



Walkthrough - Preparing SID, JPG, and JGW Images in QGIS

There are many different types of aerial imagery files that can be used with Asphalt Intelligence, but they require reformatting them to the native file format which is GeoTIFF. This can be done using many different programs such as ArcGIS Pro, Civil3D, OpenRoads Designer, or QGIS. Common image filetypes include:

- SID - Common aerial imagery format provided by government agencies, efficient at storing and viewing large aerial and satellite images. Commonly formatted to include geo-referencing of the image.
- JPG - Most popular type of lossy compressed image file format commonly used for regular photos, not natively georeferenced.
- JGW - Small text file that provides georeferencing data associated with a JPG file.

The native file format for Asphalt Intelligence is a GeoTIFF (.tif or .tiff). This file format contains the aerial or satellite image along with geospatial information allowing the image to be correctly positioned and scaled in GIS and other mapping software.

The workflow included in this document focuses on QGIS, an open-source (free) software package that is widely used throughout the world.

The steps to convert these common image file formats to a GeoTIFF are summarized below:

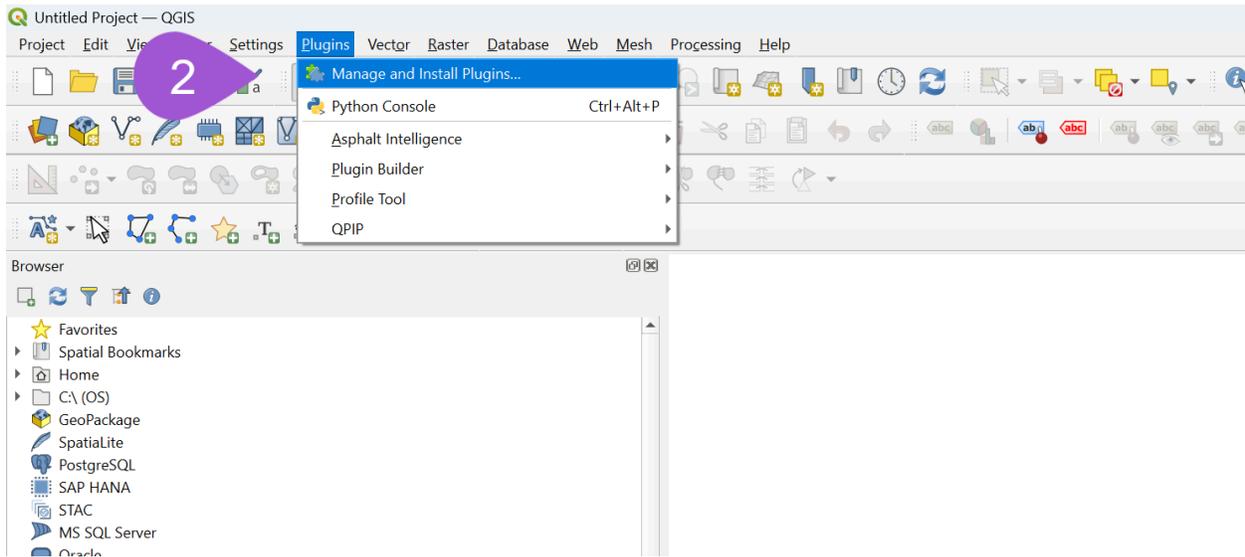
1. **Download** the latest stable release for QGIS and Start a New Project at <https://qgis.org/download/>.



