



FEMA

December 8, 2011

Procedure Memorandum No. 66

Amending the Guidelines and Standards for Flood Hazard Mapping Partners

Title: Flood Insurance Study Report Alignment to Digital Vision

Effective Date: Optional for all studies funded prior to FY2012
Required for all studies funded in FY2012 and beyond

Approval: 
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Federal Insurance and Mitigation Administration

Background: In Fiscal Year (FY) 2010, the Federal Emergency Management Agency (FEMA) initiated the Risk Mapping, Assessment, and Planning (Risk MAP) program. Under Risk MAP, FEMA seeks to:

- Deliver new data and products that expand risk awareness and promote mitigation planning that leads to risk reduction actions;
- Incorporate new efficiencies into flagship products (Flood Insurance Rate Map (FIRM), the FIRM Database, and Flood Insurance Study (FIS) Reports); and
- Deliver data and products in formats that align to FEMA's Digital Vision supporting expanded usage and user benefits.

FEMA's Digital Vision for the future is based on delivery of digital information using geospatial datasets for all National Flood Insurance Program products. For the FIS Report, this will mean that its graphics, maps, text, tables, and profiles are to be generated from project databases associated with each study. The long-term vision is to allow a user to create a database-driven, on-demand FIS Report of an area of interest at the local, jurisdictional, or watershed level. This change provides user-friendly products, a FIS Report based on up-to-date data, and quicker access to FIS Report information via the internet.

Updates to Appendix L (Guidance for Preparing Digital Data and FIRM Databases) and Appendix M (Data Capture Standards) of FEMA's *Guidelines and Standards for Flood Risk Analysis and Mapping* (Previously *Guidelines and Standards for Flood Hazard Mapping*)

Partners) provide the framework for easy population of the project information within the FIS Report from the FIRM database.

Issues: Appendices K, L, and M of FEMA's *Guidelines & Standards* have gone through the update process to reflect necessary changes as a result of the Risk MAP vision and to align more closely with FEMA's Digital Vision. However, Appendix J (Format and Specifications for Flood Insurance Study Reports) has not yet been included in the update process. Therefore, short-term guidance is needed for the preparation of FIS Reports during Risk MAP to accommodate these changes until Appendix J is updated. Updates to Appendix K have removed certain items shown on the Map Index, Map Legend and Notes to User on the FIRM. The objective is to place these items within the FIS Report. These changes require new FIS guidance to indicate where and how to incorporate the information.

As outlined in the April 2003 version of Appendix J, much of the content in FIS Reports is currently organized in paragraph format. Searching through paragraphs for specific project information can be cumbersome.

Appendix J currently provides limited guidance on how to organize certain sections of the FIS Report such as sections pertaining to Coastal Barrier Resource System (CBRS) areas, levees, and alluvial fan studies. Appendix J provides limited guidance on how the final PDF document is to be digitally bookmarked so it can be searched more efficiently. Appendix J also lacks typographical specifications such as typeface, size, and weight of text and specifications for the size and layout of tables and figures.

Actions Taken: The requirements outlined in the attached guidance must be used in producing FIS Reports. These requirements will move the FIS Report closer to the long-term digital vision and address the issues referenced above until Appendix J can be updated. The attached guidance provides a template that reorganizes as much flood study information as possible into tabular format. The guidance also resolves the gaps caused by changes to Appendix K and matches data changes described in the new Appendices L and M.

Supersedes/Amends: The sections of Appendix J (April 2003) superseded by this procedure memorandum are identified in Annex A of the attachment.

Attachments:

Guidance for Creation of Flood Insurance Study Reports

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Procedure Memorandum # 66

Flood Insurance Study Report Alignment to Digital Vision

Guidance for Creation of FIS Reports

October 2011



FEMA

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1. Introduction

This guidance document provides instructions and standards for creating Flood Insurance Study (FIS) Reports. The following sections explain specific elements of the FIS Report template that must be used in developing FIS Reports for flood risk projects. Supporting information to the following guidance is provided in Annexes A through D which include:

- Annex A - Sections of Appendix J, Published April 2003, that are Superseded by this Procedure Memorandum
- Annex B – FIS Report Template (Microsoft Word Format)
- Annex C – FIS Report Template (PDF Format, including profiles and bookmarks)
- Annex D – Watershed Project Considerations

Previously effective countywide FIS Reports that are being revised will be required to use the new template. However, special considerations for projects conducted at the watershed level are included in Annex D and should be followed. Any information that was included in Section 10 in the previous effective FIS Report will be incorporated into the text and tables of the new FIS Report.

The tables included within the FIS Report and Appendix L and M have been aligned as far as possible so that population of the appropriate fields in the FIRM Database will allow the respective data in the FIS Report tables to be incorporated more easily. For a Physical Map Revision (PMR) or watershed project, the mapping partner should refer to Annex D for guidance regarding the preparation of the FIS Report.

2. General Guidelines

2.1. General Content

- **IMPORTANT NOTE** – The study-specific content (bold, orange font) provided within the tables in the example template is for illustration only and so may not be completely consistent throughout the report. This example content should not be used to infer standards for data. For example, some tables include more flooding sources listed so that a variety of examples may be shown, whereas other tables do not need lengthy entries to convey the information they are to include. As an additional example, and in order to reduce the overall size of the template, not every Zone AE flooding source listed in Table 2, “Flooding Sources Included in this FIS Report”, has a companion Flood Profile at the back of the Report. These variations should not be construed as a change to current guidance or to the expectation that exhaustive quality control checks must be performed to reach agreement between all modeling results, tables, and profiles. Rather, the templates should simply be used as an example of the type of information that is to be included in each FIS Report. Mapping Partners are responsible for making sure that each table in the FIS Report contains the relevant information for each flooding source so that the details and results of the study can effectively be communicated to the end user.

- All numbered sections, tables, and figures in the template are required for every FIS Report and should not be removed. Text shown as optional in the template that does not apply to the specific project should be deleted; if all text under a heading is non-applicable and deleted, insert the statement, “This section is not applicable to this FIS project.” under the heading. Tables or figures that do not apply to the specific project should be indicated below the caption by adding “[Not Applicable to this FIS Project]”.

Figure 1: Examples of Not Applicable Text, Table, and Figure

<p>Example of not applicable section</p>	<p>5.3 Coastal Flood Hazard Areas</p> <p>5.3.1 Total Stillwater Elevations</p> <p>This section is not applicable to this FIS project.</p>
<p>Example of not applicable table</p>	<p>Table 16: Summary of Coastal Analyses</p> <p>[Not Applicable to this FIS Project]</p>
<p>Example of not applicable figure</p>	<p>Figure 8: 1% Annual Chance Total Stillwater Elevations for Coastal Areas</p> <p>[Not Applicable to this FIS Project]</p>

- Text that is not to be edited is shown in black, regular (non-bold-faced) type in the template.
- Text that is required for specific types of data in the FIS Report is indicated in **blue, bold-faced type**. This text can be deleted if it does not apply to the FIS project and replaced by the statement, “This section is not applicable to this FIS project.” An example of non-applicable text that can be deleted is coastal data for an inland county. If the optional text is left in the report because it is applicable, be sure to change the font to black, non-bold-faced for final publication.
- Text for a few sections (such as those describing hydrologic, hydraulic, coastal, and alluvial analyses) may require manual editing for the specific project area. Descriptions of additional information such as specific methodology with references will need to be added manually. Variable text and study-specific table entries that must be edited are shown in **orange, bold-faced type**. Be sure to change the type to black, non-bold-faced for final publication.
- Hyperlink text should be shown in black print with no underlining; however, active links may be retained so that they will be carried over when creating the PDF.

- Avoid using “detailed,” “limited detailed,” or “approximate” to describe flooding sources or the methodologies used to analyze them. Specify the flood zone or actual methodology instead.
- Use “FIS project” or “project” to refer to the entire project. Components of the project include compilation of flooding data, hydrologic and hydraulic analyses, base map preparation, mapping boundaries and elevations, and publishing the FIRM and FIS Report. Refer to the document as “Flood Insurance Study Report” or “FIS Report” to clearly identify the published report that accompanies the FIRM. Use “study” to refer to specific engineering analyses.
- References to tables or figures in the one section or subsection can omit the title of the table or figure if it is obvious from the context.
- Use an (Author Year) format rather than consecutive numbering to cite references within the text. The references should match the citation listed in the Bibliography and References table.
- If a future conditions analysis has been performed, the data should be reported in the FIS Report. The mapping partner should edit the Summary of Discharges and Floodway Data tables, as in the following illustration, and the text referring to floods wherever it occurs in the report as appropriate.

Figure 2: Example of Future Conditions column

Elevations (feet NAVD88)				
10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	
			Existing	Future
13.8	*	15.6	16.9	*
41.4	*	50.6	54.2	*

2.2. Type Specifications for Text

These specifications generally follow *House Style Guidelines* for Homeland Security, October 2003.

- The text in the body of the FIS Report is Times New Roman, 11 point; justified (left and right side); single space with one line between paragraphs. One space is inserted after a period (.) at the end of a sentence.
- Heading 1 is Arial, 12 point, Bold, All Caps; left aligned; with 24 point spacing before.
- Heading 2 is Arial, 11 point, Bold; left aligned; with 18 point spacing before and 6 point spacing after.
- Heading 3 is Arial, 11 point, Bold; left aligned; with 12 point spacing before and 6 point spacing after.
- Heading 4 is unnumbered, Arial, 11 point, Bold; left aligned; with 0 point spacing before and 0 point spacing after.

