



CADD NEWS

ISSUE
01

Volume 20

NCDIT Transportation CADD Services Newsletter

May 2020

Welcome to a New Decade of CADD News

It has been a while since the last issue of the CADD News. Sorry about that, I have been busy with the general day to day activities that we all deal with, and the CADD News got pushed aside. I Will try to do better in 2020, so stay tuned.

Since it has been awhile since the last CADD News I thought I would devote this issue to the changes that have happened since the last editions and update you on the status of the new several new products and initiatives that are underway .

I hope you find this issue informative and helpful. If there are any specific topics that you would like to see addressed in the CADD News, please drop me an email at rjrobinson@ncdot.gov and let me know.

If you would like to contribute an article or story to the CADD News, please don't hesitate to send it to me at the same email address.

As Bugs Bunny is fond of saying "That's all folks". See you next issue.

- the editor



Inquiring Minds want know what is happening with CADD

"The cure for boredom is curiosity. There is no cure for curiosity."

- Dorothy Parker

In This Issue

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NC DIT
TRANSPORTATION
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Linn Cove Viaduct

What is ProjectWise?

ProjectWise is a suite of engineering project collaboration software from Bentley Systems designed for the architecture, engineering, construction industries. It helps project teams to manage, share, and distribute engineering project content and review in a single platform. The NCDOT will initially be using ProjectWise to replace the Project Store.

ProjectWise is Live

Bentley's ProjectWise Engineering Content Management System (just ProjectWise or PW for short) is now live at the NCDOT. A ProjectWise site will be set up for every new project for which a Preconstruction SharePoint site is requested. **NCDOT and consultant users should use this project location in ProjectWise to store the CADD files for the project instead of using Project Store (NCDOT) or zipping up CADD files and storing them on the SharePoint site.**

The ProjectWise application allows NCDOT and its professional engineering firm partners to store and collaborate on transportation project CADD work in a consistent and organized way, with everyone on the project team having appropriate access to project contents. ProjectWise will be where CADD design and plan development work is stored. Materials will be published in PDF form to the Preconstruction project sites at project milestones. The Preconstruction project sites will remain the official repository for most project information.

Access to the ProjectWise site will be set up according to the access granted in the Preconstruction project site.

Existing projects may be moved into ProjectWise at the discretion of the project manager.

See also the [Policy directive on NCDOT's use of ProjectWise](#) from Chief Engineer Tim Little.

For questions/problems/or guidance with transitioning existing projects, email to dot.pwsupport@ncdot.gov.

***“Do what you can,
with what you have,
where you are.”***

- Theodore Roosevelt

ProjectWise and EAS

While ProjectWise, in its delivered form, can be an intense and complex application. Engineering Applications Services (EAS) is currently working to create and automate procedures within the PW workflow to make it easier and more efficient from both the user and the administrative side. For example, EAS has created an automated way to publish plan PDFs from ProjectWise to SharePoint as well as adding the submittal to the submittal tracker tool.



Digital Twins

When you think about it, CAD and BIM are both quite limited. Both use the computer to model the desired result of a project, like a building or a highway or dam or other infrastructure. Digital Twins include modeling what happens along the way, from the original existing conditions where the project is to be constructed, through the process of clearing the site, fabricating, erecting and completing a project. With Digital Twins, you can not only analyze how the finished project will perform but, you can analyze how the process of construction is performing. The cost and quality of the finished product depends heavily on the cost and quality of the process used to construct it

- Archway Feb2020
newsletter

What is Bluebeam

Bluebeam, Inc. is an American software company founded in 2002 and headquartered in Pasadena, California, United States. The company specializes in designing tools for creating, editing, marking up, collaborating and sharing PDF documents. Their main product is Bluebeam Revu.

More than a PDF viewer, or annotation tool, **Bluebeam Revu** is an efficiency and collaboration software for anyone who works with technical files. The power of Bluebeam Revu is founded in the dynamic power of the PDF file format. Although common, a PDF file is much more versatile than most people know.

PDFs actually serve as a container that is capable of housing much more data than just the represented image information. In fact, they are also capable of containing a collection of meta data including annotations, layers, digital signatures, 3D information, and much more.

NCDOT has an enterprise license for Bluebeam Revu, so any NCDOT user can request a copy for their PC from the helpdesk. So if you work a lot with PDF files you should check it out. But be aware that you will not be able to use the cloud hosted collaboration part of Revu which is called Studio. The reason for this that the NCDOT does not have control over where the materials and commentary are stored which would limit our ability to reproduce them if required by something like the Freedom of Information Act. This along with the fact that Bluebeam currently doesn't meet the state of North Carolina's cloud hosting security requirements. Hopefully Bluebeam will correct this in the future but until then Studio will remain off limits.

NCDOT Bluebeam Resources

For more information and resources on using Bluebeam Revu please visit the **Bluebeam webpage** on the Inside NCDOT website. The URL is:

<https://inside.ncdot.gov/Teams/Bluebeam/Pages/default.aspx>

Or the **Bluebeam Team Site** at:

<https://ncconnect.sharepoint.com/sites/NCDOTBluebeam>



Gulf Hurricane

Open Roads Technology (ORD)

ORD is a comprehensive, multi-disciplinary, three-dimensional (3D) modeling application that advances the delivery of transportation projects from conceptual design through construction. Its 3D modeling capabilities have the potential to greatly benefit project design, construction and inspection.

