

GETTING STARTED WITH COMPUTER AIDED ENGINEERING APPLICATIONS FOR CT DOT EMPLOYEES

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AEC APPLICATIONS

ARCHITECTURAL, ENGINEERING & CONSTRUCTION

July 2016

About Us

Introduction

AEC Applications develops and establishes electronic design standards, as well as supports computer-aided engineering/construction applications.

Responsibilities:

Maintain and Manage– We update and organize the electronic framework so projects can move through the necessary stages.

Initiation » Preliminary Design » Final Design » Advertising » Award » Construction » Maintenance

Develop – We monitor and implement the latest trends in design technology hardware and software to continually improve performance and customer service.

Train & Support - We are here to help you use the engineering software to your fullest potential. We will strive to introduce to you the software in a manner you are comfortable with to enhance your engineering abilities.

[Staff Listing](#)



Staff Directory

[Website](#)

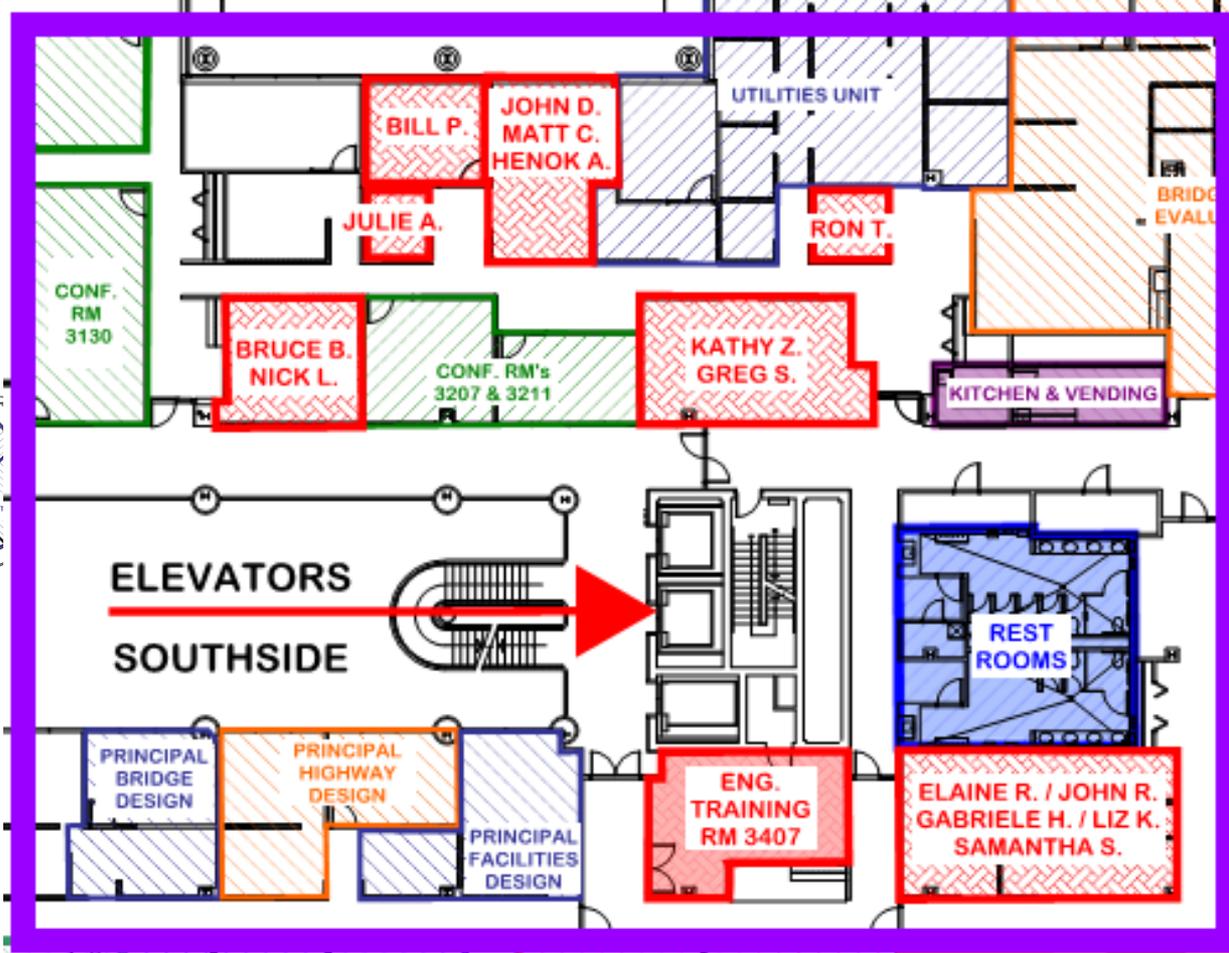
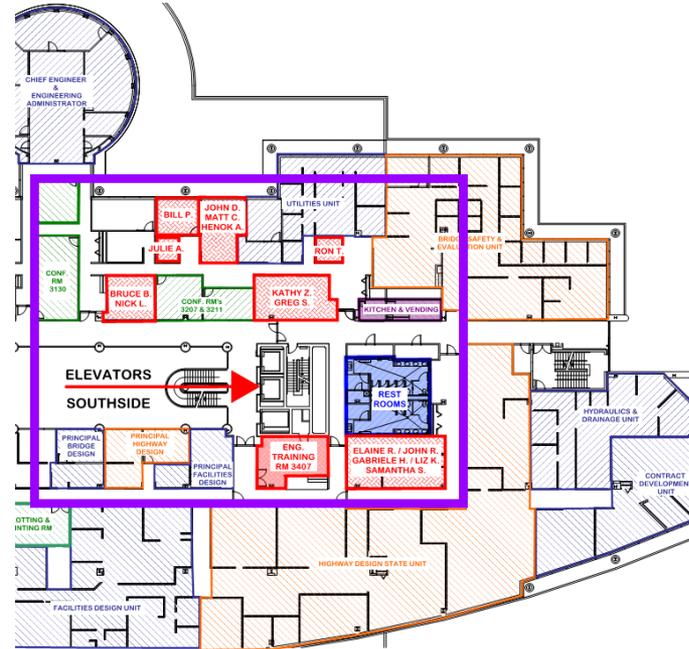


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About Us

Where to Find AEC Applications Staff Members



3RD FLOOR DOT HDQTR's
Newington, CT

DETAIL OF 3RD FLOOR OFFICE LOCATIONS



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Overview of Software Applications

Bentley® Systems



ProjectWise

Information Management and Project Collaboration Software. It helps project teams manage, share and distribute engineering project content and review in a single platform. ProjectWise is used by CTDOT to track information about our projects, transportation assets and their related documents.

Houses:

- department Assets such as Bridges, Traffic Signals & Sign Supports.
- active & legacy project plans
- information about projects, folders and documents.



MicroStation V8i

2D/3D CAD Design and Modeling Software for Architecture, Engineering and Construction.



InRoads Suite V8i provides civil engineering tools for:

- road and site modeling.
- horizontal and vertical alignments.
- volume and quantity computations.
- storm drainage structure layout and analysis.
- processing of survey data to create surface models.
- plan sheet production.

MicroStation is the platform application which allows InRoads data to be displayed; thus, both MicroStation and InRoads applications work together to provide users with CAD functions. For example, InRoads uses MicroStation files to display CAD graphics for a Horizontal Alignment.



StormCAD V8i

Storm drainage design and analysis



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Continue to next slide

Overview of Software Applications

Bluebeam®

Bluebeam® is CT DOT's standard PDF software used for manipulating and viewing PDF documents. CT DOT subscribes to 3 versions of Bluebeam® software:



Bluebeam Revu®

provides powerful PDF creation, markup, editing and collaboration technology for paperless workflows.



Bluebeam Revu®Extreme

provides powerful PDF creation, markup, Form Creation, OCR, editing and collaboration technology for paperless workflows.



Bluebeam Vu®

is a free professional PDF viewer that has been installed on all workstations that do not have a licensed version of Extreme or REVU.

Bluebeam® Extreme and Revu require special licenses, to check availability contact Julie Annino at 594-2730 or email Julie.Annino@ct.gov

For more information and help use this link:
[Bluebeam Help](#) (Bluebeam Training Materials)



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Continue to next slide

Overview of Software Applications

Miscellaneous



AASHTOWare Project Estimator

Estimator® was adopted by the Connecticut Department of Transportation for use in preparing construction cost estimates



AutoTrack

AutoTrack is a vehicle swept path analysis software program used for analyzing the movements of steered and wheeled vehicles including cars and trucks. AutoTrack can be used as a standalone or the *preferred option* opened within MicroStation.



