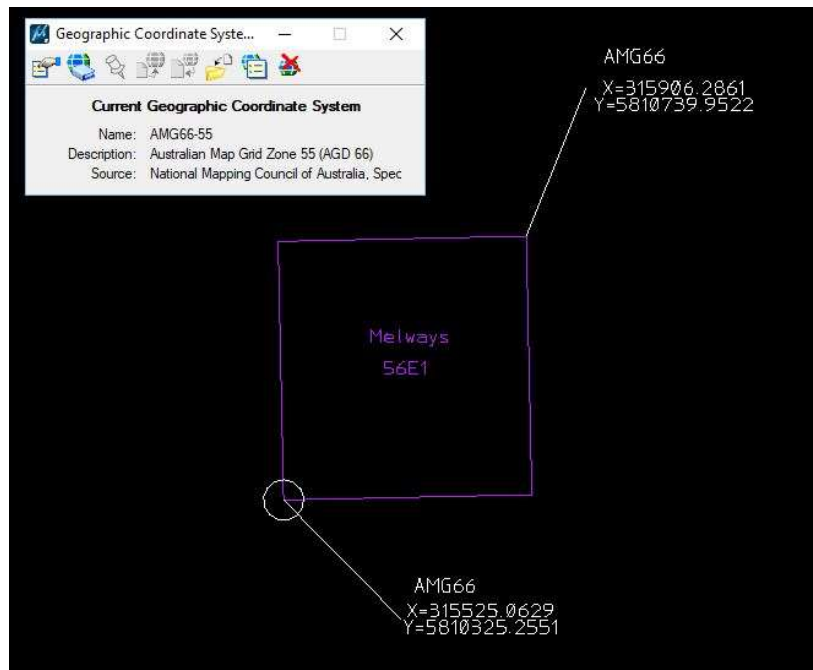# MGA2020 Datum transformation for CE MicroStation from V8i Data
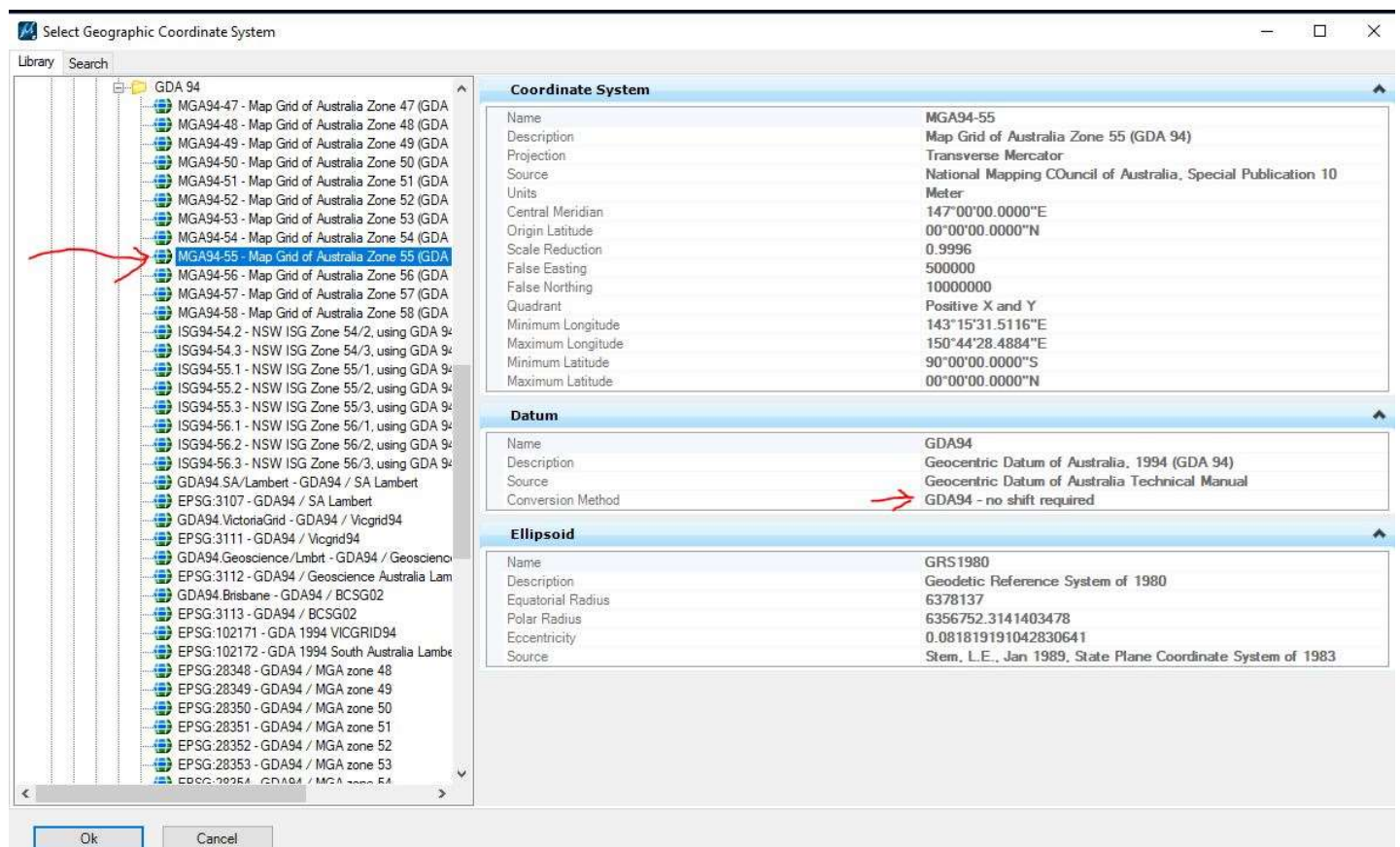
By Lorys Lea 31/8/20

