Guidance for Flood Risk Analysis and Mapping

Areas of Mitigation Interest

December 2020

FEMA

Requirements for the Federal Emergency Management Agency (FEMA) Risk Mapping, Assessment, and Planning (Risk MAP) Program are specified separately by statute, regulation, or FEMA policy (primarily the Standards for Flood Risk Analysis and Mapping). This document provides guidance to support the requirements and recommends approaches for effective and efficient implementation. Alternate approaches that comply with all requirements are acceptable.

For more information, please visit the FEMA Guidelines and Standards for Flood Risk Analysis and Mapping webpage (www.fema.gov/flood-maps/guidance-partners/guidelines-standards). Copies of the Standards for Flood Risk Analysis and Mapping policy, related guidance, technical references, and other information about the guidelines and standards development process are all available here. You can also search directly by document title at www.fema.gov/multimedia-library.

Table of Revisions

The following summary of changes details revisions to this document subsequent to its most recent version in February 2018.

Affected Section or Subsection	Date	Description
Sections 2.0 and 5.1	December 2020	Updated suggested for collaboration points during AOMI development.

Table of Contents

List of Figures

List of Tables

1.0 Definitions

The Areas of Mitigation Interest (AoMI) dataset is to capture the mitigation interests of the community and provide targets for future mitigation action. This dataset allows:

1. The Flood Risk Project team to identify areas that may be suited for mitigation action based on the Risk MAP findings.
2. Local stakeholders to provide information about local mitigation plans and datasets.
3. Integration of this data relevant to mitigation to enable further planning and action.

The AoMI dataset is comprised of attributed polygon features stored in the Flood Risk Database (FRD) to represent items that warrant flood risk mitigation attention.

Figure 1: Example of Areas of Mitigation Interest Data

2.0 General Overview

The purpose of the AoMI dataset is twofold: 1) provide a tool to use during the Risk MAP process between FEMA, the Risk MAP team, and the communities to discuss mitigation planning and action, and 2) leave the community a record that they can use and enhance for future mitigation planning and implementing actions. AoMI only focuses on identifying and documenting areas of interest and potential actions – it is not to be used to document past actions. The key users will be local officials with responsibility for planning or implementing mitigation plans and actions, and those responsible for communicating and conducting outreach on flood risk and mitigation.

Preliminary data will be collected leading into Discovery. The first conversation regarding areas of mitigation interest will take place at Discovery, and that conversation will be captured in the AoMI dataset. Any additional data created in Risk MAP that may indicate a need for mitigation will be added to the dataset throughout the Flood Risk Project process. The conversation can then be continued using the dataset at subsequent meetings.

AoMI data may come from a variety of sources, although the following are the most common:

- Community- or state-supplied data from mitigation and floodplain management plans, discovery and other meetings, and surveys.
- Federal government data (e.g., flood claims, disaster assistance claims, data from other federal agencies like the United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), National Oceanic and Atmospheric Administration (NOAA), etc.).
- Engineering data from the revised hydrology and hydraulics (H&H) and/or coastal analyses, other studies, or previous flood studies.

Section 5.0 provides additional information regarding the types of data that is most likely to be obtained from these sources and guidance on its collection.

Of greatest importance is that the AoMI dataset be developed through conversations with the affected communities. FEMA and the entire Flood Risk Project team play key roles in the alignment of the AoMIs with the needs and mitigation opportunities within the community. The FEMA publication, Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards provides additional information regarding beneficial AoMIs that can be identified throughout the life of the project.

There is also a great opportunity to collaborate with state and local official that have responsibilities for local mitigation projects to develop and to use AOMI. It is highly recommended to discuss throughout the project lifecycle how AOMI may benefit the community in hazard mitigation efforts.

3.0 Flood Risk Database (FRD) Related Guidance

The AoMI dataset is represented by the S_AOMI_Ar feature class in the Flood Risk Database (FRD). AoMI features are captured as a polygon on S_AOMI_Ar.

