FEMA

State of Oregon, Department of Geology and Mineral Industries
COOPERATING TECHNICAL PARTNERS
MAPPING ACTIVITY STATEMENT

Mapping Activity Statement No. 1

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated August 6, 2008, between the State of Oregon, Department of Geology and Mineral Industries (DOGAMI) and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement (MAS) No. 1 is as follows:

SECTION 1—OBJECTIVE AND SCOPE

The objective of the Flood Map Project documented in this MAS is to develop topographic data for use in various risk analysis studies as well as for the production of Digital Flood Insurance Rate Maps (DFIRMs) and Flood Insurance Study (FIS) reports for various counties in the State of Oregon. Counties where this topographic data and subsequent analyses may be applied are:

- Clatsop County, OR
- Tillamook County, OR
- Columbia County, OR
- Lincoln County, OR
- Lane County, OR

See Figure 1 below for a depiction of the project area.

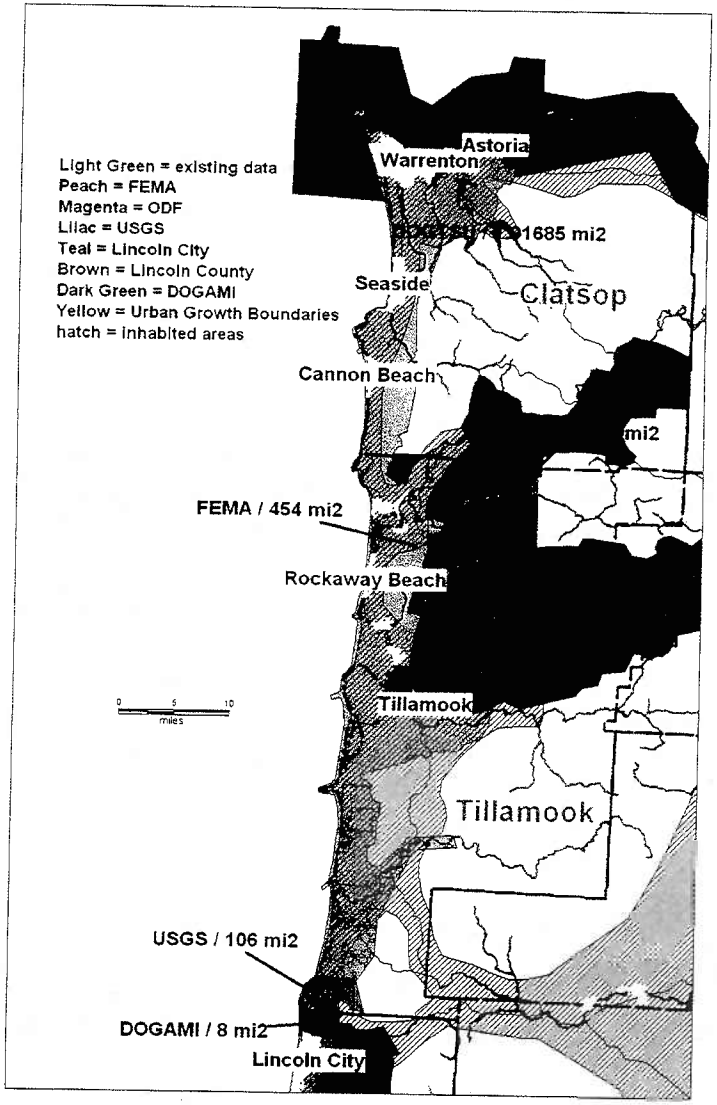

Figure 1, Project Area

All processes and deliverables shall be completed in accordance to the Federal Emergency Management Agency's (FEMA's) *Guidelines and Specifications for Flood Hazard Mapping Partners* (G&S) and effective Procedure Memoranda (PMs). These documents can be found on FEMA's website at http://www.fema.gov/plan/prevent/fhm/gs_main.shtm and http://www.fema.gov/plan/prevent/fhm/gs_memos.shtm.

