMI, AND ABOUT 9.8 KM (6.09 MI) NORTHWEST
AJ7757'OF MONROE
AJ7757'STATION, IN SECTION 11, TOWNSHIP 53 SOUTH, RANGE 31 EAST, COLLIER
AJ7757'COUNTY,
AJ7757'FLORIDA. OWNERSHIP - FLORIDA DEPARTMENT OF TRANSPORTATION.
AJ7757'
AJ7757'TO REACH THE MARK FROM THE INTERSECTION OF U.S. HIGHWAY 41 (TAMIAMI
AJ7757'TRAIL) AND
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AJ7757'STATE ROAD 29 IN CARNESTOWN, GO SOUTHEAST ON U.S. HIGHWAY 41 6.9 KM
AJ7757'(4.3 MI) TO
AJ7757'THE POST OFFICE IN OCHOPEE, CONTINUE SOUTHEAST ON U.S. HIGHWAY 41 10.6
AJ7757'KM (6.62
AJ7757'MI) TO THE MARK ON THE LEFT.
AJ7757'
AJ7757'THE MARK IS 110.25 M (361.7 FT) SOUTHEAST OF THE SOUTHEAST END OF
AJ7757'HIGHWAY
AJ7757'BRIDGE NUMBER 030088, 6.83 M (22.4 FT) NORTHEAST OF THE CENTERLINE OF
AJ7757'U.S.
AJ7757'HIGHWAY 41, 0.91 M (3.0 FT) SOUTH OF THE SOUTH EDGE OF A CANAL, 0.37 M
AJ7757'(1.2 FT)
AJ7757'NORTHEAST OF A STEEL GUARDRAIL, AND 0.30 M (1.0 FT) SOUTHWEST OF A
AJ7757'CARSONITE
AJ7757'WITNESS POST. THE DATUM POINT IS SET 12 CM (0.39 FT) BELOW THE LEVEL
AJ7757'OF THE
AJ7757'GROUND AND ABOUT (1.23 FT) BELOW THE LEVEL OF THE HIGHWAY, BEING THE
AJ7757'TOP OF A
AJ7757'STAINLESS STEEL ROD 0.74 M (2.43 FT) IN DEPTH CEMENTED IN A DRILLED
AJ7757'HOLE 0.30 M
AJ7757'(1.0 FT) DEEP INTO THE BEDROCK AND ENCASED IN A 5-INCH PVC PIPE WITH
AJ7757'AN ACCESS
AJ7757'COVER.
AJ7757'
AJ7757'NOTE - A MAGNET WAS PLACED INSIDE THE SLEEVE, BELOW THE ACCESS COVER.
AJ7757'
AJ7757'
AJ7757'
AJ7757
AJ7757 STATION RECOVERY (2002)
AJ7757
AJ7757'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)
AJ7757'THE MARK IS ABOUT 67.9 KM (42.16 MI) SOUTHEAST OF NAPLES, ABOUT 93.8
AJ7757'KM (58.28
AJ7757'MILES) NORTHWEST OF WEST MIAMI, AND ABOUT 9.8 KM (6.09 MI) NORTHWEST
AJ7757'OF MONROE
AJ7757'STATION, IN SECTION 11, TOWNSHIP 53 SOUTH, RANGE 31 EAST, COLLIER
AJ7757'COUNTY,
AJ7757'FLORIDA. OWNERSHIP - FLORIDA DEPARTMENT OF TRANSPORTATION.
AJ7757'
AJ7757'TO REACH THE MARK FROM THE INTERSECTION OF U.S. HIGHWAY 41 (TAMIAMI
AJ7757'TRAIL) AND
AJ7757'STATE ROAD 29 IN CARNESTOWN, GO SOUTHEAST ON U.S. HIGHWAY 41 6.9 KM
AJ7757'(4.3 MI) TO
AJ7757'THE POST OFFICE IN OCHOPEE, CONTINUE SOUTHEAST ON U.S. HIGHWAY 41 10.6
AJ7757'KM (6.62
AJ7757'MI) TO THE MARK ON THE LEFT.
AJ7757'
AJ7757'THE MARK IS 110.25 M (361.7 FT) SOUTHEAST OF THE SOUTHEAST END OF
AJ7757'HIGHWAY
AJ7757'BRIDGE NUMBER 030088, 6.83 M (22.4 FT) NORTHEAST OF THE CENTERLINE OF
AJ7757'U.S.
AJ7757'HIGHWAY 41, 0.91 M (3.0 FT) SOUTH OF THE SOUTH EDGE OF A CANAL, 0.37 M
AJ7757'(1.2 FT)
AJ7757'NORTHEAST OF A STEEL GUARDRAIL, AND 0.30 M (1.0 FT) SOUTHWEST OF A
AJ7757'CARSONITE
AJ7757'WITNESS POST. THE DATUM POINT IS SET 12 CM (0.39 FT) BELOW THE LEVEL

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AJ7757'OF THE
AJ7757'GROUND AND ABOUT (1.23 FT) BELOW THE LEVEL OF THE HIGHWAY, BEING THE
AJ7757'TOP OF A
AJ7757'STAINLESS STEEL ROD 0.74 M (2.43 FT) IN DEPTH CEMENTED IN A DRILLED
AJ7757'HOLE 0.30 M
AJ7757'(1.0 FT) DEEP INTO THE BEDROCK AND ENCASED IN A 5-INCH PVC PIPE WITH
AJ7757'AN ACCESS
AJ7757'COVER.
AJ7757'
AJ7757'NOTE - A MAGNET WAS PLACED INSIDE THE SLEEVE, BELOW THE ACCESS COVER.
AJ7757'
AJ7757'
AJ7757'STATION RECOVERY (2002)
AJ7757'RECOVERY NOTE BY MAPTECH, INCORPORATED 2002 (CP)
AJ7757'RECOVERED AS DESCRIBED.
AJ7757'
AJ7757'

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

The NGS Data Sheet

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

```
DATABASE =  ,PROGRAM = datasheet, VERSION = 7.65
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 18, 2009
 DG8594 ***********************************************************************
 DG8594  HT_MOD      -  This is a Height Modernization Survey Station.
 DG8594  DESIGNATION -  R 598
 DG8594  PID         -  DG8594
 DG8594  STATE/COUNTY-  FL/COLLIER
 DG8594  USGS QUAD   -  BELLE MEADE SE (1973)
 DG8594
 DG8594                        *CURRENT SURVEY CONTROL
 DG8594  ______________________________________________________________________
 DG8594* NAD 83(2007)-  26 01 06.08982(N)    081 32 30.00980(W)      ADJUSTED
 DG8594* NAVD 88     -         1.32   (meters)       4.3    (feet)   GPS OBS
 DG8594  ______________________________________________________________________
 DG8594  EPOCH DATE  -        2002.00
 DG8594  X           -     843,622.079 (meters)                      COMP
 DG8594  Y           -  -5,673,027.129 (meters)                      COMP
 DG8594  Z           -   2,780,880.082 (meters)                      COMP
 DG8594  LAPLACE CORR-          -2.09  (seconds)                     DEFLEC99
 DG8594  ELLIP HEIGHT-         -22.252 (meters)          (02/10/07) ADJUSTED
 DG8594  GEOID HEIGHT-         -23.58  (meters)                      GEOID03
 DG8594
 DG8594  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 DG8594  Type    PID    Designation                        North   East  Ellip
 DG8594  ----------------------------------------------------------------------
 DG8594  NETWORK DG8594 R 598                               0.69   0.82   1.76
 DG8594  ----------------------------------------------------------------------
 DG8594
 DG8594.The horizontal coordinates were established by GPS observations
 DG8594.and adjusted by the National Geodetic Survey in February 2007.
 DG8594
 DG8594.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 DG8594.See National Readjustment for more information.
 DG8594.The horizontal coordinates are valid at the epoch date displayed above.
 DG8594.The epoch date for horizontal control is a decimal equivalence
 DG8594.of Year/Month/Day.
 DG8594
 DG8594.The orthometric height was determined by GPS observations and a
 DG8594.high-resolution geoid model.
 DG8594.The orthometric height was determined by GPS observations and a
 DG8594.high-resolution geoid model using precise GPS observation and
 DG8594.processing techniques. It supersedes the leveled height previously
 DG8594.determined for this station.
 DG8594
 DG8594.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DG8594
 DG8594.The Laplace correction was computed from DEFLEC99 derived deflections.
 DG8594
 DG8594.The ellipsoidal height was determined by GPS observations
 DG8594.and is referenced to NAD 83.
 DG8594
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DG8594.The geoid height was determined by GEOID03.
DG8594
DG8594;                      North         East      Units Scale Factor Converg.
DG8594;SPC FL E     -   186,761.035   145,780.420   MT  0.99997746   -0 14 15.4
DG8594;SPC FL E     -   612,731.83    478,281.26    sFT  0.99997746   -0 14 15.4
DG8594;UTM  17      - 2,877,829.294   445,798.919   MT  0.99963627   -0 14 15.4
DG8594
DG8594!             -  Elev Factor  x  Scale Factor =   Combined Factor
DG8594!SPC FL E     -   1.00000350  x   0.99997746  =   0.99998096
DG8594!UTM  17      -   1.00000350  x   0.99963627  =   0.99963976
DG8594
DG8594                           SUPERSEDED SURVEY CONTROL
DG8594
DG8594  NAD 83(1999)-  26 01 06.08960(N)    081 32 30.01057(W) AD(       ) 1
DG8594  ELLIP H (12/01/04)  -22.180  (m)                       GP(       ) 3 1
DG8594  NAVD 88 (01/23/08)    1.367  (m)            4.48   (f) ADJUSTED    2 1
DG8594
DG8594.Superseded values are not recommended for survey control.
DG8594.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DG8594.See file dsdata.txt to determine how the superseded data were derived.
DG8594
DG8594_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ4579977829(NAD 83)
DG8594_MARKER: F = FLANGE-ENCASED ROD
DG8594_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
DG8594+WITH SETTING: INFORMATION.
DG8594_STAMPING: R 598 2004
DG8594_MARK LOGO: NGS
DG8594_PROJECTION: RECESSED 3 CENTIMETERS
DG8594_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
DG8594_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
DG8594_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DG8594+SATELLITE: SATELLITE OBSERVATIONS - May 30, 2007
DG8594_ROD/PIPE-DEPTH:  2.4 meters
DG8594
DG8594  HISTORY     - Date     Condition        Report By
DG8594  HISTORY     - 20040204 MONUMENTED       FLDEP
DG8594  HISTORY     - 20040123 GOOD             FLDEP
DG8594  HISTORY     - 20070530 GOOD             HOLE
DG8594
DG8594                           STATION DESCRIPTION
DG8594
DG8594'DESCRIBED BY FL DEPT OF ENV PRO 2004 (BPJ)
DG8594'THE MARK IS ABOUT 16.0 MI EAST OF NAPLES, IN SECTION 19, TOWNSHIP 51
DG8594'SOUTH, RANGE 28 EAST.
DG8594'
DG8594'TO REACH THE MARK FROM THE INTERSECTION OF INTERSTATE 75 AND COUNTY
DG8594'ROAD 951 (EXIT 101,  COLLIER BOULEVARD) ON THE EAST SIDE OF NAPLES, GO
DG8594'NORTH ON COUNTY ROAD 951 (COLLIER  BOULEVARD) FOR 3.6 MI TO THE
DG8594'JUNCTION OF COUNTY ROAD 896 (PINE RIDGE ROAD) ON THE LEFT  AND WHITE
DG8594'BOULEVARD ON THE RIGHT, CONTINUE NORTH ON COUNTY ROAD 951 (COLLIER
DG8594'BOULEVARD) FOR 1.2 MI TO THE JUNCTION OF GOLDEN GATE BOULEVARD (COUNTY
DG8594'ROAD 876) ON THE  RIGHT, TURN RIGHT ON GOLDEN GATE BOULEVARD (COUNTY
DG8594'ROAD 876) AND GO EAST FOR 5.0 MI TO  THE INTERSECTION OF WILSON
DG8594'BOULEVARD, CONTINUE EAST ON GOLDEN GATE BOULEVARD  (COUNTY ROAD 876)
DG8594'FOR 3.85 MI TO THE INTERSECTION OF EVERGLADES BOULEVARD, TURN RIGHT
DG8594'ON EVERGLADES BOULEVARD AND GO SOUTH FOR 5.3 MI TO THE UNDERPASS OF
DG8594'INTERSTATE 75,  CONTINUE SOUTH ON EVERGLADES BOULEVARD FOR 9.3 MI TO
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DG8594'THE MARK ON THE RIGHT, A  STAINLESS STEEL ROD DRIVEN TO REFUSAL AT A
DG8594'DEPTH OF 7.8 FT WITH A NGS LOGO CAP  RECESSED 0.1 FT BELOW THE LEVEL
DG8594'OF THE GROUND AND ABOUT 0.5 FT ABOVE THE LEVEL OF  EVERGLADES
DG8594'BOULEVARD, THE DATUM POINT IS RECESSED 0.1 FT BELOW THE LEVEL OF THE
DG8594'NGS  LOGO CAP.
DG8594'
DG8594'LOCATED 62.3 FT NORTH OF THE APPROXIMATE CENTERLINE OF 120TH AVENUE
DG8594'SE, 41.5 FT WEST OF  THE APPROXIMATE CENTERLINE OF EVERGLADES
DG8594'BOULEVARD AND 1.5 FT EAST-SOUTHEAST OF A  CARSONITE WITNESS POST.
DG8594'
DG8594'NOTE ACCESS TO THE DATUM POINT IS HAD THROUGH A 5-INCH NGS LOGO CAP.
DG8594'
DG8594'NOTE A MAGNET WAS PLACED INSIDE OF THE NGS LOGO CAP.
DG8594
DG8594                          STATION RECOVERY (2004)
DG8594
DG8594'RECOVERY NOTE BY FL DEPT OF ENV PRO 2004 (BPJ)
DG8594'RECOVERED AS DESCRIBED.
DG8594
DG8594                          STATION RECOVERY (2007)
DG8594
DG8594'RECOVERY NOTE BY HOLE MONTES AND ASSOCIATES INC 2007 (BRH)
DG8594'RECOVERED IN GOOD CONDITION.

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

The NGS Data Sheet

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

```
DATABASE =  ,PROGRAM = datasheet, VERSION = 7.65
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 18, 2009
 AJ6593 ***********************************************************************
 AJ6593  DESIGNATION -  S 526
 AJ6593  PID         -  AJ6593
 AJ6593  STATE/COUNTY-  FL/COLLIER
 AJ6593  USGS QUAD   -  MILES CITY (1983)
 AJ6593
 AJ6593                        *CURRENT SURVEY CONTROL
 AJ6593  ______________________________________________________________________
 AJ6593* NAD 83(2007)-  26 09 30.02801(N)    081 20 44.31955(W)      ADJUSTED
 AJ6593* NAVD 88     -         3.764  (meters)      12.35   (feet)   ADJUSTED
 AJ6593  ______________________________________________________________________
 AJ6593  EPOCH DATE  -        2002.00
 AJ6593  X           -     862,000.150 (meters)                      COMP
 AJ6593  Y           -  -5,663,366.915 (meters)                      COMP
 AJ6593  Z           -   2,794,809.361 (meters)                      COMP
 AJ6593  LAPLACE CORR-          -2.29  (seconds)                     DEFLEC99
 AJ6593  ELLIP HEIGHT-         -20.464 (meters)          (02/10/07) ADJUSTED
 AJ6593  GEOID HEIGHT-         -24.22  (meters)                      GEOID03
 AJ6593  DYNAMIC HT  -           3.758 (meters)      12.33  (feet)  COMP
 AJ6593
 AJ6593  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AJ6593  Type    PID    Designation                        North   East  Ellip
 AJ6593  ----------------------------------------------------------------------
 AJ6593  NETWORK AJ6593 S 526                               0.45   0.45   1.18
 AJ6593  ----------------------------------------------------------------------
 AJ6593  MODELED GRAV-     979,035.8   (mgal)                        NAVD 88
 AJ6593
 AJ6593  VERT ORDER  -  FIRST     CLASS II
 AJ6593
 AJ6593.The horizontal coordinates were established by GPS observations
 AJ6593.and adjusted by the National Geodetic Survey in February 2007.
 AJ6593
 AJ6593.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AJ6593.See National Readjustment for more information.
 AJ6593.The horizontal coordinates are valid at the epoch date displayed above.
 AJ6593.The epoch date for horizontal control is a decimal equivalence
 AJ6593.of Year/Month/Day.
 AJ6593
 AJ6593.The orthometric height was determined by differential leveling
 AJ6593.and adjusted in February 2002.
 AJ6593
 AJ6593.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AJ6593
 AJ6593.The Laplace correction was computed from DEFLEC99 derived deflections.
 AJ6593
 AJ6593.The ellipsoidal height was determined by GPS observations
 AJ6593.and is referenced to NAD 83.
 AJ6593
 AJ6593.The geoid height was determined by GEOID03.
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AJ6593
AJ6593.The dynamic height is computed by dividing the NAVD 88
AJ6593.geopotential number by the normal gravity value computed on the
AJ6593.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ6593.degrees latitude (g = 980.6199 gals.).
AJ6593
AJ6593.The modeled gravity was interpolated from observed gravity values.
AJ6593
AJ6593;                    North         East     Units Scale Factor Converg.
AJ6593;SPC FL E     -   202,202.254   165,443.307   MT  0.99995592   -0 09 08.6
AJ6593;SPC FL E     -   663,391.89    542,791.92   sFT  0.99995592   -0 09 08.6
AJ6593;UTM  17      - 2,893,265.245   465,455.098   MT  0.99961473   -0 09 08.6
AJ6593
AJ6593!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ6593!SPC FL E     -   1.00000322  x   0.99995592  =   0.99995913
AJ6593!UTM  17      -   1.00000322  x   0.99961473  =   0.99961794
AJ6593
AJ6593|---------------------------------------------------------------------|
AJ6593| PID    Reference Object                    Distance      Geod. Az   |
AJ6593|                                                          dddmmss.s  |
AJ6593| AH1962 I75 W 33                          368.788 METERS 17241      |
AJ6593|---------------------------------------------------------------------|
AJ6593
AJ6593                          SUPERSEDED SURVEY CONTROL
AJ6593
AJ6593  NAD 83(1999)-  26 09 30.02810(N)    081 20 44.31952(W) AD(       ) A
AJ6593  ELLIP H (12/09/02)  -20.463  (m)                       GP(       ) 4 1
AJ6593  NAVD 88 (01/24/02)    3.767  (m)           12.36   (f) UNKNOWN     1 2
AJ6593
AJ6593.Superseded values are not recommended for survey control.
AJ6593.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AJ6593.See file dsdata.txt to determine how the superseded data were derived.
AJ6593
AJ6593_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMJ6545593265(NAD 83)
AJ6593_MARKER: DD = SURVEY DISK
AJ6593_SETTING: 66 = SET IN ROCK OUTCROP
AJ6593_STAMPING: S 526 2001 CERP
AJ6593_MARK LOGO: USE
AJ6593_MAGNETIC: M = MARKER EQUIPPED WITH BAR MAGNET
AJ6593_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
AJ6593+STABILITY: POSITION/ELEVATION WELL
AJ6593_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ6593+SATELLITE: SATELLITE OBSERVATIONS - March 19, 2002
AJ6593
AJ6593  HISTORY     - Date     Condition        Report By
AJ6593  HISTORY     - 20010605 MONUMENTED       LDBLS
AJ6593  HISTORY     - 20020222 GOOD             NGS
AJ6593  HISTORY     - 20020228 GOOD             MAPTEC
AJ6593  HISTORY     - 20020319 GOOD             MAPTEC
AJ6593
AJ6593                          STATION DESCRIPTION
AJ6593
AJ6593'DESCRIBED BY LD BRADLEY LAND SURVEYORS 2001 (JCH)
AJ6593'THE MARK IS ABOUT 90.9 KM (56.5 MI) WEST OF ANDYTOWN, ABOUT 45.4 KM
AJ6593'(28.2 MI)
AJ6593'EAST OF I-75 (EXIT 15) OVERPASS OVER COUNTY ROAD 951 NEAR NAPLES IN
AJ6593'ESTIMATED
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AJ6593'SECTION 31, TOWNSHIP 49 SOUTH, RANGE 30 EAST, COLLIER COUNTY FLORIDA.
AJ6593'OWNERSHIP-FLORIDA DEPARTMENT OF TRANSPORTATION
AJ6593'
AJ6593'TO REACH THE MARK FROM THE INTERSECTION OF I-75 AND COUNTY ROAD NO.
AJ6593'951 (I- 75
AJ6593'EXIT 15, NEAR NAPLES) GO EAST ON I-75, 33.8 KM (21.0 MI) TO THE I-75
AJ6593'EXIT 14
AJ6593'A, PROCEED ALONG THE EXIT RAMP TO STATE ROAD 29 AND TURN LEFT, PROCEED
AJ6593'NORTH
AJ6593'ON STATE ROAD 29 0.6 KM (0.4 MI) TO THE MARK ON THE LEFT.
AJ6593'
AJ6593'THE MARK IS SET FLUSH IN THE TOP OF A ROCK OUTCROP, FLUSH WITH THE
AJ6593'LEVEL OF
AJ6593'THE GROUND, ABOUT 0.6 M (2.0 FT) BELOW THE LEVEL OF THE ASPHALT
AJ6593'ENTRANCE RAMP,
AJ6593'24.38 M (80.0 FT) NORTHWEST (RADIAL TO ARC) OF THE WESTERLY EDGE OF
AJ6593'THE
AJ6593'ASPHALT ENTRANCE RAMP, 13.72 M (45.0 FT) WEST OF THE MOST EASTERLY
AJ6593'FENCE
AJ6593'CORNER, 2.16 M (7.1 FT) SOUTH OF THE FENCE, 3.47 M (11.4 FT) EAST OF
AJ6593'THE FENCE
AJ6593'WHICH RUNS SOUTHWEST AND 3.35 M (11.0 FT) EAST OF A CARSONITE WITNESS
AJ6593'POST.
AJ6593'
AJ6593'NOTE - A MAGNET WAS BURIED 0.06 M (0.2 FT) BELOW THE LEVEL OF THE
AJ6593'GROUND, 0.30
AJ6593'M (1.0 FT) SOUTHWEST OF THE MARK.
AJ6593'
AJ6593'
AJ6593'
AJ6593
AJ6593                          STATION RECOVERY (2002)
AJ6593
AJ6593'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2002 (RWA)
AJ6593'STATION IS NEAR A 12 FOOT HIGH CHAIN LINK FENCE.
AJ6593
AJ6593                          STATION RECOVERY (2002)
AJ6593
AJ6593'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (RLT)
AJ6593'RECOVERED AS DESCRIBED WITH THE FOLLOWING ADDITION
AJ6593'
AJ6593'FROM THE EAST EDGE OF THE OVERPASS SOUTH BOUND LANE OF I-75 FO WEST
AJ6593'ALONG HWY 82 FOR
AJ6593'4.15 MILES TO HENDRY STREET TURN RIGHT ON HENDRY STREET AND GO NORTH
AJ6593'.35 MILES TO
AJ6593'EDWARDS DRIVE CONTINUE ACROSS EDWARDS DRIVE INTON THE YACHT CLUB
AJ6593'PARKIN GLOT FOR 150
AJ6593'FEET.
AJ6593'
AJ6593'
AJ6593'
AJ6593'
AJ6593
AJ6593                          STATION RECOVERY (2002)
AJ6593
AJ6593'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CP)
AJ6593'RECOVERED AS DESCRIBED.
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AJ6593'

