



OHDOTCEv02 Project Indexer

Description:

The ProjectIndexer.exe is a standalone resizable C# Windows Presentation Form application that is fully integrated with Projectwise. This application is available for use externally and internally to ODOT via CADD standards.

The application can be found in the following place:

OHDOT (v1)/OHDOTCEv02 Standards: \..\Standards\Applications\OHDOTCEv02_Indexer.exe

The main purpose of this documentation is to explain how to use the project indexer application.

Software Requirements:

This application was developed using .NET Framework 4.7.2 in 64bit Windows 10.

Optional Software – Needed to make full use of all features of this application.

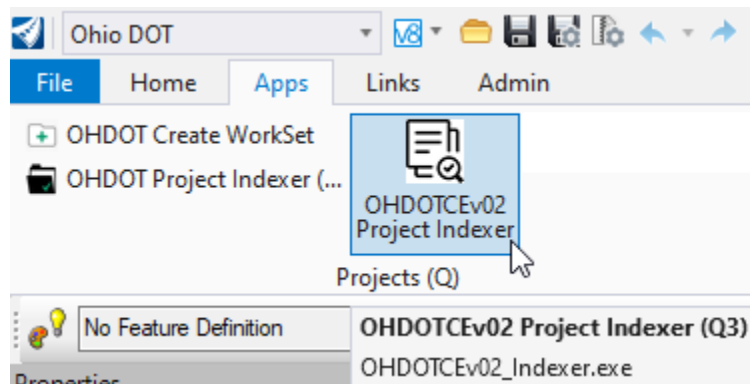
MicroStation CE /OpenRoads Designer CE (any CONNECT edition Bentley CADD software)

Microsoft Excel is required in order to generate the excel index file. Both 32bit and 64 bit versions should work with this application.

This application does not require MicroStation to be installed to run. However, there is additional functionality in the application if these products are installed.

Loading the Application:

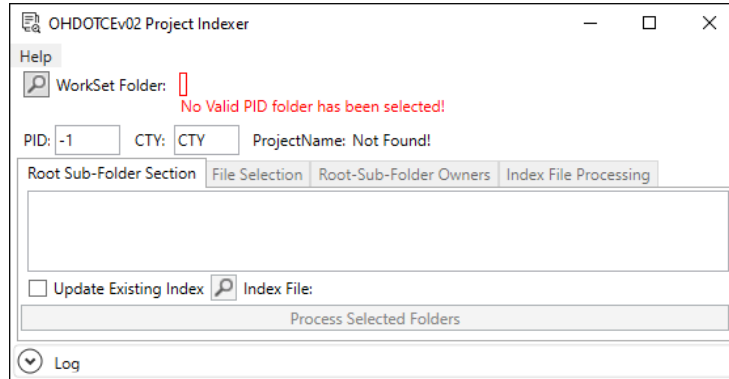
This application can be loaded by double clicking on the OHDOTCEv02_Indexer.exe file within the standards (\..\Standards\Applications\OHDOTCEv02_Indexer.exe). It is a standalone application, but it can also be launched from the ribbon within the OHDOT workflow, Apps tab, Projects section within MicroStation.





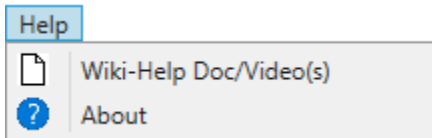
Application Operation:

When the application is first loaded it will look like this. The application consists of a [help menu](#), WorkSet information area, 4 tabs and a log section.



Help Menu:

The help menu consists of two items, [Wiki-Help Doc/Video\(s\)](#) and [About](#).



Wiki-Help Doc/Video(s)

Clicking this item will launch the below link to a wiki page containing a help document and how to video.

https://communities.bentley.com/communities/user_communities/ohio_dot_consultants/w/ohiodot---wikis/63629/ohdotcevo2_5foo_indexer

About

Clicking this item will open another dialog, pictured to the right. This dialog displays the following information.

- Application Name and last update date
- Application version
- Copyright
- Company
- Description



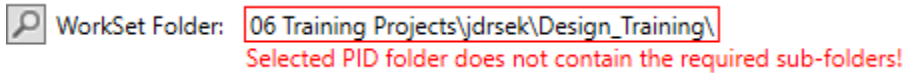
WorkSet Folder Button:



Selecting this button (with the search icon) will launch a folder select dialog. If ProjectWise Explorer is installed on the machine then you will be prompted to login a Datasource. If a successful login is achieved then a ProjectWise folder select dialog will open. The user should then select the desired PID folder. If the user cancels the folder selection or cancels the datasource log in or ProjectWise explorer is not installed then a windows folder selection dialog will appear and the user should select the desired PID folder.

