

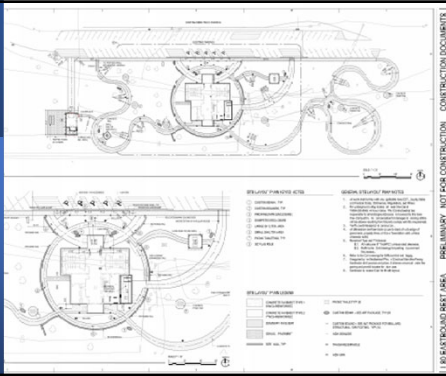
Design Bureau Update 2022

- ACEC\FHWA\IDOT Annual Meeting
- September 28, 2022
- Michael J. Kennerly
- Director of the Design Bureau

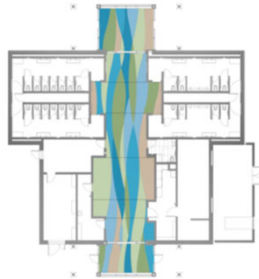
Victor Rest Area I-80 Eastbound Iowa County Built 1967 Current truck parking: 22 Expanded truck parking: +13 Theme: Iowa, land between two rivers

Exterior Rendering of completed Rest Area

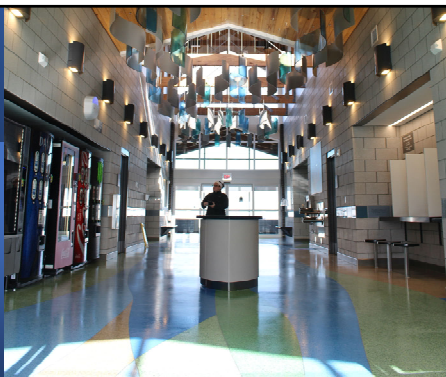
Victor Rest
Area: Site plan,
the walkways
continue the
theme of two
rivers flowing.



Interior Floor
Pattern: Continues
the concept of the
rivers.



Interior of
the Rest
Area:
Showing the
pattern on the
floor and the
ceiling tile that
also follow the
theme of the land
between two
rivers.



New Feature

Adult Changing Station

IDOT ASSISTED TOILET STUDY
ADULT CHANGING STATION MODIFICATIONS
TOILET SEATING PROPOSAL (2019) - REFERENCE ONLY
4-10-21
CRW

New Feature:
Adult Changing Station:

We converted the Family Rest Room to accommodate and Adult Changing Station. The table is designed raise and lower to help those with limited mobility care for their personal needs when traveling

Showing the Controls for the Table



Adult Changing Stations

- First Installation: EB I-80 Rest Area near Victor in Iowa County
- Opened: December 2021






IDOT ASSISTED TOILET STUDY
ADULT CHANGING STATION MODIFICATIONS
CRW



Development of a Roadmap for Transition to a Digital Workflow

- **OUR VISION:** The Department's vision for digital delivery is to enhance our abilities to share information seamlessly across the enterprise, significantly improve asset management, and provide greater value to all users, including construction contractors and suppliers.
- **OUR MISSION:** Is to enable streamlined data sharing and active collaboration between different Divisions, Bureaus, as well as the public and other external stakeholders.



What Is Digital Delivery:

DIGITAL DELIVERY is a modern process in which 3D models and other files are created and delivered to facilitate construction and incorporate digital information to support maintenance and operations activities and lifecycle asset management.




What is Digital Delivery:


- Leverage new and existing technologies to more efficiently manage information about our assets across the enterprise.
- Although creating intelligent plans or building information models is the initial focus the ultimate goal is information management.
- Collaboration and information sharing seamlessly for better decision-making.
- It builds on our efforts in eConstruction, 3D Design, GIS, and Data Governance.



Why

- Information Management-BIM
- Our approach to managing the system is changing. Gone are the days of widespread expansion of the system.
- The focus now is turning to operations, stewardship, and targeted growth.
- We are also responsible for maintaining thousands of miles of roadways are far more features that are aging as we speak.
- With limited funds we have to think and act strategically in how we manage resources.
- Our approach to information management needs to supplement our knowledge transfer efforts.
- To better meet the needs of our customers, internally and externally.











