Map Production Pro User Guide
FEMA DFIRM Production Tools
Version 3.0

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What is Map Production Pro?

Map Production Pro (**MPP**) is a tool that automates the production of DFIRM panels, full-panel LOMRs, and LOMR attachments once your versioned DFIRM database has been populated. This tool zooms to features on the selected panel, dynamically creates the panel/LOMR frame, creates the reference grids, and reorders the data layers as appropriate. It also creates the Title Block, Legend, and Notes to Users section for every map layout. Additionally, there are several options which enable you to customize the map layout according to the characteristics of the panel. All map elements meet FEMA's FIRM layout standards, which are described in *Appendix K: Format and Specifications for Flood Insurance Rate Maps* of FEMA's Guidelines and Specifications (hereby referred to as *Appendix K*). **MPP** also enables you to export your map layouts to image file formats.
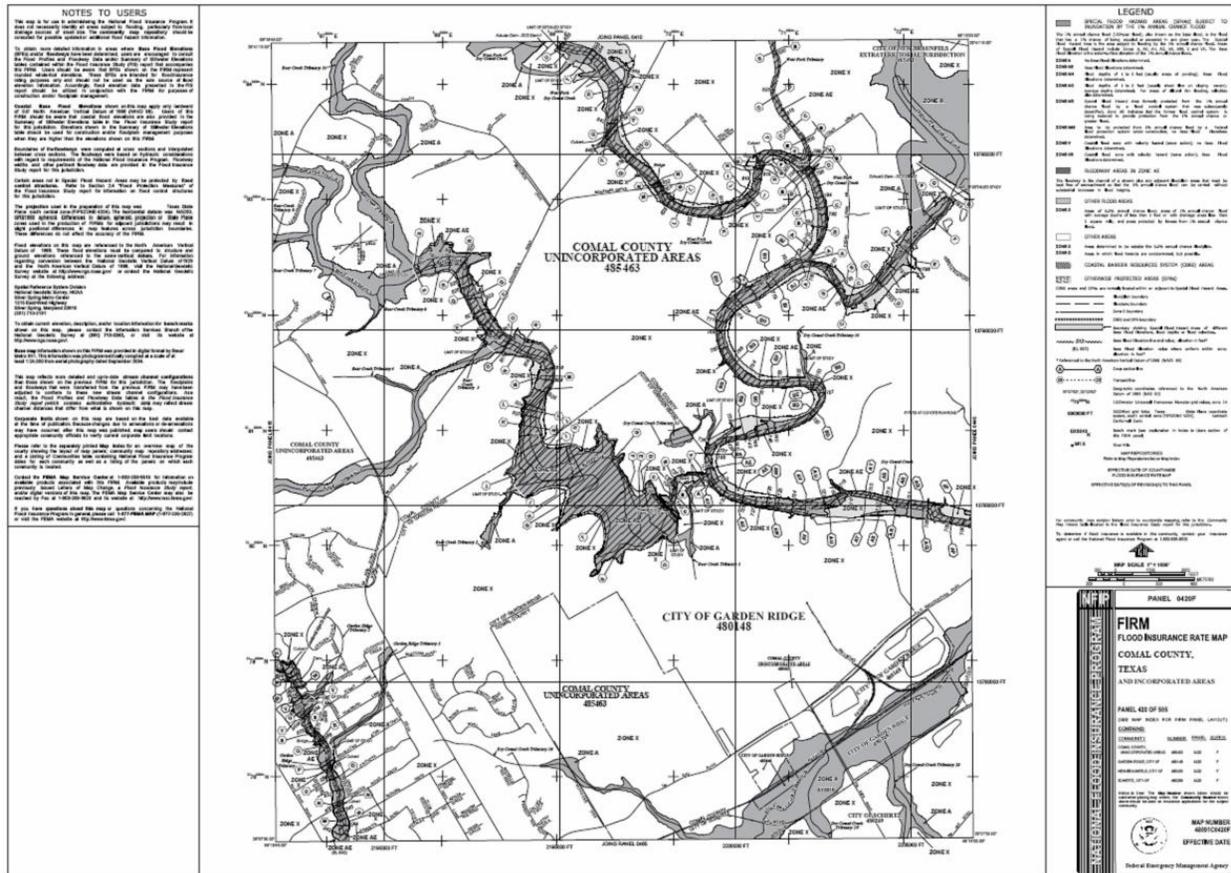
Quick Reference Guide

The following is a quick reference guide to all of the components of **MPP**. You can prepare DFIRM panels and/or LOMR attachments for printing via the **Map Production Pro** dialog. Additionally, you can export map layouts to image formats and create PGW World files.

DFIRM Map Production Pro Dialog

Select one panel for your DFIRM layout.

If applicable, add a Base Map Note to the DFIRM panel.

Choose the logo style.

Choose the date title.

If applicable, add a CBRS Note to the DFIRM panel.

Map Production Pro dialog tools

If applicable, add the initial countywide date to the DFIRM panel.

If applicable, add originating county reference dates.

If applicable, add customizations to the lower left corner of the DFIRM panel.

LOMR Map Production Pro Dialog

Select one panel for your LOMR attachment.

If applicable, add a CBRS Note to the LOMR attachment.

Choose the logo style.

Map Production Pro dialog tools

Verify the title block style.

Choose the frame size.

Set the page orientation and choose the date title for your LOMR attachment.

	Map Production Pro	Create DFIRM panels and LOMR attachments
	Export to Images	Export map layouts to multiple image formats
	Create PGW World File	Create PGW World file for exported .png files
	Export to EPS	Export map layouts to .eps format

Tool Controls

Now that you are ready to produce your DFIRM or LOMR map layouts, you will need to know how to create layouts with **MPP** and then export your layouts to image files.

Map Production Pro Toolbar

Map Production Pro Toolbar

Map Production Pro

The **Map Production Pro** tool displays the tools and options available for creating DFIRM or LOMR map layouts.

Export to Images

The **Export to Images** tool exports DFIRM layouts to 400 dpi images. Vector-based layouts are exported to .eps and .tif format, and raster-based layouts are exported to .eps, .tif, and .png formats.

Create PGW World File

The **Create PGW World File** tool creates .pgw file(s) for the exported .png file(s).

Export to EPS

The **Export to EPS** tool exports the DFIRM layouts to .eps format.

Map Production Pro Dialog Tools

Map Production Pro Dialog Tools

 Create Layout

The **Create Layout** tool views the DFIRM panel or LOMR attachment layout. The layout will be generated for the selected panel, according to the options chosen in the **Map Production Pro** dialog. The layout will be generated in the *Layout* view.

 Clear Graphics

The **Clear Graphics** tool removes all graphics from the current layout.

 Print to PDF

The **Print to PDF** tool prints the displayed layout to .pdf format. The layout will be saved according to the following naming conventions:

> DFIRM Panels and Full-panel LOMRs - D<DFIRM ID>_<Panel#>.pdf (e.g., D06063C_0225.pdf, D218193_0050.pdf)

> LOMR Attachments - L<DFIRM ID>_<Panel#>.pdf (e.g., L06063C_0225.pdf, L218193_0050.pdf)

Note: If you are printing a LOMR attachment to .pdf format, click the *LOMR* tab in the **Map Production Pro** dialog before you click the **Print to PDF** button. This will ensure that the LOMR attachment is saved with the correct naming convention.

The printed .pdfs are stored in the following folder structure on the **MIP**: J:/<region>/<state>/<county>/<county or community>/<FEMA Case Number>/ Mapping/MappingOutputs/PDF.

Note: Hide any suppressed text before printing the panel. Turn off the annotation layer in the table of contents that ends with the '_SUP' suffix.

Note: Use the PDF Export tool to download the .pdf from the **MIP** directory structure to your local drive for printing and/or archiving.

 Cancel

The **Cancel** tool exits the **Map Production Pro** dialog.

Map Production Pro Dialog Options

The *Map Production Pro* dialog enables you to customize your DFIRM panel and LOMR attachment layouts as necessary for your study. However, the options, in the specific sections of the dialog, may vary between the DFIRM and LOMR tabs.

Note: Before creating a layout, run the [Render using VVT Symbology](#) tool on the **PLTS Symbology and QA** toolbar.

Panel

Select a panel number from the list. You can choose to list only printed panels or all panels for your project in the panel selection window by clicking the necessary radio button.
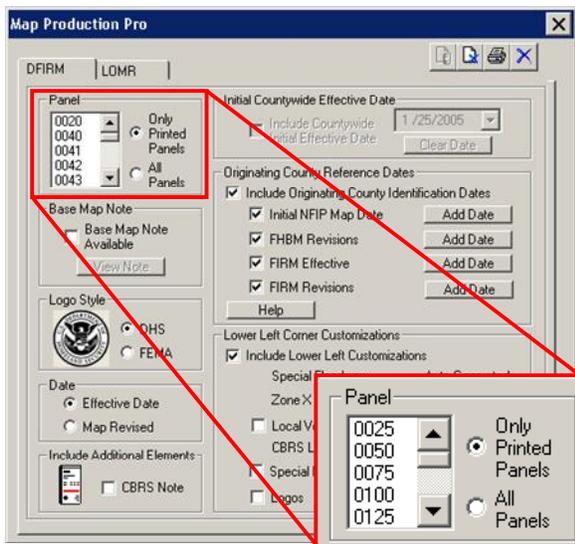
DFIRM Tab
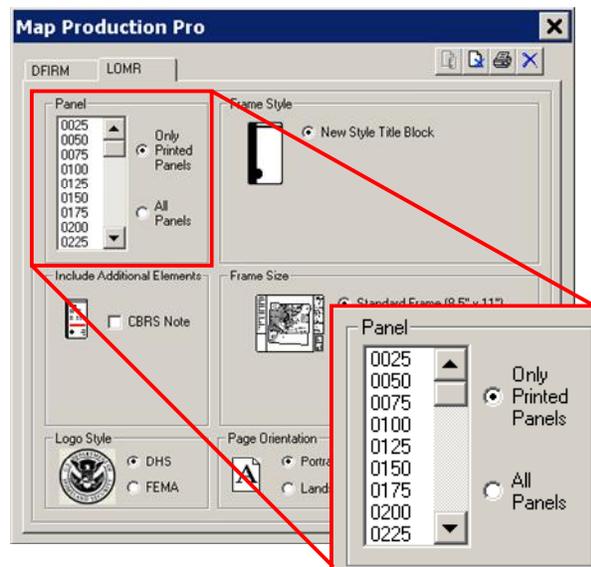
LOMR Tab

Include Additional Elements/ CBRS Note

Check the *CBRS Note* box if the selected map panel contains a Coastal Barriers Resource (CBRS) area. The standard CBRS note will be added to the title block. The red line on the CBRS Note icon in the **Map Production Pro** dialog indicates where the CBRS note will be placed in the title block.
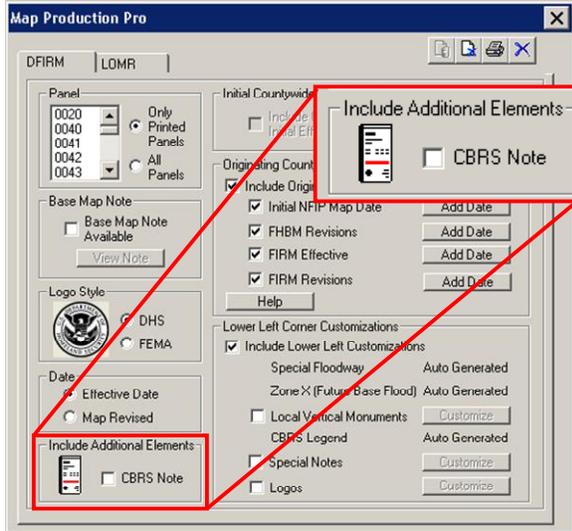
DFIRM Tab
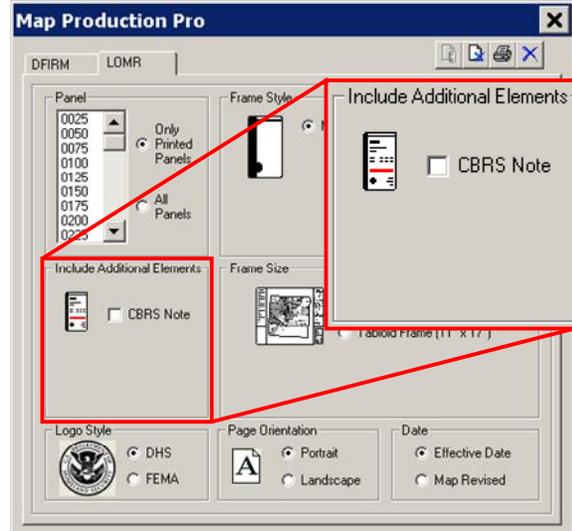
LOMR Tab

Logo Style

Choose which logo (i.e., DHS, FEMA) is appropriate to display in the title block. To determine which logo is correct for your project, use the following guidelines:

1. If this is a new DFIRM, use the DHS logo.
2. If only part of the DFIRM is being republished, use the logo on the old map.
3. For a LOMR, use the same logo on the new map that appears on the old map.