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Support

Who to Contact for Help

	CT DOT Help Desk - X 3500 DOT.Helpdesk@ct.gov provide your computer name* All Microsoft Office products Microsoft Word Microsoft Excel Microsoft Outlook Microsoft PowerPoint Google Earth Adobe Digital Highway Network Internet Printer & Plotter	CT DOT AEC Applications Support Form Bentley® ProjectWise Bentley® MicroStation Bentley® InRoads Bentley® StormCAD AASHTO Products AutoTrack Bluebeam
General use and issues		
Software installs and licensing errors	X 3500 or DOT.Helpdesk@ct.gov	
Accounting access	X 3500 or DOT.Helpdesk@ct.gov	
New user access and accounts	X 3500 or DOT.Helpdesk@ct.gov	
Hard drive or monitor issues	X 3500 or DOT.Helpdesk@ct.gov	
File back ups	X 3500 or DOT.Helpdesk@ct.gov	
Network permissions (X Drive)	X 3500 or DOT.Helpdesk@ct.gov	
Request X drive project from Archive		Elaine.Richard@ct.gov
ProjectWise permissions		Mathew.Calkins@ct.gov
ProjectWise Project folder requests		Julie.Annino@ct.gov
X Drive Project folder requests		John.Rinaldi@ct.gov or Ronald.Tellier@ct.gov
Enroll in CAD Training		Gabriele.Hallock@ct.gov
Sign up for Bentley Select Services		Samantha.Scharpf@ct.gov

*Helpdesk will ask for your computer name: On your desktop right-click on the 'Computer' icon → click 'Properties'. The computer name is listed in this window that opens.



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Support

How to Request Help From AEC Applications

Step 1 - Check to make sure your issue is not a **Help Desk** matter as described in previous slide.

Step 2 - Make sure you followed the provided workflow on the AEC Connecticut DOT Website.

Helpful links

[CTDOT - SELECTseries DDE \(Digital Design Environment\)](#)

[MicroStation & InRoads Common Issues and Resolutions](#)

[ProjectWise/Digital Project Resources](#)

[Cost Estimating - AASHTO's Trns•port© Estimator](#)

Step 3 - If you are still having issues please fill out and submit the AEC Applications Support Form.

http://www.ct.gov/dot/lib/dot/documents/aec/AEC_Support_Form.pdf

AEC Support Form

Fill out the following form detailing which process and/or software you are having issues with and click the submit button at the bottom of page.

Name: Phone Number:

Unit/Consultant Firm: Computer Name:
(CTDOT Only)

Process Having Issues or Errors With:
(If the process is not listed, type it in)

Software Having Issues With:

Software Version:

Level of Importance: Low
High = Production down
Medium
Low

Path of File Having Issue With (CTDOT Only):

Description of Issue or Error:



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CAD Training Program

Prerequisites

To enroll DOT employees supervisors should email Gabriele Hallock at Gabriele.Hallock@ct.gov with the following information:

- Employees Name
- Unit
- Email
- Phone #
- Start Date

Training Provided by Bentley	Training Provided by AEC Applications
MicroStation Course	InRoads Course

LIVE TRAINING

ONLINE TRAINING

Getting Started with Computer Aided Engineering Applications for CT DOT Employees

MicroStation V8i Essentials

MicroStation V8i Essentials

MicroStation V8i 3D

Bentley Road Fundamentals using InRoads with MicroStation

Bentley Road Fundamentals using InRoads with MicroStation

Advanced Roadway Designer for InRoads, with MicroStation

In Development

CT DOT MicroStation for Bridge Engineers

CT DOT MicroStation for Traffic Engineers

CT DOT 3-D MicroStation for Bridge Design

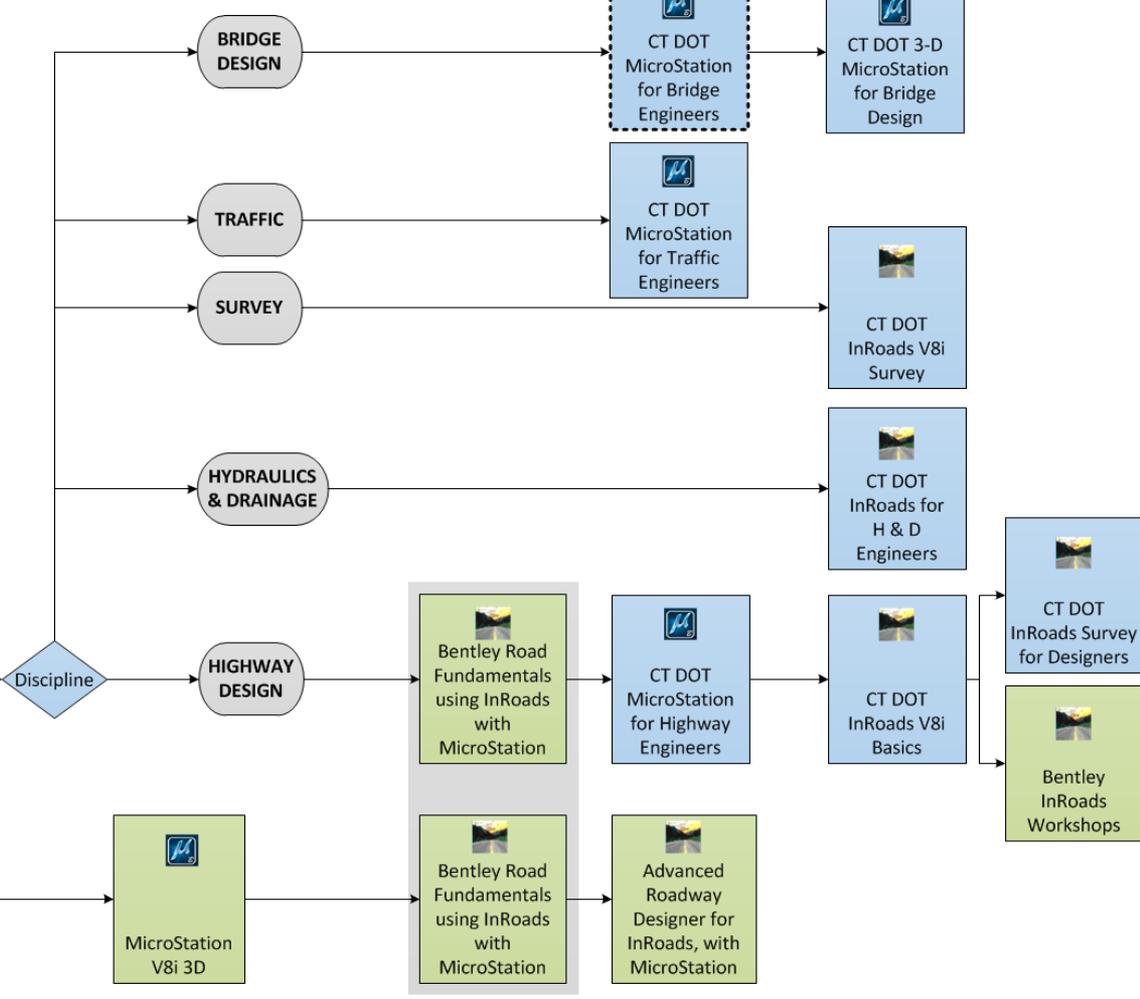
CT DOT InRoads V8i Survey

CT DOT InRoads for H & D Engineers

CT DOT InRoads V8i Basics

CT DOT InRoads Survey for Designers

Bentley InRoads Workshops



Training Program

Student Evaluations

The student evaluations are scored on a base plane not including ADA measure unless AEC Applications is notified.

Computer Skills

Advanced – good knowledge of material and uses tools exceptionally well

Acceptable – knowledge of material and uses tools proficiently

Limited – limited knowledge of material and uses tools inadequately

PC Skills - Prerequisites for MicroStation V8i Essentials classes, InRoads classes, advanced MicroStation classes and CT DOT classes

Employees are expected to know the following:

Familiar with mouse controls.

Understand the control panel.

Able to copy & paste operations.

Can navigate Internet & Windows Explorer.

Have working knowledge of Microsoft Office products.

Familiar with how Email operates.

CAD Skills - Prerequisites for InRoads classes, advanced MicroStation classes and CT DOT classes.

Employees are expected to know the following after taking the MicroStation Essentials class:

Able to create a MicroStation file and open the program.

Able to work and navigate in different views.

Familiar with annotation and dimensioning.

Able to select, modify and delete elements.

Familiar with the MicroStation interface.

Can use precision input with AccuDraw.

Can place lines, cells and shapes.

Understand how references work.

Participation

Unsatisfactory - An unsatisfactory rating will be given if one or more of the following occurred.

- If the Employee is continually late for class and does not abide by break schedule.
- If the Employee is distracted (cell phone use, sleeping, talking) prompting requests to repeat steps and consequentially slowing down the class.
- If the Employee doesn't follow along with lecture/class, doesn't complete hands on tasks.

Comprehension

Unsatisfactory – An unsatisfactory rating will be given if one or more of the following occurred.

- If the employee requires extensive one on one personal instructions and significantly slows down the progress of the class.
- If the employee doesn't have the required computer skills, CAD skills or engineering knowledge to be able to understand and apply them to complete the hands on tasks.
- If the employee is unwilling to follow standard CT DOT procedures.



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Bentley® Services



LEARNserver

learn.bentley.com

Use this site as a pathway to Bentley's online courses and tutorials. AEC Applications will assign new users a learning path of courses based on your specific discipline.