AoMI features may be a single location, a linear structure, or a large area. To best represent an AoMI, the polygon feature should be created in the way that makes most sense to the AoMI. For example, a non-accredited levee would best be represented as a polygon that is created as a buffer around the linear levee. A stream constriction would be a small polygon around the specific constriction. An area of significant land use change would be a large polygon that covers the entire space.

Because of the length of the AOMI_INFO field and the dBASE limitation of 254-character field width, when this geodatabase feature class is exported to shapefile (SHP) format, the Mapping Partner should create four fields to contain the data in the AOMI_INFO field (i.e., AOMI_INFO1, AOMI_INFO2, AOMI_INFO3, and AOMI_INFO4).

Additional guidance on the type of content to include in the AOMI_INFO field of S_AOMI_Ar is contained in the tables in Section 4.0 of this document.

4.0 Types of Areas of Mitigation Interest

Data from the Flood Risk Database may be displayed on maps when discussing AoMI with the community. The specific data captured in the AoMI dataset is limited to what meets the purpose of the dataset and does not duplicate data that may be stored elsewhere in the FRD or the FIRM database. For example, a non-accredited levee is captured in the AoMI dataset, whereas an accredited levee is not since it is identified in the FIRM database. As opportunities are identified within the project area that either need to be highlighted because of their high-risk potential, or where mitigation opportunities exist, those can, and should, also be identified within the AoMI dataset. The following sections provide examples of the types of AoMIs, their data sources, collection points in the project lifecycle, data evaluation and qualifying criteria, and data processing and enhancement.

4.1 Levees

Table 1: Levee AoMIs – Description and Data Sources

AoMI	Description	Potential Data Source(s)
Non-Accredited Levees	Non-Accredited: A levee that does not meet 44CFR Part 65.10 criteria and/or has recently had its provisionally accredited status expire without evidence that it meets this specific accreditation criteria.	• Discovery Data Mining and Discovery Meeting • National Levee Database (NLD) – (USACE) • FEMA Levee inventories • Other agency inventories • Community conversations

- Collection Points in the Project Lifecycle: Before the Discovery Meeting for verification at Discovery Meeting.
- Data Evaluation and Qualifying Criteria: All non-accredited levees should be included.

- Data Processing and Enhancement: Existing inventory data should be captured as polygon features in S_AOMI_Ar in the FRD. The polygon should be a buffer offset a small amount from the levee.

  The AOMI_INFO field should indicate if an Emergency Action Plan (EAP) exists or not and when it was created (e.g., "EAP created 02/13/2008" or "No known EAP"), and/or whether specific mitigation measures or enhancements to the levee itself have been identified.

  If information is available related to the hazards posed if the levee should fail, such information could also be included.

4.2 Coastal Structures

Table 2: Coastal Structure AoMIs – Description and Data Sources

AoMI	Description	Potential Data Source(s)
Coastal Structures • Jetties • Groins • Sea walls • Other coastal structures	Coastal structures that "harden" the shoreline, interrupt the natural dynamic shoreline processes, and/or accelerate coastal erosion.	• Discovery Data Mining and Discovery Meeting • Community input on structures known to cause erosion problems or those not providing intended protection. • NOAA National Shoreline Survey • State Coastal Zone Management Programs • Beach Management Plans

- Collection Points in the Project Lifecycle: Before the Discovery Meeting, when available from Coastal Zone Management Programs, for verification at Discovery Meeting.
- Data Evaluation and Qualifying Criteria: All structures will be included.
- Data Processing and Enhancement: Existing inventory data will be captured as points in S_AOMI_Ar. The AOMI_INFO field should be populated with pertinent information such as "Sea wall under-sized based on updated analysis" and/or whether specific mitigation measures or enhancements to the coastal structure have been identified. The polygon should be a buffer offset a small amount from the structure.