What Has Been Done

Stakeholder Meetings have been held with various bureaus across the Department to gain a sense of data needs and deliverables.

- Research and Analytics
- Asset management
- GIS
- Location and Environment Bureau
- Right of Way Bureau
- Design Bureau
- Bridges and Structures Bureau
- Contracts and Specifications Bureau
- Construction and Materials Bureau
- Maintenance Bureau
- Traffic and Safety Bureau
- Traffic Operations Bureau
- District 6

Digital Delivery Roadmap Focus Areas

 Data requirements, standards and guidelines	 Data collection and storage	 Workflow efficiency
 Technology implementation	 Workforce development outcomes	 Digital Delivery Lead and Communications

Additional Efforts

Strategic and tactical Goals have been Established

Draft Implementation Timeline has been developed

Meetings

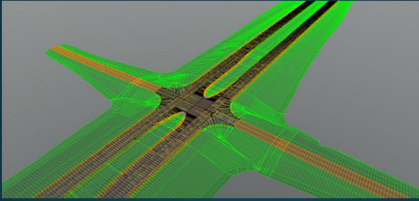
TDD
FOLT
ELT

Identified potential sources of funding.

First Digital Delivery Pilot

The Pilot

- US 30 in Benton County, Iowa
- The project is Design Bid Build
- 5 Mile Grade and Pave Project
- Estimate \$35 million
- Letting : November 2022




How Information Will Be Shared with the Contractor: 3 Formats

- Standard PDF Documents
- Traditional Electronic Files for AMG
- Model Based

We are sharing it in these formats as a first step in the transition to model-based delivery.

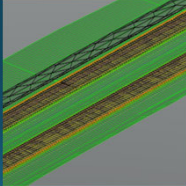
How Information Will Be Shared with the Contractor: PDF Documents

- A sheets (title sheet and map)
- B sheets (typicals)
- C sheets (quantities)
- CD sheets (drainage tabs)
- CS sheets (soils tabs)
- G sheets (survey benchmarks)
- J sheet (traffic control plan and staging notes)
- Q sheets (wick drain info)
- RC sheets (roadside quantities and tabs)
- T sheets (earthwork quantity tab)
- U sheets (details)
- V sheets (pipe cross sections)
- Legend sheets (D, J, L, Q, RR, and T)



How Information Will Be Shared with the Contractor: iModels (what the models will replace):

- D sheets (plan and profile)
- E sheets (plan and profile)
- H sheets (ROW sheets)
- J sheets (staging layout and pavement markings)
- L sheets (jointing, geometrics and staking)
- O sheets (boring log plan view locations)
- RR sheets (erosion control layout and drainage basins)
- U sheets (fencing layouts)
- W,X,Y and Z sheets (cross sections)

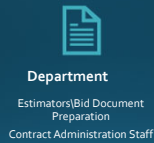


How Information Will Be Shared with the Contractor: Standard e-Files We Provide Contractors

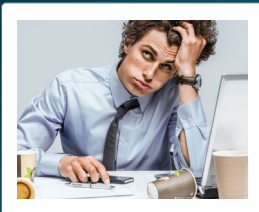
- 3D Breakline Files
- Alignment XML's
- Machine Control Surfaces in XML
- PDFs of soil boring logs
 - Shelby tube data
 - Structure settlement information
- Earthwork Calculations



Intended Recipients of the Data



Challenges



- **Software**
 - Creating iModels
 - Working with Bentley Synchro
- **Hardware**
 - Finding a Rugged tablet that can handle the files and does not have the typical glare issues
- **Stakeholder**
 - Concerns over practicality of working with models in the field
 - Providing Information to Sub Contractors Pre and Post Award
 - Training and Retraining as new sub-contractors move in
 - How plan changes, Addendums, etc. will be handled.



Involve the AGC early and Often

Keep your friends close, and the AGC closer.

Redefine success



Chose your first pilot carefully

Industry Readiness
Staff Readiness, contract administration
Work up to the MALD




Start Early

Identify the pilot project as early as possible so all stakeholders are aware, Construction, Design, Contracts, etc.

Involve your CADD software provider early, resolving issues at the last minute can derail the entire project.

Early Takeaways\Lessons Learned



Questions
