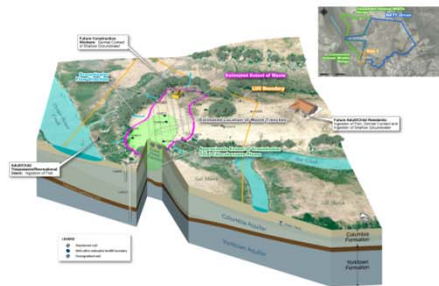


Final

Navy Environmental Restoration Program Management and Monitoring Approach Tool Kit

November 2015



Preamble

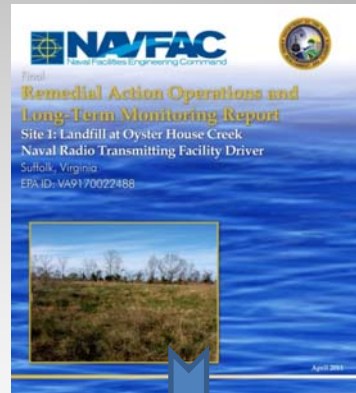
This addendum to the *Navy Environmental Restoration Program Management and Monitoring Approach (MMA)*, published in May 2012, was developed to incorporate Navy Remedial Project Manager's (RPM) input. The addendum:

- Emphasizes the flexibility of the Approach
- Incorporates improvements
- Supports Five Year Reviews
- Details use of the MMA Sampling and Analysis Plan (SAP)
- Provides example report / SAP outlines

This information is provided to assist RPMs and consultants when conveying critical information in Long Term Management Reports and optimization reports.

Goals of this document:

- Provide example report formats
- Highlight goals of report
- Share streamlining ideas



1st Report
Finalized
with
Regulatory
Approval
April 2011



Monitoring
Report
Template
2011



Management
and
Monitoring
Approach
February 2012



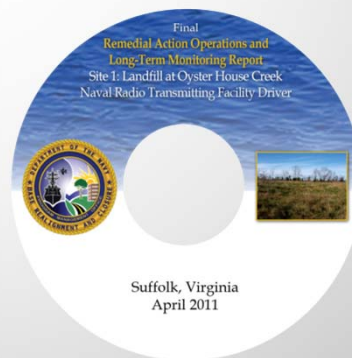
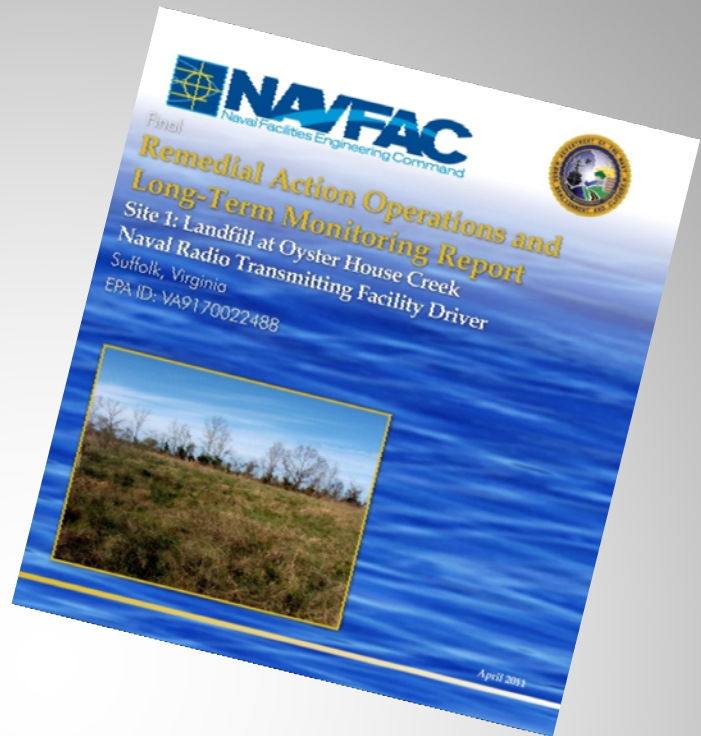
Introduction

The MMA is designed to allow for flexibility in the format and level of detail in each report. It is not a one-size-fits-all, and depending on variations within your selected remedy, the outline can be revised to produce the level of detail needed to balance the use of streamlining and visualization tools for better site-specific data presentation.

