

**Maryland State Highway Administration
Office of Construction (OOC)
Sub-recipient Construction Manual**



February 1, 2016



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Chapter 1 – Introduction

This manual is used as guidance for Local Public Agencies (LPA), such as cities or counties, to administer construction of Federal-Aid projects. The document will also serve as a reference for the Maryland Department of Transportation's State Highway Administration (SHA) to detail its oversight role in the construction phase of the process.

The Federal Highway Administration (FHWA) supports local transportation objectives by transferring funding through state Departments of Transportation (DOT) to LPAs. Each DOT is required to provide oversight of the funding for the projects. LPAs and other groups ultimately receiving this funding for specific projects will therefore be referred to as "sub-recipients" of this funding.

The program provides for construction, reconstruction and improvements of highways and bridges on eligible Federal-Aid highway routes. It also provides for other special purpose programs and projects for Federal-Aid Highway Programs under US Code of Federal Regulation Title 23 as well as the Recreational Trails Program (Title 49).

1.1 – Overview

SHA's Office of Construction (OOC) has prepared this manual for sub-recipients to provide the necessary information and guidelines to properly and uniformly administer federally funded projects. Sub-recipients' projects are to follow the construction contract administration policies and procedures established by the SHA. SHA has authority and oversight on all federally funded projects in Maryland.

The manual explains the FHWA and the SHA OOC contractual and administrative procedures and processes as well as the requirements for oversight, documentation, reporting and other items necessary during the construction phase required on Federal Aid contracts.

1.2 – Oversight

SHA's OOC has assigned the construction oversight responsibilities to the individual SHA District offices that administer and manage SHA construction in Maryland's 23 counties. The OOC will maintain oversight of projects in Baltimore City. SHA will oversee and audit all sub-recipients' construction projects with Federal-Aid funding.

SHA's construction oversight responsibilities are defined as participation and auditing as described in this manual.

1.3 – Roles and Responsibilities

SHA: Prior to the construction stage, the sub-recipient would have been in contact with the SHA Program Manager, Federal Aid Office, and others through design and development of the bid package. During construction, each SHA District Engineer (DE) and Assistant District Engineer of Construction (ADE-C) will be the initial point of contact for the sub-recipients to establish the oversight expectations for each project located within their District. The ADE-C will assign various field managers who will be

authorized as SHA construction compliance reviewers. These individuals will serve as SHA representatives to the sub-recipients regarding compliance reviews, technical questions, and other information during the course of the project. The Area Material Engineer (AME), the District's Office of Equal Opportunity (OEO) Compliance Officer, and the District Contract Finals will also be key points of contact. Common SHA contacts with a brief description of their roles are listed on the following pages. The geographical areas of responsibility are shown in Figure 1 and the SHA District Points of Contact are identified in Table 1.

SHA Contacts for Sub-recipient Projects:

- **Program Managers**
 - Program Types:
 - **Federal Aid Bridge** **Phone: (410) 545-8074**
 - **Transportation Alternative (TA)** **Phone: (410) 545-5653**
 - **Safe Routes to School (SRTS)** **Phone: (410) 545-5653**
 - **Recreational Trails** **Phone: (410) 545-8637**
 - **Appalachian Regional Commission (ARC)** **Phone: (410) 545-5780**
 - **Scenic Byways** **Phone: (410) 545-8637**
 - → Work with sub-recipients to explain program requirements & develop MOU/MOA
 - → Manage project selection process
 - → Review sub-recipient's Plans, Specifications, and Estimate (PS&E) Package
 - → Manage dedicated funds for overall program in coordination with Federal Aid Office
 - → Ensure sub-recipient A/E consultants were hired using Federally approved selection process if reimbursements are requested
 - → Receive/review/process some reimbursement requests
 - → Change Order coordination/approval required if additional funds/time needed
- **SHA Office of Finance**
 - **Federal Aid Office** **Phone: (410) 545-5774**
 - → Review sub-recipient's PS&E Package
 - → Manage dedicated funds in coordination with Program Manager
 - → Attend bid openings (May ask District to attend to represent SHA)
 - → Distribute Concurrence in Award (CIA) letter after acceptable bid opening
 - → Change Order coordination required if additional funds/time needed
 - **Federal Aid Billing Section** **Phone: (410) 545-5505**
 - → Route reimbursement requests for payment when received from Program Manager or District office
- **SHA Office of Construction**
 - **Director** **Phone: (443) 572-5235**
 - → Overall SHA Contract Procurement Officer

- **Contract Awards Team** **Phone: (443) 572-5215**
 - → Assist in obtaining Disadvantaged Business Enterprise (DBE) Goals
 - → Review contractor's bid package and issue CIA letter for Federal Aid Office
 - → Check / concur on subcontractor requests
- **Engineering Support Section** **Phone: (443) 572-5247**
 - → Finalize processing of change orders
- **Regional Construction Engineer (Local Public Agency Projects)** **Phone: (443) 572-5228**
 - → Serve as POC for oversight of Baltimore City sub-recipient projects
 - → Track other sub-recipient projects
- **Regional Safety Officers** **Phone: (443) 572-5236**
 - → Perform periodic checks of jobsites for safety compliance
 - → Available for OSHA, MOSH, or other safety related questions
- **Partnering Coordinator** **Phone: (410) 545-0366**
 - → SHA's Partnering expert
- **SHA Office of Materials Technology**
 - **Materials Management Division Chief** **Phone: (443) 572-5020**
 - → Coordinate approval of sub-recipient desired materials not on SHA's Qualified Product List (QPL)
 - **Area Materials Engineer** **See Table 1**
 - → Provide general materials testing requirements to include a price estimate
 - → Assist in determining Quality Assurance (QA) testing source
 - → Initiate Source of Supply information in web-based Materials Management System for larger projects (Federal Aid Bridge, ARC, etc.)
 - → Provide material clearance report or statement when requested
 - **Materials POC for Alternative Project Types** **Phone: (443) 572-5167**
 - → Provide format and general instructions for Source of Supply submittals for smaller projects (SRTS, TA Program, Recreational Trails, etc.)
 - → Provide material clearance report or statement when requested
- **SHA District Offices**
 - **District Engineer** **See Table 1**
 - → Lead all District activities
 - **Assistant District Engineer –Construction** **See Table 1**
 - → Establish oversight expectations for each project located within their District
 - → Administer District Construction Inspection contracts
 - → Assign representative to attend bid opening if requested by Federal Aid Office
 - → Receive/review/process some reimbursement requests

- **Construction Area Engineer / Other Field Reviewers** **Contact District Office**
 - → Conduct field compliance reviews
 - → Assist with technical or constructability questions
- **Construction Office Engineer** **Contact District Office**
 - → Work with sub-recipients to process change orders
 - → Local POC for subcontractor request questions
- **Assistant District Engineer –Traffic** **Contact District Office**
 - → Assist with Maintenance of Traffic (MOT) plans and other traffic related issues
 - → Local liaison between sub-recipient and SHA Office of Traffic & Safety (OOTS)
- **Contract Finals (aka Field Document Reviewer, Sketchbook)** **See Table 1**
 - → Conduct regular field audits of files for accuracy/completeness of records and compliance with Federal requirements
 - → Prepare District Engineer’s Certification after final audit
- **Office of Equal Opportunity (OEO) Compliance Officer** **See Table 1**
 - → Check compliance with DBE Program
 - → Check compliance with labor/wage rates
 - → Check compliance with On the Job Training (OJT) requirements
- **Utility Engineer** **Contact District Office**
 - → Assist with utility related questions
 - → Provide contact information for utility companies
- **SHA Office of Real Estate ROW** **Phone: (410) 545-0021**
 - → Issue Right of Way Certification letter
- **Office of Environmental Design** **Phone: (410) 545-8640**
 - → Provide E&SC SHA “Yellow Card” training
 - → SHA’s technical expert in E&SC
- **SHA Office of Planning & Preliminary Engineering**
 - **Cultural Resources Team** **Phone: (410) 545-2897**
 - → Available upon request if historical, archeological, or paleontological cultural resources found
- **SHA Office of Highway Development**
 - **ADA Review Team** **Phone: (410) 545-8766**
 - → One of many design reviewers – comments specifically on ADA requirements
 - → Conduct ADA inspection at end of project

<http://www.roads.maryland.gov/pages/districts.aspx?did=d7>

SHA Districts

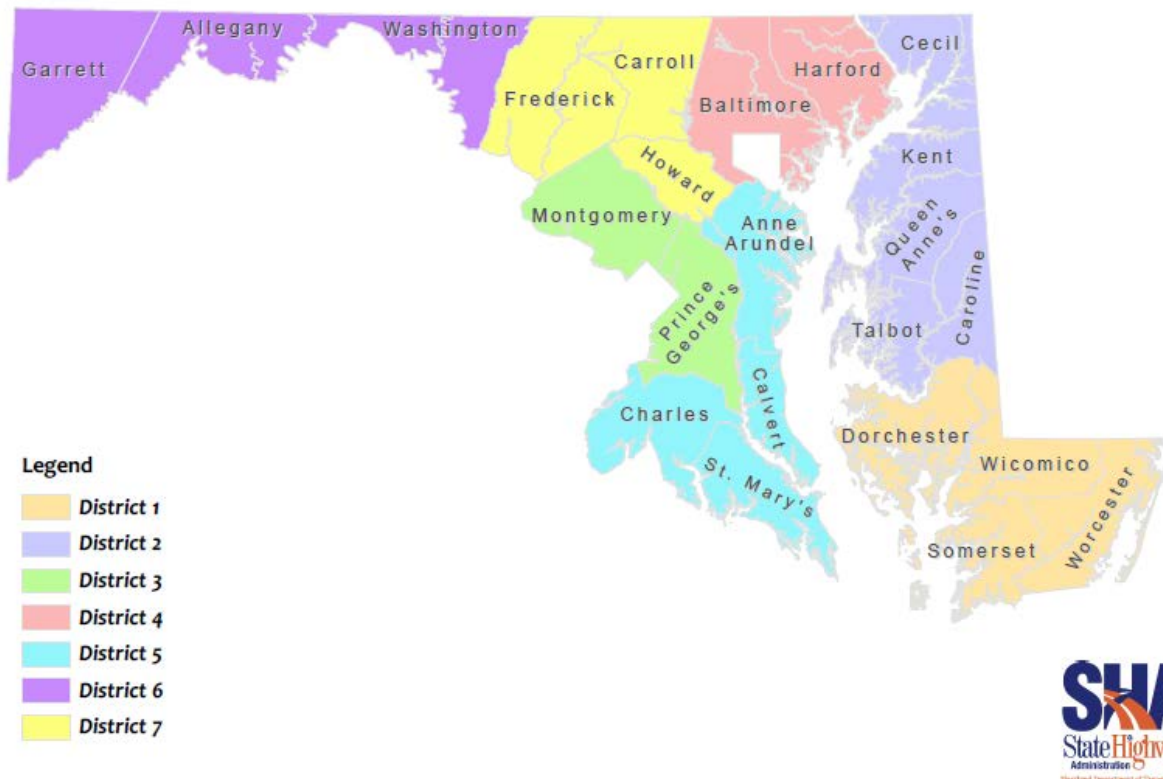


Figure 1: SHA District Map

(Hover mouse or pointer over county to open District web page or choose district in legend)

Table 1: SHA District Points of Contact

District 1: Dorchester, Somerset, Wicomico, Worcester Counties

Point of Contact	Name	Phone #	Email
District Engineer	Donnie Drewer	410.677.4006	DDrewer@sha.state.md.us
ADE-Construction	Ryan White	410.677.4020	RWhite2@sha.state.md.us
Area Materials Engineer	Scott Stomps	410.822.4494	SStomps@sha.state.md.us
OEO Compliance Officer	Brandee Vaughan	410.677.4089	BVaughan@sha.state.md.us
Contract Finals	Lisa Johnson	410.677.4085	LJohnson@sha.state.md.us

