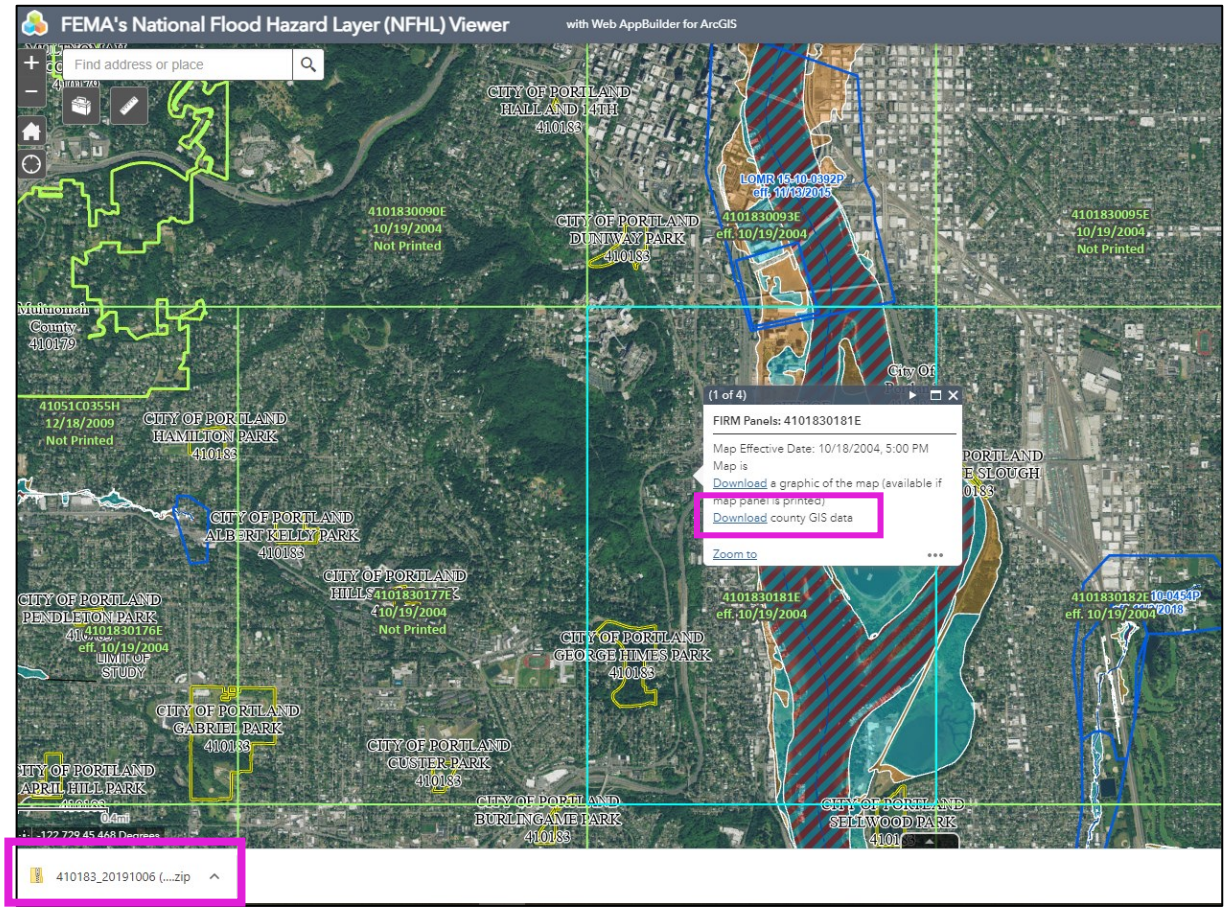
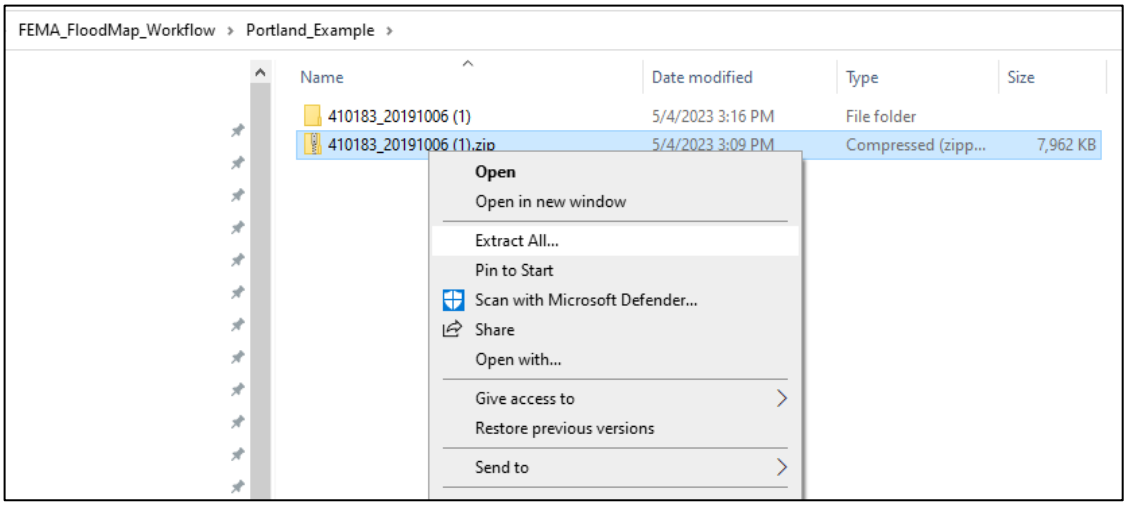
Importing FEMA FloodMap Shape Files Workflow

