

Improving Safety Training with BIM and Virtual Reality Technology

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CONNECT & CONSTRUCT SUMMIT



About Our Team





About the speaker

Trevor Symbal

Student at Milwaukee School of Engineering and
currently working at Power Construction



About the co-speaker

Brian Medina

Senior MEP/VDC Manager CG Schmidt



About the co-speaker

Mark Stigler

VDC Engineer CG Schmidt

VR IN SAFETY

Why even bother?

- Presents learning in a new and creative way
- Allows for interaction during trainings
- Increases the amount of data and feedback from trainings
- “Rapid Prototyping” safety scenarios



Main Topics of Discussion

USER EXPERIENCE

Understanding the basic interaction of people with technology

SAMPLE

Models for interior, exterior, roof safety items, and site-specific logistics

USES

Ways to leverage this model outside of traditional training purposes

WORKFLOWS

Understanding implementation processes between safety and VDC as well as software solutions



User Experience

The way a person experiences a product or application with a focus on the ease of using that product or application



User Experience in Safety Trainings

Starting with a 2D static interface and jumping to a 3D dynamic interface introduces challenges

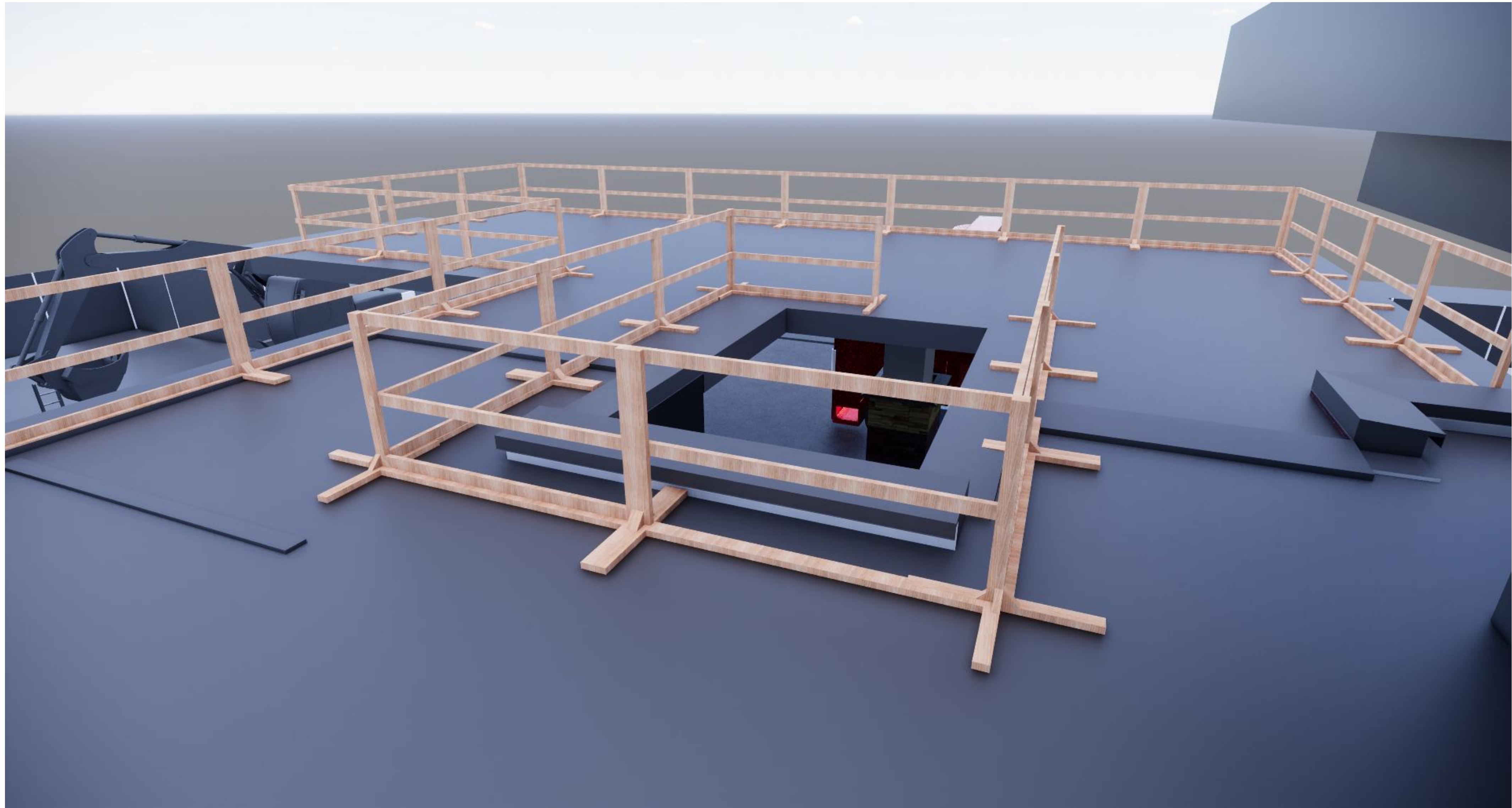
Samples

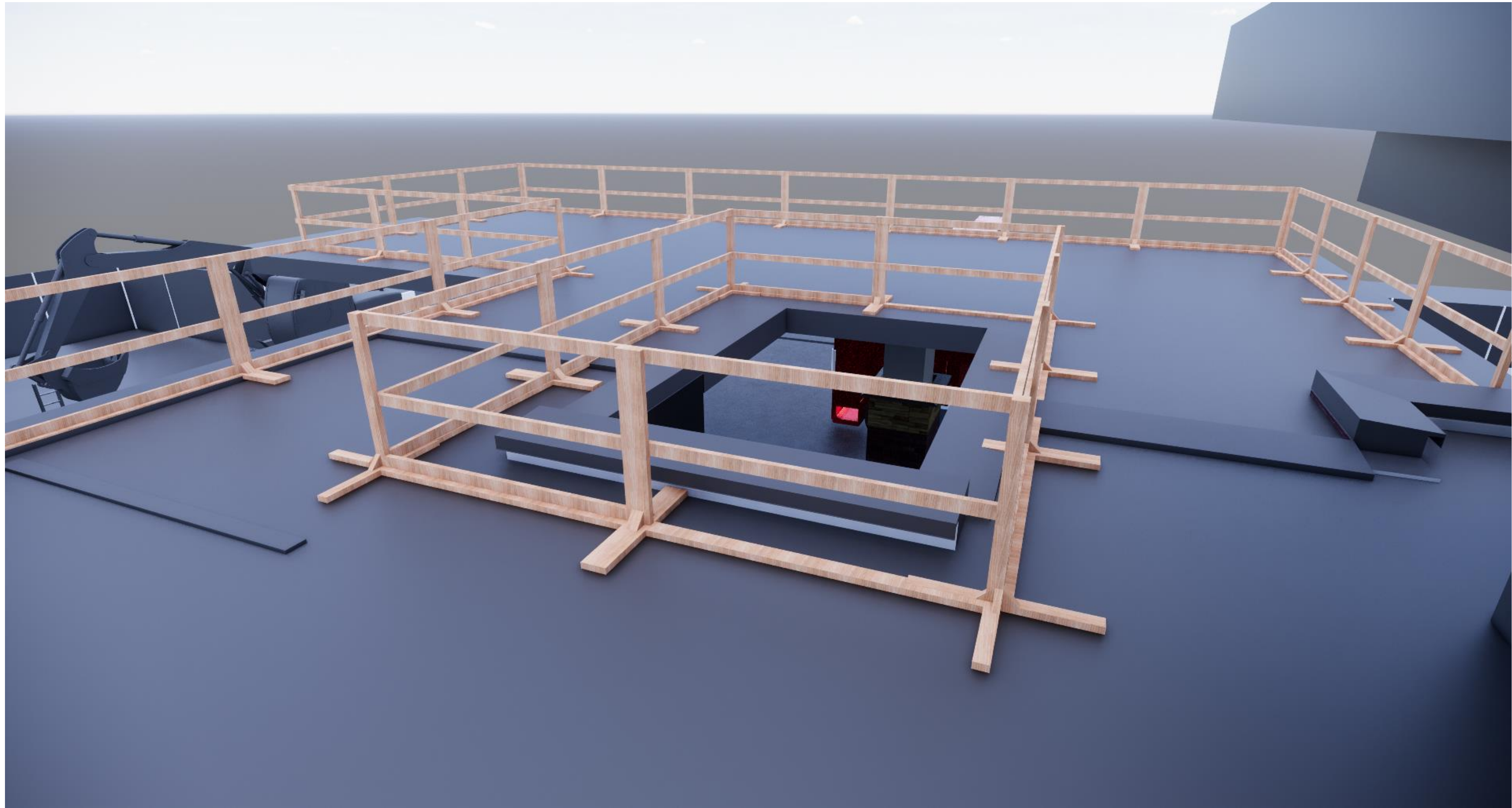
Full safety model (exterior, interior, roof)

