

CERP Guidance Memorandum

South Florida Water Management District – Jacksonville District, U.S. Army Corps Of Engineers

CGM NUMBER: 036.01

EFFECTIVE DATE: 5/22/2009

CATEGORY: General

SUBJECT: Technical Guidance for use of the CERP Geodetic Vertical Control Network, Survey Monuments and Referenced Control

DESCRIPTION:

This memorandum provides technical guidance to the Jacksonville District, U.S. Army Corps of Engineers (SAJ), South Florida Water Management District, and other federal and state agencies on the use of the subject project for spatial data collection for the Comprehensive Everglades Restoration Project (CERP). CERP is a program comprised of numerous projects over an 18,000 square mile area of South Florida. To effectively plan, design, construct, monitor, and operate the various components of this program, all parts must fit together. The subject project provides the framework to fit all of the components of this program together.

The CERP Geodetic Vertical Control Survey, Project 894, was completed in March 2003. The primary purpose of the project was to provide the base (horizontal and vertical) survey control network to connect the various CERP projects to a single network. Referencing all CERP spatial data collections to the defined control network will facilitate data exchange, system-wide spatial data evaluation, and datum conversion. Enclosure 1 (Final Survey Report) contains maps, point descriptions, gravity measurements, methodology, and other technical data for this project.

GUIDANCE:

All spatial data collections for CERP projects must be referenced to the defined CERP control network. This network is described in detail in Enclosure 1. This is a requirement that is binding on all agencies or entities (federal, state, county, city, agency of the state and contractors) that provide spatial data products for any project or program that comprises CERP. The vertical control network for CERP was adjusted to the Continuously Operating Reference Network (CORS). Since the base control network was established, the Florida Department of Environmental Protection (FDEP) has densified the CORS network, effectively densifying the CERP primary control. The locations, descriptions, coordinate values (X,Y,Z, Latitude, Longitude and Ellipsoid Height) of the CERP network and other referenced control can be located at the

This document provides working level guidance to assist Project Delivery Teams in the implementation of the Comprehensive Everglades Restoration Plan (CERP) program executed between the South Florida Water Management District and the U.S. Army Corps of Engineers. The guidance does not constitute policy for either agency nor does it create authority beyond that granted to any agency member carrying out their duties. Guidance reflecting agency policy on subjects listed in the guidance memoranda section of the programmatic regulations for CERP will be issued when the final programmatic regulations are adopted, using the process stated in the regulations.

CERP Guidance Memorandum

South Florida Water Management District – Jacksonville District, U.S. Army Corps Of Engineers

CGM NUMBER: 036.01

following Universal Resource Locator (URL): <http://www.ngs.noaa.gov/>. All CERP monuments used or recovered for any CERP spatial data collection must be submitted via web interface to the following URL: (http://www.ngs.noaa.gov/FORMS_PROCESSING-cgi-bin/recvy_entry_www.prl).

The CERP Geodetic Vertical Control network was designed and established to facilitate the use of Global Positioning System (GPS) surveying procedures in lieu of the more time-consuming conventional surveying methodologies. Therefore the NAVSTAR Engineer Manual (EM 1110-1-1003 NAVSTAR Global Positioning System Surveying, <http://140.194.76.129/publications/eng-manuals/em1110-1-1003/toc.htm>) provides the vast majority of procedural guidance for establishing projects within the framework of the CERP Network. Requirements will vary with regard to the purpose of the survey being conducted and the size of the project area. At a minimum, three to four CERP Network monuments must be utilized to establish control at a project location. These marks should surround the intended survey area. Additional control internal to the project area (if applicable) must be referenced to the control network.

In cases where site conditions prohibit the use of GPS, the Control and Topographic Surveying Engineer Manual (EM 1110-1-1005, <http://140.194.76.129/publications/eng-manuals/em1110-1-1005/toc.htm>) should be used along with the Florida Minimum Technical Standards for Surveying and Mapping (MTS) to provide procedural guidance. The higher of the two standards will govern the collection of spatial data.

All project control traverses, level lines, GPS (static, Real Time Kinematic (RTK) base units, airborne base units, etc.), and network densification must begin and end on CERP monumentation and meet the highest standard (USACE Engineer Manuals or Florida MTS) referenced herein. A control plan must be submitted to the appropriate controlling agency (USACE Jacksonville Chief of Survey, SFWMD CERP Surveyor) for approval of all CERP spatial data collections.

National Geodetic Survey (NGS) procedures will only be necessary to re-establish primary control or for cases requiring very precise first order leveling between network monuments.

