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To: General Release

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Re: How to Use E57 Format in TopoDOT

Background

The E57 file format is a standardized point cloud format that not only stores the 3D spatial information but other metadata such as calibrated images, laser source or scan positions, etc. Since it is a vendor neutral format it is widely used as to export an entire terrestrial static LiDAR project. For more information visit the ASTM Committee E57 page at <http://www.astm.org/COMMITTEE/E57.htm>

TopoDOT introduced the use of E57 format data in its version 6.0. This document shows step by step how to:

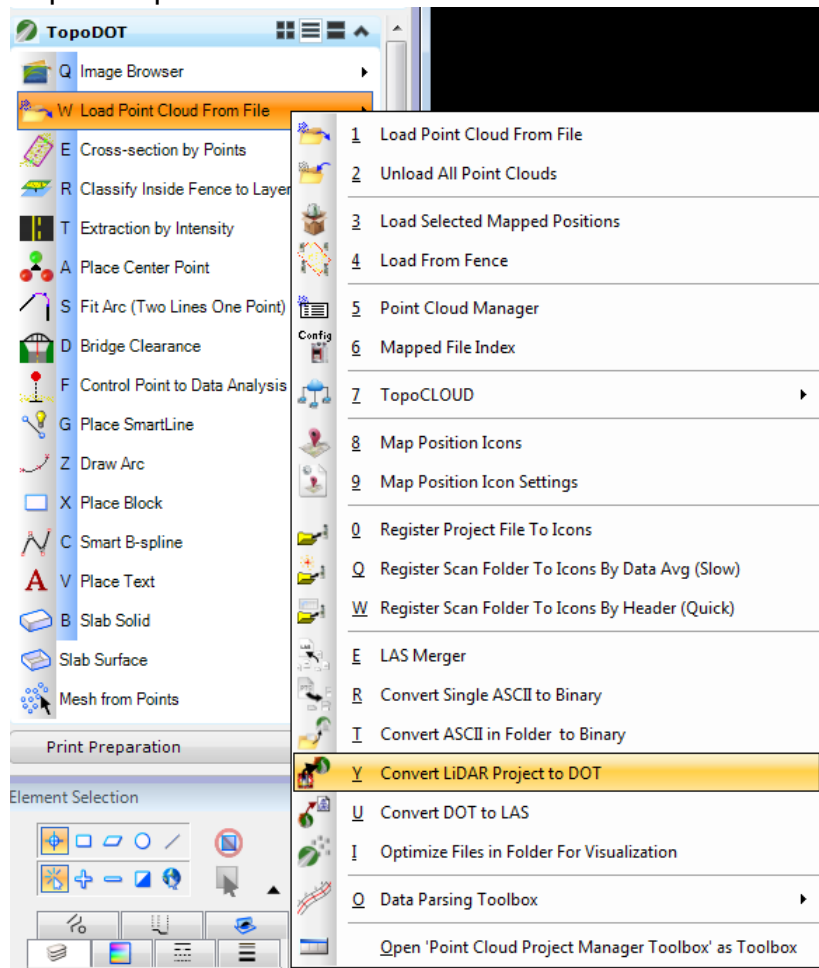
- Convert to DOT format
- Optimize for visualization
- Create a project file from an E57 file or DOT files in TopoDOT
- Load aerial images (optional if project is georeferenced)
- Load scan data from scan positions icons
- Load Images from an E57 file if any

For more information about the individual tools please visit <http://www.certainty3d.com/university/> (log in required)

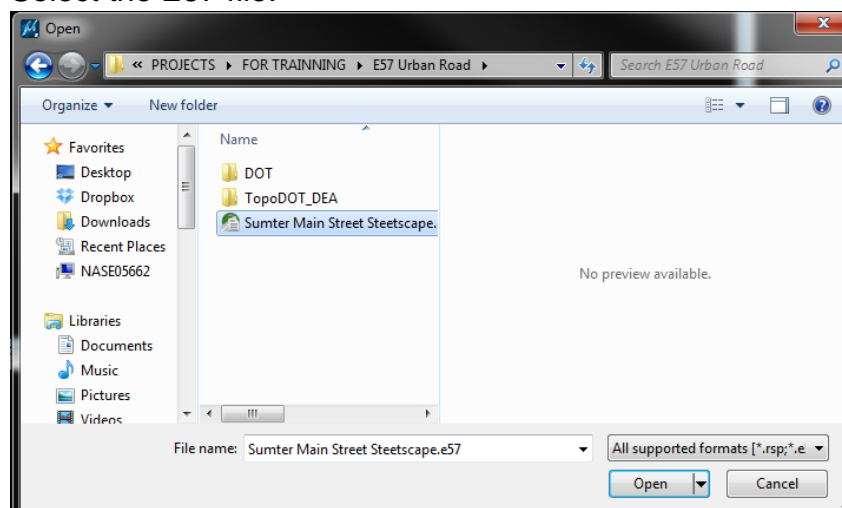
How to use an E57 file in TopoDOT

Steps 1 – 5 Converting E57 file to DOT format (optional for better loading speed)

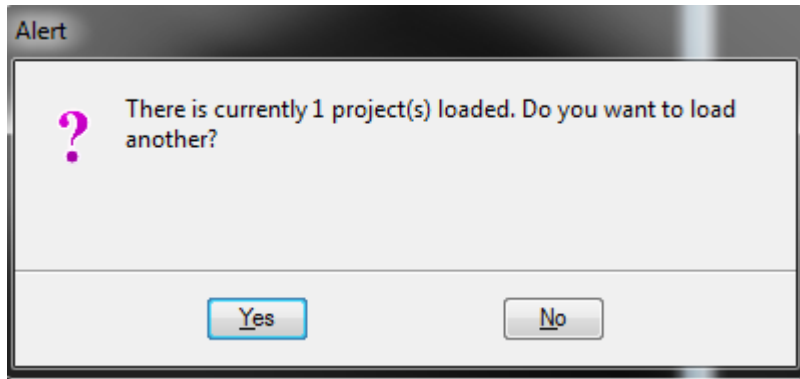
1. Convert the E57 file into DOT using tool WY “Convert LiDAR Project to DOT”. This step is optional, you can follow the same instructions just with the E57 file skip to step 9



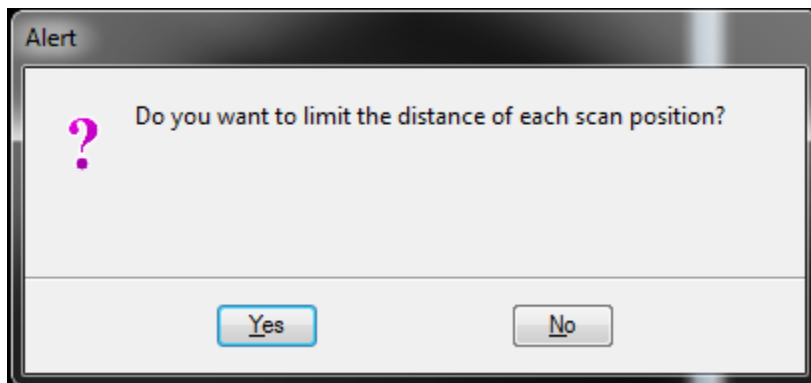
2. Select the E57 file:



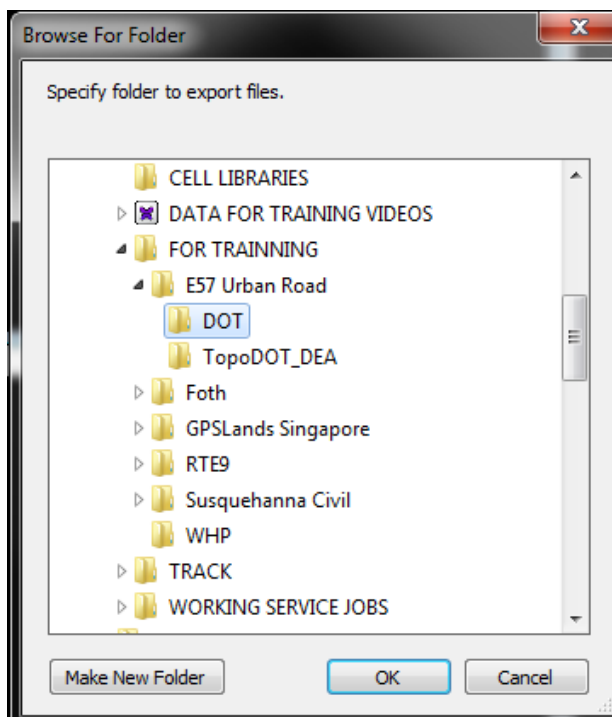
3. Click Yes if you have additional E57 files or No if this is the only E57 file:



4. Select Yes if you'd like to exclude the points after a certain distance around the scan position. (not recommended for linear corridors)

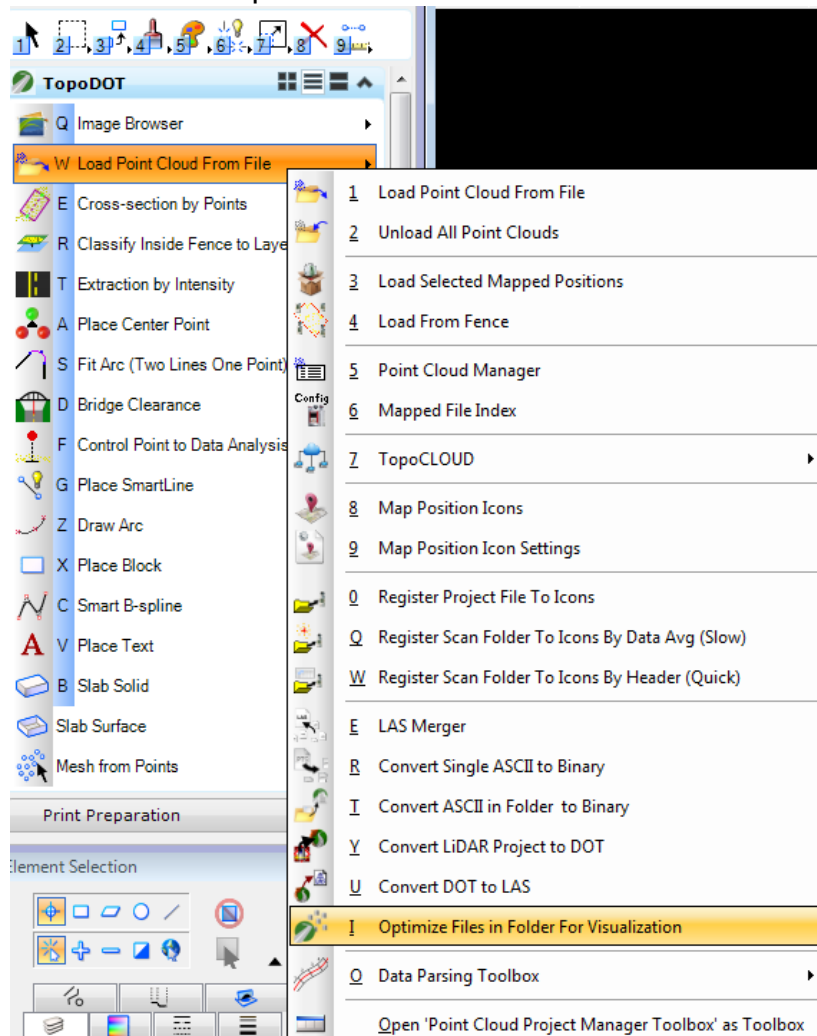


5. Select or create the folder where the new DOT files will be stored at:

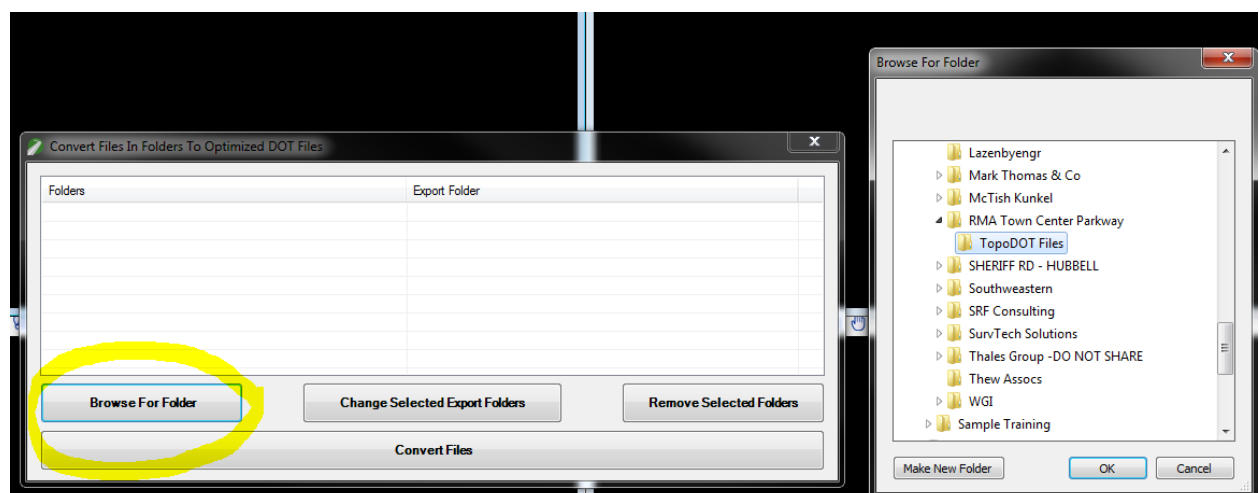


Steps 6 – 8 Optimizing files for visualization (for version 9.5 or newer) (Only for DOT files not available for E57 files)

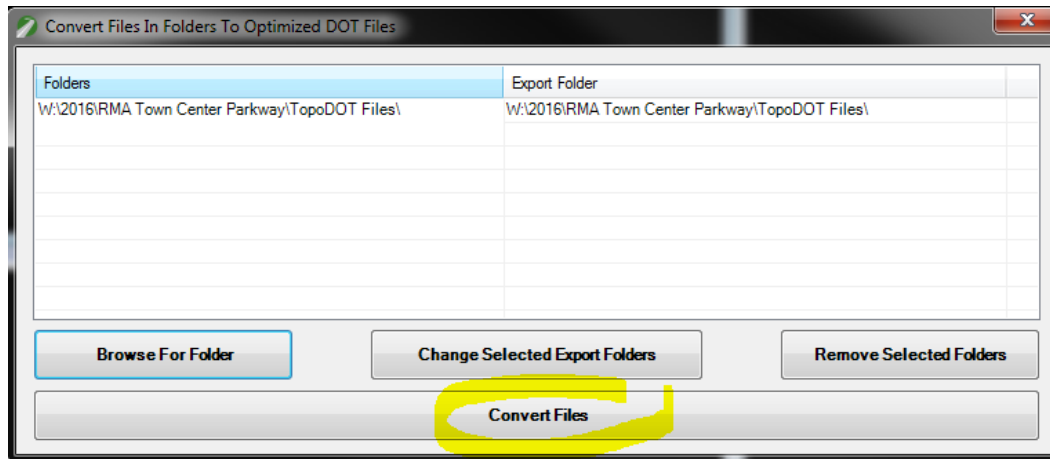
6. Select tool WI “Optimize files in folder for visualization”