4.3 Stream Flow Constrictions

Table 3: Stream Flow Constriction AoMIs – Description and Data Sources

AoMI	Description	Potential Data Source(s)
Stream Flow Constrictions • Undersized culverts or bridge openings	Hydraulic structures intended to carry flood discharges that are too small to function effectively and that cause	• Discovery Meeting discussion, and initial H&H Analysis

AoMI	Description	Potential Data Source(s)
	increased flood elevations within the vicinity and in upstream areas.	• State/Local Hazard Mitigation Plans • State Stormwater Management Programs per Environmental Protection Agency (EPA) 310 Program • Engineering models • Local drainage reports

- Collection Points in the Project Lifecycle: Data can be discussed with communities leading into the Discovery Meeting and at Discovery with community officials. Further evaluation and technical validation should occur in cases where new modeling is conducted in areas where stream flow pinch points are identified.
- Data Evaluation and Qualifying Criteria: Work with community after engineering to determine what criteria are most appropriate to qualify the area for inclusion in the AoMI dataset.
- Data Processing and Enhancements: Data will be collected in S_AOMI_Ar as a polygon surrounding the constriction. If the structure overtops, the AOMI_INFO field in S_AOMI_Ar should indicate the most frequent event at which the structure is overtopped (e.g., "Road overtopped at 5-percent-annual-chance event"). Additionally, the discharge at which the structure overtops could also be indicated if known.

4.4 Key Emergency Routes Overtopped

Table 4: Key Emergency Route AoMIs – Description and Data Sources

Item	Description	Potential Data Source(s)
Key emergency routes overtopped during frequent flooding events	Key emergency and evacuation routes that the hydraulic analysis indicate are overtopped during the 4 percent flood frequency or more frequent event, plus those that are noted by community officials as being frequently overtopped will be identified. Additionally, essential needs – such as gas stations – along evacuation routes can be identified.	• Discovery Data Mining and Discovery Meeting • Flood Profiles • Hydraulic models

- Collection Points in the Project Lifecycle: Data collected at Discovery Meeting from community and during engineering.

- Data Evaluation and Qualifying Criteria: Limited to routes identified as key emergency routes at Discovery and verified by modeling or existing profiles as overtopped by the 4 percent flood frequency or more frequent event. Communities, however, may choose to use a different set of criteria to identify the overtopped routes. For example, a community may want to know where the 1 percent-annual-chance event overtops a major highway.
- Data Processing and Enhancements: Data will be collected in S_AOMI_Ar with the polygon surrounding either singular routes overtopped, or a collection of routes if they are close together. The AOMI_INFO field should indicate the most frequent event at which the structure is overtopped (e.g., "Overtopped at 5-percent-annual-chance event" or "Local Public Works Department indicates the road is frequently overtopped").

4.5 Past Claims Hot Spots

Table 5: Past Claims Hot Spot AoMIs – Description and Data Sources

Item	Description	Potential Data Source(s)
Past Claims Hot Spot	Indicators of repeated flood-related insurance claims within a focused geographic area. This shall be included as a polygon, careful not to be claim-specific.	• FEMA NEXTGEN database • National Flood Insurance Program (NFIP) State Coordinator

- Collection Points in the Project Lifecycle: Data to be collected and presented during Discovery, both prior to and at the Discovery Meeting.
- Data Evaluation and Qualifying Criteria: Areas with five or more repetitive loss (RL) or severe repetitive loss (SRL) properties in close proximity, sufficient to indicate that the area has a higher frequency of damage than other areas in the community. Evidence of claims or damages should be apparent from more than one event.
- Data Processing and Enhancements: Data will be collected in S_AOMI_Ar with the census block in which they reside used as the polygon. The AOMI_INFO field should indicate the number of structures, number of claims, RL vs. SRL, when the claims occurred, aggregate claims amounts represented by that point (e.g., "From 2004~2010, 42 Claims affecting 44 structures, totaling $8.2 million, of which six were RL and one was SRL").