- Barrier construction
- Holes and trip hazards
- Spills and slips
- PPE
 - Missing hardhat, safety glasses, vests, etc.
- Ladder safety
- Access and egress
- Site hazards & weather
- Rigging safety
- Minor details
 - Housekeeping, broken tools/ equipment, extinguisher tags, lock-out tag-out









Uses

Internal Safety Classes

- New hire training
- Onboarding training
- Site specific training



Uses

Expanding Education

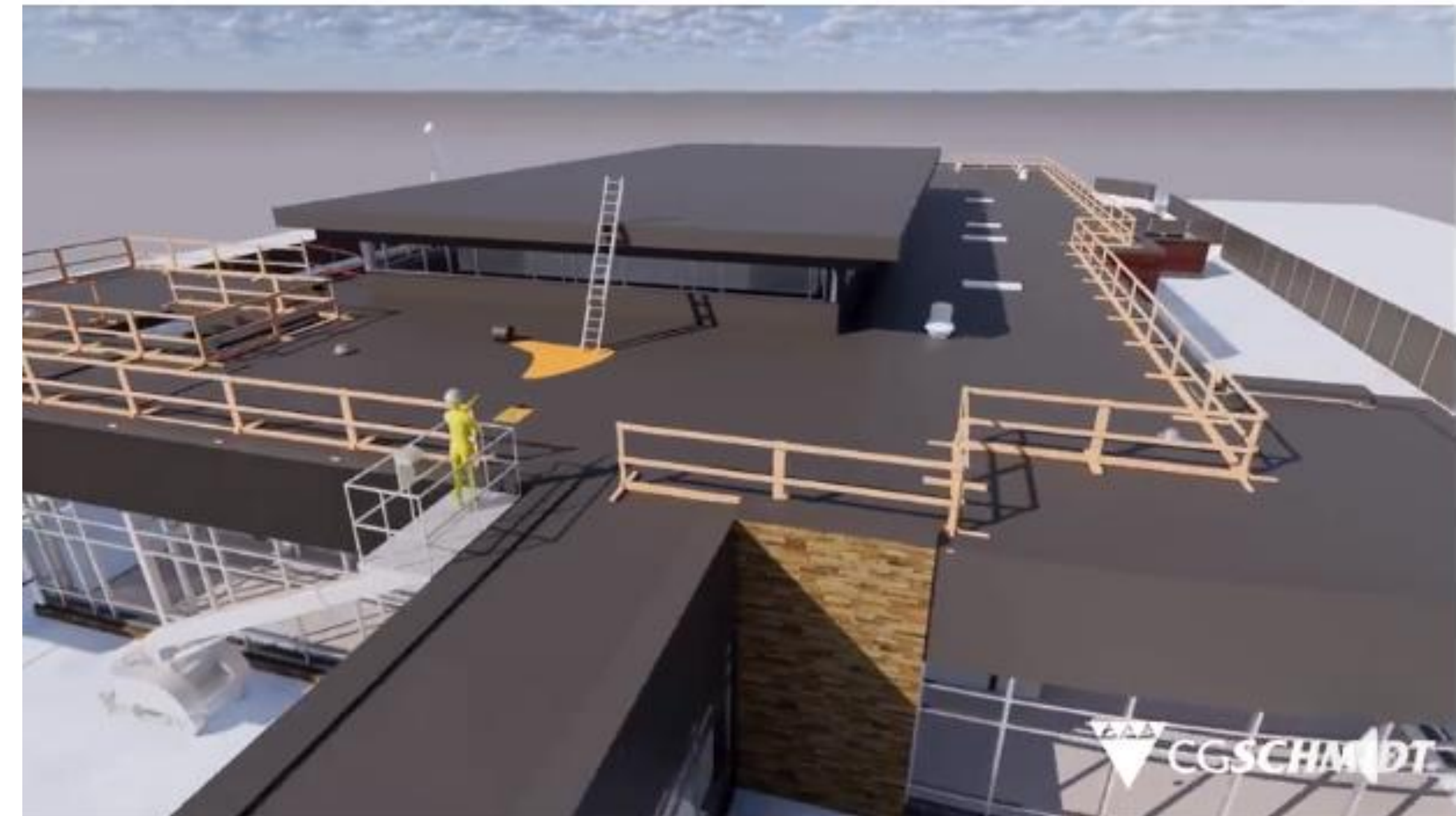
- Safety education of community
- Site logistics models with ownership
- Building interest in STEM