7. Click “Browse for Folder” and select folder with DOT files:

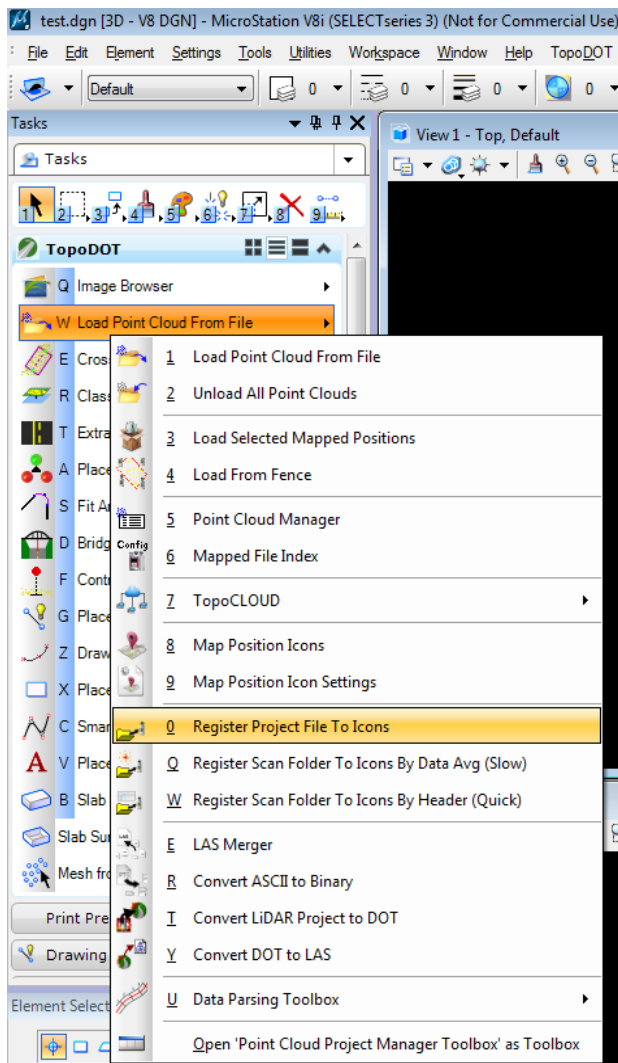


8. Select Convert Files

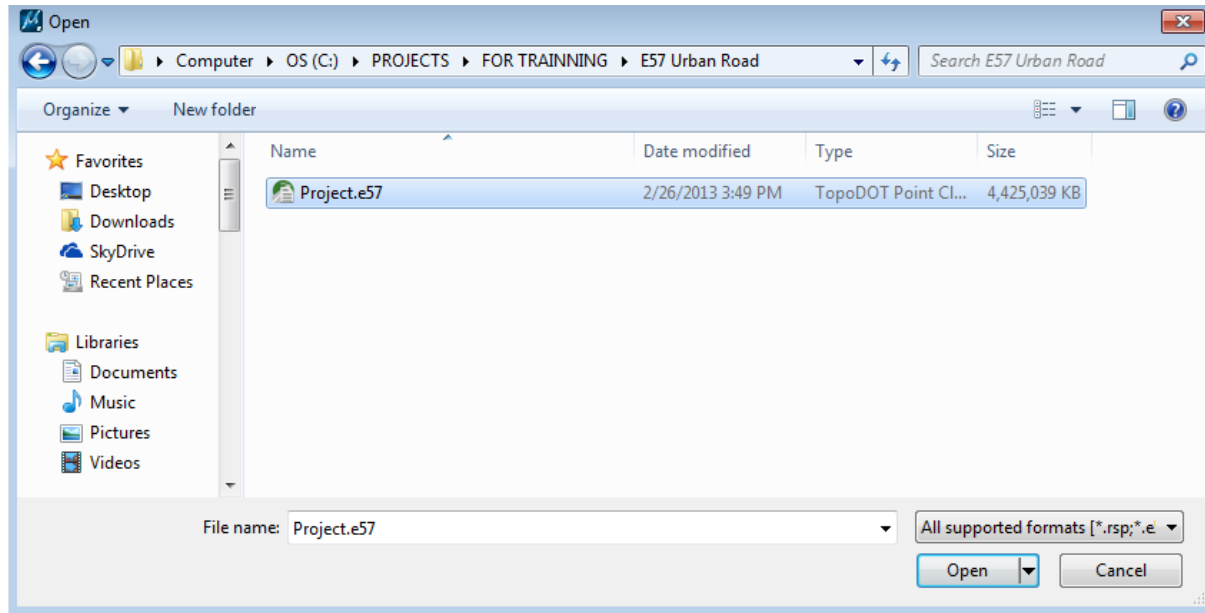


Steps 9 – 14 Mapping the files to load. Start at step 9 for E57 files or 12 for DOT files

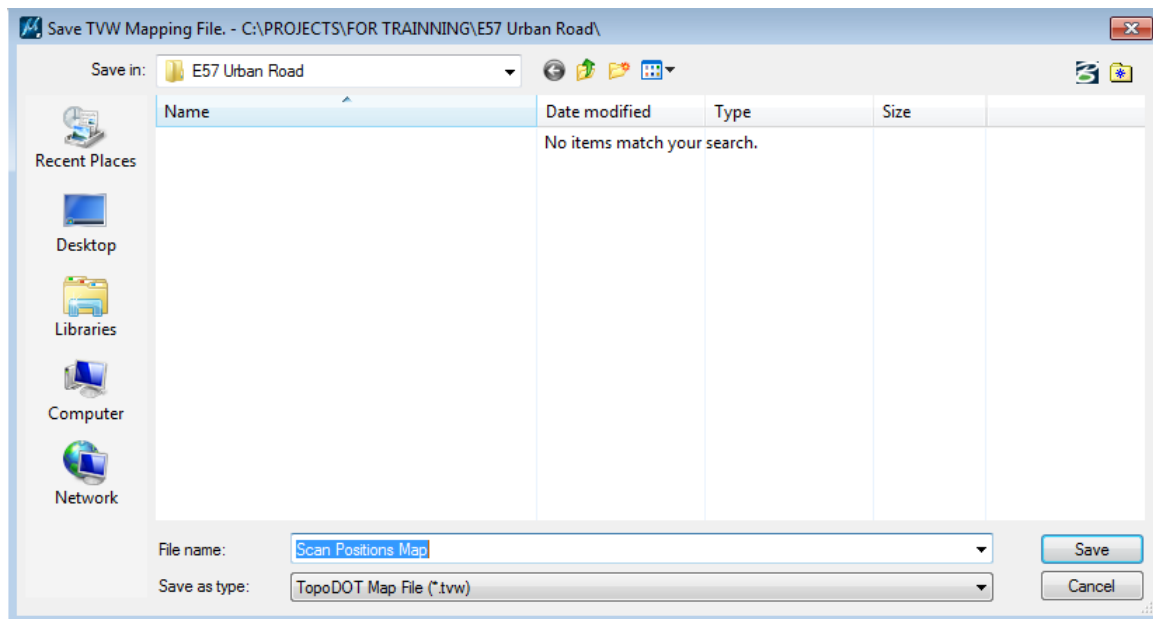
9. If mapping the E57 file(s), go to tool W0 [“Register Project File to Icons”](#).