1. Using your internet browser, navigate to NFHL GIS Database and the **NFHL Viewer**. Download the required GIS dataset by left clicking in the area of interest in the **NFHL Viewer** and selecting ***Download county GIS data***.

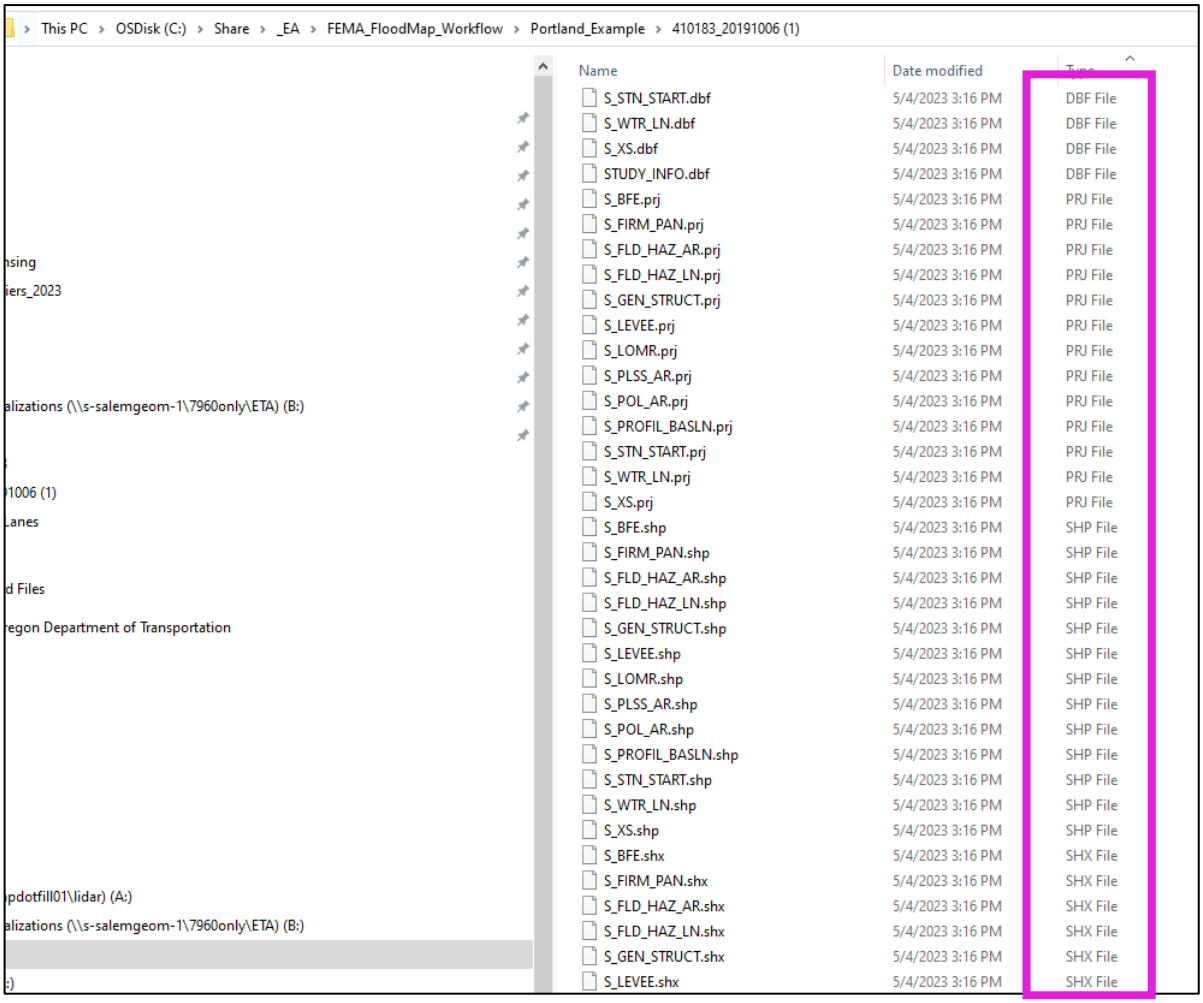


A ****.zip*** file should appear at the bottom of your browser once the dataset is ready for saving. Save the ****.zip*** file to the project folder and extract all files in the dataset *(Right Click on *.zip → Extract all…).*

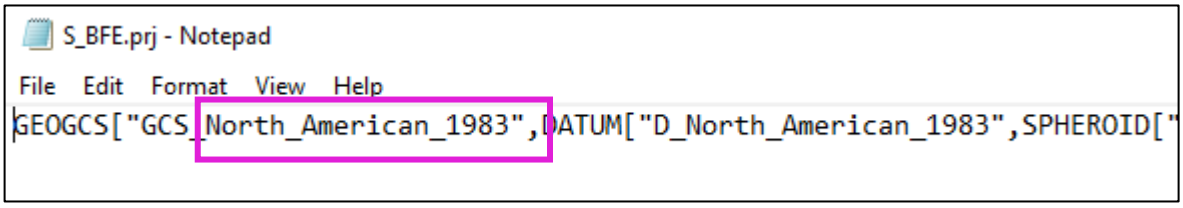


Note that once downloaded and extracted, there should be 4 different file types for each shape file:

