Part B
Sediment and Stormwater Procedures

Maryland Department of Transportation State Highway Administration
Version 1.4
October 6, 2017

Errata

The following changes have been made to Part B of this document as part of version 1.4:

Page	Item
Entire Document	References to Maryland State Highway Administration have been replaced by Maryland Department of Transportation State Highway Administration. References to SHA have been replaced by MDOT SHA References to SHA-PRD have been replaced by PRD Sections that have been substantively revised in addition to the above-mentioned items are noted in the Table of Contents

Part B-Table of Contents

Part B-Table of Contents (Continued)

1.0 Administrative Procedures

1.1 Introduction

These administrative procedures have been developed in accordance with the Memorandum of Understanding (MOU) dated July 8, 2014, between the Maryland Department of Transportation State Highway Administration (MDOT SHA) and the Maryland Department of the Environment (MDE). This MOU designates MDOT SHA as an "approving authority" for erosion and sediment control and stormwater management plans for MDOT SHA projects in accordance with the provisions of Annotated Code of Maryland, Environment Article, Title 4, Subtitle 1, Sediment Control and Title 4, Subtitle 2, Stormwater Management.

The Plan Review Division (PRD), within the MDOT SHA Office of Highway Development (OHD), has been created to provide a separate and distinct division with the sole responsibility to review and approve MDOT SHA stormwater management and erosion and sediment control plans. These reviews will ensure compliance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control, the 2000 Maryland Stormwater Design Manual, Volumes I & II, the Maryland Department of the Environment Erosion and Sediment Control and Stormwater Management Regulations, and all supplements thereof.

The Plan Review Division is separate and distinct from the OHD design divisions. The Plan Review Division is supervised by the Deputy Director who does not oversee design functions. The divisions responsible for engineering design are supervised by a different Deputy Director. The MDOT SHA Plan Review Division will provide sediment control and stormwater plan review and approval for all MDOT SHA projects.

The Highway Hydraulics Division (HHD), within OHD, will continue to serve a critical role in overseeing the design and development of project plans for sediment, stormwater, and drainage. HHD will provide technical design expertise with regards to drainage, stormwater management, erosion and sediment control, stream restoration, climate change, BMP and drainage systems inspection and maintenance, drainage asset management efforts, etc. HHD will review milestone plans to ensure compliance with internal MDOT SHA design requirements, as well as MDE requirements. HHD will also play an essential role in the submittal process of projects led by OHD. All OHD submissions to PRD will be processed through HHD.

The Environmental Programs Division (EPD) within the Office of Environmental Design will continue to provide E&S inspections through the Quality Assurance (QA) Program, to ensure compliance with the approved E&S plans. The QA program will also ensure compliance with the SWM plans through the SWM as-built inspection process.

1.2 Implementation and Organizational Structure

1.2.1 Plan Review Transition

The transitioning of plan review and approvals from MDE to MDOT SHA will proceed as follows:

- Upon MDE approval of MDOT SHA's Sediment and Stormwater Guidelines and Administrative Procedures on February 24, 2015, all new MDOT SHA projects not currently under review by MDE are reviewed and approved by PRD instead of by MDE.
- As of December 20, 2016, all remaining MDOT SHA projects under review by MDE are transferred to PRD except as noted below.
    - MDOT SHA design-build projects that had been assigned an MDE plan review number (SF number) for erosion and sediment control and stormwater management continue to be reviewed and approved by MDE, including modifications and as-builts.
    - The review and approval of small ponds per Environment Article, Section 5-503 Annotated Code of Maryland remains under MDE authority.
- Projects with an SF number that did not have final approval before being transferred to PRD will be assigned a PRD plan review number (PR number).
- Projects with an SF number that had final approval before being transferred to PRD will retain their SF number. PRD will only review and approve modifications and as-builts for these projects.
- PRD may approve extensions to MDE approved projects with SF numbers higher than 10-SF-0356. Projects with earlier SF numbers (up to and including 10-SF-0356) must request extensions from MDE. MDE may choose to grant extensions for these projects at their discretion and may require additional SWM measures or WQ Bank debits.

1.2.2 Compliance Transition

The transitioning of compliance responsibility will proceed as follows:

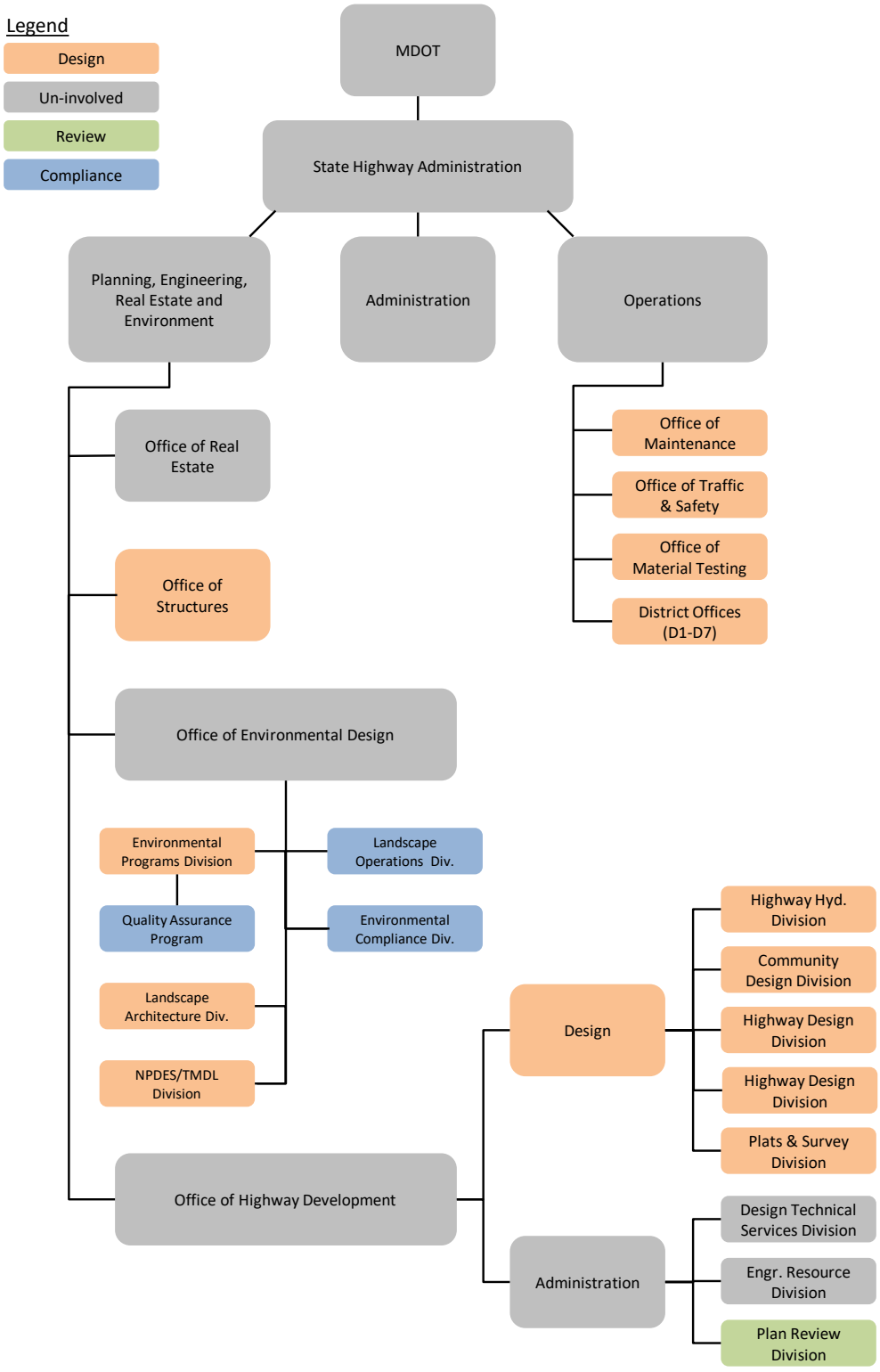
- All Projects (MDE SF and MDOT SHA PR) will be adopted for SWM compliance inspections by the MDOT SHA QA program.
- Enforcement for SWM will remain with MDE. Delegation does not include enforcement.
- Compliance and enforcement for NPDES General Construction Permits will remain with MDE Compliance. Delegation does not include NPDES.
- ESC compliance for all projects will continue through MDOT SHA QA program. ESC enforcement shall remain with MDE Compliance Program.

1.2.3 MDOT SHA Organizational Structure

MDOT SHA's Plan Review Division will be under the umbrella of the Deputy Administrator of Planning, Engineering, Real Estate and Environment. Figure 1 on the following page represents MDOT SHA's organizational structure and is color coded to highlight the functions of design, plan review, and compliance.

MDOT SHA Organizational Structure

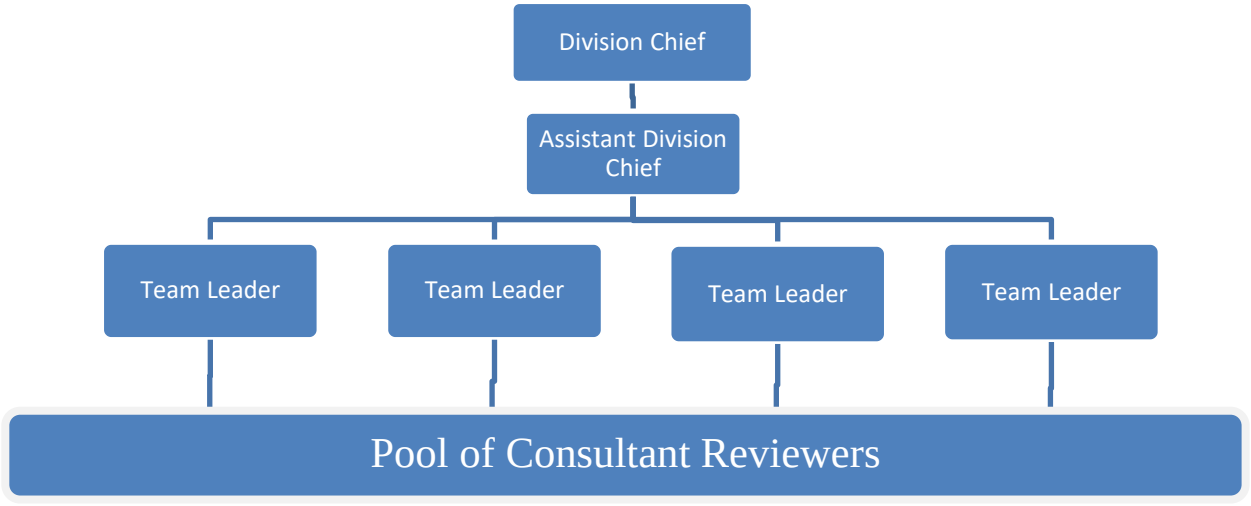
Figure 1 identifies various design, review and compliance offices within SHA



1.2.4 PRD Organizational Structure

Figure 2 details the organizational layout of the Plan Review Division (PRD). The Pool of Consultant Reviewers referenced will include consultants that are Professional Engineers and have been determined by MDOT SHA to be qualified to complete such reviews. At the initiation of the plan review program, MDOT SHA will utilize in-house plan review staff and/or currently approved MDE reviewers.