4.6 Significant Land Use Change

Table 6: Significant Land Use Change AoMIs – Description and Data Sources

Item	Description	Potential Data Source(s)
Significant Land Use Changes (within the past five years and looking forward five years)	Development and population growth (through the building of structures) normally decreases the ability of a watershed to absorb flood waters which results in potentially significant	• Discovery Data Mining and Discovery Meeting discussions • Community Comprehensive Plans

Item	Description	Potential Data Source(s)
• Proposed and recent development • Areas with current or projected population growth	increases in flood water runoff (and velocity) and damages to the downstream built environment	• State Growth Management Plans • Real Estate Trends

- Collection Points in the Project Lifecycle: Data collected prior to or at Discovery Meeting.
- Data Evaluation and Qualifying Criteria: Limited to areas where plans or community officials indicate growth in past five years or anticipated in the next five years. Data should not identify specific projects or developments.
- Data Processing and Enhancements: Data will be collected in S_AOMI_Ar with the polygon encompassing the entire area of significant change. The AOMI_INFO field should give a brief description of the land use change (e.g., "400 homes constructed in the last two years 2008~2009, with 200 additional homes anticipated in the next four years in 2010~2013"; or "300 acres of agricultural land have been recently converted to a commercial park in 2009" or "Projected area of population growth in next three years due to planned residential development").

4.7 Non-Levee Embankments

Table 7: Non-Levee Embankment AoMIs – Description and Data Sources

Item	Description	Potential Data Source(s)
Non-Levee Embankments	Structures not designed for flood control, but which have an impact on flooding, such as railroad embankments and roadways.	• Discovery Data Mining and Discovery Meeting • Hydraulic Models

- Collection Points in the Project Lifecycle: Data collected at Discovery Meeting and during engineering analysis.
- Data Evaluation and Qualifying Criteria: Structure should be visible in terrain data or identified from modeling in re-study areas with engineering judgment applied to community claims of flooding or protection level.
- Data Processing and Enhancements**:** Data will be collected in S_AOMI_Ar. The polygon should be a buffer offset a small amount from the embankment.

4.8 At-Risk Essential (or Critical) Facilities

Table 8: At-Risk Essential Facility AoMIs – Description and Data Sources

Item	Description	Potential Data Source(s)
At Risk Essential Facilities	Essential facilities, which may include what are sometimes called "critical facilities", are those whose impairment during a flood could cause significant problems to individuals or communities, such as a flooded community wastewater treatment facility or hospital, or whose damage can limit the ability of an individual or community to respond during or recover post-flood.	• Discovery Data Mining and Discovery Meeting • State Databases/Inventories • Locally-supplied Geographic Information System (GIS) data

- Collection Points in the Project Lifecycle: Before the Discovery Meeting, when available from local or state sources, for verification at the Discovery Meeting. In the absence of any inventory, at the Discovery Meeting. At the Discovery Meeting, additional data should be discussed to supplement what has already been identified.
- Data Evaluation and Qualifying Criteria: Work with community officials at the Discovery Meeting to ensure that the structures meet the definition and that the inventory used is complete and current. S_AOMI_Ar typically will only include critical facilities within the mapped flood hazard areas. Critical facilities that are near the mapped floodplain, or those that could be isolated during a flood, may also be included if they are expected to be impacted by the flood, such as inundated by flood waters or access is cut off by to the flood.
- Data Processing and Enhancement: Existing locations will be captured in S_AOMI_Ar and captured as individual small polygons at a single facility, or surrounding a group of buildings/facilities that may make up a campus, such as a hospital campus. The AOMI_INFO field should be populated with pertinent information such as "St Joseph Hospital is subject to flooding during frequent flooding events. This hospital serves as a critical trauma unit".