*** retrieval complete.
Elapsed Time = 00:00:01
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The NGS Data Sheet

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

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DATABASE =  ,PROGRAM = datasheet, VERSION = 7.65
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 18, 2009
 AJ7301 ***********************************************************************
 AJ7301  DESIGNATION -  W 520
 AJ7301  PID         -  AJ7301
 AJ7301  STATE/COUNTY-  FL/COLLIER
 AJ7301  USGS QUAD   -  SUNNILAND (1982)
 AJ7301
 AJ7301                        *CURRENT SURVEY CONTROL
 AJ7301  ______________________________________________________________________
 AJ7301* NAD 83(2007)-  26 16 40.28483(N)    081 20 31.72496(W)     ADJUSTED
 AJ7301* NAVD 88     -         5.438  (meters)      17.84   (feet)  ADJUSTED
 AJ7301  ______________________________________________________________________
 AJ7301  EPOCH DATE  -        2002.00
 AJ7301  X           -     861,465.564 (meters)                     COMP
 AJ7301  Y           -  -5,657,532.443 (meters)                     COMP
 AJ7301  Z           -   2,806,689.034 (meters)                     COMP
 AJ7301  LAPLACE CORR-          -1.74  (seconds)                    DEFLEC99
 AJ7301  ELLIP HEIGHT-         -18.926 (meters)          (02/10/07) ADJUSTED
 AJ7301  GEOID HEIGHT-         -24.37  (meters)                     GEOID03
 AJ7301  DYNAMIC HT  -           5.429 (meters)      17.81  (feet)  COMP
 AJ7301
 AJ7301  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AJ7301  Type    PID    Designation                       North   East  Ellip
 AJ7301  ----------------------------------------------------------------------
 AJ7301  NETWORK AJ7301 W 520                              0.76   0.80   1.71
 AJ7301  ----------------------------------------------------------------------
 AJ7301  MODELED GRAV-     979,044.5   (mgal)                      NAVD 88
 AJ7301
 AJ7301  VERT ORDER  -  FIRST     CLASS II
 AJ7301
 AJ7301.The horizontal coordinates were established by GPS observations
 AJ7301.and adjusted by the National Geodetic Survey in February 2007.
 AJ7301
 AJ7301.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AJ7301.See National Readjustment for more information.
 AJ7301.The horizontal coordinates are valid at the epoch date displayed above.
 AJ7301.The epoch date for horizontal control is a decimal equivalence
 AJ7301.of Year/Month/Day.
 AJ7301
 AJ7301.The orthometric height was determined by differential leveling
 AJ7301.and adjusted in February 2002.
 AJ7301
 AJ7301.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AJ7301
 AJ7301.The Laplace correction was computed from DEFLEC99 derived deflections.
 AJ7301
 AJ7301.The ellipsoidal height was determined by GPS observations
 AJ7301.and is referenced to NAD 83.
 AJ7301
 AJ7301.The geoid height was determined by GEOID03.
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AJ7301
AJ7301.The dynamic height is computed by dividing the NAVD 88
AJ7301.geopotential number by the normal gravity value computed on the
AJ7301.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AJ7301.degrees latitude (g = 980.6199 gals.).
AJ7301
AJ7301.The modeled gravity was interpolated from observed gravity values.
AJ7301
AJ7301;                      North         East     Units Scale Factor Converg.
AJ7301;SPC FL E     -   215,442.008   165,828.013   MT  0.99995559   -0 09 05.3
AJ7301;SPC FL E     -   706,829.32    544,054.07   sFT  0.99995559   -0 09 05.3
AJ7301;UTM  17      - 2,906,500.482   465,839.672   MT  0.99961441   -0 09 05.3
AJ7301
AJ7301!             -  Elev Factor  x  Scale Factor =   Combined Factor
AJ7301!SPC FL E     -   1.00000297  x   0.99995559  =   0.99995856
AJ7301!UTM  17      -   1.00000297  x   0.99961441  =   0.99961738
AJ7301
AJ7301                           SUPERSEDED SURVEY CONTROL
AJ7301
AJ7301  NAD 83(1999)-  26 16 40.28504(N)    081 20 31.72570(W) AD(       ) 1
AJ7301  ELLIP H (12/12/02)  -18.948  (m)                       GP(       ) 4 1
AJ7301  NAVD 88 (12/12/02)    5.44   (m)           17.8    (f) LEVELING    3
AJ7301
AJ7301.Superseded values are not recommended for survey control.
AJ7301.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AJ7301.See file dsdata.txt to determine how the superseded data were derived.
AJ7301
AJ7301_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RMK6584006500(NAD 83)
AJ7301_MARKER: F = FLANGE-ENCASED ROD
AJ7301_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
AJ7301_STAMPING: W 520 2001 CERP
AJ7301_MARK LOGO: NONE
AJ7301_PROJECTION: RECESSED 5 CENTIMETERS
AJ7301_MAGNETIC: O = OTHER; SEE DESCRIPTION
AJ7301_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AJ7301_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AJ7301+SATELLITE: SATELLITE OBSERVATIONS - March 08, 2002
AJ7301_ROD/PIPE-DEPTH: 24.4 meters
AJ7301
AJ7301  HISTORY     - Date     Condition        Report By
AJ7301  HISTORY     - 200105   MONUMENTED       FOST
AJ7301  HISTORY     - 20020308 GOOD             MAPTEC
AJ7301
AJ7301                           STATION DESCRIPTION
AJ7301
AJ7301'DESCRIBED BY CHARLEY FOSTER AND ASSOCIATES 2001 (JB)
AJ7301'THE MONUMENT IS LOCATED 12.4 MILES (19.96 KM) SOUTH OF THE
AJ7301'INTERSECTION OF STATE ROAD 29 AND 9TH
AJ7301'STREET IN IMMOKALEE, FL. AND 0.6 MILES (0.97 KM) NORTH OF SUNNILAND,
AJ7301'FL. IN SECTION 29, TOWNSHIP 48
AJ7301'SOUTH, RANGE 30 EAST.
AJ7301'
AJ7301'OWNERSHIP IS THE FLORIDA DEPARTMENT OF TRANSPORTATION.
AJ7301'
AJ7301'TO REACH THE MONUMENT FROM THE STATE ROAD 29 AND I-75 INTERCHANGE, IN
AJ7301'MILES CITY,  GO 8.5 MILES (13.68 KM) NORTH
AJ7301'ON STATE ROAD 29 AND THE MONUMENT IS ON THE EAST SIDE (RIGHT) OF THE
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AJ7301'ROAD. THE MONUMENT IS 12.4
AJ7301'MILES (19.96 KM) SOUTH OF THE INTERSECTION OF STATE ROAD 29 AND 9TH
AJ7301'STREET IN IMMOKALEE, FL.
AJ7301'
AJ7301'THE MONUMENT IS 40.6 FEET (12.37 M) EAST OF THE CENTERLINE OF STATE
AJ7301'ROAD 29, 7.3 FEET (2.23 M) WEST OF
AJ7301'THE EAST GUARDRAIL, 30.0 FEET (9.14 M) SOUTHWEST OF A LEANING 10 INCH
AJ7301'PALM TREE, 83.4 FEET (25.42 M)
AJ7301'NORTHWEST OF A 10 INCH PALM TREE AND 7.3 FEET (2.23 M) WEST OF A
AJ7301'CARSONITE WITNESS POST. NOTE
AJ7301'ACCESS TO THE DATUM POINT (THE TOP OF A STAINLESS STEEL ROD) IS HAD
AJ7301'THROUGH A 5 INCH LOGO CAP.
AJ7301'NOTE A MAGNET WAS PLACED INSIDE THE PVC PIPE.
AJ7301
AJ7301                          STATION RECOVERY (2002)
AJ7301
AJ7301'RECOVERY NOTE BY MAPTECH INCORPORATED 2002 (CDP)
AJ7301'RECOVERED AS DESCRIBED
AJ7301'

*** retrieval complete.
Elapsed Time = 00:00:00
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APPENDIX B: NEW GROUND CONTROL STATION INFORMATION

This appendix contains the recovery information sheet for the newly established GPS control station utilized in Project Area H of the FY2007 State of Florida Division of Emergency Management Ground Control QA/QC Survey Mapping Project.

GPS Station Recovery - GPS Log Sheet

WOOLPERT

Project Name: Florida Coastal Mapping Project

Operator Name: S LAMB

Job No.: 66517

Station Name: GARRETT

Date of Survey: 21 JAN 09

Julian Day: 021

File Name: GARRETT

Session #: #1

Type of Reciever: TRIMBLE

Type of Antenna: 5700 / ZYPHR

WGS 84 Coordinates

Latitude: 25° 59' 38.53"

Longitude: 081° 15' 46.15"

Ellip. Height: -98.0'

Antenna Height: 2.0m

Circle one: USFT / Meters

Circle one: ARP / Phase Center

Type of Mark: PIN W/CAP

Start Time (local): 9:16 AM

Stamping on Mark: WOOLPERT

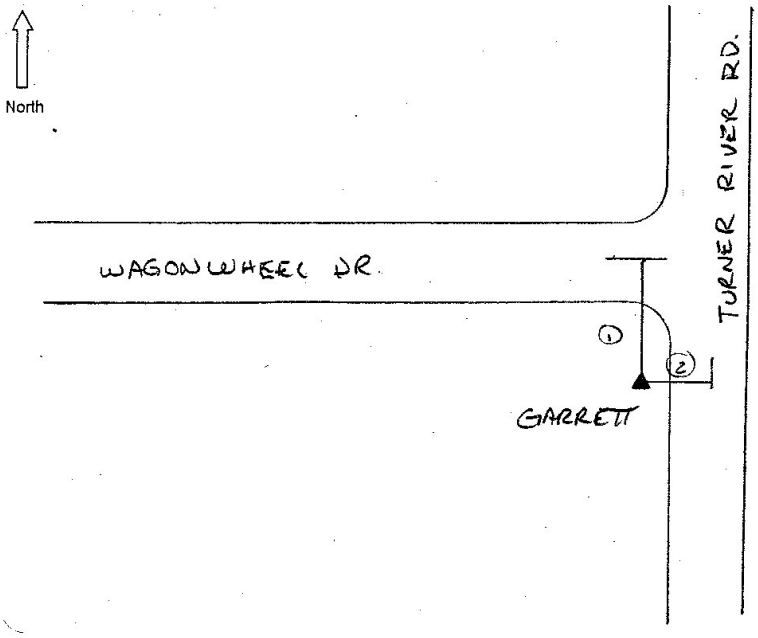
Weather Condition:

To Reach Description: STATION GARRETT IS LOCATED ON SW CORNER OF THE INTERSECTION OF TURNER RIVER RD. & WAGONWHEEL DR.

Witness Ties:

Reference Object	Distance	Azimuth
1) TO ℄ OF WAGONWHEEL	60'	
2) TO ℄ OF TURNER RIVER	30'	
3)		
4)		

Sketch:



GPS Station Recovery - GPS Log Sheet

WOOLPERT

Project Name:	Florida Coastal Mapping Project	Operator Name	S. LAMB	Job No.	66517
Station Name:	GATOR	Date of Survey:	26 JAN 08	Julian Day	026
		File Name:	GATOR	Session #	*3
WGS 84 Coordinates		Type of Reciever:	TRIMBLE		
Latitude	25° 52' 21.65"	Type of Antenna:	5800		
Longitude	081° 22' 52.64"				
Ellip. Height	-73'	Antenna Height:	2.0m	Circle one: USFT / Meters	Circle one: ARP / Phase Center
Type of Mark:	D.N.W/ DISK	Start Time (local):	10:20AM		
Stamping on Mark:	GATOR	Weather Condition:	T-75° / CLEAR		

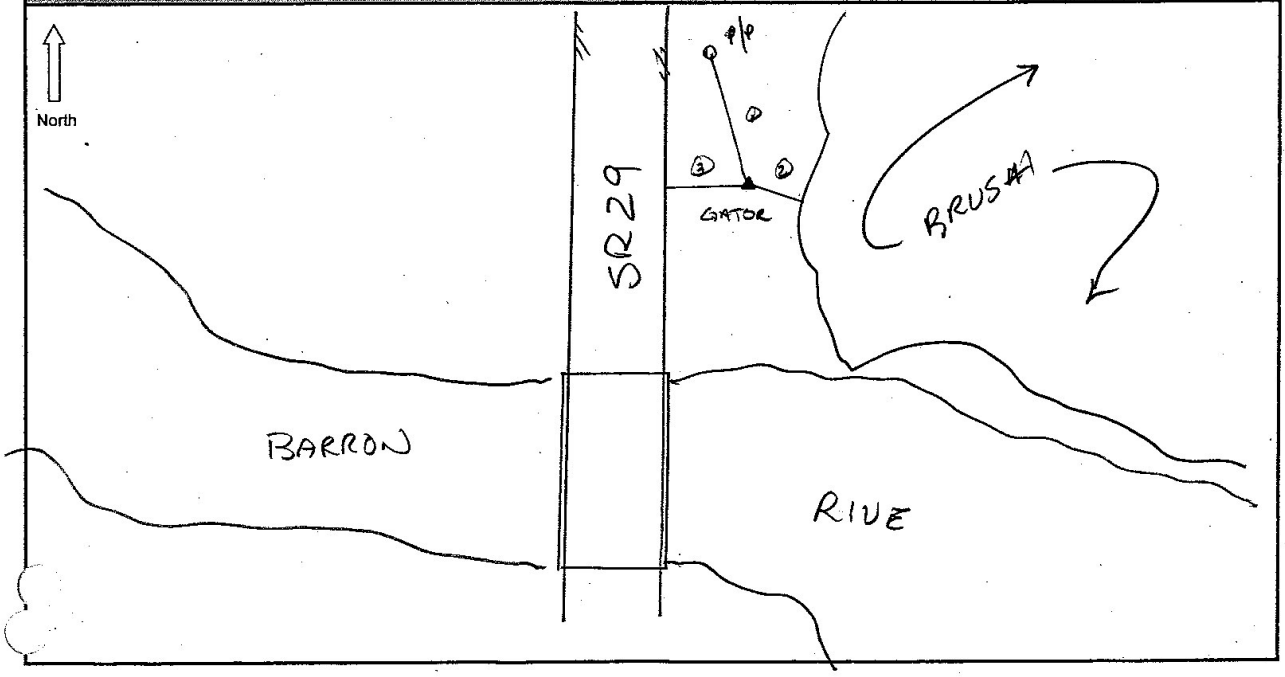
To-Reach Description:

STATION GATOR IS LOCATED ON SR 29 JUST NORTH OF THE BRIDGE TO EVERGLADES CITY ON EASTSIDE OF ROW.

Witness Ties:

Reference Object	Distance	Azimuth
1) TO CONC. POWER POLE	63'	
2) TO EDGE OF BRUSH	40'	
3) TO EP OF SR 29	30'	
4)		

Sketch:



GPS Station Recovery - GPS Log Sheet

WOOLPERT

Project Name:	Florida Coastal Mapping Project	Operator Name	S. Lamb	Job No.	68517
Station Name:	MOCCASIN	Date of Survey:	17 Jan 08	Julian Day	017
		File Name:	7078	Session #	# 5
WGS84 Coordinates		Type of Reciever:	TRIMBLE		
Latitude	25° 57' 38.99"	Type of Antenna:	R8 / 5800		
Longitude	081° 30' 19.58			Circle one:	Circle one:
Ellip. Height	-39	Antenna Height:	2.0m	USFT / Meters	ARP / Phase Center
Type of Mark:	BRASS DISK IN CONC.	Start Time (local):	11:45 AM		
Stamping on Mark:	USFW	Weather Condition:	+/- 75° / CLOUDY		

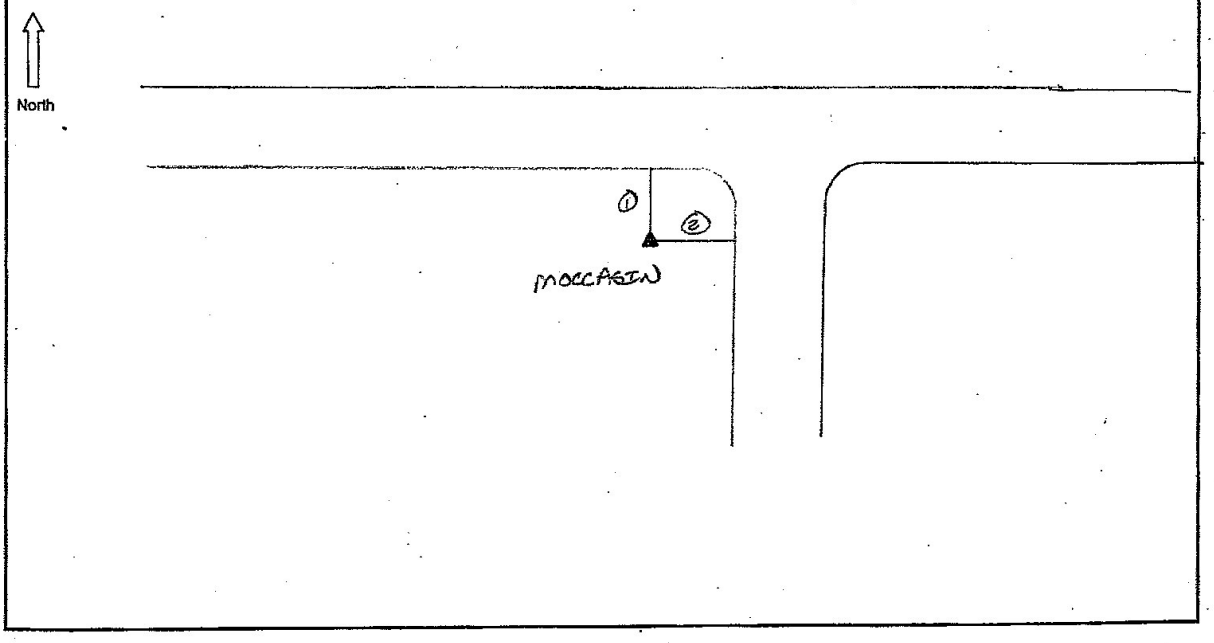
To Reach Description:

STATION MOCCASIN IS LOCATED ON SOUTHSIDE OF US41 AT NEWPORT DR. STATION IS NE CORNER OF 10000 ISL. NFW REFUGE.

