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Quick Reference Guide

You can prepare DFIRM panels and/or LOMR attachments for printing via the **Design Map Layout** dialog. Additionally, through the dialog, you can export the layout as a PDF image and clear graphics from the layout.

DFIRM Design Map Layout Dialog

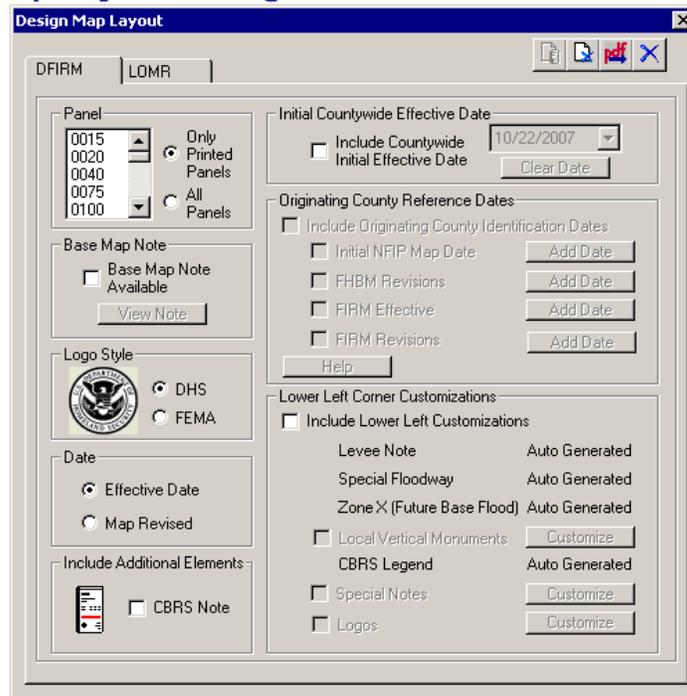
Select one panel for your DFIRM layout.

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.



Design Map Layout dialog tools

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

If applicable, add originating county reference dates.

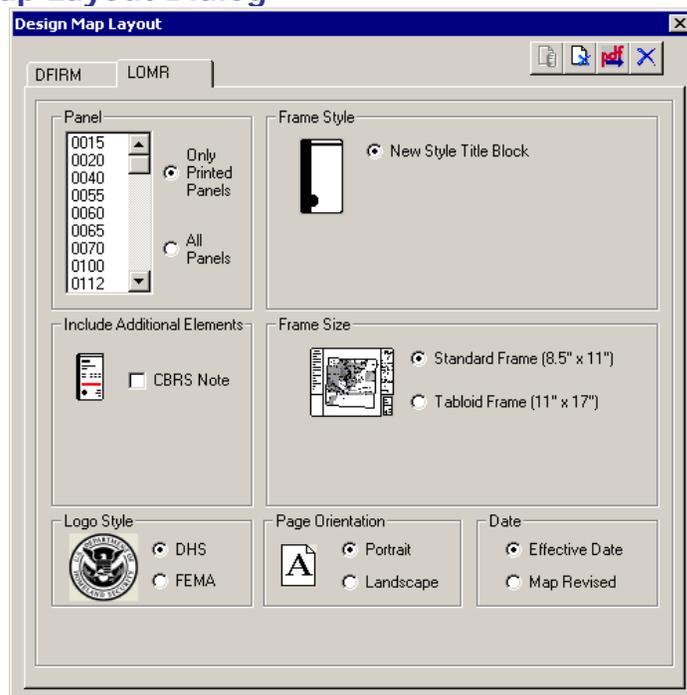
If applicable, add customizations to the lower left corner of the DFIRM panel.

LOMR Design Map Layout Dialog

Select one panel for your LOMR attachment.

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

Choose the logo style.



Design Map Layout dialog tools

Verify the title block style.

Choose the frame size.

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

DFIRM Map Production Pro Toolbar



DFIRM Map Production Pro Toolbar



[Design Map Layout](#)

Creates the DFIRM panels and LOMR attachment



[Export to Images](#)

Exports the map layout to multiple image formats



[Create PGW World File](#)

Creates PGW World files for exported .png files



[Export to EPS](#)

Exports the map layout 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.



Design Map Layout

The **Design Map Layout** tool displays the tools and options available for creating DFIRM or LOMR map layouts. When you click the **Design Map Layout** tool, the *Design Map Layout* dialog is prompted. Within the dialog, you may select the desired panel and your layout preferences. Furthermore, with the additional tools within the dialog, you may create the layout, clear the current layout of graphics, and export the current layout as a PDF image. You must not be in an editing session to access this tool.

Design Map Layout Dialog Tools



Design Map Layout dialog tools



[Create Layout](#)

Creates the DFIRM or LOMR map layout



[Clear Graphics](#)

Clears the map layout of MPP-related graphics and data frames



[Export to PDF](#)

Export the map layout to .pdf format



[Cancel](#)

Closes the *Design Map Layout* dialog



Create Layout

The **Create Layout** tool creates the DFIRM panel or LOMR attachment layout. The layout will be generated for the selected panel, according to the options chosen in the *Design Map Layout* dialog. The layout will be generated in Layout View. Please refer to the *Design Map Layout Options* section of this document for detailed information about each of the DFIRM and LOMR options available within the *Design Map Layout* dialog.

To create a DFIRM panel layout:

1. Click *Design Map Layout*.
2. Within the *Design Map Layout* dialog, click the DFIRM tab, if it is not already active.
3. Select a panel from the panel list.
4. Enter or modify the base map note if appropriate.
5. Select a Title Block logo.
6. Select a date style.
7. Opt to include the CBRS note in the Title Block, if appropriate.
8. Enter an initial effective date for the countywide study, if applicable.
9. Opt to enter and include reference dates from the originating county, if applicable.
10. Select to include customizations in the lower left corner of the layout frame.
11. Click **Create Layout**.
12. The DFIRM panel layout is created. The layout includes the map body with reference grids lines/ticks, reference corner coordinates, reference Joins Panel note, the Legend text, Title Block text, Notes to Users text, and the custom notes and legend in the lower left corner of the panel frame, if applicable.

To create a LOMR attachment layout:

1. Click *Design Map Layout*.
2. Within the *Design Map Layout* dialog, click the LOMR tab.
3. Select a panel from the panel list.

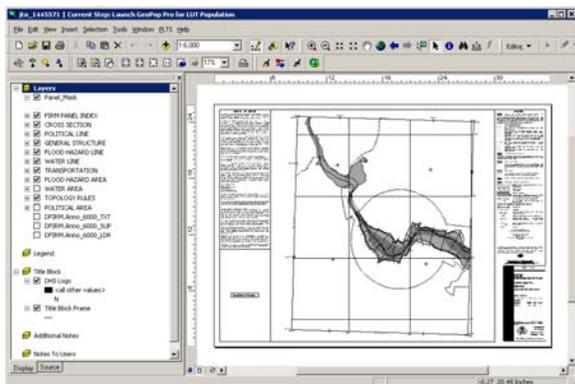
4. Opt to include the CBRS note in the Title Block, if appropriate.
5. Select a Title Block logo.
6. Verify the frame style.
7. Select a frame size.
8. Select a page orientation.
9. Select a date style.
10. Click **Create Layout**.
11. The LOMR attachment layout is created. The layout is automatically focused on the center of the panel. The layout includes the map body with reference grids lines/ticks, reference corner coordinates, reference Joins Panel note, the Legend, and the Title Block text.



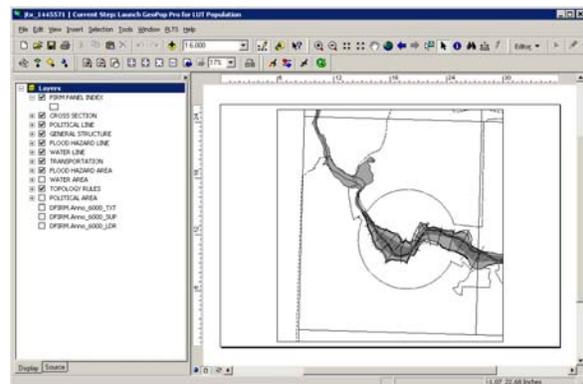
Clear Graphics

The **Clear Graphics** tool removes all graphics from the layout. In addition, the tool deletes the data frames that were created by the **Create Layout** tool from the Table of Contents.

1. Click **Clear Graphics**.
2. The graphics and DFIRM/LOMR layout-related data frames are removed.



An example of a DFIRM layout in the ArcMap document before clicking Clear Graphics.



An example of the ArcMap document after clicking Clear Graphics.



Export to PDF

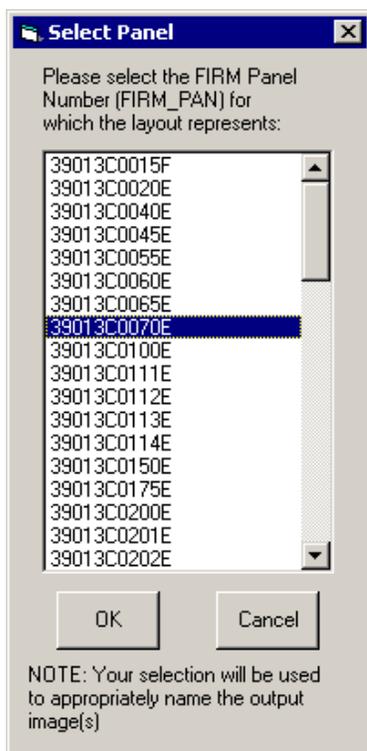
The **Export to PDF** tool creates a Portable Document Format (.pdf) image file for the current layout. The .pdf image has a resolution of 400 dpi. The .pdf image will be saved according to the following naming conventions:

DFIRM panels and full-panel LOMRs - D<FIRM Panel Number>.pdf (e.g., D06063C0225A.pdf, D2181930050E.pdf)

LOMR attachments - L<FIRM Panel Number>.pdf (e.g., L06063C0225A.pdf, L2181930050E.pdf)

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

1. Click **Export to PDF**.
2. If applicable, select the panel number from the *Select Panel* dialog and click *OK*.



An example of the Select Panel dialog.

When a layout is created with the *Create Layout* tool, the panel number is temporarily stored in memory. When ArcMap is closed, the memory is cleared. After re-launching ArcMap, if you wish to export your layout, since the panel number is no longer stored in memory, you will be prompted to select the panel number that represents the layout. The selected panel number is used in the file name creation process.

3. A message box indicates when the creation process is complete.



4. The .pdf image is created.

The created .pdf image is stored in the following folder structure on the MIP directory structure:
J:\FEMA\Mapping\MappingOutputs\PDF.

Note: Hide any suppressed text before exporting the panel. Turn off the annotation layers in the Table of Contents that ends with the '_SUP' suffix.

Note: Use the [Download PDF Tool](#) on the **Local Transfer** toolbar to download the .pdf image file(s) from the MIP directory structure to your local drive for printing and/or archiving.



Cancel

The **Cancel** tool closes the *Design Map Layout* dialog without altering the layout. You may also exit the dialog via the "X" button in the upper right hand corner of the dialog.

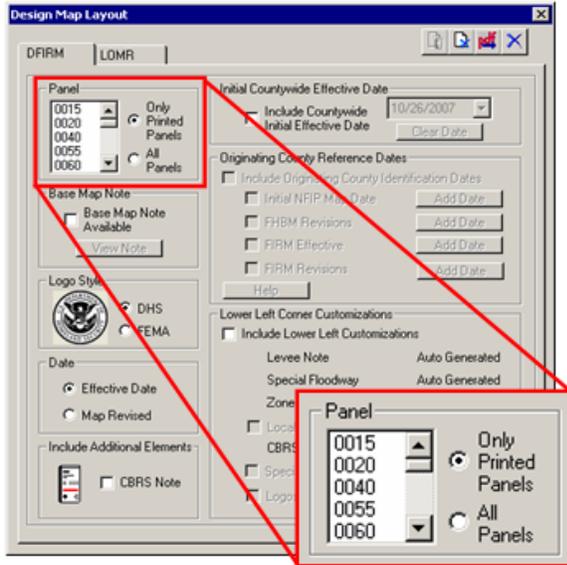
Design Map Layout Dialog Options

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

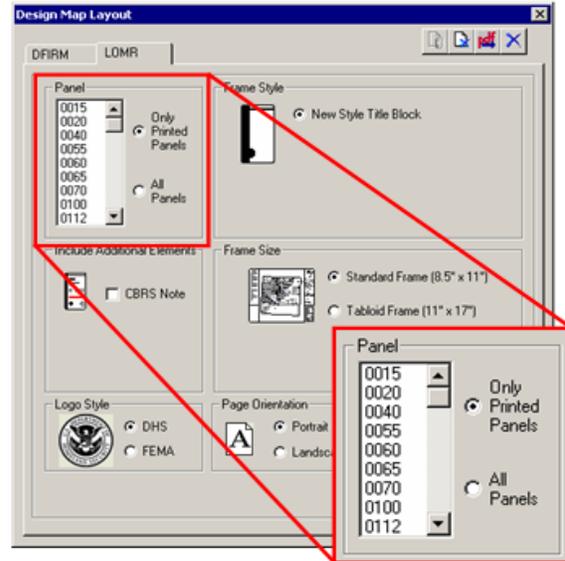
Note: Before creating a layout, run the [Render using VVT Symbology](#) tool on the **PLTS Symbology and QA** toolbar to symbolize your spatial features.

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. Only one panel may be selected at a time.



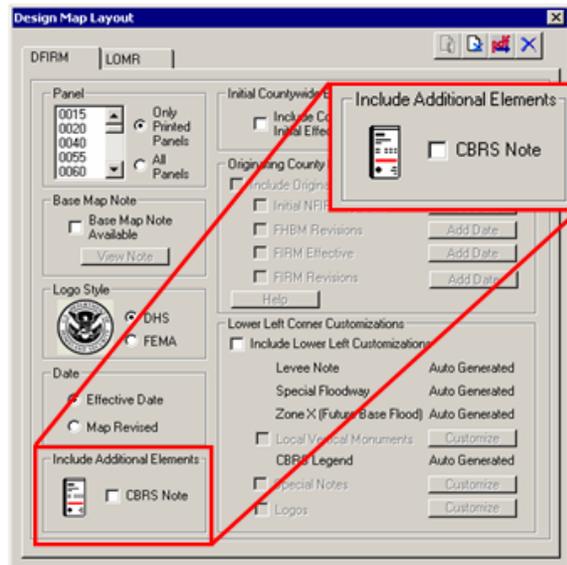
DFIRM Tab



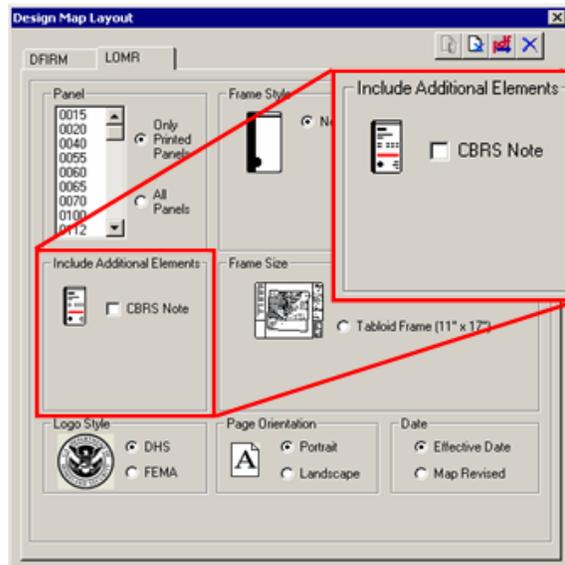
LOMR Tab

Include Additional Elements/ CBRS Note

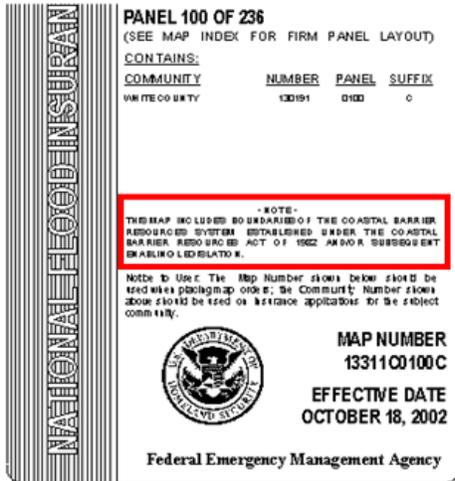
Check the *CBRS Note* box if the selected map panel contains a *CBRS* (S_CBRS) feature(s). The standard CBRS note will be added to the Title Block. The red line on the CBRS Note icon in the *Design Map Layout* dialog indicates where the CBRS note will be placed in the title block.



DFIRM Tab



LOMR Tab



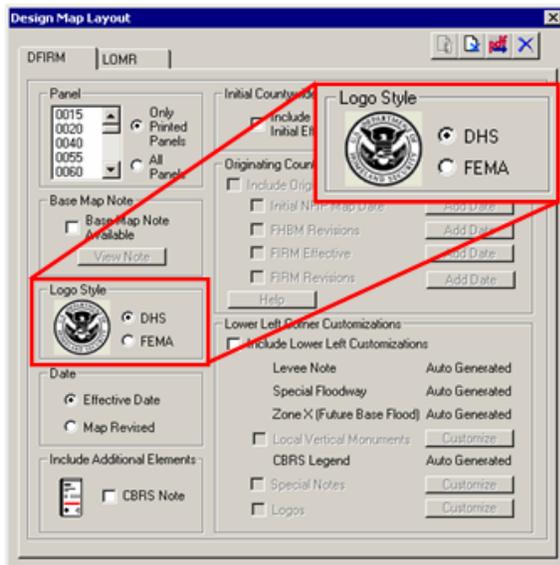
- NOTE -
 THIS MAP INCLUDES BOUNDARIES OF THE COASTAL BARRIER RESOURCES SYSTEM ESTABLISHED UNDER THE COASTAL BARRIER RESOURCES ACT OF 1982 AND/OR SUBSEQUENT ENABLING LEGISLATION.

