ISSUE
01
Volume 17

CADD NEWS

NCDOT CADD Services Newsletter February 2017

Preconstruction collaboration sites

This project enables DOT staff (central & division) and external professional engineering firm staff to collaborate on design work for DOT projects. It provides controlled access online locations for general documents as wells as for CADD (computer aided design documents) and related materials. It will replace and go beyond the capabilities of FTS and share drives.

We expect to expand the capabilities in this area to allow controlled sharing of workspaces and documents with Rural and Municipal Planning Organizations and State/Federal agencies. We will not open access to specific individuals

Overview

Currently, the pre-construction designs and documents for centrally let projects is stored on a share drive called Project Store, on individual disk drives or local share drives. Project Store is accessible to all internal DOT by mapping \\dot\dfsroot01\proj or by using the SRVCONN tool. The pre-construction design material for division let projects is stored in a variety of places, including local hard drives in the division or on a shared hard drive (S: drive) or on project store (\\dot\sfsroot01\projstore\divproj). None of these are accessible by external designers.

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Preconstruction From Page 1

"Never let a computer know you're in a hurry." .

-- Anonymous

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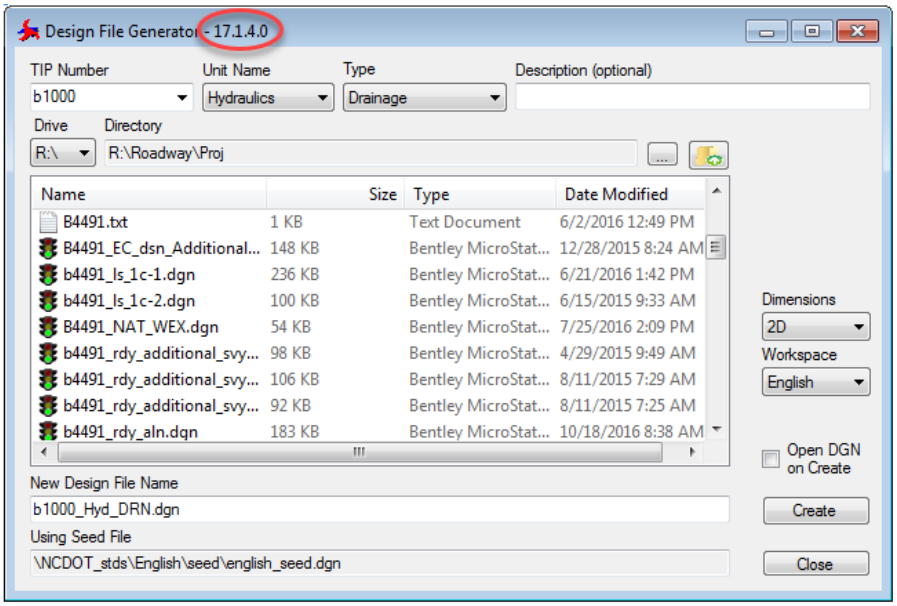
information technology
cadd services

New Version of Design File Generator Program

CADD Services has released a new version of the Design File Generator program. To access the new program, update your **NCDOT_Stds** workspace. Then launch CADD Tools from your desktop, followed by selecting DgnFileGen. The program was rewritten to modernize code and correct a minor bug. You should have no problem using the new version as it looks and functions much like the previous version.



FHWA Hydraulic Engineering Video

The FHWA Hydraulic Engineering Discipline is pleased to announce the availability of a series of informational videos organized into a YouTube playlist: https://www.youtube.com/playlist?list=PL5_sm9g9d4T26H-wyM5Xa5GhDyTU2HcOw. This series of six videos showcases the use of a portable flume to visualize open-channel flow and culvert design concepts. The specific topics covered in the videos are:

- Open Channel Flow Concepts: This video covers basic open channel flow concepts including how flow is classified.
- Grate Inlets: This video demonstrates grate inlets commonly used in storm drain catch basins.
- Culvert Hydraulics: This video shows how culvert design factors influence flow depths and velocities.
- Culvert Liners: This video demonstrates how rehabilitative liners may change culvert hydraulic performance.
- Aquatic Organism Passage: This video introduces aquatic organism passage design concepts for culverts.

Energy Dissipators: This video demonstrates the hydraulic performance of a number of culvert energy dissipators.

