

**CONTRACTOR QUALITY CONTROL PLAN  
FUSRAP MAYWOOD SUPERFUND SITE  
MAYWOOD, NEW JERSEY**

**CONTRACT NO. DACW 41-99-D-9001  
WBS 11**

**Submitted to:**

**Department of the Army  
U.S. Army Engineer District, Kansas City  
Corps of Engineers  
700 Federal Building  
Kansas City, Missouri**

**Department of the Army  
U.S. Army Engineer District, New York  
Corps of Engineers  
FUSRAP Project Office  
26 Federal Plaza  
New York, New York 10007**

**Submitted by:**

**Stone & Webster Environmental Technology & Services  
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**May 4, 1999**

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**Uncontrolled**

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FUSRAP MAYWOOD SUPERFUND SITE  
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SITE-SPECIFIC ENVIRONMENTAL RESTORATION  
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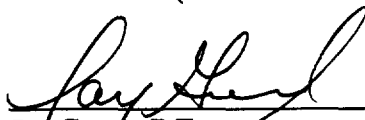


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May 4, 1999


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## LIST OF ABBREVIATIONS AND ACRONYMS

ARARs	Applicable or Relevant and Appropriate Requirements
ASTM	American Society for Testing and Materials
CAR	Corrective Action Request
CDQMP	Chemical Data Quality Management Plan
CMP	Contract Management Procedure
COR	Contracting Officer's Representative
CQP	Construction Quality Program
CQCP	Contractor Quality Control Plan
CQCSM	Contractor Quality Control System Manager
CQP	Construction Quality Program
DFW	definable features of work
DOE	U.S. Department of Energy
DQCR	Daily Quality Control Report
EE/CA	Engineering Evaluation/Cost Analysis
EPA	U.S. Environmental Protection Agency
FUSRAP	Formerly Utilized Sites Remedial Action Program
GP	General Procedure
IPM	Implementing Procedures Matrix
NCR	Nonconformance Report
NVLAP	National Volunteer Laboratory Accreditation Program
PM	Project Manager
PMP	Project Management Plan
PMO	Program Management Office
P O	purchase order
PP	Project Procedure
PQCM	Program Quality Control Manager
QA	quality assurance
QC	quality control
RA	Removal Action
RFI	request for information
RMS	Resident Management System
SOP	Standard Operating Procedure
SPP	Standard Project Procedure
SSERC	Site-Specific Environmental Restoration Contract
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
TBC	"To Be Considered" Guidelines
TLD	Thermoluminescent Dosimeter
USACE	U.S. Army Corps of Engineers
WAD	Work Authorization Document
WCP	Worldwide Construction Procedure

## STATEMENT OF POLICY

Stone & Webster Environmental Technology & Services (Stone & Webster) is firmly committed to meeting the technical and economic needs of their clients; to satisfying contractual and regulatory requirements; and to implementing this Contractor Quality Control Plan (CQCP). This policy statement directs that the procedures and practices set forth in this CQCP be specifically applied to all quality-related work on the project. It is the joint responsibility of all Stone & Webster personnel and subcontractors performing work on the Maywood Site to be familiar with, and implement the requirements of this CQCP. Conformance to this CQCP will provide verifiable documentation that the work, as completed by Stone & Webster, meets or exceeds the standards set forth for the project.



## **1.0 INTRODUCTION**

### **1.1 Project Description and Scope**

This Contractor Quality Control Plan (CQCP), prepared by Stone & Webster Environmental Technology & Services (Stone & Webster), presents project quality protocols for the work activities planned for the Formerly Utilized Sites Remedial Action Program (FUSRAP) Maywood Superfund Site (Maywood). This document has been prepared in accordance with the requirements set forth under the U.S. Army Corps of Engineers (USACE) Site-Specific Environmental Restoration Contract (SSERC) No. DACW 41-99-D-9001.

The scope of work for this task order contract is the removal of contaminated soil and debris from commercial and government properties at the Maywood Site, and transportation of the materials to a permanent disposal facility. Remediation criteria are specified for selected radiological constituents of concern. Stone & Webster will perform the work under the SSERC.

A complete discussion of the site description, history, and background information is provided in the *General Environmental Protection Plan* (Stone & Webster, 1999c).

### **1.2 Quality Objective**

The goal of this CQCP is to ensure that the required actions will be completed as stated in the Maywood Site's planning documents. This goal will be met by implementing this CQCP and by following Stone & Webster's corporate procedures and SSERC program procedures. Documentation will be prepared and maintained during and after the completion of work activities so that it can be demonstrated that work has been completed and performance requirements of the plans have been met.

### **1.3 References**

The plans, procedures, and applicable technical documents discussed in the following sections are included as a part of the CQCP by reference.

#### **1.3.1 Applicable Standards, Codes, and Contracts**

This project is governed by the contract and project requirements in these documents:

- Stone & Webster SSERC DACW 41-99-D-9001,
- USACE Construction Quality Management for Contractors,
- Approved Work Authorization Documents (WADs), and
- Applicable or Relevant and Appropriate Requirements (ARARs) and "To Be Considered" (TBC) guidelines set forth in the Phase I EE/CA or the Phase II PP/ROD for the May-wood Site.
- USACE Engineering and Design, "Design Analysis, Drawings and Specification," ER 111 O-345-700
- USACE Health and Safety Manual, EM385-1-1

- USACE Engineering and Design Analysis, Drawings and Specification, ER-11 10-345-700.

### 1.3.2 Project Plans

The following Maywood Site project plans affect the quality of the project via their implementing requirements:

- *Ballod Property Restoration Work Plan* (Stone & Webster, 1999a),
- *Chemical Data Quality Management Plan (CDQMP)* (Stone & Webster, 1999b),
- *General Environmental Protection Plan* (Stone & Webster, 1999c),
- *General Site Safety and Health Plan (SSHP)* (Stone & Webster, 1999d),
- *Groundwater Remedial Investigation Work Plan* (Stone & Webster, 1999e),
- *Pilot Study Work Plan* (Stone & Webster, 1999f),
- *Pre-Design Investigation Plan* (Stone & Webster, 1999g),
- *Soil Acquisition Work Plan* (Stone & Webster, 1999h),
- *Transition Plan* (Stone & Webster, 1999i), and
- *Transportation and Disposal Plan* (Stone & Webster, 1999j).

### 1.3.3 Implementing Procedures

Controls are established for all activities at the Maywood Site in corporate and program procedures designed to implement Stone & Webster's Quality System. The following procedures are used on the Maywood Site project to implement Stone & Webster's Quality System:

- Stone & Webster General Procedures (GPs),
- Stone & Webster Standard Project Procedures (SPPs),
- Stone & Webster Environmental Standard Operating Procedures (SOPs)
- SSERC Project Procedures (PPs),
- SSERC Contract Management Procedures (CMPs),
- Stone & Webster Construction Quality Program (CQP),
- Stone & Webster Worldwide Construction Procedures (WCPs),
- Selected Subcontractor Standard Procedures, and
- Stone & Webster Subcontracting Practices (SPs)
- Other Stone & Webster corporate procedures, plans, and programs.

The Stone & Webster GPs and SPPs are corporate procedures that address all phases of project management, engineering, procurement, construction, and quality assurance (QA) activities. SSERC PPs have been developed to expand upon corporate requirements and to address program-specific requirements not addressed elsewhere. SSERC CMPs define Stone & Webster's business processes and procedures to be implemented on SSERC projects. SOPs provide activity-specific controls for investigation/sampling activities. The SPs, CQPs and WCPs provide a consistent set of procedures that address site construction activities.

Subcontractor **procedures** shall be utilized for subcontractor specific activities for cases in which their established methods, protocols, or instructions are preferred. Appendix A provides a matrix **identifying** the implementing procedures utilized for all phases of the project for each applicable quality section.

## **2.0 PURPOSE AND SCOPE**

### **2.1 Purpose**

This CQCP is designed to define the methodology and standard practices to control the quality of work performed during the SSERC. At a minimum, this CQCP addresses the quality control (QC) procedures for:

- The organization, responsibilities, and authority for personnel performing quality-related functions,
- Personnel training and qualifications,
- Project QC system,
- Inspections and tests,
- Document control/records management,
- Reporting,
- Submittal control,
- Nonconformances and corrective actions,
- Design control,
- Procurement control,
- Subcontractor control,
- Audits and surveillances.

### **2.2 Scope of Work Activities**

The SSERC will be conducted in a phased approach to remediate logical groupings of properties in a sequential manner. The CQCP will be implemented during all phases of the SSERC, including but not limited to the following general activities for each property grouping, as applicable:

- Preparation of site-specific plans,
- Mobilization and general site preparation,
- Excavation of contaminated soil,
- Backfilling and restoration of excavated areas,
- Water management,
- Transport to disposal facility, and
- Demobilization and project closeout.
- Pilot testing of Soil Management technologies

#### **2.2.1 Preparation of Site-Specific Plans**

As required, supplemental plans, drawings, specifications, etc. shall be prepared to address site-specific activities, conditions, and contractual requirements.

### **2.2.2 Mobilization and General Site Preparation**

All labor, materials, and equipment necessary to perform the work will be coordinated by the Task Manager (PM) and Project Super-intendant and will be onsite and in place in a timely manner in order to support the USACE approved schedule. The following activities will be included in the general site preparation:

- Installation of temporary facilities such as trailers, office, utilities, consumable materials, and other support equipment,
- Provision for security and communications, and
- Transition from current contractors.

### **2.2.3 Excavation of Contaminated Soil**

Conventional excavation equipment will be used to remove the contaminated soil and debris from each affected property. Excavation will be performed with the hand tools or machinery appropriate to the quantity of soil to be removed and the depth at which contaminated soil is found. As excavation proceeds, field personnel will monitor the levels of radioactive contamination in the excavation area to estimate when soils contain levels of contamination below the site-specific cleanup criteria. Soil samples will be collected from the excavated areas to confirm that the residual radioactivity is at acceptably low levels. These soil samples will be analyzed to determine the concentrations of thorium-232, radium-226, and uranium-238 (the primary radioactive contaminants of concern). Selected samples of the excavated materials will also be analyzed for chemical and physical parameters to assure compliance with the waste acceptance criteria of the disposal facility. Removed soil weights and volumes will be monitored to ensure compliance with disposal facility and transportation requirements.

### **2.2.4 Backfilling and Restoration of Excavated Areas**

Excavated areas will be backfilled with clean soil from sources that have been reviewed, sampled, and approved, as required, to ensure that the fill material does not pose a health threat. The affected areas will be restored according to the agreement with each property owner.

### **2.2.5 Water Management**

Surface water run-on will be controlled by temporary berms or other diversion structures. Migration of contaminants through runoff will be mitigated by sediment filters or siltation tanks. Ground water will be controlled by collection and sampling as necessary.

### **2.2.6 Transportation of Contaminated Soil**

Wastes will be packaged and shipped according to the waste acceptance criteria of the disposal facility, as well as applicable U.S. Department of Transportation and New Jersey transportation requirements. Excavated materials from the vicinity properties will be placed in trucks for transport to the onsite rail spur at the Maywood Interim Storage Site, where they will be loaded into rail cars for transportation to the disposal facility.

### **2.2.7 Demobilization and Project Closeout**

At the end of the project, Stone & Webster will decontaminate all materials and equipment, as required, prior to removing them from the last work site. All temporary facilities and utilities will be removed in accordance with contractual agreements.

### **2.2.8 Pilot Testing**

Soil sorting and/or soil washing technologies will be demonstrated on representative site soils to determine the benefits/costs of those in contrast to the current arrangement of direct disposal.

## **2.3 Definable Features of Work**

Definable features of work (DFWs) include those construction activities that need to be controlled as a result of their impact on the quality of the final product and/or compliance with ARARs and/or TBCs during the performance of the work. All DFWs require preparatory, initial, and follow-up inspections to determine the quantity and quality of work performed. Appendix B provides a general list of the DFWs for this project. DFWs may change because of changing site conditions, work methods, or changes in technology. DFWs will be determined and agreed upon with USACE during the coordination meetings held prior to each task.

### **3.0 ORGANIZATION AND RESPONSIBILITIES**

#### **3.1 Quality Control Organization**

The Stone & Webster QC project organization chart, Figure 3-1, depicts the lines of authority as well as the reporting functions of personnel performing quality-related activities.

The responsibilities of key project personnel performing activities that affect the quality of the project are summarized in the following paragraphs.

##### **3.1.1 Program Quality Control Manager**

The Program Quality Control Manager (PQCM) consults with the Stone & Webster Director of Quality Assurance for direction on all quality matters. The PQCM is responsible for the planning, development, implementation, and effectiveness of the project-specific QC program included in this CQCP. The effectiveness of the program is measured through the use of audits, surveillances, document reviews, and other QA monitoring activities defined throughout this document.

The PQCM's duties include but are not limited to the following:

- Reviewing and approving the project-specific CQCP and all revisions thereto,
- Reviewing and approving supporting QC procedures,
- Evaluating the effectiveness of the quality program,
- Assigning qualified QC personnel to projects,
- Directing and supporting project QC management staff,
- Overseeing training and qualifications, and
- Ensuring the necessary QC resources are provided consistent with project needs.

A letter of authority from the PM to the PQCM can be found in Appendix C.

##### **3.1.2 Contractor Quality Control System Manager**

The Contractor Quality Control System Manager (CQCSM) reports to the PQCM on all matters within the scope of the project QC program. The CQCSM is responsible for the overall management of the QC program onsite and offsite, including field construction activities and consulting engineering activities for the project. The CQCSM is responsible for daily interactions as applicable with the Project Superintendent for field and construction activities, the Project Engineer for engineering and design control issues, the Contracts Manager for procurement and purchasing issues, and the CIH for health & safety and HP issues.

Duties of the CQCSM include but are not limited to the following:

- Implementing the project CQCP,
- Initiating or recommending corrective actions,
- Verifying implementation of corrective actions,

- Continuously evaluating the effectiveness of the project CQCP,
- Notifying the PQCM of conditions adverse to quality that cannot be resolved at the project level,
- Monitoring operation activities for compliance with contract requirements,
- Monitoring laboratory testing activities,
- Identifying and reporting nonconforming items, conditions, or activities,
- Directing onsite QC staff,
- Monitoring onsite subcontractors,
- Preparing QC reports as required by the contract,
- Performing and documenting construction inspection activities, and
- Monitoring sampling activities.

A letter of authority from the PQCM to the CQCSM is included in Appendix C.

### **3.2 QC Staff**

QC staff will be assigned as needed to perform QC functions during execution of the project. Responsibilities of the QC staff include oversight and verification that the project is being conducted in accordance with applicable quality criteria, as specified in USACE, Stone & Webster, or SSERC requirements.

### **3.3 Qualifications and Training**

All personnel assigned to the project will have the education, training, and experience appropriate to their assigned duties. Specifically, all QC personnel shall attend the USACE Construction Quality Management for Contractors training within 60 days of assuming site QA/QC activities, while the CQCSM shall be trained prior to assuming site quality activities. An example of the USACE Construction Quality Management for Contractors certificate is shown in Appendix C.

Personnel performing QC functions will be properly trained and qualified to perform their assigned duties. The PM and PQCM are responsible for identifying the training needs of personnel and initiating the appropriate training required by each project associate. Training will be documented and training records retained as a quality record.

The training program required for management and field work personnel will be structured to be commensurate with the scope, complexity, and nature of:

- The individual's participation in the assigned work activities,
- The individual's required quality-related functions and anticipated responsibilities, and
- The individual's education, previous training, and experience.



The PM is responsible for verifying that all project personnel are properly trained, qualified, and, where required, certified to the appropriate level for the work being performed. Training records will be maintained in accordance with project records requirements to establish and document the training requirements for project and management personnel.

