

Exif GPS Photos to DGN Readme

INTRODUCTION

With this VBA files with Exif / GPS data like photos taken with a phone, are linked with the location in the DGN file.

The VBA **DesignLinks.mvba** is installed in a folder that is pointed by the variable MS_VBASEARCHDIRECTORIES.

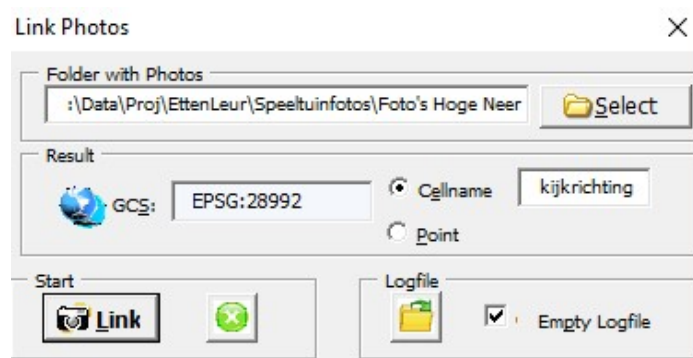
- For v8i e.g.: the folder C:\ProgramData\Bentley\MicroStation V8i\Workspace\Standards\vba\.
 - For CE: Check the variable in the Configuration dialog (File > Settings > Configuration > Configuration Variables). Default value is the Windows Documents folder (\$(\HOMEDRIVE)\$\HOMEPATH)\Documents\).
- Optionally: Edit this variable MS_VBASEARCHDIRECTORIES and add the folder \$(_USTN_ORGANIZATION)\vba\ or \$(_USTN_ORGANIZATION)\Macros\.
- This folder is C:\ProgramData\Bentley\MicroStation CONNECT Edition\Configuration\Organization\Macros\.

LINK PHOTOS WITH A POINT IN THE DGN FILES

Example workflow:

- Place the photos (JPG files) in a folder.
- Open a DGN file.
- Start the tool using the VBA Project Manager, or keyin
 - For v8i: `vba load DesignLinks.mvba vba run Start.linkPhotos`
 - For CE: `macro vba load DesignLinks.mvba; vba run Start.linkPhotos`

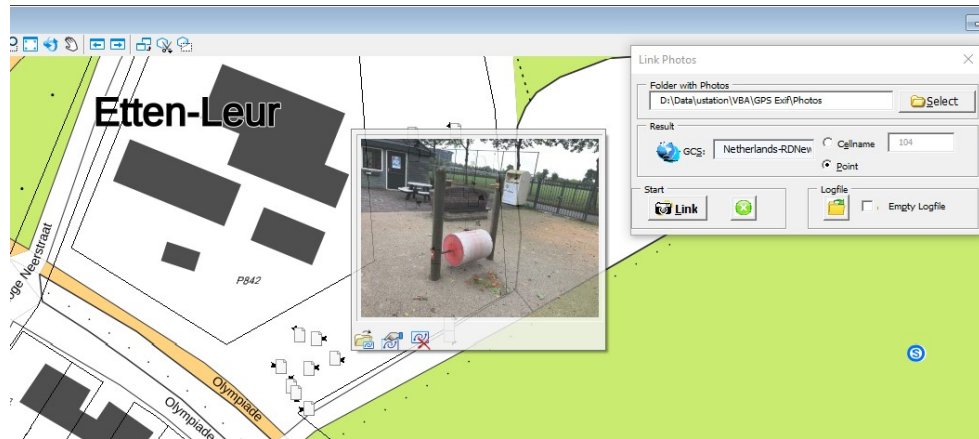
The dialog is opened.



