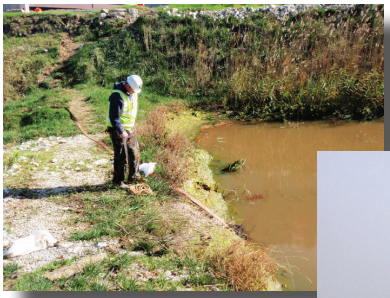

ENVIRONMENTAL MONITOR USER GUIDE

Maryland State Highway Administration
December 2009

State Highway Administration
Driven to Excel
Maryland Department of Transportation

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I. INTRODUCTION

The use of an Independent Environmental Monitor (IEM) through the design, construction, operations, and maintenance phases on complex and large-scale projects can be an effective means of ensuring compliance with permit conditions. Per a condition in both the U.S. Army Corps of Engineers (COE) and Maryland Department of the Environment (MDE) Wetlands and Waterways permits as well as the Record of Decision, the SHA is often required to obtain an IEM to monitor construction and ensure compliance with environmental permits, regulations, and other commitments made by the SHA. The IEM serves to act as the "eyes and ears" of the regulatory Agencies during all phases of construction.

This User Guide has been developed to give an overview of the IEM process including the day-to-day IEM roles, responsibilities, and interaction with State, Federal, and Contractor personnel associated with the project. More specifically, the Guide provides the following:

- **IEM's Role** – defines the role of an IEM as verifying that construction is in compliance with all terms and conditions of the permits. Describes the IEM's expected interaction with the Agencies and others.
- **Knowledge and Experience** – lists the diversity of knowledge needed by the IEM and lists the regulations IEM's should familiarize themselves with that are typically associated with most construction projects.
- **Key Focus Areas** – defines key areas to be a successful IEM including environmental review, project team coordination, effective communication, management of the compliance process, documentation, and proactive documentation.
- **Issue Resolution Process** – describes how an IEM would generally deal with issues of varying degree including a resolution ladder.
- **Sample Issue Resolution Scenarios** – describes scenarios using the resolution process.
- **The EM Toolkit** – highlights documentation through web-based database used by the IEM to record and disseminate information regarding the compliance status of a project including photographs.
- **Reference Materials for IEM's** – lists the common reference materials to be reviewed by the IEM prior to being assigned to a construction project and to consult with during the monitoring assignment.
- **Frequently Asked Questions** – lists questions and answers to situations the IEM may encounter on construction projects.
- **IEM Activities** – lists the specific responsibilities of the IEM for Wetlands and Waterways, Erosion and Sediment Control, Miscellaneous, and Mitigation. Also includes specific activities NOT completed by the IEM.

The Specific Field Duties section includes reference to four different construction approaches. These include:

- Traditional Design - Bid -Build
- Traditional Design - Bid –Build with an Environmental Management Team (EMT)
- Design - Build
- Design – Build with an EMT

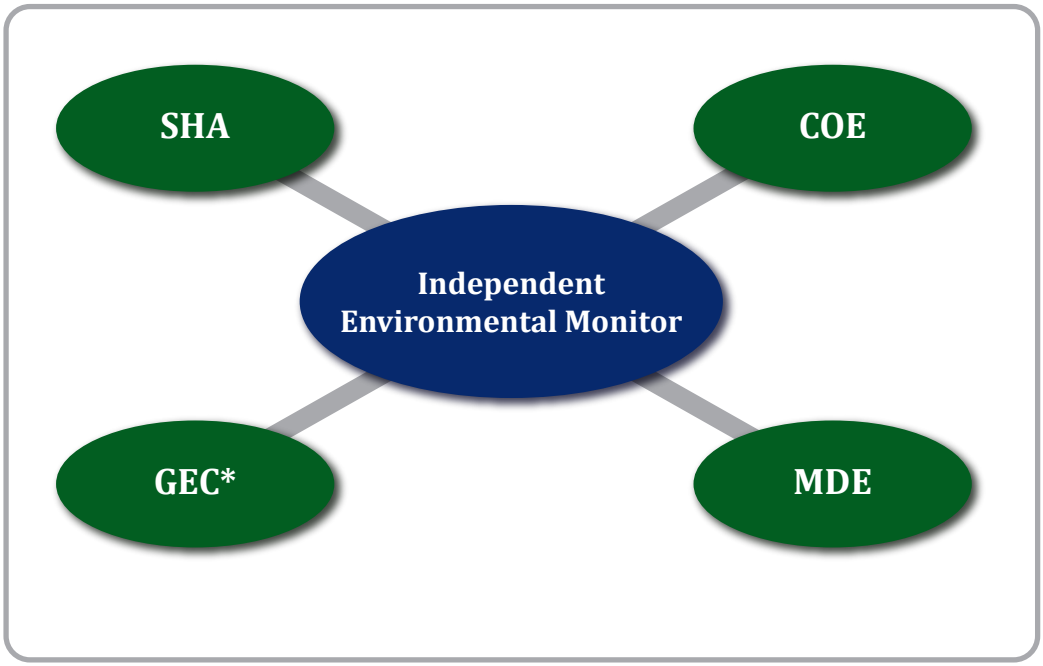
Depending on the type of construction approach, the IEM may have additional responsibilities. For example, for both Traditional Design-Bid-Build and Design Build projects that do not include an EMT, the IEM may assist in the monitoring or review of other environmentally-related issues.

II. INDEPENDENT ENVIRONMENTAL MONITOR'S ROLE

An Independent Environmental Monitor (IEM) acts as a full time on-site extension of the environmental agencies (MDE, COE) to help ensure that all permit conditions on a project are adhered to and met. The IEM acts as a liaison between field operations and the resource agencies, serving as their "eyes and ears." Although the IEM has no contractual affiliation with the project designer or Contractor, the IEM will coordinate with all parties involved in a project with regard to environmental issues and permit compliance.