DFIRM Tab

LOMR Tab

Date

Select a date format for your layout (i.e., Effective Date, Map Revised). The date will be generated from the value in the *Effective Date* (EFF_DATE) field in the FIRM Panel Index (S_FIRM_Pan) data layer.
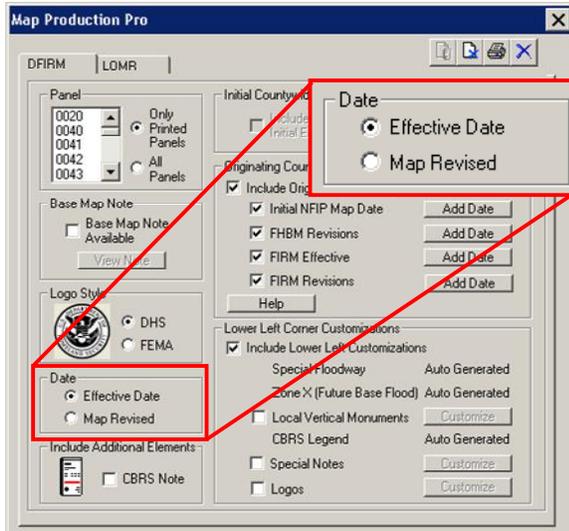
DFIRM Tab
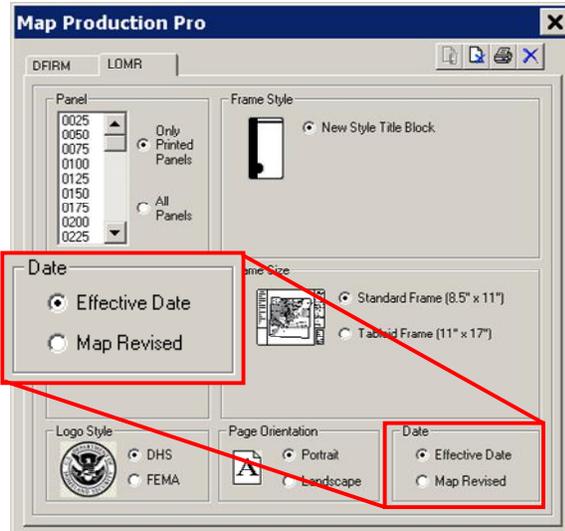
LOMR Tab

Note: If your effective date has not yet been established, then enter the value '99990909' in the *Effective Date* field (EFF_DATE) in the FIRM Panel Index layer (S_FIRM_Pan). This value acts as a null value and will not be displayed in the layout.

Frame Style

Verify that you will use the New Style Title Block in your LOMR attachment. The New Style will always include a community listing.
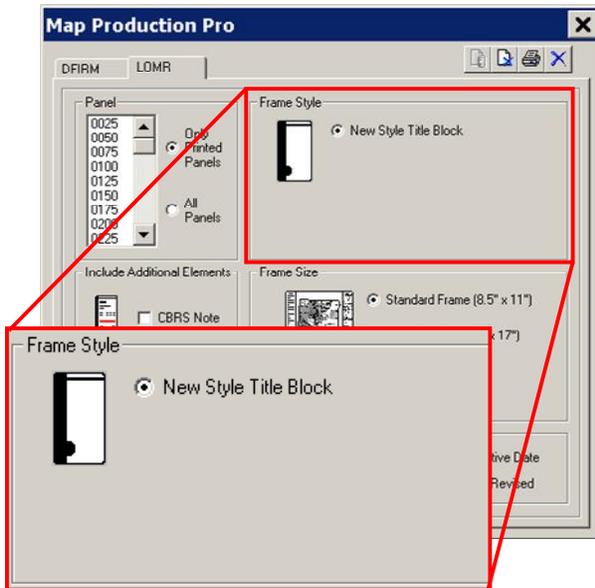
LOMR Tab only

Note: The frame style for DFIRM panels and full-panel LOMRs is set and cannot be modified.

Frame Size

Choose the appropriate frame size for your LOMR attachment. The two frame sizes are standard frame (8.5" x 11") and tabloid frame (11"x17").
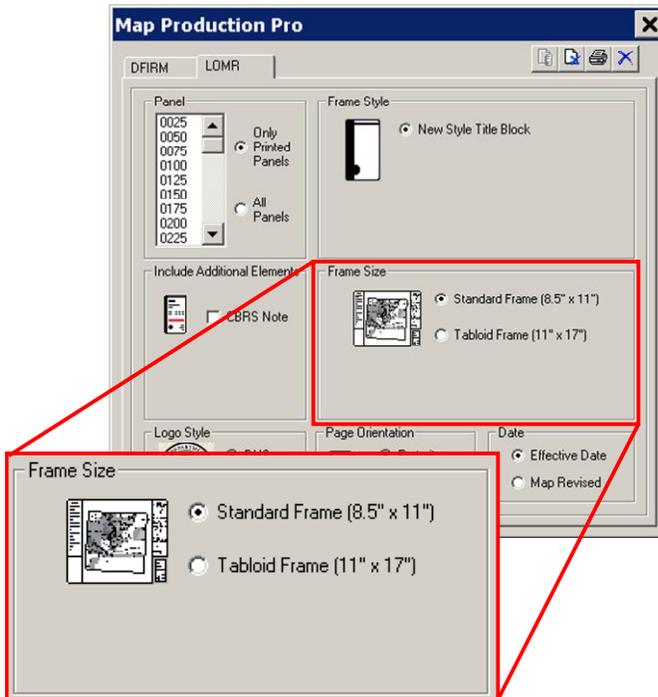
LOMR Tab only

Note: The frame size for DFIRM panels and full-panel LOMRs is set (25.875" x 36") and cannot be modified.

Page Orientation

Select the portrait or landscape page orientation for your LOMR attachment.
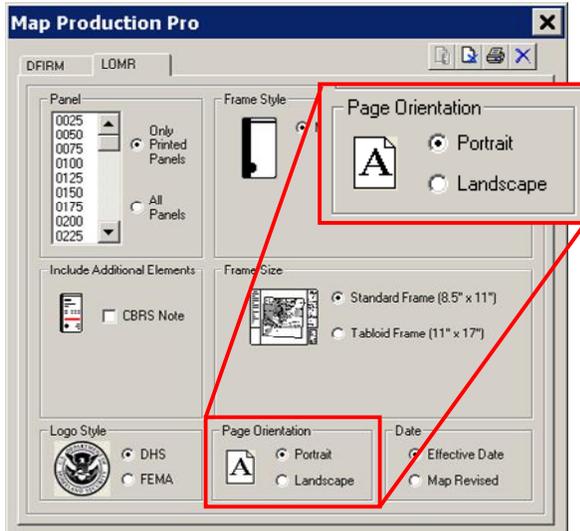
LOMR Tab only

Note: DFIRM panels and full-panel LOMRs are printed in landscape orientation only.

Base Map Note

View, add, update, or delete the base map note for the DFIRM panel or full-panel LOMR. The base map note is displayed in the *Notes to Users* section on the map layout.
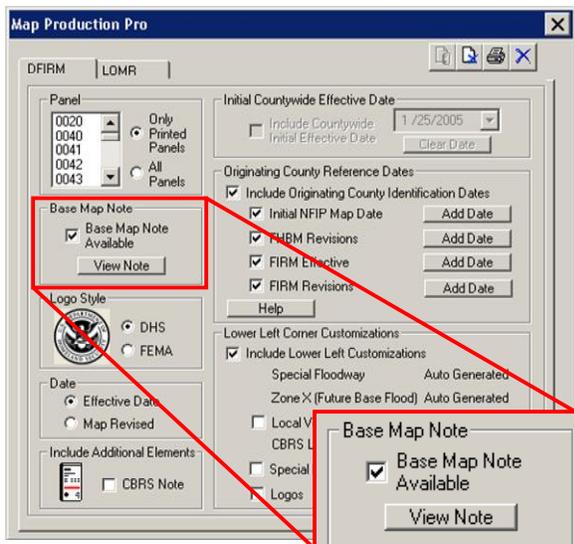
DFIRM Tab only

If a base map note has not been stored in the internal table, upon launching **MPP** the *Base Map Note Available* box will not be checked. If a base map note is already stored in the internal table, upon launching **MPP** the *Base Map Note Available* box will already be checked, and the stored base map note will be populated in the **Base Map Note** dialog.

Note: If the *Base Map Note Available* box is not checked, no information will be included on the map layout, regardless of whether actual information does exist in the **Base Map Note** dialog.

Clicking the *View Note* button accesses the **Base Map Note** dialog.
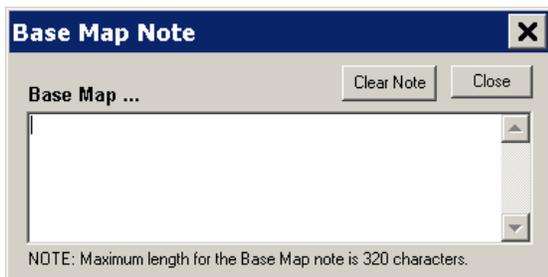
If a base map note has been stored in the internal table, it will be displayed in the **Base Map Note** dialog. If the **Base Map Note** dialog is empty, then a base map note does not currently exist. To edit the existing note or add a new note, type changes into the dialog and create a panel layout. To purge the existing base map note from the internal table, click the *Clear Note* button to delete the text in the dialog.

The base map note will automatically start with the words "Base Map". For example, if you enter "data was obtained…", then the text will be displayed in the *Notes to Users Section* as "Base map data was obtained…". The base map note has an approximate limit of 320 characters; spaces are included in the character counts, and wider letters (e.g., M, W) may count as more than one character.

Note: The base map note will be applied to every panel created from that point on in that child job. It is only necessary to enter the note once per child job, because the base map note is stored for the JTX Job ID in an internal table. However, since every job has a unique JTX Job ID, the base map note must be entered into every child job.

Initial Countywide Effective Date

Check the *Include Countywide Initial Effective Date* box and enter the date to display on the DFIRM panels or full-panel LOMRs. This countywide initial effective date will appear under the heading EFFECTIVE DATE OF COUNTYWIDE FIRM in the panel Legend. This option will be available only for countywide studies.
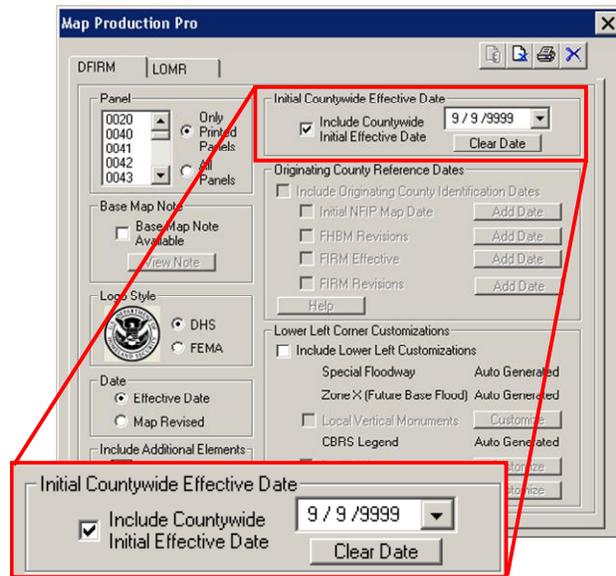
DFIRM Tab only

The countywide initial effective date is stored in an internal table once a user on the project enters a date and creates a layout. This record in the table applies to the entire study, not just a single panel (i.e., there is only one record for each study).

If a date has not been stored or a null date (i.e., 9/9/9999) is stored in the internal table, upon launching **MPP** the *Include Countywide Initial Effective Date* box will not be checked. If a date is already stored in the internal table, upon launching **MPP** the *Include Countywide Initial Effective Date* box will already be checked, and the stored date will be populated in the date dialog.

Note: If the *Include Countywide Initial Effective Date* box is not checked, no information will be included on the map layout, regardless of whether actual information does exist in the date dialog.

To enter or edit the date, either type the date into the date dialog in the format mm/dd/yyyy or click the dropdown menu to access a calendar dialog from which to select the date. If the date has been populated erroneously, purge the date from the internal table by clicking the *Clear Date* button. This will enter a null value (i.e., 9/9/9999) in the date dialog. **MPP** will not display the null dates in the panel legend.

Note: To change or purge the countywide initial effective date, you must recreate all of the panel layouts which were created prior to the date change; otherwise, the countywide initial effective date will be inconsistent between panels within the project.

Note: The countywide initial effective date value entered in the **Map Production Pro** dialog is printed in the Legend under the heading EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP; whereas, the effective date printed in the title block is dictated by the value in the *Effective Date* (EFF_DATE) field in the FIRM Panel Index (S_FIRM_Pan) feature class.

Originating County Reference Dates

Enter originating county reference identification dates. This option will be available only for community-based studies.

Originating county is defined as the county from which a newly-incorporated community was extracted. If a single jurisdiction is newly-incorporated and the area in question was previously mapped as the county, all of the county's historical dates should be included in the single jurisdiction Legend. Similarly, if a community is newly mapped (e.g., previous status – all zone C/X) due to annexation and the existing Special Flood Hazard Area (SFHA) from the originating county has been incorporated, the originating county's historical dates shall be added to the single jurisdiction Legend.
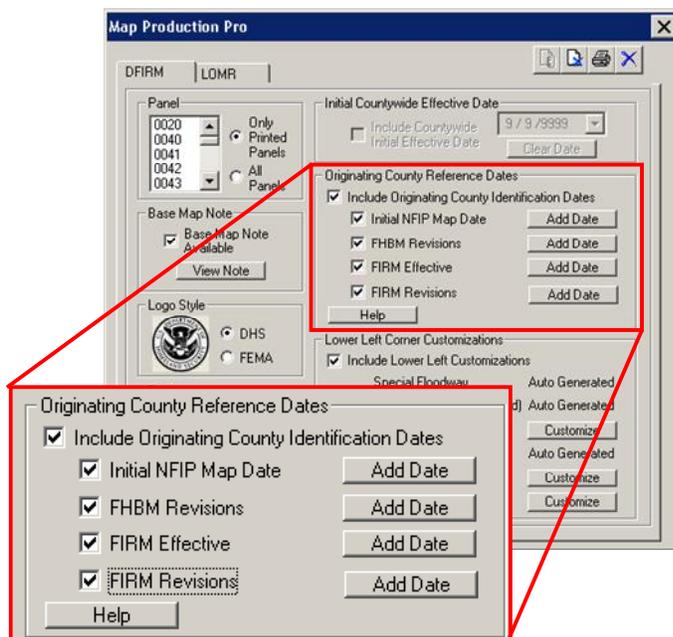
DFIRM Tab only

Click the *Include Originating County Identification Dates* box to include any of the originating identification date(s) and county(ies) information in the map Legend (i.e., Initial NFIP Map Date, FHBM Revisions, FIRM Effective, and FIRM Revisions). If no originating identification information has been stored in the internal table, upon launching **MPP** the *Include Originating County Identification Dates* box will not be checked. If any originating identification information is already stored in the internal table, upon launching **MPP** the *Include Originating County Identification Dates* box and the pertinent date box(es) will already be checked. The stored originating identification information will be populated in the **Data Entry** dialog.