- In the dialog, select the folder with the JPG photos. All the photos that have *Exif* data will be used.
- Select the option *Cellname* or *Point*.
- Start the linking with the **Link** button. All JPG files are processed. From the Exif data in the file the GPS coordinates are read. A point or cell (with camera direction) is placed with the active symbology and linked with

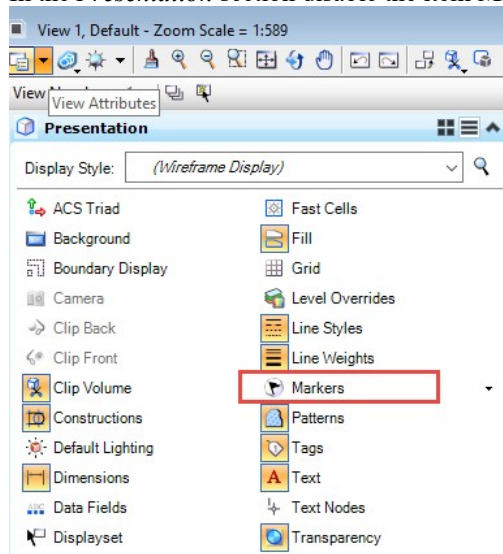
the photo.

- Optionally use the *Show Log* button to open the log file.
- When the mouse is moved over the link icon, a preview with a tool box is displayed.



Note:

- The used settings in the dialog are stored in a XML file *PrefsDesignLinksDocs.xml* in the folder pointed by the variable `MS_LINKS_DOCS` (if available) or `_USTN_HOMEPREFS`.
- The display of the photo icon can be disabled in the **View Settings**. In the *Presentation* section disable the item **Markers**.



NOTES

https://communities.bentley.com/communities/user_communities/bentley_general_nl/b/weblog/posts/foto-s-met-gps-exif-data-plaatsen-in-dgn-file

TO BE ADDED

For MS CE:

- Add Project Dialog.
- Add Item Information, see VBA help, topic Itemtypelibraries.
- Add model with correct lat/long coordinate system
- Add text item with source WGS84 gcs and modify label source gcs

Another free tool at: <http://www.centaureon.de/site/produkte/gpsphotocell/allgemein.dot>

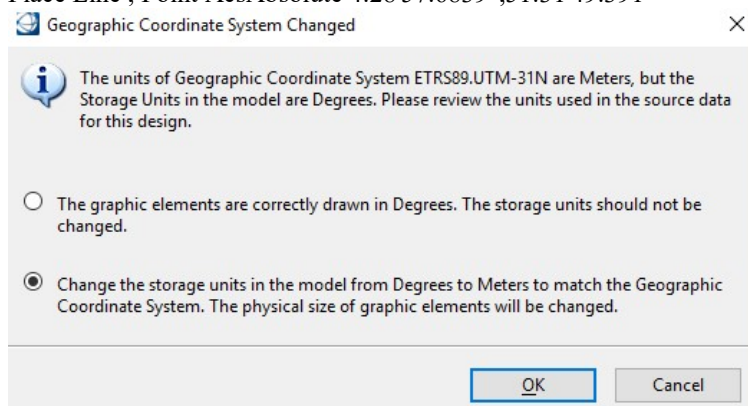
For Dutch GCS, use the GCS ETRS89.UTM-31N and not EPSG:4326 because that has different datum.