This Flood Map Project will be completed by the following Mapping Partners:

- DOGAMI;
- Watershed Sciences Inc.; and
- FEMA's National Service Provider (NSP), Michael Baker Jr., Inc.

The Mapping Partner shall notify FEMA and all applicable parties of all meetings with community officials at least two weeks prior to the meeting (with as much notice as possible). FEMA and/or its contractor may or may not attend the community meetings.

The Mapping Partner shall maintain an archive of all data submitted. (All supporting data must be retained for three years from the date a funding recipient submits its final expenditure report to FEMA.)

The activities for this Project, including any required Quality Control Requirements, and the Mapping Partners that will complete them are summarized in Table 1.2, Flood Mapping Project Activities. The sections of this MAS that follow the table below describe the specific mapping activities, responsible Mapping Partner(s), FEMA standards that must be met, and resultant map deliverables.

Table 1.2 Flood Mapping Project Activities

TASK ASSIGNMENTS				
QR 7 Valdiate MSC Deliverable Package				
QR 6 Check LFD				
QR5 Validate Final DFIRM Database and Map Panels				
QR4 Validate BFE Notice and CEO Letters				
Post Preliminary Processing				
Distribute Preliminary Map Productds				
QR3 10% Visual Check				
QR2 Auto Validation of Preliminary Database				
Perform Independent QA/QC of Preliminary Map Product				
Produce Preliminary Map Products				
Quality Review (QR) 1 Auto Validation of Draft DFIRM Database				
Develop DFIRM Database				
Perform Independent QA/QC of Floodplain Mapping				
Perform Floodplain Mapping				
Perform Independent QA/QC of Hydraulic Analyses				
Perform Hydraulic Analyses				
Perform Independent QA/QC of Hydrologic Analyses				
Perform Hydrologic Analyses				
Acquire Base Map				
Perform Independent QA/QC of Topographic Data			X	
Develop Topographic Data	X			
Perform Field Survey				
outreach	X		X	
Partner Type	CTP		NSP	
Partner Name	DOGAMI		NSP	
County	various		all	
State	OR			

DOGAMI is responsible for the implementation of an internal Quality Control (QC) plan for all assigned activities. DOGAMI will submit a Summary Report that describes and provides the results of all automated or manual internal QC review steps. The report should include the process for all assigned activities.

Independent Quality Assurance (QA) review activities will be performed by or FEMA's NSP. The NSP will need to submit its QA plan to the Regional Project Officer for approval. Please note FEMA will also be performing periodic audits and overall study/project management to ensure study quality. DOGAMI will be responsible for addressing any and all comments resulting from independent QA, including re-submittal of deliverables as needed to pass technical review.

FGDC-compliant metadata is required for all activities.

FEMA will provide download/upload capability for data submittals through the Mapping Information Platform (MIP) located at https://hazards.fema.gov. For the Topographic Data Development task, data uploads will be restricted to a compliant metadata file in .XML format as well as a figure showing extents of the data collected.

DOGAMI will respond to any comments generated as a result of the quality assurance checks performed by the National Service Provider (NSP). A portion of the NSP QA process is nationally funded and required on each FIS. The NSP QA process for data development tasks includes the following activities:

- **Validate Content Submission.** Automatic metadata and visual RMC validation of submitted data for Perform Field Survey, Develop Topographic Data, Develop Hydrologic Data, Develop Hydraulic Data, Perform Coastal Analysis, Acquire Base Map Data, Perform Floodplain Mapping, Develop DFIRM Database, Produce Preliminary Map Products and Final Map Products tasks.

In cooperation with the FEMA Project Officer, a Project Management Team (PMT) will be established by DOGAMI consisting of representatives from the DOGAMI, a representative from FEMA Region X, the RMC, and other appropriate parties. The PMT will be responsible for coordinating the activities identified in this MAS. The FEMA Region will be provided with documentation identifying the established PMT.