Note: If the *Include Originating County Identification Dates* box is checked but a specific subsection checkbox is unchecked (e.g., *Initial NFIP Map Date*), no information will be included on the map layout, regardless of whether actual information does exist in the subsection's **Data Entry** dialog. Similarly, if the *Include Originating County Identification Dates* box is not checked but a specific subsection checkbox is checked, no information from any of the subsections will appear on the map layout.

Click the associated checkbox next to the pertinent date subsection, and click the *Add Date* button to access the **Data Entry** dialog.
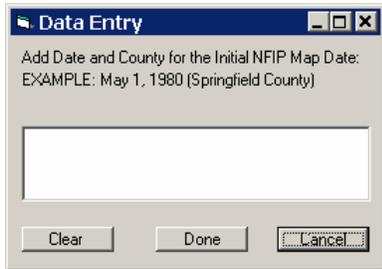
Initial NFIP Map Date dialog used to enter date(s) and county(ies) information
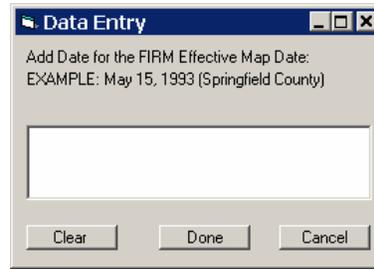
FIRM Effective Map Date dialog used to enter date(s) and county(ies) information
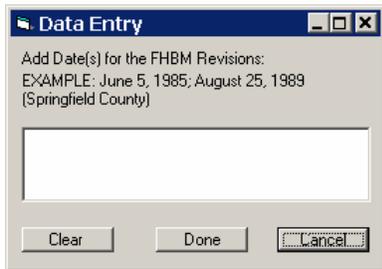
FHBM Revisions dialog used to enter date(s) and county(ies) information
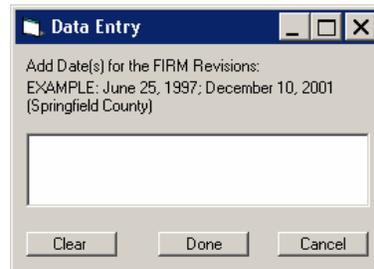
FIRM Revisions dialog used to enter date(s), county(ies), and note information

If date and county information in a specific subsection has been stored in the internal table, it will be displayed in the subsection's **Data Entry** dialog. If the **Data Entry** dialog is empty for a specific subsection, then date and county information does not currently exist for that subsection. To edit the date and/or county information or add new information, type changes into the dialog, click *Done*, and create a panel layout. To purge the existing date and county information from the internal table, click the *Clear* button to delete the text in the subsection's dialog.

Note: For all originating county identification subsections, the text in the panel should include both the date and the originating county, such as "May 1, 1980 (Springfield County)". The actual text will appear in the map layout exactly as you entered it into the **Data Entry** dialog(s).
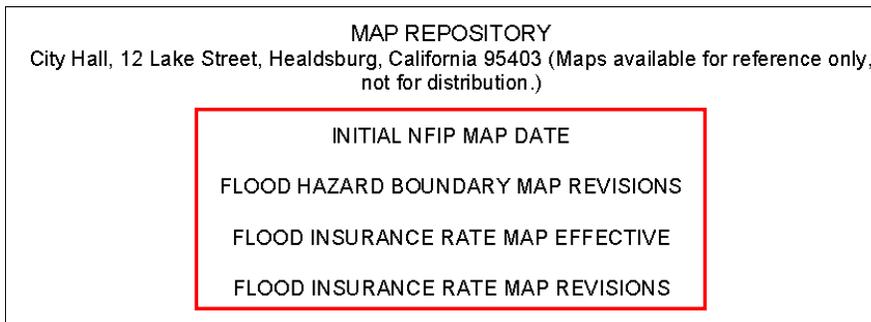
Map date headings, as displayed in the map Legend

Note: If the *Initial NFIP Map Date* or *FIRM Effective* box is checked, upon layout creation these new values will override the populated values in the L_Comm_Info table from appearing in the map Legend. However, you should still populate L_Comm_Info with the appropriate dates. For instance, if your information is "June 1, 1995 (Springfield County)", then that wording should be entered in the **Data Entry** dialog and the date 6/1/1995 should be stored in the L_Comm_Info table.

Note: If the *FIRM Revisions* box is checked and the L_Pan_Revis table is populated, then the FIRM revisions information from the **Map Production Pro** dialog will be placed at the beginning of the date list and the L_Pan_Revis values will follow.

Lower Left Corner Customizations

Add customizations to the lower left corner of the map panel layout (i.e., Special Floodway, Zone X, Local Vertical Monuments, CBRS Legend, Special Notes, and Logos).
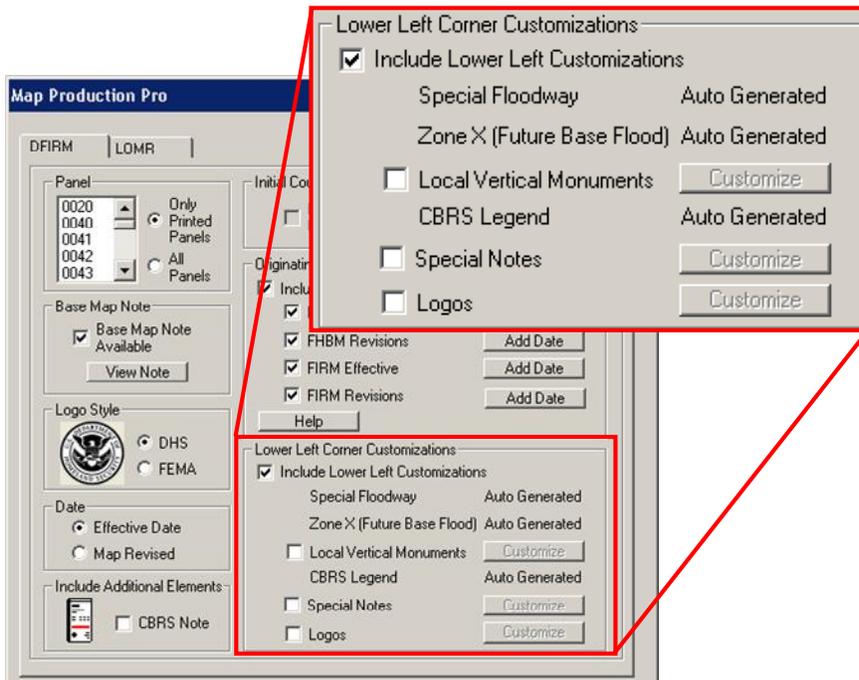
DFIRM Tab only

Note: If the *Include Lower Left Customizations* box is checked but a specific subsection checkbox is unchecked (e.g., *Local Vertical Monuments*), no information, other than the auto-generated customizations, will be included on the map layout, regardless of whether actual information does exist in the subsection's dialog (e.g., **Local Vertical Monument** dialog). Similarly, if the *Include Lower Left Customizations* box is not checked but a specific subsection checkbox is checked, no information from any of the subsections will appear on the map layout.

Special Floodway

The **Special Floodway** customization displays the symbols and labels for special floodways in the lower left corner of the map panel. Special floodways are not shown in the map Legend. The symbol and label are generated automatically for panels that contain special floodway features if the *Include Lower Left Customizations* box is checked.

⊠	DENSITY FRINGE AREA
⊠	ADMINISTRATIVE FLOODWAY
⊠	FLOODWAY CONTAINED IN CHANNEL
───	FLOWAGE EASEMENT BOUNDARY
⊠	AREA OF SPECIAL CONSIDERATION
⊠	COLORADO RIVER
─◇─	STATE ENCROACHMENT
⊠	COMMUNITY ENCROACHMENT AREA

Special Floodway symbols, as displayed in the lower left corner of the map panel

Note: Additional special floodway symbols and labels will be added to the domain, as necessary for projects. Contact MIPHelp (MIPHelp@mapmodteam.com; 1-877-FEMA-MAP, option 2) to request new special floodways specific to your project.

Zone X (Future Base Flood)

The **Zone X (Future Base Flood)** customization displays the symbol and note for Zone X (Future Base Flood) in the lower left corner of the map panel. Zone X (Future Base Flood) is not shown in the map Legend. The symbol and note are generated automatically for panels that contain Zone X (Future Base Flood) features if the *Include Lower Left Customizations* box is checked.

	Zone X (Future Base Flood)
	Zone X (Future Base Flood) is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined based on future-conditions hydrology. No BFEs or base flood depths are shown within this zone.

Zone X (Future Base Flood) symbol and note, as displayed in the lower left corner of the map panel

Local Vertical Monuments

The **Local Vertical Monuments** customization displays the symbol and note for local vertical monuments in the lower left corner of the map panel. Only the symbol for benchmarks is shown in the map Legend. If the *Local Vertical Monuments* box is checked, then the symbol and note will be displayed regardless of whether the feature(s) falls within the panel extents.

If a local vertical monument note has not been stored in the internal table, upon launching **MPP** the *Local Vertical Monuments* box will not be checked. If a local vertical monument note is already stored in the internal table, upon launching **MPP** the *Include Lower Left Customizations* box and the *Local Vertical Monuments* box will already be checked.

Click the *Customize* button to access the **Local Vertical Monument** dialog.
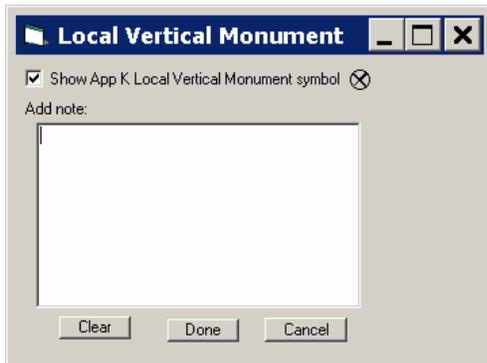
If a local vertical monument note has been stored in the internal table, it will be displayed in the **Local Vertical Monument** dialog. If the **Local Vertical Monument** dialog is empty, then a note does not currently exist. To edit the existing note or add a new note, type changes into the dialog, click *Done*, and create a panel layout. To purge the existing local vertical monument note from the internal table, click the *Clear* button to delete the text in the dialog.

Click the *Show App K Local Vertical Monument symbol* box to display the *Appendix K*-compliant symbol for local vertical monuments. If the box is not checked, then the standard benchmark symbol will be displayed with the note in the lower left corner of the map panel.

Local Vertical Monument symbol   Standard Benchmark symbol

CBRS Legend

The **CBRS Legend** customization displays the CBRS (Coastal Barrier Resource System) and/or OPA (Otherwise Protected Area) notes in the lower left corner of the map panel. The Legend note(s) is generated automatically for panels that contain CBRS and/or OPA features if the *Include Lower Left Customizations* box is checked.

The contents of the note(s) are generated based upon the information stored in the CBRS (S_CBRS) data layer.

COASTAL BARRIER LEGEND

10-01-83 Coastal Barrier

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTAN-
TIALLY IMPROVED STRUCTURES ON OR AFTER OCTOBER 1, 1983, IN
DESIGNATED COASTAL BARRIERS.

11-16-90 Coastal Barrier

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTAN-
TIALLY IMPROVED STRUCTURES ON OR AFTER NOVEMBER 16, 1990, IN
DESIGNATED COASTAL BARRIERS.

11-16-91 Otherwise Protected Area

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES - NEWLY BUILT OR SUB-
STANTIALLY IMPROVED ON OR AFTER NOVEMBER 16, 1991 - NOT USED IN
A MANNER CONSISTENT WITH THE PURPOSE OF THE OTHERWISE
PROTECTED AREAS.

**Comments or concerns regarding the Coastal Barrier Resources System
or Otherwise Protected Areas should be directed to the Coastal Barrier
Coordinator at the U.S. Fish and Wildlife Service; (413) 253-8657.**

Sample CBRS note, as displayed in the lower left corner of the map panel

Special Notes

The **Special Notes** customization displays any additional note(s) that you wish to include for the project.

If a special note has not been stored in the internal table, upon launching **MPP** the *Special Notes* box will not be checked. If a special note is already stored in the internal table, upon launching **MPP** the *Include Lower Left Customizations* box and the *Special Notes* box will already be checked.

Click on the *Customize* button to access the **Add Special Notes** dialog.
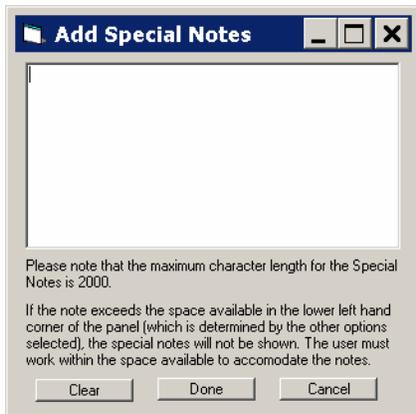
If a special note has been stored in the internal table, it will be displayed in the **Add Special Notes** dialog. If the **Add Special Notes** dialog is empty, then a note does not currently exist. To edit the existing note or add a new note, type your changes into the dialog, click *Done*, and create a panel layout. To purge the existing special note from the internal table, click the *Clear* button to delete the text in the dialog.