- Text in the body of the report is aligned under the words of the heading rather than the number for Headings 1 and 2. Text is aligned under the number for Headings 3 and 4.

3. Guidelines for Cover and Table of Contents

3.1. Cover

- Communities and CIDs are shown in Arial, 12 point. The date is shown in Arial, 14 point, bold. The FIS project number is shown in Arial, 12 point, bold.
- Choose the appropriate cover template depending on the number of communities included in the report. Delete the cover from the template that is not being used.
- Use “EFFECTIVE” for the first version of a countywide FIS project; use “REVISED” for subsequent versions of a countywide FIS project.
- If the FIS Report is one volume, use “V000” with the FIPS code preceding this part of the number. If there are multiple volumes, use “V001” on the cover of Volume 1, “V002” on the cover of Volume 2, etc. For a first-time countywide FIS project, the suffix “A” is to be used as it indicates that this is the first countywide study. For each subsequent revision of the FIS Report, the suffix will advance in alphabetical order (excluding the use of the letter I – “eye” or the letter O – “oh”). If there is a revision to an existing countywide that does not already have a suffix on the FIS project number, the first revision would use the suffix “B”.
- The Specification Version number corresponds to the version of the Guidelines and Standards used to produce the FIS Report as described in the Risk MAP Version Guide available from FEMA.

3.2. Notice to Flood Insurance Study Users

The Notice to FIS Users that appeared after the cover page and before the Table of Contents in previous FIS Reports is now included in the content of Section 1.4 of the FIS Report.

3.3. Table of Contents, Lists of Tables and Figures, and Exhibits

All Table of Contents items are shown in Arial, 11 point.

4. Guidelines for Tables in the Body of the FIS Report

4.1. General Guidelines

- Tables should be sized to the width of the preceding text block. If a table needs to be wider than the previous text block to be readable, insert section breaks before and after the table and change the page orientation to landscape. Centered page numbers must be included at

the bottom of tables in landscape orientation. Column width can be adjusted as needed to accommodate data.

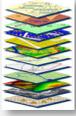
- If a table is split between two pages, consider adding a header for each page with “(continued)” next to the title. In general, rows should not be allowed to split between pages unless this causes too many page breaks and large areas of white space. For example, the Principal Flood Problems table may contain rows with long descriptive passages, so the rows are permitted to split between pages.
- Table and figure captions are Arial, 11 point, bold; centered; with 12 point spacing before and 6 point spacing after the caption.
- Text in tables is Arial, 10 point, single spaced with 3 point before and after (row height not specified) except for the Floodway Data table (FDT). The FDT is 0 point before and after each row – row height is governed by paragraph spacing rather than specifying row height. Text may be reduced to 9 point to accommodate data as long as readability is not reduced.
- Text or dates in tables should be left aligned (for running text or longer content that wraps in the cell) or centered. Headings in tables should be centered at the bottom of the cell.
- Numeric data in tables should be aligned on decimal points or right aligned (if no decimals are present in the entire column). Numbers greater than 999 should include a comma appropriately placed.
- All cells in tables should be populated with data, an explanatory entry or a footnote giving more explanation of why they are blank. You may need to edit the FIS Report to replace default output for missing values that have been exported from the FIRM database.
- As outlined in Annex D, depending on decisions made for updating to the new format, the information requested for certain table fields in the FIS Report may be unknown, or simply may not be scoped to be populated. In these cases, it may be necessary to manually populate those table entries with a value of “Unknown” or “Not Provided”.

4.2. Derivation of Data from Appendix L

Most of the data shown in tables in the FIS Report can be derived from tables of the FIRM database as specified in Appendix L. Table 1 provides guidance for the tables and fields that can be used to help accomplish this.

Table 1: Derivation of FIS Report Template Tables from Data in Appendix L Tables

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Cover		
Study Name	Study_Info	STUDY_PRE + STUDY_NM + STATE_NM + JURIS_TYP
Community Name	S_Pol_Ar	POL_NAME1
Community Number	S_Pol_Ar	CID
Effective Date	Study_Info	INDX_EFFDT
FIS Project Number	Study_Info	FIS_NM

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Table 1: Listing of NFIP Jurisdictions		
	This table can be created by a spatial overlay of S_Pol_Ar joined to L_Comm_Info, S_FIRM_Pan, and S_Subbasins, summarized on POL_NAME1 (one record per community).	
Community	S_Pol_Ar	POL_NAME1
CID	S_Pol_Ar	CID
HUC-8 Sub-basin(s)	S_Subbasins	HUC8
Located on FIRM Panels(s)	S_FIRM_Pan	FIRM_PAN
Included in this FIS Project	S_Pol_Ar	ANI_TF
If Not Included, Location of Flood Hazard Data	S_Pol_Ar	ANI_FIRM
No SFHA identified footnote	L_Comm_Info	FLOODPRONE
Section 1.4		
Initial Countywide FIS Report	L_Comm_Info	FST_CW_FIS
Figure 1. FIRM Panel Index		
	S_FIRM_Pan	FIRM_PAN or PANEL + SUFFIX
	S_FIRM_Pan	EFF_DATE
	S_FIRM_Pan	PNP_REASON
	S_Pol_Ar	POL_NAME1
	S_Subbasins	HUC8
	S_Subbasins	SUBBAS_NM
	S_Wtr_Ln and/or S_Wtr_Ar	WTR_NM
	S_Trnsport_Ln	ROUTENUM
	Study_Info	STUDY_PRE + STUDY_NM + STATE_NM + JURIS_TYP
	Study_Info	INDX_EFFDT
Figure 2. FIRM Notes to Users		
Coastal Base Flood Elevation limits – landward value	Study_Info	LANDWD_VAL
Coastal Base Flood Elevation limits	Study_Info	V_DATUM
Projection	Study_Info	PROJECTION + PROJ_ZONE
Horizontal Datum	Study_Info	H_DATUM

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Vertical Datum	Study_Info	V_DATUM
Base Map Information: source, scale	L_Source_Cit	TITLE + PUBLISHER + SRC_SCALE + PUB_DATE
Revisions to Index: Effective Date	Study_Info	INDX_EFFDT
Special Notes for Specific FIRM Panels: The CBRS notes could be triggered by the S_CBRS feature class not being empty; the LiMWA note could be triggered by the S_LiMWA feature class not being empty; and the levee notes could be triggered from S_Levee.		
Study Name	Study_Info	STUDY_PRE + STUDY_NM
Effective Date	Study_Info	INDX_EFFDT
Table 2: Flooding Sources Included in this FIS Report		
 <p>This table can be created by a spatial overlay of S_Pol_Ar, S_Profil_Basln and/or S_Tsct_Basln, S_Fld_Haz_Ar, and S_Submittal_Info, summarized on WTR_NM (one record per Flooding Source).</p>		
Flooding Source	S_Profil_Basln and/or S_Tsct_Basln	WTR_NM
Community	S_Pol_Ar	POL_NAME1
Downstream Limit	S_Profil_Basln and/or S_Tsct_Basln	R_ST_DESC
Upstream Limit	S_Profil_Basln and/or S_Tsct_Basln	R_END_DESC
HUC-8 Sub-Basin	S_Subbasins	HUC8
Length (mi) (streams or coastlines)	S_Profil_Basln and/or S_Tsct_Basln	Read from GIS data
Area (mi ²) (estuaries or ponding)	S_Profil_Basln and/or S_Tsct_Basln	Read from GIS data
Floodway (Y/N)	S_Profil_Basln	True where STUDY_TYP = SFHAs WITH HIGH FLOOD RISK
Zone Shown on FIRM	S_Fld_Haz_Ar	FLD_ZONE
Date of Analysis	S_Submittal_Info	COMP_DATE
Table 3: Flood Zone Designations by Community		
 <p>This table can be created by a spatial overlay of S_Pol_Ar and S_Fld_Haz_Ar (one record per community).</p>		
Community	S_Pol_Ar	POL_NAME1
Flood Zone(s)	S_Fld_Haz_Ar	FLD_ZONE

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Table 4: Coastal Barrier Resources System Information		
	This table can be created by a spatial overlay of S_CBRS and S_FIRM_Pan (one record per Primary Flooding Source).	
Primary Flooding Source	S_CBRS	WTR_NM
CBRS/OPA Type	S_CBRS	CBRS_TYP
Date CBRS area established	S_CBRS	CBRS_DATE
FIRM Panel Number(s)	S_FIRM_Pan	FIRM_PAN
Table 5: Basin Characteristics		
HUC-8 Sub-Basin Name	S_Subbasins	SUBBAS_NM
HUC-8 Sub-Basin Number	S_Subbasins	HUC8
Primary Flooding Source	S_Subbasins	WTR_NM
Description of Affected Area	S_Subbasins	BASIN_DESC
Drainage Area (units)	S_Subbasins	SUB_AREA
	S_Subbasins	AREA_UNIT
Table 6: Principal Flood Problems		
Flooding Source	S_Profil_Basln	WTR_NM
Description of Flood Problems	S_Profil_Basln	FLD_PROB1 + FLD_PROB2 + FLD_PROB3 or separate text file if more characters are needed
Table 7: Historic Flooding Elevations		
Flooding Source	S_HWM	WTR_NM
Location	S_HWM	LOC_DESC
Historic Peak (vertical datum)	S_HWM	ELEV
	S_HWM	LEN_UNIT
	S_HWM	V_DATUM
Event Date	S_HWM	EVENT_DT
Approximate Recurrence Interval (years)	S_HWM	APX_FREQ
Source of Data	S_HWM	HWM_SOURCE
Table 8: Non-Levee Flood Protection Measures		
Flooding Source	S_Gen_Struct	WTR_NM
Structure Name	S_Gen_Struct	STRUCT_NM
Type of Measure	S_Gen_Struct	STRUCT_TYP

