



## 2022 IDDEA Fall Conference Announcement

Scheman Center, Iowa State University, Ames, Iowa

Workshops October 19th & October 21st  
Conference October 20th

WE ARE BACK! With this newsletter, I am pleased to announce the agenda for the 2022 IDDEA Conference. This year's conference will be held on October 19th through the 21st and will provide a great learning environment for every attendee. The IDDEA conference will showcase our users' practices, MicroStation, OpenRoads Designer, and show everyone the future of design and analysis.

The IDDEA Board has worked hard to put together a conference full of sessions and workshops that highlight both the current and future MicroStation and Civil software that Bentley offers. We are bringing in presentations from the industry, Bentley professionals, as well as presentations from consultants. We have sessions for beginners through advanced users to fulfill everyone's needs. Many of these sessions and workshops come to you directly from the 2022 Bentley LEARNing Conferences held this year.

Our keynote, **"Opening the door to Data Standards in Transportation"** presented by Jennifer Steen, from HDR, Inc. will share her perspective on the urgent need for open data standards in our industry and why they are important to our daily workflows. As we move towards a model-centric approach on our projects we need to understand how the data in our models will be exchanged throughout the life cycle of a project to multiple stakeholders.

Once again, this year the board is hosting a social event and prize giveaway on Thursday, Oct 20th, following the conference. The intent is to provide an opportunity to meet with peers as well as the presenters and sponsors. Hors d'oeuvres will be provided, and a cash bar will be available for refreshments. All conference participants are invited to attend the social event following the closing remarks.

To register for the conference, you can make use of our on-line registration service. Sign up right away, as workshop attendance is based on a first come, first serve basis. The site is located at our web address: [www.iddea.org](http://www.iddea.org) At this site you can download the conference newsletter, register for the conference, find information about the IDDEA Group, and download electronic copies of presentations that we have received from presenters. Please register soon if you have not already.

As a bonus, any presentations that we receive before the conference will be available for download the day of the conference. Simply bring a USB drive to the registration desk, and IDDEA Board members will copy any presentations that we have onto your drive. If you forget your USB drive, these presentations will be posted on our website for later downloading by members.

As always, we put this conference together for you, our members. Let a board member know if you have any suggestions for future sessions or workshops that you would like to see. Please let us know any ideas or if you are interested in giving a presentation.

We look forward to seeing you at the 2022 IDDEA Conference on October 19th through the 21st at the Scheman Center on the Iowa State University Campus in Ames.

Hope to see you there!!

Russ Lemke  
Chair, The IDDEA Group

## Registration Information

To register for the IDDEA Conference visit: [www.iddea.org](http://www.iddea.org)

**Note: We hope you will become a member before registering for the conference, but it is not required.**

A variety of payment options are available during the registration process. A confirmation email will be sent when payment is received.

Payment must be **received no later than Wednesday, October 12, 2022**. The deadline to cancel and receive a refund is also **Wednesday, October 12, 2022**.

Make checks payable to: The IDDEA Group

Send to: Iowa DOT  
Bridges and Structures Bureau  
c/o Annette Jeffers  
800 Lincoln Way  
Ames, Iowa 50010

A copy of the registration form will serve as an invoice for most purposes.

½ day workshop - \$105

Full day Workshop - \$210

Conference Day - \$120

Students – (Conference Day only) - \$60

[Register On-Line Here](#)

## Conference Location & Hotel Accommodations

**IOWA STATE UNIVERSITY**

Google - [Directions to the Scheman Building](#)

Hotel Accommodations – [Discover Ames](#)

Dining – [Discover Ames](#)



# Scheman Building

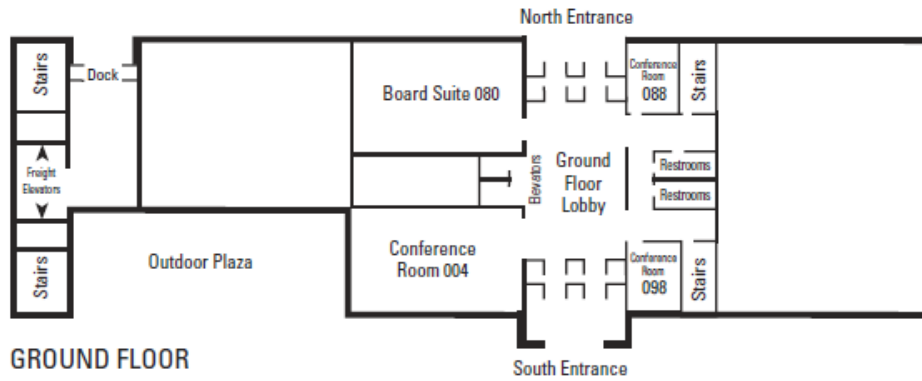
IOWA STATE UNIVERSITY™ | [www.center.iastate.edu](http://www.center.iastate.edu) | 515.294.3347

