

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



PROJECT AREA C

**STATE OF FLORIDA
DIVISION OF EMERGENCY MANAGEMENT**

**TASK ORDER NO. 20070525-492720
TASK ORDER NO. 20070525-492718C
CONTRACT NO. 07-HS-34-14-00-22-469**

**APRIL 14, 2009
REVISED**

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

**APRIL 14, 2009
REVISED**

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MINIMUM TECHNICAL STANDARDS REPORT OF LiDAR GROUND CONTROL SURVEY

Task Order No. 20070525-492720
Task Order No. 20070525-492718c
Contract No. 07-HS-34-14-00-22-469

PROJECT AREA C

For:

State of Florida, Division of Emergency Management
“State Emergency Response Team”
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

By:

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Prepared by:

David Bruno, PSM
Florida Professional Surveyor and Mapper PSM 5670

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REPORT OF LiDAR GROUND CONTROL SURVEY PROJECT AREA C 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 C – Portions of Southwestern Hillsborough and Western Manatee Counties.

Project Area

Project Area C encompassed approximately +/-522 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 +/-522 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 Nov. 9, 2007 and Jan. 12, 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

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Professional Surveyor and Mapper Number 5670

Name of Company

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Florida Certificate of Authorization No. LB-0006777

Field and Office Personnel

Brian Beckman
Matthew Brown
Dave Bruno
Jason Kail
Scott Lamb
Ben Messer
Wes Miller
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](mailto: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 ten (10) existing NGS control stations suitable for GPS observations: **BRTW (BARTOW CORS ARP), I75 84 A41, KEY, PARRISH, PLANTPORT, R 694, SEVEN, SKIPPER RESET, WACHULA, and ZEFR (ZEPHYRHILLS CORS ARP)**. 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 three (3) 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, **NEW BASE 2, NEW BASE 3** and **MCD5** consisted of an 18-inch long, 5/8-inch diameter rebar with a plastic Woolpert survey cap (LB6777) and was set flush with the ground.

Woolpert field crews also recovered and incorporated **NEW BASE 1**, a new Woolpert control station established for Project Area D of this mapping project. The station recovery information sheet for these points can be found in Appendix B of this report.

Woolpert established a total of 20 LiDAR Control Points, 134 LiDAR QA/QC Checkpoints and 13 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 99 of the 134 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 comparable 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 this survey, Woolpert field crews utilized three (3) Woolpert-owned, Trimble Navigation R8 model 2 GNSS dual-frequency geodetic GPS receivers as base stations and up to four (4) Woolpert-owned, Trimble Navigation R8 model 2 GNSS dual-frequency geodetic GPS receivers as rovers. 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 ten (10) existing NGS Control Stations and four (4) newly established control station 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: **BRTW (BARTOW CORS ARP), I75 84 A41, KEY, MCD5, NEW BASE 1, NEW BASE 2, NEW BASE 3, PARRISH, PLANTPORT, R 694, SEVEN, SKIPPER RESET, WACHULA, and ZEFR (ZEPHYRHILLS CORS ARP).**

Conventional Surveying

Using the paired intermediate (traverse) control stations set with Rapid-Static GPS along with thirteen (13) QA/QC Checkpoints, Woolpert field crews used a Woolpert-owned Topcon GTS-701 Total Station or a Woolpert-owned Topcon GTS-711 Total Station to acquire thirty-five (35) LiDAR QA/QC Checkpoints in obscured areas (dense trees/forested) where GPS observations were limited. The final coordinates for the LiDAR QA/QC Checkpoints can be found in Appendix D of this report.

Datum Reference and Final Coordinates

All horizontal GPS control was based on the Florida State Plane Coordinate System (West 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 Total Control (TTC) version 2.73. 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/County 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	KEY (AG8911), PLANTPORT (AL7873), PARISH (AG6295), SEVEN (AG0907), SKIPPER RESET (AL6480)
1-D Control Station	I75 84 A41 (AG8493)

Accuracy Statement

The positional accuracy of the LiDAR Control Points was 0.07-feet (avg. 0.04-feet) horizontally and 0.16-feet (avg. 0.08-feet) vertically at the 95% confidence level. The positional accuracy of the LiDAR QA/QC checkpoints was 0.07-feet (avg. 0.04-feet) horizontally and 0.17-feet (avg. 0.08-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. SEVEN (7) 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 SEVENTY-THREE (73) 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.

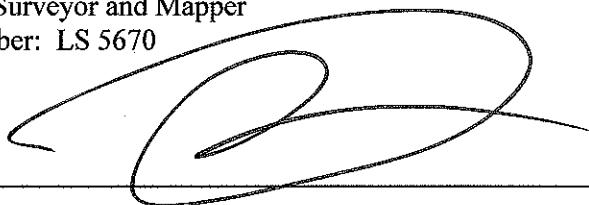
Surveyor and Mapper in Responsible Charge:

David Bruno PSM

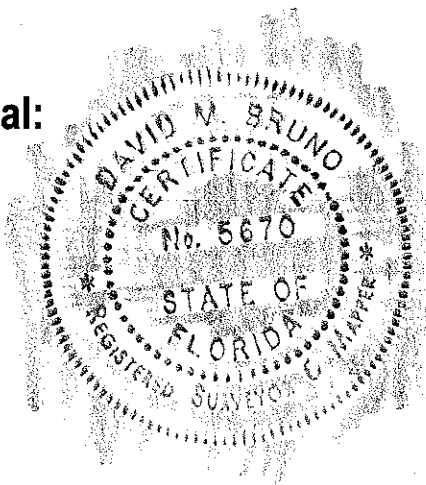
Professional Surveyor and Mapper

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 control stations utilized in Project Area C 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 = 7.61
1 National Geodetic Survey, Retrieval Date = JULY 10, 2008
DF7046 *****
DF7046 CORS - This is a GPS Continuously Operating Reference Station.
DF7046 DESIGNATION - BARTOW CORS ARP
DF7046 CORS_ID - BRTW
DF7046 PID - DF7046
DF7046 STATE/COUNTY- FL/POLK
DF7046 USGS QUAD - BARTOW (1987)
DF7046
DF7046 *CURRENT SURVEY CONTROL
DF7046
DF7046* NAD 83(CORS)- 27 56 58.64223(N) 081 46 58.20127(W) ADJUSTED
DF7046* NAVD 88 -
DF7046
DF7046 EPOCH DATE - 2002.00
DF7046 X - 805,863.935 (meters) COMP
DF7046 Y - -5,580,464.277 (meters) COMP
DF7046 Z - 2,971,581.214 (meters) COMP
DF7046 ELLIP HEIGHT- 13.575 (meters) (08/??/03) ADJUSTED
DF7046 GEOID HEIGHT- -26.20 (meters) GEOID03
DF7046 HORZ ORDER - SPECIAL (CORS)
DF7046 ELLP ORDER - SPECIAL (CORS)
DF7046
DF7046. [ITRF positions](#) are available for this station.
DF7046. The coordinates were established by GPS observations
DF7046. and adjusted by the National Geodetic Survey in August 2003.
DF7046. The coordinates are valid at the epoch date displayed above.
DF7046. The epoch date for horizontal control is a decimal equivalence
DF7046. of Year/Month/Day.
DF7046
DF7046
DF7046. The PID for the CORS L1 Phase Center is DF7047.
DF7046
DF7046. The XYZ, and position/ellipsoidal ht. are equivalent.
DF7046
DF7046. The ellipsoidal height was determined by GPS observations
DF7046. and is referenced to NAD 83.
DF7046
DF7046. The geoid height was determined by GEOID03.
DF7046
DF7046;
DF7046; SPC FL W - North East Units Scale Factor Converg.
DF7046; SPC FL W - 400,645.547 221,369.582 MT 0.99994681 +0 06 06.4
DF7046; SPC FL W - 1,314,451.27 726,276.70 sFT 0.99994681 +0 06 06.4
DF7046
DF7046! - Elev Factor x Scale Factor = Combined Factor
DF7046! SPC FL W - 0.99999787 x 0.99994681 = 0.99994468
DF7046
DF7046 SUPERSEDED SURVEY CONTROL

DF7046
DF7046.No superseded survey control is available for this station.
DF7046
DF7046_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RML2299391868 (NAD 83)
DF7046_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
DF7046
DF7046 STATION DESCRIPTION
DF7046
DF7046'DESCRIBED BY NATIONAL GEODETIC SURVEY 2003
DF7046'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
DF7046'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DF7046'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DF7046' FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG
DF7046' HTTP://WWW.NGS.NOAA.GOV UNDER PRODUCTS AND SERVICES.

*** 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 = 7.61

1 National Geodetic Survey, Retrieval Date = JULY 10, 2008

AG8493 *****

AG8493 DESIGNATION - I75 84 A41

AG8493 PID - AG8493

AG8493 STATE/COUNTY- FL/MANATEE

AG8493 USGS QUAD - PALMETTO (1987)

AG8493

AG8493 *CURRENT SURVEY CONTROL

AG8493

AG8493*	NAD 83(1990)-	27 31 12.40622 (N)	082 30 15.35406 (W)	ADJUSTED
---------	---------------	--------------------	---------------------	----------

AG8493*	NAVD 88 -	8.461 (meters)	27.76 (feet)	ADJUSTED
---------	-----------	----------------	--------------	----------

AG8493

AG8493	LAPLACE CORR-	-1.49 (seconds)		DEFLEC99
--------	---------------	-----------------	--	----------

AG8493	GEOID HEIGHT-	-24.56 (meters)		GEOID03
--------	---------------	-----------------	--	---------

AG8493	DYNAMIC HT -	8.448 (meters)	27.72 (feet)	COMP
--------	--------------	----------------	--------------	------

AG8493	MODELED GRAV-	979,139.9 (mgal)		NAVD 88
--------	---------------	------------------	--	---------

AG8493

AG8493 HORZ ORDER - SECOND

AG8493 VERT ORDER - SECOND CLASS II

AG8493

AG8493.The horizontal coordinates were established by classical geodetic methods
AG8493.and adjusted by the National Geodetic Survey in May 1991.

AG8493

AG8493.The orthometric height was determined by differential leveling
AG8493.and adjusted in June 1991.

AG8493

AG8493.The Laplace correction was computed from DEFLEC99 derived deflections.

AG8493

AG8493.The geoid height was determined by GEOID03.

AG8493

AG8493.The dynamic height is computed by dividing the NAVD 88
AG8493.geopotential number by the normal gravity value computed on the
AG8493.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AG8493.degrees latitude (g = 980.6199 gals.).

AG8493

AG8493.The modeled gravity was interpolated from observed gravity values.

AG8493

AG8493;		North	East	Units	Scale Factor	Converg.
AG8493;SPC FL W	-	353,134.425	150,184.115	MT	0.99997180	-0 13 58.8
AG8493;SPC FL W	-	1,158,575.19	492,729.05	sFT	0.99997180	-0 13 58.8
AG8493;UTM 17	-	3,044,945.911	351,436.981	MT	0.99987244	-0 41 42.7

AG8493

AG8493!	-	Elev Factor	x	Scale Factor	=	Combined Factor
---------	---	-------------	---	--------------	---	-----------------

AG8493!SPC FL W	-	1.00000253	x	0.99997180	=	0.99997433
-----------------	---	------------	---	------------	---	------------

AG8493!UTM 17	-	1.00000253	x	0.99987244	=	0.99987497
---------------	---	------------	---	------------	---	------------

AG8493

AG8493|	-----|					
AG8493|	PID	Reference Object		Distance	Geod. Az	|
AG8493|					dddmms.s	|
AG8493|	AG8494	I75 84 A41 RM 1		10.138 METERS	06451	|

AG8493| AG8495 I75 84 A41 RM 2 10.969 METERS 26634 |

AG8493|-----|

AG8493

AG8493 SUPERSEDED SURVEY CONTROL

AG8493

AG8493 NAD 83(1986)- 27 31 12.40981(N) 082 30 15.36779(W) AD() 2

AG8493 NGVD 29 (09/25/89) 8.96 (m) 29.4 (f) LEVELING 3

AG8493

AG8493.Superseded values are not recommended for survey control.

AG8493.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AG8493.[See file dsdata.txt](#) to determine how the superseded data were derived.

AG8493

AG8493_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RLL5143744946(NAD 83)

AG8493_MARKER: DD = SURVEY DISK

AG8493_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

AG8493_SP_SET: CONCRETE POST

AG8493_STAMPING: I 75 84 A 41

AG8493_MARK LOGO: FLDT

AG8493_PROJECTION: RECESSED 10 CENTIMETERS

AG8493_MAGNETIC: N = NO MAGNETIC MATERIAL

AG8493_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

AG8493+STABILITY: SURFACE MOTION

AG8493_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AG8493+SATELLITE: SATELLITE OBSERVATIONS - August 16, 2006

AG8493

AG8493	HISTORY	- Date	Condition	Report By
AG8493	HISTORY	- 1984	MONUMENTED	FLDT
AG8493	HISTORY	- 1984	GOOD	FLDT
AG8493	HISTORY	- 20060816	GOOD	MCKIM

AG8493

AG8493 STATION DESCRIPTION

AG8493

AG8493'DESCRIBED BY FLORIDA DEPARTMENT OF TRANSPORTATION 1984 (CBM)

AG8493'STATION IS LOCATED ABOUT 4-1/2 MILES EAST NORTHEAST OF BRADENTON AND

AG8493'6-3/4 MILES SOUTHWEST OF PARRISH.

AG8493'

AG8493'TO REACH THE STATION FROM THE INTERSECTION OF INTERSTATE ROUTE 75 AND

AG8493'STATE ROAD 64, ABOUT 6 MILES EAST OF BRADENTON, GO NORTHERLY ON

AG8493'INTERSTATE ROUTE 75 FOR ABOUT 2.85 MILES TO THE SOUTH END OF THE

AG8493'INTERSTATE BRIDGES OVER THE MANATEE RIVER AND THE STATION.

AG8493'

AG8493'STATION MARK IS A FLORIDA, DEPARTMENT OF TRANSPORTION BRASS DISK,

AG8493'STAMPED---I 75 84 A 41---, SET IN THE TOP OF A ROUND CONCRETE MONUMENT

AG8493'THAT IS 4 INCHES BELOW THE GROUND. IT IS 35.9 FEET EAST OF THE SOUTH

AG8493'END OF THE EAST CONCRETE GUARDRAIL OF THE SOUTHBOUND BRIDGE, 33.0 FEET

AG8493'SOUTHWEST OF THE SOUTH END OF THE WEST CONCRETE GUARDRAIL OF THE

AG8493'NORTHBOUND BRIDGE AND 7.0 FEET SOUTH OF THE SOUTH CONCRETE GUARDWALL

AG8493'BETWEEN THE NORTH AND SOUTHBOUND BRIDGES.

AG8493'

AG8493'REFERENCE MARK NUMBER 1 IS A FLORIDA, DEPARTMENT OF TRANSPORTATION

AG8493'BRASS DISK, STAMPED---I 75 84 A 41 RM NO 1---, SET IN A DRILL HOLE IN

AG8493'THE TOP SOUTH END OF THE WEST CONCRETE GUARDRAIL OF THE NORTHBOUND

AG8493'BRIDGE AND 1.1 FEET EAST OF THE METAL GUARDRAIL.

AG8493'

AG8493'REFERENCE MARK NUMBER 2 IS A FLORIDA, DEPARTMENT OF TRANSPORTATION

AG8493'BRASS DISK, STAMPED---I 75 84 A 41 RM NO 2---, SET IN A DRILL HOLE IN

AG8493'THE TOP OF THE EAST CONCRETE GUARDRAIL OF THE SOUTHBOUND BRIDGE. IT

AG8493'IS 11.8 FEET EAST OF THE EAST EDGE OF THE SOUTHBOUND LANES AND 3.2
AG8493'FEET NORTH OF THE SOUTH END OF THE CONCRETE GUARDRAIL.
AG8493
AG8493 STATION RECOVERY (1984)
AG8493
AG8493'RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 1984
AG8493'9.0 MI NE FROM BRADENTON.
AG8493'FROM THE INTERSECTION OF INTERSTATE ROUTE 75 AND STATE ROAD 64, ABOUT
AG8493'6.0 MILES EAST OF BRADENTON, GO NORTHERLY ON INTERSTATE ROUTE 75 FOR
AG8493'3.0 MILES TO THE SOUTH END OF THE INTERSTATE BRIDGES OVER THE MANATEE
AG8493'RIVER. IT IS 35.9 FEET EAST OF THE SOUTH END OF THE EAST CONCRETE
AG8493'GUARDRAIL OF THE SOUTHBOUND BRIDGE, 33.0 FEET SOUTHWEST OF THE SOUTH
AG8493'END OF THE WEST CONCRETE GUARDRAIL OF THE NORTHBOUND BRIDGE AND 7.0
AG8493'FEET SOUTH OF THE SOUTH CONCRETE GUARDWALL BETWEEN THE NORTH AND
AG8493'SOUTHBOUND BRIDGES.
AG8493
AG8493 STATION RECOVERY (2006)
AG8493
AG8493'RECOVERY NOTE BY MCKIM AND CREED 2006 (BFD)
AG8493'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:02

The NGS Data Sheet

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

DATABASE = ,PROGRAM = datasheet, VERSION = 7.61

1 National Geodetic Survey, Retrieval Date = JULY 10, 2008

AG8911 *****

AG8911 DESIGNATION - KEY

AG8911 PID - AG8911

AG8911 STATE/COUNTY- FL/HILLSBOROUGH

AG8911 USGS QUAD - DOVER (1987)

AG8911

AG8911 *CURRENT SURVEY CONTROL

AG8911

AG8911*	NAD 83(2007)-	27 54 05.74212(N)	082 07 37.63389(W)	ADJUSTED
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AG8911*	NAVD 88	-	30.674 (meters)	100.64 (feet)	ADJUSTED
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AG8911

AG8911	EPOCH DATE	-	2002.00
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AG8911	X	-	772,657.349 (meters)	COMP
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AG8911	Y	-	-5,587,667.789 (meters)	COMP
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AG8911	Z	-	2,966,874.751 (meters)	COMP
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AG8911	LAPLACE CORR-	-1.76 (seconds)	DEFLEC99
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AG8911	ELLIP HEIGHT-	5.348 (meters)	(02/10/07)	ADJUSTED
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AG8911	GEOID HEIGHT-	-25.31 (meters)	GEOID03
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AG8911	DYNAMIC HT	-	30.629 (meters)	100.49 (feet)	COMP
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AG8911

AG8911 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----

AG8911	Type	PID	Designation	North	East	Ellip
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AG8911

AG8911	NETWORK	AG8911	KEY	0.55	0.57	1.14
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AG8911

AG8911	MODELED GRAV-	979,175.7 (mgal)	NAVD 88
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AG8911

AG8911 VERT ORDER - SECOND CLASS I

AG8911

AG8911.The horizontal coordinates were established by GPS observations

AG8911.and adjusted by the National Geodetic Survey in February 2007.

AG8911

AG8911.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).

AG8911.See [National Readjustment](#) for more information.

AG8911.The horizontal coordinates are valid at the epoch date displayed above.

AG8911.The epoch date for horizontal control is a decimal equivalence

AG8911.of Year/Month/Day.

AG8911

AG8911.The orthometric height was determined by differential leveling

AG8911.and adjusted in May 2004.

AG8911

AG8911.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AG8911

AG8911.The Laplace correction was computed from DEFLEC99 derived deflections.

AG8911

AG8911.The ellipsoidal height was determined by GPS observations

AG8911.and is referenced to NAD 83.

AG8911

AG8911.The geoid height was determined by GEOID03.

AG8911 STATION DESCRIPTION
AG8911
AG8911'DESCRIBED BY HILLSBOROUGH COUNTY FLORIDA 1983 (RSW)
AG8911'THE STATION IS LOCATED ON THE EAST SIDE OF SR 39 AND NEAR THE SOUTH
AG8911'WEST CORNER OF AN OPEN PASTURE AND THE NORTHWEST CORNER OF A CITRUS
AG8911'GROVE.
AG8911'
AG8911'TO REACH THE STATION FROM THE INTERSECTION OF SR 60 AND SR 39, PROCEED
AG8911'SOUTH ON SR 39 FOR 2.55 MILES TO STATION ON LEFT.
AG8911'
AG8911'THE STATION IS A STANDARD HCED DISK STAMPED---KEY 1983---SET INTO THE
AG8911'TOP OF A 12 INCH ROUND CONCRETE MONUMENT RECESSED 6 INCHES BELOW THE
AG8911'GROUND LOCATED , 49.8 FEET WEST OF A BARBWIRE FENCE AND METAL WITNESS
AG8911'POST, 12 FEET EAST OF THE CENTERLINE OF SR 39, 105.5 FEET NORTH
AG8911'NORTHEAST OF A CONCRETE PIPE UNDER A DRIVEWAY, 96.5 FEET NORTH
AG8911'NORTHWEST OF A FENCE CORNER OF PASTURE, 100 FEET NORTHEAST OF EAST END
AG8911'CONCRETE CROSS-DRAIN UNDER SR 39. THE UNDERGROUND MARK IS A STANDARD
AG8911'HCED DISK, IT IS NOT STAMPED, IMBEDDED IN THE GROUND 3.0 FEET BELOW
AG8911'THE SURFACE.
AG8911'
AG8911'REFERENCE MARK NUMBER 1 IS A STANDARD HCED DISK STAMPED---KEY NO 1
AG8911'1983---SET INTO THE TOP OF A 12 INCH ROUND CONCRETE MONUMENT RECESSED
AG8911'3 INCHES BELOW THE GROUND, LOCATED 174.5 FEET NORTH OF A BARBWIRE
AG8911'FENCE CORNER, 3 FEET WEST OF A BARBWIRE FENCE AND METAL WITNESS POST,
AG8911'58.3 FEET EAST OF THE CENTERLINE OF STATE ROAD 39.
AG8911'
AG8911'REFERENCE MARK NUMBER 2 IS A STANDARD HCED DISK STAMPED---KEY NO 2
AG8911'1983---SET INTO THE TOP OF A 12 INCH ROUND CONCRETE MONUMENT RECESSED
AG8911'3 INCHES BELOW THE GROUND, LOCATED 19.5 FEET NORTH NORTHWEST OF A
AG8911'BARBWIRE FENCE CORNER, 36 FEET NORTHEAST OF NORTH END CONCRETE PIPE
AG8911'UNDER TURNOUT, 4 FEET WEST OF BARBWIRE FENCE AND METAL WITNESS POST,
AG8911'57.5 FEET EAST OF THE CENTERLINE OF SR 39.
AG8911'
AG8911'AZIMUTH MARK IS A STANDARD HCED DISK STAMPED---KEY AZ MK 1983---SET
AG8911'INTO THE TOP OF A 12 INCH ROUND CONCRETE MONUMENT RECESSED 3 INCHES
AG8911'BELOW THE GROUND LOCATED, 39.0 FEET WEST OF A BARBWIRE FENCE, 23 FEET
AG8911'EAST OF THE CENTERLINE OF SR 39, 43.5 FEET NORTHWEST OF A METAL
AG8911'WITNESS POST, 19 FEET NORTHWEST OF NORTH END OF A METAL PIPE UNDER
AG8911'TURNOUT, 66 FEET NORTHWEST OF A FENCE CORNER. TO REACH THE AZIMUTH
AG8911'MARK FROM THE INTERSECTION OF STATE ROAD 60 AND STATE ROAD 39, PROCEED
AG8911'SOUTH ON STATE ROAD 39 FOR 2.30 MILES TO STATION ON LEFT.

AG8911
AG8911 STATION RECOVERY (1985)
AG8911
AG8911'RECOVERY NOTE BY HILLSBOROUGH COUNTY FLORIDA 1985 (RSW)
AG8911'STATION, REFERENCE MARKS 1 AND 2 AND AZIMUTH MARK WERE RECOVERED IN
AG8911'GOOD CONDITION.
AG8911'
AG8911'THE STATION IS LOCATED ABOUT 20 MILES EAST SOUTHEAST OF THE
AG8911'INTERSECTION OF INTERSTATES 4 AND 75 AND 3.5 MILES NORTH NORTHEAST OF
AG8911'PINECREST.
AG8911'
AG8911'TO REACH THE STATION FROM THE INTERSECTION OF STATE ROAD 60 AND HWY
AG8911'39, GO SOUTHERLY ON HWY 39 FOR ABOUT 2.3 MILES TO THE AZIMUTH MARK
AG8911'ON THE LEFT, CONTINUE SOUTH ON HWY 39 FOR ABOUT 0.25 MILE TO THE
AG8911'STATION ON THE LEFT.
AG8911'

AG8911'
AG8911'LOCATED 110.0 FT NORTH OF THE APPROXIMATE CENTERLINE OF A DIRT ROAD
AG8911'(TIPTON ROAD A
AG8911'PRIVATE DRIVE), 105.5 FT NORTHEAST OF A CONCRETE DRIVEWAY PIPE UNDER A
AG8911'DIRT ROAD (TIPTON
AG8911'ROAD PRIVATE DRIVE), 100.0 FT NORTHEAST OF THE EAST END OF A CONCRETE
AG8911'CROSS DRAIN UNDER
AG8911'COUNTY ROAD 39, 79.0 FT SOUTH-SOUTHWEST OF MARK KEY NO 1, 76.7 FT
AG8911'NORTH-NORTHWEST OF
AG8911'MARK KEY NO 2, 49.9 FT EAST OF THE CENTERLINE OF COUNTY ROAD 39, 37.3
AG8911'FT EAST OF A NAIL AND
AG8911'HILLS COUNTY DISK IN THE EAST EDGE OF THE PAVEMENT OF COUNTY ROAD 39
AG8911'AND 12.5 FT WEST OF
AG8911'A BARBED WIRE FENCE AND A METAL WITNESS POST WITH A HILLSBOROUGH
AG8911'COUNTY SIGN
AG8911'ATTACHED.