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Location	S_Gen_Struct	LOC_DESC
Description of Measure	S_Gen_Struct	STRUC_DESC
Table 9: Levees		
 <p>This table can be created by a spatial overlay of S_Pol_Ar, S_Levee, and S_FIRM_Pan (one record per Levee Segment defined by the same flooding source, owner, and contiguous bank location).</p>		
Community	S_Pol_Ar	POL_NAME1
Flooding Source	S_Levee	WTR_NM
Levee Location	S_Levee	BANK_LOC
Levee Owner	S_Levee	OWNER
USACE Levee	S_Levee	USACE_LEV
Levee ID	S_Levee	LVDBASE_ID
Covered Under PL84-99 Program?	S_Levee	PL84_99TF
FIRM Panel(s)	S_FIRM_Pan	FIRM_PAN
Levee Status	S_Levee	LEVEE_STAT
Table 10: Summary of Discharges		
Flooding Source	S_Nodes	WTR_NM via L_Summary_Discharges NODE_ID field
Location	L_Summary_Discharges	NODE_DESC
Drainage Area (units)	L_Summary_Discharges	DRAIN_AREA
	L_Summary_Discharges	AREA_UNIT
Discharge (units)	L_Summary_Discharges	DISCH_UNIT
Discharge (units) 10% Annual Chance	L_Summary_Discharges	DISCH where EVENT_TYP = 10 PERCENT CHANCE EVENT
Discharge (units) 4% Annual Chance	L_Summary_Discharges	DISCH where EVENT_TYP = 4 PERCENT CHANCE EVENT
Discharge (units) 2% Annual Chance	L_Summary_Discharges	DISCH where EVENT_TYP = 2 PERCENT CHANCE EVENT
Discharge (units) 1% Annual Chance Existing	L_Summary_Discharges	DISCH where EVENT_TYP = 1 PERCENT CHANCE EVENT
Discharge (units) 1% Annual Chance Future	L_Summary_Discharges	DISCH where EVENT_TYP = 1 PERCENT CHANCE FUTURE EVENT

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Discharge (cfs) 0.2% Annual Chance	L_Summary_Discharges	DISCH where EVENT_TYP = 0.2 PERCENT CHANCE EVENT
Figure 7: Frequency Discharge - Drainage Area Curves – Provide per Appendix M only if needed –		
Table 11: Summary of Non-Coastal Stillwater Elevations		
Flooding Source	S_Nodes	WTR_NM via L_Summary_Elevations NODE_ID field
Location	S_Nodes	NODE_DESC via L_Summary_Elevations NODE ID field
Elevations (Vertical Datum)	L_Summary_Elevations	V_DATUM
Elevations (unit)	L_Summary_Elevations	WSEL_UNIT
Elevation 10% Annual Chance	L_Summary_Elevations	WSEL where EVENT_TYP = 10 PERCENT CHANCE EVENT
Elevation 4% Annual Chance	L_Summary_Elevations	WSEL where EVENT_TYP = 4 PERCENT CHANCE EVENT
Elevation 2% Annual Chance	L_Summary_Elevations	WSEL where EVENT_TYP = 2 PERCENT CHANCE EVENT
Elevation 1% Annual Chance	L_Summary_Elevations	WSEL where EVENT_TYP = 1 PERCENT CHANCE EVENT
Elevation 1% Annual Chance Future*	L_Summary_Elevations	WSEL where EVENT_TYP = 1 PERCENT CHANCE FUTURE EVENT
Elevation 0.2% Annual Chance	L_Summary_Elevations	WSEL where EVENT_TYP = 0.2 PERCENT CHANCE EVENT
Table 12: Stream Gage Information Used to Determine Discharges		
Flooding Source	S_Gage	WTR_NM
Gage Identifier	S_Gage	GAGE_OWNID
Agency that Maintains Gage	S_Gage	AGENCY
Site Name	S_Gage	GAGE_DESC
Drainage Area (Square Miles)	S_Gage	DRAIN_AREA
	S_Gage	AREA_UNIT
Period of Record From	S_Gage	START_PD
Period of Record To	S_Gage	END_PD

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Table 13: Summary of Hydrologic and Hydraulic Analyses		
	This table can be created by a spatial overlay of S_Profil_Basln and S_Submittal_Info (one record per studied profile baseline where the S_Submittal_Info information is consistent across the entire profile).	
Flooding Source	S_Profil_Basln	WTR_NM
Downstream Limit	S_Profil_Basln	R_ST_DESC
Upstream Limit	S_Profil_Basln	R_END_DESC
Hydrologic Model or Method Used	S_Submittal_Info	HYDRO_MDL
Hydraulic Model or Method Used	S_Submittal_Info	HYDRA_MDL
Date Analyses Completed	S_Submittal_Info	COMP_DATE
Flood Zone on FIRM	S_Profil_Basln	INTER_ZONE + query for AO, AH, and AE on non-profile flooding sources and add manually
Special Considerations	S_Profil_Basln	SPEC_CONS1 + SPEC_CONS2 or separate text file if more characters are needed
Table 14: Roughness Coefficients		
Flooding Source	L_ManningsN	WTR_NM
Channel "n"	L_ManningsN	CHANNEL_N
Overbank "n"	L_ManningsN	OVERBANK_N
Table 15: Summary of Coastal Analyses		
Flooding Source	L_Cst_Model	WTR_NM
From	L_Cst_Model	LIMIT_FROM
To	L_Cst_Model	LIMIT_TO
Hazard Evaluated	L_Cst_Model	HAZARDEVAL
Model or Method Used	L_Cst_Model	SURGE_MDL, STRM_PRM, TDESTAT_MT, WAVEHT_MDL, RUNUP_MDL, SETUP_METH, R_FETCH_MT, and/or EROS_METH

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Date Analysis was Completed	L_Cst_Model	SURGE_DATE, STM_PRM_DT, TDESTAT_DT, WAVEHT_DT, RUNUP_DATE, SETUP_DATE, R_FETCH_DT, WAVE_EFFDT, and/or EROS_DATE
Section 5.3 Variable Text – provide per Appendix M as needed to summarize methodology		
Figure 8: 1% Annual Chance Total Stillwater Elevation for Coastal Areas – Provide per Appendix M –		
Table 16: Tide Gage Analysis Specifics		
Gage Name	S_Cst_Gage	GAGE_NM
Managing Agency of Tide Gage Record	S_Cst_Gage	AGENCY
Gage Type	S_Cst_Gage	GAGE_TYPE
Start Date	S_Cst_Gage	START_PD
End Date	S_Cst_Gage	END_PD
Statistical Methodology	L_Cst_Model	TDESTAT_MT via CST_MDL_ID
Table 17: Coastal Transect Parameters		
Flood Source	S_Cst_Tsct_Ln	WTR_NM
Coastal Transect	S_Cst_Tsct_Ln	TRAN_NO
Significant Wave Height H _s (ft)	S_Cst_Tsct_Ln	SIG_HT
	S_Cst_Tsct_Ln	ELEV_UNIT
Peak Wave Period T _p (sec)	S_Cst_Tsct_Ln	SIG_PD
	S_Cst_Tsct_Ln	TIME_UNIT
Starting Stillwater Elevations (Vertical Datum)	S_Cst_Tsct_Ln	V_DATUM
Stillwater (SWEL) Elevation Unit	S_Cst_Tsct_Ln	ELEV_UNIT
Starting Stillwater Elevation - 10% Annual Chance	L_Cst_Tsct_Elev	WSEL_START where EVENT_TYP = 10 PERCENT CHANCE EVENT
Range of Stillwater Elevations - 10% Annual Chance	L_Cst_Tsct_Elev	WSEL_MIN + WSEL_MAX where EVENT_TYP = 10 PERCENT CHANCE EVENT
Starting Stillwater Elevation - 4% Annual Chance	L_Cst_Tsct_Elev	WSEL_START where EVENT_TYP = 4 PERCENT CHANCE EVENT