## FIRST FLOOR

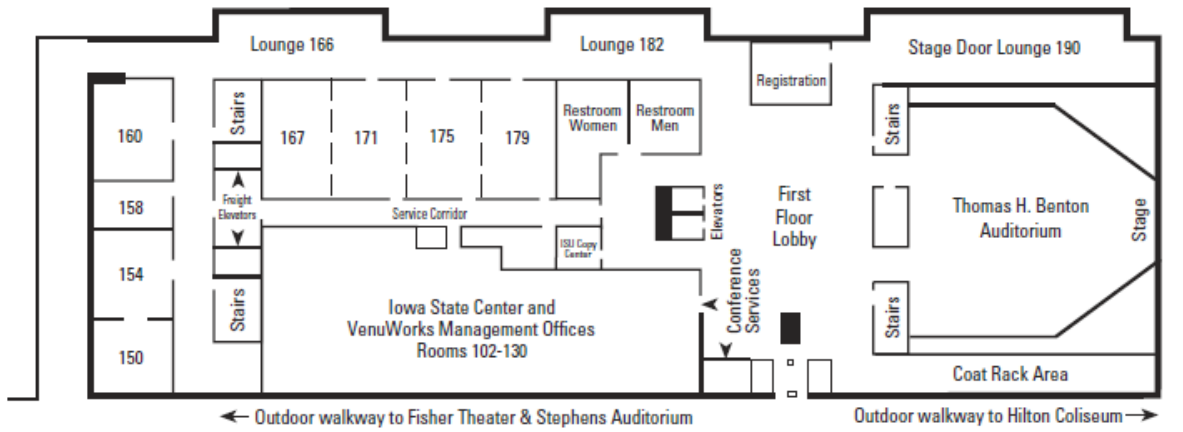
Registration  
 Thomas H. Benton Auditorium  
 Conference Rooms 150- 179

## SECOND FLOOR

Conference Rooms 204-299

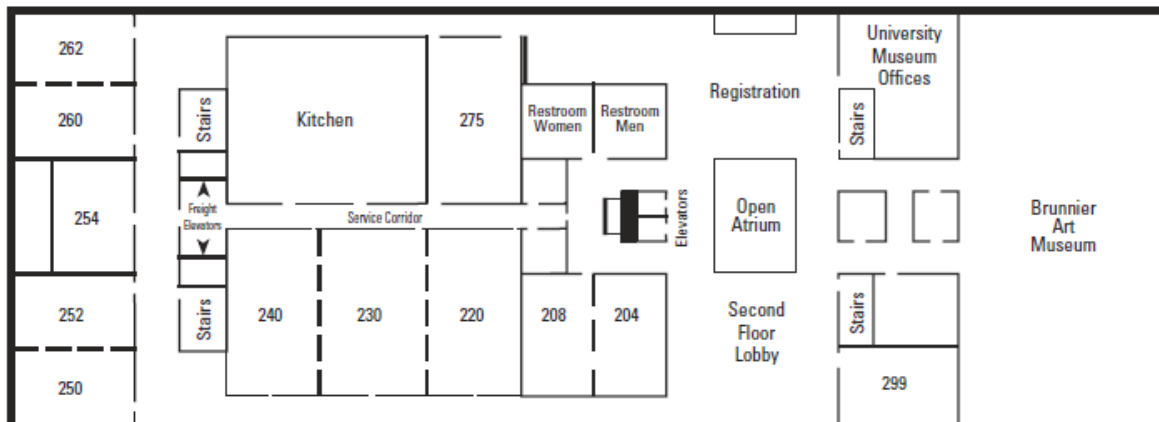


GROUND FLOOR



FIRST FLOOR

(--- Moveable Walls)



SECOND FLOOR

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## Keynote

### **Jennifer Steen, HDR, Inc.**

Jennifer Steen is the Highway and Local Roads BIM director at HDR. Jennifer brings a diverse perspective with a background in civil engineering, BIM, and Digital Delivery, and applies insights from her experience as a design engineer and project manager to highlight opportunities for advancements in technology adoption and workflow integrations. Jennifer has comprehensive experience in modeling software platforms with Bentley, such as ConceptStation, MicroStation, Inroads, OpenRoads Designer, Design Review, and Synchro Pro. Jennifer has also received her Bentley Premier Scholar accreditation.

## Workshop Presenters

### **Brad Hodor, Civil Solutions, Inc.**

[bhodor@CivilSolutionsInc.com](mailto:bhodor@CivilSolutionsInc.com)

Mr. Hodor has over 25 years of experience in the transportation and site engineering fields. He has worked as a project engineer and project manager on numerous road projects for various clients including IDOT, Illinois Tollway, and other municipal and private entities. He is experienced in Phase I, II, and III engineering and teaches civil application classes. Mr. Hodor is proficient with AutoCAD®, Civil 3D®, MicroStation®, GEOPAK®, InRoads®, and Open Roads® with at least twenty-five (25) years of experience on Highway/Roadway/Site Development projects. He is experienced in CADD drafting and is responsible for analyzing business requirements for project design at the complex - intermediate level for small to large-sized projects or systems that are of above-average complexity, and that could span multiple business units. Mr. Hodor owns and manages Civil Solutions, Inc., a Civil Engineering software training corporation. Brad determines, advises, and implements procedures necessary to achieve appropriate accuracy and consistency standards. Civil Solutions, Inc. provides training and technical guidance to others in major Civil Engineering technologies and applications.

### **Steve Litzau, EnvisionCAD**

[steven.litzau@envisioncad.com](mailto:steven.litzau@envisioncad.com)

Since completing his degree in Civil Engineering at Colorado State University, Steve has accumulated nearly 20 years of experience spanning all phases of project development delivered on both Autodesk and Bentley civil platforms. While specializing in geometric design and modeling of linear projects, Steve also provided three-dimensional modeling for simple and complex site design projects. Following ten years of civil engineering design, Steve followed his passion for process and workflow into design technology systems, support and management. While at a national AEC firm, Steve supported over 150 engineering and design applications, serving as a subject matter expert for numerous applications, including Bentley's GEOPAK and Autodesk's Civil 3D. As the Manager of Design Technology, Steve oversaw teams tasked with all aspects of design technology application support from installation and licensing to software customization and training. Now with EnvisionCAD Steve leverages this experience to provide a full spectrum of support to organizations and agencies including configuration, project support, education and strategic planning.