The formats presented in this toolkit were designed to highlight critical elements for communicating the information needed to document progress and support site closeout.

The toolkit provides example outlines that can be used as shown or individualized to meet the project needs and the Navy requirements.

- MMA SAPs
- MMA Annual Reports
- Multi-Year MMA Reports with MMA SAP
- Optimization efforts



Typical Steps for LTM

This flow chart documents actions for a site in post decision document phase of the cleanup process. The management of LTM begins once decision documents are approved and the long term monitoring plans are developed.

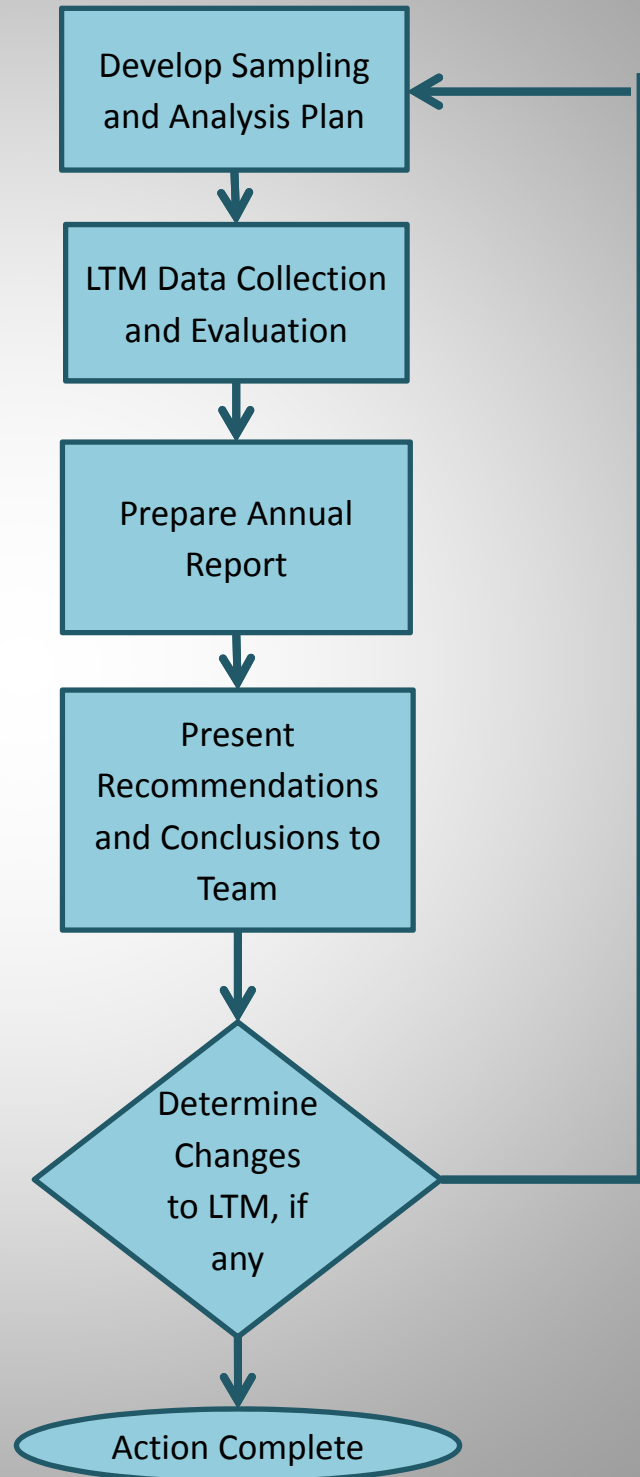
Prior to sampling and subsequent analysis of data a Sampling and Analysis Plan must be developed and approved.