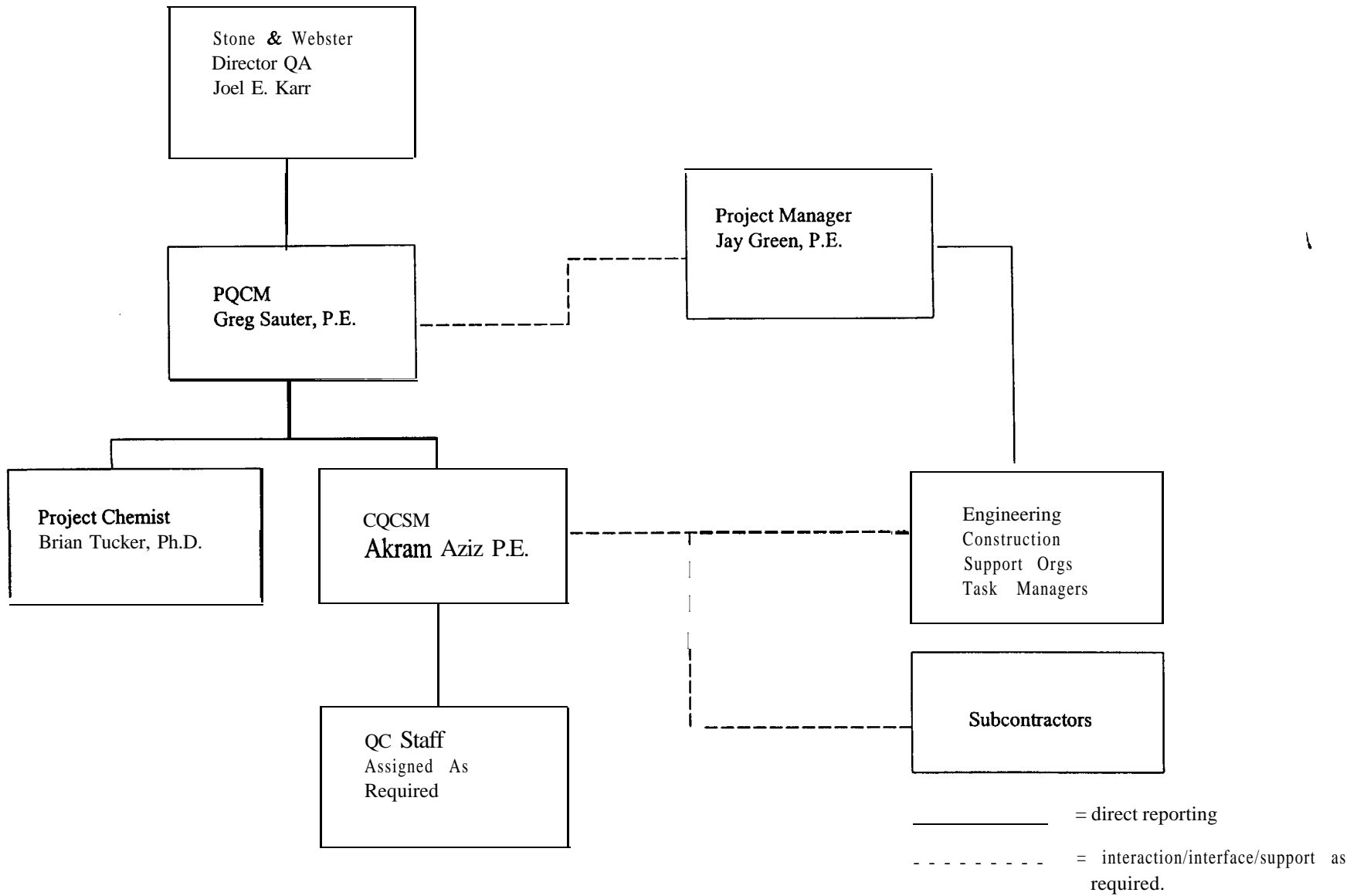
### **3.3.1 Site-Specific Quality Assurance/Quality Control Training**

The PM and CQCSM (or their designee) are responsible for providing basic indoctrination of all project personnel performing quality-related activities. The indoctrination may include a review of the project CQCP, SSERC PPs and CMPs, Stone & Webster GPs, SPPs, SOPs, SPs, CQP, and WCPs, work plans, regulatory requirements, and other project-specific documents necessary for personnel to perform project work activities. Indoctrination will be based on the individual's work function and documented and maintained on an individual's personnel forms or other suitable project records.

### **3.3.2 Qualifications and Certifications**

When required by USACE, the qualifications and certifications of the CQCSM and subcontractor personnel will be submitted to the USACE for review and acceptance prior to the performance of any functions by an individual. The submittal of a subcontractor's qualifications will be required only in the instance when the subcontractor is solely responsible for QC. The ultimate responsibility for QC resides with Stone & Webster.

**Figure 3-1  
Maywood Quality Control Organization Chart**



## **4.0 PROJECT QUALITY CONTROL SYSTEM**

### **4.1 Measures to Control Quality**

This CQCP establishes the measures for controlling items or activities affecting quality and for verifying compliance with the specified requirements of the contract. Methods used to achieve the goals of the CQCP include but are not limited to:

- Project planning,
- Inspections and tests,
- Radiological surveying,
- Design control,
- Document/record controls,
- Nonconforming conditions/deficiency corrective actions,
- Completion inspections,
- Chemical/analytical testing,
- Subcontractor controls,
- Audits and surveillances,
- Calibration program,
- Investigations and studies, and
- Use of standard procedures, programs, methods, and forms.

### **4.2 Contractor Quality Control Plan**

As required by contract specifications, this CQCP will be submitted to the USACE for review and acceptance prior to starting invasive field activities.

Changes to this plan will be made by revision, amendment, or the addition of supplements. Proposed changes will be submitted to the USACE for review and approval prior to implementation.

The CQCSM or designee will be responsible, during the performance of work, for the implementation and control of the QC program during site preparation, excavation, disposal, debris removal, site closure, and other work affected by the QC program.

This CQCP establishes the measures required to verify the quality of work performed and the compliance to specified contract requirements, including the inspection of materials and workmanship before, during, and after each DFW.

### **4.3 Inspections**

Inspections and testing will be performed for those DFW activities as stated in this plan (see Appendix B). Preparatory, initial, and follow-up inspections will be scheduled and performed for each of the DFWs by the CQCSM or designee as noted on the Oversight Matrix (Appendix

G). The frequency of the inspections in the oversight matrix should be finalized 'and mutually agreed upon by S&W and USACE during the coordination meeting held prior to the execution of each task. A matrix for Preparatory and Initial Inspections shall be maintained (Appendix G). Schedules for operation and maintenance activities and test plans for equipment will be developed as necessary. A project final inspection will be formally scheduled and completed with USACE participation. Each type of anticipated inspection is discussed in the following paragraphs.

#### **4.3.1 Preparatory Inspection**

Preparatory inspections will be performed prior to the execution of any DFW. Where more than one DFW is included in one work activity, one preparatory meeting may cover the separate DFWs. The preparatory inspection meeting will be attended by a USACE Contracting Officer's Representative (COR), or designee; the PM, or designee; any applicable subcontractors involved with the DFW; the Site Safety and Health Officer (SSHO); responsible QC staff personnel and Health Physicists personnel (as necessary). All affected parties will be notified in advance of these meetings in an effort to coordinate their participation in the inspections. The preparatory inspection meeting will include but is not limited to:

- Reviewing contract plans,
- Reviewing pertinent contract specifications and drawings,
- Reviewing materials and equipment documentation for required tests, submittals, and approvals,
- Reviewing required control inspections and test requirements,
- Establishing that the preliminary work required to begin the DFW is complete and conforms to approved drawings and submittal data,
- Establishing that the required materials and equipment for commencement of the work are on hand or available for use on the DFW and that all equipment is properly calibrated and in proper working condition,
- Discussing procedures for performing the work, and
- Reviewing the appropriate Activity Hazard Analysis.

The preparatory inspection will normally be scheduled at least 72 hours prior to the start of each DFW. USACE will be notified of the impending inspection. Formal preparation inspection minutes will be prepared on the Preparatory Inspection Form (Appendix D) by the CQC representative and will be attached to the Daily QC Report (DQCR). Personnel performing work activities affected by a preparatory inspection will be instructed in how to complete a DFW so that their workmanship is in compliance with QC requirements.

#### **4.3.2 Initial Inspection**

An initial inspection will be conducted at the start of each DFW and include a complete and thorough video inspection. This inspection will be performed as soon as it is determined by the

CQCSM that the DFW has been initiated. The initial inspection will be conducted to evaluate the following criteria:

- Review of preparatory inspection minutes,
- Verification of preliminary work,
- Compliance with the specifications, drawings, submittals, and other contract requirements,
- Compliance with the SSHP in conjunction with the SSHO,
- Review of the activity hazard analysis,
- Acceptable levels of workmanship, and
- Resolution of any differences.

The initial inspections may include participation by the USACE, appropriate subcontractors, the Stone & Webster QC personnel involved with the DFW and property owners and tenants (if applicable) or their authorized representative. The USACE will be notified at least 48 hours in advance of the initial inspection.

Formal initial inspection meeting minutes will be prepared by the CQC representative on the Initial Inspection form and will be attached to the Daily QC Report (DQCR). The initial inspection form will be transmitted to property owners or tenants' ( if applicable).

#### **4.3.3 Follow-Up Inspections**

Follow-up inspections will be performed on a daily basis, unless otherwise agreed upon by USACE and S&W at the coordination meeting held prior to the execution of each task. The purpose of the follow-up inspections is to ensure continued adherence to quality requirements and contract commitments. The frequency of the follow-up inspections will be dependent upon the extent of work being performed on each DFW. Follow-up inspections will be performed by Stone & Webster QC personnel on all ongoing work. Nonconforming conditions identified will be corrected in a timely manner or documented on a Nonconformance Report (NCR) in accordance with Section 6.0 of this document. Nonconforming conditions that would be made inaccessible for correction by subsequent work activities will be corrected, reinspected, and approved prior to performing any work that could conceal the nonconforming work.

Follow-up inspections will be reported on the DQCR. Additionally, an example of a Follow-Up Inspection Form can be found in Appendix D.

#### **4.3.4 Area/Task Final Inspections**

When Stone & Webster considers an area (grouping of DFWs for a given area) or task completed, the CQCSM, PM, and appropriate project staff may perform a detailed area final inspection. After completion of the area final inspection, Stone & Webster will notify the USACE COR of the nature of the inspection. This will confirm that all work in a specific area

has been inspected and, except as specifically noted, is completed and in compliance with the contract plans and requirements for each area's DFW. Stone & Webster may also use a "pre-final" inspection, at which time punch lists will be prepared with USACE to ensure completion at final inspection. Area final inspections may or may not be required for individual work areas or sites. Stone & Webster will work with the USACE to determine when area/project final inspections are required. Stone & Webster shall notify the USACE COR, in writing, that the work is substantially complete except for items specifically listed by Stone & Webster as incomplete. The Stone & Webster Final Inspection Checklist (Appendix D) will be used for final inspection.

If the USACE COR does not consider that the area is substantially complete, he/she shall notify Stone & Webster, in writing, giving the reasons for non-acceptance. If the USACE considers that area DFWs are substantially complete, a date of substantial completion shall be established between Stone & Webster and the USACE.

#### **4.3.5 Project/Property Final Inspection**

The project/property final inspection may be formally scheduled by the USACE COR. S&W shall notify the USACE COR that the project is ready for final inspection at least 14 days prior to the final inspection. At the completion of all work, a project/property final inspection will be conducted to verify compliance with the contract plans and requirements. Property owners will be invited to attend the final inspection.

During project/property final inspection, a "punch list" of items not conforming to the specified requirements, including incomplete project items, will be developed. Upon completion/correction of the "punch list" items, a follow-up final inspection will be conducted to verify that completed work conforms to the contract requirements. Confirmation that all work has been completed for a given project/property will be provided by the USACE prior to release.

#### **4.4 Testing**

Per agreement with the USACE, they shall be notified in advance of scheduled on-site testing to witness as requested.

##### **4.4.1 Analytical Tests**

Analytical tests will be performed in accordance with the methods and procedures specified in the project CDQMP and according to USACE requirements.

##### **4.4.2 Geotechnical Tests**

Soil and geotechnical tests will be performed, as required, in accordance with the CDQMP, American Society for Testing Materials (ASTM) procedures, and USACE requirements.

#### **4.4.3 Documentation**

Testing activities and results of tests and monitoring activities will be included in the DQCR. Test reports and other recording forms used to document test activities will be maintained by the CQCSM or appropriate Stone & Webster or subcontractor organization responsible for performing the activity.

## 5.0 DOCUMENT CONTROL

This CQCP establishes the document control system that provides measures for controlling the issuance, distribution, storage, and maintenance of documents relating to quality, including those of subcontractors, offsite fabricators, laboratory suppliers, and other vendors.

Preparation, review, issuance, and revisions to documents affecting quality will be controlled so that the specified USACE, regulatory, and permit requirements or procedures necessary to perform the intended activities are clearly defined and current. QC procedures will be made available to the personnel performing the work. Documents subject to QC, in accordance with implementing procedures, may include but are not limited to:

- Calculations,
- Drawings,
- Procedures,
- Plans,
- Reports, and
- Specifications.

### 5.1 Daily Quality Control Report

A DQCR will be completed to document project activities. The report will cover both conforming and nonconforming work and, where applicable, will include a statement of certification that all materials, supplies, and work comply with the contract requirements. The CQCSM or authorized designee will sign the DQCR to validate the certification. The DQCR will include but is not limited to:

- Type and number of control activities,
- Results of inspections and tests,
- Types of defects/causes for rejection, if any,
- Corrective actions proposed/taken, if any,
- Trades/personnel working type and number,
- Weather conditions,
- Delays and their causes, if any,
- Verbal instructions,
- Samples collected,
- Visitors to the Maywood Site, such as regulators, politicians, reporters, etc.,
- Health and safety activities, and
- Requirements of the Stone & Webster CDQMP.

1- A DQCR form is included in Appendix D. Other QC forms may be used as required by the contract. Additional documentation (e.g., test reports, subcontractor daily reports, NCRs, and



other pertinent documentation) may be included as attachments to the DQCR. DQCRs shall be provided to the USACE daily within 16 hours after the date(s) covered by the report.

Reports need not be submitted for days in which no work is performed. As minimum, one report shall be prepared and submitted for every seven days of no work. The PM, PQCM, and other affected operations departments, such as procurement shall receive copies of the DQCR. Additionally, an electronic copy of the DQCR shall be forwarded for posting on the project intranet website.

### **5.1.1 Resident Management System**

The Government Resident Management System (RMS) in force at **Maywood**, and as supplied by USACE, shall be used by Stone & Webster per USACE direction. The RMS shall be integrated into the project reporting and tracking system as required.

## **5.2 Project Records**

QC records will be prepared to furnish documented evidence that project activities, including laboratory analyses, fulfill the scope of work and are in compliance with the requirements of the contract. The records will be consistent with the applicable sections of the Contract Specifications and may include but are not limited to:

- Inspection reports,
- Monitoring and surveillance activities,
- Personnel qualifications,
- NCRs/corrective actions,
- Laboratory analyses reports,
- Training records, and
- Other specified documents.
- Electronic Data Control

### **5.2.1 Indexing and Filing**

Indexing and filing of records will be performed and maintained in accordance with SSERC PP 6-1, Program Files Index and SSERC PP 7-5, Document Control.

The project record files will be organized by various project file categories and letter designations. Additional categories may be added or deleted as required. Folder tabs will be marked to indicate folder number and file title as it appears on the project index.

In accordance with SSERC PP 6-1, a numbered index will be prepared and maintained (Appendix E). The index will list the individual file folders and identify the records therein to facilitate their location. The index will be kept in a separate folder at the front of the project file.

### **5.2.2 'Storage and Maintenance**

Records will be maintained and stored at the project site and the Program Management Office (PMO) until turnover as specified by the USACE. For records generated at the project site, the originals will be maintained onsite, and a copy will be sent to the PMO. Records will be readily retrievable for review and audit purposes by Stone & Webster, the USACE, or regulatory agencies. The records will be controlled so that the possibility of their loss or damage is avoided. When it is not specified in the contract which organization is responsible for the retention of records, Stone & Webster will define record retention requirements and reach agreement with the USACE regarding designation of the party responsible for records maintenance after project completion.

### **5.2.3 Record Turnover**

Upon completion of the project, specified records will be turned over to the USACE or merged into the Stone & Webster central files for maintenance, in accordance with SSERC PP 6-2, Records Management and Disposition.