The IEM's main responsibility is to review the design plans and monitor construction relevant to environmental permit requirements. The IEM will communicate compliance issues concurrently to the permitting agencies and SHA so that all parties are simultaneously informed and involved in the solution process. For those projects including a General Engineering Consultant (GEC), the IEM may communicate concurrently with GEC staff as well.

IEM COMMUNICATION NETWORK



*** If a General Engineering Consultant (GEC) is used**

Monitoring Impacts - During construction, the IEM will monitor and track, on a daily basis, the work in and around resources regulated by the COE and MDE as outlined in their permits; regulated resources include wetlands, wetland buffer, waterways, and floodplains. Impacts to these resources such as wetlands and waterways are tracked for the Agencies. The IEM will monitor these resource impacts based on the Limit of Disturbance (LOD) as staked in the field and according to the approved plan. Physical quantification of impacts is not done by the IEM in the field; it is the responsibility of SHA to quantify the impacts. However, visual monitoring of impacts for consistency with the plan is done regularly. If any deviation from the plan appears to have occurred,

the IEM will immediately inform SHA's Erosion and Sediment (E&S) Control Inspector of their concerns and request confirmation of the LOD and impacts as shown on the approved plan.

IEM Reporting - The results of the daily inspections are relayed to the project team via the Environmental Monitor's Toolkit. The daily reports include a summary of the work that is being done and include any environmental compliance issues that may have developed. Additional documents such as plan and/or permit modifications, Quality Assurance (QA) Reports, Photographs, minutes from agency field meetings, and/or IEM Monthly Reports will be attached to daily reports. For additional information regarding the EM toolkit, see the section titled "The Environmental Monitor's Toolkit."

Compliance with Erosion and Sediment Control - Erosion and Sediment Control issues are tracked on a daily basis. These issues do not typically equate to a project being in non-compliance, but if left unresolved could lead to this. Monitoring of erosion and sediment (E&S) control devices in the area of environmental resources is an important responsibility of the IEM. The IEM's role includes forecasting problems that could occur and making recommendations to help avoid them. For example, a section of Super Silt Fence (SSF) along a stream that has been damaged by equipment may not, in itself be a violation of a permit condition, however, if left unattended and a precipitation event occurs, a discharge of sediment may result. This would be considered a violation of several permit conditions. If the IEM can see an issue and make a recommendation to resolve it, they are helping the project avoid a potential non-compliance.

In a case where sediment discharge is likely during the next precipitation event, the IEM may indicate the issue should be considered a priority as a sediment discharge is highly likely if the area is not repaired. This may be typical following a heavy runoff event that damages several controls. For example, a section of SSF adjacent to a stream is installed according to plan. A runoff event causes it to undermine and sediment is discharged into the stream. As the control was installed according to plan, this is not considered a permit violation. The IEM will make an issue of the damage to the control and recommend repairs. Since an additional runoff event will most likely lead to another discharge of sediment, the IEM will indicate the issue should be considered a priority. This is done because an additional discharge of sediment at this location without repairing the control would be considered a non-compliance as the Contractor will have known about the issue.

In cases where there are multiple priority issues, the IEM will indicate that each issue "should be considered a priority…" This leaves the prioritization and responsibility of repair up to the Contractor because, from an agency perspective, all issues are a priority and should be addressed prior to the next runoff event.

When an issue is found to be out of compliance with a permit condition, the IEM takes several actions. If the Contractor is in the process of performing an action that results in the non-compliance, SHA's Project Engineer or his delegated E&S Control Inspector will be called upon to direct the Contractor accordingly. The QA Inspector will be contacted to review the situation and the COE and MDE will be contacted and informed of the site conditions. If an issue is "border-line" regarding its compliance, the SHA PE, QA Inspector, MDE Compliance or COE may be contacted to assist in determining its status. If direct contact with the Agencies is not possible in a case such as this, the issue may be shown on the daily report as "Under Review" until direction is received from the Agencies. The Agencies ultimately make the determination regarding compliance upon review of the information provided by the IEM. The phone calls are followed up with notifications via the EM Toolkit when the report documenting the issue and any follow-up actions is posted on-line. The issue will be tracked through resolution and until the project is considered back in compliance with the permits.

III. KNOWLEDGE AND EXPERIENCE

An IEM must have knowledge in the following:

- Construction methods/ practices
- State and Federal Wetland and Waterway Regulations
- DNR Reforestation Law
- DNR Roadside Tree Permit
- DNR Fisheries (Time of Year Restrictions)
- Soil Conservation District Approvals
- Forest Stand Delineation
- Hazardous Materials (40 HR HAZWOPER)
- Highway Safety (10 HR ARTBA Highway Safety/MOSH 10 Hour Training)
- Computer skills (Excel, Word, GIS)

An IEM must have practical experience with the following:

- Field experience in assessing and delineating natural resources, with special emphasis on wetlands and waterways
- Field experience on construction projects
- Conducting plan reviews and reading construction specifications
  - SHA Standard Specifications for Construction and Materials 2008
- Environmental regulations and Agencies' roles
- Sediment and Erosion Control
  - MDE Plan Review (Sediment and Erosion & Stormwater Management)
  - NPDES and NOI
  - MDE 1994/2010 Standards
- MDE Tidal and Nontidal Wetlands Regulations
  - Water Quality Standards
  - Waterway construction specifications
- Corps of Engineers regulations and permitting process
  - Maryland State Programmatic General Permit-3 (MDSPGP-3)
  - Nationwide Permits
  - Individual Permits
  - Clean Water Act Section 404

Training/Certifications Needed:

- MDE Green Card/ SHA Yellow Card Certification/SHA E&S Designers Training

- Wetland Delineation Training
- Other natural resource training is preferred

IV. KEY FOCUS AREAS

ENVIRONMENTAL REVIEW

Examples include:

- Attend Pre-construction meeting, Partnering meetings, Progress meetings
- Review the erosion and sediment controls on a continual basis to verify that all controls are in place and functioning as per the approved plan.
- Pre-construction plan review. Review for consistency with all applicable permits/project commitments and constructability.
- Recommend and monitor additional resource assessments (wetland delineation, forest stand delineation, RTE, etc.) as needed during construction phase.