For use with:

- *ProjectWise*
- *MicroStation V8i*
- *InRoads Suite V8i*
- *StormCAD V8i*

Select Support Line
1-800-778-4277

Bentley® 
Communities

communities.bentley.com

Use this site's search function to find how-to tips, Bentley product support, best practices, opinions and advice from peers and Bentley subject matter experts. Gain insight and get answers to a wide range of topics related to Bentley products. If you cannot find what you are looking for, go to the community for the product you are using.

You will need a Bentley® Select ID to access the comprehensive webpages, online help and online training. If you do not have this, please contact Samantha Scharpf via email at Samantha.Scharpf@ct.gov



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Bentley® Services

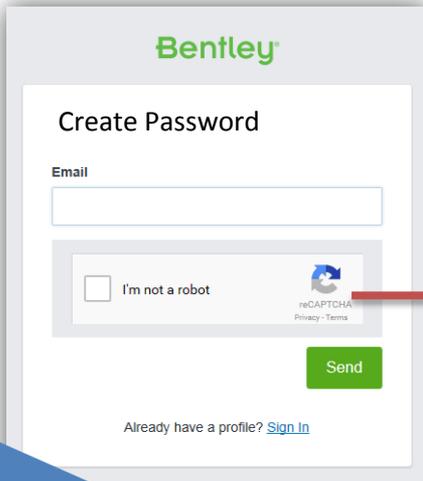
Accessing the Website

New users logging in to the Bentley® website for the first time will need a Bentley® Select ID to access the comprehensive webpages, online help and online training. If you do not have this, please contact Samantha Scharpf via email at Samantha.Scharpf@ct.gov. After your SelectID has been set up, you will receive an automated email from Bentley®. Click on the link in the email to create your password.

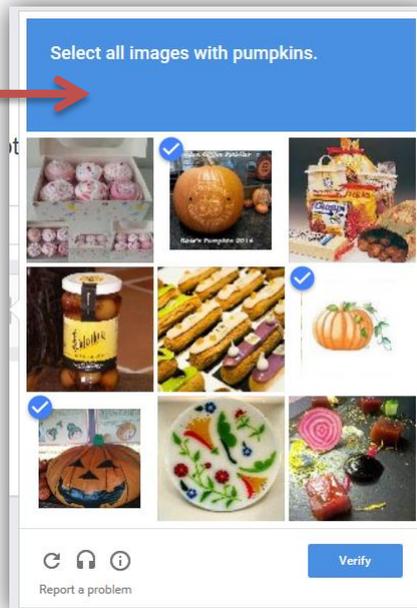
The Create Password dialog box will open. Enter your email and select the **I'm not a robot** box. Answer the question that appears and select **Verify**. Back on the Create Password dialog box select **Send**.

Create your new password and select **Submit**

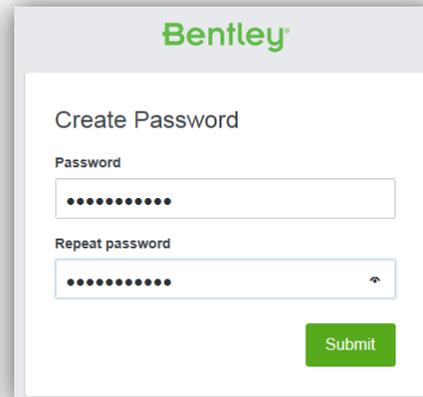
After you created your new password, browse to learn.bentley.com to sign in.



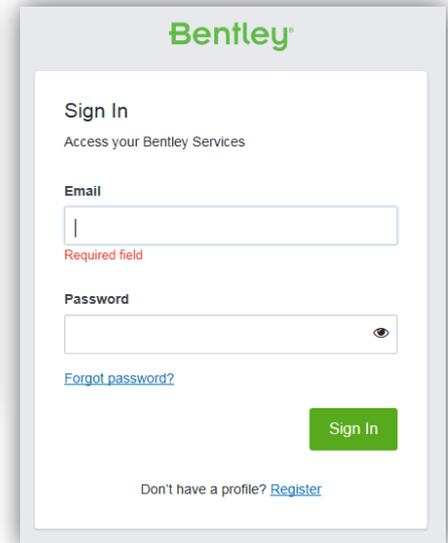
The Bentley logo is at the top. Below it is the heading "Create Password". There is an "Email" input field. Below that is a reCAPTCHA box with the text "I'm not a robot" and a checkbox. To the right of the checkbox is the reCAPTCHA logo and the text "reCAPTCHA Privacy - Terms". At the bottom right of the dialog is a green "Send" button. At the bottom left, there is a link: "Already have a profile? [Sign In](#)".



The dialog box has a blue header with the text "Select all images with pumpkins." Below the header is a 3x3 grid of images. The top-left image shows a pumpkin pie, the top-middle shows a whole pumpkin, and the top-right shows a pumpkin patch. The middle-left image shows a jar of pumpkin butter, the middle-middle shows a pumpkin pie, and the middle-right shows a whole pumpkin. The bottom-left image shows a jack-o'-lantern, the bottom-middle shows a plate of food with pumpkins, and the bottom-right shows a pumpkin pie. There are blue checkmarks in the top-left, top-middle, middle-right, and bottom-left corners of the grid. At the bottom left of the dialog are icons for "Report a problem" (refresh, headphones, and info). At the bottom right is a blue "Verify" button.



The Bentley logo is at the top. Below it is the heading "Create Password". There are two input fields: "Password" and "Repeat password". Both fields contain a series of dots. At the bottom right of the dialog is a green "Submit" button.



The Bentley logo is at the top. Below it is the heading "Sign In". Underneath is the text "Access your Bentley Services". There is an "Email" input field with a red "Required field" error message below it. Below that is a "Password" input field with an eye icon on the right. At the bottom left of the dialog is a link: "[Forgot password?](#)". At the bottom right is a green "Sign In" button. At the very bottom, there is a link: "Don't have a profile? [Register](#)".



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Continue to next slide to edit your profile

Bentley® Services

Accessing the Website Continued

The image illustrates the steps to access the profile editing page on the Bentley website. It consists of three overlapping screenshots:

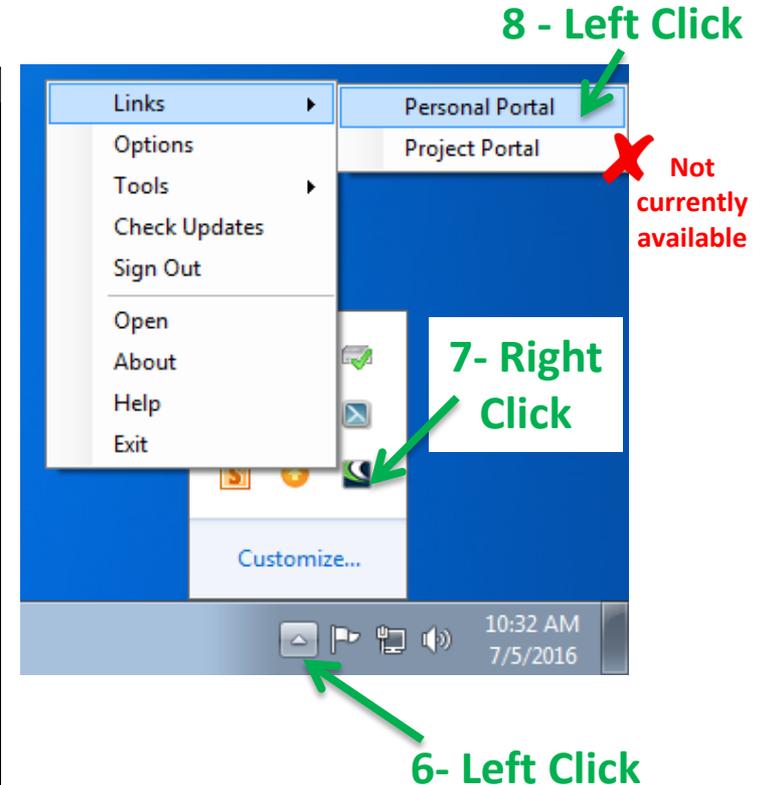
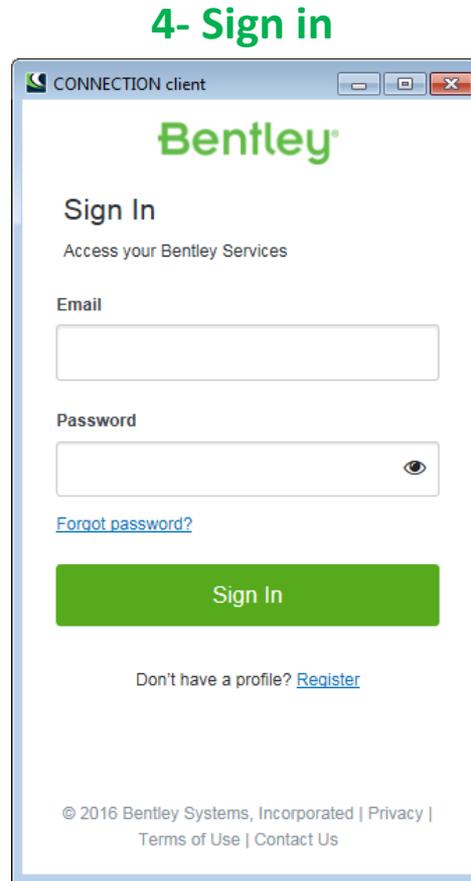
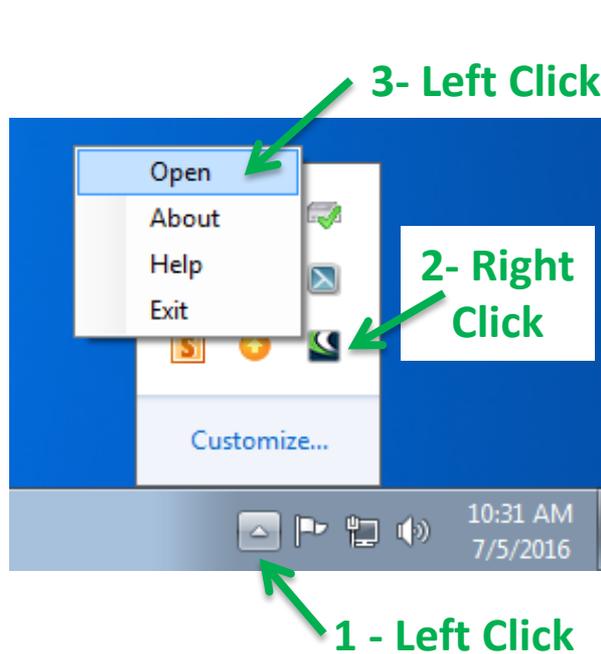
- Top Screenshot:** Shows the website's top navigation bar with 'Hello, Admin', 'Help', 'Profile', and 'Sign Out'. The 'Help', 'Profile', and 'Sign Out' links are circled in red.
- Middle Screenshot:** Shows a 'Profile' dialog box with the text 'User Name' and a blue pencil icon. The 'Profile' link and the pencil icon are circled in red.
- Bottom Screenshot:** Shows the full profile editing form with a red arrow pointing to the blue pencil icon. The form includes fields for: First name, Country, Last name, Street address, Primary email/Username, City, Password, State/Province, Organization, Zip/Postal code, Job title, Telephone, Profession, Time zone, Communication language, and Alternate/Personal email (optional).