AG8911'

AG8911

AG8911 STATION RECOVERY (2001)

AG8911

AG8911'RECOVERY NOTE BY HILLSBOROUGH COUNTY FLORIDA 2001 (RJA)

AG8911'THE STATION IS LOCATED IN HILLSBOROUGH COUNTY, FLORIDA, ABOUT 20.0

AG8911'MILES EAST OF THE CITY OF TAMPA AND 8.5 MILESSOUTH SOUTH OF THE

AG8911'CITY OF PLANT CITY, IN SECTION 5 TOWNSHIP 30 SOUTH, RANGE 22 EAST.

AG8911'OWNERSHIP---HILLSBOROUGH COUNTY THE STATION IS A 12 INCH ROUND

AG8911'CONCRETE MONUMENT. RECESSED 6 INCHES BELOW THE GROUND.

AG8911'

AG8911'37.3 FT EAST OF A NAIL AND HILLS COUNTY DISK IN THE EAST EDGE OF

AG8911'PAVEMENT OF C.R. 39. 12.5 FT WEST OF A METAL WITNESS POST AND

AG8911'HILLSBOROUGH COUNTY SIGN AND A BARBED WIRE FENCE. 76.7 FT

AG8911'NORTH-NORTHWEST OF STATION KEY NO-2 79.0 FT SOUTH-SOUTHWEST OF STATION

AG8911'KEY NO-1 110.0 FT +/- NORTH OF A DIRT RD. (TIPTON RD.- PRIVATE DRIVE)

AG8911'105.5 FT NORTHEAST OF A CONCRETE DRIVEWAY PIPE UNDER A DIRT RD.

AG8911'(TIPTON RD.-PRIVATE DRIVE) 100.0 FT NORTHEAST OF THE EAST END OF A

AG8911'CONCRETE CROSS DRAIN UNDER C.R. 39.

*** 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 = 7.61
1 National Geodetic Survey, Retrieval Date = JULY 10, 2008
AG6295 *****
AG6295 DESIGNATION - PARISH
AG6295 PID - AG6295
AG6295 STATE/COUNTY- FL/MANATEE
AG6295 USGS QUAD - PARRISH (1987)
AG6295
AG6295 *CURRENT SURVEY CONTROL
AG6295
AG6295* NAD 83(2007)- 27 35 26.78543(N) 082 23 19.48536(W) NO CHECK
AG6295* NAVD 88 - 9.889 (meters) 32.44 (feet) ADJUSTED
AG6295
AG6295 EPOCH DATE - 2002.00
AG6295 X - 749,256.381 (meters) COMP
AG6295 Y - -5,607,014.111 (meters) COMP
AG6295 Z - 2,936,382.020 (meters) COMP
AG6295 LAPLACE CORR- -1.47 (seconds) DEFLEC99
AG6295 ELLIP HEIGHT- -14.855 (meters) (02/10/07) NO CHECK
AG6295 GEOID HEIGHT- -24.77 (meters) GEOID03
AG6295 DYNAMIC HT - 9.874 (meters) 32.39 (feet) COMP
AG6295
AG6295 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----
AG6295 Type PID Designation North East Ellip
AG6295 -----
AG6295 NETWORK AG6295 PARISH 0.37 0.41 1.25
AG6295 -----
AG6295 MODELED GRAV- 979,142.4 (mgal) NAVD 88
AG6295
AG6295 VERT ORDER - SECOND CLASS I
AG6295
AG6295.The horizontal coordinates were established by GPS observations
AG6295.and adjusted by the National Geodetic Survey in February 2007.
AG6295
AG6295.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AG6295.See [National Readjustment](#) for more information.
AG6295.No horizontal observational check was made to the station.
AG6295.The horizontal coordinates are valid at the epoch date displayed above.
AG6295.The epoch date for horizontal control is a decimal equivalence
AG6295.of Year/Month/Day.
AG6295
AG6295.The orthometric height was determined by differential leveling
AG6295.and adjusted in June 1991.
AG6295
AG6295.[Photographs](#) are available for this station.
AG6295
AG6295.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AG6295
AG6295.The Laplace correction was computed from DEFLEC99 derived deflections.
AG6295
AG6295.The ellipsoidal height was determined by GPS observations

AG6295.and is referenced to NAD 83.

AG6295

AG6295.The geoid height was determined by GEOID03.

AG6295

AG6295.The dynamic height is computed by dividing the NAVD 88

AG6295.geopotential number by the normal gravity value computed on the

AG6295.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

AG6295.degrees latitude (g = 980.6199 gals.).

AG6295

AG6295.The modeled gravity was interpolated from observed gravity values.

AG6295

AG6295;		North	East	Units	Scale Factor	Converg.
AG6295;SPC FL W	-	360,923.072	161,620.833	MT	0.99995935	-0 10 48.2
AG6295;SPC FL W	-	1,184,128.45	530,251.02	sFT	0.99995935	-0 10 48.2
AG6295;UTM 17	-	3,052,641.070	362,934.921	MT	0.99983190	-0 38 35.9
AG6295!						
AG6295!SPC FL W	-	Elev Factor	x	Scale Factor	=	Combined Factor
AG6295!SPC FL W	-	1.00000233	x	0.99995935	=	0.99996168
AG6295!UTM 17	-	1.00000233	x	0.99983190	=	0.99983423

AG6295

AG6295|	PID	Reference Object	Distance	Geod. Az
AG6295|				dddmms.s
AG6295|	AG6297	PARISH RM 1	49.384 METERS	04457
AG6295|	CW7780	PARISH AZ MK		0672119.1
AG6295|	CW7781	PARISH RM 2	40.380 METERS	11817
AG6295|	AG1570	MANATEE NOCATEE CRATE CO TANK	APPROX.18.9 KM	2350245.2
AG6295|	AG1572	MANATEE MUN TANK	APPROX.19.6 KM	2360541.1
AG6295|	AG1575	BRADENTON MUN PUMPING STA TANK	APPROX.20.4 KM	2381412.3
AG6295|	AG1267	PARISH 1934 TP 1 1944	249.898 METERS	23903
AG6295|	AG1574	BRADENTON FLORIDA PWR CORP STK	APPROX.20.5 KM	2391501.5
AG6295|	AG2435	ELLENTON MUNICIPAL TANK	APPROX.15.8 KM	2403314.4
AG6295|	AG8529	GILLETTE	APPROX.13.7 KM	2714936.2
AG6295|	AG1282	SUN CITY POWER CO TANK	APPROX.13.3 KM	3182712.2
AG6295|	AG6296	PARISH RM 3	20.679 METERS	32302

AG6295

AG6295

SUPERSEDED SURVEY CONTROL

AG6295

AG6295	NAD 83(1999)-	27 35 26.78573(N)	082 23 19.48556(W)	AD (	) B
AG6295	ELLIP H (05/31/01)	-14.860 (m)		GP (	) 5 1
AG6295	ELLIP H (04/20/00)	-14.828 (m)		GP (	) 3 2
AG6295	NAD 83(1990)-	27 35 26.78425(N)	082 23 19.48476(W)	AD (	) B
AG6295	ELLIP H (09/13/90)	-14.723 (m)		GP (	) 4 1
AG6295	NAD 83(1986)-	27 35 26.78868(N)	082 23 19.49797(W)	AD (	) 1
AG6295	NAD 27	- 27 35 25.65949(N)	082 23 20.16047(W)	AD (	) 1
AG6295	NAVD 88 (10/04/92)	9.89 (m)	32.4 (f)	LEVELING	3
AG6295	NGVD 29 (??/??/92)	10.176 (m)	33.39 (f)	ADJ UNCH	2 0

AG6295

AG6295.Superseded values are not recommended for survey control.

AG6295.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AG6295.[See file dsdata.txt](#) to determine how the superseded data were derived.

AG6295

AG6295_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RLL6293552641(NAD 83)

AG6295_MARKER: DD = SURVEY DISK

AG6295_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

AG6295_SP_SET: CONCRETE POST

AG6295_STAMPING: PARISH 1934
 AG6295_MARK LOGO: CGS
 AG6295_PROJECTION: FLUSH
 AG6295_MAGNETIC: N = NO MAGNETIC MATERIAL
 AG6295_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
 AG6295_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 AG6295+SATELLITE: SATELLITE OBSERVATIONS - August 31, 2004

AG6295				
AG6295	HISTORY	- Date	Condition	Report By
AG6295	HISTORY	- 1934	MONUMENTED	CGS
AG6295	HISTORY	- 1943	GOOD	CGS
AG6295	HISTORY	- 1954	GOOD	CGS
AG6295	HISTORY	- 1958	GOOD	CGS
AG6295	HISTORY	- 1960	GOOD	CGS
AG6295	HISTORY	- 1972	GOOD	NGS
AG6295	HISTORY	- 1972	GOOD	NGS
AG6295	HISTORY	- 1981	GOOD	FL-057
AG6295	HISTORY	- 19870424	GOOD	
AG6295	HISTORY	- 19890302	GOOD	NGS
AG6295	HISTORY	- 19910806	GOOD	GEOBAS
AG6295	HISTORY	- 19951228	GOOD	NGS
AG6295	HISTORY	- 19990405	GOOD	USGS
AG6295	HISTORY	- 20000228	GOOD	FLDT
AG6295	HISTORY	- 20010426	GOOD	FL-057
AG6295	HISTORY	- 20011113	GOOD	JCLS
AG6295	HISTORY	- 20020531	GOOD	FLDEP
AG6295	HISTORY	- 20040831	GOOD	JCLS

AG6295

AG6295 STATION DESCRIPTION

AG6295

AG6295'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (GLA)

AG6295'THIS STATION IS ABOUT 14.5 MILES NE FROM PALMETTO, 2.3 MILES

AG6295'EASTWARD FROM PARISH RAILROAD STATION, 60 FEET N OF THE CENTER

AG6295'LINE OF STATE HIGHWAY 32, 36 FEET NE OF A 20-INCH OAK TREE

AG6295'(TRIANGULAR BLAZE), 33 PACES W OF THE CENTER LINE OF SAND ROAD

AG6295'AND PROJECTS 3 INCHES.

AG6295'

AG6295'SURFACE, UNDERGROUD, REFERENCE, AND AZIMUTH MARKS ARE STANDARD

AG6295'BRONZE DISKS SET IN CONCRETE.

AG6295'

AG6295'REFERENCE MARK NO. 1 IS NE OF THE STATION, 3.5 FEET W OF THE

AG6295'FENCE LINE, 7 FEET E OF THE CENTER LINE OF THE SAND ROAD, 120

AG6295'FEET N OF THE CENTER LINE OF STATE HIGHWAY 32, AND PROJECTS 12

AG6295'INCHES.

AG6295'

AG6295'REFERENCE MARK NO. 2 IS SE OF THE STATION, 1 FOOT W OF THE

AG6295'FENCE LINE, 53 FEET S OF THE CENTER LINE OF STATE HIGHWAY 32 AND

AG6295'PROJECTS 10 INCHES.

AG6295'

AG6295'AZIMUTH MARK IS ENE OF THE STATION, 41 FEET S OF THE CENTER

AG6295'LINE OF THE HIGHWAY, 2.5 FEET N OF FENCE LINE AND PROJECTS 12

AG6295'INCHES.

AG6295'

AG6295'TO REACH GO E ON STATE HIGHWAY 32 FOR 2.3 MILES FROM THE PARISH

AG6295'RAILROAD STATION TO THE STATION ON THE N SIDE OF THE ROAD.

AG6295'

AG6295'177.6 FEET BETWEEN THE REFERENCE MARKS.

AG6295
AG6295 STATION RECOVERY (1943)
AG6295
AG6295'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1943 (RLS)
AG6295'RECOVERED AS DESCRIBED, EXCEPT FOR THE FOLLOWING DISCREPANCIES--
AG6295'
AG6295'1. THE STATION IS FLUSH WITH THE GROUND. IT DOES NOT PROJECT
AG6295'3 INCHES.
AG6295'
AG6295'2. REFERENCE MARK 1 IS 9 FEET E OF THE CENTER LINE OF DIRT
AG6295'ROAD, NOT 7 FEET.
AG6295'
AG6295'3. REFERENCE MARK 1 IS 109 FEET N OF CENTER LINE OF STATE
AG6295'HIGHWAY 32, NOT 120 FEET N OF IT.
AG6295

AG6295 STATION RECOVERY (1954)
AG6295
AG6295'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1954 (IRR)
AG6295'STATION AND REFERENCE MARKS 1 AND 2 RECOVERED IN GOOD
AG6295'CONDITION. THE AZIMUTH MARK WAS FOUND LYING ON THE SHOULDER OF
AG6295'THE ROAD, DESTROYED.
AG6295'
AG6295'THE DESCRIPTION IS ADEQUATE WITH THE FOLLOWING CORRECTIONS--
AG6295'
AG6295'STATE HIGHWAY 32 HAS BEEN RENUMBERED 62.
AG6295'
AG6295'THE MARK IS FLUSH WITH THE GROUND AND COVERED WITH SAND AND
AG6295'TRASH. A 4- BY 4-IN. CONCRETE WITNESS POST WAS SET 11.3 FT.
AG6295'TO THE SE AND PROJECTS 18 IN.
AG6295

AG6295 STATION RECOVERY (1958)
AG6295
AG6295'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1958 (ALW)
AG6295'THIS STATION WAS RECOVERED IN JUNE 1958. THE STATION AND
AG6295'REFERENCE MARK 1 WERE FOUND TO BE IN GOOD CONDITION. REFERENCE
AG6295'MARK 2 WAS SEARCHED FOR BUT NOT RECOVERED. IT MAY HAVE BEEN
AG6295'DESTROYED BY HIGHWAY CONSTRUCTION. THE AZIMUTH MARK WAS FOUND
AG6295'DESTROYED. THE POST WAS FOUND BROKEN OFF. THE DISK WAS
AG6295'RECOVERED. REFERENCE MARK 3 WAS SET.
AG6295'
AG6295'THE STATION IS LOCATED 2.3 MI. E OF PARISH, 0.25 MI. W OF A
AG6295'CURVE IN THE HIGHWAY, 160 YD. W OF A SMALL FARM POND, 290 YD. W
AG6295'OF A JUNCTION WITH AN OILED ROAD LEADING N, 58 FT. N OF THE
AG6295'CENTERLINE OF STATE HIGHWAY 62, 10.3 FT. N OF A FENCE, 129 FT. W
AG6295'OF A T-FENCE CORNER, 118 FT. W OF THE W END OF A WIRE GATE, 129
AG6295'FT. W OF A FENCE LEADING N, 34 FT. NE OF AN 18-IN. DEAD OAK TREE
AG6295'AND 1.8 FT. E OF A CONCRETE WITNESS POST. A TRIANGULATION
AG6295'STATION DISK SET IN THE TOP OF A ROUND CONCRETE POST WHICH IS
AG6295'FLUSH WITH THE GROUND, STAMPED PARISH 1934.
AG6295'
AG6295'REFERENCE MARK 1 IS 161.97 FT. OR 49.369 M. NE OF THE STATION,
AG6295'3 FT. E OF A N AND S FENCE, 64 FT. N OF A T-FENCE CORNER, 111 FT.
AG6295'N OF THE CENTERLINE OF THE HIGHWAY AND 69 FT. N OF THE W END OF
AG6295'A WIRE GATE. A REFERENCE MARK DISK SET IN THE TOP OF A ROUND
AG6295'CONCRETE POST WHICH PROJECTS 1.0 FT. ABOVE THE GROUND, STAMPED
AG6295'PARISH NO 1 1934.
AG6295'

AG6295'REFERENCE MARK 3 IS 67.820 FT. OR 20.670 M. N OF THE STATION,
AG6295'79 FT. N-NE OF AN 18-IN. DEAD OAK TREE, 124 FT. N OF THE CENTERLINE
AG6295'OF THE HIGHWAY, 77 FT. N OF A FENCE, 157 FT. W OF A FENCE
AG6295'AND 159 FT. W-NW OF A FENCE. A REFERENCE MARK DISK SET IN THE
AG6295'TOP OF A SQUARE CONCRETE POST WHICH PROJECTS 0.1 FT. ABOVE THE
AG6295'GROUND, STAMPED PARISH NO 3 1934.

AG6295'

AG6295'TO REACH THE STATION FROM THE JUNCTION OF STATE HIGHWAY 62 AND
AG6295'U.S. HIGHWAY 301 AT PARISH, GO 2.3 MI. E ALONG STATE HIGHWAY 62
AG6295'TO A T-FENCE CORNER AND THE STATION ON THE LEFT.

AG6295

AG6295

STATION RECOVERY (1960)

AG6295

AG6295'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1960 (WRK)

AG6295'THE STATION, R.M. 1 AND R.M. 3 WERE RECOVERED AS DESCRIBED IN JUNE

AG6295'1958 AND WERE FOUND IN GOOD CONDITION. STEEL WITNESS POSTS WERE

AG6295'SET BY ALL MARKS.

AG6295

AG6295

STATION RECOVERY (1972)

AG6295

AG6295'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1972 (LFS)

AG6295'STATION MARK, REFERENCE MARK 1 AND 3 WERE RECOVERED AND FOUND IN

AG6295'GOOD CONDITION. THE AZIMUTH MARK WAS SEARCHED FOR BUT NOT FOUND

AG6295'AND APPARENTLY WAS DESTROYED WHEN STATE HIGHWAY 60 WAS WIDENED. THE

AG6295'DISTANCE TO REFERENCE MARK 1 CHECKED THE ORIGINAL DESCRIPTION.

AG6295'DUE TO LACK OF DATA, A COMPLETE NEW DESCRIPTION FOLLOWS.

AG6295'

AG6295'STATION IS ABOUT 23 MILES SOUTHEAST OF SAINT PETERSBURG, 25 MILES

AG6295'SOUTH-SOUTHEAST OF TAMPA, 20 MILES NORTHEAST OF SARASOTA, 2-1/4

AG6295'MILES EAST OF PARRISH AND ON PROPERTY OWNED BY THE MAYOR OF

AG6295'PARRISH.

AG6295'

AG6295'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 301 AND

AG6295'STATE HIGHWAY 62 IN PARRISH, GO EAST ON STATE HIGHWAY 62 FOR 2.35

AG6295'MILES TO A GATE ON LEFT AND STATION.

AG6295'

AG6295'STATION MARK, A STANDARD DISK STAMPED PARISH 1934, IS SET IN

AG6295'THE TOP OF A 12-INCH CYLINDRICAL CONCRETE MONUMENT THAT IS

AG6295'SET FLUSH WITH THE GROUND SURFACE. IT IS 148 FEET WEST-NORTHWEST

AG6295'OF A 12-INCH PINE TREE, 131 FEET WEST-NORTHWEST OF THE FENCE

AG6295'CORNER ON THE EAST SIDE OF THE GATE, 58 FEET NORTH OF THE CENTER

AG6295'OF STATE HIGHWAY 62, 11 FEET NORTH OF A 4-INCH SQUARE CONCRETE

AG6295'RIGHT-OF-WAY POST, 10 FEET NORTH OF A BARBED WIRE FENCE, 1.8

AG6295'FEET EAST OF A 4-INCH SQUARE CONCRETE RIGHT-OF-WAY MARKER

AG6295'POST, 1.5 FEET WEST OF A METAL WITNESS POST AND 1 FOOT NORTH

AG6295'OF A METAL WITNESS POST.

AG6295'

AG6295'REFERENCE MARK 1, A STANDARD DISK STAMPED PARISH NO 1 1934, IS

AG6295'SET IN THE TOP OF A 12-INCH CYLINDRICAL CONCRETE MONUMENT THAT

AG6295'PROJECTS 9-INCHES ABOVE THE GROUND SURFACE. IT IS 108 FEET NORTH

AG6295'OF THE CENTER OF STATE HIGHWAY 62, 64 FEET NORTHEAST OF THE FENCE

AG6295'CORNER, 63 FEET NORTH-NORTHWEST OF THE 12-INCH PINE TREE, 2 FEET

AG6295'SOUTHEAST OF A FENCE, 1.3 FEET NORTHEAST OF A METAL WITNESS POST

AG6295'AND ABOUT THE SAME ELEVATION AS THE STATION MARK.

AG6295'

AG6295'REFERENCE MARK 3, A STANDARD DISK, STAMPED PARISH NO 3 1934, IS

AG6295'SET IN THE TOP OF AN 8-INCH SQUARE PRECAST CONCRETE MONUMENT THAT

AG6295'IS SET FLUSH WITH THE GROUND SURFACE. IT IS 161 FEET NORTHWEST
AG6295'OF THE FENCE CORNER, 125 FEET NORTH OF THE CENTER OF STATE
AG6295'HIGHWAY 62, 77 FEET NORTH OF THE RIGHT-OF-WAY FENCE, 1 FOOT EAST
AG6295'OF A METAL WITNESS POST AND ABOUT THE SAME ELEVATION AS THE
AG6295'STATION MARK.
AG6295'
AG6295'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN
AG6295'2.35 MILES EAST OF PARRISH.
AG6295
AG6295 STATION RECOVERY (1972)
AG6295
AG6295'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1972
AG6295'2.4 MI E FROM PARRISH.
AG6295'2.35 MILES EAST ALONG STATE HIGHWAY 62 FROM ITS JUNCTION WITH
AG6295'U.S. HIGHWAY 301 IN PARRISH, 148 FEET WEST-NORTHWEST OF A
AG6295'12-INCH PINE TREE, 131 FEET WEST-NORTHWEST OF A FENCE CORNER,
AG6295'58 FEET NORTH OF THE CENTER OF STATE HIGHWAY 62, 11 FEET NORTH
AG6295'OF A 4-INCH SQUARE CONCRETE RIGHT-OF-WAY POST, 10 FEET NORTH OF A
AG6295'BARBED-WIRE FENCE, 1.8 FEET EAST OF A 4-INCH SQUARE CONCRETE
AG6295'RIGHT-OF-WAY POST, 1.5 FEET WEST OF A METAL WITNESS POST AND
AG6295'1 FOOT NORTH OF A METAL WITNESS POST. A STANDARD DISK SET
AG6295'IN THE TOP OF A 12-INCH CYLINDRICAL CONCRETE MONUMENT THAT IS
AG6295'SET FLUSH WITH THE GROUND SURFACE.
AG6295
AG6295 STATION RECOVERY (1981)
AG6295
AG6295'RECOVERY NOTE BY HILLSBOROUGH COUNTY FLORIDA 1981 (SW)
AG6295'PARISH 1934 RECOVERED GOOD.
AG6295'
AG6295'STA. PARISH VERTICALLY OBSTRUCTED BY POWER LINE.
AG6295'
AG6295'RM NO. 3 CLEAR.
AG6295'
AG6295'RM NO. 1 NEEDS WITNESS REPLACED.
AG6295'
AG6295'DISTANCE AND DIRECTION FROM NEAREST TOWN--2.3 MILES EAST OF PARISH.
AG6295
AG6295 STATION RECOVERY (1987)
AG6295
AG6295'RECOVERED 1987
AG6295'RECOVERED IN GOOD CONDITION.
AG6295
AG6295 STATION RECOVERY (1989)
AG6295
AG6295'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1989
AG6295'THE STATION IS LOCATED ABOUT 37.0 KM (23.00 MI) SOUTHEAST OF ST.
AG6295'PETERSBURG, 3.7 KM (2.30 MI) EAST OF PARRISH, IN SECTION 22, T 33 S, R
AG6295'19 E. OWNERSHIP--UNKNOWN.
AG6295'TO REACH THE STATION FROM THE JUNCTION OF U.S. HIGHWAY 301 AND STATE
AG6295'HIGHWAY 62 IN PARRISH, GO EAST FOR 3.94 KM (2.45 MI) ON HIGHWAY 62 TO
AG6295'THE STATION ON LEFT.
AG6295'LOCATED 0.24 KM (0.15 MI) WEST FROM THE JUNCTION OF STATE HIGHWAY 62
AG6295'AND KEEN ROAD, 17.68 M (58.0 FT) NORTH FROM THE APPROXIMATE CENTER OF
AG6295'HIGHWAY 62, 2.96 M (9.7 FT) NORTH FROM A BARBED WIRE FENCE, 2.90 M
AG6295'(9.5 FT) WEST FROM A UTILITY POLE, 0.55 M (1.8 FT) EAST FROM A
AG6295'RIGHT-OF-WAY MARKER AND 0.30 M (1.0 FT) NORTH FROM A METAL WITNESS
AG6295'POST.