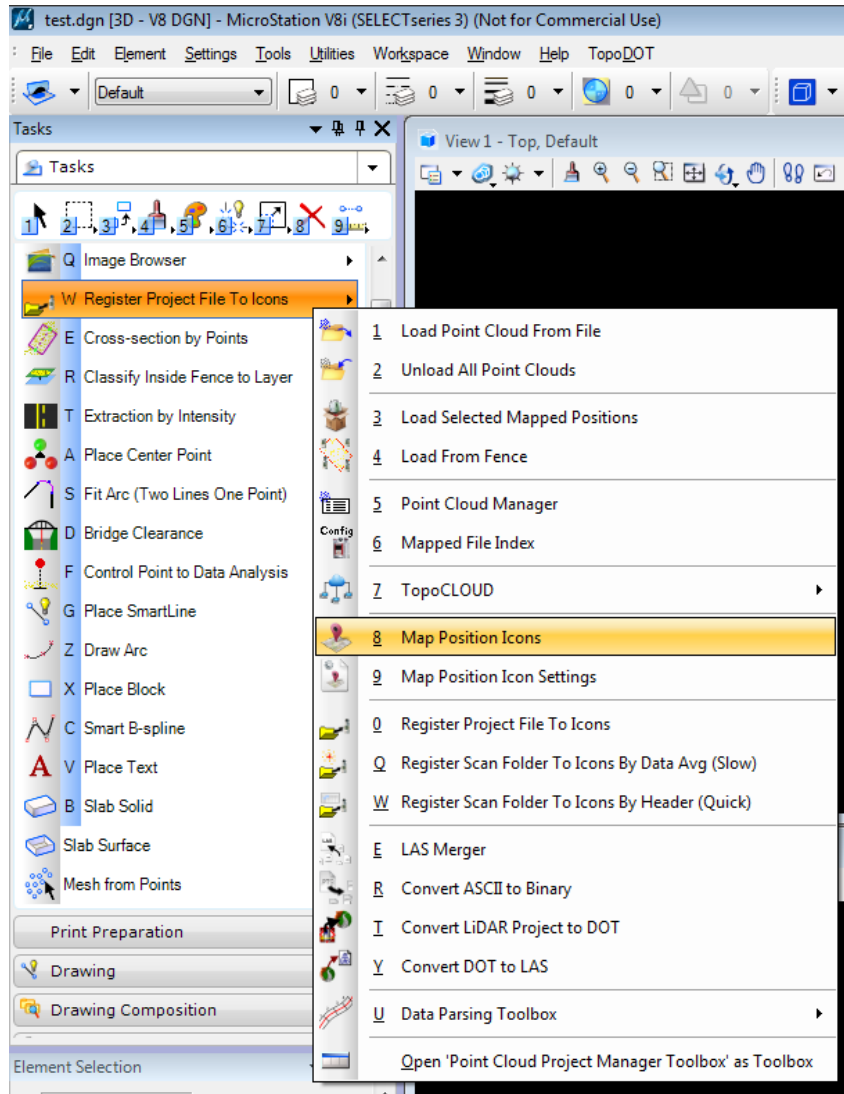
10. Select the E57 file



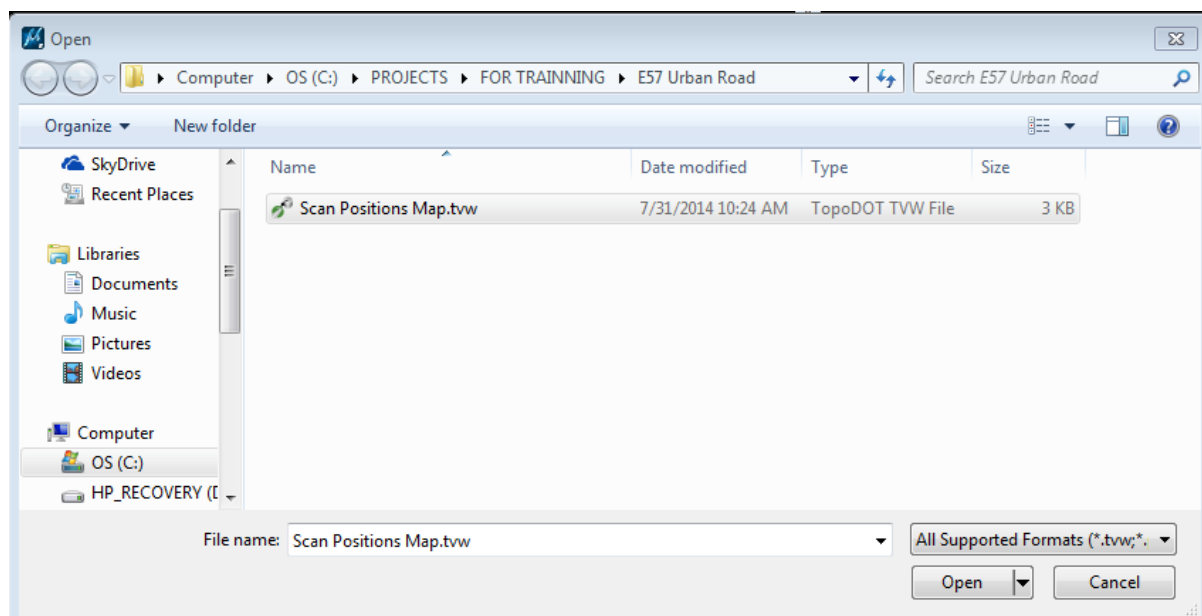
11. Create a TVW file (map of the positions) anywhere in the project folder.



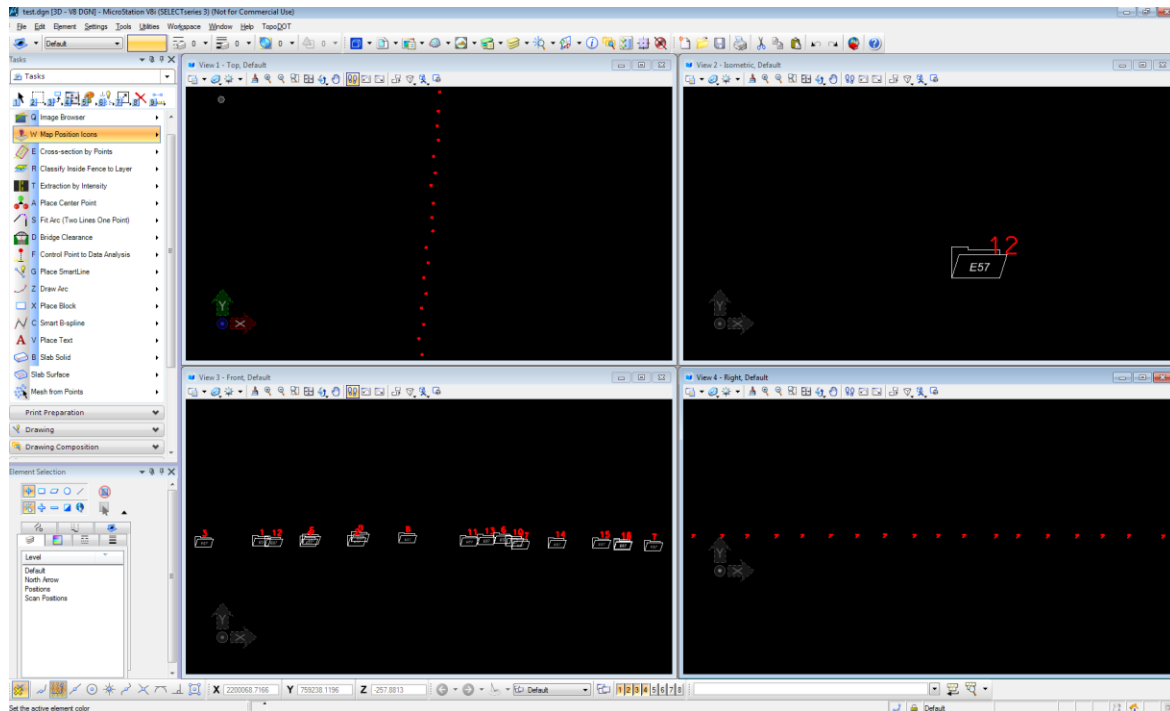
12. Use tool W8 “[Map Position Icons](#)” to map the TVW file



13. Locate the TVW file in the folder of the data



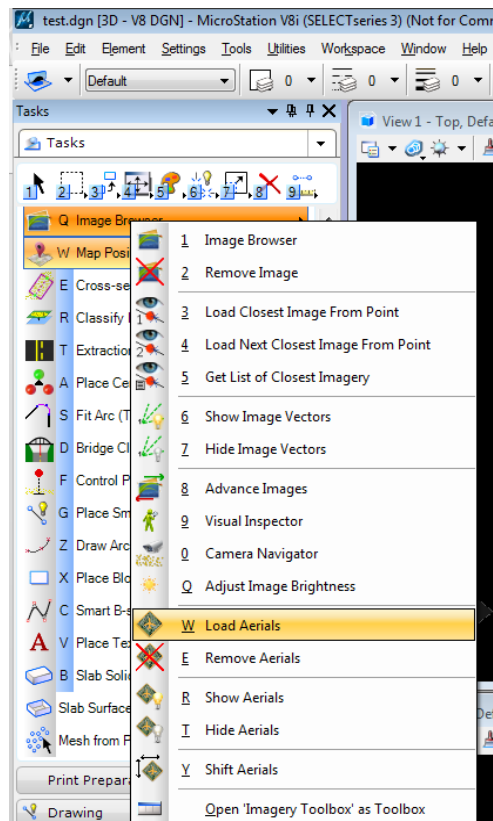
14. Fit the view(s) to see the icons that represent each scan position.