District 2: Caroline, Cecil, Kent, Queen Anne's, Talbot Counties

Point of Contact	Name	Phone #	Email
District Engineer	Greg Holsey	410.810.3210	GHolsey@sha.state.md.us
ADE-Construction	Vacant	410.810.3270	
Area Materials Engineer	Scott Stomps	410.822.4494	SStomps@sha.state.md.us
OEO Compliance Officer	Brandee Vaughan	410.810.3272	BVaughan@sha.state.md.us
Contract Finals	Dave Redman	410.778.3061	DRedman@sha.state.md.us

District 3: Montgomery, Prince George's Counties

Point of Contact	Name	Phone #	Email
District Engineer	Brian Young	301.513.7300	BYoung@sha.state.md.us
ADE-Construction	Victor Grafton	301.513.7385	VGrafton@sha.state.md.us
ADE-Construction	Vacant	301.513.7328	
Area Materials Engineer	Evroc Goocharan	410.409.8117	EGoocharan@sha.state.md.us
OEO Compliance Officer	Valerie Paton	410.545.0394	VPaton@sha.state.md.us
Contract Finals	James Alvarez	301.513.7338	JAlvarez@sha.state.md.us

District 4: Baltimore, Harford Counties

Point of Contact	Name	Phone #	Email
District Engineer	David Peake	410.229.2310	DPeake@sha.state.md.us
ADE-Construction	Jesse Free	410.229.2421	JFree@sha.state.md.us
Area Materials Engineer	Linda Gale	443-572-5024	LGale@sha.state.md.us
OEO Compliance Officer	Shirley Blake	410.229.2448	SBlake@sha.state.md.us
Contract Finals	Vacant	410.229.2318	

District 5: Anne Arundel, Calvert, Charles, St. Mary's Counties

Point of Contact	Name	Phone #	Email
District Engineer	Tim Smith	410.841.1001	TSmith2@sha.state.md.us
ADE-Construction	Peter Keke	410.841.1004	PKeke@sha.state.md.us
Area Materials Engineer	Scott Stomps	410.822.4494	SStomps@sha.state.md.us
OEO Compliance Officer	Earl Richmond	410.841.1048	ERichmond@sha.state.md.us
Contract Finals	Constance Garr	410.841.1056	CGarr@sha.state.md.us

District 6: Allegany, Garrett, Washington Counties

Point of Contact	Name	Phone #	Email
District Engineer	Anthony Crawford	301.729.8485	ACrawford@sha.state.md.us
ADE-Construction	Stephen Bucy	301.729.8410	SBucy@sha.state.md.us
Area Materials Engineer	Vacant	301.842.2406	
OEO Compliance Officer	Matthew Troutman	301.729.8492	MTroutman@sha.state.md.us
Contract Finals	Dan McKenzie	301.729.8413	DMcKenzie1@sha.state.md.us

District 7: Frederick, Carroll, Howard Counties

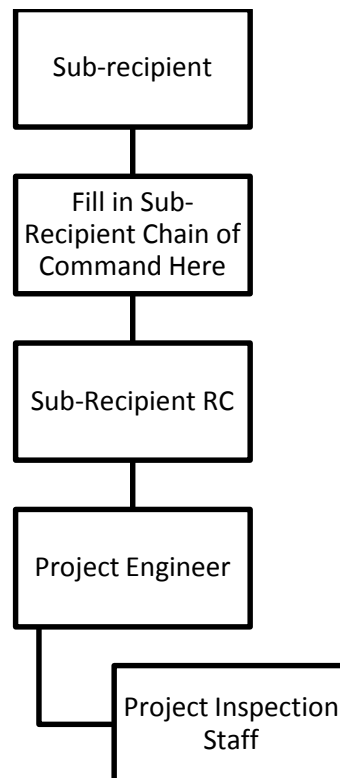
Point of Contact	Name	Phone #	Email
District Engineer	Mark Crampton	301.624.8012	MCrampton@sha.state.md.us
ADE-Construction	Marc Mandel	301.624.8201	MMandel@sha.state.md.us
Area Materials Engineer	Vacant	301.842.2406	
OEO Compliance Officer	Cheryl 'Cheri' Randow	301.624.8134	CRandow@sha.state.md.us
Contract Finals	Marylou Ward	301.624.8130	MWard@sha.state.md.us

*Note: Personnel changes can be frequent at times. Table 1 indicates Points of Contact current as of January 2016.

Sub-recipient: The sub-recipients shall provide the SHA with a project and organizational/hierarchical chain of command including a person in "responsible charge" (RC) of the administration and construction inspection for the project. This person must be a full-time employee of the sub-recipient's agency who is accountable for the project per FHWA Memorandum dated August 4, 2011, that is included in the Appendix. A consultant cannot be designated as the RC. If a consultant is hired to oversee the project, the RC must be available to respond to any issues on the project and be informed on the day to day activities. The RC and/or designated on-site consultant, if assigned for the daily inspection, must have the necessary experience, training, certifications, and knowledge to ensure that project construction and administration follows all requirements as described in the project documents, this manual, and standard construction practices. The RC will be the primary contact for SHA regarding contract administration issues. A sample sub-recipient chain of command is shown in Figure 2.

The RC is ultimately responsible to ensure the requirements described in this manual are followed and documented as a stipulated condition for receiving the Federal Aid associated with the project.

Figure 2: Sample Sub-recipient Chain of Command



*In some cases, the RC could be on the project level.



Federal Highway Administration (FHWA): The FHWA shall provide general policy and regulatory guidance for use of the Federal Transportation funds. It is likely that the FHWA Area Engineer with additional staff will audit the project. SHA can assist the sub-recipient in preparing for a FHWA audit.

To maintain SHA's oversight responsibilities, SHA offices would typically be the intermediary between FHWA and the sub-recipient. If applicable, SHA shall be copied on any direct correspondence between FHWA and the sub-recipient.

Chapter 2 – Preliminary Preparations

By the time a project reaches the construction stage in its progression, the sub-recipient shall ensure that the preliminary preparations identified in Chapter 2 have already been addressed. Many of these items would typically be addressed during the preparation of the Plans, Specifications, and Estimate (PS&E) package.

2.1 – Memorandum of Understanding or Agreement (MOU or MOA)

The sub-recipient must have gained approval for the use of Federal Aid funds on each project and worked with the SHA Program Manager to complete a MOU or MOA associated with the specific type of project prior to advertisement. This would identify the funding split between Federal and Local funds (i.e. 80/20, 100/0, etc.)

- ➔ **Sub-recipient:** Initiated contact with SHA's Program Manager to apply for use of Federal Aid under the terms and conditions of their program. Finalized the MOU or MOA.
- ➔ **SHA:** Program Manager will have explained program requirements, ensured project met requirements, selected project, and reserved funding. Finalized the MOU or MOA.

2.2 – Plans, Specifications, and Estimate (PS&E) Package

The items in this section must have been addressed during the preparation of the PS&E package.

- ➔ **Sub-recipient:** Prepared and submitted PS&E Package.
- ➔ **SHA:** Federal Aid Office and Program Manager ensured requirements of PS&E package were included and satisfactory. If acceptable, Federal Aid Office will respond with written approval to advertise.

2.2.1 – Clear National Environmental Policy Act (NEPA) Requirements

The sub-recipient must have cleared all National Environmental Policy Act (NEPA) requirements. The applicable approved document must be kept on file by the sub-recipient and available for review, regardless of the authoring agency.

- ➔ **Sub-recipient:** Cleared all NEPA requirements necessary for construction. Maintain approval document in project files.
- ➔ **SHA:** Federal Aid Office and Program Manager will have received confirmation from sub-recipient that they cleared all NEPA requirements necessary for construction prior to advertisement.

2.2.2 – Obtain Required Environmental Permits

The sub-recipient must have obtained all necessary environmental permits. The sub-recipient is responsible to ensure that all permits listed in the contract shall be obtained and active prior to commencement of work. A copy of the permits shall be kept on site.

Reference Maryland SHA Standard Specifications for Construction and Materials, Section GP-7.02.

- ➔ **Sub-recipient:** Completed template “Required Environmental Permits, Approvals, and Authorizations” form. Included required permits in the contract documents. Obtained and activated all environmental permits necessary for construction.
- ➔ **SHA:** Federal Aid Office and Program Manager will have received confirmation from sub-recipient that they obtained all environmental permits necessary for construction prior to advertisement or that permit approval is imminent and will be obtained prior to starting construction.

2.2.3 – Clear Right-of-Way

The sub-recipient must have cleared the Right-of-Way (ROW), obtained easements, and/or right of entry agreements necessary for construction as well as completed the ROW Certification as part of the PS&E Package. A copy of the project related ROW, certification in accordance with Title 23, Code of Federal Regulations, Part 635.309, issued by the SHA, Office of Real Estate, shall be kept on file for review. A copy of ROW Plats, Easements and Right of Entry agreements made to execute the project shall be kept on file for review and project records.

- ➔ **Sub-recipient:** Cleared the Right-of-Way, obtain easements and/or right of entry agreements necessary for construction. Keep copies of plats and/or agreements in file. Completed Right of Way Certification Statement.
- ➔ **SHA:** Federal Aid Office and Program Manager will have received and reviewed confirmation from sub-recipient that Right-of-Way is cleared prior to advertisement. SHA Office of Real Estate will have previously issued the Right of Way Certification Letter.

2.2.4 – Clear Utilities

The sub-recipient must have cleared all utilities and filled out the Utility Certification Statement as part of the PS&E Package.

- ➔ **Sub-recipient:** Cleared all utilities necessary for construction. (Utilities must be included as a vital part of previous design review iterations.) Completed Utility Certification Statement.
- ➔ **SHA:** Federal Aid Office and Program Manager will have received confirmation from sub-recipient that they cleared all utilities necessary for construction prior to advertisement.

2.2.5 – Railroad

The sub-recipient must have obtained all necessary railroad agreements if necessary and completed the Railroad Certification Statement as part of the PS&E Package. A copy of the agreements shall be kept on site.

It is noted that some railroads require the contractor to obtain railroad insurance prior to working on, over, or near the railroad property. Requirements for this insurance and provisions to account for payment will be noted in the special provisions of the contract documents. This insurance would not be obtained until after contract award.

- ➔ **Sub-recipient:** Completed Railroad Certification Statement. Listed and included required railroad agreements in the contract documents (if applicable). Included special provision details for railroad insurance and associated payment.
- ➔ **SHA:** Federal Aid Office and Program Manager will have received and reviewed confirmation from sub-recipient that they obtained all railroad agreements if necessary for construction, accounted for railroad insurance provisions, and the Railroad Statement prior to advertisement.

2.2.6 – Complete Design

The sub-recipient must have a complete design (100% final plans and Invitation for Bids book) that has been reviewed by a variety of applicable SHA offices to include the District Construction office. The SHA Program Manager and Federal Aid Office would have approved the design prior to advertisement.

- ➔ **Sub-recipient:** Produced final design plans incorporating comments obtained from various design iterations.
- ➔ **SHA:** Various offices previously participated in design review iterations. Federal Aid Office and Program Manager will have confirmed that design is complete and approved it for advertisement.

2.2.7 – Obtain Disadvantaged Business Enterprise (DBE) Participation Requirements

When putting together the PS&E package, the sub-recipient must have contacted SHA's Federal Aid Office and obtained the Disadvantaged Business Enterprise (DBE) Participation requirements and included them as part of the contract.

SHA's Federal Aid Office works with SHA's OOC to package the request and send to the Project Review Group (PRG) to make the appropriate DBE percentage requirements determination.

- ➔ **Sub-recipient:** Requested contract DBE goals from SHA's Federal Aid Office. Include in advertisement.
- ➔ **SHA:** Federal Aid Office works with OOC to obtain applicable contract DBE goals. Provide to the sub-recipient for inclusion in the contract.

2.2.8 – Obtain On the Job (OJT) Participation Requirements

Federally funded projects may require On the Job Training (OJT). SHA intends to meet OJT goals on our own projects and not typically assign to sub-recipient projects. However, if FHWA would require OJT on a sub-recipient project, SHA would work closely with the sub-recipient in this instance.