PROJECT TEAM COORDINATION

Examples include:

- Daily monitoring of the construction site should be coordinated with the SHA Environmental Manager, Project Engineer, SHA's Project E&S Control Inspector and the Contractor.
- Coordination with the MDE NTWWD reviewer, MDE Compliance inspector, Corps Regulatory reviewer.
- Coordinate with the SHA Engineer to verify that all corrections are made as required and that the project is in compliance with the approved plan at all times.
- Attend Project Partnering and Interagency meetings as required.

EFFECTIVE COMMUNICATION

Examples include:

- Assist SHA and Agencies with public involvement as necessary to resolve environmental issues.
- Maintain close working relationship with appropriate regulatory agency staff to resolve any permit issues.

MANAGEMENT OF THE COMPLIANCE PROCESS

Examples include:

- Based upon permit conditions, monitor the construction to verify that work is in compliance with the project's authorizations, with daily inspections.
- Coordinate a Compliance Inspection with MDE, COE and other agency representatives.
- Verify construction is in compliance with all terms and conditions of the permits.

DOCUMENTATION

Examples include:

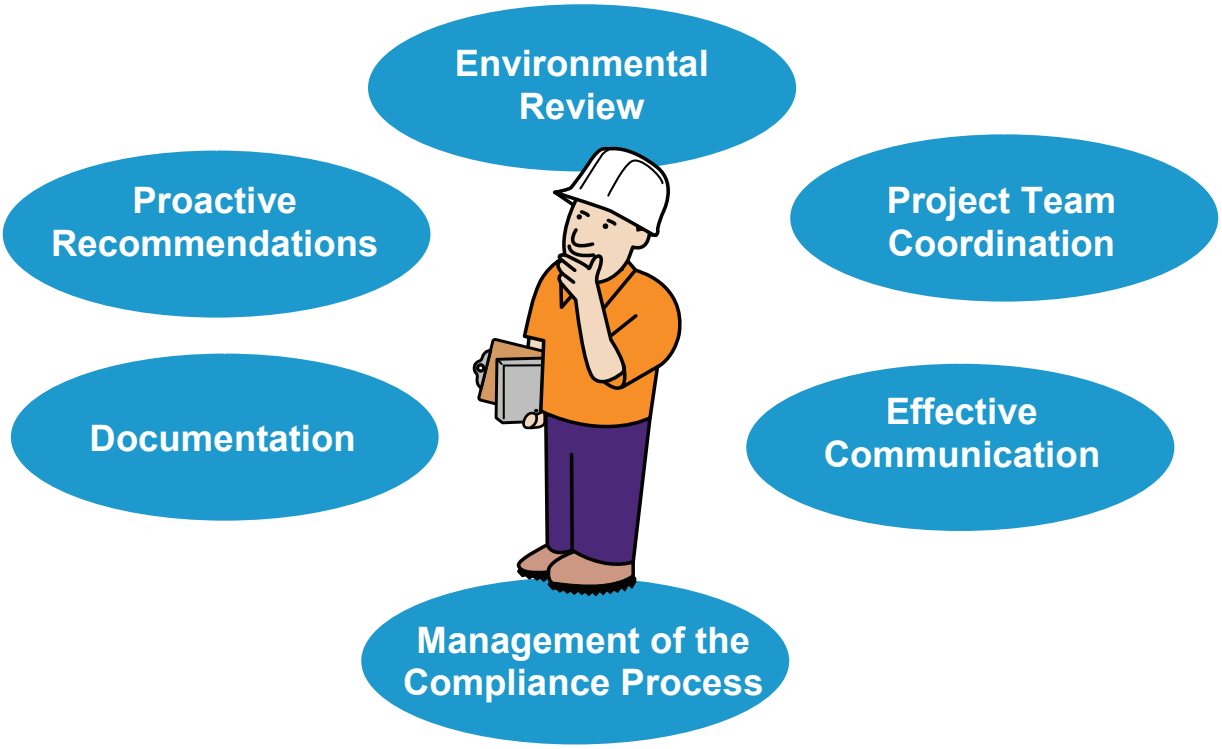
- Enter daily and monthly inspection reports as well as final project tracking reports as required by permit conditions, including photo documentation, into the EM Toolkit. Ensure COE, MDE-Nontidal, MDE E&S Inspector, SHA Project Engineer, SHA E&S Control Inspector, SHA QA Inspectors, Contractor E&S Inspectors, and appropriate staff has access to the EM Toolkit and any documentation produced by the IEM.

- As part of the daily report and input into the EM Toolkit, record the actions taken at any open E&S locations and other open compliance issues. Also include additional photos/ documentation as requested by the COE or MDE following a non-compliance.
- Include Pre-Storm and Post-Storm inspections in EM Toolkit daily report.
- Other supporting documentation including, but not limited to, modifications and revisions to permits, Green line field revisions/field changes, SHA Quality Assurance Reports.

PROACTIVE RECOMMENDATIONS

Examples include:

- Any recommendations shall be made directly to the SHA Project Engineer or their representative.
- Make recommendations to for further avoidance and minimization of project impacts.
- Review plan modifications developed by others for permit compliance.
- Recommend measures to SHA Project Engineer or their representative to bring project into compliance with permit conditions.
- Suggest scheduling of weekly erosion and sediment control meetings to coordinate with the project staff and Contractor.
- Attend Project Progress meetings, Partnering meetings, and design meetings to stay informed of any design changes.