AG6295'DESCRIBED BY R.L. TAYLOR.
AG6295
AG6295 STATION RECOVERY (1991)
AG6295
AG6295'RECOVERY NOTE BY GEOBASE CONTROL INCORPORATED 1991
AG6295'RECOVERED IN GOOD CONDITION.
AG6295
AG6295 STATION RECOVERY (1995)
AG6295
AG6295'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1995 (CFS)
AG6295'THE STATION IS LOCATED ABOUT 23.00 MI (37.01 KM) SOUTHEAST OF ST.
AG6295'PETERSBURG, 2.35 MI (3.78 KM) EAST OF PARRISH, IN SECTION 22, T 33 S,
AG6295'R 19 E. OWNERSHIP -- UNKNOWN. TO REACH THE STATION FROM THE JUNCTION
AG6295'OF U.S. HIGHWAY 301 AND STATE HIGHWAY 62 IN PARRISH, GO EAST ON STATE
AG6295'HIGHWAY 62 FOR 2.35 MI (3.78 KM) TO THE STATION ON THE LEFT. LOCATED
AG6295'0.15 MI (0.24 KM) WEST OF STATE HIGHWAY 62 AND KEEN ROAD JUNCTION,
AG6295'58.0 FT (17.7 M) NORTH FROM THE APPROXIMATE CENTER OF STATE HIGHWAY
AG6295'62, 9.7 FT (3.0 M) NORTH OF A BARBED WIRE FENCE, 9.5 FT (2.9 M) WEST
AG6295'OF A UTILITY POLE, 1.8 FT (0.5 M) EAST OF A 4-INCH CONCRETE
AG6295'RIGHT-OF-WAY MARKER, AND 1.0 FT (0.3 M) NORTH OF A METAL WITNESS POST.
AG6295'RECOVERED IN GOOD CONDITION.
AG6295
AG6295 STATION RECOVERY (1999)
AG6295
AG6295'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1999
AG6295'RECOVERED AS DESCRIBED.
AG6295
AG6295 STATION RECOVERY (2000)
AG6295
AG6295'RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 2000 (CDM)
AG6295'RECOVERED AS DESCRIBED.
AG6295
AG6295 STATION RECOVERY (2001)
AG6295
AG6295'RECOVERY NOTE BY HILLSBOROUGH COUNTY FLORIDA 2001 (RJA)
AG6295'THE STATION IS LOCATED IN MANATEE COUNTY, FLORIDA, ABOUT 23.0 MILES
AG6295'SOUTHEAST OF ST.PETERSBURG AND 2.3 MILES EAST OF PARISH, IN SECTION
AG6295'22, TOWNSHIP 33 SOUTH, RANGE 19 EAST. OWNERSHIP---UNKNOWN THE STATION
AG6295'IS A 12 INCH ROUND CONCRETE MONUMENT. FLUSH WITH THE GROUND. TO
AG6295'REACH THE STATION FROM THE INTERSECTION OF U.S. HWY. 301 AND S.R. 62
AG6295'IN PARRISH, PROCEED EAST ON S.R.62 FOR 2.3 MILES TO THE STATION ON
AG6295'THE LEFT (NORTH) SIDE OF THE ROAD. 15.00 MILES WEST OF C.R.39.
AG6295'
AG6295'1.0 FT NORTH OF A METAL WITNESS POST AND NGS SIGN. 46.5 FT NORTH OF A
AG6295'NAIL AND HILLS COUNTY DISK IN THE NORTH EDGE OF PAVEMENT OF S.R.62.
AG6295'9.7 FT NORTH OF A BARBED WIRE FENCE. 9.7 FT WEST OF A WOOD UTILITY
AG6295'POLE (NO NUMBERS). 1.8 FT EAST OF A CONCRETE RIGHT-OF-WAY MONUMENT.
AG6295'11.0 FT NORTH-NORTHWEST OF A CONCRETE RIGHT-OF-WAY MONUMENT.
AG6295
AG6295 STATION RECOVERY (2001)
AG6295
AG6295'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2001
AG6295'RECOVERED IN GOOD CONDITION.
AG6295
AG6295 STATION RECOVERY (2002)
AG6295
AG6295'RECOVERY NOTE BY FL DEPT OF ENV PRO 2002 (BPJ)

AG6295'RECOVERED AS DESCRIBED.
AG6295'
AG6295
AG6295 STATION RECOVERY (2004)
AG6295
AG6295'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2004
AG6295'RECOVERED IN GOOD CONDITION.

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

The NGS Data Sheet

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

DATABASE = ,PROGRAM = datasheet, VERSION = 7.61
1 National Geodetic Survey, Retrieval Date = JULY 10, 2008
AL7873 *****
AL7873 CBN - This is a Cooperative Base Network Control Station.
AL7873 PACS - This is a Primary Airport Control Station.
AL7873 DESIGNATION - PLANTPORT
AL7873 PID - AL7873
AL7873 STATE/COUNTY- FL/HILLSBOROUGH
AL7873 USGS QUAD - PLANT CITY WEST (1993)
AL7873
AL7873 *CURRENT SURVEY CONTROL
AL7873
AL7873* NAD 83(2007)- 28 00 01.27261(N) 082 09 46.49375(W) ADJUSTED
AL7873* NAVD 88 - 45.311 (meters) 148.66 (feet) ADJUSTED
AL7873
AL7873 EPOCH DATE - 2002.00
AL7873 X - 768,468.676 (meters) COMP
AL7873 Y - -5,583,080.202 (meters) COMP
AL7873 Z - 2,976,549.167 (meters) COMP
AL7873 LAPLACE CORR- -2.35 (seconds) DEFLEC99
AL7873 ELLIP HEIGHT- 19.811 (meters) (02/10/07) ADJUSTED
AL7873 GEOID HEIGHT- -25.50 (meters) GEOID03
AL7873 DYNAMIC HT - 45.244 (meters) 148.44 (feet) COMP
AL7873
AL7873 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----
AL7873 Type PID Designation North East Ellip
AL7873
AL7873 NETWORK AL7873 PLANTPORT 0.31 0.31 0.78
AL7873
AL7873 MODELED GRAV- 979,180.1 (mgal) NAVD 88
AL7873
AL7873 VERT ORDER - SECOND CLASS I
AL7873
AL7873.This mark is at Plant City Airport (PCM)
AL7873
AL7873.The horizontal coordinates were established by GPS observations
AL7873.and adjusted by the National Geodetic Survey in February 2007.
AL7873
AL7873.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AL7873.See [National Readjustment](#) for more information.
AL7873.The horizontal coordinates are valid at the epoch date displayed above.
AL7873.The epoch date for horizontal control is a decimal equivalence
AL7873.of Year/Month/Day.
AL7873
AL7873.The orthometric height was determined by differential leveling
AL7873.and adjusted in May 2001.
AL7873.WARNING-GPS observations at this control monument resulted in a GPS
AL7873.derived orthometric height which differed from the leveled height by
AL7873.more than one decimeter (0.1 meter).
AL7873
AL7873.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AL7873_SLEEVE-DEPTH : 0.19 meters

AL7873

AL7873	HISTORY	- Date	Condition	Report By
AL7873	HISTORY	- 1989	MONUMENTED	NGS
AL7873	HISTORY	- 19901019	GOOD	FLDNR
AL7873	HISTORY	- 19910325	GOOD	KEISCH
AL7873	HISTORY	- 19920330	GOOD	GENGRP
AL7873	HISTORY	- 19930202	GOOD	NOS
AL7873	HISTORY	- 19990120	GOOD	KEISCH
AL7873	HISTORY	- 19990405	GOOD	FL-057
AL7873	HISTORY	- 20010420	GOOD	FL-057
AL7873	HISTORY	- 20040112	GOOD	FL-105
AL7873	HISTORY	- 20080227	GOOD	FL-057

AL7873

AL7873 STATION DESCRIPTION

AL7873

AL7873'DESCRIBED BY NATIONAL GEODETIC SURVEY 1989

AL7873'THE STATION IS LOCATED ABOUT 1.6 KM (1.00 MI) SOUTHWEST OF PLANT CITY,
AL7873'3.2 KM (2.00 MI) SOUTH OF INTERSTATE HIGHWAY 4, AT THE PLANT CITY
AL7873'AIRPORT, BETWEEN RUNWAY AND TAXIWAY. OWNERSHIP--HILLSBOROUGH COUNTY
AL7873'AVIATION AUTHORITY, P.O. BOX 22287, TAMPA FL 33622, JOHN DRURY -
AL7873'GENERAL AVIATION MANAGER, PHONE 813-276-3539, FIXED BASE OPERATION - S
AL7873'AND S AIRCRAFT SERVICE, INC., P.O. BOX 1196, PLANT CITY FL 34289-1196,
AL7873'CHARLES A. AYBAR - DIRECTOR OF OPERATIONS, PHONE 752-8073.
AL7873'NOTE--PERMISSION MUST BE OBTAINED BEFORE ENTERING AIRPORT.

AL7873'TO REACH THE STATION FROM THE JUNCTION OF STATE HIGHWAY 574 AND TURKEY
AL7873'CREEK ROAD IN THE SOUTHWEST PART OF PLANT CITY, GO SOUTH FOR 0.16 KM
AL7873'(0.10 MI) ON TURKEY CREEK ROAD TO AIRPORT ROAD. TURN LEFT AND GO EAST
AL7873'FOR 1.0 KM (0.60 MI) ON AIRPORT ROAD TO THE MAIN ENTRANCE TO AIRPORT
AL7873'ON RIGHT. TURN RIGHT AND GO SOUTH FOR 0.16 KM (0.10 MI) TO A GATE.
AL7873'PASS THROUGH GATE AND GO SOUTH FOR 0.08 KM (0.05 MI) TO THE TERMINAL
AL7873'ON RIGHT. CONTINUE AHEAD AND GO SOUTH FOR 0.08 KM (0.05 MI) TO A
AL7873'TAXIWAY AND THE STATION STRAIGHT AHEAD, BETWEEN RUNWAY AND TAXIWAY.
AL7873'THE STATION IS RECESSED 10 CM BELOW GROUND. LOCATED 24.0 M (78.7 FT)
AL7873'NORTH FROM THE APPROXIMATE CENTER OF RUNWAY, 21.7 M (71.2 FT) SOUTH
AL7873'FROM THE APPROXIMATE CENTER OF TAXIWAY AND 17.0 M (55.8 FT) WEST FROM
AL7873'THE APPROXIMATE CENTER OF A RAMP. NOTE--ACCESS TO DATUM POINT IS HAD
AL7873'THROUGH A 5-INCH LOGO CAP.

AL7873'DESCRIBED BY S.E. RANDALL.

AL7873

AL7873 STATION RECOVERY (1990)

AL7873

AL7873'RECOVERY NOTE BY FL DEPT OF NAT RES 1990

AL7873'THE STATION IS ABOUT 2.6 MI (4.2 KM) SOUTHWEST OF PLANT CITY AT THE
AL7873'PLANT CITY AIRPORT IN SECTION 36, T 28 S, R 21 E. OWNER--HILLSBOROUGH
AL7873'COUNTY AVIATION AUTHORITY. DAVID MITCHELL--GENERAL MANAGER 4007
AL7873'AIRPORT ROAD PLANT CITY, FL 33567, PHONE--813-752-4710.
AL7873'TO REACH THE STATION FROM THE INTERSECTION OF U.S. HIGHWAY 92 (W.
AL7873'BAKER STREET) AND STATE ROAD 39 (N. WHEELER STREET), GO WEST ON U.S.
AL7873'HIGHWAY 92 (W.BAKER STREET) FOR 0.8 MI (1.3 KM) TO THE INTERSECTION
AL7873'OF ALEXANDER STREET, TURN LEFT ON ALEXANDER STREET AND GO SOUTH FOR
AL7873'0.2 MI (0.3 KM) TO THE INTERSECTION OF STATE ROAD 574 (REYNOLDS
AL7873'STREET), TURN RIGHT ON STATE ROAD 574 (REYNOLDS STREET) AND GO WEST
AL7873'FOR 0.5 MI (0.8 KM) TO THE INTERSECTION OF WOODROW WILSON STREET,
AL7873'TURN LEFT ON WOODROW WILSON STREET AND GO SOUTH FOR 0.7 MI (1.1 KM)
AL7873'TO THE INTERSECTION OF AIRPORT ROAD, TURN RIGHT ON AIRPORT ROAD AND GO
AL7873'WEST FOR 1.05 MI (1.69 KM) TO THE AIRPORT ENTRANCE ROAD ON THE LEFT,

AL7873'TURN LEFT ON THE AIRPORT ENTRANCE ROAD AND GO SOUTH FOR 0.1 MI
AL7873'(0.2 KM) TO A LOCKED GATE, PASS THROUGH THE GATE AND GO SOUTH FOR
AL7873'0.05 MI (0.08 KM) TO THE TERMINAL ON THE RIGHT, CONTINUE AHEAD AND GO
AL7873'SOUTH FOR 0.05 MI (0.08 KM) TO THE TAXIWAY AND THE STATION STRAIGHT
AL7873'AHEAD, BETWEEN THE RUNWAY AND THE TAXIWAY. THE STATION IS RECESSED
AL7873'10 CM BELOW THE LEVEL OF THE GROUND.
AL7873'LOCATED 81.2 FT (24.7 M) NORTH FROM THE APPROXIMATE CENTERLINE OF THE
AL7873'RUNWAY, 70.1 FT (21.4 M) SOUTH OF THE APPROXIMATE CENTERLINE OF THE
AL7873'TAXIWAY AND 55.7 FT (17.0 M) WEST OF THE APPROXIMATE CENTERLINE OF A
AL7873'RAMP.
AL7873'NOTE PERMISSION MUST BE OBTAINED BEFORE ENTERING THE AIRPORT. ACCESS
AL7873'TO DATUM POINT IS HAD TYHROUGH A 5-INCH LOGO CAP.
AL7873
AL7873 STATION RECOVERY (1991)
AL7873
AL7873'RECOVERY NOTE BY KEITH AND SCHNARS - LAKELAND 1991
AL7873'RECOVERED IN GOOD CONDITION.
AL7873
AL7873 STATION RECOVERY (1992)
AL7873
AL7873'RECOVERY NOTE BY GENSIS GROUP INCORPORATED SE 1992
AL7873'RECOVERED IN GOOD CONDITION.
AL7873
AL7873 STATION RECOVERY (1993)
AL7873
AL7873'RECOVERY NOTE BY NATIONAL OCEAN SERVICE 1993 (ALG)
AL7873'RECOVERED AS DESCRIBED.
AL7873
AL7873 STATION RECOVERY (1999)
AL7873
AL7873'RECOVERY NOTE BY KEITH AND SCHNARS - LAKELAND 1999 (RTS)
AL7873'RECOVERED AS DESCRIBED.
AL7873
AL7873 STATION RECOVERY (1999)
AL7873
AL7873'RECOVERY NOTE BY HILLSBOROUGH COUNTY FLORIDA 1999
AL7873'RECOVERED AS DESCRIBED.
AL7873
AL7873 STATION RECOVERY (2001)
AL7873
AL7873'RECOVERY NOTE BY HILLSBOROUGH COUNTY FLORIDA 2001 (JDC)
AL7873'THE STATION IS LOCATED IN HILLSBOROUGH COUNTY, FLORIDA, ABOUT 18.0
AL7873'MILES EAST OF TAMPA AND 2.5 MILES WEST OF THE CITY OF PLANT CITY IN
AL7873'SECTION 36 TOWNSHIP 28 SOUTH, RANGE 21 EAST. OWNERSHIP---HILLSBOROUGH
AL7873'COUNTY AVIATION AUTHORITY. THE STATION IS A NGS DISK ON SS ROD DRIVEN
AL7873'TO REFUSAL. TO REACH THE STATION FROM THE INTERSECTION OF STATE HWY
AL7873'574 AND TURKEY CREEK ROAD PROCEED SOUTH ON TURKEY CREEK ROAD FOR 0.1
AL7873'MILES TO AIRPORT ROAD. TURN LEFT AND GO EASTERLY ON AIRPORT ROAD FOR
AL7873'0.5 MILES TO THE ENTRANCE ROAD TO PLANT CITY AIRPORT. TURN RIGHT AND
AL7873'GO SOUTH THROUGH GATE, 0.1 MILES TO THE STATION BETWEEN TAXIWAY AND
AL7873'RUNWAY.
AL7873'
AL7873'81.5 FT NORTH OF THE CENTERLINE OF RUNWAY. 69.2 FT SOUTH OF THE
AL7873'CENTERLINE OF TAXIWAY. 55.9 FT WEST OF THE CENTERLINE OF RAMP. 31.6.
AL7873'FT SOUTHEAST OF THE SOUTHEAST CORNER OF CONCRETE DROP INLET.
AL7873
AL7873 STATION RECOVERY (2004)

AL7873

AL7873'RECOVERY NOTE BY POLK COUNTY FLORIDA 2004 (RWY)

AL7873'RECOVERED AS DESCRIBED,BY POLK COUNTY PROPERTY APPRAISER GIS
AL7873'DEPARTMENT. CONTACT MARILYN WITH TAMPA INTERNATIONAL AIRPORT FOR
AL7873'PERMISSION TO ACCESS CONTROL POINT.(813)927-7571

AL7873

AL7873 STATION RECOVERY (2008)

AL7873

AL7873'RECOVERY NOTE BY HILLSBOROUGH COUNTY FLORIDA 2008 (JG)

AL7873'RECOVERED IN GOOD CONDITION.

*** retrieval complete.

Elapsed Time = 00:00:02

The NGS Data Sheet

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

DATABASE = ,PROGRAM = datasheet, VERSION = 7.61
1 National Geodetic Survey, Retrieval Date = JULY 10, 2008
AG0907 *****
AG0907 DESIGNATION - SEVEN
AG0907 PID - AG0907
AG0907 STATE/COUNTY- FL/PINELLAS
AG0907 USGS QUAD - ST PETERSBURG (1987)
AG0907
AG0907 *CURRENT SURVEY CONTROL
AG0907
AG0907* NAD 83(2007)- 27 48 23.82771(N) 082 44 26.80958(W) ADJUSTED
AG0907* NAVD 88 - 7.157 (meters) 23.48 (feet) ADJUSTED
AG0907
AG0907 EPOCH DATE - 2002.00
AG0907 X - 713,386.942 (meters) COMP
AG0907 Y - -5,600,480.873 (meters) COMP
AG0907 Z - 2,957,558.638 (meters) COMP
AG0907 LAPLACE CORR- -1.58 (seconds) DEFLEC99
AG0907 ELLIP HEIGHT- -17.245 (meters) (02/10/07) ADJUSTED
AG0907 GEOID HEIGHT- -24.41 (meters) GEOID03
AG0907 DYNAMIC HT - 7.146 (meters) 23.44 (feet) COMP
AG0907
AG0907 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----
AG0907 Type PID Designation North East Ellip
AG0907 -----
AG0907 NETWORK AG0907 SEVEN 1.14 0.94 2.06
AG0907 -----
AG0907 MODELED GRAV- 979,178.9 (mgal) NAVD 88
AG0907
AG0907 VERT ORDER - SECOND CLASS II
AG0907
AG0907.The horizontal coordinates were established by GPS observations
AG0907.and adjusted by the National Geodetic Survey in February 2007.
AG0907
AG0907.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AG0907.See [National Readjustment](#) for more information.
AG0907.The horizontal coordinates are valid at the epoch date displayed above.
AG0907.The epoch date for horizontal control is a decimal equivalence
AG0907.of Year/Month/Day.
AG0907
AG0907.The orthometric height was determined by differential leveling
AG0907.and adjusted in June 1991.
AG0907
AG0907.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AG0907
AG0907.The Laplace correction was computed from DEFLEC99 derived deflections.
AG0907
AG0907.The ellipsoidal height was determined by GPS observations
AG0907.and is referenced to NAD 83.
AG0907
AG0907.The geoid height was determined by GEOID03.

AG0907.The dynamic height is computed by dividing the NAVD 88
AG0907.geopotential number by the normal gravity value computed on the
AG0907.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AG0907.degrees latitude (g = 980.6199 gals.).
AG0907

AG0907. The modeled gravity was interpolated from observed gravity values.

AG0907

AG0907;		North	East	Units	Scale Factor	Converg.
AG0907;SPC FL W	-	385,000.272	127,008.925	MT	1.00000691	-0 20 44.1
AG0907;SPC FL W	-	1,263,121.73	416,695.11	sFT	1.00000691	-0 20 44.1
AG0907;UTM 17	-	3,076,996.266	328,522.489	MT	0.99996295	-0 48 44.1
AG0907						
AG0907!	-	Elev Factor	x	Scale Factor	=	Combined Factor
AG0907!SPC FL W	-	1.00000271	x	1.00000691	=	1.00000962
AG0907!UTM 17	-	1.00000271	x	0.99996295	=	0.99996566

AG0907

AG0907:		Primary Azimuth Mark	Grid Az
AG0907:SPC FL W	-	PINELLAS PARK LOT	007 03 19.1
AG0907:UTM 17	-	PINELLAS PARK LOT	007 31 19.1

AG0907

AG0907|	PID	Reference Object	Distance	Geod. Az
AG0907|				ddmmss.s
AG0907|	AG2217	PINELLAS PARK LOT	APPROX. 3.6 KM	0064235.0
AG0907|	CW7842	SEVEN RM 4	26.044 METERS	07305
AG0907|	AG2240	ST PETERSBURG CLEARVIEW BAP CH	APPROX. 4.8 KM	0895324.8
AG0907|	AG2231	ST PETERSBURG NORTHSIDE BAP CH	APPROX. 2.4 KM	0914838.6
AG0907|	AG0923	SEVEN RM 3		09453
AG0907|	AG2237	ST PETERSBURG LUTH CH SPIRE	APPROX. 2.7 KM	1262515.2
AG0907|	AG2242	ST PETERSBURG EMMANUEL BAP CH	APPROX. 5.1 KM	1285849.0
AG0907|	AG2245	ST PETERSBURG CENTRAL CHRIS CH	APPROX. 5.8 KM	1354921.3
AG0907|	AG2238	ST PETERSBURG UNITED PRESB CH	APPROX. 3.7 KM	1382102.4
AG0907|	AG2236	ST PETERSBURG ST JUDE CATH CH	APPROX. 4.2 KM	1393958.9
AG0907|	AG2229	PASADENA PRESB CH SPIRE	APPROX. 3.9 KM	1660743.3
AG0907|	AG2754	ST PETERSBURG BCH CABLE TV TWR	APPROX. 6.0 KM	1892506.8
AG0907|	AG2564	ST PETERSBURG BCH ST JOHNS CH	APPROX. 6.6 KM	1914843.0
AG0907|	AG2767	ST PETERSBURG BCH COUNTY TANK	APPROX. 5.8 KM	1980638.2
AG0907|	AG2221	ST PETERSBURG AZALEA BAP CH	APPROX. 1.8 KM	2031802.0
AG0907|	AG0921	SEVEN RM 1	24.095 METERS	24237
AG0907|	AG2753	BAY PINES VA HOSP TANK	APPROX. 3.2 KM	2774600.2
AG0907|	AG2762	SEMINOLE COUNTY STANDPIPE	APPROX. 6.6 KM	3042803.5
AG0907|	AG2770	PINELLAS PARK R STA WFSO S MST	APPROX. 5.2 KM	3232922.6
AG0907|	AG2769	PINELLAS PARK RAD STA WGNB MST	APPROX. 4.7 KM	3234552.3
AG0907|	AG2756	PINELLAS PARK R STA WFSO N MST	APPROX. 5.5 KM	3252026.3
AG0907|	AG0961	STARKEY	APPROX. 5.5 KM	3303946.6
AG0907|	AG2772	PINELLAS PARK RAD STA WQXM MST	APPROX. 5.1 KM	3340528.5
AG0907|	AG0922	SEVEN RM 2	22.937 METERS	34922

AG0907

AG0907

AG0907 SUPERSEDED SURVEY CONTROL

AG0907

AG0907	NAD 83 (1999) -	27 48 23.82775 (N)	082 44 26.80972 (W)	AD (	) 1
AG0907	ELLIP H (05/29/03)	-17.254 (m)		GP (	) 4 2
AG0907	NAD 83 (1990) -	27 48 23.82629 (N)	082 44 26.80980 (W)	AD (	) 1
AG0907	NAD 83 (1986) -	27 48 23.83223 (N)	082 44 26.82243 (W)	AD (	) 1
AG0907	NAD 27 -	27 48 22.73963 (N)	082 44 27.45888 (W)	AD (	) 1

AG0907 NAVD 88 (05/29/03) 7.16 (m) 23.5 (f) LEVELING 3
 AG0907 NGVD 29 (??/??/92) 7.424 (m) 24.36 (f) ADJ UNCH 2 2
 AG0907

AG0907.Superseded values are not recommended for survey control.
 AG0907.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 AG0907.[See file dsdata.txt](#) to determine how the superseded data were derived.
 AG0907

AG0907_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RLL2852276996(NAD 83)

AG0907_MARKER: DS = TRIANGULATION STATION DISK

AG0907_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

AG0907_SP_SET: SET IN TOP OF CONCRETE MONUMENT

AG0907_STAMPING: SEVEN 1973

AG0907_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

AG0907+SATELLITE: SATELLITE OBSERVATIONS - May 07, 2004

AG0907

AG0907	HISTORY	- Date	Condition	Report By
AG0907	HISTORY	- 1973	MONUMENTED	NGS
AG0907	HISTORY	- 1976	GOOD	NGS
AG0907	HISTORY	- 1977	GOOD	FL-103
AG0907	HISTORY	- 1979	GOOD	NGS
AG0907	HISTORY	- 19980422	GOOD	USPSQD
AG0907	HISTORY	- 20040507	GOOD	DEWDAV

AG0907

AG0907 STATION DESCRIPTION

AG0907

AG0907'DESCRIBED BY NATIONAL GEODETIC SURVEY 1973 (JDS)

AG0907'THE STATION IS LOCATED ABOUT 5-1/2 MILES NORTHWEST OF

AG0907'ST. PETERSBURG, 4 MILES SOUTHWEST OF PINELLAS PARK, IN THE

AG0907'NORTHEAST ANGLE OF THE INTERSECTION OF 74 ST N AND 38 AVE N, AT

AG0907'THE SOUTHWEST CORNER OF THE GROUNDS OF THE 74TH STREET

AG0907'ELEMENTARY SCHOOL AND ON PROPERTY OF PINELLAS COUNTY.