Figure 2: Plan Review Division Organizational Chart



1.3 Responsibilities and Qualifications

1.3.1 Plan Review Division Chief

The Plan Review Division Chief (PRD Chief) will be responsible for MDOT SHA's sediment and stormwater plan review and approval activities. This oversight function includes assessing the technical merits of the plan reviews performed, the division's performance measures, project assignments, consistency of the reviews, as well as removing conflicts of interest, communicating with MDE, and updating the Guidelines and Procedures. The PRD Chief will be responsible for implementation and enforcement of the conditions noted in the MDOT SHA-MDE Memorandum of Understanding and these Guidelines and Procedures.

The PRD Chief will have final authority regarding stormwater management and sediment control policy decisions and will sign plan approvals, modification approvals, waiver approvals and variance approvals. If necessary, the Deputy Director overseeing PRD and the Director of OHD may sign approval letters in accordance with the MOU between MDOT SHA and MDE.

The PRD Chief will have the following qualifications:

- Registered Professional Engineer in the State of Maryland
- MDE "Responsible Personnel Training for Erosion and Sediment Control" program (Green Card Certification) or enrollment in the next available class
- MDOT SHA Erosion and Sediment Control Certification (Yellow Card Certification) or enrollment in the next available class
- Minimum 10 years of experience in civil engineering projects
- Possess knowledge, skills, and ability to practice erosion & sediment control, stormwater management, hydrology, hydraulics, and related technical design and review.

1.3.2 Plan Review Division Assistant Division Chief

The Plan Review Division Assistant Division Chief (PRD ADC) will assist the PRD Chief with oversight of Plan Review Division responsibilities. The PRD ADC will be responsible for project assignment, workload tracking, audit checks on work performed, tracking performance measures, and training. The PRD ADC may also review and sign comment letters, Concept approvals, and Site Development approvals.

The Assistant Division Chief will have the following qualifications:

- Registered Professional Engineer in the State of Maryland
- MDE "Responsible Personnel Training for Erosion and Sediment Control" program (Green Card Certification) or enrollment in the next available class
- MDOT SHA Erosion and Sediment Control Certification (Yellow Card Certification) or enrollment in the next available class
- Minimum 7 years of experience in civil engineering projects
- Understanding of Maryland's Erosion & Sediment Control and Stormwater Management program

1.3.3 Plan Review Division Team Leaders

PRD Team Leaders (PRD TL) will be primarily responsible for overseeing consultant plan reviewers, performing reviews when necessary, and will ensure that conflicts of interest between the design team and the review personnel assigned to each project are avoided. PRD Team leaders will be responsible for reviewing and signing comment letters prepared by Review Staff, with concurrence from PRD DC or PRD ADC. They may also periodically perform reviews, prepare comment letters, prepare draft approval letters, and prepare draft modification approval letters. Team Leaders will have the following qualifications:

- Registered Professional Engineer(s) in the State of Maryland

- MDE "Responsible Personnel Training for Erosion and Sediment Control" program (Green Card Certification) or enrollment in the next available class
- MDOT SHA Erosion and Sediment Control Certification (Yellow Card Certification) or enrollment in the next available class
- Minimum 5 years of relevant water resources design experience
- Extensive experience and knowledge of the sediment control and stormwater management plan development and review process and policies, preferably in Maryland.

1.3.4 Plan Review Division Review Staff

The Plan Review Division Review Staff will consist of a pool of consultant reviewers. Review Staff will be responsible for performing reviews, preparing draft comment letters, preparing draft approval letters, preparing draft modification approval letters, and coordinating with PRD Team Leaders and PRD ADC as necessary. Review Staff may perform reviews at MDOT SHA or at the consultant's office. The reviewers shall attend review briefing meetings with the PRD TL, as needed, at MDOT SHA premises. Projects will be assigned to reviewers with no connection to the designer (or to the contractor, in the case of DB or CMAR projects) on that particular project.

Review Staff will be selected based on review of qualifications and interviews with PRD Division Chief and must have the following minimum qualifications:

- Registered Professional Engineer(s) in the State of Maryland
- MDE "Responsible Personnel Training for Erosion and Sediment Control" program (Green Card Certification) or enrollment in the next available class
- MDOT SHA Erosion and Sediment Control Certification (Yellow Card Certification) or enrollment in the next available class
- Knowledge of Maryland's SWM and ESC Manuals, MDOT SHA's Sediment and Stormwater Guidelines and Procedures
- Understanding of construction methods and the ability to work with field personnel.
- Minimum five years of relevant SWM, ESC, and H/H engineering design experience
- Effective written communication skills

1.3.5 MDOT SHA SWM/ESC Plan Work Flow

Figure 3 on the following page provides a matrix that shows SWM/ESC plan design, review, and compliance roles and responsibilities in graphical format.

Figure 3: SWM/ESC Plan Workflow Roles and Responsibilities

	Review and Approval							Design		Construction					
	MDE	MDOT SHA Management	Plan Review and Approval Staff					Design Engineering Staff		Contractor	MDOT SHA Compliance				
Action/Activity	MDE	OHD Director	OHD Deputy Director	Division Chief (PRD)	Assistant Division Chief (PRD)	Team Leaders (PRD)	Review Staff (PRD)	Design Engineering Manager /Community	Design Engineer/Project Manager	Contractor	QA Program/Representative	QA Program/Team Approver	OHD/HHD Team Lead	OED Leadership	District Construction/OOC
PRD Mission and Goal Setting	A	A	A	P	P	I		I						I	I
Plan Development								P	P						P/I
Over the shoulder review details of ESC/SWM during plan development and engineering		I	I	I	I	I	I	R	P		I		R		I
Over the shoulder review R/W needs and plan cohesiveness during plan development		I	I	I	I	I	I	R	P		I		R		I
Concept Plan		A	A	A	A	R	R	P	P				P/R		I
Site Development Plan		A	A	A	A	R	R	P	P				P/R	I	I
Final Plan		A	A	A	R	R	R	P	P				P/R	I	I
Modification Request of Approved Plan		A	A	A	R	R	R	P	P	I	I	I	I	I	I
Field Change - Minor Plan Modification				I	I	I	I	P	P	P	A/R	A/R	A/R		I
Field Change - Major Plan Modification		A	A	A	R	R	R	P	P	P	I	I	I	I	I
Annual Reports for MDE	A	A	P	P	P	I	I	I				I	I	I	I

Key:

P Prepares the document or performs the action/activity

R Reviews the documentation provided and provides recommendations/comments to the approver or designer

A Approves and executes the document that completes the action/activity

I May provide input, consultation or information for the completion of the action/activity

1.4 Project Development Process

The development, review, and approval process for SWM/ESC plans is concurrent with MDOT SHA's project development process which is shown graphically in Figure 4 on page B-13. The simplistic linear process shown in Figure 4 represents a typical Design-Bid-Build project. There are many complex related activities and processes that are further explained in MDOT SHA's Office of Highway Development, Project Development Process Manual (PDPM).

1.4.1 Reference Material

The MDOT SHA project development process includes the preparation and design of roadways, bridges, and associated plans, including erosion and sediment control and stormwater management plans. Sediment and stormwater plans are developed in accordance with the latest laws, regulations, guidelines, and MDOT SHA and MDE design standards and manuals, including those listed below:

- Annotated Code of Maryland (COMAR), Environmental Article, Title 4, Subtitle 1, Sediment Control
- Annotated Code of Maryland (COMAR), Environmental Article Title 4, Subtitle 2, Stormwater Management
- 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control
- 2000 Maryland Stormwater Design Manual, Volumes I & II
- Sediment and Stormwater Guidelines for MDOT SHA Projects
- Sediment and Stormwater Procedures for MDOT SHA Projects
- MDOT SHA Field Guide for Erosion and Sediment Control
- Anne Arundel Soil Conservation District requirements for projects in the Severn River Watershed
- Highway Drainage Manual (MDOT SHA)
- Book of Standards for Highway & Incidental Structures (MDOT SHA)
- Standard Specifications for Construction and Materials (MDOT SHA)
- MDOT SHA NPDES Standard Operating Procedures
- MDOT SHA Stormwater Site Development Guidelines
- MDOT SHA Regional Environmental Coordinator Field Manual
- Maryland‘s Waterway Construction Guidelines (MDE)
- American Association of State Highway and Transportation Officials (AASHTO) policies, procedures, and guidelines
- Critical Areas Commission Requirements

1.4.2 Permit Acquisition and Tracking

Submitting for and receiving all necessary permits and approvals is integral to the success of a

project. MDOT SHA has developed several methods of tracking all required permits to ensure they are received prior to construction commencing. The first layer in permit tracking is the responsibility of the project development lead division to identify the permit needs and coordinate permit acquisition for the project.

The second layer of permit tracking occurs within the MDOT SHA offices that maintain expertise associated with specific environmental requirements. These offices coordinate permit needs with the respective environmental agency. For example, the Environmental Program Division (EPD) identifies and coordinates all permits associated with Section 404 of the Clean Water Act, State Wetlands, State Waters, and forest/tree impacts (e.g. MDE-Non Tidal, USACE, USFWS, DNR). The Environmental Planning Division (EPLD) of the Office of Planning and Preliminary Engineering identifies and coordinates all permits associated with the National Environmental Policy Act/Maryland Environmental Policy Act (NEPA/MEPA) and related federal/state laws and regulations. The Highway Hydraulics Division (HHD) identifies and coordinates approvals/permits for SWM, E&SC, small pond, and Dam Safety. HHD ensures that the National Pollution Discharge Elimination System's (NPDES) permit coverage for stormwater during construction is obtained through submission of Notice of Intent (NOI) to MDE. Once environmental permit requirements have been identified, the project manager within the responsible division ensures all permits are in hand or in process throughout the project development process.

The final all-inclusive layer in permit tracking is provided by including project permit needs on the MDOT SHA Advertisement Schedule for Bids (a.k.a. AD Schedule). The weekly AD Schedule meetings involve high-level discussions of projects schedules and major project clearances such as permits, utilities, and rights-of-way. These meetings are attended by the leadership at MDOT SHA, including, but not limited to, the MDOT SHA Administrator and Directors of various offices within the Design and Operations areas of the MDOT SHA, including HHD Chief, PRD Chief, EPD Chief, EPLD Chief, or their representatives.

1.4.3 Public and Agency Involvement

To ensure public involvement in the project development process, MDOT SHA provides several opportunities for comments. Large-scale projects undergo a planning process that includes a public hearing prior to the engineering phase. During the normal milestone review process, local entities and/or officials are provided plans for review and comment. At a minimum, these milestone review processes occur at 30% (Preliminary Investigation, a.k.a. PI) and 90% (Final Review, a.k.a. FR) design completion. For large and complex projects, an additional milestone at 65% (Semi-Final Review, a.k.a. SFR) design completion can be expected. If wetland/waterway impacts are expected, adjacent property owners and local elected officials are also notified of the project and are provided an opportunity to comment. If the project is part of the NOI process, the project will be put on public notification, as required.

