

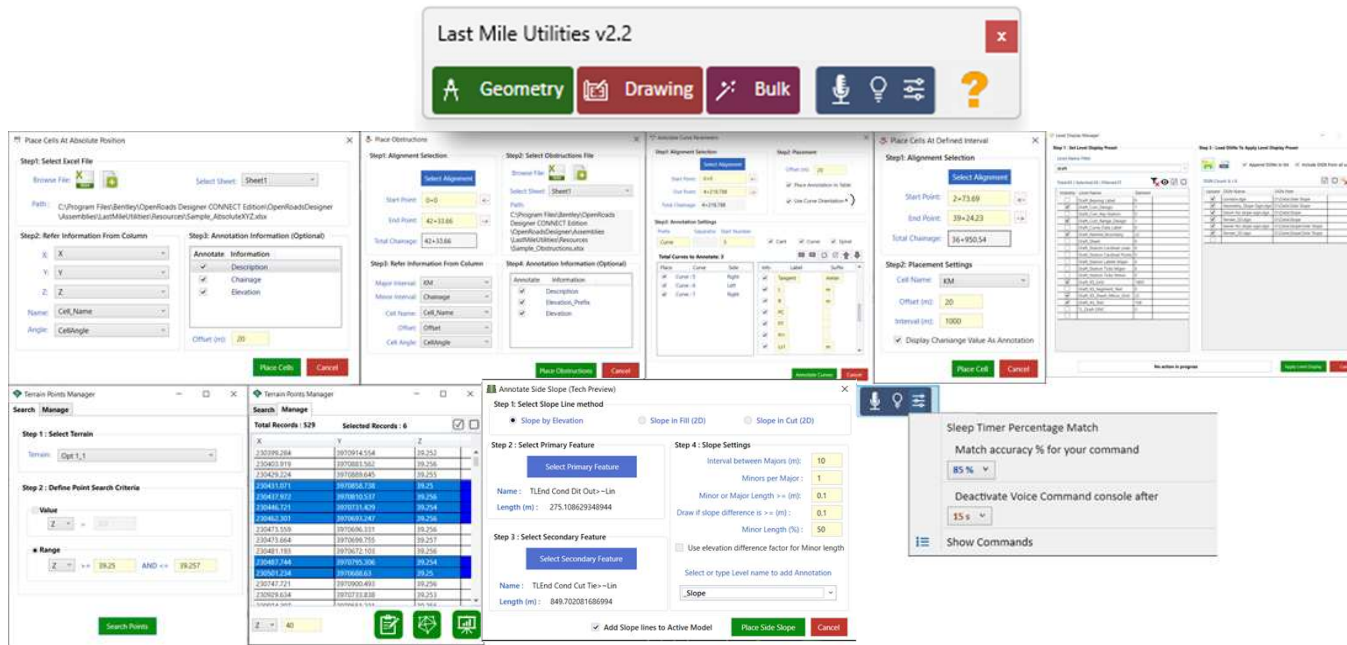


LastMile Utilities v2.2

Bentley®

© 2026 Bentley Systems, Incorporated

Help Topics



[Overview](#)



[Installation](#)



[Feature List](#)

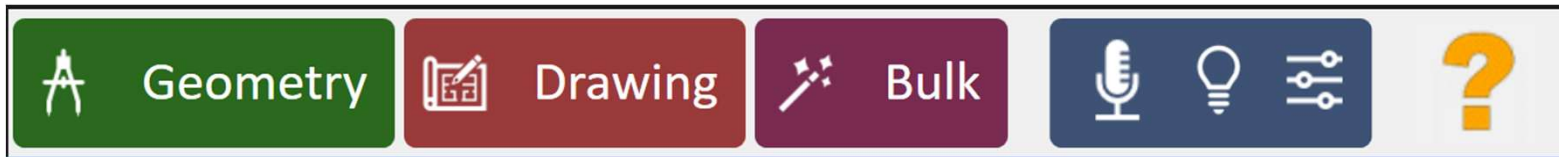


[Videos](#)



[Downloads](#)

LastMile Utilities Plug-In



- It is a C#.net based MDL Plug-In for OpenRoads, OpenRail Designer, MicroStation etc.
- Its built using SDKs from MicroStation, OpenRoads & OpenRail
- It has utility tools which could help user with Drawing production, run bulk operation, working with terrain, use voice commands for quick actions etc.
- It works on Connect edition application only (any version)
- Tools are arranged in various menus & in future more tools would be added
- It's a plug & play utility & needs no extra libraries or supporting files
- There are various videos available on the LastMile Utilities page to explain functionality of each tool