- **a)** DBF – (required) stores feature attributes using a limited set of data types.
- **b)** PRJ – (optional) a file that contains the metadata associated with the shapefiles coordinate and projection system.
- **c)** SHP – (required) contains the geometry for all features.
- **d)** SHX – (required) index file that stores the index of the feature geometry.



2. Create a new 2D DGN file and assign the same GEODETIC coordinate system as stated in the PRJ files of the GIS flood data set:



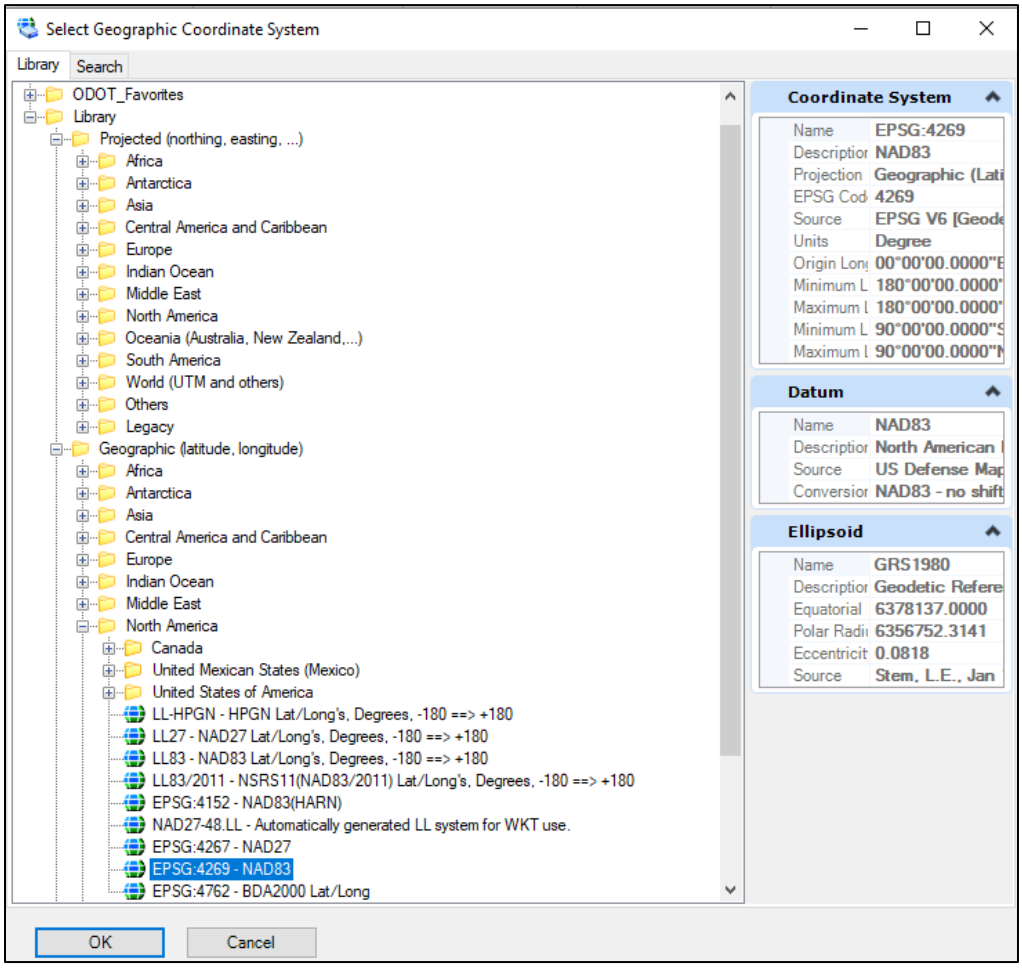
To attach the GEODETIC coordinate system in MicroStation:

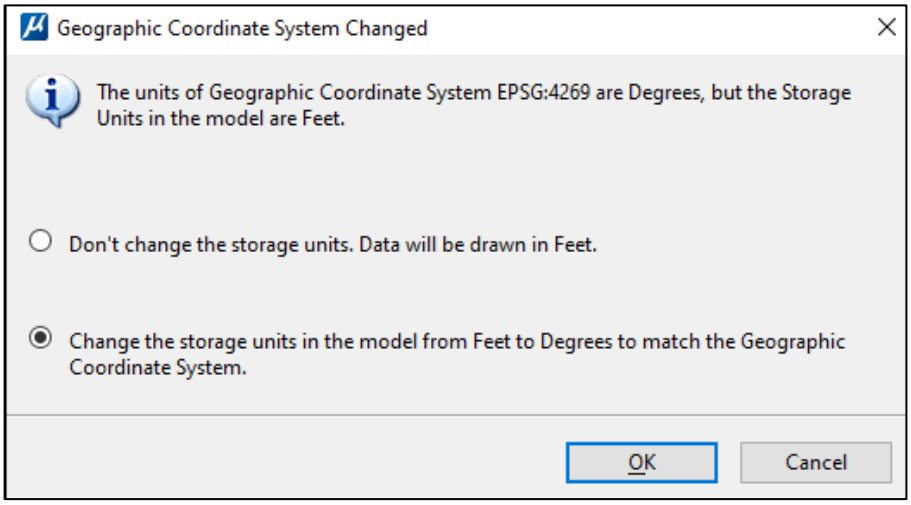
a) On the Drawing Ribbon, navigate to Utilities → Geographic → Coordinate System

b) Expand the ***Library*** folder as well as the ***Geographic (latitude, longitude)*** folder and then expand the folder for ***North America***.

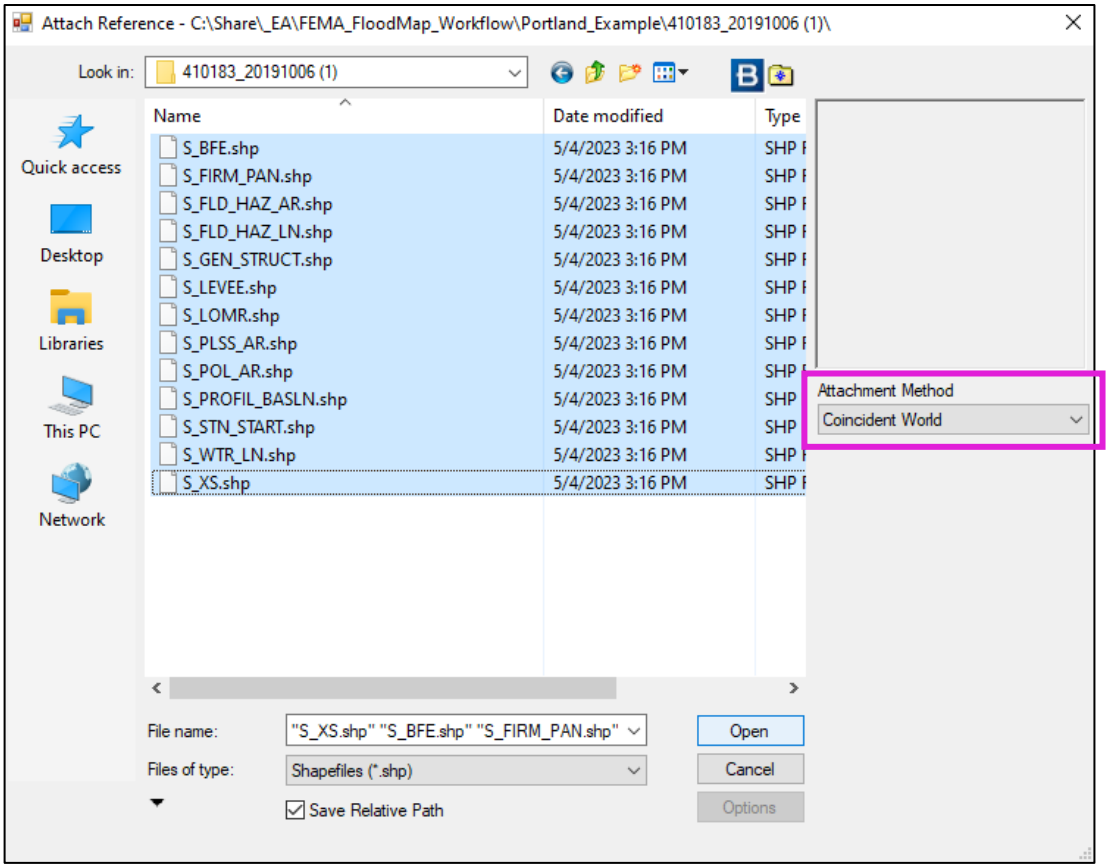
c) Select the appropriate geographic coordinate system (example data requires the ***EPSG:4269-NAD83***) and then select OK.