To allow for input from any concerned party at any given time, MDOT SHA utilizes an online Customer Care Management System (CCMS). This system allows citizens or other external interested parties to submit any comments, concerns, or issues to MDOT SHA, including concerns relating to SWM, ESC, or drainage. Each CCMS entry is logged in and forwarded to the appropriate personnel within MDOT SHA for response and resolution. Typically, SWM,

ESC, and drainage concerns are addressed by the Office of Environmental Design, the Highway Hydraulics Division, or the MDOT SHA regional District Office's construction and maintenance staff. Each CCMS entry is tracked and the customer service performance of each office is measured and often monitored by the MDOT SHA Deputy Administrator or above.

A broader and higher level coordination is held each year for all large capital improvement projects, as well as many of MDOT SHA's system preservation projects. The MDOT SHA Administrator and representatives of the Maryland Department of Transportation (MDOT) conduct Consolidated Transportation Plan (CTP) tours with each county of the State. During these tours, state, federal and local elected officials, county officials, municipal officials and many high stake users of the roadways, such as local police and fire department officials, actively participate in providing their transportation needs to MDOT and MDOT SHA. MDOT SHA's six year Consolidated Transportation Plan (CTP) is a direct result of this process. The majority of MDOT SHA projects undergo an extensive planning process which includes interagency review and concurrence.

1.4.4 Procurement Methods

1.4.4.1 Design-Bid-Build (DBB)

The process of plan development as described above and shown in Figure 4 applies to the vast majority of MDOT SHA projects. This process is generally known as Design-Bid-Build procurement. For DBB projects, MDOT SHA develops engineering designs, provides utility coordination, and is responsible for the acquisition of all permits and right-of-way. The project is then advertised for bids. Once bids are received from contractors, the successful low bidder is generally offered the contract. MDOT SHA provides contract management and oversight. As the owner, MDOT SHA assumes the majority of the risk, even during construction.

1.4.4.2 Alternative Project Delivery

1.4.4.2.1 Design-Build (DB)

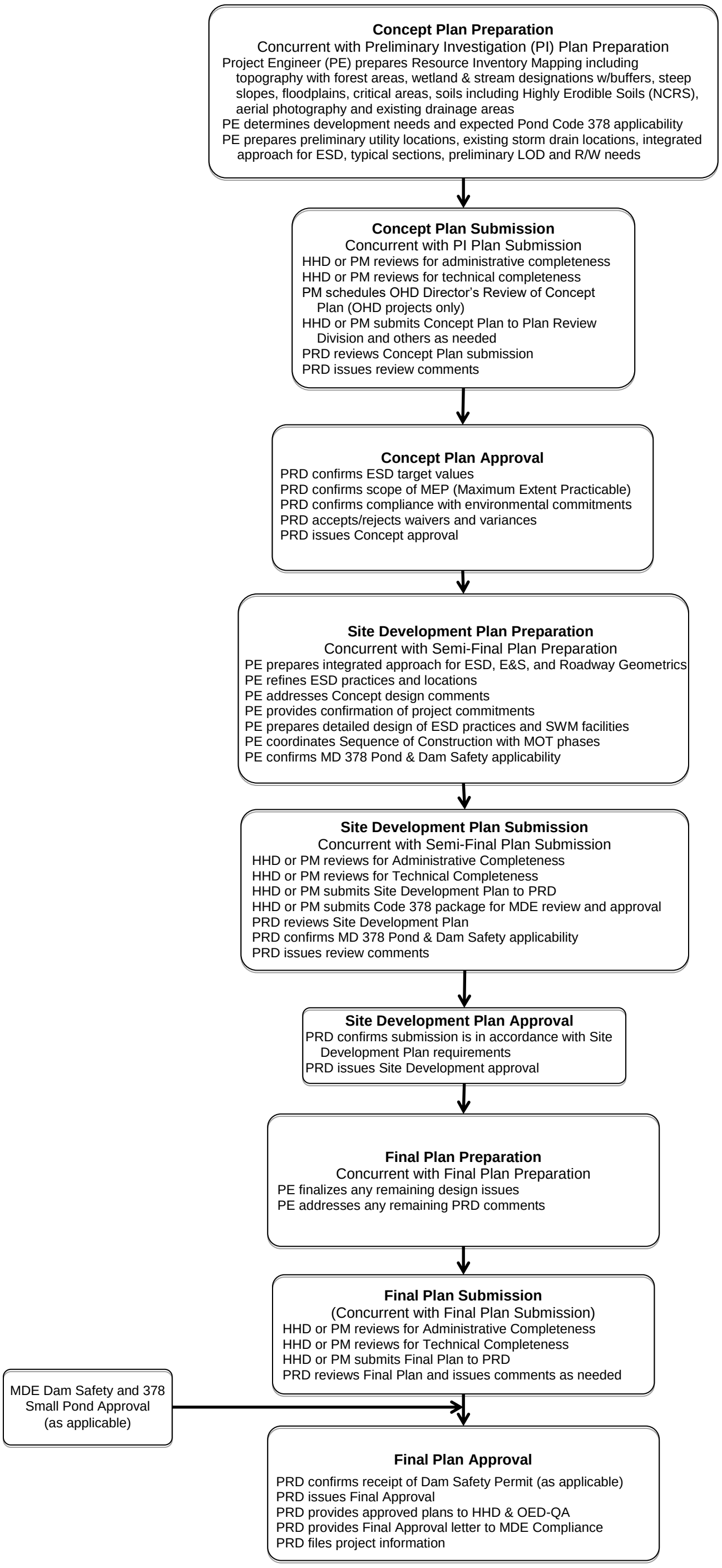
Design-Build is an alternative project delivery method in which MDOT SHA procures a single contract with a Design-Build Team (consisting of a contractor and a designer), generally after completion of the environmental document, to complete the Final Design and construction of a project. This project delivery method typically uses a two-step procurement process to award the contract. Step One establishes a Reduced Candidate List (RCL) of the most highly qualified Design-Build Teams and Step Two selects the Design-Builder from the RCL who is determined to be the most advantageous through either a low price or "best-value" award. The selected Design-Build Team develops the final engineering plans and acquires permits or modifications based on the requirements defined by MDOT SHA in the Request for Proposals. The plans and permits may be phased into various construction packages to facilitate accelerated construction and project completion.

1.4.4.2.2 Construction Management at Risk (CMAR)

Construction Management at Risk (CMAR) (also known as Construction

Manager/General Contractor (CM/GC)) is an alternative project delivery method in which MDOT SHA contracts with a Contractor during the Preliminary or Final Design phase to provide preconstruction engineering services. The Contractor is selected during the design phase through either a one-step or two-step procurement. The project design is then completed by MDOT SHA through its in-house or consultant resources. The selected Contractor provides preconstruction engineering services such as constructability reviews, value analysis, scheduling, site assessments, and cost estimating during the design phase. Once design has reached a significant level of completion, MDOT SHA will request the Contractor to submit a Guaranteed Maximum Price (GMP) to complete the construction of the project. Subject to a successful GMP reconciliation between MDOT SHA and the Contractor, the contract for pre-construction services will be amended and the Contractor will complete the construction of the project. The need for Contractor input into the design development and constructability of complex and innovative projects are the major reasons MDOT SHA may select the CMAR project delivery method. Unlike DBB, CMAR brings the Contractor into the design process at a stage where their input can have a positive impact on the project. Permit acquisition for a CMAR contract will follow the same process of a Design-Bid-Build contract; however, multiple construction packages or phases may be separately approved for permitting and construction.

Figure 4: Process for Stormwater Management and Erosion and Sediment Control Plans concurrent with SHA Project Development Process Manual



1.5 Project Submission, Review and Approval Process

1.5.1 Overall Process

Initial submissions of the Concept, Site Development, and Final plans should occur on or before the scheduled plan distribution dates for the respective Preliminary Investigation (PI), Semi-Final (SF), and Final (FR) MDOT SHA project milestones. Project milestones generally relate to the percent stage of plan development. PI means 30% plan completion, SF means 65% plan completion, and FR means 90% plan completion. Sediment and stormwater plan content and plan submission requirements are included in Section 7.1 of Guidelines and Appendix 1.

Figures 5, 6, and 7 on the following three pages show the overall process for plan submission, review, and approval for Design-Bid-Build, Design-Build, and for Construction Management at Risk Projects.

Figure 5: Design-Bid-Build Projects

MDOT SHA Project Milestone	Preferred Timeline for Highway Hydraulics Division (Submittals)	Plan Review Division (Review and Approval)
Preliminary Investigation (30%)	HHD presents project at Director's Review for OHD projects	PRD attends Director's Review and provides informal comments to HHD and Project Manager (PM)
	HHD or PM makes Concept submission 4 weeks prior to the Preliminary Investigation (PI) meeting	PRD assigns unique tracking number
		PRD assigns a project reviewer (PRD staff or certified consultant)
		PRD determines submission is administratively complete
		PRD logs in the submission and sends HHD & PM notification
		Project reviewer conducts a review of the submission and provides written comments summarizing the concerns and requirements to obtain Concept approval. It is advisable that the determination be made at Concept Stage of whether the project will require Code 378 small pond or hazard class Dam Safety review and approval. Written comments are sent to HHD & PM
	HHD or PM submits revised plans and provides point-by-point responses to the written comments. Revision and submission cycle is repeated, as needed, until all comments are addressed to the satisfaction of PRD.	Repeat the review cycle as needed until all comments are addressed to the satisfaction of PRD
		PRD issues Concept approval letter to HHD & PM
Semi-Final (65%)	HHD or PM makes Site Development submission 4 weeks prior to Semi-Final review (SFR) meeting	PRD logs in the submission
		PRD determines submission is administratively complete
		PRD sends HHD & PM notification
		Project reviewer conducts a review of the submission and provides written comments summarizing the concerns and requirements to obtain approval. The reviewer will confirm the need for Code 378 small pond approval or hazard dam safety review and these comments will be included in the review letter sent by PRD to HHD & PM.
	HHD or PM submits revised plans and provides point-by-point responses to the written comments. Revision and submission cycle is repeated, as needed, until all comments are addressed to the satisfaction of PRD.	Repeat the review cycle as needed until all comments are addressed to the satisfaction of PRD
		PRD issues Site Development approval letter to HHD & PM
Final (90%)	HHD or PM makes Final submission For projects with Standard Plans, such as TMDL projects, HHD or PM may make a combined Site Development and Final submission.	PRD logs in the submission
		PRD determines submission is administratively complete
		PRD sends HHD & PM notification
		PRD tracks the time for reviewer to start and complete the review and can send notifications when review is behind schedule.
		Project reviewer conducts a review of the submission and provides written comments summarizing the concerns and requirements to obtain approval.
	HHD or PM submits revised plans and provides point-by-point responses to the written comments. Revision and submission cycle is repeated, as needed, until all comments are addressed to the satisfaction of PRD. If applicable, HHD or PM submits copies of approvals received from MDE for Code 378 Ponds and Dam Safety.	Repeat the review cycle as needed until all comments are addressed to the satisfaction of PRD.
		If applicable, PRD verifies that approvals have been issued for Code 378 Ponds and Dam Safety.
		PRD issues Final approval letter and an electronic copy of the signed approved plans to HHD, PM, and MDOT SHA QA Program.
		PRD issues Final approval letter and an electronic copy of the signed approved plans to HHD, PE, and SHA QA Program.