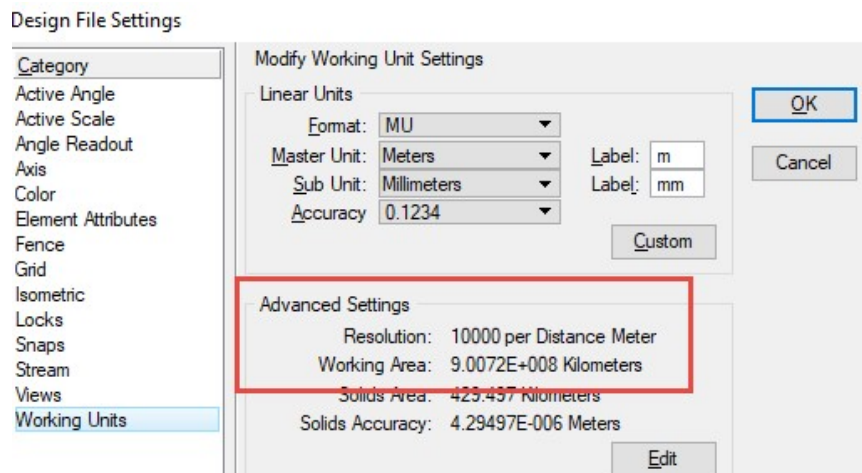
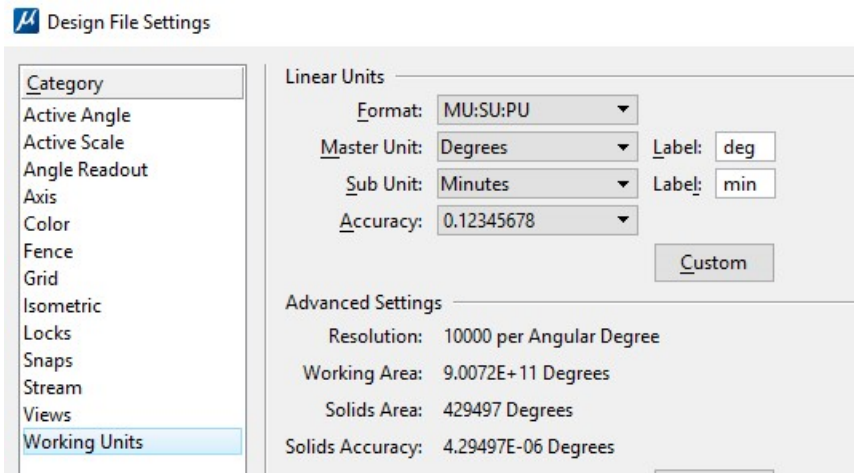
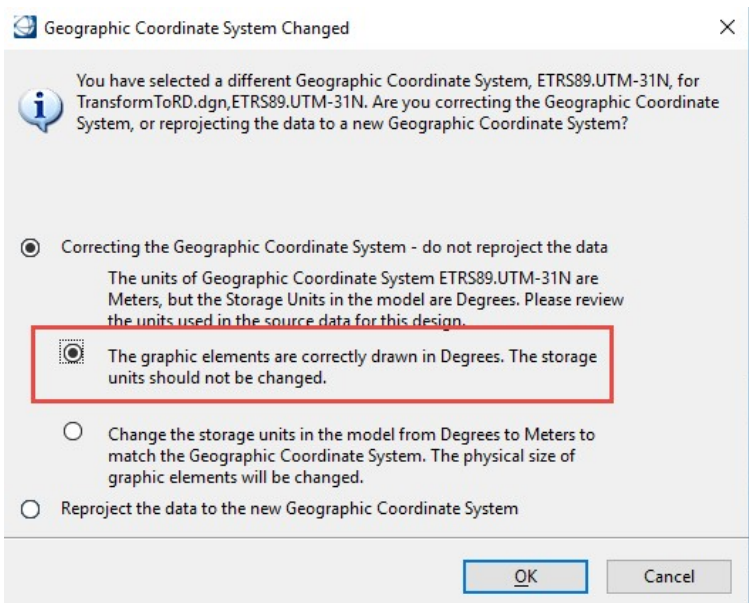
Create model w/ gcs ETRS89.UTM-31N and in this model set the active ASC to ETRS89.UTM-31N. The settings can stay M:Cm, not Degrees:Minutes.

With keyin *geocoordinate assign (matchunits) ETRS89.UTM-31N* => units stays M, not Degrees.

With units in Meters *place line* is still ok:

Place Line ; Point AcsAbsolute 4:28'57.6839",51:31'49.391"





Works fine 10000 per meter met EttenLeur.

In Photo model

AccuDraw

X	602854.1873
Y	5709865.4249

AccuDraw

X	60284653.810
Y	570985052.377

Met Eindhoven DGN file niet. default 4.4827°, 51.5304°, is een factor 100 te groot.
Place Line ; Point AcsAbsolute 4:28'57.6839",51:31'49.391"

With MS CE the keyin *Element Create Link File "D:\Data\ustation\VBA\GPS Exif\Photos\Hoofddorp.JPG"* works fine. But a second time, the VBA hangs?
The first time the model is not referenced reprojected?

Issue w/ altitude:

Z-Ananas50.JPG Properties

Property	Value
Light source	
Exposure program	Normal
Saturation	
Sharpness	
White balance	Auto
Photometric interpretation	
Digital zoom	
EXIF version	0221
GPS	
Latitude	52; 3; 55.769999999998953
Longitude	4; 15; 5.7800000000000669
Altitude	3.3352394567548247
File	
Name	Z-Ananas50.JPG
Item type	JPG File