Witness Ties:

Reference Object	Distance	Azimuth
1) TO EP OF US41	50'	
2) TO EP OF NEWPORT	50'	
3)		
4)		

Sketch:



GPS Station Recovery - GPS Log Sheet

WOOLPERT

Project Name:	COLLIER AREA H QC	**Operator Name**	JKAIC	**Job No.**	16517
Station Name:	PANTHER	**Date of Survey:**	27 JUN 08	**Julian Day**	179
WGS 84 Coordinates		**File Name:**		**Session #**	BASE
Latitude		**Type of Reciever:**	8700		
Longitude		**Type of Antenna:**	ZEPHYR GEODETIC		
Ellip. Height		**Antenna Height:**	2.000	Circle one: USFT / Meters	Circle one: ARP / Phase Center
Type of Mark:	R/R SPIKE W/PUNCH MARK				
Stamping on Mark:	N/A	**Start Time (local) :**			
	CANBE A PID !	**Weather Condition:**	HAZY 80°		

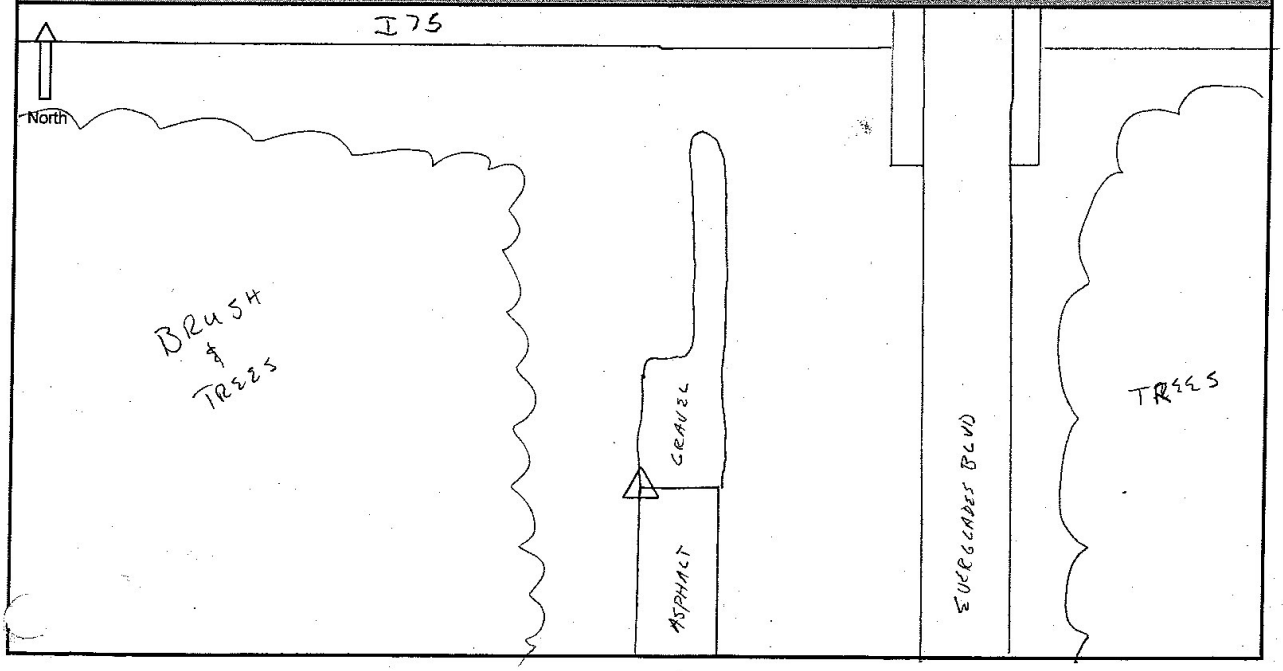
To Reach Description:

SW CORNER OF I75 & EVERGLADES BLVD.

Witness Ties:

Reference Object	Distance	Azimuth
1)		
2)		
3)		
4)		
Vertical Offset (Depth of STA. below Target:		

Sketch:



GPS Station Recovery - GPS Log Sheet

WOOLPERT

Project Name:	COLLIER AREA H	**Operator Name**	JKAIL	**Job No.**	66517
Station Name:	NEW BASE 8	**Date of Survey:**	10 JUNE 08	**Julian Day**	162
		File Name:	0631 1620	**Session #**	BASE
WGS 84 Coordinates		**Type of Reciever:**	5700		
Latitude	25 57 38.1	**Type of Antenna:**	ZEPHYR		
Longitude	81 29 51.0				
Ellip. Height	-26.3	**Antenna Height:**	2.00	Circle one: USFT / METERS	Circle one: ARP / Phase Center
Type of Mark:	IRON W/RSD WOOLPERT CAP				
Stamping on Mark:	N/A	**Start Time (local) :**	8:02		
		Weather Condition:	CLEAR 80°		

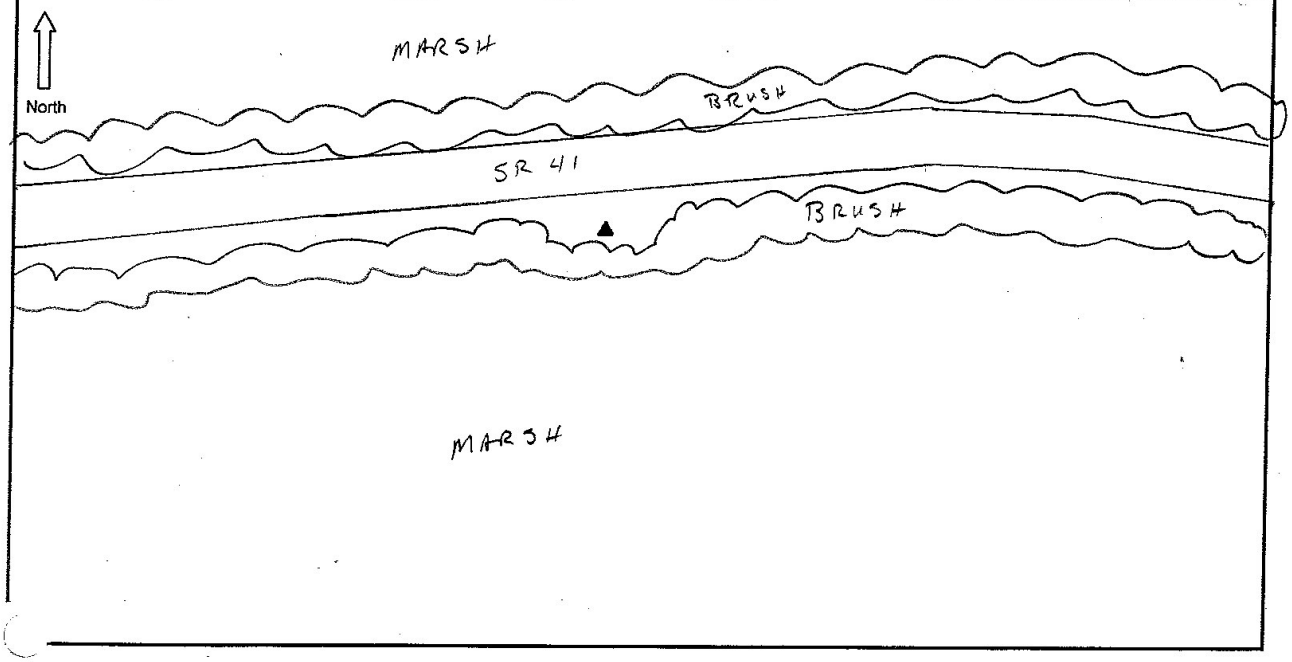
To-Reach Description:

FOUND AS DESCRIBED

Witness Ties:

Reference Object	Distance	Azimuth
1)		
2)		
3)		
4)		
Vertical Offset (Depth of STA. below Target:		

Sketch:



GPS Station Recovery - GPS Log Sheet

WOOLPERT

Project Name:	COLLIER COUNTY GUY-UP	Operator Name	MBROWN	Job No.	60517
Station Name:	115	Date of Survey:	02/27/08	Julian Day	058
		File Name:	88100582	Session #	C
WGS 84 Coordinates		Type of Reciever:	RB-2		
Latitude	26° 17' 19.535"	Type of Antenna:	RB-2		
Longitude	81° 33' 41.765"				
Ellip. Height	-72.771	Antenna Height:	2.0	Circle one: USFT / Meters	Circle one: ARP / Phase Center
Type of Mark:	2'x 8' WHITE CLOTH "X" W/IRC				
Stamping on Mark:	N/A	Start Time (local) :	11:20 AM		
		Weather Condition:	CLOUDY/WINDY		

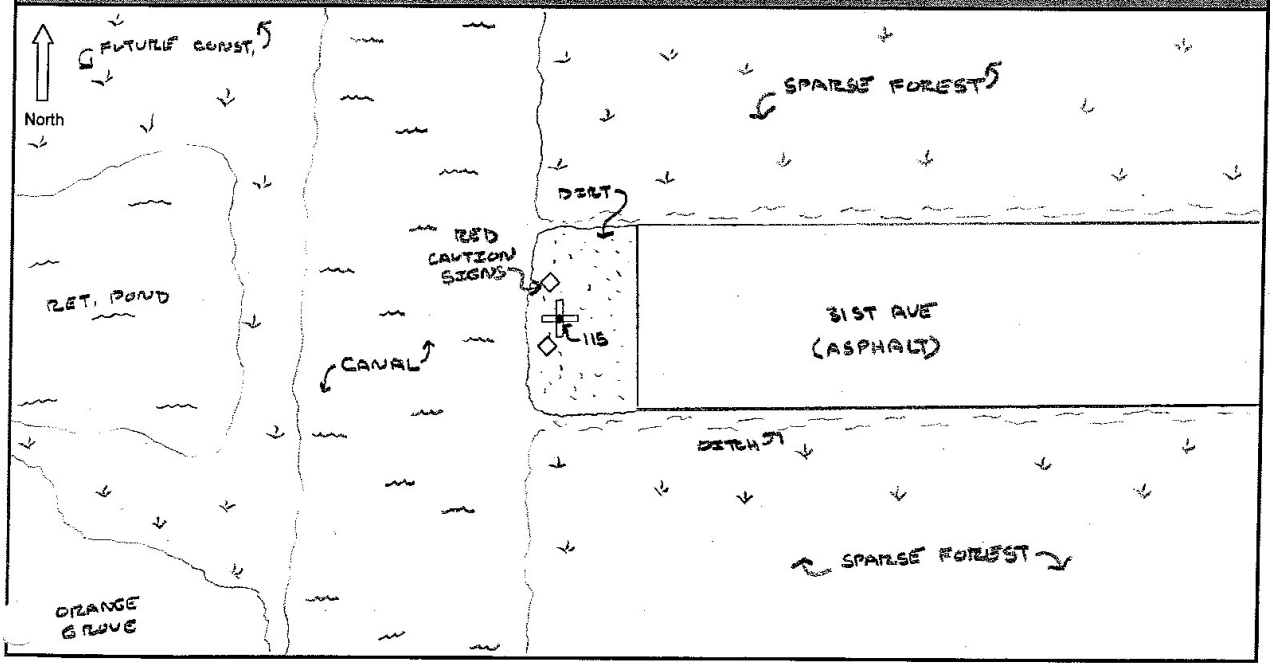
To Reach Description:

FROM THE INT. OF EVERGLADES BLVD + 31ST AVE GO WEST ON 31ST AVE TO DEAD END.

Witness Ties:

Reference Object	Distance	Azimuth
1)		
2)		
3)		
4)		
Vertical Offset (Depth of STA. below Target:	0.00	

Sketch:



GPS Station Recovery - GPS Log Sheet

WOOLPERT

Project Name:	COLLIER AREA H QC	**Operator Name**	JKAIL	**Job No.**	66517
Station Name:	COLLIER 129	**Date of Survey:**	29 JAN 08	**Julian Day**	176
WGS 84 Coordinates		**File Name:**	86771760	**Session #**	1
Latitude		**Type of Reciever:**	5700		
Longitude		**Type of Antenna:**	ZEPHYR GEODETIC		
Ellip. Height					
Type of Mark:	IP W/RED CAP	**Antenna Height:**	2.000	Circle one: USFT / (Meters)	Circle one: (ARP) / Phase Center
Stamping on Mark:	N/A	**Start Time (local) :**			
		Weather Condition:	CLEAR 80°		

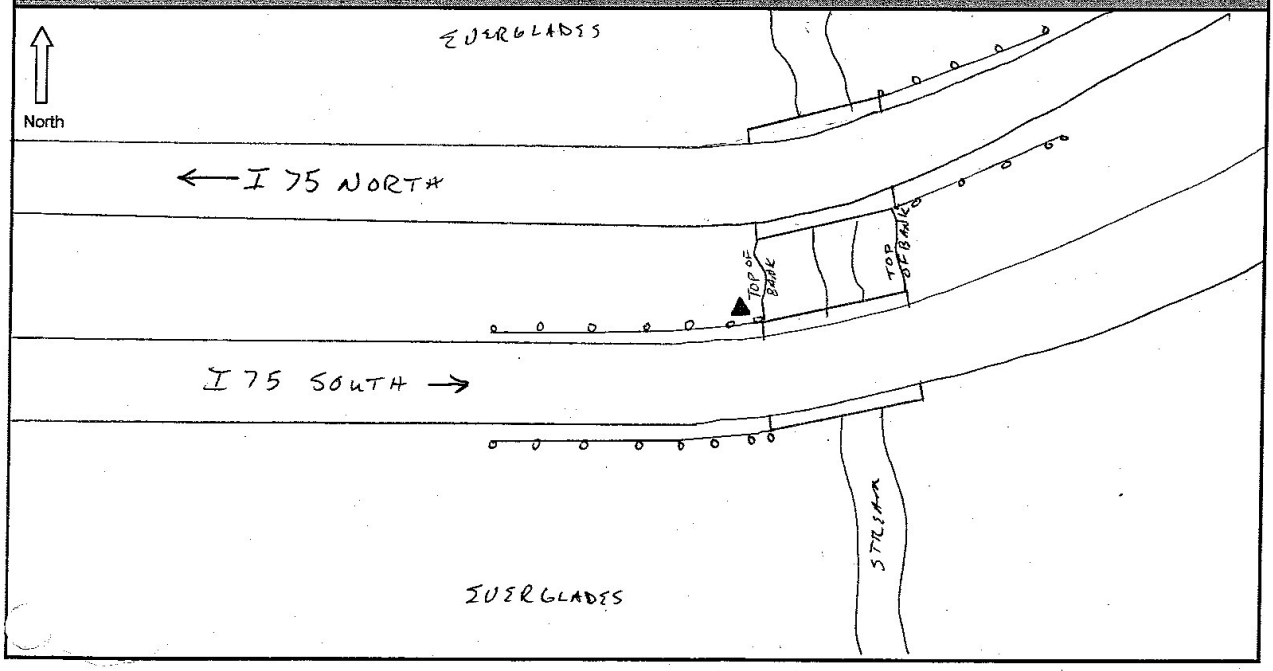
To-Reach Description:

FOUND AS DESCRIBED

Witness Ties:

Reference Object	Distance	Azimuth
1)		
2)		
3)		
4)		
Vertical Offset (Depth of STA. below Target:		

Sketch:



APPENDIX C: FINAL GROUND QA/QC AND GEODETIC CONTROL COORDINATE LISTING

This appendix contains the final coordinate listings for the LiDAR QA/QC Checkpoints, LiDAR Control Points and the geodetic control stations utilized in Project Area H of the FY2007 State of Florida Division of Emergency Management Ground Control QA/QC Survey Mapping Project.

PROJECT AREA 'H'

HORIZONTAL DATUM: NAD83(1999)
VERTICAL DATUM: NAVD88
UNITS: US SURVEY FEET
STATE PLANE ZONE: FLORIDA EAST 0901
GEOID MODEL: GEOID03
COORDINATE SYSTEM: GRID
****NOTE: ALL ELEVATIONS ARE STATION ELEVATIONS****

STATIONS IN BLUE = CONVENTIONAL SURVEY METHODS
STATIONS IN RED = RAPID STATIC GPS METHODS

LiDAR QA/QC CHECKPOINTS AND LiDAR CONTROL POINTS

GPS Station Name	Grid Northing (US FT)	Grid Easting (US FT)	Station Elevation (US FT)	Y Std. Dev. (US FT)	X Std. Dev. (US FT)	Z Std. Dev. (US FT)	Station Description
7075	591492.23	487036.37	4.56	0.01	0.01	0.09	URBAN AREAS
7076	591479.52	487147.48	3.86	0.01	0.01	0.09	BARE EARTH AND LOW GRASS
7077	591237.58	487341.15	2.19	0.01	0.01	0.09	BRUSH LANDS AND LOW TREES
8000	689980.23	489420.22	13.39	0.02	0.02	0.08	URBAN AREAS
8001	689995.43	489312.69	13.01	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8002	689944.18	489410.90	12.54	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8003	689979.29	489214.74	13.33	0.02	0.02	0.08	LIDAR CONTROL POINT
8005	675426.12	489758.93	12.33	0.02	0.02	0.09	URBAN AREAS
8006	675445.69	489932.11	10.96	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8007	675500.55	489760.00	11.88	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
8008	675425.45	489883.21	11.98	0.02	0.02	0.08	LIDAR CONTROL POINT
8010	661990.92	487572.39	11.27	0.02	0.02	0.08	URBAN AREAS
8011	661903.89	487582.90	11.51	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8012	661858.92	487738.01	9.16	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8013	662104.31	487582.63	10.94	0.02	0.01	0.08	LIDAR CONTROL POINT
8015	647176.85	495187.40	10.28	0.02	0.02	0.08	URBAN AREAS
8016	647210.71	495469.92	10.19	0.02	0.02	0.07	BARE EARTH AND LOW GRASS
8017	647237.27	495164.47	9.99	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8018	647203.17	495375.59	11.02	0.02	0.02	0.08	LIDAR CONTROL POINT
8020	652558.33	500431.06	10.35	0.02	0.02	0.08	URBAN AREAS
8021	652399.14	505890.86	9.70	0.03	0.02	0.08	BARE EARTH AND LOW GRASS
8022	652508.99	505875.26	9.73	0.02	0.02	0.07	BRUSH LANDS AND LOW TREES
8023	652559.68	500468.24	10.61	0.02	0.02	0.08	LIDAR CONTROL POINT
8025	635453.05	505269.13	8.24	0.03	0.02	0.08	URBAN AREAS
8026	636722.61	505689.80	7.76	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8027	636675.83	505691.15	8.04	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8028	635449.17	504933.31	8.48	0.03	0.02	0.08	LIDAR CONTROL POINT
8031	626142.90	495280.09	7.89	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8032	626141.00	495205.00	6.43	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8033	626098.67	495321.39	10.04	0.02	0.02	0.08	LIDAR CONTROL POINT
8045	587727.22	538684.25	7.52	0.01	0.02	0.08	URBAN AREAS
8046	598518.12	554006.69	6.53	0.03	0.02	0.10	BARE EARTH AND LOW GRASS
8047	587678.62	538535.44	2.68	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8048	587377.73	538585.62	7.60	0.01	0.02	0.08	LIDAR CONTROL POINT