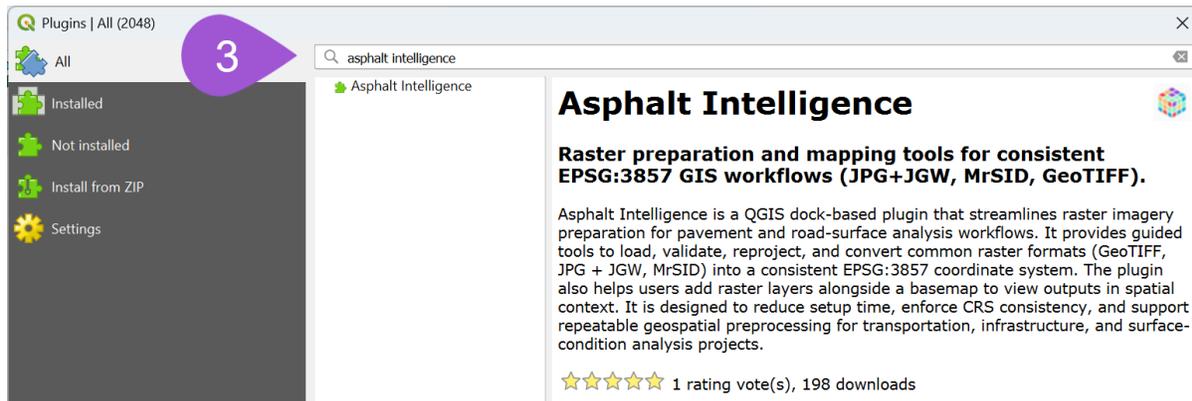


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2. Open QGIS and go to **Plugins** → **Manage and Install Plugins**.



3. Search for **Asphalt intelligence** in the Plugin Manager.





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4. Click Install Plugin.

The screenshot shows the QGIS Plugins window with the search term 'asphalt intelligence'. The left sidebar shows the 'All' category selected. The main panel displays the details for the 'Asphalt Intelligence' plugin, including its description, tags, author, and version information. A purple callout bubble with the number '4' is positioned over the 'Install Plugin' button at the bottom right of the plugin details panel.

Asphalt Intelligence

Raster preparation and mapping tools for consistent EPSG:3857 GIS workflows (JPG+JGW, MrSID, GeoTIFF).

Asphalt Intelligence is a QGIS dock-based plugin that streamlines raster imagery preparation for pavement and road-surface analysis workflows. It provides guided tools to load, validate, reproject, and convert common raster formats (GeoTIFF, JPG + JGW, MrSID) into a consistent EPSG:3857 coordinate system. The plugin also helps users add raster layers alongside a basemap to view outputs in spatial context. It is designed to reduce setup time, enforce CRS consistency, and support repeatable geospatial preprocessing for transportation, infrastructure, and surface-condition analysis projects.

★★★★★ 1 rating vote(s), 198 downloads

Tags [raster](#), [roads](#), [gdal](#), [reprojection](#), [imagery](#), [pavement](#)

More info [homepage](#) [bug tracker](#) [code repository](#)

Author Asphalt Intelligence, LLC

Available version (stable) [0.1.0](#) updated at 1/27/2026 5:30 PM Central Standard Time

Upgrade All Install Plugin

Close Help



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*Make sure the checkbox next to Asphalt Intelligence is enabled so the plugin appears.

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Category Raster

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Author [Asphalt Intelligence, LLC](#)

Installed version 0.1.0

Available version (stable) 0.1.0 updated at 1/27/2026 5:30 PM Central Standard Time

5. Launch the plugin from the QGIS toolbar or **Plugins** menu.

Demo - QGIS

Project Edit View Layer Settings **Plugins** Vector Raster Database Web Mesh Processing Help

Manage and Install Plugins... Python Console Ctrl+Alt+P

Asphalt Intelligence

Plugin Builder Profile Tool QPP

Browser

Asphalt Intelligence Setup

Asphalt Intelligence

Start Setup →

Add Asphalt Intelligence Output (tif)

Load JPG + JGW -> Convert to GeoTIFF

Load SID -> Convert to GeoTIFF

Reproject GeoTIFF to EPSG:3857

[asphaltintelligence.com](#)