- ➔ **Sub-recipient:** Discuss with Program Manager and Federal Aid Office to determine if OJT will be included in the project. If required, include in advertisement.
- ➔ **SHA:** Meet OJT goals on SHA projects and work with sub-recipient should OJT ever be required. If required, Program Manager and Federal Aid Office will have received confirmation from sub-recipient that they obtained contract OJT goals and included in the contract prior to advertisement.

2.2.9 – Obtain Wage Rate Decision for Contract

Requirements for when prevailing wage rates apply to a sub-recipient project are described in the Contract Administration Core Curriculum Manual (FHWA-NHI-134077), most recent update published in October 2014. Page 77 of this manual identifies when prevailing wage rates apply:

Applies to all Federal Aid construction contracts within Federal highway right of way when the prime contract value is in excess of \$2,000, and all related subcontracts.

NOTES: Prevailing wage rates would not normally apply to a Federal Aid highway construction project on a local road or rural minor collector, or for work done outside Federal Aid highway right-of-way. However, if the project is linked to or required by a Federal Aid construction project on a Federal Aid route (through NEPA or other contract requirements), prevailing wage rates will apply to the off-system project. Examples would be the separate construction of a required wetland mitigation site, or construction of a required bicycle path.

When applicable, the sub-recipient must have obtained the appropriate wage rate decision and included it as part of the contract. Current USDOL wage rates are posted on at <http://www.wdol.gov/dba.aspx>. Sub-recipients must have gone onto the site, printed out the current rates, and included in the PS&E package. This current wage rate decision is then included in the advertised Invitation for Bids. The sub-recipient will have checked the wage rates 10 days prior to the bid opening and if the rates were updated, they would have been included by addendum.

- ➔ **Sub-recipient:** Obtained wage rate decision. Include in advertisement. Check for updates 10 days prior to bid opening and if there are updates, include by addendum.
- ➔ **SHA:** Federal Aid Office and Program Manager will have received confirmation from sub-recipient that they obtained appropriate wage rate decision and included in the contract prior to advertisement.

2.2.10 – Determine Field Office Requirements

The sub-recipient must have determined if a field office is required for the inspection staff and project meetings. This decision will be based on the size and duration of the project. If required, they will have also determined what size and what supplies are necessary and included a bid item for the field office.

- ➔ **Sub-recipient:** Determined if a field office is required. If required, also determined what size and what supplies are necessary. Included in the bid package.
- ➔ **SHA:** Federal Aid Office and Program Manager will have received field office requirements from sub-recipient for inclusion in bid package prior to advertisement. Coordinated with OOC and/or District Construction to ensure that the field office requirements are appropriate.

2.3 – Determine Inspection Source

The sub-recipient must have determined who will be inspecting the work on the project. Inspectors must have the necessary experience, training, applicable certifications (see listing below), and knowledge to ensure that project construction and administration follows all requirements as described in the project documents, this manual, and standard construction practice.

Applicable Certifications:

- Mid-Atlantic Region Technician Certification Program (MARTCP)
 - Concrete
 - Asphalt
 - Soils & Aggregates (Including Nuclear Gauge)
 - Pavement Markings
- Sediment and Erosion Control
 - Maryland Department of the Environment (MDE) Responsible Personnel Certification (RPC), formally called Green Card
 - SHA Erosion and Sediment Control Yellow Card (when on SHA ROW)
- Temporary Traffic Control Manager
- OSHA 10-hour Construction Safety

Possible inspection sources include the sub-recipient's in-house forces, a consultant hired from a contract with the sub-recipient (contract must have followed Federal procurement requirements), and/or a consultant working on the SHA's District Construction Inspection contracts.

If the sub-recipient desired to use a consultant working on the SHA's District Construction Inspection contract, they would have first discussed availability with the District ADE-C. If the District had inspector(s) available, a separate estimate would have been drafted and agreement signed for the sub-recipient to reimburse the costs for the inspector's expenses while working on the project. These discussions would have been accomplished weeks before the sub-recipient is ready to start construction.

- ➔ **Sub-recipient:** Determined who will be inspecting the work on the project and ensure that they have proper certifications necessary for project. If applicable and inspectors are available, reach agreement with SHA on using their inspection services.
- ➔ **SHA:** Provided guidance on what certifications may be necessary with the specific work on the project. If asked, District will determine availability. If available, reach agreement and provide inspectors.

2.4 – Determine Material Testing Requirements

The sub-recipient must have already contacted SHA's Office of Materials Technology (OMT) to determine material testing requirements and associated details.

Prior to execution of the contract the sub-recipient is required to coordinate with SHA's OMT Materials Management Division by calling and sending a letter officially requesting authorization for materials testing and acceptance under the project contract number. A sample letter is provided in the Appendix. This will be notification for SHA that the sub-recipient will soon be initiating work which will require materials testing and clearance as accepted by FHWA procedure. The SHA Office of Materials Technologies team contact information:

MD State Highway Administration
Office of Materials Technologies
Materials Management Division
7450 Traffic Dr.
Hanover, MD 21076
Phone: 443-572-5020

Area Material Engineers:
Districts 1, 2 & 5 410-822-4494
District 3 410-409-8117
District 4 443-572-5024
District 6 & 7 301-842-2406

SHA's OMT will provide general materials testing requirements along with an estimate that must be programmed into the project's overhead budget.

- ➔ **Sub-recipient:** Contact SHA's OMT to determine material testing requirements and associated details. Program associated materials testing expenses into project budget.
- ➔ **SHA:** OMT will provide general materials testing requirements along with an estimate.

2.5 – Contract Letting

The sub-recipient must have already advertised or let the project.

- ➔ **Sub-recipient:** Submitted complete PS&E for approval to the Federal Aid Office. After receiving written approval, advertised or let the contract for bid. Documented and kept the Federal Aid Office informed of the advertisement date.
- ➔ **SHA:** Program Manager and Federal Aid Office will monitor advertisement.

2.6 – Bid Opening

The sub-recipient must have already opened bids for the project in a public forum where the bids were opened and read aloud.

- ➔ **Sub-recipient:** Kept SHA's Federal Aid Office and District Office informed of the bid opening date, time, and location. Opened bids in a manner that maintain the integrity of government bidding procedures.



- ➔ **SHA:** Attended the bid opening to ensure the integrity of the bid opening and assisted with any irregularities.

2.7 – Concurrence in Award (CIA)

The sub-recipient must have already submitted the bid analysis and formal request for Concurrence in Award (CIA) to SHA's Federal Aid Office. SHA's CIA Checklist is included in the Appendix for reference. If acceptable, SHA will have then issued the CIA Letter. A sample CIA letter is included in the Appendix.

- ➔ **Sub-recipient:** Provided SHA's Federal Aid Office the contractor's bid package analysis.
- ➔ **SHA:** Federal Aid Office coordinated with OOC for review of contractor's bid package. If acceptable, OOC prepares the CIA letter and sends back to the Federal Aid Office, who finalized funding details and then distributes the CIA letter to the sub-recipient. Copy District Office.

2.8 – SHA Point of Contact Shift

It is noted that the SHA primary points of contact for the sub-recipient thus far have been the Program Manager for the type of Federal-Aid being utilized as well as the SHA Federal Aid Office. After receiving the CIA letter, the SHA primary point of contact will shift to the District representatives.

- ➔ **Sub-recipient:** After receiving the CIA letter, initiate communications with the SHA District Office to begin the project's construction cycle. Provide the District with a hardcopy of the advertised plan set and the IFB as well as an electronic pdf file copies of the same documents. Provide monthly project status updates to the District no later than the 1st of the month.
- ➔ **SHA:** District will begin to track project after receiving copy of CIA letter and contact with sub-recipient. District will then add LPA project to the OOC Assignment List and update monthly.

Chapter 3 – Construction Management

This chapter details the processes after the project has been bid and moves into the construction phases.

3.1 – Notice of Award (NOA)

After receiving the Concurrence in Award (CIA) Letter from SHA, the sub-recipient may issue the Notice of Award (NOA) letter for the project. A sample NOA letter is included in the Appendix.

- ➔ **Sub-recipient:** Issue the NOA letter to the contractor. Provide copy to SHA District Office.
- ➔ **SHA:** District Office will track award progress and add project to the District's SHA Assignment List.

3.2 – Notice to Proceed (NTP)

After receiving all necessary insurance, traffic control plan acceptance, and/or any other information from the contractor that the sub-recipient may require, the sub-recipient may issue the Notice to Proceed (NTP) letter for the project. A sample NTP letter is included in the Appendix.

- ➔ **Sub-recipient:** Issue the NTP letter to the contractor. Provide copy to SHA District Office.
- ➔ **SHA:** District Office will track progress towards starting construction and update project information on the District's SHA Assignment List.

3.3 – Pre-Construction Meeting

After a contract is awarded, the sub-recipient shall arrange a pre-construction conference with the contractor. The sub-recipient shall notify the SHA ADE-C of the time and place of the conference and invite the SHA ADE-C, Contract Finals, AME, OEO, Program Manager; FHWA Area Engineer; as well as other typical groups with project involvement to include the sub-recipient's applicable representatives.

On large, complex projects, a Pre-Construction conference should be held before each construction phase. A sample SHA pre-construction conference agenda template is included in the Appendix.

The meeting should be documented and copies of the minutes transmitted to all invitees and other attendees.

- ➔ **Sub-recipient:** Schedule Pre-Construction conference. Invite applicable parties noted above. Record and distribute minutes.
- ➔ **SHA:** Attend and participate in the Pre-Construction conference.

3.4 – Construction Schedule

The contractor is required to submit and maintain an approved construction schedule according to the contract specifications. The sub-recipient is responsible to review and approve the schedule. SHA can provide guidance if requested and may also review the schedules. There are two types of schedules:

- 1) Critical Path Method Project Schedule (CPM) – Maryland SHA *Standard Specifications for Construction and Materials*, Section 109. (This type is used on complex jobs with multiple phases.)
- 2) Activities Chart Project Schedule – Maryland SHA *Standard Specifications for Construction and Materials*, Section 110. (This type is used on most standard projects.)

The contractor SHALL NOT begin work without an approved construction schedule in hand. The contractor shall update the schedule monthly. A copy of the most recently approved schedule will be posted and maintained in the Field Office and/or in the project files when there is no field office. Schedule reviews must be a topic of discussion at monthly Progress/Partnering meetings.

Every day from Notice to Proceed thru stopping time charges must be accounted for by project staff as time charges will be reviewed in project closeout. This can be tracked as SHA does by using the Maryland Construction Management System (MCMS) software. (MCMS is described in greater detail in the Requests for Reimbursement Section.) Time can also be accounted for by something as simple as a tracking spreadsheet like the OOC78 form, Monthly Summary of Construction Time Charges included in the Appendix.

- ➔ **Sub-recipient:** Ensure contractor does not begin work without an approved schedule. Review and approve or reject all schedule submittals as necessary based on SHA requirements. Provide SHA with copies of approved schedules and correspondence. Track all time charges accordingly.
- ➔ **SHA:** District Office will track schedule reviews to ensure monthly updates are being submitted and reviewed by the sub-recipient. Available for technical support or guidance.

3.5 – Field Office

If required for the project, the Field Office (or Engineer's Office), which is set up at an approved location within the immediate vicinity of the project, must be established, clean, furnished, and fully functional (power, internet, phones, supplies, etc.). Section 103 of SHA's Standard Specifications note that the Field Office must be separate from any contractor's office and/or storage space and for the exclusive use of the sub-recipient's engineers and inspectors. The contractor SHALL NOT begin work until the Field Office is ready.

- ➔ **Sub-recipient:** Ensure contractor does not begin work until the Field Office is established and fully functional. Notify SHA and provide Field Office information on the Field Office Information Sheet. A copy of the document is provided in the Appendix.

- ➔ **SHA:** District Office will track notification of Field Office establishment and publish applicable addresses, phone/fax numbers, etc. on the District Assignment List.

3.6 – Subcontractor Requests

All subcontractors must be approved by the sub-recipient and forwarded to SHA OOC for concurrence. Subcontractors SHALL NOT begin work until approved by the sub-recipient.