The MIP shall be updated for status reporting of each of the data development activities within the Manage Data Development task, not less than every thirty days, when the activity is complete, and also include leverage data. The "Manage" tasks will be open and accepting updates for up to 90 days after the completion of the last producer task in each module. The MIP shall also be populated with appropriate leverage information regarding who paid for the data provided and the amount of data used by the Flood Map Project.

Outreach

DOGAMI will work with the Regional Office and the NSP during the initiation of this activity to determine an Outreach Plan for implementation throughout the mapping project. DOGAMI is also encouraged to collaborate with DLCD to develop a solid outreach strategy for affected communities along the Oregon coast to include, at a minimum, a display of the types of products to be produced using

LIDAR data as well as a discussion about the different agencies and community officials that can use the data. Volume 1 of the G&S also provides specific outreach goals that can be considered.

All communication with local governments will be done in accordance with 44 CFR Part 66.

Deliverables:

- Upon determination of an Outreach and Coordination Approach, DOGAMI shall deliver the following to the FEMA Regional Project Officer in accordance with the schedule outlined in Section 6 - Schedule:
    - A report detailing outreach and coordination activities, including a schedule for delivery; and
    - Backup or supplemental information used in writing this report

Topographic Data Development

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Responsible Mapping Partner: DOGAMI

Scope: DOGAMI shall generate new topographic data for areas within Oregon north coast Counties. DOGAMI also shall coordinate with team members conducting field surveys used as ground control. Accuracy for the topographic data shall be selected based on the current FEMA requirements as documented in the G&S. Normally this is 18.5 cm RMSE at the 2-foot contour interval.

For this activity, DOGAMI also shall use the data collected under this Topographic Data Development task to create a digital elevation model for the subject flooding sources. In addition, DOGAMI shall address all concerns or questions regarding the topographic data development and processing that are raised by the NSP during the independent QA review.

Table 1.4 Summary of Topographic Data

County	Description	Source
Various	Entire Pacific Ocean shoreline of Clatsop and Tillamook Counties to approximately 5 miles inland, including river corridors along the mouth of the Columbia River from the mouth to Knappa, Wilson River, Trask River, Nehalem River, Salmon River, Nestucca River, and tributaries.	new LIDAR data acquisition scheduled for fall 2008/winter 2009 flights.

DOGAMI's projected internal schedule for the acquisition of LIDAR data is as follows:

LIDAR Data Acquisition - 9/1/08-12/31/08

Initial Data Delivery from Contractor- 11/1/08-3/15/09

Final Acceptance by DOGAMI of Contractor Deliverables- 2/1/09-7/31/09

Deviations from this schedule will require close coordination with the PMT and should be identified as early as possible.

Standards: All Topographic Data Development work shall be performed in accordance with the standards specified in Section 5 - Standards.

Deliverables: In accordance with the G&S, DOGAMI shall make the following products available to FEMA by uploading the digital data to the MIP and submitting in Technical Support Data Notebook (TSDN) format so that the NSP can access it for an independent QA review in accordance with the schedule outlined in Section 6 - Schedule. A metadata file complying with the NFIP Metadata Profiles Specifications, must accompany the uploaded G&S compliant digital data. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

Where paper documentation is required by State Law for Professional certifications, you may submit the paper in addition to a scanned version of the paper for the digital record.

- Digital contour data;
- Report summarizing methodology and results;
- Mass points in LIDAR ASCII Standard (LAS) format;
- Gridded digital elevation model data (resolution to be 8 points/ square meter, interpolated to 3-foot grid cells. No breaklines will be required for submittal).
- Checkpoint analyses to assess the accuracy of data, including Root Mean Square Error calculations to support vertical accuracy;
- Identification of data voids and methods used to supplement data voids;
- National Geodetic Survey data sheets for Network Control Points used to control remote-sensing and ground surveys;
- Other supporting files consistent with the DCS in the G&S; and
- A Summary Report that describes and provides the results of all automated or manual QC review steps taken during the preparation of the topographic data as outlined in the approved QC Plan.