The CQCSM is responsible for performing scheduled audits or surveillances of the document control system in accordance with Section 11 .O of this plan.

### **5.3 Submittals**

The PM, or designee, is responsible for the preparation and maintenance of the specified submittals for the project (e.g., shop drawings, equipment data, material samples, etc.). Submittals will be prepared in accordance with Stone & Webster's Standard Operating Procedure Submittals. Form 4025 (Appendix D) will be used for the transmittal of submittals. They will be listed in the Project Submittal Register, in accordance with Form 4288 (Appendix D). The Submittal Register will be updated as required by the contract.

Six copies shall be distributed as follows:

- 2 to Kansas City District;
- 1 to New York District PM,
- 3 to New York District Construction Field Office (one of which will become the signed copy returned to S&W).

Note: A list of submittals will be included in each area specific work plan.

**Submittal Register.** Submittals returned unapproved or with comments requiring revisions will be so noted on the submittal register and re-entered as a revision. The PM will monitor the Submittal Register to verify submittals are being scheduled, tracked, and **statused** in an effective manner.

**Submittal Transmittal.** Submittals to Stone & Webster from subcontractors or vendors will be reviewed and accepted prior to transmitting the submittals to USACE. All appropriate information will be completed prior to transmittal of the submittals. Submittals will be scheduled to coincide with the need dates and to allow adequate time for review and approval in accordance with the contract requirements.

**Resubmittals.** Submittals that are not approved by the USACE or returned with comments that require resubmittal for approval will be processed in the same manner as the original submittals. The submittal number used for the original submittal will be used for each resubmittal followed by sequential alphanumeric suffix for each resubmittal. The resubmittals will be re-entered on the submittal register with the new resubmittal number.

#### **5.4 USACE Comments**

Upon receipt of USACE comments on draft documents, the PM will provide a copy of all comments to the responsible personnel and assign each comment to project personnel based on the content of the comment. Project personnel will respond to each comment and submit responses to the PM for review. Prior to submittal to USACE, the responses will be reviewed by the PM.

Upon approval of the responses by USACE, the comments and responses will be incorporated into the document. Revised documents will be reviewed to ensure that all comments have been incorporated.

#### **5.5 Inspection Documentation**

The CQCSM is responsible for the maintenance of the inspection records. Inspection records will be legible and clearly provide all information necessary to verify the items or activities inspected conform to the specified requirements. In the case of nonconforming conditions, inspection records will provide evidence that the conditions were brought into conformance or otherwise accepted by the USACE.

#### **5.6 Request for Information**

A request for information (RFI) process, mutually agreed upon by Stone & Webster and USACE will be established. RFIs shall be documented; see Appendix D for the RFI form.

#### **5.7 Photographic Record**

A photographic record of site activity will be maintained. In addition, regular videos of site activities will be taken. Photographs will be taken on a regular basis, depending on site activity. At a minimum, photographs will be obtained during the inspection process, when new activities are executed, and weekly when invasive work is ongoing. The records will be obtained using a digital or 35 mm camera. The files will be maintained electronically onsite. Photographic prints will be available onsite and filed in accordance with the records management program. All

photographs will be labeled and will include the location, date, time, activity, and other **pertinent** information, as required. A photographic log will be maintained. At the discretion of the CQCSM, the photographs may be used in the DQCR.

## **6.0 NONCONFORMANCES AND CORRECTIVE ACTIONS**

### **6.1 Nonconformance Report**

Work or materials not conforming to the specifications or contract requirements, including noncompliances and deficiencies identified by the USACE, will be identified and documented on an NCR (Appendix D) in accordance with Stone & Webster SPP 2-5-0, Reporting and Resolving Nonconformances. The NCR will remain open until the nonconforming condition has been satisfactorily resolved and verified as acceptable by the CQCSM.

### **6.2 Nonconformance Tracking and Status**

Each identified nonconformance will be documented on the NCR Tracking Log (see Appendix D). At a minimum, the tracking log will include the following information:

- Specification reference or drawing number,
- Description of condition,
- Location of discrepancy,
- Name of individual identifying the condition,
- Date the condition was identified,
- NCR number,
- Corrective action verification date,
- Date the NCR was closed out, and
- Comments.

The CQCSM (or designee) is responsible for maintaining the NCR Tracking Log and for the verification that the corrective actions were implemented and verified prior to closing the NCR. When the USACE identifies a noncompliance or deficiency, the NCR will be tracked and the USACE COR will be notified in advance of verification of the corrective action so that the USACE can participate in the inspection and acceptance of the results prior to closing the NCR.

### **6.3 Corrective Action System**

When an adverse quality trend has developed, a discrepancy does not fit into another resolution process, or when earlier actions taken in response to an identified discrepancy are inadequate, a Corrective Action Request (CAR) (Appendix D) will be initiated in accordance with Stone & Webster SPP 2-6-0, Corrective Action System. The CAR will be evaluated by the CQCSM and assessed for significance. To the extent commensurate with the significance of the discrepancy, the cause and extent of the condition will be investigated, the corrective action identified, and the verification activities required to close the CAR identified. Activities addressed by a CAR shall

cease until the **condition** is addressed and corrective actions have been implemented. **CARs** will be tracked on the CAR Tracking Log (see Appendix D).

## 7.0 CONTROL OF PROJECT ACTIVITIES

### 7.1 Design Control

This section describes the controls and procedures to be implemented during design activities and applies to the various stages of site-specific work plan development. The term “design” used throughout this section refers to work plans, drawings, and design criteria used to accomplish required activities. The design approach for site activities will be identified in the work plan for the activity and controlled by established and approved processes. Responsibilities for implementation are identified by approved plans and the implementing procedures.

The design process is based on sound engineering and scientific principles. Success of this process requires the control of design requirements, inputs, processes, organizational interfaces, changes, and records. Controls are established in the corporate and project procedures identified in Section 1.3.3 of this CQCP. A graded approach, commensurate to the risk consequence of the work performed, will be used to establish the level of control required. Control shall include the following elements, as applicable:

- Requirements shall be written, clearly defined, verified, and controlled,
- Inputs shall be appropriately specified and correctly translated into final documents (e.g., plans, drawings, instructions, and procedures),
- Design/study documents shall include, as appropriate, acceptance criteria for inspections and tests, and
- Design documents shall be reviewed and approved.

Site-specific work plans and procedures shall be used for design activities, as necessary, and the QC staff shall verify that work is being performed in accordance with the appropriate procedures and authorizations.

#### 7.1.1 General Requirements

The implementing procedures described in Section 1.3.3 of this CQCP establish requirements for the control of all aspects of the design process. These procedures establish design documentation requirements, criteria for design document preparers and reviewers, and requirements for design review.

The requirements for the preparation, review, approval, and control of engineering documents is identified in the Stone & Webster SPPs to be implemented for the following activities:

- Applying Professional Engineer’s seal,
- Obtaining licenses and permits,
- Performing peer reviews,
- Preparing technical studies and reports,

- Preparing component lists,
- Field data collection,
- Preparation of Procurement and Erection Project Specifications,
- Preparation of Material/equipment data sheets,
- Preparation of Engineering Services Specifications (Scopes of Work),
- Review and control of supplier documents (drawings, manuals, procedures, etc.),
- Site engineering,
- Preparation and control of test and startup plans,
- Preparation and control of operating manuals, and
- Design change control.

Appendix A, the Implementing Procedures Matrix (IPM), identifies the implementing procedures to be utilized for project activities.

### **7.1.2 Document Changes**

Changes to completed and/or approved approaches and documents (including field changes) and dispositions of nonconforming items or conditions that accept any item/condition in a configuration other than in its planned configuration shall be documented and dispositioned by Stone & Webster. Review shall be performed by the same design group, or equally authorized group, that performed the original design.

### **7.1.3 Design Analyses**

Design analyses include the initial step of data reduction as well as broad level system analyses that integrate design inputs and analysis of individual parameters. The PM will see that personnel/organizations selected to perform design activities have been issued the current design input information necessary for the design to proceed in a planned, controlled, and documented manner. Additionally, design organization(s) assisting in design activities will implement the requirements established within this section, including Stone & Webster approved procedures.

Design analyses documentation will be prepared in sufficient detail such that a person technically qualified in the subject can review and understand the analyses and can verify the adequacy of the results without recourse to the originator. Documentation of design analyses will include, as appropriate:

- Definition of the objective(s) of the analyses,
- Definition of design inputs and their references,
- Results of literature searches or other background data,
- Identification of assumptions and indication of those that must be verified as the design proceeds,
- Identification of computer calculations, including computer type, computer code (e.g., name), revision identification, inputs, and outputs, and

- Review and approval.

In general, design analysis will be documented in accordance with SPP 4-105, Calculations.

#### **7.1.4 Design Review**

The PM is responsible for implementing design review requirements. Design verification for the level of design activity accomplished will be performed prior to release for procurement, for construction, or to another organization for use in other design activities except in those cases where this timing cannot be met, such as when insufficient data exists. In those cases, the unverified portion(s) of the design will be identified and controlled. In all cases, the design review will be completed prior to relying upon the component, system, or structure to perform its function.

Design reviews will verify the following as a minimum:

- Design inputs were correctly selected,
- Assumptions necessary to perform the design activity were described and assumptions were identified for subsequent verifications when the detailed design activities were completed,
- Appropriate design method was used,
- Design output was reasonable compared to design inputs,
- Necessary design input and review requirements for interfacing organizations were specified in the design documents or in supporting procedures, and
- Constructability and value engineering requirements were met.

#### **7.1.5 Instructions to Field Personnel**

Design output (e.g., requirements, drawings, and specifications) will be reviewed by QC personnel to identify special design requirements or constraints that would affect the removal effort relative to QC. These special design considerations will be discussed during the preparatory phase inspection as they relate to the DFWs.

#### **7.2 Control of Investigations and Studies**

Investigations and studies shall be performed in accordance with all applicable regulations, USACE requirements, and Stone & Webster procedures as identified in the IPM.



## 8.0 PROCUREMENT

This section describes the requirements for the preparation, review, and approval of procurement documents and changes thereto for quality-related items and services.

### 8.1 General

Procurement of items and services will be performed in accordance with approved procedures, Stone & Webster Federal purchasing policies, and Federal Acquisition Regulations. The procurement of items and services will be controlled so that:

- Appropriate technical and quality requirements are adequately specified in purchase orders (POs) along with applicable acceptance criteria,
- Sufficient reviews and approvals are received prior to procurement to verify that project objectives are reflected in the procurement,
- The procurement process accurately transmits requirements to suppliers and subcontractors,
- Selected suppliers and subcontractors are qualified for use, and
- Items and services conform to federal, contractual, QA, commercial, and technical procurement requirements.

### 8.2 Procurement Document Control

Procurement documents (including bid requests, POs, and contracts) will be prepared, reviewed, and approved in accordance with approved procedures as identified in the IPM. The PQCM, CQCSM, or designee will review the procurement requisition or other procurement documents for the inclusion of appropriate quality requirements prior to the implementation of procurements of quality-affecting services and/or items, in accordance with SPP 5-4-O and SPP 5-101-o.

Procurement documents will state applicable requirements for technical performance, quality, acceptability, and documentation, as appropriate. Technical performance requirements may include:

- General requirements,
  - Scope of work
  - Personnel qualifications and training
  - Licenses or permits
- Regulations and standards,

- **Acceptance** criteria (material composition and/or physical and chemical requirements),
  - Type
  - Composition
  - Grade
  - Properties
  - Size/volume/quantity
  - Packaging
  - Handling
  - Shipping
  - Storage
- Milestones, holdpoints, and scheduling,
- Work procedures and certifications,
- Testing, calibration, and QC requirements, including
  - Test/calibration method
  - Frequency
  - Method detection limits
  - Environmental conditions
- Performance and acceptance criteria.

Technical requirements will either be directly included in the procurement documents or referenced to specific drawings, specifications, statements of work, procedures, or regulations (with specific revision numbers and issue dates) that describe the items or services to be furnished.

### **8.3 Procurement Requisitions**

Procurement requisitions are controlled in accordance with approved procedures as identified in the IPM. Applicable requirements will be specified in the procurement requisitions, attached or referenced specification, drawings, or other attachments.

The procurement requisitions will include any applicable inspection and testing requirements needed to establish the proper performance of an item or services. These inspections may include source surveillances, audits, or hold and inspection points.

The procurement requisitions will specify that a supplier must provide technical and quality documentation prior to acceptance and initiation of work. Prior to commencing work, subcontractors will be required to furnish documented evidence of their capabilities. -

All procurement requisitions will be submitted to the CQCSM for review and acceptance prior to the initiation of the requested procurement in accordance with SPP 5-4-O and SPP 5-101-O. The PQCM, CQCSM, or designee will review the procurement requisition to verify that it contains the proper quality requirements and sufficient controls.

When accepted by the CQCSM, the procurement requisition is submitted to the procurement department for the preparation of the PO and issuance to the selected subcontractor or supplier. Once the field offices are established, field procurement shall execute procurements.

#### **8.4 Procurement Documentation Revision**

Revision(s) to procurement documents will be initiated using the same method as the original procurement and will be accomplished using the following considerations:

- Determination of any additional or modified design criteria,
- Identification of appropriate requirements or modifications,
- Analysis of exceptions or changes requested by the subcontractor or supplier and the effect the changes will have on the procurement activity, and
- Lessons learned from execution of the initial contract.

#### **8.5 Control of Purchased Items and Services**

In accordance with the requirements of the procurement documents, a receipt inspection will be performed at the time of delivery of the items (e.g., backfill, crushed rock, etc.) or prior to commencement of the subcontracted activities. The CQCSM or technical personnel assigned will perform the receipt inspection and document the results. The intention of this check is to determine that the subcontractor has fulfilled the procurement requirements necessary to begin their activities. The check will include the type, condition, and calibration of equipment, if required, and will document whether the required training and qualification of personnel has been completed. If deficiencies are noted, the subcontractor will be notified and will be required to complete corrective actions prior to their commencement of work.

When items are supplied that are considered quality-affecting, they will be subject to receipt inspection in accordance with PO requirements by the QC staff prior to release and use in the work.

Materials will be tracked in accordance with Stone & Webster's Property Management Plan.

#### **8.6 Procurement Source Evaluation and Selection**

Subcontractors and suppliers of quality-related materials will be selected on the basis of their ability to effectively meet contract requirements, including quality requirements. Record of subcontractor acceptability will be maintained. The selection of subcontractors and the extent of

control shall be dependent upon the type of item or service, and where appropriate, on records of the subcontractor's history of past performances.

During the term of the PO, contract, or subcontract, the field activities of quality-affecting subcontractors or vendors will be monitored to verify the quality of the items and services being furnished. This will be accomplished through inspection and monitoring of field activities consistent with the extent of ongoing activities and the project schedule.

## **9.0 SUBCONTRACTOR CONTROL**

All subcontractors performing work for the project are responsible for compliance to the requirements of their respective subcontract. Subcontractors include organizations supplying quality-related items or services to the project. The overall responsibility for conformance to the quality requirements for the subcontracted items and services is retained by Stone & Webster.

The requirements for personnel qualifications, technical performance levels, QC procedures, acceptability levels, and documentation will be included as a part of the subcontract documents.

The CQCSM with support from the PQCM is responsible for the implementation of inspections, surveillance, document reviews, audits, and other QC activities used to monitor the subcontractor's compliance with the contract. These activities will be documented on inspection reports, checklists, audit reports, field logs, or other forms appropriate to the function performed.

For field operations, the QC staff will provide QC checks before, during, and after the completion of the subcontractor's activities. The QC checks include preparatory, initial, follow-up, pre-final, and final inspections to determine if the subcontractor is in compliance with the QC measures set forth by the contract and the applicable subcontract responsibilities, including:

- Meeting quality requirements,
- Generating, controlling, and maintaining required documentation,
- Performing and documenting required inspections and tests,
- Identifying, reporting, and correcting nonconforming conditions, and
- Completing turnover to Stone & Webster.

### **9.1 Listing of Subcontractors**

Lists of subcontractors will be determined and identified for a specific WAD.