The request form (SHA Form OOC42 and OOC43 for lower tier subs) is completed by the contractor for each subcontractor. One hardcopy with original signatures is required for the file as well as copies of the subcontract agreement. After the sub-recipient approves the subcontractor, the documents are forwarded for concurrence to:

Contracts Award Team
Office of Construction, Building 4
7450 Traffic Drive, Hanover, MD 21076
Phone #: 443-572-5214

- ➔ **Sub-recipient:** Ensure subcontractor does not begin work until request is submitted along with a copy of the subcontractor agreement. Review and approve subcontractor request forms (SHA Form OOC42 and OOC43 for lower tier subs) when acceptable. Forward to SHA OOC Contracts Award Team for concurrence with a carbon copy the SHA District Office. A copy of the approved subcontractor request with copy of the subcontract shall also be kept in the Field Office. Refer to the Appendix for copies of the applicable forms as well as some general guidance for approving subcontractor requests.
- ➔ **SHA:** OOC will review and concur if acceptable. District Office will track submittals and is available for technical support or guidance.

3.7 – Compliance Requirements

All project work shall comply with terms and conditions in the contract documents. The sub-recipient RC and project inspection staff shall ensure that project is in compliance of all Local, State, and Federal permits listed in these documents.

- ➔ **Sub-recipient:** Ensure and document compliance.
- ➔ **SHA:** Various offices are available for technical support or guidance. (Typically start with District and/or Program Manager.) Reviews compliance documentation.

3.7.1 – Right of Way (ROW)

A copy of Right of Way (ROW) Plats, Easements, and Right of Entry agreements needed to execute the project shall be kept on file for review and project records.

- ➔ **Sub-recipient:** Ensure documents available in project files and ensure compliance with documents.
- ➔ **SHA:** District Construction Office, Program Manager, and/or the Office of Real Estate are available for technical support or guidance. Reviews compliance documentation.

3.7.2 – Permits

All permits listed in the contract must be obtained and active prior to commencement of work. A copy of all the permits shall be kept on site in the project files and could also be displayed on the wall of the Field Office and/or the contractor's Bulletin Board.

- ➔ **Sub-recipient:** Ensure permits are active and available on site and ensure compliance with permit terms and conditions.
- ➔ **SHA:** District Construction Office and the Program Manager are available for technical support or guidance. Reviews compliance documentation.

3.7.3 – Disadvantaged Business Enterprise (DBE)

The DBE Program is a Federal mandate with strict requirements that are listed below:

Schedule of Participation: The Disadvantaged Business Enterprise (DBE) schedule of participation is the prime contractor's submittal stating what DBEs they intend to use to meet the DBE goal established in the Invitation for Bids proposal for the federally funded project. The DBE Schedule of Participation Construction Directive [07220.100.19](#) and the associated forms are included in the Appendix.

Field Meeting: The Invitation for Bids Proposal requires that a DBE Field Meeting be held within 2 weeks of starting the project work. This meeting may be waived by the SHA Office of Equal Opportunity (OEO) Compliance Officer, but it needs to be documented in writing and on file at the project site. This would require a written request from the contractor and a written response from the SHA OEO Compliance Officer.

Posting Chart: The sub-recipient must post a DBE chart in the field office. The chart shall be prominently displayed for all to see and for inspectors to use. The name of the DBE contractor and the work item number of the work performed by the contractor will be entered in the chart as each contractor begins work on the project. The posting chart is included in the Appendix.

Inspector's Daily Report (IDR): Information needs to be listed on every IDR when a DBE is performing work on a sub-recipient project. The IDR will include the following information:

- Name of superintendent/foreman responsible for the DBE
- Equipment – Owned (O) rented (R), active and idle
- DBE number from DBE posted chart



On the first and last IDR, indicate when work began and when work was completed respectively. Make an extra copy of all DBE IDR's and keep in separate file. This will assist the SHA with compliance reviews, revisions and potential claims or legal action.

Subcontractor Request (OOC42): A signed copy of the subcontractor request form must be kept with the project records. A copy of the agreement between the prime contractor and any subcontractors, services and suppliers must be made available upon request.

Trucking Activities: Documentation is also required for the trucking activities for the DBE contractors, which should include:

- A weekly report must be submitted by the contractor when three or more trucks are on site or whenever requested by SHA
- Keep in a separate file for compliance reviews
- At least one (1) truck on site must be owned by the DBE
- Copies are sent to OEO officer

A sample of the DBE trucking activities report form is included in the Appendix.

Suppliers: The Prime contractor must provide a copy of the original delivery ticket as well as a copy of the invoice for the materials/supplies provided by the DBE firm. This documentation must be maintained at the project level.

Commercially Useful Function (CUF): A CUF form ([OOC39](#)) must be completed on all DBE firms working on the project. Include pictures of the DBE firm's equipment as per Construction Directive 07220.100.19. A copy of the CUF form ([OOC39](#)) and Construction Directive [07220.100.19](#) are included in the Appendix.

Monthly Subcontractor / DBE Subcontractor Payment Report: Must be completed by the prime contractor, verified by the sub-recipient, and submitted to the SHA Equal Opportunity Officer by the 10th of the month following the reporting period. A blank template of the Monthly Subcontractor Report from Prime Contractor_Sub-recipient Form is included in the Appendix.

- ➔ **Sub-recipient:** Ensure all required forms are completed/submitted when due and the overall DBE program is properly documented.
- ➔ **SHA:** SHA OEO Compliance Officer has a very active role in this process by leading the DBE Meeting, conducting audits, and receiving/reviewing the various forms/reports listed above. OEO and other SHA offices are available for technical support or guidance.

3.7.4 – Labor / Prevailing Wage Rates

As in Section 2.2.9, requirements for when prevailing wage rates apply to a sub-recipient project are described in the Contract Administration Core Curriculum Manual (FHWA-NHI-134077), most recent update published in October 2014. Page 77 of this manual identifies when prevailing wage rates apply:



Applies to all Federal Aid construction contracts within Federal highway right of way when the prime contract value is in excess of \$2,000, and all related subcontracts.

NOTES: Prevailing wage rates would not normally apply to a Federal Aid highway construction project on a local road or rural minor collector, or for work done outside Federal Aid highway right-of-way. However, if the project is linked to or required by a Federal Aid construction project on a Federal Aid route (through NEPA or other contract requirements), prevailing wage rates will apply to the off-system project. Examples would be the separate construction of a required wetland mitigation site, or construction of a required bicycle path.

When applicable, the Labor / Wage Rate Program is a Federal mandate with strict requirements that are listed below:

Contractor and Subcontractor Payrolls: Prevailing wage instructions for the contractor are stated in the contract provisions. The Prime Contractor and each Subcontractor shall submit one copy of the certified payroll to the Project Engineer within seven (7) calendar days after the end of each payroll period. The sub-recipient must be aware of this requirement and ensure that the documents are submitted and kept in the project files. The following are requirements of this section and the Project Engineer and/or sub-recipient's designee must review for compliance:

- Each payroll shall be numbered beginning with number 1 and consecutively numbered through the end of the contract.
- Each Payroll must include a signed/dated statement of compliance.
- Contract and Federal Aid Participation (FAP) numbers shall be shown on all payrolls.
- All payrolls shall include the employees' name, classification and employee identification number (Not Social Security Number).
- All payrolls shall show the employee's basic hourly wage rate, overtime rate and the number of hours worked (tabulated both daily and weekly).
- All payrolls shall identify and include any fringe benefit funds and /or programs.
- All payrolls shall show the employee's net pay and itemized deductions.

Additional Classifications: Any necessary classification not listed in the contract wage rate decision shall be requested on Standard Form 1444 (including a copy of the contract's wage rate decision with the submittal package). A copy of the form is included in the Appendix. This request form shall be submitted by the contractor, thru the sub-recipient, to the SHA Wage and Hour Team. Copy the SHA District and OEO Compliance Officer.

Wage and Hour Team
Office of Construction, Building 4
7450 Traffic Drive, Hanover, MD 21076
Phone #: 443-572-5215



Requests will be forwarded from the Wage and Hour Team to the United States Department of Labor (US DoL) for processing. The requested wage rate will be paid until the decision is received. The decision will be transmitted to all parties as soon as it is received from the US DoL.

Project Bulletin Board: The Contract Provisions require that the contractor place a 4' x 8' waterproof bulletin board displayed visibly on project and where employees gather that is publically accessible. The required information is given to the contractor at the Pre-Construction Meeting and/or at the DBE meeting with the Equal Opportunity Officer. The wage rates shall also be posted in the bulletin board.

Payroll Compliance Requirements: The sub-recipient is responsible for ensuring that the Prime and Subcontractor(s) payroll documentation is complete and maintained in the project files. The District or other designated representative will have the authority to inspect the documentation for compliance during any visit or audit. The sub-recipient is responsible to ensure that the following items or actions are completed during the project:

- Payrolls are checked and a copy is stored in the project files.
- Employee payroll compliance interviews are conducted as described in the paragraph below, documented on SHA Form OOC52, and checked against Contractor Payrolls.
- Additional classification requests are made and replies from the US DoL are complied with.
- Any discrepancies are addressed with appropriate Contractor while informing the SHA OEO Officer and District Office.

Payroll Compliance Directive [07220.100.18](#) details the administrative requirements for Payroll Compliance. This directive is included in the Appendix.

In the field, an inspector shall perform a payroll compliance interview for every contractor employee (except supervisory) as soon as possible to when they begin work. Every three months, a follow up interview shall be performed. Use the SHA Form OOC52, Payroll Compliance Check, and have it signed by each respective employee. The sub-recipient should verify that the OOC52 has been completed and the form should be used to compare to the contractor's certified payroll when received. The SHA Form OOC52, Payroll Compliance Check, is included in the Appendix.

SHA Form OOC53 Payroll Compliance Report must be used as a checklist when verifying certified payrolls. In addition, Form OOC54 Payroll Summary Report must be used to keep record of each payroll received, when checked/verified and discrepancies found. These forms are included in the Appendix.

A statement of compliance should be attached to each payroll. The sub-recipient is also responsible to ensure that the following requirements are followed:

- Ensure that the prevailing wage rate is paid.
- Verify that the proper classification listed is approved for contract.
- Ensure that Payrolls are received in a timely manner.

Any non-compliant issues should be referred back to the contractor for corrections and notify OEO when necessary.

Work Force Analysis: The contract provisions require that the prime contractor submit a monthly workforce utilization report to the SHA District OEO Compliance Officer, which is required for the first three months of construction.

- ➔ **Sub-recipient:** Ensure the overall Wage / Labor Rates and program requirements are followed, all required forms are completed/submitted when due, and proper documentation is kept in an organized filing system.
- ➔ **SHA:** SHA OEO Compliance Officer and other SHA offices are available for technical support or guidance.

3.7.5 On the Job Training (OJT) Requirements

SHA addresses this FHWA requirement with state administered contracts and will therefore not be required on sub-recipient projects.

- ➔ **Sub-recipient:** None.
- ➔ **SHA:** Meet FHWA required OJT goals on SHA projects.

3.7.6 Erosion and Sediment Control (E&SC)

Erosion and sediment controls are required by law for most projects. Additional references are the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control and Field Guide for Erosion and Sediment Control and can be found on SHA's website.

Similar to Section 3.7.2. – Permits, all permits listed in the contract must be obtained by the sub-recipient and active prior to commencement of work. A copy of all the permits shall be kept on site. The terms of the Erosion and Sediment Control (E&SC) permit must be strictly followed. The sub-recipient will need to partner with the Maryland Department of the Environment (MDE) and/or other permitting authority. The sub-recipient must notify MDE of the impending project before commencement of work. Permit requirements may include:

- Ensuring the contractor submits the name and qualifying credentials of their designated Erosion and Sediment Control Manager (ESCM). Certifications include:
 - Maryland Department of Environment (MDE) Responsible Personnel Certification (RPC), formerly called "Green Card" Certification
 - MD SHA "Yellow Card" Certification when on SHA Right of Way
- Hosting an "E&SC pre-construction meeting" prior to any soil disturbance.
 - Discuss the proposed E&SC Plan
 - Discuss sequence of construction and any specific permit conditions.
 - Invite appropriate MDE or permitting authority representatives.
- Conducting inspections of E&SC and documenting findings (frequency determined at meeting).
 - The contractor would perform Quality Control (QC) inspections.
 - The sub-recipient would perform Quality Assurance (QA) inspections.

