

Esri Defense Mapping (Desktop)

Cartographic Automation Outline

The cartographic automation production workflow described in this document is intended to highlight the tools available in Esri Defense Mapping that standardize map production and reduce production times. Details for the use of the individual tools can be found in the ArcGIS Help Library. This document is based on Esri Defense Mapping 10.5.1 Patch 7.

Esri Defense Mapping product files

Unpack the Defense Mapping product files

- Unpack Product Files (GP)

This will unzip and copy the product files to a default location or use a custom location to unpack the product files.

Customize Map Template (optional)

- Customize the standard map template as needed
 - Both standard and Rapid Graphic map templates may be customized
 - Typical customizations include the Legend, Glossary, and Notes elements

Create Cartographic Data

- Extract data over Area of Interest (Model)
- Create Contours (GP)
- Create Spot Heights (GP)
- Add Boundary Data from ancillary sources
- Calculate Default Values (GP)
- Edit Map Sheet Information
 - Add or Update AOI attribution in the MapIndex database

Note: If using MGCP TRD2 or TRD3 the user will need to copy the MGCP Carto feature dataset from the MGCP Carto Geodatabase. This MGCP Carto feature dataset has the necessary cartographic feature classes missing from the TRD2 and TRD3 feature catalog.

Prepare Cartographic Data

- Calculate Vertical Obstruction Elevations (GP)
- Calculate Visual Specifications (GP)
- Building Offsets (GP)
- Calculate Bridge Overrides (GP)
- Suppress Spot Heights (GP)

Create Rapid Graphic Map Sheet

- Create Rapid Graphic (GP)
 - Create Rapid Graphic functions are outlined in Appendix A
 - The Create Rapid Graphic GP tool is configured to produce the following products:
 - MTM50
 - MTM100
 - TM25
 - TM50
 - TM100
 - JOGA

Cartographic Automation Export Preparation

- Activate BaseMap
- Run Generate Mask – Then set the masking in advanced drawing options
- Set Symbol Levels for Roads
 - MTM: AP030_Road_Line – RoadL
 - TM: ROAD_C – TransportationGroundCrv
- If you do not use the Delete option when suppress spot height is run.
Remove Hidden (Suppressed) Spot Features
 - Select Feature By Override (GP)
 - Cartography Tools > Representation Management > Select Feature By Override
 - Input Features With Representations = Spot Height Feature Class
 - Select Spot Height Feature Class > Open Attribute Table > Selected Features
 - Delete Selected Features
- Update Map Surround (MXD Layout) elements as needed
 - Glossary Table
 - Notes
- Align Map Surround (MXD Layout) elements as needed
 - One Second Notes
 - North Arrow
 - Adjoining Sheet Guide Notes
 - Boundary Guide Notes
- Export Production PDF (PPDF)
 - Production PDF export files are provided with Esri Defense Mapping
 - ArcMap > File > Load Production PDF Settings...
 - <install path>\ArcGIS\Desktop10.x\Styles
 - Select a Production PDF XML file
 - MTM_Production_PDF.xml
 - TM_Production_PDF.xml

Appendix A – Create Rapid Graphic (GP) Functions

- Rapid Graphic map template features
 - Map Surround (MXD Layout) features
 - TLM Conversion Graph element updates dynamically based on Spot Heights
 - TLM Slope Guide element updates dynamically based on AOI contour interval
 - BaseMap (BM) data frame features
 - Data Layers ordered for exporting
 - Spot Height Labels
 - Contour Labels
 - AdjoiningSheetGuide (ASG) data frame features
 - Data Layers ordered for exporting
 - Adjoining Sheet Labels
 - Adjoining Series Labels
 - BoundaryGuide (BG) data frame features
 - Data Layers ordered for exporting
 - ElevationGuide (EG) data frame features
 - Data Layers ordered for exporting
 - Elevation Spot Labels
 - Elevation Band Symbols
- Rapid Graphic map template updates
 - Runs Populate Map Sheet Info (GP)
- Updates to BaseMap (BM) data frame
 - Creates BM grids using Make Defense Grids (GP)
 - Applies Grid Layout View
 - Runs Suppress Spot Heights
 - Sources data layers
- Updates to AdjoiningSheetGuide (ASG) data frame
 - Creates ASG grids using Make Defense Grids (GP)
 - Applies Grid Layout View
 - Creates ASG data
 - Sources data layers
 - Labels
- Updates to BoundaryGuide (BG) data frame
 - Creates BG grids using Make Defense Grids (GP)
 - Applies Grid Layout View
 - Sources data layers
- Updates to ElevationGuide (EG) data frame
 - Creates EG grids using Make Defense Grids (GP)
 - Applies Grid Layout View
 - Creates EGB data

- Sources data layers