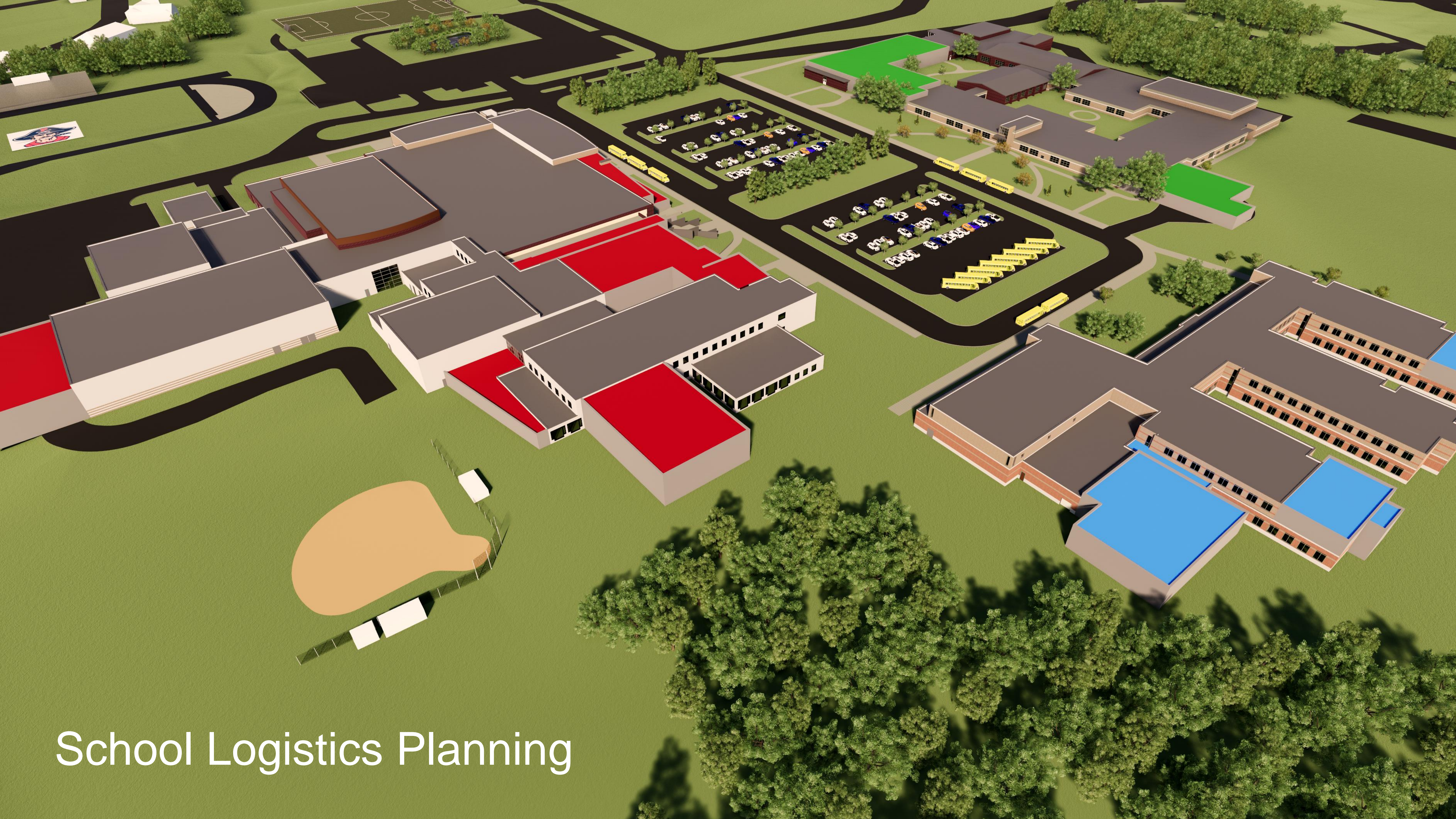


CG Schmidt, Inc.

May 9 · 🌐

Since it's Safety Week, our Safety and BIM/VDC team shared their virtual training that will be used to help show the importance of fall prevention as well as provide a unique tool for exploring these hazards. The goal of this is to travel around the roof of the building and find all relevant fall hazards or risks. This training can be done on any laptop, by anyone, making safety training more efficient and accessible. We are excited to implement this into our training for every CG Schmidt employee!





School Logistics Planning

Summer School Traffic Flow

June 13, 2019 is the official start date for the referendum construction that will be happening during the summer. **Because of this, campus access and traffic flow will follow the above diagram during Summer School.** Please see the 3D simulation video below that also covers the traffic route. We thank you for your cooperation and understanding!