After signing in you will be connected to the LEARNserver. You will now need to update your profile information. Select **Profile** on the top right hand bar and then **Profile** again when the next dialog box appears. On the third dialog box click on the **Blue Pencil** icon. Edit your information as needed.

Continue to next slide to find your learning path

Bentley® Services Personal Portal

When logging in to your computer after the MicroStation 08.11.09.832 update you will notice a new Dialog box. The CONNECTION client provides users easier access to the resources on Bentley's website. You can choose to log in or click on the X to cancel.



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Continue to next slide

Bentley® Services

Personal Portal Continued

The Learning tile provides links to various aspects of your Learn content and options.

- Learn Now – Provides the option to select from a range of OnDemand Learning courses.
- Learning Certificates – Provides the transcript of all your Learning Units
- Learning Paths – Assigned discipline-specific training
- Active Learning – Resuming any currently active online training
- Register For Learning – Provides a list of available training (dates & locations)

The screenshot shows the Bentley Personal Portal interface. The top navigation bar includes the user's name 'State of Connecticut-DOT' and various icons. The main content area is divided into several sections:

- Personal Portal**: A central tile with a background image of a bridge under construction. It contains a list of learning options: 'Learn Now', 'Learning Certificates', 'Learning Paths', 'Active Learning' (highlighted in blue), and 'Register for Learning'. A 'View All' button is at the bottom.
- Recent Projects**: A search bar and a '+ More' button.
- Personal Share**: A section for publishing i-models and PDFs, with a 'Learn more...' link.
- My Activity**: A section with filters for 'Week', 'Month', 'Quarter', and 'All'. It shows 'No Activity Recorded' and a 'View Report' button.
- My Support**: A section with four tiles: 'Bentley Communities' (with a 'Select' dropdown), 'Software Downloads' (with a red 'X' and 'Admin access only'), 'Admin access only' (with a red 'X' and 'Admin access only'), and 'My Service Requests' (with a 'Select' dropdown).

The Bentley Communities tile provides links to communities for example MicroStation & InRoads. These sites provide technical information as well as the ability to post questions & search for answers.

My Service Request
Links you to the Service Request Manager where you can view your Service Requests.
New Service Request
Allows you to create a new Service Request.

Bentley® Services

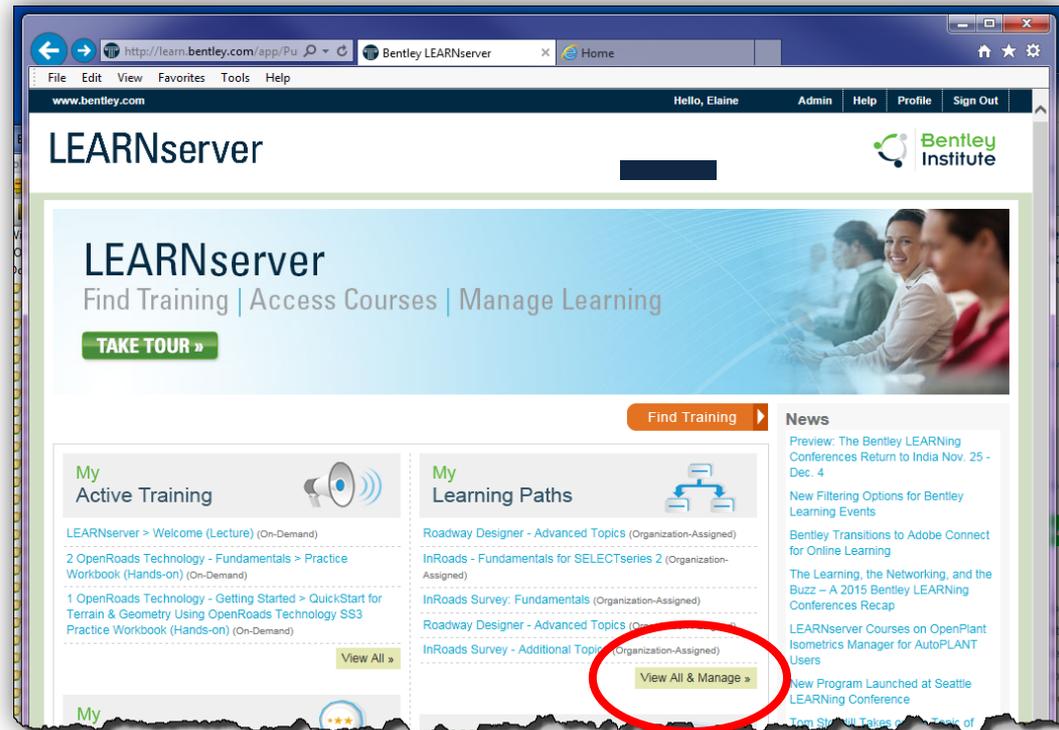
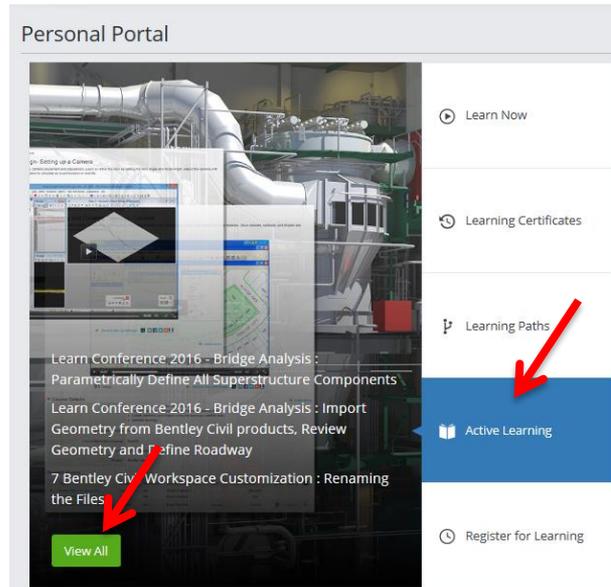
The LEARNserver

Bentley® offers this service to all Connecticut DOT CAD users. Based on your discipline AEC applications will set you up with a specific learning path on the Bentley® LEARNserver (**My Learning Paths**). This path can be utilized by those who have long lead times for live instruction and can be used for reference/refreshers. Ultimately all new users should receive live training for the basic classes which are “MicroStation Essentials” & “InRoads Fundamentals”, every effort will be made by AEC Applications to provide you with live training in a timely manner. For basic skills we will use the online classes as a starting point as well as a review to reinforce what is taught in live training.