The team then physically takes the samples, an approved laboratory performs the analysis and the data is reviewed to ensure the quality is sufficient to meet the project needs.

The information is provided to the team using a technical report. The report should include sample results, data analysis, recommendations and documentation of progress towards site closure / response complete.

Team agreement is obtained on interpretation of the data and recommendations for changes to the program and the process begins again with the next sampling event planning.

Typical Long Term Monitoring Effort



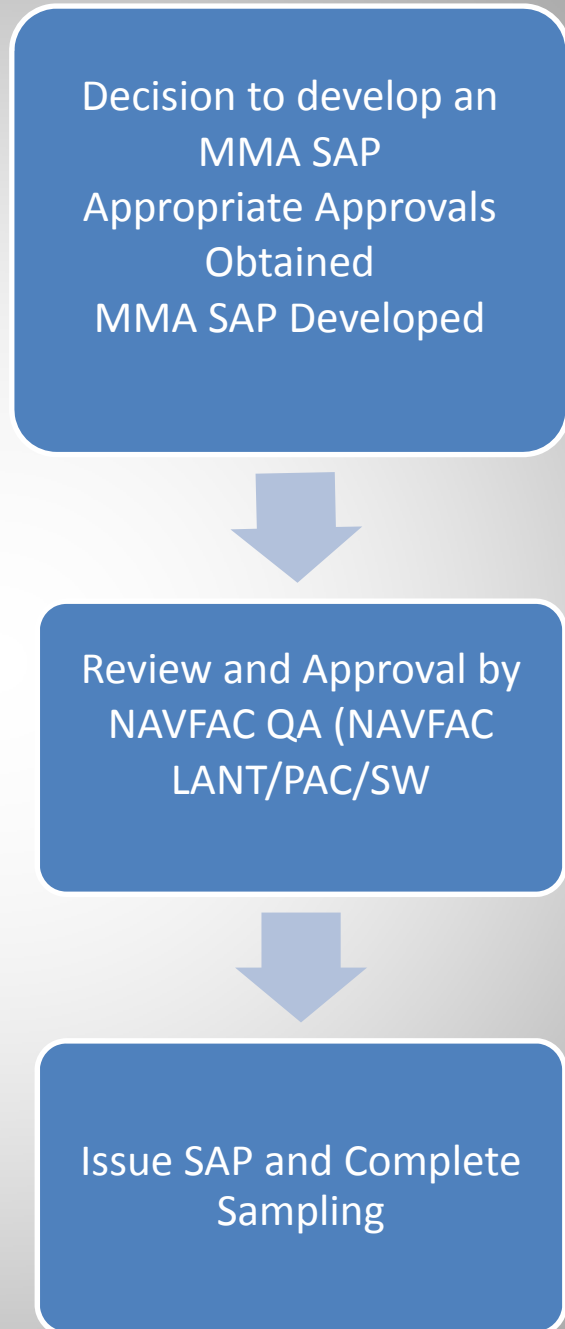
MMA Sampling and Analysis Plan

In addition to providing a report format to communicate critical elements from the monitoring program, MMA was developed to provide an effective alternative to the traditional Uniform Federal Policy Sampling and Analysis Plan (UFP-SAP). The standard UFP-SAP worksheet format is replaced with the MMA SAP for sites where the monitoring is prescriptive and a decision document is in place.

The MMA SAP can only be utilized if:

- no new investigations are included in the effort,
- team (regulator) buy-in is obtained, and
- the appropriate Quality Assurance / SAP reviewer (NAVFAC LANT/PAC/SW) approves using the MMA SAP and the review and approval process is utilized.

Process



MMA Sampling and Analysis Plan Format

This outline provides a format which includes the critical elements of an MMA SAP. This format does not use the traditional worksheets but the critical elements required to meet the UFP-SAP requirements are included in the MMA SAP, and / or the contracting and decision documents. There is no “required” format and the MMA SAP can be prepared to best communicate the critical information and applicable information for each individual site.