Figure 6: Design-Build Projects*

MDOT SHA Project Milestone	Preferred Timeline for Highway Hydraulics Division (Submittals)	Plan Review Division (Review and Approval)
MDOT SHA Lead Design or DB Team		
Preliminary Investigation (30%) or Planning Phase III	HHD presents project at Director's Review for OHD projects	PRD attends Director's Review and provides informal comments to HHD and PM
	HHD or DB Team makes submission 4 weeks prior to PI meeting or contract award. The DB Team contracting entity must have prior concurrence from HHD to be the submitter.	PRD logs in the submission and sends HHD & PM notification of receipt
		PRD assigns unique tracking number
		PRD assigns a project reviewer (PRD staff or certified consultant)
		PRD emails the tracking number and reviewer information to HHD & PM
		PRD determines submission is administratively complete
		PRD sends HHD & PM notice that submission is administratively complete
		Project reviewer conducts a review of the submission and provides written comments summarizing the concerns and requirements to obtain Concept approval. Written comments are sent to HHD & PM.
	HHD or DB Team submits revised plans and provides point-by-point responses to the written comments. Revision and submission cycle is repeated, as needed, until all comments are addressed to the satisfaction of PRD. Project's need for small pond approval or the Dam Safety approval shall be identified at this stage.	Repeat the review cycle as needed until all comments are addressed to the satisfaction of PRD. The reviewer will identify the need for Code 378 small pond approval or hazard dam safety review and these comments will be included in the review letter sent by PRD to the submitter.
		PRD issues Letter of Intent (LOI) or concept approval, as applicable, to HHD, PM, and DB Team lead once concept is accepted.
DB Procurement		
Phased Plan Packages Site Development and Final Plans are developed together.	The DB Team makes submission for a project phase or for advanced grading directly to PRD concurrent with submission to HHD.	PRD determines submission is administratively complete
		PRD sends submitter notice that submission is administratively complete
		Project reviewer conducts a review of the submission and provides written comments summarizing the concerns and requirements to obtain approval. The reviewer will also identify the need for Code 378 small pond approval or hazard dam safety review and these comments will be included in the review letter sent by PRD to the submitter.
	The DB Team provides revised plans and point-by-point responses to the written comments. Revision and submission cycle is repeated, as needed, until all comments are addressed to the satisfaction of PRD. If applicable, the DB Team provides copies of submissions, reviews, responses, and approvals received from MDE for Code 378 Ponds and Dam Safety. If applicable, the DB Team provides copies of approvals received from AASCD and CAC submissions, reviews, and responses. If applicable, the DB Team provides information and correspondence of citizen/stakeholder comments or concerns related to sediment and stormwater.	Repeat the review cycle as needed until all comments are addressed to the satisfaction of PRD
		If applicable, PRD verifies that approvals have been issued for Code 378 Ponds and Dam Safety.
		PRD issues conditional approval for the project, an interim phase, or a phase of the project or initial grading.
Final approval is issued once all phases are submitted, reviewed and approved		

* DB projects do not follow MDOT SHA's milestone process of PI, SFR and FR. Contract award typically occurs at no more than 30% design level, but not necessarily after stormwater concept approval. After the contract is awarded, the contracting team begins concurrent design, approval, and construction for the entire project or portions of the project until full project completion.

Figure 7: Construction Management at Risk Projects*

MDOT SHA Project Milestone	Preferred Timeline for Highway Hydraulics Division (Submittals)	Plan Review Division (Review and Approval)
Preliminary Investigation (30%)	HHD presents project at Director's Review for OHD projects	PRD attends Director's Review and provides informal comments to PM
	HHD or PM makes Concept submission 4 weeks prior to PI meeting	PRD assigns unique tracking number
		PRD assigns a project reviewer (PRD staff or certified consultant)
		PRD determines submission is administratively complete
		PRD sends HHD & PM notification
		Project reviewer conducts a review of the submission and provides written comments summarizing the concerns and requirements to obtain Concept approval. The reviewer will identify the need for Code 378 small pond approval or hazard dam safety review. Written comments are sent to HHD & PM.
	HHD or PM submits revised plans and provides point-by-point responses to the written comments. Revision and submission cycle is repeated, as needed, until all comments are addressed to the satisfaction of PRD.	Repeat the review cycle as needed until all comments are addressed to the satisfaction of PRD
		PRD issues Concept approval letter to HHD & PM.
CMAR		
Phased Plan Packages Site Development and Final Plans are developed together.	HHD makes submission for a project phase or overall project to PRD.	PRD logs in the submission and sends notification of receipt to submitter
		PRD determines submission is administratively complete
		PRD sends submitter notice that submission is administratively complete
		Project reviewer conducts a review of the submission and provides written comments summarizing the concerns and requirements to obtain approval. The reviewer will confirm the need for Code 378 small pond approval or hazard dam safety review and these comments will be included in the review letter sent by PRD to the submitter.
	HHD provides revised plans and point-by-point responses to the written comments. Revision and submission cycle is repeated, as needed, until all comments are addressed to the satisfaction of PRD. If applicable, the submitter provides copies of submissions, reviews, responses, and approvals received from MDE for Code 378 Ponds and Dam Safety. If applicable, the submitter provides copies of approvals received from AASCD and CAC submissions, reviews, and responses. If applicable, the submitter provides information and correspondence regarding citizen/stakeholder comments or concerns related to sediment and stormwater.	Repeat the review cycle as needed until all comments are addressed to the satisfaction of PRD
		If applicable, PRD verifies that approvals have been issued for Code 378 Ponds and Dam Safety.
		PRD issues conditional approval for the project, an interim phase, or a phase of the project or initial grading.
Final approval is issued once all phases are submitted, reviewed and approved		

* CMAR projects may not follow MDOT SHA's milestone process of PI, SFR and FR. Contract award may occur prior to stormwater concept approval. After the contract is awarded, the CMAR Contractor works with the MDOT SHA to phase the design and construction which may result in phased plan packages. The final design, however, is completed by MDOT SHA or its consultant.

1.5.2 Plan Submittal and Review Process

1.5.2.1 Tracking

PRD will assign a unique tracking number to each project distinct from the contract number that will be used throughout the review, approval, and compliance process. All project submissions will be logged in and entered into the PRD database. The data tracked will include project name, location, MDOT SHA contract number, FMIS number, PR tracking number, comment letter dates, approval letter date, and other information to be used for the purpose of tracking and reporting. Electronic copies of all submissions, approvals, emails, and other correspondence will be stored on ProjectWise.

1.5.2.2 Erosion and Sediment Control

Erosion and sediment control plans for MDOT SHA projects shall be reviewed by the MDOT SHA Plan Review Division to ensure compliance with the Annotated Code of Maryland, Environmental Article, Title 4, Subtitle 1, Sediment Control; the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control; the MDOT SHA Sediment and Stormwater Guidelines (Guidelines); and the MDOT SHA Erosion and Sediment Control Design Procedures.

Erosion and sediment control submittals shall include plans and accompanying documents which include sufficient information to evaluate the proposed impacts and ESC control measures for the proposed project.

Maryland Department of the Environment (MDE) Water Management Administration (WMA) has developed a list of twenty-seven (27) standard notes for construction projects. These notes are included in the Maryland Erosion and Sediment Control Guidelines for State and Federal Projects, 2004. Maryland State Highway Administration (MDOT SHA) has a set of sixteen standard notes that are included in their construction plan sets. The information provided below is intended to demonstrate how MDE's 26 standard notes are incorporated by MDOT SHA into their construction contract documents.

MDOT SHA includes the following as part of their contract documents:

1. MDOT SHA Standard Specifications for Construction and Materials (Generally published and updated once every 10 years with vetting through a committee process for development and updates). This is a binding contract document by reference.
2. Special Provision Inserts (SPI – Provides updates to the Standard Specification document described above. The process of developing and publishing SPI is through committee. SPI's become part of the Standard

Specification book when it is updated). These documents are included with all projects during the bid process.

3. Special Provisions (SP - Specifications related to a specific project or construction, often these become an SPI if used on all projects and once approved through the committee process). These documents are included with specific projects during the bid process.

4. Contract Plans - These documents are included for each project during the bid process.

5. MDOT SHA Book of Standards – provides standard details of construction such as curb and gutter, inlets, manholes etc. This is a binding contract document by reference.

6. MDOT SHA Field Guide for Erosion and Sediment Control – provides MDE standard details or upgraded details if MDOT SHA desires, includes notes, sketches, photographs, maintenance requirements, MDOT SHA's methodology of rating ESC performance during construction, common issues and troubleshooting for erosion and sediment control installation, etc. This is binding contract document by reference.

7. Other documents such as Manual of Uniform Traffic Control Devices- These are binding contract documents by reference.

Ideally MDOT SHA would include all 27 notes in the MDOT SHA Standard Specification for Construction and Materials document listed as item #1 above. Due to the timing of when the above referenced MDOT SHA documents were published and when MDE guidelines and requirements change, these 27 notes are split among various MDOT SHA documents. Notes are also split based on if they are a directive for the contractor, a best practice of construction or a best practice for maintenance.

MDOT SHA contract documents may or may not include plans. For example a contract for service such as mowing operation, overlay operation, etc. only utilizes a bid book without plans. Other projects such as bridge construction or interchange construction contain a set of plans in addition to the bid book. Some projects of minor scope may include sketches or details within the bid book itself. All contracts reference the Maryland Department of Transportation, Standard Specifications for Construction and Materials (Item No 1 above), and the MDOT SHA Field Guide for Erosion and Sediment Control (Item No 6 above) in support of the contracts.

The following is an outline of two ways of bidding a contract and how they reference the 27 MDE notes:

1. Bid Book (with or without plans within the 8.5" x 11" book format)

The Bid Book includes project specific contractual terms, conditions, specifications, and bid tabulations above and beyond MDOT SHA's Standard Specification for Construction and Materials. No separate set of plans are included. If any plans are required, they are included as 8.5" x 11" sheets within the bid book.

Sixteen (16) of the standard twenty-seven (27) notes are covered within Section 308 of the MDOT SHA's Standard Specification for Construction and Materials. A Special Provision Insert (SPI) for Section 308 (copy attached) is included in the bid book. This document is used in place of a Standard Erosion and Sediment Control - General Notes plan sheet (copy attached). This SPI covers ten (10) for the remaining standard notes. The MDOT SHA Field Guide for Erosion and Sediment Control addresses one (1) of the standard notes.