AG0907'

AG0907'TO REACH THE STATION FROM THE JUNCTION OF STATE HIGHWAY 694 AND

AG0907'STATE HIGHWAY A19A IN PINELLAS PARK, GO SOUTH ON STATE HIGHWAY

AG0907'A19A FOR 2.2 MILES TO THE JUNCTION OF 38 AVE N. TURN RIGHT

AG0907'AND GO WEST ON 38 AVE N FOR 0.45 MILE TO THE JUNCTION OF 71

AG0907'ST N AND REFERENCE MARK 3 IN THE SOUTHWEST ANGLE OF THE

AG0907'INTERSECTION. CONTINUE WEST ON 38 AVE N FOR 0.15 MILE TO THE

AG0907'JUNCTION OF 74 ST N AND THE STATION IN THE NORTHEAST ANGLE OF

AG0907'THE INTERSECTION.

AG0907'

AG0907'STATION MARKS ARE STANDARD DISK STAMPED SEVEN 1973. THE

AG0907'SURFACE DISK IS SET IN THE TOP OF A 12-INCH CYLINDRICAL

AG0907'CONCRETE MONUMENT FLUSH WITH THE GROUND SURFACE. IT IS 87 FEET

AG0907'WEST-SOUTHWEST OF THE SOUTHWEST CORNER OF THE MOST SOUTHERLY WING

AG0907'OF THE SCHOOL BUILDINGS, 59 FEET EAST OF THE CENTER OF 74 ST N,

AG0907'57 FEET NORTH OF THE WEST END OF A CHAIN LINK FENCE AND 13 FEET

AG0907'EAST OF THE EAST EDGE OF A CONCRETE SIDEWALK. THE UNDERGROUND

AG0907'DISK IS SET IN THE TOP OF AN IRREGULAR MASS OF CONCRETE 48

AG0907'INCHES BELOW THE GROUND SURFACE.

AG0907'

AG0907'REFERENCE MARK 1, A STANDARD DISK STAMPED SEVEN NO 1 1973, IS

AG0907'CEMENTED IN A DRILL HOLE IN A CONCRETE ROAD DRAIN. IT IS 50

AG0907'FEET NORTH OF THE CENTER OF 38 AVE N, 25 FEET NORTHEAST OF

AG0907'POWER POLE NUMBER 1-805416, 11 FEET WEST OF THE CENTER OF 74 ST

AG0907'N AND 3.4 FEET NORTHEAST OF A METAL WITNESS POST.

AG0907'

AG0907'REFERENCE MARK 2, A STANDARD DISK STAMPED SEVEN NO 2 1973, IS
 AG0907'CEMENTED IN A DRILL HOLE IN A CONCRETE SIDEWALK. IT IS 45 FEET
 AG0907'EAST OF THE CENTER OF 74 ST N, 9 FEET SOUTHWEST OF A PALM TREE
 AG0907'AND 1.3 FEET WEST OF THE EAST EDGE OF THE CONCRETE SIDEWALK.
 AG0907'
 AG0907'REFERENCE MARK 3, A STANDARD DISK STAMPED SEVEN NO 3 1973, IS
 AG0907'SET IN THE TOP OF A 12-INCH CYLINDRICAL CONCRETE MONUMENT FLUSH
 AG0907'WITH THE GROUND SURFACE. IT IS 28 FEET WEST OF THE CENTER OF
 AG0907'71 ST N, 17 FEET SOUTH OF THE CENTER OF 38 AVE N, 3.5 FEET WEST
 AG0907'OF A METAL WITNESS POST AND 3 FEET SOUTH OF A POWER LINE GUY
 AG0907'POLE.
 AG0907'
 AG0907'HEIGHT OF LIGHT ABOVE STATION MARK 26.3 METERS.
 AG0907
 AG0907 STATION RECOVERY (1976)
 AG0907
 AG0907'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1976
 AG0907'IN ST PETERSBURG.
 AG0907'TO REACH THE STATION FROM THE INTERSECTION OF S.R. 595 (U.S. ALT. HWY.
 AG0907'19, TYRONE BLVD.) AND S.R. 693 (66TH ST., U.S. ALT. HWY. 19A). RUN
 AG0907'NORTHWESTERLY ON S.R. 595 FOR 1.65 MILES TO THE INTERSECTION OF 38TH
 AG0907'AVE. N. TURN RIGHT ON 38TH AVE. N. AND RUN EASTERLY FOR 0.55 MI. TO
 AG0907'74TH ST. N. STATION ON LEFT, IN THE N.E. CORNER, 85.5 FT. NORTH OF
 AG0907'THE CENTERLINE OF 38TH AVE., 59.5 FT. EAST OF THE CENTERLINE OF 74TH
 AG0907'ST. N., 87.5 FT. S.E. OF THE S.E. CORNER OF SCHOOL BUILDING (74TH
 AG0907'STREET SCHOOL), 13.0 FT. EAST OF THE BACK OF SIDEWALK. SET IN THE TOP
 AG0907'OF A CONCRETE POST THAT IS FLUSH WITH THE GROUND. SECTION 6, T 31, R
 AG0907'16.
 AG0907
 AG0907 STATION RECOVERY (1977)
 AG0907
 AG0907'RECOVERY NOTE BY PINELLAS COUNTY FLORIDA 1977
 AG0907'RECOVERED IN GOOD CONDITION.
 AG0907
 AG0907 STATION RECOVERY (1979)
 AG0907
 AG0907'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1979 (CLN)
 AG0907'STATION MARK AND REFERENCE MARK 2 WERE RECOVERED AND FOUND IN GOOD
 AG0907'CONDITION. REFERENCE MARK 1 AND AZIMUTH MARK WERE DESTROYED BY WATER
 AG0907'MAIN AND GAS LINE CONSTRUCTION. REFERENCE MARK 4 WAS ESTABLISHED AT
 AG0907'THIS TIME. THE DISTANCE TO REFERENCE MARK 2 CHECKED. DUE TO CHANGES,
 AG0907'A COMPLETE NEW DESCRIPTION FOLLOWS.
 AG0907'
 AG0907'STATION IS ABOUT 5.5 MILES NORTHWEST OF ST. PETERSBURG, 4.0 MILES
 AG0907'SOUTHWEST OF PINELLAS PARK, IN THE NORTHEAST ANGLE OF INTERSECTION OF
 AG0907'74TH STREET N AND 38TH AVENUE N, AT THE SOUTHWEST CORNER OF THE
 AG0907'GROUNDS OF THE 74TH STREET ELEMENTARY SCHOOL AND ON PROPERTY OF
 AG0907'PINELLAS COUNTY.
 AG0907'
 AG0907'TO REACH THE STATION FROM THE JUNCTION OF STATE HIGHWAY 694 AND STATE
 AG0907'HIGHWAY A19A (66TH STREET) IN PINELLAS PARK, GO SOUTH ON STATE HIGHWAY
 AG0907'A19A FOR 2.2 MILES TO THE JUNCTION OF 38TH AVENUE N. TURN RIGHT AND
 AG0907'GO WEST ON 38TH AVENUE N FOR 0.7 MILE TO 74TH STREET N AND THE STATION
 AG0907'ON RIGHT.
 AG0907'
 AG0907'STATION MARK IS A STANDARD DISK STAMPED SEVEN 1973 IS SET IN THE TOP
 AG0907'OF A 12-INCH ROUND CONCRETE MONUMENT THAT IS SET FLUSH WITH THE

AG0907'GROUND. IT IS 87.5 FEET SOUTHWEST OF THE SOUTHWEST CORNER OF SCHOOL
AG0907'HOUSE, 85.5 FEET NORTH OF THE CENTER OF 38TH AVENUE N, 59.5 FEET EAST
AG0907'OF THE CENTER OF 74TH STREET N, 32.5 FEET NORTHEAST OF A FIRE HYDRANT,
AG0907'13.2 FEET EAST OF THE EAST EDGE OF SIDEWALK AND 1.5 FEET WEST OF A
AG0907'METAL WITNESS POST.

AG0907'

AG0907'REFERENCE MARK 2 IS A STANDARD DISK STAMPED SEVEN NO 2 1973, IS SET
AG0907'IN A DRILL HOLE ON SIDEWALK. IT IS 105.0 FEET NORTHWEST OF THE
AG0907'SOUTHWEST CORNER OF THE SCHOOL, 45.5 FEET EAST OF CENTER OF 74TH
AG0907'STREET N, 23.0 FEET NORTH OF A POWER LINE POLE BRACE POLE, AND 9.0
AG0907'FEET SOUTHWEST OF A 12-INCH PALM TREE.

AG0907'

AG0907'REFERENCE MARK 4 IS A STANDARD DISK STAMPED SEVEN 1973 NO 4 1979, IS
AG0907'SET ON TOP OF SIDEWALK AT THE SOUTHWEST CORNER OF SCHOOL BUILDING. IT
AG0907'IS 6.0 FEET SOUTH OF THE SOUTHWEST CORNER OF SCHOOL AND 1.0 FOOT
AG0907'NORTH OF THE SOUTH EDGE OF SIDEWALK.

AG0907

AG0907 STATION RECOVERY (1998)

AG0907

AG0907'RECOVERY NOTE BY US POWER SQUADRON 1998

AG0907'RECOVERED IN GOOD CONDITION.

AG0907

AG0907 STATION RECOVERY (2004)

AG0907

AG0907'RECOVERY NOTE BY DEWBERRY DAVIS 2004 (KEC)

AG0907'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 = 7.61
1 National Geodetic Survey, Retrieval Date = JULY 10, 2008
AL6480 *****
AL6480 DESIGNATION - SKIPPER RESET
AL6480 PID - AL6480
AL6480 STATE/COUNTY- FL/HILLSBOROUGH
AL6480 USGS QUAD - SULPHUR SPRINGS (1995)
AL6480
AL6480 *CURRENT SURVEY CONTROL
AL6480
AL6480* NAD 83(2007)- 28 04 49.16496(N) 082 26 59.28349(W) ADJUSTED
AL6480* NAVD 88 - 16.077 (meters) 52.75 (feet) ADJUSTED
AL6480
AL6480 EPOCH DATE - 2002.00
AL6480 X - 739,953.320 (meters) COMP
AL6480 Y - -5,582,702.659 (meters) COMP
AL6480 Z - 2,984,357.560 (meters) COMP
AL6480 LAPLACE CORR- -1.58 (seconds) DEFLEC99
AL6480 ELLIP HEIGHT- -9.170 (meters) (02/10/07) ADJUSTED
AL6480 GEOID HEIGHT- -25.24 (meters) GEOID03
AL6480 DYNAMIC HT - 16.054 (meters) 52.67 (feet) COMP
AL6480
AL6480 ----- Accuracy Estimates (at 95% Confidence Level in cm) -----
AL6480 Type PID Designation North East Ellip
AL6480 -----
AL6480 NETWORK AL6480 SKIPPER RESET 0.51 0.49 1.04
AL6480 -----
AL6480 MODELED GRAV- 979,190.8 (mgal) NAVD 88
AL6480
AL6480 VERT ORDER - FIRST CLASS I
AL6480
AL6480.The horizontal coordinates were established by GPS observations
AL6480.and adjusted by the National Geodetic Survey in February 2007.
AL6480
AL6480.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
AL6480.See [National Readjustment](#) for more information.
AL6480.The horizontal coordinates are valid at the epoch date displayed above.
AL6480.The epoch date for horizontal control is a decimal equivalence
AL6480.of Year/Month/Day.
AL6480
AL6480.The orthometric height was determined by differential leveling
AL6480.and adjusted in June 1991.
AL6480
AL6480.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AL6480
AL6480.The Laplace correction was computed from DEFLEC99 derived deflections.
AL6480
AL6480.The ellipsoidal height was determined by GPS observations
AL6480.and is referenced to NAD 83.
AL6480
AL6480.The geoid height was determined by GEOID03.

AL6480.The dynamic height is computed by dividing the NAVD 88
AL6480.geopotential number by the normal gravity value computed on the
AL6480.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
AL6480.degrees latitude (g = 980.6199 gals.).
AL6480

AL6480

AL6480;		North	East	Units	Scale Factor	Converg.
AL6480;SPC FL W	-	415,191.614	155,791.933	MT	0.99996529	-0 12 42.2
AL6480;SPC FL W	-	1,362,174.49	511,127.37	sFT	0.99996529	-0 12 42.2
AL6480;UTM 17	-	3,106,948.742	357,549.225	MT	0.99985046	-0 40 57.2
AL6480						
AL6480!	-	Elev Factor	x	Scale Factor	=	Combined Factor
AL6480!SPC FL W	-	1.00000144	x	0.99996529	=	0.99996673
AL6480!UTM 17	-	1.00000144	x	0.99985046	=	0.99985190

AL6480	-----			
AL6480	PID	Reference Object	Distance	Geod. Az
AL6480				dddmms.s
AL6480	AL6479	SKIPPER RM 1	37.618 METERS	05042
AL6480	AL0497	TEMPLE TERRACE WATER TANK	APPROX. 8.0 KM	1270644.1
AL6480	AL6478	SKIPPER RM 2	30.187 METERS	16103
AL6480	AL6481	SKIPPER RM 3	16.573 METERS	17936
AL6480	CW6367	SKIPPER AZ MK		1810319.9
AL6480	AL0498	HAMNER FIRE LOOKOUT TOWER	APPROX. 2.1 KM	2360450.7
AL6480	AL6477	D 40	36.649 METERS	30954
AL6480	AL6634	I75 73 C01	434.684 METERS	3534044.5
AL6480	-----			

AL6480

AL6480	ELLIP H (12/06/04)	-9.166 (m)					GP (	)	4	1
AL6480	NAD 83 (1990) - 28 04	49.16418 (N)	082 26	59.28200 (W)	AD (	)	2			
AL6480	NAD 83 (1986) - 28 04	49.16968 (N)	082 26	59.29144 (W)	AD (	)	2			
AL6480	NAD 27 - 28 04	48.10757 (N)	082 26	59.95121 (W)	AD (	)	2			
AL6480	NGVD 29 (??/??/92)	16.321 (m)		53.55 (f)	ADJ UNCH				1	1

AL6480. See file dsdata.txt to determine how the superseded data were derived.

AL6480

AL6480

AL6480	HISTORY	- Date	Condition	Report By
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AL6480	HISTORY	- 1958	MONUMENTED	CGS
AL6480	HISTORY	- 1974	GOOD	FLDT
AL6480	HISTORY	- 1974	GOOD	NGS
AL6480	HISTORY	- 1975	GOOD	NGS
AL6480	HISTORY	- 1975	GOOD	NGS
AL6480	HISTORY	- 1977	GOOD	FLDT
AL6480	HISTORY	- 1981	GOOD	FLDNR
AL6480	HISTORY	- 1981	GOOD	FL-057
AL6480	HISTORY	- 1982	GOOD	FL-057
AL6480	HISTORY	- 19910319	GOOD	USPSQD
AL6480	HISTORY	- 20010328	GOOD	FL-057
AL6480	HISTORY	- 20030221	GOOD	AYRES
AL6480	HISTORY	- 20060221	GOOD	POLASS
AL6480	HISTORY	- 20080326	GOOD	YOUNG

AL6480

STATION DESCRIPTION

AL6480

AL6480'DESCRIBED BY COAST AND GEODETIC SURVEY 1958 (ALW)

AL6480'THIS STATION WAS RECOVERED IN NOVEMBER, 1958. THE SURFACE MARK
AL6480'WAS FOUND DESTROYED. THE POST WAS FOUND LYING ON TOP OF THE
AL6480'GROUND. THE DISK WAS RECOVERED. THE UNDERGROUND MARK WAS
AL6480'FOUND IN GOOD CONDITION. A NEW SURFACE MARK WAS SET DIRECTLY
AL6480'OVER IT. REFERENCE MARKS 1 AND 2 AND BENCH MARK D 40 WERE
AL6480'RECOVERED AND FOUND IN GOOD CONDITION.

AL6480'

AL6480'THE STATION IS LOCATED AT THE N EDGE OF SULPHUR SPRINGS, 3.5
AL6480'MI. N OF THE SEABOARD AIR LINE RAILROAD STATION, 150 YD. E OF
AL6480'U.S. HIGHWAY 41, AT THE CROSSING OF SKIPPER AVENUE AND THE
AL6480'SEABOARD AIR LINE RAILROAD, 43 FT. S OF THE CENTERLINE OF
AL6480'SKIPPER AVENUE, 58 FT. E OF THE E RAIL, 33 FT. E OF THE
AL6480'CENTERLINE OF A TRACK ROAD LEADING S, 13.5 FT. SW OF A BLAZED
AL6480'12-IN. PINE TREE, 21.5 FT. SE OF A TELEPHONE POLE AND 2 FT. E
AL6480'OF A CONCRETE WITNESS POST. A TRIANGULATION-STATION DISK SET
AL6480'IN THE TOP OF A SQUARE CONCRETE POST WHICH PROJECTS 0.1 FT.
AL6480'ABOVE THE GROUND, STAMPED SKIPPER 1937 1958.

AL6480'

AL6480'REFERENCE MARK 1 IS 123.41 FT. OR 37.615 M. NE OF THE STATION,
AL6480'34 FT. N OF THE CENTERLINE OF SKIPPER AVENUE, 31 FT. S-SE OF THE
AL6480'SE CORNER OF A WHITE FRAMEHOUSE, 6 FT. W OF THE CENTERLINE OF
AL6480'A PRIVATE DRIVEWAY LEADING N AND 1.5 FT. NE OF AN 18-IN.
AL6480'TREE. AN AZIMUTH-MARK DISK SET IN THE TOP OF A SQUARE CONCRETE
AL6480'POST WHICH PROJECTS 0.1 FT. ABOVE THE GROUND, STAMPED SKIPPER
AL6480'NO 1 1937.

AL6480'

AL6480'REFERENCE MARK 2 IS 99.04 FT. OF 30.187 M. S-SE OF THE STATION,
AL6480'84 FT. E OF THE E RAIL, 57 FT. E OF THE CENTERLINE OF A TRACK
AL6480'ROAD AND 2 FT. E OF A CONCRETE WITNESS POST. AN AZIMUTH-MARK DISK
AL6480'SET IN THE TOP OF A SQUARE CONCRETE POST WHICH PROJECTS 0.1
AL6480'FT. ABOVE THE GROUND, STAMPED SKIPPER NO 2 1937.

AL6480'

AL6480'BENCH MARK D 40 IS 120.43 FT. OR 36.707 M. NW OF THE STATION,
AL6480'32.5 FT. N OF THE CENTERLINE OF SKIPPER AVENUE, 24 FT. W OF THE
AL6480'W RAIL, 9 FT. N OF A TELEPHONE POLE AND 1.7 FT. S OF A CONCRETE
AL6480'WITNESS POST. A BENCH-MARK DISK SET IN THE TOP OF A SQUARE
AL6480'CONCRETE POST WHICH PROJECTS 0.4 FT. ABOVE THE GROUND, STAMPED
AL6480'D 40 1933 51.319.

AL6480'

AL6480'THE AZIMUTH MARK IS 0.3 MI. S OF THE STATION, 142ND AVENUE
AL6480'AND THE SEABOARD AIR LINE RAILROAD AT THE NE CORNER OF THE KUM
AL6480'BACK TRAILER PARK, 77.5 FT. W OF THE W RAIL, 145 YD. E OF U.S.
AL6480'HIGHWAY 41 AND 42 FT. S OF THE CENTERLINE OF 142ND AVENUE. AN
AL6480'AZIMUTH MARK DISK SET IN THE TOP OF A SQUARE CONCRETE POST
AL6480'WHICH PROJECTS 0.1 FT. ABOVE THE GROUND, STAMPED SKIPPER
AL6480'AZIMUTH 1937. THE AZIMUTH MARK CANNOT BE SEEN FROM THE GROUND
AL6480'AT THE STATION.
AL6480'
AL6480'TO REACH THE STATION, GO 3.5 MI. N ALONG THE SEABOARD AIR LINE
AL6480'RAILROAD FROM THE STATION AT SULPHUR SPRINGS TO THE CROSSING
AL6480'OF SKIPPER AVENUE AND THE STATION ON THE RIGHT.
AL6480'
AL6480'NOTE--THE DISTANCE TO BENCH MARK D 40 GIVEN IN THE ORIGINAL
AL6480'DESCRIPTION IS NOT CORRECT. LOOKS LIKE A 3-FT. ERROR WAS MADE.
AL6480
AL6480 STATION RECOVERY (1974)
AL6480
AL6480'RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 1974 (RCB)
AL6480'SKIPPER 1937 GOOD
AL6480'
AL6480'SKIPPER RM 1 GOOD DIST 123.385
AL6480'
AL6480'D-40 USC AND GS BM 1933 GOOD DIST. 120.421
AL6480'
AL6480'SKIPPER IS NOW FLUSH WITH THE GROUND
AL6480'
AL6480'SKIPPER RM 2 WAS NOT RECOVERED AFTER A THOROUGH SEARCH WAS MADE,
AL6480'THE AREA WHERE THE RM 2 IS SUPPOSED TO BE HAS BEEN CLEARED.
AL6480
AL6480 STATION RECOVERY (1974)
AL6480
AL6480'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1974 (CLN)
AL6480'STATION MARK, REFERENCE MARK 1 AND BENCH MARK D 40 WERE RECOVERED
AL6480'AND FOUND IN GOOD CONDITION. THE DISTANCE TO REFERENCE MARK 1
AL6480'AND BENCH MARK D 40 CHECKED THE 1958 RECOVERY. THE DIRECTION
AL6480'BETWEEN REFERENCE MARK 1 AND BENCH MARK D 40 CHECKED WITHIN
AL6480'01 MIN 22 SEC OF THE 1958 RECOVERY. REFERENCE MARK 2 AND THE
AL6480'AZIMUTH MARK HAVE BEEN DESTROYED. A THOROUGH SEARCH WAS MADE
AL6480'FOR THE AZIMUTH MARK, BUT NOT FOUND. A MOBILE HOME PARK WAS
AL6480'BUILT IN THE AREA THE AZIMUTH MARK WAS LOCATED. ALL
AL6480'MEASUREMENT SHOW THE AZIMUTH MARK IS UNDER A CONCRETE PATIO.
AL6480'REFERENCE MARK 3 WAS ESTABLISHED AT THIS TIME. DUE TO CHANGES,
AL6480'A COMPLETE NEW DESCRIPTION FOLLOWS.
AL6480'
AL6480'THE STATION IS ABOUT 10 MILES NORTH OF TAMPA, 5 MILES NORTHWEST
AL6480'OF TEMPLE TERRACE, 3-1/2 MILES WEST-NORTHWEST OF THE UNIVERSITY
AL6480'OF SOUTH FLORIDA, 1 MILE NORTH OF THE JUNCTION OF U.S. HIGHWAY
AL6480'41 AND STATE HIGHWAY 582A IN FLORA, 1 MILE SOUTH OF WHERE
AL6480'INTERSTATE HIGHWAY 75 PASSES OVER U.S. HIGHWAY 41 IN NORTH
AL6480'TAMPA AND ON THE SOUTH SIDE OF SKIPPER ROAD JUST EAST OF THE
AL6480'RAILROAD TRACKS.
AL6480'
AL6480'TO REACH THE STATION FROM WHERE INTERSTATE HIGHWAY 75 PASSES
AL6480'OVER STATE HIGHWAY 582 IN NORTH TAMPA, GO EAST ON STATE HIGHWAY 582
AL6480'FOR 0.2 MILE TO THE JUNCTION OF U.S. HIGHWAY 41. TURN LEFT AND GO
AL6480'NORTH ON U.S. HIGHWAY 41 FOR 1.05 MILES TO STATE HIGHWAY

AL6480'582A. CONTINUE AHEAD NORTH ON U.S. HIGHWAY 41 FOR 0.75 MILE TO
AL6480'SKIPPER ROAD ON RIGHT. TURN RIGHT AND GO EAST ON SKIPPER ROAD
AL6480'FOR 0.1 MILE TO STATION ON RIGHT.