All of the required elements below must be included for the document to meet the requirements for a MMA SAP.

- Signature to document review /approval
- Conceptual Site Model
- Chemical of Concerns / Analytes and clean-up concentrations
- Remedy Implementation and Evaluation
 - Data Quality Objectives
 - Sampling Plan
 - Analytes (project action limit)
 - Sampling Method
 - Frequency
 - Locations
 - Analytical Method
 - Lab Certification
- Site closeout strategy

Critical Elements of an MMA SAP

I. Executive Summary

1. Site Summary
2. Statement that this is the SAP
3. Signature lines for Reviewers

II. Introduction

1. Site Specific Location
2. Location
3. History

III. Current Conceptual Site Model

IV. Remedial Action Objectives

V. Chemicals of Concern and Cleanup Numbers

VI. Remedy Implementation and Evaluation

1. Data Quality Objectives
2. Sampling Plan
 - a. Analytes (project action limit)
 - b. Sampling Method
 - c. Frequency
 - d. Sample Locations
 - e. Analytical Method
 - f. Required Lab Certification (ELAP, State, etc.)

VII. Site Closeout Strategy



Typical Process for Annual Reports

Annual Reports typically present one year of data, analysis of the results, conclusions and recommendations. The MMA recommended format contains all of the elements required to communicate the critical information, with updates to reflect the results of the latest sampling event.

Pros:

- Stand alone documents
- Ability to use previous year's Document as the starting point

Potential Impacts:

- One full report for each year
- Additional cost associated with a new report each year

Typical Process

Initial Annual Report First Year's data



Subsequent Annual Reports with Additional Rounds of Data Added to the Report to Show Progress or Trends and Support Five Year Reviews



Final Annual Report to Document Final Round of Sampling to Completion of Remedial Action



MMA Annual Report Format

Example Outline for MMA Annual Reports

This is an example outline which contains all of the elements that can make up an MMA Annual Report. There is no “required” format and the reports can be prepared to best communicate the critical information for each individual site.

It is important to complete a thorough review of the Site’s historical documents, including the ROD, to ensure the COCs are correct and remediation goals are clearly documented in order to develop this report.

Please note that many of these sections (I – VII) will likely not change from year to year.

I. Executive Summary

1. Brief
2. Highlights of Results and Significant Actions
3. Recommendations

II. Introduction

1. Site Specific Location
2. Location
3. History

III. Current Conceptual Site Model

IV. Remedial Action Objectives

V. Chemicals of Concern and Cleanup Numbers

VI. Remedy Implementation and Evaluation

1. Land Use Controls
2. Active Treatment
3. Monitoring
4. Data Quality Objectives

VII. Sampling Results and Data Evaluation

VIII. Site Closeout Strategy

IX. Cost

X. Optimization (if applicable)

XI. Conclusions and Recommendations



Rolling MMA Annual Report

One of the benefits of using the MMA format for your annual reports is rather than writing a new annual report every year the Rolling MMA Annual Report allows the majority of the information to be retained as is with only the current year's information updated.

Capturing five year's worth of information in one report (using addendums, revisions or other method to update each year's efforts) reduces the effort to prepare separate annual reports. The MMA format also supports development of the Five Year Review by having all of the necessary information in one report. The Navy has successfully prepared Five Year Review reports using the data provided in the MMA LTM reports.

Pros:

- Stand alone documents
- Ability to use previous year's Document as the starting point
- One full report for five years of information
- Cost associated with a new report each year are avoided
- Five year review planning is supported

Typical Process

Long Term Monitoring Report and 1st Year Annual Report Data



2nd Year Annual Report Data



3rd Year Annual Report Data



4th Year Annual Report Data



5th Year Annual Report Data



Rolling MMA Annual Report and MMA SAP Format

Example of Outline for Rolling MMA Report and MMA SAP

This is an example of an outline which contains all of the elements that make up a complete long term monitoring report that will ultimately include five years of data and the MMA SAP.