V. ISSUE RESOLUTION PROCESS

The following resolution ladder illustrates how an IEM would generally deal with issues of varying degrees on a project as they relate to the Environmental Permits. Issues are reported and tracked via the EM Toolkit.

- Issues that will not immediately result in a non-compliance status and require minimal effort to resolve by the Contractor will be considered ***Minor Issues*** in the resolution ladder. These range from general E&S control maintenance activities to improperly installed E&S controls to issues that if not addressed prior to the next precipitation event could result in a compliance issue. These issues can typically be handled by recommendations made at the field level. This category makes up a majority of the issues an IEM will encounter on a daily basis.

- Issues that cannot be resolved at the field level but require input from any combination of the Project Engineer, Designer or Agencies will be considered ***Complex Issues*** in the resolution ladder. These issues may involve changes in the Sequence of Construction, Limits of Disturbance or field changes. Issues such as these that do not impact regulatory resources are not always included in the daily reports, but coordination assistance by the IEM may be required.

- Issues that result in the project receiving non-compliant status in the IEM report are considered ***Major Issues*** in the resolution ladder. These would include any action or activity that results in a violation of a condition of any of the permits issued for the project. In these cases, the IEM reports findings directly to Agency representatives who ultimately make the decision as to the project's compliance.

- Finally, in some cases, it may be possible to implement changes to reduce or eliminate impacts to resources. It may be the responsibility of the IEM to track impacts on a project, or there may be incentives for a Contractor to reduce impacts and the IEM will track any reductions. Issues such as these may provide benefits to resources by minimizing impacts or eliminating them all together. These will be classified as ***Beneficial Issues*** in the resolution ladder.

RESOLUTION LADDER

Minor Issue

- Issue identified by IEM during daily inspection
- Field staff (SHA's Project E&S Control Inspector) notified of:
  - Issue
  - Corrective recommendation
  - Possible ramifications of issue not being addressed
- If not addressed by end of day – issue added to daily IEM report and tracked daily
- Issue status identified as "compliance"
- Once corrective actions implemented, issue closed in daily report

Complex Issue

- Issue identified by IEM, Contractor or project staff
- Coordination efforts may include
  - SHA Project Staff
  - EPD Project Manager
  - QA Inspector

  - Contractor
  - Designer
  - Agency representatives
    - MDE Compliance Inspector
    - MDE NTWWD
    - MDE Sediment and Stormwater Plan Review Division
    - US Army Corps of Engineers
- If lack of action could result in a violation of a permit condition the issue is added to daily IEM report and tracked daily
- Issue status identified as "compliance"
- Once corrective actions resolved, issue closed in daily report

Major Issue

- Issue identified as potentially non-compliant by IEM during daily inspection
- Immediate notification of field staff (SHA's Project E&S Control Inspector)
- Corrective recommendations are made to bring project into compliance
- Coordination with project and Agency staff
  - Quality Assurance Inspector
  - EPD Project Manager
  - MDE Compliance Inspector
  - US Army Corps of Engineers
- Issue added to daily IEM report and tracked daily
- Issue and project status identified as "Non-Compliance" or "Under Review" pending feedback from Agencies
- Once corrective actions are implemented and any mitigation measures required by Agencies have been taken, issue is closed in daily report and project status is returned to "Compliance"

Beneficial Issue

- Issue identified as potential benefit to project
- Coordination with project and Agency staff
  - Quality Assurance Inspector
  - EPD Project Manager
  - MDE Compliance Inspector
  - US Army Corps of Engineers
  - Designer
  - Contractor
- Any issued plan revisions or permit modifications are attached to and tracked through the IEM daily report.

VI. SAMPLE ISSUE RESOLUTION SCENARIOS

Minor Issue

During a daily inspection following a precipitation/runoff event, the IEM identifies a Temporary Gabion Outlet Structure (TGOS) that has had fill material wash out from beneath it. The structure is completely scoured beneath a corner of it and any additional runoff reaching it will not be treated but flow under it causing additional erosion and permitting untreated runoff to leave the project site.

- The IEM notifies SHA's Project E&S Control Inspector of the issue and informs the inspector that the issue will be going on the daily inspection report
- Following discovery of the failing structure, the IEM will photo-document the erosion at the structure for inclusion in the daily inspection report
- The IEM makes a corrective recommendation to the E&S Control Inspector to repair the TGOS as per MDE Soil Erosion and Sediment Control Standards
- The IEM informs SHA's Project E&S Control Inspector that if the TGOS is not repaired in a timely fashion and additional runoff results in a discharge of sediment from the project site, the project could be in violation of permit conditions and be out of compliance with those permits
- The IEM will then log the issue into the EM Toolkit along with photos and any relevant comments
- The IEM will track the progress of repairs to the structure on a daily basis making note of progress in the comment section of the issue on the daily inspection report
- When the work is completed and the repairs meet the MDE Standards, the completion of repairs is noted and the issue is closed

Complex Issue

During construction of a bridge over a jurisdictional Waters of the US (WUS) the Contractor indicates they require additional LOD to provide enough room to construct a crane pad for use in erecting steel for the bridge.

- The issue is raised by the Contractor who informs the environmental staff, including the IEM of the details of the issue
- The IEM provides an interpretation of any environmental and permitting issues an LOD extension may result in
- Once the Contractor and project team devise a plan, the IEM provides a list of steps that may be required to obtain the LOD extension including but not limited to
  - Coordinating with the MDE Compliance Inspector to determine if the work can be accomplished with a field change
  - If the work cannot be done with a field change, the IEM will assist with coordination between the Environmental Programs Division (EPD), the designer, project staff and Agency reviewers to obtain a plan revision and/or permit modification
- The IEM will enter the issue into the EM Toolkit for tracking purposes
- Any agency submittals and eventual modifications to the plan and/or permit are attached to daily inspection reports in the EM Toolkit for tracking purposes

Major Issues

During a daily inspection of a construction site, the IEM discovers a concrete truck being washed in such a manner that the wash water is running directly into a jurisdictional WUS.

