Michigan Department of Environmental Quality

Five Year Floodplain Management Work Plan

Authority: Michigan's authority for direct floodplain management is based upon the State Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. This statute requires State permits for the occupation, filling, or grading of lands in a floodplain, streambed, or channel of a stream with a drainage area of two square miles or more.

Additional regulatory authority is found in the 2003 Michigan Residential Building Code and the 2003 Michigan Building Code, which both incorporate the 2003 edition of the International Building Code. These two codes incorporate specific regulations for floodplain construction activities as required by Part 31 and by the 44CFR NFIP regulations.

Purpose and Introduction: This plan outlines Michigan's proposed efforts in the national flood map modernization initiative to update digital flood insurance rate maps. It specifically discusses the use of the CAP-SSSE program to support management aspects of the initiative.

Michigan will update its existing flood maps and produce new maps for previously unmapped areas. This will improve the ability of Michigan's communities to more effectively control and manage floodplain development. Better floodplain development controls and management will reduce loss of life and property, and minimize suffering, disruption, and damages caused by flooding.

Effective and efficient management of the state's floodplains continues to be an important activity for controlling development along the state's rivers and streams. The state's budget difficulties make it more important to have a long term plan outlining the state's needs and priorities for floodplain management. This assures flood hazard mitigation while allowing for continued economic development.

The Federal Emergency Management Agency's (FEMA) long term map modernization initiative will be a positive factor in Michigan's overall management of its floodplains. Michigan's role in the initiative is identified in the January 12, 2004, "Michigan's Multi-Hazard Flood Map Modernization Phase II-Implementation Phase Business Plan" developed under the 2003/2004 CAP-SSSE. This business plan identifies three different levels of state involvement based upon the level of available support funding from FEMA. The business plan is incorporated into this work plan. The work plan provides a basis for short and long term budget and staff planning efforts. It also provides state staff and regulated communities direction for the program's short and long term goals.

This work plan is also supported by the August 2002, "Map Modernization Plan for Michigan," prepared by Michigan Department of Environmental Quality (MDEQ) staff under the 2002 CAP-SSSE. The August 2002 plan was developed to assist FEMA planning for the Map Modernization Initiative now underway. The 2002 plan summarized Michigan's intended role and involvement in the initiative and identified mapping priorities and approaches for addressing

the priorities. This 2002 plan is used as an initial guide to select priority projects for map modernization efforts over the next five years.

Primary Goals and Program and Staffing Abilities: Michigan proposes to support the map modernization initiative by working toward certain primary goals over the next five years. Our limitations to achieving these goals will be the state's budget process, hiring freezes, and the availability of FEMA dollars for assistance in meeting the intent of the initiative. Michigan's primary goals, if the business plan is fully funded, are:

- Reduce the average age of the flood maps from 15 years to 6 years. About 54 percent of the existing flood hazard maps published by FEMA for Michigan are more than 15 years old.

- Produce digital flood hazard maps with up-to-date flood hazard data for the 15 percent highest priority counties and communities in the state.

- Develop flood hazard maps for 50 percent of the unmapped, floodprone communities in the state. Currently, about 1,000 communities in Michigan do not have a flood hazard map.

Since FEMA funding is less than the "low" level presented in the business plan, these goals are not currently achievable. Michigan will continue to move toward these goals with available resources. Michigan's efforts are supported by a strong statewide floodplain management program organization of eight staffed floodplain engineer field positions and a cadre of 15-plus staffed engineer and analyst positions in the Lansing office. The field engineer positions are allocated to district offices throughout the state to work directly with the regulated community. The Lansing based floodplain management staff provide varying degrees of support to the field staff through the administrative oversight of the NFIP, through state and federal statutory interpretation, and application guidance and procedures, by providing IT capabilities and by assisting in engineering modeling and hydrologic and hydraulic analysis.

Michigan's administrative processing of land/water permit applications is managed through a well established consolidated permit review process. It provides a structured process for timely, consistent, and thorough regulatory review and permit action decisions. About 1,200 floodplain permit applications are annually processed through the consolidated review process under the Part 31 authority.