The sub-recipient is the permittee because they obtain the required environmental permits to include the E&SC permit. Therefore, SHA's Office of Environmental Design (OED) Quality Assurance inspection team will not inspect these projects as they do for standard SHA projects. However, SHA would be available for technical guidance if requested by the sub-recipient.

- ➔ **Sub-recipient:** Ensure permits active and available in project files on site and ensure compliance with permit terms and conditions.
- ➔ **SHA:** District Construction Office, Office of Environmental Design, and/or Highway Hydraulics Division are available for technical support or guidance. Reviews compliance documentation.

3.7.7 Maintenance of Traffic (MOT)

Traffic control for motorists, pedestrians, and bicyclists must be considered for every project. Maintaining a safe flow of traffic is critical. The contractor is required to submit the name and qualifying credentials of their designated Traffic Control Manager (TCM) prior to the start of any work involving traffic control. The TCM must possess a current Temporary Traffic Control Managers Certification as provided by the Maryland Transportation Builders and Materials Association (MTBMA). A copy of this certification card will be kept in the project file for all project TCMs. The contractor is also required to use Maryland certified flaggers with the appropriate Flagging Certification card.

The TCM shall be on site whenever the contractor's operations involve daily lane closures, flagging operations, or any disruption to normal flow of traffic. The TCM will be the direct contact to the sub-recipient RC and/or designated on-site project staff for any traffic control issues and will have the authority to direct employees as needed to remedy any MOT deficiencies without delay. The TCM will request lane closure permits through the SHA District Office when working on or adjacent to SHA roadways. The TCM will prepare daily inspections reports documenting all activities pertaining to MOT including use of daily lane closures, flagging operations, traffic accident/incidents within project limits, etc. if required by the sub-recipient. If required, the sub-recipient RC and/or designated on-site project staff shall receive copies of the MOT Reports on a daily basis and will maintain copies of MOT Reports at the field office.

- ➔ **Sub-recipient:** Ensure contractor has a designated TCM with current certifications present when project has any disruption to the normal flow of traffic. Perform Traffic Control Quality Assurance inspections as necessary. Document daily Maintenance of Traffic set-ups on IDRs.
- ➔ **SHA:** District Traffic Office is available for technical support or guidance.

3.7.8 – Safety

Safety, in a variety of forms, must be the highest priority on any project. The sub-recipient shall be aware of safety requirements and inspect to ensure the proper measures are being taken.

Safety of the jobsite and for the workers/inspectors carries many mandatory requirements. The contractor is required to be aware of and abide by all US Department of Labor Occupational Safety and

Health Administration (OSHA) and Maryland Occupational Safety and Health (MOSH) standards and requirements.

- The contractor and subcontractor shall permit inspection without delay and at any reasonable time on any premises where the work is being performed by a Federal or state inspector authorized to investigate compliance with associated Federal and state status and regulations.
- The contractor shall agree to correct any violations found to exist during such inspection within a reasonable time after the issuance of any citation, unless he contests the validity thereof through the appropriate administrative and judicial process.

The contractor shall submit the name and qualifications for their company's "Competent Person" in charge of safety.

Safety for the public (motorists, pedestrians, bicyclists, nearby residents, etc.) is also a primary concern. The contractor shall conduct the work to ensure the least practicable obstruction/disturbance. Accommodations made to provide safe travel through a construction area shall be implemented.

- ➔ **Sub-recipient:** Ensure proper safety measures according to the Contractors Safety Plan and accommodations according to the design are implemented.
- ➔ **SHA:** Available for technical support or guidance. OOC Safety Inspectors will also periodically visit jobsites to inspect and are available to assist with any questions.

3.8 – Material Clearance

Overview:

A critical element of any project with Federal funding is Material Clearance. Material Clearance is required to assure that the quality of the materials used are designed, produced and placed to meet Federal requirements as well as the system preservation, safety and environmental needs of the state's communities. The project cannot be closed out until it receives "Material Clearance."

All materials must be sampled, tested, and inspected as detailed as published in SHA specifications at the time of award. The sub-recipient must perform the Monthly Material Clearance Procedures in accordance with the State QA Program. The requirements for each material are established and deviations from these limits are prohibited except when, in the judgment of the Engineer, the deviation will not be detrimental to the work. In these cases, refer to the appropriate specification governing price adjustments for nonconformance.

By the time the project reaches the construction phase, the sub-recipient must have already contacted SHA's OMT prior to executing the project to determine materials testing requirements and associated expenses (as described in Section 2.4). SHA would have provided general requirements and an associated cost estimate with the sub-recipient agreeing to those costs.

Within 30 days after receipt of notification of award of the Contract, submit in writing, to the SHA Office of Materials Technology (OMT), the proposed sources of all materials to be incorporated into the

project. Update and submit all nursery stock sources to OMT 45 days prior to the planting season in which the planting is to begin. Do not introduce material into the work until sources are approved. All source approvals are made subject to continuing production of materials conforming to these specifications. Material sources may be rejected where it is evident that the material tends to be of marginal quality when compared to the limits in any of its specified properties. The sub-recipient must sample according to the SHA's Sample Testing and Frequency Guide unless otherwise directed. SHA also reserves the right to inspect and/or test any material on the project for specification compliance at any time during construction.

Source of Supply:

The prime contractor and SHA's OMT complete a majority of the workload associated with materials clearance. The contractor must submit a Source of Supply (SOS) listing for all items used on the project. The SOS listing identifies the manufacturer and supplier for all the materials the contractor intends to use on the project. SHA's OMT representatives review the SOS listing. This is accomplished by 2 possible methods depending on the type and size of the project:

- For larger projects (Federal Aid Bridge, Appalachian Regional Commission, etc.), the SOS is submitted using SHA's web-based Materials Management System (MMS).
 - After creating a MMS account and designating authorized company representatives, the contractor will enter the SOS information into MMS.
 - SHA's OMT Area Materials Engineer and their staff are the primary representatives to review the submittals and approve if acceptable or reject with explanation for the contractor of what needs to be changed/included.
 - The contractor would continue to work through the submittal process for each material until approved.
 - Note: SHA's OMT staff is available to provide a tutorial for new contractors and help walk them through the process.
- For smaller projects (Safe Routes to School , Transportation Alternative Program, Recreational Trails, etc.), a SOS letter is sent to SHA's OMT Materials Management Division in Hanover according to the process described in the "Format and General Instructions For Source of Supply Submittals" document included in the Appendix.
 - The contractor will write the SOS letter and gather associated materials data paperwork for submittal.
 - SHA's OMT Materials Management Division representative in Hanover will review the submittals and approve if acceptable or reject with explanation for the contractor of what needs to be changed/included.
 - The contractor would continue to work through the submittal process for each material until approved.
 - SHA's OMT Materials Management Division representative in Hanover will respond to the letter by returning it with notations, which will indicate acceptance procedures.

When performing the source of supply reviews, SHA's OMT representatives must keep in mind that these are sub-recipient projects and might contain some local characteristics not on SHA's Qualified Product List (QPL). (The QPL is available on the SHA website in the Business Standards and Specifications section – <http://www.roads.maryland.gov/Index.aspx?PageId=600>). For example, having a green signal pole to match the décor of all other signal poles in the city or use of a locally produced stone aggregate on a trail project to match the regional terrain could be perfectly acceptable. As long as the requests are off the state system (not going back to SHA for ownership and maintenance after project completion), would not compromise the integrity (structural or otherwise) of the project, and are not considerably more expensive; then SHA shall work with the sub-recipients to meet the aesthetic and other local characteristic goals of the project. This can be accomplished with a SHA Form 14 or by working directly with the Area Materials Engineer and/or Materials Management Division Chief for approval. FHWA coordination in obtaining an approved certification or Public Interest Finding (PIF) may also be required and should be discussed with SHA District, OMT, and Program Manager in these rare instances.

The sub-recipient project inspection staff must ensure that a source of supply is submitted for **all** materials and **approved PRIOR TO USE** on the project. The sub-recipient must keep also copies of all records of SOS on the site for review. The project inspection staff will then also ensure the materials come to the jobsite with the required paperwork/stamp indicated on the source of supply approval. The sub-recipient RC must ensure that this procedure is followed and that no payments are made for any work that may have been completed without material approval. It is acceptable and expected to withhold payment for items of works that do not yet have material approval.

Atypical Roadway Materials Requests:

Some projects may contain materials that are not used on standard roadway projects. These materials would not be items SHA typically uses. In this case, the material to be used shall either be specified in the plans/contract documents or the designer of record kept on board to review and approve these types of material submittals.

Materials Testing:

Materials QA/QC testing procedures must follow SHA protocol. The sub-recipient will follow all procedures for material testing and acceptance as outlined in the State Quality Assurance Manual, including Material Testing Frequencies, Standards, and Personnel Qualifications. Some examples are:

- SHA Materials Inspector checking a steel beam in the manufacturing plant and stamping it prior to shipment to the jobsite.
- A certified project inspector taking concrete cylinders or HMA box samples according to the frequency guidelines and sending in for testing when ready.
- SHA's Pavement Marking Technician coming out to test retro-reflective properties prior to final acceptance.
- A certified project inspector with a nuclear badge taking a compaction reading with the nuclear gauge.



The sub-recipient's inspection staff must verify the material on site is approved by following the acceptance procedure noted on the SOS. This may require testing; collecting manufactures certification, or visual inspection etc.

The sub-recipient can use SHA's lab for QA testing of many standard materials (at a cost to the project) or a contract with a certified third party materials testing agency. This must be discussed with SHA prior to execution of the contract and should be discussed the Pre-Construction Meeting to ensure all parties understand the predetermined testing process.

Materials Tickets and Invoices:

- Material tickets that are the basis for Item payments (i.e. Tons, CY, etc.), which shall be signed and dated by the sub-recipient inspector and include Item Number Description, Payment, Date and Location where it is installed.
- Any adding machine check and tape must also be attached to the forms. It is also recommended that the inspector attach an identification slip to all tickets that include Contract Number, Item Number, Item Description, Material Description, Quantity Paid, Date and Inspector Signature.
- The Inspector Daily Report (IDR) shall document any material received and used on the project and include the ticket numbers.
- Material tickets should be filed under particular pay item for easy access and review during an audit.

Clearance Reporting and Materials Clearance Letter:

The sub-recipient shall submit regular material clearance reports to OMT. (If completed prior finalizing an estimate, the sub-recipient can ensure materials are cleared before making payment to contractor.) The sub-recipient must follow up on any materials that may not have been cleared on previous reports. A Monthly Materials Report sample is included in the Appendix.

At the conclusion of the project, all materials must be cleared. When that is complete, SHA will issue a Materials Clearance letter, which is a requirement for project closeout.

- ➔ **Sub-recipient:** Ensure that the SOS is promptly submitted to SHA's OMT. Ensure materials are approved before use on project. Perform materials sampling, testing, etc. as specified. Collect tickets and invoices as described. Submit monthly Materials Clearance Report.
- ➔ **SHA:** OMT will review and approve SOS. OMT will review the monthly Materials Clearance Report and generate the Materials Approval Status Report. OMT will issue the Materials Clearance letter when all material issues are resolved. OMT and the District Construction staff are available for technical guidance.

3.9 – Inspection Requirements

Adequate construction inspection staffing must be present during all construction activities. Personnel assigned to inspect these projects with Federal funds are required to have and maintain proper experience and credentials throughout the duration of the project. In addition to construction

inspection experience, inspectors must have the required certifications related to the specific elements of each project.

Maryland participates in the Mid-Atlantic Region Technician Certification Program (MARTCP) to certify inspectors in several material related areas. MARTCP currently develops and administers core training programs in hot mix asphalt, concrete, soils and aggregates, and pavement markings. These certifications are required for inspectors/technicians performing hands-on testing of products used on projects.