An example of the CBRS note in the Title Block.

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

NATIONAL

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER
13311C0103A

EFFECTIVE DATE
FEBRUARY 1, 2007

Federal Emergency Management Agency

An example of the DHS logo in the Title Block.

NATIONAL

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER
13311C0103A

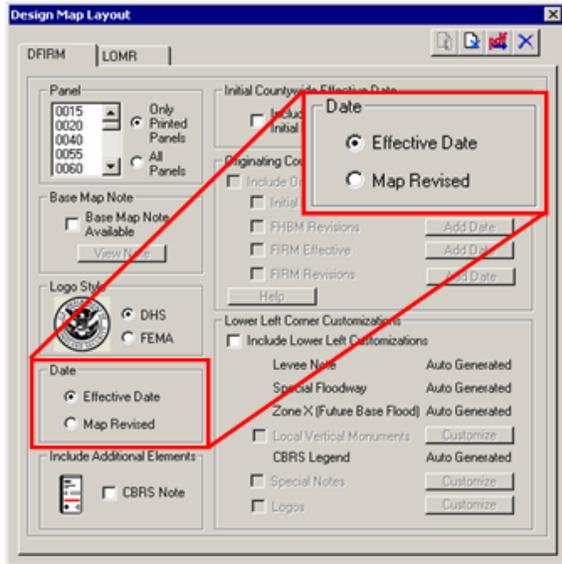
EFFECTIVE DATE
FEBRUARY 1, 2007

Federal Emergency Management Agency

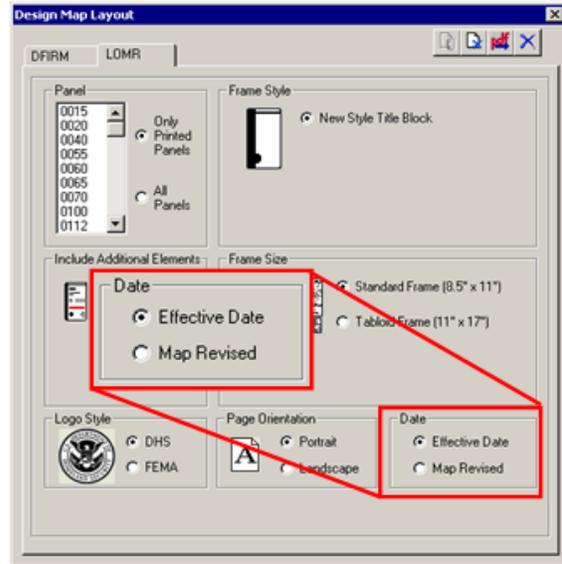
An example of the FEMA logo in the Title Block.

Date

Select a date format for your layout (i.e., Effective Date, Map Revised). The date will be generated from the value in the 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 '9/9/9999' in the EFF_DATE field in the *FIRM Panel Index* (S_FIRM_Pan) layer. This value acts as a <Null> value and will not be displayed in the layout.



MAP NUMBER
13311C0103A
EFFECTIVE DATE
FEBRUARY 1, 2007

An example of the Effective Date date style.



MAP NUMBER
13311C0103A
MAP REVISED
FEBRUARY 1, 2007

An example of the Map Revised date style.



MAP NUMBER
13311C0103A
EFFECTIVE DATE

An example of the Effective Date date style when the EFF_DATE field value is 9/9/9999.

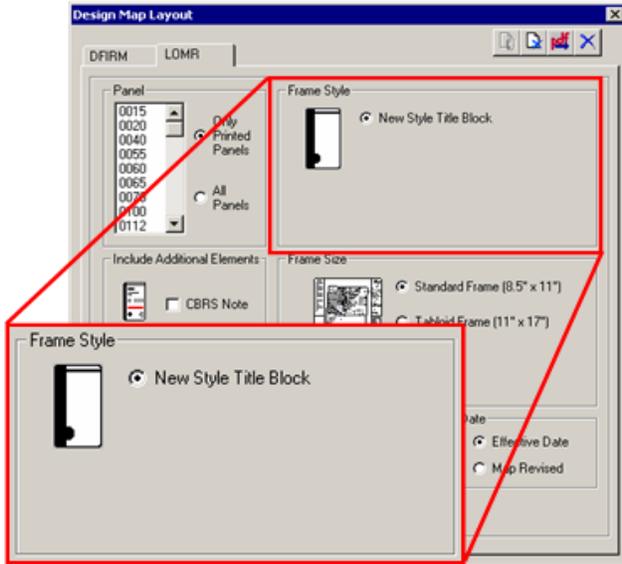


MAP NUMBER
13311C0103A
MAP REVISED

An example of the Map Revised date style when the EFF_DATE field value is 9/9/9999.

Frame Style

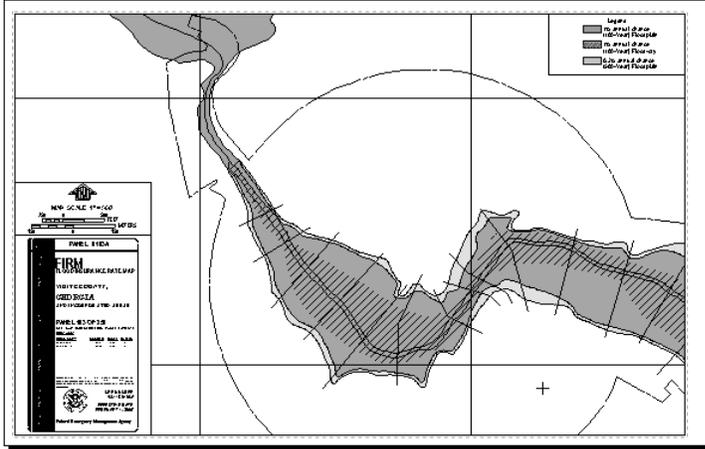
Verify that you will use the New Style Title Block in your LOMR attachment. The New Style will always include a community listing.



LOMR Tab only

NATIONAL FLOOD INSURANCE PROGRAM	PANEL 0103A												
	FIRM FLOOD INSURANCE RATE MAP												
	WHITE COUNTY, GEORGIA AND INCORPORATED AREAS												
	PANEL 103 OF 250 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)												
	CONTAINS:												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">COMMUNITY</th> <th style="text-align: left;">NUMBER</th> <th style="text-align: left;">PANEL</th> <th style="text-align: left;">SUFFIX</th> </tr> </thead> <tbody> <tr> <td>WHITE COUNTY</td> <td>130191</td> <td>0103</td> <td>A</td> </tr> <tr> <td>HELEN, CITY OF</td> <td>130192</td> <td>0103</td> <td>A</td> </tr> </tbody> </table>	COMMUNITY	NUMBER	PANEL	SUFFIX	WHITE COUNTY	130191	0103	A	HELEN, CITY OF	130192	0103	A
	COMMUNITY	NUMBER	PANEL	SUFFIX									
	WHITE COUNTY	130191	0103	A									
	HELEN, CITY OF	130192	0103	A									
	<p>Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.</p>												
													
MAP NUMBER 13311C0103A EFFECTIVE DATE FEBRUARY 1, 2007													
Federal Emergency Management Agency													

An example of the New Style Title Block on a LOMR layout.

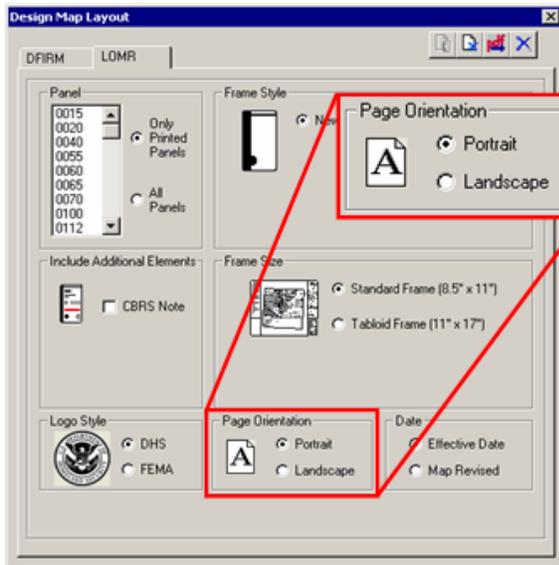


An example of the Tabloid Frame style.

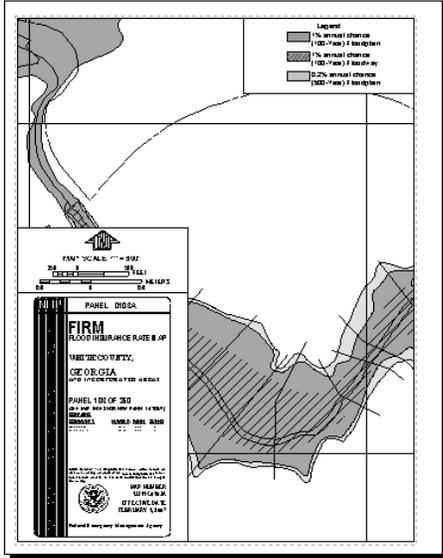
Note: The frame size for DFIRM panels and full-panel LOMRs is set (25.875" x 36") and cannot be modified.

Page Orientation

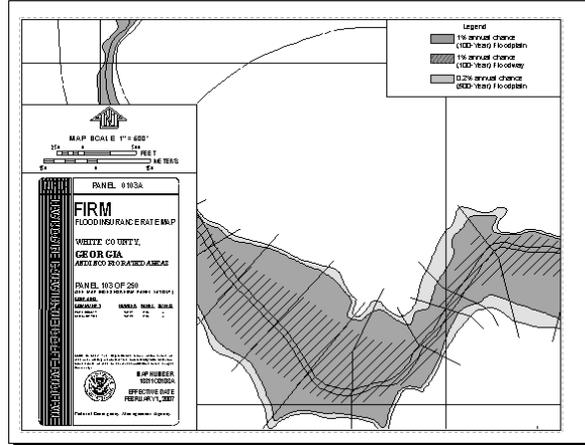
Select the portrait or landscape page orientation for your LOMR attachment.



LOMR Tab only



An example of the Portrait page orientation.

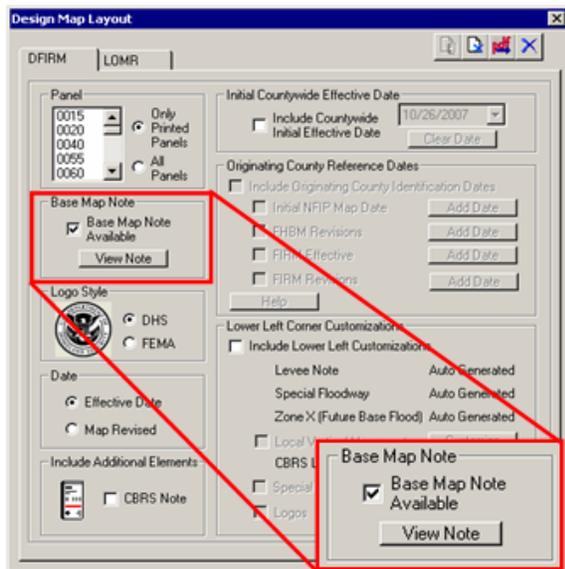


An example of the Landscape page orientation.

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.

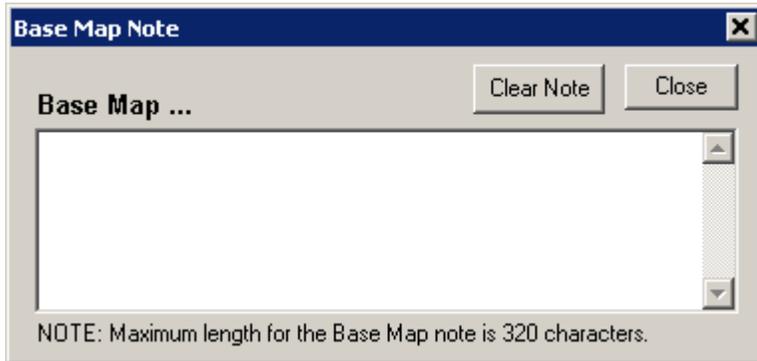


DFIRM Tab only

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

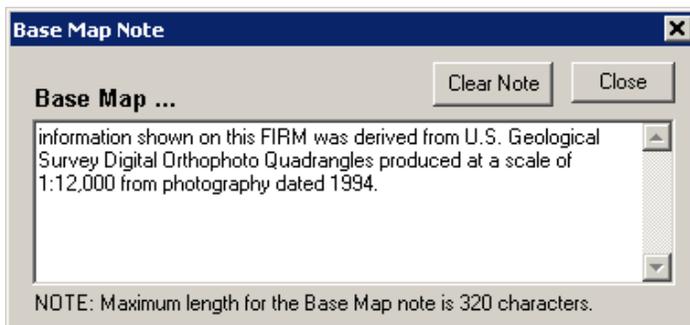
Clicking the *View Note* button accesses the *Base Map Note* dialog.



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, add text or alter text in 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, and create a layout.

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 265 characters; spaces are included in the character counts, and wider letters (e.g., M, W) may count as more than one character.



An example of the Base Map Note populated in the Design Map Layout dialog.

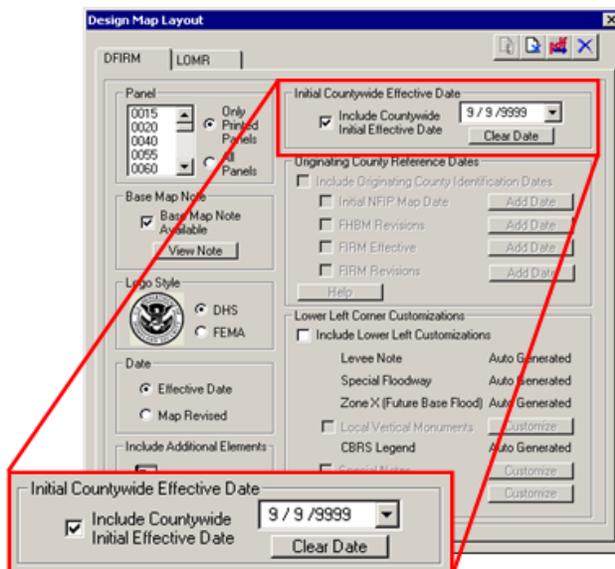
Base map information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1994.

An example of the Base Map Note value placed in the DFIRM layout.

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. If the note is entered while in a parent JTX job step, the note will be inherited by the child jobs.

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



An example of the Include Countywide Initial Effective Date populated in the Design Map Layout dialog.

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
October 1, 1995

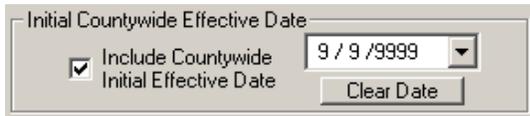
An example of the Include Countywide Initial Effective Date value included in the DFIRM layout.

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 DFIRM_ID value).

If a date has not been stored or the <Null> date placeholder (i.e., 9/9/9999) is stored in the internal table, upon launching *Design Map Layout*, the *Include Countywide Initial Effective Date* box will not be checked. If a date is already stored in the internal table, upon launching *Design Map Layout*, 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 the <Null> date placeholder in the date dialog. *Create Layout* will not display the <Null> date placeholder in the panel legend.



EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP

An example of the *Include Countywide Initial Effective Date* populated with the <Null> date placeholder value in the *Design Map Layout* dialog.

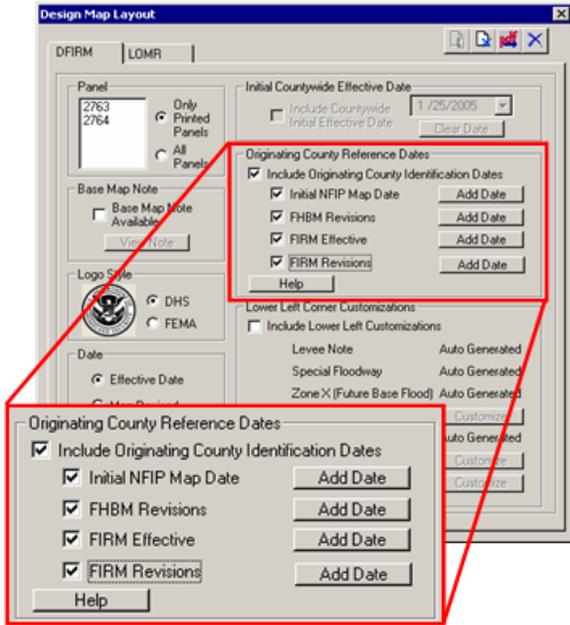
An example of the *Include Countywide Initial Effective Date* <Null> date placeholder value which is not included in the *DFIRM* layout.

Note: The countywide initial effective date value entered in the *Design Map Layout* 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 EFF_DATE field in the *FIRM Panel Index* (S_FIRM_Pan) layer.

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 of flood hazards 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.

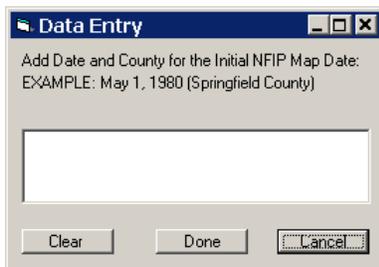


DFIRM Tab only

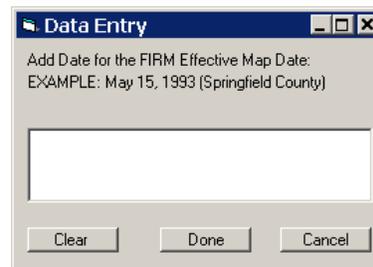
Click the *Include Originating County Identification Dates* box to include any of the originating identification date(s) and county(ies) information in the map Legend (i.e., Initial NFIP Map Date, FHBM Revisions, FIRM Effective, and FIRM Revisions). If no originating identification information has been stored in the internal table, upon launching *Design Map Layout*, 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 *Design Map Layout*, 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 associated with the option 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.