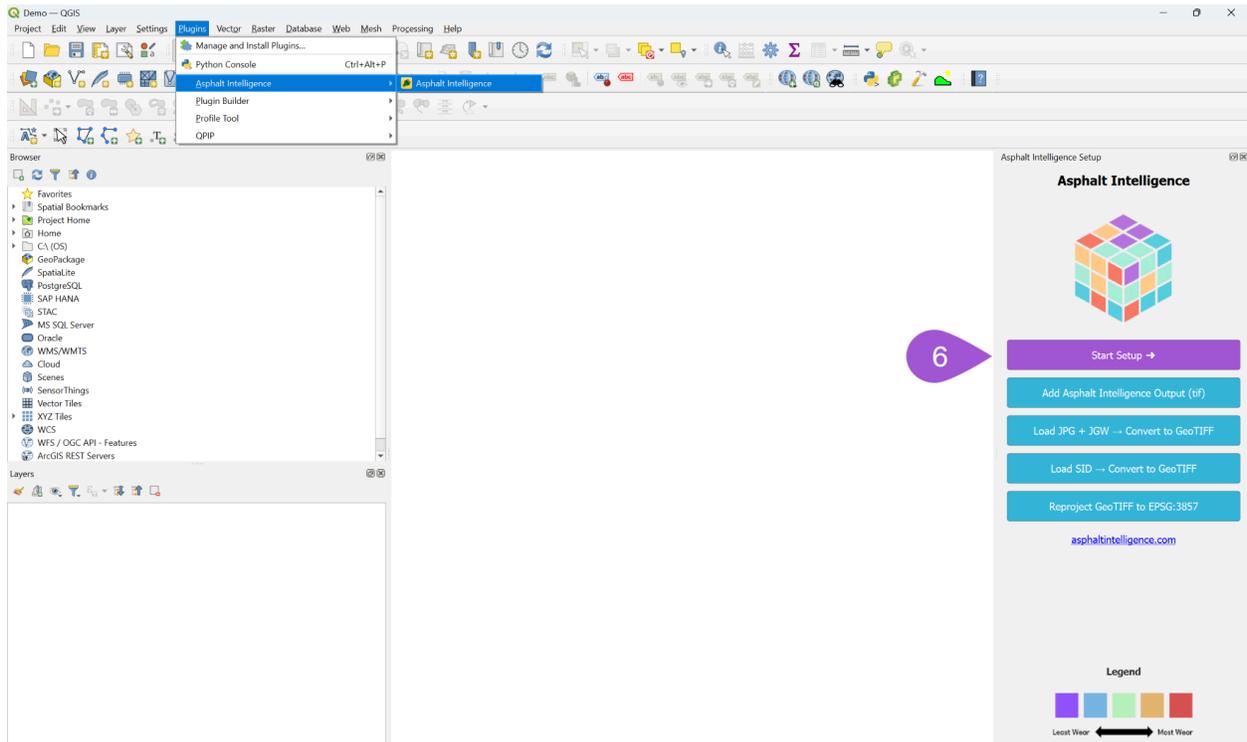
Legend

Least Wear ← → Most Wear

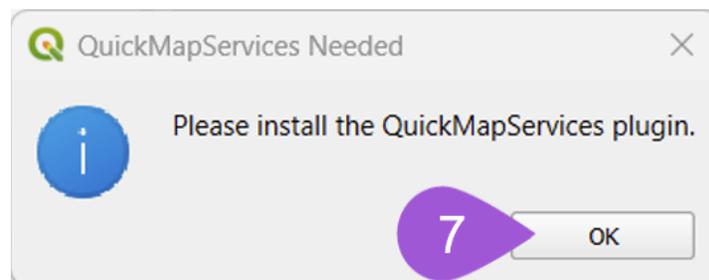


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6. Click **Start Setup**.