d) Change the Storage Units from Feet to Degrees when prompted.

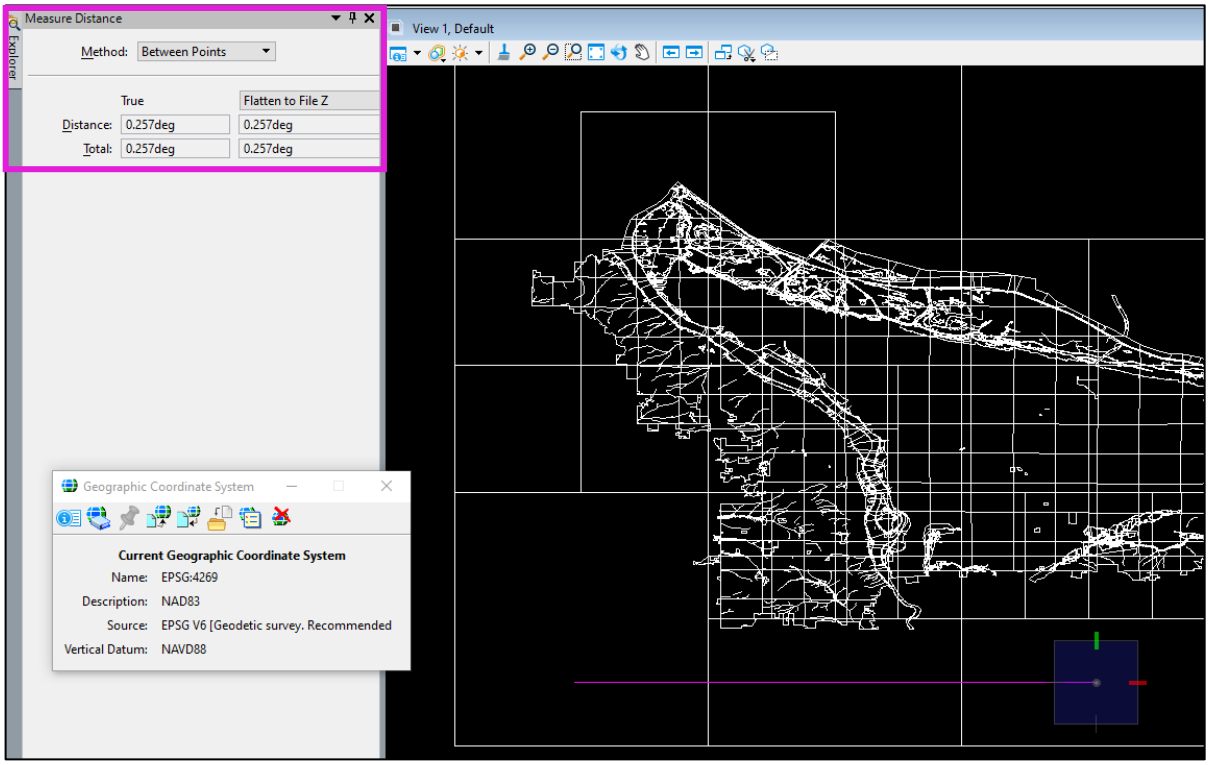




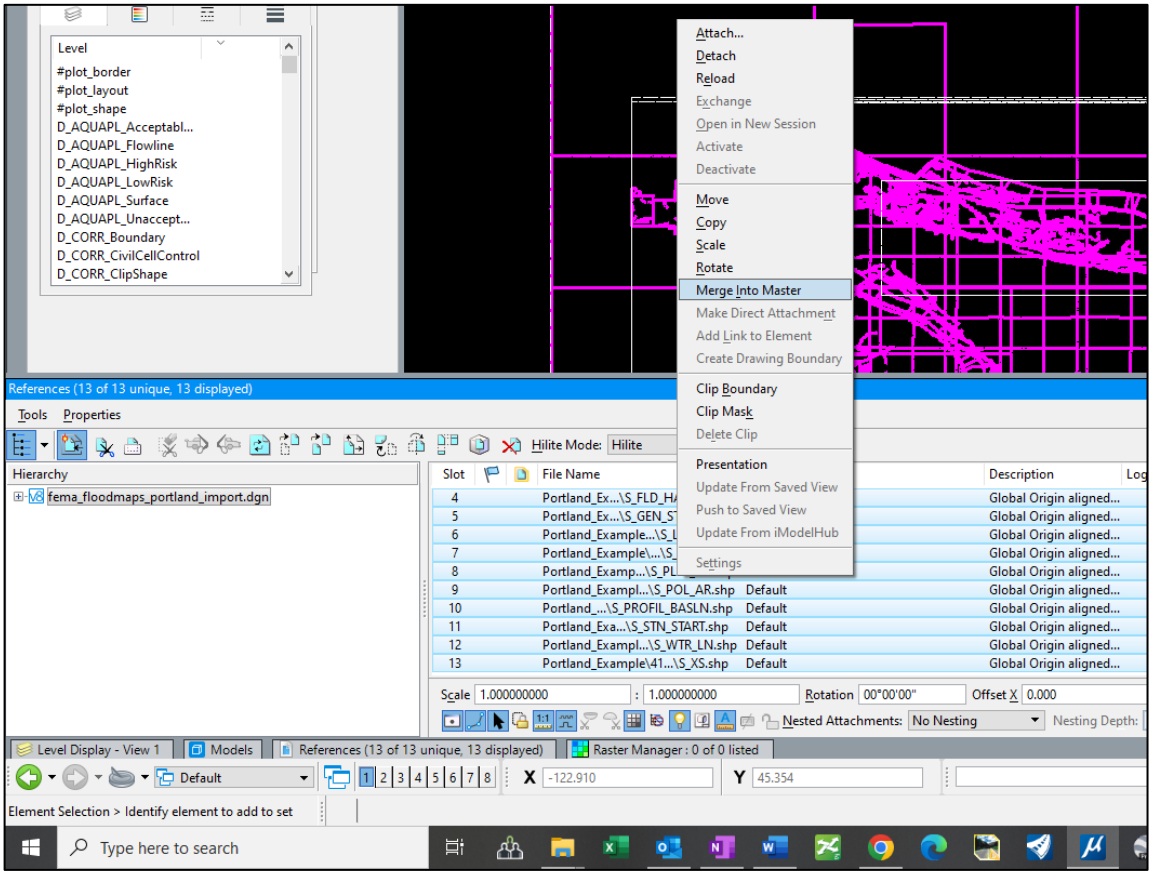
3. Attach the *.shp files using the Reference Manager, Coincident-World



Note that when you use the linear measuring tool, the distance is measured in degrees.