Partnership efforts: The following agencies are involved with the MDEQ in the national map modernization initiative:

- Michigan Department of Information and Technology (MDIT): The Center for Geographical Information, which is housed in the MDIT, is the primary repository for the digital flood insurance rate maps (DFIRMS). A website will be developed during the first year for accessibility by the public through an Internet Map Server© interface. The DFIRMS will be available in Adobe© Portable Document Format (PDF) for those wishing to print the DFIRMS. Working with the MDIT to accomplish this arrangement will provide a system with easy access to floodplain map information that meets national and state standards and has appropriate security.

- Michigan Department of Management and Budget (MDMB): MDEQ staff worked with MDMB staff to obtain approval for the development of an approved engineering firms list

that can be used on an as-needed basis for assistance in conducting and/or assisting in the collection of field data, modeling, conducting studies, and reviewing studies.

- Partnerships with communities have been developed and will be pursued with other communities, local agencies, consultants, FEMA, and the state under the Federal Cooperating Technical Partnership program.

Michigan's Role: Michigan chose a maximum level of participation in the map modernization initiative by performing and managing some or all of the mapping activities for the state. Elements of involvement include conducting flood studies and reviewing studies by others, review of hydrology and hydraulics work by others, contracting with approved engineering firms for data collection and studies, oversite and managing of CTP projects, and providing technical assistance and staff resources. Michigan's success in realizing its primary goals at a maximum level of participation is fully dependent upon the level of available FEMA funding through grants and cooperative agreements. Michigan's business plan discusses projected levels of funding (full, medium, low, and none) and its initiative goals related to each level. This plan discusses how elements of the CAP-SSSE grant program will be used to facilitate management aspects of the initiative and how time allocations to the state's commitment to CAP-SSSE for regular floodplain management program activities will need to be reallocated for the initiative.

Milestones for Demonstrating Progress Toward Meeting Michigan's Primary Goals:

- Approval for a new engineer position dedicated to Map Modernization activities and the filling of that position within the first year.

- Website development for internet accessibility to floodplain digital delineations via ArcView© through the Michigan Center for Geographic Information (CGI) within the first year.

- Annual completion of community assessments on about 4.6 percent (82) of Michigan's 1,776 communities by way of conducting countywide reviews based upon priorities originally identified by the August 2002 plan and adjusted as needed for each year of this work plan.

- Complete Attorney General's review of sample resolutions and development of new sample formats acceptable to the Attorney General during the first year.

- Provide assistance to NFIP participating communities' efforts to achieve new map adoptions for each countywide mapping effort. The ultimate goal is 100% of the communities completing the adoption process. A more realistic adoption rate of 95% within the federal time frame is expected. The actual adoption rate achieved will be influenced by such factors as the priority communities place on the adoption of new maps and upon its timeliness in initiating and following through with its required public notice period for ordinance revisions. Such factors are out of the department's direct control and it can only encourage, support, and guide communities through the process. The DEQ will seek the FEMA's assistance with any reluctant communities.

- Provide assistance to non-participating communities, with identified flood hazard areas, in enrolling into the NFIP by providing a NFIP application package to all non-participants. The ultimate goal is at most 97% percent of the communities with newly identified flood hazard areas will submit NFIP applications. As discussed in the above milestone, a

more realistic adoption rate of 90% within the federal time frame (one year from the LFD letter) is expected. Similar factors will influence the actual rate realized. An additional influencing factor will be the newness of the NFIP to a non-participating community and the higher level of outreach that will likely be needed to assist the community in understanding and recognizing the benefits of the program sufficiently so they will develop the incentive to enroll. Again, such factors are out of the department's direct control and it can only encourage, support, and guide communities through the process. The DEQ will also partner with the FEMA to ensure any reluctant communities fully understand the importance of the program and federal implications of not participating.

- Provide assistance to NFIP participating communities in making an effort and commitment to enrolling in the NFIP Community Rating Service (CRS) program with a goal of 25 percent increase in new CRS communities for each countywide mapping effort.

- Provide assistance to Cooperating Technical Partners (CTP) program development to facilitate the map Modernization initiative. For 2004, develop CTPs with Livingston and Washtenaw Counties, and the City of Bridgman.

CAP-SSSE Element Support for Management Aspects of the Map Modernization Initiative: Michigan uses the CAP-SSSE for statewide support of its floodplain management program to assure that NFIP communities are achieving the flood loss reduction goals of the program. Annually completed CAP elements include Community Assistance Visits/Community Assistance Contacts (CAVs/CACs), workshops/other training, resolution/ordinance research/reviews and adoptions, maintenance of CIS data, interdepartmental state agency cooperation for floodplain regulatory compliance, general technical and site-specific assistance, and post disaster assistance.

