CADD Services
CADD Users Group
October 27\textsuperscript{th}, 2015

Division of Engineering
Office of CADD and Mapping Services

John R. Kasich, Governor  •  Jerry Wray, Director

www.transportation.ohio.gov
Introduction of Staff Members

Dave Slatzer
- Deputy Director, Division of Engineering

Rachel Lewis
- Administrator, CADD and Mapping Services

Mark McCloud
- CADD Manager, CADD and Mapping Services
Introduction of Staff Members

- **Fanita Cheek**
  - L & D Volume 3
  - Plan Development Process (PDP)
  - CADD Standards Manual
  - MicroStation 3D Modeling Support

- **Jack Kerstetter**
  - Hardware Support
  - Software Support
  - Plotting Support
  - VB Application Support
Introduction of Staff Members

Terri Silleck
- MicroStation Support
- Standard Drawing and Cell Library Updates
- CADD Application Support (i.e. AutoTurn, GuideSign, etc.)
- Special CADD Projects (i.e. Aviation Directory/5010 Drawings)

John Drsek
- OpenRoads Development
- Geopak Support
- VB Application Support
- GEN SUM Spreadsheet Support
Introduction of Staff Members

*Eric Thomas, Consultant*

- OpenRoads Development
- Geopak Support
- VB Application Support
What is CADD Services?

- **CADD Standards**
  - ODOTcadd and ODOTstd
- **CADD Standards Manual**
  - ODOTcadd and ODOTstd
- **MicroStation and GEOPAK Development / Support**
- **MicroStation and GEOPAK Training**
- **VBA Application Development / Support**
- **L & D Volume 3**
- **GENSUM Spreadsheet**
- **3D Engineering Models Development / Support**
- **ProjectWise**
What If I Need CADD Support?

- **CADD Services Website**
  - [http://www.dot.state.oh.us/Divisions/Engineering/CaddMapping/CADD_Services](http://www.dot.state.oh.us/Divisions/Engineering/CaddMapping/CADD_Services)

- **CADD Support Form**
  - [https://odot.formstack.com/forms/cadd_servicerequest](https://odot.formstack.com/forms/cadd_servicerequest)

- **CADD Training Videos**
  - **YouTube Channel**
    - [https://www.youtube.com/channel/UCo-IOt5L4GHSDbSkKWPeWAw/feed](https://www.youtube.com/channel/UCo-IOt5L4GHSDbSkKWPeWAw/feed)

- **Bentley LEARN**
  - [Learn.Bentley.com](http://www.dot.state.oh.us/Divisions/Engineering/CaddMapping/CADD_Services)
  - Bentley Account Login required
  - **Bentley Account Request Form**
    - [https://odot.formstack.com/forms/cadd_bentleyaccount](https://odot.formstack.com/forms/cadd_bentleyaccount)
What About CADD Training?

- **Project Management Seminar**
  - Today’s Seminar
  - Training Guides and Installers

- **GEOPAK SELECTseries 4 Survey Training**
  - 2 Days
  - September 28th and 29th
  - October 5th and 6th

- **GEOPAK SELECTseries 4 Civil Design Training**
  - 3 - 4 Days
  - October - January
  - Training to be held in Central Office
    - Updated Sign Shop Training Center with 25 seats
    - New z230 Workstations and Furniture
Why Project Management for CADD?

- **Director’s Policy Retreat**
  - Panel of Consultants, Contractors and Locals
  - No consistency among the ODOT offices

- **Standard Project Folder Structure**
  - Need for standard way of storing project information
  - Committee was formed with all districts represented
  - Committee came to an agreement for final project structure
  - Application developed to help facilitate the project creation
  - Application developed to help CADD file creation and naming
  - Training guide developed

- **The Future**
  - ProjectWise Pilot
    - Engineering Document Management System
What If I Want to Learn More?

- **CADD Services Website**
  - Under Training Events Page
  - Consultant Users Group Meetings
    - Webcasts

- **YouTube Channel for Training Videos**

- **OTEC Sessions in October**
  - CADD Users Group Meeting

- **PLSO Fall Conference**
  - 4 hour presentation on processing survey in GEOPAK SS4

- **FHWA Initiative for 3D Engineered Models**
  - https://www.fhwa.dot.gov/construction/3d/
StormCAD License (100 Inlets Included)

• Conflict Management
• SUE Attribution

Subsurface Utility Engineering License

• 3D Modeling of all underground
• Integrated with OpenRoads

StormCAD License (100 Inlets Included)

• Storm/Sanitary Hydraulic Analysis and Design
• Hydrology

Subsurface Utility Design and Analysis (SUDA)
Summary

- Feature definitions for all node types will link to a series of MicroStation Element Templates for symbology and presentation.
- The plan space template will include a 2D cell of user’s design. This cell is placed in plan space for all plans production activities.
- The 3D presentation points to two templates:
  - One defines a 3D cell of users design which models in 3D the physical nature of the top of the node.
  - The second defines a 3D cell of users design which models in 3D the physical nature of the bottom of the node.
  - The two cells are joined by extruding a slice of the bottom cell.
  - If the top cell is blank, then no extrusion is done and only the bottom cell is placed.
- The plan, top and bottom cells will contain various attributed elements to define key points and regions necessary for:
  - The creation of the node 3D structure.
  - Alignment of the 3 cells.
  - Defining connection of conduits.
  - Defining hydraulic key points.
Known Limitations

- Text labels in Node Cells (drop text elements into linear elements)
- Global Origin Shift
- MicroStation Modify Commands
- Morph Utility Types
  - Can change feature (gas type to water type) but underlying intelligence is not changed
- Node Rotation Rule – relative rotation angle ruled to a linear element will be added in next release
- Multi Select Pipe Size Edits
- Point Cloud Clash Detection
ODOT Standards/Progress Update

- Focus on Drainage
- All Catch Basins (2-2A, 2-2B, 2-3, 2-4, 2-5, 2-6, 3, 3A, 4, 4A, 5, 5A, 6, 7 and 8) have 3D cells and features created.
- All Manholes (Types 1, 2, 3, 4 and 5) have 3D cells and features created
- DGN library's released in past update 😊
- Inlets and Headwalls next.
- Started setting up the analysis (StormCAD) with SS4 Update