## Workshop Presenters

### **Alex Mabrich, Bentley Systems, Inc.**

[Alex.Mabrich@bentley.com](mailto:Alex.Mabrich@bentley.com)

Mr. Mabrich joined the Bentley Systems team in 1991. As a Product and User Success Manager, he provides consulting, training, and support services for multidisciplinary design projects as well as setting the direction of future Bentley Bridge software development. His bridge, roadway, site, drainage, and geotechnical expertise range from resurfacing roadway projects thru complex multidisciplinary BIM projects in n the Americas, Europe, Asia and Australia. Registered PE in Florida, he graduated from Universidad Ricardo Palma in Lima, Peru in 1988, and obtained his Master of Science in Civil Engineering degree from Florida International University in 1996 and his Masters in Business Administration at Saint Thomas University in 2017. He holds a Project Management Professional certification from the Project Management Institute and a Product Management certification from the Pragmatic Institute. Mr. Mabrich is also a recognized speaker in Civil and Geotechnical Conferences with papers published in conferences in the US, Canada, Mexico, Chile, and Peru.

### **Dave Mayer, Bentley Systems, Inc.**

[Dave.Mayer@bentley.com](mailto:Dave.Mayer@bentley.com)

Dave is a senior consultant for Bentley Systems. With experience in Automotive Industrial, AE services, collegiate instruction and in the reseller channel, he has several decades of experience in the CAD world. His responsibilities at Bentley include client education, custom programming, and consulting

### **Steve Rick, Bentley Systems, Inc.**

[Steve.Rick@bentley.com](mailto:Steve.Rick@bentley.com)

With over 30 years' experience in engineering technology, Steve provides technical support for all Bentley platform software, project management tools and server products. He is proficient at generating custom tools and workspaces. As a Bentley certified instructor, develops and delivers client-specific Bentley training. Has performed a wide variety of MicroStation-related training as a certified instructor since 1994, to such clients as Minnesota DOT, South Dakota DOT, North Dakota DOT, Iowa DOT, Nebraska Department of Roads, USACE, US Army as well as many others.

### **Jeff Vaske, Midwest CAD Solutions**

[jeffv@mcscad.com](mailto:jeffv@mcscad.com)

Jeff has been a CAD consultant for the past twelve years working with a diverse client base from civil engineering to power/gas utility companies. He has provided CAD support, developed custom documentation, and conducted MicroStation, GEOPAK, Descartes, and OpenRoads training for all skill levels. Jeff currently provides CAD management for a large utility company with over 150 users spanning multiple states. Before being a consultant Jeff was a civil technician with MnDOT and two consultant firms designing various State, County, and City projects. His six years of road construction rounds out his background enabling him to relate design to field application.

## Workshop Presenters

**Jamie Wahl, Stanley Consultants**

[WahlJamie@stanleygroup.com](mailto:WahlJamie@stanleygroup.com)

With 23 years' experience, Jamie Wahl serves as a Multidisciplinary Principal Designer at Stanley Consultants where he leads modeling tasks of different scopes and sizes for both roadway and structures in the Transportation Market. Mr. Wahl is proficient using MicroStation CONNECT, OpenRoads Designer, OpenBridge Designer, ProStructures, and OpenRoads ConceptStation. Mr. Wahl also serves as an Adjunct Instructor at DMACC teaching Introduction to MicroStation, Road Design using OpenRoads Designer, and Structural Detailing and Modeling using OpenBridge Designer and MicroStation 3D modeling.

## Conference Presenters

**James Anding, Bentley Systems, Inc.**

[James.Anding@bentley.com](mailto:James.Anding@bentley.com)

**Kanchan BK**

[Kanchan.BK@hdrinc.com](mailto:Kanchan.BK@hdrinc.com)

**Andy Burke, Snyder & Associates**

[aburke@snyder-associates.com](mailto:aburke@snyder-associates.com)

**Thomas Hamski, Iowa DOT**

[thomas.hamski@iowadot.us](mailto:thomas.hamski@iowadot.us)

**Jordan Hatfield, Bentley Systems, Inc.**

[Jordan.Hatfield@bentley.com](mailto:Jordan.Hatfield@bentley.com)

**Brad Hodor, Civil Solutions, Inc.**

[bhodor@CivilSolutionsInc.com](mailto:bhodor@CivilSolutionsInc.com)

**Don Lee, Bentley Systems, Inc.**

[Don.Lee@bentley.com](mailto:Don.Lee@bentley.com)

**Steve Litzau, EnvisionCAD**

[steven.litzau@envisioncad.com](mailto:steven.litzau@envisioncad.com)

**Alex Mabrich, Bentley Systems, Inc.**

[Alex.Mabrich@bentley.com](mailto:Alex.Mabrich@bentley.com)

**Dave Mayer, Bentley Systems, Inc.**

[Dave.Mayer@bentley.com](mailto:Dave.Mayer@bentley.com)

**Jonathan Miranda, Foth**

[Jonathan.Miranda@foth.com](mailto:Jonathan.Miranda@foth.com)

**Chris McNulty, EnvisionCAD**

[chris.mcnulty@envisioncad.com](mailto:chris.mcnulty@envisioncad.com)

**Kerry Newbanks, Bentley Systems, Inc.**

[Kerry.Newbanks@bentley.com](mailto:Kerry.Newbanks@bentley.com)

**Sean Ranney, HDR, Inc.**

[Sean.Ranney@hdrinc.com](mailto:Sean.Ranney@hdrinc.com)

**Steve Rick, Bentley Systems, Inc.**

[Steve.Rick@bentley.com](mailto:Steve.Rick@bentley.com)

**Jack Riesenber, Foth**

[Jack.Riesenber@foth.com](mailto:Jack.Riesenber@foth.com)

**Bob Rolle, Bentley Systems, Inc.**

[Bob.Rolle@bentley.com](mailto:Bob.Rolle@bentley.com)