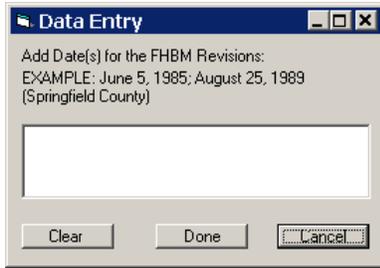
Click the associated checkbox next to the pertinent date subsection, and click the *Add Date* button to access the **Data Entry** dialog.



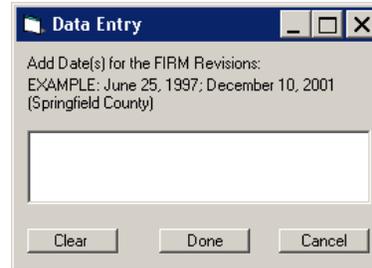
Initial NFIP Map Date dialog used to enter date(s) and county(ies) information



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, click the *Done* button, and create a layout.

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).

INITIAL NFIP MAP DATE
 June 5, 1985 (Baker County)
 FLOOD HAZARD BOUNDARY MAP REVISIONS
 December 21, 1987 (Baker County), January 2, 1989 (Baker County)
 FLOOD INSURANCE RATE MAP EFFECTIVE
 January 2 1993 (Baker County)
 FLOOD INSURANCE RATE MAP REVISIONS
 June 6; 2001 (Baker County) November 24, 2005
 March 23, 2008 - to incorporate previously issued Letters of Map Revision, to advance suffix, and to add roads and road names.

An example of the populated Map date headings in the Legend of a DFIRM layout.

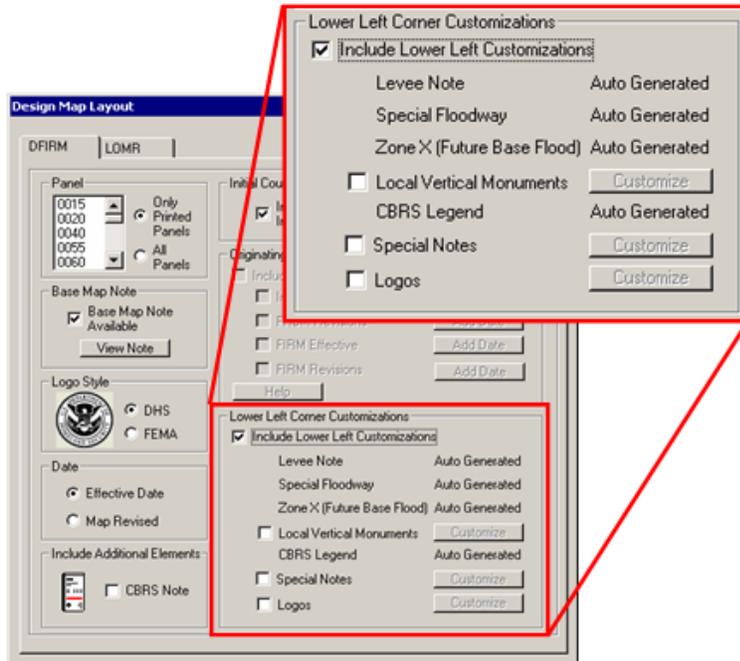
Note: If the *Initial NFIP Map Date* or *FIRM Effective* box is checked, upon layout creation these new values will override the populated values in the L_Comm_Info table from appearing in the map Legend.

Note: If the *FHBM Revisions* box is checked, upon layout creation these new value will override the populated values in the L_Pol_FHBM table from appearing in the map Legend.

Note: If the *FIRM Revisions* box is checked, and the L_Pan_Revis table is populated, then the FIRM revisions information from the **Design Map Layout** 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., Levee Note, Special Floodway, Zone X (Future Conditions), 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.

Levee Note

The **Levee Note** customization displays the Provisionally Accredited Levee (PAL) note in the lower left corner of the map panel. If a *Flood Hazard Area* (S_Fld_Haz_Ar) feature which has a *LEVEE STATUS* (LEVEE_STAT) of "PROVISIONALLY ACCREDITED LEVEE" resides on the selected panel, the PAL note will be automatically placed on the layout when the *Include Lower Left Customizations* box is checked. Within the *Flood Hazard Area* (S_Fld_Haz_Ar) layer, the PAL_DATE field stores the end date of the PAL period for the levee associated with the flood zone. This date value is used to dynamically populate the date in the PAL note.

WARNING: This levee, dike, or other structure has been provisionally accredited and mapped as providing protection from the 1-percent-annual-chance-flood. To maintain accreditation, the levee owner or community is required to submit documentation necessary to comply with 44 CFR Section 65.10 by April 11, 2008. Because of the risk of overtopping or failure of the structure, communities should take proper precautions to protect lives and minimize damages in these areas, such as issuing an evacuation plan and encouraging property owners to purchase flood insurance.

An example of the Provisionally Accredited Levee note in the lower left corner of the DFIRM layout. In this case, the PAL_DATE field value in Flood Hazard Area (S_Fld_Haz_Ar) layer is "04/11/2008".

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 in the *Flood Hazard Area* (S_Fld_Haz_Ar) layer 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 DFIRM layout

Note: Only those special floodways that appear on the panel will be placed on the layout; the entire special floodway legend is shown here for reference.

Zone X (Future Base Flood)

The **Zone X (Future Base Flood)** customization displays the symbol and note for Zone X (Future Base Flood) flood zones 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 1 PCT FUTURE CONDITIONS flood zone features in the *Flood Hazard Area* (S_Fld_Haz_Ar) layer if the *Include Lower Left Customizations* box is checked. The zone symbology is dependent upon the study's base map type (i.e., vector-based or orthophoto-based). The *Create Layout* tool reads the *DOQ BASED* (DOQ_BASED) field in the Study_Info table to determine the study's base map type.

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 for an orthophoto-based study.

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.

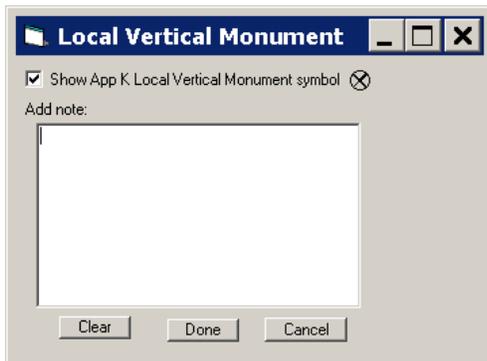
Zone X (Future Base Flood) symbol and note, as displayed in the lower left corner of the map panel for a vector-based study.

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 and text for standard 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 a *Permanent Benchmark* (S_Perm_Bmk) feature(s) falls within the panel extents.

If a local vertical monument note has not been stored in the internal table, upon launching **Design Map Layout** the *Local Vertical Monuments* box will not be checked. If a local vertical monument note is already stored in the internal table, upon launching **Design Map Layout** 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 *Done* button, and create a layout.

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

⊗ Local Vertical Monuments were obtained from the New York Department of Transportation.

An example of the Local Vertical Monument symbol and note in the lower left corner of a DFIRM layout.

⊗ Local Vertical Monuments were obtained from the New York Department of Transportation.

An example of the Standard Benchmark symbol and note in the lower left corner of a DFIRM layout.

CBRS Legend

The **CBRS Legend** customization displays the Coastal Barrier Resource System (CBRS) and/or Otherwise Protected Area (OPA) 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 in the *CBRS* (S_CBRS) layer if the *Include Lower Left Customizations* box is checked.

COASTAL BARRIER LEGEND

10-07-2001 CBRS Area

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER OCTOBER 7, 2001, IN DESIGNATED CBRS AREAS.

06-23-1986 Otherwise Protected Area (OPA)

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER JUNE 23, 1986, IN DESIGNATED OPAs WITHIN THE CBRS.

Boundaries of the John H. Chafee Coastal Barrier Resources System (CBRS) shown on this FIRM were transferred from the official CBRS source map(s) for this area and are depicted on this FIRM for informational purposes only. The official CBRS maps are enacted by Congress via the Coastal Barrier Resources Act, as amended, and maintained by the U.S. Fish and Wildlife (FWS). The official CBRS maps used to determine whether or not an area is located within the CBRS are available for download at <http://www.fws.gov>. For an official determination of whether or not an area is located within the CBRS, or for any questions regarding the CBRS, please contact the FWS field office for this area at (603) 223-2541.

An example of a CBRS Area and OPA note in the lower left corner of the DFIRM layout.

The CBRS Area and OPA notes include the legislative/administrative date on which prohibitions for the CBRS area apply. The *Create Layout* tool uses the date value stored in the CBRS_DATE field in the *CBRS* (S_CBRS) layer to populate the date in the note. If the CBRS_DATE is <Null> or "9/9/9999", the value " __-__-____ " will be included in the note.

COASTAL BARRIER LEGEND

__-__-____ CBRS Area

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER OCTOBER 7, 2001, IN DESIGNATED CBRS AREAS.

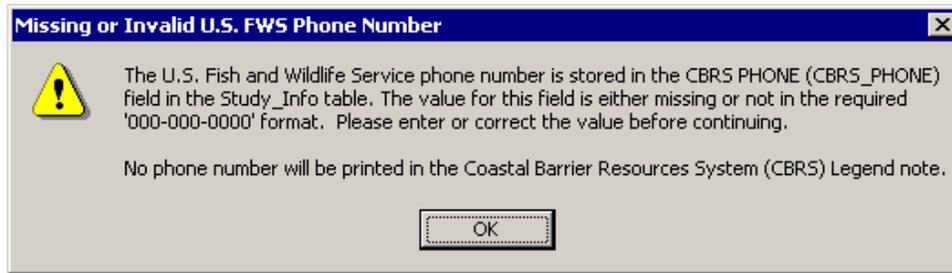
__-__-____ Otherwise Protected Area (OPA)

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER JUNE 23, 1986, IN DESIGNATED OPAs WITHIN THE CBRS.

Boundaries of the John H. Chafee Coastal Barrier Resources System (CBRS) shown on this FIRM were transferred from the official CBRS source map(s) for this area and are depicted on this FIRM for informational purposes only. The official CBRS maps are enacted by Congress via the Coastal Barrier Resources Act, as amended, and maintained by the U.S. Fish and Wildlife (FWS). The official CBRS maps used to determine whether or not an area is located within the CBRS are available for download at <http://www.fws.gov>. For an official determination of whether or not an area is located within the CBRS, or for any questions regarding the CBRS, please contact the FWS field office for this area at (603) 223-2541.

An example of the CBRS Legend when the CBRS_DATE field does not contain a valid date.

The CBRS Area and OPA note(s) always includes additional information about CBRS/OPA features. Included in this informational note is a contact phone number. The *Create Layout* tool uses the phone number value stored in the *CBRS PHONE* (CBRS_PHONE) field of the Study_Info table in the note. If the *CBRS PHONE* (CBRS_PHONE) field value is <Null> or not in the proper "00-00-0000" format, you will be notified via a message, and the value "(____) ____ - ____" will be included in the note.



The Missing or Invalid U.S. FWS Phone Number message.

COASTAL BARRIER LEGEND

10-07-2001 CBRS Area

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER OCTOBER 7, 2001, IN DESIGNATED CBRS AREAS.

06-23-1986 Otherwise Protected Area (OPA)

FLOOD INSURANCE NOT AVAILABLE FOR STRUCTURES NEWLY BUILT OR SUBSTANTIALLY IMPROVED ON OR AFTER JUNE 23, 1986, IN DESIGNATED OPAs WITHIN THE CBRS.

Boundaries of the John H. Chafee Coastal Barrier Resources System (CBRS) shown on this FIRM were transferred from the official CBRS source map(s) for this area and are depicted on this FIRM for informational purposes only. The official CBRS maps are enacted by Congress via the Coastal Barrier Resources Act, as amended, and maintained by the U.S. Fish and Wildlife (FWS). The official CBRS maps used to determine whether or not an area is located within the CBRS are available for download at <http://www.fws.gov>. For an official determination of whether or not an area is located within the CBRS, or for any questions regarding the CBRS, please contact the FWS field office for this area at (____) ____-____.

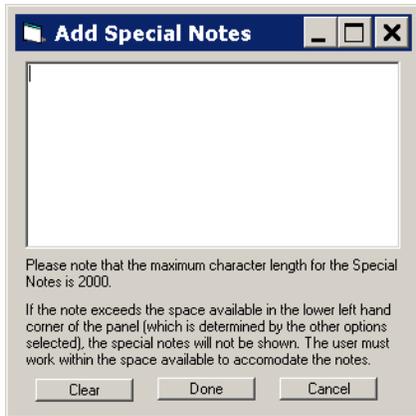
An example of the CBRS Legend when the CBR5_PHONE field does not contain a valid date.

Special Notes

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

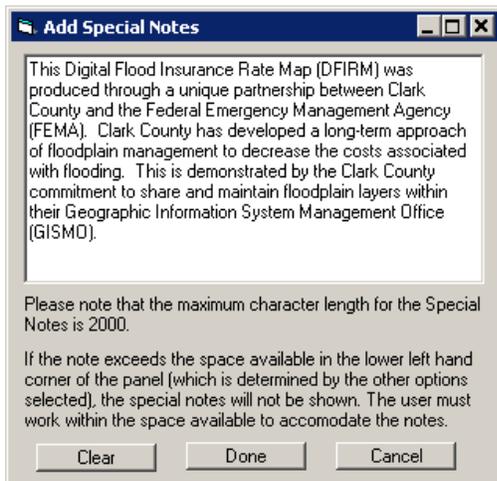
If a special note has not been stored in the internal table, upon launching *Design Map Layout* the *Special Notes* box will not be checked. If a special note is already stored in the internal table, upon launching *Design Map Layout*, the *Include Lower Left Customizations* box and the *Special Notes* 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, click the *Done* button, and create a layout.

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.



An example of the populated Add Special Notes dialog.

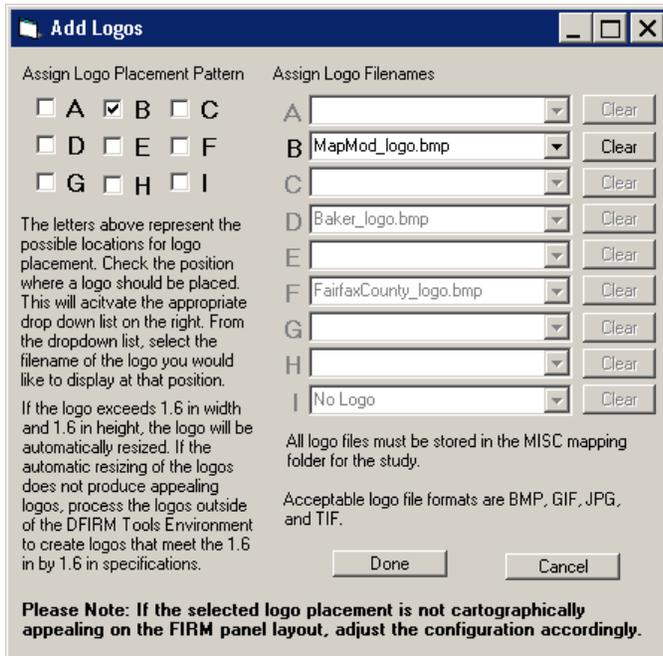
This Digital Flood Insurance Rate Map (DFIRM) was produced through a unique partnership between Clark County and the Federal Emergency Management Agency (FEMA). Clark County has developed a long-term approach of floodplain management to decrease the costs associated with flooding. This is demonstrated by the Clark County commitment to share and maintain floodplain layers within their Geographic Information System Management Office (GISMO).

An example of the Special Note in the lower left corner of the DFIRM Layout.

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, .jpg, or .tif file format.

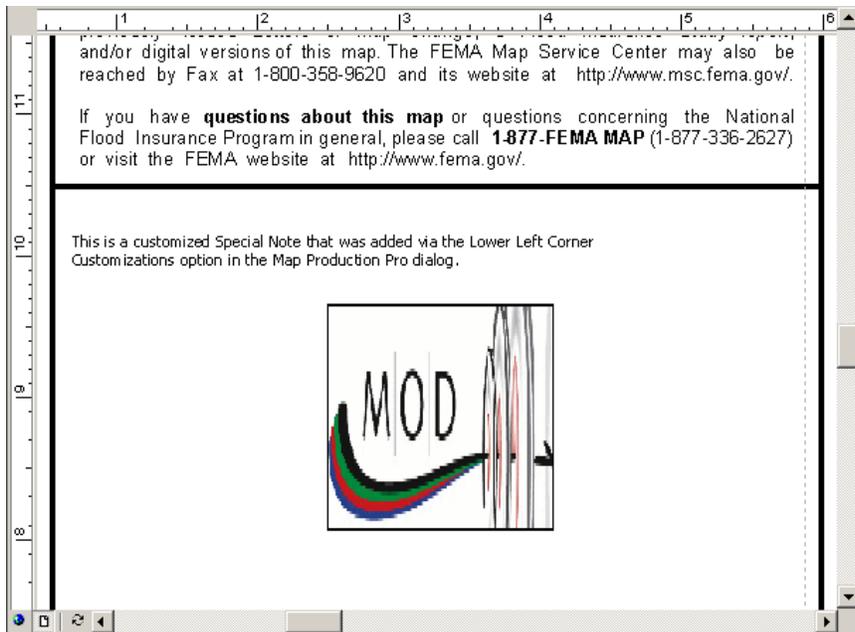
Click on the *Customize* button to access the **Add Logos** dialog.



An example of 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.



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.