The Maryland Department of the Environment (MDE) Responsible Personnel Certification (RPC), formerly called Green Card, certification is offered online. This certification is required for inspectors/technicians performing duties on any project with any form of Erosion and Sediment Controls.

The Maryland Transportation Builders and Materials Association (MTBMA) offers courses for certification in Erosion and Sediment Control “Yellow Card” training (required for inspectors/technicians performing duties on any project with any form of Erosion and Sediment Controls on SHA Right of Way) as well as Temporary Traffic Control Manager’s training (required for inspectors/technicians performing duties on any project with any form of Maintenance of Traffic).

Although not a core requirement, the US Department of Labor Occupational Safety & Health Administration (OSHA) 10-hour Construction Safety certification is also fundamental for inspectors.

- ➔ **Sub-recipient:** Ensure adequate construction inspection staff is present during all construction activities. Ensure inspectors assigned to projects have the required experience, credentials, and certifications.
- ➔ **SHA:** Available for technical support or guidance in determining what inspector certifications are required for each project.

3.10 – Cultural Resources

The contractor shall be aware of the potential of cultural resources on projects. During construction, if anything appears to be a cultural resource of a historical, archeological, or paleontological nature; work shall be stopped and contact made with the RC and SHA District Office. Depending on the location of the potential finding, SHA’s Cultural Resources team from the Environmental Planning Division (if on SHA ROW), Maryland Historical Trust, or other comparable local cultural resources/historical office such as would need to visit the site for determination of how to continue.

- ➔ **Sub-recipient:** Be aware of potential cultural resources and respond as described above if findings are discovered.
- ➔ **SHA:** Available for technical support or guidance. Cultural Resources team from the Environmental Planning Division can respond if necessary.

3.11 – Record Keeping

The files must be complete, available at a single location, and organized and maintained in a manner that permits inspection by SHA and FHWA personnel during project inspections, process reviews, or random checks. (Record retention is covered in Section 5.5.)

Whenever the sub-recipient is unable to produce requested data or information, it will be assumed by reviewing personnel that the required actions were either never performed or not properly recorded. This could be sufficient reasoning to withhold reimbursement. Lack of records can be subject to non-participation of Federal funds on either the entirety or part of the project. Organized project files can eliminate these negative assumptions.

The SHA District Engineer or designee (typically the District Contract Finals) shall periodically inspect, during construction, sub-recipient's project files for compliance with Federal requirements. Organization and content of the project file is one indicator of the effective and efficient management of the project by the sub-recipient RC. It also minimizes resources necessary for conducting process reviews.

3.11.1 Inspector Daily Reporting (IDR)

The sub-recipient may use SHA's IDR form or their existing IDR for recording the work if their report form includes all the necessary elements and sections required by the SHA. The daily recorded information on the report must follow the Directives and Memorandums on procedures as outlined in the IDR Memorandum 07210.100.14. It is also important to be aware that all payments to the Item Ledger and Item Summary must originate from the IDR. The IDR Memorandum 07210.100.14 contains a detailed listing of the required elements for the IDR and a sample of the form used by SHA. This form can be copied for use on projects. SHA's IDR form, IDR Construction Directive (CD 07220.100.16) and Construction Memorandum 7210.100.14 concerning IDR's are included in the Appendix.

3.11.2 Item Ledger and Item Summary

The Item Summary Book must have a title sheet page, Inspector Signature Sheet, and an Item Summary Page for each Item. The Item Summary must contain the final payment quantities only. No estimated payments can be entered into the Item Summary. All Contract Payments that are area or volume payments must be sketched, and show the formula and the calculations for the payment quantity. Linear foot payments may have to be sketched if station locations do not match payments. The OOC4 Sketch Book Title Sheet, OOC5 Signature Sheet, and OOC6 Summary of Final Quantities forms will be used to document the item ledger. These forms are included in the Appendix.

- ➔ **Sub-recipient:** Ensure records are kept in an organized manner as described above.
- ➔ **SHA:** Available for technical support or guidance in record keeping. The District Contract Finals periodically inspects project records during construction.

3.12 – Progress/Partnering Meetings

Projects will continually make progress throughout the life of a job. While the project staff views this movement on a daily basis, others also need to be updated on the progress and any issues that may arise. Progress meetings are an excellent way to update all those involved in a project. During busy construction periods, once a month is a good timeframe to hold meetings. During the winter or other slow periods, less frequently held meetings may be appropriate.

Project partnering, both formal and informal, is an additional way to make a project successful. Partnering creates an atmosphere of open communication, trust, and honest dialog among all stakeholders who are involved in the project. The partnering process is an effort encouraged by the Maryland Quality Initiative (MdQI). Partnering resources including a detailed Partnering Manual can be found on MdQI's website – <http://mdqi.org/partnering>. Several key partnering tools (listed below) are included in the Appendix:

- Sample Agenda
- Sample Meeting Minutes
- Issue Resolution Chart

These update sessions are commonly referred to as Progress/Partnering Meetings and have become standard. Sending out agendas and taking accurate minutes for distribution afterwards are key components. Issues should be assigned to appropriate parties and tracked thru resolution.

- ➔ **Sub-recipient:** Identify stakeholders and invite to regular Progress/Partnering Meetings. Lead meetings by sending out agendas prior to meeting and distributing minutes afterwards. Track issues thru resolution.
- ➔ **SHA:** Participate in Progress/Partnering Meetings and available for technical support or guidance.

3.13 – Document Filing System

The filing system should be an orderly arrangement that will make all documentation readily available. This organization can be done with hardcopies and/or electronically. More than one person should be able to produce the documentation in the filing system. Some critical documents include, but are not limited to, the following:

- Contract Plans
- Contract Specifications
- Notice of Award, Notice to Proceed
- Permits
- Agreements with Others (i.e. ROW, Utilities, Railroads, etc.)
- Disadvantaged Business Enterprise (DBE) Schedule of Participation & Documentation
- On the Job Training (OJT) Documentation
- Certified Payrolls
- Contractor's Liability Insurance

- Subcontractor Approvals and Copies of Subcontracts
- Approved Initial Construction Schedule and Subsequent Schedule Updates

For a detailed organizational structure for an SHA documentation filing system used for federally funded projects, please refer to the Appendix. Every project's documentation files will be somewhat unique due to the specific project aspects.

- ➔ **Sub-recipient:** Ensure proper document filing system is implemented.
- ➔ **SHA:** Available for technical support or guidance.

3.14 – Requests for Information (RFI)

It is seemingly inevitable that there will be design or material questions that arise during construction. These questions can be formalized using the Request for Information (RFI) process, so that all parties have definitive timelines and written requests/responses.

Design related questions will usually have to be coordinated with the designer of record. In most cases, the RC will have to maintain some type of service from the designer to assist in answering these questions. The designer may also have input in materials related questions. SHA's Office of Materials Technology will also be able to assist with materials questions if needed.

- ➔ **Sub-recipient:** Take the lead in receiving/responding to RFIs. Maintain designer services to assist with responses.
- ➔ **SHA:** Available for technical support or guidance. Will need to review responses that will result in a change order in more detail.

3.15 – Change Orders

Change orders are inevitable to occur for a variety of reasons. The sub-recipient should begin discussing the potential of a change order and the circumstances involved (reasoning, timing, cost implications, etc.) with SHA (District Office and the Program Manager) as soon as it becomes evident that one may be necessary. SHA's Program Manager would give the verbal consent to continue with the CO process. Regardless of funding source, approval from SHA is necessary prior to executing any change order.

3.15.1 – Process:

Step 1: When the contractor or Project Engineer informs the RC of a situation for which a change order will be necessary, a written request for prices and/or schedule impacts is sent to the contractor. (If this will be a lump sum item, an itemized breakdown must accompany the contractor's price).

Step 2: While awaiting the submission of prices and/or schedule impacts, the sub-recipient should compile an independent cost estimate for future comparison to determine if the contractor's price is reasonable. Normally, the SHA Price Index is used to compile this estimate, as it contains bid prices for

all types of work on various contracts throughout the state. The Price Index is available on the SHA website in the Business Standards and Specifications section (<http://sha.md.gov/Index.aspx?PageId=34>).

Step 3: When the contractor's price is received, it should be compared to the cost estimate to determine if further discussions or negotiations will be necessary.

- If a price is particularly low, a discussion with the contractor is necessary to ensure they understand the scope of work.
- If a price is too high and a lower price will be sought, a letter should be sent to the contractor requesting a lower price or a price breakdown.
- If a higher than average price is submitted, but is reasonable for the situation (small quantity, extra mobilization, etc.); then the justification must be noted.

If the contractor requests a time extension, the duration request will also need to be justified. A time extension will only be considered and/or approved if the work or impact causes an impact to the critical path or controlling item of work. Delays caused by utility, permit, railroad, etc. that require a time extension would not typically be eligible for Federal funds.

Step 4: Once agreement has been reached on price and time, the sub-recipient shall get a confirmation approval from the SHA Program Manager that funds are available and obtain their endorsement before further processing. After getting this confirmation, the sub-recipient must prepare the following SHA forms that are included in the Appendix with samples:

- Change Order Cost Estimate, OOC25 (Available as an Excel file.)
- Change Order (Available as a fillable pdf.)
 - Ensure form is completely filled out to include: Item #, Description, Quantity, Reason Code (See Change Order Reason Code Description Sheet in Appendix), and Value
- Prior Approval form, OOC23 (Available as a Word file.)
 - Note – Only required if one of the following apply:
 - Any single CO \geq \$500,000
 - Any CO with project cumulative CO dollar amount \geq \$500,000
 - Any CO \geq 10% of bid amount and every CO after that
 - Any CO \geq 10% of contract time and every CO after that
 - See Change Order Prior Approval Criteria document in appendix.
- Initial Notification of Apparent Design Error and/or Omission form, OOC21 (Available as a Word file.)
 - Note – Only required if the CO is a result of an apparent design error and/or omission.
 - See Section 3.15.4 for additional information.

The SHA District Construction Office will be able to provide guidance if there are questions in filling out these forms. The forms should then be packaged together with supporting documentation.

Step 5: If project is classified as FHWA "Non-Exempt," "Project of Division Interest (PoDI)," or "Project of Corporate Interest (PoCI)" then the next step (before obtaining SHA Prior Approval) is to obtain FHWA Area Engineer approval. The Change Order package will be scanned and emailed to the FHWA Area



Engineer for review. (Copy the District Construction Office.) If acceptable, they will stamp as "Approved," sign/date, scan and email back. (Projects not in one of these categories will skip this step.)

Step 6: If SHA Prior Approval is needed for one of the 4 bullets listed above, the package Change Order package will be scanned and emailed to the SHA District Office, who will give a brief cursory review before sending to the SHA Office of Construction's Engineering Support Section. The Engineering Support Section will review and obtain the appropriate level of Prior Approval on the Prior Approval Form, OOC23. The package will then be scanned and emailed back to the District for distribution to the sub-recipient.

Step 7: The Change Order will then be sent to the contractor for their signature in the appropriate block.

Step 8: When the original signed Change Order is received from the contractor (no e-mails or faxes are permitted), the hardcopy package will be delivered to the District Construction Office. The District Engineer will sign and the District Construction Office will send the package to the SHA Office of Construction's Engineering Support Section for approval.

Step 9: The SHA Office of Construction's Engineering Support Section will review and obtain the final approval signatures before sending back to the District for distribution to the sub-recipient. Review and approval of the change order will normally take 2 to 4 weeks at this step, depending on the complexity and cost.

Step 10: The Change Order is now fully approved and the Project Engineer will be able to pay for the work associated with the change order on the next progress estimate after the work has been completed.

Note: Sub-recipient must have SHA's prior approval in order to change the project limits, regardless if Federal funds are used.

3.15.2 – Local Sub-recipient Approval:

It is acknowledged that sub-recipients may also need to get a change order approved through their leadership (County Commissioners, Mayor, etc.) in accordance with their local policies and procedures. This would be accomplished in addition to the SHA required process described above.