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Range of Stillwater Elevations - 4% Annual Chance	L_Cst_Tsct_Elev	WSEL_MIN + WSEL_MAX where EVENT_TYP = 4 PERCENT CHANCE EVENT
Starting Stillwater Elevation - 2% Annual Chance	L_Cst_Tsct_Elev	WSEL_START where EVENT_TYP = 2 PERCENT CHANCE EVENT
Range of Stillwater Elevations - 2% Annual Chance	L_Cst_Tsct_Elev	WSEL_MIN + WSEL_MAX where EVENT_TYP = 2 PERCENT CHANCE EVENT
Starting Stillwater Elevation - 1% Annual Chance	L_Cst_Tsct_Elev	WSEL_START where EVENT_TYP = 1 PERCENT CHANCE EVENT
Range of Stillwater Elevations - 1% Annual Chance	L_Cst_Tsct_Elev	WSEL_MIN + WSEL_MAX where EVENT_TYP = 1 PERCENT CHANCE EVENT
Starting Stillwater Elevation 0.2% Annual Chance	L_Cst_Tsct_Elev	WSEL_START where EVENT_TYP = 0.2 PERCENT CHANCE EVENT
Range of Stillwater Elevations (ft) 0.2% Annual Chance	L_Cst_Tsct_Elev	WSEL_MIN + WSEL_MAX where EVENT_TYP = 0.2 PERCENT CHANCE EVENT
Figure 7: Transect Locator Map		
	S_Cst_Tsct_Ln	TRAN_NO
	S_Tsct_Basln and/or S_Wtr_Ln and/or S_Wtr_Ar	WTR_NM
	S_Pol_Ar	POL_NAME1
	S_Trnsport_Ln	FULLNAME
Table 18: Summary of Alluvial Fan Analyses		
	This table can be created by a spatial overlay of S_Alluvial_Fan, S_Profil_Basln, and S_Submittal_Info (one record per studied alluvial fan where the S_Submittal_Info information is consistent across the entire fan).	
Flooding Source	S_Alluvial_Fan	ACTIVE_FAN
Location From (apex)	S_Profil_Basln	R_ST_DESC
Location To (toe)	S_Profil_Basln	R_END_DESC
Drainage Area above Apex (sq mi)	S_Alluvial_Fan	FANAPEX_DA
	S_Alluvial_Fan	AREA_UNITS
Model(s) Used	S_Submittal_Info	HYDRA_MDL
Date Analysis was Completed	S_Submittal_Info	COMP_DATE

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Method Description	S_Alluvial_Fan	METH_DESC
<p>Table 19: Results of Alluvial Fan Analyses</p>  <p>This table can be created by a spatial overlay of S_Alluvial_Fan and S_Profil_Basln (one record per studied alluvial fan).</p>		
Flooding Source	S_Alluvial_Fan	ACTIVE_FAN
From (apex)	S_Profil_Basln	R_ST_DESC
To (toe)	S_Profil_Basln	R_END_DESC
1% Annual Chance Peak Flow at Fan Apex (unit)	S_Alluvial_Fan	FANAPEX_Q
	S_Alluvial_Fan	DISCH_UNIT
Flood Zones and Depths	If multiple zones and depths, manual from spatial overlay with S_Alluvial_Fan and S_Fld_Haz_Ar	if only one flood zone and depth exist for the alluvial fan, S_Alluvial_Fan FLD_ZONE + DEPTH
Depth (unit)	S_Alluvial_Fan	DEPTH_UNIT
Maximum Velocity	S_Alluvial_Fan	FAN_VEL_MN
Minimum Velocity	S_Alluvial_Fan	FAN_VEL_MX
Velocity (unit)	S_Alluvial_Fan	VEL_UNIT
<p>Table 20: Countywide Vertical Datum Conversion</p>		
Quadrangle Name	S_Datum_Conv_Pt	QUAD_NM
Quadrangle Corner	S_Datum_Conv_Pt	QUAD_COR
Latitude	S_Datum_Conv_Pt	Read from GIS data
Longitude	S_Datum_Conv_Pt	Read from GIS data
Conversion from (feet)	S_Datum_Conv_Pt	CONVFACTOR
	S_Datum_Conv_Pt	FROM_DATUM + TO_DATUM
	S_Datum_Conv_Pt	LEN_UNIT
Conversion from	S_Datum_Conv_Pt	FROM_DATUM
Conversion to	S_Datum_Conv_Pt	TO_DATUM
Average Conversion	S_Datum_Conv_Pt	Calculated based on CONVFACTOR for all points
Average Conversion (units)	S_Datum_Conv_Pt	LEN_UNIT
<p>Table 21: Stream-by-Stream Vertical Datum Conversion Calculate variance for each point from CONV_FACTOR to determine if Table 20 needs to be populated (> 0.25 ft)</p>		
Flooding Source	S_Datum_Conv_Pt	WTR_NM
Average Vertical Datum Conversion Factor (feet)	S_Datum_Conv_Pt	Calculated based on average CONVFACTOR for each WTR_NM

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
	S_Datum_Conv_Pt	LEN_UNIT
Table 22: Base Map Sources		
Data Type	L_Source_Cit	TITLE for all entries where SOURCE_CIT = "BASE" type
Data Provider	L_Source_Cit	PUBLISHER
Data Date	L_Source_Cit	PUB_DATE
Data Scale	L_Source_Cit	SRC_SCALE
Data Description	- FIRM database metadata -	Source_Contribution keyword
Table 23: Summary of Topographic Elevation Data Used in Mapping		
 <p>This table can be created by a spatial overlay of S_Pol_Ar, S_Profil_Basln and/or S_Tsct_Basln and S_Submittal_Info (one record per topographic data source).</p>		
Community	S_Pol_Ar	POL_NAME1
Flooding Source	S_Profil_Basln and/or S_Tsct_Basln	WTR_NM
Source for Topographic Elevation Data: Description	S_Submittal_Info	TOPO_SRC
Source for Topographic Elevation Data: Scale	S_Submittal_Info	TOPO_SCALE
Source for Topographic Elevation Data: Contour Interval	S_Submittal_Info	CONT_INTVL
Source for Topographic Elevation Data: Citation	L_Source_Cit	CITATION
Table 24: Floodway Data		
Flooding Source	S_XS	WTR_NM
Cross Section	S_XS	XS_LTR where XS_LN_TYP = "LETTERED".
Distance	S_XS	STREAM_STN
Floodway: Width (feet)	L_XS_ELEV	FW_WIDTH
	L_XS_ELEV	LEN_UNIT
Floodway: Section Area (sq feet)	L_XS_ELEV	XS_AREA
	L_XS_ELEV	AREA_UNIT
Floodway: Mean Velocity (feet/sec)	L_XS_ELEV	VELOCITY
	L_XS_ELEV	VEL_UNIT
1% Annual Chance Flood Water Surface Elevation: Existing Conditions	L_XS_ELEV	WSEL where EVENT_TYP = 1 PERCENT CHANCE EVENT

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
1% Annual Chance Flood Water Surface Elevation: Existing Conditions: Left Levee	L_XS_ELEV	WSELREG_LL via XS_LN_ID
1% Annual Chance Flood Water Surface Elevation: Existing Conditions: Right Levee	L_XS_ELEV	WSELREG_RL via XS_LN_ID
1% Annual Chance Flood Water Surface Elevation: Future Conditions	L_XS_ELEV	WSEL where EVENT_TYP = 1 PERCENT CHANCE FUTURE EVENT
1% Annual Chance Flood Water Surface Elevation: Existing Conditions without Floodway	L_XS_ELEV	WSEL_WOFWY
1% Annual Chance Flood Water Surface Elevation: Existing Conditions with Floodway	L_XS_ELEV	WSEL_FLDWY
1% Annual Chance Flood Water Surface Elevation: Increase	L_XS_ELEV	WSEL_INCRS
Footnote for Station Start Description	S_Stn_Start	START_DESC via S_XS START_ID
Footnote for elevations computed w/o backwater	L_XS_ELEV	If CALC_WO_BW equals T, add stock text "Computed without consideration of backwater effects"
<p>Table 25: Flood Hazard and Non-Encroachment Data for Selected Streams</p>  <p>Most of this table can be created from S_XS joined to L_XS_Elev on the 1% Annual Chance event. The Flood Discharge Field can be obtained via a spatial over using S_XS, L_XS_Elev, L_Summary_Discharges_S_Nodes and S_Subbasins (one record per SELECTED cross section).</p>		
Flooding Source	S_XS	WTR_NM
Cross Section	S_XS	XS_LTR
Stream Station	S_XS	STREAM_STN
Flood Discharge (cfs)	L_Summary_Discharges	DISCH where EVENT_TYP = 1 PERCENT ANNUAL CHANCE

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
1% Annual Chance Water Surface Elevation (vertical datum)	L_XS_ELEV	V_DATUM
1% Annual Chance Water Surface Elevation	L_XS_ELEV	WSEL where EVENT_TYP = 1 PERCENT ANNUAL CHANCE
Non-Encroachment Width/ left	L_XS_ELEV	NE_WIDTH_L
Non-Encroachment Width/ right	L_XS_ELEV	NE_WIDTH_R
Footnote for Station Start Description	S_Stn_Start	START_DESC via S_XS START_ID
Table 26: Summary of Coastal Transect Mapping Considerations – provide per Appendix M –		
Table 27: Incorporated Letters of Map Change		
Case Number	L_MT2_LOMR	CASE_NO
Effective Date	L_MT2_LOMR	EFF_DATE
Flooding Source	L_MT2_LOMR	WTR_NM
FIRM Panel(s)	L_MT2_LOMR	FIRM_PAN
Table 28: Community Map History		
Community Name	S_Pol_Ar	POL_NAME1 via L_Comm_Info COM_NFO_ID
Initial Identification Date (First NFIP Map Published)	L_Comm_Info	IN_NFIP_DT
Initial FHBM Effective Date	L_Comm_Info	IN_FHBM_DT
FHBM Revision Date(s)	L_Pol_FHBM	FHBM_DATE via S_Pol_Ar CID via S_Pol_Ar COM_NFO_ID
Initial FIRM Effective Date	L_Comm_Info	IN_FRM_DAT
FIRM Revision Date(s)	L_Comm_Revis	REVIS_DATE via L_Comm_Info COM_NFO_ID
Table 29: Summary of Contracted Studies Included in this FIS Report		
 <p>This table can be created by a spatial overlay of S_Pol_Ar, S_Profil_Basln and/or S_Tsct_Basln and S_Submittal_Info (one record per flooding source).</p>		
Flooding Source	S_Profil_Basln and/or S_Tsct_Basln	WTR_NM
FIS Report Dated	S_Submittal_Info	EFF_DATE
Contractor	S_Submittal_Info	SUBMIT_BY
Number	S_Submittal_Info	CONTRCT_NO