There is no “required” format and the reports can be prepared to best communicate the critical information for each individual site.

A report can be used to present the data for an individual site or several sites. It is important to note that when including multiple sites in one report the critical information specific to each site needs to be included.

The MMA Annual Reports contain much of the same information from year to year. Notice that 7 out of 11 sections from the MMA Annual Report typically remain the same from year to year. Why expend the effort to re-write this information for each Annual Monitoring Report when it hasn’t changed?

- I. Executive Summary
 - 1. Brief
 - 2. Type of Report/Purpose
- II. Introduction
 - 1. Site Specific Location
 - 2. Location
 - 3. History
- III. Current Conceptual Site Model
- IV. Remedial Action Objectives
- V. Chemicals of Concern and Cleanup Numbers
- VI. Site Closeout Strategy
- VII. Remedy Implementation / Evaluation
 - 1. Land Use Controls
 - 2. Active Treatment
 - 3. Monitoring
 - 4. Data Quality Objectives
 - 5. Sampling Plan
 - a. Analytes (project action limit)
 - b. Sampling Method
 - c. Frequency
 - d. Sampling Locations
 - e. Analytical Method
 - f. Required Lab Certification (ELAP, State, etc.)
- VIII. Results from Initial Year Efforts
 - 1. Sampling Results and Data Evaluation
 - 2. Land Use Controls
 - 3. Cost
 - 4. Optimization (if applicable)
 - 5. Conclusions and Recommendations



Rolling MMA Addendum Format

A suggested format for updating the original document utilizing addendums is shown here.

The Rolling MMA Report suggests a strategy for only updating the “new” information:

- Sample results
- LUC inspections
- Optimization (if applicable)
- Updated recommendations
- Updated conclusions

This information is added to the initial report utilizing an Addendum or similar approach.

This strategy allows all of the information to remain in one report – CSM, DQOs, data trends, LUCs, conclusions and recommendations and will support preparation and planning for the Five Year Review.

Example of Outline for Rolling MMA Addendums

Results from 2nd Year Efforts (Addendum 1)

1. Sampling Results and Data Evaluation
2. Land Use Controls
3. Cost
4. Optimization (if applicable)
5. Conclusions and Recommendations

Results from 3rd Year Efforts (Addendum 2)

1. Sampling Results and Data Evaluation
2. Land Use Controls
3. Cost
4. Optimization (if applicable)
5. Conclusions and Recommendations

Results from 4th Year Efforts (Addendum 3)

1. Sampling Results and Data Evaluation
2. Land Use Controls
3. Cost
4. Optimization (if applicable)
5. Conclusions and Recommendations

Results from 5th Year Efforts (Addendum 4)

1. Sampling Results and Data Evaluation
2. Land Use Controls
3. Cost
4. Optimization (if applicable)
5. Conclusions and Recommendations