**Jennifer Steen, HDR, Inc.**

[Jennifer.Steen@hdrinc.com](mailto:Jennifer.Steen@hdrinc.com)

**Jeff Vaske, Midwest CAD Solutions**

[jeffv@mcscad.com](mailto:jeffv@mcscad.com)

**Katie Wade, Snyder & Associates**

[kmwade@snyder-associates.com](mailto:kmwade@snyder-associates.com)

**Jamie Wahl, Stanley Consultants**

[WahlJamie@stanleygroup.com](mailto:WahlJamie@stanleygroup.com)

7:30 - 8:00	Registration and Continental Breakfast – Sponsored by Kirkham Michael		
Room No.	150-154	167-171	175-179
8:00 - 12:00	<p><b>Basic MicroStation Connect</b></p> <p><i>Dave Mayer, Bentley</i></p>	<p><b>Getting Started with 3d in MicroStation Connect Edition / Using Parametric Solids, Constraints, Variables and Variants - Putting it all together with Parametric Modeling</b></p> <p><i>Steve Rick, Bentley</i></p>	<p><b>Site Modeling in ORD</b></p> <p><i>Steve Litzau, EnvisionCAD</i></p>
12:00 - 1:00	Lunch (Stage Door Lounge 190) - Sponsored by Snyder & Associates Afternoon Registration		
1:00 - 5:00	<p><b>Intermediate MicroStation Connect</b></p> <p><i>Dave Mayer, Bentley</i></p>	<p><b>Bridge Modeling and Sheet Production with OpenBridge Designer</b></p> <p><i>Alex Mabrich, Bentley</i></p>	<p><b>Drainage And Utility Feature Definition Management</b></p> <p><i>Steve Litzau, EnvisionCAD</i></p>

**Basic MicroStation Connect**

*Presenter – Dave Mayer, Bentley Systems, Inc.*

This half-day workshop is designed for BRAND NEW USERS of MicroStation and will show you some of the most basic features and capabilities of MicroStation. Topics include basic element placement, setting element attributes, editing existing elements, displaying and viewing your design files, placing text and symbols, and getting help. By attending this workshop, you will get the look and feel of MicroStation, while having the opportunity to follow along and try various tools and settings. This is the perfect chance for new users to “get their feet wet”.

**Getting Started with 3d in MS Connect Edition and Using Parametric Solids, Constraints, Variables and Variants - Putting it all together with Parametric Modeling**

*Presenter – Steve Rick, Bentley Systems, Inc.*

Learning 3-Dimensional drawing with MicroStation Connect Edition is an extension of your knowledge of 2-Dimensional drawing. If you can draw in 2 Dimensions (2D), then all that is needed is to learn how to manipulate the AccuDraw compass in 3-Dimensional (3D) space. In the second part of this workshop contains exercises that will assist experienced 2D MicroStation users become familiar with 3D tools and concepts, specifically parametric solids, 2D and 3D constraints, variables, variants and parametric cells within the MicroStation CONNECT Edition.



### **Site Modeling in ORD**

*Presenter – Steve Litzau, EnvisionCAD*

OpenRoads Designer, often thought of as a “linear design” software, includes ample tools for the design and modeling of site elements efficiently and dynamically. This workshop strives to provide general site modeling concepts, design methodologies and exposure to applicable tools while using those tools in common site design applications such as parking lots, intersections and ponds.

### **Intermediate MicroStation Connect**

*Presenter – Dave Mayer, Bentley Systems, Inc.*

This half-day workshop continues from where the MicroStation Beginning workshop leaves off. This workshop is designed for NEW USERS of MicroStation to see some additional features in the software, including element selection, locks, patterning, references, dimensions and precision input. By attending this workshop, you will get a little more in-depth look at the capabilities of MicroStation, while having the opportunity to follow along and try various tools and settings. This workshop will help new users get a clearer picture of what they can do in MicroStation.

### **Bridge Modeling and Sheet Production with OpenBridge Designer**

*Presenter – Alex Mabrich, Bentley Systems, Inc.*


This workshop will cover an introduction to modeling bridges with OpenBridge Designer/OpenBridge Modeler. We will cover how to import and use geometry and terrains from OpenRoads Designer, model different bridge types including prestressed beam and steel I girder; setup the libraries, generate reports, and create drawings.

### **Drainage & Utility Feature Definition Management**

*Presenter – Steve Litzau, EnvisionCAD*

This workshop will explore the set up and configuration of the features used by OpenRoads Designers Drainage & Utilities workflow tools. It will explore the configuration effort required for the use of the D&U tools and provide users an understanding of the functionality leveraged in the creation of the utility model. While the process is applicable to those configuring workspace resources, understanding the manner this data is used by the software benefits any user looking to use these tools. We will explore standard node and conduit configuration and customization with User Data Exten