- Upon discovery of the activity, the IEM immediately contacts SHA's Project E&S Control Inspector and informs him of the activity, that it is a violation of the permit and makes the recommendation to SHA's Project E&S Control Inspector that the activity be stopped.
- The issue and its impacts are photo-documented
- The QA Inspector and the EPD Project Manager are contacted and in coordination with the IEM and SHA's Project E&S Control Inspector, recommendations are made to begin immediate clean up of the site
- Both the MDE Compliance Inspector and US COE reviewer are contacted by phone and made aware of the issue. If unavailable, messages detailing the issue are left. When contacted the Agencies are informed of
  - Exactly what happened and what is being done to mitigate for the actions
  - Who was performing/responsible for what happened based on current understanding and facts

- Where it occurred, particularly in relation to jurisdictional resources
- Quantification of adversely impacted resources

- Following concurrence from the agencies that a permit violation has occurred, an issue is opened in the EM Toolkit and the project status is classified as "Non-compliance"
- The IEM continues to monitor the issue until the project is brought back into compliance through clean up or other mitigative action
- As a follow up, when closing the issue, the IEM may include comments on exactly why the incident occurred and what is being done or implemented to prevent it from happening again

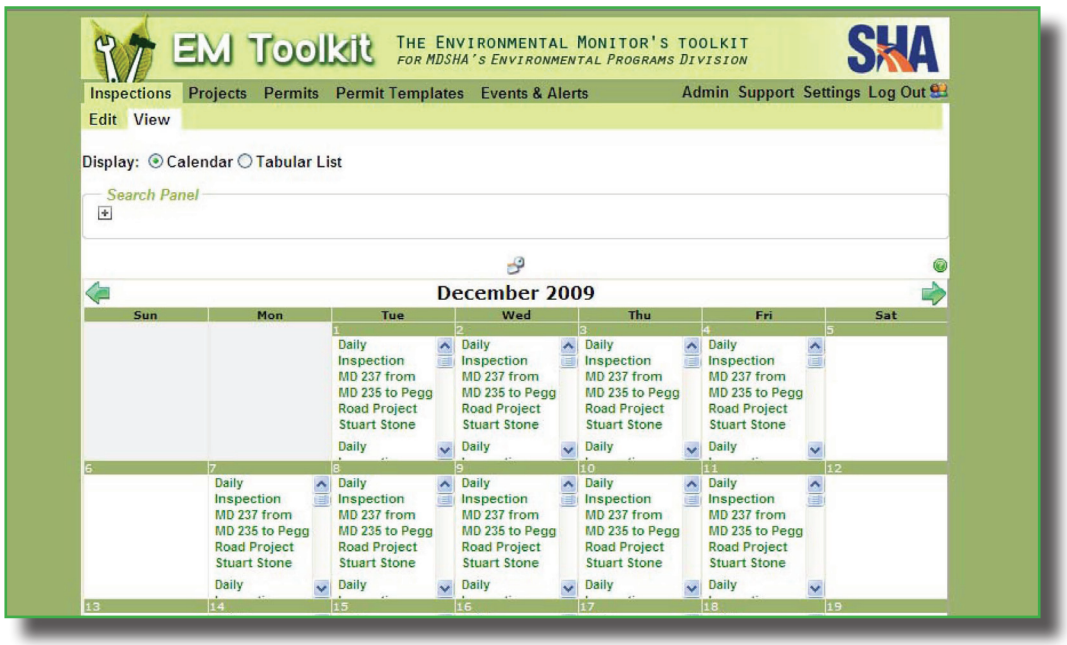
Beneficial Issues

While reviewing plans prior to clearing and grubbing for a project, the IEM identifies an area where the LOD can potentially be reduced to minimize wetland or waterway impacts.

- The IEM coordinates with the project staff to determine if and how much the LOD can be reduced
- The IEM coordinates with Agency representatives, the EPD Project Manager, and design staff to update total project impacts
- The impact reduction is tracked through the EM Toolkit and any modifications to the impact plates, plans, or permit are included.

VII. THE ENVIRONMENTAL MONITOR'S TOOLKIT

The EM Toolkit is a web-based online environment that allows multi-user access while tracking project compliance. Through the EM Toolkit, the IEM is able to track and document project issues, environmental impacts and verify permit compliance. The Toolkit is capable of tracking all environmental commitments if required for specific projects. The EM Toolkit allows the IEM to complete daily inspection reports which may include photographs, drawings, way-point files, minutes of environmental field meeting, QA inspection reports and other documentation which are displayed for users to view and query. In addition to daily inspections, the EM Toolkit tracks the general and special conditions of all applicable permits.



IEM Toolkit calendar showing inspection reports logged each day for multiple projects

The EM Toolkit is password-protected, allowing project team members to see inspection reports and environmental issues being tracked. During project set-up the IEM designates a review frequency for each condition and that condition is then reviewed during completion of the daily report corresponding to the assigned review frequency (daily, weekly, monthly or milestone dates).Configurable subscriptions and notification modules provide e-mail alerts when there are permit non-compliances.

The EM Toolkit provides:

- Online collaborative environment for sharing real time permit tracking and reporting
- Role-based security so users only view projects and data that they are assigned
- Notification system to ensure proactive communication during significant events
- Automatic generation of permit condition review checklists to monitor compliance with permit conditions

Daily Inspection Report

Dualization of US113 Hayes Landing Rd to North of Goody Hill Rd (Phase 2a)

Date: December 17, 2009 **Status:** Compliance

Inspector: Otto Schlicht

Temperature: 21 - 35 **Precipitation:** **Weather:** Sunny

Soil/Grade Condition: Normal **Stream/Tide Stage:** Normal

Disclaimer: Recommendations are made by the IEM to SHA in order for the project to stay in compliance with the conditions of environmental permits and all applicable environmental laws and regulations.