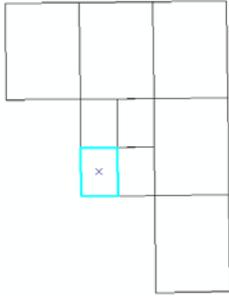
Note: If the lower left customizations exceed the allowable space in the lower left corner of the map panel, none of the logos will be shown on the layout.

Layer Symbology

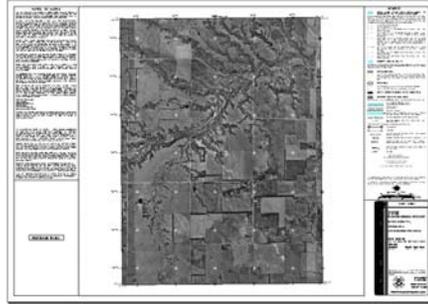
Map Body Symbology

When the layout is generated via the *Create Layout* tool, in general, the layer's symbology and visibility are not altered. You are responsible for symbolizing the layers with the *Render Using VVT Symbology* tool. In addition, you must check on/off the layer visibility as applicable. These actions can be performed before or after the layout is created; however, it is recommended that you do not set the layers visible until after the layout is created to minimize the draw time.

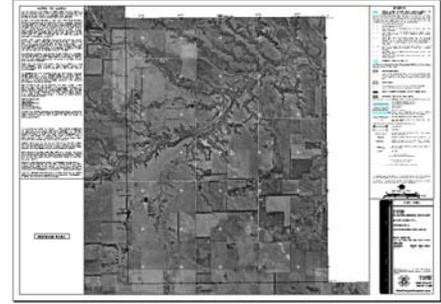
There are several exceptions to the symbology and visibility rule. During the layout creation process, a shapefile called Panel_Mask is created. This layer contains one feature, and it is a buffer of your selected panel. The layer is created in a processing folder on the MIP directory structure; you cannot access this file. Once it is created, the shapefile is automatically added to the Layers data frame. The layer is automatically set as visible and is symbolized with a white fill and no outline color. The Panel_Mask is most useful for panels which fall at the edge of an orthophoto-based study. Since imagery does not often stop at the study's panel extents, the Panel_Mask visually hides the imagery that extends past the panel's edge.



An example of a panel at the study edge.



An example a layout for a panel at the study edge where the Panel_Mask layer is visible.



An example a layout for a panel at the study edge where the Panel_Mask layer is invisible.

Note: The *Clear Graphics* tool removes the Panel_Mask shapefile from the Layers data frame.

The *FIRM Panel Index* (S_FIRM_Pan) layer is another exception. *Create Layout* automatically symbolizes the layer's features based on the selected panel. The selected panel is symbolized with a hollow fill and a black outline. All other *FIRM Panel Index* (S_FIRM_Pan) features are symbolized with a white fill and no outline color. In addition the layer's label expression is set to display only for the selected panel.

Note: The *Clear Graphics* tool removes the *Create Layout*-generated symbology from the *FIRM Panel Index* (S_FIRM_Pan) layer; all features in the tool are symbolized with a hollow fill and a black outline. Additionally, the *Clear Graphics* tool removes the label expression specific to the selected panel and replaces it with its original "[PANEL]" value expression.

The final exception relates to the definition query on the annotation layers. When the ArcMap session is launched from JTX, a DFIRM ID-based definition query is automatically applied to all of the SDE geodatabase spatial layers and tables. Similarly, when data is added to the Layers data frame with *DFIRM SDE Data Loader*, the same DFIRM ID-based definition query is added to the newly loaded layers/tables. This definition query is necessary for ease of use as it restricts the data to just that which is associated with your study's DFIRM ID.

Since annotation has a lengthy draw time, *Create Layout* adds a panel-based statement to the existing definition query expression for the Anno_<scale>_TXT, Anno_<scale>_SUP, and Anno_<scale>_LDR layers that relate to the scale of the selected panel. For instance, in the situation where a layout is being generated for panel 12345C2018D, the definition query for the Anno_6000_TXT, Anno_6000_SUP, and Anno_6000_LDR layers is modified to be "DFIRM_ID = '12345C' AND FIRM_PAN_NUMBER = '12345C2018D'". With this definition query in place, only annotation features (*TXT, *SUP, and *LDR) whose FIRM_PAN_NUMBER value is "12345C2018D" will be visible on the panel layout (when the annotation layer is checked as visible).

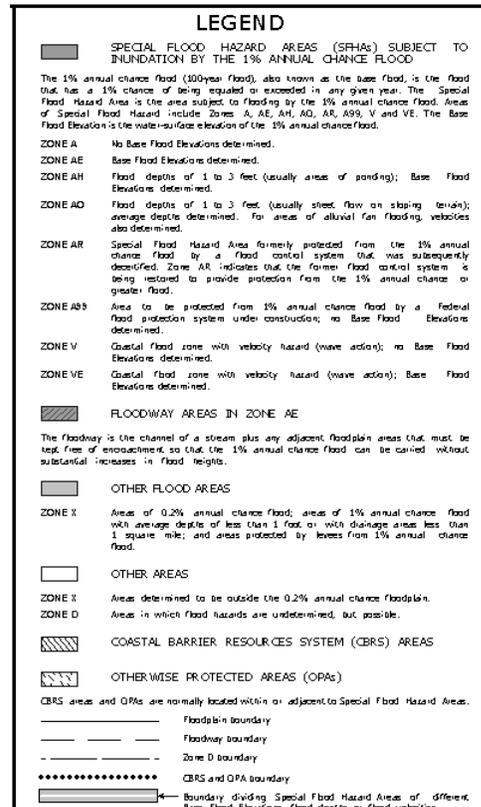
Note: The *Clear Graphics* tool removes the panel-based definition query from the Anno_<scale>_TXT, Anno_<scale>_SUP, and Anno_<scale>_LDR layers; the DFIRM ID-based query remains on the layer.

Legend Symbology

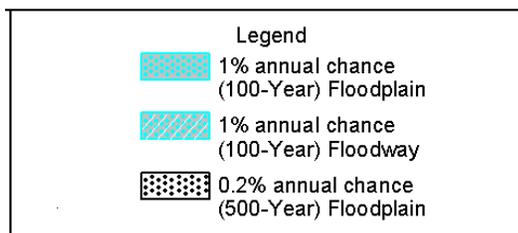
Although the majority of the text in the Legend is static, the rendering of the flood hazard symbols is dependent on the study's base map type. The **Create Layout** tool uses the value stored in the **DOQ BASED (DOQ_BASED)** field in the Study_Info table to determine the type of base map. If the **DOQ BASED (DOQ_BASED)** field value is "T", the Legend will contain the orthphoto-based symbology. If the **DOQ BASED (DOQ_BASED)** field value is "F", the Legend will contain the vector-based symbology. If the **DOQ BASED (DOQ_BASED)** field value is neither "T" nor "F", the layout will be defaulted to the vector-based symbology.



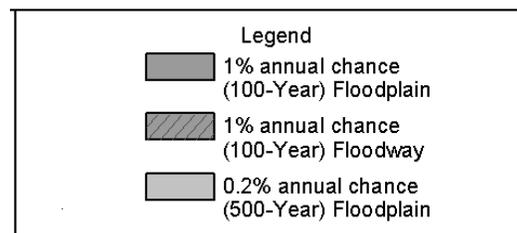
The DFIRM Legend symbology for an orthphoto-based study.



The DFIRM Legend symbology for a vector-based study.



The LOMR Legend symbology for an orthphoto-based study.



The LOMR Legend symbology for a vector-based study.

Data Layer Ordering

Data layers within the Table of Contents are automatically re-ordered when a map layout is created via **Create Layout**. 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 **Create Layout**, will be re-ordered. If a specific layer (e.g., *Water Gage* [S_Water_Gage]) is not loaded into the Table of Contents, **Create Layout** 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.

DFIRM Map Layout

DFIRM Map Layout implies that you clicked **Create Layout** while the DFIRM tab was active in the **Design Map Layout** 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 tools on the **DFIRM Layer Data Loader** toolbar. **Create Layout** 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:

All annotation layers	(*_TXT, *_SUP, *_LDR)
Panel_Mask.shp	(automatically generated by Create Layout)
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)
Water Area	(S_Wtr_Ar)
PLSS Line	(S_PLSS_Ln)
Transportation	(S_Trnsport_Ln)
CBRS	(S_CBRS)
Flood Hazard Area	(S_Fld_Haz_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 **Design Map Layout** 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 tools on the **DFIRM Layer Data Loader** toolbar. *Create Layout* 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:

All annotation layers	(*_TXT, *_SUP, *_LDR)
Panel_Mask.shp	(automatically generated by <i>Create Layout</i>)
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)
Water Area	(S_Wtr_Ar)
PLSS Line	(S_PLSS_Ln)
Transportation	(S_Trnsport_Ln)
CBRS	(S_CBRS)
Flood Hazard Area	(S_Fld_Haz_Ar)
Political Area	(S_Pol_Ar)
PLSS Area	(S_PLSS_Ar)
Ortho_Catalog.dbf	(if raster-based project)

Dynamic Projection Notes

Projection information within the map Legend, Notes to User, and map body dynamically change according to the values within the Study_Info table when a map layout is created via the *Create Layout* tool.

Projection Zones in the Legend

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 *Create Layout*, the Legend notes are updated with the projection description. The projection description includes the coordinate system and grid units.

4275 ^{000m} N	1000-meter Universal Transverse Mercator grid ticks, zone 16
6000000 M	5000-foot grid values: Illinois State Plane coordinate system, west zone (FIPZONE 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 (FIPZONE 3101), Transverse Mercator
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The sample projection used in place of a secondary projection in the legend

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

Projection Gridlines and Ticks in the Legend

Primary projection grids are displayed as black grid values (i.e., gridlines) in the map layout and as black grid ticks along the panel boundary. The secondary projection grids are displayed as grid ticks in the map body as well as along the panel boundary. If the DOQ BASED (DOQ_BASED) field value in the Study_Info table is "T", the secondary projection grid ticks in the map body are white. If the DOQ BASED (DOQ_BASED) field value in the Study_Info table is "F", the secondary projection grid ticks in the map body are black. The secondary grid ticks along the panel boundary are always black. The dynamic syntax in the Legend note indicates which projection is the primary and which is the secondary projection.

4275 ^{000m} N	1000-meter Universal Transverse Mercator grid values, zone 14
6000000 M	5000-foot grid ticks, South Dakota State Plane coordinate system, north zone (FIPZONE 4001), Lambert Conformal Conic

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

4275 ^{000m} N	1000-meter Universal Transverse Mercator grid ticks, zone 14
6000000 M	5000-foot grid values: South Dakota State Plane coordinate system, north zone (FIPZONE 4001), Lambert Conformal Conic

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

If a tertiary reference grid is available (i.e., the study possess *PLSS Line* [S_PLSS_Ln] features, a UTM projection, and a State Plane projection), the reference grid is shown as black grid ticks along the panel boundary; no ticks for the tertiary grid are shown in the map body. In this situation, the dynamic syntax in the Legend note sets both the UTM and State Plane projection references as grid ticks.

4275^{000m}N 1000-meter Universal Transverse Mercator **grid ticks** zone 14
 6000000 M 5000-foot **grid ticks** South Dakota State Plane coordinate system, north zone (FIPZONE 4001), Lambert Conformal Conic

Example indicates that neither the primary projection nor the secondary projection act as the primary reference grid in this study.

State Plane Unit Labels in the Legend

Regardless of whether the NAD 1983 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 6000000 FT
 State Plane projection unit meters State Plane projection unit feet

Note: NAD 1927 State Plane projection units are always feet, and therefore the State Plane projection unit in the Legend label, in this case, is not dynamic.

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

Horizontal Datum Information in the Legend

The horizontal datum of the study is identified in the Legend. When the layout is created, the horizontal datum note in the Legend is automatically created. The horizontal datum information is gathered from the *HORIZONTAL DATUM* (H_DATUM) field in the Study_Info table.

97°07'30", 32°22'30" Geographic coordinates referenced to the North American Datum of 1927 (NAD 27)

An example of the NAD 27 horizontal datum note in the Legend.

97°07'30", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)

An example of the NAD 83 horizontal datum note in the Legend.

Vertical Datum Information in the Legend

The vertical datum of the study is identified in the Legend. When the layout is created, the vertical datum note in the Legend is automatically created. The vertical datum information is gathered from the *VERTICAL DATUM* (V_DATUM) field in the Study_Info table.

(EL 987) Base Flood Elevation value where uniform within zone;
elevation in feet*

* Referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29)

An example of the NGVD 29 vertical datum note in the Legend.

(EL 987) Base Flood Elevation value where uniform within zone;
elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

An example of the NAVD 88 vertical datum note in the Legend.

(EL 987) Base Flood Elevation value where uniform within zone;
elevation in feet*

* Referenced to the Mean Sea Level (MSL) Tidal Datum

An example of the MSL vertical datum note in the Legend.

Projection and Horizontal Datum Information in the Notes to Users

The primary projection and horizontal datum of the study is referenced in the Notes to Users section of the layout. Upon layout generation, the *Create Layout* tool uses the *PROJECTION_ZONE* (PROJ_ZONE) and *HORIZONTAL DATUM* (H_DATUM) field values in the Study_Info table to dynamically include the study's information.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 14. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

An example of a study with a UTM primary projection and a NAD 83 horizontal datum.

The **projection** used in the preparation of this map was Georgia State Plane west zone (FIPZONE 1002). The **horizontal datum** was NAD27, CLARKE1866 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

An example of a study with a State Plane primary projection and a NAD 27 horizontal datum.

Vertical Datum Information in the Notes to Users

The vertical datum of the study is referenced in the Flood Elevations and Coastal Base Flood Elevations sections of the Notes to Users portion of the layout. Upon layout generation, the *Create Layout* tool uses the *VERTICAL DATUM (V_DATUM)* field value in the Study_Info table to dynamically create the vertical datum notes.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' National Geodetic Vertical Datum of 1929 (NGVD 29). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

An example of the NGVD 29 vertical datum Coastal Base Flood Elevations note in the Notes to Users.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1929. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

An example of the NGVD 29 vertical datum Flood Elevation note in the Notes to Users.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

An example of the NAVD 88 vertical datum Coastal Base Flood Elevations note in the Notes to Users.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

An example of the NAVD 88 vertical datum Flood Elevation note in the Notes to Users.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' Mean Sea Level (MSL) Tidal Datum. Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

An example of the MSL vertical datum Coastal Base Flood Elevations note in the Notes to Users.

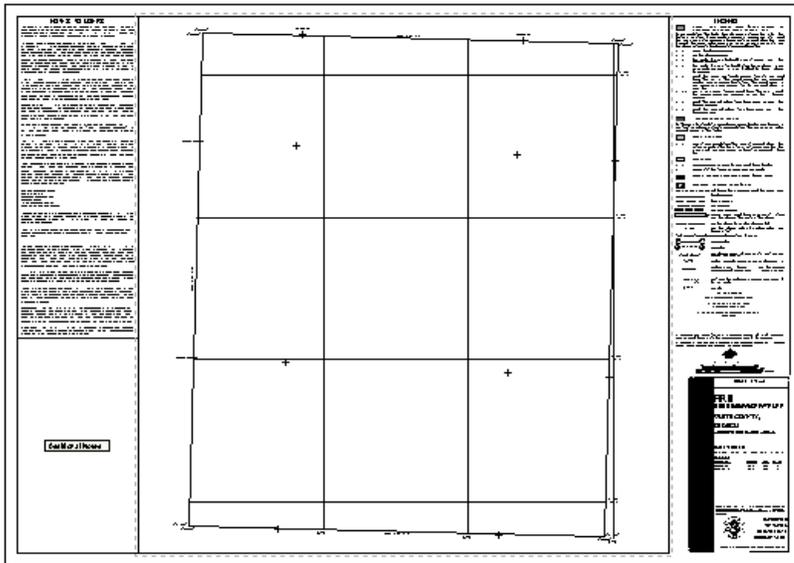
Flood elevations on this map are referenced to the Mean Sea Level tidal datum. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

An example of the MSL vertical datum Flood Elevation note in the Notes to Users.

Displayed Gridlines and Ticks in the Map Body

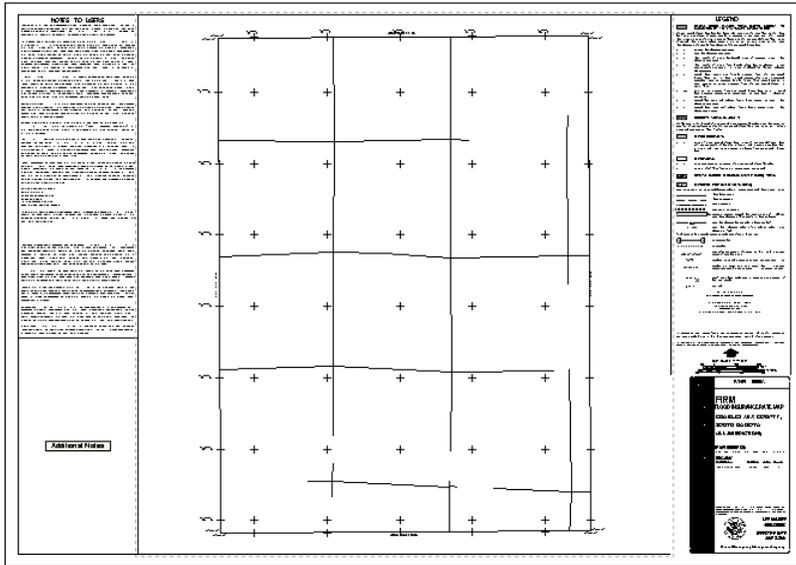
The primary, secondary, and tertiary reference grids in your map layout are dictated by the values in Study_Info table and the existence of *PLSS Line* (S_PLSS_Ln) layer features. The following are rules for how your reference grids will be generated; these rules assume that the projection values are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

1. If 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 *Create Layout* 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.