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Work Completed Date	S_Submittal_Info	COMP_DATE
Affected Communities	S_Pol_Ar	POL_NAME1
Table 30: Community Meetings		
Community	S_Pol_Ar	POL_NAME1 via L_Comm_Info COM_NFO_ID
FIS Report Dated	L_Meetings	FIS_EFF_DT
Date of Meeting	L_Meetings	MTG_DATE
Meeting Type	L_Meetings	MTG_TYP
Attended By	L_Mtg_POC	AGENCY via MTG_ID
Table 31: Map Repositories		
Community	S_Pol_Ar	POL_NAME1 via L_Comm_Info COM_NFO_ID
Address	L_Comm_Info	REPOS_ADR1 + REPOS_ADR2 + REPOS_ADR3
City	L_Comm_Info	REPOS_CITY
State	L_Comm_Info	REPOS_ST
Zip Code	L_Comm_Info	REPOS_ZIP
Table 32: Additional Information		
FEMA and the NFIP: FEMA website	Boilerplate (verify that the link works)	
FEMA and the NFIP: NFIP website	Boilerplate (verify that the link works)	
FEMA and the NFIP: NFHL Dataset	Boilerplate (verify that the link works)	
FEMA and the NFIP: FEMA Region	https://hazards.fema.gov and search for Geospatial Data Coordination Contacts by State	
Other Federal Agencies: USGS website	Boilerplate (verify the link works)	
Other Federal Agencies: Hydraulic Engineering Center website	Boilerplate (verify the link works)	
State Agencies and Organizations: State NFIP Coordinator	https://hazards.fema.gov and search for Geospatial Data Coordination Contacts by State	
State Agencies and Organizations: State GIS Coordinator	https://hazards.fema.gov and search for Geospatial Data Coordination Contacts by State	

FIS Report Template Table Column Name	Appendix L Table Name	Appendix L Table Field
Table 33: Bibliography and References		
Citation in this FIS Report	L_Source_Cit	CITATION
Publisher/Issuer	L_Source_Cit	PUBLISHER
Publication Title, "Article", Volume, Number, etc	L_Source_Cit	TITLE
Author/Editor	L_Source_Cit	AUTHOR
Place of Publication	L_Source_Cit	PUB_PLACE
Publication Date/Date of Issuance	L_Source_Cit	PUB_DATE
Link	L_Source_Cit	WEBLINK

Not included in template; add column in table when data is developed in studies, per this Guidance

4.3. Guidelines for Specific Tables

4.3.1. Table 1, Listing of NFIP Jurisdictions

- Include all communities that fall within the geographic area of the county in this table, including communities that fall on the boundary line, nonparticipating communities, Areas Not Included, and multi-jurisdictional communities.
- Indicate communities that have no identified Special Flood Hazard Areas (SFHAs) with a footnote.
- In the template, the Village of Summer Beaches illustrates a community for which panels are not printed.

4.3.2. Table 2, Flooding Sources Included in this FIS Report

- Alphabetize the rows by flooding source first; if multiple entries exist for the same flooding source (such as to account where the methodology and/or mapped zone change along the same stream), list in reverse chronological order (newest study first).
- If more than 20 Zone A streams are included, consider listing only large named streams and group other Zone A streams.

4.3.3. Table 6, Principal Flood Problems

The Descriptions of Flood Problems column is populated by combining three fields from the database. If a longer description is needed for a specific flooding source, a tab separated value text file may be submitted instead. After populating this table from the database, check the Descriptions to determine if you need to find and manually copy the text file into this table. Also check that the three fields have been combined correctly and no additional punctuation or spacing is needed.

4.3.4. Table 9, Levees

All accredited levees, PALs, and de-accredited levees should be shown in this table. The decision on whether to include other levees should be made in consultation with FEMA Regional staff and the local communities.

4.3.5. Table 13, Summary of Hydrologic and Hydraulic Analyses

- Query the database and manually populate the “Zone shown on the FIRM” column for non-profile ponding sources (examples include Zones AO and AH and AE associated with ponding).
- If more than 20 Zone A streams are included, consider listing only large named streams and group other Zone A streams.
- The Special Considerations column is populated by combining two fields from the database. If a longer description is needed for a specific flooding source, a tab separated value text file may be submitted instead. After populating this table from the database, check the Special Considerations to determine if you need to find and manually copy the text file into this table. Also check that the two fields have been combined correctly and no additional punctuation or spacing is needed.

4.3.6. Table 18, Summary of Alluvial Fan Analyses

- For an alluvial fan analysis, the “start” is the apex of the study; the “end” is the toe of the study area. The drainage area is the area above the apex.
- Manually edit the “Models Used” output to include multiple models if needed, because the FIRM database will only store a single domain value for model.

4.3.7. Table 24, Floodway Data

If unlettered cross sections have been displayed on the FIRM panels, these are not to be included in the Floodway Data Table. Only lettered or numbered cross sections are displayed in the Floodway Data Tables.

4.3.8. Table 25, Flood Hazard and Non-Encroachment Data for Selected Streams

This table should only be populated if flooding sources were studied that (1) do not have published BFEs on the FIRMs, or (2) do not have a profile in the FIS Report, but there is a project, FEMA Regional, or CTP requirement to report the 1% annual chance flood elevations at selected cross sections for these streams. Widths for non-encroachment zones should be provided in this table if these have been determined rather than floodways. Consult with the FEMA Regional Project Officer if questions remain about whether this table needs to be populated.

4.3.9. Table 28, Community Map History

- The format of the Community Map History table may have changed slightly from previous versions that Mapping Partners are accustomed to seeing.

- Include all communities that fall within the geographic area of the project, including dual-county communities, nonparticipating communities, and communities with some (but not all) maps that have been rescinded. (The unincorporated area and incorporated areas used for a countywide study are not considered a community and should not be included in this table.)
- List the dates for the FHBM and FIRM Revision Date(s) columns in reverse chronological order (most recent date first).
- Indicate communities without SFHAs (No identified Special Flood Hazard Areas) with a footnote.
- As PMRs are completed, include the effective date of the PMR in the “FIRM Revisions Date(s)” column for the communities that received updated FIRMs, even if the PMR did not revise all the panels within that community. Users should, therefore, be aware that the “FIRM Revision Date(s)” column includes all the effective dates of FIRMs for that community, whether the date corresponds to a community-based update, first-time or subsequent countywide revision, or PMR of individual panels.

4.3.10. Table 30, Community Meetings

The final CCO meeting is now referred to as the “CCO Open House.”

5. Guidelines for Figures

5.1. General Guidelines

- The FIS Report now includes the FIRM Panel Index as Figure 1. The FIRM Notes to Users that were previously printed on the FIRM Index and individual panels are now included in the FIS Report as Figure 1. The Legend that was printed on individual FIRM panels is included as Figure 3. Refer to Appendix K [July 2011] for Notes to Users and Legend elements that are still shown on the FIRM.
- Figures should be the width of the preceding text block. If they need to be wider than the previous text block to be readable, insert section breaks before and after and change the orientation to landscape. Include centered page numbers at the bottom of figures in landscape orientation.
- Captions are Arial, 11 point, **bold**; centered; with 12 point spacing before and 6 point spacing after.
- Text in figures should be at least the size of body text. Sans serif type is preferred for labeling.

5.2. Guidelines for Specific Figures

5.2.1. Figure 1, FIRM Panel Index

The assigned Mapping Partner shall produce a FIRM Panel Index for every community or county that requires more than one printed map panel. Panel Indexes are prepared in an 11” x 17” format to facilitate inclusion in the FIS Report text. Countywide FIRMs may require more than one Panel Index page. In this case, the page number should be indicated in the title block in the following

manner: PANEL INDEX (Sheet 1 of 2). A county locator map shall be added with a rectangle showing the extent of the current index panel. The county locator map is optional for studies with a single page index.

The following base map features shall be shown on the Panel Index: HUC-8 boundaries and political entities. The HUC-8 boundaries should at a minimum cover the entire county and shall be clipped to the county boundary. Each HUC-8 area shall be labeled as detailed in Table 2. All base map features including HUC-8 data should be shown only within the county boundary. Political entities will include CID labels. State parks and national parks do not need to be labeled. If there is not enough space to label them within the map, a numbered key may be used for the congested area. The example index map in Annex C includes only the required features.