Plan Sheets: None **Impact Plates:** None

Site Visitors:

MDE Compliance Specialist, Harry Hunsicker

Notes:

A cold front remains over the region and temperatures remained just above freezing throughout the work day. A winter storm is heading to the region and is expected to arrive Friday night. The storm has potential to bring periods of rain, sleet, and snow. Accumulations are unknow at this time. The contractor is focusing on making last minute repairs to E&SC devices and securing the project prior to their holiday hiatus which begins tomorrow. The contractor will have his foreman continue E&SC inspections throughout the holiday hiatus. The project IEM and SHA E&SC inspector will remain on-site as well except during holidays and vacation. If the project experiences a significant storm event during the holidays or periods of vacation, the project IEM will remain in the area and monitor the site. All wetlands/WUS were secured prior to the end of the work day.

Project Highlights:

-The contractor completed dewatering of SB 4-1 and Waters Edge planted emergent plants within the pond today.
-The contractor stabilized the entire stock yard area with seed and mulch. All stock piles were stabilized as well as these piles will not be worked for sometime.
-All E&SC concerns were addressed prior to the end of the work day.
-MDE Compliance Specialist, Harry Hunsicker was on-site today to investigate the oily substance discovered within the east side drainage of Access I and adjacent to SB 3-2. The substance is unknown however, as substance appears to be coming from the adjacent property utilized for chicken farming, the Compliance Specialist will contact the Dept. of Agriculture to investigate the property. In addition, the Compliance Specialist commented on the need for the contractor to continue weekly inspections to meet NOI requirements. This issue was addressed with the contractor as well.

Lastly, the contractor questioned the Specialist as to when he can remove the draw down devices from the sediment basins. The Specialist informed the contractor he is comfortable with the project IEM and QA inspector evaluating and approving removal of the devices. In addition, the Specialist indicated the basins he has seen thus far appear to have sufficient vegetation for removal of the devices. The contractor will need to submit the final as-builts for final approval of the ponds.

IEM Recommendations:

-The project IEM reviewed the ponds for removal of the E&SC devices. The project IEM recommended, to SHA staff, devices within SB 12-1, 3-2, 4-1, and 5-1 be removed as these basins consist of sufficient vegetation, connecting drainage has been stabilized, sediment within the basin has been removed, elevations collected, and culverts have been cleaned. In addition, the IEM recommended the contractor review the SWM plan sheets as the remaining basins require the construction of permanent draw down devices. The project IEM reviewed these plan sheets with the contractor's foreman. The contractor removed the E&SC device from SB 12-1 prior to the end of the work day.

Issues:

No Issues

Supporting Documents:

Type	Date	Description

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EM Toolkit daily inspection report

VIII. REFERENCE MATERIALS FOR INDEPENDENT ENVRIONMENTAL MONITORS

Approved Plan Set and Specifications

SHA Standard Specifications 2001/2008

Project Specific Reports and NEPA Documentation

United States Army Corps of Engineers' Department of the Army Permit

Maryland Department of the Environment's Tidal Permit, Tidal License, Nontidal Wetlands and Waterways Permit, Water Quality Certification for Nontidal Wetlands and Waterways, and E&S Permit

Department of Natural Resources' Maryland Forest Service Tree Permit

Code of Maryland Annotated Regulations (COMAR) – Title 26 Department of the Environment, Subtitle 08 Water Pollution, Chapter 02 Water Quality (Water Quality Regulations)

Code of Maryland Annotated Regulations (COMAR) – Title 26 Department of the Environment, Subtitle 17 Water Management, Chapter 01 Erosion and Sediment Control

Code of Maryland Annotated Regulations (COMAR) – Title 26 Department of the Environment, Subtitle 17 Water Management, Chapter 02 Stormwater Management

Code of Maryland Annotated Regulations (COMAR) – Title 26 Department of the Environment, Subtitle 17 Water Management, Chapter 04 Construction on Nontidal Waters and Floodplains

Code of Maryland Annotated Regulations (COMAR) – Title 26 Department of the Environment, Subtitle 23 Nontidal Wetlands, Chapter 01 - 06

Code of Maryland Annotated Regulations (COMAR) - Title 26 Department of the Environment, Subtitle 24 Tidal Wetlands, Chapters 01 - 05

Section 4(f) of the U.S. Department of Transportation Act of 1966 (U.S.C. 303(c)) Coordination

Maryland Historical Trust Concurrence

Critical Area Commission Coordination

Local Agency Coordination

U.S. Fish and Wildlife Service – Rare, Threatened and Endangered Species Information

Department of Natural Resources Wildlife & Heritage Service – Rare, Threatened and Endangered Species Information

Department of Natural Resources Environmental Review Unit – Fisheries Information

Mitigation Site Information

MDE 1994/2010 E&SC Specifications

Maryland Waterway Construction Guidelines issued 9/1999 revised 11/2000

IX. FREQUENTLY ASKED QUESTIONS

When is an IEM required on a project?

An IEM may be required as a condition of a permit issued by MDE Non-tidal Wetlands and Waterways Division or the COE when proposed work is in or adjacent to a regulated resource. SHA may also assign an IEM to a project when minimization and impact tracking are deemed necessary.

What may occur in an IEM's typical day?

The IEM must check that all work is in accordance with the approved plan and permits. This requires the IEM to review approved design plans and walk the site daily. The IEM works closely and coordinates with the SHA E&S Control Inspector on a daily basis. It is advantageous to coordinate with the E&S Control Inspector and inspect the site together and discuss current open issues and potential forthcoming issues. E&S controls are inspected on a daily basis to ensure that they remain fully functional. E&S controls in need of maintenance are monitored closely to ensure that the Contractor makes the necessary corrections in a timely manner. When identifying an issue or potential issue, the IEM and E&S Control Inspector will discuss possible solutions, taking into account resource impact, urgency of issue, and effectiveness of solution before SHA's Project Engineer or his designated representative - SHA's E&S Control Inspector - relays a final recommendation to the Contractor.