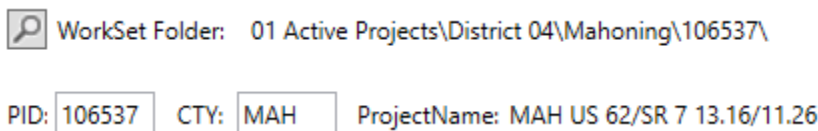


When a PID folder is selected, it is checked to make sure the projects folder structure has the required folders (follows 000000_OHDOT_Template). If the pid folder can not be validated then a red message will be added to [log section](#) and red text will appear under the workset indicating this, example shown below.



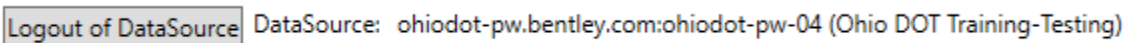
The [Process Selected Folders button](#) will not be enabled until a valid PID folder has been selected.

Once a valid PID folder has been selected and verified the [Process Selected Folders button](#) will be enabled. The application will attempt to find the pid number within the selected folder name and then try to obtain the main county and project name for the PID. If found this data will be populated in the application like shown below.



If the PID or main county could be found, the user must fill out those text boxes appropriately as they will be used in the naming of the zip file that gets created.

Logout of DataSource Button



This button will only be displayed if a successful login to a ProjectWise Data Source was achieved. The name of the datasource will be displayed next to the button. Selecting this button will log out of the datasource and clear the dialog.

OHDOT_PID Var TextBox

OHDOT_PID Var: This is to input the value of the OHDOT_PID workset level configuration variable. This value typically matches the name of the WorkSet folder. When a workset folder is selected this textbox will be updated with the selected workset folder name. Additionally if an existing index excel file is selected then when the [Process Selected Folders Button](#) is selected the index file is read and if a value for the OHDOT_PID is found within the index excel file then that value will be set in this textbox. Additionally, when the zip file is created this value will be stored in the index file. This value is needed when using another application to import a zip file. it is needed to know which seed files are the default seed files. As the OHDOT_PID configuration variable is used to set the default seed files.

Root Sub-Folder Section Tab

This section of the application is populated with all the folders directly inside the selected PID folder. All survey and engineering folders should be default be selected. Along with the 990-WorkSetStandards folder which cannot be unselected.

This section is to help improve processing time by only searching the selected folders.

The user should check on only the folders that contain files that should be included in the project index zip file. (See [Guidelines for Electronic Design Deliverables](#) for more information)



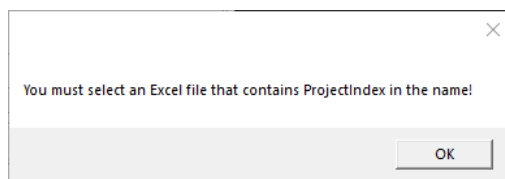
Update Existing Index Checkbox

Update Existing Index This checkbox can be checked on if an existing index file has already been created and updated need to be made to it. Once checked on the [Index File button](#) will be enabled.

Index File Button

The Update Existing Index Checkbox must be checked on in order for the button to be enabled. When selected a file select dialog will appear. If ProjectWise Explorer is installed on the machine then you will be prompted to login a Datasource. If a successful login is achieved then a ProjectWise file select dialog will open. The user should then select the disired index excel file. If the user cancels the file selection or cancels the datasource log in or ProjectWise explorer is not installed then a windows file selection dialog will appear and the user should select the disired index excel file.

The index file MUST contain ProjectIndex in the file name or the below dialog will be shown.



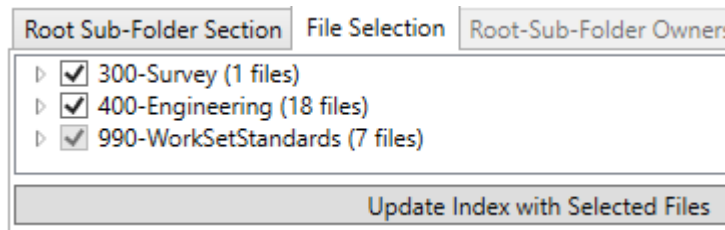
Note that the index file contents is not verified until the [Process Selected Folders button](#) is selected.