The special note(s) has an approximate limit of 2000 characters; spaces are included in the character counts, and wider letters (e.g., M, W) may count as more than one character. This estimate does not account for other lower left corner customizations being included on the map panel, in addition to any special notes that also affect available character space.

Logos

The **Logo** customization displays any additional logo(s) on the map layout in the lower left corner. The logo(s) must be located in the \Mapping\MISC folder on the J drive (Production drive), and it must be in .bmp, .gif, .jpg, or .tif file format.

Click on the *Customize* button to access the **Add Logos** dialog.
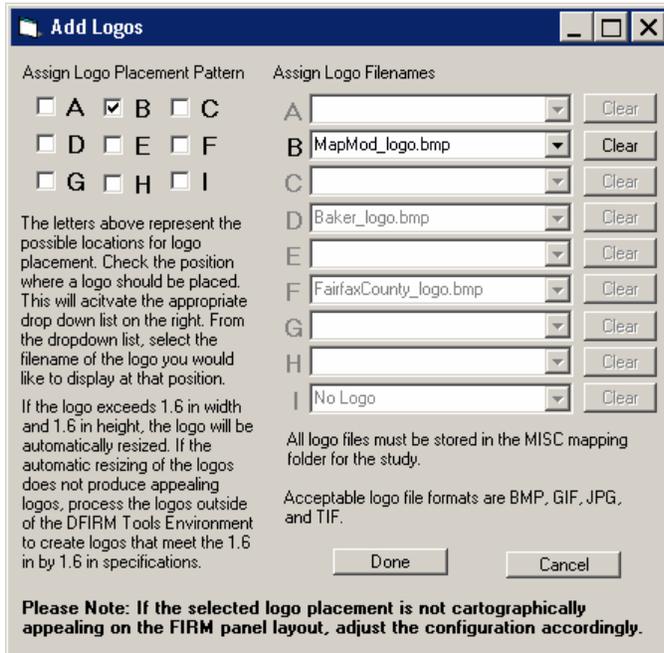
Check the lettered box next to the appropriate placement pattern for the logo(s), and select the logo file(s) from the associated dropdown list(s). If the lettered checkbox is not checked, the logos will not be displayed on the map layout, even if a logo is populated in the lettered dropdown list.

If you have any other lower left corner customizations (e.g., CBRS Legend, Special Notes) in your map layout, the logo(s) will be placed underneath the other customizations, according to the pattern that you indicate in the **Add Logos** dialog. However, you can change the graphic properties and placement in the map layout, if necessary.
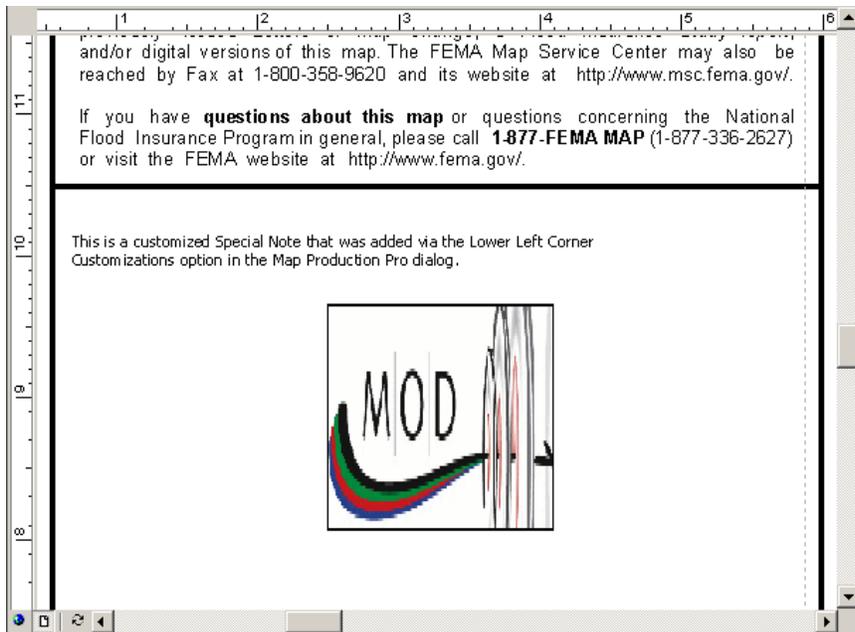
Example of the orientation of multiple lower left corner customizations in the map layout.

Note that the original .bmp image was 2.8" x .73"; therefore, the Mod Team logo was automatically resized to 1.6" x 1.6". If this is not acceptable, the image could either be processed outside of DFIRM Tools to adhere to the size restrictions or you could double-click the image in the map layout and manually change the properties.

Note: If the lower left customizations exceed the allowable space in the lower left corner of the map panel, none of the logos will be shown on the layout.

Data Layer Ordering

Data layers within the Table of Contents are automatically re-ordered when a map layout is created via **MPP**. The re-ordering is based upon best practices for DFIRM production, according to feature importance and visual display.

Only those data layers loaded into the Table of Contents, prior to creating your map layout via **MPP**, will be re-ordered. If a specific layer (e.g., Water Gage [S_Water_Gage]) is not loaded into the Table of Contents, **MPP** will not load the data upon layout creation.

Any additional data layers not included in the lists in the DFIRM Map Layout or the LOMR Map Layout sections will be demoted to the bottom of the Table of Contents. This also applies to any annotation data layers that you have loaded.

Note: By the very nature of annotation data layers, annotation features will display on top of all other data layers, regardless of the annotations' location in the Table of Contents.

DFIRM Map Layout

DFIRM Map Layout implies that you clicked Create Layout while the DFIRM tab was active in the Map Production Pro dialog.

Note: Only the most common data layers are loaded into the Table of Contents when ArcMap is launched. Any additional data layers must be added via the DFIRM Layer Data Loader. **MPP** will not add any data layers to the Table of Contents when you create the map layout.

The following list is the order in which the data layers are arranged in the Table of Contents:

Panel_Mask.shp	(automatically generated by **MPP**)
FIRM Panel Index	(S_FIRM_Pan)
River Mile Markers	(S_Riv_Mrk)
Permanent Benchmark	(S_Perm_Bmk)
Coastal Gage	(S_Cst_Gage)
Precipitation Gage	(S_Precip_Gage)
Water Gage	(S_Water_Gage)
BFE	(S_BFE)
Cross Section	(S_XS)
Coastal Transect Line	(S_Cst_Tsct_Ln)
Political Line	(S_Pol_Ln)
General Structure	(S_Gen_Struct)
Flood Hazard Line	(S_Fld_Haz_Ln)
Profile Baseline	(S_Profil_Basln)
Water Line	(S_Wtr_Ln)
PLSS Line	(S_PLSS_Ln)
Transportation	(S_Trnsport_Ln)
CBRS	(S_CBRS)
Flood Hazard Area	(S_Fld_Haz_Ar)
Water Area	(S_Wtr_Ar)
Political Area	(S_Pol_Ar)
PLSS Area	(S_PLSS_Ar)
Ortho_Catalog.dbf	(if raster-based project)

Note: If you are creating a full-panel LOMR, you will have to manually place the LOMR Line (S_LOMR_Ln) data layer between the Water Gage (S_Water_Gage) and the BFE (S_BFE) data layers.

LOMR Map Layout

LOMR Map Layout implies that you clicked [Create Layout](#) while the LOMR tab was active in the [Map Production Pro](#) dialog.

Note: Only the most common data layers are loaded into the Table of Contents when ArcMap is launched. Any additional data layers must be added via the [DFIRM Layer Data Loader](#). **MPP** will not add any data layers to the Table of Contents when you [create the map layout](#).

The following list is the order in which the data layers are arranged in the Table of Contents:

Panel_Mask.shp	(automatically generated by **MPP**)
FIRM Panel Index	(S_FIRM_Pan)
River Mile Markers	(S_Riv_Mrk)
Permanent Benchmark	(S_Perm_Bmk)
Coastal Gage	(S_Cst_Gage)
Precipitation Gage	(S_Precip_Gage)
Water Gage	(S_Water_Gage)
LOMR Line	(S_LOMR_Ln)
BFE	(S_BFE)
Cross Section	(S_XS)
Coastal Transect Line	(S_Cst_Tsct_Ln)
Political Line	(S_Pol_Ln)
General Structure	(S_Gen_Struct)
Flood Hazard Line	(S_Fld_Haz_Ln)
Profile Baseline	(S_Profil_Basln)
Water Line	(S_Wtr_Ln)
PLSS Line	(S_PLSS_Ln)
Transportation	(S_Trnsport_Ln)
CBRS	(S_CBRS)
Flood Hazard Area	(S_Fld_Haz_Ar)
Water Area	(S_Wtr_Ar)
Political Area	(S_Pol_Ar)
PLSS Area	(S_PLSS_Ar)
Ortho_Catalog.dbf	(if raster-based project)

Dynamic Projection Notes

Items within the map Legend dynamically change according to the values within the Study_Info table when a map layout is created via **MPP**.

Projection Zones

The primary projection note information in the map layout Legend is populated from the *Projection Zone* (PROJ_ZONE) field in the Study_Info table; whereas the secondary projection note information is populated from the *Secondary Projection* (SEC_PROJ) field in the Study_Info table. Upon layout creation via **MPP**, the Legend notes are updated with the projection description. The projection description includes the coordinate system and grid units.

$^{42}75^{000m}$N	1000-meter Universal Transverse Mercator grid ticks, zone 16
6000000 M	5000-foot grid values: Illinois State Plane coordinate system, west zone (FIPSZONE 1202), Transverse Mercator

Example of a valid, dynamic projection note in the legend

In the Study_Info table, if there is no secondary projection populated and the value in the field *Show Secondary Grid* (SHOW_SEC) equals "F", then a sample projection is displayed in the Legend.

|	
6000000 M	5000-foot grid ticks: New York State Plane coordinate system, east zone (FIPSZONE 3101), Transverse Mercator

The sample projection used in place of a secondary projection in the legend

Note: A UTM grid, either as a primary projection or secondary projection, is required according to *Appendix K.*

Displayed Gridlines and Ticks

Primary projection grids are displayed as grid values (i.e., gridlines) in the map layout; whereas secondary projection grids are displayed as grid ticks in the map layout. The dynamic syntax in the Legend note indicates which projection is the primary and which is the secondary projection.

$^{42}75^{000m}$N   1000-meter Universal Transverse Mercator grid values, zone 16

6000000 M   5000-foot grid ticks: Illinois   State Plane coordinate
                   system, west zone (FIPSZONE 1202),   Transverse Mercator

Example indicates that the primary projection is UTM and the secondary projection is State Plane

$^{42}75^{000m}$N   1000-meter Universal Transverse Mercator grid ticks, zone   16

6000000 M   5000-foot grid values: Illinois   State Plane coordinate
                   system, west zone (FIPSZONE 1202),   Transverse Mercator

Example indicates that the primary projection is State Plane and the secondary projection is UTM

The primary, secondary, and tertiary reference grids in your map layout are dictated by the values in Study_Info table and the existence of PLSS line (S_PLSS_Ln) features. The following are rules for how your reference grids will be generated; these rules assume that the projection values are valid.

1. You have no PLSS line (S_PLSS_Ln) features in your study. The primary reference grid will be the projection in your *Projection Zone* (PROJ_ZONE) field in the Study_Info table. The secondary reference grid will be dictated by the projection in the *Secondary Projection* (SEC_PROJ) field. The value in the *Show Secondary Grid* (SHOW_SEC) field can be "T" or "F" in this situation, because **MPP** does not read the value in the *Show Secondary Grid* (SHOW_SEC) field. You must have at least two reference grids displayed on the map layout; therefore, the *Show Secondary Grid* value is inconsequential.

2. If PLSS line (S_PLSS_Ln) features exist, then the PLSS features act as your primary reference grid. The projection in your *Projection Zone* (PROJ_ZONE) field becomes your secondary grid. If the *Projection Zone* (PROJ_ZONE) value is UTM, then the State Plane projection in the *Secondary Projection* (SEC_PROJ) field becomes your tertiary reference grid, if the value in the *Show Secondary Grid* (SHOW_SEC) field is "T".

3. If PLSS line (S_PLSS_Ln) features exist, then the PLSS features act as your primary reference grid. The projection in your *Projection Zone* (PROJ_ZONE) field becomes your secondary grid. If the *Projection Zone* (PROJ_ZONE) value is State Plane, then the UTM projection in the *Secondary Projection* (SEC_PROJ) field becomes your tertiary reference grid, regardless of the value in the *Show Secondary Grid* (SHOW_SEC) field.

State Plane Unit Labels

Regardless of whether the State Plane projection is the primary or secondary projection, the projection units can be either meters or feet [US]. The Legend projection label will dynamically update to indicate the projection units. The projection units are derived from the State Plane projection, stored in either the *Projection Zone* (PROJ_ZONE) field or the *Secondary Projection* (SEC_PROJ) field in the Study_Info table.

6000000 M

State Plane projection unit meters

6000000 FT

State Plane projection unit feet

Note: UTM projection units are always meters, and therefore the projection unit for UTM in the Legend label is not dynamic.

Export to Images

The **Export to Images** tool exports DFIRM layouts to 400 dpi images. Vector-based layouts are exported to .eps and .tif format, and raster-based layouts are exported to .eps, .tif, and .png formats.

Note: For DFIRM panels and full-panel LOMRs, this tool can only export FEMA custom page size (25.875" x 36") layouts to image files. LOMR attachments will be exported to image format according the frame size indicated in the Map Production Pro dialog.