4.9 Other

Table 9: Other AoMIs – Description and Data Sources

Item	Description	Potential Data Source(s)
Other	Other types of mitigation actions or opportunities that are not captured under one of the previously defined categories.	• Discovery Data Mining and Discovery Meeting • State Hazard Mitigation Officers

Item	Description	Potential Data Source(s)
		• Local Emergency Management • Public Works
Building Code Adoption and Enforcement Information	Building Code Adoption and Enforcement information to include adopted code and edition, any weakening amendments to the disaster-resistant provisions, and extent of enforcement.	• Discovery Data Mining and Discovery Meeting • State Databases/Inventories • Locally-supplied Geographic Information System (GIS) data • Building Code Effectiveness Grading Schedule (BCEGS)

Building Code Data:

- Data Collection Points in the Project Lifecycle: Before the Discovery Meeting, when available from local or state sources, for verification at the Discovery Meeting. In the absence of any inventory, at the Discovery Meeting. At the Discovery Meeting, additional data should be discussed to supplement what has already been identified.
- Data Evaluation and Qualifying Criteria: Work with community officials at the Discovery Meeting to ensure that the adoption and enforcement data meets the definition and that the inventory used is complete and current.
- Data Processing and Enhancement: Data will be collected as point data in jurisdictional, county or state-wide context. Adjustment to polygons using jurisdictional, county or state-wide boundaries will be required.

Other Data:

- Data Collection Points in the Project Lifecycle: At any point during or after the Discovery Meeting.
- Data Evaluation and Qualifying Criteria: Community or other stakeholder provided information.
- Data Processing and Enhancements: Data will be compiled in S_AOMI_Ar and attributed with a brief description of the action or opportunity. The polygon should capture the area of interest in a logical manner. If losses were avoided in a post-project flooding event they should be described and quantified to the extent reliable data is available (e.g., “project constructed in 2008 for $800k; more than $2 million in damages avoided in 2010 flooding”).

Additional examples of AoMI types that could be assigned to the “Other” category include:

- Locations experiencing or prone to land subsidence

- Locations of significant erosion
- Areas that may be impacted by a dam
- Areas where lake levels are changing
- Additional mitigation opportunities, such as identifying where there is open space that could be expanded upon, pump stations that could potentially be upsized, large lots that could be used for detention basins, areas where flow bypass might be effective, etc.

5.0 Sources of AoMI Data

AoMI data has multiple sources and is one of the few non-regulatory flood risk datasets whose collection and creation happens at multiple times throughout the lifecycle of a Flood Risk Project. AoMIs can be collected as early as the Discovery stage and may be revised or updated throughout the data development stage and beyond, as outlined in Figure 2.

As a major part of the "Data Mining" process referenced in the graphic, Mapping Partners should follow the appropriate State and National Standard Operating Procedures (SOPs), as defined within the Geospatial Data Coordination (GDC) Guidance document, when gathering AoMI data. These SOPs provide valuable information regarding the data sources, contact information, and State preferences that are unique to each different data type.

As part of the overall stakeholder engagement process, an AoMI questionnaire for community leaders can also be provided at the Discovery phase to facilitate the process of data collection for data that was not able to be obtained through other measures. The "Tools & Links" tab on FEMA's Mapping Information Platform (https://hazards.fema.gov) contains additional resources that identify state contacts ("Geospatial Data Coordination Contacts by State") and procedures ("National and State Data Coordination Procedures") that should be referenced to assist with this process.

Although there are many inputs that feed the AoMI creation process, the finalization of the AoMI dataset should be the outcome of a collaborative process between the community and FEMA, with the primary focus being upon identifying actionable mitigation activities and opportunities for improving risk awareness.

5.1 Community, State, and Other Local Data

State and local officials experienced at responding to, regulating, and addressing the impacts of flood hazards have the best knowledge of their jurisdiction's flooding problems. Often this information is captured in local Multi-Hazard Mitigation Plans, stand-alone Floodplain Management Plans, or a community's comprehensive plan.

Prior to initiating contact with the communities in the project area, Mapping Partners should review the plans for potential AoMIs to discuss with community officials and other stakeholders. AoMI conversations should be introduced to local officials during Discovery to build a productive working relationship to gain buy-in from the communities and promote future action.