Process Selected Folders Button

When this button is selected the following happens

- If Update Existing Index checkbox is checked and an index file was selected then that index file is opened in the background and verified to make sure the excel file is in the correct format. If the index file is not in the correct format then a red message will be added to the log section to indicate that. Process will continue but no data will be read in from the index file and the Update Index with Selected Files Button will create a new index file instead of updating the selected one. If the Index file is in the correct format then all the data within the index file is read in. if any files listed on the index file are within a root sub-folder that is not checked on then that root sub-folder is checked on.
- All selected Root sub-folders are processed to find all sub-folders and files. And out populated in the [File Selection Tab](#).
- If existing index data was read in, then all files listed in the index are checked to see if the file was found in the above step. If the file is found then it is checked on in the [Files Selection Tab](#). If the file was not found, then it is added to the [Log Section](#).
- The application moves to the [File Section Tab](#).

File Selection Tab



This Tab is only enabled after the [Process Sectioned Folders Button](#) has been selected.

This tab is used to select all the files to be added to the excel index file. the user can expand folders to see sub-folders and files. Checking on/off a folder will check on/off all

the sub-folders and files within that folder.

Note that all files within the 990-WORkSetStandards folder can not be checked off.



Update Index with Selected Files Button

This button when selected will do the following.

- If a valid index file was selected in the [Root Sub-Folder Section Tab](#) and the [Update Existing Index Checkbox](#) was checked on then the index file is opened to the screen. The files already listed in the index are cleared and all the files selected in the [Files Section Tab](#) are then placed in the index file.
- If an invalid index file selected or the [Update Existing Index Checkbox](#) was not checked on, then a new excel file is created in memory and shown to the screen. All the files selected in the [Files Section Tab](#) are then placed in the index file.
- The root Sub-folders for all the files listed in the index are found and then listed in the Root-Sub-Folder Owners Tab.
- The Root-Sub-Folder Owners Tab is enabled and given focus.

Root-Sub-Folder Owners Tab

This section is populated with all the root sub-folders that are listed in the index. Since a project and have multiple companies working on the same project it is important to capture which files each company worked on. The folder structure is set up to handle this already by allowing for multiple Survey and Engineering folders.

Each root sub-folder needs a owner listed. There is a text box for the full name and a text box for the short name.

The short name will be used by OHDOT when importing the index into our datasource. **It is recommended the Short name contain no spaces or special characters.** CONSISTANCY in the naming of your company is recommended!

An example is shown below. The 990-WorkSetStandards owner should be the prime consultant.

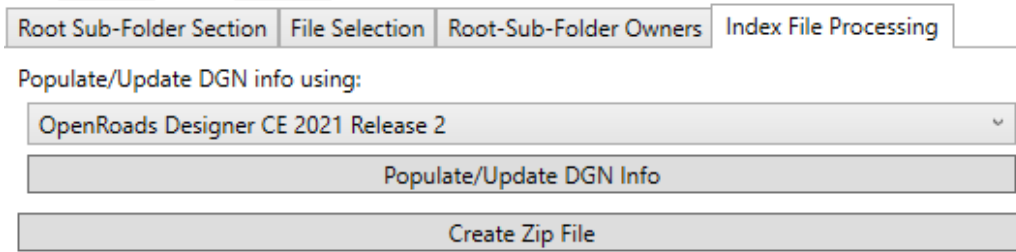
Root Sub Folder Name	Owner (Company) Full Name	Owner (Company) Short Name
300-Survey	Ohio Department of Transportation	OHDOT
301-Survey_BuckleyGroup	Buckley Group LLC	BuckleyGroup
400-Engineering	Ohio Department of Transportation	OHDOT
401-Engineering_HDR	Henningson, Durham & Richardson Inc	HDR
402-Engineering_BuckleyGroup	Buckley Group LLC	BuckleyGroup
990-WorkSetStandards	Ohio Department of Transportation	OHDOT

Update Index with Root Sub-Folder Owners Button

When this button is selected it will update the index excel file with the specified root sub-folder owners. If the excel file was closed then an error message will be added to the [log section](#). After successful completion of this process the [Index File Processing Tab](#) will be enabled and given focus.



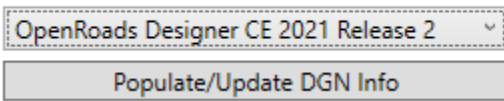
Index File Processing Tab



This tab is used to create a zip file and/or update the index with dgn data from dgn files.