2. Bid Book along with Full Size Construction Plans (22 "x 34" plans)

The Bid Book includes project specific contractual terms, conditions, specifications, and bid tabulations above and beyond MDOT SHA's Standard Specification for Construction and Materials. A separate set of plans is provided in addition to the bid book.

Fourteen (14) of the standard twenty-seven (27) notes are covered within Section 308 of the MDOT SHA's Standard Specification for Construction and Material. A Standard Erosion and Sediment Control - General Notes plan sheet covers thirteen (13) of the notes. Some of the MDE notes have been broken down to multiple notes on MDOT SHA Standard E & S General Note Sheet.

The chart on the following page is intended to reference the MDOT SHA plan notes and other references to the MDE plan notes for each of the two bidding methods.

MDE Note No.	Description of MDE Note	Bid Book Project including SPI 308 and SP 308 instead of Standard E & S General Notes Plan Sheet	Bid Plan Project including Standard E & S General Notes Plan Sheet and SP 308
1	Pre-construction notification and meeting	SPI 308, Section 308.01	MDOT SHA Note #1 of the Standard E & S General Notes Plan Sheet
2	Construction Notification	SPI 308, Section 308.01	MDOT SHA Note #1 of the Standard E & S General Notes Plan Sheet
3	Contractor Responsibilities	MDOT SHA Spec 308, page 257	MDOT SHA Spec 308, page 257
4	Construction ingress and egress	SPI 308, Section 308.01	MDOT SHA Note #3 of the Standard E & S General Notes Plan Sheet
5	Inspection of ESC measures	SPI 308, Section 308.01	MDOT SHA Note #4 of the Standard E & S General Notes Plan Sheet
6	Three day stabilization schedule	SPI 308, Section 308.01	MDOT SHA Note #11 of the Standard E & S General Notes Plan Sheet
7	Seven day stabilization schedule	SPI 308, Section 308.01	MDOT SHA Note #11 of the Standard E & S General Notes Plan Sheet
8	Stabilization prior to ESC removal	MDOT SHA Spec 308, page 259 & SPI 308, Section 308.01	MDOT SHA Spec 308, page 259
9	Site documentation requirements	SPI 308, Section 308.01	MDOT SHA Note #6 of the Standard E & S General Notes Plan Sheet
10	Surface drainage controls	MDOT SHA Spec 308, page 259	MDOT SHA Spec 308, page 259
11	Permanent swale stabilization	MDOT SHA Spec 308, page 259	MDOT SHA Spec 308, page 259
12	Temporary ESC measures	MDOT SHA Spec 308, page 259	MDOT SHA Spec 308, page 259
13	Cut and fill max slope limits	MDOT SHA Spec 308, page 259	MDOT SHA Spec 308, page 259
14	Finish grade min slope limits	MDOT SHA Spec 308, page 259	MDOT SHA Spec 308, page 259
15	Sediment trap restrictions	MDOT SHA Spec 308, page 259	MDOT SHA Spec 308, page 259
16	WMA option for additional measures	MDOT SHA Spec 308, page 259	MDOT SHA Spec 308, page 259
17	Trap min requirements	MDOT SHA Field Guide G-1-1 & E&S Manual G-1	MDOT SHA Field Guide G-1-1 & E&S Manual G-1, MDOT SHA Note # 15 of the Standard E & S General Note Plan Sheet
18	Vegetative Stabilization requirements	SPI 308, Design Certification	MDOT SHA Note #2 of the Standard E & S General Notes Plan Sheet
19	Sediment removal requirements	MDOT SHA Field Guide G-1-1 & Spec 308, page 261	MDOT SHA Field Guide G-1-1 & Spec 308, page 261
20	Sediment disposal requirements	MDOT SHA Spec 308, page 260	MDOT SHA Note #7, 8, 10 & Spec 308, page 260
21	De-watering standard	MDOT SHA Spec 308, page 260	MDOT SHA Note #7 & MDOT SHA Spec 308, page 260
22	Sediment control for utilities	SPI 308, Section 308.01	MDOT SHA Note #9 of the Standard E & S General Notes Plan Sheet
23	Safety fence requirement	MDOT SHA Spec 308, page 260	MDOT SHA Spec 308, page 260
24	Off-site spoil and borrow areas	MDOT SHA Spec 308, page 260	MDOT SHA Spec 308, page 260
25	Infiltration device restrictions	MDOT SHA Spec 308, page 260	MDOT SHA Spec 308, page 260
26	Inlet controls during construction	MDOT SHA Spec 308, page 260	MDOT SHA Spec 308, page 260
27	Site information chart	SPI 308, Section 308.01	MDOT SHA Note #12 of the Standard E & S General Notes Plan Sheet

1.5.2.3 Stormwater Management

Stormwater management plans for MDOT SHA projects shall be reviewed by the MDOT SHA Plan Review Division to ensure compliance with Annotated Code of Maryland, Environmental Article Title 4, Subtitle 2, Stormwater Management; the 2000 Maryland Stormwater Design Manual, Vol. I & II; the MDOT SHA Sediment and Stormwater Guidelines (Guidelines); and the MDOT SHA Stormwater Management Design Procedures.

Stormwater Management submittals shall include plans and accompanying reports which include sufficient information to evaluate the proposed impacts and SWM control measures for the proposed project.

1.5.2.4 SWM/ESC Submission and Approval Stages

As noted in the Guidelines and shown in Figure 4, plan development consists of three separate stages. See Section 7.4 of the Guidelines for the required information for at each submission level. Checklists for each submission level listed below are included in Appendices 1.A, 1.B, and 1.C.

Concept Plan

- PRD or certified consultant reviewer will conduct the review and provide written comments summarizing the concerns and requirements to attain Concept approval.
- HHD or PM will ensure comments are addressed and submit revised plans, SWM report and point-by-point responses to the comments. The submittal, review and comment cycle is continued until PRD has determined the SWM Concept to be acceptable.
- Once acceptable, PRD will issue an approval letter for the SWM Concept to HHD and PM.
- For DB projects, a Letter of Intent (LOI) may be issued once the concept is acceptable, instead of a concept approval letter.

Site Development Plan

- PRD or certified consultant reviewer will conduct the review and provide written comments summarizing the concerns and requirements to attain Site Development approval.
- HHD or PM will ensure comments are addressed and submit revised plans, SWM report and point-by-point responses to the comments. The submittal, review and comment cycle is continued until PRD has determined the Site Development submission to be acceptable.

- Once acceptable, PRD will issue an approval letter for the Site Development to HHD and PM.
- For DB or other alternative project delivery methods such as CMAR projects, Site Development plans for a phase or a portion of the project may be submitted and will be reviewed and approved as described above. A conditional letter of approval for a phase of the project may be issued. See Figures 6 and 7, and Section 1.5.2.12 for additional information.

Final Stormwater Management Plan

- PRD or certified consultant reviewer will conduct the review and provide written comments summarizing the concerns and requirements to attain Final approval.
- HHD or PM will ensure comments are addressed and submit revised plans, SWM report and point-by-point responses to the comments. The submittal, review and comment cycle is continued until PRD has determined the Final Plan submission to be acceptable.
- Once acceptable, PRD will issue an approval letter for the Final Plan to HHD and PM. See Section 1.6 of these Procedures.
- For DB or other alternative project delivery methods such as CMAR projects, Final plans for a phase or a portion of the project may be submitted and will be reviewed and approved as described above. The remainder of the project will be reviewed and approved as modifications to this approval.

Specific requirements and minimum content for each of these submittal stages shall be in accordance with the Guidelines. For plans with minor impacts or Standard Plans (such as TMDL) the applicant may be able to submit a combined Site Development and Final Plan with prior concurrence from PRD.

1.5.2.5 Waivers and Variances

As noted in the Guidelines, Environmental Site Design (ESD) must be implemented to the Maximum Extent Practicable (MEP). However, there are situations that warrant relaxing stormwater management requirements due to site-specific circumstances. For those situations, waivers or variances may be applicable.

Waiver requests shall be in accordance with Section 3.3 of the Guidelines. Waiver requests shall be signed by the HHD liaison or the PM. See Appendix 1.G for the PRD SWM Waiver Request Application. Granting approval of waivers is at the discretion of PRD.

In accordance with Section 3.3.B.3 of the Guidelines, a waiver from the county flood control requirements listed in Table 2 of the Guidelines may be requested with concurrence from the county involved. A concurrence letter from the county stating that downstream flooding is not an issue and that quantity control is not required for the applicable design storm shall be included as part of the waiver request.

Variance requests shall be in accordance with Section 3.4 of the Guidelines. Variance request letters shall be signed by HHD or the PM. See Appendix 1.F for a sample Variance Request letter. Granting approval of variances is at the discretion of PRD.

1.5.2.6 Water Quality Bank

The Water Quality Bank is a debit/credit system for stormwater quality treatment as it applies to development projects involving demolition and construction. MDE recognizes that MDOT SHA may remove existing impervious surfaces or provide excess water quality treatment using ESD as a credit toward future construction projects.

The terms and instructions of the Bank as well as a new draft Water Quality Banking Summary Sheet are included in Appendix T. Once MDE finds this acceptable, an Appendix T will become official at a schedule developed by PRD. The Bank currency is acres of impervious area. The Bank only extends to water quality treatment for the first inch of runoff. It does not include channel protection volume or the portion of the ESDv above one inch of Pe.

A completed Water Quality Banking Summary Sheet signed by the designated HHD "bank keeper" is required with each project submitted to PRD for approval even if there is no net credit or debit to the bank. Credits and debits to the Bank are recorded by PRD in the watershed wherein they occur, as defined by the new terms. PRD maintains an Official Bank Balance Tabulation for each watershed, and reconciliation of the bank balances with HHD will occur semi-annually. Prior to approving a withdrawal, PRD will assure that the Bank balance for that watershed is greater than or equal to zero unless otherwise agreed to, in writing, by PRD, HHD, and MDE.

1.5.2.7 Temporary Impervious Cover

To be considered temporary impervious cover, it must remain in place for 24 months or less. To be considered "temporary", disturbed areas associated with the temporary impervious cover must be stabilized and returned to the predevelopment condition within 24 months. Stormwater management quality control will be addressed for temporary impervious cover with a temporary debit from the Water Quality Bank. The debit will be cleared once the temporary impervious cover is removed, the area is

restored to pre-development conditions in accordance with an approved ESC plan, and appropriate validating information is provided to PRD. HHD or the PM will provide the validating information, including an updated Water Quality Summary Sheet for the project.

Projects that include temporary impervious cover must be submitted to PRD for review and approval. These submittals shall include plans, stormwater management analysis, stormwater management waiver/variance requests and erosion & sediment control measures. Increases in discharge associated with the temporary impervious cover shall be analyzed and quantity control shall be provided for the temporary increases in discharge. If applicable, a waiver or variance request in accordance with Sections 3.3 or 3.4 of the Guidelines may be submitted for the temporary increase in discharge.