1. Click the **Export to Images** button to open the ***Project Selection*** dialog.

2. Select the project name (i.e., FEMA Case Number).
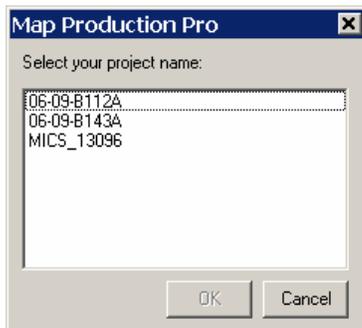
Project selection dialog

3. If the field *DOQ_BASED* in the Study_Info table is "F", then a dialog will ask you to confirm exporting the layout to a .tif image.
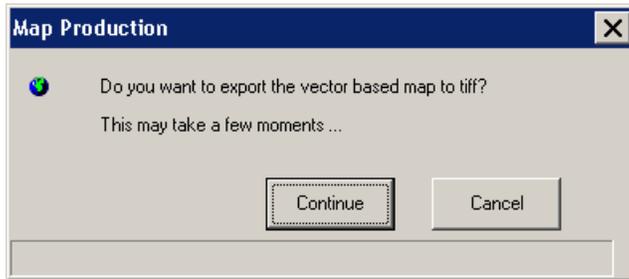
Note: Click *Continue* to export the vector-based layout to both .eps and .tif image formats.

If the field *DOQ_BASED* in the Study_Info table is "T", then a dialog will ask you to confirm exporting the layout to a .png image.
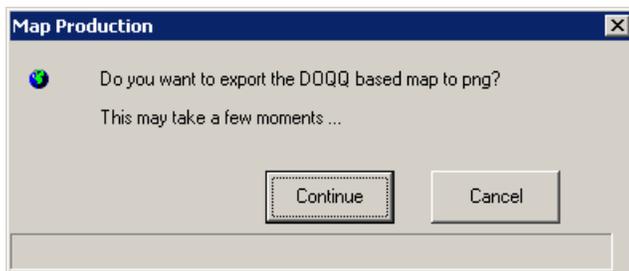
Note: Click *Continue* to export the raster-based layout to .eps, .tif, and .png image formats.

4. The dialog will disappear when the exporting process is complete.

The .eps, .tif, and .png image files are stored in the following folder structure on the **MIP**: K:\<region>\<state>\<county>\<county or community>\<FEMA Case Number>\ Mapping\Final_DFIRM_DB\RFIRM.

Note: If the EPS image file(s) already exists in the RFIRM folder, the **Export to Images** tool, as well as the Export to EPS tool, will overwrite the existing EPS image(s).

Note: Hide any suppressed text before printing the panel and exporting to image format. Turn off the annotation layer in the table of contents that ends with the '_SUP' suffix.

 Create PGW World File

The **Creates PGW World File** tool creates the PGW World file for the exported .png file.

Note: There are two requirements for this tool. First, a .tif and .tfw file must exist for the same layout for which the .pgw file is being created. Second, a .png file must already have been created using the Export to Images button.

1. Click the **Create PGW World File** button to open the **Project Selection** dialog.
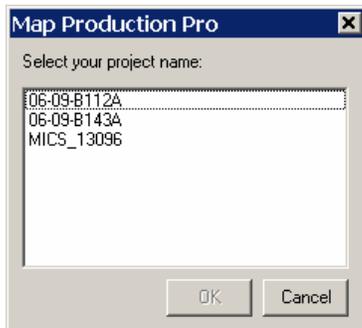
2. Select the project name (i.e., FEMA Case Number).

Project selection dialog

3. Click *OK* to begin running the file creation process. A message box will indicate when the creation process is complete.

The .pgw file is stored in the following folder structure on the **MIP**:
K:\<region>\<state>\<county>\<county or community>\<FEMA Case Number>\Mapping\
Final_DFIRM_DB\RFIRM.

Note: The **Create PGW World File** tool will create .pgw files for any map panels where the .tif, .tfw, and .png files all exist in the RFIRM folder.

 Export to EPS

The **Export to EPS** tool exports the map layout to .eps format. The tool is an alternative approach to the Print to PDF tool in the Map Production Pro dialog for creating printable map layouts. Additionally, the **Export to EPS** tool takes less time to run than the Export to Images tool since only one image format type is being created.

Note: For DFIRM panels and full-panel LOMRs, this tool can only export FEMA custom page size (25.875" x 36") layouts to image files. LOMR attachments will be exported to image format according the frame size indicated in the Map Production Pro dialog.

1. Click the **Export to EPS** button to open the ***Project Selection*** dialog.
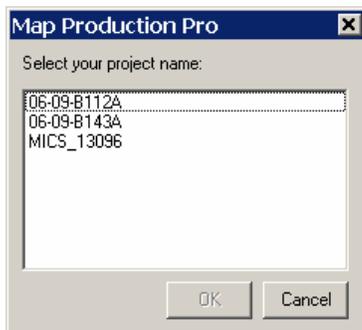
2. Select the project name (i.e., FEMA Case Number).

Project selection dialog

3. Click OK to begin running the file creation process. A message box will indicate when the creation process is complete.

The .eps image files are stored in the following folder structure on the **MIP**:
K:\<region>\<state>\<county>\<county or community>\<FEMA Case Number>\
Mapping\Final_DFIRM_DB\RFIRM.

Note: If the EPS image file(s) already exists in the RFIRM folder, the **Export to EPS** tool, as well as the Export to Images tool, will overwrite the existing EPS image(s).

Note: Hide any suppressed text before printing the panel and exporting to image format. Turn off the annotation layer in the table of contents that ends with the '_SUP' suffix.

Note: The following is a universal approach to printing .eps files directly to a printer/plotter.
1. Go the DOS Prompt (cmd.exe) via **Start Menu** > **Run** > Type "cmd" into the **Open:** dialog.
2. Change the directory to be your local directory to where the .eps file was copied via **Citrix** Windows Explorer.
3. Enter the following command "{local directory path}>copy {local directory path with .eps file name and extension} {printer location including the server path}"

For example, the image 1703380120D.eps was copied to the local D drive into the folder BradleyCity_IL, and it needs to be printed to the plotter named '1055A'. The following commands in the DOS prompt application will accomplish this task.

D:\>**cd** C:\DFIRM\BradleyCity_IL
D:\DFIRM\BradleyCity_IL>**copy** D:\DFIRM\BradleyCity_IL\1703380120D.eps \\Server08\1055A

PDF Export Toolbar

The **PDF Export** toolbar has one tool that enables you to export existing .pdf file(s) to your local drive(s).

PDF Export

The **PDF Export** tool exports a .pdf file(s) to your local drive(s). Once panels have been printed to .pdf format via the Print to PDF button in **MPP**, they can be retrieved and saved to a local drive using the **PDF Export** tool. Then, once the files have been saved locally, print the .pdf files to a local plotter, share them electronically, and/or store them in an archive.

Note: You are not able to directly print in the **Citrix** environment. You must export any maps that you want to print/plot.

1. Click the **PDF Export** button to open the *Project Selection* dialog.

2. Select the project name (i.e., FEMA Case Number).

Project Selection dialog

3. Highlight the .pdf file(s) to be exported to a local drive. To export all of the files, click the *Select All* button; all files will highlight in the dialog.
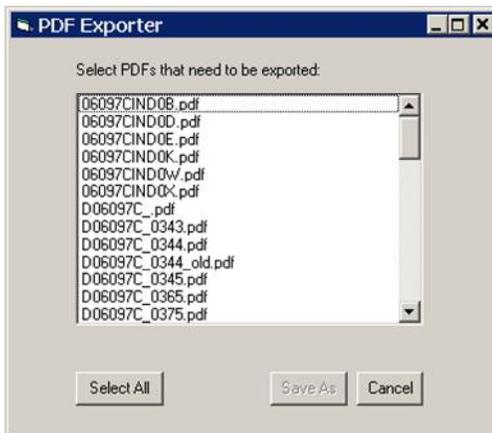
PDF Selection dialog

4. Click the *Save As* button.

5. Browse to the desired folder on the local drive.

Browse dialog for local folders

Note: New folders cannot be created in the **Browse** dialog; use the dialog to navigate to existing folders. Any new folders must be created using Windows Explorer on your local machine, prior to clicking the **PDF Export** button.

Note: Do not attempt to save .pdf files to a local software system folder (e.g., Drivers). This may lead to a permissions error, and the files will not be exported.

6. Click the *OK* button to export all of the selected .pdf files to a local folder. The **Browse** dialog will close without prompting a completion message.

PLTS Symbology and QA Toolbar

The **PLTS Symbology and QA** toolbar enables visual display and assessment of feature classes. The primary function for this toolbar though is to render the DFIRM feature classes with predefined symbols. The **Render using VVT Symbology** button is the only DFIRM-customized function on this toolbar.

The toolbar is available within ArcMap, and it will be automatically loaded at each executable step when appropriate. Otherwise, it can be manually added in ArcMap by clicking *View menu* > *Toolbars* > **PLTS Symbology and QA**.

Render using VVT Symbology

The **Render using VVT Symbology** tool renders all of the loaded DFIRM data according the specifications in *Appendix K*, based upon the DFIRM type (i.e., vector, raster) or step of DFIRM production on which you are working. This symbology is dictated by the customized Valid Value Tables (VVTs), and valid attribute combinations for each feature can be verified by running *Batch Validate* on the **GIS Data ReViewer** toolbar. Refer to *GIS Data ReViewer User Guide, FEMA DFIRM Production Tools* for further details as to how to use *Batch Validate*.

There are slightly different symbols for vector-based DFIRMs, raster-based DFIRMs, and Index Maps; therefore, there is a customized style to accommodate each type of map. Additionally, there is a colorful symbol set for Workmaps to help easily distinguish between features when digitizing, attributing, and/or QCing.

Note: Features that are displayed as bright pink indicate that the necessary attribute fields do not have a valid combination of values required for symbology. Essentially, the feature has been attributed incorrectly (e.g., NULL versus NSPNULL). On the other hand, a feature that is displayed as bright purple indicates that the feature has not been entirely attributed. A required field(s) has not been populated. Resolve the attribute error(s), and rerun the *Render using VVT Symbology* tool to verify that all bright pink and/or purple symbology has disappeared.

Note: When using the *Render using VVT Symbology* tool, the symbology is rendered for all data, existing in the job version, which is within the data view extents. Therefore, if there is effective data within the data frame, despite whether or not it is visible, the data features will be symbolized. You can display neighboring effective data using the Show DFIRM Adjacent Data button on the **DFIRM Layer Loader** toolbar. If you see a QC error in the Table of Contents, run the VVT validation checks in *Batch Validate* to verify whether or not the error(s) is in your dataset. Remember, you are only to edit your dataset, not the neighboring datasets, despite any errors you may find in the neighboring effective data.

PLTS Dangle and Pseudo Renderer

The **PLTS Dangle and Pseudo Renderer** tool renders line feature classes to show dangle, pseudo, and regular nodes. You will be able to select which layers and which node types you want to render. The tool will create a group layer named 'NODES'. New feature layers that identify the dangles, pseudonodes, and/or nodes will be placed in that group layer. This tool has no DFIRM customizations.

Default Render

The **Default Render** tool has been disabled, as it assigns every feature class one random distinct symbol.

Set Polygon Transparency Percentage

The **Set Polygon Transparency Percentage** tool enables you to set the same transparency on all polygon features. This tool will not let you differentiate between polygon feature classes, rather assignment of individual transparency values must be done through each layer's properties. This tool has no DFIRM customizations.

Note: If you manually change any feature's symbology through the **Layer Properties** dialog, you will have to rerun the **Render using VVT Symbology** tool to reset the symbology to be *Appendix K: Format and Specification for Flood Insurance Rate Maps* compliant.

DFIRM Layer Loader Toolbar

The tools on the **DFIRM Layer Loader Toolbar** allow you to add data to the current ArcMap session that is not added automatically as part of the standard DFIRM layers for a particular step. Such data may include, but are not limited to, raster catalogs of DOQs/Quads, contour lines, effective panel layout schemes, *Appendix L* non-compliant data, and any of the enhanced SDE feature classes.

	DFIRM Layer Data Loader	Adds additional layers and/or look-up tables from the SDE geodatabase
	DFIRM Reference Data Loader	Adds reference data to the map view
	Show DFIRM Adjacent Area	View adjacent effective DFIRMs
	Show Only DFIRM Area	Remove view of adjacent effective DFIRMs
	Zoom to DFIRM ID	Zooms to the extents of the DFIRM
	Suspend Drawing	Pauses the data drawing process

![icon] DFIRM Layer Data Loader

The **DFIRM Layer Data Loader** tool adds feature classes and/or look-up tables from the SDE geodatabase. Additionally, all topology rules are added into the ArcMap session when the tool is launched and the *OK* button is clicked, even if no additional feature classes and/or look-up tables are selected to be added.