7:15-8:00	Conference Registration and Continental Breakfast - Sponsored by Stanley Consultants							
8:00-9:00	<p style="text-align: center;"><b>Opening Remarks and Keynote:</b>  <b>Opening the door to Data Standards in Transportation (Auditorium)</b></p> <p style="text-align: center;">** For Room Layout and Course Descriptions, Scan the Code **</p>							
9:00 - 9:10	BREAK (Vendor Area) - Sponsored by JEO Consulting Group							
<b>Room No.</b>	<b>175-179</b>	<b>167-171</b>	<b>150-154</b>	<b>204</b>	<b>208</b>	<b>275</b>	<b>299</b>	
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	
9:10-10:00	MicroStation Connect Edition Ask the Instructor  <i>Dave Mayer &amp; Steve Rick</i>	An Introduction to OpenSite Designer  <i>Bob Rolle</i>	Evaluating Project Development Using ORD  <i>Andy Burke &amp; Katie Wade</i>	Give Your Clients What They Want! Delivering Final Plans from Your Bridge Model  <i>Alex Mabrich</i>	Design to Construction  <i>Kerry Newbanks</i>	Navigating Drainage and Utilities  <i>Jordan Hatfield</i>	I Have a Corridor - Now What?  <i>Steve Litzau</i>	
10:00-10:10	BREAK (Vendor Area) - Sponsored by Kirkham Michael							
	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	
10:10-11:00	Data Driven Annotating with Item Types  <i>Steve Rick</i>	Corridor - Overlay, Stripping and Widening  <i>Don Lee</i>	Part I: Survey Annotation: Under the Hood  <i>Chris McNulty</i>	ProConcrete: Producing Bar Bending Schedules, Material Lists, and Quantity Takeoffs  <i>Alex Mabrich</i>	SYNCHRO Construction Solution  <i>Kerry Newbanks</i>	Drainage - Designing Inlets to Collect Runoff  <i>James Anding</i>	Site Modeling for Linear Designers  <i>Steve Litzau</i>	
11:00-11:10	BREAK (Vendor Area)							
	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	
11:10-12:00	3D Modeling and Design Reviews  <i>Jennifer Steen</i>	Corridor - Template Triggers and Switches  <i>Bob Rolle</i>	Part II: Survey Annotation: Under the Hood  <i>Chris McNulty</i>	What's New for Bridge Users  <i>Alex Mabrich</i>	What Everyone Should Know about Civil AccuDraw  <i>Don Lee</i>	Drainage - Designing Pipes to Convey Runoff  <i>James Anding</i>	Tables and Reports  <i>Brad Hodor</i>	
12:00-1:00	Lunch							
	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	
1:00-1:50	Civil Cells for ADA Ramps  <i>James Anding</i>	Grading Design and Modeling at Bridge Abutments  <i>Bob Rolle</i>	Real World Impact of Remote Sensing on Iowa Transportation Projects  <i>Jonathan Miranda</i>	Item Types with ORD  <i>Jeff Vaske</i>	Model Considerations for Construction  <i>Kerry Newbanks</i>	Creating Utilities from Graphics  <i>Jordan Hatfield</i>	Leveraging Constraints  <i>Brad Hodor</i>	
1:50-2:00	BREAK (Vendor Area) - Sponsored by SE3							
	<b>29</b>	<b>30</b>	<b>31</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>35</b>	
2:00-2:50	Creating Plan Sheets for Non-Linear Areas  <i>James Anding</i>	Controlling the Display of Designs for Civil Designers  <i>Dave Mayer</i>	Processing Earthwork in OpenRoads Designer  <i>Jack Riesenber &amp; Thomas Hamski</i>	Project Application of OpenBridge Designer and ProStructures  <i>Jamie Wahl</i>	Full BIM Ahead - Enriching Your Model with Intelligent Information  <i>Don Lee</i>	Detecting and Managing Utility Conflicts  <i>Jordan Hatfield</i>	US 20 Missouri Valley Bypass and ORD  <i>Sean Ranney &amp; Kanchan BK</i>	
3:00-5:00	Closing Remarks & Membership Business (Auditorium) Door Prizes and Social (Vendor Area) - Sponsored by Foth							

\*\*\* Vendors will be exhibiting in the Lobby from 7:30 am to 5:00 pm \*\*\*

Session Emphasis	MicroStation	Civil Products	Survey	Bridge	Reality Modeling	Drainage and Utility
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8:00 – 9:00

**Keynote – Opening the door to Data Standards in Transportation***Presenter – Jennifer Steen, HDR, Inc.*

This keynote speech will discuss the urgent need for open data standards in our industry and why they are important to our daily workflows. As we move towards a model-centric approach on our projects we need to understand how the data in our models will be exchanged throughout the life cycle of a project to multiple stakeholders.

9:10 – 10:00

**1 – MicroStation Connect Edition Ask the Instructor***Presenter – Dave Mayer & Steve Rick, Bentley Systems, Inc.*

Discuss various topics that are important to you in MicroStation CONNECT Edition with Bentley Instructors. Live training courses are very interactive. Students will continually engage with the instructor to ensure a successful learning outcome that includes a course assessment.

**2 – An Introduction to OpenSite Designer***Presenter – Bob Rolle, Bentley Systems, Inc.*

Learn about Bentley Systems newest site planning and design software, OpenSite Designer. Discover the power of automated and optimized tools to see how it will shorten your design times and deliver better projects.

**3- Evaluating Project Development Using ORD***Presenter – Andy Burke and Katie Wade, Snyder & Associates*

This presentation will discuss two roadway corridor projects designed utilizing ORD. The first project was designed in 2019 and the second in 2021/22. Topics discussed will include advancements between the two projects on design and plan development, ORD workflow, ORD Utilities workflow, lessons learned, and available resources for assisting and troubleshooting issues.

**4 – Give Your Clients What They Want! Delivering Final Plans from Your Bridge Model***Presenter – Alex Mabrich, Bentley Systems, Inc.*

Most agencies are requiring 3D models as part of the submittals but 2D plans are still part of their contractual documents. As the traditional way of drafting plans are phasing away, extracting 2D plans from 3D models demands new knowledge and techniques that we will cover during this presentation.

**9:10 – 10:00 CONTINUED****5 – Design to Construction**

*Presenter – Kerry Newbanks, Bentley Systems, Inc.*

We have created some great designs. Now, take the design to the field with SYNCHRO; whether it's a 2D, 3D, or hybrid deliverable. See how the field data is collected, the project tasks and schedule are managed, and how issues or RFI's may be sent for review all in a single connected system, whether it is a scheduling issue or a design RFI. Learn about these tools to bridge the divide between design and construction.