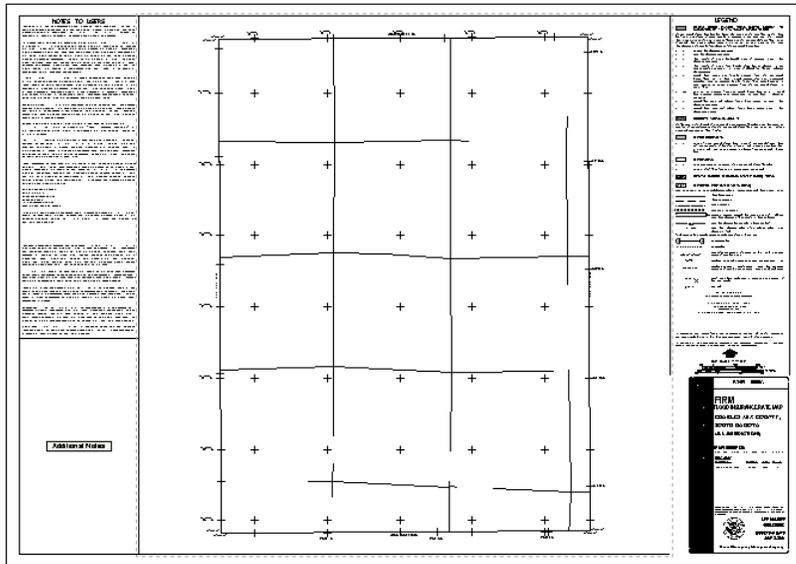
An example of a layout with UTM map body grid lines as the primary reference grid and with State Plane map body grid ticks as the secondary reference grid; the study does not contain PLSS features.

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".



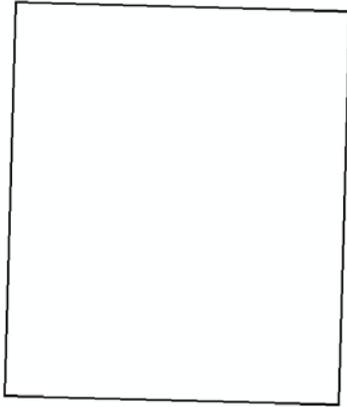
An example of a layout with PLSS Line (S_PLSS_Ln) features (black lines) as the primary reference grid and with UTM map body grid ticks as the secondary reference grid.

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.

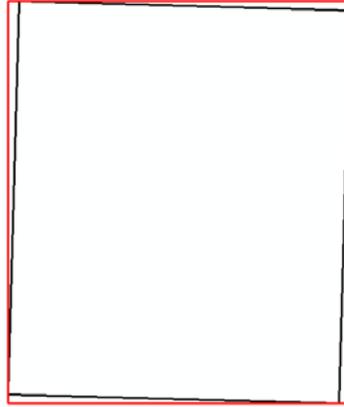


An example of a layout with PLSS Line (S_PLSS_Ln) features (black lines) as the primary reference grid, with UTM map body grid ticks as the secondary reference grid, and with State Plane boundary grid ticks as the tertiary reference grid.

The projection grid lines and grid ticks are placed within the selected panel's minimum and maximum X and Y values, often referred to as the feature envelope.

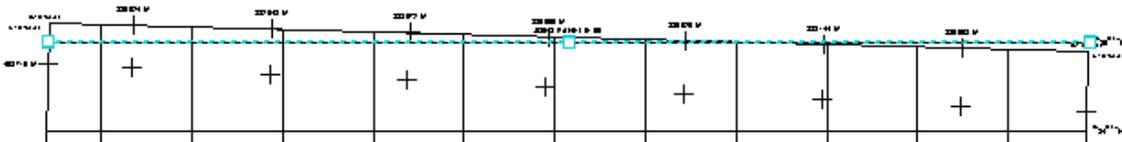


An example of the panel's boundary.

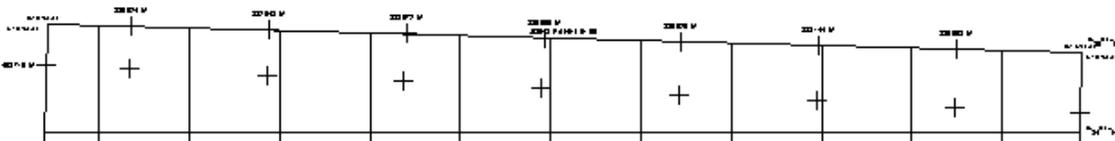


An example of the panel's boundary (black) and panel's feature envelope (red).

Since the feature envelope may be a slightly different shape than the panel boundary, the graphic grid lines and ticks may be placed just outside of the panel boundary (but within the feature envelope). In this situation, you will need to select the graphic feature and delete it from the layout. In the case of a grid line which partially falls inside of the panel extents and outside it, remove the entire line; do not attempt to split the graphic into pieces and only remove the outside pieces.

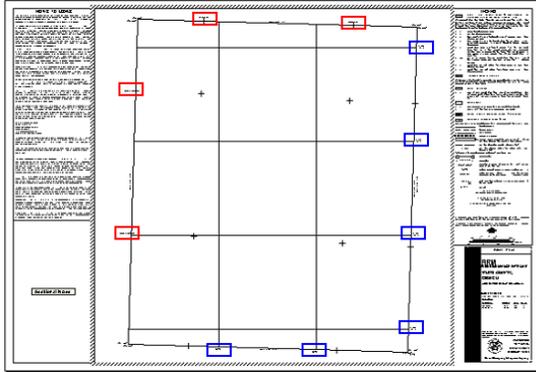


An example of a layout which contains a grid line that falls inside and outside of the panel boundaries.

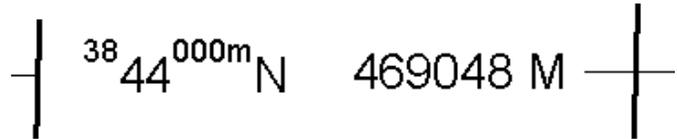


An example of a layout after the graphic grid line that fell outside of the extents was removed.

The UTM and State Plane (if applicable) reference grids are labeled along a side of the panel boundary with the projection value at that location. These labels are generated automatically when the layout is created and are based upon the inherent projection reference grid. The format of the projection labels is as described in the Legend.



An example of a layout which has projection values for the UTM primary reference grid (blue) and has projection values for the State Plane secondary reference grid (red).

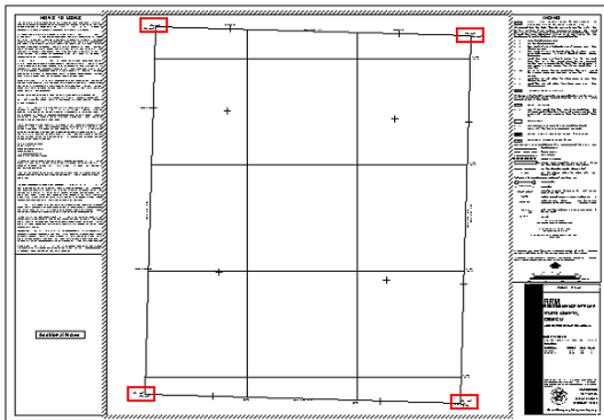


An example of the projection value for the UTM primary reference grid.

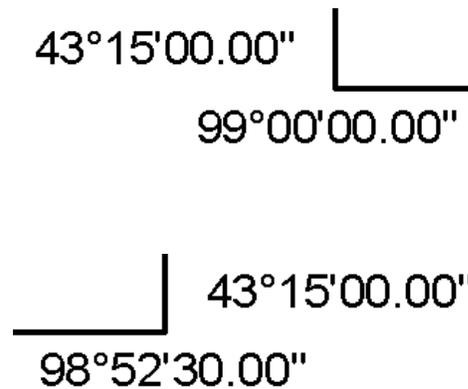
An example of the projection value for the State Plane secondary reference grid.

Corner Coordinate Labels

Each corner of the panel is labeled with the Geographic latitude and longitude coordinates. The coordinates are labeled in <DD>°<MM>'<SS.SS>" format. When the layout is created, the Corner Coordinate labels are generated automatically and are based upon the inherent Geographic coordinate grid.

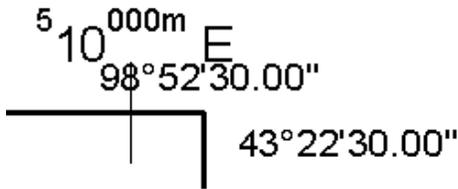


An example of the corner coordinates locations on a layout.

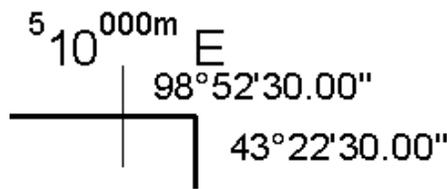


Examples of the corner coordinate label text.

Since the projection grid values and the Corner Coordinate labels are placed independently, the graphic text may overlap depending on where the projection grid line/tick resides. Or, the graphic line/tick at the panel boundary may overlap the corner coordinate text. In the case of conflicting text/graphics, you should manually move the Corner Coordinate label text so that the text does not overlap.



An example of when the reference grid tick overlaps with the corner coordinate label.



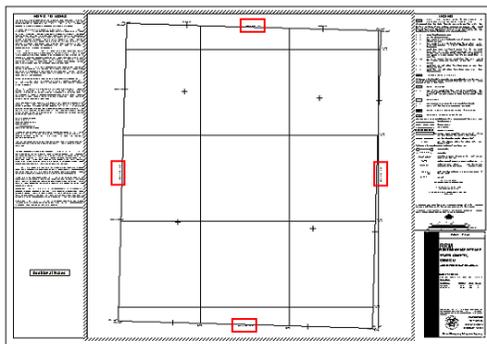
An example of a manually adjusted corner coordinate label so that it no longer overlaps a reference grid tick.

Dynamic Map Body Notes

Some items within the map body dynamically change according to the selected panel's spatial location and shape.

Joins Panel Labels

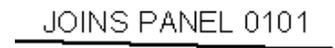
For reference, notes are placed along the selected panel's boundary in the layout to indicate which other panels join it. The text for these note labels is "JOINS PANEL <4-digit panel number>". The Joins Panel label is placed automatically upon layout creation, and the panel number(s) is based on the *PANEL NUMBER* (PANEL) field value in the *FIRM Panel Index* (S_FIRM_Pan) layer. The label is placed either horizontally or vertically and parallel to the layout's edge; the label is not angled to match the angle of the projected panel.



An example of the Joins Panel labels for a panel which has four joining panels.

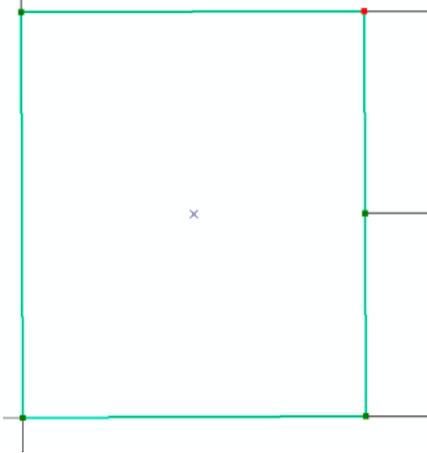


An example of a vertical Joins Panel label.

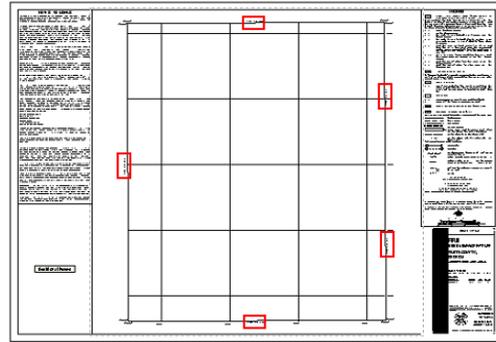


An example of a horizontal Joins Panel label.

The Joins Panel note label is placed for each set of nodes (including pseudo nodes) in the selected panel's boundary. Therefore, if your FIRM Panel Index (S_FIRM_Pan) feature contains more than four nodes, when the layout is generated, there will be multiple Joins Panels labels for a single side of the panel. When this situation occurs, you will need to manually delete the unneeded note and manually adjust the location of the remaining note. To minimize this from occurring, any unnecessary pseudo nodes should be removed before creating a layout.

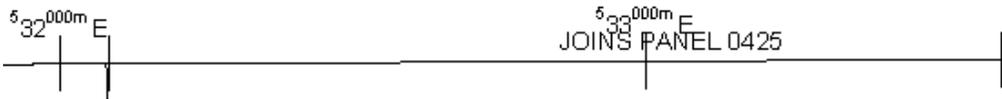


An example of a panel which contains more than four nodes.

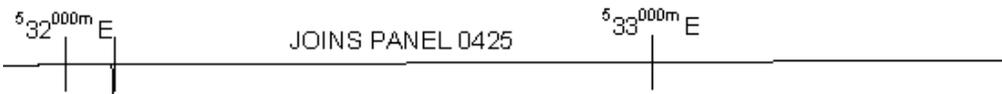


An example of the Joins Panel notes on a panel which contains more than four nodes.

The Joins Panel labels and the projection reference grid values are placed independently of each other and may overlap in the layout. In this situation, you should manually adjust the Joins Panel note label so that it does not overlap the projection reference grid value.



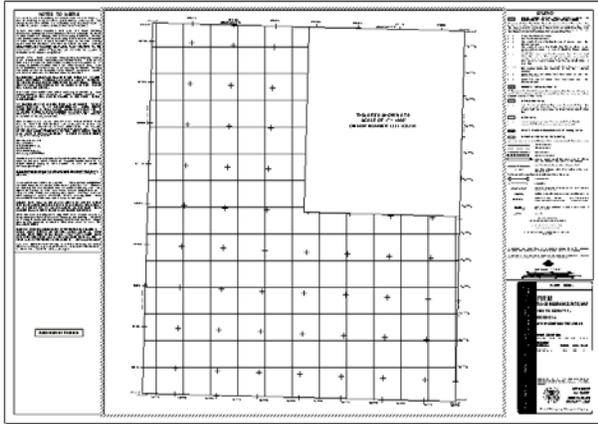
An example of a Joins Panel note label and a projection reference grid value overlapping.



An example of a manually adjusted Joins Panel note label so that it no longer overlaps a projection reference grid value.

This Area Shown Note

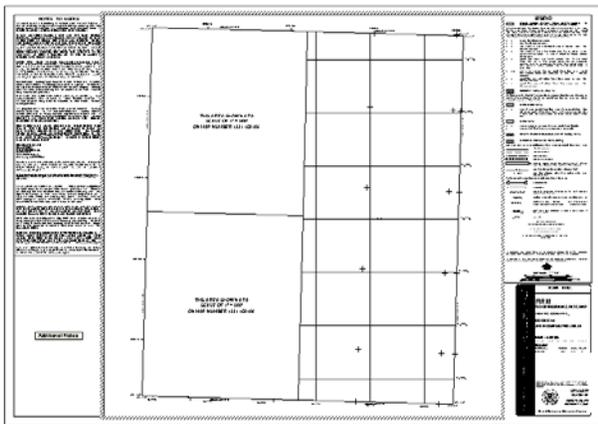
For a panel which has been divided and merged so that it no longer retains the typical shape, such as the L-panel shape, the section of the selected panel which is associated with another panel is referenced with an informational note. This note is automatically placed when the layout is created. The note text is "THIS AREA SHOWN AT A SCALE OF <scale> ON MAP NUMBER <map number>". The <scale> value is obtained from the SCALE field in the *FIRM Panel Index* (S_FIRM_Pan) layer. The <map number> value is a concatenation of the STATE FIPS (ST_FIPS), COMMUNITY NUMBER (PCOMM), and PANEL NUMBER (PANEL) field values in the *FIRM Panel Index* (S_FIRM_Pan) layer.



An example of a This Area Shown note on a layout.

**THIS AREA SHOWN AT A
SCALE OF 1" = 1000'
ON MAP NUMBER 13311C0210**

An example of a This Area Shown note text.



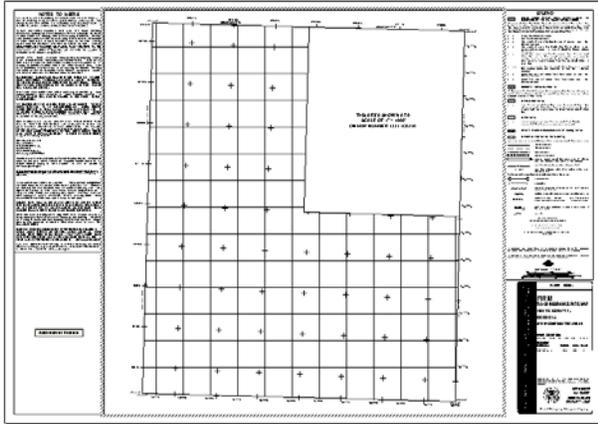
An example of This Area Shown notes on a layout.

**THIS AREA SHOWN AT A
SCALE OF 1" = 500'
ON MAP NUMBER 13311C0106**

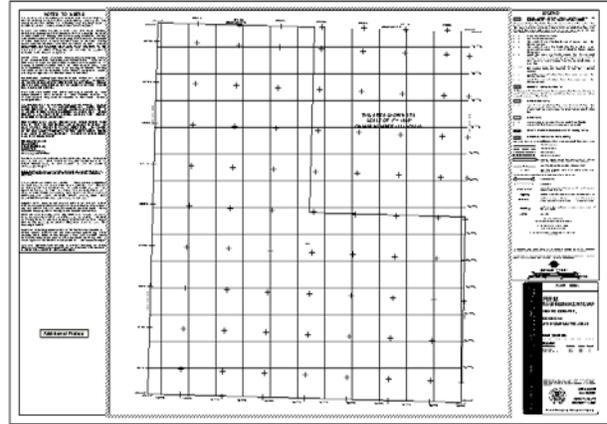
**THIS AREA SHOWN AT A
SCALE OF 1" = 500'
ON MAP NUMBER 13311C0108**

Examples of the This Area Shown note text.