Independent QA/QC Review of Topographic Data

Responsible Mapping Partner: NSP

Scope: The NSP shall review the mapping data generated by DOGAMI under Topographic Data Development to ensure that these data are consistent with FEMA standards and standard engineering practice, and are sufficient to prepare the DFIRM. If The NSP utilizes a contractor to perform the QA/QC, the contractor must be a different contractor than who performed the original analyses. FEMA may audit or assist in these activities if deemed to be necessary by the Regional Project Officer.

Standards: All Topographic Data Development work shall be reviewed in accordance with the standards specified in Section 5 - Standards.

Deliverables: In accordance with the G&S, The NSP shall make the following products available to FEMA by uploading the digital data to the MIP. Additionally, the TSDN format described in the G&S must be delivered in accordance with Section 2 – Technical and Administrative Support Data Submittal.

This submittal will occur in accordance with the schedule outlined in Section 6 - Schedule.

- A Summary Report that describes the findings of the independent QA/QC review; and
- Recommendations to resolve any problems that are identified during the independent QA/QC review.

SECTION 2—TECHNICAL AND ADMINISTRATIVE SUPPORT DATA SUBMITTAL

The Project Team members for this Flood Map Project that have responsibilities for activities included in this MAS shall comply with the data submittal requirements summarized below.

All supporting documentation for the activities in this MAS shall be submitted in the TSDN format in accordance with the FEMA G&S. Table 2.1 Mapping Activities and Applicable TSDN Sections indicates the sections of the TSDN that apply to each mapping activity.

If any issues arise that could affect the completion of an activity within the proposed scope or budget, the responsible Mapping Partner shall complete a Special Problem Report (SPR) as soon as possible after the issue is identified and submitted to FEMA. The SPR is to describe the issue and propose possible resolutions. (For additional information on SPRs, refer to the G&S.)

Table 2.1- Mapping Activities and Applicable TSDN Sections

TSDN Section	Mapping Activities													
	Scoping	Field Survey	Topo Data	QA/QC of Topo	Base Map	Hydrology/ Coastal	QA/QC of Hydrology/ Coastal	Hydraulic Analysis	QA/QC of Hydraulics	Flood-plain Mapping (and Re-delineation)	QA/QC of FP Mapping	DFIRM Database	Preliminary Map Products	Post-Preliminary
General Documentation														
Special Problem Reports			X	X										
Telephone Conversation Reports			X	X										
Meeting Minutes/ Reports			X	X										
General Correspondence			X	X										
Engineering Analyses														
Hydrologic Analyses														
Hydraulic Analyses														
Key to Cross-Section Labeling														
Key to Transect Labeling														
Draft FIS Report														
Mapping Information			X	X										

TSDN Section	Mapping Activities													
	Scoping	Field Survey	Topo Data	QA/QC of Topo	Base Map	Hydrology/ Coastal	QA/QC of Hydrology/ Coastal	Hydraulic Analysis	QA/QC of Hydraulics	Flood-plain Mapping (and Re-delineation)	QA/QC of FP Mapping	DFIRM Database	Preliminary Map Products	Post-Preliminary
Miscellaneous Reference Information			X	X										

SECTION 3—PERIOD OF PERFORMANCE (for CTPs)

The mapping activities outlined in this MAS will be completed by September 30, 2010, with the option to extend if necessary. The Mapping Activities may be terminated at the option of FEMA or DOGAMI in accordance with the provisions of the Partnership Agreement dated August 6, 2008. If these mapping activities are terminated, all products produced to date must be returned and updated into the MIP and the remaining funds from uncompleted activities, provided by FEMA for this MAS, will be returned to FEMA.

SECTION 4—FUNDING/LEVERAGE (FOR CTP, OFA and/or COMMUNITY)

FEMA is providing funding, in the amount of $250,000, to DOGAMI for the completion of this Flood Map Project. DOGAMI shall provide any additional resources required to complete the assigned activities for this Flood Map Project. During the scoping process, additional needs may have been identified. Activities associated with any additional needs would be performed based on availability of additional funds. The leverage listed below includes in-kind services and blue book values for acquired information (i.e. base map data, hydrologic and hydraulic analyses, etc.). These values should also be reported in the MIP by the appropriate task owner. The current Blue Book is dated November 2006 and can be downloaded from FEMA's Information Resource Library at http://www.fema.gov/library/index.jsp. DOGAMI shall complete Table 4.1, Contribution and Leverage.