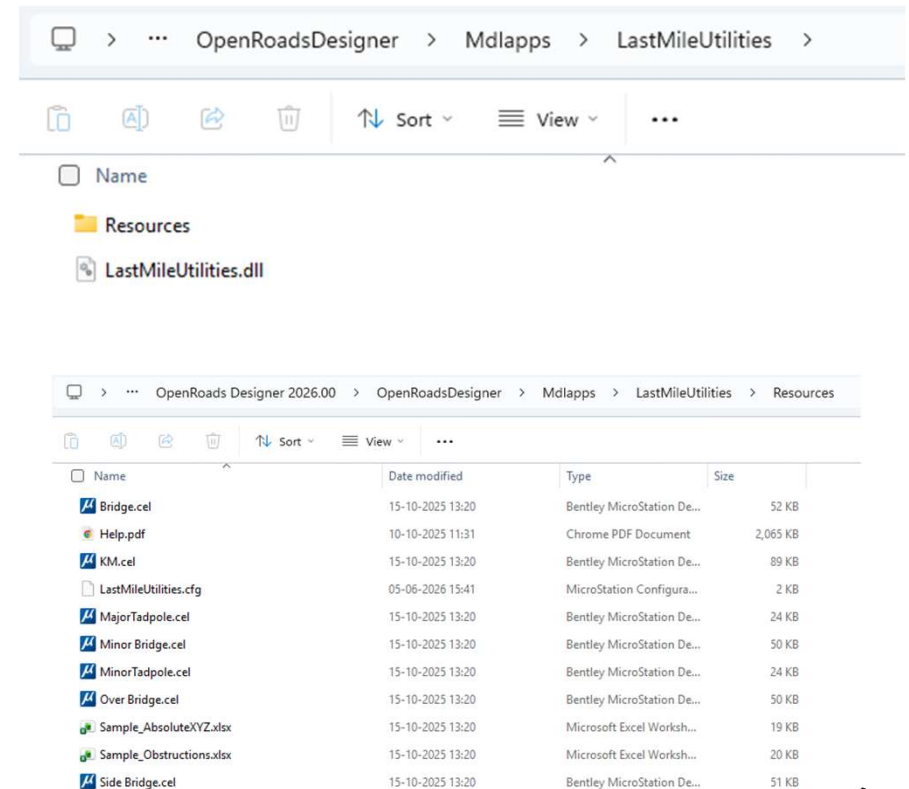
LastMile Utilities tools

1. **Place Cells at Absolute Position**
 - Places cells at XYZ position mentioned in Excel file
2. **Place Cells at Defined Interval**
 - Places a specific cell at interval along selected alignment
3. **Place Obstructions**
 - Places cells along selected alignment using information read from Excel and annotate them
4. **Annotate Curve Parameters**
 - Adds Text annotation to number Curves, Cant and Spirals present in selected alignment
5. **Terrain Points Manager**
 - Search & Update Terrain points with respect to X, Y or Z attribute
 - Generate Terrain Points report
6. **DGN Model Exporter**
 - Writes Model, Sheet or Drawing model to separate .dgn file
7. **Voice Command Console**
 - Automate running “Key-Ins” using Voice Commands.
 - Inbuilt set of commands which can be modified as per requirement from user
8. **Side Slope Annotation**
 - Adds slope indicator(line or cell) between two selected lines
9. **Level Display Manager**
 - Copies Display property form current DGN file levels to selected DGN files

Step1: Download & Installation

[LastMileUtilities page on Bentley Community](#)

- Download utility zip file from Community Website & save to your local machine
- Unzip & Save the utility folder under **MdlApp** directory of Design Application
 - **For Ex.** C:\Program Files\Bentley\OpenRoads Designer 2026.00\OpenRoadsDesigner\Mdlapps
- You can store LastMileUtilities folder at any path you want. But please update the config file as mentioned in **Step2**
- Please make sure that folder has .dll file and Resource folder in it
- Resource folder contains Help document, sample Cell, Excel files & **Config file**



Step2 : Edit Config File

- Change variable "[LastMileUtilities_Location](#)" to path where you want to store **LastMileUtilities** application folder
- Save the file & move the LastmileUtilities.cfg file at the path :
 - C:\Program Files\Bentley\OpenRoads Designer 2026.00\OpenRoadsDesigner\config\appl
- Every time when your OpenRoads instance starts, it will load the LastMileUtilities
- After changing the config file, Please restart OpenRoads / OpenRail application

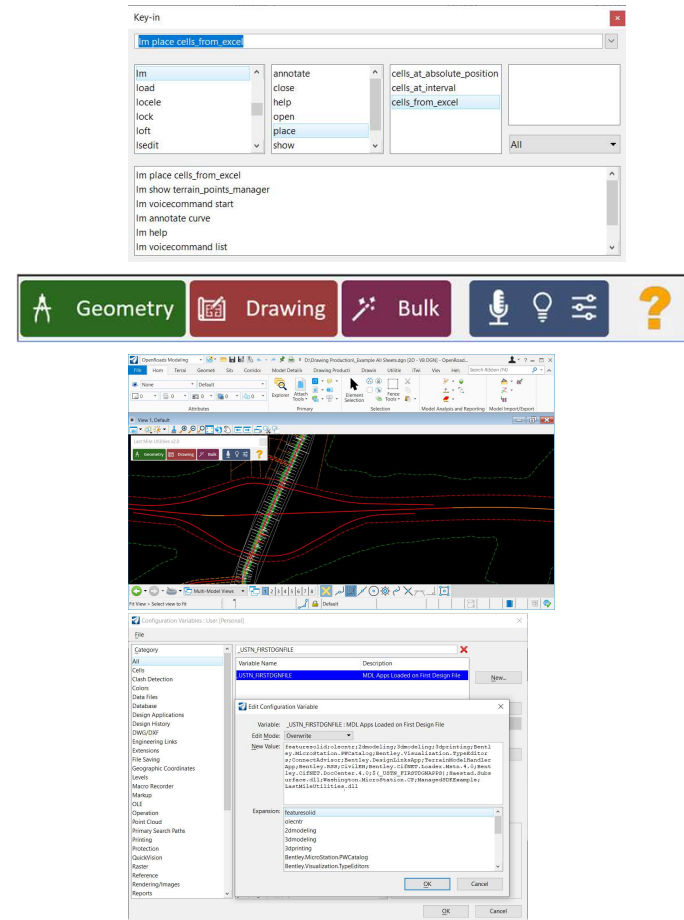
```
#=====
# LASTMILEUTILITIES_LOCATION - USER CHANGE MAY BE REQUIRED
#=====

LASTMILEUTILITIES_LOCATION = C:\Program Files\Bentley\OpenRoads Designer 2026.00\OpenRoadsDesigner\Mdlapps\

%if exists ($(LASTMILEUTILITIES_LOCATION)LASTMILEUTILITIES\LASTMILEUTILITIES.dll)
#=====
# CIVILDGNCHECKER_LOCATION Application - DO NOT CHANGE
#=====
# LASTMILEUTILITIES_LOCATION defines the location where the dgnlib and dll files
# used by MicroStation and OpenRoads Designer for customized workflows and actions
#
# MS_ADDINPATH defines the location of the application (dll file).
# MS_ADDIN_DEPENDENCYPATH defines the location of other required SignCAD files.
# MS_DGNAPPS loads the application for use.
MS_ADDINPATH                > $(LASTMILEUTILITIES_LOCATION)LASTMILEUTILITIES\
MS_DGNAPPS                   > LASTMILEUTILITIES.dll
#=====
# OpenRoads SignCAD To DGN Ribbon Menu - DO NOT CHANGE
#=====
# MS_GUIDGNLIBLIST loads the CIVIL DGN CHECKER_LOCATION ribbon menu.
# MS_GUIDGNLIBLIST > $(LASTMILEUTILITIES_LOCATION)LASTMILEUTILITIES\Resources\LASTMILEUTILITIES.dgnlib
%endif
```