**6 – Navigating Drainage and Utilities**

*Presenter – Jordan Hatfield, Bentley Systems, Inc.*

In this course you will learn how to use core product tools to display, review and analyze drainage and utility objects in a design file. You will also learn how to display annotations, create FlexTables, run queries and reports, and create profiles on drainage and utility objects.

**7 – I Have a Corridor - Now What?**

*Presenter – Steve Litzau, EnvisionCAD*

You have created your corridor, now what? We will look at a number of the tools that are offered to refine and enhance corridors. From point controls to parametric constraints these tools give us greater flexibility in our linear design efforts, and used wisely, can often reduce the number of needed templates/template drops.

**10:10 – 11:00****8 – Data Driven Annotating with Item Types**

*Presenter – Steve Rick, Bentley Systems, Inc.*

We will create a text element to be used as a template for Annotation. The text element will have multiple text fields embedded in it and you will then add this as a cell model to our cell library. The label cell will be used with the label tool to properly identify the MicroStation elements. We will label existing trees, and shrubs. Each area or cell has item types attached. These labels are formatted based on the label cell used. We will create a custom label template for different Item Types, label the Elements, then edit one section of the element to note the behavior of Property Driven Annotation.

**9 – Corridor - Overlay, Stripping and Widening**

*Presenter – Don Lee, Bentley Systems, Inc.*

During this course you will learn to create and use templates that incorporate overlay and stripping components. You will also learn to use the Overlay Vertical Adjustments tool to calculate new vertical alignments that result in minimizing or specific depths of overlay and stripping/milling.

**10:10 – 11:00 CONTINUED****10 – Part I: Survey Annotation:  
Under the Hood**

*Presenter – Chris McNulty, EnvisionCAD*

In the first part of this presentation, we will learn how to annotate survey points and run through the process of configuring annotation for survey points.

**11 – ProConcrete: Producing Bar  
Bending Schedules, Material Lists,  
and Quantity Takeoffs**

*Presenter– Alex Mabrich, Bentley Systems, Inc.*

In this session, learn how to create bar bending schedules to place on drawings or print via PDFs. Whether you are modeling and designing bridges, buildings, or plants, you will find this webinar very practical for reinforced concrete projects. Key topics covered: Learn how to perform automated bar marking, creating and placing in-drawing bar bending schedules, creating bar bending schedules and concrete quantity report in PDF format, and custom reports and schedules

**12 – SYNCHRO Construction Solution**

*Presenter – Kerry Newbanks, Bentley Systems, Inc.*

Bentley construction management platform is a robust system to streamline activities from pre-construction to construction execution. Get an overview of the product line and how Bentley provides a "single source of truth" across the entire portfolio, from a 2D, 3D, or 4D/5D workflow.

**13 – Drainage - Designing Pipes to  
Convey Runoff**

*Presenter – James Anding, Bentley Systems, Inc.*

This course will look at how to design pipes to convey the runoff that was collected by inlets to an outfall. The pipes will be placed with an initial size and slope, then they will be designed to optimize them hydraulically.

**14 – Site Modeling for Linear  
Designers**

*Presenter – Steve Litzau, EnvisionCAD*

OpenRoads Designer, often thought of as a "linear design" software, includes ample tools for the design and efficient and dynamic modeling of "site" elements (intersections, ponds, infields, abutments, etc.) Not only are these tools available, but many of them are the same tools that experienced linear designers are already using. This presentation strives to provide an overview of the applicable tools and workflows for "non-linear" design modeling to refine and enhance our models.

11:10 – 12:00

**15 - 3D Modeling and Design Reviews**

*Presenter – Jennifer Steen, HDR, Inc.*

As we progress to digital deliverables as opposed to only submitting plan sets, we need to investigate how we review these 3D models. This presentation will cover various workflows and software to conduct design model reviews during the design phase of the project life cycle.

**16 – Corridor - Template Triggers and Switches**

*Presenter – Bob Rolle, Bentley Systems, Inc.*

Models need to be altered and edited throughout the design process as quickly and easily as possible. In the past, you may have re-created models rather than edit an existing model as needed. Now, with the MicroStation CONNECT Edition, learn to create reusable models and cells that can be dynamically adjusted and sized with parametric dimensions and constraints.

**17 – Part II: Survey Annotation: Under the Hood**

*Presenter – Chris McNulty, EnvisionCAD*

During this presentation, we will focus on annotating survey linear features and running through the process of configuring annotation for survey linear features.

**18 – What's New for Bridge Users**

*Presenter – Alex Mabrich, Bentley Systems, Inc.*

In this session, we will preview some of the new enhancements that are coming for the next release of OpenBridge Modeler and OpenBridge Designer, including bridge deck customizations, pier templates, pile layout, Generative Components, DOT's design code updates and more.

**19 – What Everyone Should Know about Civil AccuDraw**

*Presenter – Don Lee, Bentley Systems, Inc.*

Every quality toolbox includes specialty tools that simplify specific tasks. You don't need specialty tools all the time, but they offer substantial benefit when used purposefully. Civil AccuDraw is one of those tools. During this session we will discuss situations where Civil AccuDraw brings efficiencies that can be difficult with other tools.

**20 – Drainage - Designing Inlets to Collect Runoff**

*Presenter – James Anding, Bentley Systems, Inc.*

In this class you will learn how to place inlets with catchment delineation, and how to calculate and collect the runoff from a road surface. You will also learn how to evaluate whether the inlet efficiencies, and the spread widths of the flows along the road edge are acceptable and adjust the design to achieve this.

**21 – Tables and Reports**

*Presenter – Brad Hodor, Civil Solutions, Inc.*

Tables and Reporting is a powerful tool that will increase efficiency and consistency. This presentation will show how to implement tables into the workflow. Students will also learn how to utilize the Query Builder tool to generate Reports and create Tables from the reporting data.