The area of the selected panel which is associated with another panel is covered with a graphic box which has a white fill and a black outline. As previously mentioned, the projection grid lines and grid ticks are created for the feature envelope. In the case of the panel that requires a This Area Shown note(s), the graphic box is essential in hiding the reference grid lines/ticks that exist in the associated panel area. Additionally, the graphic box's black outline ensures that the selected panel's boundary appears solid (i.e., ArcMap's feature draw order could cause the panel line to appear dashed since the surrounding panels are symbolized as white filled with no outline).

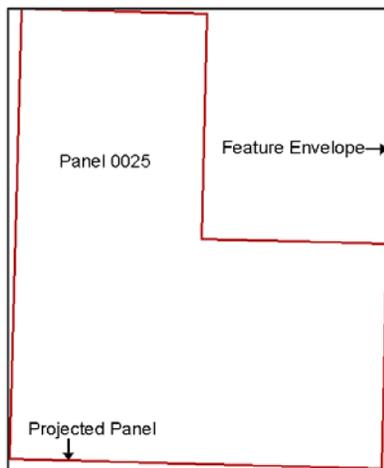


An example of a layout with the This Area Shown graphic box.

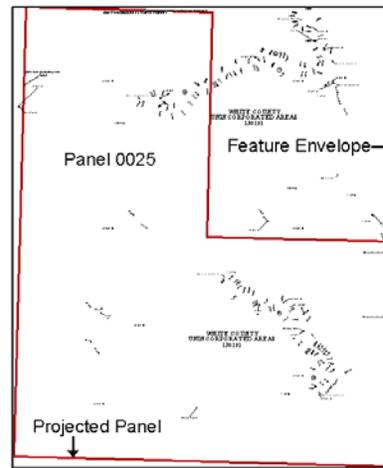


An example of a layout with the This Area Shown graphic box removed.

A by-product of the This Area Shown graphic box is that it also hides annotation that is associated with the selected panel but which appears in the associated panel's extents. The third-party annotation creation tool Label-EZ (which is called from *LabelPanel*) uses the feature envelope to generate annotation. In doing so, annotation is created for the area of the panel's extents that actually belongs to a different scale panel.



The feature envelope in relation to the projected panel.



Annotation that is associated with Panel 0025.

Even though the annotation is hidden by the This Area Shown graphic box, it should not remain in the Anno_<scale>_TXT layer. As part of the annotation editing process, this unneeded annotation should be selected and moved to the Anno_<scale>_SUP annotation layer. If the annotation is erroneously left in the Anno_<scale>_TXT layer, when the study data is exported with the tools on the **DFIRM Database Exporter** toolbar, the annotation related to transportation and water spatial features will be converted to *Label Point* (S_Label_Pt) features. This false *Label Point* (S_Label_Pt) data will result in visual quality control errors.

Note: If you elect to delete the unneeded Anno_<scale>_TXT annotation features instead of moving them to the Anno_<scale>_SUP layer, bear in mind that the annotation features will be re-created if you regenerate annotation for that panel with the *LabelPanel* tool.

In addition, when you suppress annotation, the associated Anno_<scale>_LDR features are automatically deleted. If you delete the Anno_<scale>_TXT annotation features instead of suppressing them, you must remember to also delete the unneeded Anno_<scale>_LDR annotation features. If the Anno_<scale>_LDR annotation features remain in the layer, those annotation leaders associated with transportation and water spatial features will be converted to *Label Line* (S_Label_Ln) features upon export and will be flagged as errors during the visual quality control review.

Dynamic Map Repository and Historic Map Information in the Legend

The Legend includes additional dynamic information pertaining to the study, including map repository information and dates of previous effective maps.

Map Repository

For a single-jurisdiction study, the map repository is automatically generated via the *Create Layout* tool. The tool uses the values from the *REPOSITORY ADDRESS 1* (REPOS_ADR1), *REPOSITORY ADDRESS 2* (REPOS_ADR2), *REPOSITORY ADDRESS 3* (REPOS_ADR3), *REPOSITORY CITY* (REPOS_CITY), *REPOSITORY STATE* (REPOS_ST), and *REPOSITORY ZIPCODE* (REPOS_ZIP) fields in the L_Comm_Info table to build the map repository address. The *REPOSITORY ADDRESS 1* (REPOS_ADR1), *REPOSITORY CITY* (REPOS_CITY), *REPOSITORY STATE* (REPOS_ST), and *REPOSITORY ZIPCODE* (REPOS_ZIP) field values must be populated. The *REPOSITORY ADDRESS 2* (REPOS_ADR2) and *REPOSITORY ADDRESS 3* (REPOS_ADR3) field values should be populated only if applicable to the study. The text "(Maps available for reference only, not for distribution.)" always appears after the address.

MAP REPOSITORY
Community Development Center, 401 Grove Street, Suite 130, Healdsburg, California 95448 (Maps
available for reference only, not for distribution.)

[An example of the Map Repository note in the Legend for a single-jurisdiction study.](#)

The *Create Layout* tool expects that the L_Comm_Info table contains only one record for a single-jurisdiction study. If the tool locates more than one record, you will receive a message notifying you of the finding, and the tool will gather the map repository address information from one of the records.

For countywide studies, the map repository text is static and refers the user to the Map Index.

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

[An example of the Map Repository note in the Legend for a countywide study.](#)

Historic Map Dates

The Legend contains several notes which store historic dates for the effective map. For a single-jurisdiction study, these headings include the Initial NFIP Map Date note, the Flood Hazard Boundary Map Revisions note, the Flood Insurance Rate Map Effective note, and the Flood Insurance Rate Map Revisions note. The Initial NFIP Map Date note stores the date of the first NFIP flood map (e.g., FHBM, FIRM). This value is obtained from the IN_NFIP_DT field in the L_Comm_Info table. The Flood Insurance Rate Map Effective note stores the date of the first FIRM map. This value is obtained from the IN_FRM_DAT field in the L_Comm_Info table.

The Flood Hazard Boundary Map Revisions note contains a list of FHBM revision dates relating to the community for which the study is based. *Create Layout* utilizes the values in the L_Pol_FHBM table to populate this note. Specifically, the tool locates the records in the L_Pol_FHBM table whose COMMUNITY ID (CID) field value matches the study's DFIRM ID. From the select set of records, the tool obtains a list of unique FHBM_DATE field values. All the unique values are listed under the "FLOOD HAZARD BOUNDARY MAP REVISIONS" heading.

COMMUNITY ID*	FHBM_DATE	FHBM NOTE
050447	8/3/1981	TO UPDATE CORPORATE LIMITS
050447	8/3/1981	TO CHANGE ZONE DESIGNATIONS
050447	2/15/1983	TO REFLECT UPDATED TOPOGRAPHIC INFORMATION

Record: 0 Show: All Selected Records (3 out of 3 Selected.)

An example of all of the records in the L_Pol_FHBM table whose COMMUNITY ID (CID) field value matches the DFIRM ID.

INITIAL NFIP MAP DATE
 October 18, 1977
 FLOOD HAZARD BOUNDARY MAP REVISIONS
 August 3, 1981; February 15, 1983
 FLOOD INSURANCE RATE MAP EFFECTIVE
 October 18, 1988
 FLOOD INSURANCE RATE MAP REVISIONS
 October 16, 2003

An example of the historic FHBM revision dates for the community in the Legend.

The Flood Insurance Rate Map Revisions note stores a list of the historic dates on which the selected FIRM panel was revised. In addition the note includes the revision descriptions for the selected panel that relate to the current study. This heading is populated via the values in the L_Pan_Revis table. The *Create Layout* tool first locates all of the records in the L_Pan_Revis table whose *FIRM PANEL NUMBER* (FIRM_PAN) field values match the *FIRM PANEL NUMBER* (FIRM_PAN) field value of the selected panel in the *FIRM Panel Index* (S_FIRM_Pan) layer. From the set of identified records, the tool internally creates a unique set of REVIS_DATE field values. From this unique set, the tool determines if any of the dates match the EFF_DATE field value for the selected panel in the *FIRM Panel Index* (S_FIRM_Pan) layer. If a match is found, all non-matching dates are listed beneath the "FLOOD INSURANCE RATE MAP REVISIONS" heading. The tool then identifies all of the records in the L_Pan_Revis table which met the criteria of the selected panel number and the matching date. From this subset of data, the tool concatenates the revision note text stored in the REVISION NOTE (REVIS_NOTE) field and places it with the matching date beneath the list of the non-matching dates in the Legend.

FIRM PANEL NUMBER*	PANEL TYPE	EFF_DATE	PAN
0603780510D	COMMUNITY BASED, PANEL PRINTED	6/22/2007	1200

Record: 1 Show: All Selected Records (1 out of 5 Selected.)

An example record in the FIRM Panel Index (S_FIRM_Pan) for the selected panel.

FIRM PANEL NUMBER*	REVIS_DATE	REVISION NOTE
0603780510D	8/14/1987	to add Base Flood Elevations
0603780510D	8/14/1987	to add Special Flood Hazard Areas
0603780510D	11/24/1997	to increase Base Flood Elevations
0603780510D	11/24/1997	to change zone designations
0603780510D	11/24/1997	to add floodway
0603780510D	6/22/2007	to incorporate previously issued Letters of Map Revision
0603780510D	6/22/2007	to advance suffix
0603780510D	6/22/2007	to add roads and road names

Record: 0 Show: All Selected Records (8 out of 22 Selected.)

An example of all of the records in the L_Pan_Revis table whose FIRM PANEL NUMBER (FIRM_PAN) field value matches the selected panel.

INITIAL NFIP MAP DATE
 April 16, 1976
 FLOOD HAZARD BOUNDARY MAP REVISIONS
 FLOOD INSURANCE RATE MAP EFFECTIVE
 March 4, 1980
 FLOOD INSURANCE RATE MAP REVISIONS
 August 14, 1987 November 24, 1997

An example of the historic FIRM revision dates and notes for the selected panel in the Legend.

June 22, 2007 - to advance suffix, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

If none of the REVIS_DATE field values match the EFF_DATE field value for the selected panel in the *FIRM Panel Index* (S_FIRM_Pan) layer, the entire set of unique dates is placed below the "FLOOD INSURANCE RATE MAP REVISIONS" heading; no revision description is included in the Legend.

FIRM PANEL NUMBER*	PANEL TYPE	EFF_DATE	PAN
0603780510D	COMMUNITY BASED, PANEL PRINTED	9/4/2009	1200

Record: 1 Show: All Selected Records (1 out of 5 Selected.)

An example record in the FIRM Panel Index (S_FIRM_Pan) for the selected panel.

FIRM PANEL NUMBER*	REVIS_DATE	REVISION NOTE
0603780510D	8/14/1987	to add Base Flood Elevations
0603780510D	8/14/1987	to add Special Flood Hazard Areas
0603780510D	11/24/1997	to increase Base Flood Elevations
0603780510D	11/24/1997	to change zone designations
0603780510D	11/24/1997	to add floodway
0603780510D	6/22/2007	to incorporate previously issued Letters of Map Revision
0603780510D	6/22/2007	to advance suffix
0603780510D	6/22/2007	to add roads and road names

Record: 0 Show: All Selected Records (8 out of 22 Selected.)

An example of all of the records in the L_Pan_Revis table whose FIRM PANEL NUMBER (FIRM_PAN) field value matches the selected panel.

INITIAL NFIP MAP DATE
 April 16, 1976
 FLOOD HAZARD BOUNDARY MAP REVISIONS
 FLOOD INSURANCE RATE MAP EFFECTIVE
 March 4, 1980
 FLOOD INSURANCE RATE MAP REVISIONS
 August 14, 1987 November 24, 1997 June 22, 2007

An example of the historic FIRM revision dates for the selected panel in the Legend.

If the study is in the preliminary processing stage, the EFF_DATE field value for the selected panel in the *FIRM Panel Index* (S_FIRM_Pan) layer should be "9/9/9999". All L_Pan_Revis records which are associated with the current study should also have a REVIS_DATE field value of "9/9/9999". When the Flood Insurance Rate Map Revisions note information is gathered, the tool will consider the "9/9/9999" values a match and will include the text "____ -" as the date placeholder when creating the revision note description.

FIRM PANEL NUMBER*	PANEL TYPE	EFF_DATE	PAN
0603780510D	COMMUNITY BASED, PANEL PRINTED	9/9/9999	1200

Record: 1 Show: All Selected Records (1 out of 5 Selected.)

An example record in the FIRM Panel Index (S_FIRM_Pan) for the selected panel.

FIRM PANEL NUMBER*	REVIS_DATE	REVISION NOTE
0603780510D	8/14/1987	to add Base Flood Elevations
0603780510D	8/14/1987	to add Special Flood Hazard Areas
0603780510D	11/24/1997	to increase Base Flood Elevations
0603780510D	11/24/1997	to change zone designations
0603780510D	11/24/1997	to add floodway
0603780510D	9/9/9999	to incorporate previously issued Letters of Map Revision
0603780510D	9/9/9999	to advance suffix
0603780510D	9/9/9999	to add roads and road names

Record: 0 Show: All Selected Records (8 out of 22 Selected.)

An example of all of the records in the L_Pan_Revis table whose FIRM PANEL NUMBER (FIRM_PAN) field value matches the selected panel.

INITIAL NFIP MAP DATE
 April 16, 1976
 FLOOD HAZARD BOUNDARY MAP REVISIONS
 FLOOD INSURANCE RATE MAP EFFECTIVE
 March 4, 1980
 FLOOD INSURANCE RATE MAP REVISIONS
 August 14, 1987 November 24, 1997

An example of the historic FIRM revision dates and notes for the selected panel in the Legend.

_____ - to incorporate previously issued Letters of Map Revision, to advance suffix, and to add roads and road names.

Note: FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners, Appendix L: Guidance for Preparing Draft Digital Data and DFIRM Database* advises you to populate the REVIS_DATE field in the L_Pan_Revis table with the Required field date placeholder (i.e., 8/8/8888) when the date value is meant to be <Null>. So that the **Create Layout** tool recognizes a match between the records in the L_Pan_Revis table and the *FIRM Panel Index* (S_FIRM_Pan) record, you should use the date placeholder "9/9/9999" in the REVIS_DATE field.

Note: When the *Include Originating County Identification Dates* box in the **Design Map Layout** dialog is checked, the Originating County Reference Dates option takes precedence over the values in the L_Comm_Info and L_Pol_FHBM tables. In this situation, only the values from the Originating County Reference Dates section will appear in the Legend.

Note: When the *Include Originating County Identification Dates* box in the **Design Map Layout** dialog is checked and the L_Pan_Revis table contains values, the Originating County Reference Dates option is concatenated with the dates in the L_Pan_Revis table so that both appear in the Legend.

For a countywide study, the historic map date headings include the Effective Date of Countywide Flood Insurance Rate Map note and the Effective Date(s) of Revisions(s) to This Panel note. The Effective Date of Countywide Flood Insurance Rate Map note stores the date of the first countywide map. As previously discussed, the **Create Layout** tool uses the value from the Initial Countywide Effective Date section in the **Design Map Layout** dialog. The Effective Date(s) of Revisions(s) to This Panel note stores a list of the historic dates on which the selected FIRM panel was revised and includes the revision descriptions for the selected panel that relate to the current study. The tool generates the Effective Date(s) of Revisions(s) to This Panel note in the same manner as the Flood Insurance Rate Map Revisions note is created for a single-jurisdiction study.

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
November 3, 1981

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
July 16, 1987 September 28, 1994 March 22, 2004

January 15, 2008 - to change zone designations and to change floodway.

An example of the historic dates and revision notes in the Legend for a countywide study.

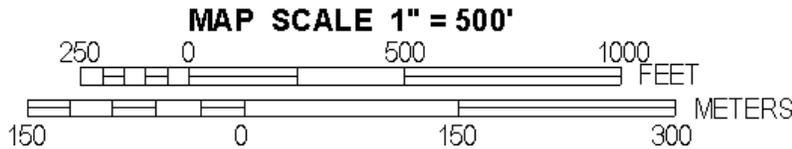
In addition to the dynamic Effective Date of Countywide Flood Insurance Rate Map note and the Effective Date(s) of Revisions(s) to This Panel note in the Legend, the countywide study layout includes a standard note which directs the user on how to obtain historic community map dates.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

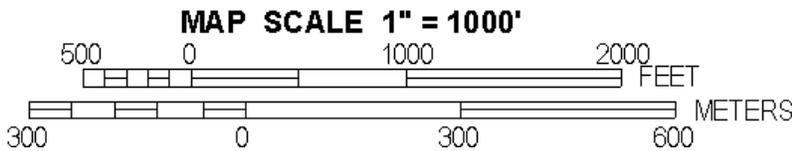
An example of the static historic date note in the Legend for a countywide study.

Dynamic Scale Bar in the Legend

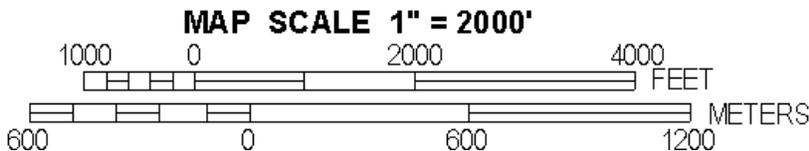
The scale bar and related reference scale text is automatically generated based on the scale of the selected panel. The *Create Layout* tool uses the SCALE field value in the *FIRM Panel Index* (S_FIRM_Pan) layer to determine the scale of the panel.



The scale bar and related text in the Legend for a 6,000-scale panel.



The scale bar and related text in the Legend for a 12,000-scale panel.



The scale bar and related text in the Legend for a 24,000-scale panel.

Dynamic Study Information in the Title Block

The Title Block contains identifying information about the community/county and provides panel specific information including the panel number, intersecting communities, and effective date.