### **9.2 Subcontractor Quality Assurance/Quality Control Responsibilities**

Subcontractors performing work will be monitored by the project QC staff to verify conformance to the contract and subcontract quality requirements. The monitoring activities will include surveillances, inspections and tests, document reviews and, as necessary, interfacing with the subcontractor's QC or project management. All monitoring activities will be documented on the appropriate form or included in the DQCR. Subcontractors will be required to provide documentation consistent with project requirements.

### **9.3 Subcontractor Noncompliance**

Work performed by subcontractors that does not comply with the specified requirements will be identified, reported, corrected, and tracked in accordance with Section 6.0 of this CQCP.

### **9.3.1 Notification of Noncompliance**

Notification of subcontractor noncompliance will be accomplished via the NCR, with copies provided to both the USACE, as required, and the nonconforming subcontractor. Notification will be accomplished as soon as the nonconforming work has been identified. Notification of noncompliance shall be provided to the Stone & Webster procurement/subcontracts organization.

### **9.3.2 Corrective Actions**

Corrective actions by subcontractors will be monitored by the CQCSM or designee to verify that the subcontractor's performance meets the required specifications.

## 10.0 TEST CONTROL

This section describes the controls to be implemented for the performance of tests required to verify the acceptability of the work activities for the Maywood Site project. The testing includes materials and geotechnical tests, where required, to determine the extent of contamination or verify remediation criteria have been met.

### 10.1 Testing Laboratories

All laboratories used for testing and analytical services shall be approved by the USACE. Geotechnical testing laboratories to be used will be accredited by an acceptable accreditation program and approved by the USACE. Radiological and chemical laboratories performing analyses of contaminated media will be certified in accordance with applicable state requirements and approved by the USACE prior to performing analyses. Laboratories analyzing **thermoluminescent dosimeters (TLDs)** shall hold **National Volunteer Laboratory Accreditation Program (NVLAP)** certification.

### 10.2 Testing Procedures

Tests performed for task orders will be controlled using documents approved by Stone & Webster that specify the requirements and criteria for preparation, performance, acceptance, and documentation of the testing activities. A matrix of control verification and acceptance testing procedures for each specific test is included in Appendix H. Test performance and analysis of test results/data collected will be reviewed and approved by qualified personnel.

The CQCSM and Project Chemist will verify that the required tests are performed by a qualified laboratory and are within the capability of the laboratory and that the procurement documents correctly specify the test requirements, acceptance criteria, data, and reporting requirements.

Test results will be reported by the laboratory performing the tests. Prior to submitting the results to qualified technical personnel for approval, the Project Chemist and CQCSM shall review the results for conformance to the testing procedures and acceptance criteria. The reviews shall include other responsible individuals, such as the responsible engineer, as required.

Test control procedures will, as applicable, cover the following items:

- Instructions and prerequisites to perform the test,
- Completeness and accuracy of data,
- Use of test equipment,
- Calibration requirements,
- Hold or witness points,
- Environmental conditions,
- Test personnel qualifications,

- Referenced standards, procedures or methods,
- Acceptance criteria, and
- Well-defined deliverables.

Nationally recognized standards (e.g., ASTM, American National Standards Institute, etc.) may be referenced for use in fulfilling the objectives stated above.

### **10.3 Test Personnel Qualifications**

Personnel performing sampling and testing activities will be trained and, where required, certified for performing tests and accepting the results.

### **10.4 Geotechnical and Materials Testing**

Geotechnical and materials testing will be performed by an approved materials testing laboratory. The laboratory will be responsible for the testing of sub-site preparation, earthwork, soils and rock, concrete, bituminous paving, and other physical testing defined by the approved work plans.

The CQCSM in conjunction with the Task Manager is responsible for monitoring the laboratory operations to verify:

- All required tests, including QC tests conducted at the proper frequency, are performed,
- Location of tests are as specified,
- Frequency of tests are as required by the purchase order specification or design documents,
- Testing personnel qualifications are documented and are as specified by the delivery order requirements,
- Calibration of test equipment has been performed at the frequency required by the CDQMP and calibration certificates are available,
- Test results are documented and approved by qualified personnel,
- Acceptance criteria for the specified test(s) are met, and
- Documentation is legible, complete, and consistent with the test procedure or PO specification.

The geotechnical and material tests to be performed for the project will be identified within approved work plans. Testing requirements at a minimum will include:

- Test name,
- Procedure (ASTM, American Association of State Highway and Transportation Officials, etc.),
- Frequency, and



- Responsible organization/personnel.

Compaction test methods shall be approved by USACE unless the method is mandated in the specifications.

### **10.5 Analytical Testing**

Analytical testing for specific task orders will be in accordance with this CQCP and the CDQMP (Stone & Webster, 1999b) unless otherwise specified. Sampling and analysis will be performed using current U.S Environmental Protection Agency (EPA) procedures and QC methods unless otherwise specified.

The Project Chemist, in conjunction with the CQCSM and PQCM, is responsible for monitoring testing activities. Their responsibilities include but are not limited to:

- Ensuring that equipment is properly calibrated,
- Ensuring that equipment is being used under condition within the equipment's operability range,
- Performing chemical QC or radiological QC,
- Reviewing the CDQMP and procedures,
- Verifying sample identification,
- Reviewing chain-of-custody documentation,
- Verifying data quality objectives, transfer reduction, and evaluation,
- Ensuring radiological testing limits are specified and enforced for the minimal detection limit and the lower limit of detection,
- Reviewing test results and related documentation for compliance with analytical requirements, and
- Reporting results in the DQCR.

### **10.6 Test Documentation**

The results of the geotechnical, materials, and analytical tests will be documented using the laboratory-approved test reports or EPA Contract Laboratory Program data package requirements, as applicable. The test reports will include, as appropriate:

- Applicable contract requirements, test methods, and analytical procedures used,
- Results of tests,
- A statement certifying the tests conform to the established test method requirements,
- Applicable raw data, supporting QA/QC information, and electronic deliverables, and
- Signature of authorized representative of testing laboratory.

The CQCSM and/or Project Chemist will review the test report(s), submit the results with any supplemental documentation to USACE, and enter a summary of the results on the DQCR.

Radiological and Analytical test documentation requirements are addressed in Section 3.0 of the CDQMP.

### **10.7 Test Failures**

Test results that indicate unacceptable results will be brought to the attention of the CQCSM or PQCM for resolution prior to proceeding with the activity.

## **11.0 AUDITS AND SURVEILLANCE**

### **11.1 Project Audits and Surveillances**

The PQCM may perform audits to evaluate the effectiveness of the implementation of the project CQCP and referenced plans and procedures. Routine audits will be performed on quality-related activities.

Planned and scheduled audits of the project QC program will be performed by the PQCM or designee. Depending on the scheduled duration of the project, the initial audit will be performed as soon as practical after the start of work. Additional audits will be performed as determined necessary by the PQCM. The frequency of the audits will be based upon the extent of activities being performed and the project schedule.

At the completion of the project, an assessment of the project records will be performed by the PQCM or designee.

#### **11.1.1 Documentation**

Audits will be performed and documented in accordance with written procedures, checklists, and instructions. These documents include the required steps necessary to verify compliance with the contract and regulatory requirements. A specific audit plan will be developed or approved by the PQCM prior to the performance of each audit. The plan will detail the elements to be audited on a checklist.

#### **11.1.2 Audit Personnel**

Audits will be performed by personnel trained and qualified in auditing techniques and reporting. The personnel performing the audits will be familiar with the requirements set forth in the project CQCP and the specific activities to be audited. The personnel performing the audit will be assigned by and report to the PQCM. Personnel performing the audits will be independent of the organization and activities audited.

#### **11.1.3 Activities Included**

Audits will include activities affecting quality during investigations, studies, RA activities, and analytical testing and will encompass both onsite and offsite activities, including those by subcontractors.

#### **11.1.4 Audit Results**

Upon completion of the audits, the results will be reported to the PQCM, PM, audited organization, and CQCSM. All nonconforming conditions requiring corrective actions will be re-audited or otherwise evaluated to verify that the corrective actions were properly implemented.

• **11.2 Subcontractor Surveillance**

Subcontractor surveillance will be accomplished by periodic monitoring of subcontractor activities to ensure conformance to the required specification(s). Surveillance will be either scheduled or nonscheduled to maintain the integrity of the surveillance.

**11.3 Laboratory Qualification and Performance Audits**

Laboratories for analytical testing will meet all qualifications as stated in the Specifications. Laboratories will be subject to performance audits as required by the contract or as project needs dictate.

## **12.0 CHECKLISTS**

This section delineates the checklists that will be used for control processes while performing field activities. These checklists provide a simple way of documenting performance of necessary tasks during field activities and additional checklists will be added as needed. Actual checklists are provided in Appendix F.

### **12.1 Mobilization Checklist**

Includes the following topics:

- Site access and security,
- Permits and licenses,
- Safety planning and equipment,
- Construction,
- Logistical planning,
- Coordination with federal, state, and local environmental authorities,
- Environmental site protection, and
- Corrective actions.

### **12.2 Utility Clearance Checklist**

Includes the following topics:

- Utility clearance, and
- Corrective action.

### **12.3 Instrument Calibration Checklist**

Includes the following topics:

- Instrument calibration, and
- Corrective actions.

### **12.4 Surveying Checklist**

Includes the following topics:

- Surveying, and
- Corrective actions.

### **12.5 Field Documentation**

Includes the following topics:

- Field documentation, and

- Packing, storing, and shipment of samples, and
- Corrective actions.

### 13.0 REFERENCES

U.S. Army Corps of Engineers, Kansas City District, **Maywood Environmental Remediation Contract, Maywood**, New Jersey, Request for Proposal, September 1998.

Stone & Webster Environmental Technology & Services (Stone & Webster), 1999a. *Ballod Property Restoration Work Plan*. Revision A (To be developed). Prepared for U.S. Army Corps of Engineers, Kansas City District.

Stone & Webster Environmental Technology & Services (Stone & Webster), 1999b. *Chemical Data Quality Management Plan*. Revision A. Prepared for U.S. Army Corps of Engineers, Kansas City District. April 1999.

Stone & Webster Environmental Technology & Services (Stone & Webster), 1999c. *General Environmental Protection Plan*. Revision A. Prepared for U.S. Army Corps of Engineers, Kansas City District. April 1999.

Stone & Webster Environmental Technology & Services (Stone & Webster), 1999d. *General Site Safety and Health Plan*. Revision A. Prepared for U.S. Army Corps of Engineers, Kansas City District. April 1999.

Stone & Webster Environmental Technology & Services (Stone & Webster), 1999e. *Groundwater Remedial Investigation Work Plan*. Revision A (To be developed). Prepared for U.S. Army Corps of Engineers, Kansas City District.

Stone & Webster Environmental Technology & Services (Stone & Webster), 1999f. *Pilot Study Work Plan*. Revision A (To be developed). Prepared for U.S. Army Corps of Engineers, Kansas City District.

Stone & Webster Environmental Technology & Services (Stone & Webster), 1999g. *Pre-Design Investigation Plan*. Revision A (To be developed). Prepared for U.S. Army Corps of Engineers, Kansas City District.

Stone & Webster Environmental Technology & Services (Stone & Webster), 1999h. *Soil Acquisition Work Plan* (To be developed). Prepared for U.S. Army Corps of Engineers, Kansas City District.

Stone & Webster Environmental Technology & Services (Stone & Webster), 1999i.  
*Transition Plan*. Revision A. Prepared for U.S. Army Corps of Engineers, Kansas City District.  
April 1999.

Stone & Webster Environmental Technology & Services (Stone & Webster), 1999j.  
*Transportation and Disposal Plan*. Revision A. Prepared for U.S. Army Corps of Engineers,  
Kansas City District. Revision A. April 1999.

**APPENDIX A**  
**IMPLEMENTING PROCEDURES MATRIX**



## MAYWOOD SITE REMEDIATION PROJECT

### STONE & WEBSTER IMPLEMENTING PROCEDURES MATRIX

Note: Revisions ■ Contractors are to utilize the Revision of the procedure identified. If no revision is identified then the latest revision is to be used. This matrix will not be revised as part of the CQCP but shall be maintained separately and revised as project needs require.

PQCM

Revision 0

QUALITY SYSTEM PROGRAM REQUIREMENT	ENGINEERING	CONSTRUCTION
<b>Section 1 – ORGANIZATION/ CONTRACT MANAGEMENT/COST &amp; SCHEDULING</b>	<b>CMP-1 Personnel and Company Policies</b> <b>CMP-2 Management Information System</b> <b>CMP-4 Key Program Personnel/Manpower Utilization</b> <b>CMP-5 Insurance</b> <b>CMP-8 Indirect Cost Rates</b> <b>CMP-10 Overtime Policy</b> <b>CMP-11 Hourly Labor Rates by Discipline</b> <b>CMP-12 Travel Policies and Procedures</b> <b>CMP-13 Equipment Costs &amp; Procedures</b> <b>CMP-14 Cost Estimating</b> <b>CMP-16 Fee Negotiation/Task Order Type</b> <b>CMP-17 Payment</b> <b>CMP-18 WADs, Directives, Ordering Procedures, and Technical Direction</b> <b>CMP-20 Preliminary Task Order Costs</b> <b>CMP-29 Public Relations</b> Project Management Plan <b>SPP 3-2-0 Project Organization</b> <b>SSERC PP2- I-O Scope of Services</b> <b>SSERC PP2-2-0 Scope Definition and Authorization</b> <b>SSERC PP2-3-0 Methods of Clarification to Scope of Work</b> <b>SSERC PP2-4-0 Task Management Plan Development and Transmittal</b> <b>SSERC PP3-1-0 Client Personnel</b> <b>SSERC PP3-2-0 Stone &amp; Webster Key Personnel</b> <b>SSERC PP3-3-0 Duties of Administrative Aide</b> <b>SSERC PP10-1-0 Project Controls</b> <b>SSERC PP10-2-0 Project Change Control</b>	<b>Project Management Plan</b> <b>WCP 2-1-0 Home Office Functions &amp; Operations Administration</b> <b>WCP 2-2-2 Construction Execution Plan</b> <b>WCP 2-4-0 Construction Staffing</b> <b>WCP 2-10-1 Prime Contract Administration</b> <b>WCP 2-14-1 Project Controls</b> <b>WCP 3-1-0 Site Mobilization</b> <b>SSERC PP9- I-O Project Construction Execution Basis of Operations</b> <b>CQP 1.3-9</b>

