

# Civil Synopsis

## Groundbreakers Civil 3D User Group (GBUG)

September 4, 2008

Thanks to all for attending! We had an incredible turnout. Michelle did an amazing job introducing us to the Civil 3D extensions. The following people attended...

Benham Companies LLC	Ron	Garrett
Benham Companies LLC	Jeremy	McMillen
Benham Companies LLC	Fran	Randolph
BIS Fru-Con Engineering	Dan	Hull
BIS Fru-Con Engineering	Mickie	Redhage
BIS Fru-Con Engineering	Jeffrey	McCourt
Civil & Environmental Engineers	Cynthia	Colthorp
Civil & Environmental Engineers	Michelle	Veremakis
Civil & Environmental Engineers	Paul	Mertz
Civil & Environmental Engineers	Bill	Kankolenski
Cole & Associates	Bob	Genta
EDM Consulting Engineers	Len	Madalon, MS P. E.
EDM Consulting Engineers	Chris	Betts
EDM Consulting Engineers	Edward	Bliss
Heneghan & Associates	Chris	Hargan
Heneghan & Associates	Adam	Lott
Heneghan & Associates	Kari	Berg
Hoelscher Engineering	Bob	Watson
Metropolitan St. Louis Sewer District	Roger	Shaw
Missouri American Water	Lance	Thompson
Missouri American Water	David	Patrick
Missouri American Water	Dawn	Spink
Oates Associates Inc.	Sam	Wrigley
Oates Associates Inc.	Stacey	Wolff
Oates Associates Inc.	Ashleigh	Engelmann
Pickett Ray & Silver Inc	Brad	Temme
Pickett Ray & Silver Inc	Chris	Look

The meeting started off with a few flyers of upcoming **events and promotions**.

- **Field to Finish** on **September 24<sup>th</sup>** from **8 am-1 pm**
  - This will show you how to download field collected survey data and automatically create an intelligent base map with the data
  - Cost is **free** and **lunch** is included
  - To register, here's the link...  
[http://www.hagerman.com/Upcoming\\_Events/workshop\\_FieldtoFinish09\\_STL.asp](http://www.hagerman.com/Upcoming_Events/workshop_FieldtoFinish09_STL.asp)
- **Land Desktop Transition** Program
  - Through **April 17<sup>th</sup>, 2009** crossgrade your Land Desktop to Civil 3D or Map for as little as **\$245**
  - Here's the link for more details...  
[http://www.hagerman.com/promotions/land\\_desktop\\_transition\\_program\\_customer\\_v1.pdf](http://www.hagerman.com/promotions/land_desktop_transition_program_customer_v1.pdf)
- **Autodesk AutoCAD Civil** (not 3D)
  - New product with less capability than Civil 3D
  - Good for a surveyor or drafter who doesn't need the full blown version
  - Less expensive than Civil 3D

The group continued with answering some of the questions that came up at the last GBUG meeting. Here are the complete answers...

- Adding flared end sections (Cynthia) There currently is no structure for a flared end. Change the structure style to a flared end so that the plans appear correctly. The 3D Model will still show the structure that you originally chose.
- Using old survey commands inside of Civil 3D (Terrence) The Input and Inquiry toolbar from the map3d for drawings workspace is extremely close to the older commands.
- Curved vertical pipe for water lines (Bob W) Draw a 3D polyline that represents the centerline of the pipe and then use Create Pipe Network from objects Command.
- Ability to clip each section view separately Create individual sample lines that represent the single section to create.
- In the Group Plot Style of sections, why does the maximum in a column value override the plot area defined? The outline of the sheet is created in model space according to the sheet dimensions and it simply creates two lines representing the sheet and its margin. This math needs to be done before hand as the sections do not abide to the sheet.
- Ability to add cut & fill volume tables to each section after they have already been imported Unfortunately, there isn't a way around this at the moment. Please be sure to submit to the subscription website for incorporation to future versions.
- Ability for section views to recognize corridor changes anywhere along that corridor This has been submitted to Autodesk, so hopefully will be addressed in a future version.
- Corridors need to go much faster When a software does days or even weeks worth of grading calculations, superelevation calculations, modifying and changing an existing surface, and piping calculations, it's going to take a little time. If your corridor is taking more than 1 min to create it may be your computer is lacking sufficient power, so check the recommended system requirements.
- Ability to create a subassembly for a special ditch (variable depth) which includes only a foreslope, a ditch width and a backslope that links to a surface or offset Currently not a solution. Be sure to submit via the subscription website for incorporation into future versions.
- Ability to define your datum line inside assemblies similar to how it was done in Land Desktop Extend your sub base in the lane itself and extend under the curb subassembly, this way it is reading the lane as the whole datum line
- Excessive use of labels can slow down regeneration in viewports. Is there a way around this? Create a label style for everything called no display, this way you can work inside of your viewport and have no need for the long regen times. Once the design is completed pop all of your labels back up at once.