Table 4.1Contribution and Leverage

Project Task	FEMA Contribution	Partner Contribution	% Partner Leverage	Total Project Cost
Outreach				
Topographic Data Development				
TOTAL FUNDING AMOUNTS				

Leverage dollars or units shall be entered as applicable within the Manage Data Development task in the MIP workflow.

SECTION 5—STANDARDS

The standards relevant to this MAS are provided in Tables 5-1 Applicable Standards for Project Activities and 5-2 Project Activities and Applicable Portions of FEMA Guidelines and Specifications. Information on the correct volume and appendix of the G&S to be referenced for each mapping activity are summarized in Table 5-2 for convenience. However, all mapping partners working on a Flood Map Project are responsible for complying with all appropriate requirements in FEMA's G&S including the Final Draft Guidelines for Coastal Flood Hazard Analysis and Mapping for the Pacific Coast of the United States and Atlantic Ocean and Gulf of Mexico Coastal Guidelines Update Final Draft, collectively referred to as "Coastal Guidelines Updates"; and related PMs published by FEMA as of the date of this agreement.

These guidelines may be downloaded from the FEMA Flood Hazard Mapping website at http://www.fema.gov/plan/prevent/fhm/dl_cgs.shtm. The Geospatial Data Coordination Policy and the Geospatial Data Coordination Implementation Guide are located at https://hazards.fema.gov under "Tools & Links."

Table 5-1. Applicable Standards for Project Activities

	Activities																
Applicable Standards	Scoping	Field Survey	Topo Data	QA/QC Topo Data	Base Map	Coastal	QA/QC Coastal	Hydrology	QA/QC Hydrology	Hydraulic Analysis	QA/QC of Hydraulic Analysis	Floodplain Mapping (inc. Redelineation	QA/Qc Flood-plain Mapping	DFIRM Dbase	QA/QC DFIRM Database	Preliminary Map Products	Post-Preliminary Processing
Guidelines and Specifications for Flood Hazard Mapping Partners and Procedure Memorandums	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FEMA's Geospatial Data Coordination Policy	X		X		X												
FEMA's Geospatial Data Coordination Implementation Guide	X		X		X												

Applicable Standards	Activities																
	Scoping	Field Survey	Topo Data	QA/QC Topo Data	Base Map	Coastal	QA/QC Coastal	Hydrology	QA/QC Hydrology	Hydraulic Analysis	QA/QC of Hydraulic Analysis	Floodplain Mapping (inc. Redelineation	QA/Qc Flood-plain Mapping	DFIRM Dbase	QA/QC DFIRM Database	Preliminary Map Products	Post-Preliminary Processing
Engineer Manual 1110-2-1003, *Hydrographic Surveys* (USACE), January 1, 2002	X	X															
"Numerical Models Accepted by FEMA for NFIP Usage," Updated April 2003	X					X	X	X	X	X	X						
NFIP Metadata Profile Specifications	X		X	X								X	X	X	X	X	X
Document Control Procedures Manual	X															X	X
44 Code of Federal Regulations Parts 65, 66 and 67	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications

Activity Description	Applicable Volume, Section/Subsection, and Appendix
Scoping	Volume 1 Appendix I Scoping Report document 44 Code of Federal Regulations Part 66 and 67
Outreach	Volume 1 Appendix I
Field Survey	Volume 1 Appendices A, B, C, F, and M
Topographic Data Development and Independent QA/QC Review of Topographic Data	Volume 1, Appendices A and M
Base Map Acquisition and Preparation And Independent QA/QC Review of Base Map	Volume 1 Appendices A, K, L, and M
Hydrologic Analyses and Independent QA/QC Review of Hydrologic Analyses	Volume 1 Appendices A, C, E, F, G, H, and M
Hydraulic Analyses and Independent QA/QC Review of Hydraulic Analyses	Volume 1 Appendices A, B, C, E, F, G, H, and M