Access

OR

learn.Bentley.com/app/Public

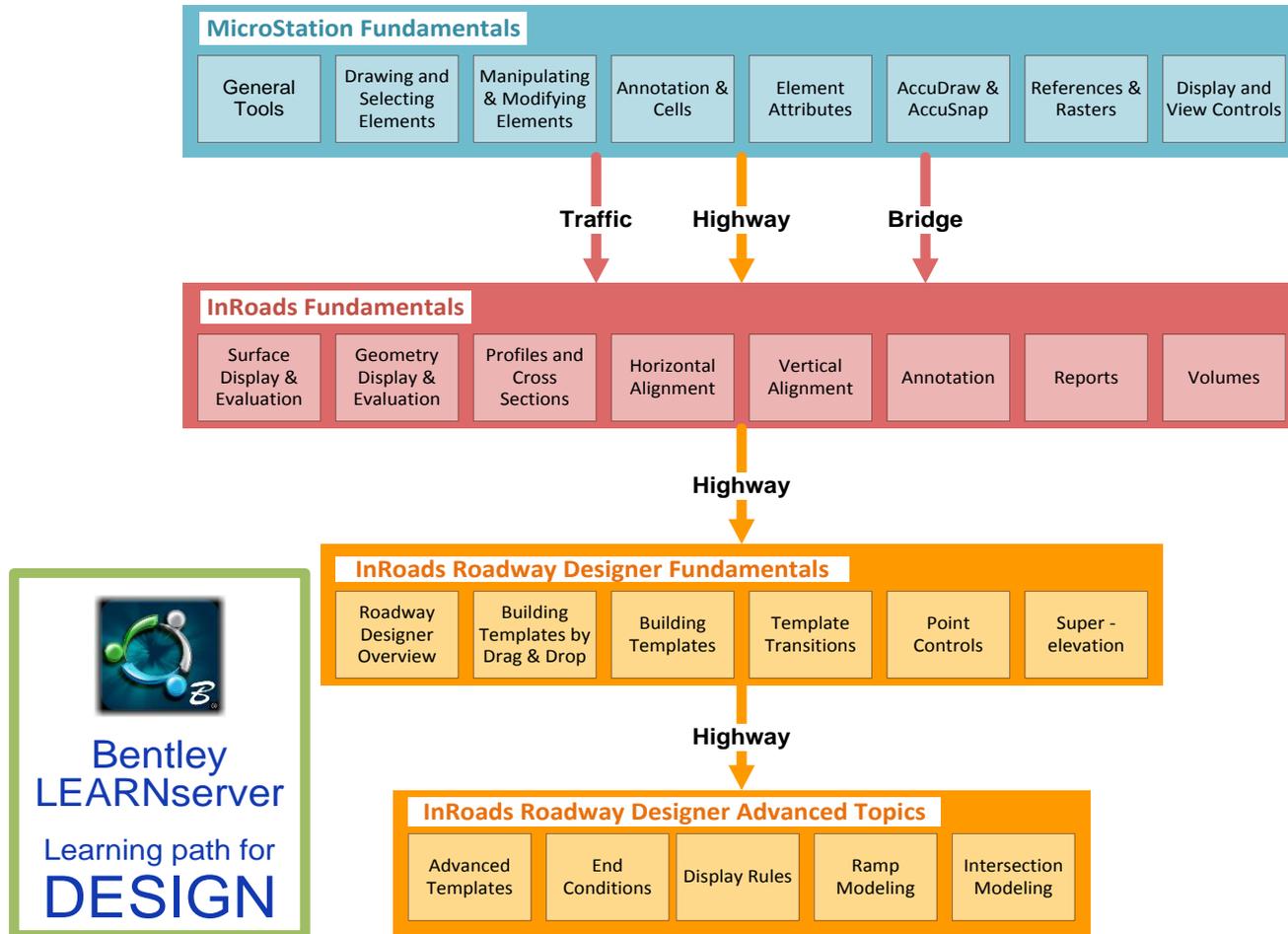


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Bentley® Services

The LEARNServer

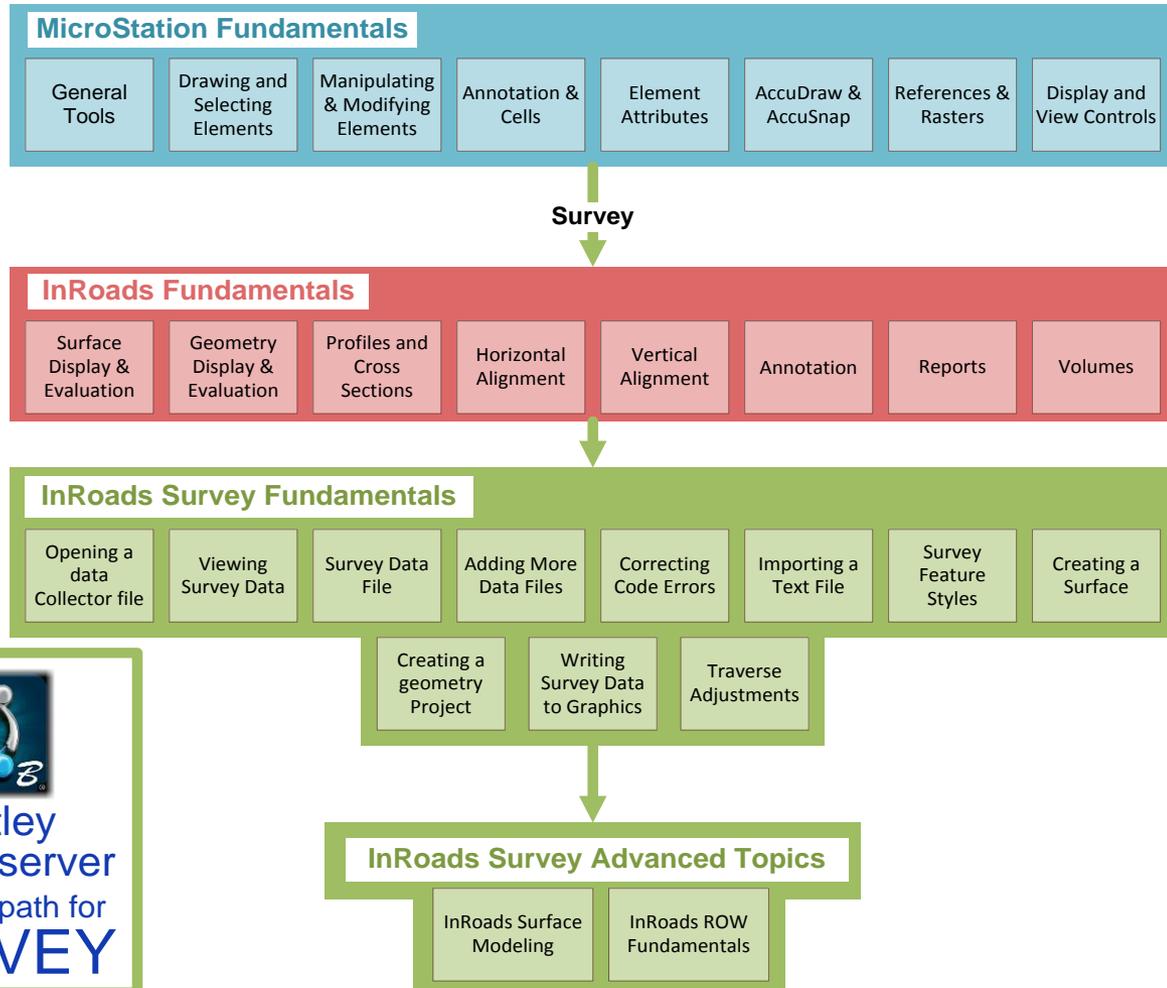


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Bentley® Services

The LEARNServer



Bentley
LEARNserver
Learning path for
SURVEY



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File Storage

Network X Drive

CTDOT Discipline Folders - The discipline folders are the main storage areas for all design and contract production data. All disciplined produced data shall reside in these subfolders.

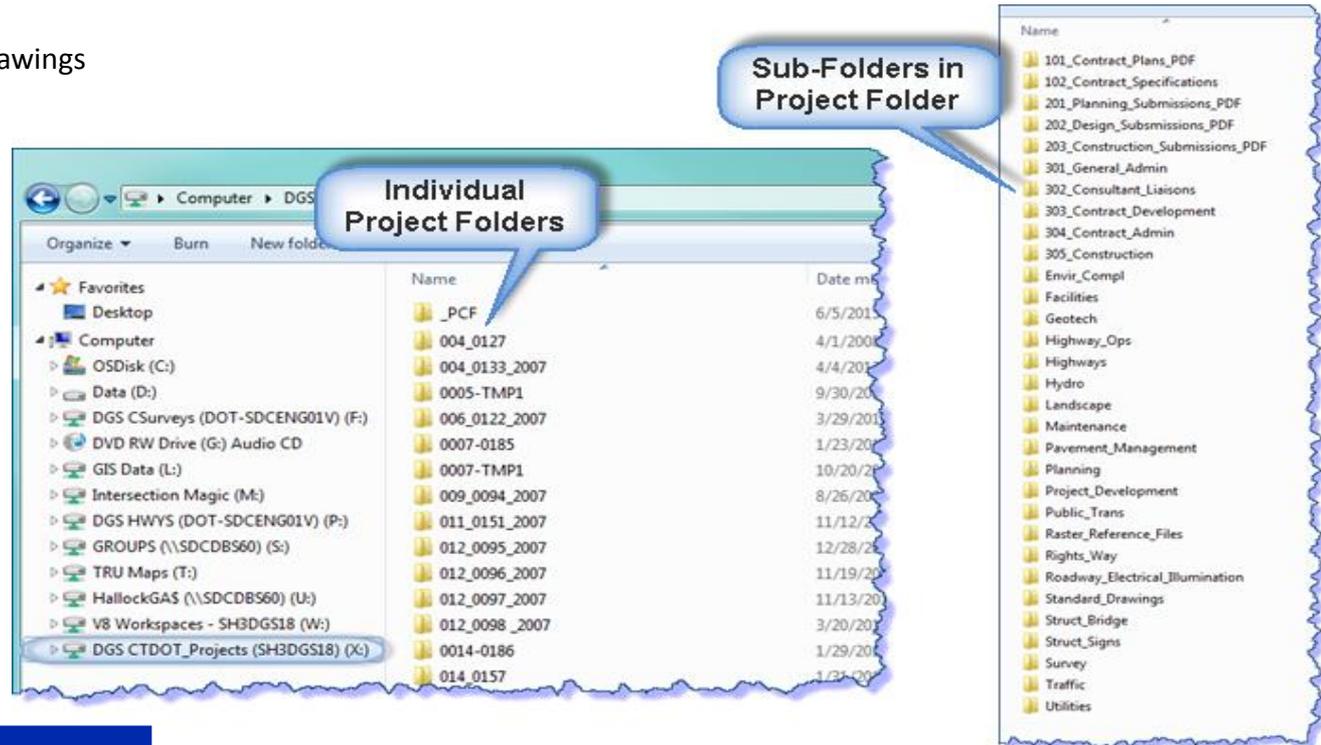
Other Folders - Within CTDOT's project container folder exists some additional folders that are shared by disciplines for additional electronic project data.