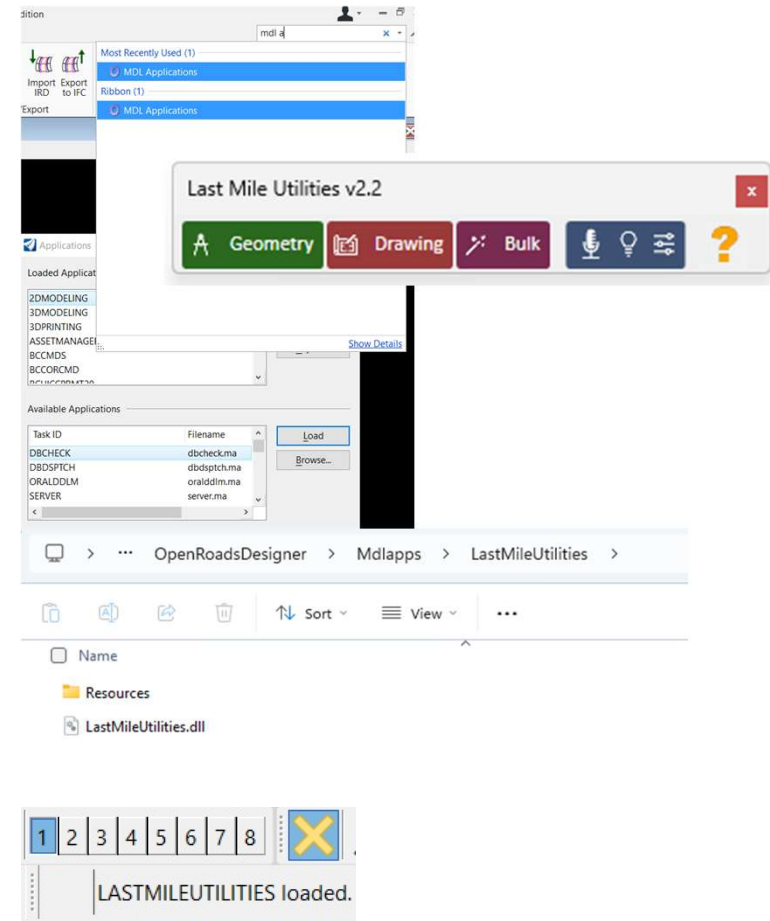
Step3: Run the Application

- Open KeyIn Windows & run Key-In: LM Open
- This would open a Floating Toolbar
- Dock it to bottom/top of your application if required
- To avoid loading this MDL each time you open your application, you can add "LastMileUtilities.dll" to the config variable _USTN_FIRSTDGNFILE



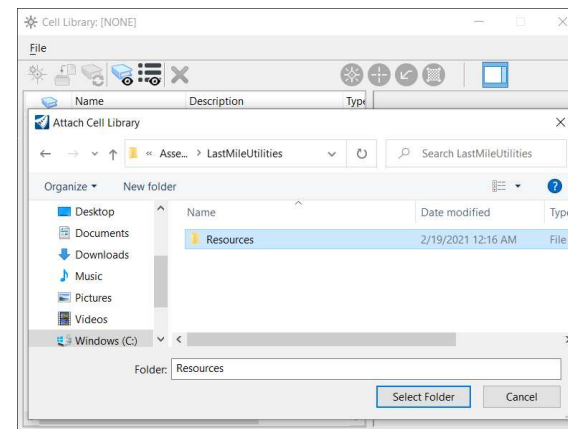
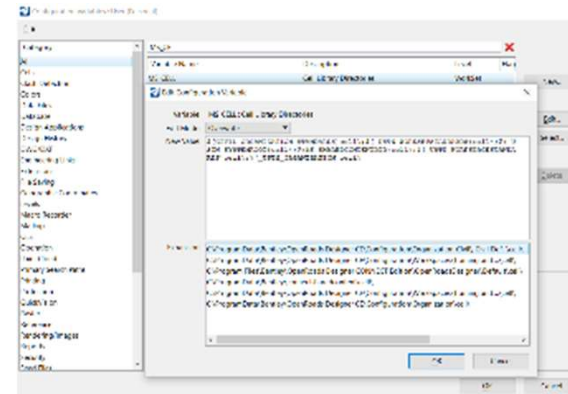
Step4: Troubleshooting

- In case, KeyIn doesn't get open for some reason please do following steps
 - Search "[MDL Application](#)" in Search Ribbon on right top
 - It would open the Application window
 - "Browse" to the "LastMileUtilities.dll" file in your folder & Click OK
 - Please make sure you get success message at the Status bar as shown here
- If you face any problem loading MDL successfully, here are few action items:
 - Please add "LastMileUtilities" folder path in configuration variable "MS_ADDINPATH" and then try MDL Load again
 - Add-in is not trusted: Check the LastMileUtilities.dll file properties and click Unblock if the option is there [Unblock DLL](#)
 - Please make sure you are not using unsupported v8i version of OpenRoads application as it's not supported
 - Please make sure path you are putting the MDL has full access to your logged in account
 - Please make sure you have latest version of OpenRoads/OpenRail Designer



Tip: Loading Cell libraries

- Cell library files are required to place Cell entity in a model for tools:
 - Place Cells At Absolute Position
 - Place Cells At Defined Interval
 - Place Obstructions
- User can modify Configuration Variable “MS_CELL” with path where .cel files are present. You can file it at: “File->Settings->Configuration”
- Doing so there is no need to manually Load Cell each time tool is run
- If sometime tool fails to place any Cell, please load Cell Library file using Cell Library dialog, set it active and try again. You can find it at: “OpenRoads Modeling -> Drawing -> Primary -> More”



Available tools in current version

Note: Video of all the tools can be accessed through [LastMileUtilities community page](#)



Geometry

- Place Cells at Absolute Position
- Place Cells at Defined Interval
- Place Obstructions from Excel File
- Terrain Points Manager



Bulk

- DGN Models Exporter
- Level Display Manager



Drawing

- Annotate Curve Parameters
- Side Slope Annotation



- All Voice Command Console options



Place Cells At Absolute Position

Create new Excel file with valid format



Select Excel file to read placement and annotation details

Selected Excel Path (Double click to Open Folder)

Map fields from Excel Sheet for placement related actions

XYZ Place Cells At Absolute Position

Step1: Select Excel File

Browse File:  

Select Sheet: Sheet1

Path: C:\Program Files\Bentley\OpenRoads Designer CONNECT Edition\OpenRoadsDesigner\Assemblies\LastMileUtilities\Resources\Sample_AbsoluteXYZ.xlsx

Step2: Refer Information From Column

X: X
Y: Y
Z: Z
Name: Cell_Name
Angle: CellAngle

Step3: Annotation Information (Optional)

Annotate	Information
<input checked="" type="checkbox"/>	Description
<input checked="" type="checkbox"/>	Chainage
<input checked="" type="checkbox"/>	Elevation