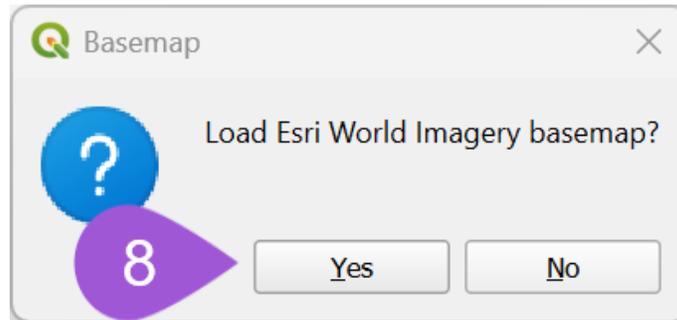
7. A dialogue will appear, click **OK**





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8. Click **Yes** to load ESRI world imagery (background)



9. The world imagery will load, and EPSG 3857 will be indicated in the lower right of the screen



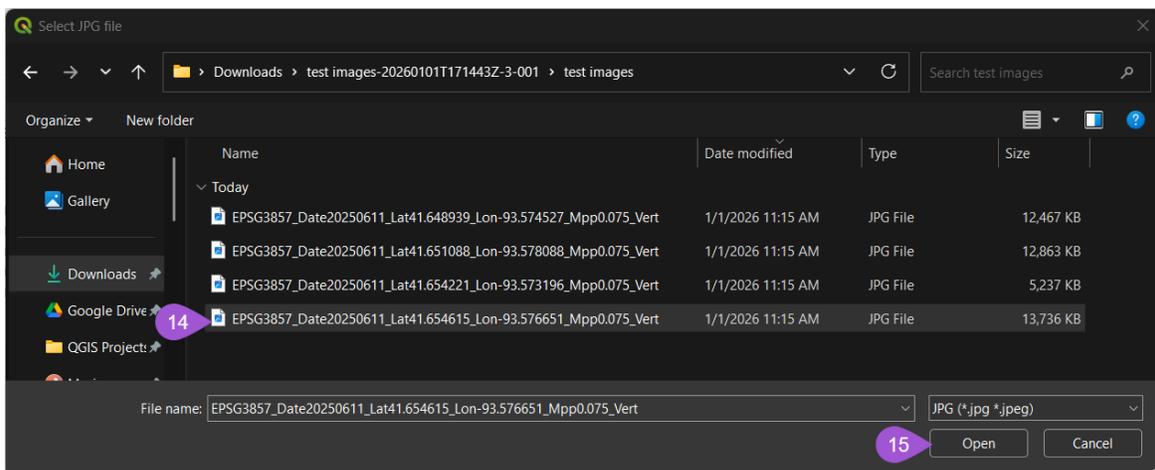


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10. Depending on the file type being used, select the appropriate tool:
 - a.
 - b. If loading a JPG and a JGW, then click on **Load JPG + JGW > Convert to GeoTIFF**
 - c. If loading a SID file, then click on **Load SID > Convert to GeoTIFF**



11. Navigate to your local folder with the JPG+JGW (or SID) files, and **click** the file to convert (only one file can be selected at a time)
12. **Note:** if selecting a JPG file, the JGW sister file must be in the same folder
13. Navigate to your file location, select the file and select **Open**



