

## **Section 1**

### **Introduction**

1.1 **Scope.** This CADD Standards Guide CESAJ EN 1110-4-2 was developed as a supplement to the A/E/C CADD Standard ERDC/ITL TR-01-6, for preparing CADD products within the Jacksonville District by the Jacksonville District, A/E Contractors and other Districts where Jacksonville District work is brokered (see exhibit No. 1).

1.2 **Purpose.** The purpose of this guide is to append the A/E/C CADD Standard ERDC/ITL TR-01-6, to include Jacksonville District's Civil Works CADD requirements, and related CADD implementation relating to the standard serves as Jacksonville District CADD Manual. This document shall also serve as a CADD Standard for the Comprehensive Everglades Restoration Plan CERP.

1.3 **Background.** In accordance with Headquarters memorandum 23 July 2004, CECW-CE (1110) (see exhibit No. 2) all Corps Districts are required to comply with ERDC/ITL TR-01-6. Jacksonville District modified ERDC/ITL TR-01-6 to include the Civil Work supplement that was not part of the Standard. This document was developed based on the A/E/C CADD Standard ERDC/ITL TR-01-6, and the Joint Jacksonville District and South Florida Water Management Engineering and Design Joint A/E/C Drafting Manual 4<sup>th</sup> Edition, Dec 7, 2003.

1.4 **CADD Platform.** This manual is applicable to the latest release of Bentley Microstation V8 2004 or later.

1.5 **Additions and Revisions.** This standard is intended to be neither static nor all-inclusive and thus will be updated and enhanced as appropriate. Suggestions for improvements are strongly encouraged so that subsequent updates will reflect the input and needs of CADD users.

Recommendations or suggested additions should be sent to:

Jacksonville District  
US Army Corps of Engineers  
ATTN: CESAJ-EN-T/CADD Manager  
701 San Marco Blvd.  
Jacksonville, Florida 32207

Or by email: Roger.W.Porzig@USACE.ARMY.MIL



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**JACKSONVILLE DISTRICT CORPS OF ENGINEERS**  
P.O. BOX 4970  
JACKSONVILLE, FLORIDA 32232-0019

CESAJ-EN

21 March 2005

**MEMORANDUM FOR CESAJ-EN DIVISION**

**SUBJECT: Implementation of the A/E/C Tri-Service CADD Standard in Jacksonville District**

1. Reference memorandum, CECW-CE, 23 July 2004, subject: Implementation of the A/E/C CADD Standard in USACE.
2. The referenced memorandum requires implementation and compliance with the A/E/C CADD Standard. Specifically, any projects that have not reached the 30% completion by August of 2004 must be brought into compliance.
3. Because the standard did not adequately address civil works work, elements of the Design Branch developed an A/E/C Child Standard (a supplement to the A/E/C Standard including Civil Works Design Workflows), which was not included in the current publication. This modified standard is being coordinated with ERDC CADD Center for application to other Districts.
4. It is essential that the Standard be implemented in the development of all Engineering CADD products by all contributors and participants. That is, team members that contribute to project drawing development are responsible to follow and be in compliance with the Standard. All EN Branches that are responsible for the design and production process and preparation of each project leading to contract plans must follow the standard format. The contribution of Branches that provide input, but are not directly involved in design, such as EN-G and EN-H, must also follow the standard.
5. The District's ability to share work with other Districts and A/E firms is mandated to follow compliance in order to maintain a standard CADD compliance file management system as a common workflow from all contributors and participants. The work brokered to other Districts and contracted to A/E firms must also meet the requirements the referenced memorandum sets for compliance. Any submission that is in noncompliance shall be deemed unacceptable.

CESAJ-EN-D

SUBJECT: Implementation of the A/E/C Tri-Service CADD Standard in  
Jacksonville District

6. The Microstation production and InRoads Modeling tools configuration files and/or menu systems were modified to assist project team members in achieving Standard Compliant Designs. These tools are to be utilized in the preparation of Project CADD files. Additional resources have been prepared and are provided on the web at <http://w3saj/cadd/end/caddmanagementandsupport.htm>. This web page can be accessed through the Jacksonville District home page for A/E's or Brokering Districts at:  
<http://www.saj.usace.army.mil/cadd/end/caddmanagementandsupport.htm>

7. In order to meet the requirements set forth in the referenced memorandum, it is imperative that a procedure be established to ensure we conform. The effort required to comply with the Standard through a compliance check review must be provided for in the development of the Quality Control Plan (QCP). The Jacksonville District and other Corps Districts will use the Netspex file checking compliance software to determine the level of compliance. Contracted A/E work shall be submitted with a file checker report for compliance with each submission to the District. The A/E work should be checked using the Netspex Compliance Checker.

