Appendix 4.3.3

MMC Mapping Review Guide
FY2023 Standard Operating Procedure for Dams

March 2022

Date	Principal Author	Comments
12-01-10	MMC	Completely revised
4/1/2013	MMC	Technical Edit
02/10/2017	MMC	Transfer to template
10/23/2018	MMC	Annual Update
10/28/2019	MMC	Annual Update
07/13/2021	MMC	Annual Update

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Section 1

Summary

MMC inundation atlases or map books undergo at least two review cycles within the MMC prior to being supplied to the owning district of the study dam for further review. At any time during the map production and review process, the MMC Steering Committee members may ask to perform a review as well.

All map products will be built using the MMC map templates and standard production process as described in Appendix 4.1.5, MMC Dam Breach Map Production Guide. It is assumed that each mapping team performs an internal peer review prior to submitting the maps for official review. It is recommended, though not required that each team use a standard checklist when reviewing their work.

Prior to submitting any map products for review, the assigned mapping team member should ensure that the map product meets MMC criteria for quality and completeness. Each mapping team member is responsible for ensuring that the maps that they produce follow established standards and specifications. There may be errors in templates provided to mapping teams, so they should double check all settings.

Map reviews are designated Initial, Second, or Additional reviews. Map reviews will focus on the cartographic completeness and consistency of the map product. The reviewer will focus on the graphic layout of the product, the data symbology and annotation placement, and the development of the facing pages. Only PDF map products are reviewed at these stages. The MMC team SharePoint[1] site will be used to facilitate the map review process. This document describes the map review process and how to use the SharePoint site workflows to help maintain communication throughout the review process.

When the map review steps are completed and the mapping are designated as complete, the map products, including geodatabase feature classes, ArcGIS map files, and PDF-format map files are then submitted to the GIS/Mapping technical lead. All files must be kept in the MMC folder structure as specified in document Appendix 4.3.1, MMC File Schema Guide for transmittal. The last section of this document describes the hand-off of data that takes place when the mapping phase of a project is complete.

Section 2

Initial Map Review

As mapping is finished for a study dam, the map books are generated by the mapping team and uploaded to inundation mapping production server for review by the Map Review Team Initial Map Review

The MMC map review is based on a checklist template provided to the map review team. A screenshot of the checklist is provided in Figure 2-1.

Figure 2-1. Map Review Checklist

The checklist is broken down into sections by the portion of the map book that each section concentrates on. To perform the review, the reviewer begins by opening the checklist and the map book on their computer and following along through the checklist noting deviations from the standards and specifications.

1. Open the map book and the review checklist.

2. Begin by filling out the top portion of the review checklist. Fill in the study dam name. Independently obtain the NIDID and Dam owner information from the NID, not by looking at the map book. Check the map book NIDID and dam owner information against these.

    o   Enter in the name of the mapper who uploaded the map book to SharePoint.

    o   Enter in the name of the reviewer.

    o   Enter the date of the Initial Review.

    o   Do not fill in the Revision Review Date.

    o   Do not fill in anything for Cleared for Dist. Review.

    o   Enter in the file name of the map book being reviewed.

2.1.1 Review the Cover Page

Review the cover page using the checklist as a guideline. Answer each of the checks with a "Yes", "No", or "Most". Entering in a "Yes" value will turn that block green, giving a visual cue that the requirement was met. Entering in a "No" value will turn the block yellow; giving a visual cue that something was missed. Blocks entered with a "Most" will stay white, noting that while not a large mistake, there is work to be done before the review can be passed.

1. Check to make sure that the correct study dam name appears in the title block of the cover page. This should be the name of the dam from the NID, at times it will be preceded by the word "Dam", other times it will not, and this is a judgment call. The most important thing is that the name of the dam is uniform throughout the map book.

2. Make sure that For Official Use Only appears at the top of the title block. This is part of the template, and should always be uniform. Check to make sure other template elements are uniform such as the "DBIM" and USACE logo.

3. Check to make sure that the correct map series designator, "Street" or "Aerial" is used in the title block. This should correspond to the background dataset used in the map book.