GPS Station Name	Grid Northing (US FT)	Grid Easting (US FT)	Station Elevation (US FT)	Y Std. Dev. (US FT)	X Std. Dev. (US FT)	Z Std. Dev. (US FT)	Station Description
8050	590940.59	489469.17	5.23	0.02	0.02	0.08	URBAN AREAS
8052	590707.09	489587.92	5.58	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8053	590923.57	489417.15	5.21	0.02	0.02	0.08	LIDAR CONTROL POINT
8055	584541.96	501973.79	4.00	0.02	0.02	0.08	URBAN AREAS
8056	584666.47	501864.62	2.29	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8057	584478.91	501828.04	0.60	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8058	584574.21	501812.47	3.82	0.02	0.02	0.08	LIDAR CONTROL POINT
8060	572922.37	536118.95	2.61	0.02	0.02	0.08	URBAN AREAS
8061	572964.72	536114.56	1.97	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8062	572795.83	536000.07	0.61	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8063	572955.54	536245.04	2.83	0.02	0.02	0.08	LIDAR CONTROL POINT
8065	549871.51	534562.10	2.97	0.06	0.03	0.14	URBAN AREAS
8066	549941.65	534474.75	1.65	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
8067	549901.08	534406.22	1.16	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
8068	549954.99	534569.09	3.44	0.02	0.02	0.09	LIDAR CONTROL POINT
8070	537668.65	537389.03	7.56	0.02	0.02	0.09	URBAN AREAS
8071	537677.81	537477.51	6.39	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
8072	537592.11	537229.73	7.79	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
8073	537635.62	537490.39	7.28	0.02	0.02	0.09	LIDAR CONTROL POINT
8075	569344.69	554080.90	2.48	0.02	0.02	0.10	URBAN AREAS
8076	569344.28	554050.93	2.08	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
8077	566676.34	553985.96	2.77	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8078	566835.89	554089.37	2.86	0.02	0.02	0.08	LIDAR CONTROL POINT
8080	569999.67	558359.41	4.36	0.02	0.02	0.08	URBAN AREAS
8081	569988.22	558284.93	3.04	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
8082	569973.06	558196.19	1.98	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
8083	569993.17	558445.46	4.36	0.02	0.02	0.08	LIDAR CONTROL POINT
8085	565362.77	570016.30	4.82	0.02	0.02	0.08	URBAN AREAS
8086	565277.34	570040.52	4.93	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8087	565224.52	569867.80	1.21	0.03	0.02	0.08	BRUSH LANDS AND LOW TREES
8088	565179.03	570000.19	5.11	0.02	0.02	0.08	LIDAR CONTROL POINT
8090	567868.95	563770.70	4.71	0.02	0.02	0.09	URBAN AREAS
8091	577915.62	570056.05	3.44	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8092	577933.77	570194.21	4.08	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8093	567925.65	563639.36	4.32	0.02	0.02	0.09	LIDAR CONTROL POINT
8095	569926.59	559347.93	4.07	0.02	0.02	0.08	URBAN AREAS
8096	593007.76	569990.63	8.16	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8097	593043.18	570265.69	5.93	0.02	0.02	0.10	BRUSH LANDS AND LOW TREES
8098	569891.18	559357.76	4.82	0.02	0.02	0.08	LIDAR CONTROL POINT
8101	603883.98	569892.48	9.00	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8102	603876.72	569822.29	7.59	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8103	603754.20	569874.02	10.03	0.02	0.02	0.08	LIDAR CONTROL POINT
8105	564908.74	532099.65	3.28	0.02	0.02	0.08	URBAN AREAS
8106	627727.77	569429.55	12.20	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8107	627833.65	569375.98	10.63	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8108	569653.26	548823.52	3.31	0.02	0.02	0.08	LIDAR CONTROL POINT
8110	662102.76	568792.54	16.29	0.01	0.02	0.08	URBAN AREAS
8111	662125.43	568813.40	15.78	0.01	0.02	0.08	BARE EARTH AND LOW GRASS
8112	662000.29	568750.01	13.11	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES

GPS Station Name	Grid Northing (US FT)	Grid Easting (US FT)	Station Elevation (US FT)	Y Std. Dev. (US FT)	X Std. Dev. (US FT)	Z Std. Dev. (US FT)	Station Description
8113	662466.39	568786.07	15.36	0.01	0.02	0.08	LIDAR CONTROL POINT
8122	585113.82	554136.23	4.53	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
8123	571658.62	554014.17	5.90	0.02	0.02	0.08	LIDAR CONTROL POINT
8125	604728.41	542199.78	9.73	0.02	0.02	0.08	LIDAR CONTROL POINT
8126	604718.69	542346.87	7.74	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8127	604746.11	542567.07	6.58	0.02	0.02	0.07	BRUSH LANDS AND LOW TREES
8128	564957.87	532115.21	3.44	0.02	0.02	0.08	LIDAR CONTROL POINT
8130	621114.99	543079.81	11.71	0.02	0.02	0.08	URBAN AREAS
8131	621018.18	543144.61	11.52	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8132	621023.66	543025.86	10.25	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8133	621116.32	543133.26	12.35	0.02	0.02	0.08	LIDAR CONTROL POINT
8135	620924.24	542285.94	9.53	0.02	0.02	0.08	URBAN AREAS
8136	636400.31	543063.11	11.78	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8137	636156.79	542993.62	9.51	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8138	620925.05	542530.09	9.75	0.04	0.04	0.11	LIDAR CONTROL POINT
8140	659585.69	542991.09	16.37	0.02	0.02	0.08	URBAN AREAS
8141	659394.99	542955.44	15.03	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8142	659518.87	542876.31	11.79	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8143	659485.66	542991.43	16.41	0.02	0.02	0.08	LIDAR CONTROL POINT
8145	678805.50	542648.07	18.82	0.02	0.02	0.08	URBAN AREAS
8146	678857.42	542640.05	17.82	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8147	678816.54	542523.68	14.70	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8148	678856.99	542693.15	18.92	0.02	0.01	0.08	LIDAR CONTROL POINT
8151	693383.10	543816.06	17.67	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
8152	693938.85	543945.29	15.40	0.01	0.02	0.08	BRUSH LANDS AND LOW TREES
8153	693498.18	543826.48	18.51	0.02	0.02	0.08	LIDAR CONTROL POINT
8155	581628.86	509237.82	2.65	0.02	0.02	0.09	URBAN AREAS
8157	581489.27	509518.69	-0.13	0.02	0.02	0.11	BRUSH LANDS AND LOW TREES
8158	581614.63	509279.42	2.72	0.03	0.03	0.12	LIDAR CONTROL POINT
8161	621263.38	542362.21	9.79	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
8162	621318.14	542372.51	9.70	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
8500	690070.98	489211.19	12.75	N/A	N/A	N/A	FORESTED
8501	690074.93	489311.43	12.63	N/A	N/A	N/A	FORESTED
8502	689919.66	489325.28	12.13	N/A	N/A	N/A	FORESTED
8503	689900.74	489221.71	11.88	N/A	N/A	N/A	FORESTED
8508	675343.37	489777.14	11.31	N/A	N/A	N/A	FORESTED
8509	675375.76	489694.96	12.33	N/A	N/A	N/A	FORESTED
8510	675485.10	489698.26	11.62	N/A	N/A	N/A	FORESTED
8511	675480.42	489869.55	11.87	N/A	N/A	N/A	FORESTED
8512	581530.18	509186.53	0.63	N/A	N/A	N/A	FORESTED
8513	581507.63	509234.18	0.96	N/A	N/A	N/A	FORESTED
8514	581489.88	509298.94	0.88	N/A	N/A	N/A	FORESTED
8515	581531.79	509330.39	0.74	N/A	N/A	N/A	FORESTED
8516	620709.01	542576.51	9.37	N/A	N/A	N/A	FORESTED
8517	620699.38	542447.45	9.11	N/A	N/A	N/A	FORESTED
8518	620754.86	542376.48	9.15	N/A	N/A	N/A	FORESTED
8519	620754.75	542295.37	8.70	N/A	N/A	N/A	FORESTED
8520	693267.22	543782.45	14.72	N/A	N/A	N/A	FORESTED
8521	693329.90	543778.77	13.53	N/A	N/A	N/A	FORESTED

GPS Station Name	Grid Northing (US FT)	Grid Easting (US FT)	Station Elevation (US FT)	Y Std. Dev. (US FT)	X Std. Dev. (US FT)	Z Std. Dev. (US FT)	Station Description
8522	693491.57	543771.84	15.32	N/A	N/A	N/A	FORESTED
8523	693533.45	543794.12	14.95	N/A	N/A	N/A	FORESTED
8524	567820.14	563818.35	1.03	N/A	N/A	N/A	FORESTED
8525	567815.57	563778.73	0.88	N/A	N/A	N/A	FORESTED
8526	567837.10	563550.97	1.98	N/A	N/A	N/A	FORESTED
8527	567922.47	563545.12	0.91	N/A	N/A	N/A	FORESTED
8528	559559.91	530253.20	0.47	N/A	N/A	N/A	FORESTED
8529	559637.15	530291.08	0.51	N/A	N/A	N/A	FORESTED
8530	559734.17	530328.90	0.84	N/A	N/A	N/A	FORESTED
8531	559825.69	530349.31	0.41	N/A	N/A	N/A	FORESTED
20142	571506.48	570040.17	4.22	0.02	0.02	0.09	TRAVERSE POINT
20143	572100.49	570033.80	4.72	0.02	0.02	0.12	TRAVERSE POINT
20144	579722.62	569976.77	6.30	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
20145	580393.17	569972.06	6.61	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
20146	585800.29	569962.37	7.26	0.06	0.03	0.15	TRAVERSE POINT
20147	586472.92	569961.03	7.34	0.03	0.04	0.12	TRAVERSE POINT
20148	573690.54	559185.04	2.18	0.02	0.02	0.10	BRUSH LANDS AND LOW TREES
20149	573101.86	559096.54	1.52	0.02	0.02	0.11	BRUSH LANDS AND LOW TREES
20150	568479.12	554467.33	1.57	0.04	0.05	0.22	BRUSH LANDS AND LOW TREES
20151	568758.44	554154.51	3.81	0.04	0.02	0.12	PID
20152	576931.77	554000.24	4.77	0.03	0.02	0.10	TRAVERSE POINT
20153	577593.63	554006.39	4.77	0.02	0.02	0.10	TRAVERSE POINT
20154	579814.61	554753.70	3.29	0.07	0.05	0.20	BRUSH LANDS AND LOW TREES
20155	599333.59	553960.22	8.03	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
20156	599917.36	553950.69	8.07	0.01	0.02	0.09	BARE EARTH AND LOW GRASS
20157	605256.60	542416.49	8.33	0.03	0.02	0.09	TRAVERSE POINT
20158	605260.66	542231.04	9.90	0.03	0.02	0.09	TRAVERSE POINT
20159	605163.70	542224.40	8.12	0.03	0.03	0.11	PID
20161	624386.13	569356.11	9.85	0.02	0.02	0.10	BRUSH LANDS AND LOW TREES
20162	639259.17	569200.40	13.45	0.03	0.05	0.19	BARE EARTH AND LOW GRASS
20163	645012.95	569122.37	13.19	0.03	0.04	0.13	TRAVERSE POINT
20164	645645.63	569118.39	12.16	0.03	0.04	0.13	TRAVERSE POINT
20165	667798.65	568688.00	15.33	0.03	0.03	0.14	BARE EARTH AND LOW GRASS
20166	632239.86	569123.65	10.96	0.03	0.02	0.09	BRUSH LANDS AND LOW TREES
20167	592557.50	553868.26	6.59	0.03	0.03	0.10	BARE EARTH AND LOW GRASS
20168	567088.57	548888.81	3.67	0.03	0.04	0.14	BARE EARTH AND LOW GRASS
20170	640966.39	543043.92	12.82	0.02	0.02	0.08	PID
20171	655575.40	541888.68	10.79	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
20172	607455.85	485449.98	4.55	0.02	0.02	0.09	TRAVERSE POINT
20173	607462.36	485872.16	4.64	0.02	0.03	0.13	TRAVERSE POINT
20174	607512.12	488095.14	4.56	0.02	0.02	0.09	PID
20175	607505.30	490882.04	3.80	0.02	0.02	0.08	TRAVERSE POINT
20176	607512.61	491432.80	3.88	0.02	0.02	0.08	TRAVERSE POINT
20177	607557.83	493761.44	4.72	0.02	0.02	0.08	PID
20178	604881.03	493772.91	4.84	0.02	0.02	0.10	TRAVERSE POINT
20179	604380.66	493776.48	4.83	0.02	0.03	0.11	TRAVERSE POINT
20180	609407.49	499166.43	4.57	0.02	0.02	0.09	TRAVERSE POINT
20181	609795.94	499031.45	5.23	0.02	0.02	0.09	TRAVERSE POINT
20182	630709.50	543022.25	10.76	0.02	0.02	0.08	BARE EARTH AND LOW GRASS

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20183	626058.71	493566.45	7.66	0.02	0.02	0.08	PID
20184	625978.24	489419.37	5.56	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
20185	630443.22	498910.68	6.65	0.03	0.04	0.16	BARE EARTH AND LOW GRASS
20186	630459.56	498865.81	6.07	0.03	0.02	0.10	BRUSH LANDS AND LOW TREES
20187	632716.79	496047.08	7.01	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
20188	634166.65	503090.98	7.42	0.02	0.02	0.08	TRAVERSE POINT
20189	634129.74	503569.11	6.99	0.02	0.02	0.09	TRAVERSE POINT
20190	638065.15	498818.27	7.13	0.02	0.03	0.11	BRUSH LANDS AND LOW TREES
20191	639404.40	504952.78	8.94	0.02	0.03	0.10	TRAVERSE POINT
20192	639410.66	505411.80	8.36	0.03	0.03	0.11	TRAVERSE POINT
20193	641928.25	495896.60	8.18	0.03	0.03	0.10	BRUSH LANDS AND LOW TREES
20194	629698.71	487880.32	7.30	0.02	0.03	0.09	URBAN AREAS
20195	629664.53	493527.93	7.27	0.03	0.02	0.11	BRUSH LANDS AND LOW TREES
20196	699162.66	520222.30	13.66	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
20197	698676.07	520992.93	13.59	0.03	0.03	0.15	BARE EARTH AND LOW GRASS
20198	697413.07	519646.57	13.68	0.03	0.02	0.10	BRUSH LANDS AND LOW TREES
20199	696703.19	520673.51	13.47	0.03	0.02	0.09	BARE EARTH AND LOW GRASS
20200	695162.48	521385.01	13.29	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
20201	696217.68	522724.91	16.82	0.03	0.03	0.11	BARE EARTH AND LOW GRASS
20202	694482.75	523733.67	13.05	0.02	0.03	0.12	BRUSH LANDS AND LOW TREES
20203	691287.18	487727.33	13.14	0.03	0.03	0.12	TRAVERSE POINT
20204	691291.75	488196.31	13.08	0.03	0.03	0.10	TRAVERSE POINT
20205	671837.79	542771.18	15.93	0.04	0.02	0.13	BRUSH LANDS AND LOW TREES
20206	664707.29	542930.70	16.47	0.03	0.02	0.09	PID
20207	664997.43	542889.77	15.59	0.03	0.02	0.09	URBAN AREAS
20208	685174.70	543104.90	19.01	0.03	0.03	0.11	URBAN AREAS
20209	607415.19	485445.20	2.96	N/A	N/A	N/A	BRUSH LANDS AND LOW TREES
20210	607364.31	485463.06	3.09	N/A	N/A	N/A	FORESTED
20211	607409.21	485488.74	3.50	N/A	N/A	N/A	FORESTED
20212	607440.26	490866.33	3.77	N/A	N/A	N/A	FORESTED
20213	607417.80	490861.06	3.66	N/A	N/A	N/A	FORESTED
20214	607447.75	490897.46	3.61	N/A	N/A	N/A	FORESTED
20215	604877.34	493360.32	4.55	N/A	N/A	N/A	FORESTED
20216	604878.85	493478.55	4.59	N/A	N/A	N/A	FORESTED
20217	604881.71	493617.72	4.70	N/A	N/A	N/A	FORESTED
20218	604875.59	493887.92	4.92	N/A	N/A	N/A	FORESTED
20219	611044.98	493681.99	2.70	N/A	N/A	N/A	FORESTED
20220	610996.97	493613.96	4.88	N/A	N/A	N/A	FORESTED
20221	611003.31	493695.21	5.10	N/A	N/A	N/A	BRUSH LANDS AND LOW TREES
20222	611007.24	493826.73	5.13	N/A	N/A	N/A	FORESTED
20223	609876.77	498846.06	4.82	N/A	N/A	N/A	FORESTED
20224	609774.86	498954.50	4.66	N/A	N/A	N/A	FORESTED
20225	609667.21	498953.30	4.20	N/A	N/A	N/A	FORESTED
20226	610264.93	499106.26	5.23	N/A	N/A	N/A	BARE EARTH AND LOW GRASS
20227	614722.25	505697.23	6.15	N/A	N/A	N/A	FORESTED
20228	614718.93	505611.84	6.01	N/A	N/A	N/A	FORESTED
20229	614924.64	505652.27	5.95	N/A	N/A	N/A	BRUSH LANDS AND LOW TREES
20230	615140.92	505610.23	6.12	N/A	N/A	N/A	FORESTED
20231	634322.45	503081.54	7.73	N/A	N/A	N/A	FORESTED

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20232	634228.73	502992.74	7.48	N/A	N/A	N/A	FORESTED
20233	634109.13	503040.81	7.33	N/A	N/A	N/A	BARE EARTH AND LOW GRASS
20234	633982.02	502924.56	7.04	N/A	N/A	N/A	FORESTED
20235	639492.50	504947.06	8.31	N/A	N/A	N/A	BRUSH LANDS AND LOW TREES
20236	639593.41	504947.59	8.39	N/A	N/A	N/A	FORESTED
20237	639698.51	504945.27	8.55	N/A	N/A	N/A	FORESTED
20238	639809.17	504941.90	8.38	N/A	N/A	N/A	FORESTED
20239	639274.23	504960.40	8.41	N/A	N/A	N/A	BRUSH LANDS AND LOW TREES
20240	639240.94	505122.32	8.22	N/A	N/A	N/A	FORESTED
20241	648394.96	488911.98	8.92	N/A	N/A	N/A	FORESTED
20242	648586.49	488879.96	8.78	N/A	N/A	N/A	FORESTED
20243	648665.24	489019.25	8.84	N/A	N/A	N/A	FORESTED
20244	658949.83	487632.70	8.01	N/A	N/A	N/A	FORESTED
20245	658978.66	487877.37	9.23	N/A	N/A	N/A	FORESTED
20246	658994.64	487827.54	9.92	N/A	N/A	N/A	BRUSH LANDS AND LOW TREES
20247	659034.44	487573.43	7.82	N/A	N/A	N/A	FORESTED
20248	658988.87	487445.14	10.84	N/A	N/A	N/A	FORESTED
20249	625262.31	505800.64	7.14	N/A	N/A	N/A	BRUSH LANDS AND LOW TREES
20250	625396.06	506128.97	6.28	N/A	N/A	N/A	FORESTED
20251	625116.44	506141.13	7.04	N/A	N/A	N/A	FORESTED
20252	625208.02	506275.90	8.41	N/A	N/A	N/A	BARE EARTH AND LOW GRASS
20253	608956.62	521265.99	8.18	N/A	N/A	N/A	FORESTED
20254	608872.83	521224.88	6.78	N/A	N/A	N/A	FORESTED
20255	608780.35	521182.69	6.98	N/A	N/A	N/A	FORESTED
20256	608696.81	521174.58	5.40	N/A	N/A	N/A	FORESTED
20257	645016.62	569220.60	11.91	N/A	N/A	N/A	FORESTED
20258	644890.44	569049.27	11.83	N/A	N/A	N/A	FORESTED
20259	644909.99	569098.89	13.92	N/A	N/A	N/A	BARE EARTH AND LOW GRASS
20260	691235.85	487730.66	12.83	N/A	N/A	N/A	FORESTED
20261	691148.87	487737.92	12.57	N/A	N/A	N/A	FORESTED
20262	691033.57	487760.76	12.68	N/A	N/A	N/A	FORESTED
20263	691145.33	487878.59	12.52	N/A	N/A	N/A	FORESTED
20264	691333.25	487795.96	12.99	N/A	N/A	N/A	FORESTED
20265	691389.47	487724.87	13.36	N/A	N/A	N/A	FORESTED
20266	691452.60	487737.10	13.30	N/A	N/A	N/A	FORESTED
20267	652374.34	540582.67	10.92	N/A	N/A	N/A	FORESTED
20268	652271.77	540756.32	10.84	N/A	N/A	N/A	FORESTED
20269	652263.96	540878.62	10.68	N/A	N/A	N/A	FORESTED
20270	652463.68	540972.46	10.39	N/A	N/A	N/A	FORESTED
20271	605259.59	542121.18	7.37	N/A	N/A	N/A	FORESTED
20272	605156.71	542540.93	8.80	N/A	N/A	N/A	FORESTED
20273	605245.79	542468.48	7.73	N/A	N/A	N/A	FORESTED
20274	605311.58	542497.79	7.69	N/A	N/A	N/A	FORESTED
20275	585802.60	569862.14	5.56	N/A	N/A	N/A	FORESTED
20276	571544.75	569978.80	3.04	N/A	N/A	N/A	FORESTED
20277	571495.34	569981.98	3.30	N/A	N/A	N/A	FORESTED
20278	571567.72	569997.12	4.36	N/A	N/A	N/A	BRUSH LANDS AND LOW TREES
20279	576933.20	553951.89	3.49	N/A	N/A	N/A	FORESTED
20280	576933.57	553858.96	3.21	N/A	N/A	N/A	FORESTED