Offset (m): 20

Place Cells Cancel

Select sheet from Excel which has valid data

If Checked, Annotate additional information from Excel sheet

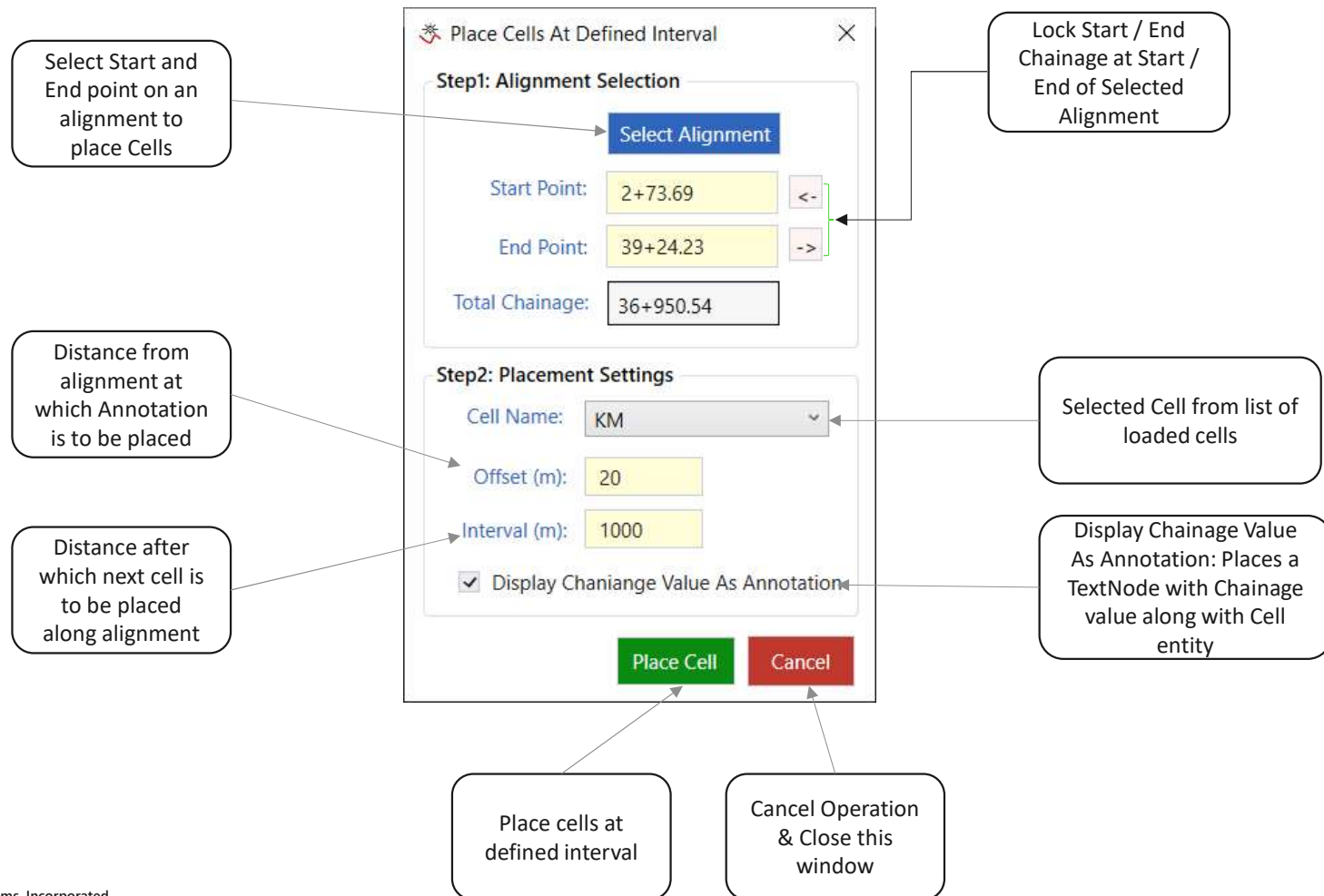
Offset distance from Cell at which Annotation is to be placed