Michelle Veremakis then presented the extensions for Civil 3D.



**Michelle Veremakis**

[Civil & Environmental Consultants Inc.](#)

Here's an outline of the topics she covered...

#### Hydraflow Hydrographs

- Methods of Calculating Runoff
  - Rational Method
  - SCS
- Storm Modeling
  - Rainfall Intensity (IDF curves for Rational Method)
  - Precipitation Values (SCS method)
- Activating Return Periods
- Create a Hydrograph
  - Time of Concentration
    - Calculate Tc Using TR-55 worksheet
  - SCS Method
    - Review Inputs, Results & Reports
  - Rational Method
    - Review Inputs, Results & Reports
- Combining Hydrographs
  - Matching Time Intervals
  - Adding SCS and Rational Methods
  - Review Inputs, Results & Reports
- Routing Hydrographs
  - Through Channels (Reach)
    - Using Hydraflow Express to Estimate Channel Specifications
      - 'Calculator-Like' Program for Designing Culverts, Channels, Weirs, and Inlets
      - Calculation Options
        - Known Q
        - Incremental Q
    - Inputs & Results
  - Through Basins (Route)

- Pond Types and Modeling Methods
- Outlet Options
  - Outlet Types and Limitations
  - Multi-State Outlets
  - Using Pond Tools to Estimate and Adjust Outlet Design to Limit Different Storm Events
- Inputs & Results

#### Hydraflow Storm Sewers

- Methods of Calculating Runoff
  - Rational Method Only
- Storm Modeling
  - Rainfall Intensity (IDF curves for Rational Method)
- Importing Pipe Network from AutoCAD
  - Land XML
- Create Pipe Network in Hydraflow Storm Sewers
  - Pipe, Inlet, and Calculation Design Rules (Codes)
  - TR-55 worksheet available for Tc Calculation
  - Inputs & Options
- Run Hydraulics Calculations on Network
  - Setting Tailwater Elevation
  - Software Design Aid Options
  - Interactive Design Adjustments to Network
  - View Results & Reports
- Exporting Network Profile and Hydraulic Information to DXF

Attached is another hand out describing the extensions in depth.

Here is info on the next meeting...

Thursday, December 11, 2008

### ***Advanced Styles in AutoCAD Civil 3D and an Overview of Map 3D***

by Jerry Bartels, Civil Technical Specialist with Autodesk



#### **Jerry Bartels**

Civil Technical Specialist, Autodesk

Jerry is a civil technical specialist for Autodesk. For more than 18 years, Jerry has worked in all areas of civil engineering, surveying, and mapping, providing clients with services in CAD management, implementation and network administration. He also has 10+ years of experience teaching Autodesk products and developing curriculum. At Autodesk, Jerry specializes in civil engineering, surveying and mapping solutions, and currently provides pre-sales, training and support services throughout the country. He has received several awards from Autodesk for his presentations.

We again want to thank our GBUG co-chairs for providing such great leadership and ideas to the group!

### **Groundbreakers Civil 3D User Group Co-Chairs**



#### **Daniel Hull**

Civil CAD Technician

[BIS Fru-Con Engineering](#)

[bio](#)



#### **Cynthia Colthorp**

CAD Manager

[Civil & Environmental Consultants Inc.](#)

[bio](#)

Please provide any additional comments regarding Groundbreakers, including items to show n share and classified ads you would like to go to all GB members. Also let us know of any future topics you are interested in or any topics you would like to present to the group.

Please let everyone know about the group. We are always happy to have anyone who would like to come and join us!