Photo Caption

Advanced Search on Inside NCDOT

Many people may still not know about the Advanced Search on Inside. This search spans across the below three repositories:

As-built plans from all centrally let highway projects as far back as DOT records exist (the 1910s)

Pre-Construction content for TIP projects (information in Project Store) Note: CADD files are excluded.

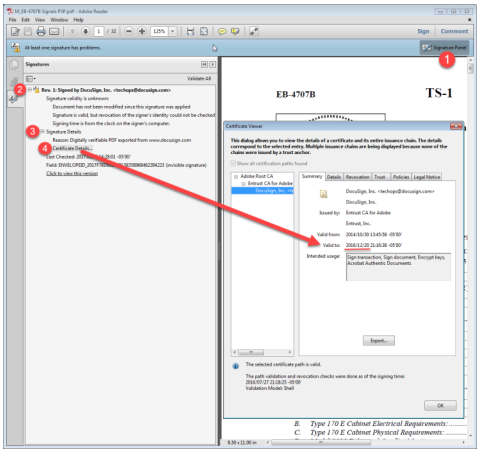
Construction content for projects with Construction sites (accessible only by DOT Construction users)

The Hyper link for the word document referenced above is.

https://connect.ncdot.gov/help/SharePoint-Training/QuickReferenceDocuments/SearchAdvancedECD.docx

Electronic Signature Validation Error

If you have recently received an electronically signed PDF by Docusign and now you observe a signature problem when opening the PDF, there may be a valid reason for it. DocuSign's root certificate recently expired on December 20, 2016. This means that any documents that were electronically signed by DocuSign and downloaded prior to this date will display a warning message in the Signature Panel indicating "At least one signature has problems." The Electronic Content Management team has considered this issue and has determined that there is no validity concern and no need to resign these documents, since the reason for the signature warning is the expiration of the root certificate and since you can view the certificate and see that the certificate was valid at the time of signing.

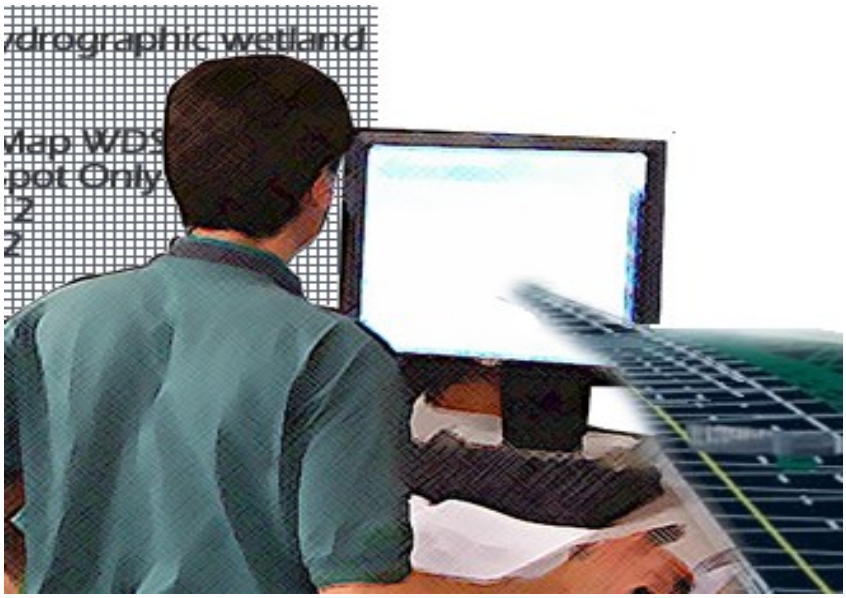


If you observe the Signature Panel message indicating a problem, please navigate to the certificate details by clicking on the number links above and confirm the “Valid to” date. If the date is 2016/12/20, or 2014/12/20 then the document is considered acceptable to NCDOT.

In all other cases when there is a Signature Panel message indicating a problem, the document should be viewed as not have a valid signature meeting NCDOT’s electronic signature policy. This policy can be found in the below location:

https://connect.ncdot.gov/business/consultants/Roadway/NCDOT%20eSignatures%20Policy.pdf

Going forward, DocuSign has renewed their root certificate for another two years, which means any eSigned documents downloaded from DocuSign after December 20, 2016 will not have this problem. Furthermore, they have now incorporated Long Term Validation (LTV Enabled) into the root certificate, which is expected to prevent this problem from occurring in the future.