Raster_Reference_Files

Location for storing project related raster imagery that gets accessed by high value data files

Standard_Drawings\

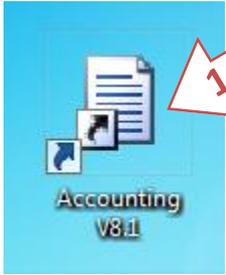
Location for storing standard drawings



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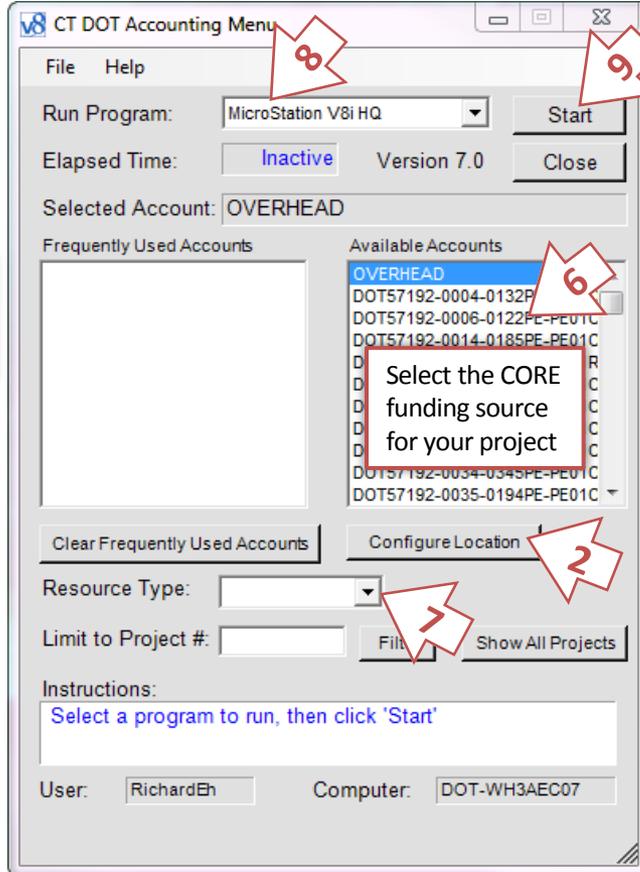
ARCHITECTURAL, ENGINEERING & CONSTRUCTION

Accessing Applications MicroStation



1

Double click on your desktop Accounting Icon and follow steps 2-9.



8

9

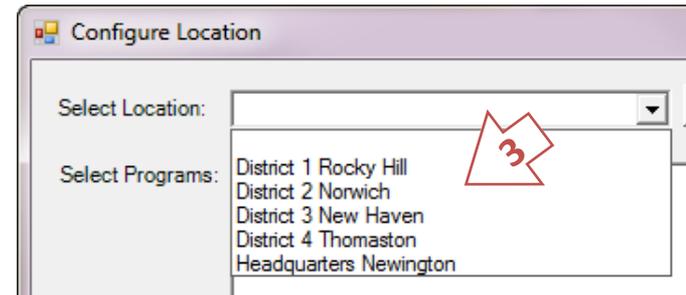
6

Select the CORE funding source for your project

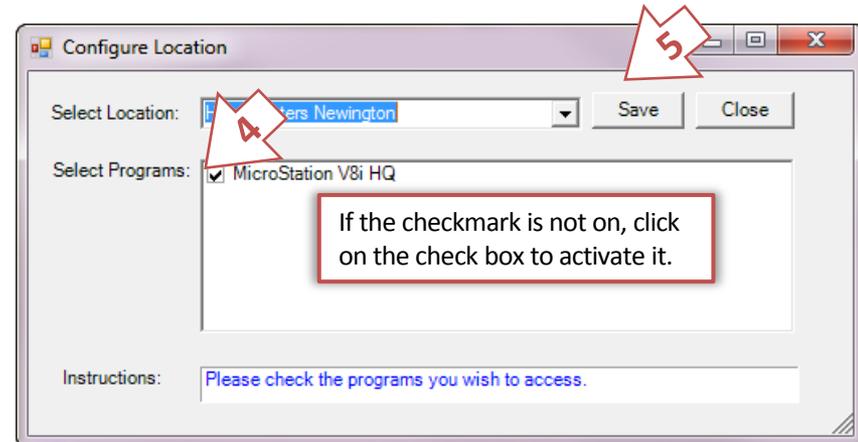
2

STEP 6 - The AEC Applications staff does not have jurisdiction to resolve missing accounts.

If your project funding source number is not found in **Available Accounts** please notify your supervisor. The available numbers are fed directly from the State of Connecticut **CORE** financial system. Supervisors should contact the correct CORE representative to resolve missing accounts.



3



5

4

If the checkmark is not on, click on the check box to activate it.

Continue to next slide

Accessing Applications

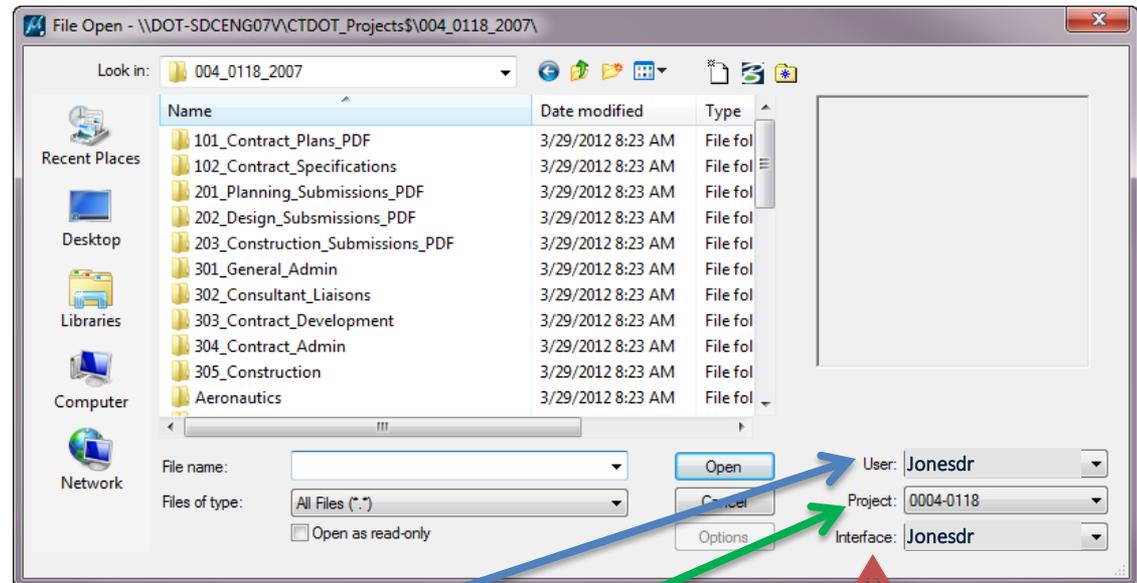
MicroStation Continued

First time MicroStation users **must first** create a User Interface and Configuration File.