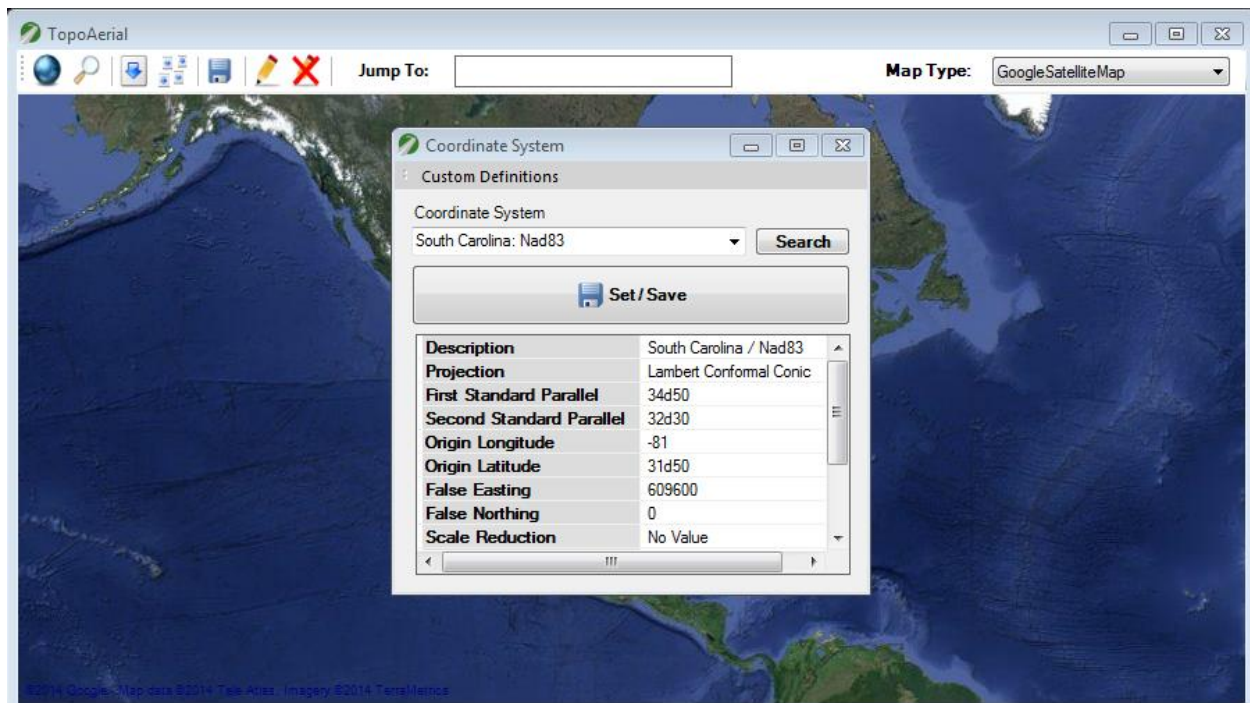
Steps 15 – Load aerial images (optional if project is georeferenced)

Once the positions are mapped you can use an aerial image to view the scanned site

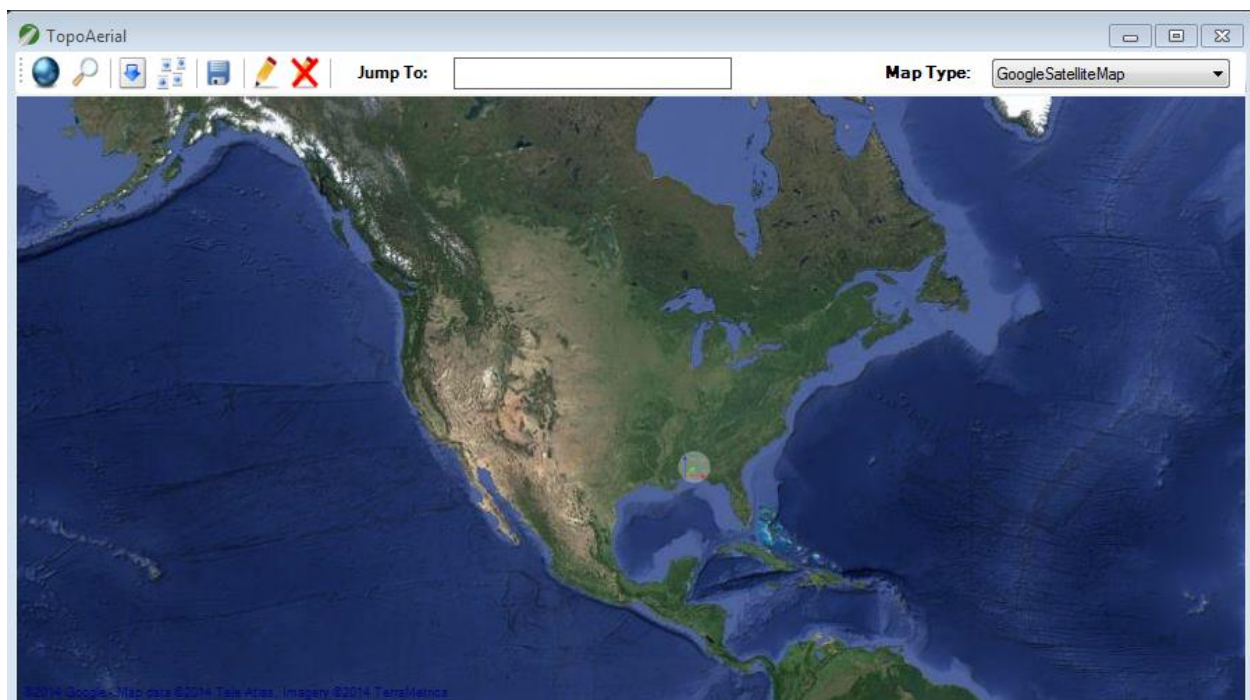
15. Open the Imagery toolbox and select [“View Aerial”](#) tool QW



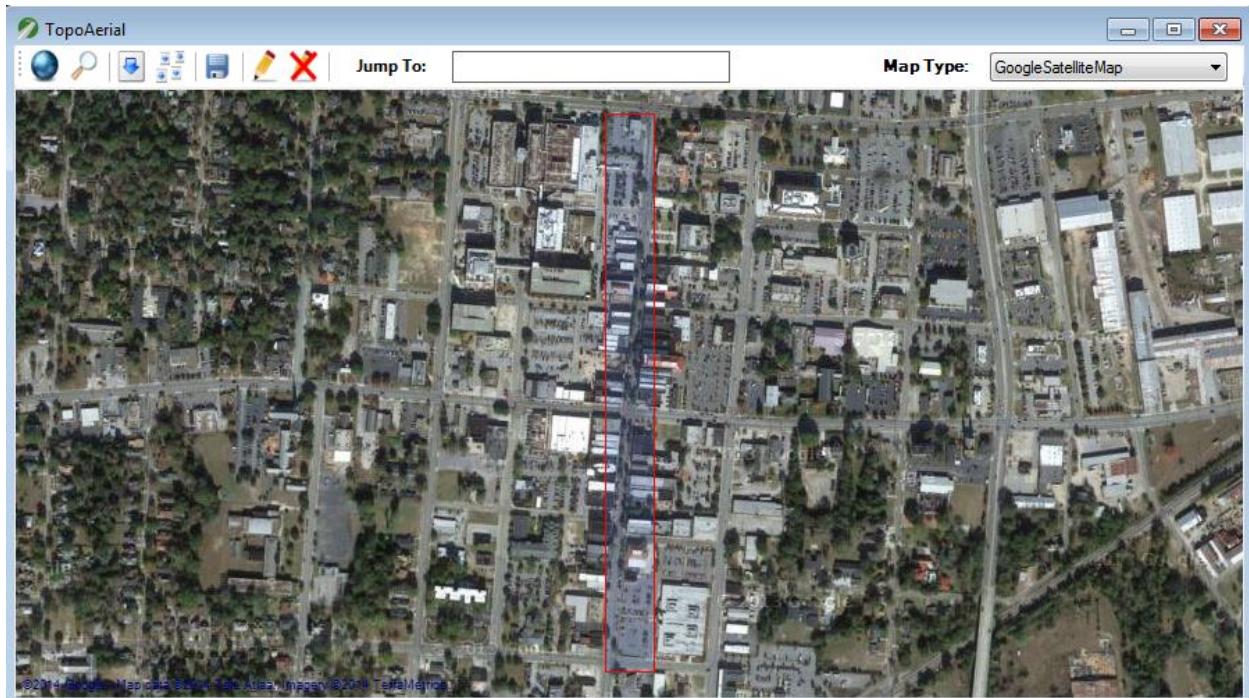
16. Once TopoAerial is open, open the first icon on the top left. Enter the Georeference location.