The *Available data layers:* list displays all feature classes and look-up tables in the SDE geodatabase that can be added to the ArcMap session. A feature class or table does not have to contain records for the current DFIRM in order to appear in the list (e.g., Coastal Transect), all feature classes and look-up tables in the SDE geodatabase are available to add. Highlight the feature class(es) and/or look-up table(s) from the *Available data layers:* list, and use the *Forward Arrow* button to transfer your selection into the *To-be-loaded data layers:* list. The *Add Standard Layers* button will automatically move all of the features classes that are in a Standard DFIRM database, as dictated by *Appendix L: Guidance for Preparing Draft Digital Data and DFIRM Database*, to the *To-be-loaded data layers:* list. If you decide not to add a feature class or look-up table, highlight the item and use the *Backwards Arrow* button to remove it from the *To-be-loaded data layers* list. Click *OK* to add all of the items in the *To-be-loaded data layers:* list into the ArcMap session.
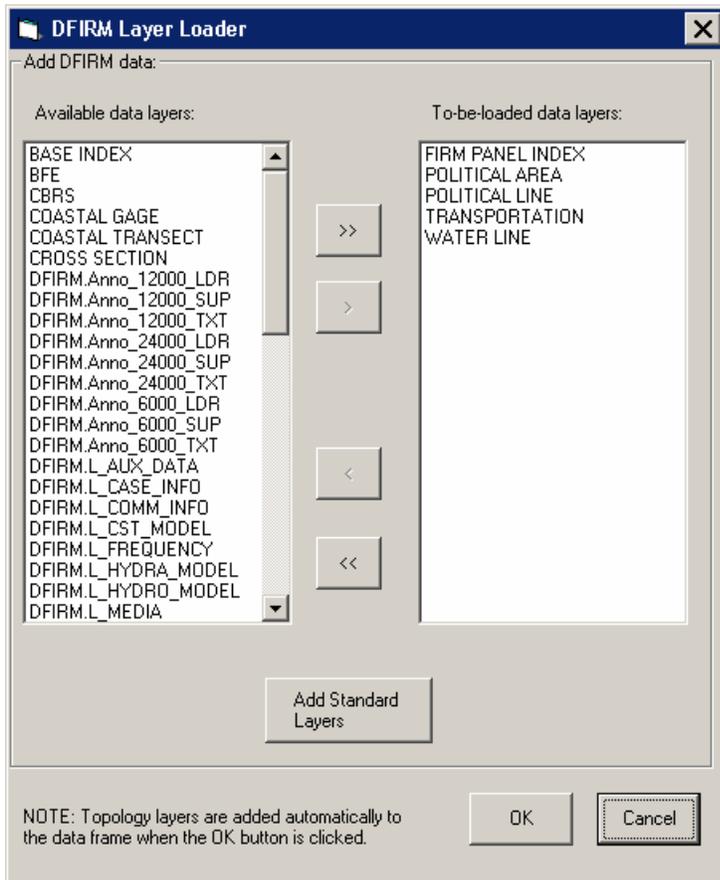
DFIRM Reference Data Loader

The **DFIRM Reference Data Loader** tool adds data not residing in the SDE geodatabase to be used for reference. This reference data includes, but is not limited to, raster catalogs (DOQs or USGS Quads), topographic maps, non-*Appendix L* compliant shapefiles, and effective DFIRM maps.
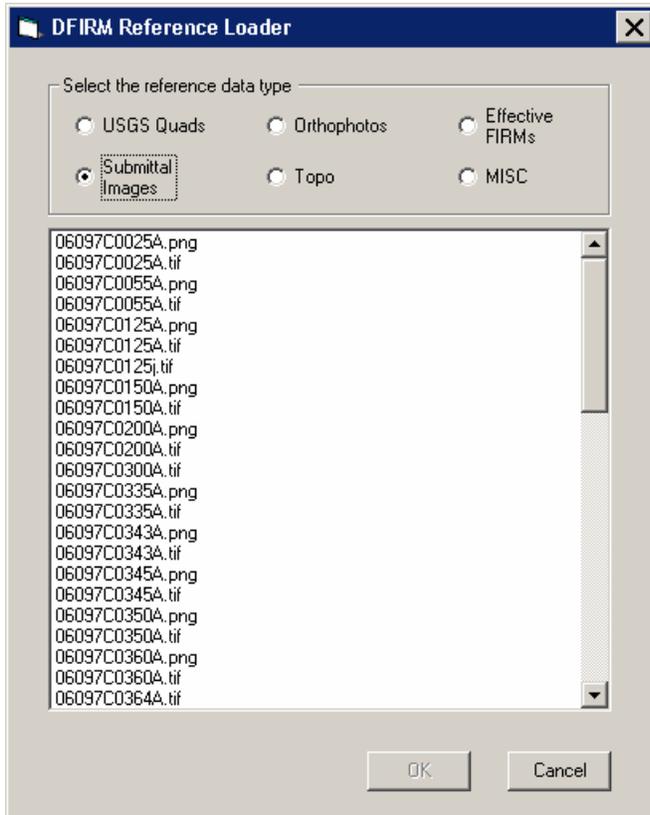
Each radio button accesses a different folder in the directory. The following list maps the directory path for each radio button, so you will know to which folders to upload your reference data.

Radio Button	Folder Path
USGS Quads	J:\<region>\<state>\<county>\<community/county>\<Case #>\Mapping\Raster\Quad
Submittal Images	K:\<region>\<state>\<county>\<community/county>\<Case #>\Mapping\Final_DFIRM_DB\RFIRM
Orthophotos	J:\<region>\<state>\<county>\<community/county>\Ortho
Topo	J:\<region>\<state>\<county>\<community/county>\<Case #>\Mapping\Topo
Effective FIRMs	J:\<region>\<state>\<county>\<community/county>\<Case #>\Mapping\Raster\EF_FIRMS
MISC	J:\<region>\<state>\<county>\<community/county>\<Case #>\Mapping\Misc

	USGS Quad	Submittal Images	Orthophotos	Topo	Effective FIRMs	MISC
TIFF (*.tif)	●*	●	●*		●	●
MrSID (*.sid)	●*		●*			●
JPEG (*.jpg)	●*		●*			●
ESRI BIL (*.bil)	●*		●*			●
Windows Bitmap (*.bmp)						●
PNG (*.png)		●†			●†	●†
CAD (*.dgn)				●		●
DBF (*.dbf)	●*		●*	●		●
PGDB (feature classes & tables) (*.gdb)				●		●
ESRI Coverages (spatial & tabular) (<coverage>)				●		●
Shapefile (*.shp)				●		●

Reference data file formats which can be accessed via each radio button
  * Accesses an image catalog(s) created from USGS Quads or Orthophotos
  † Due to ArcMap 8.3 software limitations, only files with 300 dpi or less are readable

Select the radio button for the appropriate data type (e.g., USGS Quads, Effective FIRMs). All data files in accessible format which are stored in the associated folder will be listed in the dialog window. Highlight one or more reference files, and click *OK*.

If you select the *Topo* or *MISC* radio button, then one of the following dialogs will appear.
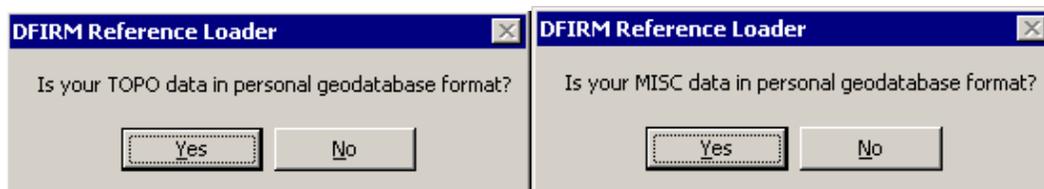
Click *No* to display all data files in the relevant folder that are not in a personal geodatabase. Click *Yes* to change the dialog to enable selection of a personal geodatabase in the associated folder and then to load a data layer(s) stored within the personal geodatabase.

Note: If you erroneously click the *No* button when you meant to choose the *Yes* button (or vice versa), right-click on the radio button, and the personal geodatabase dialog will reappear.
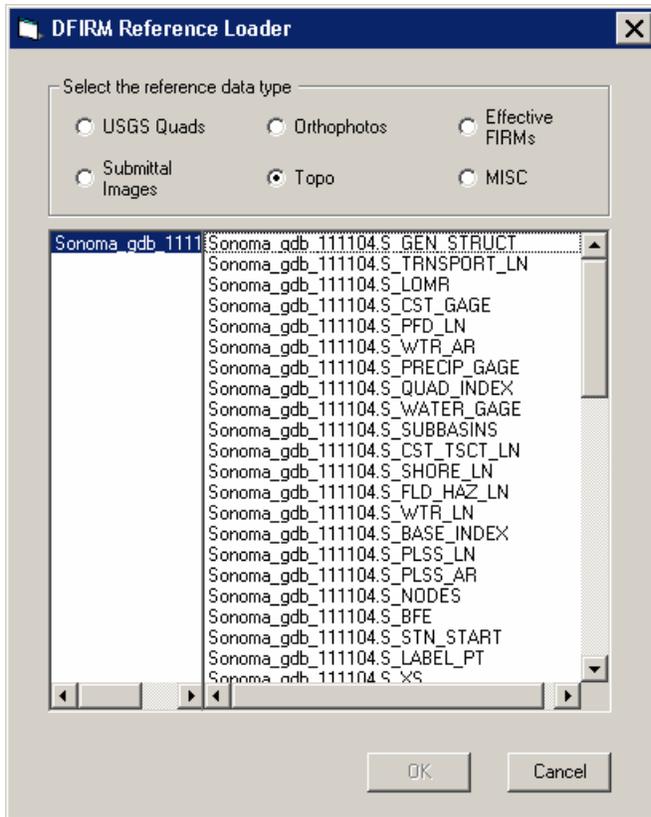
Dialog for personal geodatabases in the *Topo* or *MISC* folder

The *USGS Quad* and the *Orthophotos* radio buttons only access the image catalog(s) created for the image files stored in the respective folders. The preferred image file formats to create image catalogs are TIFF (.tif), MrSID (.sid), and PNG (.png). To create an image catalog, use the **Create Image Catalog** tool on the **GeoPop Pro** dropdown menu. Refer to *GeoPop Pro User Guide, FEMA DFIRM Production Tools* for detailed instructions on using the **Create Image Catalog** tool.

Note: The DFIRM Layer Data Loader and the **DFIRM Reference Data Loader** are the only means to add data into your ArcMap session. The ESRI tool *Add Data* has been disabled, as this is not the correct way to access the **Citrix** directory structure and/or the SDE geodatabase.

 Show DFIRM Adjacent Area

The **Show DFIRM Adjacent Area** tool shows effective DFIRM/DEFAULT data loaded into the SDE geodatabase, which is adjacent to your study area. Only effective data that has been loaded into DEFAULT will appear when the **Show DFIRM Adjacent Area** button is clicked.
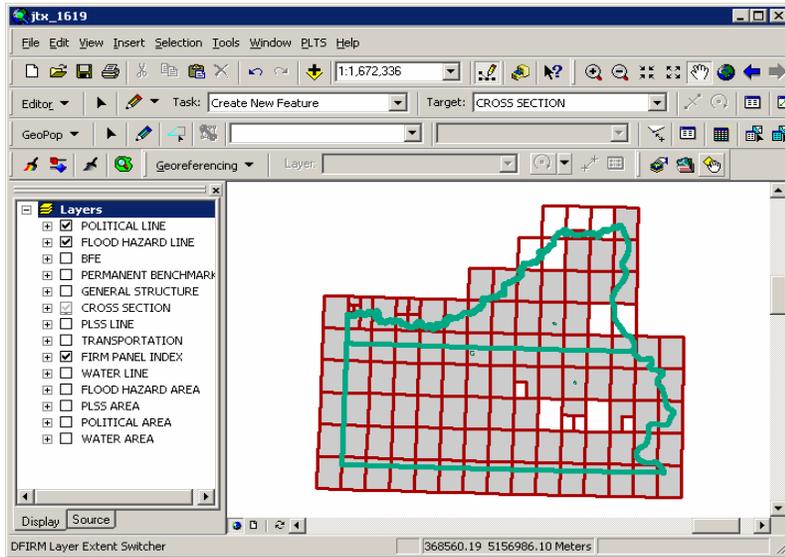
The northern political area is the actual study area, whereas the southern political
area is the adjacent effective DFIRM area.

Note: You should not attempt to edit any data in an adjacent area to your study; the data is effective and is only being shown for your reference.

Once the **Show DFIRM Adjacent Area** button has been selected, its icon will change to that of the Show Only DFIRM Area tool.

Show Only DFIRM Area

The **Show Only DFIRM Area** tool removes the reference display of effective DFIRM/DEFAULT data loaded into the SDE geodatabase, which is adjacent to your study area.
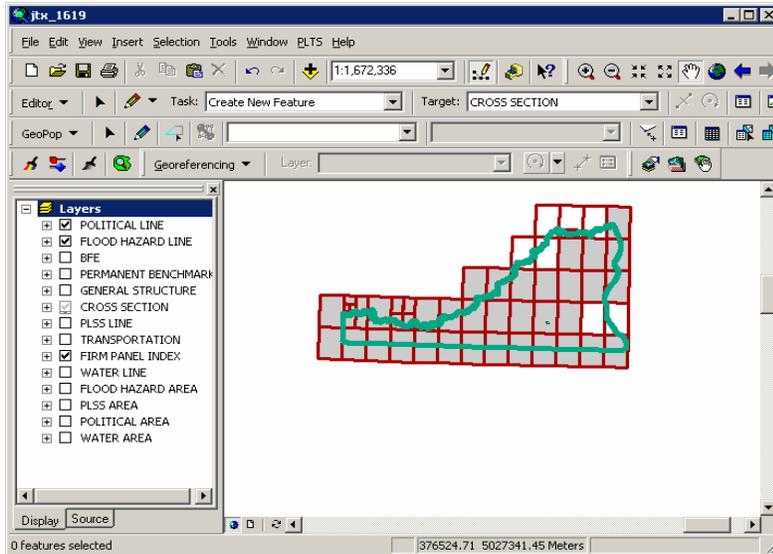
The adjacent effective DFIRM data, south of the actual study, is no longer displayed.

Once the **Show Only DFIRM Area** button has been selected, the reference data for the adjacent area(s) will no longer be displayed, and the button's icon will change to that of the Show DFIRM Adjacent Area tool.