Select sheet from Excel which has valid data

Cancel Operation & Close this window

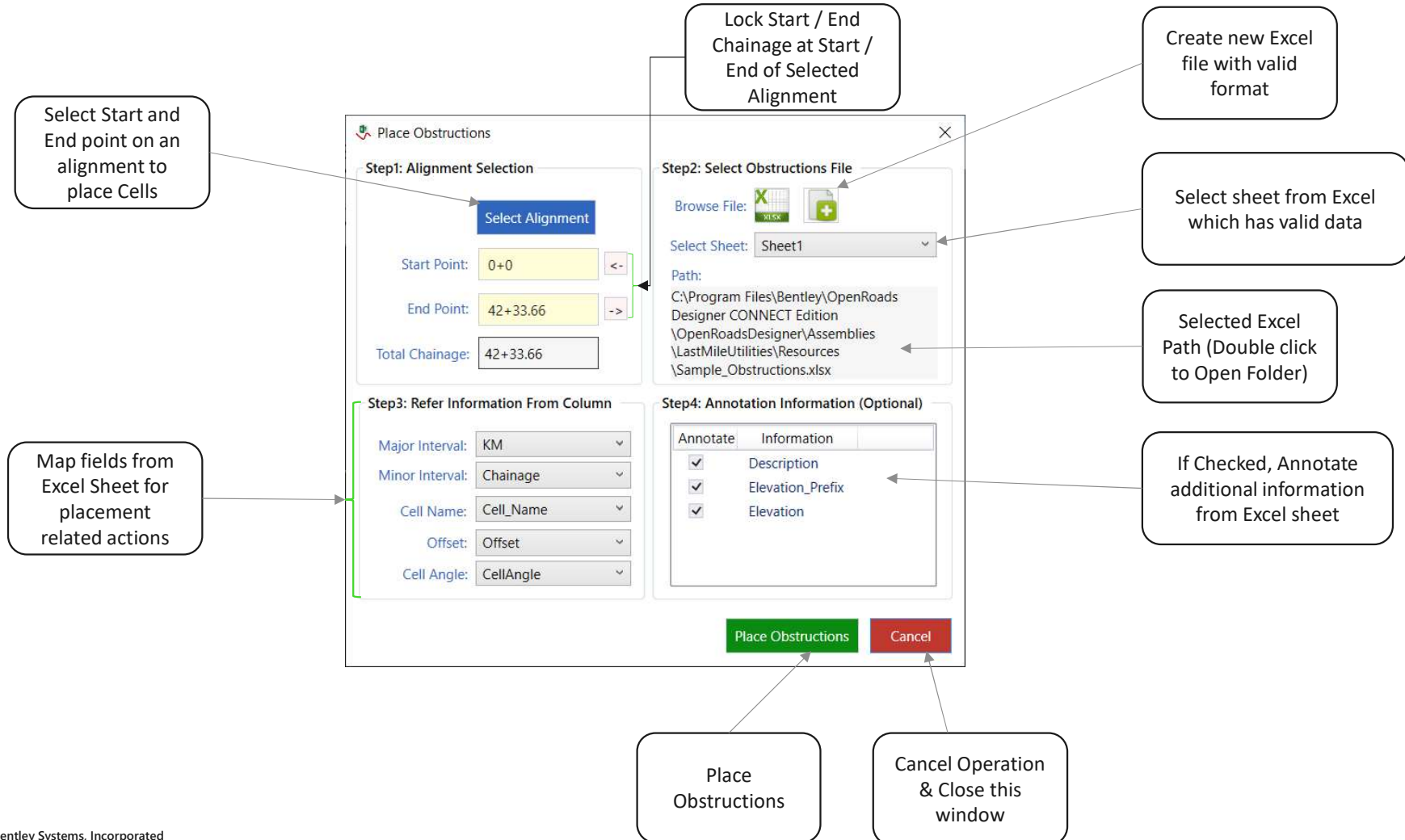


Place Cells Defined Interval



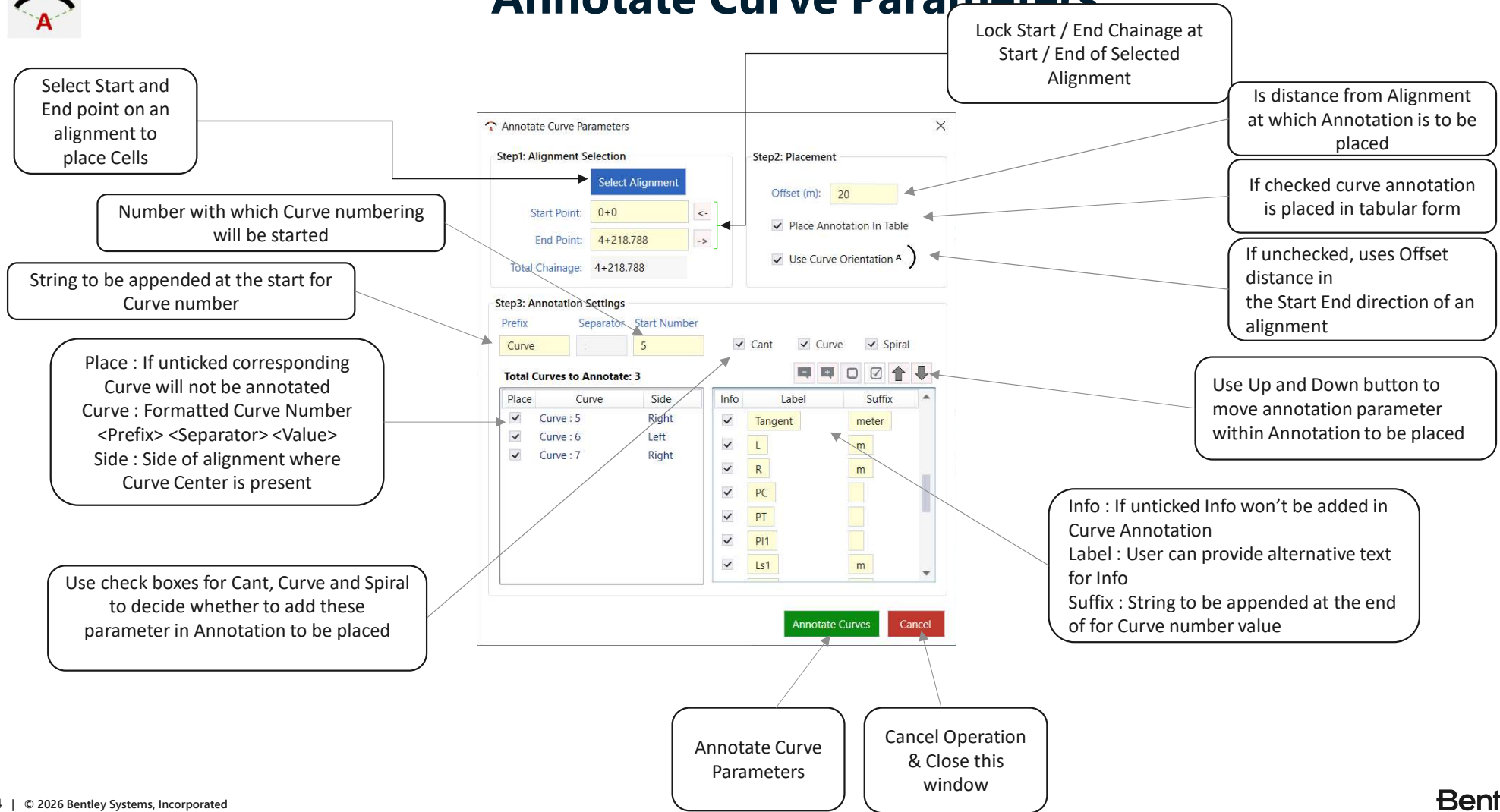


Place obstructions





Annotate Curve Parameters





DGN Model Exporter

The screenshot shows the DGN Model Exporter dialog box with three steps: Step 1: Define Criteria, Step 2: Select Items To Export, and Step 3: Export. Annotations point to various UI elements and their functions.

Step 1: Define Criteria

- Select Type:** Radio buttons for Design, Drawing (selected), and Sheet.
- Model Name Contains:** A text input field with a yellow highlight and a magnifying glass icon.
- Search DGN Models:** A blue button.

Step 2: Select Items To Export

Candidate Count: 113 / 113

Select	Name	Group
<input checked="" type="checkbox"/>	LondonRd - Plan 1	1 - Group
<input checked="" type="checkbox"/>	LondonRd - Plan 2	1 - Group
<input checked="" type="checkbox"/>	LondonRd - Plan 3	1 - Group
<input checked="" type="checkbox"/>	LondonRd - Plan 4	2 - Group
<input checked="" type="checkbox"/>	LondonRd - Plan 5	2 - Group
<input checked="" type="checkbox"/>	LondonRd - Plan 6	2 - Group
<input checked="" type="checkbox"/>	LondonRd - Plan 7	7
<input checked="" type="checkbox"/>	LondonRd - Plan 8	8
<input checked="" type="checkbox"/>	LondonRd - Plan 9	9
<input checked="" type="checkbox"/>	LondonRd - Profile 1	10

Step 3: Export

- Output Directory:** A folder icon next to the path D:\Drawing Production \Drawing_2021-04-14_10-34-10.
- Delete exported models from current DGN file:** A checkbox.
- Buttons:** Start Process (green) and Cancel (red).
- Status:** No action in progress.

Either Model, Sheet or Drawing entity

Lists the items satisfying Criteria defined

Use check boxes under 'Select' column to select items that needs to be exported to .dgn file

Select the output folder where all .dgn files are to be exported. Current .dgn file directory is set as default folder for Output directory.

Create a folder inside output directory with timestamp string

Whether to maintain reference object in original .dgn file from which Export operation is performed

Filter with sub string present in entity name

Resets the Type and Name filter

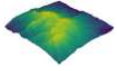
Select all items present in list view. Makes all items as candidate for Export operation. Un-select all items in list view

Group two or more items to be exported in same .dgn file. Along with button user can use key 'G'/'g' to create group

Remove item/s from respective group. Group is eliminated if only one item is left in group. Along with button user can use key 'U'/'u' to create group.