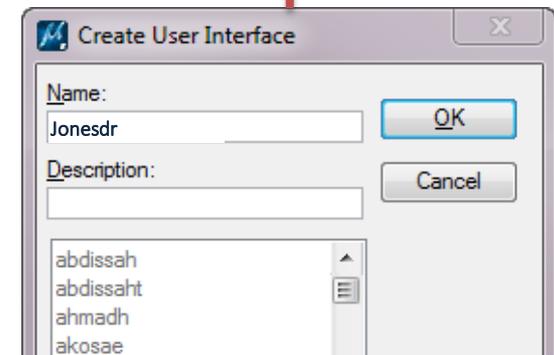
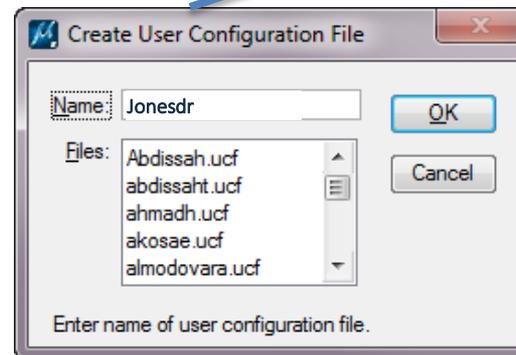
1. Select the **Interface** (1) pull down, select **New** and type in your windows log in **user name**. It must match your computer login **exactly** and is case sensitive. Click the **OK** button.
2. Select the **User** (2) pull down, select **New** and again type in your windows log in **user name**. This will create your user configuration file (.ucf). Click the **OK** button. In dialog box will pop up asking for a description, leave that field empty and click **OK**.
3. Select the **Project** (3) pull down choose one of your design projects. Browse to **any** *.dgn file, open the file and then **immediately** exit out of MicroStation.



Windows log in user name



The next time you open MicroStation ensure your User and Interface configurations are active.



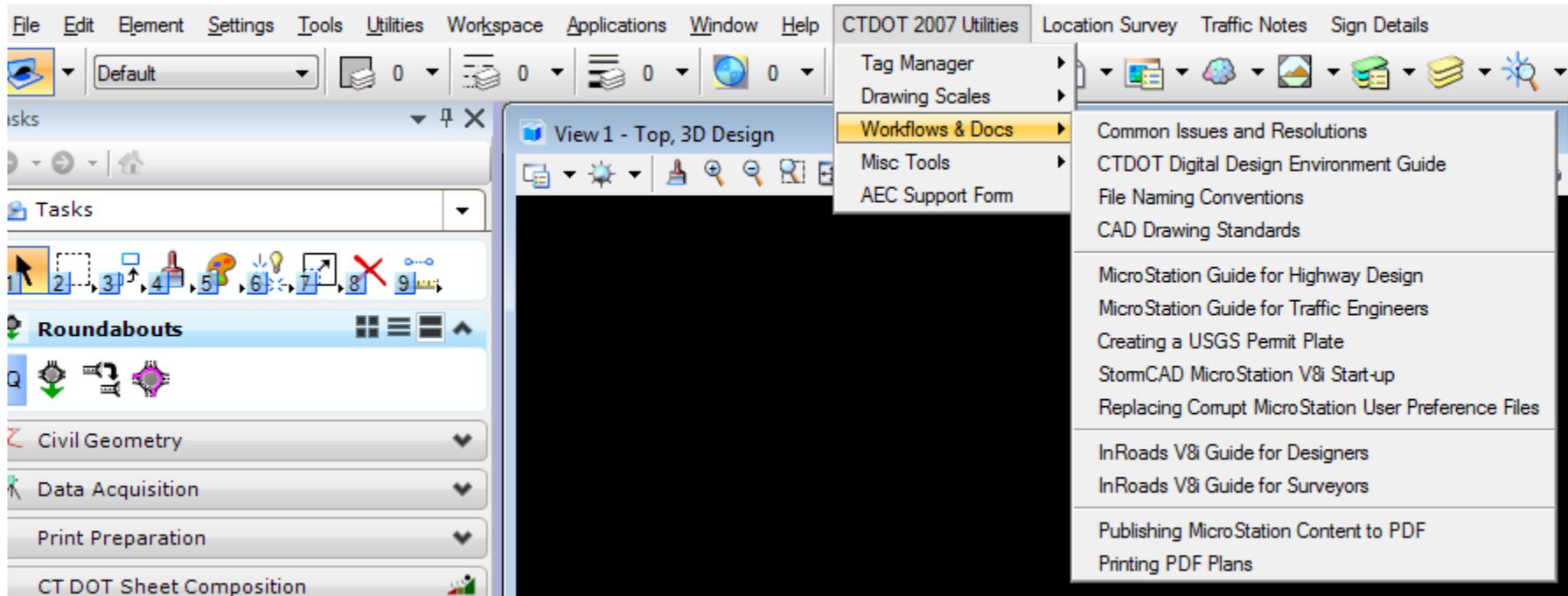
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Accessing Applications

MicroStation Continued

To access the CTDOT MicroStation guides and workflows with in MicroStation select **CTDOT 2007 Utilities** → **Workflows & Docs**.

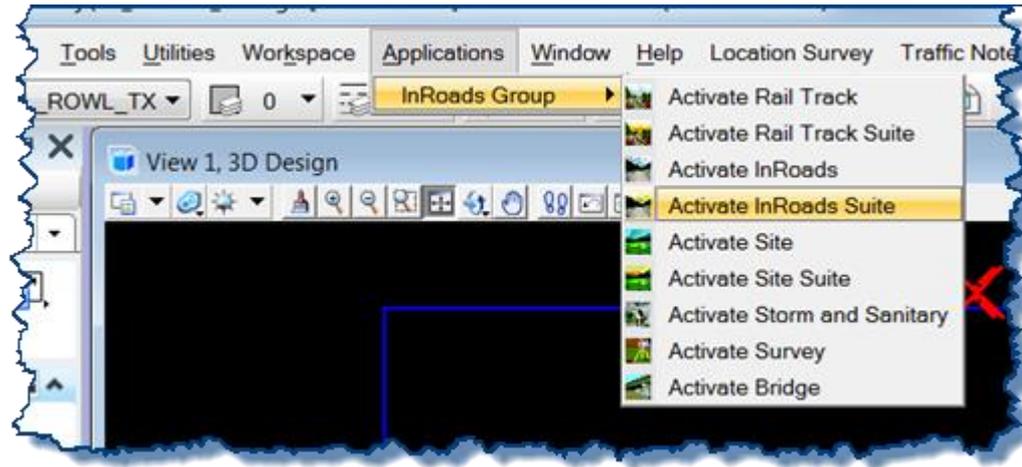


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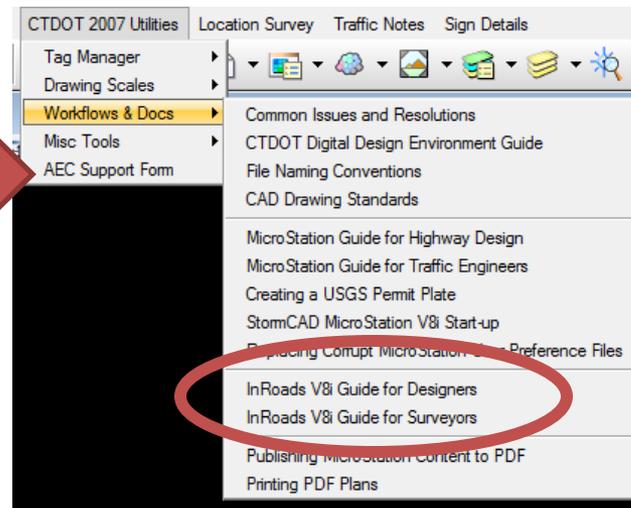
Accessing Applications InRoads

InRoads will open within MicroStation by selecting **Applications** → **InRoads Group** → **Activate InRoads Suite**.



To access the CTDOT InRoads MicroStation guides and workflows with in MicroStation select **CTDOT 2007 Utilities** → **Workflows & Docs**.

To request Support



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Accessing Applications

Storm Water Design Software

For roadway storm sewer design **StormCAD V8i for MicroStation** or **StormCAD V8i** can be used or from within InRoads **Storm and Sanitary**, see applicable workflows. StormCAD and Storm and Sanitary are approved for use by the Departments Hydraulics & Drainage unit. CTDOT Workflows have been set-up to adhere to the DOT Drainage Manual.



The screenshot shows the Bentley InRoads Suite V8i (SELECTseries 2) interface. The "Drainage" menu is open, and a yellow callout box highlights the "Storm&Sanitary" option. Other menu items include "View", "Lay Out...", "Edit/Review...", "Structure", and "Network".