Populate/Update DGN Info Button

Populate/Update DGN info using:

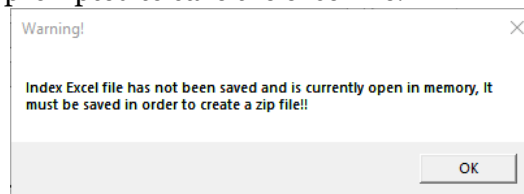


This section is only visible if a dgn file is listed in the index. If so then all found installed CONNECT edition cadd programs will be listed in the dropdown. The selected program will be used in the background to process the dgn files. When this button is selected all dgn files listed in the index will be opened in the background and checked for the page number, sub-page number and sheet title if applicable. If more than one sheet is found within a given file then the page range will be listed. The DGN files are also checked for any broken references as well as any references that are not currently listed on the index (missing references). The number of missing references and broken references is added to the index file with a comment within each cell listing information about the missing/broken reference. if the value is -1 then the dgn file was not processed. An example of a file with broken references is shown below.

5		106553_FB001.dgn: is a broken ref in Model: Design
3		106553_BK001.dgn: is a broken ref in Model: Design
		106553_FB001.dgn: is a broken ref in Model: Design-3D

Create Zip File Button

This button will take all the files listed on the index and create a zip file. if the Index excel file has not been saved yet you will be prompted to save the excel file.

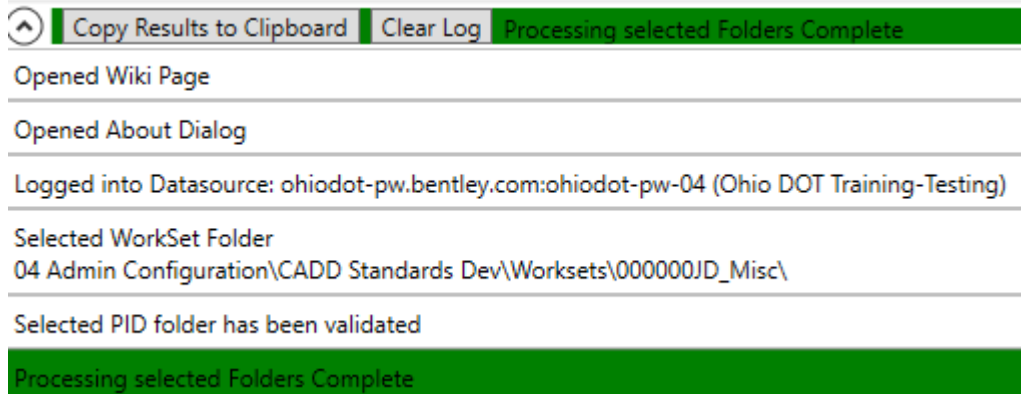



A folder select dialog will pop up to choose where to save the zip file to. All the files listed in the index file will be added a zip file while maintaining the folder structure. The zip file will be named CTY-PID-CADDFiles.zip. where CTY and PID are the values listed under the [WorkSet Folder button](#). The index excel file will also be added within the root of the zip file as well as a disclaimer.txt file.

This button will also run the [Populate/Update DGN Info Button](#).



Log Section



 This section can be expanded/collapsed by selecting the expand/collapse arrow button

When the section is expanded a black horizontal line above the section will be visible and can be used to resize the section.

All actions taken with this application will be added to the log section. If there was an error that message will be highlighted in red. Warnings will be highlighted in orange. And successful completion of a process will be highlighted in green.

After completion of a process the message is added the section header area with the highlighting. This is so users can see the message and if there were any errors even if the log section is collapsed.

Copy results to Clipboard Button

This button is only visible with the log section is expanded. When selected it will copy all messages in the log to the clipboard

Clear Log Button

This button is only visible with the log section is expanded. When selected it will clear all message in the log.

Index Excel File

The application generates an excel index file. it contains two worksheets. The application is also store dgn reference data within this file for use when importing zip file into OHDOT's Datasource.

Files WorkSheet

This worksheet will list all files included in the zip file along with the following info.

- **Relative Path:** lists the path started from the Root Sub-folder including the file name
Ex: C:\Worksets\123456\400-Engineering\RW\Bsaemaps\123456_BR001.dgn would be listed as 400-Engineering\RW\Bsaemaps\123456_BR001.
- **Category:** this is the root sub-folder (first folder within the workset folder)
- **Discipline:** this is 2 sub-folder down from the workset folder
- **Name:** name of the file with its file extension
- **Extension:** the file extension of the file (including the .)
- **Type:** lists one of the [File Types](#). Should be checked over for accuracy.