3.15.3 – Force Account:

In the event that a contractor is required to perform work for which there are no contract pay items, the work has been deemed non-incidental, in any way, to the original contract, and the sub-recipient and the contractor cannot come to an agreement on price, it may be necessary to keep force account records, as per Section TC-7.03, of the Standard Specifications for Construction and Materials. Note that when utilizing formal force account procedures, the owner (sub-recipient) has certain authority regarding regulation of the work (i.e. number of laborers and foremen engaged in the work, etc.). In addition, very detailed records must be kept, including but not limited to, pay rate, fringe benefits,

payroll burden, overhead/profit, materials, and equipment (i.e., make, model, year, owned, rented, idle, etc). It is highly recommended that the sub-recipient read TC-7.03 very thoroughly before choosing to utilize this specification. An alternative is to keep force account type records for informational purposes while negotiating a mutually acceptable settlement, without formally implementing the force account specification. Force Account work should be documented with SHA's Daily Force Account Report form, OOC79 (Available as an Excel file in the Appendix). SHA also has published guidance (Construction Directive 07220.100.10 included in the Appendix).

3.15.4 – Design Error and/or Omission Requirements:

In the event that there is an apparent design error and/or omission that will result in a change order, the issue should be brought to the attention of the District Construction Office and the Program Manager. SHA has published guidance (Construction Directive 07220.100.24, included in the Appendix) to establish procedures for identifying and documenting apparent design errors and/or omissions. After notification, the District Construction Office and the Program Manager will work with the sub-recipient to make these procedures fit the specific design conditions of the project and jointly determine if reimbursement from a design consultant will be pursued.

3.15.5 – Material Clearance Requirements:

Material Clearance is required on change order materials comparable to all other contract items. If a source of supply needs to be submitted for any material used in the Change Order work prior to final approval, the sub-recipient shall contact the SHA Office of Materials Technology Area Materials Engineer or their designated representative to establish a new item identification number and add to the tracking database.

- ➔ **Sub-recipient:** Coordinate with SHA as soon as it is known a change order is necessary. Follow the steps listed above for Change Orders.
- ➔ **SHA:** District Construction office is available for technical support or guidance throughout process and serves as the pass through for documents going to the Office of Construction. Office of Construction's Engineering Support Section obtains prior approval and final approval. Return to sub-recipient for execution.

3.16 – Claims

With meticulous preliminary preparations, a high-quality design, detailed construction management, and an established project partnering process, claims should be very rare. However, a claim situation could occur.

The sub-recipient is the lead to handle claims. It is advised to raise claim situations up the sub-recipient chain of command and consider involving legal guidance if necessary. Standard Specifications for Construction and Materials, Section GP-5.14 Filing of Claim by Contractor, can be referenced to find how SHA handles claims. SHA will be available for guidance (SHA OOC being the authority), but a claim is basically resolved between the sub-recipient and the contractor. Once resolved, if necessary, the

Change Order process would be followed. FHWA reserves the right to make an independent determination on their participation in a claim.

- ➔ **Sub-recipient:** Take the lead in responding / resolving claims.
- ➔ **SHA:** Available for technical support or guidance.

3.17 – Audits

As mentioned in the Record Keeping Section, the SHA District Engineer or designee shall periodically inspect, during construction, sub-recipient's project files for compliance with Federal and State requirements. Audits could be performed by the following:

- District Contract Finals, who primarily checks estimates, IDRs, and close out records
- OEO Officer, who primarily checks for certified payrolls, DBE, OJT, etc. requirements
- District Construction Staff Members, who may check any aspect of the project
- Program Manager's Office, who may check any aspect of the project
- Federal Highway Administration, who may check any aspect of the project
- US Department of Labor, who primarily checks labor related areas

For this reason, it must be stressed again that files must be complete, available at a single location, and organized/maintained in a manner that permits inspection by SHA and FHWA personnel during an audit.

Whenever the sub-recipient is unable to produce requested data or information, it will be assumed by reviewing personnel the required actions were either never performed or not properly recorded. This could be sufficient reasoning to withhold reimbursement. Organized project files can eliminate these negative assumptions.

A tool to prepare for audits is the FHWA Maryland Division Construction Inspection Checklist as well as a sample, which are both included in Appendix.

A project closeout audit is required by the District Contract Finals prior to processing of final reimbursements and contract closeout. This is described further in Section 5.3.

- ➔ **Sub-recipient:** Ensure records are kept in an organized manner and ready for an audit. Project staff shall be available during an audit to provide all requested information to auditors.
- ➔ **SHA:** Periodically inspect project records during construction. Assist sub-recipient in preparation for Federal Audit. District Contract Finals completes closeout audit prior to processing of final reimbursements and contract closeout.

3.18 – Punchlist / Incremental Acceptance for Maintenance

As the project nears completion, the Project Engineer should be generating a project punchlist in coordination with the contractor and the contractor should then be working to complete these items.

When the RC and project staff believes the project is ready, they will setup a project semi-final or final inspection meeting according to the specifications. The sub-recipient shall invite all key project personnel (to include SHA District staff, the Program Manager, and the FHWA Area Engineer) for a project walk through.

- If there are too many open items of work remaining, a more formal punchlist will be developed and provided to the contractor for follow-up and accomplishment.
 - Time charges would likely continue at this point.
 - The contractor will be given a timeframe to make the required corrections/complete the remaining items.
- If the work completed is found to be satisfactory and only inconsequential or minor work items remain, then a partial acceptance on the entire project with the exception of the uncompleted work items can be granted.
 - The job would likely be substantially complete at this point and time charges would be stopped.
 - The contractor will be given a timeframe to make the required corrections and complete the remaining items. If they are not completed, time charges for that period could be reinstated.
- Final Acceptance for Maintenance is then granted if there are no remaining work items at the time of the walk thru or when these items are completed.
 - The job would be substantially complete at this point and time charges would have stopped previously.

After receiving concurrence from SHA District Office, the sub-recipient shall send letters notifying the contractor of either Partial Acceptance for Maintenance (noting the exceptions) or Final Acceptance for Maintenance. SHA and FHWA should be carbon copied on these letters as these are key milestone dates.

- ➔ **Sub-recipient:** Develop punchlist and track completion of items. Schedule final inspection meeting / walk thru. Send letter(s).
- ➔ **SHA:** District Construction staff must participate in the project final as SHA must approve project acceptance according to 2015 Stewardship and Oversight Agreement. District Construction staff is available for technical support or guidance.

Chapter 4 – Sub-recipient Reimbursement Requests

This chapter details the process by which a sub-recipient will get reimbursed for the project work accomplished. It is important to note that these programs are for reimbursement. The sub-recipient must have documentation to show that they have paid the contractor before SHA can release funding back to them.

The sub-recipient should discuss payment frequency with the contractor at the Pre-Construction Meeting. Monthly estimates are standard, but for a short duration project – a single payment after work is complete may be acceptable.

Regardless of the sub-recipient's estimate pay schedule to the contractor, SHA must be updated at least quarterly of project financial status. If no reimbursements are needed during any given quarter, the RC shall submit a letter to the Program Manager stating that the project will not be requesting reimbursement during the quarter. The letter should also state the status of the project (still active; in the process of closing, in warranty period, etc.). A carbon copy of the letter must also be sent to the District Office. The Program Manager will share the status update with SHA's Federal Aid Billing Section.

4.1 – Project Costs:

Every project will have a variety of associated costs that need to be clearly documented and thoroughly evaluated prior to making payment. The sub-recipient RC shall work with project staff to review estimates and invoices. When acceptable, the sub-recipient would work with their Finance Office to make payment.

4.1.1 – Construction Progress Estimate:

The Project Engineer and/or contractor shall develop the progress estimate and compare with project quantity records based on the contract payment items. The parties must agree on the estimate totals.

The sub-recipient may use any accounting software to develop the estimate to submit to SHA. SHA uses the proprietary Maryland Construction Management System (MCMS) software to track quantities, time, and then develop estimates. Although not required, some sub-recipients have obtained MCMS and have an agreement for support services. This significantly helps standardize SHA and FHWA audits for these projects. Because of familiarity and ease of use, some sub-recipients then use MCMS on their non-Federally funded jobs.

4.1.2 – Direct and Indirect Costs:

Both direct and indirect costs of a project would be considered allowable costs with the proper documentation and prior approval from the SHA Program Manager and Federal Aid Office. An estimate of anticipated actual indirect costs should be used instead of a flat percentage based of the total costs of the project. The total direct costs should equal the bid amount of the lowest bidder of the project.

4.1.3 – Unacceptable Project Costs:

Any costs incurred prior to approval by SHA and FHWA, outside the scope of the approved project, or claims that are the result of prime contractor's lack of executing the work in accordance with the contract would be considered unacceptable project costs for recovery by the sub-recipient. These unacceptable project costs would be 100% the responsibility of the sub-recipient.

- ➔ **Sub-recipient:** Develop estimate totals and obtain agreement from contractors / companies. RC reviews and approves estimate. Sub-recipient's Finance Office then makes payment.
- ➔ **SHA:** Available for technical support or guidance throughout process.

4.2 – Project Retainage

The retainage amount is at the discretion of the sub-recipient, but shall follow the guidance in Maryland SHA Standard Specifications for Construction and Materials, Section TC-7.05. (Also reference the specific project MOU/MOA for the possibility of more precise details.) Contractor history is a factor to be considered. Retainage should be released in a timely manner to the contractor based on the same guidelines that SHA uses on their own contracts.

- ➔ **Sub-recipient:** Determines appropriate retainage amount to be withheld in each estimate. Releases retainage as appropriate.
- ➔ **SHA:** Available for technical support or guidance throughout process.

4.3 – SHA Review and Processing

Once the contractor has been paid and the sub-recipient is ready for reimbursement, they will then send a reimbursement request to SHA. The request package must be sent to the SHA point of contact (listed in chart below) and will include the following:

- Cover Letter
 - Include SHA project number, FAP number, and project title/description
 - Indicate time period covered
 - State estimate numbers and the amount for each estimate
 - Cost Breakdown – Show costs the sub-recipient is responsible for and what costs are being requested for reimbursement
- Construction Estimate and/or Contractor Invoice
 - Shows line item estimate based on quantities completed in the estimate time period
- Proof of contractor payment: (Options listed below.)
 - Front and back of cancelled check
 - For electronic payment, a bank sheet identifying bank, sponsor as source of payment, vendor as recipient, amount of transfer, date of transfer
 - If either of the above cannot be obtained, an original, signed, and dated letter from the vendor stating the vendor received payment is acceptable. This letter must list invoice and/or estimate number, payment amount, date payment received, check or transfer number.

- Identify where the reimbursement payment should go (typically the sub-recipient's Bank name, Account number, Routing number, Federal Tax Identification number, etc.)
- Statement of certification indicating that project records are current and complete as well as stating that materials documentation is current with no clearance issues. Ideally this would come from SHA as indicated below:
 - Statement (letter or email) from District indicating that Contract Finals has examined project records and they are current and complete
 - Statement (letter, email, or monthly report) from SHA Office of Materials Technology representative (Area Materials Engineer or Materials POC for Alternative Project Types) indicating that project materials documentation is current with no clearance concerns

The SHA point of contact for reimbursement requests will vary depending on the program. Please see the chart below for a listing of SHA points of contact:

Type of Project	SHA Point of Contact
Federal Highway Bridge Program	District Construction Office
Transportation Alternatives Program	Program Manager *Carbon copy District Construction Office
Recreational Trails Program (Title 49)	Program Manager
Appalachian Regional Commission Program	District 6 Contract Finals Office
Other Federal Programs/Projects	Contact Program Manager for direction

Once received, the SHA point of contact will review the request to determine that:

- The estimate has been properly reviewed and approved by the sub-recipient.
- The sub-recipient has paid the contractor.
- The amounts billed are adequately supported by work completed during the dates covered.
- The breakdown percentages split between sub-recipient and reimbursement request follow the agreement.
- Project records and materials clearance documentation are current and acceptable.

For projects where the District Office is not the SHA point of contact, the point of contact will coordinate review of the construction invoice with the District.