QUALITY SYSTEM PROGRAM REQUIREMENT	ENGINEERING	CONSTRUCTION
Section 2 - QUALITY ASSURANCE/ QUALITY CONTROL	<b>CMP-25 Contractor Quality Control Plan</b> <b>CQCP Contractor Quality Control Plan</b> <b>SPP 1-3-0 Stop Work Action</b> <b>SPP 3-1-1 Project Management Plan</b> <b>SPP 3-3-1 Project Instructions &amp; Directives</b> <b>SPP 3-5-0 Monthly Status Report &amp; Auxiliary Reports</b> <b>SPP 3-6-0 Project Status Meetings</b> <b>SPP 3-8-0 Job Close-out</b> <b>SPP 3-9-0 CAD/CAE Implementation Plan</b> <b>SPP 6-2-0 Project Work Breakdown Structure</b> <b>SPP 6-3-0 Planning &amp; Scheduling Process</b> <b>SPP 6-4-0 Engineering Management System (EMS)</b> <b>SPP 6-6-0 Commitment Tracking</b> <b>SPP 6-7-0 Project Cost Reporting</b> <b>SPP 6-8-0 Expenditure Forecast</b> <b>SPP 6-10-0 Project Completion Reporting</b> <b>SSERC PP3-4-0 Stop Work Action</b> <b>SSERC PP4- 1-0 Quality Control Plans</b>	<b>CMP-25 Contractor Quality Control Plan</b> <b>CQCP Contractor Quality Control Plan</b> <b>WCP 2-2-2 Construction Execution Plan</b> <b>WCP 2-3-0 Constructability Standards</b> <b>WCP 2-12-0 Construction Project Audit Procedure</b> <b>WCP 2-14-1 Project Controls</b> <b>WCP 3-7-2 Construction Project Completion and Close-Out</b> <b>CQP 1.4-6 Nonconformance and Stop Work Reporting</b> <b>CQP 1.7-5 Inspection Reporting</b> <b>CQP 1.8-1 Quality Control Interface with Subcontractors</b> <b>COP 1.9-0 Surveillance Procedure</b> <b>SSERC PP9-3-0 Construction Quality Program</b> <b>SSERC PP3-4-0 Stop Work Action</b> <b>SSERC PP4- 1-0 Quality Control Plans</b>
Section 3 – CONTRACT REVIEW	<b>SPP 3-4-0 Change Control</b>	<b>WCP 2-10-1 Prime Contract Administration</b>
Section 4 – DESIGN CONTROL	<b>Pilot Study Work Plan</b> <b>Soil Acquisition Work Plan</b> Pre-Design Investigation Work Plan Groundwater Remedial Investigation Work Plan <b>Ballod Property Restoration Work Plan</b> <b>SPP 2-206-o Environmental Work Plans</b> <b>SPP 4-104-O Diagrams</b> <b>SPP 4-105-1 Calculations</b> <b>SPP 4-106-o Technical Studies &amp; Reports</b> <b>SPP 4-2-O Professional Engineer's Seal</b> <b>SPP 4-20 I-O Component Lists</b> <b>SPP 4-202-o Field Data Collection</b> <b>SPP 4-203- 1 Procurement &amp; Erection Project Specifications</b> <b>SPP 4-204-o Material/Equipment Data Sheets</b> <b>SPP 4-205-O Engineering Services Specifications</b> <b>SPP 4-207-o Drawings</b> <b>SPP 4-208-o Supplier Documents (Drawings, Manuals, Procedures, etc.)</b>	<b>Pilot Study Work Plan</b> <b>Soil Acquisition Work Plan</b> <b>WCP 2-3-0 Constructability Standards</b> <b>WCP 3-3-1 Construction Engineering</b> <b>SSERC PP9-5-0 Constructability Reviews</b> <b>SSERC PP9-6-0 Design Change Control</b> <b>SPP 4-301-O Site Engineering</b> <b>SPP 7-202-o Design Change Control</b>

QUALITY SYSTEM PROGRAM REQUIREMENT	ENGINEERING	CONSTRUCTION
Section 4 - DESIGN CONTROL (Continued)	<b>SPP 4-3-0</b> Licenses and Permits <b>SPP 4-30 1-0</b> Site Engineering <b>SPP 4-303-0</b> Test & Startup Plan <b>SPP 4-304-0</b> Operating Manuals <b>SPP 4-5-0</b> Peer Reviews <b>SPP 7-202-0</b> Design Change Control <b>SSERC PP5-1-0</b> Statement of Work <b>SSERC PP5-2-0</b> Project Calculations <b>SSERC PP5-3-0</b> Drawings and Diagrams <b>SSERC PP5-4-0</b> Preparation, Review, and Approval of Work Plans <b>SSERC PP5-6-0</b> Preparation, Review, and Approval of Field Sampling Plans and Quality Assurance Project Plans <b>SSERC PP5-5-0</b> Preparation, Review, Approval, and Control of Engineering Documents	
Section 5 - CONTROL OF DOCUMENTS/RECORDS	<b>GP 3-1-0</b> Records Management Procedure <b>SPP 1-6-0</b> Document Control/Records Management <b>SSERC PP6-1-0</b> Program Files Index <b>SSERC PP6-2-0</b> Records Management and Disposition <b>SSERC PP7- 1-0</b> Outgoing Correspondence <b>SSERC PP7-2-0</b> Incoming Correspondence <b>SSERC PP7-3-0</b> Notes of Telephone Conversation <b>SSERC PP7-4-0</b> Notes of Conference <b>SSERC PP7-5-0</b> Document Control <b>SSERC PP7-6-0</b> Submittals	<b>WCP 1-1-1</b> Preparation and Control of Worldwide Construction Procedures <b>WCP3-3-1</b> Construction Engineering

QUALITY SYSTEM PROGRAM REQUIREMENT	ENGINEERING	CONSTRUCTION
Section 6 – PROCUREMENT	<p>CMP-9 Logistics Management (Procurement) Plan and Procedures</p> <p>CMP-15 Small, Small Disadvantaged, and Woman-Owned Small Business Subcontracting Plan</p> <p>SPP 5-101-0 Preparation of Purchase Requisition &amp; Selection of Bidders</p> <p>SPP 5-102-0 Formal Solicitation of Bids</p> <p>SPP 5-103-0 Simplified Solicitation Methods</p> <p>SPP 5-104-0 Receipt, Opening, Evaluation of Proposals, &amp; Supplier Selection</p> <p>SPP 5-105-0 Records &amp; Files</p> <p>SPP 5-4-0 Criticality Rating Criteria</p> <p>SSERC PP 10-3-0 Procurement</p> <p>SSERC PP 10-4-0 Credit Card Purchases</p>	<p>WCP 3-4-0 Field Procurement</p> <p>WCP 2-11-1 Construction Subcontract Administration</p> <p>SPs Subcontracting Practices</p>
Section 7 – SUBCONTRACTOR CONTROL	<p>CMP-21 Teaming Arrangements</p> <p>SPP 5-2-0 Inspection at Seller's Facilities</p> <p>SPP 5-3-0 Assessment of Seller's Capability, and Quality Systems</p> <p>SSERC PP9-7-0 Subcontracting Practices – to be added</p>	<p>WCP 2-11-1 Construction Subcontract Administration</p> <p>CQP 1.8-1 Quality Control Interface With Subcontractors</p> <p>CQP 1.9-0 Surveillance Procedure</p> <p>SSERC PP 9-7-0 Construction Subcontracts Subcontracting Practices</p>
Section 8 – MATERIAL IDENTIFICATION & TRACEABILITY	<p>CMP-7 Warranties</p> <p>CMP-23 Government Property Management Plan</p> <p>SSERC PP10-5-0 Government Property Management</p>	<p>WCP 2-9-0 Material Management and Control</p> <p>WCP 3-5-2 Construction Equipment, Project Equipment, Material and Tool Control</p>
Section 9 – PROCESS CONTROLS	<p>CMP-6 Standard Operating Procedures</p> <p>CMP-22 Environmental Compliance and Management Practices, Policies, and Procedures</p> <p>CMP-24 Safety and Health Plan</p> <p>CMP-26 Chemical Data Quality Management Plan</p> <p>CMP-27 Mobilization/Demobilization</p> <p>CMP-28 Transportation &amp; Disposal Policies and Procedures</p> <p>SSERC PP8-1-0 Health and Safety Program</p> <p>SSERC PP8-2-0 Preparation, Review, and Approval of Site Safety and Health Plans</p> <p>SOP101 Surveying</p> <p>MP102 Downhole Gross Gamma Radiation Logging</p> <p>CA 102.5 Downhole In-situ gamma spectroscopy</p>	<p>SSERC PP 9-2-0 Special Processes</p> <p>SSERC PP8-1-0 Health and Safety Program</p> <p>SSERC PP8-2-0 Preparation, Review, and Approval of Site Safety and Health Plans</p>

QUALITY SYSTEM PROGRAM REQUIREMENT	ENGINEERING	CONSTRUCTION
Section 9 – PROCESS CONTROLS Continued)	measurement <b>SEC103</b> Routine Contamination Control Surveys <b>SEC104</b> Post-Remedial Surveys – Structures <b>SOP105</b> Soil Gas Surveys <b>SOP106</b> Performance of Radioation Surveys ( <b>RPS-805</b> ) <b>CA 108</b> Surface In-situ gamma spectroscopy measurement <b>MP107</b> Radiation Exposure Rate Surveys  <b>RPSs</b> Radiation Protection Surveillance Procedures <b>SOP301</b> Sediment Sampling <b>SOP302</b> Surface Water Sampling <b>SOP303</b> Monitoring Well Installation and Development <b>SOP304</b> Purging and Sampling Monitoring Wells <b>MP306</b> <b>Radon Sampling</b> <b>SOP307</b> Surface and Shallow Subsurface Soil Sampling <b>SOP308</b> Soil Borings and Sampling <b>SOP309</b> Concrete Core Sampling Design <b>MP311</b> Building Materials Sampling <b>SOP312</b> Wipe Sample Procedures <b>SOP 313</b> <b>Drum Sampling</b> <b>MP401</b> Photoionization Detector (PID) <b>MP402</b> Flame Ionization Detector (FID) <b>MP403</b> Respirable Dust Meter <b>MP404</b> Micro R Meter <b>MP405</b> Turbidimeter <b>MP406</b> Platinum Eh Electrode <b>MP407</b> <b>Data Logger</b> <b>MP408</b> Interface Meter <b>SOP409</b> Water Quality Testing <b>MP50 1</b> Field Audits <b>SOP503</b> Overburden Drilling Methods <b>SOP504</b> Labeling, Packaging, and Shipping Environmental Samples  <b>SOP505</b> Cuttings and Fluids Management <b>SOP506</b> Decontamination <b>SOP 508</b> Procedure for Shipping Radiologically contaminated environmental samples	

QUALITY SYSTEM PROGRAM REQUIREMENT	ENGINEERING	CONSTRUCTION
Section 10 – INSPECTION AND TESTING	CQCP CDQMP	CQCP CDQMP SSERC PP 9-3-0 Construction Quality Program  CQP 1.7-5 Inspection Reporting CQPs Section 2 Procedures
Section 11 – CONTROL OF INSPECTION, MEASURING, AND TEST EQUIPMENT	GP 1-8-0 Calibration	CQP 2.13-4 Measuring and Test Equipment
Section 12 – INSPECTION AND TEST STATUS	N/A	CQP Section 2 Procedures
Section 13 – CONTROL OF NONCONFORMANCES	SPP 2-5-0 Reporting and Resolving Nonconformances	CQP 1.4-6 Nonconformance and Stop Work Reporting
Section 14 – CORRECTIVE AND PREVENTIVE ACTIONS	GP 1-6-0 Customer Feedback SPP 2-6-0 Corrective Action System	WCP 2-15-0 Client Complaints
Section 15 – HANDLING, STORAGE, PACKAGING, AND DELIVERY	ENV SOP Sample Labeling, Chain of Custody Completion, and Sample Shipment	WCP 2-9-0 Material Management and Control WCP 3-5-3 Construction Equipment, Project Equipment, Material and Tool Control
Section 16 – CONTROL OF QUALITY RECORDS	GP 3-1-0 Records Management Procedure SPP 1-6-0 Document Control/Records Management SSERC PP6- 1-0 Program Files Index SSERC PP7- 1-0 Outgoing Correspondence SSERC PP7-2-0 Incoming Correspondence SSERC PP7-3-0 Notes of Telephone Conversation SSERC PP7-4-0 Notes of Conference SSERC PP7-5-0 Document Control SOP 507 Field Notebook Content and Control	Project Management Plan WCP 3-3-1 Construction Engineering WCP 3-11-2 Construction Project Turnover

QUALITY SYSTEM PROGRAM REQUIREMENT	ENGINEERING		CONSTRUCTION	
Section 17 – AUDITS AND SURVEILLANCES	GP 1-3-0	Assessments, Audits, and Senior Management Review Board	WCP 2-12-0 CQP 1.9-0	Construction Project Audit Procedure Surveillance Procedure
Section 18 – TRAINING	CMP-3 GP 1-2-0 SPP 1-1-0	Contractor Training Training, Qualification, and Certification of Personnel Project Training Program	WCP 3-6-1 WCP 3-10-0	Qualification and Training Heavy Construction Equipment Operator Qualification

**APPENDIX B**

**DEFINABLE FEATURES OF WORK**



## DEFINABLE FEATURES OF WORK

The main DFWs that are likely to be applicable to all site work areas include the following:

- I. Excavation.
- II. **Loadout.**
- III. Verification.
- IV. Backfill and Restoration.
- V. Security.

The activities associated with the DFWs are identified below and may or may not fall under the oversight program. The Oversight Matrix (Appendix G) identifies the extent and responsibilities for oversight. The applicable DFWs shall be included within the work area specific work plans and agreed upon with USACE in the coordination meeting for each task.

### I. **Excavation**

Local utility identification  
Surveying (initial)  
Equipment and materials check  
Abandon wells  
Begin excavation  
Base excavation  
In process sampling  
Decision on next excavation  
Precision excavation  
Dewatering  
Materials handling  
Dust control  
Grid interface control  
Erosion control

### II. **Loadout**

Equipment and materials check  
Removal from excavation site to dump or conveyor  
Place in staging areas  
Lining of rail cars (or trucks)  
Loading of rail cars (or trucks)  
Post loading in-car sampling  
Placarding  
Manifesting and chain-of-custody  
Letters of approval  
Interface with rail  
Transfer to rail cars

Rail car staging  
Verification of disposal  
Conditioning, mixing, segregation .  
Inspection of incoming rail cars (or trucks)  
Survey of incoming rail cars (or trucks)

### **III. Verification of Cleanup Criteria Achievement**

Surveying of excavated area  
Sampling of excavated area

### **IV. Backfill and Restoration**

Backfill analytical testing  
Backfill soils testing  
Equipment and materials check  
Backfilling  
Final grading  
Final surveying  
Backfill in-place testing (soil properties)  
Seeding  
Re-vegetation  
Permanent erosion control  
Utility restoration

### **Housekeeping/Maintenance**

Trailer maintenance  
Site trash  
Maintenance of equipment  
Road maintenance  
Perimeter maintenance

### **V. Security**

Site security  
Personnel security

Additional activities that will be performed, but do not necessarily require the three-phase inspection process include the following:

### **Mobilization**

Establish trailers and office equipment  
Utilities hook-ups  
Establish Control Zones

Establish dust control  
Perimeter air sampling  
Health and safety protocols  
Environmental monitoring  
Decontamination facilities (equipment)  
Personnel decontamination  
Establish site communications (phones, computers, radios, etc.)  
Establish rail communications  
Establish equipment staging area  
Instrumentation calibration program  
Permits  
Letters of approval  
Training and indoctrination  
Communications with USACE and regulators  
**Signage**  
Permit compliance

### **Site Preparation**

Delineate boundaries of contamination  
Obtain consent from property owner  
Site clearing and grubbing  
Disposal of cleared materials (trees, shrubs, etc.)  
Establish site grids  
Erosion and sedimentation control plan  
Disposal of sedimentation waste  
Establish access corridors  
Initial soils sampling  
Establish staging areas (soils)  
Traffic control  
Water treatment systems  
Storm water pre-treatment, if required  
Dewatering system installation  
Water treatment waste disposal system in place  
Utility identification (site-wide)  
Dust control  
Site boundary and area interface control (construction versus non-construction areas)

### **Sampling**

Monitoring (perimeter/air/personnel)  
Confirmation sampling (confirmation of real-time testing equipment)  
Verification sampling (verification of final conditions)  
Final clearance sampling

## **APPENDIX C**

### **EXAMPLES**

*Gregory Sauter, P. E.*

***Program Quality Control Manager***

**KEY QUALIFICATIONS:**

- 15 years' experience in Construction, Engineering, Quality Assurance/Quality Control.
- Extensive experience on environmental remediation, decontamination, and demolition projects.
- A licensed professional engineer in Environmental Engineering
- Manages Stone & Webster's Quality Assurance programs based on ISO 9000 standards.

**EDUCATION**

M.S./Environmental Engineering/ University of Alabama, 1994;

B.S./Mechanical Engineering/ University of Massachusetts, 1991

**RELEVANT PROJECT EXPERIENCE**

**Quality Engineering Division – *Quality Assurance Manager***; Mr. Sauter is the Quality Assurance Manager of the Stone & Webster Denver office. Responsibilities include oversight of all quality related issues in the Government, Power, and Industrial business sectors operating out of the western region of the U.S. Responsible for program implementation of the Stone & Webster Quality Assurance Programs based on ISO 9000 for non-nuclear activities and ASME NQA-1 for nuclear activities.

**Rocky Flats Environmental Technology Site - *Deputy Program Manager /Assurance Manager***; Reporting directly to the President of Rocky Flats Engineers and Constructors, Mr. Sauter was responsible for all quality assurance, quality control, health and safety, conduct of operations, and environmental compliance issues for the Corporation. Responsible for staffing, oversight, budgets, execution, and reporting. Mr. Sauter's responsibilities included the direct oversight of over 30 employees and responsibility for the health and safety and conduct of operations of all RFEC employees numbering over 400.