The following information should be requested from each community, using the AoMI questionnaire or similar outreach tool once an initial collection of publicly available AoMI-type data

has been performed. This should be done during Discovery, or if Discovery is not part of the project it should be done at the initiation of the project. This allows the community to be able to react to the data already collected, respond with corrections if they have more up-to-date information, and provide additional AoMI data that may not have been identified yet.

- Coastal structures of interest
- Evacuation/emergency routes and gas stations on those routes
- Non-accredited levees
- Significant recent or proposed development (or land use changes)
- High risk essential facilities

The outreach and data collection process should be initiated once the study begins (see Figure 2). The usefulness in AOMI with stakeholders throughout the communities should be discussed, especially as it pertains to mitigation planning and implementing mitigation projects. This may help identify additional data sources and allow the community to plan to leverage AOMI is upcoming work. Due to the wide range of detail, format, and quality of data that will be submitted to FEMA, a minimum test of relevance, or application of qualifying criteria should be applied when deciding to include the AoMI. The entry into the FRD is flexible to account for the range of information that may be provided.

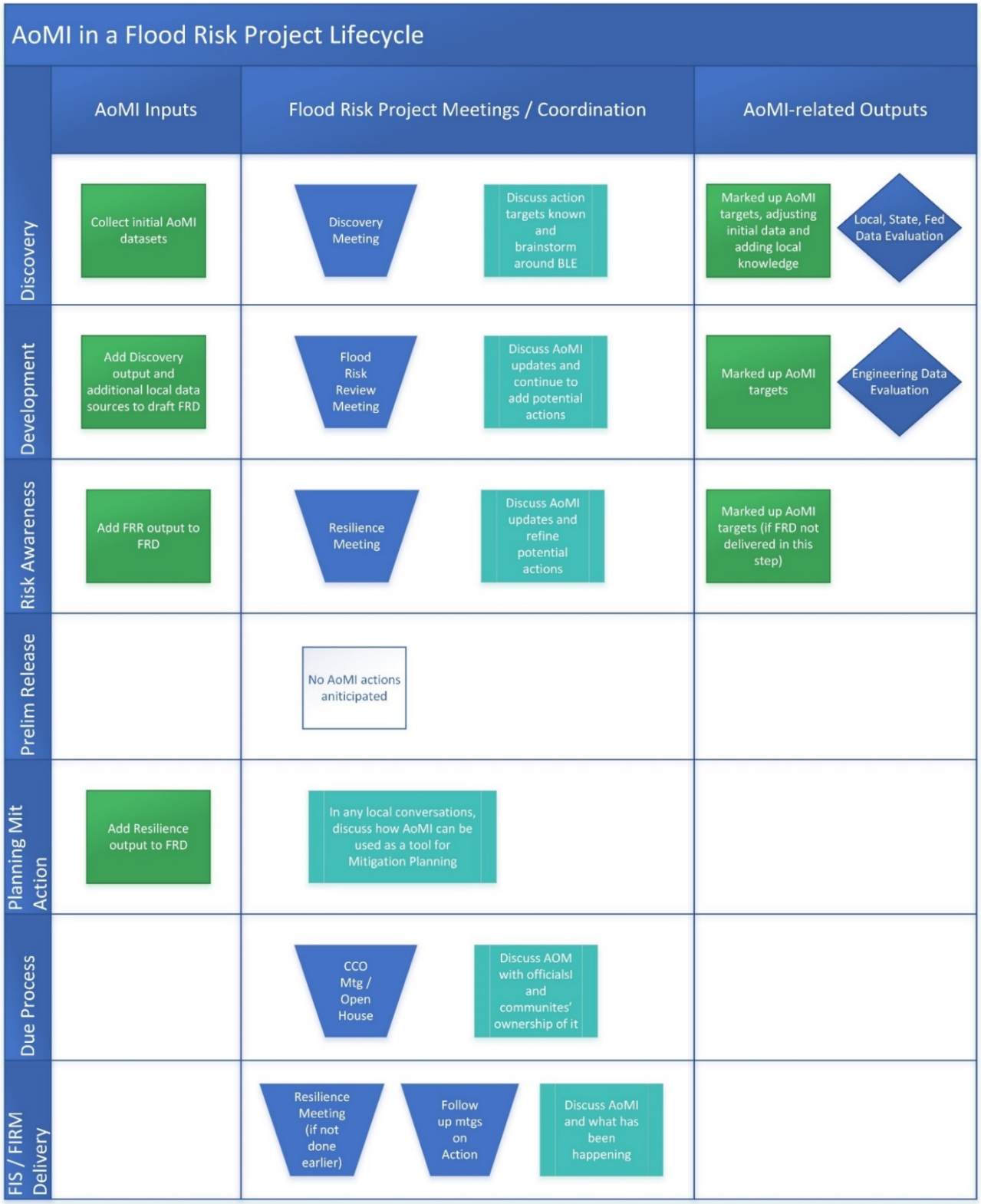

Figure 2: AoMI Data Creation Lifecycle

5.2 Federal Government Data

FEMA and other Federal agencies responding to flood events have data that reflects damages to buildings and infrastructure, and other expenditures resulting from the floods. It can also help focus flood mitigation efforts. This data will primarily be obtained from the appropriate agency or FEMA Division.

Much of this information is Privacy Act-protected and therefore must be handled carefully during the collection, storage, transfer, and display of this information. Information on Repetitive Loss (RL), Severe Repetitive Loss (SRL), Insurance Claims, or any other similarly protected data that could be used to identify specific individuals or properties cannot be included within the FRD as individual points.