After review and approval, the SHA District Office will prepare a cover memorandum indicating the request has been reviewed and is eligible for reimbursement per the MOU. A sample memorandum is included in Appendix. This will ensure SHA has provided a level of oversight that the work indicated on the invoice has been completed. After receiving the memorandum and package from the SHA point of contact, the SHA Federal Aid Billing Section will then process the payment through the Maryland Comptroller's Office to the sub-recipient's account, which has also been set up for payment. (Once all of the necessary documentation is in hand at this final stage, the process usually takes about 30 days. This time allows the Federal Aid Billing Section to process the paperwork as well as the time it takes for Comptroller's Office in Annapolis to process.)

- ➔ **Sub-recipient:** Submits reimbursement request to include items identified above. Available to respond to questions that may arise during review.
- ➔ **SHA:** The SHA point of contact will review the request. If acceptable, the District Office will draft cover memorandum. The point of contact will forward the cover memorandum and the reimbursement package to SHA's Federal Aid Billing Section to process the reimbursement request for payment.

4.4 – Final Reimbursement

Final reimbursement would have the same basic elements as any other reimbursement request. However, the final audit, as described in Section 5.3, must occur prior to submitting the request. The final reimbursement request package will also include a copy of the District Engineer's Certification provided by the SHA District after an acceptable final audit. The final reimbursement cover letter must clearly state that this request is the "Final" reimbursement request.

- ➔ **Sub-recipient:** Submits final reimbursement request as described above. Available to respond to questions that may arise during review.
- ➔ **SHA:** The SHA point of contact will review the request. If acceptable, the District Office will draft cover memorandum. The point of contact will forward the cover memorandum and the reimbursement package to SHA's Federal Aid Billing Section to process the final reimbursement request for payment.

4.5 – Documentation

Documentation is considered the accumulation of all the documentation that was required for each and every billing reimbursement over the life of the project. This documentation would be readily available to any and all auditors that would request a review of the project.

- ➔ **Sub-recipient:** Compile and maintain organized documentation files.
- ➔ **SHA:** Available for technical support or guidance. Conducts audits as described in other sections.

Chapter 5 – Project Closeout

This chapter details the process for the sub-recipient to administratively close the project.

5.1 – Final Inspection / Accepted for Maintenance

The final inspection must be held as described in Section 3.18 of this Manual. SHA must receive the letter from the sub-recipient notifying the contractor of Final Acceptance for Maintenance.

- ➔ **Sub-recipient:** Ensures all punchlist items and items noted in the semi-final or final walk-thru have been completed. When complete, writes the Final Acceptance for Maintenance letter.
- ➔ **SHA:** Participates in the final inspection. Available for technical support or guidance.

5.2 – Closeout Documentation

The sub-recipient shall prepare the applicable closeout documentation for their contract to include:

- Summary of Final Pay Quantities
 - Summary of Final Time Charges
 - Final Accepted for Maintenance Letter
 - Materials Clearance Letter from SHA's Office of Materials and Technology
 - Americans with Disabilities Act (ADA) Compliance Approval from SHA's ADA Review Team
 - Stormwater Management As-Built Certification – MDE Approval Letter (if required)
 - Environmental Permit Termination
 - MDSPGP Permit Compliance, Self Certification Form
 - NPDES Notice of Termination (NOT)
 - As-Built Plans
 - Each group with road ownership in project limits (State, County, Municipality) will need copy of as-built plans
 - All parties may agree that electronically scanned color as-built plans are acceptable
 - Some basic guidance on as-built plans is included in the As-Built Plan Construction Directive included in the appendix.
 - Bonds & Warranty Documentation
 - Structure Inspection (Bridge and/or Signs, Signals, Light Poles)
 - Office of Traffic & Safety (OOTs) Signal / Lighting Final Inspection Report
 - Summary of Labor / Wage Rate Checks on Payrolls
 - Ensure all Payrolls Submitted and Checked by Project Staff
 - Summary of On the Job Training (OJT)
 - Either Termination Letter, Received Training Letter, or Graduated from Program Letter
- ➔ **Sub-recipient:** Prepares applicable closeout documentation.
 - ➔ **SHA:** Available for technical support or guidance.

5.3 – Final Audit

The sub-recipient shall ensure all documentation is complete/accurate and then contact the SHA District to arrange for the final project records to be reviewed by the Contract Finals. The District Contract Finals will primarily check estimates, IDRs, pay quantities, and all applicable closeout records identified above. Any discrepancies will be noted and must be corrected before the project can be closed out.

Once any/all discrepancies have been addressed, the District Contract Finals will complete a District Engineer's Certification (OOC3, District Engineer's Certificate of Completion of Work) to cover topics applicable to sub-recipient's project). A copy of this certification will go to the sub-recipient. This District Engineer's Certification will be submitted as part of the final payment package.

- ➔ **Sub-recipient:** Ensure all documentation is complete/accurate and then contact the SHA District to arrange for the final project records to be reviewed. Make any corrections as necessary.
- ➔ **SHA:** District Contract Finals will audit the records and complete a District Engineer's Certification (to cover topics applicable to sub-recipient's project).

5.4 – Final Payment

The final contractor payment (primarily retainage) may be held until the final SHA audit is complete. Once this is complete the contractor must be paid within 30 days according to the Prompt Payment Act. The sub-recipient can then compile all items necessary to submit the Final Reimbursement request (Described in Section 4.4). After review, the Program Manager will forward the request to the SHA Federal Aid Billing Section for final payment. The Federal Aid Billing Section will take note that this is the final payment and notify the appropriate personnel to financially close out the project.

- ➔ **Sub-recipient:** Submits final reimbursement request as described previously. Available to respond to questions that may arise during review.
- ➔ **SHA:** The SHA point of contact will review the request. If acceptable, the District Office will draft cover memorandum. The point of contact will forward the cover memorandum and the reimbursement package to SHA's Federal Aid Billing Section to process the final reimbursement request for payment. SHA's Office of Finance will financially close out the project.

5.5 – Records Retention

The sub-recipient must retain supporting documentation for three years after FHWA's payment of the State's final voucher. Those records needing retained to meet FHWA requirements are listed in the table below:

The sub-recipient must scan the required documents into an Adobe pdf format and upload to SHA's ProjectWise database in a labeled and organized manner. (If scanning capabilities do not exist at the sub-recipient's location, a time can be set up to scan in documentation at the SHA District Office.) This will ensure that both SHA and the sub-recipient have the required records for retention. Scanning and



submitting records to SHA is a requirement before the final reimbursement payment is made to the sub-recipient.

- ➔ **Sub-recipient:** Retains all applicable project records as specified. Scans and organizes placement onto SHA's ProjectWise database. Makes records available for review and if ever requested.
- ➔ **SHA:** Office of Highway Development Design Technical Services Division provides ProjectWise database access to appropriate sub-recipient personnel to upload data. District Contract Finals ensures sub-recipient provides all records as specified. District Contract Finals retains all applicable project records as specified.

Table 2: Documents Needed to Close Construction Projects and Associated Retention

Documents	Retention after final payment
FMIS project agreement/modifications	3 years
Plans, specification and estimate (PS&E)	3 years
Bid/award documentation	3 years
Revisions/change orders	3 years
Invoices and billing support documentation	3 years
As-built plans	3 years ¹
Materials records	3 years ²
Field books/diaries	3 years
Documentation for construction engineering costs	3 years
Force account documentation	3 years
Utility/railroad agreements	3 years
Environmental permits	3 years ³
Alternative contracting method approval/public interest finding/SEP-14 or SEP-15 approvals	3 years
Right-of-way clearance	3 years
Final acceptance checklist/supporting documentation/contractor release	3 years ⁴
Final estimate voucher/invoice	3 years
Final acceptance of ITS/technology related elements of the project should be based on the test plans initially developed during the design phase of the project where hardware specifications and software requirements have been defined	3 years ⁵
Materials certification (23 CFR 637)	3 years
Verify completion and/or status of environmental commitments	3 years
Warranty documentation	3 years or to end of warranty ⁶
Final Inspection and Acceptance Report 1446	3 years
Documentation from earlier phases that supports construction cost eligibility/PS&E approval	3 years
Audits (may occur after project close)	3 years or after audit is closed and finding resolved, whichever is later.
Documentation of litigation or claims	3 years or after any claim or litigation is closed and finding resolved, whichever is later.

Notes:

¹ Indefinite retention recommended until reconstruction occurs.

² Including material certifications as applicable.

³ Other regulations may supersede retention period.

⁴ See <http://www.fhwa.dot.gov/construction/cpmi04.pdf> p. G15.

⁵ See <http://intra.fhwa.dot.gov/aem/aem.pdf>, p. 74 of 182.

⁶ Adequate project documentation should be retained with extended warranty provisions.

Federal Highway Webpage: <http://www.fhwa.dot.gov/cfo/projfundsmgta2.cfm>

Appendix

1. Introduction

- 1.3 FHWA Responsible Charge Memorandum_4 August 2011

2. Preliminary Preparations

- 2.4 Materials Testing and Clearance Request Letter Sample
- 2.7 Concurrence in Award (CIA) Checklist
- 2.7a Concurrence in Award (CIA) Samples

3. Construction Management

- 3.1 Notice of Award (NOA) Sample
- 3.2 Notice to Proceed (NTP) Sample
- 3.3 Pre Construction Conference Agenda
- 3.4 OOC78 – Monthly Summary of Construction Time Charges
- 3.5 Field Office Information Sheet
- 3.6 OOC42 - Contractor's Request for Approval of Subcontractor
- 3.6a OOC43 – Subcontractor's Request for Approval of Lower Tier Subcontractors
- 3.6b Subcontractor Approval Guidance
- 3.7.3 CD [07220.100.19](#) – Disadvantaged/Minority Business Enterprises (D/MBE) Schedule of Participation
 - 3.7.3a [OOC38](#) – Disadvantage/Minority Business Enterprise Posting Chart
 - 3.7.3b [OOC47](#) – Weekly Report of D/MBE Trucking Activities
 - 3.7.3c [OOC39](#) – D/MBE Commercially Useful Function (CUF)
 - 3.7.3d Monthly Subcontractor Report from Prime Contractor_Sub-recipient Form
- 3.7.4 FHWA Form 1444 – Request for Authorization of Additional Classification and Rate
 - 3.7.4a CD [07220.100.18](#) – Payroll Compliance Inspections
 - 3.7.4b [OOC53](#) – Payroll Compliance Report
 - 3.7.4c [OOC54](#) – Payroll Summary Report
 - 3.7.4d [OOC52](#) – Payroll Compliance Check
- 3.8 Format and General Instructions for Source of Supply Submittals
 - 3.8a Monthly Materials Report Sample
 - 3.11.1 [OOC75E](#) – Inspector's Daily Report (IDR)
 - 3.11.1a CD [07220.100.16](#) – Inspector's Daily Report (IDR)
 - 3.11.1b CM [07210.100.14](#) - Inspector's Daily Report (IDR)
 - 3.11.2 [OOC04](#) – Sketch Book Title Sheet
 - 3.11.2a [OOC05](#) – Inspectors Signature Sheet

- 3.11.2b OOC06 – Sketch Book summary of Final Quantities
- 3.12 Partnering Sample Meeting Agenda
- 3.12a Partnering Sample Meeting Minutes
- 3.12b Partnering Sample Issue Resolution Ladder
- 3.13 Document Filing System
- 3.15.1 [OOC25](#) – Change Order Cost Estimate
- 3.15.1a Fillable Change Order Form
- 3.15.1b Change Order Reason Codes
- 3.15.1c Change Order Prior Approval Form
- 3.15.1d Change Order Prior Approval Criteria
- 3.15.1e [OOC21](#) – Change Order Error and Omission
- 3.15.3 [OOC79](#) – Daily Force Account Report
- 3.15.3a CD 07220.100.10 – Force Account Work
- 3.15.4 CD [07220.100.24](#) – Error and Omission
- 3.17 FHWA Maryland Division Inspection Report Checklist
- 3.17a FHWA Maryland Division Inspection Report Sample

4. Sub-recipient Reimbursement Requests

- 4.3 Draft District Reimbursement Memorandum

5. Project Closeout

- 5.2 CD [07220.100.14](#) As-Built Plans
- 5.3 [OOC03](#) – District Engineer’s Certificate of Completion of Work