**CERCLA Site Assessment Project for EPA Region I – *Lead Site Assessment Manager***; Mr. Sauter was the Lead Site Assessment Manager on a CERCLA Site Assessment project for the Environmental Protection Agency. Mr. Sauter was responsible for the investigation of over thirty sites in Region I. Responsibilities include:

- collection, evaluation, and reporting of historical information obtained from the EPA, State, municipal, local files and owners as well as past and present investigations and remedial efforts;
- interface with site owners and potentially responsible parties;
- determination of RCRA versus CERCLA program eligibility;

- preparation of task work plans including sampling strategies, responsibilities, and contaminated area evaluations;
- preparation of Health and Safety Plans;
- site reconnaissance and sampling environmental media;
- data interpretation and validation;
- preparation of Hazard Ranking System packages and Site Investigation Prioritization reports,
- preparation of Site Investigation Prioritization reports,
- budgets, schedules, interface with EPA and State Representatives and training

**U.S. Army Corps of Engineers, Omaha District, Total Environmental Restoration Contract (TERC)** • *Contractor Quality Control System Manager*; developed the Quality Assurance and Quality Control program to meet Corps requirements. The \$300 million task order contract uses Stone & Webster to perform engineering, design, environmental investigations, demolition, remediation, and construction. The QA program concentrates on the three phase control process to monitor and control those activities affecting quality with an emphasis on teaming and avoiding nonconformances and deviations. Responsible for program development and maintenance, the oversight of Field QC Managers, resolution of all quality issues, establishing quality levels for tasks, audits, surveillances and inspections, and the oversight of all field activities.

**Private Fuel Storage Facility, Independent Spent Fuel Storage Installation.** As Quality Assurance Manager developed the Quality Assurance Program and the implementing procedures and policies to meet the requirements of 10CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High Level Radioactive Waste." Mr. Sauter is responsible for all project quality issues, supplier evaluations, auditing of subcontractors and review of QA programs, oversight of field activities, internal assessments and audits, and interface with the Utility Corporation QA Committee.

*Alan F. Brown, PE*

*Construction Quality Control System Manager*

**KEY QUALIFICATIONS:**

- 20 years' experience in Construction, Engineering, Quality Assurance/Quality Control.
- . Extensive experience in civil and geotechnical design related to environmental and civil engineering projects.
- . A licensed professional engineer in Civil Engineering
- . Extensive experience in Construction Management and implementation of Quality Control.

**EDUCATION**

M.S., Civil Engineering/Construction Management, Northeastern University, 1994

B.S., Civil Engineering, Northeastern University, 1979

**RELEVANT PROJECT EXPERIENCE**

- Expertise in the development and implementation of sitting investigations for civil, pipeline, and hazardous waste projects; installation of foundation elements such as spread footings and caissons, as well as foundation support elements including rock bolts, rock anchors, grout bag underpinning, and rock excavation. Other areas of expertise include subsurface sampling and installation of groundwater monitoring wells.
- Experience and knowledge of laboratory testing techniques for soil and rock as well as groundwater monitoring equipment.
- Work in road design includes environmental permitting, grant application processes, utility relocation and onsite inspection to assure design conformance.
- Public works expertise includes the development of municipal groundwater observation well network involving agency coordination, public sector research, and field investigations, including the location of potential observation wells and determining if the wells still function.

**Fort Sheridan Landfill and Landfill Cap Construction, TERC, USACE – Omaha and Louisville - Project Manager;** constructed storm drainage system, sewer lines, leachate collection system, and temporary and final RCRA landfill cap on two landfills. Managed building demolition and asbestos abatement, cost-reimbursable.

**Patuxent Naval Air Station, Patuxent River, Maryland – Manager of Construction QA/QC;** under cost-plus award fee contract for the construction of a RCRA Subtitle C cap for a 17-acre landfill including remediation at a satellite site, repair of a leachate collection system, and installation of an active gas recovery system. Responsible for the development of an onsite borrow source for materials used in the cap.

**Fort Devens Sudbury Training Annex, USACE-NED** – Completed civil design of two disposal areas and the capping of a five acre landfill. Project included removal and redispal onsite of 10,000 cy of wastes, designed RCRA cap, geomembrane/geosynthetic clay liner system, and gas venting system.

**Brunswick NAS Asbestos Landfill Remediation, Maine** – *Manager of Construction QA/QC*; under cost-plus award fee contract for removal and disposal of approximately 150,000 cy of waste including 2,000 cy of asbestos waste, excavation and construction of a 100,000 sf slurry cutoff wall, construction of a RCRA Subtitle C landfill cap utilizing geosynthetics and gas vent piping system. Assisted with the negotiations with MEDEP and EPA.

**Connecticut Department of Transportation** -*Lead Geotechnical Engineer*; at the New Haven Maintenance Facility for turnkey cost-type remediation of fuel-contaminated areas, UST and soil excavation and disposal.

**Mount Hope Hydropower Project, Rockaway Township, New Jersey – Halecrest Corporation** – *Geotechnical Engineer*; responsible for providing geotechnical engineering services on the hydroelectric project. Evaluated rock excavation quantities and plant processing capabilities to determine the required stockpile size of excavated rock. Also responsible for calculating the water balance requirements for filling the reservoir of the project.



March 26, 1999  
Job Order 08575

**AUTHORITY AND RESPONSIBILITY OF THE PROGRAM QUALITY CONTROL  
MANAGER (PQCM) – MAYWOOD SITE**

Mr. Gregory Sauter, P.E.,

This letter is being issued to inform you of your duties, responsibilities, and authorities as the PQCM for the **Maywood Site Project** under the Site-Specific Environmental Restoration Project (SSERC) No. DACW 4 1-99-D-900 1.

As the PQCM, you will be responsible for the overall management of the **Maywood Site Project** QC program **onsite** and **offsite**, including field construction activities and consulting engineering activities for the project. You are responsible for ensuring that the three-phase control system is implemented as appropriate for the project.

You have the overall authority for matters concerning QC and the authority to delegate responsibility to other members of the QC organization. You have the authority to stop work when conditions exist that would result in unacceptable or indeterminate quality.

George Krauter,  
Project Manager

March 26, 1999  
Job Order 08575

## **AUTHORITY AND RESPONSIBILITY OF THE CONTRACTOR QUALITY CONTROL SYSTEM MANAGER (CQCSM) – MAYWOOD SITE**

Mr. Alan Brown, P.E.,

This letter is being issued to inform you of your duties, responsibilities, and authorities as the CQCSM for the **Maywood Site Project** under the Site-Specific Environmental Restoration Project (SSERC) No. DACW 41-99-D-9001

**As** the CQCSM, you will be responsible for managing the implementation of the **Maywood Site Project QC** program. You are responsible for ensuring that the three-phase control system is implemented as appropriate for the project.

Your duties include, but are not limited to, the following:

- Implementing the project CQCP,
- Preparation of the DQCR,
- Initiating or recommending corrective actions,
- Verifying implementation of corrective actions,
- Continuously evaluating the effectiveness of the project CQCP,
- Notifying the PQCM of conditions adverse to quality that cannot be resolved at the project level,
- Monitoring operation activities for compliance with contract requirements,
- Monitoring laboratory testing activities,
- Identifying and reporting nonconforming items, conditions, or activities,
- Directing **onsite** QC staff,
- Monitoring **onsite** subcontractors,
- Preparing QC reports as required by the contract,
- Performing and documenting construction inspection activities, and
- Monitoring sampling activities.

You have the authority to delegate responsibility to other members of the QC organization and the authority to stop work when conditions exist that would result in unacceptable or indeterminate quality.

Gregory Sauter, P.E.  
PQCM

## **APPENDIX D**

### **FORMS**

- . THREE-PHASE CONTROL INSPECTION – QC CHECKLIST NO. 1 –  
PREPARATORY INSPECTION (D- 1)
- . THREE-PHASE CONTROL INSPECTION – QC CHECKLIST NO. 2 –  
INITIAL INSPECTION (D-3)
- . THREE-PHASE CONTROL INSPECTION – QC CHECKLIST NO. 3 –  
FOLLOW-UP INSPECTION (D-4)
- . FINAL INSPECTION CHECKLIST (D-5)
- . DAILY QUALITY CONTROL REPORT (DQCR) (D-6)
- . NONCONFORMANCE REPORT (NCR) (D-1 1)
- . CORRECTIVE ACTION REQUEST (CAR) (D-12)
- . NCR/CAR TRACKING LOG (D-1 3)
- TRANSMITTAL FORM (D-14)
- . SUBMITTAL REGISTER (D-1 5)
- . REQUEST FOR INFORMATION (D-16)

# SAMPLE

## Preparatory Phase Checklist

Contract No.: \_\_\_\_\_ Date: \_\_\_\_\_

Definable Feature: \_\_\_\_\_ Spec Section: \_\_\_\_\_

Government Rep Notified \_\_\_\_\_ Hours in Advance Yes \_\_\_\_\_ No \_\_\_\_\_

### I. Personnel Present:

	<u>Name</u>	<u>Position</u>	<u>Company/Government</u>
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____

(List additional personnel on reverse side)

### II. Submittals

1. Review submittals and/or submittal log 4288. Have all submittals been approved?  
Yes \_\_\_\_\_ No \_\_\_\_\_

If No, what items have not been submitted?

- a. \_\_\_\_\_  
b. \_\_\_\_\_  
c. \_\_\_\_\_

2. Are all materials on hand? Yes \_\_\_\_\_ No \_\_\_\_\_

If No, what items are missing?

- a. \_\_\_\_\_  
b. \_\_\_\_\_  
c. \_\_\_\_\_

3. Check approved submittals against delivered material. (This should be done as material arrives.)

Comments \_\_\_\_\_  
\_\_\_\_\_

III. Material storage

Are materials stored properly? Yes \_\_\_\_\_ No \_\_\_\_\_

If No, what action is taken? \_\_\_\_\_  
\_\_\_\_\_

IV. Specifications

1. Review each paragraph of specifications.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Discuss procedure for accomplishing the work.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Clarify any differences.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

V. Preliminary Work and **Permits**

Ensure preliminary work is correct and permits are on file.

If not, what action is taken? \_\_\_\_\_  
\_\_\_\_\_

VI. Testing

1. Identify test to be performed, frequency, and by whom.  
\_\_\_\_\_
2. When required? \_\_\_\_\_
3. Where required? \_\_\_\_\_
4. Review Testing Plan. \_\_\_\_\_
5. Has test facilities been approved? \_\_\_\_\_  
\_\_\_\_\_

Preparatory Phase Checklist (Cont'd)

VII. Safety

1. Review applicable portion of EM 385-I -1. \_\_\_\_\_  
\_\_\_\_\_

2. Activity Hazard Analysis approved? Yes \_\_\_\_\_ No \_\_\_\_\_

VIII. Corps of Engineers comments during meeting.

\_\_\_\_\_  
CQC REP

# SAMPLE

## Initial Phase Checklist

Contract No.: \_\_\_\_\_

Date: \_\_\_\_\_

Definable Feature: \_\_\_\_\_

Government Rep Notified \_\_\_\_\_ Hours in Advance

Yes \_\_\_\_\_ No \_\_\_\_\_

### I. Personnel Present:

<u>Name</u>	<u>Position</u>	<u>Company/Government</u>
-------------	-----------------	---------------------------

1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____

(List additional personnel on **reverse** side)

### II. Identify full compliance with procedures identified at preparatory. Coordinate plans, specifications, and submittals.

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### III. Preliminary Work. Ensure preliminary work is complete and correct. If not, what action is taken?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### IV. Establish Level of Workmanship.

1. Where is work located? \_\_\_\_\_

2. Is a **sample** panel required? Yes \_\_\_\_\_ No \_\_\_\_\_

3. **Will** the initial **work** be considered as a sample? Yes \_\_\_\_\_ No \_\_\_\_\_  
(If yes, maintain in present condition as long as possible).

### V. Resolve any differences.

Comments: \_\_\_\_\_  
\_\_\_\_\_

VI. Check Safety.

Review job conditions using EM 385-I-I and job hazard analysis.

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
CQC REP



**FINAL INSPECTION/ QC PUNCHLIST**

**FINAL INSPECTION CHECKLIST**

<b>DATE:</b>	<b>JO NO.</b>	<b>DO NO.</b>	<b>SPEC. NO. / REV</b>	<b>CONTRACTOR</b>
--------------	---------------	---------------	------------------------	-------------------

	<b>FEATURES/ ITEMS INSPECTED</b>	<b>INSPECTION RESULTS</b>	<b>COMMENTS</b>
1		<input type="checkbox"/> SAT - Details:  <input type="checkbox"/> UNSAT - PUNCHLISTNO.	
2		<input type="checkbox"/> SAT - Details:  <input type="checkbox"/> UNSAT - PUNCHLISTNO.	
3		<input type="checkbox"/> SAT - Details:  <input type="checkbox"/> UNSAT - PUNCHLISTNO. _____	
4		<input type="checkbox"/> SAT - Details:  <input type="checkbox"/> UNSAT - PUNCHLISTNO.	
5		<input type="checkbox"/> SAT - Details:  <input type="checkbox"/> UNSAT - PUNCHLISTNO. _____	

**FINAL INSPECTION/ QC PUNCHLIST**

**FINAL INSPECTION CHECKLIST (Continued)**

**FINAL INSPECTION QC PUNCHLIST**

<b>PUNCH LIST NO.</b>	<b>FEATURES/ ITEMS INSPECTED</b>	<b>DISCREPANCY / ERROR/ NONCONFORMANCE</b>	<b>CORRECTIVE ACTIONS TAKEN OR TO BE TAKEN</b>	<b>CA CMPLT DATE</b>
1		Details:  <input type="checkbox"/> NCR NO. _____ <input type="checkbox"/> CARNO. _____ <input type="checkbox"/> N/A (Minor item addressed within inspection program)	Details:	
2		Details:  <input type="checkbox"/> NCRNO. _____ <input type="checkbox"/> CAR NO. _____ <input type="checkbox"/> N/A (Minor item addressed within inspection program)	Details:	
3		Details:  <input type="checkbox"/> NCRNO. _____ <input type="checkbox"/> CAR NO. _____ ON/A (Minor item addressed within inspection program)	Details:	
4		Details:  <input type="checkbox"/> NCRNO. _____ <input type="checkbox"/> CAR NO. _____ ON/A (Minor item addressed within inspection program)	Details:	
5		Details:  <input type="checkbox"/> NCR NO. _____ <input type="checkbox"/> CAR NO. _____ ON/A (Minor item addressed within inspection program)	Details:	

Completed by \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

**STONE & WEBSTER**  
**DAILY QUALITY CONTROL REPORT**  
 (Page 1 of 4)

**Job Order No.:**

**Date:**

**Daily Report No.:**

**Contract No.:**  
**Remedial Action Activities**  
**Maywood Site**

**Weather:**  
**Temperature:**

**Precipitation:**  
**Wind:**

**Personnel On Site:**

---

**1.0 Contractor/Subcontractor Area of Responsibility**

Name	Area of Responsibility	Trade	Number of Employees	Hours (total)

**2.0 Operating Equipment**

Equipment	Arrival Date	Safety Check Date	Hours in Use	Hours Idle	Hours in Repair	Departure Date

**DAILY QUALITY CONTROL REPORT**  
(Page 2 of 4)

3.0 **WORK PERFORMED TODAY:** (Indicate locations and descriptions of work performed by prime and/or subcontractors).