8. It is the responsibility of the EN Division leadership and team members to ensure that we comply with the Standard. We have guidance from Headquarters that this compliance be a part of the performance objectives.

9. Additional guidance will be issued to assist members in their participation.

10. Point of contact for this action is Mr. Pete Kendrick, ext. 3607.

  
STEPHEN C. DUBA, P.E.  
Chief, Engineering Division

REPLY TO  
ATTENTION OF:

CECW-CE (1110)

23 July 2004

## MEMORANDUM FOR MAJOR SUBORDINATE COMMANDERS

SUBJECT: Implementation of the A/E/C CADD Standard in USACE

1. This is in reference to memorandum, CECW-CE, 2 July 2004, Subject: Watershed Management and the Implementation of Enterprise Geographic Information Systems (eGIS) in the USACE 2012 Environment. Reference memo required compliance with eGIS data standards.
2. To make the USACE 2012 goal of "One Corps operating virtually" a reality, implementation and compliance with the A/E/C CADD Standard (the Standard), is required. Under USACE 2012, Regional Business Centers will leverage resources through a Virtual Engineering Environment (VEE). The success of the VEE depends on sharing Computer-Aided Design and Drafting (CADD) information seamlessly. Implementing the Standard is the first step toward realizing the VEE and CADD/Geographic Information System (GIS) integration under the eGIS initiative.
3. In August 2002, the HQUSACE Chief of Engineering and Construction Division signed a letter to all districts and divisions, requiring the implementation of the Standard. Earlier HQ guidance was provided in 1998 stating, "All CADD produced projects which are 35% or less complete shall henceforth comply with the Standards."
4. With the implementation of USACE 2012 underway, a renewed emphasis on the implementation of the Standard is critical. Developing our CADD assets within the VEE structure will ensure USACE realizes the Science and Engineering Technology (SET) Initiative to integrate systems and provide common implementation tools. Achieving the goals of SET, as described in the USACE 2012 report, will provide long term payoffs through improved efficiency and better partnering opportunities with our sponsors and other Federal agencies.
5. Working with the National Institute of Building Sciences (NIBS), the CADD/GIS Technology Center (the Center) developed the Standard to be compliant with the U.S. National CAD Standard and to provide additional Federal and USACE-specific requirements not addressed in the U.S. National Standard. As the 2012 process proceeds, the Center will be your partner in implementation, assuring additions and enhancements are addressed promptly. Future CADD standards are also being addressed through the Industry Alliance for Interoperability (IAI). Working with the IAI, USACE laboratories are positioning our CADD program to migrate successfully into the three dimensional object-oriented environment featuring the latest technologies.

CECW-E (1110)

SUBJECT: Implementation of the A/E/C CADD Standard in USACE

6. Enclosure 1 is an implementation plan for compliance to the Standard. An 18-month transition period is provided to reduce the impact of this requirement on districts and divisions not currently complying with the Standard. The plan also provides compliance reporting metrics for recording USACE progress in completing the implementation. Your Regional Management Board (RMB) should monitor these metrics and we will also monitor them at HQ through periodic submissions to the Commander's Critical Information Requirements (CCIR).
7. Enclosure 2 is a proposed communication plan. There is an existing network of Corps volunteers that collaborate among each other and the Center to improve CADD productivity and aid in using the standards. The plan recommends using these existing networks to help districts implement the standards.
8. Additionally, HQ is evaluating the Bentley Systems ProjectWise A/E/C content management solution as a potential method for sharing CADD data within the VEE. Currently the system is being used for an R&D facility at Picatinny Arsenal and other non-secure programs throughout USACE. District and divisions are encouraged to review this technology for possible use across USACE as a design tool in support of 2012.
9. I understand that the initial implementation and compliance with the Standard will be a challenge. Fifteen years ago, USACE led the challenge in the Federal government to deploy CADD as a baseline organizational engineering tool. USACE 2012 is our opportunity to demonstrate to the nation our continued engineering prowess by building an integrated CADD environment through the VEE and Regional Business Centers.

FOR THE COMMANDER:



DONALD L. BASHAM, P.E.  
Chief, Engineering and Construction  
Directorate of Civil Works

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