In MicroStation V8i when we had to go from AMG66 to MGA94 it was a simple change datum and transform via reprojection function or via the reference manager and allow reprojection on the fly.

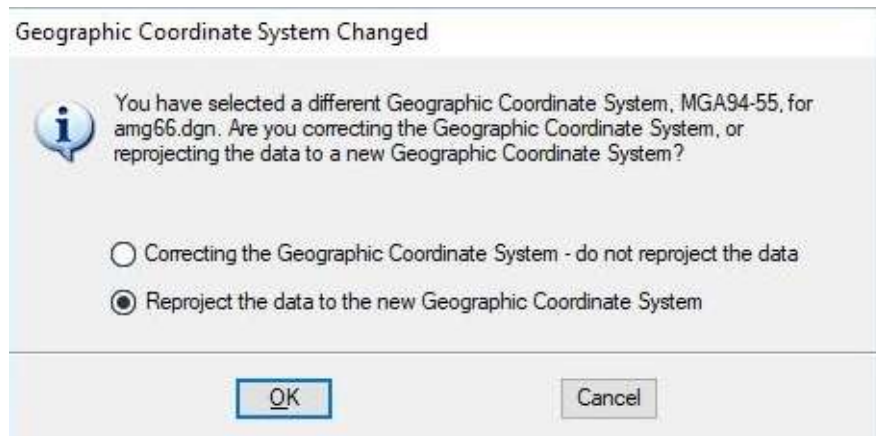Below the file in AMG66-55 before change of datum in V8i