Starts Export operation

Cancel Operation & Close this window



Terrain Points Manager

Select a terrain from available list of terrains in active file

Select either X, Y or Z attribute of Terrain point to compare with Less than equal to value entered

Select either X, Y or Z attribute of Terrain point to compare with Min and Max value range entered

Performs search operation with criteria defined

Select or unselect all records

List showing Terrain points matching search criteria

Enter Appropriate Numeric value for updating co-ordinate dimension

Update selected records in the list with given value

Re-triangulate terrain with updated records from the list

Create an Excel file with updated terrain points

The screenshot shows the 'Terrain Points Manager' application with two windows. The left window is in 'Search' mode, showing 'Step 1: Select Terrain' with a dropdown menu set to 'Opt 1_1'. 'Step 2: Define Point Search Criteria' has two options: 'Value' (set to Z = 0.0) and 'Range' (set to Z between 39.25 and 39.257). A green 'Search Points' button is at the bottom. The right window is in 'Manage' mode, showing a table of 529 total records with 6 selected. The table has columns X, Y, and Z. Below the table is a 'Z' dropdown set to 40 and three icons: a clipboard, a wireframe, and a bar chart. Callouts point to various elements: 'Select a terrain from available list of terrains in active file' points to the 'Terrain' dropdown; 'Select either X, Y or Z attribute of Terrain point to compare with Less than equal to value entered' points to the 'Value' search criteria; 'Select either X, Y or Z attribute of Terrain point to compare with Min and Max value range entered' points to the 'Range' search criteria; 'Performs search operation with criteria defined' points to the 'Search Points' button; 'Select or unselect all records' points to the check/uncheck icons; 'List showing Terrain points matching search criteria' points to the table of selected records; 'Enter Appropriate Numeric value for updating co-ordinate dimension' points to the 'Z' dropdown; 'Update selected records in the list with given value' points to the clipboard icon; 'Re-triangulate terrain with updated records from the list' points to the wireframe icon; and 'Create an Excel file with updated terrain points' points to the bar chart icon.

X	Y	Z
230399.284	3970914.554	39.252
230403.919	3970883.562	39.256
230429.224	3970889.645	39.255
230431.071	3970858.738	39.25
230437.972	3970810.537	39.256
230446.721	3970731.429	39.254
230462.301	3970693.247	39.256
230473.559	3970696.331	39.256
230473.664	3970699.755	39.257
230481.193	3970672.103	39.256
230487.744	3970795.306	39.254
230501.234	3970688.63	39.25
230747.721	3970900.493	39.256
230929.634	3970733.838	39.253
230974.207	3970551.231	39.256



Side Slope Annotation

Annotate Side Slope (Tech Preview)

Step 1: Select Slope Line method

☒ Slope by Elevation ☐ Slope in Fill (2D) ☐ Slope in Cut (2D)

Step 2: Select Primary Feature

Select Primary Feature

Name: TLEnd Cond Dit Out>~Lin
Length (m): 275.108629348944

Step 3: Select Secondary Feature

Select Secondary Feature

Name: TLEnd Cond Cut Tie>~Lin
Length (m): 849.702081686994

Step 4: Slope Settings

Interval between Majors (m): 10
Minors per Major: 1
Minor or Major Length >= (m): 0.1
Draw if slope difference is >= (m): 0.1
Minor Length (%): 50
☐ Use elevation difference factor for Minor length
Select or type Level name to add Annotation
_Slope

☒ Add Slope lines to Active Model

Place Side Slope Cancel

Select Slope Annotation method for 3D or 2D lines

Click & Select
Secondary feature

Click & Select
Primary feature

Name & Length of
Primary Feature Line

Click & Select
Secondary feature

Name & Length of
Secondary Feature Line

Distance between 2 Major lines

No. of Minor lines between Major Lines

Minimum distance to draw Major or Minor
Line

Minimum elevation difference to draw Slope line

Length % of Minor Lines as compared to
Major line

If checked, Program would analyze elevations
between 2 lines & draw Minor Lines of length
proportionate to the difference in elevations

Select which model to
draw annotation Active
Model or Model of
Selected Element

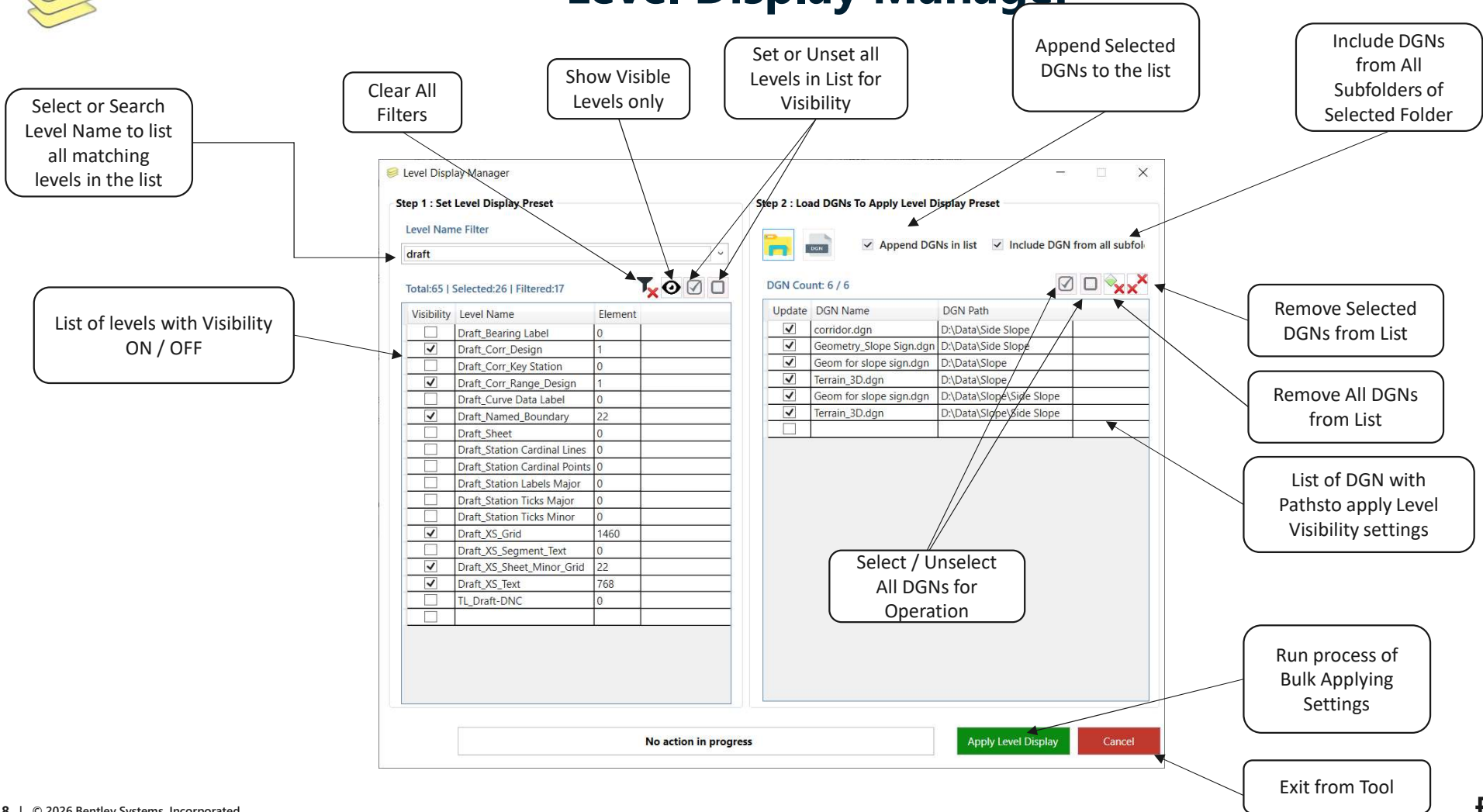
Start placement of Major
& Minor Annotations lines
using Active Line Style