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20281	576940.45	553738.48	3.12	N/A	N/A	N/A	FORESTED
20282	576944.30	553625.35	3.20	N/A	N/A	N/A	FORESTED
20283	577002.07	554042.42	4.57	N/A	N/A	N/A	BRUSH LANDS AND LOW TREES
20284	593118.94	549855.80	7.24	N/A	N/A	N/A	BARE EARTH AND LOW GRASS
20285	593077.24	550012.29	5.30	N/A	N/A	N/A	FORESTED
20286	593080.04	549666.17	6.08	N/A	N/A	N/A	FORESTED
20287	588791.80	537027.33	2.56	N/A	N/A	N/A	FORESTED
20288	588807.08	537087.28	2.49	N/A	N/A	N/A	FORESTED
20289	588858.41	537101.82	2.42	N/A	N/A	N/A	FORESTED
30147	585646.56	532689.98	1.75	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
30148	585642.25	532531.53	0.96	0.03	0.02	0.09	BARE EARTH AND LOW GRASS
30149	580843.44	530745.40	0.81	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
30150	584738.64	527882.76	1.18	0.03	0.03	0.12	BRUSH LANDS AND LOW TREES
30151	584536.04	527755.91	1.26	0.02	0.03	0.10	BRUSH LANDS AND LOW TREES
30152	588762.80	536800.43	4.25	0.02	0.02	0.08	TRAVERSE POINT
30153	588681.38	537047.93	4.54	0.02	0.02	0.08	TRAVERSE POINT
30154	576310.14	526670.83	2.06	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
30155	576317.79	526766.89	2.91	0.02	0.02	0.10	URBAN AREAS
30156	591580.09	493689.75	2.09	0.02	0.02	0.10	BARE EARTH AND LOW GRASS
30157	597754.72	534517.50	5.93	0.01	0.01	0.08	BARE EARTH AND LOW GRASS
30158	592413.94	539858.49	8.26	0.02	0.02	0.08	URBAN AREAS
30159	593146.58	549815.70	6.35	0.02	0.02	0.09	TRAVERSE POINT
30160	593100.16	549927.07	7.06	0.03	0.03	0.10	TRAVERSE POINT
30161	596686.57	540924.28	6.63	0.03	0.03	0.11	BARE EARTH AND LOW GRASS
40301	538602.66	537626.71	2.07	0.02	0.02	0.09	PID
40302	538515.07	537913.77	3.34	0.02	0.01	0.09	BARE EARTH AND LOW GRASS
40303	539001.20	537923.69	3.38	0.02	0.02	0.09	URBAN AREAS
40304	549091.67	529589.80	2.99	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
40305	548882.30	529548.44	4.20	0.02	0.02	0.09	PID
40306	551510.27	529545.14	3.23	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
40307	550531.23	535235.58	3.98	0.02	0.02	0.09	URBAN AREAS
40309	552672.07	528457.76	2.33	0.02	0.02	0.10	URBAN AREAS
40310	553490.99	529151.52	2.32	0.01	0.01	0.08	BARE EARTH AND LOW GRASS
40311	555382.50	530328.60	2.27	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
40312	557050.71	529657.89	2.04	0.02	0.02	0.09	URBAN AREAS
40313	564957.91	532115.31	3.47	0.03	0.03	0.11	URBAN AREAS
40314	572043.26	539885.15	2.53	0.04	0.04	0.12	BARE EARTH AND LOW GRASS
40315	662241.80	564467.29	22.34	0.03	0.03	0.10	BRUSH LANDS AND LOW TREES
40316	662208.71	559729.65	21.54	0.03	0.04	0.19	URBAN AREAS
40317	662173.26	554623.69	18.04	0.05	0.05	0.21	BRUSH LANDS AND LOW TREES
40318	662152.39	544313.08	17.21	0.02	0.02	0.08	PID
40319	662319.59	543747.14	12.18	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
40320	660798.37	538871.02	11.88	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
40321	660571.86	539021.93	12.01	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
40322	660077.81	540907.77	12.75	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
40323	659932.58	542011.71	11.80	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
40324	652684.98	541746.17	12.06	0.02	0.02	0.09	TRAVERSE POINT
40325	652544.93	540443.49	10.45	0.02	0.02	0.08	TRAVERSE POINT
40326	652459.38	540758.77	11.51	0.02	0.03	0.10	BARE EARTH AND LOW GRASS

GPS Station Name	Grid Northing (US FT)	Grid Easting (US FT)	Station Elevation (US FT)	Y Std. Dev. (US FT)	X Std. Dev. (US FT)	Z Std. Dev. (US FT)	Station Description
40327	661987.57	534558.83	19.33	0.01	0.01	0.08	BRUSH LANDS AND LOW TREES
40328	661891.32	528611.91	19.64	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
40329	625201.28	506083.23	8.27	0.02	0.01	0.08	TRAVERSE POINT
40330	625222.39	505690.11	6.24	0.02	0.01	0.08	TRAVERSE POINT
40331	613783.17	505398.17	5.71	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
40332	614248.49	505859.11	5.25	0.02	0.03	0.11	TRAVERSE POINT
40333	614841.40	505875.20	6.52	0.02	0.02	0.09	TRAVERSE POINT
40334	618258.38	505938.75	6.09	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
40335	618808.38	505886.92	6.65	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
40336	630176.72	505900.15	7.80	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
40337	631499.79	505957.42	8.12	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
40338	656419.00	501480.92	10.51	0.02	0.01	0.08	BRUSH LANDS AND LOW TREES
40339	655817.04	498670.34	10.11	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
40340	655168.52	495509.03	8.85	0.03	0.02	0.10	BRUSH LANDS AND LOW TREES
40341	657779.48	494605.49	9.90	0.02	0.04	0.12	BARE EARTH AND LOW GRASS
40342	661337.76	493235.94	13.10	0.03	0.03	0.11	URBAN AREAS
40343	658989.90	487605.43	10.86	0.02	0.02	0.09	TRAVERSE POINT
40344	657706.27	487618.66	10.52	0.02	0.02	0.09	TRAVERSE POINT
40345	650640.59	505944.91	10.24	0.03	0.03	0.10	BRUSH LANDS AND LOW TREES
40346	664863.97	489863.07	11.78	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
40347	668793.57	485339.26	11.27	0.08	0.06	0.23	BARE EARTH AND LOW GRASS
40348	661732.60	519999.60	22.34	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
40349	661698.79	509438.03	18.51	0.02	0.02	0.08	URBAN AREAS
40350	661634.74	502799.95	20.68	0.03	0.03	0.09	BRUSH LANDS AND LOW TREES
40351*	661659.10	495133.82	17.21	0.04	0.06	0.25	BARE EARTH AND LOW GRASS
50501	614548.76	542746.47	11.38	0.03	0.02	0.09	PID
50502	614464.70	542584.64	7.15	0.03	0.03	0.10	BRUSH LANDS AND LOW TREES
50503	610401.23	540646.04	6.97	0.03	0.05	0.17	BRUSH LANDS AND LOW TREES
50504	615718.88	538346.06	6.95	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
50505	618779.16	537645.65	7.23	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
50506	615129.61	535708.37	6.84	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
50508	649592.13	543053.69	13.01	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
50509	673803.07	542731.16	17.05	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
50510	598572.05	521608.82	5.48	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
50511	598654.09	521467.77	5.64	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
50512	608682.79	521133.79	7.60	0.03	0.02	0.10	TRAVERSE POINT
50513	608542.66	521112.47	7.75	0.02	0.02	0.09	TRAVERSE POINT
50514	604699.14	536608.68	6.82	0.04	0.06	0.21	BRUSH LANDS AND LOW TREES
50515	604787.13	536365.29	5.88	0.02	0.03	0.11	BRUSH LANDS AND LOW TREES
50516	598400.78	533869.79	4.70	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
50517	588324.49	535333.09	2.49	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
50518	651100.31	492495.10	9.38	0.01	0.01	0.08	BRUSH LANDS AND LOW TREES
50519	651118.45	493330.33	10.12	0.02	0.02	0.08	URBAN AREAS
50520	648455.41	488992.75	8.90	0.02	0.02	0.09	TRAVERSE POINT
50521	648196.25	489001.48	8.94	0.02	0.03	0.11	TRAVERSE POINT
50522	647158.18	493388.04	9.70	0.02	0.03	0.10	PID
50523	645581.30	505988.25	9.05	0.03	0.02	0.09	BRUSH LANDS AND LOW TREES
50524	646008.73	505972.90	9.40	0.03	0.03	0.10	BRUSH LANDS AND LOW TREES
50525	648598.59	500228.12	9.57	0.02	0.03	0.09	BARE EARTH AND LOW GRASS

GPS Station Name	Grid Northing (US FT)	Grid Easting (US FT)	Station Elevation (US FT)	Y Std. Dev. (US FT)	X Std. Dev. (US FT)	Z Std. Dev. (US FT)	Station Description
50526	644642.82	498309.43	7.84	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
50527	690030.11	506790.21	14.01	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
50528	686741.97	505997.83	12.23	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
50529	682827.97	499299.34	13.27	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
50530	682944.27	493777.49	12.87	0.03	0.03	0.12	BARE EARTH AND LOW GRASS
50531	682934.64	495319.16	12.87	0.03	0.03	0.11	BRUSH LANDS AND LOW TREES
50532	692480.33	502003.78	13.65	0.03	0.03	0.10	BRUSH LANDS AND LOW TREES
50533	692567.85	501722.20	14.79	0.03	0.03	0.10	BRUSH LANDS AND LOW TREES
50534	692882.08	498822.04	14.73	0.03	0.03	0.10	BARE EARTH AND LOW GRASS
60101	626109.61	502327.29	7.01	0.02	0.02	0.09	BARE EARTH AND LOW GRASS
60102	626152.19	499754.38	7.12	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
60103	627389.16	498433.88	6.71	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
60104	627436.89	496899.50	6.76	0.04	0.02	0.12	BARE EARTH AND LOW GRASS
60105	624995.20	499010.94	6.32	0.03	0.04	0.12	BRUSH LANDS AND LOW TREES
60106	624705.22	496431.64	6.56	0.03	0.03	0.11	BRUSH LANDS AND LOW TREES
60107	623462.88	502315.24	6.45	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
60108	622112.34	496917.82	5.92	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
60109	620744.31	500810.65	6.80	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
60110	619444.74	498978.96	5.74	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
60111	622677.16	498988.39	6.71	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
60112	616820.96	495497.62	5.67	0.03	0.02	0.08	BARE EARTH AND LOW GRASS
60113	617000.34	503034.32	5.90	0.02	0.02	0.09	BRUSH LANDS AND LOW TREES
60114	612836.09	497468.77	3.68	0.03	0.02	0.10	BRUSH LANDS AND LOW TREES
60115	614247.13	501501.22	6.05	0.03	0.02	0.10	BARE EARTH AND LOW GRASS
60116	611513.16	493706.94	5.10	0.03	0.04	0.13	TRAVERSE POINT
60117	611007.90	493714.23	4.81	0.03	0.03	0.12	TRAVERSE POINT
60118	619411.01	491464.25	6.01	0.04	0.04	0.12	TRAVERSE POINT
60119	622021.20	488967.23	7.05	0.03	0.03	0.11	BARE EARTH AND LOW GRASS
60120	622078.08	493526.83	6.93	0.02	0.03	0.10	BRUSH LANDS AND LOW TREES
60123	692617.87	488851.95	13.17	0.03	0.02	0.10	BARE EARTH AND LOW GRASS
60125	685948.52	487548.69	12.24	0.03	0.03	0.10	BARE EARTH AND LOW GRASS
60126	683266.22	486632.71	12.43	0.03	0.03	0.12	BRUSH LANDS AND LOW TREES
60128	677997.33	485405.93	10.51	0.04	0.03	0.11	BRUSH LANDS AND LOW TREES
60130	671414.34	486191.00	10.14	0.02	0.03	0.10	BRUSH LANDS AND LOW TREES
60131	668827.40	489897.06	12.14	0.08	0.06	0.22	URBAN AREAS
60132	698390.82	544170.41	17.57	0.02	0.02	0.10	BRUSH LANDS AND LOW TREES
20160a	617370.54	569611.05	11.16	0.03	0.02	0.10	BARE EARTH AND LOW GRASS
8052-2	591127.85	489328.46	5.27	0.02	0.02	0.08	BRUSH LANDS AND LOW TREES
8115-North	598193.62	541278.85	8.57	0.02	0.02	0.08	URBAN AREAS
8115-South	569925.66	548823.80	3.71	0.02	0.02	0.08	URBAN AREAS
8118-North	598097.35	541255.96	8.36	0.02	0.02	0.08	LIDAR CONTROL POINT
8118-South	554081.46	530182.97	2.57	0.02	0.02	0.08	LIDAR CONTROL POINT
GARRETT	603598.38	569845.47	8.49	0.01	0.01	0.07	LIDAR CONTROL POINT
40351* - IS ALSO NGS CONTROL POINT I75 90 A34							

EXISTING NGS CONTROL STATIONS

GPS Station Name	Grid Northing (US FT)	Grid Easting (US FT)	Station Elevation (US FT)	Y Std. Dev. (US FT)	X Std. Dev. (US FT)	Z Std. Dev. (US FT)	Station Description
5229 252 9237	573151.01	536589.31	4.55	0.01	0.01	0.07	NGS CONTROL POINT
FLGPS 63	659554.41	568866.36	13.42	0.00	0.00	0.09	NGS CONTROL POINT
I75 90 A43	661824.79	525512.22	19.81	0.00	0.00	0.07	NGS CONTROL POINT
J 521	630421.86	543103.30	11.61	0.00	0.00	0.07	NGS CONTROL POINT
Q 527	559793.75	591344.50	5.74	0.01	0.01	0.00	NGS CONTROL POINT
R 598	612731.83	478281.26	4.41	0.00	0.00	0.08	NGS CONTROL POINT
S 526	663391.94	542791.89	12.18	0.00	0.00	0.10	NGS CONTROL POINT
W 520	706829.32	544054.07	17.84	0.00	0.00	0.00	NGS CONTROL POINT

NEW WOOLPERT CONTROL STATIONS

GPS Station Name	Grid Northing (US FT)	Grid Easting (US FT)	Station Elevation (US FT)	Y Std. Dev. (US FT)	X Std. Dev. (US FT)	Z Std. Dev. (US FT)	Station Description
GARRETT	603598.38	569845.47	8.49	0.01	0.01	0.07	WOOLPERT IPC
GATOR	559592.35	530434.51	3.29	0.00	0.00	0.08	WOOLPERT IPC
MOCCASIN	591269.04	487356.93	2.61	0.00	0.00	0.00	WOOLPERT IPC
PANTHER	660905.84	477750.44	11.63	0.00	0.00	0.07	WOOLPERT IPC
COLLIER 115	711039.81	472160.45	13.73	0.01	0.01	0.00	WOOLPERT IPC
COLLIER 129	662419.51	571476.11	21.73	0.00	0.00	0.08	WOOLPERT IPC
NEW BASE 8	591680.23	492703.45	0.97	0.00	0.00	0.08	WOOLPERT IPC

APPENDIX D: POSITIONAL ACCURACIES

This appendix contains the final positional accuracies for the LiDAR QA/QC Checkpoints (except the forest points) and the LiDAR Control Points for Project Area H of the FY2007 State of Florida Division of Emergency Management Ground Control QA/QC Survey Mapping Project.

AREA H POSITIONAL ACCURACIES

LiDAR QA/QC POINTS (no FOREST points)

CALCULATED ACCURACIES:

0.01	Meters RMSEx
0.01	Meters RMSEy
0.01	Meters RMSExy
0.02	Meters at 95% C.I.
0.02	RMSEz
0.05	Meters at 95% C.I.

CALCULATED ACCURACIES:

0.02	Feet RMSEx
0.02	Feet RMSEy
0.03	Feet RMSExy
0.06	Feet at 95% C.I.
0.08	RMSEz
0.15	Feet at 95% C.I.

METERS

STATION	Vx	Vy	Vxy	Vz
7075	0.002	0.003	0.004	0.029
7076	0.002	0.003	0.004	0.029
7077	0.002	0.003	0.003	0.029
8000	0.006	0.005	0.008	0.017
8001	0.006	0.005	0.008	0.017
8002	0.006	0.005	0.008	0.018
8005	0.006	0.007	0.009	0.019
8006	0.005	0.006	0.008	0.017
8007	0.006	0.006	0.009	0.018
8010	0.005	0.005	0.007	0.014
8011	0.005	0.005	0.007	0.014
8012	0.005	0.005	0.007	0.015
8015	0.006	0.007	0.009	0.015
8016	0.005	0.006	0.008	0.013
8017	0.005	0.007	0.009	0.014
8020	0.005	0.005	0.007	0.016
8021	0.006	0.008	0.010	0.014
8022	0.005	0.007	0.008	0.014
8025	0.006	0.008	0.010	0.016
8026	0.005	0.005	0.007	0.016
8027	0.005	0.005	0.007	0.016
8031	0.005	0.005	0.007	0.016
8032	0.005	0.005	0.007	0.015
8045	0.005	0.004	0.006	0.015
8046	0.007	0.009	0.011	0.024
8047	0.005	0.005	0.007	0.016
8050	0.005	0.005	0.007	0.013
8052	0.005	0.005	0.007	0.013

US FEET

STATION	Vx	Vy	Vxy	Vz
7075	0.01	0.01	0.01	0.10
7076	0.01	0.01	0.01	0.10
7077	0.01	0.01	0.01	0.10
8000	0.02	0.02	0.03	0.06
8001	0.02	0.02	0.03	0.06
8002	0.02	0.02	0.03	0.06
8005	0.02	0.02	0.03	0.06
8006	0.02	0.02	0.03	0.06
8007	0.02	0.02	0.03	0.06
8010	0.02	0.02	0.02	0.05
8011	0.02	0.02	0.02	0.05
8012	0.02	0.02	0.02	0.05
8015	0.02	0.02	0.03	0.05
8016	0.02	0.02	0.03	0.04
8017	0.02	0.02	0.03	0.05
8020	0.02	0.02	0.02	0.05
8021	0.02	0.03	0.03	0.05
8022	0.02	0.02	0.03	0.05
8025	0.02	0.03	0.03	0.05
8026	0.02	0.02	0.02	0.05
8027	0.02	0.02	0.02	0.05
8031	0.02	0.02	0.02	0.05
8032	0.02	0.02	0.02	0.05
8045	0.02	0.01	0.02	0.05
8046	0.02	0.03	0.04	0.08
8047	0.02	0.02	0.02	0.05
8050	0.02	0.02	0.02	0.04
8052	0.02	0.02	0.02	0.04

STATION	Vx	Vy	Vxy	Vz
8055	0.005	0.005	0.007	0.014
8056	0.005	0.005	0.007	0.013
8057	0.005	0.005	0.008	0.014
8060	0.005	0.005	0.007	0.015
8061	0.005	0.005	0.007	0.015
8062	0.005	0.005	0.007	0.015
8065	0.009	0.019	0.021	0.037
8066	0.005	0.007	0.009	0.020
8067	0.005	0.007	0.009	0.020
8070	0.005	0.005	0.007	0.017
8071	0.005	0.005	0.007	0.017
8072	0.005	0.005	0.007	0.017
8075	0.006	0.006	0.009	0.023
8076	0.005	0.005	0.008	0.020
8077	0.005	0.005	0.008	0.016
8080	0.005	0.005	0.007	0.016
8081	0.005	0.007	0.009	0.020
8082	0.005	0.006	0.008	0.019
8085	0.005	0.006	0.008	0.016
8086	0.005	0.006	0.008	0.016
8087	0.006	0.009	0.010	0.017
8090	0.006	0.005	0.008	0.019
8091	0.005	0.006	0.008	0.018
8092	0.006	0.006	0.009	0.018
8095	0.005	0.005	0.007	0.016
8096	0.005	0.005	0.008	0.018
8097	0.006	0.006	0.009	0.023
8101	0.005	0.005	0.008	0.016
8102	0.005	0.005	0.006	0.015
8105	0.005	0.005	0.007	0.016
8106	0.006	0.005	0.008	0.017
8107	0.006	0.005	0.008	0.017
8110	0.005	0.004	0.006	0.016
8111	0.005	0.004	0.006	0.016
8112	0.005	0.005	0.007	0.017
8122	0.007	0.006	0.009	0.019
8126	0.005	0.005	0.007	0.014
8127	0.005	0.005	0.007	0.014
8130	0.005	0.005	0.006	0.016
8131	0.005	0.005	0.007	0.016
8132	0.005	0.005	0.006	0.015
8135	0.005	0.007	0.009	0.016
8136	0.005	0.007	0.009	0.016
8137	0.006	0.006	0.008	0.017
8140	0.005	0.006	0.008	0.016
8141	0.005	0.005	0.007	0.016
8142	0.005	0.006	0.008	0.017
8145	0.005	0.005	0.007	0.016
8146	0.005	0.005	0.007	0.016
8147	0.005	0.005	0.007	0.017