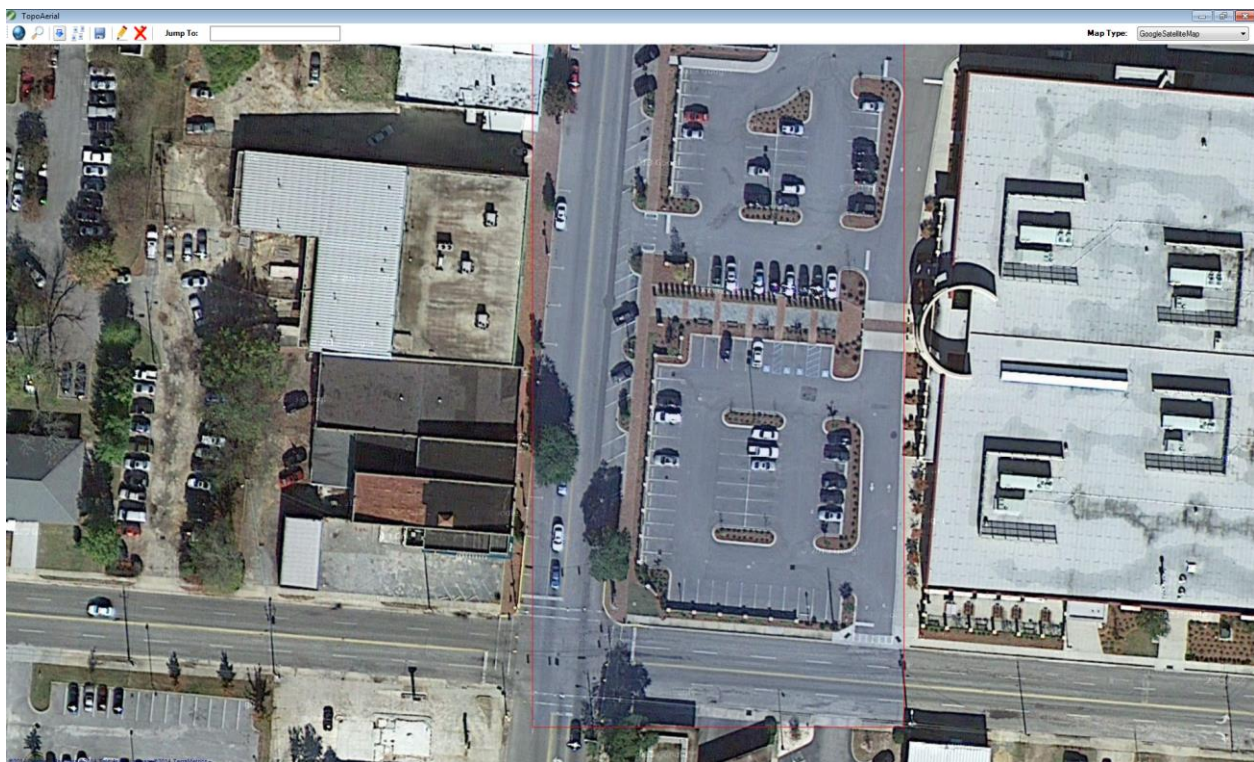
17. TopoDOT will mark an approximate place for the site.



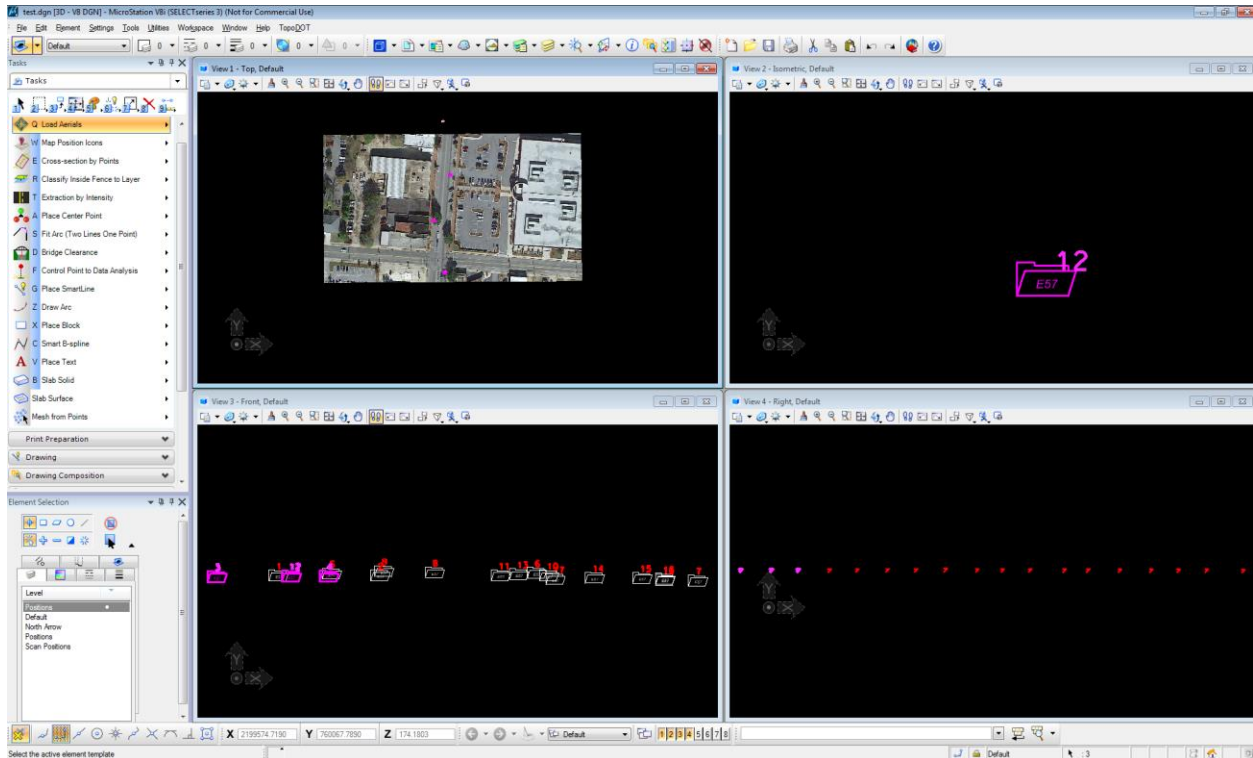
18. Click on the second icon to zoom into the site.



