

1.0 Chapter One - Introduction

This document is intended to outline the Colorado Department of Transportation's (CDOT) use of Bentley's MicroStation V8 2004 Edition and InRoads V8.05, as well as internally developed tools and procedures. Following these standardized procedures will help to facilitate the exchange of information between CDOT regions, specialty groups, and consultants working on CDOT projects. The CDOT Computer Aided Design and Drafting (CADD) Manual will address issues such as: software, tools, techniques, standards, and procedures, which will aid the user in the efficient production of CDOT plan sets.

The CDOT CADD Manual and the associated electronic files contained in the CDOT configuration are to be used in the generation of electronic plans by both CDOT internal designers and the consulting firms doing business with CDOT.

1.1 Background

At CDOT, the CADD migration project is known as the Colorado Engineering Software Transition (CEST) Project. Beginning in 2004 the CEST project began with 15 first adopter projects, migrating each to the Bentley suite of software. Growing from these 15 first adopter projects to a statewide rollout in 2005 the CEST project has encompassed, at some level, each critical item in a project of this magnitude. These include:

- Creation of electronic files making up a comprehensive standard, including, but not limited to:
 - Seed files
 - Levels and symbology
 - Cells
 - Linetypes
 - Text and dimensions
 - InRoads preferences
 - Standard templates and typical sections
- Updating existing projects to the Bentley suite of software.
- User training
- Development of standard workflows

In the initial phases of this project, Survey and Roadway Design were addressed to a much greater degree than other disciplines. The goal over the next three years is to continue the CEST vision by addressing each of the specialty groups within CDOT as well as continued enhancement of the current configuration. To accomplish this, CDOT will continually update and add to CDOT's software, configuration, workflows, and training programs. Ultimately, the CEST project will create a complete electronic project delivery system integrating each user and system from planning through construction. The combination of software, configuration, and workflows will allow all users to work seamlessly together in

the most productive and efficient CADD environment available. At the end of FY08, the plan will be complete with interconnection of all groups and complete automation, including electronic bid letting.

1.2 Trademarks

Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. MicroStation and InRoads are trademarks of Bentley Systems Incorporated. Where other designations appear in this book, and the authors were aware of a trademark claim, the designations have been capitalized.

1.3 Disclaimer

Notice of Disclaimer: CDOT provides documents **as is**. All warranties and representations of any kind with regard to said documents are disclaimed, including the implied warranties of merchantability and fitness for a particular use. Under no circumstances will CDOT, or any of its officers or employees be liable for any consequential, incidental, special or exemplary damages even if appraised of the likelihood of such damages occurring. CDOT does not warrant the documents against deficiencies of any kind. The use of any of these documents for work that is under contract with CDOT does not relieve the contractor from any obligation assumed by the contract, or from complete and proper fulfillment of the terms of the contract, nor does it entitle the contractor to compensation for damages or loss which could be attributed to such use.

1.4 Format

This manual provides specific details about standards used in the creation of CDOT engineering plan sets. In addition, it is a resource to find training manuals, workflow documentation, and step by step instruction in a movie type format.

1.5 Revisions and Updates

Updating of the manual is intended to be a continuous process and revisions will be issued periodically. Many of the instructions given in this manual are subject to amendment as requirements and experience warrant. The CDOT CADD Manual and CDOT Workspace are updated on a regular basis including when major changes are introduced to any of the CDOT standard software. Every effort will be made to keep the CDOT CADD Manual current with the CDOT configuration, however, the update to the configuration will always have first priority and as such users may see some lag between the release of an update to the configuration and the updating of the CDOT CADD Manual.

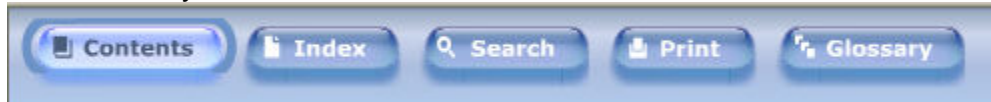
The current CDOT CADD Manual is consistent with the v02.04 Workspace Configuration. The current Workspace Configuration

version can be obtained by hovering the cursor over the CDOT logo icon while in MicroStation, as shown on the right.

Users are encouraged to send comments and suggestions for changes or improvements through email to the CDOT CADD Manager at: CDOT CADD Manager.

1.6 How To Use This Manual

There are four ways to use the information contained in this manual:



1. Access the desired chapter through the CONTENTS panel on the left of the display area. The user can navigate through the chapters in any order. The panel can also be collapsed for more viewing area and reopened by clicking the CONTENTS button located above the viewing area. In order to go back a screen, the user can use the BACK button in Explorer.
2. The INDEX button to the right of the CONTENTS button allows the user to search for key words alphabetically. Once selected, each topic is displayed to the left of the viewing area allowing the user to jump to a specific topic within the manual. This panel can also be opened and closed as necessary.
3. The SEARCH function allows the user to specify key words and the search engine will find and display a listing that the user can select from. The SEARCH button is to the right of the INDEX tab.
4. A printed copy of each chapter is available by selecting the PRINT button located to the right of the SEARCH button, or by selecting Appendix E - Printable Standards Manual.

1.7 Introduction to CDOT CADD Website

The CADD and Engineering Innovation website (presently only available to CDOT) has been created to provide CDOT users with up to date information, tools, and resources related to CADD and the CEST project. This website is a valuable resource for CADD users and includes:

- CADD Support News containing information about current events in CDOT's CADD and Engineering world including Tips & Tricks for MicroStation and InRoads
- CADD Support with engineering support information such as:
 - How to get help
 - How to submit a comment or Ask the CADD Manager
 - How to request an update to the configuration

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- CADD Library with information including manuals, old Tips and Tricks, Useful Links and newsletters.
- IT Services for hardware, "how to" instructions, installation, training files, and work space setup.
- A training link to sign up for and view upcoming training classes and review CBT.
- Issues Logs location where you can go and find the status of submitted request
- Meeting Minutes and Agendas location for reviewing CEST Team decisions.

Information on this website will be updated and added to often so be sure to check back!!

Link to CDOT CADD Website