Next from the Geographic Coordinate System tools in V8i we are going to change the datum to MGA94-55 Notice on the Right Hand Panel Conversion method No shift required.
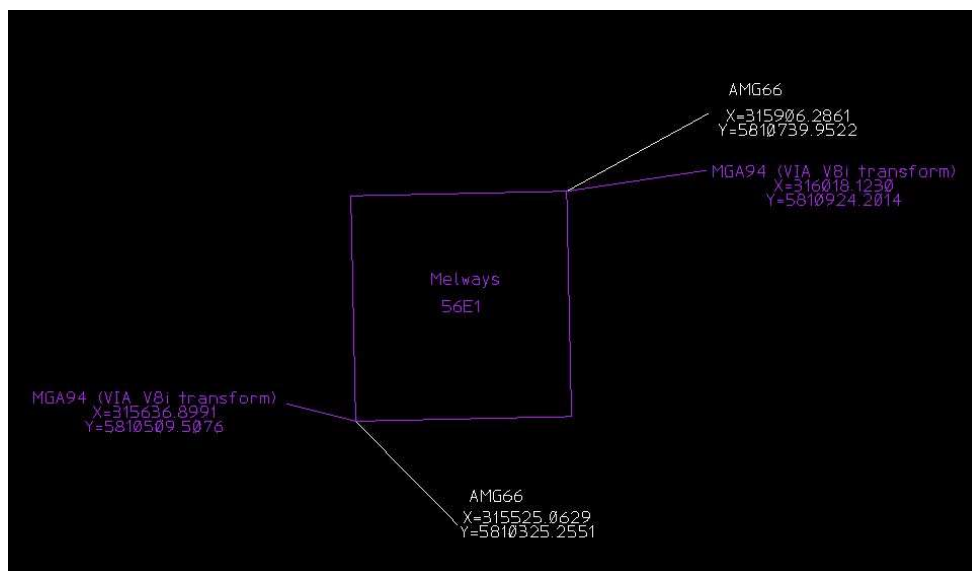
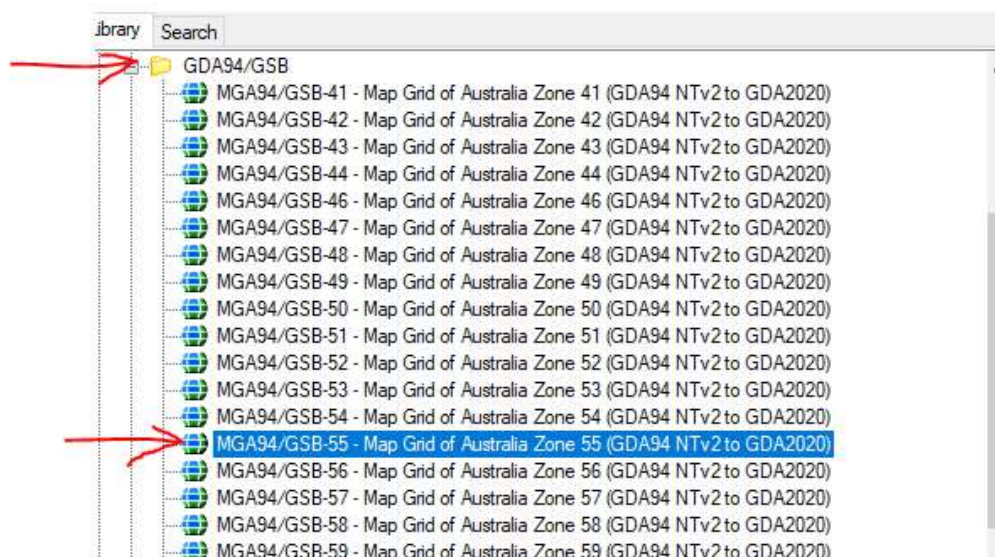The new dialog pops and make sure Reproject is selected and click ok