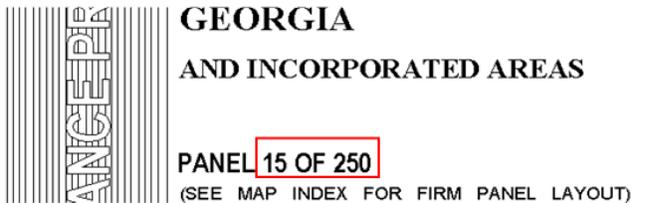
Panel Number

The panel number on which the layout is based is located in several places in the Title Block. The 4-digit panel number and the suffix are included at the top of the Title Block. The *Create Layout* tool uses the *PANEL NUMBER* (PANEL) and SUFFIX field values for the selected panel in the *FIRM Panel Index* (S_FIRM_Pan) layer to generate this information in the layout.



An example of the panel number and suffix at the top of the Title Block.

The 4-digit panel number and the largest panel number are shown in the middle of the Title Block. The 4-digit panel number is attained from the *PANEL NUMBER* (PANEL) field for the selected panel in the *FIRM Panel Index* (S_FIRM_Pan) layer. The tool obtains the largest panel number by determining the largest *PANEL NUMBER* (PANEL) value of all of the records in the *FIRM Panel Index* (S_FIRM_Pan) layer. The panel number and the largest panel number text are always followed by the static text "(SEE MAP INDEX FOR FIRM PANEL LAYOUT)".



An example of the panel number and largest panel number in the middle of the Title Block.

If the study contains only one printed panel, the panel number and largest panel number text are substituted with the text "ONLY PANEL PRINTED". If the *Create Layout* tool finds that the ONLY PANEL PRINTED (OPP_TF) field value in the Study_Info table is "T", the "ONLY PANEL PRINTED" text is placed in the Title Block, regardless of how many printed panels reside in the *FIRM Panel Index* (S_FIRM_Pan) layer. In this situation the static text "(SEE MAP INDEX FOR FIRM PANEL LAYOUT)" is not included in the Title Block.



An example of the Only Panel Printed note in the middle of the Title Block.

The full panel number is included at the bottom of the Title Block. This value is attained from the *FIRM PANEL NUMBER* (FIRM_PAN) field for the selected record in the *FIRM Panel Index* (S_FIRM_Pan) layer.



An example of the full panel number at the bottom of the Title Block.

Study Name and Location

The community/county name and state information is shown in the Title Block. The format varies slightly from countywide to single-jurisdiction. For a countywide study, the study name is obtained from the *STUDY NAME* (STUDY_NM) field. The study name is followed by the state name which is gathered from the *STATE NAME* (STATE_NM) field. The state name is followed by the study's jurisdiction type. The jurisdiction type is obtained from the *JURISDICTION TYPE* (JURIS_TYP) field. All three of these values are found in the Study_Info table. If the *JURISDICTION TYPE* (JURIS_TYP) field value is "AND INCORPORATED AREAS", the text is not enclosed in parenthesis; if the text is "ALL JURISDICTIONS", the jurisdiction type value is enclosed in parenthesis.



An example of the study name in the Title Block for a countywide study where the jurisdiction type is "AND INCORPORATED AREAS".



An example of the study name in the Title Block for a countywide study where the jurisdiction type is "ALL JURISDICTIONS".

For a single-jurisdiction study, the study prefix is first listed in the Title Block. The study prefix value is obtained from the *STUDY PREFIX* (STUDY_PRE) field. If the *STUDY PREFIX* (STUDY_PRE) field value is <Null>, no study prefix is included in the Title Block. The study prefix is followed by the study name and the state name. These values are found in the *STUDY NAME* (STUDY_NM) and the *STATE NAME* (STATE_NM) fields respectively. The state name is followed by the county name which is pulled from the *COUNTY NAME* (CNTY_NM) field. All of these fields are found in the Study_Info table.



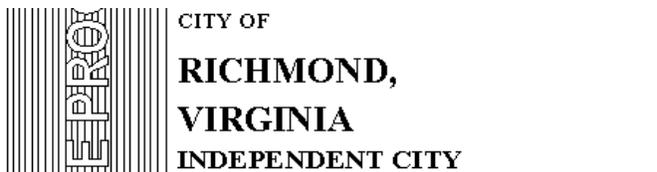
An example of the study name in the Title Block for a single-jurisdiction study.

If the single-jurisdiction study is a county equivalent, the study prefix and county name values are not included in the Title Block. The *JURISDICTION TYPE* (JURIS_TYP) field value succeeds the state name in this situation. A county equivalent is identified when the study is single-jurisdiction and the *STUDY NAME* (STUDY_NM) field contains the text "COUNTY", "PARISH", "BOROUGH", or "CENSUS AREA".



An example of the study name in the Title Block for a county equivalent single-jurisdiction study.

If the single-jurisdiction study is an independent city, the Title Block says as such. The *Create Layout* tool looks for the value "INDEPENDENT CITY" in the *JURISDICTION TYPE* (JURIS_TYP) field in the Study_Info table. If this value is found, the text "INDEPENDENT CITY" is placed beneath the state name.



An example of the study name in the Title Block for an independent city single-jurisdiction study.

Community Contains List

The Title Block also contains a list of communities that intersect the selected panel. The community's name and identification number as well as the selected panel and panel suffix are included in the list. The *Create Layout* tool dynamically creates this list of communities when the layout is generated. To ensure that FEMA's formal CIS community name is used, the tool accesses an internal CIS-based community table to obtain the community's name.

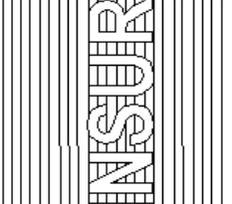
For a single-jurisdiction study, the tool takes the *STUDY PREFIX* (STUDY_PREFIX) and *STUDY NAME* (STUDY_NM) field values in the Study_Info table and places the values in the "<study name>, <study prefix>" format beneath the Community heading. If the *STUDY PREFIX* (STUDY_PREFIX) field value is <Null>, only the study name value is placed under the heading. The *Create Layout* tool then locates the first *Political Area* (S_Pol_Ar) layer feature that intersects the selected panel, provided that the political area feature's *AREA NOT INCLUDED* (ANI_TF) field value is "F" and the *COMMUNITY NUMBER* (COMM_NO) field value is not "FED", "ST", or "OTHR". The political area's *COMMUNITY ID* (CID) field value is included under the Number heading. The 4-digit panel number

of the selected panel is included under the Panel heading. The panel suffix for the selected panel is listed under the Suffix heading. The panel number and suffix values are obtained from the *PANEL NUMBER* (PANEL) and *PANEL SUFFIX* (SUFFIX) fields in the *FIRM Panel Index* (S_FIRM_Pan) layer.

	<u>CONTAINS:</u>		
	<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u> <u>SUFFIX</u>
HEALDSBURG, CITY OF	060378	0105	B

An example of the Contains list in the Title Block for a single-jurisdiction study.

For a countywide study, the tool intersects the selected panel with the features in the *Political Area* (S_Pol_Ar) layer to determine which communities fall on the panel. From the selected set of *Political Area* (S_Pol_Ar) features, the tool removes any communities whose *AREA NOT INCLUDED* (ANI_TF) field value is "T" or whose *COMMUNITY NUMBER* (COMM_NO) field value is "FED", "ST", or "OTHR". All of the remaining communities in the selected list are included on the Title Block. The tool then takes the *COMMUNITY ID* (CID) field value for each of the intersecting communities and looks up the community name in an internal CIS-based community table. The formal community name from the internal table and the *COMMUNITY ID* (CID) field value are listed under the Community and Number headings respectively in the Title Block. The 4-digit panel number and the panel suffix for the selected panel follows the community information in the Contains list. These values are obtained from the *PANEL NUMBER* (PANEL) and *PANEL SUFFIX* (SUFFIX) fields in the *FIRM Panel Index* (S_FIRM_Pan) layer. If more than one community intersects the selected panel, the county (or county equivalent) is listed first in the Contains list. The remaining communities are then alphabetized beneath the county.

	<u>CONTAINS:</u>		
	<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u> <u>SUFFIX</u>
BELMONT COUNTY	390762	0175	E
ALEXIS, VILLAGE OF	390111	0175	E
BETHESDA, VILLAGE OF	390674	0175	E
MORRISTOWN, VILLAGE OF	390924	0175	E

An example of the Contains list in the Title Block for a countywide study.

The internal CIS-based community table is routinely updated to match FEMA's CIS database. If the tool is not able to locate the community's *COMMUNITY ID* (CID) field value in the internal table, you will receive a message telling you that the community is not found. The layout is created, but the Contains list will not be fully populated.



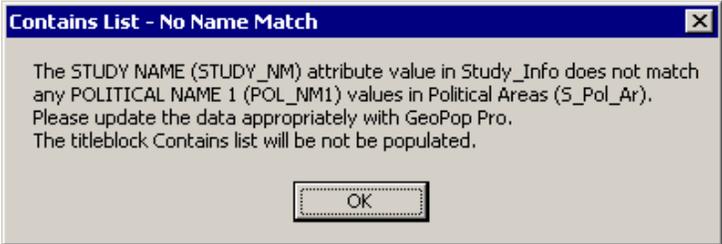
An example of the Unknown Community message.

CONTAINS:			
COMMUNITY	NUMBER	PANEL	SUFFIX
BELMONT COUNTY	390762	0175	E
	399999	0175	E
BETHESDA, VILLAGE OF	390674	0175	E
MORRISTOWN, VILLAGE OF	390924	0175	E

An example of the Contains list in the Title Block when a community is not found in the internal community table.

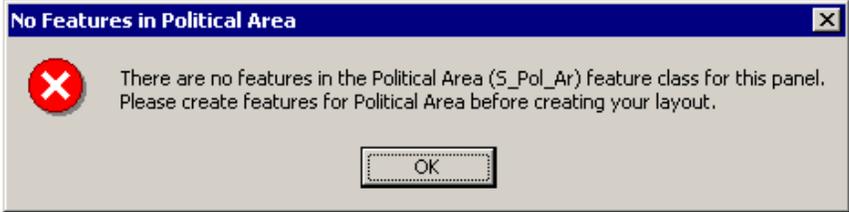
Note: If you feel that you have received the Unknown Community message in error, please contact MIPHelp at miphelp@mapmodteam.com for assistance.

In a countywide study, it may occur that the only *Political Area* (S_Pol_Ar) feature(s) which intersects the selected panel is an included community who's *COMMUNITY NUMBER* (COMM_NO) is "FED", "ST", or "OTHR" (e.g., a national forest). When this occurs, the county (or county equivalent) for which the study is focused is listed in the Contains list in the Title Block. When the *Create Layout* tool encounters this situation, the tool compares the *STUDY NAME* (STUDY_NM) field value in the Study_Info table to the *POLITICAL NAME 1* (POL_NM1) field values in the *Political Area* (S_Pol_Ar) layer. When a match is found, the tool pulls the *COMMUNITY ID* (CID) field value for that *Political Area* (S_Pol_Ar) feature, looks up the formal community name in the CIS-based internal community table, and places the community name and the *COMMUNITY ID* (CID) field value in the Contains list. If the tool cannot find a match, a message will be generated, and the Contains list will not be properly created.



The Contains List – No Name Match message.

For both a single-jurisdiction or countywide study, if the *Create Layout* tool finds that no included communities (i.e., the *AREA NOT INCLUDED* [ANI_TF] field value is "F") intersect the selected panel, a warning message will be generated, and the layout will not be generated.



The No Features in Political Area message.

Dynamic Panel Date and Agency Logo

The panel's effective date and agency logo are dynamically generated via the *Create Layout* tool. Please refer to the *Design Map Layout Dialog Options* section of this document for additional information.

Dynamic Study Information in the Notes To Users

As previously discussed, the projection and datum information in the Notes To Users section is automatically populated based on the study's information. Similarly, the base map note is set based on the text provided in the *Design Map Layout* dialog. In addition to these dynamic notes, the reference to the Map Index changes depending on whether the study is community-based or countywide. If the study is community-based, the Map Index note is brief. However, if the study is countywide, the Map Index note is more detailed and contains references to items that only appear on a countywide Map Index layout.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels for this jurisdiction.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a *Flood Insurance Study report*, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.msc.fema.gov/>.

An example of the Map Index note for a community-based study.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a *Flood Insurance Study report*, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.msc.fema.gov/>.

An example of the Map Index note for a countywide study.

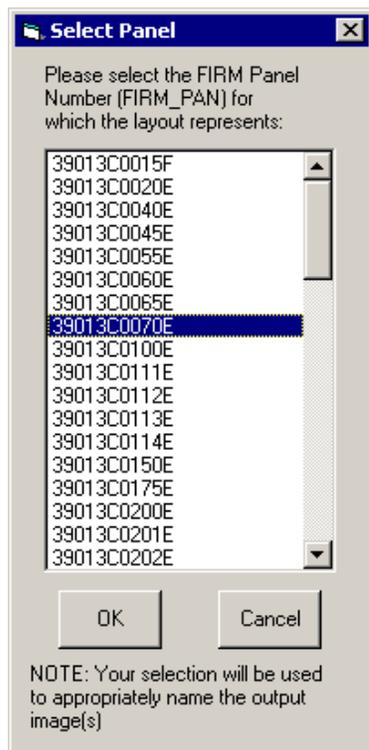


Export to Images

The **Export to Images** tool exports the existing map layout to 400 dpi images. Vector-based layouts are exported to .eps and .tif formats, and orthophoto-based layouts are exported to .eps, .tif, and .png formats. The **Export to Images** tool uses the *DOQ BASED* (DOQ_BASED) field value in the Study_Info table to determine the study's base map type. If the *DOQ BASED* (DOQ_BASED) field value is "T", .eps, .tif, and .png images will be created. If the *DOQ BASED* (DOQ_BASED) field value is "F", .eps and .tif images will be 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 (i.e., standard frame or tabloid frame) indicated in the *Design Map Layout* dialog.

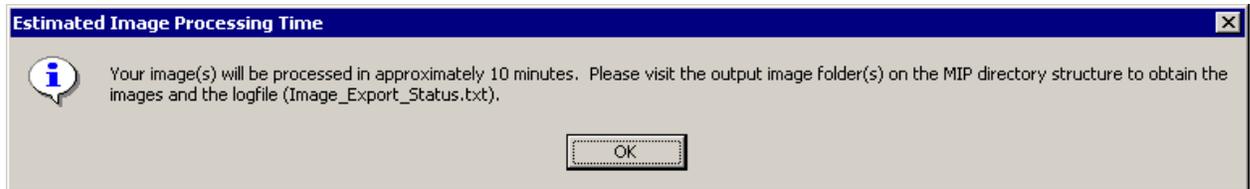
1. Click **Export to Images**.
2. If applicable, select the panel number from the *Select Panel* dialog and click *OK*.



An example of the Select Panel dialog.

When a layout is created with the *Create Layout* tool, the panel number is temporarily stored in memory. When ArcMap is closed, the memory is cleared. After re-launching ArcMap, if you wish to export your layout, since the panel number is no longer stored in memory, you will be prompted to select the panel number that represents the layout. The selected panel number is used in the file name creation process.

3. The *Estimated Image Processing Time* message is prompted.



An example of the *Estimated Image Processing Time* message.

The .eps file is created with the resources from the Citrix server on which you are working. Once the .eps file is created, the .tif and .png file creation process is moved to a dedicated processing server. This allows you to continue working in your ArcMap session without being delayed by the image creation process. The *Estimated Image Processing Time* message provides you with an approximate time frame in which your images will be created. During the image creation process, a process logfile named "Image_Export_Status.txt" is created in the output folder. This logfile records the success or failure of the .tif and .png, if applicable, creation. If your export was not successful and you need additional assistance, please contact MIPHelp at miphelp@mapmodteam.com or 1-877-FEMA-MAP.

4. Click *OK* on the *Estimated Image Processing Time* message.
5. The .eps, .tif, and .png (if applicable) images are created.

The .eps, .tif, and .png image files are stored in the following folder structure on the MIP directory structure: J:\FEMA\

Note: If the image file(s) already exists in the RFIRM folder, the **Export to Images** tool will overwrite the existing 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 (.pgw) from the existing TIF World files (.tfw). The tool takes all existing *.tfw files and converts them to *.pgw files. The .pgw file name is the same as the .tfw file name. The .tfw file does not exist after the tool has completed processing.

1. Click **Create PGW World File**.
2. A message box indicates when the creation process is complete.



3. The .tfw files are converted to .pgw files.

The .pgw file is stored in the following folder structure on the MIP directory structure:
J:\FEMA\

Note: If you unintentionally convert the .tfw files to .pgw files, you may convert the .pgw files back to .tfw files by manually altering the file extension.

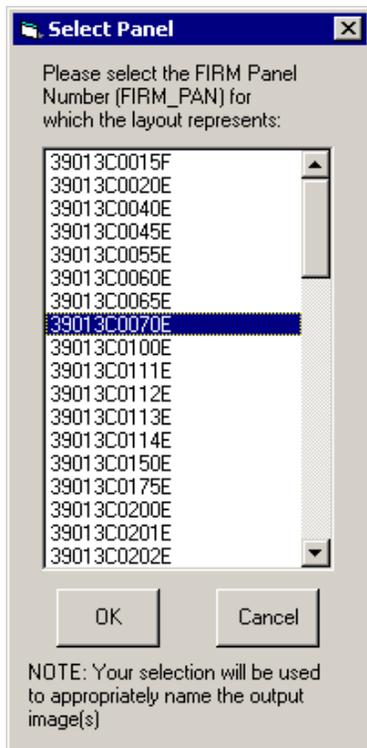


Export to EPS

The **Export to EPS** tool exports the existing map layout to .eps format. The tool is an alternative approach to the **Export to PDF** tool in the **Design Map Layout** dialog for creating printable map layouts. 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 (i.e., standard frame or tabloid frame) indicated in the **Design Map Layout** dialog.