3.1 Sampling Performed: (Indicate sample locations, media, type of samples, log numbers, etc.)

3.2 Field Analysis Performed: (Include results, instrument checks, and calibration, problems, etc.)

3.3 Work Plan Deviations: (Itemize and discuss reasons for work plan deviations).

3.4 Outstanding NCRs

4.0 **QUALITY CONTROL ACTIVITIES PERFORMED:**

- Preparatory Inspections (Identify feature of work and attach Minutes of Meetings and Inspection Report):
- Initial Inspections (Identify feature of work and attach Minutes of Meetings and Inspection Reports):
- Follow-Up Inspections (List inspections performed, results of inspection compared to specification requirements, and corrective actions taken when deficiencies are noted and attach Inspection Reports):

5.0 **SUMMARY OF INSPECTIONS AND TESTS PERFORMED, RESULTS AND CORRECTIVE ACTIONS TAKEN:**

**DAILY QUALITY CONTROL REPORT**  
**(Page 3 of 4)**

**6.0 MATERIAL RECEIVED:** (Note inspection results and storage provided).

**7.0 SUBMITTALS REVIEWED:**

Submittal Number	Spec/Plan Reference	By Whom	Action

**8.0 OFFSITE SURVEILLANCE ACTIVITIES, INCLUDING ACTION TAKEN:**

**9.0 JOB HEALTH & SAFETY:** (List items checked, results, instructions and corrective actions taken).

**10.0 DIRECTIONS/MISCELLANEOUS REMARKS:** (Verbal instructions received or given by government personnel. Conflict(s) in plans **or** specifications. Delays encountered).

**11.0 ANTICIPATED ACTIVITIES NEXT WORKING DAY:**

Comments:

Inspector

**DAILY QUALITY CONTROL REPORT**

(Page 4 of 4)

**Attachments:**

(Include copies of draft boring logs and chain-of-custody forms).

**Contractor's Verification:** On behalf of the Contractor, I certify that this report is complete and correct, and all materials and equipment used and work performed during this reporting period are in compliance with the contract plans and specifications, to the best of my knowledge, except as may be noted above.

CQCSM

Date

**Distribution:**

(List all parties to receive a copy of the report).



## STONE & WEBSTER NONCONFORMANCE REPORT (NCR)

CLIENT	J.O.NO.
--------	---------

SYSTEM OR PART NAME		MATERIAL LOCATION		DATE	NCR NO.
SELLER NAME		P.O. NO. (S&W)		SHOP	FIELD OTHER
SPECIFICATION VIOLATED		DRAWING VIOLATED		ISS.	CODE VIOLATED - NAME/SEC/PARA
		<input type="checkbox"/> SELLER c   S&W			
MARK NO.	SYSTEM DESIGNATION	REJECT TAG	INITIATOR	DATE	
REQUEST DISPOSITION FROM		COMPLETION DEADLINE	INITIATION APPROVED	DATE APPROVED	
CONDITION DETAILS					
DISPOSITION					
DISPOSITION ASSIGNED TO	DATE	ACTION			
		<input type="checkbox"/> ACCEPT AS IS <input type="checkbox"/> REWORK <input type="checkbox"/> RETURN TO SELLER <input type="checkbox"/> SCRAP <input type="checkbox"/> REPAIR			
DISPOSITION DETAILS					
DISPOSITION BY		DATE	CONST./INSP. ACCEPTANCE		DATE
PROJECT ENGINEER		DATE	OTHER		DATE
PLANNED COMPLETION DATE	REWORK COMPLETE		SIGNATURE	DATE COMPLETE	
AUTHORIZED INSPECTOR		DATE	NCR CLOSED		DATE



# Corrective Action Request

CAR NO. (3) \_\_\_\_\_

ISSUE DATE (3) \_\_\_\_\_

PAGE \_\_\_\_\_ OF \_\_\_\_\_

**STONE & WEBSTER ENGINEERING CORPORATION**

CONDITION DESCRIPTION (1)

IDENTIFIED <input type="checkbox"/> INTERNAL BY: _____ (1)	LOC: _____ (1)	DATE: _____ (1)
<input type="checkbox"/> EXTERNAL BY: _____ (1)	LOC: _____ (1)	DATE: _____ (1)

REVIEW AND EVALUATION (2)  
(COMMENTS)BRIEF DESCRIPTION OF: (2)  
CAUSE, CORRECTIVE ACTION, AND PREVENTIVE ACTION (as required)

CORRECTIVE/PREVENTIVE ACTION AGREED COMPLETION DATE \_\_\_\_\_ BY \_\_\_\_\_

VERIFICATION REQUIREMENTS: (4)

 CORRECTIVE ACTION: BY \_\_\_\_\_ PROJ./OFFICE \_\_\_\_\_ DATE \_\_\_\_\_ PREVENTIVE ACTION: BY \_\_\_\_\_ PROJ./OFFICE \_\_\_\_\_ DATE \_\_\_\_\_

INITIAL DISTRIBUTION: (3)

FINAL DISTRIBUTION (AFTER  
CLOSEOUT) (3)

CLOSEOUT (3) BY \_\_\_\_\_ DATE \_\_\_\_\_

**LEGEND - NOTES**

- (1) ORIGINATOR
- (2) PQSR AND PROJECT MANAGEMENT AS APPLICABLE
- (3) PQSR
- (4) PQSR OR PROJECT MANAGEMENT AS APPLICABLE, WHO DID NOT HAVE RESPONSIBILITY FOR CORRECTIVE/PREVENTIVE ACTION



NONCONFORMANCE REPORT (NCR)/CORRECTIVE ACTION REQUEST (CAR) TRACKING LOG

CAR #/ NCR #	Specification Reference/Drawing Number	Subject	Location	Date Initiated	Initiator	Job Order	CAQ Y/N	SCA O Y/N	C/A Cmpl Date (If applicable)	Closure Date	Comments

CAR # = CORRECTIVE ACTION REPORT TRACKING NUMBER  
 C/A CMLPT = CORRECTIVE ACTION COMPLETE  
 CAQ - CONDITION ADVERSE TO QUALITY  
 SCAQ - SIGNIFICANT CONDITION ADVERSE TO QUALITY

<b>TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE</b>						DATE:	TRANSMITTAL NO.	
<b>SECTION I • REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS</b> <i>(This section will be initiated by the contractor)</i>								
TO:		FROM:		CONTRACT NO.		CHECK ONE: THIS IS A NEW TRANSMITTAL -THIS IS A <b>RESUBMITTAL</b> OF TRANSMITTAL _____		
SPECIFICATION SEC. NO. (COVER ONLY ONE <b>SECTION</b> WITH EACH TRANSMITTAL):		PROJECT TITLE AND LOCATION				CHECK ONE: THIS TRANSMITTAL IS FOR <input type="checkbox"/> FIO <input type="checkbox"/> GOVT. APPROVAL		
ITEM NO.	DESCRIPTION OF ITEM SUBMITTED (Type size, model number/etc.)	MFG. OR CONTR. CAT. CURVE DRAWING OR BROCHURE NO.	NO. OF COPIES	CONTRACT REFERENCE DOCUMENT		FOR CONTRACT OR USE CODE	VARIATION ( )	FOR CE USE CODE
				SPEC. PARA. NO.	DRAWING SHEET NO.			
a.	b.	c.	d.	e.	f.	g.	h.	i.
I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.								
<b>SECTION II • APPROVAL ACTION</b>								
ENCLOSURES RETURNED <i>(List by Item No.)</i>		NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY				DATE		

**FORM 4288**

**SUBMITTAL REGISTER**

SUBMITTAL REGISTER															CONTRACT NO.											
TITLE AND LOCATION										CONTRACTOR					SPECIFICATION SECTION											
ACTIVITY NO.	TRANS-MITTAL NO.	ITEM NO.	SPECIFICATION PARAGRAPH NO.	DESCRIPTION OF ITEM SUBMITTED	TYPE OF SUBMITTAL							CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR		GOVERNMENT ACTION		REMARKS						
					DATA	INSTRUCTIONS	DRAWINGS	DETAILS	STATEMENTS	TESTS	CERTIFICATES		INSTRUMENTS	GOVERNMENT REVIEW	DATE	DATE	DATE	DATE	DATE		DATE	DATE				
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	



U.S. Army Corps  
of Engineers

KANSAS CITY DISTRICT

Request For Information

CONTRACT NAME: \_\_\_\_\_

CONTRACT NO: \_\_\_\_\_

REQUEST FOR INFORMATION (RFI) NO.: \_\_\_\_\_ DATE: \_\_\_\_\_

Clarification of the following item(s) is requested:

Continue on attached page

Requested By: \_\_\_\_\_  
QC Manager

Government Response:

Authorized Representative  
Of the Contracting Officer: \_\_\_\_\_

Date: \_\_\_\_\_

**APPENDIX E**  
**PROJECT FILING GUIDE**

PROJECT MANAGEMENT

- M1** DESCRIPTIVE DATA
  - MI.1 General Correspondence
  - MI.2 Summary Job Description and **General** Information
  - MI.3 News **Releases/Photographs**
- M2** JOB CONTRACT
  - M2.1** Delivery Order File
    - A1 Modification Log
    - A2 Modification and Support
    - A3 Delivery Order/Scope of Services
    - A4 JONAS Forms
    - B1** WAD Summary
    - B2 **WADs** and Support
    - CI Technical Directives
    - D1** Wage Determinations
    - D2 Subcontracting Reports
    - D3 Government Property Reports
    - E1 TO-Specific Contract Correspondence
    - E2 75% Notifications
    - E3 Delegation of Authorities
    - F1** Closeout Information
  - M2.2 Change Control
  - M2.3 Proposals, Cost Estimates, and Support
    - M2.3.1 Delivery Order **Proposal/RFP**
    - M2.3.2 Modification/Change Order  
**Proposals/Basis**
- M3** PROGRAM MANUAL
- M4** PROJECT ORGANIZATION
  - M4.1 Client Organization
  - M4.2 SWET&S Organization
- M5** COST AND SCHEDULING
  - M5.1 Correspondence
  - M5.2 Reports
    - M5.2.1 cost
    - M5.2.2 Progress
    - M5.2.3** Other
  - M5.3 Estimates and Forecasts of Manhours and Expenses
    - M5.3.1 Internal
    - M5.3.2 Subcontractor
  - M5.4 Transfer of Charges
    - M5.4.1 Labor
    - M5.4.2 Expenses
  - M5.5** Schedules
- M6** INVOICES
  - M6.1** S&W Invoices
  - M6.2 Reserved
  - M6.3 J.O. Numbers Assignment
- M7** LICENSES/PERMITS

PURCHASING

- PI** PROCUREMENT DOCUMENTATION
  - PI.1** **PO/PR/SubK** Log
  - PI.2 Individual Subcontractor/Vendor Files
    - A1 Modification Log
    - A2 Modification(s)
    - A3 Purchase Order
    - A4 Purchase Requisition
    - B1** Receipt Log
    - B2 Invoices
    - B3 Correspondence/Telecommunications
    - B4 File Memorandum
- QUALITY ASSURANCE
  - Q1** GENERAL
    - Q1.1** QA Audits and Corrective Action Audits
    - Q1.2** QA **Surveys/Pre-Qualification** Audits/Surveillances of Suppliers
      - 41.3 Surveillances
      - 41.4 Nonconformance/Corrective Action Reports
      - Q1.5** Daily QC Reports
      - 41.6 QC Reports (Other than Daily)
      - 41.7 General **QA/QC Information/Data**
- RECORDS
  - R2** CHRONOLOGICAL CORRESPONDENCE FILE
    - R2.1 Chronological File of All Correspondence
      - R2.1.1** To and From Client
      - R2.1.2 To and From Field
      - R2.1.3 Interoffice Correspondence/Memoranda
      - R2.1.4 To and From Subcontractors
      - R2.1.5 To and From Others
    - R2.2 Chronological File of Notes of Telephone Conversation
    - R2.3 Notes of Conference
  - R3** DOCUMENTS RECEIVED
    - R3.1 Documents Received Log
    - R3.2 Documents Received
  - R4** CALCULATIONS
    - R4.1 Calculation Index
    - R4.2 Calculations • Indexed and Filed by Calculation Index Numbers
  - R5** DRAWINGS/FIELD LOGS
    - R5.1** Drawing Log
    - R5.2 Drawing Change Notices (**DCNs**)
    - R5.3 Field Logbooks
    - R5.4 Field Notes/Sketches
    - R5.5 Drawings

- R6 **LISTS**  
R6.1 Action Item List  
R6.2 Instrument/Equipment List

R7 VENDOR DATA

R8 MICROFILMING

SAFETY

S1 SAFETY AND HEALTH

- S1.1 Field Documentation  
s1.2 Training Records  
s1.3 Medical Surveillance Records

ENGINEERING

T1 CONFERENCES

- T1.1 Agenda for Conferences  
T1.2 Notes of Conference  
T1.3 Trip Reports

T2 REPORTS

- T2.1 Technical Reports  
T2.2 Construction Reports  
T2.3 Other Reports (Such as laboratory data)

T3 STUDIES/ANALYSES/PLANS

- T3.1 Work Plan  
T3.2 Site Safety and Health Plan  
T3.3 Sampling and Analysis Plan  
T3.4 Preliminary Design Report  
T3.5 Intermediate Design Report  
T3.6 Pre-Final Design Report  
T3.7 Final Design Report  
T3.8 Quality Control Plan  
T3.9 Government Property Control Implementing Procedure

T4 CONSTRUCTION

T5 OTHER DOCUMENTATION

## APPENDIX F

### CHECKLISTS

- MOBILIZATION (F- 1)
- UTILITY CLEARANCE (F-4)
- INSTRUMENT CALIBRATION (F-5)
- SURVEYING (F-6)
- FIELD DOCUMENTATION (F-7)
- DEMOBILIZATION DECONTAMINATION (F-8)
- DATA MANAGEMENT (F-9)
- REPORTS AND OTHER DOCUMENTS (F-1 1)
- FIELD SAFETY (F- 12)
- SAMPLE COLLECTION (F-1 3)
- PACKING, STORING, AND SHIPMENT OF **SAMPLES** (F-14)



**MOBILIZATION CHECKLIST**

Answer each question by checking the appropriate column (yes, no, or NA). If "no" is checked, an explanation should be provided in the space available. This checklist is to be completed by the Field Representative prior to mobilization to the site and reviewed by the CQCSM/PM.

	<u>Yes</u>	<u>No</u>	<u>NA</u>
<b><u>Site Access And Security</u></b>			
Has a copy of the Right-of-Entry Permit been received <b>from</b> the <b>offsite</b> landowner?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the time frames on the Right-of-Entry Permits adequate for the entire job, including IDW disposal?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
<b><u>Permits And Licenses</u></b>			
Are all subcontractors licensed to operate in New Jersey?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Are license numbers of subcontractors recorded in the project files?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Have subcontractors provided proof of insurance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Have variances been obtained for flush-mount wells?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Have variances been obtained for double-cased wells having less than 20 feet of surface casing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Is geologist licensed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Are contractors licensed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Have well permits been obtained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Has asbestos permit been <b>obtained</b> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Have highway right-of-way permits been obtained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Have work permits been obtained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
<b><u>Safety Planning And Equipment</u></b>			
Has the SSHP been submitted to subcontractors for review?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Are all training certificates, including subcontractors, in a file to take to the field?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Are all training certificates current?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Are all <b>MSDSs</b> in a file to take to the field?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Has the PID been reserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Does the PID have the correct lamp?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Has the LEL meter been reserved?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Does the LEL meter have the correct sensors?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			

**MOBILIZATION CHECKLIST (Continued)**

Are the detector tubes stored properly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Is calibration for detector tube pump current?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Are any additional meters <b>specified in SSHP reserved</b> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Exp:</b> _____			
Is personnel radiation monitoring <b>in place</b> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Exp:</b> _____			

**Construction**

Does subcontractor's equipment <b>onsite</b> match the proposed equipment?	<b>Yes</b>	<b>No</b>	<b>N/A</b>
Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Logistical Planning**

Has notice to proceed from the <b>USACE</b> been received?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Were the project personnel available and scheduled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Were the subcontractors' purchase orders complete?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Has the laboratory agreed to the planned sample volume load?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Has the sample container order been placed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Have correct sample containers been received?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Has storm water management system been installed and is it ready for operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			

**MOBILIZATION CHECKLIST (Continued)**

**Coordination With Federal, State, And Local Environmental Authorities**

- |  |   |                          |                          |
|--|---|--------------------------|--------------------------|
| Has CENWK approved the 100 Percent Construction Plans?                         | a | <input type="checkbox"/> | <input type="checkbox"/> |
| Exp: _____   |   |                          |                          |
| Has <b>USACE</b> been notified of schedule?                                    |   | <input type="checkbox"/> | <input type="checkbox"/> |
| Exp: _____   |   |                          |                          |
| Has the appropriate state agency been informed of the planned sampling events? |   | <input type="checkbox"/> | <input type="checkbox"/> |
| Exp: _____   |   |                          |                          |
| Has <b>USEPA</b> approved the 100 Percent Construction Specifications?         |   | <input type="checkbox"/> | <input type="checkbox"/> |
| Exp: _____   |   |                          |                          |
| Has <b>USEPA</b> been informed of the planned sampling events?                 |   | <input type="checkbox"/> | <input type="checkbox"/> |
| Exp: _____   |   |                          |                          |

**Environmental Site Protection**

- |   |                          |                          |                          |
|---|--------------------------|--------------------------|--------------------------|
| Are drilling and sampling locations accessible without destroying land resources?       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Exp: _____  |                          |                          |                          |
| If field activities destroy land resources, will measures be taken to restore the site? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Exp: _____  |                          |                          |                          |
| Are drillers aware of work areas and proper environmental site protection practices?    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Exp: _____  |                          |                          |                          |

**Corrective Actions**

List all corrective actions. Initial and date in the last column when they were implemented.