4. Check the publication date noted in the title block. This date should be the month and year of the Initial Review and should be uniform throughout the map series.

5. Use the NIDID value that you used in the above section to check the NIDID listed in the title block. The NIDID should be uniform throughout the map series.

6. Use the dam owner information you used in the above section to check the dam owner listed in the title block. The dam owner should be uniform throughout the map series.

7. Check to make sure the picture of the dam used on the cover is appropriate and one of the study dam in question. This picture should be of sufficient resolution and show the dam in an aesthetically pleasing way.

2.1.2 Entering Targeted Comments

The checklist items do a good job of guiding the reviewer to the things they should be looking for, but do not provide much feedback to the mapping team on what needs to be edited. The way we are providing this feedback is through targeted comments. These comments are stored in "Sticky Notes" in the PDF map book as well as in the comments block of the checklist. Each section of the review checklist has a separate comments block, but they should all be filled out the same way. This section describes how to use targeted comments.

1. When noting specific edits that need to be made, a targeted comment should be made in the map book and recorded in the comments block on the checklist.

2. When reviewing the map in Adobe Acrobat Pro, enter a comment by using a "Sticky Note" from the Comment and Markup toolbar. Click on the "Sticky Note" tool as shown in Figure 2-2.

Figure 2-2. Sticky Note Tool

3. Place the "Sticky Note" on the map book page where the edit should be made and enter the comment into the note when it appears (Figure 2-3).
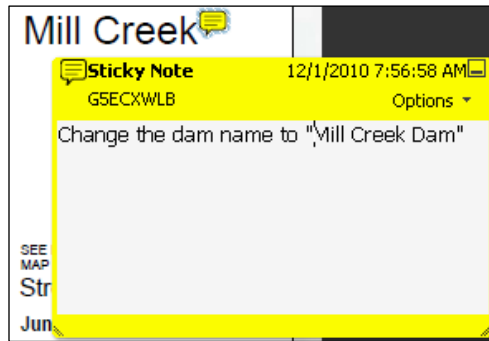
Figure 2-3. Enter a Note

4. Copy the comment text.

5. Open the Review Checklist and scroll to the comments block for the section of the map book being reviewed.

6. In the "Sheets with Comments" field, enter the sheet number, or in this case, "Cover Sheet".

7. Paste the comment into the "Comment" field as shown in Figure 2-4. This allows the mapping team to have a concise report of all comments made for each map book submitted.

Sheets with Comments	Comment (also on pdf)	Mappers Response	Issue Cleared by 2nd Review
Cover Sheet	Change the dam name to "Mill Creek Dam"		

Figure 2-4. Comments Block

8. When entering multiple comments, more lines will need to be added to the comments block. To add more lines, right click on the row number for the last row in the comments block and choose "Insert" from the context menu (Figure 2-5). Do this as many times as needed to add rows for new comments. Each comment recorded in the map book must be recorded in the checklist and vice-versa.

Figure 2-5. Insert a New Row

2.1.3   Map Notes Page(s)

The map notes page is a template page that is provided to the mapping team and should not change unless custom symbology is used in the maps. In this case, the legend should be updated to reflect the symbology changes. When a second custom map notes page is added for specific projects, review the content of the page for typographic or content errors. Note any comments under the comments block for the Cover Page in the checklist.

2.1.4   Review the Sheet Index Map

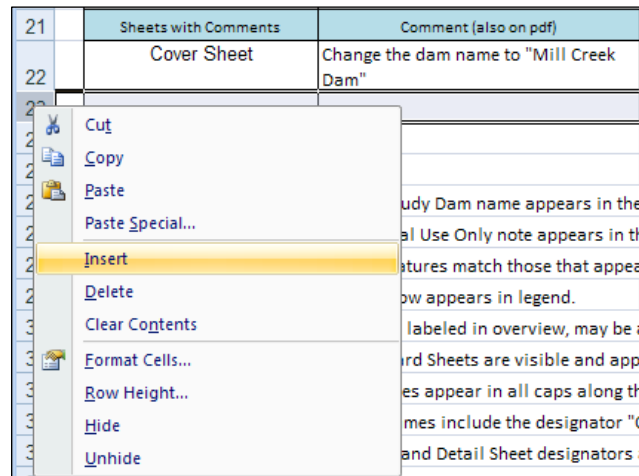The sheet index map should be reviewed using the same methods as described earlier to check content and record comments. Begin by reviewing the list of requirements noting any deviations.