STATION	Vx	Vy	Vxy	Vz
8055	0.02	0.02	0.02	0.05
8056	0.02	0.02	0.02	0.04
8057	0.02	0.02	0.02	0.05
8060	0.02	0.02	0.02	0.05
8061	0.02	0.02	0.02	0.05
8062	0.02	0.02	0.02	0.05
8065	0.03	0.06	0.07	0.12
8066	0.02	0.02	0.03	0.07
8067	0.02	0.02	0.03	0.07
8070	0.02	0.02	0.02	0.06
8071	0.02	0.02	0.02	0.06
8072	0.02	0.02	0.02	0.06
8075	0.02	0.02	0.03	0.08
8076	0.02	0.02	0.03	0.07
8077	0.02	0.02	0.02	0.05
8080	0.02	0.02	0.02	0.05
8081	0.02	0.02	0.03	0.07
8082	0.02	0.02	0.03	0.06
8085	0.02	0.02	0.03	0.05
8086	0.02	0.02	0.03	0.05
8087	0.02	0.03	0.03	0.06
8090	0.02	0.02	0.03	0.06
8091	0.02	0.02	0.03	0.06
8092	0.02	0.02	0.03	0.06
8095	0.02	0.02	0.02	0.05
8096	0.02	0.02	0.03	0.06
8097	0.02	0.02	0.03	0.08
8101	0.02	0.02	0.03	0.05
8102	0.02	0.02	0.02	0.05
8105	0.02	0.02	0.02	0.05
8106	0.02	0.02	0.02	0.06
8107	0.02	0.02	0.02	0.06
8110	0.02	0.01	0.02	0.05
8111	0.02	0.01	0.02	0.05
8112	0.02	0.02	0.02	0.06
8122	0.02	0.02	0.03	0.06
8126	0.02	0.02	0.02	0.05
8127	0.02	0.02	0.02	0.05
8130	0.02	0.02	0.02	0.05
8131	0.02	0.02	0.02	0.05
8132	0.02	0.02	0.02	0.05
8135	0.02	0.02	0.03	0.05
8136	0.02	0.02	0.03	0.05
8137	0.02	0.02	0.03	0.06
8140	0.02	0.02	0.03	0.05
8141	0.02	0.02	0.02	0.05
8142	0.02	0.02	0.03	0.06
8145	0.02	0.02	0.02	0.05
8146	0.02	0.02	0.02	0.05
8147	0.02	0.02	0.02	0.06

STATION	Vx	Vy	Vxy	Vz
8151	0.005	0.005	0.006	0.015
8152	0.005	0.004	0.006	0.015
8155	0.006	0.007	0.009	0.020
8157	0.007	0.007	0.010	0.025
8161	0.006	0.006	0.009	0.019
8162	0.006	0.007	0.009	0.020
20142	0.007	0.007	0.010	0.021
20143	0.007	0.006	0.009	0.032
20144	0.006	0.007	0.009	0.020
20145	0.005	0.005	0.007	0.018
20146	0.008	0.017	0.019	0.041
20147	0.011	0.009	0.014	0.030
20148	0.005	0.005	0.008	0.022
20149	0.007	0.006	0.010	0.029
20150	0.016	0.012	0.020	0.066
20152	0.006	0.009	0.011	0.024
20153	0.007	0.007	0.010	0.024
20154	0.016	0.020	0.026	0.059
20155	0.005	0.005	0.008	0.018
20156	0.005	0.004	0.006	0.020
20157	0.007	0.009	0.011	0.022
20158	0.007	0.008	0.010	0.022
20161	0.007	0.007	0.010	0.023
20162	0.015	0.009	0.018	0.053
20163	0.012	0.009	0.015	0.035
20164	0.011	0.009	0.014	0.035
20165	0.009	0.009	0.013	0.039
20166	0.006	0.008	0.010	0.020
20167	0.008	0.009	0.011	0.024
20168	0.011	0.010	0.015	0.038
20171	0.005	0.005	0.007	0.015
20172	0.006	0.006	0.009	0.017
20173	0.009	0.007	0.012	0.034
20175	0.005	0.005	0.007	0.014
20176	0.005	0.005	0.007	0.014
20178	0.007	0.007	0.009	0.021
20179	0.009	0.007	0.011	0.024
20180	0.007	0.006	0.009	0.020
20181	0.006	0.007	0.009	0.018
20182	0.005	0.005	0.007	0.014
20184	0.005	0.005	0.007	0.015
20185	0.012	0.009	0.015	0.045
20186	0.005	0.009	0.010	0.023
20187	0.005	0.007	0.008	0.016
20188	0.006	0.006	0.008	0.017
20189	0.007	0.007	0.010	0.020
20190	0.009	0.007	0.012	0.028
20191	0.008	0.006	0.010	0.023
20192	0.008	0.009	0.012	0.026
20193	0.008	0.008	0.011	0.024

STATION	Vx	Vy	Vxy	Vz
8151	0.02	0.02	0.02	0.05
8152	0.02	0.01	0.02	0.05
8155	0.02	0.02	0.03	0.07
8157	0.02	0.02	0.03	0.08
8161	0.02	0.02	0.03	0.06
8162	0.02	0.02	0.03	0.07
20142	0.02	0.02	0.03	0.07
20143	0.02	0.02	0.03	0.11
20144	0.02	0.02	0.03	0.07
20145	0.02	0.02	0.02	0.06
20146	0.03	0.06	0.06	0.14
20147	0.04	0.03	0.05	0.10
20148	0.02	0.02	0.02	0.07
20149	0.02	0.02	0.03	0.09
20150	0.05	0.04	0.07	0.22
20152	0.02	0.03	0.04	0.08
20153	0.02	0.02	0.03	0.08
20154	0.05	0.07	0.09	0.20
20155	0.02	0.02	0.02	0.06
20156	0.02	0.01	0.02	0.06
20157	0.02	0.03	0.04	0.07
20158	0.02	0.03	0.03	0.07
20161	0.02	0.02	0.03	0.08
20162	0.05	0.03	0.06	0.17
20163	0.04	0.03	0.05	0.12
20164	0.04	0.03	0.05	0.12
20165	0.03	0.03	0.04	0.13
20166	0.02	0.03	0.03	0.07
20167	0.03	0.03	0.04	0.08
20168	0.04	0.03	0.05	0.12
20171	0.02	0.02	0.02	0.05
20172	0.02	0.02	0.03	0.06
20173	0.03	0.02	0.04	0.11
20175	0.02	0.02	0.02	0.05
20176	0.02	0.02	0.02	0.05
20178	0.02	0.02	0.03	0.07
20179	0.03	0.02	0.04	0.08
20180	0.02	0.02	0.03	0.07
20181	0.02	0.02	0.03	0.06
20182	0.02	0.02	0.02	0.05
20184	0.02	0.02	0.02	0.05
20185	0.04	0.03	0.05	0.15
20186	0.02	0.03	0.03	0.08
20187	0.02	0.02	0.03	0.05
20188	0.02	0.02	0.03	0.06
20189	0.02	0.02	0.03	0.07
20190	0.03	0.02	0.04	0.09
20191	0.03	0.02	0.03	0.08
20192	0.03	0.03	0.04	0.09
20193	0.03	0.03	0.04	0.08

STATION	Vx	Vy	Vxy	Vz
20194	0.008	0.007	0.010	0.020
20195	0.007	0.010	0.012	0.026
20196	0.006	0.006	0.009	0.019
20197	0.010	0.009	0.013	0.042
20198	0.006	0.009	0.011	0.023
20199	0.007	0.009	0.011	0.021
20200	0.006	0.007	0.009	0.021
20201	0.009	0.009	0.013	0.028
20202	0.010	0.007	0.012	0.031
20203	0.010	0.009	0.013	0.032
20204	0.009	0.009	0.013	0.025
20205	0.007	0.012	0.013	0.034
20207	0.007	0.008	0.010	0.022
20208	0.009	0.008	0.012	0.028
30147	0.006	0.006	0.009	0.016
30148	0.007	0.008	0.010	0.021
30149	0.005	0.005	0.007	0.016
30150	0.009	0.010	0.014	0.031
30151	0.008	0.006	0.010	0.021
30152	0.006	0.005	0.008	0.016
30153	0.007	0.006	0.009	0.017
30154	0.006	0.006	0.008	0.019
30155	0.006	0.006	0.008	0.023
30156	0.005	0.007	0.009	0.020
30157	0.004	0.004	0.006	0.013
30158	0.006	0.006	0.008	0.016
30159	0.006	0.005	0.008	0.020
30160	0.008	0.008	0.011	0.025
30161	0.009	0.009	0.013	0.027
40302	0.004	0.005	0.006	0.016
40303	0.005	0.005	0.007	0.016
40304	0.005	0.005	0.007	0.016
40306	0.007	0.006	0.009	0.017
40307	0.006	0.006	0.009	0.020
40309	0.005	0.007	0.009	0.020
40310	0.004	0.004	0.006	0.014
40311	0.005	0.005	0.006	0.015
40312	0.006	0.005	0.008	0.019
40313	0.008	0.010	0.013	0.026
40314	0.011	0.011	0.015	0.031
40315	0.008	0.008	0.011	0.024
40316	0.013	0.010	0.017	0.055
40317	0.016	0.016	0.022	0.060
40319	0.005	0.005	0.008	0.014
40320	0.005	0.005	0.008	0.015
40321	0.005	0.005	0.008	0.016
40322	0.005	0.006	0.008	0.016
40323	0.006	0.006	0.008	0.018
40324	0.007	0.007	0.010	0.020
40325	0.006	0.006	0.008	0.018

STATION	Vx	Vy	Vxy	Vz
20194	0.03	0.02	0.03	0.07
20195	0.02	0.03	0.04	0.09
20196	0.02	0.02	0.03	0.06
20197	0.03	0.03	0.04	0.14
20198	0.02	0.03	0.04	0.08
20199	0.02	0.03	0.04	0.07
20200	0.02	0.02	0.03	0.07
20201	0.03	0.03	0.04	0.09
20202	0.03	0.02	0.04	0.10
20203	0.03	0.03	0.04	0.11
20204	0.03	0.03	0.04	0.08
20205	0.02	0.04	0.04	0.11
20207	0.02	0.03	0.03	0.07
20208	0.03	0.03	0.04	0.09
30147	0.02	0.02	0.03	0.05
30148	0.02	0.03	0.03	0.07
30149	0.02	0.02	0.02	0.05
30150	0.03	0.03	0.04	0.10
30151	0.03	0.02	0.03	0.07
30152	0.02	0.02	0.03	0.05
30153	0.02	0.02	0.03	0.06
30154	0.02	0.02	0.03	0.06
30155	0.02	0.02	0.03	0.08
30156	0.02	0.02	0.03	0.07
30157	0.01	0.01	0.02	0.04
30158	0.02	0.02	0.03	0.05
30159	0.02	0.02	0.03	0.07
30160	0.03	0.03	0.04	0.08
30161	0.03	0.03	0.04	0.09
40302	0.01	0.02	0.02	0.05
40303	0.02	0.02	0.02	0.05
40304	0.02	0.02	0.02	0.05
40306	0.02	0.02	0.03	0.06
40307	0.02	0.02	0.03	0.06
40309	0.02	0.02	0.03	0.07
40310	0.01	0.01	0.02	0.05
40311	0.02	0.02	0.02	0.05
40312	0.02	0.02	0.03	0.06
40313	0.03	0.03	0.04	0.09
40314	0.04	0.04	0.05	0.10
40315	0.03	0.03	0.04	0.08
40316	0.04	0.03	0.06	0.18
40317	0.05	0.05	0.07	0.20
40319	0.02	0.02	0.02	0.05
40320	0.02	0.02	0.02	0.05
40321	0.02	0.02	0.03	0.05
40322	0.02	0.02	0.03	0.05
40323	0.02	0.02	0.03	0.06
40324	0.02	0.02	0.03	0.06
40325	0.02	0.02	0.03	0.06

STATION	Vx	Vy	Vxy	Vz
40326	0.008	0.007	0.010	0.023
40327	0.004	0.004	0.006	0.013
40328	0.005	0.005	0.007	0.013
40329	0.004	0.005	0.006	0.014
40330	0.004	0.005	0.006	0.013
40331	0.005	0.006	0.008	0.017
40332	0.009	0.007	0.012	0.028
40333	0.007	0.006	0.009	0.020
40334	0.005	0.005	0.008	0.015
40335	0.005	0.005	0.008	0.016
40336	0.005	0.005	0.007	0.015
40337	0.005	0.005	0.007	0.014
40338	0.004	0.005	0.006	0.015
40339	0.005	0.006	0.008	0.017
40340	0.007	0.008	0.011	0.023
40341	0.011	0.007	0.013	0.031
40342	0.008	0.009	0.012	0.026
40343	0.006	0.007	0.009	0.019
40344	0.006	0.005	0.008	0.019
40345	0.008	0.009	0.012	0.025
40346	0.007	0.006	0.009	0.019
40347	0.018	0.024	0.030	0.067
40348	0.006	0.006	0.009	0.021
40349	0.006	0.007	0.009	0.018
40350	0.008	0.008	0.011	0.023
40351	0.017	0.012	0.021	0.075
50502	0.008	0.008	0.011	0.025
50503	0.014	0.009	0.016	0.048
50504	0.006	0.007	0.009	0.022
50505	0.006	0.007	0.009	0.019
50506	0.006	0.007	0.009	0.020
50508	0.005	0.005	0.007	0.016
50509	0.006	0.006	0.009	0.017
50510	0.006	0.006	0.009	0.018
50511	0.005	0.005	0.007	0.016
50512	0.007	0.008	0.010	0.023
50513	0.007	0.007	0.010	0.022
50514	0.020	0.012	0.023	0.061
50515	0.008	0.007	0.011	0.027
50516	0.005	0.005	0.007	0.016
50517	0.005	0.005	0.007	0.015
50518	0.004	0.004	0.005	0.015
50519	0.005	0.006	0.008	0.016
50520	0.006	0.006	0.009	0.019
50521	0.009	0.007	0.012	0.029
50523	0.007	0.008	0.011	0.022
50524	0.009	0.009	0.013	0.023
50525	0.008	0.007	0.010	0.022
50526	0.007	0.007	0.010	0.019
50527	0.006	0.006	0.008	0.019

STATION	Vx	Vy	Vxy	Vz
40326	0.03	0.02	0.03	0.07
40327	0.01	0.01	0.02	0.04
40328	0.02	0.02	0.02	0.04
40329	0.01	0.02	0.02	0.05
40330	0.01	0.02	0.02	0.04
40331	0.02	0.02	0.03	0.06
40332	0.03	0.02	0.04	0.09
40333	0.02	0.02	0.03	0.07
40334	0.02	0.02	0.03	0.05
40335	0.02	0.02	0.02	0.05
40336	0.02	0.02	0.02	0.05
40337	0.02	0.02	0.02	0.05
40338	0.01	0.02	0.02	0.05
40339	0.02	0.02	0.03	0.06
40340	0.02	0.03	0.03	0.07
40341	0.04	0.02	0.04	0.10
40342	0.03	0.03	0.04	0.09
40343	0.02	0.02	0.03	0.06
40344	0.02	0.02	0.03	0.06
40345	0.03	0.03	0.04	0.08
40346	0.02	0.02	0.03	0.06
40347	0.06	0.08	0.10	0.22
40348	0.02	0.02	0.03	0.07
40349	0.02	0.02	0.03	0.06
40350	0.03	0.03	0.04	0.07
40351	0.06	0.04	0.07	0.25
50502	0.03	0.03	0.04	0.08
50503	0.05	0.03	0.05	0.16
50504	0.02	0.02	0.03	0.07
50505	0.02	0.02	0.03	0.06
50506	0.02	0.02	0.03	0.07
50508	0.02	0.02	0.02	0.05
50509	0.02	0.02	0.03	0.06
50510	0.02	0.02	0.03	0.06
50511	0.02	0.02	0.02	0.05
50512	0.02	0.03	0.03	0.08
50513	0.02	0.02	0.03	0.07
50514	0.06	0.04	0.08	0.20
50515	0.03	0.02	0.03	0.09
50516	0.02	0.02	0.02	0.05
50517	0.02	0.02	0.02	0.05
50518	0.01	0.01	0.02	0.05
50519	0.02	0.02	0.03	0.05
50520	0.02	0.02	0.03	0.06
50521	0.03	0.02	0.04	0.10
50523	0.02	0.03	0.03	0.07
50524	0.03	0.03	0.04	0.08
50525	0.03	0.02	0.03	0.07
50526	0.02	0.02	0.03	0.06
50527	0.02	0.02	0.03	0.06

STATION	Vx	Vy	Vxy	Vz
50528	0.006	0.006	0.009	0.020
50529	0.006	0.007	0.009	0.020
50530	0.009	0.009	0.013	0.032
50531	0.010	0.008	0.013	0.030
50532	0.009	0.010	0.013	0.027
50533	0.009	0.009	0.013	0.024
50534	0.009	0.009	0.013	0.025
60101	0.005	0.005	0.007	0.018
60102	0.005	0.005	0.007	0.016
60103	0.005	0.005	0.007	0.015
60104	0.007	0.011	0.013	0.030
60105	0.011	0.009	0.014	0.031
60106	0.009	0.008	0.012	0.028
60107	0.006	0.007	0.009	0.016
60108	0.006	0.006	0.009	0.017
60109	0.006	0.005	0.008	0.017
60110	0.005	0.005	0.007	0.013
60111	0.005	0.005	0.007	0.014
60112	0.007	0.008	0.010	0.015
60113	0.005	0.005	0.008	0.020
60114	0.006	0.008	0.010	0.021
60115	0.007	0.008	0.011	0.023
60116	0.012	0.009	0.014	0.033
60117	0.010	0.008	0.013	0.030
60118	0.011	0.013	0.017	0.031
60119	0.009	0.009	0.013	0.028
60120	0.009	0.007	0.011	0.021
60123	0.007	0.008	0.011	0.024
60125	0.009	0.009	0.013	0.027
60126	0.009	0.008	0.013	0.032
60128	0.010	0.012	0.015	0.030
60130	0.008	0.007	0.010	0.026
60131	0.018	0.024	0.030	0.066
60132	0.006	0.007	0.009	0.023
20160a	0.006	0.008	0.010	0.023
8052-2	0.005	0.005	0.007	0.013
8115	0.005	0.005	0.008	0.016
8115A	0.005	0.005	0.007	0.014
SUMSQ	**0.01**	**0.01**	**0.03**	**0.15**
COUNT	**263.00**	**263.00**	**263.00**	**263.00**
AVG ERROR	**0.01**	**0.01**	**0.01**	**0.02**
MAX ERROR	**0.02**	**0.02**	**0.03**	**0.07**
MIN ERROR	**0.00**	**0.00**	**0.01**	**0.01**
RMSE	**0.01**	**0.01**	**0.01**	**0.02**

STATION	Vx	Vy	Vxy	Vz
50528	0.02	0.02	0.03	0.07
50529	0.02	0.02	0.03	0.07
50530	0.03	0.03	0.04	0.10
50531	0.03	0.03	0.04	0.10
50532	0.03	0.03	0.04	0.09
50533	0.03	0.03	0.04	0.08
50534	0.03	0.03	0.04	0.08
60101	0.02	0.02	0.02	0.06
60102	0.02	0.02	0.02	0.05
60103	0.02	0.02	0.02	0.05
60104	0.02	0.04	0.04	0.10
60105	0.04	0.03	0.05	0.10
60106	0.03	0.03	0.04	0.09
60107	0.02	0.02	0.03	0.05
60108	0.02	0.02	0.03	0.06
60109	0.02	0.02	0.03	0.06
60110	0.02	0.02	0.02	0.04
60111	0.02	0.02	0.02	0.05
60112	0.02	0.03	0.03	0.05
60113	0.02	0.02	0.02	0.07
60114	0.02	0.03	0.03	0.07
60115	0.02	0.03	0.04	0.08
60116	0.04	0.03	0.05	0.11
60117	0.03	0.03	0.04	0.10
60118	0.04	0.04	0.06	0.10
60119	0.03	0.03	0.04	0.09
60120	0.03	0.02	0.04	0.07
60123	0.02	0.03	0.04	0.08
60125	0.03	0.03	0.04	0.09
60126	0.03	0.03	0.04	0.11
60128	0.03	0.04	0.05	0.10
60130	0.03	0.02	0.03	0.08
60131	0.06	0.08	0.10	0.22
60132	0.02	0.02	0.03	0.07
20160a	0.02	0.03	0.03	0.08
8052-2	0.02	0.02	0.02	0.04
8115	0.02	0.02	0.02	0.05
8115A	0.02	0.02	0.02	0.05
SUMSQ	**0.15**	**0.16**	**0.30**	**1.62**
COUNT	**263.00**	**263.00**	**263.00**	**263.00**
AVG ERROR	**0.02**	**0.02**	**0.03**	**0.07**
MAX ERROR	**0.06**	**0.08**	**0.10**	**0.25**
MIN ERROR	**0.01**	**0.01**	**0.02**	**0.04**
RMSE	**0.02**	**0.02**	**0.03**	**0.08**