That type of information must be generalized prior to its inclusion within the FRD. For example, a cluster of repetitively flooded properties should be represented by a polygon coincidental with the census block, rather than at the specific property locations so that the identity of individual property owners is protected. A "cluster" will be defined as several claims, damage reports, or assistance locations sufficient to indicate that the area has a higher frequency of damage than other areas in the community. Evidence of claims or damages should be apparent from more than one event. For RL and SRL claims, five or more from at least two events is considered sufficient.

Standard and well-defined limitations on the use, presentation, distribution, and storage of this type of data should be provided for consistency among FEMA Regions and Mapping Partners. Overall, the purpose of repackaging and providing the AoMI dataset to communities on the FRM and in the FRR is not to verify that the factors are impacting flood conditions, but rather to help direct the attention of planners to areas warranting further investigation. By providing the AoMI dataset on a project extent basis, attention can be drawn to the necessity of coordinating with upstream/downstream neighbors in planning to reduce losses.

5.3 Engineering Data from H&H and Coastal Flood Analyses

This data will primarily be obtained during the Flood Insurance Rate Map (FIRM) production process (H&H modeling) and will include the following:

- Significant stream flow constriction locations (e.g., undersized bridges and culverts) that create backwater conditions, or other findings from the engineering analysis that indicate possible changes that would have significant impacts on the built environment or major evacuation and response transportation routes.
- Major roads overtopped by higher frequency flooding events.
- Major embankments.
- Levees and coastal structures that contribute to flooding conditions.

6.0 AoMI Data Evaluation

Discretion should be applied regarding which AoMIs to include in the FRD based on dialogue with the communities before, during and after the Discovery Meeting. The goal is to include data that is agreed upon by the communities with some level of commitment to use the data. After initial

data collection or creation, the Mapping Partner should evaluate the collected data for potential use, as described in Section 6.1.

6.1 Local, State and Federal Data Evaluation

All data procured should be evaluated for potential use in the AoMI dataset. This evaluation should include the condition, age, veracity, and integrity of the data received to determine approximate level of effort for its preparation to be used as an AoMI element.