1. Check that the correct study dam name appears in the top left title block. This should be the same dam name that appears on the cover page and each map sheet, with the addition of the two letter state abbreviation for the state where the dam resides.

2. Make sure that the standard For Official Use Only text is included in the top left title block. This is template text and should not change between map books.

3. Check that the legend matches the symbology of the features shown in the map, and that the symbology meets the graphic specifications.

4. Check to see that the north arrow appears in the lower right-hand portion of the legend.

5. Make sure that the scale bars are in the lower left of the map body and are scaled to a round value.

6. Check the overview map for State labels; they should be floating within the State Boundary. Any national boundaries should be labeled along the boundary line.

7. The standard sheet boundaries should be visible and centered in the overview map.

8. Check the State names in the index map. They should be labeled along their respective borders if they are displayed in the index map.

9. County names should be floating within the county boundaries on the index map and should not interfere with the standard sheet boundaries or any other annotation.

10. The sheet numbers for the standard and detail sheets should be centered within their respective sheet where possible, if annotation is getting too crowded, leader lines may be used for sheet numbers, but should be used sparingly.

11. Full place names such as Lock and Dam must be spelled out completely at least once on the map, i.e. as long as one lock and dam is spelled out completely, any others may use "L and D".

12. Annotation should not interfere with other annotation; care should be taken to avoid overprinting the labels included in the background service where possible.

13. Enter any comments that require edits or mappers response using the targeted comment method described in section 2.1.2 Entering Target Comments

2.1.5   Review the Standard and Detail Map Sheets

Review each of the standard and detail map sheets by checking each requirement noted in the checklist. Note any edits that should be made using the targeted comment methods described earlier.

1. Check the title block for graphical uniformity throughout the map book. If you flip between pages, the layout of the title block should not change except for the value of the page number.

2. The page number in the title block should be color coded to the type of sheet, standard sheets should have red page numbers and detail sheets should have blue.

3. Check the study dam name, NIDID, dam owner, and publication date in the title blocks against the information on the cover sheet and in the upper portion of the review checklist. (each is a separate line item in the review checklist)

4. Check that the correct USGS quad ID and name are used, two or three sheets should be checked and then it is ok to assume that the rest are correct.

5. City annotation should clearly represent the feature and do not overprint other annotation. Care should be taken to avoid labels that are part of the background data service.

6. County Names should appear in mixed case along borders where they appear in the maps and are placed along the line parallel to the line and in tandem with bordering county names.

7. State names should appear in all caps along state borders as they appear in the map sheets in tandem with bordering state names.

8. Check that county and state names use curved annotation along curved borders. They may use leader lines in areas where text will not fit along the line due to conflict with other features or annotation.

9. Check that dam symbols are clear and distinct. USACE dams should be red, non-USACE dams should be brown and each should be labeled correctly.

10. Flood Wave data points are shown clear and distinctly.

11. Make sure that each inundation grid is clear and visible against the background street map or imagery.

12. All user generated annotation should be edited to display entirely on each page, text that is shown partially should be noted and edited.

13. The join tabs along the edges of the map should be populated correctly and should use the correct font color and size. Detail sheet join tab labels should be blue.

14. Make sure that the correct USNG Grid Zone Designator value is used in the lower center portion of the map collar.

15. Make sure that the correct USNG 100,000 meter Grid ID(s) are used in the lower center portion of the map collar.

16. Make sure that the correct USNG 100,000 meter Grid ID annotation is used where the grid line displays in the maps.

17. Check the scale bar on each sheet to ensure that the correct scale is displayed, on standard sheets the bar should be two miles wide, on detail sheets it should be one mile wide.