Since the CERP Geodetic Vertical Control monuments are part of the National Spatial Reference System (NSRS), they qualify as primary project control for bringing projects currently on legacy datums into compliance with EC 1110-2-6065 Comprehensive Evaluation of Project Datums. They also qualify for use as control monuments for

This document provides working level guidance to assist Project Delivery Teams in the implementation of the Comprehensive Everglades Restoration Plan (CERP) program executed between the South Florida Water Management District and the U.S. Army Corps of Engineers. The guidance does not constitute policy for either agency nor does it create authority beyond that granted to any agency member carrying out their duties. Guidance reflecting agency policy on subjects listed in the guidance memoranda section of the programmatic regulations for CERP will be issued when the final programmatic regulations are adopted, using the process stated in the regulations.

CERP Guidance Memorandum

South Florida Water Management District – Jacksonville District, U.S. Army Corps Of Engineers

CGM NUMBER: 036.01

National Levee Database surveys and should be used for this wherever they are available.

Additional guidance for data acquisition can be found in the following USACE Engineer Publications:

EM 1110-1-1005 Control and Topographic Surveying

<http://140.194.76.129/publications/eng-manuals/em1110-1-1005/toc.htm>

EM 1110-1-1000 Photogrammetric Mapping

<http://140.194.76.129/publications/eng-manuals/em1110-1-1000/toc.htm>

EM 1110-1-1002 Survey Markers and Monumentation

<http://140.194.76.129/publications/eng-manuals/em1110-1-1002/toc.htm>

EM 1110-1-2909 Geospatial Data and Systems

<http://140.194.76.129/publications/eng-manuals/em1110-1-2909/toc.htm>

EM 1110-2-1003 Hydrographic Surveying

<http://140.194.76.129/publications/eng-manuals/em1110-2-1003/toc.htm>

EM 1110-2-1009 Structural Deformation Surveying

<http://140.194.76.129/publications/eng-manuals/em1110-2-1009/toc.htm>

EM 1110-2-2907 Remote Sensing

<http://140.194.76.129/publications/eng-manuals/em1110-2-2907/toc.htm>

EC 1110-2-6065 Engineering and Design

<http://140.194.76.129/publications/eng-circulars/ec1110-2-6065/toc.htm>

All manuals and standards referenced in this document provide guidance and procedures developed over time in the spatial data collection industry. As technology progresses, standards and procedures will be adjusted to incorporate those changes.

APPLICATION:

This document provides working level guidance to assist Project Delivery Teams in the implementation of the Comprehensive Everglades Restoration Plan (CERP) program executed between the South Florida Water Management District and the U.S. Army Corps of Engineers. The guidance does not constitute policy for either agency nor does it create authority beyond that granted to any agency member carrying out their duties. Guidance reflecting agency policy on subjects listed in the guidance memoranda section of the programmatic regulations for CERP will be issued when the final programmatic regulations are adopted, using the process stated in the regulations.

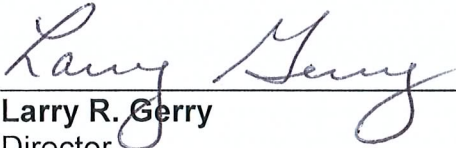
CERP Guidance Memorandum

South Florida Water Management District – Jacksonville District, U.S. Army Corps Of Engineers

CGM NUMBER: 036.01

These requirements were effective March 30, 2003 (date that NGS published). This CGM codifies these requirements and makes the standards and procedures effective on the date of approval. Projects that have already collected spatial data based on other control networks and "local control" should contact their survey or spatial data collection team member for guidance on how to reference already collected data to the control network if applicable.

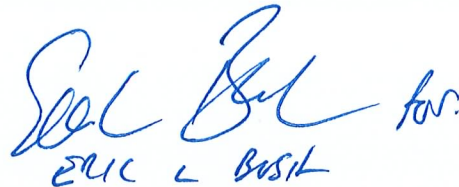
APPROVALS:



Larry R. Gerry
Director

Everglades Restoration Planning Department
Everglades Restoration Resource Area
South Florida Water Management District

DATE: 6/8/09



Stuart J. Appelbaum
Deputy

Restoration Program Management
U.S. Army Corps of Engineers

DATE: 1 JUNE 2009

This document provides working level guidance to assist Project Delivery Teams in the implementation of the Comprehensive Everglades Restoration Plan (CERP) program executed between the South Florida Water Management District and the U.S. Army Corps of Engineers. The guidance does not constitute policy for either agency nor does it create authority beyond that granted to any agency member carrying out their duties. Guidance reflecting agency policy on subjects listed in the guidance memoranda section of the programmatic regulations for CERP will be issued when the final programmatic regulations are adopted, using the process stated in the regulations.