This effort has been broken into two parts:

- We have implemented a set of Preconstruction team sites where files may be exchanged between project participants inside and outside the DOT firewall. This allows us to exchange and collaborate on office documents and to exchange CADD files inside zip files. Any authorized user can use this space without additional cost or software.

- CADD files have a complex reference structure between them, so they are not as simple as other files to just upload to a SharePoint team site and share. ProjectWise, a Bentley collaboration tool, is in the process of being purchased. It will enable us to store and collaborate on design online. This will require Bentley software and licensing.

Status & Next Steps

The SharePoint Preconstruction project site is in the early implementation phase. Project Managers (division and central) can request the creation of project team sites and designate the PE Firms that will have access. Collaboration libraries for Project Development, Human Environment and Natural Environment work are available in this first stage. All other units will be able to exchange files using From DOT and To DOT "mailbox" libraries.

Regarding CADD needs, we have determined what Bentley ProjectWise products and related services are required. We are expecting that the specification and purchase process will be completed in early 2017. Specification, customization and implementation of Bentley tools are expected to be underway by spring of 2017 with pilot projects to follow.

Window 10 Testing

CADD Services and Unit CADD Coordinators are nearing completion of testing CADD applications on Windows 10. So far the testing has been positive and no major issues are anticipated. There of course will be differences with Windows 10. Many of you may already have Windows 10 on your personal computers and so hopefully you can familiarize yourself with the interface a little prior to the NCDOT migration.

So when will the Department actually migrate to Windows 10? There is no exact date at the moment but a good general timeframe is summer of 2017.

SS4 Frequently Asked Questions

Why are we moving to SS4?

CADD Technology is advancing. NCDOT has been standardized on the SS2 Platform for nearly 6 years. By moving to SS4 we gain access to a lot of new CADD Technology that we hope to implement in the future.

Can SS4 use SS2 files?

There is no DGN compatibility concerns going from SS2 to SS4. Any SS2 DGN file can be opened in SS4 and vice versa.

Will SS4 work with our workspaces?

Yes, there are no compatibility issues with PowerGEOPAK SS4 and the latest NCDOT workspaces.

PowerGEOPAK SS4 Upgrades

CADD Services is currently migrating all NCDOT units, except Roadway Design and the Divisions DDCs. From MicroStation/GEOPAK SS2 to PowerGEOPAK SS4. The migration should finish by the end of February 2017.

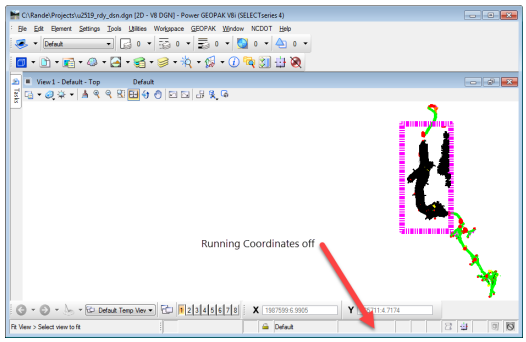
PowerGEOPAK has the same look and feel as SS2 so there won't be any new training required to make the switch.

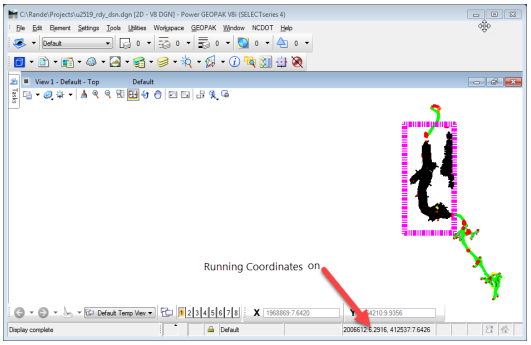
One important note is that your SS2 user preference file (upf) is not compatible with SS4. The first time you open PowerGEOPAK, it will create a new generic upf file. Which you can then customize according to your preference.

If you experience any problems or have questions. Please feel free to contact CADD Services and discuss them.