Activity Description	Applicable Volume, Section/Subsection, and Appendix
Coastal Hazard Analyses and Independent QA/QC of Coastal Hazard Analyses	Volume 1 Appendices A, B, C, D, H, and M Coastal Guidelines Updates"
Floodplain Mapping and Independent QA/QC Floodplain Mapping (including Redelineation/Digitization)	Volume 1 Appendices C, D, E, F, G, H, K, L, and M
Produce Preliminary Map Products and Independent QA/QC Review of Produce Preliminary Map Products	Volume 1 Appendices K, L, and M
Distribute Preliminary Map Products and Independent QA/QC Review of Distribute Preliminary Map Products	Volume 1 Appendices J, K, L, and M
Post-Preliminary Processing	Volume 1 Appendices J, K, L, and M

SECTION 6— SCHEDULE

The activities documented in this MAS shall be completed in accordance with Table 6.1 Mapping Activities Schedule. If changes to this schedule are required, the responsible Mapping Partner shall coordinate with FEMA and the other Mapping Partners in a timely manner. Please also identify to whom the products associated with each task are to be submitted to (i.e. the MIP, FEMA Regional Office, etc.).

Table 6.1 Mapping Activities Schedule

ACTIVITIES	RESPONSIBLE PARTNER(S)	START DATE	END DATE	COST
Outreach	DOGAMI/FEMA/NSP	9/1/08	9/31/09	
Field Surveys				
Topographic Data Development	DOGAMI	9/1/08	7/31/09	
Independent QA/QC Review of Topographic Data	NSP	7/31/08	9/30/09	
Base Map Acquisition				
Independent QA/QC Review of Base Map				
Hydrologic Analyses				
Independent QA/QC Review of Hydrologic Analyses				
Hydraulic Analyses				
Independent QA/QC Review of Hydraulic Analyses				
Coastal Flood Hazard Analyses				
Independent QA/QC Review of Coastal Hazard Analyses				
Floodplain Mapping: Detailed Riverine or Coastal Analysis				
Floodplain Mapping: Refinement or Creation of Zone A				
Floodplain Mapping: Merging Revised and Unrevised Areas				
Floodplain Mapping: Redelineation				
Independent QA/QC Review of Floodplain Mapping				
Develop Draft DFIRM Database				

ACTIVITIES	RESPONSIBLE PARTNER(S)	START DATE	END DATE	COST
Produce Preliminary Map Products (including Graphic Specifications)				
Independent QA/QC Review of Produce Preliminary Map Products				
Distribute Preliminary Map Products				
Post-Preliminary Processing				
TOTAL COST	$273,000			

FEMA shall enter the MIP workflow tasks with schedule and cost information within 60 days of funds being awarded.

SECTION 7—CERTIFICATIONS

Data Capture Standards

- **DCS Certification Form** {Insert appropriate Data Capture Standards (DCS) language applicable to this Mapping Activity Statement. PLEASE NOTE: The DCS are being updated. FEMA Region X will update this document accordingly in coordination with DOGAMI and the NSP once the DCS update is complete.}

Field Surveys and Topographic Data Development

A Registered Professional Engineer or Licensed Land Surveyor shall provide an accuracy statement for field surveys and/or topographic data used and shall certify these data meet the accuracy statement provided. Data accuracy should be stated used the Federal Geographic Data Committee National Standards for Spatial Data Accuracy, but the American Society for Photogrammetry and Remote Sensing accuracy reporting standards are acceptable.

SECTION 8—TECHNICAL ASSISTANCE AND RESOURCES

Project Team members may consult with the FEMA Regional Project Officer to request support in the areas of selection of data sources, digital data accuracy standards, assessment of vertical data accuracy, data collection methods or subcontractors, and GIS-based engineering and modeling training.

Assistance with the MIP may be requested at miphelp@mapmodteam.com.