AL6480'

AL6480'STATION MARK, A STANDARD DISK STAMPED SKIPPER 1937 1958, IS
AL6480'SET IN THE TOP OF AN 8-INCH PRECAST CONCRETE MONUMENT THAT IS
AL6480'SET FLUSH WITH THE GROUND SURFACE. IT IS 58.4 FEET EAST OF
AL6480'THE EAST RAIL OF THE MAIN RAILROAD TRACK, 44.5 FEET SOUTH OF
AL6480'THE CENTER OF SKIPPER ROAD, 20.5 FEET SOUTHEAST OF A UTILITY
AL6480'POLE NUMBERED 240-33, 14 FEET SOUTHEAST OF A 15 INCH PINE TREE
AL6480'AND 1 FOOT NORTH OF A METAL WITNESS POST.

AL6480'

AL6480'REFERENCE MARK 1, A STANDARD DISK STAMPED SKIPPER NO 1 1937, IS
AL6480'SET IN THE TOP OF A 12-INCH SQUARE CONCRETE MONUMENT THAT
AL6480'PROJECTS 6-INCHES ABOVE THE GROUND SURFACE. IT IS 34 FEET NORTH
AL6480'OF THE CENTER OF SKIPPER ROAD, 6 FEET WEST OF THE CENTER OF A
AL6480'DRIVEWAY AND 3 FEET NORTHWEST OF A FERN TREE WITH 6
AL6480'TRUNKS.

AL6480'

AL6480'REFERENCE MARK 3, A STANDARD DISK STAMPED SKIPPER 1937 NO 3
AL6480'1974, IS SET IN THE TOP OF A 10-INCH CYLINDRICAL CONCRETE
AL6480'MONUMENT THAT IS SET FLUSH WITH THE GROUND SURFACE. IT IS 99.5
AL6480'FEET SOUTH OF THE CENTER OF SKIPPER ROAD, 55.4 FEET EAST OF
AL6480'THE EAST RAIL OF THE MAIN RAILROAD TRACK, 11.5 FEET SOUTH OF
AL6480'A 12-INCH PALM TREE, 2.9 FEET WEST OF A METAL WITNESS POST AND
AL6480'2.7 FEET NORTHWEST OF A FENCE CORNER AROUND THE VILLAGE MOBILE
AL6480'HOME COURT.

AL6480'

AL6480'D 40, A STANDARD BENCH MARK DISK STAMPED D 40 1933, IS SET IN
AL6480'THE TOP OF A 10-INCH SQUARE CONCRETE MONUMENT THAT PROJECTS
AL6480'4-INCHES ABOVE THE GROUND SURFACE. IT IS 35.5 FEET NORTH OF
AL6480'THE CENTER OF SKIPPER ROAD, 25 FEET NORTHEAST OF POWER LINE
AL6480'POLE 910, 24 FEET WEST OF THE WEST RAIL OF THE MAIN RAILROAD
AL6480'TRACK, 1.5 FEET SOUTH OF A 3-INCH SQUARE CONCRETE RIGHT-OF -WAY
AL6480'MARKER AND 1 FOOT EAST OF A METAL WITNESS POST.

AL6480'

AL6480'AIRLINE DISTANCE AND DIRECTION FROM NEAREST TOWN
AL6480'5 MILES NW OF TEMPLE TERRACE.

AL6480

AL6480 STATION RECOVERY (1975)

AL6480

AL6480'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1975 (CBM)
AL6480'THE MOST RECENT DESCRIPTION AVAILABLE WAS BY A.L. WARDWELL,
AL6480'IN 1958. A DIFFERENCE WAS NOTED IN DISTANCE TO
AL6480'B.M. D40. A CHECK OF ANGLE BETWEEN REFERENCE MARK NUMBER 1 AND
AL6480'B.M. D40 FELL BETWEEN THE 1937 AND 1958 OBSERVATIONS. REFERENCE
AL6480'MARK NUMBER 3 WAS ESTABLISHED IN 1974, BUT NO DATA WAS
AL6480'AVAILABLE. DUE TO LOCAL CHANGES, A COMPLETE NEW DESCRIPTION OF
AL6480'STATION FOLLOWS.

AL6480'

AL6480'STATION IS LOCATED ABOUT 5 MILES NORTHWEST OF TEMPLE TERRACE
AL6480'AND 3-1/2 MILES NORTH OF THE TAMPA NORTHERN RAILROAD STATION AT
AL6480'SULPHUR SPRINGS AT THE CROSSING OF SKIPPER AVENUE AND THE
AL6480'SEABOARD COAST LINE RAILROAD.

AL6480'

AL6480'TO REACH STATION FROM THE INTERSTATE ROUTE 4 AND INTERSTATE
AL6480'ROUTE 75 OVERPASS OVER NEBRASKA AVENUE AT TAMPA. GO NORTH ON

AL6480'NEBRASKA AVENUE FOR 8.05 MILES TO THE INTERSECTION OF SKIPPER
AL6480'AVENUE. TURN RIGHT AND GO EAST ON SKIPPER AVENUE FOR 0.1 MILE
AL6480'TO THE CROSSING OF THE SEABOARD COAST LINE RAILROAD AND STATION
AL6480'AT SOUTHEAST CORNER OF THE CROSSING.

AL6480'

AL6480'STATION MARK IS A STANDARD DISK, STAMPED SKIPPER 1937 1958, SET
AL6480'IN THE TOP OF A SQUARE CONCRETE MONUMENT THAT IS 1 INCH BELOW
AL6480'THE GROUND. IT IS 0.7 FOOT NORTH OF A METAL WITNESS POST,
AL6480'13.5 FEET SOUTHWEST OF A 12 INCH PINE TREE, 20.4 FEET SOUTHEAST
AL6480'OF A UTILITY POLE, 44.1 FEET SOUTH OF CENTER OF SKIPPER ROAD
AL6480'AND 58.5 FEET EAST OF EAST RAIL OF MAIN RAILROAD TRACK.

AL6480'

AL6480'REFERENCE MARK NUMBER 1 IS A STANDARD DISK, STAMPED SKIPPER
AL6480'NO. 1 1937, SET IN THE TOP OF A SQUARE CONCRETE MONUMENT THAT
AL6480'PROJECTS 5 INCHES ABOVE THE GROUND. IT IS 11.4 FEET NORTH OF
AL6480'NORTH EDGE OF A SIDEWALK, 13.0 FEET WEST OF A 16 INCH OAK TREE
AL6480'AND 34.0 FEET NORTH OF CENTER OF SKIPPER ROAD.

AL6480'

AL6480'REFERENCE MARK NUMBER 3 IS A STANDARD DISK, STAMPED SKIPPER
AL6480'1937 NO. 3 1974, SET IN THE TOP OF A ROUND CONCRETE MONUMENT
AL6480'THAT PROJECTS 1 INCH ABOVE THE GROUND. IT IS 2.9 FEET WEST OF
AL6480'A METAL WITNESS POST, 11.2 FEET SOUTH OF A PALM TREE, 55.7 FEET
AL6480'EAST OF EAST RAIL OF THE MAIN RAILROAD TRACK AND 113.1 FEET
AL6480'SOUTH OF CENTER OF SKIPPER ROAD.

AL6480'

AL6480'BENCH MARK D40 IS A STANDARD DISK, STAMPED D40 1933 51.319,
AL6480'SET IN THE TOP OF A SQUARE CONCRETE MONUMENT THAT PROJECTS
AL6480'4 INCHES ABOVE THE GROUND.

AL6480'

AL6480'IT IS 0.7 FOOT WEST OF A METAL WITNESS POST, 0.8 FOOT SOUTH
AL6480'OF A CONCRETE WITNESS POST, 24.0 FEET WEST OF THE WEST RAIL OF
AL6480'MAIN RAILROAD TRACK AND 33.5 FEET NORTH OF CENTER OF SKIPPER ROAD.

AL6480'

AL6480'ALL MEASUREMENTS TO MARKS WERE MADE ELECTRONICALLY, DUE TO
AL6480'HEAVY TRAFFIC.

AL6480

AL6480

STATION RECOVERY (1975)

AL6480

AL6480'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1975

AL6480'5 MI NW FROM TEMPLE TERRACE.

AL6480'0.2 MILE EAST ALONG STATE HIGHWAY 582 FROM WHERE INTERSTATE
AL6480'HIGHWAY 75 PASSES OVER HIGHWAY 582 IN NORTH TAMPA, THENCE LEFT
AL6480'NORTH ALONG U.S. HIGHWAY 41 FOR 1.8 MILES TO SKIPPER ROAD ON
AL6480'RIGHT, THENCE RIGHT FOR 0.1 MILE, 58.4 FEET EAST OF THE EAST RAIL
AL6480'OF THE MAIN RAILROAD TRACK, 44.5 FEET SOUTH OF THE CENTER OF
AL6480'SKIPPER ROAD, 20.5 FEET SOUTHEAST OF A UTILITY POLE NUMBERED 240-33,
AL6480'14 FEET SOUTHWEST OF A 15-INCH PINE TREE, 1 FOOT NORTH OF A METAL
AL6480'WITNESS POST AND A DISK SET IN THE TOP OF AN 8-INCH PRECAST
AL6480'CONCRETE SQUARE MONUMENT THAT IS SET FLUSH WITH THE GROUND SURFACE.

AL6480

AL6480

STATION RECOVERY (1977)

AL6480

AL6480'RECOVERY NOTE BY FLORIDA DEPARTMENT OF TRANSPORTATION 1977 (CBM)
AL6480'STATION RECOVERED AS DESCRIBED BY G. FLAVIN IN 1975. A DIFFERENCE WAS
AL6480'NOTED IN DIRECTION BETWEEN REFERENCE MARKS 3 AND BENCHMARK D40 1933,
AL6480'NEW VALUE BEING SHOWN ABOVE. BENCHMARK D40 1933 IS LEANING TO THE
AL6480'SOUTH AND REFERENCE MARK NUMBER 1 IS DESTROYED.

AL6480
AL6480 STATION RECOVERY (1981)
AL6480
AL6480'RECOVERY NOTE BY FL DEPT OF NAT RES 1981 (JWM)
AL6480'SKIPPER 1937 RECOVERED GOOD.
AL6480'
AL6480'THE STATION, R.M. 3 AND BM D 40 WERE RECOVERED AS DESCRIBED. R.M. 1
AL6480'IS BELIEVED DESTROYED DUE TO CONSTRUCTION OF A PARKING LOT.
AL6480'
AL6480'DISTANCE AND DIRECTION FROM NEAREST TOWN--AT TAMPA.
AL6480
AL6480 STATION RECOVERY (1981)
AL6480
AL6480'RECOVERY NOTE BY HILLSBOROUGH COUNTY FLORIDA 1981 (SW)
AL6480'SKIPPER 1934 RECOVERED GOOD.
AL6480'
AL6480'DISTANCE AND DIRECTION FROM NEAREST TOWN--10 MILES NORTH OF TAMPA.
AL6480'5 MILES NORTHWEST OF TEMPLE TERRACE.
AL6480
AL6480 STATION RECOVERY (1982)
AL6480
AL6480'RECOVERY NOTE BY HILLSBOROUGH COUNTY FLORIDA 1982 (RSW)
AL6480'REFERENCE MARKS NO 3 AND D-40 WERE RECOVERED. D-40 WAS FOUND TO BE
AL6480'0.57 M SHORTER. RM 3 DISK WAS DEFACED BUT THE MEASUREMENT TO IT WAS
AL6480'GOOD. RMS 4 AND 5 WERE SET PREVIOUSLY. A NEW AZIMUTH MARK SET ALONG
AL6480'WITH THE NEW RMS.
AL6480'
AL6480'THE STATION IS A STANDARD U.S.C. + G.S. DISK STAMPED---SKIPPER 1937
AL6480'1958---THE SURFACE DISK IS SET INTO THE TOP OF A 10 INCH ROUND
AL6480'CONCRETE MONUMENT FLUSH WITH THE GROUND. LOCATED 58.4 FEET EAST OF
AL6480'EAST RAIL OF MAIN RAILROAD TRACK, 43.6 FEET SOUTH OF CENTERLINE OF
AL6480'SKIPPER AVENUE, 16.6 FEET SOUTHWEST OF RAILROAD WARNING LIGHT POLE,
AL6480'14.2 FEET SOUTHEAST OF CENTER OF 16 INCH PINE, AND 1.0 FEET NORTH
AL6480'OF A METAL WITNESS POST.
AL6480'
AL6480'REFERENCE MARK NO 3 IS A STANDARD NGS DEFACED DISK. THE SURFACE DISK
AL6480'IS SET INTO THE TOP OF A 10 INCH ROUND CONCRETE MONUMENT FLUSH WITH
AL6480'THE GROUND. LOCATED 55.4 FEET EAST OF EAST RAIL OF MAIN RAILROAD LINE,
AL6480'11.7 FEET SOUTH OF 10 INCH PALM TREE, AND 0.7 FEET WEST OF CORNER
AL6480'OF WOODEN FENCE.
AL6480'
AL6480'BENCH MARK D-40 IS A STANDARD USG+GS DISK STAMPED---D-40 1933---
AL6480'LOCATED 33.8 FEET NORTH OF CENTERLINE OF SKIPPER AVENUE, 23.9 FEET
AL6480'WEST OF WEST RAIL OF MAIN RAILROAD LINE, 7.0 FEET SOUTHWEST OF
AL6480'OF GUY POLE, AND 25.0 FEET NORTHEAST OF POWERLINE POLE NUMBER
AL6480'25481 46209.
AL6480
AL6480 STATION RECOVERY (1991)
AL6480
AL6480'RECOVERY NOTE BY US POWER SQUADRON 1991 (RF)
AL6480'RECOVERED IN GOOD CONDITION.
AL6480
AL6480 STATION RECOVERY (2001)
AL6480
AL6480'RECOVERY NOTE BY HILLSBOROUGH COUNTY FLORIDA 2001 (RJA)
AL6480'THE STATION IS LOCATED IN HILLSBOROUGH COUNTY, FLORIDA, ABOUT 9.0
AL6480'MILES NORTH OF THE CITY OF TAMPA AND 3.0 MILES NORTHWEST OF THE CITY

AL6480'OF TEMPLE TERRACE, IN SECTION 6 TOWNSHIP 28 SOUTH, RANGE 19 EAST.
AL6480'OWNERSHIP--BRAND-BROADWAY ASSOCIATES LP, 16255 VENTURA BLVD, ENCINO
AL6480'CA, 91436-2320 THE STATION IS A 8 INCH SQUARE CONCRETE MONUMENT. FLUSH
AL6480'WITH THE GROUND. TO REACH THE STATION FROM THE INTERSECTION OF
AL6480'NEBRASKA AVE. (U.S. HWY.41) AND SKIPPER RD., PROCEED EAST ON SKIPPER
AL6480'RD. FOR 0.1 MILES TO THE STATION ON THE RIGHT (SOUTH) SIDE OF THE
AL6480'ROAD. STATION IS 60.0 FT +/- EAST OF THE RAILROAD TRACKS.

AL6480'

AL6480'1.0 FT NORTH OF A CARSONITE WITNESS POST AND HILLSBOROUGH COUNTY
AL6480'STICKER. 32.9 FT SOUTH OF A NAIL AND HILLS COUNTY DISK IN THE SOUTH
AL6480'EDGE OF PAVEMENT OF SKIPPER RD. 58.0 FT EAST OF THE EAST RAIL OF THE
AL6480'RAILROAD TRACKS. 27.0 FT WEST-NORTHWEST OF WOOD LIGHT POLE
AL6480'25472/46201/A 16.8 FT SOUTHEAST OF AN OLD METAL WARNING LIGHT FOR
AL6480'NORTHBOUND RAILROAD TRACKS.

AL6480

AL6480 STATION RECOVERY (2003)

AL6480

AL6480'RECOVERY NOTE BY AYRES ASSOCIATES 2003

AL6480'RECOVERED IN GOOD CONDITION.

AL6480

AL6480 STATION RECOVERY (2006)

AL6480

AL6480'RECOVERY NOTE BY POLARIS ASSOCIATES 2006 (TME)

AL6480'MONUMENT UNDISTURBED. UNHINDERED GPS VIEW OF THE CONSTELLATION.

AL6480

AL6480 STATION RECOVERY (2008)

AL6480

AL6480'RECOVERY NOTE BY GEORGE F YOUNG INCORPORATED 2008

AL6480'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 = 7.61
1 National Geodetic Survey, Retrieval Date = JULY 10, 2008
DF7990 *****
DF7990 CORS - This is a GPS Continuously Operating Reference Station.
DF7990 DESIGNATION - ZEPHYRHILLS CORS ARP
DF7990 CORS_ID - ZEFR
DF7990 PID - DF7990
DF7990 STATE/COUNTY- FL/PASCO
DF7990 USGS QUAD - ZEPHYRHILLS (1993)
DF7990
DF7990 *CURRENT SURVEY CONTROL
DF7990
DF7990* NAD 83(CORS)- 28 13 39.32227(N) 082 09 52.67214(W) ADJUSTED
DF7990* NAVD 88 -
DF7990
DF7990 EPOCH DATE - 2002.00
DF7990 X - 766,681.307 (meters) COMP
DF7990 Y - -5,571,329.996 (meters) COMP
DF7990 Z - 2,998,751.211 (meters) COMP
DF7990 ELLIP HEIGHT- 0.029 (meters) (09/??/03) ADJUSTED
DF7990 GEOID HEIGHT- -26.21 (meters) GEOID03
DF7990 HORZ ORDER - SPECIAL (CORS)
DF7990 ELLP ORDER - SPECIAL (CORS)
DF7990
DF7990. [ITRF positions](#) are available for this station.
DF7990. The coordinates were established by GPS observations
DF7990. and adjusted by the National Geodetic Survey in September 2003.
DF7990. The coordinates are valid at the epoch date displayed above.
DF7990. The epoch date for horizontal control is a decimal equivalence
DF7990. of Year/Month/Day.
DF7990
DF7990
DF7990. The PID for the CORS L1 Phase Center is DF7991.
DF7990
DF7990. The XYZ, and position/ellipsoidal ht. are equivalent.
DF7990
DF7990. The ellipsoidal height was determined by GPS observations
DF7990. and is referenced to NAD 83.
DF7990
DF7990. The geoid height was determined by GEOID03.
DF7990
DF7990;
DF7990; SPC FL W - North East Units Scale Factor Converg.
DF7990; SPC FL W - 431,440.246 183,841.661 MT 0.99994440 -0 04 40.3
DF7990; SPC FL W - 1,415,483.54 603,153.85 sFT 0.99994440 -0 04 40.3
DF7990
DF7990!
DF7990! SPC FL W - Elev Factor x Scale Factor = Combined Factor
DF7990! SPC FL W - 1.00000000 x 0.99994440 = 0.99994440
DF7990
DF7990
DF7990 SUPERSEDED SURVEY CONTROL
DF7990
DF7990. No superseded survey control is available for this station.

DF7990
DF7990_U.S. NATIONAL GRID SPATIAL ADDRESS: 17RLM8572822963 (NAD 83)
DF7990_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA
DF7990
DF7990 STATION DESCRIPTION
DF7990
DF7990'DESCRIBED BY NATIONAL GEODETIC SURVEY 2003
DF7990'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND
DF7990'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DF7990'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DF7990' FTP CORS.NGS.NOAA.GOV: CORS/COORD AND CORS/STATION_LOG
DF7990' HTTP://WWW.NGS.NOAA.GOV UNDER PRODUCTS AND SERVICES.

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

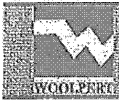
APPENDIX B: NEW GROUND CONTROL STATION INFORMATION

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

GPS Station Recovery - GPS Log Sheet																
Project Name: <u>Florida Coastal Mapping Project</u>	Operator Name: <u>M. BROWN</u> Job No. <u>66517</u>															
Station Name: <u>NEW BASE 1</u>	Date of Survey: <u>Nov 9, 09</u> Julian Day <u>313</u>															
<div style="border: 1px solid black; padding: 5px;"> WGS 84 Coordinates Latitude <u>27 23 28.285</u> Longitude <u>82 33 30.980</u> Ellip. Height <u>-85.251</u> </div>	File Name: <u>B6743130</u> Session # <u>ALL</u>															
Type of Receiver: <u>R8-Z</u>	Type of Antenna: <u>"</u>															
Type of Mark: <u>5/8" IRC / CONTROL STA.</u>	Antenna Height: <u>2</u>															
Stamping on Mark: <u>WOOLPERT LLP</u>	<div style="display: flex; justify-content: space-between;"> USFT ARP </div> <div style="display: flex; justify-content: space-between;"> Meters Phase Center </div>															
Start Time (local): <u>9:30 AM EST.</u>	Weather Condition: <u>CLEAR</u>															
<div style="display: flex;"> <div style="flex: 1;"> Reach Description: <u>NORTH 780' +/- ON US41 FROM SEAGATED DR., TURN RIGHT ON UN-NAMED ROAD, GO 790', TURN SOUTH, GO 570' +/-</u> </div> <div style="flex: 1;"> Witness Notes: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Reference Object</th> <th>Distance</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>1) FENCE COR.</td> <td>9.7</td> <td>180°</td> </tr> <tr> <td>2) FIRE HYDRANT</td> <td>100'</td> <td>45°</td> </tr> <tr> <td>3) 10" PINE</td> <td>50'</td> <td>350°</td> </tr> <tr> <td>4)</td> <td></td> <td></td> </tr> </tbody> </table> </div> </div>		Reference Object	Distance	Azimuth	1) FENCE COR.	9.7	180°	2) FIRE HYDRANT	100'	45°	3) 10" PINE	50'	350°	4)		
Reference Object	Distance	Azimuth														
1) FENCE COR.	9.7	180°														
2) FIRE HYDRANT	100'	45°														
3) 10" PINE	50'	350°														
4)																
<div style="border: 1px solid black; padding: 10px;"> <p style="font-size: small;">Sketch:</p> </div>																

GPS Station Recovery - GPS Log Sheet																
Project Name: <u>Florida Coastal Mapping Project</u>	Operator Name: <u>SKAIL</u> Job No.: <u>86517</u>															
Station Name: <u>NEW BASE 2</u>	Date of Survey: <u>09 NOV 07</u> Julian Day: <u>313</u>															
<div style="border: 1px solid black; padding: 5px;"> WGS 84 Coordinates Latitude: <u>27 55 48.9</u> Longitude: <u>80 07 26.1</u> Ellip. Height: <u>15.9</u> </div>	File Name: <u>NEW BASE 2 313</u> Session #: <u>BASE</u> Type of Receiver: <u>P8-2</u> Type of Antenna: <u>h</u>															
Type of Mark: <u>IP w/ yellow cap</u>	Antenna Height: <u>2.000</u>															
Stamping on Mark: <u>WOOLPERT INC</u>	Start Time (local): <u>10:14</u> Weather Condition: <u>CLEAR 65°</u>															
To Reach Description: <u>FROM INT OF SR 60 & CR 39, GO SOUTH ON CR 39 FOR 0.53 MILE TO STATION ON RIGHT</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Reference Object</th> <th>Distance</th> <th>Azimuth</th> </tr> </thead> <tbody> <tr> <td>1) UTILITY POLE</td> <td><u>185'</u></td> <td></td> </tr> <tr> <td>2) BRUSH LINE</td> <td><u>66'</u></td> <td></td> </tr> <tr> <td>3)</td> <td></td> <td></td> </tr> <tr> <td>4)</td> <td></td> <td></td> </tr> </tbody> </table>	Reference Object	Distance	Azimuth	1) UTILITY POLE	<u>185'</u>		2) BRUSH LINE	<u>66'</u>		3)			4)		
Reference Object	Distance	Azimuth														
1) UTILITY POLE	<u>185'</u>															
2) BRUSH LINE	<u>66'</u>															
3)																
4)																
<div style="border: 1px solid black; padding: 10px;"> <p>Sketch:</p> </div>																