Optional features are: Interstate Highways, U.S. Highways, State Highways, County Highways, and railroads as well as major studied streams. The optional features are a subset of the vector data in the FIRM database. Major roads and streams may be shown and labeled, where appropriate, in order to facilitate ease of geographic location by the user.

FIRM panels shown on the index should only be labeled with the four-digit panel number and suffix. The effective date is to be placed directly beneath the four-digit FIRM panel number in dd/mm/yyyy format. A 0.75-point white halo is required for all panel labels and optional for any other annotation that may overprint features.

The Panel Index shall identify unprinted panels with asterisks and footnotes that define the reason(s) for the panel not being printed. The appropriate reason(s) for the panel not being printed shall appear as a footnote(s) below the lower left-hand corner of the grid layout. A listing of appropriate footnotes is provided in Table 2.

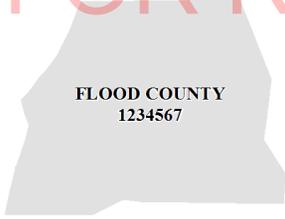
The Panel Index layout is customizable to a certain degree based upon space requirements for certain features. The Panel Index shall always reside at the top of the page, while the PNP Notes, North Arrow, MSC Note and other notes shall reside at the bottom left, followed by the County Locator (where applicable) and Title Block to the bottom right. In cases where the list of printed panels does not fit in the title block due to the number of panels, the size of the title block may be increased. If more than one Panel Index page is included, only the panels shown on the page should be listed in the Title Block for that page.

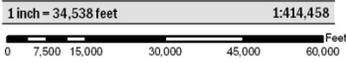
Table 2: FIRM Panel Index Elements

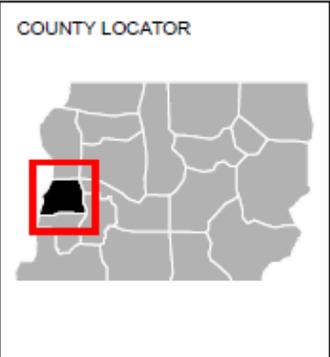
Example (not shown to scale)	Feature/Usage	Optional or Required	Specification [Hatch Pattern] (RGB Values) (Font specifications that cannot be matched may be approximated.)
	Road Line Road Name	Optional	Line weight 0.72 pt., Orange (230, 152, 0) 6 pt. Arial CAPS, Black

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Example (not shown to scale)	Feature/Usage	Optional or Required	Specification [Hatch Pattern] (RGB Values) (Font specifications that cannot be matched may be approximated.)
	Interstate Highway Symbol	Required when roads shown	Standard Interstate Route Shield Line weight 0.72 pt. Size .200" x .200" to .400" x .480", White Fill 6 pt. Arial CLC
	U.S. Highway Symbol	Required when roads shown	Standard U.S. Route Shield Line weight 0.72 pt. Size .200" x .200" to .400" x .480", White Fill 6 pt. Arial CLC
	State Highway Symbol	Required when roads shown	Circle Line weight 0.72 pt. Diameter .200" to .280", White Fill 6 pt. Arial CLC
	County Highway Symbol	Required when roads shown	Rectangle Line weight 0.72 pt Size .150" x .250" to .300" x .400", White Fill 6 pt. Arial CLC
	Railroad Railroad Label	Optional	Vertical hash symbol offset at 90 degrees from main line; Line weight 4 Pt., Black, Hash spacing [7pt - 1pt - 7pt] Line weight 0.72 Pt., Black 6 pt. Arial CAPS, Black
	River or other Hydrographic Feature	Optional	Line weight 0.72 pt., Blue (158, 187, 215) 8 pt. Times New Roman Italic, CLC, Blue (68, 101, 137)
	Lake or other Hydrographic Feature	Optional	Blue Fill (158, 187, 215) 8 pt. Times New Roman Italic, CLC, Blue (68, 101, 137)

Example (not shown to scale)	Feature/Usage	Optional or Required	Specification [Hatch Pattern] (RGB Values) (Font specifications that cannot be matched may be approximated.)
	HUC-8 Boundary	Required	Line weight 0.70 pt., Green (56, 168, 0)
HUC8 17100303 North Watershed	HUC-8 Label	Required	12 pt. Arial, Green (56, 168, 0)
 METROPOLIS 1234567	Incorporated Area, Extraterritorial Jurisdiction and label	Required	Gray Fill (191, 191, 191) Yellow Border (255, 255, 0) 0.50 pt. Width 12 pt. Times New Roman, Bold, CAPS, 0.75 White Halo
 FLOOD COUNTY 1234567	Unincorporated Area and Label	Required	Gray Fill (225, 225, 225) No border 7 pt. Times New Roman, Bold, CAPS
0488B 12/21/9999 0235X 12/21/9999 0625A 12/21/9999	FIRM Panel Number and Effective Dates	Required	1:6000 – 5 pt. Arial, Black, Bold, CAPS, 0.75 White Halo 1:12000 – 8 pt. Arial, Black, Bold, CAPS, 0.75 White Halo 1:24000 – 10 pt. Arial, Black, Bold, CAPS, 0.75 White Halo
	FIRM Panel Boundary	Required	Line weight 0.58 pt., Black
	North arrow; can be ESRI standard or equivalent	Required	Line weight .72 pt. Width 0.0755" Height 0.0755"

Example (not shown to scale)	Feature/Usage	Optional or Required	Specification [Hatch Pattern] (RGB Values) (Font specifications that cannot be matched may be approximated.)
<p>Map Projection: Universal Transverse Mercator Zone 10 North; North American Datum 1983</p>	<p>This note identifies the projection of the primary horizontal reference grid shown on the FIRM, as well as identifies the horizontal datum of the geographic (latitude and longitude) coordinates shown at the four corners of each map panel.</p>	<p>Required</p>	<p>8 pt. Arial, Black, CLC</p>
<p>THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTP://MSC.FEMA.GOV</p>	<p>This note refers users to the Map Service Center</p>	<p>Required</p>	<p>7 pt. (255,0,0), Franklin Gothic Medium Cond, CAPS 12 pt. (255,0,0), Franklin Gothic Medium, CAPS</p>
<p>SEE FLOOD INSURANCE STUDY FOR ADDITIONAL INFORMATION</p>	<p>This note is placed below the red MSC note</p>	<p>Required</p>	<p>7 pt. Franklin Gothic Book, Black, CAPS</p>
	<p>The FIRM scale bar includes reference to feet and emulates the scale bar used by USGS on topographic quadrangles. Note that this scale bar is not shown to actual size; can be ESRI standard or equivalent</p>	<p>Required</p>	<p>Line weight . 72 pts. (Scale Bar [Feet]) =Length: 5" (Scale Bar [Meters]) = Length: 4.5" (Map Scale Note) = 15 pt. Arial CAPS (Scale Bar Labels) = 12 pt. Arial CAPS</p>

Example (not shown to scale)	Feature/Usage	Optional or Required	Specification [Hatch Pattern] (RGB Values) (Font specifications that cannot be matched may be approximated.)
	County Locator (within State)	Required when more than one panel index page; optional for index on one page	8 pt. Arial, Black, CAPS Line: Black, 1.25 pt. County of Interest: Black Other Counties: Gray (178, 178, 178) Boundary: White, width 0.40 pt. Rectangle: Red (255, 0, 0), width 2.0 pt.
<p>NATIONAL FLOOD INSURANCE PROGRAM</p>	National Flood Insurance Program Header	Required	12 pt. Franklin Gothic Medium, (0, 82, 171), CAPS
FLOOD INSURANCE RATE MAP PANEL INDEX	Flood Insurance Rate Map Header	Required	11 pt. Franklin Gothic Medium, (156, 156, 156), CAPS
FLOOD INSURANCE RATE MAP PANEL INDEX (1 of 2)	Panel Index for multiple index pages	Required when applies	11 pt. Franklin Gothic Medium, (156, 156, 156), CAPS
	County dividing line	Required	Width 1 pt., Black
<p>FLOOD COUNTY, USA and Incorporated Areas</p>	County Name	Required	10 pt. Franklin Gothic Medium Cond, Black, CAPS 8 pt. Franklin Gothic Book, Black, CAPS
<p>PANELS PRINTED:</p>	Panels Printed	Required	8 pt. Franklin Gothic Medium Cond, Black, CAPS
<p>0025, 0150, 0235</p>	Printed Panel Numbers	Required	8 pt. Franklin Gothic Book, Black, CAPS

Example (not shown to scale)	Feature/Usage	Optional or Required	Specification [Hatch Pattern] (RGB Values) (Font specifications that cannot be matched may be approximated.)
<p>MAP NUMBER 12345CINDEX</p> <p>MAP REVISED DECEMBER 31, 2011</p>	<p>Map Number and Map Revised (or Effective Date)</p>	<p>Required</p>	<p>8 pt. Franklin Gothic Medium Cond, Blue (0, 82, 171), CAPS</p> <p>8 pt. Franklin Gothic Medium, Black, CAPS</p>
	<p>Department of Homeland Security seal</p>	<p>Required</p>	<p>Width: 1" Height: 1.4"</p>
<p>PANEL NOT PRINTED – NO SPECIAL FLOOD HAZARD AREAS</p>	<p>This note is used to designate panels not printed because the entire panel area does not contain floodplain areas.</p>	<p>Required when applies</p>	<p>7 pt. Arial, Black, CAPS</p>
<p>PANEL NOT PRINTED – NO SPECIAL FLOOD HAZARD AREAS; ALL AREAS WITHIN 0.2% ANNUAL CHANCE FLOODPLAIN</p>	<p>This note is used to indicate panels not printed because the panel area is entirely contained within the 0.2% annual chance floodplain. This note shall be used on a discretionary basis for undeveloped areas of the community. If this area is behind a levee or at least moderately developed (>25000 people per square mile), it shall be a printed panel.</p>	<p>Required when applies</p>	<p>7 pt. Arial, Black, CAPS</p>