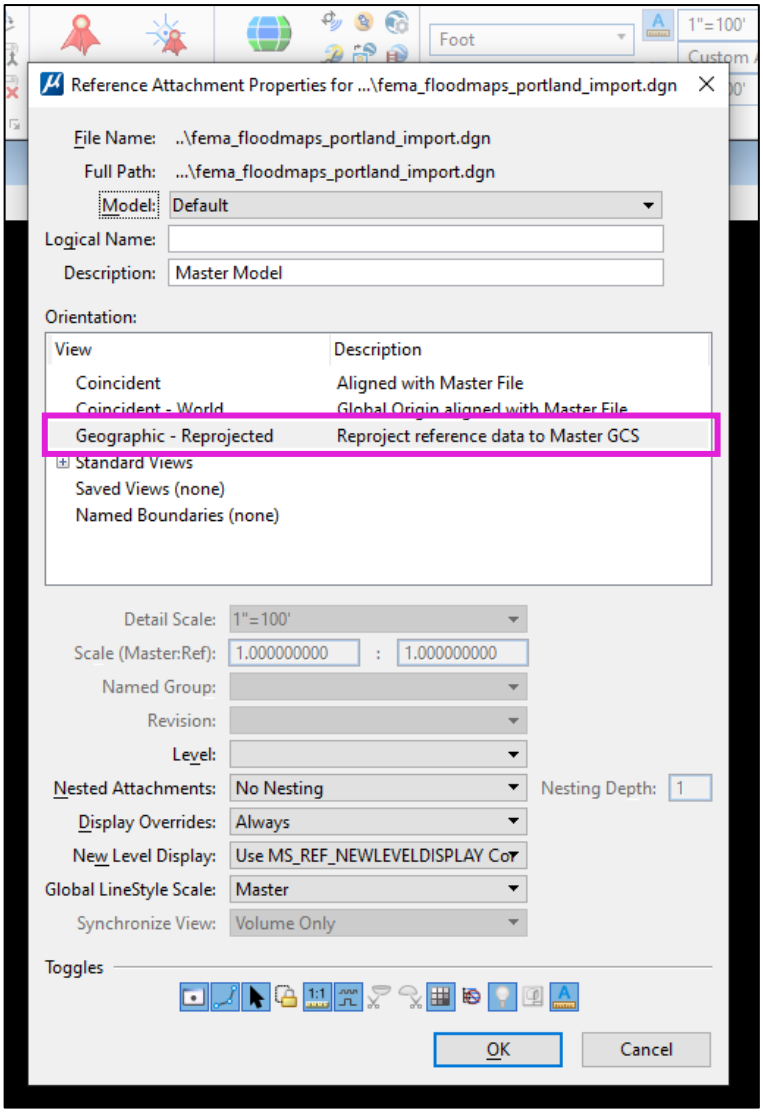
4. Merge the shape file references into the Master using the Reference Manager and selecting all files, Right click → Merge Into Master and data click into your 2D default view.



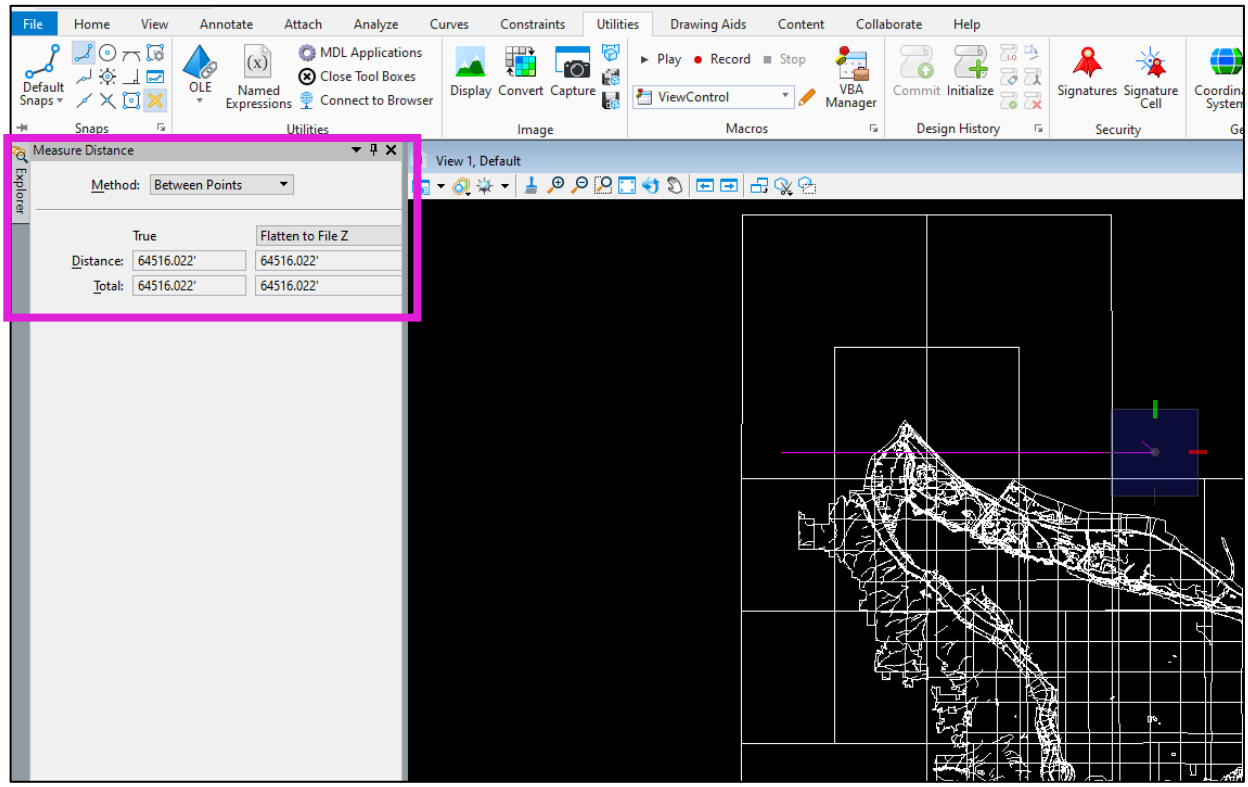
5. This file is now ready to be reprojected into your project design file as a reference.

