

Zogg, Jerry - DOT

From: Zander, Mark - DOT [Mark.Zander@dot.wi.gov]
Sent: Wednesday, February 29, 2012 9:11 AM
To: Zogg, Jerry - DOT
Subject: Announcement Regarding Civil 3D
Attachments: 2012 02 Final Civil3DRequirementsAnnouncement.docx

Attached is a memo dated February 29, 2012 announcing that WisDOT will implement Civil 3D specific design project deliverable requirements for all WisDOT roadway projects, except local program projects.

The Civil 3D specific design project deliverable requirements will go into effect with all WisDOT solicitations for roadway projects, except local program, in mid-year 2014. Consultants responding to these solicitations, beginning in mid-year 2014, will be required to use Civil 3D.

The attached memo provides information on:

- Civil 3D Project Delivery Requirements
- Timeline of the Planning and Implementation Process
- Requirement that Regions obtain BPD approval before deciding to require Civil 3D on individual projects prior to mid-year 2014
- Why WisDOT is Requiring Usage of Civil 3D
- WisDOT Coordination with ACEC
- How WisDOT will Assist Consultants in Transitioning to Civil 3D

Questions regarding implementation of the Civil 3D specific design deliverable requirements should be sent to dotcaesupport@dot.wi.gov

Thank you,

Jerry H. Zogg, P.E.
Chief Roadway Standards Engineer
Bureau of Project Development
Office: 608-266-3350
Cell: 608-235-4501
Jerry.Zogg@dot.wi.gov

You are currently subscribed to fdmlist as: jerry.zogg@dot.wi.gov.
To unsubscribe click here:
<http://lists.wi.gov/u?id=130363.0ce42cc7d12d23fab9179f835305a41a&n=T&l=fdmlist&o=679815>
or send a blank email to leave-679815-130363.0ce42cc7d12d23fab9179f835305a41a@lists.wi.gov

Date: February 29, 2012

To: Consultant Designers of WisDOT Roadway Projects
WisDOT staff Managing Consultant-led Design Projects

From: Jerry H. Zogg, P.E.
Chief Roadway Standards Engineer

Subject: Civil 3D Specific Design Deliverable Requirements

Wisconsin Department of Transportation will implement Civil 3D specific design project deliverable requirements. These requirements will apply to all roadway projects designed for WisDOT, except for local program projects.

The intent of Civil 3D specific deliverable requirements is to mandate the use of AutoCAD Civil 3D software in the development of WisDOT roadway designs, and to include the delivery requirements of both of the following as part of a finished design project submittal:

- The entire Civil 3D project data set.
- Automated Machine Guidance (AMG) 3D surface models, on appropriate projects.

Detailed language concerning the above deliverable requirements will be shared at a later date.

Implementation planning is currently underway, and our goal is a state-wide implementation of these requirements by mid-year 2014. Our goal is that all project solicitations beginning in mid-year 2014 will include the Civil 3D specific delivery requirements. The timeline of the planning and implementation process will look as follows:

- February 2012 – announce intention of C3D Requirements Implementation
- July 2012 – share draft FDM language regarding requirements, and other guidance language
- July 2012 – Finalize implementation planning and schedule
- September 2012 – Conduct regional seminars to discuss implementation activities leading up to mid-year 2014 effective date
- Mid-year 2014 – Civil 3D specific requirements go in to effect on all WisDOT project solicitations, except for local program projects

WisDOT project staff may elect to add Civil 3D specific delivery requirements to individual projects prior to the statewide implementation date. Early implementation of

these requirements on an individual project basis will be done sparingly since it creates additional challenges for both WisDOT staff and consultants who aren't presently using Civil 3D. WisDOT project management staff considering early an implementation of these requirements for a project must obtain BPD approval, contact Jerry Zogg (jerry.zogg@dot.wi.gov) for details.

At the current time, WisDOT is not extending the Civil 3D specific design project deliverable requirements to local program projects. However, some local governments are already using Civil 3D, and others are evaluating it. WisDOT encourages local governments to consider the implementation of Civil 3D, and wants to provide local governments the opportunity to participate in the Civil 3D implementation activities over the next 2 years. In addition, WisDOT will be gathering information from local governments on their current status with using design software.