The contractor will be required to notify the MDOT SHA QA Program upon start of construction for the temporary impervious cover and upon return to pre-development condition. HHD, with the help of the MDOT SHA QA Program, will monitor the duration to verify that these sites have been returned to pre-development conditions within 24 months.

Should these sites not be restored to pre-development conditions at the end of 24 months, the temporary WQ bank debit becomes a permanent debit unless the applicant:

- Requests and receives an extension of the stormwater approval from PRD (an extension of the temporary WQ bank debit should be requested and justified); or
- Provides water quality management by constructing a water quality practice in accordance with an approved ESC/SWM plan (temporary Water Quality Bank debit is reversed).

1.5.2.8 Severn River Watershed

Erosion and Sediment Control plans for all MDOT SHA projects located in the Severn River Watershed must be reviewed and approved by the Anne Arundel Soil Conservation District (AASCD). HHD or PM will submit plans to AASCD and obtain their approval. PRD will issue approval for SWM/ESC plans meeting the requirements of Maryland's SWM and ESC regulations. Modifications made to ESC plans after approval by PRD or AASCD to address the other agency's comments will require a modification to the approval. HHD will ensure that the respective approving agency receives and approves modifications to the previously approved plans. This process is detailed in Appendix U.

1.5.2.9 Chesapeake Bay Critical Area

All MDOT SHA projects located in the Chesapeake Bay Critical Area or that result in discharges within the Critical Area boundary must be reviewed and approved by the Chesapeake Bay Critical Area Commission (CBCAC). The MDOT SHA project review process is bound by the MOU between the Maryland Department of Transportation (MDOT) and the CBCAC. HHD or PM will ensure that approval from CBCAC is obtained for these projects.

1.5.2.10 General Approvals

PRD may issue General Approvals that extend to more than one project involving a specific type of activity or activities, but without a specific project location. Examples of these types of projects that may qualify for a General Approval include pavement resurfacing, culvert lining, landscaping, ADA sidewalk retrofits and upgrades, and routine maintenance on SWM facilities. Limitations are set on the size of the disturbance and the amount of additional impervious area at each location. Water quality requirements will be met by a debit from the SHA Water Quality Bank. Additional impervious area that meets the limitations in the General Approval will be considered to be de minimis with respect to channel protection requirements, as long as evidence of stable outfalls is provided. Development of a General Approval will be coordinated by HHD. Typical sections, plans, and/or standard details with typical limitations on disturbance, additional impervious cover, and development shall be submitted to PRD for review and approval. Prior to issuing a General Approval, PRD will attain concurrence from MDE. The approval period for a General Approval is 2 years. After the 2 year period, a new General Approval may be issued at the discretion of PRD and MDE.

Once a General Approval is issued covering certain types of activities, a copy of the approval with associated documents will be signed and provided to HHD or PM. Individual projects whose scope matches the provisions established by the General Approval for SWM/ESC do not need to follow the regular review and approval process. When a specific project is identified that is anticipated to be covered under a General Approval for SWM/ESC, PRD will review the project scope for compliance with the terms of the applicable General Approval(s) and issue a concurrence letter.

If a portion of the project is not covered under a General Approval, then that portion of the project shall be submitted to PRD for individual review and approval. A copy of all applicable General and Individual Approvals shall be included in the contract documents. All other regulatory permits and approvals must be obtained by HHD or the PM as needed.

1.5.2.11 Standard Plans

If MDOT SHA anticipates having multiple projects involving the same method of development addressing stormwater and sediment controls, a standard plan may be developed for consideration and approval by PRD with concurrence from MDE. Total Maximum Daily Load (TMDL) retrofits, ADA sidewalk retrofits, Safety and Resurfacing, and emergency slope repairs are examples of projects that could potentially have Standard Plans. The Standard Plan shall include ESC/SWM plans, specifications, and computational methods, and shall also specify how these projects will address ESC and SWM. Projects that propose SWM facilities are required to provide As-Built Certifications and schedules on the plans and will follow the regular as-built inspection and approval process.

Once Standard Plans are developed and approved, selected projects will be designed utilizing the approved Standard Plan. Standard Plan development, review, and approval do not constitute approval for construction. A special application and approval form will be developed by PRD for use of the standards plan.

Each project using the Standard Plan will require review and approval for SWM and ESC from PRD. When a project requests approval using the standard plan, the special application will be submitted to PRD and all criteria listed on the standard approval agreement must be meet to PRD's satisfaction before the project will be approved for ESC/SWM. For projects or activities expecting to use a Standard Plan, plan development will have a greater emphasis prior to the concept submission than in a typical project. Concept approval may be obtained through a meeting with PRD, documented with formal meeting minutes. Site Development and Final plan review and approval may be combined. To approve a project using a Standard Plan, PRD will issue an approval letter and sign the Standard Plan Application form. Plans will not be signed and stamped.

1.5.2.12 Alternative Project Delivery

For projects to be delivered through alternative project delivery methods such as Design-Build or CMAR, phased packages may be developed. For DB, either MDOT SHA or the DB Team will submit the concept for review and approval. Once concept is approved, a Letter of Intent will be prepared by PRD for a DB project or a Concept approval letter for a CMAR project. See Appendix 1.R for a sample Letter of Intent. The Letter of Intent outlines relevant information for each POI; the stormwater requirements for recharge, water quality volume, channel protection volume, ESDv, peak flow management required, the proposed management; any waivers and variances being allowed, any WQ banking transactions, and any special concerns or requirements for the project. The concept review process for a DB project may require that additional information be submitted, as compared to a DBB project. This additional

information would pertain to the reliability of the SWM and ESC concepts, such as soil boring results, grading of SWM facilities to ensure sufficient cut and fill slopes are provided, and locations of ESC practices. The signed letter of intent with the approved concept plan, stamped and signed, will be provided to HHD and the project lead.

Typically, the process for final plan preparation begins at this point. Utilizing the expertise of engineering and construction staff, the contracted team prepares a project strategy that is intended to deliver the project at a faster speed and lower cost than DBB, while meeting the desired outcomes for MDOT SHA. Project plans may be prepared to full completeness at once or in phases and may include interim phases.

Submissions for these projects are typically broken down into phased packages. Plans for the entire project could also be submitted. Plans will be submitted concurrently to PRD and HHD by the DB Team for DB projects or submitted to PRD by HHD for CMAR projects. PRD will review, comment on, and approve plans as they are submitted. If the approval of the first phase is requested, PRD may issue a conditional approval. To satisfy the NPDES General Construction Permit, this conditional approval should include the following language:

> "This approval is only for [*name of phase/package*]. Erosion and sediment control plans for the remaining phases of this project and the stormwater management construction details shall be submitted to MDOT SHA PRD for review and approval. This approval shall become null and void if the subsequent submittal is not received within [*30, 60, 90*] days of this approval."

The conditional approval with the approval stamp and signed plans of approved phase will be provided to HHD, project lead, and the QA program. Subsequent phases will be reviewed and approved as modifications to the original approval. Final approval shall be issued and any additional plans, if applicable, will be stamped, signed, and provided to HHD, the project lead, and the QA program.

1.5.2.13 Emergency Repairs

Emergency repairs are needed when the traveling public may be endangered due to the failure or imminent failure of a portion of MDOT SHA's infrastructure, including, but not ,limited to roadways, embankments, and stormwater/drainage structures. For projects that are classified as "Emergency Repairs" by the District Engineer or equivalent as authorized under COMAR, the standard three step process for plan review and approval may be modified to provide an accelerated approval in order to protect the traveling public. The concept plan stage may be addressed with a verbal plan of action and measures to be taken followed

by written minutes of the discussion prepared by the applicant and delivered to PRD. PRD will acknowledge receipt and concurrence with the plan of action. Due to the nature of the "Emergency Repairs" classification, work will be allowed to proceed in advance of final approval. Written notification will be provided to the QA Program and PRD as to the intended scope of work and the time frame for construction start and completion. All work will be completed in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control Final plans shall be submitted for review and approval within 60 days of completion of the emergency repair. All procedures as outlined in the Guidelines and the Procedures related to future modifications, construction inspection, as-built processing and approvals by other agencies will be followed. All inspection and compliance issues will remain within the oversight of the MDOT SHA QA Program.

1.5.3 Issue Resolution

Comments made by PRD shall be addressed by the design office, and HHD will ensure that the revised plans adequately address the comments. In some instances, meetings between the reviewers and designers for the purpose of clarifying the comments or acceptable resolutions may be necessary. The discussions during those meetings will be documented and will be included in the PRD review folder on ProjectWise.

When a project issue cannot be resolved between the Designer and the PRD Team Leader, the Designer will use the following path to reach resolution:

Tier 1	Designer/ Design Team Leader	PRD Team Leader
Tier 2	Division Chief or Equivalent	PRD Division Chief
Tier 3	Deputy Director or Equivalent	PRD Deputy Director
Tier 4	Office Director or Equivalent	OHD Director
Tier 5	Chief Engineer or Equivalent	Chief Engineer, Engineering
Tier 6	MDOT SHA Administrator	MDOT SHA Administrator

A written description of any issue that cannot be resolved by the Designer and the PRD Team Leader will be prepared by the designer. The document will include a clearly proposed resolution of the issue by the Designer. This document will be presented to the PRD Team Leader for processing. The PRD Team Leader will provide any comments to the document and forward the document to the Tier 2 contacts within 3 days of receipt. A meeting of the Tier 2 contacts, the Designer and the PRD Team Leader will be scheduled within 5 days of the documentation being provided to the Tier 2 contacts. All conflicts that go beyond Tier 2 shall follow the same general procedure with the Design side providing the documentation and the Review side providing the processing. Written minutes of all meetings shall be prepared by the Design side and maintained by the Plan Review Division. After resolution of any issues, the submission shall be returned to the Plan Review Division for plan review and approval.

1.6 ESC and SWM Approval

Approval letters for Sediment & Erosion Control and Stormwater Management will be prepared by PRD and signed by the PRD Division Chief, the Deputy Director overseeing the Plan Review Division, or the Director of the Office of Highway Development. See Appendix 1.M for a sample final approval letter. Once a project has been approved, PRD will post the following on ProjectWise in the project folder:

- A scanned copy of the approval letter;
- A scanned copy of all SWM and ESC approved plan sheets stamped with the PRD approval stamp or signed title sheet; and
- A scanned copy of the highlighted approved plans (see Section 1.7.1). Highlighting will identify stormwater management and erosion and sediment control features.

An email containing the electronic link to the ProjectWise folder will be sent to HHD, the MDOT SHA QA Program lead, and the PM. For projects that required a dam safety permit or Code 378 small pond approval, a copy of the approval letter and the approved plans in a format acceptable to MDE will be forwarded to MDE's Sediment, Stormwater, and Dam Safety Program. For all projects resulting in a disturbed area of an acre or more, an electronic copy of the approval letter will be uploaded into the MDE e-Permits system and/or sent to MDE Compliance.

For all projects requiring a wetlands and waterways permit, a copy of the ESC and SWM approval letter and any subsequent ESC and SWM modification approval letters will be sent to MDE's Wetlands and Waterways Program. The MDE Wetlands and Waterway tracking number and/or MDOT SHA agency interest number should be included if known.