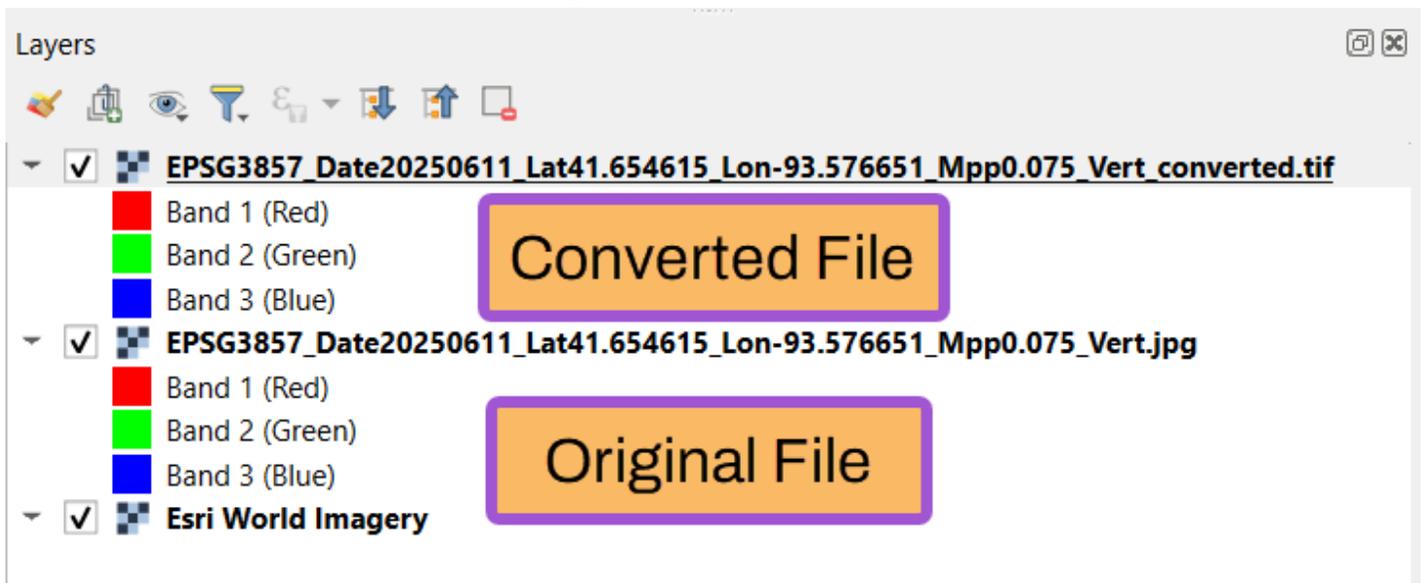


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14. A message indicating successful conversion of the file to a GeoTIFF file, and indicates the location of the converted file (located within the project folder specified earlier), click **OK**



15. In the Layer Manager, there will now be two layers; the original image and the converted GeoTIFF image; these layers can be turned on/off to verify the images are geolocated in the correct location and are at an acceptable resolution