1:00 – 1:50

**22 – Civil Cells for ADA Ramps**

*Presenter – James Anding, Bentley Systems, Inc.*

You will learn how to create reference geometry elements for the horizontal and vertical parts of the civil cell. You will learn how to create profiles, slopes, and curb transitions as well as how to create the 3D model details. Geometry rules and relationships will be created to make the civil cell easily adaptable to any corridor or geometry you place it along.

**23 – Grading Design and Modeling at Bridge Abutments**

*Presenter – Bob Rolle, Bentley Systems, Inc.*

This session demonstrates tools and techniques for modeling side slopes and grading around bridge abutments. You will learn how to define vertical elevations of 2D horizontal geometry, as well as use linear templates and end conditions to tie down slopes. Working between the multiple views of OpenRoads Designer, you will gain insight on viewing, analyzing, and modifying design elements, helping you incorporate bridge grading into your project design models.

**24 – Real World Impact of Remote Sensing on Iowa Transportation Projects**

*Presenter – Jonathan Miranda, Foth*

Through significant evolution, remote sensing technology has permeated the infrastructure industry increasing safety and providing efficiency in gathering detailed data. From equipment deployment to processing, managing, and sharing Big Data, this presentation will discuss how Foth continues to implement MLS and UAS LiDAR technologies on various complex projects.

**25 – Item Types with OpenRoads Designer**

*Presenter – Jeff Vaske, Midwest CAD Solutions*

What are Item Types? During this presentation we will look at Item types from a user perspective and the different methods to apply them with OpenRoads Designer. Included will be ways to view, find, display, and edit Items attached within a civil design.

**26 – Model Considerations for Construction**

*Presenter – Kerry Newbanks, Bentley Systems, Inc.*

Examine the challenges of moving from a 2D set of plans to a 3D model deliverable for construction. What is LOD? How does it impact design and impair or elevate construction interrogation of the design. How does one begin the process of making sure design intent is preserved yet allow the contractor to build a process and cost-efficient project from a model.

**27 – Creating Utilities from Graphics**

*Presenter – Jordan Hatfield, Bentley Systems, Inc.*

In this course, you will learn to create Utilities from 2D and 3D Graphics. You will also learn to create Utilities using Utility Filters and Filter Groups.

**28 – Leveraging Constraints**

*Presenter – Brad Hodor, Civil Solutions, Inc.*

This session will show how to simplify changes to drawings using constraints. A constraint is a method to maintain design intent and automatically adjusting an element accordingly. Standard plan items will be used to demonstrate this time saving technique.



2:00 – 2:50

**29 – Creating Plan Sheets for Non-Linear Areas**

*Presenter – Dave Mayer, Bentley Systems, Inc.*

Learn how to create plan sheets for non-linear areas such as intersections, site development, and parking areas.

**30 – Controlling the Display of Designs for Civil Designers**

*Presenter – Dave Mayer, Bentley Systems, Inc.*

In the MicroStation CONNECT Edition, there are many ways to control how you view designs. In this course, you will learn how to control the display of levels in the active model and attached references. You will also set View Attributes by creating a Display Style that will be matched up to a Display Rule and control Annotation scale.

**31 – Processing Earthwork in OpenRoads Designer**

*Presenter – Jack Riesenber, Foth and Thomas Hamski, Iowa DOT*

OpenRoads Designer's model (BIM) based approach provides significant flexibility and accuracy in quantity calculations. This presentation will show how the Iowa DOT processes earthwork to report on these 3D volumes with conventional end area methods. We will also compute volumes directly from the 3D model and show how to slice up the model to report volumes segregated for staged construction or other areas of the project.

**32 – Project Application of OpenBridge Designer and ProStructures**

*Presenter – Jamie Wahl, Stanley Consultants*

The Iowa DOT Bridge Bureau has transitioned to using OpenBridge Designer and ProStructures to make 3D Digital

Delivery of bridges a reality in the not-too-distant-future. In this session we will explore the use of both OpenBridge, and ProStructures for Iowa bridge projects designed by Stanley Consultants. We will take a look at early and current projects discussing successes, lessons learned and next steps.

**33- Full BIM Ahead - Enriching Your Model with Intelligent Information**

*Presenter – Don Lee, Bentley Systems, Inc*

One of the main advantages of the BIM methodology is the ability to produce a model rich with information provided by the software applications. However, what about when we want custom information? Join us in this presentation as we will explore the use of item types in a bridge project context.

**34 – Detecting and Managing Utility Conflicts**

*Presenter – Jordan Hatfield, Bentley Systems, Inc.*

In this course, you will learn how to identify hard and soft conflicts of underground utilities.

**35 – US 30 Missouri Valley Bypass and OpenRoads Designer**

*Presenter – Sean Ranney / Kanchan BK*

This session will go over the unique aspects of the US 30 Missouri Valley Bypass project, including the levee and grading for future construction. We will also demonstrate the tools used in OpenRoads designer, and how they were applied to this project, including functions such as parametric constraints, point controls, external references, and target aliasing. Furthermore, how some of the detail modeling were modeled using linear and surface templates.



