



**Production Support Office | CADD**

# **Automated Quantities for OpenRoads Designer in FDOTConnect**

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# FDOTConnect Automated Quantities

FDOTConnect version 10.09.01.00

Released October 1, 2021

Compatible with:

Bentley MicroStation Connect Edition 10.15.02.11

Bentley OpenRoads Designer CE 10.09.00.91

Bentley OpenBridge Modeler CE 10.09.00.70

Bentley OpenBridge Designer CE 10.09.01.15

This version of FDOTConnect is **NOT** compatible with Bentley OpenRoads Designer CE 2021 Release 1 version 10.10.01.03

# FDOTConnect Automated Quantities

## Full Automated Quantities Workflow

- Training Guide
- Data Set
- Videos

Training Guides	Posted
OpenRoads Designer and Connect Edition Applications	
FDOTConnect CADD Essentials	07/27/2021
FDOTConnect Design Survey Workflow	01/07/2021
FDOTConnect Existing Modeling	08/19/2021
FDOTConnect Roadway Design 2D Basics	08/19/2021
FDOTConnect Roadway Design 3D Modeling	04/16/2021
FDOTConnect Plan Development Workflows	05/11/2021
FDOTConnect Pond Design for Drainage	06/15/2021
FDOTConnect Drainage for Design	06/15/2021
FDOTConnect Traffic Plans	12/29/2020
FDOTConnect Automated Quantities	12/29/2020
OpenBridge Modeler and Connect Edition Applications	
FDOTConnect Bridge Design & Modeling	08/25/2021



<https://www.fdot.gov/cadd/main/fdotcaddtraining.shtm>

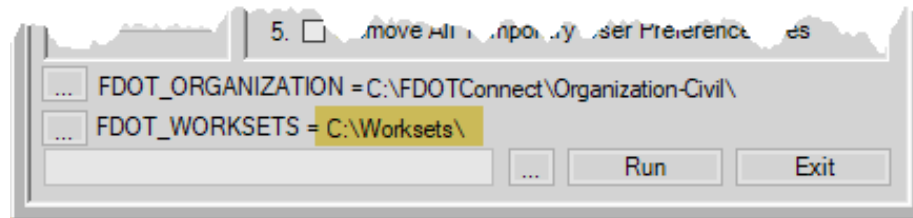
# FDOTConnect Automated Quantities

Workset path should be set during installation

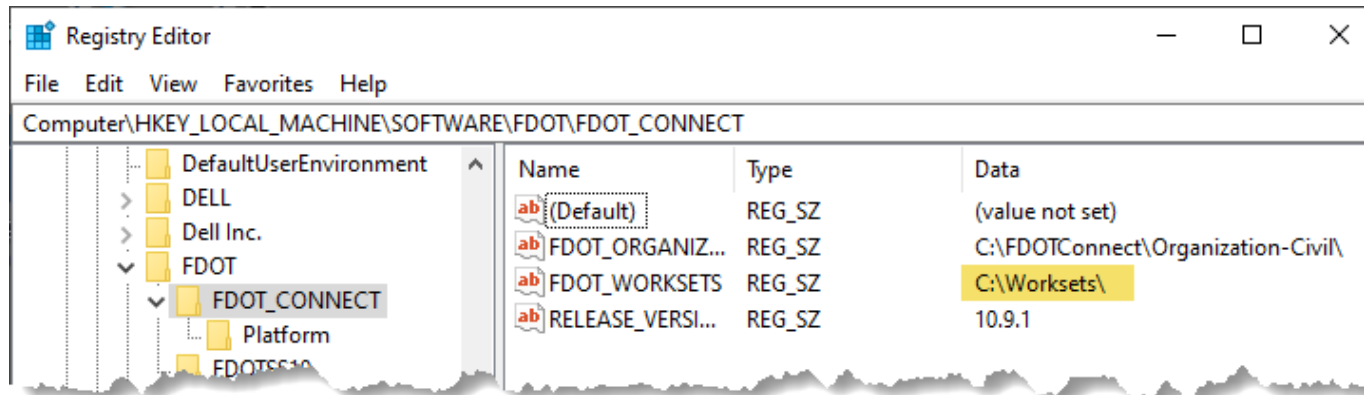
Workset path location (case sensitive) must match both environment variables and registry keys for quantity tools to read/write to project.