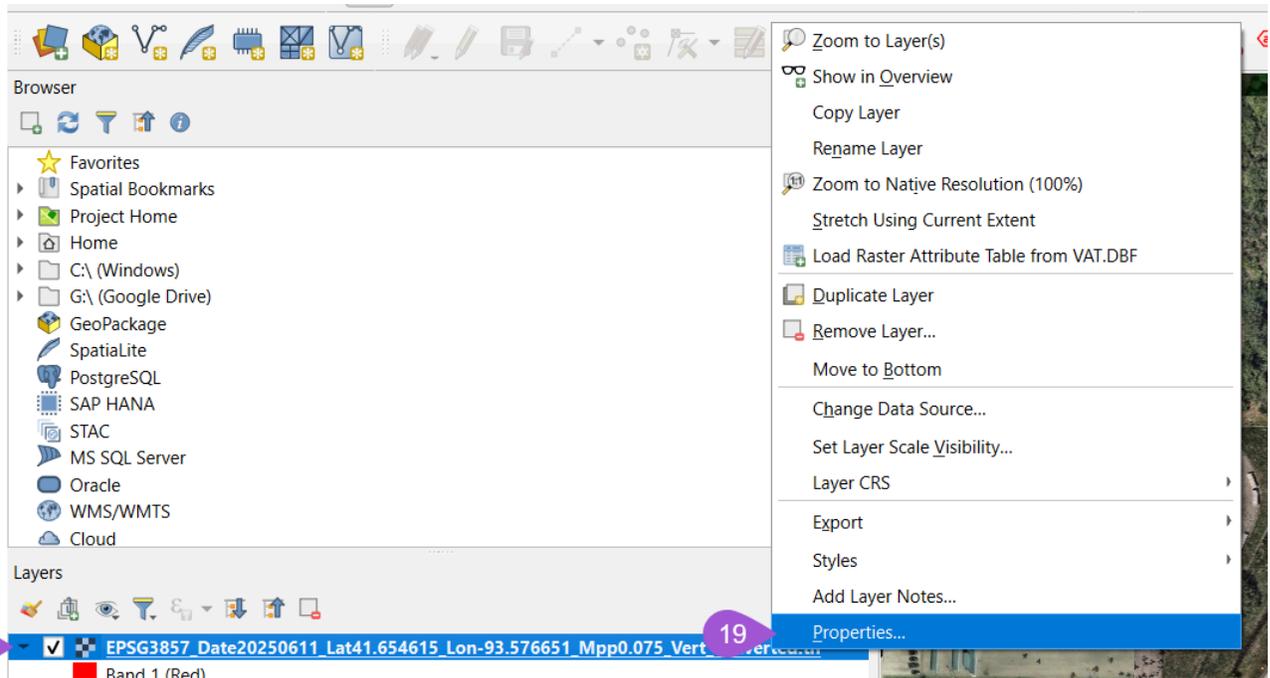




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16. To access the GeoTIFF (.tif) file, and later upload into Asphalt Intelligence, **right-click** the layer of the converted file

17. Click **Properties**





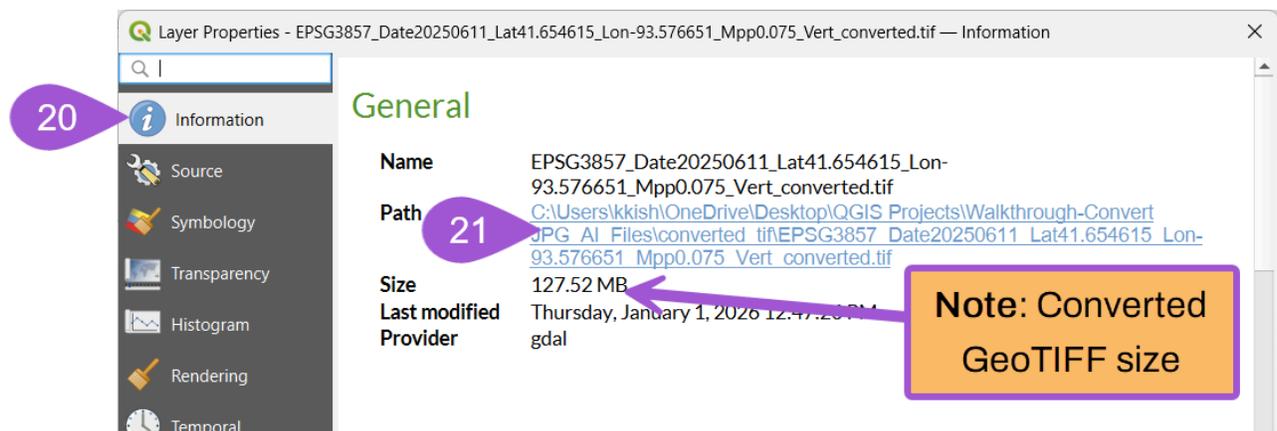
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18. Click on **Information** (at the top of the menu)

d. **Note:** If the converted GeoTIFF size is more than **50 MB**, then the file is too large to upload to Asphalt Intelligence. Smaller files process faster. Review QGIS tools and walkthroughs to reduce the image size, or alter the image resolution referencing the following links:

- i. QGIS Clip Raster by Polygon - [YouTube Link](#)
- ii. QGIS Reduce Raster Resolution - [YouTube Link](#)
- iii. QGIS Documentation - [Raster Properties](#) & [Raster Extraction](#)

19. Click on the hyperlink location next to Path



20. This will bring up the local folder where converted GeoTIFF files are located; if multiple files are converted they will all populate in this location.