1. Click **Export to EPS**.
2. If applicable, select the panel number from the **Select Panel** dialog and click **OK**.



An example of the Select Panel dialog.

When a layout is created with the **Create Layout** tool, the panel number is temporarily stored in memory. When ArcMap is closed, the memory is cleared. After re-launching ArcMap, if you wish to export your layout, since the panel number is no longer stored in memory, you will be prompted to select the panel number that represents the layout. The selected panel number is used in the file name creation process.

3. A message box indicates when the creation process is complete.



4. The .eps image file is created.

The .eps image files are stored in the following folder structure on the MIP directory structure:
J:\FEMA\

Note: If the EPS image file already exists in the RFIRM folder, the **Export to EPS** tool will overwrite the existing EPS image.

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 for printing .eps files directly to a printer/plotter from your local machine.

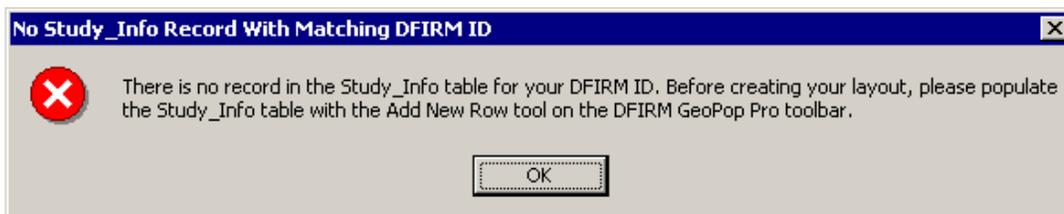
1. Open the DOS Prompt (cmd.exe) via **Start Menu > Run >** Type "cmd" into the **Open:** dialog.
2. Enter the following command "copy <local directory path with .eps file name and extension> <printer location including the server path>" (e.g., copy D:\DFIRM\BradleyCity_IL\1703380120D.eps \\Server08\1055A)

Troubleshooting

Problem: The *Design Map Layout* tool is disabled.

Solution: In order to use the *Design Map Layout* tool, the *FIRM Panel Index* (S_FIRM_Pan) and *Political Area* (S_Pol_Ar) layers must be loaded into the Table of Contents. Add these layers to the Table of Contents with the *DFIRM SDE Layer Loader* tool on the **DFIRM Layer Loader** toolbar before attempting to create a layout.

Problem: The following message is appearing when I click the *Design Map Layout* tool.



Error Message – Missing a Study_Info record

Solution: In order to use the *Design Map Layout* tool, you must have a single record in the Study_Info table pertaining to your study. The Study_Info record should be fully populated before you attempt to create a layout.

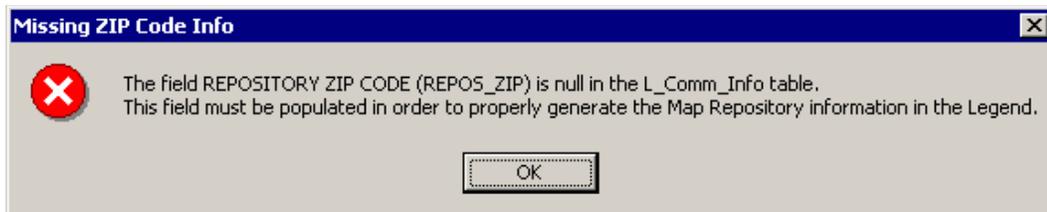
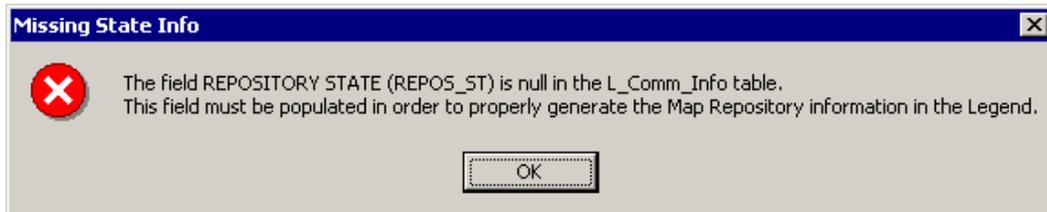
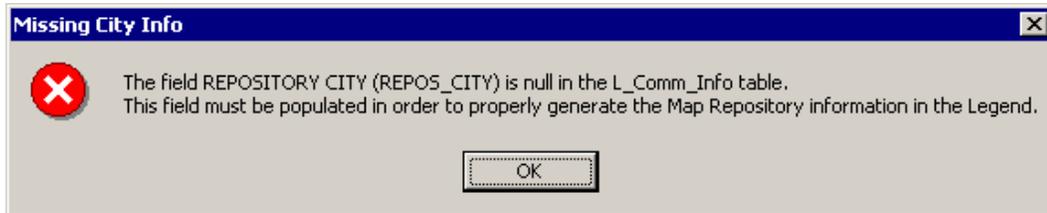
Problem: I currently have logos selected so that I may customize the FIRM layout's lower left corner. Previously I was able to generate a layout with the logos added, but now I get an error similar to this when I generate the layout via the *Create Layout* tool or when I click the *Customize* button for the Logos in the *Design Map Layout* dialog.



Warning Message - the image file no longer exists

Solution: This error message is generated when either your logo files are not in the correct image formats (i.e., .jpg, .bmp, .tif) 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.

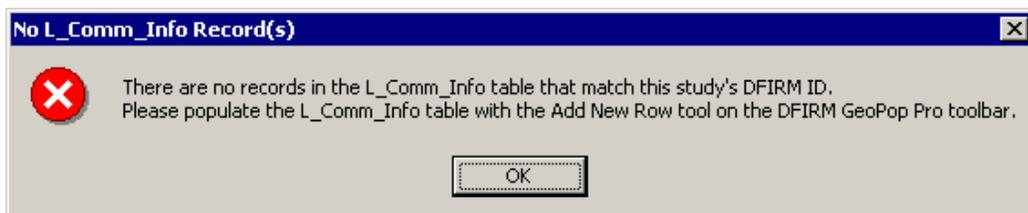
Problem: I received one (or more) of the following errors regarding the map repository address.



Error Message – Missing address information in L_Comm_Info

Solution: For a single-jurisdiction study, the map repository is included on the DFIRM layout. In order to properly generate the repository address, you are required to have the following fields in the L_Comm_Info table populated: *REPOSITORY ADDRESS 1* (REPOS_ADR1); *REPOSITORY CITY* (REPOS_CITY); *REPOSITORY STATE* (REPOS_ST); and *REPOSITORY ZIP CODE* (REPOS_ZIP).

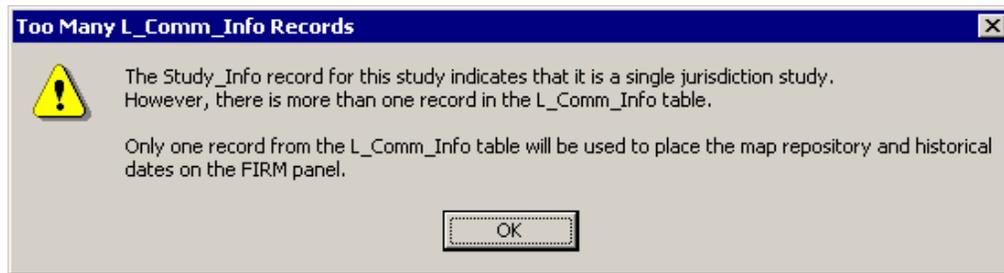
Problem: I received the following error stating that I am missing records in the L_Comm_Info table.



Error Message – Missing L_Comm_Info records

Solution: The values in the L_Comm_Info table are used to generate both historic map dates and the map repository address on the layout. Use the **Add New Row** tool on the **DFIRM GeoPop Pro** toolbar to add the necessary information before creating your layout.

Problem: I received the following error stating that there are too many records in the L_Comm_Info table.



Warning Message – Too many L_Comm_Info records

Solution: The values in the L_Comm_Info table are used to generate both historic map dates and the map repository address on the layout. For a single-jurisdiction study, the **Create Layout** tool expects there to be just one record in the L_Comm_Info table. Remove all of the unnecessary records before creating your layout.

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

Solution: The IN_ID_DAT value is the date that the community was first identified as a flood-prone area and is a candidate for the NFIP.

The IN_NFIP_DAT value is obtainable from the FIRM or FHBM and is shown on 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 8/8/8888.

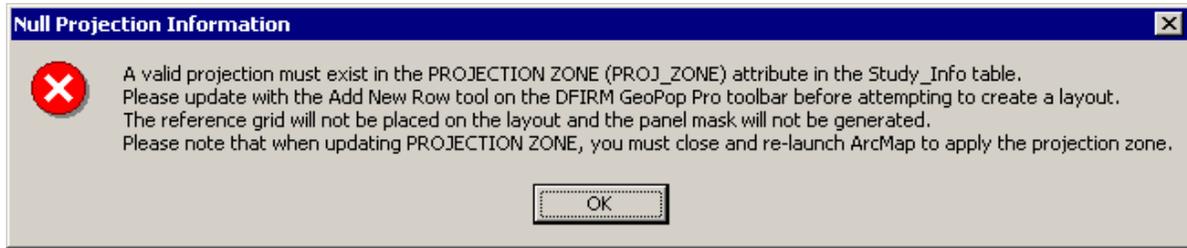
The IN_FRM_DAT value is also on the FIRM. This value is the date that is listed under the Flood Insurance Rate Map Effective heading. So if there is no FHBM date, then IN_NFIP_DAT and IN_FRM_DAT will hold the same value. If this is a first time FIRM, this value would be 8/8/8888 during the preliminary period and would be replaced with the valid effective date when the map is finalized.

The RECENT_DAT is the effective date of the FIRM in-progress. During the preliminary stage, this value would be 9/9/9999. Once the preliminary period is over and the effective date has been established, 9/9/9999 would be replaced with the valid effective date.

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

Solution: Although the Geographic 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*.

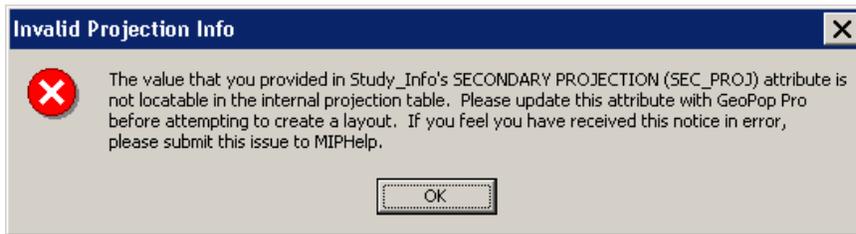
Problem: I received one of the following errors stating a valid projection is required.



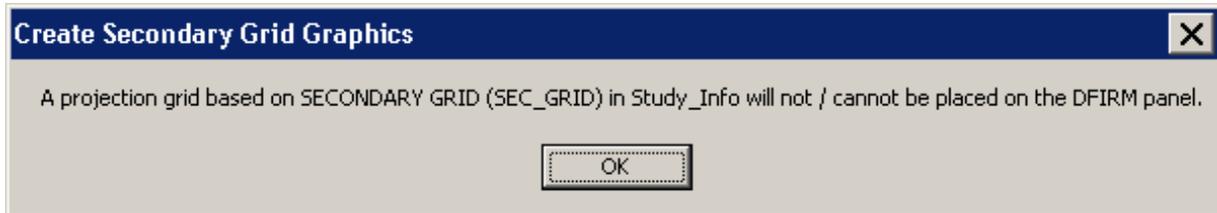
Error Message – Invalid projection zone value

Solution: These errors are generated when the *PROJECTION_ZONE* (PROJ_ZONE) field value in Study_Info is <Null> or contains an invalid value. The *PROJECTION_ZONE* (PROJ_ZONE) field is linked to an internal look-up table which contains a list of projection zones. The unique ID of the projection from the internal look-up table must be stored in the *PROJECTION_ZONE* (PROJ_ZONE) field. For instance the formal projection zone code for the projection NAD 1983 UTM Zone 17 is "17". Yet, the unique ID value "2007" (from the internal look-up table), must be stored in the *PROJECTION_ZONE* (PROJ_ZONE) field. If your record contains the formal projection zone code value rather than the unique ID from the internal look-up table, the layout will not be created properly. To ensure that you have the proper value in the *PROJECTION_ZONE* (PROJ_ZONE) field, you should use the **Add New Row** tool on the **DFIRM GeoPop Pro** toolbar to define the study's projection

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



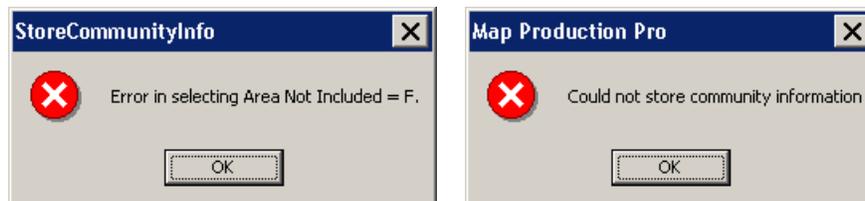
Error Message – Secondary Projection is not found in the internal projection table



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 the **Add New Row** tool on the **DFIRM GeoPop Pro** toolbar to edit the value and rerun **Create Layout** to generate the map layout.

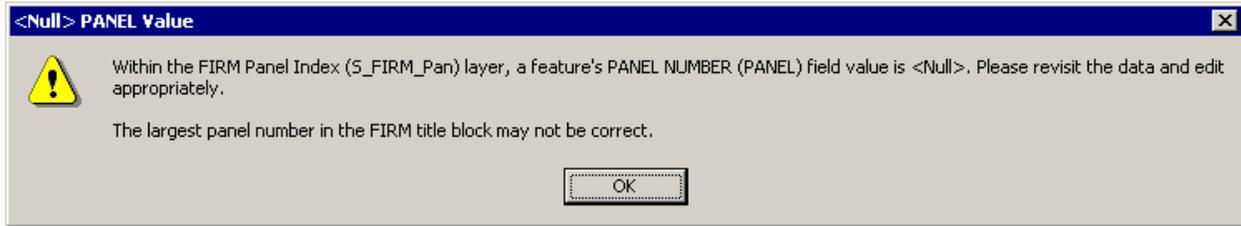
Problem: These error messages appeared when I tried to create a map layout.



Error Message - Errors in storing community information

Solution: These two error messages appear together when none of the political areas which intersect the FIRM panel have the value "F" in the *AREA NOT INCLUDED* (ANI_TF) field in the *Political Area* (S_Pol_Ar) layer. To generate a layout you must have at least one political area in your panel be identified as "F" for the *AREA NOT INCLUDED* (ANI_TF) field, thereby indicating that at least one political area is included in your panel.

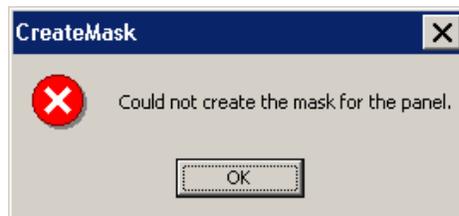
Problem: This message appeared when I tried to create a map layout.



Warning Message – A panel contains a <Null> panel number

Solution: The warning message is generated when there is a <Null> value, in the *PANEL NUMBER* (PANEL) field in the FIRM Panel Index (S_FIRM_Pan) feature class. If you click *OK*, the map layout is generated, 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.

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, *Create Layout* 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: 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) and Panel_Mask.shp layers are checked as visible in the Table of Contents. These spatial features act as a mask, covering all features outside of the panel that you have selected.

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

Solution: The Initial Countywide Effective Date entered in the **Design Map Layout** 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 EFF_DATE field in the *FIRM Panel Index* (S_FIRM_Pan) layer.

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) field 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) field 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 **Create Layout**, 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, the DFIRM Tools automatically create 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 modify 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 = 'xxxxxxxxxx'. 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) layer, 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) field 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) field 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 *Create Layout* 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), *PROJECTION*, and *PROJECTION_ZONE* (PROJ_ZONE) fields.

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 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 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.

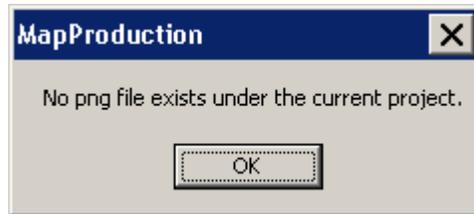
Problem: This message appeared when I tried to export a layout to an image file.



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 **DFIRM GeoPop Pro** toolbar to edit the *DOQ BASED* (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 tried to create a .pgw file via the **Create PGW World File** tool.



Error Message - PNG file does not exist.

Solution: A .png file must exist in the output folder 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 file(s) via the **Create PGW World File** tool.



Error Message - TFW file does not exist.

Solution: The .tif file must be georeferenced in order for a .pgw file to be created. Georeference the .tif, and then create the .pgw file with the **Create PGW World File**.

Problem: This error message appeared when I tried to create a .pgw file(s) via the *Create PGW World File* tool.



Error Message – Cannot access folder for .pgw creation.

Solution: The *Create PGW World File* tool failed to access the output folder. Most likely the folder pathway is incorrect or contains the wrong set of permissions. Please contact MIPHelp for additional assistance.

Problem: This error message appeared when I tried to export my layout as a .pdf file with the *Export to PDF* tool.



Error Message – Cannot access folder for PDF creation.

Solution: The Export to PDF tool failed to access the output folder. Most likely the folder pathway is incorrect or contains the wrong set of permissions. Please contact MIPHelp for additional assistance.

Problem: This error message appeared when I tried to export my layout as an image(s) with the *Export to EPS* or *Export to Images* tool.



Error Message – Cannot access folder for image creation.

Solution: The *Export to EPS* or *Export to Images* tool failed to access the output folder. Most likely the folder pathway is incorrect or contains the wrong set of permissions. Please contact MIPHelp for additional assistance.