Michigan will continue to make full use of CAP-SSSE for support of its regular floodplain management activities, and also for management support of its level of involvement in the map modernization initiative. CAP-SSSE has been used for development of the August 2002 “Map Modernization Plan” and its 2003/2004 “Business Plan.” The 2004 CAP-SSSE is being used to develop this five-year work plan. Other CAP-SSSE elements related to management activities for the initiative will be fully used. Increased use of such elements over the next five years will cause a change in staff time allocations in other elements normally used for regular floodplain management support.

Michigan’s management priority for floodplain staff time allocations is its well established land/water interface permitting program. Changing priority staff time allocations from permit processing to more map modernization management activities is not an option. The only option for time allocation priority adjustments is with the CAP-SSSE element activities.

Following are discussions on projected commitments and priority adjustments for the CAP-SSSE elements.

- **Development of the five-year floodplain management plan:** This plan is being developed by Lansing staff under the 2004 CAP-SSSE in accordance with the FEMA outline guidance received from Region V May 7, 2004.

- **Resolution/ordinance assistance and reviews:** The production of new DFIRMs will place priority on the review and updating of community resolutions/ordinances as a

necessary part of the process for realizing community adoptions of new effective maps. Staff is preparing for this demand by reviewing the current sample resolutions and researching with Michigan's Office of Attorney General the basis and authority for their use. This review will result in new resolution/ordinance samples for use by the communities as they become obligated to adopting new maps. During 2003, six countywide mapping projects were initiated. In 2004 two more countywides (Washtenaw and Livingston counties) were initiated. Preliminary map production for these eight counties represents 243 communities, with 180 of them participating in the NFIP and 63 not participating. The preliminary maps for these counties are expected to be available in 2004-2005. Providing community assistance in reviewing and updating the 180 community resolutions/ordinances within the six month time allotment is going to take a substantial amount of staff time. Working with the 63 non-participating communities through the NFIP enrollment and map adoption process will also take a great amount of staff time over the one-year map adoption period. Time allocation to working with the non-participating communities is expected to involve more field time and more CACs by field engineers. They will need to become more familiar with the community resources and will want to establish a working relationship with the communities as they develop their floodplain management program necessary to be NFIP compliant. Increased field staff time given to resolution/ordinance assistance and reviews will require a reduction in time normally allocated to other elements, such as CAVs and workshops. It is estimated that 500 hours are needed for resolution/ordinance assistance and reviews for the 243 communities.

- **CACs/outreach**: More staff time needs to be allocated to CACs with communities within each countywide review. The CACs will provide assistance to the communities in getting their resolutions/ordinances reviewed and revised to adopt the new maps and will assist the non-participating communities in developing their floodplain management program and enrollment into the NFIP. It is estimated that an additional 500 hours are needed for the 243 communities. These contacts may alternately be categorized into general technical assistance activities.

- **CAVs:** The 2004 CAP-SSSE allocates 40 hours for each CAV. The eight 2004/2005 countywide studies are located in three districts where 12 CAVs by the field engineers have been committed to in the 2004 CAP-SSSE. That commitment represents 480 hours that are normally allocated to CAVs for the three districts. The current CAV time allocations are a major time commitment by the field engineers and management sees the CAV element as one that can be considered for a 2005 commitment reduction in order to reallocate staff time for other priority elements to facilitate the initiative.

- **CIS Data Entry:** Staff has been involved in populating the CIS database with CAV information. The commitment to enter additional data will require more staff time and is estimated to involve 60 hours for the eight countywide studies. This estimation can increase substantially depending upon the full extent of data that FEMA expects staff to enter, and depending upon hardware/software capabilities in the district offices.

- **State model resolution/ordinance research:** Michigan is conducting a legal research review of its current sample resolutions/ordinances under the 2004 CAP-SSSE. The amount of time involved is more than originally estimated. Upon the completion of the legal review and development of new updated sample resolution/ordinance documents, this CAP-SSSE element should not have to be revisited during the map modernization initiative. The current 2004 CAP-SSSE agreement allocated 36 hours to this element.

Actual staff time will be about 100 hours because of issues raised by the Attorney General's office. Given this situation, an additional 72 hours are estimated to complete this element.