GPS Station Recovery - GPS Log Sheet																
<p>Project Name: <u>Florida Coastal Mapping Project</u></p> <p>Station Name: <u>NEW BASE 3</u></p> <div style="border: 1px solid black; padding: 5px;"> <p>WGS 84 Coordinates</p> <p>Latitude: <u>27-20-07</u></p> <p>Longitude: <u>82-20-58</u></p> <p>Ellip. Height: _____</p> </div> <p>Type of Mark: <u>SM. PIN W/CAP (F)</u></p> <p>Stamping on Mark: <u>WOOLPERT</u></p>	<p>Operator Name: <u>S. D. P. J. C.</u> Job No. <u>66517</u></p> <p>Date of Survey: <u>12 JAN 2008</u> Julian Day <u>012</u></p> <p>File Name: <u>AREAC012SR</u> Session # <u>BASE</u></p> <p>Type of Receiver: <u>R-8</u></p> <p>Type of Antenna: <u>TRIMBLE</u></p> <p>Antenna Height: <u>3.562</u> Circle one: <input type="radio"/> USFT <input type="radio"/> ARP</p> <p style="text-align: right;">Meters Phase Center</p> <p>Start Time (local): <u>9:35 AM</u></p> <p>Weather Condition: <u>74° ± CLOUDY</u></p>															
<p>To-Reach Description: <u>STA LOCATED 1.37 MI ± S. OF EXIT 250 ON I-75 S. IN E ± OF GRASS MEDIAN. N. SIDE OF SYMMES RD OVER-PASS.</u></p>																
<p>Witness Ties:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Reference Object</th> <th style="width: 15%;">Distance</th> <th style="width: 15%;">Azimuth</th> </tr> </thead> <tbody> <tr><td>1)</td><td></td><td></td></tr> <tr><td>2)</td><td></td><td></td></tr> <tr><td>3)</td><td></td><td></td></tr> <tr><td>4)</td><td></td><td></td></tr> </tbody> </table>		Reference Object	Distance	Azimuth	1)			2)			3)			4)		
Reference Object	Distance	Azimuth														
1)																
2)																
3)																
4)																
<p>Sketch:</p> <div style="border: 1px solid black; height: 300px; position: relative;"> <div style="position: absolute; top: 10px; left: 10px;"> <p>North</p> </div> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%);"> <p style="text-align: center;">SYMMES RD</p> </div> </div>																



GPS Station Recovery - GPS Log Sheet

Project Name: Florida Coastal Mapping ProjectOperator Name _____ Job No. 55517Station Name: MCD 5

Date of Survey: _____ Julian Day _____

WGS 84 Coordinates

File Name: _____ Session # _____

Latitude 27° 50' 59.34"Type of Receiver: RS-2Longitude 82° 31' 56.34"Type of Antenna: RS-2Ellip. Height -46.41 SFTAntenna Height: 2.12

Chapman ORT

USFT ARP

Meters Phase Center

Type of Mark: IRC

Start Time (local): _____

Stamping on Mark: LG 6777

Weather Condition: _____

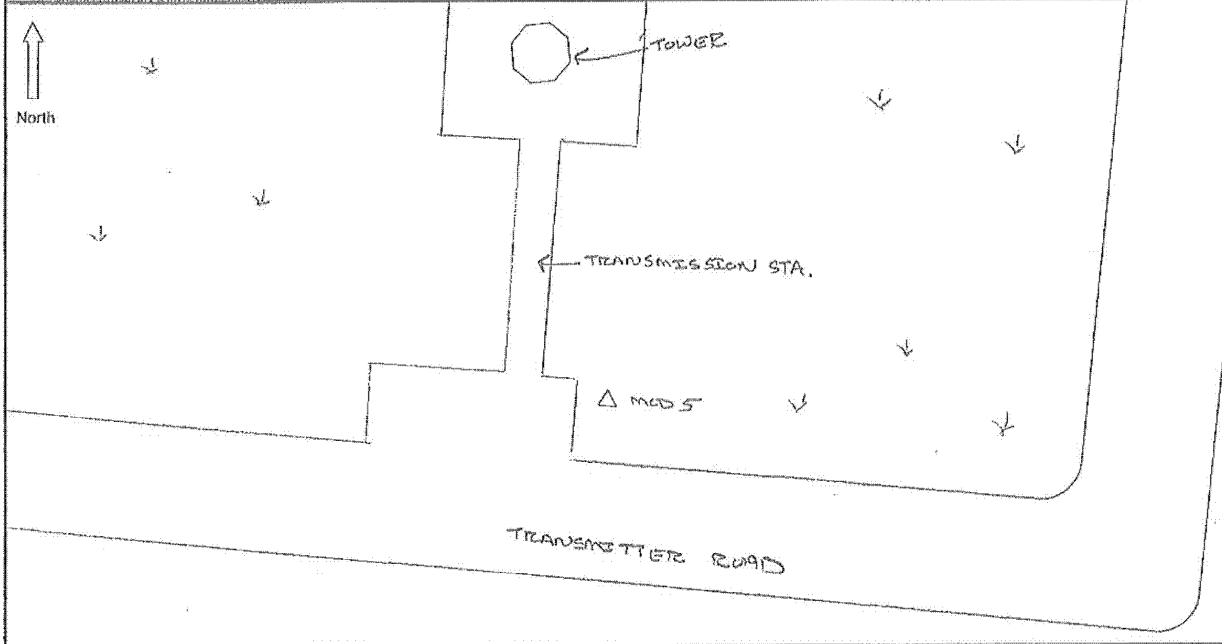
To Reach Description

FROM THE INT OF NORTH BOUNDARY RD +
TRANSMITTER RD GO SOUTH ON
TRANSMITTER RD FOR $\frac{1}{2}$ 1750' TO MARK
ON NORTH SIDE OF RD IN GRASS $\frac{1}{2}$ 700'

Witnesses

Reference Object	Distance	Azimuth
1)		
2)		
3)		
4)		

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 C of the FY2007 State of Florida Division of Emergency Management Ground Control QA/QC Survey Mapping Project.

PROJECT AREA 'C'
HORIZONTAL DATUM: NAD83(1999)
VERTICAL DATUM: NAVD88
UNITS: US SURVEY FEET
STATE PLANE ZONE: FLORIDA WEST 0902
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
1	1149176.94	497554.85	4.95	N/A	N/A	N/A	FORESTED AREAS
2	1149172.85	497454.24	5.28	N/A	N/A	N/A	FORESTED AREAS
3	1149183.28	497388.63	4.90	N/A	N/A	N/A	FORESTED AREAS
4	1167117.31	473517.20	15.32	N/A	N/A	N/A	FORESTED AREAS
5	1167102.78	473617.37	15.34	N/A	N/A	N/A	FORESTED AREAS
6	1167037.12	473716.84	15.87	N/A	N/A	N/A	FORESTED AREAS
3500	1362458.29	511065.01	50.75	0.01	0.01	0.03	TRAVERSE POINT
3501	1338871.99	522524.82	30.95	0.02	0.02	0.05	TRAVERSE POINT
3502	1338753.15	522509.07	30.53	0.02	0.02	0.06	TRAVERSE POINT
3503	1361812.23	564516.15	35.07	0.02	0.02	0.07	TRAVERSE POINT
3504	1361814.51	564621.31	34.89	0.02	0.03	0.07	TRAVERSE POINT
3510	1293830.47	552342.25	41.79	0.01	0.01	0.03	BARE EARTH AND LOW GRASS
3511	1293719.95	552340.21	41.45	0.01	0.01	0.03	BARE EARTH AND LOW GRASS
3512	1274619.99	555701.91	53.05	0.01	0.01	0.04	BARE EARTH AND LOW GRASS
3513	1274504.80	555774.07	54.38	0.01	0.01	0.04	BARE EARTH AND LOW GRASS
3515	1274731.07	555674.88	49.11	N/A	N/A	N/A	FORESTED AREAS
3516	1274682.80	555743.33	47.99	N/A	N/A	N/A	FORESTED AREAS
3519	1293922.58	552271.71	37.27	N/A	N/A	N/A	FORESTED AREAS
3520	1293816.23	552177.20	37.52	N/A	N/A	N/A	FORESTED AREAS
3521	1293707.72	552201.30	37.18	N/A	N/A	N/A	FORESTED AREAS
3524	1317257.34	558601.05	43.53	N/A	N/A	N/A	FORESTED AREAS
3525	1317133.53	558576.55	43.49	N/A	N/A	N/A	FORESTED AREAS
3526	1317001.35	558585.10	44.61	N/A	N/A	N/A	FORESTED AREAS
3529	1334074.27	558681.14	72.33	N/A	N/A	N/A	FORESTED AREAS
3530	1334059.64	558782.21	76.35	N/A	N/A	N/A	FORESTED AREAS
3531	1333935.60	558801.27	82.88	N/A	N/A	N/A	FORESTED AREAS
3534	1344315.89	542745.03	47.02	N/A	N/A	N/A	FORESTED AREAS
3535	1344184.59	542526.61	47.60	N/A	N/A	N/A	FORESTED AREAS
3538	1338951.72	522427.64	29.59	N/A	N/A	N/A	FORESTED AREAS
3539	1338892.62	522374.88	29.03	N/A	N/A	N/A	FORESTED AREAS

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
3540	1338825.22	522390.62	29.23	N/A	N/A	N/A	FORESTED AREAS
3600	1272862.86	533639.87	9.42	0.02	0.02	0.05	URBAN AREAS
3601	1272570.88	556864.03	63.81	0.02	0.01	0.04	URBAN AREAS
3602	1272695.00	556813.41	63.02	0.02	0.01	0.04	URBAN AREAS
3603	1157025.02	537544.49	35.94	0.02	0.02	0.05	TRAVERSE POINT
3606	1138640.25	557833.76	75.17	0.02	0.03	0.05	TRAVERSE POINT
3608	1149072.37	497457.40	9.49	0.01	0.01	0.04	BARE EARTH AND LOW GRASS
3610	1136975.80	445886.40	7.02	0.02	0.03	0.07	TRAVERSE POINT
3612	1166778.81	473484.31	16.34	0.03	0.03	0.09	TRAVERSE POINT
3700	1238384.41	518583.93	6.02	0.03	0.03	0.08	TRAVERSE POINT
3701	1226229.92	503380.45	8.29	0.02	0.02	0.06	URBAN AREAS
3702	1226128.89	503380.26	8.85	0.02	0.02	0.06	URBAN AREAS
3703	1188195.70	480979.56	9.36	0.02	0.01	0.05	TRAVERSE POINT
3704	1188193.23	480899.91	8.54	0.02	0.01	0.05	TRAVERSE POINT
3800	1149167.51	497651.78	4.22	N/A	N/A	N/A	FORESTED AREAS
3801	1148862.98	497520.16	5.72	N/A	N/A	N/A	FORESTED AREAS
3808	1226191.05	503504.59	7.27	N/A	N/A	N/A	FORESTED AREAS
3809	1238352.33	518818.94	4.27	N/A	N/A	N/A	FORESTED AREAS
3810	1238518.11	518562.66	6.91	N/A	N/A	N/A	FORESTED AREAS
3811	1250844.91	530720.36	8.00	N/A	N/A	N/A	FORESTED AREAS
3812	1272569.46	533772.80	8.28	N/A	N/A	N/A	FORESTED AREAS
3813	1272441.71	557062.59	67.53	N/A	N/A	N/A	FORESTED AREAS
3814	1272681.88	556944.32	65.98	N/A	N/A	N/A	FORESTED AREAS
3815	1272778.38	556900.63	65.33	N/A	N/A	N/A	FORESTED AREAS
3816	1166767.74	473541.84	14.48	N/A	N/A	N/A	FORESTED AREAS
3817	1166978.88	473785.28	15.34	N/A	N/A	N/A	FORESTED AREAS
3818	1167125.23	473644.37	15.48	N/A	N/A	N/A	FORESTED AREAS
9700	1250933.44	530604.89	10.48	0.02	0.02	0.04	BARE EARTH AND LOW GRASS
9701	1250799.24	530534.34	10.15	0.02	0.02	0.04	BARE EARTH AND LOW GRASS
3002-REPLACED	1332970.08	556009.89	33.50	0.04	0.06	0.14	BARE EARTH AND LOW GRASS
3017-REPLACED	1343811.30	494544.51	39.52	0.05	0.05	0.18	BARE EARTH AND LOW GRASS
3020-REPLACED	1344315.57	542091.51	46.60	0.03	0.03	0.10	BARE EARTH AND LOW GRASS
3021-REPLACED	1344328.31	542551.58	49.62	0.03	0.03	0.07	BRUSH LANDS AND LOW TREES
3024-REPLACED	1341382.74	522072.04	46.37	0.04	0.02	0.08	URBAN AREAS
3025-REPLACED	1337851.49	522205.31	31.18	0.04	0.03	0.13	BRUSH LANDS AND LOW TREES
3026-REPLACED	1339627.33	522525.32	30.09	0.04	0.04	0.10	BARE EARTH AND LOW GRASS
3031-REPLACED	1326918.35	540068.54	24.15	0.04	0.03	0.14	BARE EARTH AND LOW GRASS
3032-REPLACED	1327184.32	539684.40	26.01	0.04	0.02	0.09	URBAN AREAS

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
3034-REPLACED	1333357.94	557754.35	52.55	0.05	0.05	0.10	URBAN AREAS
3035-REPLACED	1333982.65	558658.25	72.77	0.03	0.04	0.08	BRUSH LANDS AND LOW TREES
3037-REPLACED	1333559.79	558699.77	85.26	0.02	0.03	0.08	BARE EARTH AND LOW GRASS
3038-REPLACED	1317109.66	558861.61	43.03	0.03	0.03	0.11	BARE EARTH AND LOW GRASS
3039-REPLACED	1317147.31	558752.86	43.39	0.04	0.04	0.10	URBAN AREAS
3040-REPLACED	1316675.57	558599.76	44.32	0.03	0.04	0.11	BRUSH LANDS AND LOW TREES
3043-REPLACED	1296768.42	573366.44	72.86	0.02	0.03	0.06	BARE EARTH AND LOW GRASS
3044-REPLACED	1297848.37	574679.58	76.03	0.02	0.02	0.06	BRUSH LANDS AND LOW TREES
3045-REPLACED	1298017.04	572712.11	99.70	0.02	0.02	0.05	URBAN AREAS
3048-REPLACED	1294333.42	555811.79	36.62	0.02	0.02	0.06	BARE EARTH AND LOW GRASS
3049-REPLACED	1295580.78	556618.47	37.50	0.03	0.05	0.11	URBAN AREAS
3050-REPLACED	1295739.89	556409.93	33.25	0.02	0.03	0.09	BRUSH LANDS AND LOW TREES
3053-REPLACED	1296861.04	527637.08	6.91	0.04	0.03	0.14	URBAN AREAS
3054-REPLACED	1297126.21	529857.06	7.41	0.03	0.03	0.09	BRUSH LANDS AND LOW TREES
3056-REPLACED	1297042.46	526235.32	8.00	0.04	0.04	0.12	BARE EARTH AND LOW GRASS
3057-REPLACED	1272364.50	533609.97	8.37	0.04	0.05	0.13	BARE EARTH AND LOW GRASS
3058-REPLACED	1272731.33	533628.95	9.46	0.03	0.04	0.13	URBAN AREAS
3059-REPLACED	1278426.60	537474.25	12.87	0.03	0.04	0.11	BRUSH LANDS AND LOW TREES
3060-REPLACED	1156023.58	473862.82	5.96	0.01	0.01	0.04	BARE EARTH AND LOW GRASS
3066-REPLACED	1144428.91	476083.65	23.46	0.01	0.02	0.04	BARE EARTH AND LOW GRASS
3067-REPLACED	1156610.41	445167.45	18.33	0.02	0.02	0.04	BRUSH LANDS AND LOW TREES
3071-REPLACED	1231296.60	515893.59	3.90	0.02	0.03	0.06	URBAN AREAS
3072-REPLACED	1246882.04	526760.58	7.86	0.03	0.03	0.08	BRUSH LANDS AND LOW TREES
3080-REPLACED	1240295.50	536431.20	50.57	0.02	0.02	0.04	BARE EARTH AND LOW GRASS
3081-REPLACED	1237170.52	522876.23	7.65	0.02	0.03	0.08	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
3082-REPLACED	1249184.49	537149.91	43.50	0.02	0.03	0.09	URBAN AREAS
3087-REPLACED	1152415.89	535465.24	28.17	0.01	0.02	0.04	BRUSH LANDS AND LOW TREES
3091-REPLACED	1139402.04	557815.25	68.62	0.02	0.02	0.05	BRUSH LANDS AND LOW TREES
3094-REPLACED	1278798.23	554705.94	61.89	0.01	0.02	0.04	BARE EARTH AND LOW GRASS
3095-REPLACED	1271777.19	557085.96	64.19	0.02	0.02	0.04	BRUSH LANDS AND LOW TREES
3096-REPLACED	1279291.06	558367.62	71.16	0.02	0.02	0.06	URBAN AREAS
3099-REPLACED	1275699.95	585992.41	82.79	0.01	0.02	0.05	BARE EARTH AND LOW GRASS
3100-REPLACED	1274910.00	585826.75	79.84	0.01	0.02	0.05	BRUSH LANDS AND LOW TREES
3101-REPLACED	1275564.41	585689.52	81.15	0.02	0.02	0.05	URBAN AREAS
3104-REPLACED	1257705.02	538380.67	36.69	0.02	0.02	0.08	URBAN AREAS
3105-REPLACED	1258296.02	536228.10	20.35	0.02	0.02	0.06	BARE EARTH AND LOW GRASS
3106-REPLACED	1251167.32	536830.49	39.85	0.02	0.02	0.05	BRUSH LANDS AND LOW TREES
3109-REPLACED	1238496.47	518709.88	5.49	0.03	0.04	0.07	BARE EARTH AND LOW GRASS
3110-REPLACED	1239038.71	519759.82	6.48	0.02	0.02	0.06	BRUSH LANDS AND LOW TREES
3111-REPLACED	1239271.85	519108.52	6.57	0.02	0.02	0.07	URBAN AREAS
3114-REPLACED	1221959.90	507191.55	16.68	0.02	0.02	0.06	BRUSH LANDS AND LOW TREES
3115-REPLACED	1221578.00	507770.08	10.45	0.03	0.02	0.07	BARE EARTH AND LOW GRASS
3116-REPLACED	1221652.83	507778.34	12.63	0.03	0.03	0.10	URBAN AREAS
3119-REPLACED	1236497.70	529065.90	37.57	0.02	0.02	0.05	BARE EARTH AND LOW GRASS
3120-REPLACED	1244172.23	527162.01	10.07	0.02	0.02	0.06	BRUSH LANDS AND LOW TREES
3121-REPLACED	1239057.18	538271.34	42.18	0.02	0.03	0.08	URBAN AREAS
3124-REPLACED	1205983.72	489477.01	21.14	0.04	0.04	0.08	BRUSH LANDS AND LOW TREES
3125-REPLACED	1205351.06	488376.07	18.63	0.02	0.02	0.08	BARE EARTH AND LOW GRASS
3126-REPLACED	1207210.97	491095.68	20.47	0.02	0.02	0.05	URBAN AREAS
3129-REPLACED	1180109.85	468030.66	4.44	0.03	0.03	0.06	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
3130-REPLACED	1172968.58	481057.18	23.78	0.02	0.03	0.06	BRUSH LANDS AND LOW TREES
3131-REPLACED	1179913.13	464977.52	2.74	0.02	0.03	0.06	URBAN AREAS
3133-REPLACED	1164132.95	477477.42	14.26	0.02	0.02	0.05	URBAN AREAS
3135-REPLACED	1168431.65	473524.37	19.48	0.02	0.02	0.06	BRUSH LANDS AND LOW TREES
3139-REPLACED	1344392.64	541537.86	46.82	0.05	0.05	0.27	URBAN AREAS
3143-NEW	1228520.40	547459.29	67.49	0.02	0.02	0.06	LIDAR CONTROL POINT
3144-NEW	1240461.81	522393.23	9.87	0.02	0.02	0.06	LIDAR CONTROL POINT
3145-NEW	1238697.33	518973.11	6.08	0.02	0.02	0.07	LIDAR CONTROL POINT
3146-NEW	1333486.16	557550.57	49.47	0.04	0.04	0.10	LIDAR CONTROL POINT
3148-NEW	1144449.63	476159.53	21.47	0.01	0.02	0.05	LIDAR CONTROL POINT
3149-NEW	1156248.80	473997.03	6.68	0.01	0.01	0.04	LIDAR CONTROL POINT
3150-NEW	1142547.53	508224.21	28.40	0.02	0.02	0.06	LIDAR CONTROL POINT
3151-NEW	1179624.51	465600.90	3.90	0.02	0.02	0.08	LIDAR CONTROL POINT
3152-NEW	1176090.97	479309.59	13.38	0.03	0.04	0.09	LIDAR CONTROL POINT
3165-NEW	1248122.20	528819.63	9.11	0.02	0.03	0.05	URBAN AREAS
3166-NEW	1154166.81	536218.71	20.68	0.01	0.02	0.06	URBAN AREAS
3169-NEW	1272884.40	552665.75	68.41	0.01	0.01	0.05	BARE EARTH AND LOW GRASS
3177-NEW	1279626.56	532417.44	6.12	0.04	0.02	0.09	LIDAR CONTROL POINT
3201-NEW	1305056.93	526293.27	7.16	0.02	0.03	0.05	BRUSH LANDS AND LOW TREES
3202-NEW	1304992.16	526689.56	7.63	0.03	0.03	0.08	URBAN AREAS
3203-NEW	1304866.20	536689.15	18.97	0.03	0.04	0.18	BRUSH LANDS AND LOW TREES
3204-NEW	1305061.87	539313.89	23.00	0.03	0.03	0.09	BARE EARTH AND LOW GRASS
3205-NEW	1305060.94	539747.26	22.18	0.03	0.03	0.09	LIDAR CONTROL POINT
3206-NEW	1307520.72	555952.16	36.32	0.04	0.04	0.15	LIDAR CONTROL POINT
3207-NEW	1307064.26	552034.82	29.35	0.03	0.02	0.06	BARE EARTH AND LOW GRASS
3208-NEW	1306970.90	552490.96	30.02	0.02	0.02	0.06	BRUSH LANDS AND LOW TREES
3301-NEW	1278091.38	533369.56	8.22	0.02	0.02	0.05	LIDAR CONTROL POINT
3302-NEW	1272473.24	533551.13	8.38	0.03	0.04	0.14	BARE EARTH AND LOW GRASS
3303-NEW	1272106.13	540892.42	26.12	0.02	0.03	0.08	BRUSH LANDS AND LOW TREES
3304-NEW	1273006.47	551141.22	62.28	0.03	0.03	0.09	URBAN AREAS
3305-NEW	1287251.75	550719.07	25.16	0.02	0.02	0.06	LIDAR CONTROL POINT
3306-NEW	1283859.32	531839.27	6.27	0.03	0.02	0.06	BRUSH LANDS AND LOW TREES
3401-NEW	1310340.19	567029.81	66.26	0.02	0.03	0.05	LIDAR CONTROL POINT
3402-NEW	1311054.60	563839.29	40.51	0.03	0.03	0.07	BARE EARTH AND LOW GRASS
3403-NEW	1313317.29	559424.75	49.74	0.04	0.05	0.23	BRUSH LANDS AND LOW TREES
3404-NEW	1310335.06	556319.49	47.72	0.03	0.04	0.09	LIDAR CONTROL POINT
3405-NEW	1311295.21	537939.71	23.36	0.02	0.03	0.09	BRUSH LANDS AND LOW TREES
3406-NEW	1311010.52	542473.05	24.94	0.03	0.02	0.06	URBAN AREAS
3407-NEW	1309352.57	542643.26	26.49	0.02	0.02	0.05	BRUSH LANDS AND LOW TREES
3501-NEW	1342572.54	493485.23	35.74	0.02	0.03	0.05	LIDAR CONTROL POINT
3502-NEW	1346528.89	492669.25	37.89	0.03	0.03	0.06	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
3504-NEW	1339450.69	518664.28	36.65	0.03	0.03	0.10	BRUSH LANDS AND LOW TREES
3601-NEW	1326100.56	542937.74	22.43	0.03	0.03	0.07	BARE EARTH AND LOW GRASS
3602-NEW	1326019.00	539751.71	24.01	0.03	0.04	0.07	BRUSH LANDS AND LOW TREES
3603-NEW	1332570.04	553335.75	37.19	0.03	0.03	0.09	URBAN AREAS
3604-NEW	1326344.79	538711.10	30.87	0.04	0.05	0.17	LIDAR CONTROL POINT
3605-NEW	1336180.71	558684.16	59.40	0.03	0.03	0.08	LIDAR CONTROL POINT
3607R	1149061.90	497634.19	9.39	0.02	0.01	0.04	BARE EARTH AND LOW GRASS
3611R	1166948.53	473435.80	15.81	0.03	0.03	0.09	TRAVERSE POINT

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
BRTW	1314451.35	726276.68	130.87	0.01	0.01	0.03	NGS CONTROL STATION
WACHULA	1156103.69	694285.96	117.42	0.01	0.01	0.03	NGS CONTROL STATION
ZEFR	1415483.61	603153.82	86.41	0.01	0.01	0.03	NGS CONTROL STATION
MCD5	1278477.36	484154.82	34.87	0.00	0.01	0.02	NGS CONTROL STATION
PLANTPORT	1332867.55	603595.77	148.74	0.00	0.00	0.00	NGS CONTROL STATION
KEY	1296949.33	615108.86	100.64	0.00	0.00	0.00	NGS CONTROL STATION
R 694	1278351.25	532889.59	8.77	0.02	0.02	0.07	NGS CONTROL STATION
PARISH	1184128.48	530251.00	32.58	0.00	0.00	0.00	NGS CONTROL STATION
SEVEN	1263121.73	416695.11	23.48	0.00	0.00	0.00	NGS CONTROL STATION
I75 84 A41	1158574.88	492729.16	27.74	0.01	0.01	0.00	NGS CONTROL STATION
SKIPPER RESET	1362174.50	511127.34	52.67	0.00	0.00	0.00	NGS CONTROL STATION

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
NEW BASE 1	1111785.39	474919.49	20.97	0.00	0.01	0.02	WOOLPERT IPC
NEW BASE 2	1307367.81	616164.33	108.23	0.01	0.01	0.03	WOOLPERT IPC
NEW BASE 3	1273031.68	543216.25	53.01	0.00	0.00	0.02	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 C of the FY2007 State of Florida Division of Emergency Management Ground Control QA/QC Survey Mapping Project.