LiDAR CONTROL POINTS ONLY

CALCULATED ACCURACIES:

0.01	Meters RMSEx
0.01	Meters RMSEy
0.01	Meters RMSExy
0.01	Meters at 95% C.I.
0.02	RMSEz
0.03	Meters at 95% C.I.

CALCULATED ACCURACIES:

0.02	Feet RMSEx
0.02	Feet RMSEy
0.03	Feet RMSExy
0.05	Feet at 95% C.I.
0.06	RMSEz
0.11	Feet at 95% C.I.

METERS

STATION	Vx	Vy	Vxy	Vz
8003	0.006	0.005	0.008	0.018
8008	0.005	0.006	0.008	0.017
8013	0.004	0.005	0.006	0.014
8018	0.006	0.007	0.009	0.015
8023	0.006	0.005	0.008	0.017
8028	0.007	0.009	0.011	0.017
8033	0.005	0.005	0.007	0.015
8048	0.005	0.004	0.006	0.015
8053	0.005	0.005	0.007	0.013
8058	0.005	0.005	0.007	0.013
8063	0.005	0.005	0.007	0.015
8068	0.005	0.007	0.009	0.020
8073	0.005	0.005	0.007	0.017
8078	0.005	0.005	0.008	0.016
8083	0.005	0.005	0.008	0.016
8088	0.005	0.007	0.009	0.017
8093	0.006	0.005	0.008	0.019
8098	0.005	0.005	0.008	0.016
8103	0.005	0.005	0.007	0.016
8108	0.005	0.005	0.007	0.014
8113	0.005	0.004	0.006	0.016
8118	0.005	0.005	0.007	0.016
8118A	0.005	0.005	0.007	0.015
8123	0.006	0.005	0.008	0.018
8125	0.005	0.005	0.007	0.014
8128	0.005	0.005	0.007	0.016
8133	0.005	0.005	0.006	0.016
8138	0.011	0.011	0.016	0.028
8143	0.005	0.005	0.007	0.016
8148	0.004	0.005	0.006	0.016
8153	0.005	0.005	0.007	0.015
8158	0.008	0.008	0.011	0.030
GARRETT	0.002	0.002	0.003	0.014

US FEET

STATION	Vx	Vy	Vxy	Vz
8003	0.02	0.02	0.03	0.06
8008	0.02	0.02	0.03	0.06
8013	0.01	0.02	0.02	0.05
8018	0.02	0.02	0.03	0.05
8023	0.02	0.02	0.03	0.06
8028	0.02	0.03	0.04	0.06
8033	0.02	0.02	0.02	0.05
8048	0.02	0.01	0.02	0.05
8053	0.02	0.02	0.02	0.04
8058	0.02	0.02	0.02	0.04
8063	0.02	0.02	0.02	0.05
8068	0.02	0.02	0.03	0.06
8073	0.02	0.02	0.02	0.06
8078	0.02	0.02	0.02	0.05
8083	0.02	0.02	0.02	0.05
8088	0.02	0.02	0.03	0.06
8093	0.02	0.02	0.03	0.06
8098	0.02	0.02	0.02	0.05
8103	0.02	0.02	0.02	0.05
8108	0.02	0.02	0.02	0.05
8113	0.02	0.01	0.02	0.05
8118	0.02	0.02	0.02	0.05
8118A	0.02	0.02	0.02	0.05
8123	0.02	0.02	0.03	0.06
8125	0.02	0.02	0.02	0.05
8128	0.02	0.02	0.02	0.05
8133	0.02	0.02	0.02	0.05
8138	0.04	0.04	0.05	0.09
8143	0.02	0.02	0.02	0.05
8148	0.01	0.02	0.02	0.05
8153	0.02	0.02	0.02	0.05
8158	0.03	0.03	0.04	0.10
GARRETT	0.01	0.01	0.01	0.05

SUMSQ	0.00	0.00	0.00	0.01
COUNT	33.00	33.00	33.00	33.00
AVG ERROR	0.01	0.01	0.01	0.02
MAX ERROR	0.01	0.01	0.02	0.03
MIN ERROR	0.00	0.00	0.00	0.01
RMSE	0.01	0.01	0.01	0.02

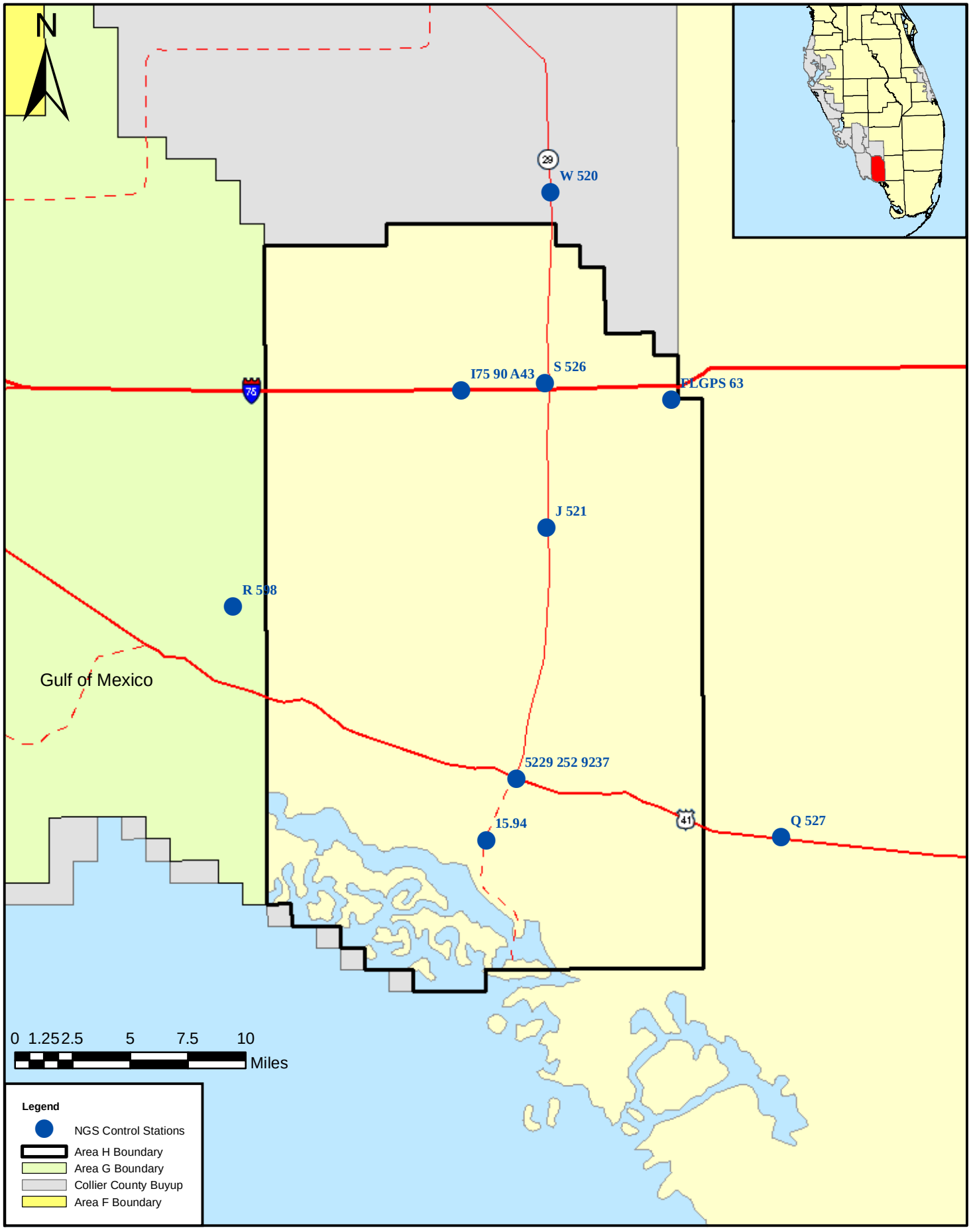
SUMSQ	0.01	0.01	0.02	0.10
COUNT	33.00	33.00	33.00	33.00
AVG ERROR	0.02	0.02	0.03	0.05
MAX ERROR	0.04	0.04	0.05	0.10
MIN ERROR	0.01	0.01	0.01	0.04
RMSE	0.02	0.02	0.03	0.06

APPENDIX E: LAYOUT MAPS

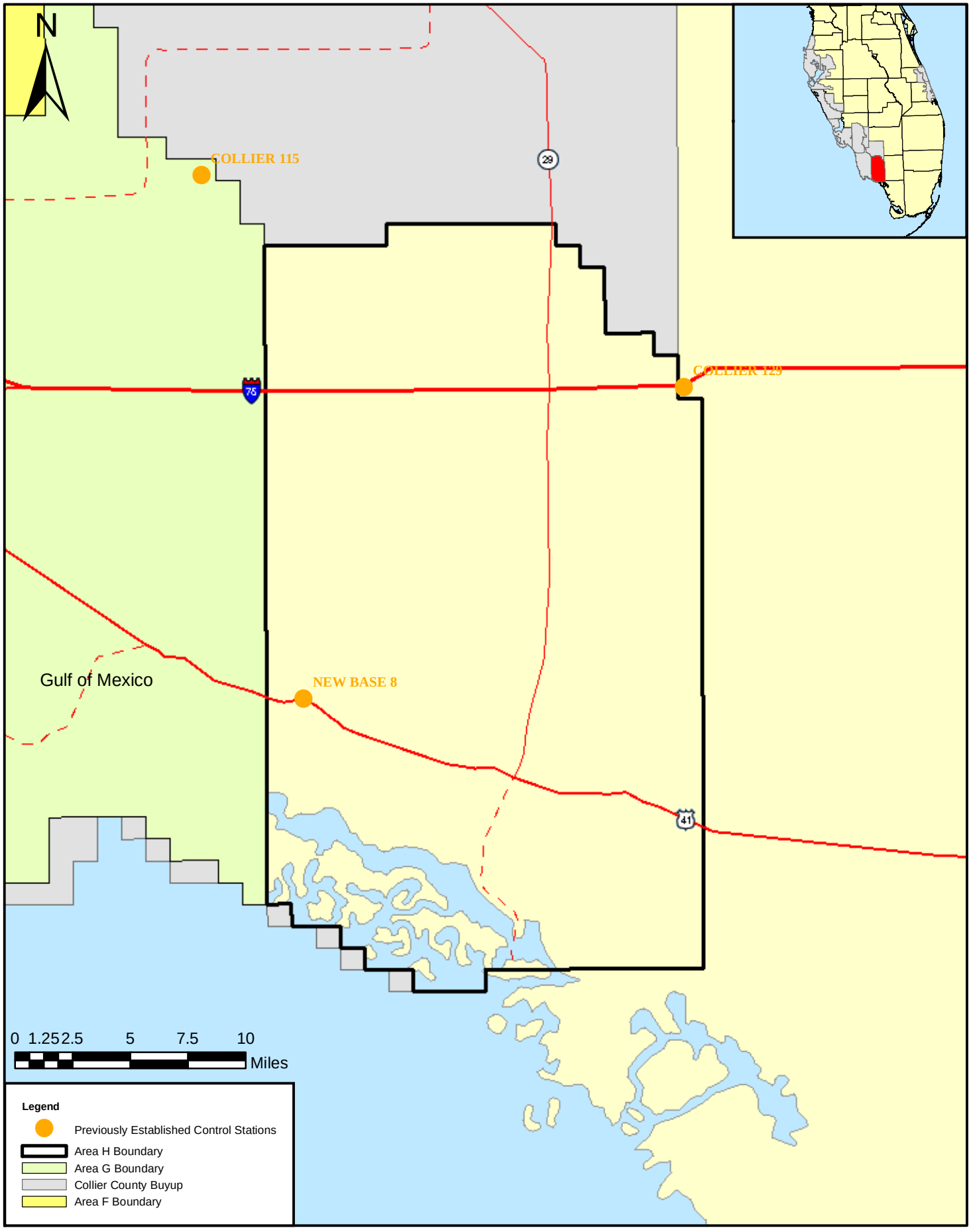
This appendix contains layout maps of the GPS ground control stations, LiDAR Control Points and LiDAR QA/QC Checkpoints (see below) for the Project Area H of the FY2007 State of Florida Division of Emergency Management Ground Control QA/QC Survey Mapping Project.

- GPS Control Stations
- LiDAR Control Points
- Brush Observations
- Forested Observations
- Low Grass or Bare Earth Observations
- Urban Observations
- GPS Network Diagram

