

STANDARD GUIDANCE

Replace SID Aerial File with Clipped Aerial PDFs for Detail Sheets (2G Series)

Revision	0	Prepared By	HDR
Applies To	TDOT 2G Detail Sheets	Software/Tools	Open Roads Designer / ProjectWise

1. Purpose

This guide establishes a standard process for replacing large TDOT SID aerial raster files with smaller clipped aerial PDF files for 2G detail sheets. The intent is to reduce CAD file size, improve file transfer performance, and maintain acceptable aerial image quality for TDOT submittals.

2. Scope

This procedure applies to CAD files used to develop 2G detail sheets where SID aerials are required for project background mapping. It covers downloading the appropriate SID aerial, verifying coordinate setup, creating clipped aerial PDFs, attaching the PDFs through Raster Manager, and cleaning up the project file after verification.

3. Definitions

Term	Definition
SID Aerial	Source aerial image file used as the project background raster.
Clipped Aerial PDF	A smaller PDF created by printing a limited aerial extents area from the source SID aerial.
2G Detail Sheets	Detail sheet series where aerial background information is required.
Raster Manager	MicroStation/OpenRoads tool used to attach, manage, and display raster imagery and PDFs.
Fence	A defined boundary used to limit the print area to a specific portion of the design file.

4. Procedure

4.1 Download the SID Aerial File

1. Open the approved TDOT aerial drive or project aerial source.
2. Download the appropriate county SID aerial file to the project directory.
3. Confirm the downloaded file location is accessible to the project team.

4.2 Confirm the Coordinate System in the CAD File

4. Open the CAD file containing the 2G detail sheets.
5. Confirm that a geographical coordinate system is assigned to the file.
6. Verify that the same coordinate system setup is used consistently for the 2G sheet workflow. The exact coordinate system may vary by project, but it must be consistent for the aerial attachment and sheet clipping process.

4.3 Attach and Align the SID Aerial

7. In the design or parent model, attach the SID file using Raster Manager.

8. Confirm that the SID aerial is attached at a 1:1 scale. For example, 100 ft in CAD should equal 100 ft on the SID aerial.
9. Perform a quick scale check using a known roadway dimension, such as confirming that an 11 ft lane in CAD matches 11 ft on the aerial.
10. If needed, move, rotate, or scale the SID aerial to match the existing ORD background aerial that is based on the assigned coordinate system.

4.4 Define the Aerial Extents for the 2G Sheets

11. Measure the total corridor length that needs aerial coverage for the 2G sheet series.
12. If the required aerial coverage is greater than approximately 1 mile or 5,000 ft, create two or more separate clipped aerial PDFs to preserve image quality.
13. Place a 22 in x 34 in rectangle representing the sheet-size clipping area. Scale and position the rectangle to cover the desired aerial area.
14. Turn off unnecessary levels, references, and design information so only the aerial image needed for clipping is visible.
15. Place a fence around the rectangle to define the print area.

4.5 Print the Clipped Aerial PDF

Use the print settings below when creating the clipped aerial PDF. Confirm the project-specific pen table and printer configuration before printing.

Print Setting	Standard Value / Requirement
Printer / Driver	TDOT PDF COLOR / Bentley PDF printer driver, or current approved TDOT PDF configuration
Paper Size	34 in x 22 in
Orientation	Landscape
Area	Fence
Rasterized	Checked / enabled
Color	True Color
Scale / Size	Use project-specific value that captures the required aerial extents
Maximize	Use as needed to fit the fenced area
Auto-center	Checked / enabled
Pen Table	Current approved project or TDOT concept pen table, such as TDOT_ORD_CONCEPT_Pen.tbl