What are some other IEM responsibilities?

The avoidance and minimization of impacts to resources including riparian buffers, wetlands and streams is always a goal for the IEM. This may be accomplished by efforts such as ensuring the LOD is clearly demarcated, reviewing plans to see if disturbance to an area can be eliminated, reducing or eliminating the use of heavy equipment and discussing the most time-efficient way of working in or around sensitive areas.

The IEM will also make SHA Project Staff aware of time-of-year restrictions, which impose closure periods for working within jurisdictional streams. The IEM will closely monitor any work done in or around wetlands and streams and make recommendations that could be beneficial in reducing impacts to the resource.

How does the IEM know if an E&S control is in need of repair?

The IEM will visit each control regularly and after each rain event. A control is in need of repair if it is damaged, not installed properly, or not functioning as per the 1994 Standards and Specifications for Soil Erosion and Sediment Control. Most E&S controls require routine maintenance to ensure functionality.

How does the IEM determine if there is a permit violation/ non-compliance?

Project-specific permit conditions are described in the MDE and COE permits and familiarity with each condition is necessary for the IEM. If during an IEM's inspection it is determined that work on the project is not in compliance with the approved plan and all applicable permits, the IEM through coordination with SHA gathers all the available information and concurrently reports that information to the permitting agencies as required by the project specific permits. The IEM reports the facts to the regulatory agencies, and ultimately, the COE and/or MDE determine non-compliance and issue permit violations. In general, a project may avoid a permit violation when all E&S controls are installed in accordance with the approved plans by staying within the LOD of the project and avoiding any impacts to resources that are not approved in the plan and permit.

When does an IEM work with the MDE/COE?

The IEM coordinates with the MDE and the COE on a project specific basis. The IEM coordinates regularly with the MDE Compliance Inspector as the main point of contact for compliance issues related to the MDE Permits and authorizations. The IEM will also coordinate with the MDE Nontidal Wetlands and Waterways or Tidal Wetlands Permit Reviewers for complex issues like; permit modifications, time of year restriction waivers, increased or modified regulatory resource impacts. For the COE, the IEM coordinates with the COE Permit Reviewer. The MDE, COE and SHA have access to the EM Toolkit, which tracks the daily reports produced by an IEM. This allows them to stay informed of the daily activities on each job. The IEM may update the Agencies on project progress at any time. The Project Engineer, EPD Project Manager and the Agencies are always personally informed of potential permit violations and non-compliance issues. The IEM may also facilitate coordinating field changes, permit modifications and plan changes. The Agencies may make site visits at any given time and may request an inspection of the project or specific issue on that project.

Does the IEM direct the Contractor?

The IEM does not give any direction to the Contractor. The IEM makes recommendations to the SHA Project Engineer or their representative, who then directs the Contractor accordingly.

What happens if the Project Staff/Contractor doesn't perform the recommended work?

The Project Staff/Contractor has every liberty to refuse the E&S recommendations and the IEM has no authority to make them perform any action. If the recommended work is not completed, the Project Staff/Contractor assumes responsibility. The lack of response by the Project Staff/Contractor to recommendations, resulting in a violation of a permit condition, may be viewed as a non-compliance issue by the Agencies.

What does the IEM put into the reports?

The IEM produces daily reports that describe site conditions, construction activities, open issues and relevant project meetings that occur each day. Daily reports may include any important documents pertaining to E&S or environmentally-sensitive activities, plan or permit modifications, field changes, QA Inspection Reports and MDE Inspection Reports. Reports are uploaded to an online database, the EM Toolkit. Agency representatives and all relevant members of the Project Staff and Contractor are given online access to the daily reports. Other project specific reports may also be produced including but not limited to; monthly reports, yearly reports, Impact Tracking reports, and final project closeout reports.

What if a Contractor is not working according to the approved plan or sequence of construction?

Should a project be found to be working out of sequence or outside of the approved plan LOD, the IEM would inform the SHA Project Staff (SHA's Project E&S Control Inspector and Project Engineer), the EPD Project Manager, and the SHA QA Inspector. If the project has not coordinated and received approvals from the MDE E&S Inspector, the MDE E&S permit review, and COE and MDE Wetlands and Waterway (if jurisdictional resources are involved), the IEM will coordinate with the MDE/COE on the compliance status of the project and make the problem a formal issue. The daily report will document conflicts with the approved sequence and work. A follow-up contact with the MDE/COE will be made if necessary to discuss the project activities. The MDE/COE will ideally provide recommendation as to how the issue should be handled.