- **Desc:** Description of the file. Default values are taken from 1st the existing index file, if none then ProjectWise Document description or if outside ProjectWise the files Title and Comments.
- **XML Contents:** if an xml file is of LandXML type then for surface LandXML the surface name will be listed. For Alignment LandXML type then the horz and profile names are listed.
- **File Title:** This is the file's Title field value.
- **File Comments:** This is the file's Comments field value.
- **Page Num:** This is populated with the [Populate/Update DGN Info Button](#). It will list the page number with in the dgn file if one exists. If multiple pages are contained within a single dgn file then the lowest and highest page numbers are listed.
- **SubPage Num:** This is populated with the [Populate/Update DGN Info Button](#). It will list the subpage number with in the dgn file if one exists. If multiple pages are contained within a single dgn file then the lowest and highest subpage numbers are listed.
- **Sheet Title :** This is populated with the [Populate/Update DGN Info Button](#). It will list the Sheet Title and its Sub-Title and Sub-Title2 if they exist.
- **# Missing Refs:** This is populated with the [Populate/Update DGN Info Button](#). This will give the number of references that the dgn file has that are not included on the index file. a comment is added to the cell with details of each missing reference. If the cell value is -1 then the DGN file was not processed.
- **# BrokenRefs:** This is populated with the [Populate/Update DGN Info Button](#). This will give the number of references that the dgn file has that are broken. A comment is added to the cell with details of each broken reference. If the cell value is -1 then the DGN file was not processed.

File Types

- **Unknown:** A file is given this type by default if the application can not figure out what type the file is. The excel index file should be checked and file types should be fixed/changed as needed.
- **Basemap:** A DGN or DWG file within a Basemaps folder (or its sub-folders) gets defaulted to this file type, except if the file is contained within a ###-Survey root sub-folder.
- **Sheet:** A DGN or DWG file within Sheets folder (or its sub-folders) gets defaulted to this file type.
- **EngData:** Any file that is not a .DGN, .DWG, or .XML and contained within an ###-Engineering folder gets defaulted to this type.
- **SurvData:** Any file that is not a .DGN, .DWG, or .XML and contained within an ###-Survey folder gets defaulted to this type.
- **Basemap_FieldBook:** A DGN or DWG file within a Basemaps folder (or its sub-folders) and within a XXX-Survey folder gets defaulted to this file type.
- **SurveyorReport:** Currently the application does not default any files to this type.
- **AlignmentXML:** If the file is an XML file and follows the Alignment LandXML schema then the application defaults the file to this type.
- **SurfaceXML:** If the file is an XML file and follows the Surface LandXML schema then the application defaults the file to this type.
- **Misc:** is the file doesn't fall into any of the other types then by default the file is set to this type.
- **XML:** If the file has a .xml file extension and is not a Alignment or Surface LandXML file then the application defaults the file to this type.

Folder Owners WorkSheet

This worksheet lists all the Root Sub-folders that are included in the index. Its purpose is to define what company owns/created the data inside each root sub-folder. There are just three columns



- **RootSubFolderName:** the name of the root folder directly inside the workset folder.
- **OwnerFullName:** the full or long name of the company that created the data within the root subfolder.
- **OwnerShortName:** the short or abbreviation name of the company that created the data within the root subfolder. This value will be used when imported delivered data into OHDOT's datasource. Do not use spaces or special characters.

Updates

Version 1.0.0.0: Initial Release

Version 1.0.0.1: Fixed error in app causing the Process Selected Folders process to fail if there is an empty xml file in the project.

Version 1.0.0.2:

- Updated app to store the last selected WorkSet folder from ProjectWise Explorer and last selected index excel file from ProjectWise Explorer and populates the folder/file select dialogs to these locations.
- Added OHDOT_PID var textbox. This is to input the value of the OHDOT_PID workset level configuration variable.

Version 1.0.0.3

- Updated to convert PW references to local references when generating the zip file. this includes dgn model references, raster references and point cloud references
- Updated app to handle document versions (don't show/include them)
- Fixed bug introduced in version 1.0.0.2 during creation of zip that was incorrectly storing the OHDOT_PID value to the index file.
- Updating the Create Zip File button to also run the Populate/Update DGN Info Button before generating the zip file.
- Fixed some crashing issues.

Version 1.0.0.4

- Fixed problem from version 1.0.0.3 that was temporary showing PW references being broken after creating the zip file.

Version 1.0.0.5

- Fixed problems creating zip file from outside of projectwise
- Minor fixes around getting dgn data.

Version 1.0.0.6

- Updated app to work with onedrive.

Contacts

For any questions, suggestions, or problems with this document please contact the ODOT Office of CADD and Mapping Services by use of the following form on the ODOT website:



https://odot.formstack.com/forms/cadd_servicerequest