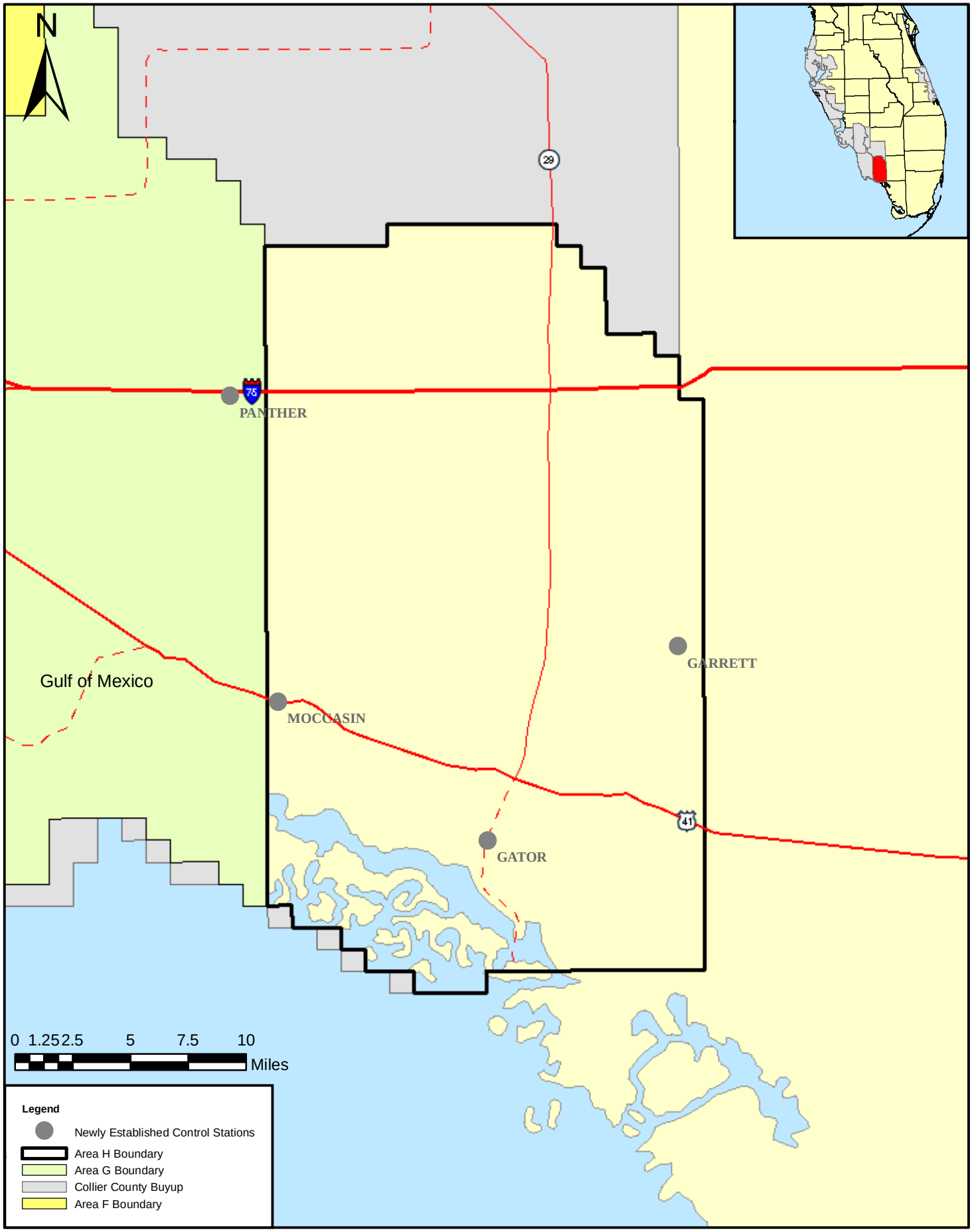
AREA H - NGS CONTROL STATIONS



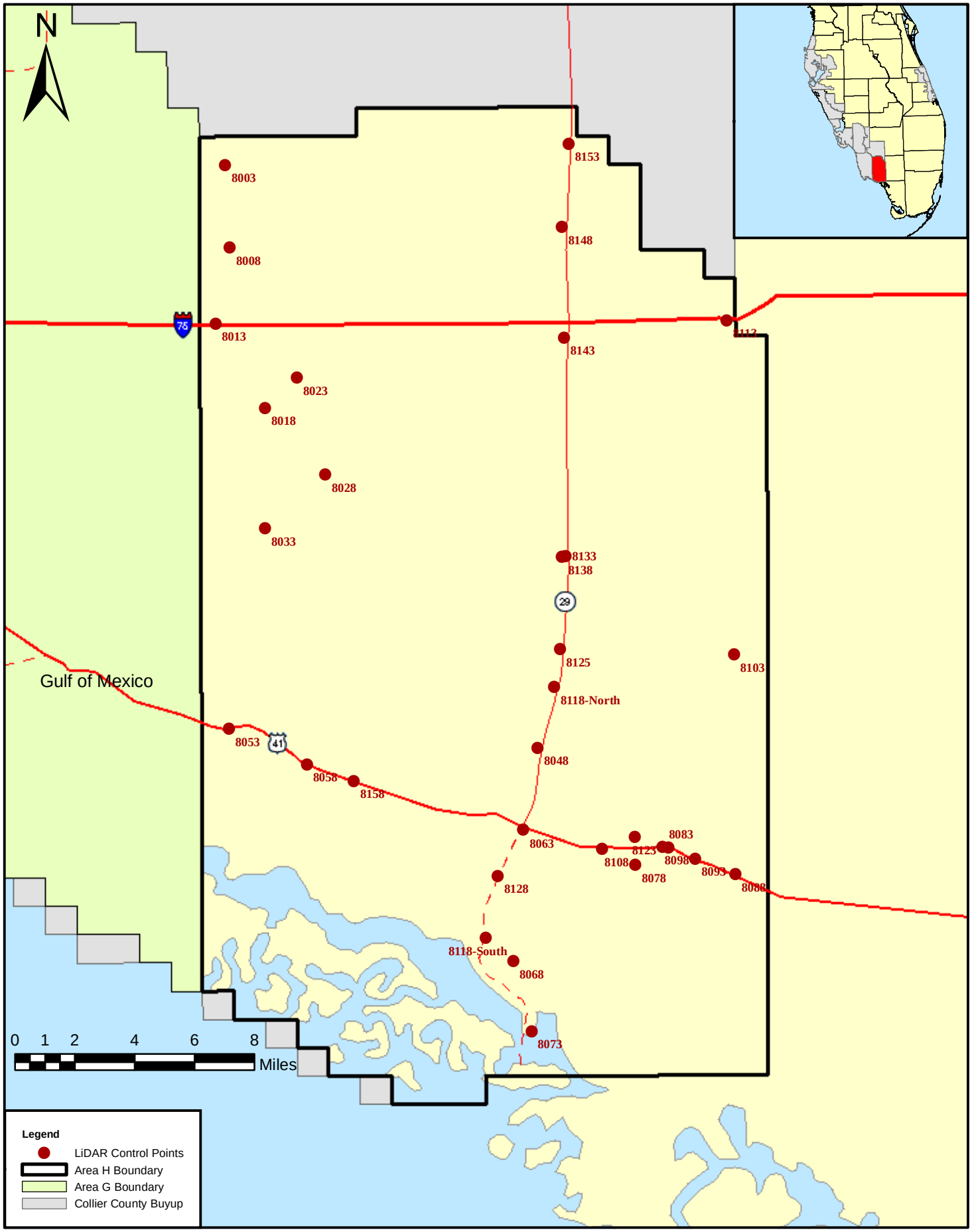
AREA H - PREVIOUSLY ESTABLISHED CONTROL STATIONS



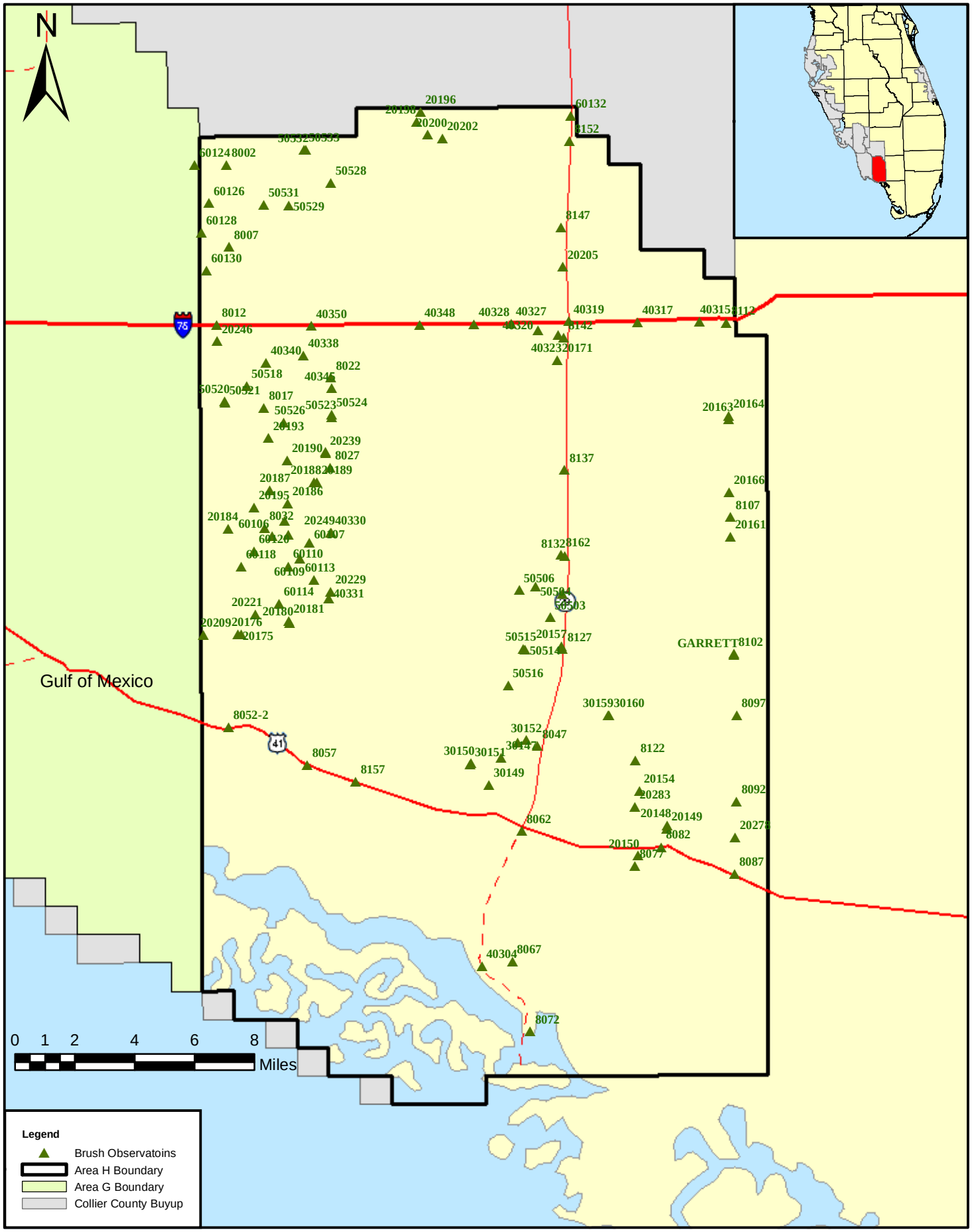
AREA H - NEWLY ESTABLISHED CONTROL STATIONS



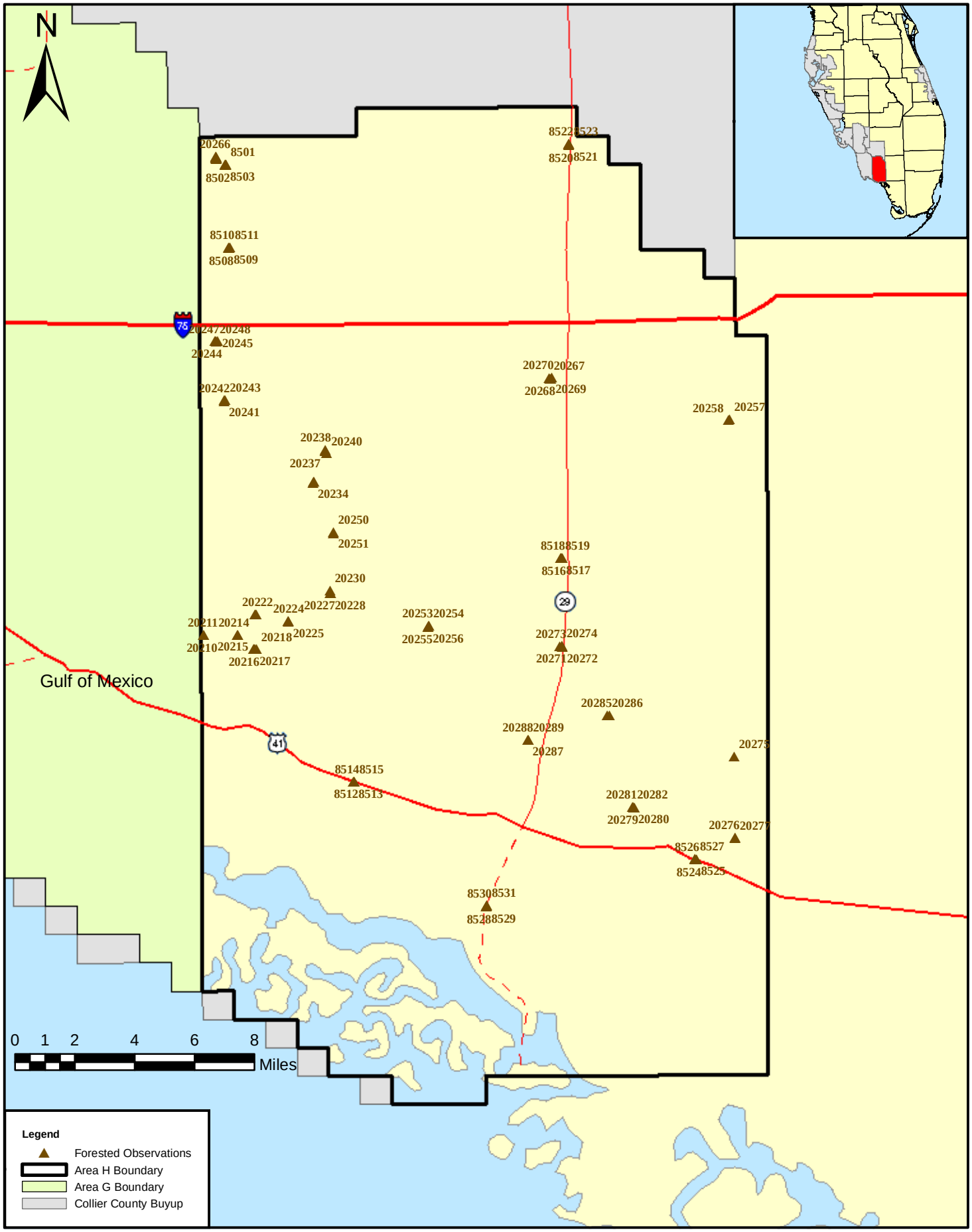
AREA H - LiDAR CONTROL POINTS



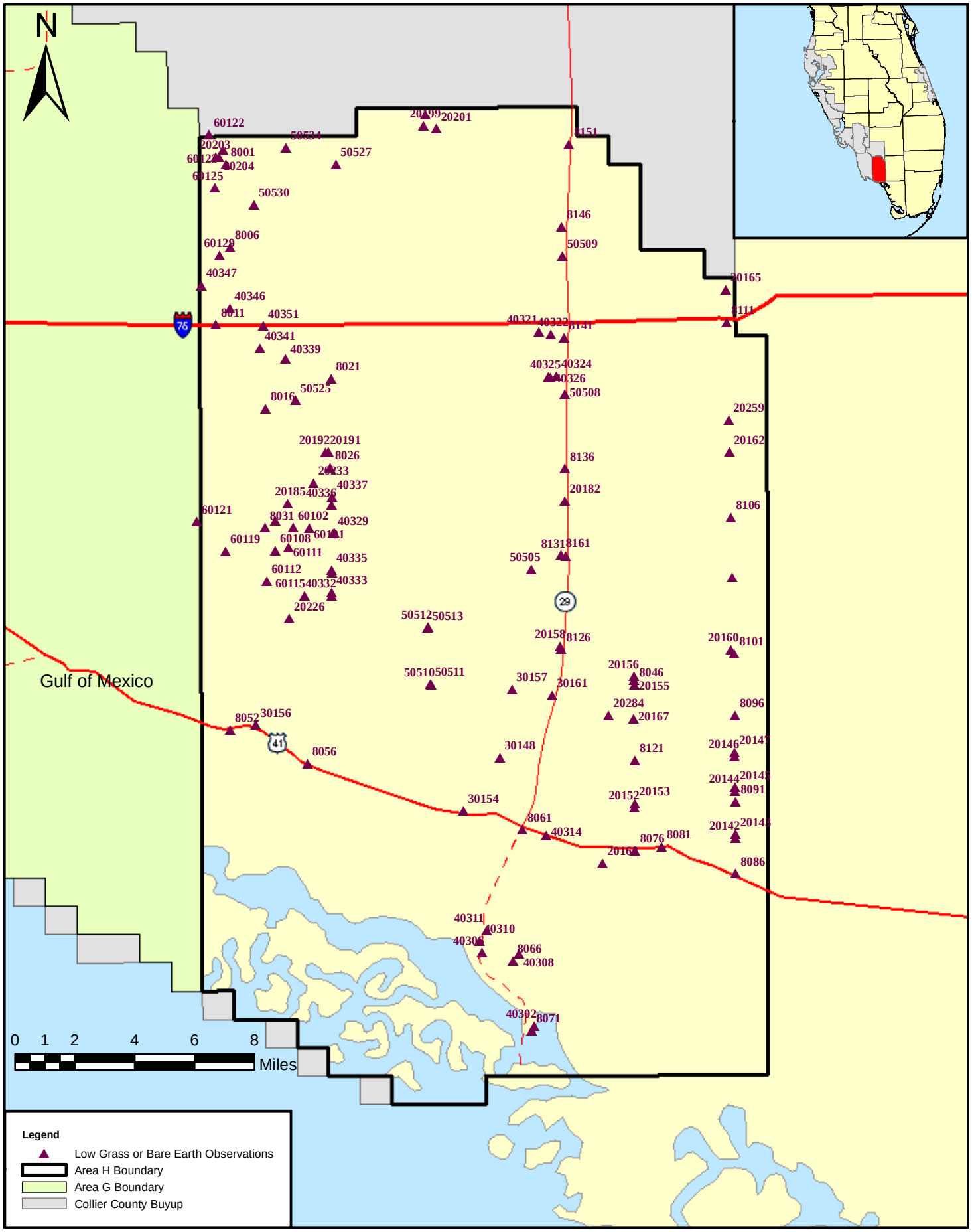
AREA H - BRUSH


N
Gulf of Mexico
GARRETT
0 1 2 4 6 8 Miles
Legend
Brush Observatoins
Area H Boundary
Area G Boundary
Collier County Buyup

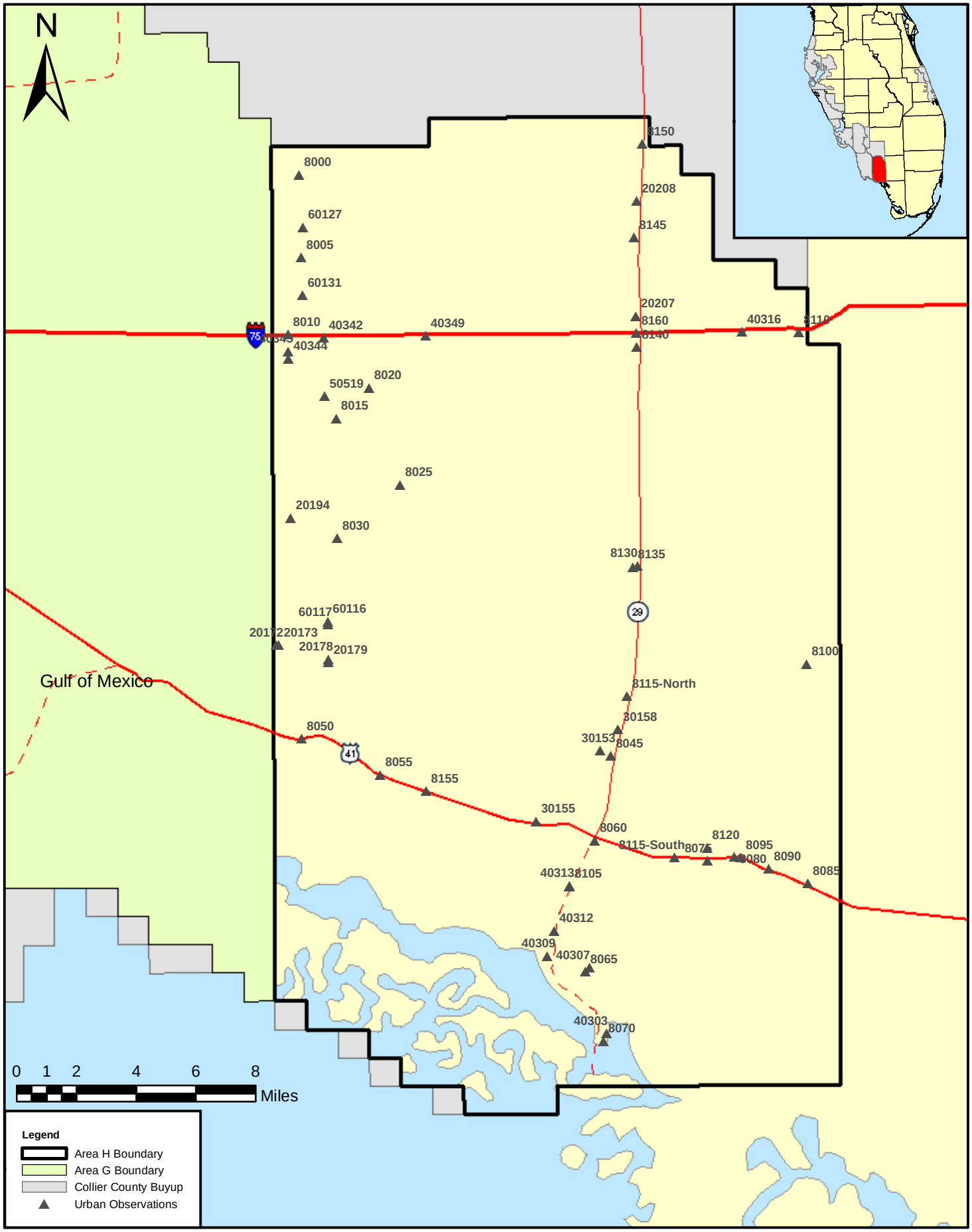
AREA H - FORESTED

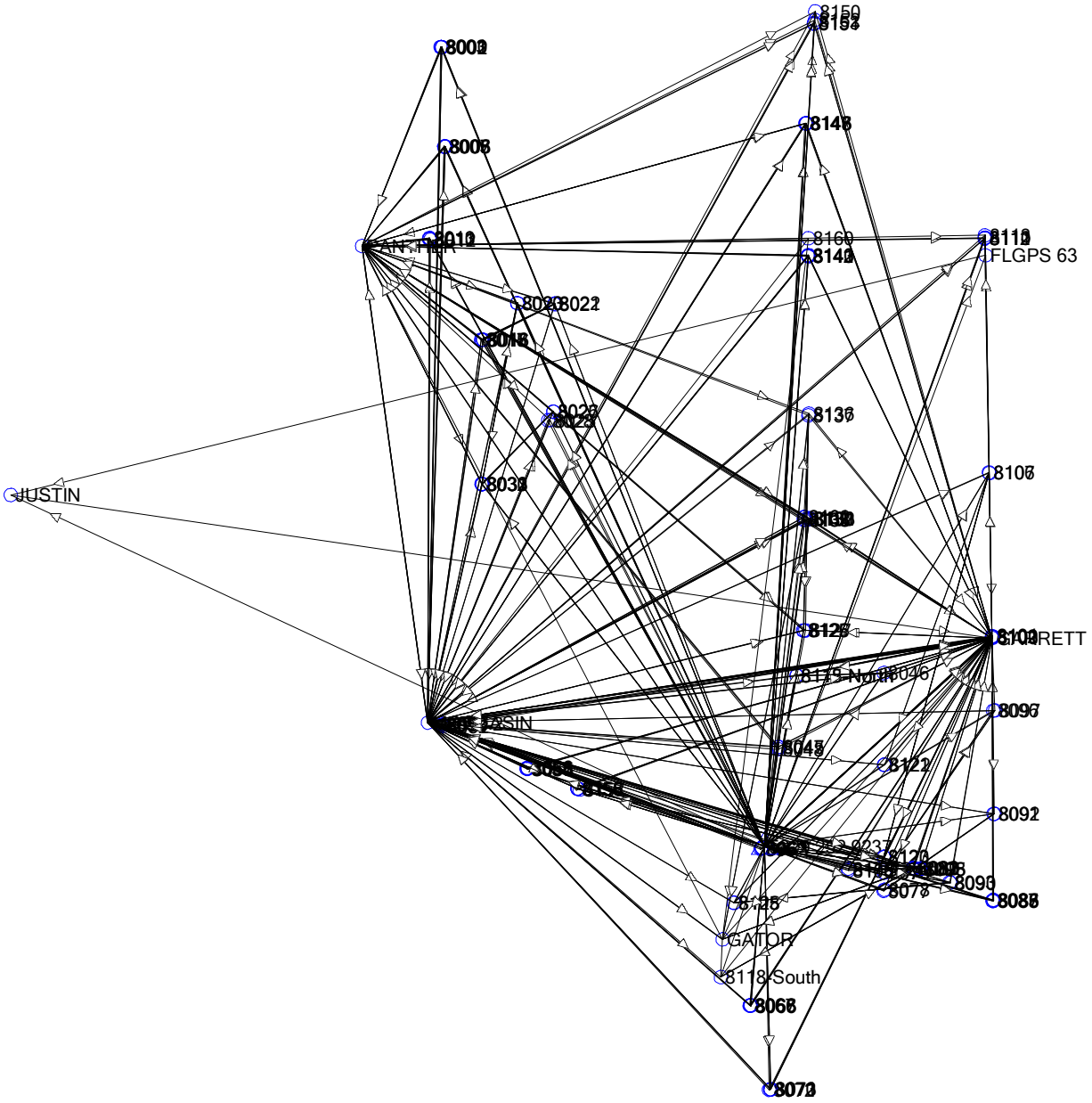


AREA H - LOW GRASS OR BARE EARTH



AREA H - URBAN


N
8150
8000
20208
60127
8145
8005
60131
20207
8160
8010
40342
40349
40316
8110
8140
40345
40344
8020
50519
8015
8025
20194
8030
8130
8135
60117
60116
20173
20178
20179
8100
Gulf of Mexico
8115-North
30158
8050
30153
8045
8055
8155
30155
8060
8115-South
8120
8095
8090
8085
8105
40312
40309
40307
8065
40303
8070
0 1 2 4 6 8
Miles
Legend
Area H Boundary
Area G Boundary
Collier County Buyup
Urban Observations



Field surveyor:
Woolpert, Inc.
Computer operator:
MBrown
Reference:
FDEM

Scale 1:300000
0 45000 sft
US survey feet

0°00'00"

Plot Scale: 1:300000
Printed on 12/15/2008, at 7:32:41 AM

Printed from Trimble Geomatics Office

System: US State Plane 1983
Zone: Florida East 0901, Datum: NAD 1983 (Conus)

Project: Area H
USFeet Template