Example (not shown to scale)	Feature/Usage	Optional or Required	Specification [Hatch Pattern] (RGB Values) (Font specifications that cannot be matched may be approximated.)
PANEL NOT PRINTED – AREA IN ZONE D	This note is used to indicate panels not printed because the panel area is entirely Zone D.	Required when applies	7 pt. Arial, Black, CAPS
PANEL NOT PRINTED – AREA NOT INCLUDED	This note is used when the area of an entire panel is contained in an Area Not Included.	Required when applies	7 pt. Arial, Black, CAPS
PANEL NOT PRINTED – OPEN WATER AREA	This note is used when an area of all water and no land is contained within the panel area.	Required when applies	7 pt. Arial, Black, CAPS
PANEL NOT PRINTED – AREA ALL WITHIN ZONE AE (EL x)	This note is used when the area of the panel falls within one flood hazard zone (either Zone AE or VE with one flood elevation or A or V). If the panel contains any land area, this procedure shall only be used with the approval of a FEMA Project Officer, as normally any lands areas with flood hazards should be printed. The elevation value is shown here as “x.”	Required when applies	7 pt. Arial, Black, CAPS

5.2.2. Figure 2, FIRM Notes to Users

- Every note that is shown on the Notes to Users on one or more of the county’s FIRM panels must be included once in the Notes to Users section in the FIS Report.
- If specific panels need to be referenced in the notes, add this information manually.

5.2.3. Figure 3, Map Legend for FIRM

- Refer to Appendix K [July 2011] for the specifications for the Map Legend.
- The special double cross-hatching used to indicate the Colorado River Floodway in the template should only be used in special situations and removed whenever it is not used on the FIRM. This pattern is used to indicate any Area of Special Consideration, the Colorado River Floodway, or a Density Fringe Area.
- With the exception of the elements for Non-Encroachment Zone and Area of Special Consideration, all other elements of the Map Legend should be included in each FIS Report.

5.2.4. Figure 7, Frequency Discharge - Drainage Area Curves

Frequency discharge – drainage area curves for selected flooding sources may be added under this caption if they are needed to explain the methodology for hydraulic analysis, but they are not required. The decision to include these figures should be made on a case-by-case basis.

5.2.5. Figure 9, Transect Location Map

The transect location map should use the same specifications as the Map Legend. Refer to Appendix K [July 2011] for the specifications for the Map Legend.

6. Bibliography and References

- Citations (references within the body of the report) should follow the (Author Year) format in the text to eliminate the need to renumber citations. These can be populated from Appendix L but may require some manual editing for clarity in the FIS report. The U.S. Government Printing Office Style Manual (2008 online) notes that “Consistency is more important than the style itself...” The following references provide additional guidance on the use of citations:
 - Better Report Writing, by Willis H. Waldo Reinhold Publishing Corp., New York, 1965.
 - Macmillan Handbook of English, by Robert F. Wilson. Macmillan Co., New York, 1982.
 - Chicago Manual of Style, University of Chicago Press, Chicago, 2003.
 - Words Into Type, Prentice-Hall, New York, 1974.”
- Information obtained from web pages should cite the link to the top web page (such as www.fema.gov) at the very least and the date accessed.
- This table should be arranged alphabetically by “Citation in this FIS Report.”

7. Profiles

- Profiles should be developed to match the example shown in Annex C (FIS Report Template in PDF format) as closely as possible. Details such as fonts or symbols that cannot be matched should be approximated.

- If the 4% annual chance data was calculated for a flooding source, this data should be included in the profile.
- If unlettered cross sections have been displayed on the FIRM panels, these are not to be included on the flood profile. Only lettered or numbered cross sections are displayed on the flood profiles.
- 3 Tables have been added into Appendix L to accommodate creation of the Flood Profiles from the FIRM Database:
 - **L_Profil_Bkwtr_El** – stores the backwater elevation for each event
 - **L_Profil_Label** – stores the labels (roads, confluences, etc.) used on the profiles
 - **L_XS_Struct** – stores the type of structure, high/low chord, etc. for display on the profiles

8. Preparation of the FIS Report in PDF Format

- A bookmark to the first page of the Table of Contents should be added.
- In addition to bookmarks at the start of each flooding source’s Flood Profile (as specified in Appendix J), bookmarks should be added for the first and second heading levels (Heading 1 and Heading 2) and for all tables and figures. PDFs should include active links for all URLs cited in the FIS Report. Bookmarks for tables and for figures should be grouped under their own bookmarks under the TOC bookmark instead of scattered through the other sections.
- In addition to bookmarks for profiles, a hypertext link to each profile name listed in the Exhibits in the Table of Contents should be added.
- The source Word document should be provided with the PDF to assist in preparing future updates to the FIS Report.
- If software that allows individual layers to be saved is used to generate PDFs of flood profiles, remove any “layer” information.

ANNEX A - Sections of Appendix J, Published April 2003, that are Superseded by this Procedure Memorandum

Table 3 itemizes the sections of Appendix J, published April 2003, that are superseded by guidance in this Procedure Memorandum. These changes represent new or updated guidance for mapping partners.

Table 3: Sections in Appendix J Superseded by this Procedure Memorandum

Date	Affected Section	Revision Description
July 2011	All	Subsections of FIS Report reorganized and renumbered (see next table)
July 2011	J.1.2	“Detailed,” “limited detailed,” and “approximate” removed
July 2011	J.1.2	Community description no longer required
July 2011	J.1.3	4-percent-annual-chance added to Table of Discharges and Stillwater Elevations
July 2011	J.2.1	Guidance on determining correct orientation of tables added
July 2011	J.2.1	Guidance on format for citations and Bibliography and References added
July 2011	J.2.1.6	Revisions by Addendum not allowed; revisions require reformatting of FIS and populating FIRM database for restudied areas
July 2011	J.2.1.7	Include outline of subject county and State on cover
July 2011	J.2.1.9	Transect Location map prepared in digital form, not contact negative film
July 2011	J.2.2.1	Flood Profile requirements added
July 2011	J.2.2.2	No manual profiles permitted; digital is required
July 2011	J.5.2.2	No manual document; digital is required
July 2011	J.5.2.1	Bookmarks for all tables and figures also required in PDF
July 2011	J.6	Updated sample FIS Report (see next table for changes to the template)
July 2011	Figures J-1 through J-10	Figures updated in new FIS template
July 2011	Figure J-11 Stream Name Changes Table	Not updated; add this table manually if needed
July 2011	Figures J-12 through J-16	Figures updated in new FIS template

Date	Affected Section	Revision Description
July 2011	Figure J-17 Coastal Flood Insurance Zone Table	No longer used

The following Summary of Changes to the FIS Template table details revisions to the FIS template (Section J.6 of Appendix J) subsequent to the previous publication of that template in April 2003.

Table 4: Summary of Changes to the FIS Template

Date	Old Section Number (2003)	New Section Number	Summary of Change
July 2011	Cover	Cover	Graphic removed and cover redesigned with DHS logo
July 2011	Notice to Flood Insurance Study Users	1.4	Notices to users moved into new section, "Guidance for using this Flood Insurance Study Report"
July 2011	1.1	1.1 and 1.2	Section split into two sections "The National Flood Insurance Program" and "Purpose of this Flood Insurance Study Report"
July 2011	1.1	1.3, Table 1	Communities moved to "Jurisdictions included in the Flood Insurance Study Report" and provided as table with CID, FIRM panels, and location of flood data
July 2011	1.1	1.1	Background on NFIP expanded
July 2011	1.1	1.2	Statement on regulations by states or communities moved
July 2011	1.2	1.3	Content moved and section deleted
July 2011	1.2	7.1, Table 29	Contracted studies moved into new section "Contracted Studies and Community Coordination" and provided in table
July 2011	1.2	6.2, Table 22	Base map information moved into new section "Mapping Methods" and provided in table
July 2011	1.3	1.3	Section renamed "Jurisdictions included in this Flood Insurance Study Project"
July 2011	1.3	7.2, Table 30	Community meetings moved into new section "Community Meetings" and provided in table
July 2011	2.0	4.0	Section moved after new sections