For projects located in the Severn River Watershed, the following will be provided to the Anne Arundel Soil Conservation District as soon as the project receives ESC and SWM approval:

- A scanned copy of the approval letter; and
- A scanned copy of all approved plan sheets stamped with the PRD approval Stamp.

This process is outlined in Appendix U.MDOT SHA will include a copy of the approval letter in the bid book for the project or send it to the contractor as per the project development process.

PRD shall maintain records of plan submittals, approvals, and modifications for a minimum of 5 years from the date of Notice of Construction Completion.

1.6.1 Approved Plans - Transfer to the MDOT SHA QA Program

When a project receives SWM/ESC final approval, PRD shall send an email to

the MDOT SHA QA Program with an electronic link to the ProjectWise folder containing electronic copies of the:

- A highlighted set of the approved plans. Highlighting will identify stormwater management and erosion and sediment control features.
- Approval letter

1.6.2 Post Approval Modifications/Revisions to ESC/SWM Plans

For the post approval modification/revision process, see Section 8.1.F of the Guidelines, Section 2.3 of these Procedures, and Form OOC62/QA-3 in Appendix 1.P (form number pending finalization, currently Form OOC62A).

Once a Redline or a Level 2 modification has been approved for the proposed sediment control and/or stormwater management changes, a copy of the approved modification plans will be posted to ProjectWise, along with a copy of the approval letter. A copy of the ProjectWise link will be forwarded to HHD, the Construction PM, the Engineering PM, and the QA Program.

Redlines or Modifications that affect small ponds or hazard class dams must be reviewed and approved by MDE prior to PRD approval. Once approved by PRD, an electronic copy of the approval letter and the approved plans will be forwarded to MDE's Sediment, Stormwater, and Dam Safety Program for their review and approval.

For all projects resulting in a disturbed area of an acre or more, an electronic copy of the modification approval letter will be uploaded into the MDE e-Permits system and/or sent to MDE Dam Safety.

1.6.3 Stormwater Management As-Built Review and Approval

As-Built (AB) documentation and certification will be required for all SWM facilities. HHD shall submit AB certification packages to PRD for review and approval. The As-Built certification package shall consist of the items listed in the construction specifications, such as as-built plans, photographs, completed AB tabulations; completed AB checklists, completed as-built certification forms, material testing checks, etc. (see Appendix 2.G). The AB tabulations and checklists in Appendix 2.G shall be customized by the designer for the particular project. As-built plans will include all revisions and have as-built survey information superimposed on the final plans in accordance with MDOT SHA as-built directives.

The certifying AB Inspector shall be a Professional Engineer, a Land Surveyor, or a Landscape Architect, licensed in the State of Maryland, with experience in stormwater management design and construction. The SWM AB Inspector shall inspect, at a minimum, the various stages of construction listed on the plans for each SWM facility and provide documentation to certify that the SWM facilities have been constructed as specified on the approved plans including certification

that the constructed SWM facilities provide the functionality as designed. All drawings containing SWM information (plan, profile, details, etc.) will be included in the AB review as appropriate. The AB Inspector is responsible for preparing, signing, and sealing the as-built documents.

PRD will review the as-built documentation for completeness and accuracy. When as-built storage volumes, elevations, etc. have not been provided, supplemental computations and field modifications may be required to ensure that the SWM facilities are functioning as designed. If the SWM as-built is not acceptable to PRD, the as-built package is returned to HHD with a letter detailing the comments and concerns. HHD will return the package to the construction PE for the contractor to address. If conflict arises between the contractor and the construction PE, the MDOT SHA Assistant District Engineer-Construction and the Deputy Director of Office of Construction shall be notified to facilitate a resolution.

When deemed complete and acceptable, PRD will issue a structural acceptance letter to HHD that the "as-built" documentation has been accepted. PRD will not issue an acceptance letter for small ponds or hazard class ponds until as-built acceptance is provided by MDE Sediment, Stormwater, and Dam Safety (SSDS) Program. PRD will post a copy of the acceptance letter on ProjectWise in the same folder as the approved plans. PRD will retain a record copy of the As-Built Plans stamped & dated "Approved" as well as a digital record. Final acceptance of vegetative establishment will be provided by the Landscape Operations Division.

1.6.4 National Pollutant Discharge Elimination System (NPDES)

Notices of Intent (NOI) will continue to be submitted by HHD (or OED for TMDL projects) and be processed by MDE Compliance Program. MDE will continue to inspect sites over 1 acre for compliance with NPDES permit. PRD's unique tracking number will be included on the Notice of Intent (NOI) application.

1.6.5 Maryland Small Pond Approval (Code 378)

HHD shall submit plans for facilities requiring MD Code 378 Small Pond approval to MDE Sediment, Stormwater, and Dam Safety (SSDS) Program for review and approval. See Appendix 3.Q for MDE Small Pond Review Criteria.

PRD will verify MD Code 378 applicability to the project as part of the overall review process. MDE SSDS Program approval is limited to those aspects of the stormwater management plan that are regulated by Code 378. This approval is supplemental to the PRD approval, but is a prerequisite for plan approval from PRD. This requirement applies to existing facilities to be retrofitted as well as proposed facilities.

1.6.6 Other Approvals

It is the responsibility of the MDOT SHA design project manager to ensure that

other permits and approvals are obtained from the relevant authorities. See Section 11.0 of the Guidelines for a list of other approvals and permits commonly needed for MDOT SHA projects. MDOT SHA's training programs such as MDOT SHA University and OHD University provide additional clarification and an updated comprehensive list of typical environmental clearances.

PRD will be available to answer any questions or provide information associated with sediment and stormwater plans as needed or requested by other state or Federal regulatory or resource agencies.

1.7 Project Close-out

The MDOT SHA construction procedures details the project close-out process, including final acceptance of the project for maintenance, the as-built process and acceptance by PRD, and making final payment to the contractor. In addition, MDOT SHA's Standard Specifications for Construction and Materials general provisions include bidding requirements, award and execution of the contract, control of work, legal relationships and responsibilities, termination, final payment, and warranty. MDOT SHA shall submit as-built BMP data to MDE with the MDOT SHA MS-4 Annual Report in electronic format compatible with MDE's Urban BMP database. This submission of annual data fulfills the requirement of Notice of Construction Completion. Since MS-4 data delivery includes comprehensive data delivery to MDE for all the BMP additions and changes during the year, individual notifications upon completion will not be generated.

1.8 Reporting

In accordance with the MOU between MDOT SHA and MDE, MDOT SHA will provide MDE with quarterly status reports for the first year of delegated authority and annual reports thereafter. The content of these reports will include items noted in Section 8 of the MOU. In addition, the MDOT SHA will coordinate with MDE on program evaluations and auditing. PRD will revise the Guidelines and Procedures, policies, etc., as needed, based on MDE's evaluation and auditing process. Subject to MDE approval, PRD may modify administrative processes and procedures after implementation of this program based on the initial transition. Records of any such changes will be maintained and provided to MDE along with the quarterly and annual reports.

2 Inspection, Compliance, Enforcement, and Plan Modification

2.1 Inspection

MDOT SHA's first line of ESC inspection responsibility lies with contractor's supervisory staff. The first line of SWM inspection lies with the contractor's AB Inspector. The second tier of inspection responsibility is provided by MDOT SHA's construction inspection staff and MDOT SHA's Construction Project Engineer who report to each of MDOT SHA's seven districts. The third tier of inspection and compliance responsibility is provided by the Quality Assurance (QA) Program staff in the Office of Environmental Design (OED), Environmental Programs Division. The roles and responsibilities for these positions are listed in the *MDOT SHA Regional Environmental Coordinator Field Manual.*

MDOT SHA General Provisions regarding contracts require contractor staff and superintendent to ensure that project is being constructed according to plans while utilizing specified materials and workmanship. When MDOT SHA procurement officer finds work not acceptable, contractor may be required to remove the work and reinstall at the contractor's expense. MDOT SHA contract documents also require contractor to designate a Traffic Control Manager and an Erosion and Sediment Control Manager (ESCM) to specifically oversee those activities and be proactive in daily inspection of site.

The ESCM and the superintendent shall have successfully completed the MDE "Responsible Personnel Training for Erosion and Sediment Control" and the Administration's "Erosion and Sediment Control Certification Training for Contractors and Inspectors". The ESCM is primarily responsible for and has the authority to implement the approved erosion and sediment control plans, schedules, and methods of operation for both on-site and off-site activities.

Under this program, at least on a weekly basis, MDOT SHA Construction Project Engineers and/or Construction Inspectors will:

- Review all ESC/SWM approved contract documents and the approved ESC/SWM plans
- Review all necessary project approvals and permits acquired
- Inspect for proper installation and maintenance of E&S controls
- Review weekly / pre & post storm inspection to be documented using Form No. OOC60 (see Appendix 1.N)
- Review off site permits (Borrow Pits, Waste Sites, etc.)
- Review contractor's Erosion & Sediment Control Manager (ESCM) daily reports
- Ensure that the project complies with NPDES permit conditions for stormwater associated with construction activities

- Complete weekly and post rain event NPDES review (MDE Standard Inspection report)
- Monitor contractor's operations to ensure they are in sequence and in compliance with all contract documents and environmental permits
- Check that the construction staff is ensuring the presence of the SWM as-built inspector during the construction stages of SWM BMPs
- Ensure SWM BMPs are constructed in accordance with approved plans.
- Ensure that as-built plans are accepted prior to NOT submission associated with NPDES and construction is completed.

The QA Program (Regional Environmental Coordinator) will:

- Attend an erosion and sediment control pre-construction meeting with the contractor to review plans
- Inspect projects routinely a minimum of every 4 weeks to ensure compliance to the approved ESC/SWM plans through the OOC61/QA-1 and contract documents
- Increase the inspection frequency to a minimum of 4 times per quarter (approximately every 3 weeks) on projects with incentives.
- Increase the inspection frequency to a minimum of every 2 weeks for projects which receive a C, D or F rating.
- Reduce the frequency of future QA inspections when a project demonstrates (A ratings) for 3 consecutive QA inspections. This does not apply to projects with incentives.
- Use MDOT SHA forms OOC61/QA-1 and QA-2 to document NPDES and SWM inspection checks during construction.
- Verify that all of the inspection activities and documentation related to the construction of the SWM facility are being done in accordance with the contract documents. This includes verifying the AB inspector for the contractor has been on-site at the appropriate times.
- Review ESC field modifications for approval through MDOT SHA form OOC62/QA-3
- Review all necessary project approvals and permits acquired
- Inspect for proper installation and maintenance of E&S controls
- Contact HHD to evaluate whether any construction issues by the contractor will affect the SWM facility
- Verify off site permits (Borrow Pits, Waste Sites, etc.)
- Review contractor's Erosion & Sediment Control Manager (ESCM) daily reports

- Verify that as-built plans are accepted prior to NOT submission associated with NPDES and construction is completed (QA-2).
- Verify that the NOT is not submitted prior to NOCC submission.