 Zoom to DFIRM ID

The **Zoom to DFIRM ID** tool replaces the functionality in ArcMap that allows you to zoom to a layer or to the dataset's full extent. Without disabling these functions, you would zoom to the extent of the entire SDE geodatabase (Continental US and its territories) as opposed to the extent of your DFIRM study. If the FIRM Panel Index (S_FIRM_Pan) layer is loaded into the ArcMap session and it is populated, the tool will zoom to the extent of this layer. If the FIRM Panel Index layer is not loaded or not populated, then the tool zooms to the extent of the Political Line (S_Pol_Ln) layer. If neither of these data layers is loaded or populated in your ArcMap session, you will be prompted to select a data layer.
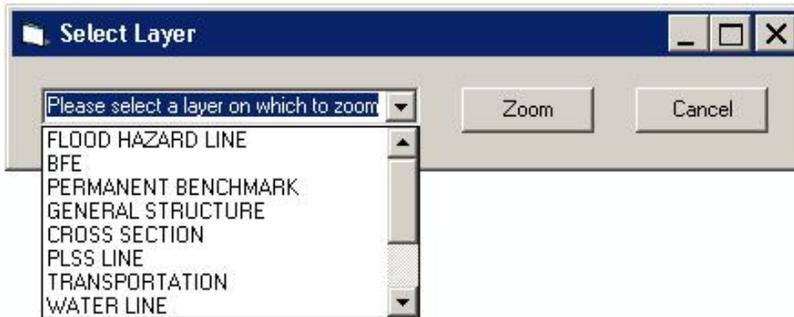

Select a data layer loaded into your Table of Contents on which to zoom.

 Suspend Drawing

The **Suspend Drawing** tool temporarily "freezes" and "unfreezes" the process of displaying data in a session. This ESRI tool allows you to perform several functions in a sequence without having to wait for a lengthy drawing of all the map layers (both feature classes and raster images). Discretionary use of the **Suspend Drawing** tool will save considerable time during the annotation process, because the layers will not have to redraw after every single step, such as selecting a label, duplicating a label, stacking a label, making a label horizontal, etc.

1. Start an editing session (i.e., **Editor Toolbar** > *Editor* > *Start Editing*).

2. Make selectable only the DFIRM.Anno_<*your scale*>_TXT layer and DFIRM.Anno_<*your scale*>_LDR layer (i.e., **Standard Toolbar** > *Selection menu* > *Set Selectable Layers*).

Note: The leader lines need to be selectable only if you are moving your annotation and leader line features together to a new location. Do not attempt to resize your leader line features, rather delete them and recreate them.

3. Allow ArcMap to completely draw all the features, raster images, and labels in your extent.

4. Click the **Suspend Drawing** button . The icon will change when the data drawing has been suspended .

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5. Select the desired annotation features, using the *Edit* tool on the **Editor** toolbar. Exercise caution when selecting multiple annotation features in crowded areas, so as to select only those labels that you want.

Note: Multiple labels may be selected simultaneously, but they will keep the same relative distances from each other when they are moved to a new location.

When selecting labels, the regular cyan selection boxes will not be displayed. Instead, you will use gray outline boxes and crosshairs to drag and drop the labels.
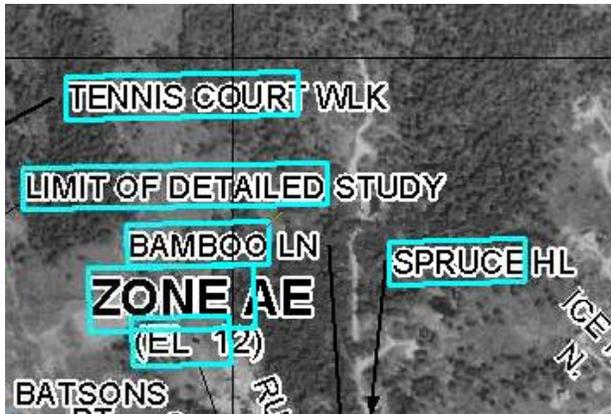
Normal selection for annotation features
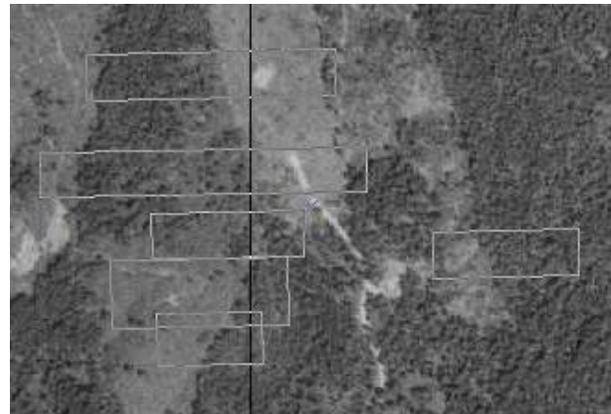
Selection for annotation features when Suspend Drawing is engaged.

Note: Do not pan or zoom while the **Suspend Drawing** tool is active (i.e., icon displays a red X), this will result in a blank screen. If you need to pan or zoom, uncheck the **Suspend Drawing** tool (i.e., the icon display as a paintbrush without the red X), refresh, and start the procedure again.

6. Drag the selected label(s) using the gray outline boxes and the crosshairs as guides, and drop the annotation features where desired.

Note: The changes that you make to the annotation or other features will not be seen on the map until the **Suspend Drawing** tool is deactivated and the map refreshes. Several different functions (e.g., *Stack Labels*, *Make Labels Horizontal*, *Suppress Labels*) can be executed sequentially on one individual label at a time before deactivating the tool.

7. Click the **Suspend Drawing** button when you are finished with your edits. The icon will

change back to be just the paintbrush (i.e., the red X will disappear) .

8. Refresh your ArcMap session if necessary in order to see the new placement of all the labels.

Troubleshooting

Problem: An error message similar to this appeared when I tried to assign a logo filename in the **Add Logos** dialog.
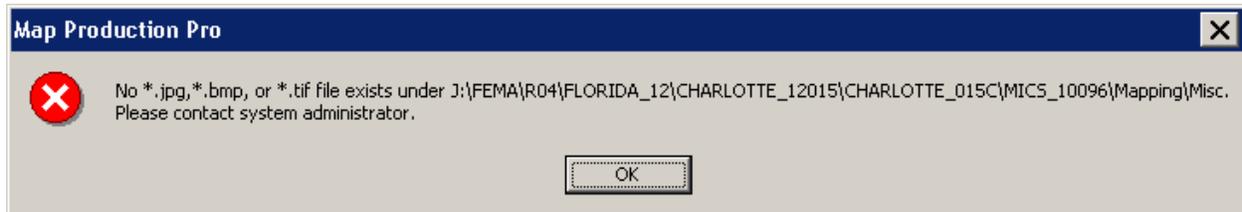
Error message - Appropriate logo file formats do not exist in the MISC folder

Solution: This error message is generated when either your logo files are not in the correct image formats (i.e., JPG, BMP, TIFF, or GIF) or are not located in the \Mapping\MISC folder for your FEMA Case Number on the J drive (Production drive). Verify that the logos are in the correct format and in the correct location.

Problem: What are the four date fields in the L_Comm_Info table, and how do I populated them?

Solution: The *Initial Identification Date for the Community* (IN_ID_DAT) value is the date that the community was first identified as a flood-prone area and is a candidate for the program. This date is appears on current effective maps.

The *Initial Date of the NFIP map Published by FEMA for the Community* (IN_NFIP_DAT) value is obtainable from the FIRM; the date is related to the Flood Hazard Boundary Map Revisions and Flood Insurance Rate Map Effective listing on the FIRM Legend. This is essentially the date of the first FEMA map. If the FHBM is the first FEMA map, for instance, then its effective date is placed here. If a currently effective FIRM is the first FEMA map then that date should go here. If this FIRM in-progress is the first FEMA map, then its effective date (when it's known) should be listed here. If there is no FHBM or effective FIRM date and the soon-to-be-effective FIRM date is not yet known, the value should be 88880808.

The *Initial Date FIRM was Created* (IN_FRM_DAT) value is also on the FIRM. This value is the date that is listed under the Flood Insurance Rate Map Effective heading. So if there is no FHBM date, then IN_NFIP_DAT and IN_FRM_DAT will hold the same value. If this is a first time FIRM, this value would be 88880808 during the preliminary period and would be replaced with the valid effective date when the map is finalized.

The *Most Recent Panel Date* (RECENT_DAT) is the effective date of the FIRM in-progress. During the preliminary stage, this value would be 99990909. Once the preliminary period is over and the effective date has been established, 99990909 would be replaced with the valid effective date.

Problem: How do I create a Density Fringe Area note on my map layout?

Solution: Make sure that the *Floodway* (FLOODWAY) field in S_Fld_Haz_Ar is populated with "Density Fringe" for one or more flood hazard area features contained within the panel you selected in the **Map Production Pro** dialog. The Density Fringe Area note will be auto-generated when you create your map layout with **MPP**.

Problem: Do the latitude/longitude corner coordinates suffice for one of my reference grids?

Solution: Although the latitude/longitude corner coordinates are required on every map panel, the latitude/longitude grid does not count for either the primary or secondary reference grid requirement, as defined in *Appendix K*.

Problem: An error message similar to this appeared when I tried to create a map layout.

StoreCommunityInfo

No record with an ST_FIPS value of 48 and a COMM_FIPS value of 0074 could be found in the L_COMM_FIPS_NM table.

OK
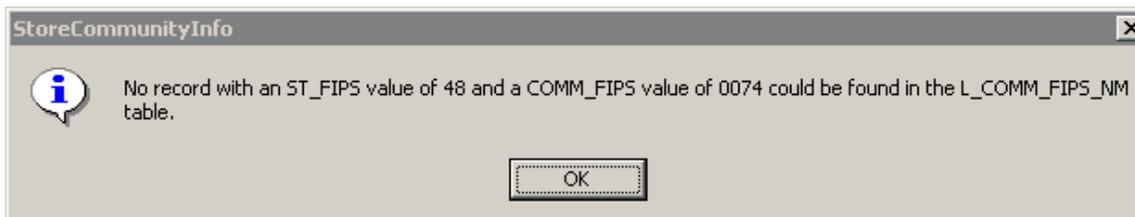
Error Message – Community is not found in the internal L_Comm_FIPS_Nm table

Solution: The community in your data is not in the internal Community FIPS Name (L_Comm_FIPS_Nm) look-up table. First, verify that you have populated the L_Comm_Info table and S_Pol_Ar feature class with valid values for the *State FIPS* (ST_FIPS) and *Community FIPS* (COMM_FIPS) fields. You can use **GeoPop Pro** to populate these data and ensure that valid FIPS codes are entered. If the values are correct, please contact MIPHelp to identify the community name and FIPS code that is missing from the internal community look-up table. DFIRM Tools does not receive automatic updates from FEMA's Community Information System (CIS); therefore, our community information may be out-of-sync with recent additions to CIS.

**Problem:**   This error message appeared when I tried to create a map layout.
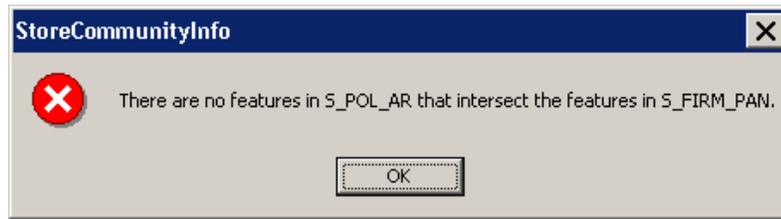
Error Message – FIRM panel does not contain any political area features

Solution: The FIRM panel that you choose in the **Map Production Pro** dialog does not have any Political Area (S_Pol_Ar) features that intersect it. **MPP** will not map any panels that do not contain any portion of a political area. Additionally, make sure that the Political Area (S_Pol_Ar) features and the Political Line (S_Pol_Ln) features are all coincident, by verifying that the features do not violate the topology rules. Open the **DFIRM Layer Data Loader** dialog and click the *OK* button. This will add all of the topology rules into the Table of Contents. Load the **Topology** toolbar into your ArcMap session. Start an editing session and select DFIRM.POL_TOPOLOGY from the *Topology* dropdown menu. Make sure you are zoomed to the extents of your FIRM Panel Index (S_FIRM_Pan) and click the **Validate Topology in Current Extent** button.

Problem: An error message similar to this appeared when I tried to create a map layout.
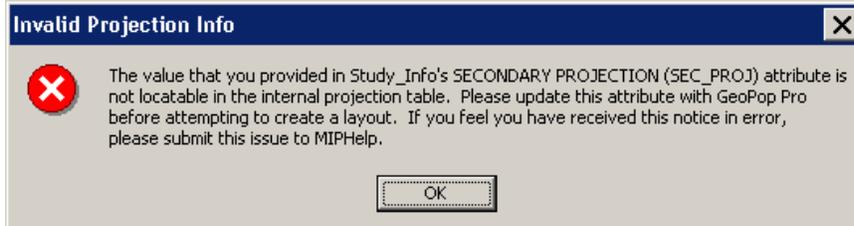
Error Message – Secondary Projection is not found in the internal projection table
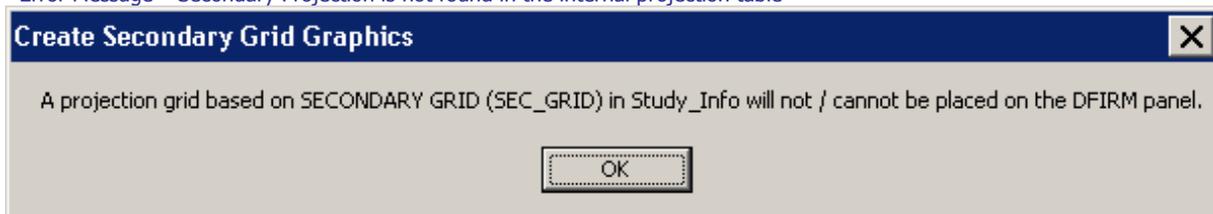
Error Message – Reference grid cannot be created

Solution: The value in the *Secondary Projection* (SEC_PROJ) field in the Study_Info table is not a valid projection ID; therefore, the secondary (or tertiary) reference grid cannot be created. Use **GeoPop Pro** to edit the value and rerun **MPP** to create the map layout.

Problem: These error messages appeared when I tried to create a map layout.