Exit from Tool

Select or Type new Level Name to
store Major & Minor Lines

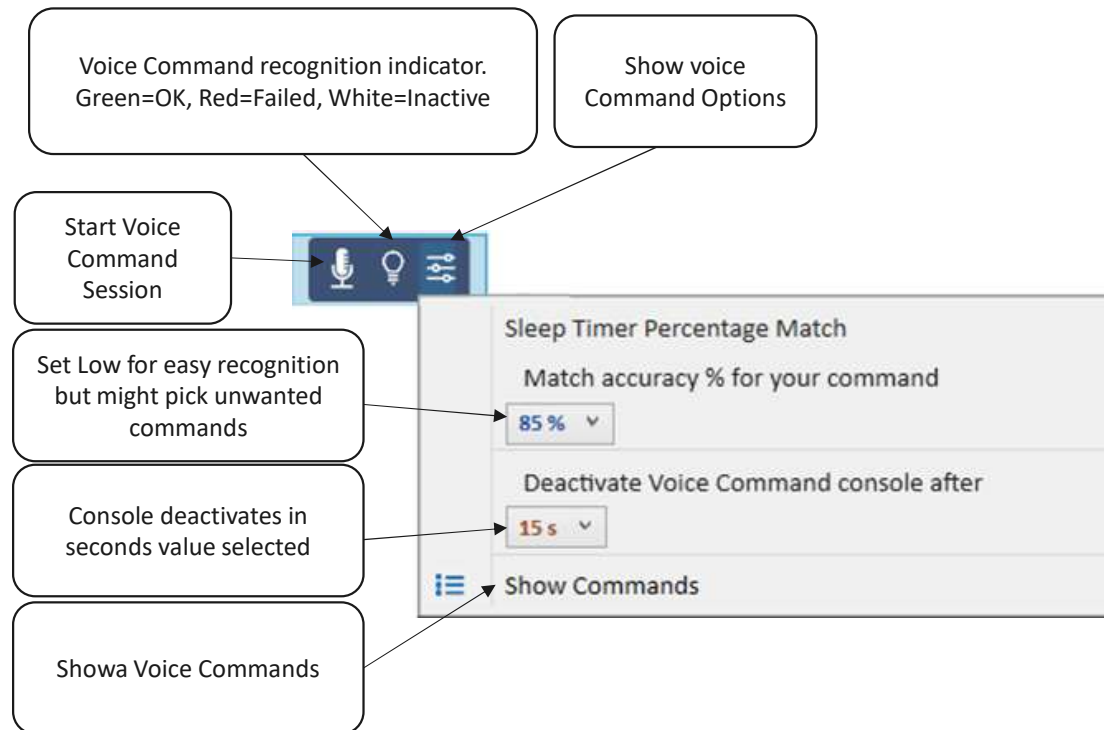


Level Display Manager





Voice Command Console



What is “Voice Command Console”?

- It's a utility which works on any MicroStation based design application for ex. OpenRoads, OpenBridge, OpenPlant etc.
- You can give Voice Commands for all generally used key-In tasks like Zoom in, Zoom Out Pan, Attach Reference, Show Model Annotation etc. & many more commands
- Application listens to your commands & upon matching, it performs the Key-In action in the background
- You can save lot of time clicking on various options while working
- You can anytime put-on Sleep or Close commands console
- You can also add your commands along with Key-In action & it would perform the action for you the next moment

How to use “Voice Command Console”?

- Click on the “Start Voice Command” for application to start listening to your commands
- Upon identifying command successfully, it would speak back
- To know more about how commands should be given properly, Open Help Window and Double click on Command. Try to speak in the same way. (Use Voice Command: Show Commands)
- Commands are categories in various operation, please try to run it most of them to understand how it works
- You can set the % accuracy for matching commands. Higher the accuracy it would not misunderstand your command. Lower the accuracy, it might pick up unwanted commands. Please set the accuracy as per your experience of Voice Commands.
- Command console automatically deactivates after 15 seconds (configurable) to avoid listening to command accidentally.
- You can make Voice Command mode Sleep by saying Command “Take a break”. It would not listen to any commands accidentally in sleep mode.
- To activate console, you can say : “**Hello**”
- Voice Command Console would not take any action in Sleep mode. It would give warning when user gives 10 correct Voice Commands.
- To stop Voice Command Console, say: “**Stop Voice Command**”

Tips & Tricks for Voice Command Console

- Train speech engine on your machine with your voice for better result. Type "Speech Recognition" in windows search box to open the settings dialog.
- If some commands are not getting identified for your voice you can change those commands to any other text to make it work for you from the Voice Command Help Window.
- For ex. Fit view" command can be changed to "Fit All" if you wish

Application:	Category:	Command:	Response:
MicroStation	Navigation	Click Reset	Reset Complete
MicroStation	Navigation	Fit View	K
MicroStation	Navigation	Move Down	K
MicroStation	Navigation	Move Left	K

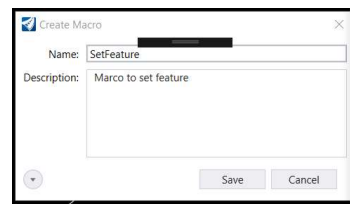
Application:	Category:	Command:	Response:
MicroStation	Navigation	Fit All	K

Key-In: Fit View Extended

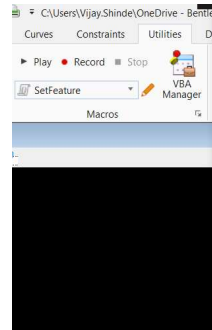
Buttons: Add, Update, Reset, Delete

Tips & Tricks for Voice Command Console

- To know more about how commands should be given properly, Open Help Window and Double click on Command. Try to speak in the same way
- Commands are categorized in various operation, please try to run few basic commands to understand how it works
- You can record set of Actions in a Macro using command: Begin Recording Macro > Execute you actions which you want to repeat > End Recording Macro