File location: `C:\Worksets\FDOT\22049555201_CE\Roadway\QTDSRD01.dgn [2D - V8 DGN] - OpenRoads Designer CONNECT Edition`

Environment:



Registry:



# Item Types

## Things to remember:

- Use full properties dialog, not pop-up bar, when reviewing a selection set
- Make separate models for each pay item for 2D quantity shapes
- When using Select Element by ID tool, be sure to close it after clicking Find
- When placing/setting Item Types on Surface Templates, turn off Default level
- Pay Items must be defined in FDOTConnect resources to be automated.
- Only one alignment can be assigned to any line/shape/mesh.

## Changed in FDOTConnect 10.09.01.00:

- Tonnage Item Types changed property definition from “Thickness” to “Lift”
  - Lift value must be entered in decimal inches
- Item Types added for LitterRemoval, Mowing, and PerformanceTurf2D

# Asset Manager

Asset Manager is a Bentley technology preview that provides additional tools for organizing and applying item type information.

- Allows alignment (station/offset) and FPID to be attached to Item Type data
- Uses project-specific Excel files for database organization and management

## Things to remember:

- Once an Item Type is placed with Asset Manager it is written to the .dgn file. After that, it can be placed with the Item Types > Attach tool
- If you need to change anything in the FDOTProject.xlsm, you must use the Asset Manager to “Replace” those Item Types and re-set the values.
- Do not use dashes in FPID numbers.
- Do not place the Alignment Item Type on Traffic Plans Item Types.

# Quantity Takeoff Manager (QTM)

Things to remember:

- Make sure the alignment and all 2D and 3D quantity elements are referenced to the 2D view
- The alignment must use the Roadway alignment Feature, not Survey
- Make sure the 2D view is active before launching QTM
- Check the Alignment Options pulldown in QTM to make sure it's reading all alignments, but leave the selection set to ALL
- Only the dark/bold Summary Tables are automated, but all Summary Tables must be created from QTM or the Blank Templates provided
- Make sure the File Output Location shows a green path to the project

# Summary Tables

See the Automated Quantities training guide for a full list of rules.

Things to remember:

- NO blank rows. Every row must have a quantity or secondary quantity value.
- Pay items must be in BOE format. No dashes.
- Excel file names and worksheet names are critical.
- What you see in Excel is NOT what will show in the Estimated Quantities Report.
  - Rounding/precision
  - Column widths
  - Word wrapping



# Summary Reports Builder

Things to remember:

- Edit and save signature template as a PDF in the Estimates folder.
- Be sure to change all red/italic text back to black/normal in the signature page.
- All Summary Table Excel file names must match the list in the Quantity Takeoff Manager. The only exception is for FPID or structure number.
- The Summary Reports Builder adds bookmarks for each Summary Table as well as sheet numbers and date/time stamp to each page of the PDF. Do not use a PDF editor to add/remove sheets from the Estimated Quantities Report.

# Designer Interface Quantities Builder

Things to remember:

- Import/Export in Designer Interface requires mainframe access.
- Summary of Temporary Traffic Control Plan Items is not compatible with the XML upload to Designer Interface at this time.
- A separate XML for each FPID must be created. Only select the Excel files for the FPID which corresponds to the header file for each XML.
- Upload is all-or-nothing. If the upload is unsuccessful, refer to the Data Validation Error codes to help locate the error.

# Additional Considerations

New chapter in the Automated Quantities Training Guide

- Creating the Estimated Quantities Report and XML upload without civil versions of software.
  - Standalone tools
  - Blank Templates
- Guidance for Summary of Landscape Items/Plant Schedule and Summary of Structure Quantities.

# Questions?

Thank you for joining today's session!

Need HELP? Contact me...

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<http://www.fdot.gov/cadd/>

FDOT CADD Support Forum On-line

[https://communities.bentley.com/communities/user\\_communities/fdot\\_cadd\\_support/](https://communities.bentley.com/communities/user_communities/fdot_cadd_support/)