Running Coordinates

With Current upgrades of MicroStation V8i SS2 to Power Geopak V8i SS4 you might find that your running coordinates at the bottom of the MicroStation window have disappeared. If you want to turn them back on (or turn them off). Simply right click in the running coordinates status box and toggle it on or off . If you want to keep the setting don't forget to perform a File => Save Settings





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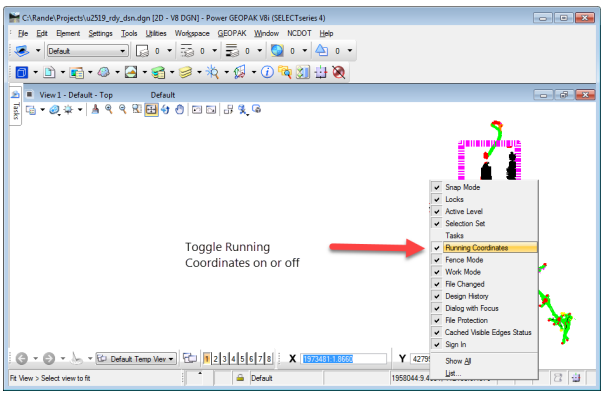
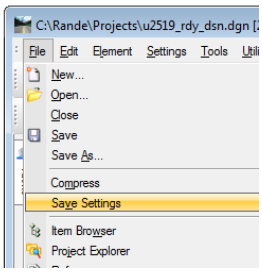
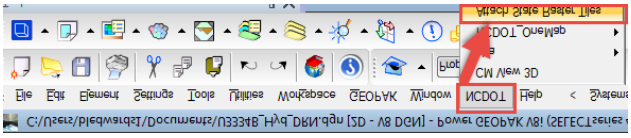




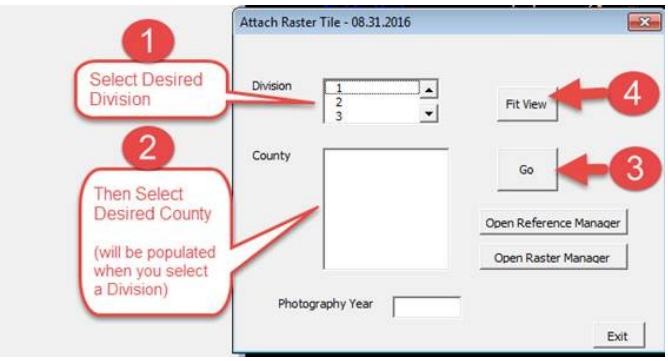
County Imagery/ Alternative to NC OneMap

Due to the NC OneMap service being down more than we would like, there is now a convenient alternative to attaching aerial imagery that relies upon our own NCDOT Servers. This alternate method only attaches imagery you specify which may help reduce MicroStation View refresh times as compared to NC OneMap, since it has to refresh the entire state. To access this new tool, please ensure you have both NCDOT_Stds and NCDOT_V8_CONFIG workspaces up to date. Once your workspaces are up to date, below is how to use the new (alternative) tool:

Open MicroStation and click on the NCDOT menu as shown below and select "Attach State Raster Tiles."



Next follow the steps shown below:



Then click on the desired tile number and accept with a data click.

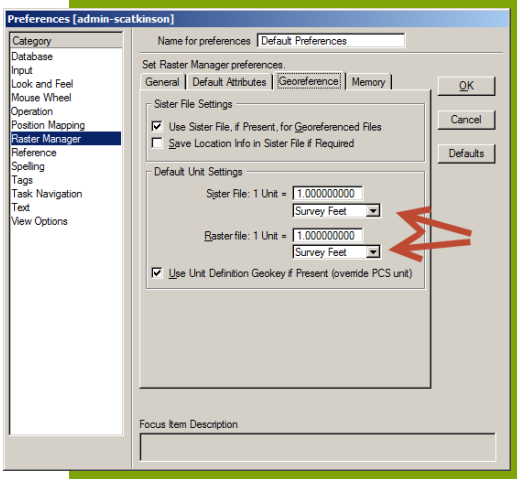
This should bring up the image for that tile.

If the imagery does not show up within the boundary of the specified tile, then follow the steps shown in the side bar on the right for setting your Raster Preferences.

As a reminder, NC OneMap is still available and is still a great tool to use. You can decide which tool is the best for your specific project needs.

Lastly, if you need to remove the imagery, simply bring up Raster Manager and detach the desired file/image.

If you run the vba and the raster tiles do not appear in the correct location, check your User Preference settings. These settings have been fixed in the new upf seed files, so you could either change the settings manually, as in the following diagram:



Or update the NCDOT_V8_CONFIG component of the workspace and then delete your existing upf file so that a new upf will be created.