LIDAR QA/QC POINTS (NO FOREST POINTS)

METERS

CALCULATED ACCURACY:

0.01	Meters RMSE _x
0.01	Meters RMSE _y
0.01	Meters RMSE _{xy}
0.02	Meters at 95% C.I.
0.03	RMSE _z
0.05	Meters at 95% C.I.

US FEET

CALCULATED ACCURACY:

0.03	Feet RMSE _x
0.03	Feet RMSE _y
0.04	Feet RMSE _{xy}
0.07	Feet at 95% C.I.
0.09	RMSE _z
0.17	Feet at 95% C.I.

<u>STATION</u>	<u>V_x</u>	<u>V_y</u>	<u>V_{xy}</u>	<u>V_z</u>
3002-REPLACED	0.017	0.014	0.022	0.042
3017-REPLACED	0.014	0.015	0.020	0.055
3020-REPLACED	0.009	0.008	0.012	0.030
3021-REPLACED	0.009	0.009	0.012	0.022
3024-REPLACED	0.007	0.012	0.014	0.026
3025-REPLACED	0.009	0.012	0.015	0.039
3026-REPLACED	0.011	0.011	0.016	0.029
3031-REPLACED	0.010	0.013	0.016	0.043
3032-REPLACED	0.007	0.012	0.014	0.027
3034-REPLACED	0.016	0.014	0.021	0.030
3035-REPLACED	0.011	0.008	0.014	0.024
3037-REPLACED	0.009	0.007	0.012	0.024
3038-REPLACED	0.010	0.008	0.012	0.033
3039-REPLACED	0.013	0.011	0.017	0.030
3040-REPLACED	0.013	0.010	0.017	0.034
3043-REPLACED	0.010	0.008	0.013	0.018
3044-REPLACED	0.006	0.005	0.008	0.020
3045-REPLACED	0.007	0.005	0.009	0.015
3048-REPLACED	0.007	0.007	0.010	0.019
3049-REPLACED	0.014	0.010	0.017	0.035
3050-REPLACED	0.009	0.007	0.011	0.029
3053-REPLACED	0.010	0.012	0.016	0.042
3054-REPLACED	0.008	0.010	0.012	0.029
3056-REPLACED	0.013	0.013	0.018	0.035
3057-REPLACED	0.014	0.012	0.018	0.039
3058-REPLACED	0.012	0.011	0.016	0.040
3059-REPLACED	0.013	0.009	0.015	0.033
3060-REPLACED	0.004	0.004	0.006	0.011
3066-REPLACED	0.005	0.003	0.006	0.014
3067-REPLACED	0.006	0.005	0.008	0.013

<u>STATION</u>	<u>V_x</u>	<u>V_y</u>	<u>V_{xy}</u>	<u>V_z</u>
3002-REPLACED	0.06	0.04	0.07	0.14
3017-REPLACED	0.05	0.05	0.07	0.18
3020-REPLACED	0.03	0.03	0.04	0.10
3021-REPLACED	0.03	0.03	0.04	0.07
3024-REPLACED	0.02	0.04	0.04	0.08
3025-REPLACED	0.03	0.04	0.05	0.13
3026-REPLACED	0.04	0.04	0.05	0.10
3031-REPLACED	0.03	0.04	0.05	0.14
3032-REPLACED	0.02	0.04	0.05	0.09
3034-REPLACED	0.05	0.05	0.07	0.10
3035-REPLACED	0.04	0.03	0.05	0.08
3037-REPLACED	0.03	0.02	0.04	0.08
3038-REPLACED	0.03	0.03	0.04	0.11
3039-REPLACED	0.04	0.04	0.06	0.10
3040-REPLACED	0.04	0.03	0.05	0.11
3043-REPLACED	0.03	0.02	0.04	0.06
3044-REPLACED	0.02	0.02	0.03	0.06
3045-REPLACED	0.02	0.02	0.03	0.05
3048-REPLACED	0.02	0.02	0.03	0.06
3049-REPLACED	0.05	0.03	0.06	0.11
3050-REPLACED	0.03	0.02	0.04	0.09
3053-REPLACED	0.03	0.04	0.05	0.14
3054-REPLACED	0.03	0.03	0.04	0.09
3056-REPLACED	0.04	0.04	0.06	0.12
3057-REPLACED	0.05	0.04	0.06	0.13
3058-REPLACED	0.04	0.03	0.05	0.13
3059-REPLACED	0.04	0.03	0.05	0.11
3060-REPLACED	0.01	0.01	0.02	0.04
3066-REPLACED	0.02	0.01	0.02	0.04
3067-REPLACED	0.02	0.02	0.03	0.04

STATION	Vx	Vy	Vxy	Vz
3071-REPLACED	0.008	0.007	0.010	0.018
3072-REPLACED	0.009	0.008	0.012	0.024
3080-REPLACED	0.006	0.005	0.008	0.013
3081-REPLACED	0.009	0.006	0.011	0.024
3082-REPLACED	0.010	0.007	0.012	0.028
3087-REPLACED	0.005	0.005	0.007	0.013
3091-REPLACED	0.006	0.006	0.009	0.014
3094-REPLACED	0.005	0.004	0.007	0.012
3095-REPLACED	0.006	0.005	0.008	0.011
3096-REPLACED	0.007	0.007	0.010	0.020
3099-REPLACED	0.005	0.004	0.006	0.015
3100-REPLACED	0.006	0.005	0.007	0.014
3101-REPLACED	0.005	0.006	0.008	0.016
3104-REPLACED	0.007	0.006	0.009	0.024
3105-REPLACED	0.007	0.006	0.009	0.017
3106-REPLACED	0.007	0.006	0.009	0.015
3109-REPLACED	0.012	0.008	0.014	0.022
3110-REPLACED	0.007	0.006	0.009	0.017
3111-REPLACED	0.008	0.007	0.010	0.021
3114-REPLACED	0.006	0.006	0.009	0.017
3115-REPLACED	0.006	0.010	0.011	0.023
3116-REPLACED	0.008	0.008	0.012	0.032
3119-REPLACED	0.008	0.007	0.010	0.015
3120-REPLACED	0.007	0.006	0.009	0.017
3121-REPLACED	0.009	0.006	0.011	0.026
3124-REPLACED	0.012	0.012	0.017	0.025
3125-REPLACED	0.008	0.006	0.010	0.026
3126-REPLACED	0.007	0.006	0.009	0.015
3129-REPLACED	0.010	0.008	0.013	0.018
3130-REPLACED	0.008	0.007	0.010	0.018
3131-REPLACED	0.008	0.006	0.010	0.017
3133-REPLACED	0.007	0.005	0.009	0.014
3135-REPLACED	0.006	0.005	0.008	0.018
3139-REPLACED	0.015	0.015	0.021	0.083
3165-NEW	0.008	0.007	0.011	0.016
3166-NEW	0.006	0.004	0.007	0.017
3169-NEW	0.004	0.004	0.006	0.015
3201-NEW	0.009	0.007	0.011	0.016
3202-NEW	0.010	0.010	0.014	0.024
3203-NEW	0.012	0.010	0.016	0.054
3204-NEW	0.011	0.008	0.013	0.027
3207-NEW	0.005	0.009	0.010	0.020
3208-NEW	0.005	0.005	0.008	0.019
3302-NEW	0.012	0.010	0.016	0.043
3303-NEW	0.010	0.007	0.012	0.025
3304-NEW	0.009	0.008	0.012	0.028
3306-NEW	0.005	0.008	0.010	0.019

STATION	Vx	Vy	Vxy	Vz
3071-REPLACED	0.03	0.02	0.03	0.06
3072-REPLACED	0.03	0.03	0.04	0.08
3080-REPLACED	0.02	0.02	0.03	0.04
3081-REPLACED	0.03	0.02	0.04	0.08
3082-REPLACED	0.03	0.02	0.04	0.09
3087-REPLACED	0.02	0.01	0.02	0.04
3091-REPLACED	0.02	0.02	0.03	0.05
3094-REPLACED	0.02	0.01	0.02	0.04
3095-REPLACED	0.02	0.02	0.03	0.04
3096-REPLACED	0.02	0.02	0.03	0.06
3099-REPLACED	0.02	0.01	0.02	0.05
3100-REPLACED	0.02	0.01	0.02	0.05
3101-REPLACED	0.02	0.02	0.03	0.05
3104-REPLACED	0.02	0.02	0.03	0.08
3105-REPLACED	0.02	0.02	0.03	0.06
3106-REPLACED	0.02	0.02	0.03	0.05
3109-REPLACED	0.04	0.03	0.05	0.07
3110-REPLACED	0.02	0.02	0.03	0.06
3111-REPLACED	0.02	0.02	0.03	0.07
3114-REPLACED	0.02	0.02	0.03	0.06
3115-REPLACED	0.02	0.03	0.04	0.07
3116-REPLACED	0.03	0.03	0.04	0.10
3119-REPLACED	0.02	0.02	0.03	0.05
3120-REPLACED	0.02	0.02	0.03	0.06
3121-REPLACED	0.03	0.02	0.04	0.08
3124-REPLACED	0.04	0.04	0.06	0.08
3125-REPLACED	0.02	0.02	0.03	0.08
3126-REPLACED	0.02	0.02	0.03	0.05
3129-REPLACED	0.03	0.03	0.04	0.06
3130-REPLACED	0.03	0.02	0.03	0.06
3131-REPLACED	0.03	0.02	0.03	0.06
3133-REPLACED	0.02	0.02	0.03	0.05
3135-REPLACED	0.02	0.02	0.03	0.06
3139-REPLACED	0.05	0.05	0.07	0.27
3165-NEW	0.03	0.02	0.04	0.05
3166-NEW	0.02	0.01	0.02	0.06
3169-NEW	0.01	0.01	0.02	0.05
3201-NEW	0.03	0.02	0.04	0.05
3202-NEW	0.03	0.03	0.04	0.08
3203-NEW	0.04	0.03	0.05	0.18
3204-NEW	0.03	0.03	0.04	0.09
3207-NEW	0.02	0.03	0.03	0.06
3208-NEW	0.02	0.02	0.02	0.06
3302-NEW	0.04	0.03	0.05	0.14
3303-NEW	0.03	0.02	0.04	0.08
3304-NEW	0.03	0.03	0.04	0.09
3306-NEW	0.02	0.03	0.03	0.06

STATION	Vx	Vy	Vxy	Vz
3402-NEW	0.009	0.009	0.013	0.020
3403-NEW	0.014	0.011	0.018	0.070
3405-NEW	0.008	0.007	0.011	0.026
3406-NEW	0.006	0.008	0.010	0.019
3407-NEW	0.005	0.005	0.007	0.017
3504-NEW	0.009	0.008	0.012	0.031
3510	0.003	0.004	0.005	0.009
3511	0.003	0.004	0.005	0.009
3512	0.004	0.004	0.006	0.014
3513	0.004	0.004	0.006	0.013
3600	0.005	0.005	0.007	0.014
3601	0.003	0.005	0.006	0.012
3601-NEW	0.009	0.009	0.012	0.021
3602	0.004	0.005	0.006	0.013
3602-NEW	0.012	0.008	0.015	0.023
3603-NEW	0.009	0.010	0.014	0.027
3607R	0.004	0.005	0.007	0.013
3608	0.004	0.004	0.006	0.012
3701	0.007	0.005	0.008	0.018
3702	0.007	0.005	0.009	0.019
9700	0.006	0.005	0.008	0.012
9701	0.006	0.005	0.007	0.012
SUMSQ	0.01	0.01	0.01	0.07
COUNT	99.00	99.00	99.00	99.00
AVG. ERROR	0.01	0.01	0.01	0.02
MAX. ERROR	0.02	0.02	0.02	0.08
MIN. ERROR	0.00	0.00	0.00	0.01
RMSE	0.01	0.01	0.01	0.03

STATION	Vx	Vy	Vxy	Vz
3402-NEW	0.03	0.03	0.04	0.07
3403-NEW	0.05	0.04	0.06	0.23
3405-NEW	0.03	0.02	0.04	0.09
3406-NEW	0.02	0.03	0.03	0.06
3407-NEW	0.02	0.02	0.02	0.05
3504-NEW	0.03	0.03	0.04	0.10
3510	0.01	0.01	0.02	0.03
3511	0.01	0.01	0.02	0.03
3512	0.01	0.01	0.02	0.04
3513	0.01	0.01	0.02	0.04
3600	0.02	0.02	0.02	0.05
3601	0.01	0.02	0.02	0.04
3601-NEW	0.03	0.03	0.04	0.07
3602	0.01	0.02	0.02	0.04
3602-NEW	0.04	0.03	0.05	0.07
3603-NEW	0.03	0.03	0.04	0.09
3607R	0.01	0.02	0.02	0.04
3608	0.01	0.01	0.02	0.04
3701	0.02	0.02	0.03	0.06
3702	0.02	0.02	0.03	0.06
9700	0.02	0.02	0.03	0.04
9701	0.02	0.02	0.02	0.04
SUMSQ	0.08	0.07	0.15	0.74
COUNT	99.00	99.00	99.00	99.00
AVG. ERROR	0.03	0.02	0.04	0.08
MAX. ERROR	0.06	0.05	0.07	0.27
MIN. ERROR	0.01	0.01	0.02	0.03
RMSE	0.03	0.03	0.04	0.09

LIDAR CONTROL POINTS ONLY

METERS

CALCULATED ACCURACY:

0.01	Meters RMSE_x
0.01	Meters RMSE_y
0.01	Meters RMSE_{xy}
0.02	Meters at 95% C.I.
0.03	RMSE_z
0.05	Meters at 95% C.I.

US FEET

CALCULATED ACCURACY:

0.03	Feet RMSE_x
0.03	Feet RMSE_y
0.04	Feet RMSE_{xy}
0.07	Feet at 95% C.I.
0.08	RMSE_z
0.16	Feet at 95% C.I.

<u>STATION</u>	<u>V_x</u>	<u>V_y</u>	<u>V_{xy}</u>	<u>V_z</u>
3143-NEW	0.007	0.007	0.010	0.019
3144-NEW	0.006	0.007	0.009	0.018
3145-NEW	0.007	0.006	0.009	0.022
3146-NEW	0.013	0.012	0.018	0.031
3148-NEW	0.005	0.004	0.006	0.014
3149-NEW	0.004	0.004	0.006	0.012
3150-NEW	0.005	0.007	0.009	0.017
3151-NEW	0.008	0.006	0.010	0.023
3152-NEW	0.011	0.008	0.013	0.028
3177-NEW	0.007	0.011	0.013	0.026
3205-NEW	0.010	0.009	0.013	0.027
3206-NEW	0.012	0.013	0.017	0.044
3301-NEW	0.006	0.006	0.009	0.014
3305-NEW	0.006	0.007	0.009	0.018
3401-NEW	0.009	0.007	0.012	0.016
3404-NEW	0.011	0.008	0.014	0.028
3501-NEW	0.008	0.007	0.011	0.016
3502-NEW	0.008	0.008	0.011	0.017
3604-NEW	0.014	0.012	0.019	0.053
3605-NEW	0.010	0.008	0.013	0.025
SUMSQ	0.00	0.00	0.00	0.01
COUNT	20.00	20.00	20.00	20.00
AVG. ERROR	0.01	0.01	0.01	0.02
MAX. ERROR	0.01	0.01	0.02	0.05
MIN. ERROR	0.00	0.00	0.01	0.01
RMSE	0.01	0.01	0.01	0.03

<u>STATION</u>	<u>V_x</u>	<u>V_y</u>	<u>V_{xy}</u>	<u>V_z</u>
3143-NEW	0.02	0.02	0.03	0.06
3144-NEW	0.02	0.02	0.03	0.06
3145-NEW	0.02	0.02	0.03	0.07
3146-NEW	0.04	0.04	0.06	0.10
3148-NEW	0.02	0.01	0.02	0.05
3149-NEW	0.01	0.01	0.02	0.04
3150-NEW	0.02	0.02	0.03	0.06
3151-NEW	0.02	0.02	0.03	0.08
3152-NEW	0.04	0.03	0.04	0.09
3177-NEW	0.02	0.04	0.04	0.09
3205-NEW	0.03	0.03	0.04	0.09
3206-NEW	0.04	0.04	0.06	0.15
3301-NEW	0.02	0.02	0.03	0.05
3305-NEW	0.02	0.02	0.03	0.06
3401-NEW	0.03	0.02	0.04	0.05
3404-NEW	0.04	0.03	0.04	0.09
3501-NEW	0.03	0.02	0.03	0.05
3502-NEW	0.03	0.03	0.04	0.06
3604-NEW	0.05	0.04	0.06	0.17
3605-NEW	0.03	0.03	0.04	0.08
SUMSQ	0.02	0.01	0.03	0.14
COUNT	20.00	20.00	20.00	20.00
AVG. ERROR	0.03	0.03	0.04	0.08
MAX. ERROR	0.05	0.04	0.06	0.17
MIN. ERROR	0.01	0.01	0.02	0.04
RMSE	0.03	0.03	0.04	0.08

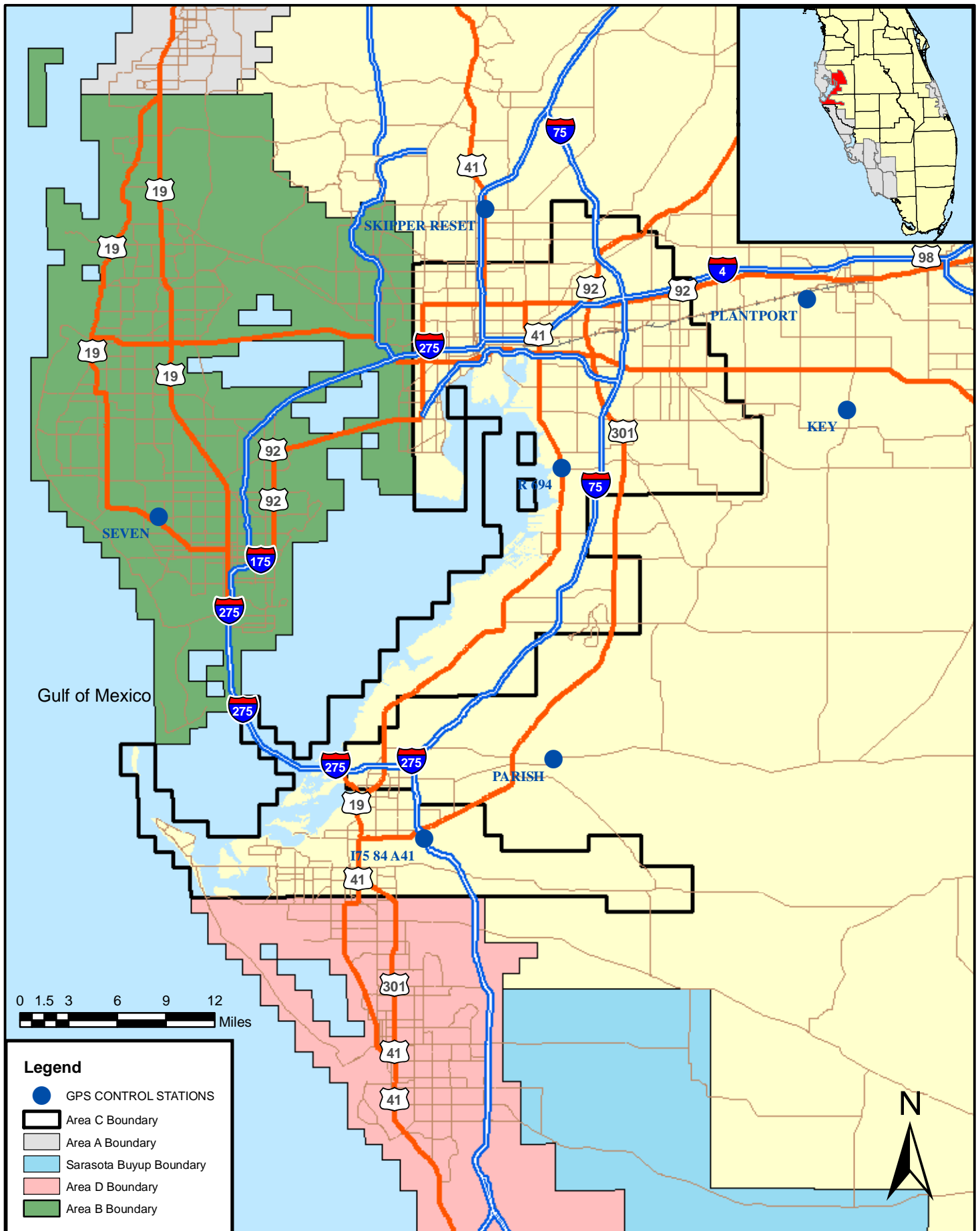
APPENDIX E: LAYOUT MAPS

This appendix contains layout maps of the GPS Control Stations, LiDAR Control Points, LiDAR QA/QC Checkpoints (see below) and a GPS Network Diagram for Project Area C of the FY2007 State of Florida Division of Emergency Management Ground Control QA/QC Survey Mapping Project.