Microstation	Annotation	Set Scale Two Thousand	Scale Updated To 2000	MODEL SET ANNOTATIONSCALE 2000
Microstation	Annotation	Set Scale Two Thousand Five Hundred	Scale Updated To 2500	MODEL SET ANNOTATIONSCALE 2500
Microstation	Annotation	Show Model Annotation	Showing Model Annotation	GEOMETRY ANNOTATE BULKXy=-1000,-1000
Microstation	File	Attach Reference	Attaching Reference	Attach Reference
Microstation	File	Begin Recording Macro	Macro Recording Started	MACRO RECORD START
Microstation	File	Compress Design	Compressing Design File	Compress Design
Microstation	File	End Recording Macro	Macro Recording Stopped	MACRO RECORD STOP
Microstation	File	Export DWG	Saving As DWG	Export DWG
Microstation	Navigation	Choose Element	K	CHOOSE ELEMENT
Microstation	Navigation	Click Data	Datapoint Complete	Buttonaction Data



Microstation	File	Attach Reference	Attaching Reference	Attach Reference
Microstation	File	Begin Recording Macro	Macro Recording Started	MACRO RECORD START
Microstation	File	Compress Design	Compressing Design File	Compress Design
Microstation	File	End Recording Macro	Macro Recording Stopped	MACRO RECORD STOP
Microstation	File	Export DWG	Saving As DWG	Export DWG
Microstation	File	Play My Recording	Set Feature	MACRO PLAY SETFEATURE
Microstation	Navigation	Choose Element	K	CHOOSE ELEMENT
Microstation	Navigation	Click Data	Datapoint Complete	Buttonaction Data
Microstation	Navigation	Click Reset	Reset Complete	Buttonaction Reset
Microstation	Navigation	Fit View	K	Fit View Extended
Microstation	Navigation	Move Down	K	Move Up 0.1Xy=-1000,-1000

Application: ☒ MicroStation ☐ OpenRoadsDesigner

Category:

Command:

Response:

Key-In:

Buttons: Add, Update, Reset, Delete

How to Add / Edit Voice Commands

- Find out a MicroStation Key-In for commands you want to add in the Command List
- Open Command Help Window
- At the bottom, there are textboxes to enter : Category, Voice Command, Response & Key In
- After filling all textboxes, click on button: ADD
- You can Update existing commands or Delete unwanted commands
- Please take back up of : ..\LastMileUtilities\MicroStation.vc and ..\LastMileUtilities\OpenRoadsDesigner.vc before changing commands, so that you can roll back changes
- Please make sure that while you add commands externally(by editing .vc file) the Help form should not be opened. Else your externally modified file will be replaced by commands currently read into Voice Commands console.
- In this case, You need to speak : Choose Element & MicroStation Key-In would be triggered automatically

<< AppData > Local > Bentley > LastMileUtilities

Name
 Date modified
 Type

MicroStation.vc
 3/31/2021 3:45 PM
 VC File

OpenRoadsDesigner.vc
 3/31/2021 3:45 PM
 VC File

Voice Commands

Application	Category	Command	Response	KeyIn
Microstation	Window	Window Two Toggle	K	View Toggle 2
OpenRoadsDesigner	Workflow	Assign SuperElevation to Corridor	Choose Superlevation & Corridor	CORRIDOR SUPERELEVATION ASSOCIATE;%d;buttonaction res
OpenRoadsDesigner	Workflow	Create Complex Plan	Set necessary parameters	GEOMETRY COMPLEX CREATE BYPI
OpenRoadsDesigner	Workflow	Create Complex Profile	Set necessary parameters	GEOMETRY PROFILE COMPLEX CREATE BYVPI
OpenRoadsDesigner	Workflow	Create Corridor	Choose Baseline	CORRIDOR CREATE
OpenRoadsDesigner	Workflow	Create Named Boundary Plan	Creating Named Boundary In Plan	PLACE NAMEDBOUNDARY CIVILPLAN
OpenRoadsDesigner	Workflow	Create Named Boundary Profile	Creating Named Boundary In Profile	PLACE NAMEDBOUNDARY CIVILPROFILE
OpenRoadsDesigner	Workflow	Create Super Elevation Section	Choose Corridor Or Baseline	GEOMETRY SUPERELEVATION SUPERSECTION CREATE
OpenRoadsDesigner	Workflow	Create SuperElevation Section	Choose Corridor or Baseline	GEOMETRY SUPERELEVATION SuperSection Create
OpenRoadsDesigner	Workflow	Create Template Drop	k	CORRIDOR TEMPLATEDROP CREATE
OpenRoadsDesigner	Workflow	Import Terrain	K	TERRAINMODEL IMPORT FILE
OpenRoadsDesigner	Workflow	Set Active Profile	Choose Plan & Profile Element	GEOMETRY LINEAR3D SETACTIVE
OpenRoadsDesigner	Workflow	Set Active Terrain	Click On Terrain Boundary	GEOMETRY TERRAINMODEL SETACTIVE
OpenRoadsDesigner	Workflow	Set Feature Definition	Choose Baseline	GEOMETRY FEATUREDEFINITION SET
OpenRoadsDesigner	Workflow	Show Corridor Quantity Report	Choose Corridor	CORRIDOR REPORT COMPONENTQUANTITIES
OpenRoadsDesigner	Workflow	Show Cross Section View	Choose Corridor Or Baseline	GEOMETRY CROSSSECTION OPEN VIEW
OpenRoadsDesigner	Workflow	Show Horizontal Report	Choose Baseline	Geometry Report Geometry
OpenRoadsDesigner	Workflow	Show Profile Model	Choose Baseline	View Off 3/View On 3/GEOMETRY PROFILE OPEN VIEW
OpenRoadsDesigner	Workflow	Show Superelevation Diagram	Choose Superelevation Section	GEOMETRY SUPERELEVATION OPEN VIEW
OpenRoadsDesigner	Workflow	Show Template Library	k	CORRIDOR TEMPLATELIBRARY OPEN
OpenRoadsDesigner	Workflow	Show Vertical Report	Choose Baseline	GEOMETRY REPORT PROFILE

Application:
 Category:
 Command:
 Response:

☐ MicroStation
 ☒ OpenRoadsDesigner

Workflow
 Create Complex Plan
 Set necessary parameters

Key-In
 GEOMETRY COMPLEX CREATE BYPI

Add
 Update
 Reset
 Delete

Video Catalogue

Installation

- [Install LM Utilities](#)

Geometry

- [Place Cells at Absolute Position](#)
- [Place Cells at Defined Interval](#)
- [Place Obstructions from Excel File](#)
- [Terrain Points Manager](#)

Drawing

- [Annotate Curve Parameters](#)
- [Side Slope Annotation](#)

Bulk

- [DGNEExporter: Group All Cross-sections in Single DGN](#)
- [DGNEExporter: Split All Sheets Into Individual DGN](#)
- [DGNEExporter: Split DGN Libraries](#)
- [Level Display Manger](#)

Voice Commands

- [How to work with Voice Commands](#)
- [Using Voice Commands for OpenRoads Designer Workflow](#)
- [Using Voice Commands for OpenBridge Designer Workflow](#)
- [Using Voice Commands in OpenPlant Modeler - Piping & Inline component placement](#)
- [Using Voice Commands in OpenPlant Modeler - Equipment Workflow](#)