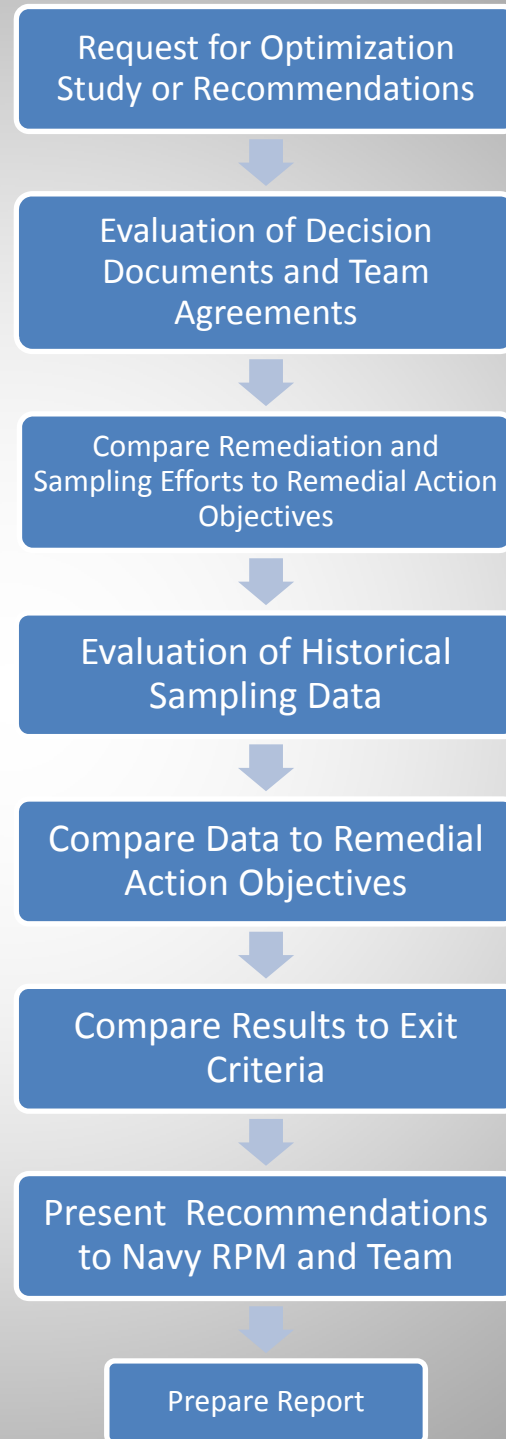
Documentation of Optimization Efforts

Optimization efforts can take many different forms and can be completed at multiple phases of remedial work. This example is a stand alone document. There is no one approved format but this example is one way to capture the critical elements and ensure the decision logic is transparent to the reader.

One effective method to obtain approval of a proposed optimization effort is to present the results of the evaluation of historical data, decision documents, team agreements, remedial action objectives and proposed optimization strategy in a document that can be shared with the entire team.

The decision process is transparent to appropriate parties making or concurring on the proposal and the report can ensure the key elements are retained for the team project files and available for future discussions or optimization efforts.

Report Format Ideas



Documentation of Optimization Efforts

This is an example of an outline which contains suggested elements to document in an effective optimization report. There is no “required” format and the reports can be prepared to best communicate the critical information for each individual site. If an element is not applicable or does not convey the information in an effective manner for the specific site it does not need to be addressed or discussed.

A report can be used to present the data for an individual site or several sites. It is important to note that when including multiple sites in one report the critical information specific to each site needs to be included.

Example of an Outline to Document Optimization Efforts

- I. Executive Summary
 1. Brief
 2. Highlights of Results
 3. Recommendations
- II. Brief Introduction
 1. Site Specific Location
 2. Location
 3. History
- III. Current Conceptual Site Model
 1. Use Existing Information
 2. Effort Specific
- IV. Remedial Action Objectives
 1. Source of Information
 2. Regulatory Program
 3. ARARs
- V. Chemicals of Concern and Cleanup Numbers
- VI. Site Closeout Strategy
- VII. Remedy Implementation and Evaluation
 1. Data Evaluation
 2. Effectiveness of Current Actions
 3. Optimization Potential
 4. Potential Cost Savings
- VIII. Conclusions and Recommendations



Resources

Resource documents are available to assist Remedial Project Managers in developing a monitoring and management approach. Many of these are housed on the NAVFAC Optimization and GSR web pages.

Optimization:

http://navfac.navy.mil/navfac_worldwide/specialty_centers/exwc/products_and_services/ev/erb/opt.html

GSR:

http://navfac.navy.mil/navfac_worldwide/specialty_centers/exwc/products_and_services/ev/erb/gsr.html

There are many other resources available to Navy Remedial Project Managers. NAVFAC Atlantic, NAVFAC Pacific, NAVFAC EXWC, NAVFAC FEC Senior Personnel and Technical Experts are often available to provide third party reviews, as well as specific scientific and policy expertise. These personnel can assist in reviewing and providing recommendations that support the Navy's environmental cleanup program.

Expertise is also available from consultants through contracting vehicles.