- GPS Control Stations
- New Woolpert Control Stations
- LiDAR Control Points
- Brush Lands and Low Trees Observations
- Forested Areas Observations
- Bare Earth and Low Grass Observations
- Urban Areas Observations
- GPS Network Diagram

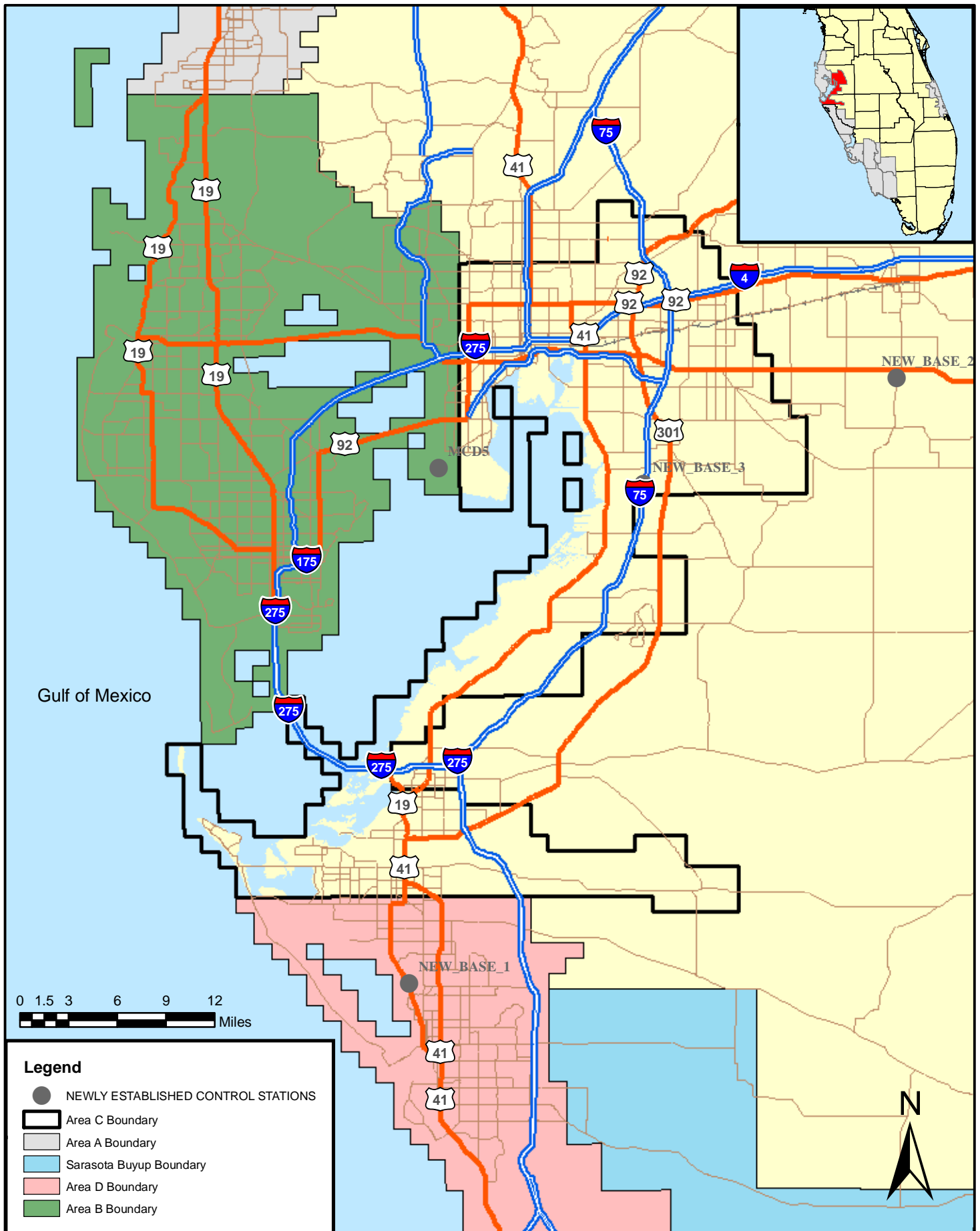


AREA C - GPS CONTROL STATIONS



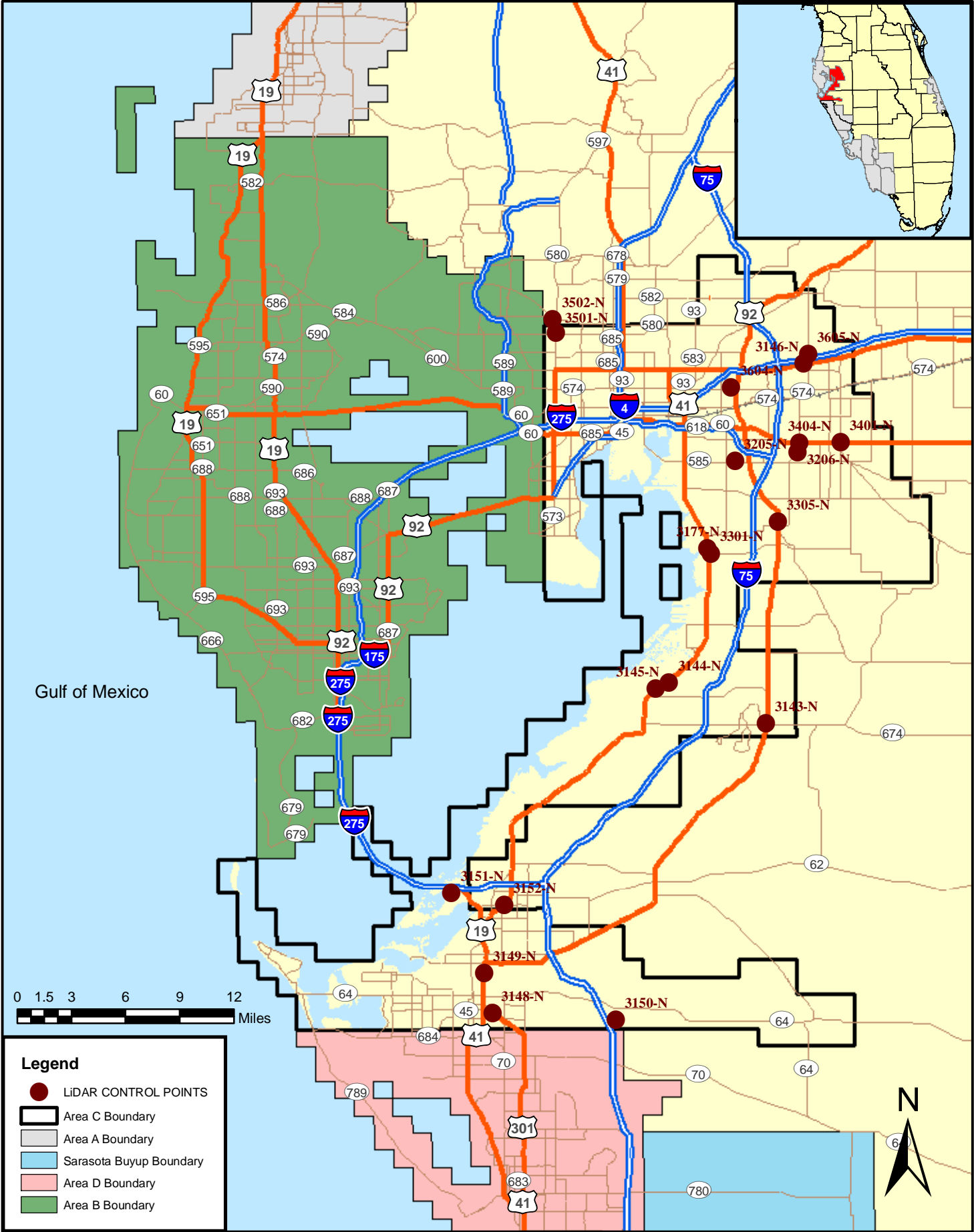


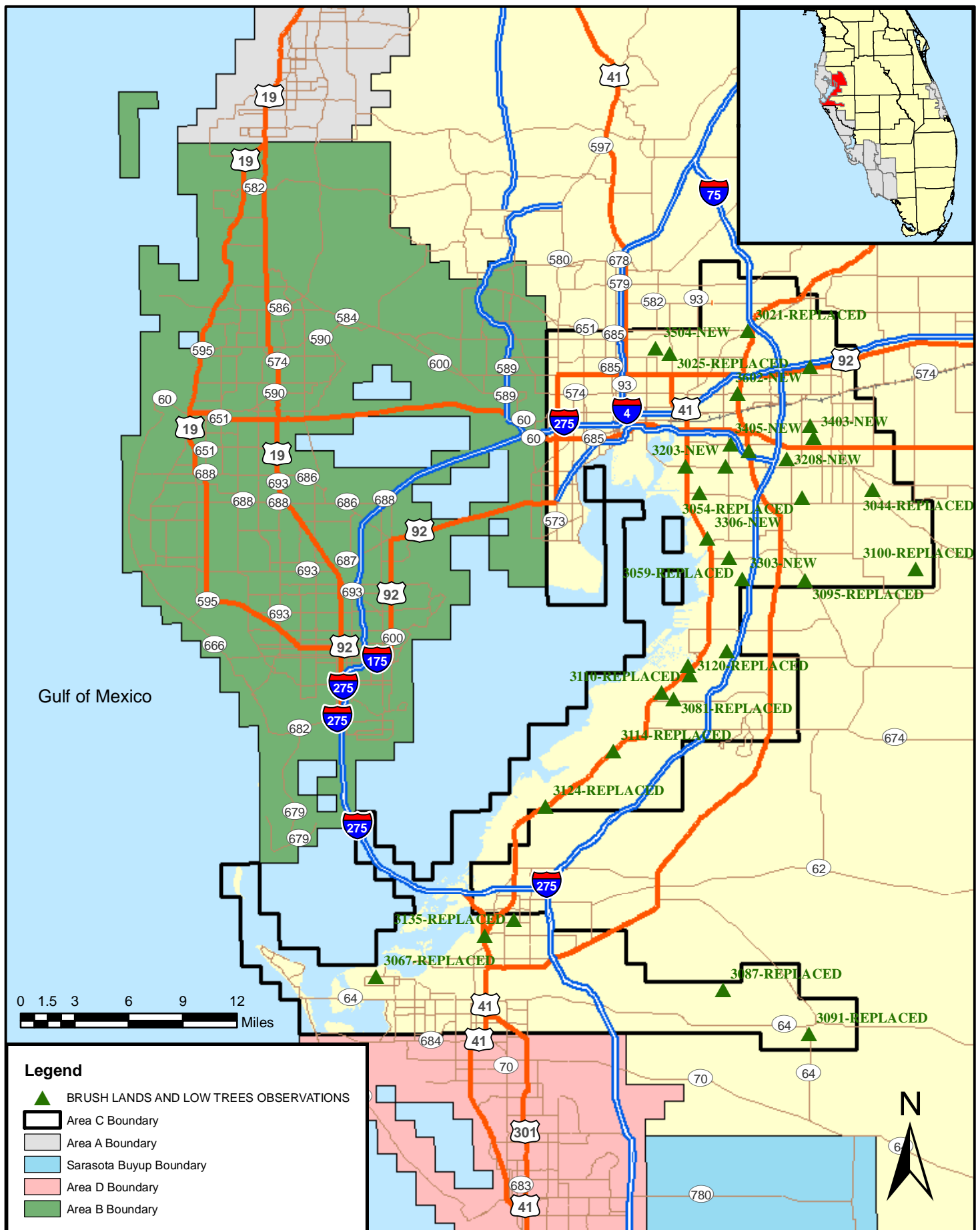
AREA C - NEWLY ESTABLISHED CONTROL STATIONS





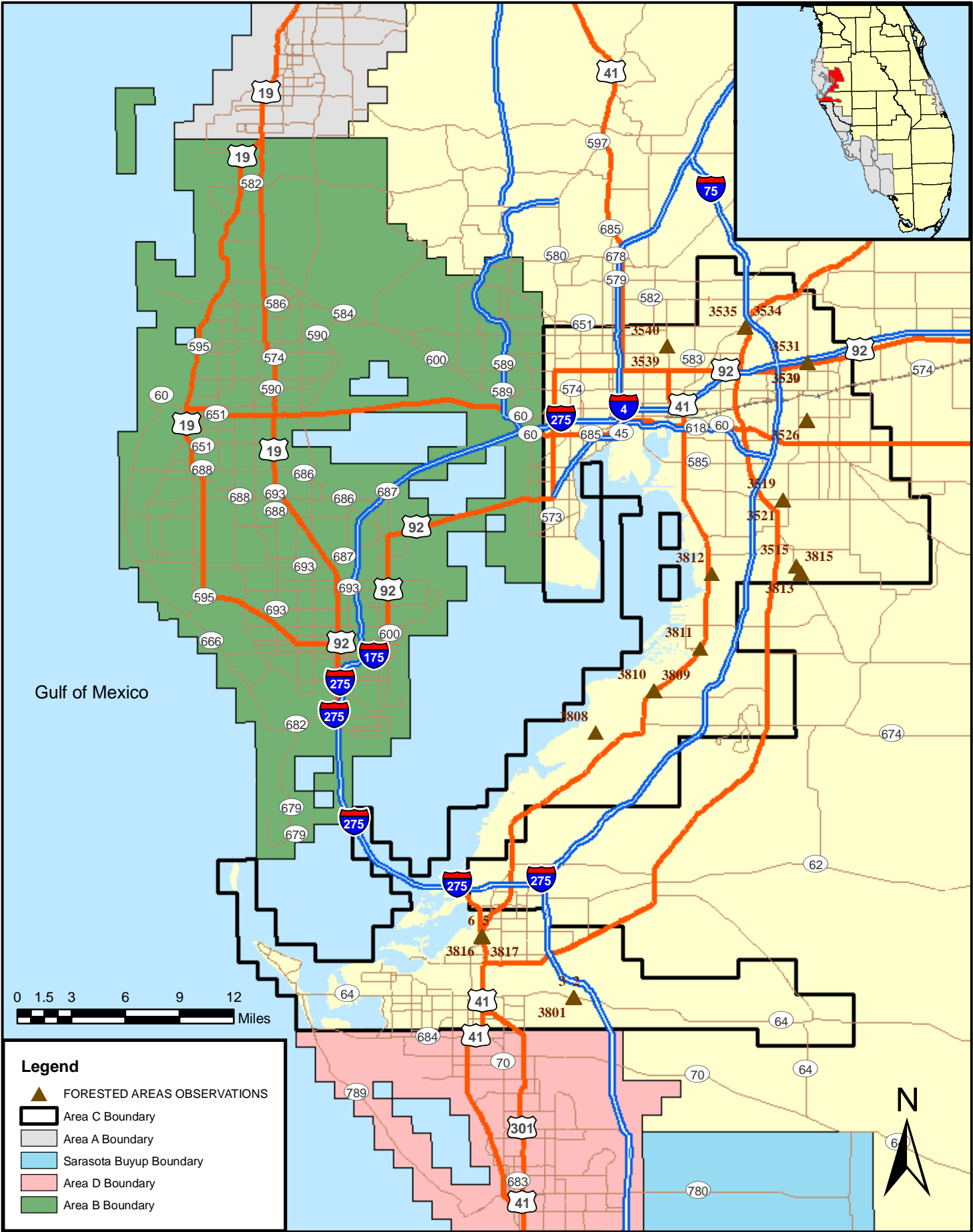
AREA C - LiDAR CONTROL POINTS





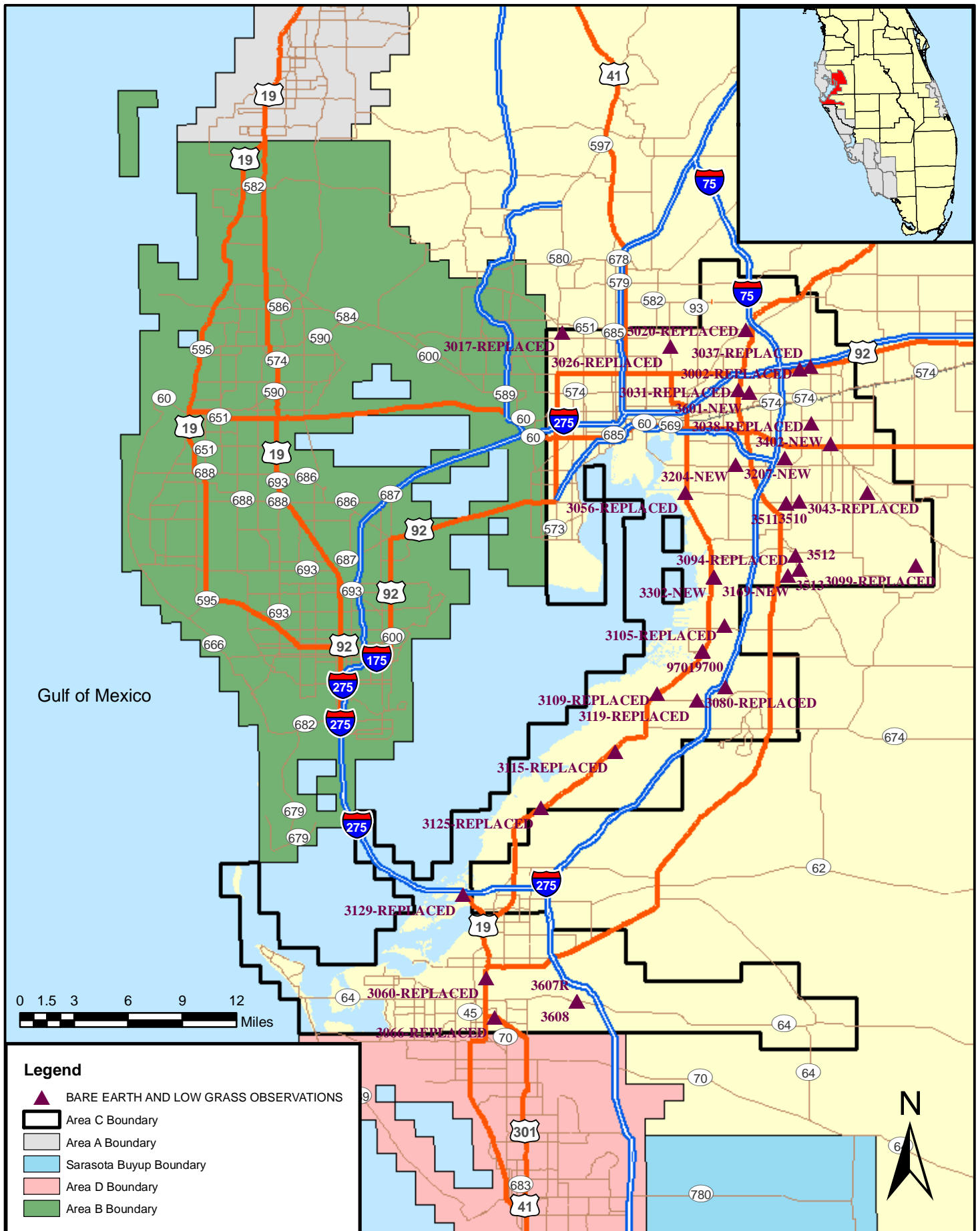


AREA C - FORESTED AREAS OBSERVATIONS



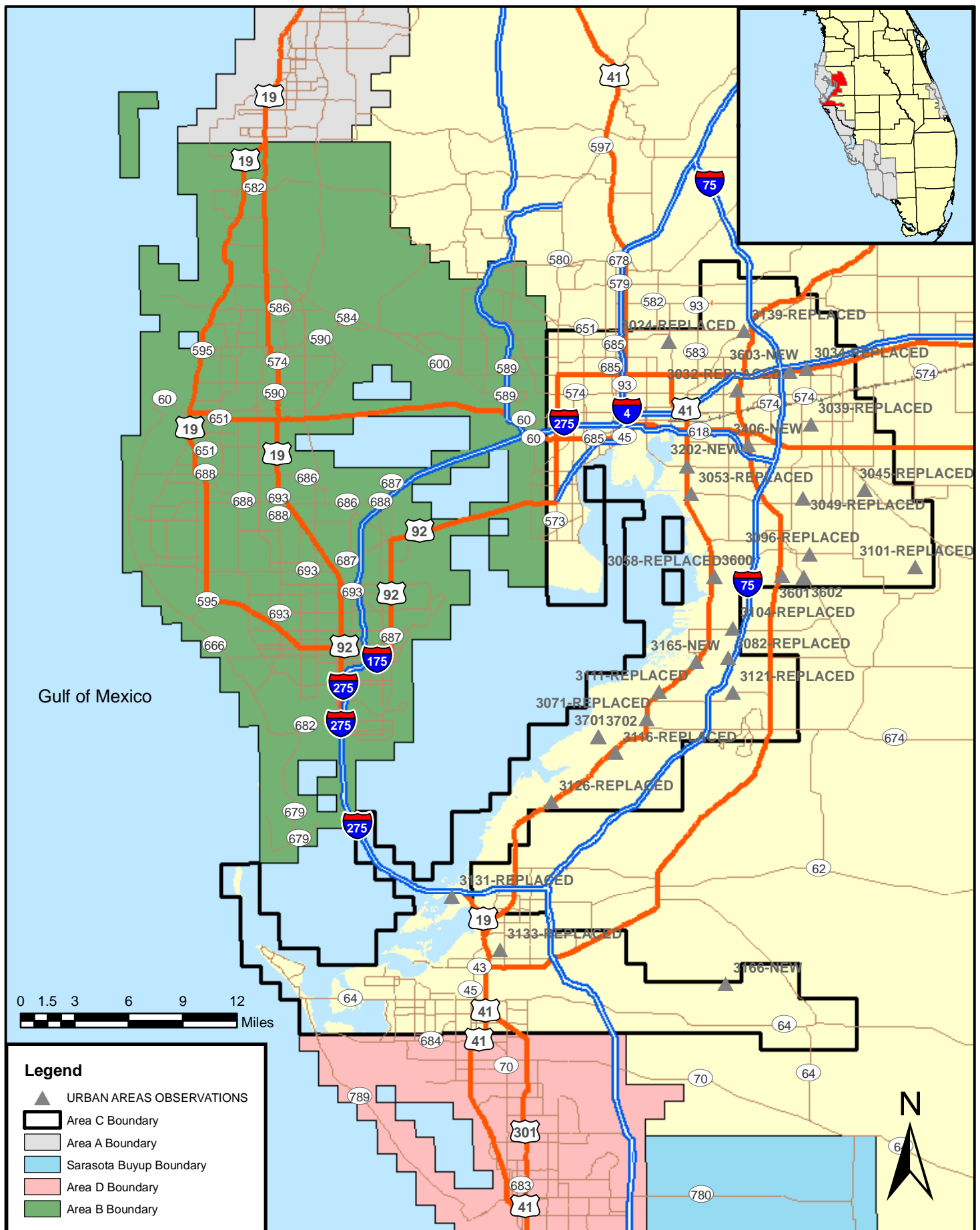


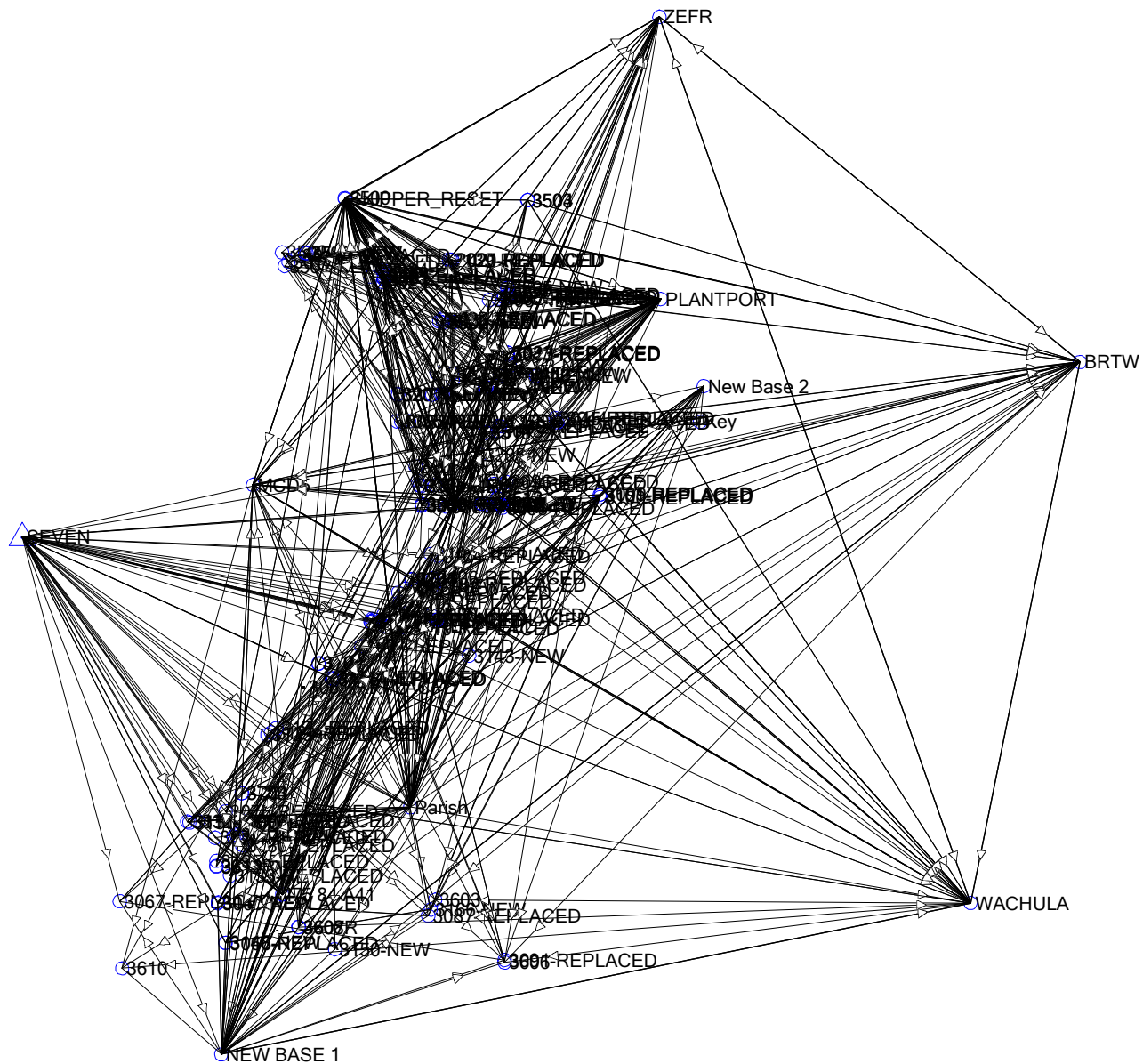
AREA C - BARE EARTH AND LOW GRASS OBSERVATIONS



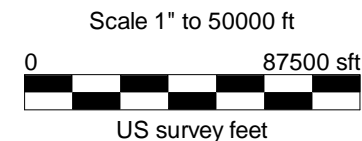


AREA C - URBAN AREAS OBSERVATIONS





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



0°00'00"

Plot Scale: 1" to 50000 ft
Printed on 12/15/2008, at 7:36:44 AM
Printed from Trimble Geomatics Office

System: US State Plane 1983
Zone: Florida West 0902, Datum: NAD 1983 (Conus)
Project: Area C
USFeet Template