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Site Logistics & Traffic Flow



Pedestrian Safety

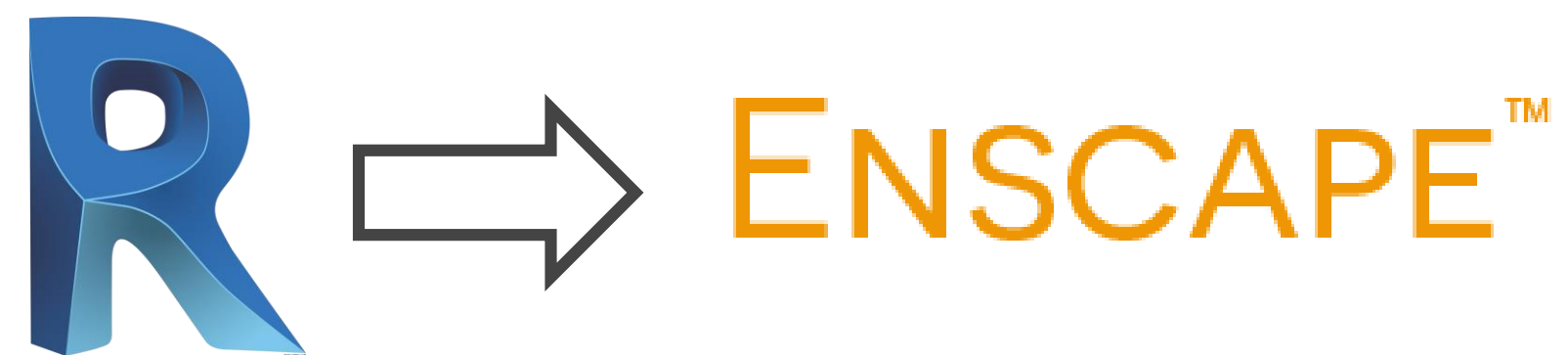
Uses

- Trade Shows & Marketing
 - Industry specific trade shows, community events, & easy marketing



Workflows

Different software options





Dynamo



AUTODESK[®]
INFRAWORKS[®]

Easy Site Safety Design

Use Dynamo and ArchGIS data to develop topography easily

SketchUp 3D Warehouse for equipment models

Export FBX model of InfraWorks model for quick site and surrounding landscape

SketchUp 3D Warehouse for equipment models



Questions?

- Take the class survey in the app
- Check out socials and meetups in the Expo and Community Quads



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