InRoads Storm & Sanitary Workflow

[CTDOT InRoads V8i Guide](#)

See Volume III – InRoads Storm & Sanitary



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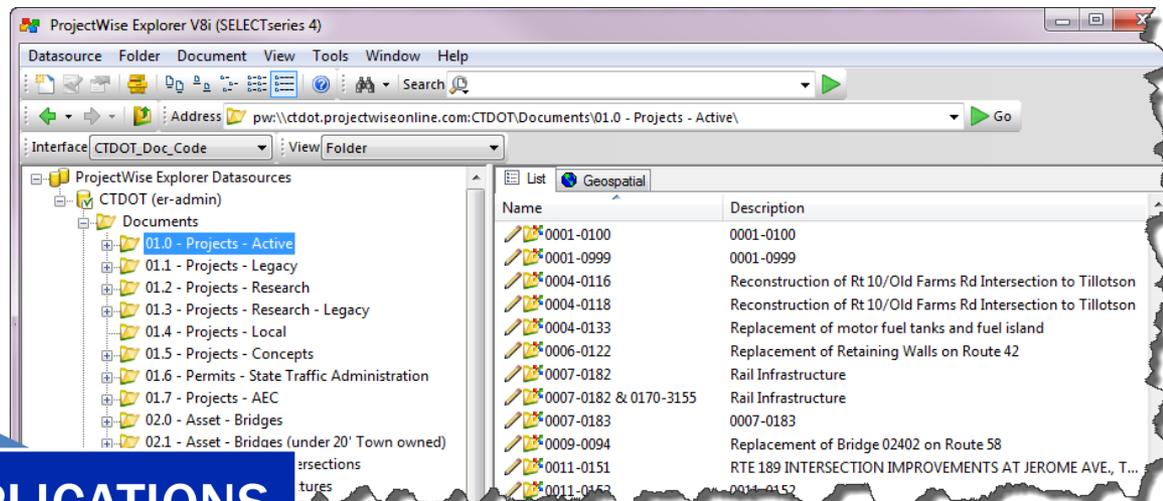
Accessing Applications ProjectWise



If the ProjectWise Explorer icon does not appear on the desktop go to:
Start → All Programs → Bentley® → ProjectWise V8i → ProjectWise Explorer
and **right-click; → Send to → Desktop (create shortcut)**. This will place a shortcut
key on your desktop.

Username and passwords are obtained by emailing Julie Annino at julie.annino@ct.gov. ProjectWise usernames always begin with the prefix **\PWONLINE**. The next part of the username is the first name, followed by a period (.), and then the last name. An example of a ProjectWise username is **\PWONLINE\John.Snow**

For more information view the CTDOT PowerPoint Presentation below
[ProjectWise Basics](#)



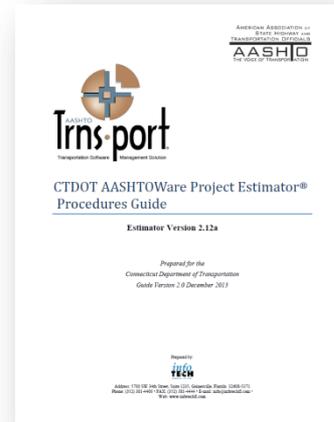
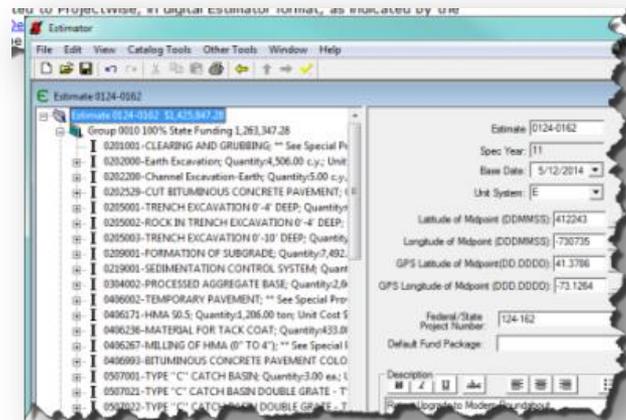
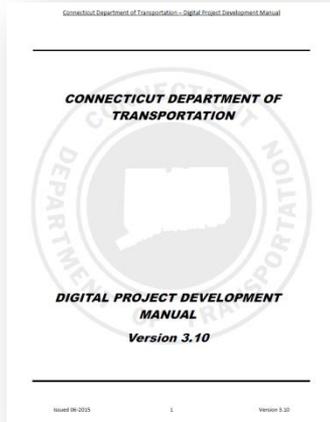
AEC APPLICATIONS
ARCHITECTURAL, ENGINEERING & CONSTRUCTION

Accessing Applications Estimator



The Estimator® Icon can be found on your desktop.

All Final Design Plan (FDP) cost estimates must be submitted to ProjectWise, in digital Estimator format, as indicated by the [Digital Project Development Manual](#) and outlined in the [CTDOT AASHTOWare Project Estimator® Procedures Guide](#).



Support documentation and references can be found on the [Cost Estimating Webpage](#)

Guidance documents available:

- Estimator CTDOT Users Guide
- Generic Estimator Training Guide
- Estimator Templates
- Estimator Checklist



AEC APPLICATIONS

ARCHITECTURAL, ENGINEERING & CONSTRUCTION

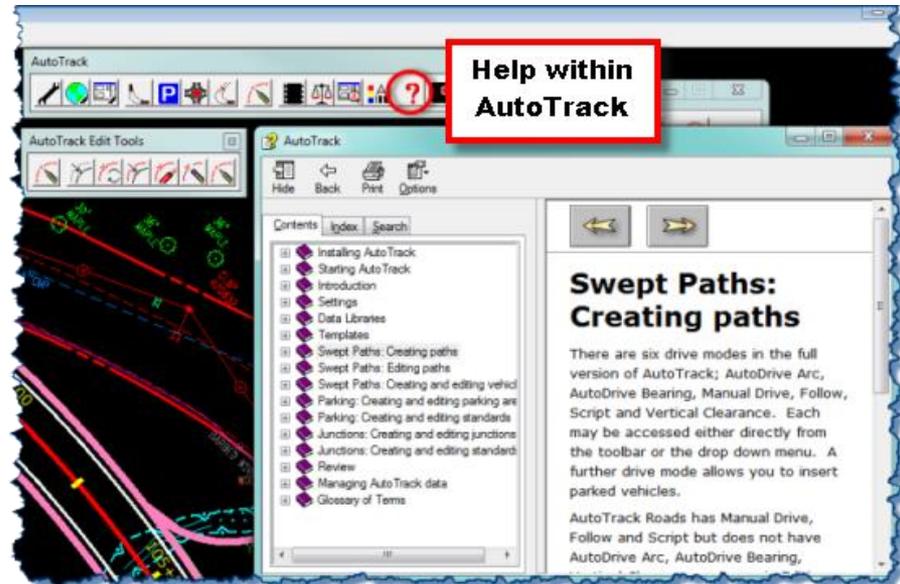
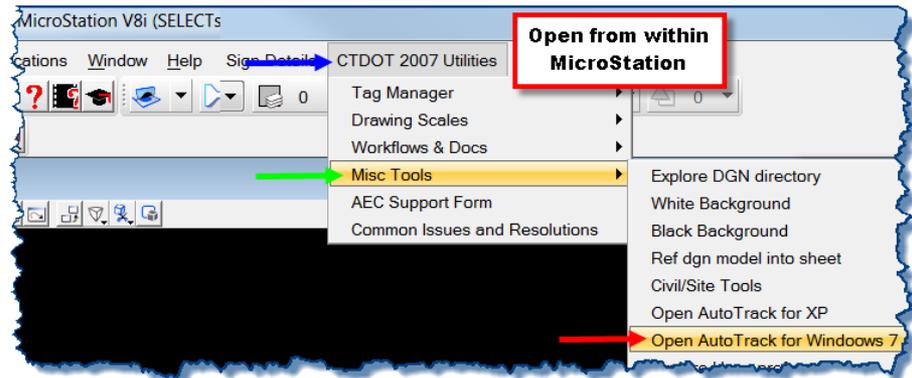
Accessing Applications AutoTrack

AutoTrack

AutoTrack is a vehicle [swept path analysis](#) software program used for analyzing the movements of steered and wheeled vehicles including cars and trucks. AutoTrack can be used as a standalone or the *preferred option* opened within MicroStation.



**Manual on
your desktop**



AEC APPLICATIONS

ARCHITECTURAL, ENGINEERING & CONSTRUCTION

3 Design Reviews- PDF sheets

2 Preliminary and Semi-Final Design

4 Final Design

1 Ground Survey

5 Design Estimate

6 Contract PDF sheets

How does AEC Applications fit in the PROJECT LIFE CYCLE?

-  MicroStation V8i
-  InRoads Suite V8i
-  StormCAD V8i
-  Bluebeam
-  Estimator
-  AutoTrack
-  ProjectWise

FDP

Final Design Plans

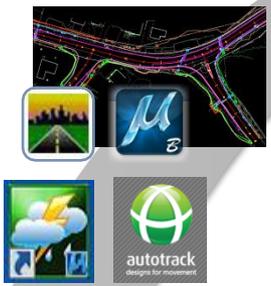
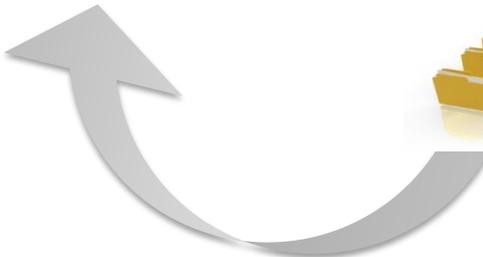
PROJECTWISE



NETWORK X DRIVE



At Project Initiation two project containers are created



A blue graphic consisting of a large triangle on the left and a horizontal bar on the right. The bar contains the text 'AEC APPLICATIONS' in large white letters and 'ARCHITECTURAL, ENGINEERING & CONSTRUCTION' in smaller white letters below it.

AEC APPLICATIONS

ARCHITECTURAL, ENGINEERING & CONSTRUCTION

[AEC Applications Main Website](#)