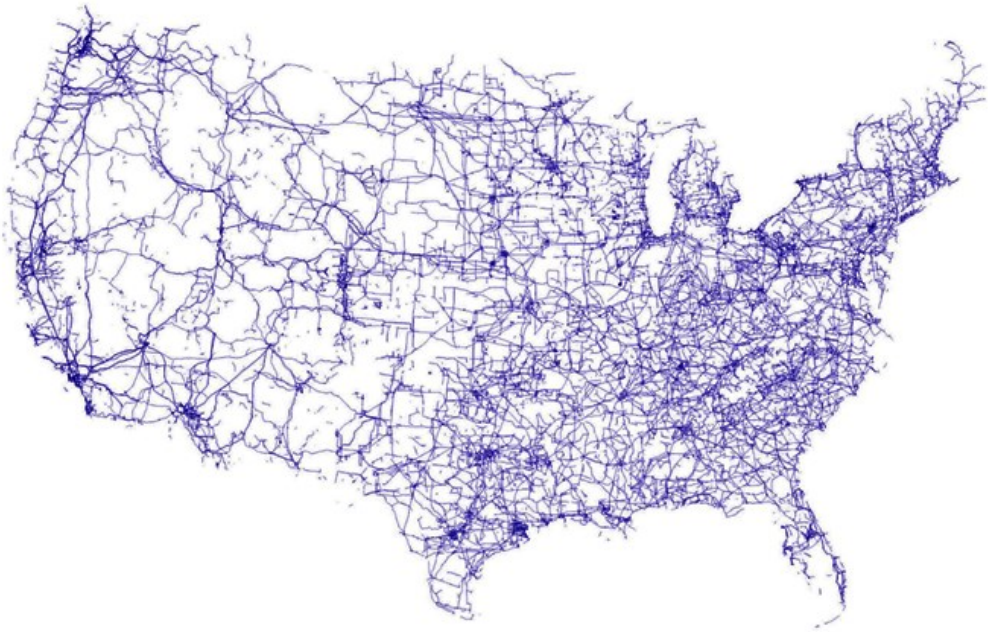
Upcoming CADD Training (as of 01.31.17)

Class	Start Date	End Date	Location
GEOPAK Basics	2/21/2017	2/23/2017	Asheville
GEOPAK Basics	3/1/2017	3/3/2017	Winston– Salem
GEOPAK Construction	5/17/2017	5/18/2017	Asheville
GEOPAK Construction	5/23/2017	5/24/2017	Winston-Salem
GEOPAK Survey	4/18/2017	4/19/2017	Asheville
GEOPAK Survey	4/26/2017	4/27/2017	Winston-Salem
MicroStation I	2/1/2017	2/01/2017	Winston-Salem
MicroStation I	4/4/2017	4/5/2017	Asheville
MicroStation I	4/18/2017	4/19/2017	Raleigh
MicroStation II	2/21/2017	2/22/2017	Raleigh
MicroStation II	3/15/2017	3/16/2017	Asheville
MicroStation II	3/22/2017	3/23/2017	Winston-Salem
MicroStation III	3/14/2017	3/15/2017	Raleigh
MicroStation III	6/14/2017	6/15/2017	Winston Salem
MicroStation III	6/27/2017	6/28/2017	Asheville

To sign up for these or any other CADD Services training classes. Log into the NC Learning Center (**https://mybeacon.its.state.nc.us/irj/portal)** with your NCID credentials. Select the appropriate class or classes you wish to take.

The Last Word

America's Infrastructure—The Electric Grid



Current NCDOT CADD Software Versions		
Product	**Version**	**Note**
MicroStation V8i-SS2	08.11.07.443	Used for Corridor Modeling
GEOPAK V8i-SS2	08.11.07.494	Used for Corridor Modeling
PowerGEOPAK SS4	08.11.09.878	Used for everything except Corridor Modeling
ProjectWise Interplot Organizer	08.11.11.56	
UpdateWS	16.11.22.2	As of 12.14.16
Operating System	Windows 7 enterprise 64-bit SP1	As of 12.14.16
Microsoft Office 365 Pro Plus	15.0.4823.1000	
Auto Turn	9.1	
Trimble Business Center	3.61	
Trimble Geomatics Office	1.63	Trimble has not supported this product in quite a while and the NCDOT is phasing it out.

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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*