To check to make sure the shape files were attached correctly:

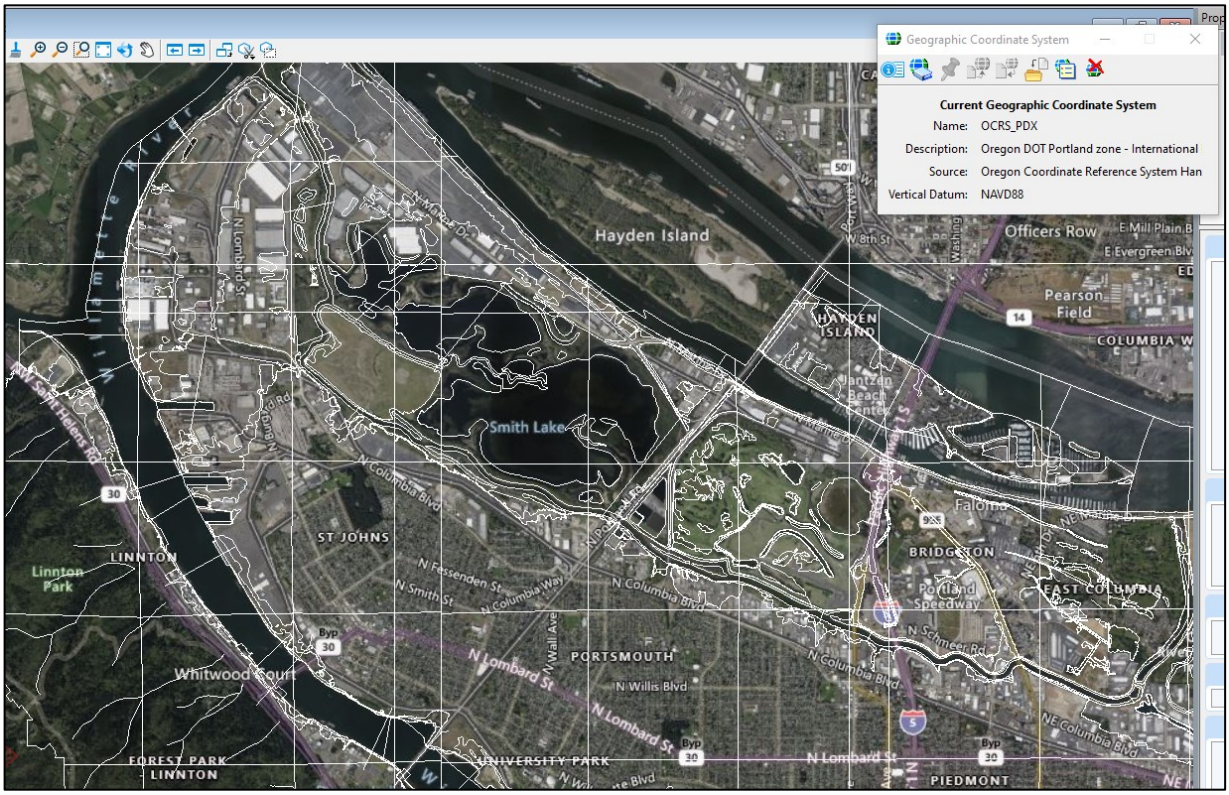
1. Create another 2D DGN and assign your project coordinate system or just assign Oregon State Plane North – both should work.
2. Attach the shapefile DGN as a reference – use "***Interactive***" mode and choose "***Geographic – Reprojected***" from the Orientation window on the Reference Attachment dialog.



3. Use the measuring tool to check to see that both the scale of the shapefiles and measuring units are correct *(units should be in feet)*



4. Turn on the Bing Background map to see that the data aligns with the aerial.



5. You can turn on/off layers as desired. The GIS dataset maintains layer names; however, the data set does not maintain level symbology. You will need to edit linestyles as deemed appropriate.