Why Is WisDOT Requiring Usage of Civil 3D?

WisDOT is not requiring the use of Civil 3D because of its desire to receive Automated Machine Guidance (AMG) 3D surface models. WisDOT is aware that there are several roadway design software packages which can successfully produce AMG 3D surface models for the contractor's use in earthwork, base, and paving construction.

WisDOT's primary focus for the initial implementation of Civil 3D, over the next 2 years, will be the successful creation AMG 3D surface models. WisDOT wants to take full advantage of both the cost savings and construction quality benefits from the contractor's use of AMG 3D surface models.

During this time period, WisDOT will also have a secondary focus on transitioning from AMG 3D surface models to more fully developed Roadway Models. The Roadway Models will include additional information that will initially increase engineering efficiencies in design and construction. Over time, WisDOT will expand the use of the Roadway Models in the other functional areas of operations, maintenance, and planning.

WisDOT is looking to maximize our utilization of Roadway Models in the near term and in the future. To do so, it has become apparent that we need to mandate the use of Civil 3D so we will have the ability to:

- Easily use and modify the design data without the risk of error in intelligent design data transfer between software systems
- Easily extract intelligent information from the design data

During the past several years, WisDOT has monitored design software development and observed a trend of increased individualization of design software packages. Each software has its own workflow, each contains unique design software objects, and each uses a proprietary data format. All these factors combine to make sharing of intelligent design data between design software systems a complex, time consuming, and unreliable task. WisDOT has discussed this trend with software developers, and we've

monitored efforts to increase data transferability such as TransXML, but nothing we have seen or heard leads us to believe intelligent design data transfer will get easier. In fact, we expect the opposite will happen. We expect the degree of difficulty and risk of error in intelligent design data transfer between different design software will grow as developers continue to add deeper and more complex functionality to their systems.

How has WisDOT Coordinated with ACEC on Requiring Civil 3D?

In the fall of 2011, WisDOT shared the information above and our corresponding intentions of maximizing utilization of complex roadway models with ACEC membership. ACEC asked whether we could achieve our goals without requiring the use of Civil 3D in the development of our designs. In other words, could WisDOT develop a non-proprietary performance specification that will meet our needs?

WisDOT proposed a testing plan to answer this question. After reviewing WisDOT's draft performance specification requirements, ACEC concurred with WisDOT's perception that the testing plan would not be successful. Correspondingly, a performance specification will not allow WisDOT to maximize the full potential utility of roadway models in the future.

As a result, WisDOT reached consensus with ACEC on WisDOT's need to require the use of Civil 3D.

What is WisDOT Doing to Help Consultants Transition to Civil 3D?

As our consultants prepare for a transition to Civil 3D, WisDOT is doing several things to help.

First, WisDOT makes available all our Civil 3D user training material. This material is captured in video format, and is currently made available through the internet at Retrieve.com. Retrieve.com is the same delivery tool we use in training WisDOT staff to use Civil 3D, more information on how to gain access to this content is found in the *WisDOT-Training-Material-Info.zip* file which can be downloaded from [here](#).

We are pleased with the success we've had in training our staff using this video based method, and as time passes we will be expanding our video training content to include more advanced subjects. Some of the upcoming additions will include a revamping of our basic Civil 3D content, and providing a complete workflow exercise series that teaches plans production workflows for maximizing efficiencies while creating all WisDOT plan sheets in Civil 3D. We are committed to continue developing and distributing our training in video format, and we are committed to continue making this material available to the public.

In addition, WisDOT will continue our longstanding practice of openly sharing our standards and customization for the software we use. For those of you who have been using our Civil 3D 2010 content, in March 2012 we will release an update of our

standards package for use in Civil 3D 2012. This content is found on the WisDOT internet site <http://www.dot.wisconsin.gov/business/engrserv/roadway-design-files.htm>

And finally, we are exploring alternatives for starting a statewide Civil 3D Transportation Designer user group. We'd like this user group to meet at a regular frequency, and to be a forum for sharing ideas and best practices in using Civil 3D for transportation engineering solutions. We'll continue to share information regarding this effort as it develops beginning with the seminars in September.

Questions regarding implementation of Civil 3D specific design deliverables, related content in this message should be sent to dotcaesupport@dot.wi.gov