NCDOT Draft Plan

A draft implementation plan was circulated in July to Units and Divisions that will be affected by the transition to ORD. We are refining the implementation plan based on feedback from the Units and Divisions, and we have been actively working with Bentley over the past year. The initial ORD migration date was March 2019; however, based on development work by the Department and Bentley over the past year, as well as recent coordination efforts with Bentley, the target date for implementing ORD is the end of 2020, but note that this date may move due to current economic impacts.

ORD/Connect Training

Specific training and implementation plan details and timetables will be available this spring. CADD Services has developed a MicroStation Connect Basic training course that should be available to NCDOT staff by June. Once the MicroStation Connect Basic training is completed, NCDOT users will begin piloting and testing the ORD software.

Meet the ORD Czar

NCDOT has appointed **Jeffrey M. Garland, PE, PMP** (jmgarland@ncdot.gov), to manage the ORD Implementation Initiative to migrate to Bentley's OpenRoads Designer (ORD) CADD software. ORD will replace the versions of MicroStation and GEOPAK currently used by the Department and our Private Engineering Firm partners to design and prepare plans for our transportation projects.

OpenRoads Designer (ORD) Release 1 2020 deployment

On Feb 11, 2020 we began deploying the Release 1 2020 version of OpenRoads Designer to our NCDOT users. This is a major release, which does involve schema changes internally to the software, making any changes we conduct from this date forward to our Workspaces incompatible with the previous versions.

Update: version 2020 release 2 was released April 30, 2020. We begin deploying it later this month after testing.

Please Note

Although the ORD software is being distributed to all NCDOT CADD users, it is currently NOT permitted for use in production projects. Users are encouraged to become familiar with the software and work with it in a testing mode – ONLY.



Want to win a Million dollars

For centuries, scientists have studied turbulent fluids, but describing and predicting their behavior mathematically—using a set of equations called **Navier-Stokes**—remains an elusive and unsolved problem, challenging physicists and supercomputers alike.

\$1 million: Prize offered by the Clay Mathematics Institute to anyone who can formally prove the Navier-Stokes equations have a complete set of solutions.

Bentley's Open Products

Over the next six to twelve months you will be hearing, seeing and hopefully starting to use Bentley's Open Suite of products and services. Here are some quick descriptions of the the "Basic" products that NCDOT has access to.

Road Design and Analysis

OpenRoads (ORD) provides an open modeling environment to support the design and analysis of road networks, from concept through construction.

OpenRoads SignCAD you can quickly design accurate traffic signs that follow current federal and state standards.

Bridge Design and Analysis

OpenBridge (OBD) combines modeling, analysis, and design into one comprehensive solution for the design and construction needs of all types of bridges.

Visualization for Roads and Bridges

LumenRT enables real-time visualizations of simulated infrastructure designs to create high-impact visuals for stakeholders.

Reality & Conceptual Modeling for Roads and Bridges

ContextCapture provides you with precise real-world digital context in the form of a 3D reality mesh for design, construction, and operations decisions.

OpenRoads ConceptStation

OpenRoads ConceptStation empowers highway engineering professionals to rapidly create conceptual road and bridge designs in a matter of hours – not days.

CADD Services Changes

There have been a lot of changes within CADD Services since our last issue. The Biggest one is that CADD Services is now part of the North Carolina Department of Information Technology—Transportation. All NCDOT information technology staff and activities were transferred to the North Carolina Department of Information Technology (NCDIT) by legislative decree. What does this mean to the reader? Hopefully, nothing. Since our mission, goals, and activities have not changed.

Bryan Edwards to Construction

Bryan Edwards who has been the manager of CADD Services for the past several years left CADD Services to take the position of Electronic Construction Engineer with the NCDOT Construction Unit. Bryan can be reached by email at bledwards1@ncdot.gov or by phone at 919.707.2492

Dean Noland Retired

Dean Noland retired this past summer (2020) after a long career with NCDOT & DIT. Dean and his wife have relocated to Thailand where they plan on traveling and seeing the world.

Steve Atkinson Retired May 1, 2020

Steve Atkinson, aka the "Brain," retired this spring after many years with CADD Services (20 years if I remember correctly). Hopefully, you were able to stop by to wish him good luck. After retirement, he is going to be a hard man to track down (hint he will be at an undisclosed location in the wilds of South Carolina).

Tim Merrill to Retire June 1, 2020

Tim Merrill will be retiring this summer after many years with CADD Services (27 years with NCDOT & NCDIT Transportation), so if you wish him good luck to just drop him an email). Because once he retires, he is going to be a hard man to track down. Maybe not as hard as Steve but close.

New CADD Services Manager

Kyle Nauman has as the new manager of CADD Services 2020, replacing Bryan Edwards. Kyle is not only new to CADD Services, but he is also new to the State of North Carolina, NCDOT, and NCDIT Transportation. So I hope everyone will welcome him as he begins his career with the state of North Carolina.

Contact Us

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ETS ,EAS, **CADD Services**

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"Some problems are so complex that you have to be highly intelligent and well informed just to be undecided about them."

-Laurence J