SWM Facility Inspection: As described in Section 1.6.3, MDOT SHA requires the contractor to provide an As-built (AB) Inspector for projects with proposed SWM facilities. The presence of AB inspector is in addition to the MDOT SHA Construction Project Engineer and the Construction Inspector. The AB Inspector inspects and certifies that the SWM facilities have been constructed in accordance with the approved plans and specifications. The MDOT SHA construction project engineer and inspector are responsible for ensuring the presence of the AB Inspector during specified construction stages of the SWM facilities. The MDOT SHA QA Program inspector (Regional Environmental Coordinator) will review SWM construction progress and ensure that the SWM as-built process is followed. The REC uses MDOT SHA Forms OOC61/QA-1 and QA-2 (see Appendices 1.O and 1.S) to document NPDES and SWM inspection checks during construction.

2.2 Compliance

The erosion and sediment control and stormwater compliance inspection responsibilities for MDOT SHA projects fall under the control of the Environmental Quality Assurance Program managed by MDOT SHA OED. The program is managed by an Assistant Division Chief and includes a Team Lead and multiple Regional Environmental Coordinators who conduct inspections throughout the state. Additional details of the inspection program, grading system, and As-Built process are included in Appendices 1.N, 1.O, 1.P, and 1.S. An organizational structure of MDOT SHA QA program is provided below.

Figure 7: MDOT SHA Quality Assurance (QA) Program

MDOT SHA performed a major reevaluation of its compliance protocols in 2004. As a result of length process involving many stake holders and agencies, MDOT SHA developed its compliance rating system and protocols. These protocols were submitted to MDE and approved prior to their adoption.

MDOT SHA developed detailed methodology, protocols, and specifications for compliance inspection. MDOT SHA developed project compliance rating form OOC61/QA-1 as well as training and certification program for the contractor's Erosion and Sediment Control Inspector and the Superintendents. MDOT SHA used the same training for its own construction inspectors and design staff. MDE's Green Card training became a prerequisite for enrollment to MDOT SHA's training for the field personnel.

The QA Program; Regional Environmental Coordinator (REC) uses MDOT SHA's REC Field manual in conducting compliance inspection. The REC field manual is a comprehensive document and it provides range of information and guide such as description of roles and responsibilities, OOC61/QA-1 form and its interpretations, explanation of rating system, how and when to conduct inspections, several definitions and clarifications such as severe weather, guidance regarding staging and stock pile areas, clarification on several parts of NPDES permit requirements such as reporting for triggering event and bypass events, how to use MDOT SHA QA toolkit, and how to close a project. A copy of REC field guide is included in the Appendix. For detailed instruction of Form OOC61/QA-1 (see Appendix 1.O) to document the inspection/compliance checks during construction. This form documents the QA Program's review of the contractor's actions at the construction site. Form OOC61/QA-1 documents the project's compliance with ESC and SWM requirements. This form generates project scores that determine a project's compliance rating:

- **Rating A**: The project complies with the approved plan. Minor corrective action may be necessary.
- **Rating B:** The project complies with the approved plan; however, corrective action is necessary.
- **Rating C:** The project complies with the approved plan; however, deficiencies noted require corrections. Shutdown conditions described elsewhere herein could arise quickly. Project will be re-inspected within 72 hours. Inspection frequency may increase.
- **Rating D.** The project is in non-compliance. The Administration will shut down earthwork operations. Focus work efforts on correcting ESC deficiencies. The project will be re-inspected within 72 hours. Complete all required corrective actions within the 72-hour period for the project to be upgraded to a 'B' rating. Failure to upgrade the project from a 'D' rating to a 'B' or better rating will result in the project being rated an 'F'. Liquidated damages will be imposed for each day the project has a 'D' rating. Inspection frequency may increase.
- **Rating F.** The project is in non-compliance. An 'F' rating indicates one or more of the following.
    - A score less than 60.
    - The appropriate permits and approvals have not been obtained
    - The approved LOD has been exceeded.
    - Wetlands, wetland buffers, WUS, floodplains, and/or tree preservation areas have been encroached upon without prior necessary and adequate approval.

- The work is not proceeding per the approved ESC Plan, Sequence of Construction, and/or ESC Schedule.

When a project is in non-compliance, the Administration will shut down the entire project until the project receives a 'B' or better rating. Focus all work efforts on correcting ESC deficiencies. Liquidated damages will be imposed for each day the project has an 'F' rating. Inspection frequency may increase.

The Quality Assurance Program could consider independent sites/project segments under one MDOT SHA contract which do not independently exceed the maximum disturb acres allowed by authorizations as separate projects when meeting the following conditions:

1) The project sites/segments are separated geographically or are hydrologically independent;
2) When the contractor demonstrates that they have the organizational structure, manpower, equipment and materials to install and maintain E&SC for each project segments independent of other project segments;
3) An independent Sequence of Construction is approved for each project segment;
4) Approved E&SC measures for each project segment stand alone and are not dependent on controls in another project segment; and
5) The contractor includes staff resources to independently meet erosion and sediment control duties for each project segment.

Any request will need to be reviewed and agreed upon with QA Program prior to earth disturbance of the project. Each project segment may include separate reporting. The defined Incentives and Liquidated Damages will apply per the approved contract as well as to any approved segments and MDOT SHA will not consider any monetary adjustment or compensation. Any Quality Assurance non-compliance action will affect the approved project segment area only. The loss of E&SC credentials due to a double “F” rating will apply to the project segment ESCM and the Contract superintendent.

In addition to the OOC61/QA-1, the QA Program; Regional Environmental Coordinator uses Form QA-2 to verify work has been completed per MDOT SHA’s contract documents on all projects that have NPDES and SWM requirements. This form documents the NPDES/SWM inspection checks during construction. Form QA-2 will also be used in the evaluation of the as-built tabulation checklist and to ensure submission of the project NOT.

MDOT SHA’s inspection and compliance system is built to provide real time status and reports of findings to MDOT SHA managers, MDOT SHA leaders, contractor staff, and any identified regulatory stakeholders. The inspections are performed utilizing laptop with internet connection to upload completed QA forms, pictures or any other information. MDOT SHA invested significant resources to develop and deploy the system. This system is known as QA toolkit and it has significantly increased timely attention to issues or resolution. It is also a common tool for communication and electronic data transfer. The QA Toolkit is primarily used by Regional Environmental

Coordinator to manage project inspections and ratings. Furthermore, compliance efforts are regularly monitored and reported to StateStat.

When project is found to be in non-compliance with rating of "D" or "F", MDOT SHA REC notifies MDE Compliance Division's respective regional staff. Although the compliance inspections are performed for ESC and SWM only, MDOT SHA may deploy additional inspections for ACOE or others if required by the permit conditions or through agreements. MDE's Compliance Division shall also be notified when a non-compliance is observed that impacts other MDE jurisdictional areas, including, but not limited to, non-tidal wetlands, waterways, floodplains, tidal wetlands, and the NPDES Construction Notice of Intent.

2.3 Field Modifications and Design Changes During Construction

If MDOT SHA or the contractor proposes changes to the approved plans, or when site conditions are encountered that prohibit implementation of the sediment control practice as shown on the approved plans, MDOT SHA utilizes a Field Modification process. This process facilitates an efficient resolution for changes needed for erosion and sediment controls. If MDOT SHA design office proposes changes to the design or scope of the project, MDOT SHA will utilize the Redline process. MDOT SHA also uses the Redline process for any field encountered issues when the cost of such is a significant financial change to the project budget. In addition to the redline process, there is a process known as Change Order process for changes that are not expected to be financially significant.

The changes/modification approval to Erosion and Sediment Control as well as Stormwater plans occur through two processes.

The first process is initiated by MDOT SHA design offices through issuance of redline plans. Redlines plan changes associated with sediment and stormwater plan changes will be reviewed and approved by PRD. Redline plans will be stamped by PRD and a modification approval letter will be issued.

The second process is mostly initiated in the field during construction. Form OOC62/QA-3 (see Appendix 1.P) "Request of Revision of Erosion, Sediment and Stormwater Management Plans/Permits" is used to initiate approval of such proposed change/modification. The system classifies modifications into multiple levels: Approval authority for each level of change is listed below:

- Level 1 are minor modifications reviewed and approved by the REC/QA Team
- Level 2 are major modifications are reviewed by REC/QA Team and approved by HHD
- Level 3 are significantly major changes that are reviewed by REC/QA Team and HHD. The changes will be reviewed and approved by approved by PRD, except for design-build projects with SF numbers.

A copy of the OOC62/QA-3, which includes procedures for determining the level of approval needed for field change approval, is included in Appendix 1.P.

When the MDOT SHA construction encounters an issue with regard to the construction of a SWM facility, and the QA Program staff concurs with the need, HHD will be contacted to evaluate whether the construction issue will affect the SWM facility or if other solutions exists to avoid impacting to the facility. If HHD determines that changes to the approved SWM plans are necessary, a modification to the approved plans will be prepared and submitted to MDE (for projects with an SF number) or PRD (for projects with a PR number) for review and approval. This change may be submitted through redline plan process or field change process using OOC62/QA-3. Once the modification is approved, a copy of the stamped, approved plans shall be sent to HHD, the QA Program, and the MDOT SHA Construction PE. Changes to SWM facilities as a result of the modification must also be reflected on the SWM as-built plans. As-built plans must be reviewed and approved in order to close the contract and to close the project permit and submission of Notice of Termination.

At times, modifications to the approved plans are needed due to changes on other plan sheets, such as roadway or structural plans. These modifications will be reviewed and approved by PRD if the changes results in the changes to stormwater and sediment control plans; the same process will be followed as described above. At times changes will necessitate review and approval of other outside agencies and the same process will be followed as described above. Other changes that have no impact in Stormwater and sediment control plans such as changes to structural drawings affecting rebar size and spacing, change from asphalt to concrete pavement or similar will not require review and approval of PRD.

2.4 Enforcement

Erosion and Sediment Control and Stormwater related enforcement authority remains with MDE. However, MDOT SHA program is built to encourages and equip contractor to be proactive in project's compliance with ESC and SWM implementation.

The majority of MDOT SHA projects include incentives for the contractor if rating of "85.0 or better" is maintained for the quarter or the duration of the project. These provisions are part of MDOT SHA contract document. The same provision also stipulates liquidated damages for non-compliance. MDOT SHA contract documents include grading operation shut-down or complete project shut downs in the case of non-compliance findings. The standard MDOT SHA contract language requires that a contractor superintendent and ESCM be replaced for repeating non-compliance "F" ratings. It also disqualifies the contractor superintendent and ESCM from working in the aforementioned capacities on any of the MDOT SHA project for period of six months and requires ESC recertification training to reestablish such role again.

In addition, within the rating system, there are several automatic "F" rating conditions which trigger automatic project shutdowns. These conditions are basic but essential such as failure to have all project approvals onsite, not having LOD, wetlands or other environmental resources marked in the field and failure to conform to the contract documents.