18. Enter any comments that require edits or mappers response using the targeted comment method described in Section 2.1.2 Entering Target Comments

2.1.6   Review the Critical Infrastructure Lookup Table

The tables display the breach wave arrival time, peak time and depth information at critical infrastructure points located on the corresponding map sheet. The table should be checked for consistency with the time data tables that are included on the map sheets as well as for graphical consistency with the standards. For each of the lookup pages, check the following requirements:

1. Check the title block page number to make sure it corresponds to the adjacent page, and that that page is correctly displayed in the graphs.

2. Check the study dam name and publication date in the title block against the information gathered earlier.

3. Check the NIDID against the information gathered earlier in the review.

4. Check the dam owner information against that gathered earlier in the review.

5. Review the arrival and peak times for logical consistency. These should correspond to the breach wave data point on the map sheet and make sense with the duration of the model.

6. The lookup table should be sorted by arrival time, with the soonest arrival time shown first.

7. Review the critical infrastructure points for consistency with the identified points in the map sheet.

8. Enter any comments that require edits or mappers response using the targeted comment method described in section 2.1.2 Entering Target Comments.

2.1.7 Enter Additional Comments

Any other notes or comments that did not fit into one of the sections above can be entered in the additional comment section as shown in Figure 2-6.

Figure 2-6. Additional Comments Table

2.2 REVIEW FILES

Save the reviewed map documents and checklist in the Review folder and provide the document location to the mapper for corrections.

Section 3
Review Comments

When the Initial Map Review is complete, the mapper will receive the notification e-mail. This will prompt the mapper to get the reviewed map book and completed checklist. The mapper is required to address all comments made by the reviewer, however all edits suggested do not have to be made if sufficient detail is provided to support the decision not to follow the suggestion.

3.1   RESPOND TO EDITORIAL COMMENTS

The mapper is responsible for reviewing the checklist and all comments recorded on the checklist and in the map book. The mapper should respond to all comments and note if the suggested edit was completed or not, and if not, why.

Each section of the review checklist corresponds to a section of the uploaded map book. Each line item is checked for compliance and any edits are noted in the comments section at the bottom of each portion of the checklist as well as in the map book PDF file. Use the checklist as a guide to perform edits on the maps.

Cover Sheet			Go through the checklist and record any comments in the table below.
No	Correct Study Dam name appears in the title block.		
Yes	For Official Use Only appears at top of the title block.		
Yes	The correct map series name appears in the title block i.e. Street Map Series or Aerial Map Series.		
Yes	Correct publication date appears in the title block.		
Yes	The correct National Inventory of Dams (NID) alpha-numeric designator is correctly applied.		
Yes	The correct dam owner is spelled out and identified.		
Yes	The picture used is of the study dam and is of apropriate resolution and quality.		
Sheets with Comments	Comment (also on pdf)	Mappers Response	Issue Cleared by 2nd Review
Cover Sheet	Change the dam name to "Mill Creek Dam"		

Figure 3-1. Checklist

1. For each line item that is noted as "No" or "Most" look into any edits that need to be made. There are usually comments provided to support these notes.

2. For each comment provided, find the sticky note in the map book at the corresponding location and decide if the suggested edit should be performed. Enter the response to the comment in the "Mappers Response" field in each comment row.