- **Workshops and other training:** The current 2004 CAP-SSSE agreement commits to 6 workshops for local building officials to be conducted within the districts where the referenced eight countywide studies are located. Eighteen hours are allocated to each workshop, equaling 108 hours being committed under the current agreement. This element is another major time commitment by field staff. It is one that management would consider making a commitment reduction in for the 2005 elements in order to allocate staff time to other priority elements for the initiative.

  Regarding other training, there is greater recognition and interest in the Association of State Floodplain Managers' (ASFPM) Certified Floodplain Managers (CFM) exam by communities, consultants, and individuals in Michigan. CFM promotional efforts will be made to increase the number of persons acquiring the CFM certifications in the state. The Michigan Stormwater Floodplain Association will continue to support the CFM and to provide the exam opportunity at its annual spring conference, along with possible CFM refresher sessions. Plans are being made to provide the CFM exam opportunity sometime during the fall in the Lansing area. The Michigan Floodplain Managers newsletter has articles providing information on and promoting the CFM program. Staff time spent on the noticing efforts and the actual proctoring of the exam are estimated at 20 hours which are not committed hours under the current agreement and represent hours supporting the initiative.

- **General technical assistance:** Michigan provides technical assistance to the regulated community on floodplain management. It will continue to do so under the CAP-SSSE. It is fully expected that the demand for such assistance will increase with the progress made in reaching the goals of map modernization. The initiative will produce updated maps for currently mapped areas and new maps for currently unmapped areas. Both will result in more people becoming informed of flood hazard areas and having more questions related to their own situations. It is fully expected that general technical assistance inquiries within the districts where the countywide studies are located will increase. It is estimated that 80 additional hours are needed for this element.

- **Site Specific Floodplain Surveys:** These surveys provide site specific floodplain evaluation information to individuals proposing development in expected or known floodprone areas. Staff expects more requests for these types of surveys. It is estimated that an additional 200 hours are needed for this element.

- **Mapping Assistance:** The August 2002 plan established general priorities for map modernization. Staff will assist priority communities with their detailed assessments, scoping of specific flood hazard areas, and developing mapping priorities. Specific community assessments will be done by conducting countywide assessments, in which each community will be invited to participate and address the community's specific mapping needs. The resultant countywide preliminary maps will include all communities. With 83 counties, an average of 16-plus countywide reviews would need to be conducted each of the five years to complete the map modernization initiative for the state. The business plan has identified, assuming full funding level, 14 counties (about 400 communities) to be done in year one, and 23 counties to be done in each of years two, three, and four (about 460 communities each year). Lower funding will not support

this number of countywide studies. Currently, only the eight countywide studies are underway. Assistance provided for these studies involve scoping and community meetings, developing mapping priorities, and final meetings and have been and will be attended by staff engineers. It is estimated that a minimum of 512 hours will be spent on these meetings for the current countywide studies. The current 2004 CAP-SSSE agreement allocated 328 hours to this element. The difference is due to a difference in the number of counties and number of meetings. Final meetings were not taken into consideration in the current agreement. Thus, 184 hours additional staff time is needed.

- **Coordination with other State programs to ensure State NFIP compliance:** Michigan's statewide consolidated land/water interface permit application review process is designed as a one-stop shopping effort for the regulated community to have a single environmental review for land/water interface construction projects. The process involves notifications to identified special interests, state and federal agencies, local units of government, and citizens. The state's floodplain permit issuance process involves notification to local units of government of the issuance of Part 31 Floodplain Regulatory Authority Permits and their conditions designed to assure compliance with the NFIP. This coordination process will not change due to the map modernization initiative. Noticing the local units of government of state-issued floodplain permits assists them in coordinating the administration of the state building code to ensure that the floodplain management building criteria in the building code is applied to the proposed development of residential and non-residential construction.

Map Modernization Activities:

The following are specific actions/activities planned for facilitating map modernization in Michigan (available funding will be a major factor in the ultimate completion of these actions/activities)**:**

- MDEQ will be the lead agency for supporting and participating in the initiative and will maintain discretion to determine which tasks, e.g. conducting flood studies itself or reviewing flood studies by others, it will conduct.

- MDEQ will, with regard to floodplain studies, generally review the hydrology and hydraulics (H&H) work performed by others rather than actually conduct the studies.