7:30 - 8:00	Registration and Continental Breakfast		
Room No.	150-154	167-171	175-179
8:00 – 12:00			
	<b>Parametric Rebar Modeling with and without Guidelines</b> <i>Jamie Wahl, Stanley Consultants</i>	<b>Processing and Labeling Survey Data with OpenRoads Designer</b> <i>Jeff Vaske, Midwest CAD Solutions</i>	<b>Horizontal and Vertical Geometry</b> <i>Brad Hodor, Civil Solutions</i>
12:00 - 12:30	Lunch (Stage Door Lounge 190) Afternoon Registration		
1:00 – 5:00			
	<b>Photorealistic Rendering and Animation</b> <i>Steve Rick, Bentley</i>	<b>Creating Custom Line Styles / Working with Cells</b> <i>Dave Mayer, Bentley</i>	<b>Leveraging Civil Cells in a Corridor</b> <i>Brad Hodor, Civil Solutions</i>

### Parametric Rebar Modeling with and without Guidelines

*Presenter – Jamie Wahl, Stanley Consultants*

In this workshop the rebar detailer will learn how to operate ProConcrete to model concrete and reinforcing steel – both within ProStructures elements and referenced OpenBridge Model – for bridge & roadway structures. This workshop will also show the detailer how to place reinforcement to custom or user-defined concrete elements using Guidelines. Additionally, the process of creating drawings from the model will be covered.

### Processing and Labeling Survey Data with OpenRoads Designer

*Presenter – Jeff Vaske, Midwest CAD Solutions*

This workshop will cover processing Survey field data with OpenRoads Designer. Included will be how to review and edit the survey once processed. Once processed we'll incorporate different methods of labeling the survey data.

### Horizontal and Vertical Geometry

*Presenter – Brad Hodor, Civil Solutions, Inc.*

One of the first things to learn in OpenRoads is Geometry. In this workshop we will explore numerous methods of creating and editing project Geometry. Best Practices will be discussed. Also, the user will be shown a method to display and annotate critical drawing elements.

### Photorealistic Rendering and Animation in MicroStation CONNECT Edition

*Presenter – Steve Rick, Bentley Systems, Inc.*

This course will teach you how to incorporate Visualization and Animation in your 3D Models. Learn how to setup a camera, assign materials, setup your lighting and how to do Basic Keyframe animation.

**Creating Custom Line Styles / Working with Cells**

*Presenter – Dave Mayer, Bentley Systems, Inc.*

The first part of this workshop covers MicroStation's custom line styles and how they can be used to add additional definition and clarity to a design, displaying sophisticated graphics, by simply selecting a line style and drawing a line. This includes both 2D and 3D design environments. Custom line styles can range from quite simple, displaying nothing more than a series "dashes", to quite sophisticated displays of embedded graphics, 3D geometry, and raster images. In this course you will learn to create custom line styles that contain graphics and text, 3D line styles, and raster line styles. The second part of this workshop is about Working with Cells. Cells are symbols that allow you to re-use existing geometry that you regularly use in your designs without the need to redraw the geometry each time it is required. A cell may either be 2D or 3D and can vary from simple to quite complex. Cells are saved in a cell library that may later be recalled for repeated use in any design file. This workbook will focus on the creation and placement of various site design and vegetation symbols.

**Leveraging Civil Cells in a Corridor**

*Presenter – Brad Hodor, Civil Solutions, Inc.*

Civil Cells is an extremely powerful tool in OpenRoads Designer. These cells can be used to automatically determine or suggest design. One useful method is driveways. In this session students will begin with a simple drive. After completing the simple drive, students will move on to an intense complex driveway cell.

**Chair**

Russ Lemke  
Kirkham Michael Consulting Engineers  
11021 Aurora Avenue  
Urbandale, IA 50322  
515.270.0848  
[rlemke@kirkham.com](mailto:rlemke@kirkham.com)

**1st Vice Chair**

Arielle Muench  
Iowa Department of Transportation  
5455 Kirkwood Blvd SW  
Cedar Rapids, IA 52404  
319.730.1533  
[arielle.muench@iowadot.us](mailto:arielle.muench@iowadot.us)

**2nd Vice Chair**

Ariel Rauk  
Snyder and Associates  
2727 SW Snyder Blvd  
Ankeny, IA 50023  
515.964.2020  
[arauk@snyder-associates.com](mailto:arauk@snyder-associates.com)

**Executive Assistant**

Annette Jeffers  
Iowa Department of Transportation  
800 Lincoln Way  
Ames, IA 50010  
515.239.1079  
[annette.jeffers@iowadot.us](mailto:annette.jeffers@iowadot.us)

**Bentley Advisor**

Kerry Newbanks  
Des Moines Area Community College  
1125 Hancock Drive  
Boone, IA 50036  
515.433.5055  
[ksnewbank@dmacc.edu](mailto:ksnewbank@dmacc.edu)

**Board Members**

William J. Behrendt  
HDR, Inc.  
300 East Locust Street, Suite 210  
Des Moines, IA 50309-1823  
515.280.4945  
[William.behrendt@hdrinc.com](mailto:William.behrendt@hdrinc.com)

Jason W. Dove  
SE3, LLC  
1111 Burlington Ave, Suite 111  
Lisle, IL 60532  
630.641.9900  
[jdove@se3.us](mailto:jdove@se3.us)

Michael Lincoln  
Foth  
8191 Birchwood Court, Suite L  
Johnston, IA 50131  
515.251.2527  
[michael.lincoln@foth.com](mailto:michael.lincoln@foth.com)

Steve Meyer  
Snyder and Associates  
2727 SW Snyder Blvd  
Ankeny, IA 50023  
515.964.2020  
[sdmeyer@snyder-associates.com](mailto:sdmeyer@snyder-associates.com)

Kevin Snook  
Benesh  
4530 Maass Road, Suite 240  
Bellevue, NE 68133  
402.991.0366  
[ksnook@benesch.com](mailto:ksnook@benesch.com)

Jamie Wahl  
Stanley Consultants  
100 Court Ave, Suite 300  
Des Moines, IA 50309  
515.447.4414  
[WahlJamie@stanleygroup.com](mailto:WahlJamie@stanleygroup.com)

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