X. INDEPENDENT ENVIRONMENTAL MONITORING'S SPECIFIC ACTIVITIES

IEM SPECIFIC ACTIVITIES
WETLANDS AND WATERWAYS
Prior to construction, verify all project permits have been obtained and are present on site. Verify that the plans, including all addendums match the permits.
Verify construction is in compliance with all terms and conditions of the permits and commitments (see Compliance Checklists for Corps, EPA and MDE General Permit Conditions and Special Permit Conditions).
Attend all design and field meetings pertaining to environmental issues and or resources. Or as requested by the SHA Project Engineer, QA inspector, EPD Project Manager or regulatory agencies.
Attend Project Partnering and Interagency meetings as required and provide updates into the EM Toolkit throughout construction.
Inform SHA, MDE and Corps concurrently on any permit noncompliance issues/violations of the Clean Water Act, or other activities in WUS, including jurisdictional wetlands.
Based upon permit conditions monitor the construction to verify that work is in compliance with the project's authorizations, with daily inspections of the following factors: • *authorized limits of disturbance* • *jurisdictional Waters of the U.S., including tidal and non-tidal wetlands and 100-year floodplains* • *forested areas* • *temporary orange construction fencing along authorized LODs adjacent to jurisdictional wetlands and waterways or other special permit conditions.* • *spills* • *sediment plumes* • *Best Management Practices* • *placement of staging areas, stockpile areas and construction access as they relate to floodplains, wetlands and waterways* • *land clearing and other disturbances as they relate to floodplains, wetlands and waterways* • *stormwater management as they relate to wetlands and waterways* • *sediment and erosion control measures as they relate to wetlands and waterways* • *utility relocations as they relate to wetlands and waterways* • *other project related environmental impacts* • *Project Specific conditions*
Make recommendations to the SHA Project Engineer for further avoidance and minimization of project impacts to wetlands and waterways.
Recommend measures to SHA to bring project into compliance with permit conditions.
Daily monitoring of the construction site should be coordinated with the SHA Environmental Manager, Project Engineer, SHA's Project E&S Control Inspector and the Contractor.
Enter daily, monthly, and final project-tracking reports as required by permit conditions, including photo documentation, into the EMToolkit. COE, MDE, SHA Project Engineer, SHA's Project E&S Control Inspector, QA inspector, EPD Project Manager and appropriate staff shall have access.
Coordination with the MDE NTWWD reviewer, MDE Compliance Inspector, Corps Regulatory reviewer and other if required by permit conditions' environmental regulators.
Maintain close working relationship with appropriate regulatory agency staff to resolve any permit issues.
Maintain close working relationship with SHA project and design engineers to resolve any permit issues.
Maintain a daily on-site presence during all phases of construction - unless noted otherwise in project permits.
Work closely with EPD project manager to resolve issues.
Facilitate permit modifications and amendments when necessary through EPD project manager.
Assist EPD in coordinating and obtaining permit modifications.
Coordinate or attend a "regulatory compliance tour" with MDE, COE, and other agency representatives.
Prepare Final Impact Report.

IEM SPECIFIC ACTIVITIES
EROSION AND SEDIMENT CONTROL
As part of the regulatory design review process, verify project is constructible per the approved plan and sequence of construction.
Review the erosion and sediment controls on a daily basis to verify that all controls are in place and functioning.
As part of the daily report input into the EM Toolkit, record actions taken and any outstanding E&S actions.
Conduct post-storm reviews with the SHA E&S Control Inspector both during and beyond normal working hours/days and include in EM Toolkit daily report.
Conduct pre-storm reviews in advance of predicted significant storm/run-off events.
Report issues to the SHA Engineer to encourage immediate mobilization of crews to make repairs to the controls during working and nonworking hours.
Accompany the SHA Engineer and the SHA Quality Assurance Inspector on Quality Assurance Inspections.
Provide recommendations to SHA Project Engineer.
Provide review and recommendations for E&S device installation and maintenance.
Coordinate with and accompany the MDE Compliance Inspector on routine regulatory inspections.
Coordinate with the SHA Project Engineer to verify that all corrections are made as required and that the project is in compliance with the approved plan at all times.
Verifies that SHA has invited the MDE Compliance Inspector to all Pre-Construction meetings to provide appropriate input to expedite construction.
Verifies that the MDE/WMA Compliance Program is notified at least five days prior to initiation of the project and five days after work ends.
Visually monitor Air Quality for dust control.
Visually monitor Water Quality for dewatering and/or drainage discharges.

IEM SPECIFIC ACTIVITIES
MISCELLANEOUS
Pre-construction plan review. Review for consistency with all applicable permits/project commitments and constructability.
Make recommendations to the SHA Project Engineer for further avoidance and minimization of project impacts to any regulated resources and/or protected resources.
Design-Build Plan submittal review during construction.
Assist in coordination with Agencies to facilitate Design-Build Plan submittal review/approval process.
Review field changes, Redlines and any additional changes during construction to the approved plan for consistency with all applicable permits/project commitments.
Enter daily report into EM Toolkit.
Conduct additional resource assessments (wetland delineation, forest stand delineation, RTE etc.) as needed during construction phase.
Monitor water quality to verify compliance with all applicable permits/project commitments and relevant local, state and federal laws.
Assist SHA and Agencies with public involvement as necessary to resolve environmental issues.
Track project commitments to verify the project complies with all relevant commitments.
Be aware of and document potential (adjacent) non-project related impacts to resources that may be interpreted as an SHA activity.
Coordinate with EPD Project Manager to ensure project is covered when primary IEM is unavailable.
Monitor and maintain scientific equipments if applicable.
Notify SHA Project Engineer of any potential weather events that may impact site.
Provide summaries at project milestones and phases in the EM Toolkit.
Ensure all project representatives understand the role of the IEM.
If Role is Project Specific - Explain roles and responsibilities at Pre-Construction Meeting.

IEM SPECIFIC ACTIVITIES
MITIGATION
Pre-construction plan review. Review for compliance with all applicable permits/project commitments, constructability and mitigation goals.
Verify mitigation site is constructed in compliance with all applicable permit terms and conditions, and relevant local/state/federal laws. Verify that the plans match the permits.
Review As-Built plans to verify site was constructed to meet all applicable permit/project commitments and mitigation goals.
Enter daily report into EM Toolkit.

ACTIVITIES *NOT* COMPLETED BY ENVIRONMENTAL MONITOR
Directly instruct Contractor to complete work.
Approve changes to the approved plan.
Assist in any activity that could result in the IEM being held liable for any unforeseen results (ex. spill clean-up).
Filling out Inspector Daily reports with Pay items.
Complete Quality Assurance Rating Form.
Submit report to SHA Project Engineer prior to concurrent notification
Material testing.
Approving unauthorized activities or impacts.
Stop Contractor work/progress.
Prepare documentation for plan modifications.
Approve installation and removal of E&S controls.
Development of mitigation/restoration plans.
Approve materials.
Assist in construction activities.
Act as part of SHA Construction Inspection Staff.
Perform as-built survey.