19. Locate the area of interest by rolling in and out. Pan with the left click. Then click on the 3rd icon.

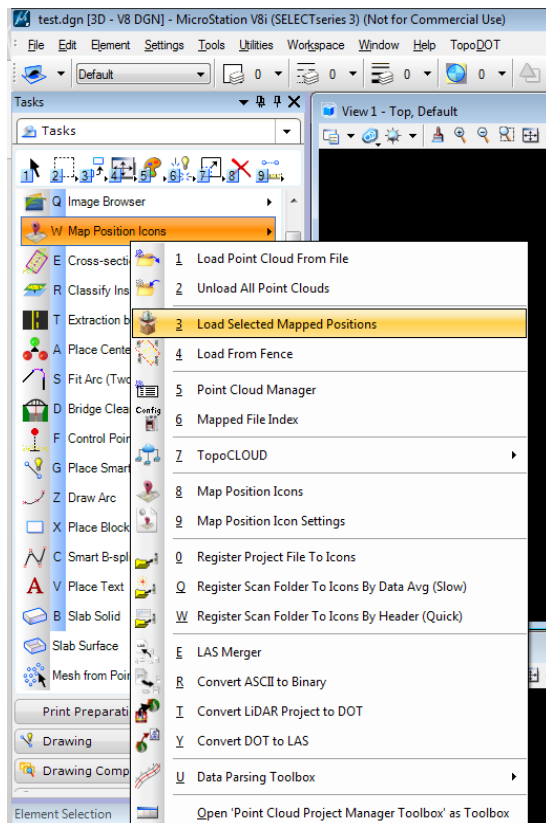


20. You should see the aerial image in Microstation top view (usually view 1)

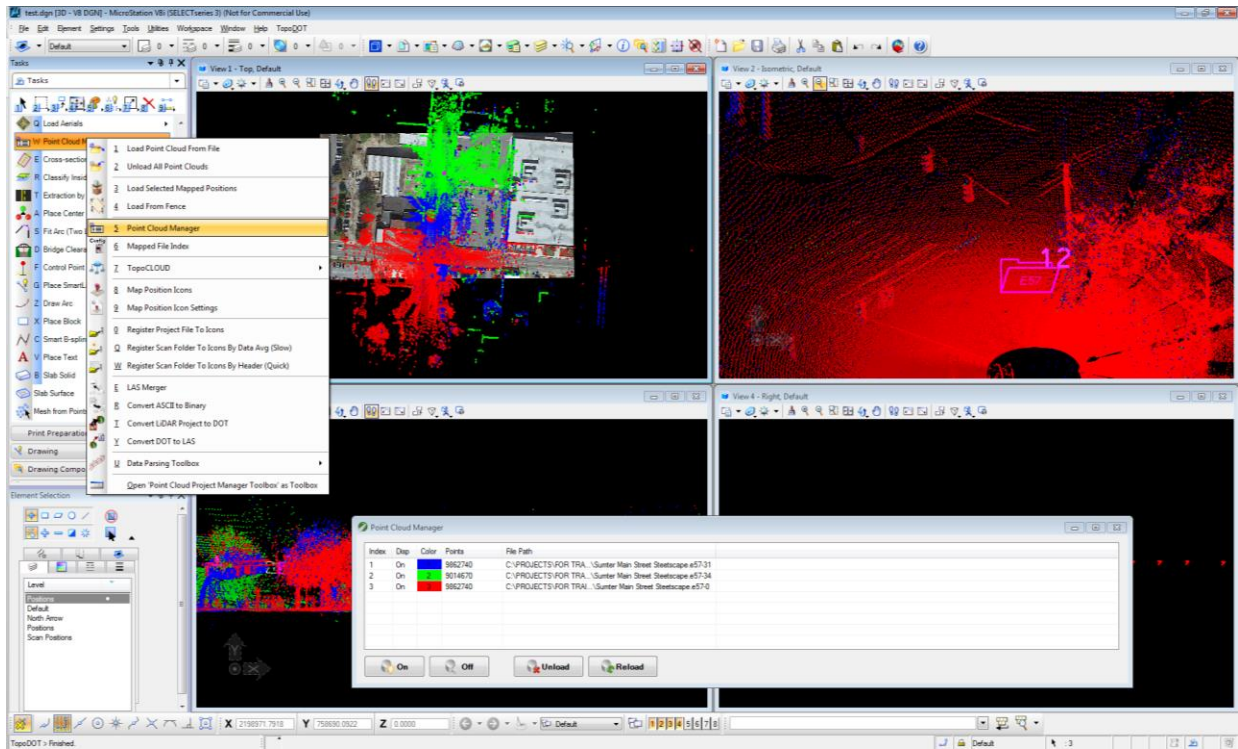


Steps 21 - 22 Load scan data from scan position icons

21. Select an icon(s) and click on [“Load Selected Map Positions”](#) tool E3 from the Pointcloud Manager toolbox.

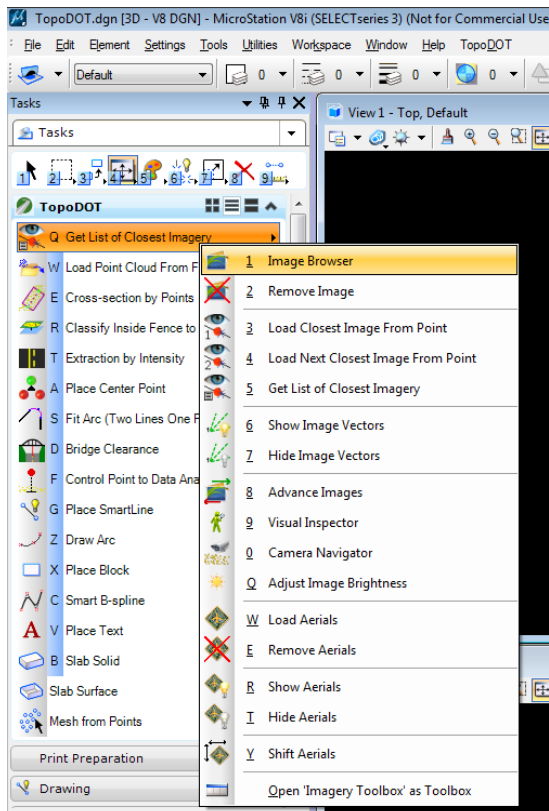


22. Use the [“Pointcloud Manager”](#) tool W5 to manipulate the loaded positions.

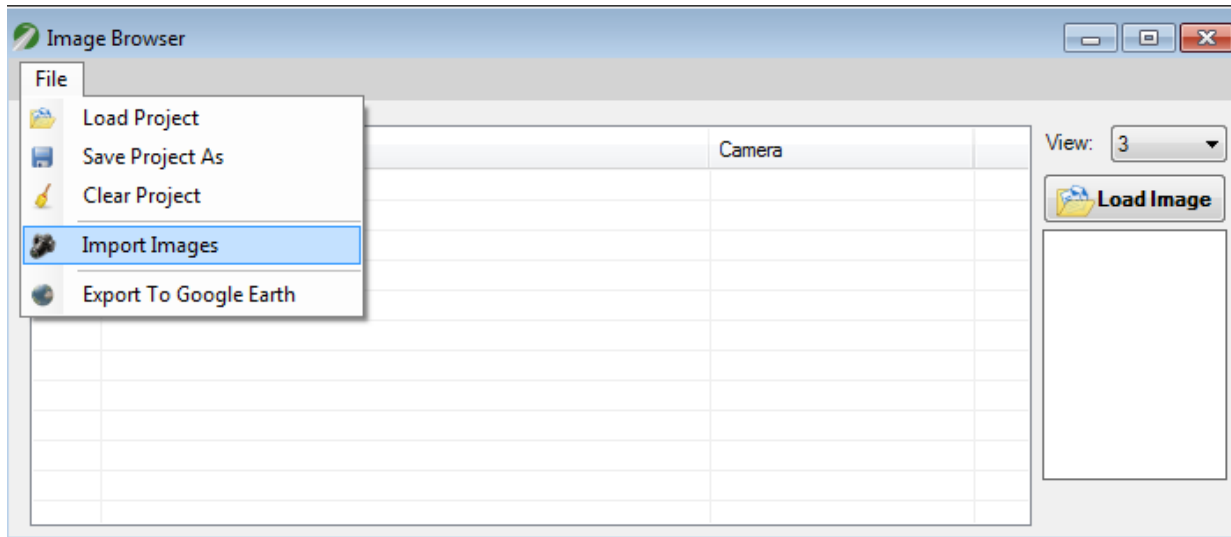


Steps Load Images from an E57 file

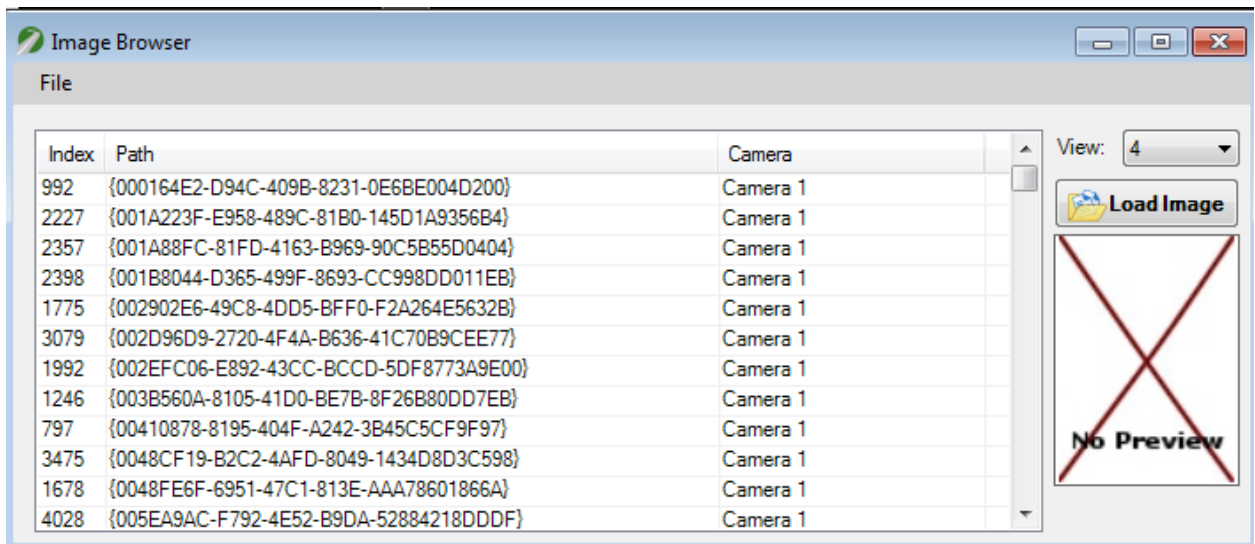
23. Go to the Imagery Toolbar and select [“Image Browser”](#) tool Q1