After the initial evaluation of the data, the Mapping Partner should engage with the communities in the project area, FEMA Regional representatives, State Hazard Mitigation Officer, and state and local Floodplain Managers offices to:

- Discuss findings of the evaluation of the data and include recommendations on items to include in the dataset.
- Gain consensus from the community on data that will be useable to them for planning and project development.

Concurrent with this evaluation stage will be a data selection process that should be satisfied before data elements are included in the AoMI dataset. The following evaluations are typically made:

- Compatibility for use within the FRD
- Completeness
- Currency
- Source and integrity

If the AoMI data procured during Discovery meets these criteria, they will move into the Engineering data evaluation step.

6.2 Engineering Data Evaluation

The AoMI elements based on objective engineering data should be evaluated during the Flood Risk Project. An example would be where a culvert was anecdotally cited by local stakeholders as being of insufficient capacity to efficiently carry the 1-percent-annual-chance flood discharge. During the Flood Risk Project, it is expected that assumptions of this nature will be evaluated with engineering data to confirm anecdotal citations and thereby preserve integrity in the final dataset.

For those AoMI elements that are not impacted by the Flood Risk Project (such as significant changes in land use), engineering judgment should be applied when considering whether to add these features to the AoMI dataset.

7.0 AoMI Data Processing and Enhancement

The major focus of AoMI is to take existing data compiled from a variety of sources and add value so that it is easily retrievable, easy to use and more widely available for outreach, awareness, planning and loss reduction activities. It is not the intention of this dataset to simply repackage existing data. Processing of the data is significantly different than all the other datasets, since

raw data will be available from multiple sources with varying levels of completeness, formats, and quality.

8.0 Dataset Spatial Extents

AoMIs are only collected and delivered in the FRD within the extents defined by the project footprint (S_FRD_Proj_Ar in the FRD). Since project footprint boundaries (especially watershed-based) often do not align with community boundaries, it is possible that a community may supply AoMI data for locations outside of the project footprint. This data should not be included within the FRD. The only exception to this rule is if sensitive information on flood-prone properties (such as RL, SRL, etc.) is generalized to the polygon of the census block, and a portion of the census block is outside of the project footprint, then it is acceptable to include that information within the FRD. In this scenario, a note clearly explaining this situation should be added into the attributes of the AoMI dataset.

9.0 Data Delivery Timeline

The Flood Risk Database Guidance provides recommendations as to when the AoMI dataset should be delivered to communities, and options on when during the life of a Flood Risk Project it should be provided. As depicted in Figure 2, the development of AoMI should be iterative, and the ability of the AoMI dataset to successfully meet its purpose will depend on discussing it with the community throughout the Flood Risk Project lifecycle.

10.0 Uses in Outreach, Collaboration, and Flood Risk Communication

The goal of the AoMI dataset is to raise awareness of potential flood risk mitigation opportunities (including specific flood risk mitigation projects), encourage local collaboration, and document sites for future mitigation action. This is most effectively accomplished in direct conversations with community and watershed stakeholders, while looking at the AoMI dataset within GIS.

For example, it is good practice to use the AoMI dataset to highlight roads that are overtopped during more frequent flood events, as it may reveal locations where culverts should be resized, or areas whose road access would be cutoff during high flows. The value to the community increases if this data is used in conjunction with other flood risk datasets that are available, such as the flood depth grids and velocity grids just upstream of the road crossing, to help fully understand the impacts of potential mitigation verses the implications of no action at all.

Communities are recommended to reach out to their local Building Science point of contact at the FEMA regional level to assist in garnering flood risk awareness and mitigation expertise including information on building codes.

The FEMA Building Science Branch Publications and Training Courses (2016) (FEMA P-787) can provide helpful insights into areas of mitigation interest. These insights can inform decision makers on where mitigation actions or additional building code requirements are needed, or further research is warranted. It may also be useful in formulating building code enhancements, prioritizing mitigation actions, and identifying needed resources.