Date	Old Section Number (2003)	New Section Number	Summary of Change
July 2011	2.1	Table 2	Flooding sources moved and provided as table with methods
July 2011	2.2	-	Community descriptions removed
July 2011	2.3	4.2	Section moved
July 2011	2.4	4.3, Table 8 and 9	Section moved and information provided in tables
July 2011	3.0	5.0	Section moved after new sections
July 2011	3.0	5.0	Information presented in tables wherever possible
July 2011	3.0	5.0	Statement and cross reference to table of incorporated LOMRs added
July 2011	3.1	Table 10	Methods for hydrologic analyses moved and summarized in table
July 2011	3.2	5.3	Coastal information moved to new section "Coastal Analyses"
July 2011	3.2	Table 2	Methods for hydraulic analyses moved and summarized in table
July 2011	3.2	5.3	Coastal information moved to new section 5.3 Coastal Analyses
July 2011	3.3	6.1, Tables 22 and 23	Section moved to new section "Mapping Methods" and presented as tables
July 2011	4.0	2.0	Section moved and expanded
July 2011	4.1	6.3, Table 23 and 24	Information on specific mapping practices for floodplain boundaries moved
July 2011	4.2	6.3, Table 23	Information on specific mapping practices for floodways moved
July 2011	4.2	2.2, Figure 4	"Floodway Schematic" moved to new section "Floodways"
July 2011	Floodway Data Table	6.3, Table 23	Moved to new section "Floodplain and Floodway Delineation"
July 2011	5.0	3.0	Section moved and expanded
July 2011	5.0	3.0	Zone descriptions moved into Figure 3 "Map Legend"
July 2011	6.0	2.0 and 3.0	Content moved and section removed
July 2011	7.0	Table 33	"Other Studies" content also incorporated into table "Bibliography and References"
July 2011	8.0	8 and Table 32	FEMA contacts updated and contacts expanded in text and new table "Additional Information"
July 2011	8.0	Table 31	New table "Map Repositories" added

Date	Old Section Number (2003)	New Section Number	Summary of Change
July 2011	9.0	Table 32	Content presented as table with repository location added
July 2011	Citations	Citations	(Author Year) citations used to eliminate need for renumbering
July 2011	10.0	-	No longer used
July 2011	-	1.4	New section "Guidance for using this Flood Insurance Study Report" added
July 2011	-	Figure 1	FIRM Index that was previously published separately now only in FIS
July 2011	-	Figure 2	Notes to users that appeared on FIRM now only in FIS
July 2011	-	Figure 3	Complete Map Legend for FIRM added
July 2011	-	4.1	New section "Basin Description" added with table
July 2011	-	4.4	New section "Levees" added with table
July 2011	-	5.3	New section "Coastal Analyses" added
July 2011	-	5.4	New section "Alluvial Fan Analyses" added
July 2011	-	6.0	New section "Mapping Methods" added
July 2011	-	6.2	New section "Base Map" added
July 2011	-	6.3	New section "Floodplain and Floodway Delineation" added
July 2011	-	6.4	New section "Coastal Flood Hazard Mapping" added
July 2011	-	6.5	New section "FIRM Revision" added

**ANNEX B -
FIS Report Template (Microsoft Word Format)**

A Microsoft Word 2007 (.docx) version of the FIS Report template
can be downloaded from the MIP

**THIS DOCUMENT IS SUPERSEDED.
FOR REFERENCE ONLY.**

**ANNEX C -
FIS Report Template (PDF Format, including profiles
and bookmarks)**

A PDF version of the FIS Report template
can be downloaded from the MIP

**THIS DOCUMENT IS SUPERSEDED.
FOR REFERENCE ONLY.**

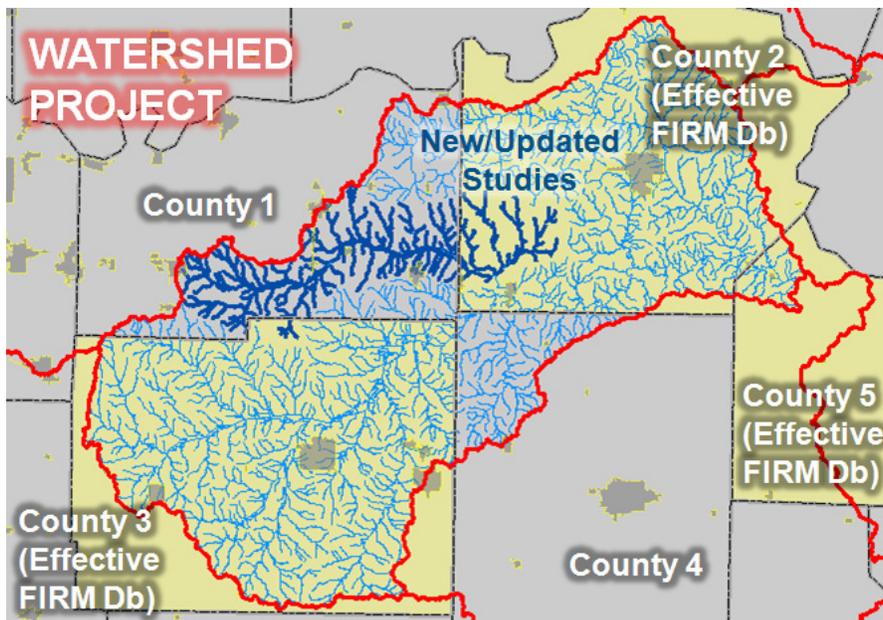
ANNEX D - Watershed Project Considerations

D.1. Introduction

The FIS Report will continue to be produced at a countywide level. When performing Watershed studies, several scenarios will come into play that will influence production and distribution decisions for the FIS Report. Because the geographic extents of each watershed may vary substantially, along with the availability and format of the previously effective FIS Report(s) within the counties that are affected by the watershed study, Regions and Mapping Partners will need to take several items into consideration as they choose the appropriate way to update the FIS Report with the results from the watershed study. In considering these factors, Regions and Mapping Partners are strongly encouraged to convert to the new FIS Report format whenever possible, as doing so will provide a more useful product to communities, will allow future updates to be made in a more efficient and cost-effective manner, and will lead to greater consistency from study to study.

Figure 3 shows an example of possible scenarios that may occur, as they relate to the decision to update the existing FIS Report(s) to the new format. In the example below, it is assumed that counties 2, 3, and 5 have an effective FIS Report in countywide format, whereas counties 1 and 4 do not. However, only counties 1, 2, and 3 are affected by the new studies conducted within the watershed.

Figure 3. Possible Scenarios Associated with Watershed Projects



D.2. Considerations

The examples that follow refer back to Figure 3 as they relate to the scenarios posed by Counties 1-5 and the decision to update to the new FIS format. While it is recognized that flexibility in the application of these guidelines must be granted, based on unique circumstances or budget constraints, it is strongly encouraged that every effort be made to transition FIS Reports to this new format.

D.2.1. Counties Partially Affected by New Studies

Most watershed studies will affect multiple counties. At the same time, most counties are covered by multiple watersheds, and as such, only a portion of the flooding sources within a particular county may be studied as part of the watershed project. Whenever possible, it is advisable to update the FIS Report to the new format for each county that is affected by the new studies (Counties 1, 2, and 3 in Figure 3). However, in cases where only a small portion of a county is affected by the new studies (County 3), the discretion is left to the Regional Project Officer to decide whether to update the FIS Report in that county to the new format as part of the watershed project, or to amend the information for those flooding sources in the format of the previous countywide FIS Report.

D.2.1.1. FIS Reports that are Updated to the New Format

Because the new FIS Report format provides tables for including additional information that may not have been captured in previous FIS Reports (such as that for levees, coastal areas, and other general study information), if the decision is made to update the county's FIS Report to the new format, the following items should be addressed for flooding sources within the county that were not studied as part of the watershed project.

- **TABLES:** Whether the additional table information should be collected and populated, or listed as "Unknown" or "Not Provided"
- **PROFILES:** Whether the flood profiles be updated graphically to match the examples included within Annex C to this Procedure Memo

In making these decisions, Regions have the flexibility to dictate that all tables be updated or only selected ones. For example, a Region may feel it is necessary or desirable to include all the information in Table 9, "Levees" (owner, FIRM panels affected, status, etc.), even for those levees in other portions of the county not updated as part of the watershed study. However, they may choose not to document the dates that the effective studies were completed within Table 13, "Summary of Hydrologic and Hydraulic Analyses" if those dates are not readily available within the effective FIS Report. This decision should be based upon available budget, anticipated benefit to the reader, and the opportunity to defer the format update until it can be undertaken as adjacent watersheds affecting the county are completed.

D.2.1.2. FIS Reports that are Not Updated to the New Format

If after consultation between the Regional Project Officer and Mapping Partner it is determined not to update the FIS Report to the new format, then the effective FIS Report must be amended for the studied flooding sources.

D.2.2. Format and Availability of Effective FIS Report

Counties that have an effective countywide FIS Report must remain countywide, regardless of whether they are updated to the new FIS Report format or not. In these cases, one and only one FIS Report should be available for the county. For example, this means that it would not be permissible to produce a new FIS Report for the studied flooding sources in County 2 and distribute that to the communities affected by those flooding sources, but keep the effective countywide FIS Report for the communities in the county outside of that area. Unlike the PMR process where panels within a county may have differing effective dates, this does not hold true for a countywide FIS Report.

Counties that do not have an effective FIS Report in countywide format but are affected by new studies within the watershed project, such as the example shown by County 1 in Figure 3, must either have their FIS Report produced in countywide format using the new FIS Report template outlined in this Procedure Memo, or follow the guidance outlined in PM 46 – *Partial Countywide Mapping Evaluation*.

D.2.3. FIS Report Distribution

All communities within a county whose FIS Report is being updated to the new format shall receive a copy of the new FIS Report, regardless of whether they are affected by the new studies or are outside the project watershed altogether.