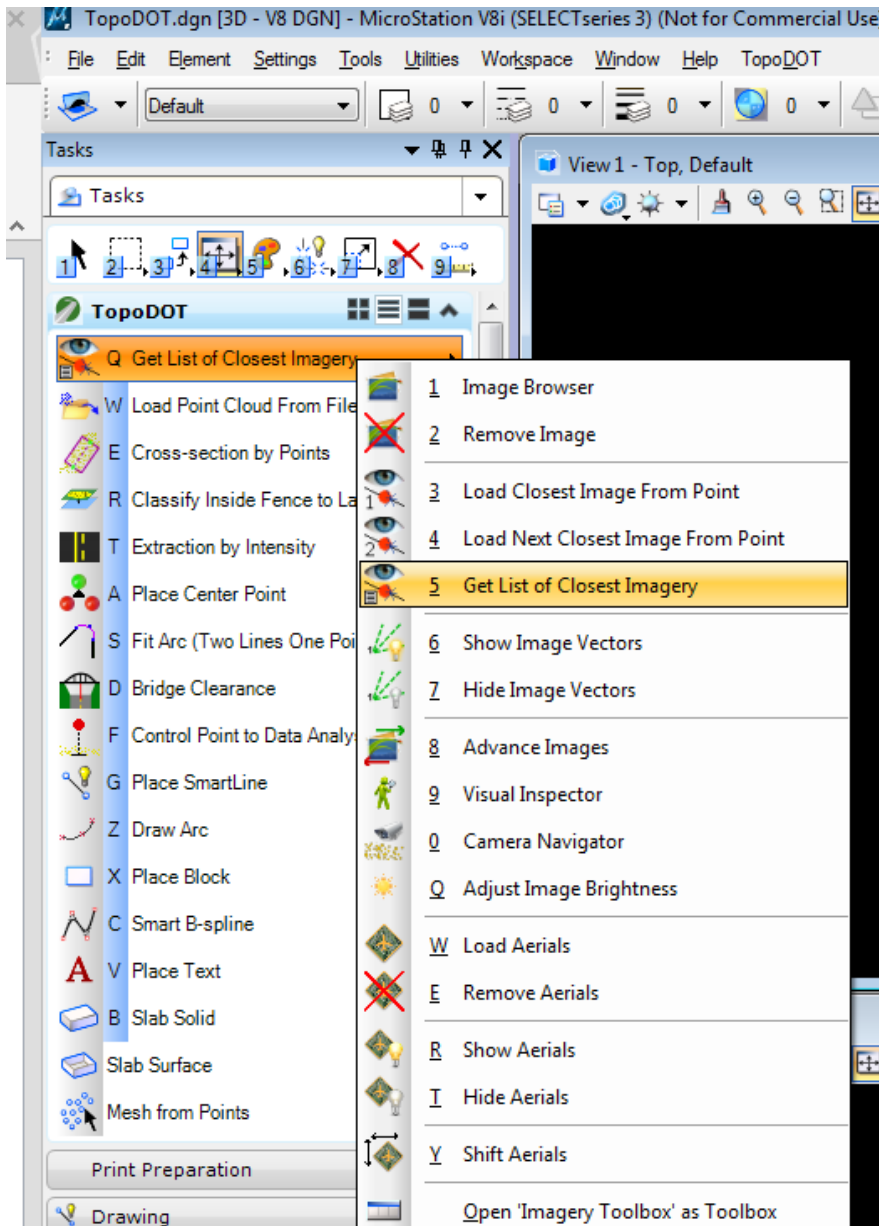
24. On the “Image Browser” tool select “Import Images”



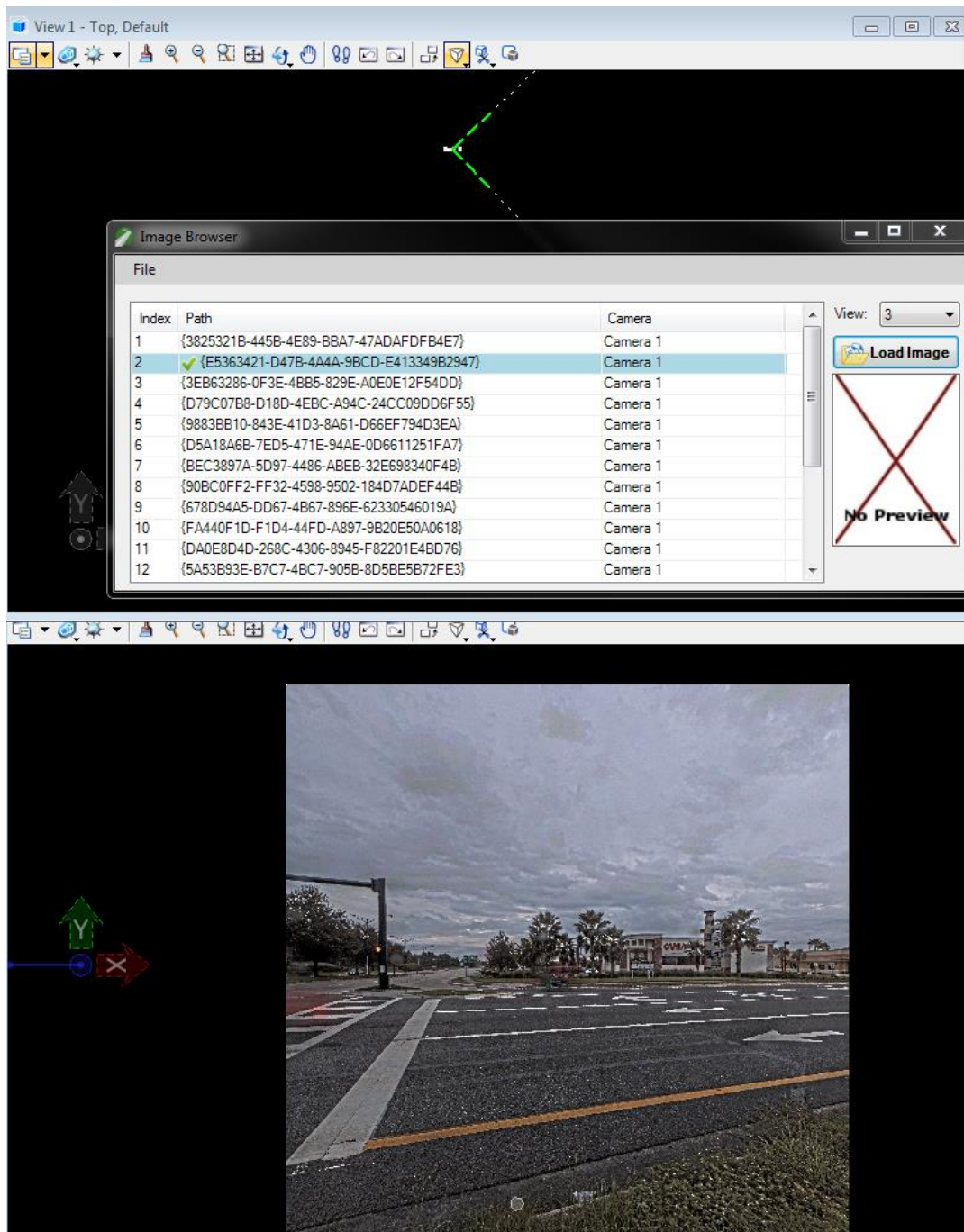
25. Select the E57 file. If the file has images, it will populate them in the list. If the file does not have images or is having trouble loading the images, you will know by looking at the TopoDOT text window message.



26. Close the image browser. Load an image by using “[Load Closest Image from a Point](#)” tool Q3, or “[Load Next Closest Image from a Point](#)” tool Q4 and/or “[Get List of Closest Imagery](#)” tool Q5.



27. Click on the point to load from (snap to an element or to the point cloud using Control+click or on a cross section of the data). Then click on the view to load.



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