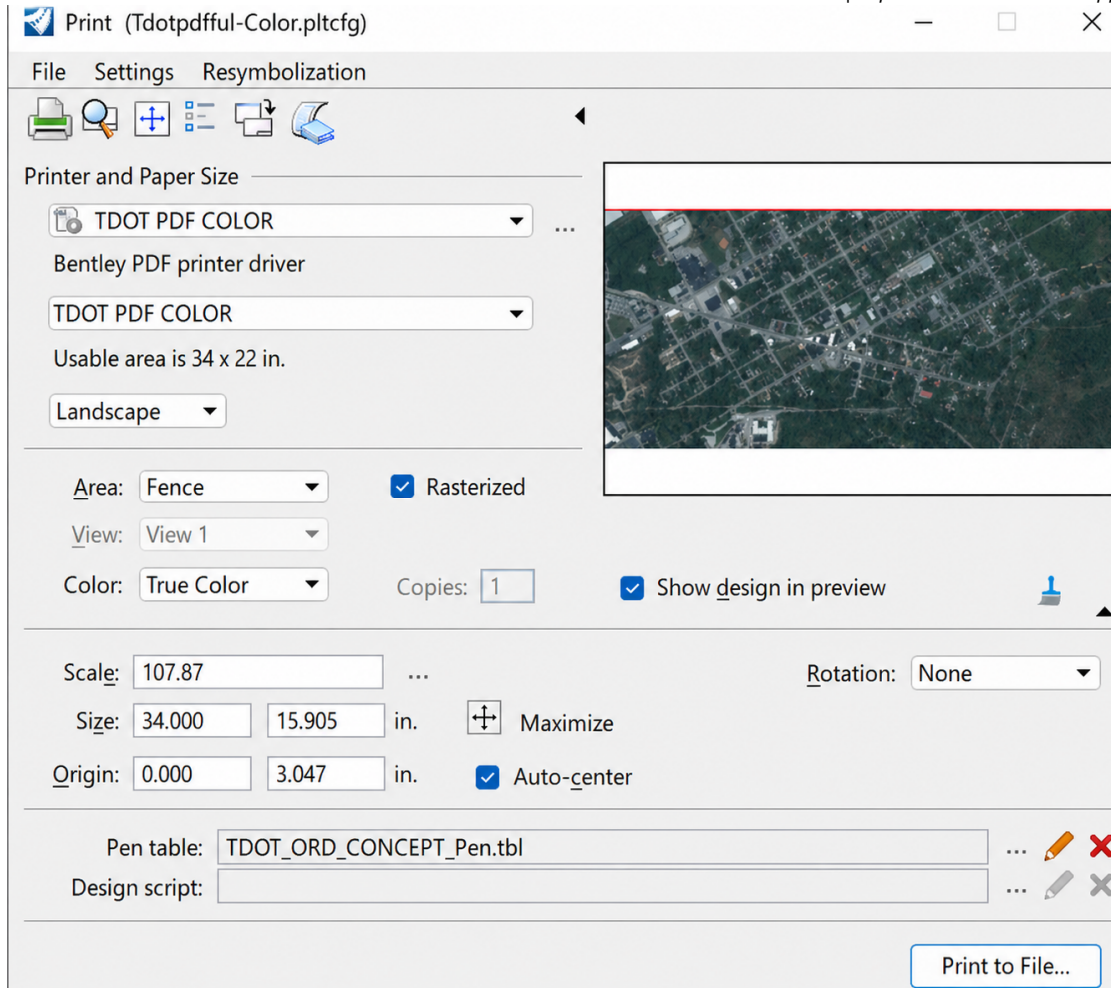


Figure 1. Example clipped aerial print settings. Confirm project-specific printer configuration and pen table before use.

Save the clipped PDF in the project PIN folder under a new subfolder named Aerials. Use a clear file name that includes the 2G series sheet number, so users can easily identify which clipped pdf to be used for each 2G series sheets.

4.6 Attach the Clipped Aerial PDF in Raster Manager

16. Open Raster Manager and attach the newly created clipped aerial PDF.
17. Set Place Interactively to No. This allows the PDF to attach at the same location and scale as the clipped area from the SID, assuming the coordinate system is same across all CAD files for that particular PIN.
18. Confirm the display/print settings are appropriate for the sheet file. The PDF should be printable and visible in the required views.
19. Do not attach the PDF directly as a reference file. If Place Interactively is set to Yes or the PDF is attached as a reference, the PDF may require manual scaling and placement, which is not preferred.

Raster Attachment Setting	Standard Value / Requirement
Place Interactively	No
Print	Printable
Invert	Do Not Invert Display
Transparency	Hide, unless project-specific display requirements require otherwise
Snappable	Snappable
Locked	Unlocked or project-specific standard
GeoCS Behavior	Attach using assigned coordinate system; avoid manual placement where possible

4.7 Remove the SID Aerial and Verify Sheets

20. After the clipped aerial PDF has been attached and verified, detach the original SID file from Raster Manager.
21. Review each 2G sheet to confirm that the aerial is coming from the clipped PDF.
22. Confirm that aerial alignment is correct and that roadway features, lanes, and known project elements are in the expected locations.
23. Confirm that aerial image quality is acceptable for the detail sheets.
24. Perform a test print or print preview as needed to confirm that the aerial displays correctly in the final sheet output.

4.8 Save and Clean Up in ProjectWise

25. Save the CAD file after sheet verification is complete.
26. In ProjectWise, the SID files are not attached to any CAD files.
27. Confirm that the Aerials folder contains the final clipped aerial PDFs used by the 2G sheets.

5. Troubleshooting Notes

Issue	Likely Cause	Recommended Action
PDF attaches in the wrong location	Place Interactively was enabled, coordinate system was not assigned, or source SID was not clipped from the correct location.	Detach the PDF, confirm coordinate system, and reattach with Place Interactively set to No.
Aerial appears blurry	Clip area is too long or print scale is too large.	Create smaller clipped aerial PDFs, preferably keeping each clip under approximately 5,000 ft.
Aerial does not print	Raster print setting is disabled or reference/raster display settings are incorrect.	Confirm the raster is set to Printable and verify print preview with rasterized output enabled.
Aerial does not align with design linework	SID was moved, scaled, or rotated incorrectly, or coordinate systems are inconsistent.	Check scale with known dimensions and realign using the project coordinate setup.