

Intelligent Design & Construction (IDC)

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Definition of IDC

- “An interconnected, fully electronic compilation of project assets that have detailed attributes.”
- Includes interlinked and/or embedded content for such things as:
 - 3D Models
 - Surfaces (Existing, Pavement Layers, Top of Final Surface, etc.)
 - Design Details
 - Informational Documents

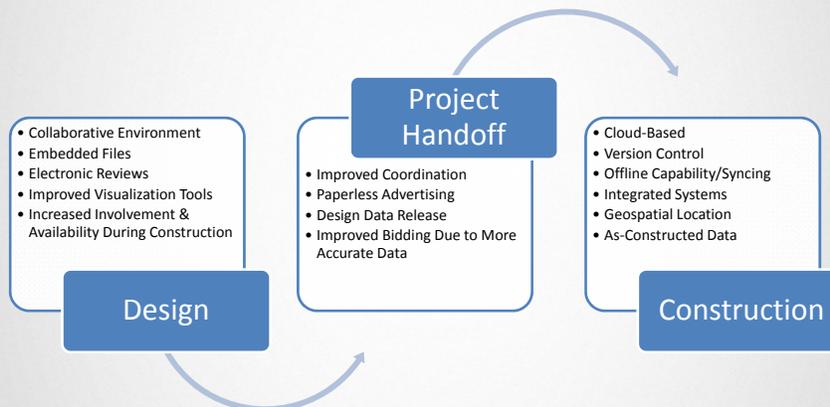


UDOT's IDC Goals

- Quick & Easy Transfer of Design Information to Construction
- Fully Electronic Access to All Data
- Advertise the 3D Model(s) as part of the Contract
- Contractor's Ability to Revise/Resubmit As-Constructed Data



Benefits of IDC



Preconstruction Lessons Learned to Date

- Preconstruction & Construction Survey Control
 - Preconstruction tolerances MUST be provided to the construction level of tolerance needed.
 - Independent verification of survey control prior to Advertising.
 - New Survey & Geomatics Manual
- Access to UDOT Design Files
 - Electronic Reviews
 - Clash Detection
 - Currently Releasing Design Files w/ Advertised Projects



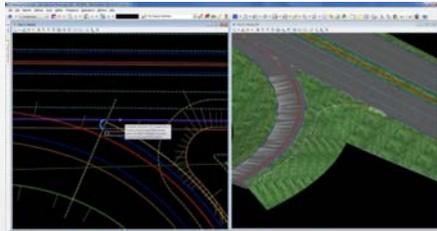
Construction Lessons Learned to Date

- Construction Survey Control
 - Completing a level loop prior to starting work
- Early Access to UDOT Design Files (Construction / Contractors)
 - Need to determine when data is “final” if it can be released even earlier (i.e. Existing.DTM)
- Automated Machine Guidance (AMG) Equipment
 - Excavators, Rotomills, Pavers
- More Accurate Results & Improved Work Zone Safety
 - Ability to stage, sequence, plan work electronically
 - Stringless Paving



Preconstruction Goals for 2016

- Early Release of Design Files
 - Survey / Existing Surface
- Completing design within the model
 - Providing the model to Contractors for use and feedback
- CMGC Projects
 - Using the model as the legal document

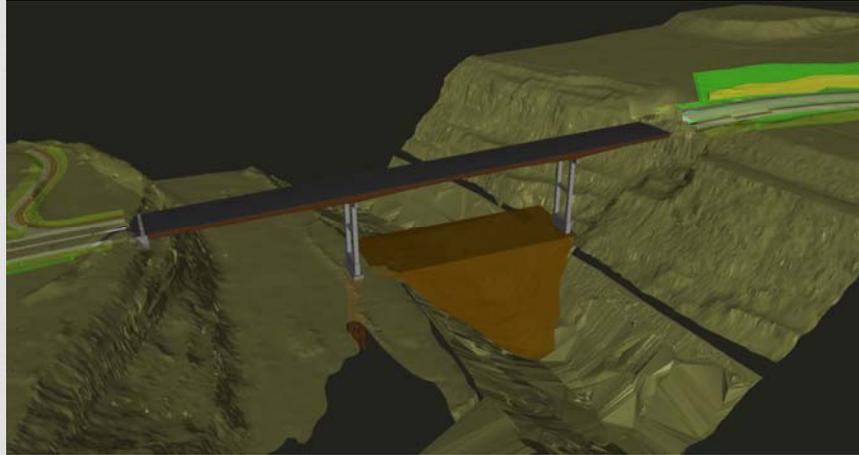


Construction Goals for 2016

- Electronic Documents (PDF's)
 - Move to a paperless environment
- As Constructed Files
 - Survey File of Utilities (Exposed / Relocated)
 - Revised Model
 - CADD Submittal of As Constructed Files
- Pilot Projects
 - Testing 3D model viewers in Construction



3D Models in Construction



Let's Collaborate!

- What are YOU working on?
- How can we SHARE best practices and lessons learned?
- Contact us! (michellepage@utah.gov or pwheeler@utah.gov)