SECTION 9—CONTRACTORS (CTP)

DOGAMI intends to use the services of Watershed Sciences, Inc. as a contractor for this Flood Map Project. DOGAMI shall ensure that the procurement for all contractors used for this Flood Map Project complies with the requirements of 44 CFR 13.36.

Part 13 may be downloaded in PDF or text format from the United States Government Printing Office website at http://www.access.gpo.gov/nara/cfr/waisidx_04/44cfr13_04.html.

SECTION 10—REPORTING (CTP)

Financial Reporting: Because funding has been provided to DOGAMI by FEMA, financial reporting requirements for DOGAMI will be in accordance with Cooperative Agreement Articles. DOGAMI shall also refer to 44 CFR 13.41.

DOGAMI shall provide financial reports to the FEMA Regional Project Officer and Assistance Officer in accordance with the terms of the signed Cooperative Agreement for this MAS.

Status Reporting: Status reports will be submitted on a monthly basis in accordance with the financial reporting submittals. DOGAMI shall refer to 44 CFR 13.4 to obtain minimum requirements for status reporting. The Project Officer, as needed, may request additional information on status.

DOGAMI may meet with FEMA and/or its contractor up to bi-weekly, or more frequently if needed, to review the progress of the project in addition to the quarterly financial and status submittals. These meetings will alternate between FEMA's Regional Office, DOGAMI's office, the NSP's office, and conference calls, as necessary.

Earned Value Reporting: The MIP Workflow is designed to track the Earned Value of mapping projects. This information is automatically calculated by the MIP, using the Actual cost and schedule of work performed, or "actuals" and comparing them to the expected cost and schedule of work performed, or "baseline".

Once the FEMA Regional office has funded this project to DOGAMI, will complete the "Obligate Project Funds" screen in the MIP. This step establishes the baseline for the project in the MIP, using the cost and schedule information for each task as outlined in this document and agreed to at the completion of the scoping process.

The MIP study workflow allows DOGAMI to report on the status of these projects at a task level. The cost and schedule information, updated by DOGAMI for each contracted task, is compared to the baseline established for those tasks. This information is rolled up to a project level and monitored by the FEMA Region to assess progress and Earned Value.

Earned Value reporting involves the reporting of cost, schedule and performance (physical percent complete) in the MIP by DOGAMI. Training on the use and updates for the MIP will be provided by the NSP.

Once the baseline has been established in the MIP, DOGAMI shall input the performance and actual cost to date for each contracted task for each project. This must be completed at minimum every thirty days and at the completion of the task. When a task is completed, including all QA activities in this MAS, DOGAMI shall enter 100% complete, enter the actual completion cost, and the actual completion date within the Manage Data Development screens.

The Project Officer, as needed, may request additional information on status on an ad hoc basis.

Section 11—Project Coordination

Throughout the project, all members of the Project Team will coordinate, as necessary, to ensure the products meet the technical and format specifications required and contain accurate, up-to-date information. Coordination activities shall include:

- Meetings, teleconferences, and video conferences with FEMA and other Project Team members (as needed);
- Telephone conversations with FEMA and other Project Team members on a scheduled basis (schedule TBD) and an ad hoc basis, as required;
- Updates to the MIP and other FEMA status information systems in accordance with requirements in Volumes 1 and 3 of G&S; and
- E-mail, facsimile transmissions, and letters, as required.

SECTION 12—POINTS OF CONTACT (CTP)

The points of contact for this Flood Map Project are Ryan Ike, the FEMA Regional Project Officer; Don Lewis, the Project Manager for DOGAMI; and Ryan Carroll, the Project Manager for the NSP; or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities. When necessary, any additional FEMA assistance should be requested through the FEMA Regional Project Officer.

Each party has caused this MAS to be executed by its duly authorized representative.

Don Lewis
Project Manager
{Insert CTP name}

September 5, 2008
Date

Ryan Ike
Regional Project Officer
Federal Emergency Management Agency, Region X

Date

Vicki S McConnell

Vicki McConnell
State Geologist/Director of DOGAMI

SEPT. 5, 2008
Date