

MDOT - Active Terrain Model Workflow

General Information

This document is intended to provide guidance in using existing ground terrain models for design modeling while using the MDOT_02 workspace for optimal performance and product stability. A working knowledge of CADD, GEOPAK, and roadway modeling are necessary to complete this process.

Part 1: File Verification

Verify that the existing ground 3D triangle DGN provided from survey contains a terrain model of the existing ground survey. If there is only a mesh in the existing triangle 3D DGN file (no terrain model included) follow the workflow in the document *Existing Ground Terrain Model Creation* to make a new DGN file consisting of a reduced file size version of the existing ground terrain model in a new 3D DGN file.

Part 2a: Pre-Existing Corridor or Model DGN Files

To achieve the improved performance; a file containing only the existing ground terrain model (no survey field book data can be included in the file) must replace the Survey 3D (also known as the 3D PL) terrain model DGN file provided from survey as the active terrain model in every roadway corridor and model DGN file.

Use the following steps to replace the active terrain in any preexisting roadway corridor or model DGN file:

1. Clear the active terrain model from the corridor or model file (the 3D existing ground model file that has been used as the active ground)
2. Close the corridor or model DGN file and reopen it
3. Detached the old existing ground terrain model reference file from the corridor or model file
4. Reference attach the existing ground triangle 3D DGN file (either the one made with the aforementioned [workflow](#) or the one provided from survey)
5. Select the boundary of the newly attached existing ground triangle file terrain model and set it as the active terrain
6. Reprocess any corridors, linear templates and civil cells.

NOTE: Attempting any other order of the steps listed above might corrupt the corridor or model files.



Part 2b: New Corridor or Model DGN Files

All new roadway corridor and model files (such as civil cells) should use the terrain models included in the existing ground triangle 3D DGN files (either created with the *Existing Ground Terrain Model Creation* workflow or provided from survey) as the active terrain (the existing ground for modeling).

NOTE: The survey provided Survey 3D DGN file (also known as the 3D PL) should no longer be used as the source of the existing ground active terrain model for any corridor or design model file.

Part 3: File Storage and Usage

The existing ground triangle 3D DGN file should be stored in the project directory along with the corridor and other design model files.

Only the boundary of the attached existing ground terrain model is required to be visible in the 3D view of a corridor or XS file for use in cross sections (dynamic or cut). When using the survey provided existing ground triangle DGN file, place a copy of it in the working DGN model file directory (where the corridor files are stored). Do NOT reference it from a read only location.

The existing ground triangle 3D DGN file attached to any corridor or model DGN file must be included as part of the RID submittal package.

Technical Support

Please email any questions, issues or problems associated with this document to:

MDOT-EngineeringSupportTraining@Michigan.gov

Additional Design Services Help and Support can also be obtained through the following email resources:

MDOT-BridgeDesignSupport@Michigan.gov – For help with bridge design software, cells, levels, and workspace tools.

MDOT-Drainage-Utility@Michigan.gov – For help with GEOPAK Drainage, drainage cells and other subsurface utility modeling tools.

MDOT-CaddSupport@Michigan.gov – For help with cells, levels, line styles, dimensions, and other CADD and workspace tools.

MDOT-RoadwayModelingSupport@Michigan.gov – For help with roadway modeling, modeling templates, civil cells and workspace tools.

MDOT-Survey_Support@Michigan.gov – For help with survey data, workflows and processes.