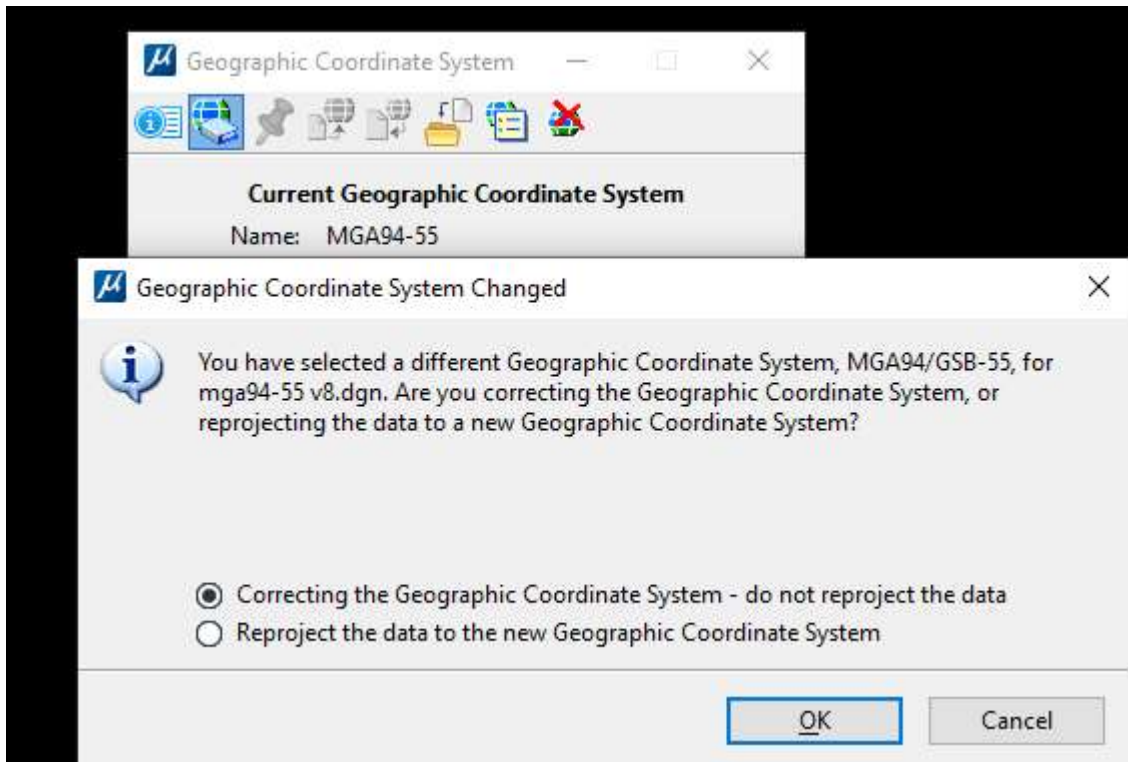And the result is the coordinates have changed to MGA94-55 purple

Now we need to reopen this file in Connect Edition update 13

In CE the datum MGA94-55 is no longer required as it will not transform to MGA2020. What we need to do is to correct the Datum without reprojection to MGA94/GSB so MicroStation CE will be able to recalculate the transformation required for MGA2020-55 later.

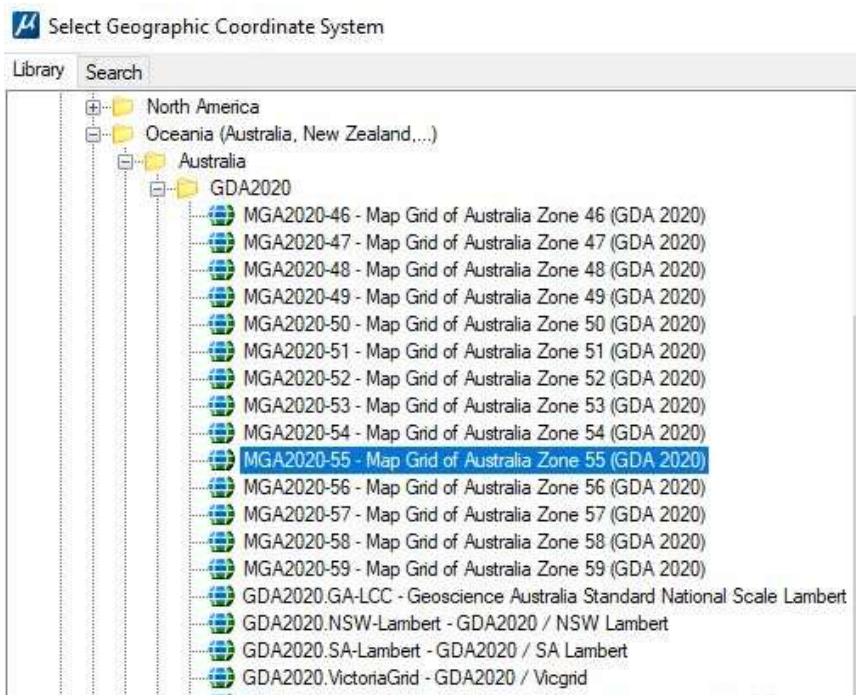# MGA2020 Datum transformation for CE MicroStation from V8i Data