3. Perform the suggested edits following the guidelines in Appendix 4.1.5.

4. Export new map books after all editorial comments have been addressed.

3.2   UPLOAD REVISED MAP BOOKS FOR SECOND REVIEW

Once all edits are made, the map book must be uploaded to the file structure again for a second and hopefully final review. Additional map review is the designation given to any review cycle that occurs after the second map review. If there are unaddressed comments from the Initial Review or if the Second Review generates additional edits, the Additional review phase is entered. Any Additional Review will proceed using the steps for the Second Review, the only difference being that the file names for the uploaded map books will be appended with the appropriate designator, i.e., "SecondReview," "ThirdReview," etc.
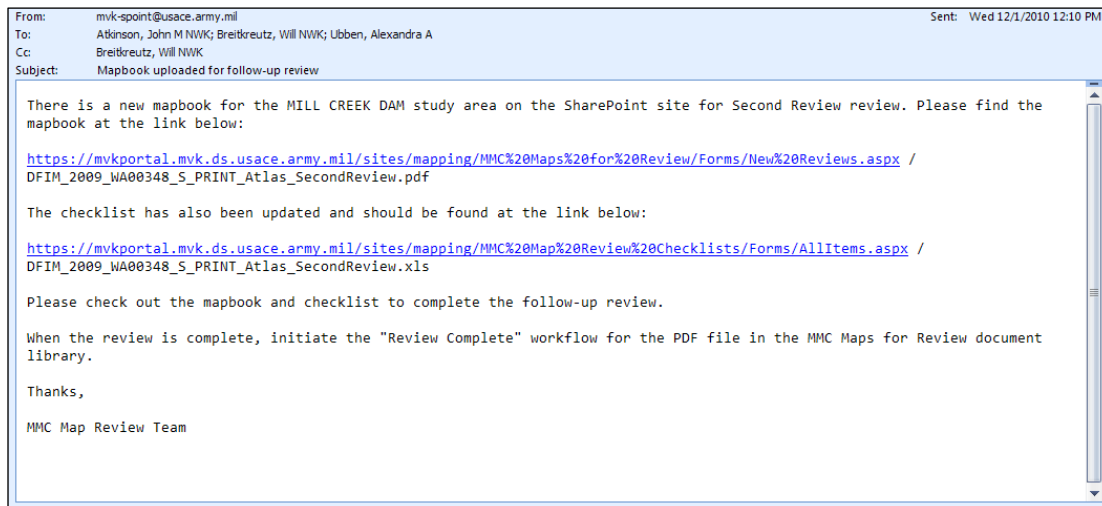

From:	mvk-spoint@usace.army.mil	Sent: Wed 12/1/2010 12:10 PM
To:	Atkinson, John M NWK; Breitkreutz, Will NWK; Ubben, Alexandra A	
Cc:	Breitkreutz, Will NWK	
Subject:	Mapbook uploaded for follow-up review	

There is a new mapbook for the MILL CREEK DAM study area on the SharePoint site for Second Review review. Please find the mapbook at the link below:

https://mvkportal.mvk.ds.usace.army.mil/sites/mapping/MMC%20Maps%20for%20Review/Forms/New%20Reviews.aspx /
DFIM_2009_WA00348_S_PRINT_Atlas_SecondReview.pdf

The checklist has also been updated and should be found at the link below:

https://mvkportal.mvk.ds.usace.army.mil/sites/mapping/MMC%20Map%20Review%20Checklists/Forms/AllItems.aspx /
DFIM_2009_WA00348_S_PRINT_Atlas_SecondReview.xls

Please check out the mapbook and checklist to complete the follow-up review.

When the review is complete, initiate the "Review Complete" workflow for the PDF file in the MMC Maps for Review document library.

Thanks,

MMC Map Review Team

Figure 3-2. Second Review Notification E-Mail

Section 4
Final Submittal review

The MMC Mapping Team Lead will receive finalized data from the mapping team and perform a final review on the data before marking the mapping process complete.

4.1   DATA COMPLETENESS

The data sent for final submission will be checked for completeness.

1. All files submitted by the modeling team to the mapping team should be intact and included.

2. All working GIS files should be included, most importantly, the "Inundation" working geodatabase.

3. All individual map sheets should be provided in both full resolution and optimized versions.

4. All map books should be provided in both full resolution and optimized versions.

4.2   REVIEW DOCUMENTATION

Copies of all reviewed map books and review checklists used in map reviews are to be copied from the SharePoint site and placed in the Reviews folder for the specific study area. This data should be uploaded to the final storage location for the data.

4.3   MAPPING COMPLETE

Once the data has been submitted and has passed review by the MMC Mapping Team Lead, the study area is considered out of the mapping phase and can be marked complete in the MMC Schedule Database.