- MDEQ will review all H&H studies prepared for original flood insurance studies (FIS) and FIS revisions. Standard accepted engineering practices will be followed, along with maintaining compliance with the technical requirements found in "Guidelines and Specifications for Flood Hazard Mapping Partners".

- MDEQ will participate in community scoping meetings and study result presentations to the communities, along with FEMA contractors.

- MDEQ will perform detailed community mapping need assessments for each community within the countywide project reviews. The community assessments will involve community contacts, site visits, review of state floodplain permitting activities, in-office map reviews, CLOMR & LOMR activity reviews, floodplain approximations using soils information and GIS technology, and floodplain approximation using existing data.

- MDEQ will populate the Michigan Mapping Needs Update Support System (MNUSS) with identified community mapping needs.

- MDEQ will create GIS layers that identify potential floodprone areas based on soil types and make it available to communities not currently covered by floodplain maps.

- General outreach efforts will involve the use of the Flood News for Michigan Floodplain Managers newsletter and the publishing of articles specific to and pertinent to the proposed and ongoing map modernization activities statewide. The newsletter is distributed to all communities and many other interested agencies, contractors, and consultants.

- Established floodplain management mailing lists are available for the dissemination of map modernization program information as available and as appropriate. Such information will be referenced to and/or made available on the state's existing floodplain management web page.

- Public informational community meetings will be scheduled, advertised, and held as deemed appropriate and as statutorially required. The MDEQ monthly calendar is available for meeting announcements.

- For each fiscal year, MDEQ will identify the priority counties for mapping activities and all the communities within each county. Each community will be sent a letter of introduction to the map modernization initiative and process. The letter will represent the first official CAC to each community.

- As staff develops a schedule for initial community scoping meetings, each community will be contacted with a second letter with more community-specific information and guidance for their involvement in the mapping process. This will represent a second official CAC for each community.

- Initial CACs with communities will provide information for the need of existing NFIP participants to update their resolutions/ordinances and for non-participating communities to start the NFIP enrollment process. It is hoped that these initial CACs will cause proactive efforts within the communities to be timely in their adoption of new maps and enrollment in the NFIP within the statutory timeframes.

- During the scoping meetings, staff will take the opportunity to actively promote the NFIP's Increased Cost of Compliance (ICC) program, the CRS program, and the CFM program, and disseminate program information to all communities.

Needs Analysis and Gap Assessments of the CAP-SSSE Program for Management Support of Map Modernization: The estimated total increase in time allocations from current 2004 CAP-SSSE agreement hour commitments is 2,000 hours to support the map modernization initiative for Michigan. This represents an increase cost of $85,000 for the funding of about 1.1 FTE (based upon 1 FTE equaling 1,800 hours) for the anticipated work load associated with the ongoing eight countywide studies. Since additional staffing is not likely, management will reduce the department's 2005 status quo commitments that are regularly made in its annual CAP-SSSE agreement. Field engineers will have to reduce CAVs, workshops, and other element commitments because of the additional workload.

State Performance Evaluation Program (performance measures):

Measure #1:

Outcome/Output: Maintain or improve the percent of communities receiving new maps that adopt the map by the FIRM effective date.

Measurement Method: Track the number of new maps developed, communities receiving new maps, how many adopt the new maps and ordinances, and how many communities are suspended for failure to adopt.

Measure #2

Outcome/Output: Increase the percentage of communities that adopt new maps prior to the 30 day letter being sent.

Measurement Method: Compare the percentage of communities in FY 2004 that received a 30 day letter with the number in subsequent years.

Measure #3

Outcome/Output: Increase the number of Michigan floodprone communities enrolled in the NFIP.

Measurement Method: Track the number of floodprone communities enrolled in the NFIP at the end of each fiscal year.

Measure #4

Outcome/Output: Increase the number of CRS communities.

Measurement Method: Track the number of NFIP communities that enroll in the CRS at the end of each fiscal year.

Measure #5

Outcome/Output: Increase the number of persons in Michigan that take and pass the Certified Floodplain Managers (CFM) exam.

Measurement Method: Track the number of persons from Michigan taking and passing the CFM exam each fiscal year.

Measure #6

Outcome/Output: Quantify CACs and general technical assistance calls handled by floodplain management staff.

Measurement Method: Document on CIS all CACs and general technical assistance calls (by type category) as available on CIS.

Prepared by: Les Thomas
Land and Water Management Division
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