StoreCommunityInfo — Error in selecting Area Not Included = F.   [OK]

Map Production Pro — Could not store community information   [OK]
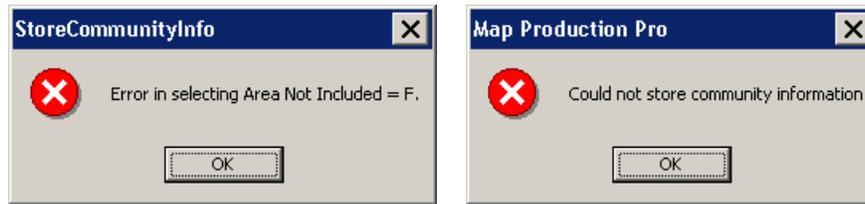
Errors in storing community information

Solution: Those two error messages appear together when none of the political areas which intersect the FIRM panel have the value "F" in the field *Area Not Included* (ANI_TF) in the Political Area (S_Pol_Ar) feature class. To run **MPP** you must have at least one political area in your panel be identified as false for *Area Not Included*, thereby indicating that at least one political area is included in your panel.

Problem: This message appeared when I tried to create a map layout.

StoreLargestPanel — Within the FIRM Panel Index layer, a record's PANEL value is equal to <Null>. Revisit the data and edit appropriately.   [OK]

Warning Message - Record's PANEL value is equal to <null>

Solution: The warning message is generated when there is a <Null> value, in the field *Panel Number* (PANEL) in the FIRM Panel Index (S_FIRM_Pan) feature class. If you click *OK*, the map layout draws as expected, as the message is only a warning and will not stop your layout creation. However, since *Panel Number* (PANEL) is a required field, you must populate the field with the appropriate value. Additionally, you should run ***Batch Validate***, on the **GIS Data ReViewer** toolbar, to ensure that all of your data complies with *Appendix L* specifications.

Problem: This message appeared when I tried to create a map layout.

Error Message – Could not create panel mask

Error Message – Corner coordinates could not be labeled

Solution: These error messages will follow other error messages, citing that you are either missing information in your Study_Info table and/or the information is invalid. If any of the necessary fields in Study_Info are populated incorrectly, **MPP** cannot create your map layout, and error messages will be generated as each layout component fails to be created. Once you correct the problem(s) in the Study_Info table, these error messages will not be generated.

Problem: This error message appeared when I tried to create a map layout.
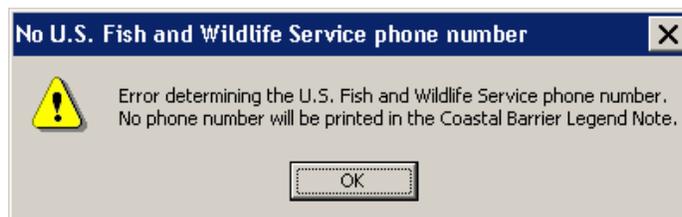
Error Message – No USFWS phone number available

Solution: The error message is generated when the panel selected in the **Map Production Pro** dialog contains Coastal Barrier Resource System (S_CBRS) features, the Include Lower Left Customizations option has been checked, and CBRS areas are not applicable to the study's location. Only the following states/territories have CBRS/OPA areas: AL, CT, DE, FL, GA, LA, MA, ME, MD, MI, MN, MS, NC, NJ, NY, OH, PR, RI, SC, TX, VA, VI, and WI.

Problem: I have spatial features that are appearing outside of the map frame in the *Layout* view.

**Solution:**   Make sure that the FIRM Panel Index (S_FIRM_Pan) feature class and Panel_Mask.shp are turned on in the Table of Contents. These spatial features act as a mask, covering all features outside of the panel that you have selected. Please note that annotation features are always displayed on top of spatial features, regardless of the layer order in the Table of Contents.

Problem: The gridlines and ticks overprint the panel neatline in my map layout.

Solution: The gridlines and ticks are drawn based on the panel's envelope. Depending upon the projected panel's orientation, gridlines and/or ticks can fall within the panel's envelope but actually outside of the panel's neatline. Since the gridline and ticks are graphics, those that fall outside of the panel neatline, can simply be selected via the **Select Elements** tool and deleted. Also, gridlines and ticks that are too close to the panel neatline can be deleted, because the other existing gridline and ticks are more suitable for reference.

Diagram of projected panel and panel envelope   Example of gridlines and ticks outside of the panel neatline

Problem: On my panel layout, the effective date in the Title Block is shown as August 20, 2004. However, in the **Map Production Pro** dialog, the Initial Countywide Effective Date is October 10, 2005.

Solution: The Initial Countywide Effective Date entered in the **Map Production Pro** dialog is printed in the Legend under the heading "Effective Date of Countywide Flood Insurance Rate Map". The Effective Date printed in the Title Block is dictated by the value in the *Effective Date* (EFF_DATE) field in the FIRM Panel Index (S_FIRM_Pan).

Problem: How can I move and fix the Joins Panel note in my panel layout? The notes are overlapping my reference grid numbers.

Solution: The Joins Panel note, as well as the corner coordinates and reference grid text, are graphics placed by **MPP**, rather than annotation features. You will need to edit the overlapping text manually using the *Select Elements* tool on the ESRI **Tools** toolbar. However, since it is a graphic its new location cannot be permanently saved. The note will be repositioned to its original location every time you create the layout with **MPP**.

Problem: My study is not in New York, but the Legend references the State of New York coordinate system for the secondary reference grid ticks.

Solution: If your study has PLSS line (S_PLSS_Ln) features and the *Projection Zone* (PROJ_ZONE) value is UTM in the Study_Info table, then the value in the Secondary Projection (SEC_PROJ) field in Study_Info is only used as a reference grid when the *Show Secondary Grid* (SHOW_SEC) value is "T". The State of New York coordinate system is used as an example when a State Plane coordinate system is not displayed on the map; this example is acceptable and should not be altered manually.

Problem: I have created a map layout and saved my ArcMap .mxd. When I open ArcMap again, all features on the saved layout are preserved except my annotation features. All of my annotation features are visible, not just the annotation for my current map panel.

Solution: When a map layout is created by **MPP**, definition queries are created for all of the annotation data layers that filter the features specific to your DFIRM ID and Panel Number. However, every time ArcMap is launched, DFIRM Tools automatically creates definition queries of your DFIRM ID for all of your data layers. By doing this ArcMap now only filters your annotation feature classes by DFIRM ID, which causes all annotation features to be displayed. To resolve the definition query, right-click on the annotation feature class, select **Properties**, select the **Definition Query** tab, and click the *Query Builder* button. In the **Query Builder** dialog enter the following statement as appropriate for your current map panel: DFIRM_ID = 'xxxxxx' AND FIRM_PAN_NUMBER = 'xxxxxxxxxxx'. You will have to resolve the definition query for any annotation feature class that is within or neighboring your current map panel.

Problem: I have primary and secondary grids designated in my Study_Info table, but I am only seeing ticks displayed on my panel layouts.

Solution: If your study has features in the PLSS Line (S_PLSS_Ln) feature class, these act as your primary grid with the value in the Projection Zone (PROJ_ZONE) field in the Study_Info table acting as your secondary grid. As per *Appendix K* specifications, a secondary projection grid is not required if PLSS lines exist and your Projection Zone (PROJ_ZONE) value is "UTM". If you have PLSS line features and your Projection Zone (PROJ_ZONE) is "UTM", the PLSS lines will display as your primary grid, the secondary grid ticks will reflect your UTM projection, and you will have the option of showing State Plane ticks around the edges of the panel if you have designated a Secondary Projection Zone (SEC_PROJ) value in the Study_Info table. If your study has PLSS line features and a State Plane projected coordinate system is set as the Projection Zone (PROJ_ZONE), you must have a UTM projection designated as the secondary projection grid and the field *Show Secondary Grid* (SHOW_SEC) must equal "T". This will result in all three grids (PLSS lines, a State Plane grid, and a UTM grid) being shown on the panel. This will ensure that specifications in *Appendix K* under 'Horizontal Reference Grids' and 'U.S. Public Land Survey System' will be met.

Problem: I do not have any PLSS line features, and I do not see any grid ticks on my panel map.

Solution: Verify that you have populated all of the required fields in the Study_Info table. In order for **MPP** to run properly and produce all of the standard requirements for your layout, you must populate the *Horizontal Datum* (H_DATUM), *Vertical Datum* (V_DATUM), *Map Projection* (PROJECTION), and *Projection Zone* (PROJ_ZONE) fields. In addition, if you have no features in the PLSS Line (S_PLSS_Ln) feature class and require a secondary grid to appear on your layout, you must also select "T" for the *Show Secondary Grid* (SHOW_SEC) value and select a secondary projection different from that of your primary projection (i.e., if your primary projection is UTM, your secondary projection must be State Plane).

Problem: In the PDF of my map layout, there is an inconsistent shadow around the words "National Flood Insurance Program" in the Title Block.

Solution: The shadow is a result of the printing to .pdf format process; the error will only exist on PDF-based images. Since PDFs are not official submitted images to FEMA, this is will not cause any errors in your DFIRM database deliverable submissions. When your map layout is exported to .eps, .tif, and .png formats, the shadowing effect will not occur. Also, if you look at the layout in ArcMap, you will not see this shadowing issue onscreen.

Problem: In the PDF of my map layout, there are missing spaces between words in the Notes to Users section.

Solution: The text spacing issues in the Note to Users section only occur in the .pdf files of the map layouts, as the printing to .pdf process causes the appearance of spacing issues. Since PDFs are not official submitted images to FEMA, this is will not cause any errors in your DFIRM database deliverable submissions. When your map layout is exported to eps, .tif, and .png formats, the word spacing will be correct. Also, if you look at the layout in ArcMap, you will not see these spacing issues onscreen.

Problem: This message appeared when I tried to export a layout to an image file.

Error Message - Populate DOQ_BASED field in Study_Info table with 'T' or 'F'.

Solution: The value in the field *DOQ BASED* (DOQ_BASED) in the Study_Info table determines to which image formats the layout will be exported. Only "T" and "F" are appropriate values, in order to export the layout(s) to image format. Use the **Add New Row** tool on the **GeoPop Pro** toolbar to edit the *DOQ_BASED* value in the Study_Info table. Once you have edited the value, you will be able to export your layout.

Problem: This error message appeared when I opened an ArcMap session and tried to export a layout to image file format via the **Export to Image** tool or the **Export to EPS** tool.
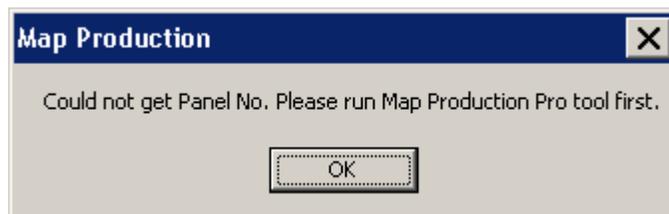
Error Message - Could not retrieve panel number.

Solution: The steps are being conducted out of order. Click on Map Production Pro to create your DFIRM or LOMR layout. Then, click the Export to Images tool or the Export to EPS tool.

Problem: This error message appeared when I tried to create a PGW World file.

MapProduction ✕

No png file exists under the current project.

OK

Error Message - PNG file does not exist.

Solution: A .png file must exist for the layout in order for a .pgw file to be created. To create a .png file, make sure that the field *DOQ BASED* (DOQ_BASED) in the Study_Info table is "T" and then click the Export to Images button.

Problem: This error message appeared when I tried to create a PGW World file.

MapProduction ✕

No tfw file exists under the current project. Please do georeference for the tif files first.

OK
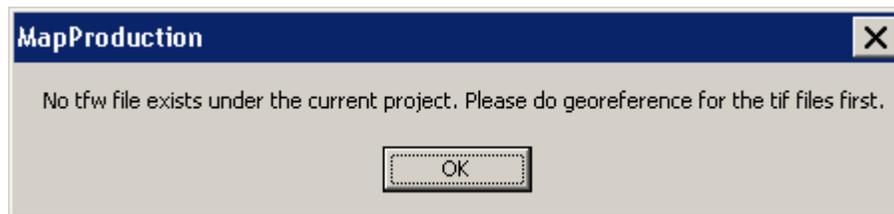
Error Message - TFW file does not exist.

Solution: The .tif file must be georeferenced in order for a .pgw file to be created for the .png image. Georeference the .tif, and then create the PGW World file. The Create PGW World File tool requires a georeferenced .tif image and .tfw file that is of the same layout for which you are creating a .pgw file.

Problem: I was using the PDF Export tool, and this error message appeared after I selected a local drive to which to export my .pdf files.

Unexpected Program Error

An error has occured in the application. Record the call stack sequence and the description of the error.

Error Call Stack Sequence
    cmdOk_Click frmBrowseFolder.frm

Description
    Permission denied

[OK]

Call Stack Error – Permission denied

Solution: The file security for **Citrix** (i.e., ICA Application) is not set to "Full Access"; therefore, you cannot write to any of your local drives. To change this setting, right-click the ICA icon in the lower right-hand corner of the Taskbar on your computer screen. Click *Open Connection Center*. This will bring up the **Program Manager Connection Center** dialog for **Citrix**. Click on the *File Security* button. The **ICA File Security** dialog will appear. Change the settings as needed and click *OK*.

Problem: I have a Flood Hazard Line (S_FLD_HAZ_LN) feature that represents both a 'Limit of Detailed Study' and a 'Zone Break', how should I attribute the Flood Line Type, so that the feature is symbolized correctly?

Solution: A Flood Hazard line feature should be attributed with the field *Line Type* equal to 'Limit of Detailed Study' and the field *Gutter* equal to 'T'. The line should be symbolized as a white line on a raster-based map. The line feature will be symbolized correctly, based upon the combination of the values in the fields *Line Type* and *Gutter*, once the Render using VVT Symbology tool is run.

Contacts

If you need assistance with this tool, please contact the representative at your local RMC.

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