Now to ensure it DOES NOT reproject we need to click on it in the new confirmation dialogue
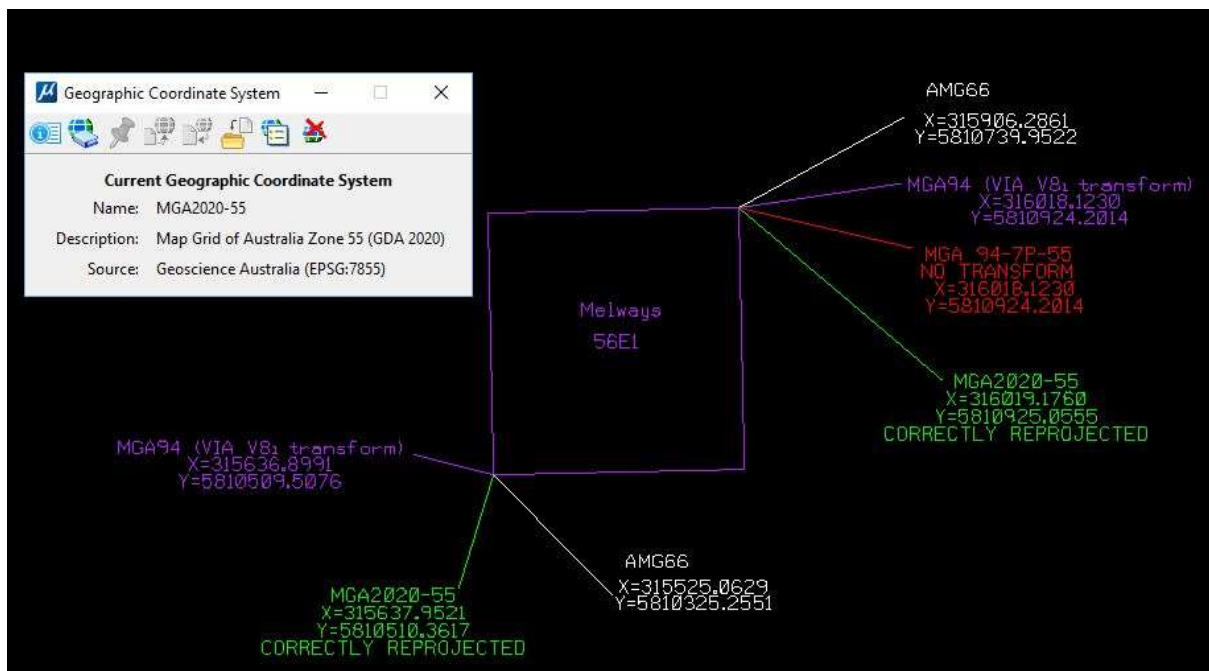
Select ok and our datum or Geocoordinate System has been reset but our coordinates have been retained.

Next we want to reproject the data to the new MGA2020-55 datum the process is the same for selection of the datum only this time we will allow reproject the data…

MGA2020 Datum transformation for CE MicroStation from V8i Data

The result if we click ok will be the new transformed data (green) to the new datum and the coordinates changed. Note the shift in coordinates will be around 1 to 1.5m, even up to 2m in a North Easterly direction depending where it is in the state's location as it does vary across Australia.

Note if you were to reference attach this file in V8i with this CE datum. V8i will not recognise the MGA2020 datum but it would be attached at its real coordinates (i.e. MGA2020) via world coincident.

In other words opening the above converted file from CE in V8i it will have no datum and will be relative to 0,0 but will have all the data in true MGA2020-55 coordinates.

If you needed to convert MGA2020 data to MGA94-55 for use in V8i you would use the reverse process in CE, reproject the datum to MGA94-GSB, then to MGA94-55 no reproject.

You could then reference attach the data in v8i as MGA94-55 and the datum would be recognised.

The alternative for using MGA2020 in v8i, then is to only use reprojected data from CE and delete the datum in CE or data with datum already in MGA2020 created by external agents such as surveyors etc. with no datum GCS attached and only use data of the same projection always with world coincident for reference attachments and not mix datums or reproject anything anymore in v8i.

Maybe even put some text like:

"This file is in MGA2020-55". Or the file attributes title "MGA2020"

For the older users who remember pre v8i and pre GCS datum feature this is how we used to work in MicroStation and have to rely on the surveyors or other external programs to correct the data for us.