_____	_____
_____	_____
_____	_____

The CQCSM shall sign this checklist upon completion of all items on the checklist.

CQCSM

Signature: \_\_\_\_\_

Date \_\_\_\_\_

**UTILITY CLEARANCE CHECKLIST**

Answer each question by checking the appropriate column (yes, no, or NA). If "no" is checked, an explanation should be provided in the space available. To be completed by the Field Representative prior to mobilization to the site and reviewed by the CQCSM/PM.

**Utility Clearance**

	<b><u>Yes</u></b>	<b><u>No</u></b>	<b><u>NA</u></b>
Has the PSE & G (I-201 -342-7000) been notified and a utility meeting scheduled? Exp: _____	cl	<input type="checkbox"/>	cl
Has a representative from each notified utility called to <b>confirm</b> the utility meeting? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was the PSE & G work authorization number recorded? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was the property owner asked about the existence of any underground utilities or tanks? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	cl
If yes to above question, is report available? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Corrective Actions**

List all corrective actions. Initial and date in the last column when they were implemented.

_____	_____
_____	_____
_____	_____

The CQCSM shall sign this checklist upon completion of all items on the checklist.

CQCSM Signature: \_\_\_\_\_ Date \_\_\_\_\_

**INSTRUMENT CALIBRATION CHECKLIST**

**Sampling Date:** \_\_\_\_\_

**Monitoring Well Number(s):** \_\_\_\_\_

Answer each question by checking the appropriate column (yes, no, or N/A). If no or N/A are checked, an explanation should be provided in the space available. Complete daily.

**Instrument Calibration**

Were **all** field instruments calibrated properly?

**Yes**      **No**      **N/A**

Were all field instruments calibrated on the schedule in the Work Plan/SSHP?

     c1     

Did the Field Calibration Forms list all calibration events?

List instruments used at the site:

If no or N/A to any of the above, state explanation: \_\_\_\_\_

**Corrective Actions**

List all corrective actions. Initial and date in the last column when they have been implemented.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

The CQCFE shall sign this checklist upon completion of all items on the checklist.

CQCFE Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**SURVEYING CHECKLIST**

**Sampling Date:** \_\_\_\_\_

**Monitoring Well Number(s):** \_\_\_\_\_

Answer each question by checking the appropriate column (yes, no, or N/A). If no or N/A are checked, an explanation should be provided in the space available. Complete daily.

**Surveying**

	<b><u>Yes</u></b>	<b><u>No</u></b>	<b><u>N/A</u></b>
Was the Scope of Work reviewed with the surveyor?	0	<input type="checkbox"/>	0
Was the schedule for the work provided to the surveyor?	<input type="checkbox"/>	<input type="checkbox"/>	0
Were references of past work in file?	0	0	0
Did surveyor submit <b>QA/QC</b> data?	<input type="checkbox"/>	0	0
Were all sample points surveyed by a licensed land surveyor?	<input type="checkbox"/>	0	0
Was each point surveyed for horizontal and vertical control?	<input type="checkbox"/>	0	0
Was the ground surface and top of casing surveyed for each monitoring well?	<input type="checkbox"/>	0	0
Were surveyor's closure calculations reviewed?	<input type="checkbox"/>	0	<input type="checkbox"/>
Was surveyor interviewed by CQCSM before leaving site?	0	0	0

If no or N/A to any of the above, state explanation:

**Corrective Actions**

List all corrective actions. Initial and date in the last column when they have been implemented.

_____	_____
_____	_____
_____	_____
_____	_____

The CQCSM shall sign this checklist upon completion of all items on the checklist.

CQCSM Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**FIELD DOCUMENTATION CHECKLIST**

**Date:** .

Answer each question by checking the appropriate column (yes, no, or **N/A**). If no or N/A are checked, an explanation should be provided in the space available. Complete daily.

<u>Field Documentation</u>	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Was all original field data, except boring logs, recorded in black indelible ink?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were log books filled out properly; accurately recounting the days events?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were all field forms completed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Daily QC Records?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Borehole</b> Logs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody Forms?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Log Books?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Project Photograph Log (in Log Book)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Daily Air Monitoring Record?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was <b>field</b> documentation forwarded to office for peer review and QC?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were deficiencies reported to <b>CQCSM/PM</b> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
List additional field forms completed:			

If no or N/A to any of the above, state explanation:

**Corrective Actions**

List all corrective actions. Initial and date in the last column when they were implemented.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

The CQCSM shall sign this checklist upon completion of all items on the checklist.

CQCSM Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**DEMOBILIZATION DECONTAMINATION CHECKLIST**

**Date:** \_\_\_\_\_

Answer each question by checking the appropriate column (yes, no, or NA). If "no" is checked, an explanation should be provided in the space available. This checklist is to be completed by the CQCSM.

**Equipment**

	<u>Yes</u>	<u>No</u>	<u>NA</u>
Was the drill rig and all drilling equipment decontaminated upon arrival; after each location; and before leaving the site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Was each decontamination event recorded in the logbook?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Was IDW (decontamination water) properly handled?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
What equipment, other than drill rig and associated equipment, left the site today?			
Exp: _____			
Was each unit leaving site properly decontaminated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			

**Personnel**

Did driller's personnel wear appropriate PPE during work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Was each decontamination event documented in the logbook?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Did personnel wear proper PPE during decontamination of equipment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			

**Corrective Actions**

List all corrective actions. Initial and date in the last column when they were implemented.

_____	_____
_____	_____
_____	_____

The CQCSM shall sign this checklist upon completion of all items on the checklist.

CQCSM Signature: \_\_\_\_\_

Date \_\_\_\_\_



DATA MANAGEMENT CHECKLIST

Sampling Date: \_\_\_\_\_ Laboratory Name & Project Number \_\_\_\_\_

Answer each question by checking the appropriate column (yes, no, or NA). If “no” is checked, an explanation should be provided in the space available. This checklist is to be completed by the CQCSM on at least one data deliverable.

**Tracking Of Data Deliverable Receipt**

	<u>Yes</u>	<u>No</u>	<u>NA</u>
Were due dates calculated?	<input type="checkbox"/>	0	<input type="checkbox"/>
Exp: _____			
Was the laboratory contacted regarding upcoming due dates?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Were dates received recorded?	<input type="checkbox"/>	cl	<input type="checkbox"/>
Exp: _____			
Was the laboratory contacted regarding late deliverables?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			

**Field Samples Summary**

Was the COC checked for accuracy and completeness?	<input type="checkbox"/>	0	0
Exp: _____			
Was the cooler receipt received from the laboratory correct?	<input type="checkbox"/>	0	<input type="checkbox"/>
Exp: _____			
Was the laboratory contacted regarding problems with the COC or cooler receipt?	<input type="checkbox"/>	<input type="checkbox"/>	0
Exp: _____			

**Laboratory Communication During Sample Analyses**

Did the laboratory provide a summary of sample log-in information (e.g., proper sample information and correct analytical assignments)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Was the laboratory contacted frequently about sample analytical status or problems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Were problems properly addressed and/or corrected?	0	0	<input type="checkbox"/>
Exp: _____			

**Initial Review Of Analytical Data Package (Hard Copy)**

Was data package reviewed for completeness (e.g., all sample results and lab QC information present, signed COC present)?	<input type="checkbox"/>	<input type="checkbox"/>	0
Exp: _____			
Was data package reviewed for obvious errors or inconsistencies?	0	<input type="checkbox"/>	<input type="checkbox"/>
Exp: _____			
Was laboratory contacted regarding any problems with the data package?	0	0	<input type="checkbox"/>
Exp: _____			

DATA MANGEMENT CHECKLIST (Continued)

Corrective Actions

List all corrective actions. Initial and date in the last column when they were implemented.

_____	_____
_____	_____
_____	_____

The CQCSM shall sign this checklist upon completion of all items on the checklist.

CQCSM Signature: \_\_\_\_\_ Date \_\_\_\_\_

**REPORTS AND OTHER DOCUMENTS CHECKLIST**

**Report Title:** \_\_\_\_\_

**Project Number:** \_\_\_\_\_

**Project Name:** \_\_\_\_\_

Answer each question by checking the appropriate column (yes, no, or N/A). If a “no” or a “N/A” are checked, an **explanation** should be provided in the space available.

	<u>Yes</u>	No	<u>N/A</u>
<b><u>Quality Reviews</u></b>			
Was a general report edit (technical & grammar) conducted?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was a Peer Review conducted for the report?	<input type="checkbox"/>	cl	<input type="checkbox"/>
Was adequate review time allowed for the Peer Review?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was a copy of the completed Peer Review Form placed in the project file?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were findings noted from the Peer Review changed in the report?	cl	cl	<input type="checkbox"/>
Was the report approved and the Peer Review Form signed by the management oversight?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was a <b>final</b> spell check completed prior to reproduction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was a <b>final</b> format check completed prior to reproduction?	cl	<input type="checkbox"/>	<input type="checkbox"/>
If no or N/A to any of the above, state explanation:			

**Report Title:** \_\_\_\_\_

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Were QC reviews conducted by the appropriate member(s) of the QC Team:			
Outline review?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Report preparation review (at _____ percent complete)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Report preparation review (at _____ percent complete)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Report quality review?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A to any of the above, state explanation:

**Corrective Actions**

List all corrective actions. Initial and date in the last column when they were implemented.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

The CQCSM shall sign this checklist upon completion of all items on the checklist.

CQCSM: \_\_\_\_\_ Date: \_\_\_\_\_

**FIELD SAFETY CHECKLIST**

**Work Location:**

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Reviewed work plans with project engineer?	<input type="checkbox"/>	<input type="checkbox"/>	0
Requested maps of aboveground and underground utilities?	<input type="checkbox"/>	0	0
Reviewed utility maps (water supply, firewater, sewer, process sewer, electric , gas, telephone, navigational, other underground facilities)?	<input type="checkbox"/>	0	0
Met with facilities representative to review utility locations and asked each representative the following questions:	<input type="checkbox"/>	0	0
Any underground utilities at work site location?	<input type="checkbox"/>	0	0
Any on-going construction that would affect field activities?	0	<input type="checkbox"/>	0
Any chemical releases associated with unit operations?	0	<input type="checkbox"/>	0
Any other hazards associated with operating units?	0	0	cl
Any special requirements?	<input type="checkbox"/>	0	0

Names of utilities and their representatives:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Determine if any permits are required	0	0	0
Type: _____			
Obtained necessary permits?	0	0	
Permit expiration date?	<input type="checkbox"/>	<input type="checkbox"/>	0
Requested MSDS for any onsite chemical or expected in the subsurface?	0	<input type="checkbox"/>	<input type="checkbox"/>
Client(s) established protocol, if any?	0	0	<input type="checkbox"/>

Comments:

**Corrective Actions:**

The CQCSM shall sign this checklist upon completion of all items on the checklist.

CQCSM Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**SAMPLE COLLECTION CHECKLIST**

**Project Name/Number:**

**Boring/Monitoring Well Number:**

**Surface Soil/Sediment/Surface Water Sample Number(s):**

**Sampling Date:**

Complete daily for each boring, monitoring well, and surface soil, sediment and sampling location. For sediment and surface water samples, complete daily per site. Answer each question by checking the appropriate column (yes, no, not observed [N/O] or N/A). If a “no” is checked, provide an explanation on the Noncompliance Report and Corrective Action Request form.

<u>General</u>	<u>Yes</u>	<u>No</u>	<u>N/O</u>	<u>N/A</u>
Were new protective gloves worn between sampling locations and/or intervals?	0	<input type="checkbox"/>	0	<input type="checkbox"/>
Were samples collected using methods described in the Work Plan?	0	<input type="checkbox"/>	0	0
Were sample containers filled in the correct order?	0	<input type="checkbox"/>	0	0
Was sampling equipment appropriate for the purpose and site conditions?	0	<input type="checkbox"/>	0	0
Was sampling equipment decontaminated or disposable/dedicated equipment used between each sample?	0	<input type="checkbox"/>	0	<input type="checkbox"/>
Were procedures for collecting QA/QC samples followed as per the Work Plan?	<input type="checkbox"/>	<input type="checkbox"/>	0	0
Were sampling locations properly identified by land survey?	0	<input type="checkbox"/>	0	0

**Groundwater for Chemical Analysis**

Were groundwater samples collected a minimum of one week <b>after</b> development?	0	<input type="checkbox"/>	0	0
Were groundwater parameters stable before sample collection (as per Work Plan)?	0	<input type="checkbox"/>	0	0
Were turbidity readings below 50 NTU?	0	<input type="checkbox"/>	0	0
Was a ground water sampling report form completed?	0	<input type="checkbox"/>	0	0
Were the analytical parameters and QA/QC samples recorded on the sampling report form?	0	<input type="checkbox"/>	0	<input type="checkbox"/>
Was the CQCSM present during one entire sampling event?	0	<input type="checkbox"/>	0	cl

**Corrective Actions:**

The CQCSM shall sign this checklist upon completion of all items.

CQCSM: \_\_\_\_\_ Date: \_\_\_\_\_

**PACKING, STORING, AND SHIPMENT OF SAMPLES CHECKLIST**

**Project Name/Number:** \_\_\_\_\_

**Boring/Monitoring Well Number:** \_\_\_\_\_

**Groundwater Sample Number(s):** \_\_\_\_\_

**Sampling Date:** \_\_\_\_\_

Answer each question by checking the appropriate column (yes, no, or NA). If “no” is checked, an explanation should be provided in the space available. This checklist is to be completed by the CQCSM for each occurrence of the subject field activity.

**Packing, Storing, And Shipment Of Samples**

	<b><u>Yes</u></b>	<b><u>No</u></b>	<b><u>NA</u></b>
Were the samples handled according to the SAP? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were the samples stored on ice or in a refrigerator <b>after</b> collection? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were COC forms filled out accurately and completely including project name and number, sampling date, sampling time, analytical parameters, preservatives, size and number of containers for each analytical parameter, and media sampled? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were COC forms signed and dated by the preparer and the form taped to the inside of the cooler lid? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were the samples wrapped appropriately (e.g., bubble wrap) to prevent breakage during shipment? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were the samples shipped with bagged ice or blue ice? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Were signed and dated custody seals properly placed on the cooler and the cooler sealed with strapping tape? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Was a shipping label attached to the cooler? Exp: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Corrective Actions**

List all corrective actions. Initial and date in the last column when they were implemented.

_____	_____
_____	_____
_____	_____

The CQCSM shall sign this checklist upon completion of all items on the checklist.

CQCSM Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**APPENDIX G**

**OVERSIGHT MATRIX**

**&**

**PREPARATORY AND INITIAL INSPECTION MATRIX**

OVERSIGHT MATRIX

Definable Feature of Work	Governing Documents	Responsible Organization	Method of Verification	Frequency*	Comments
<b>Excavation</b>					
In-process sampling	CDQMP	Stone & Webster	inspection	2x Week	
Base excavation	RAWP	Stone & Webster	Inspection	Ongoing	
Decision on next excavation	RAWP	Stone & Webster	Inspection	Ongoing	
Precision excavation	RAWP	Stone & Webster	Inspection	Ongoing	
Weighing soils prior to transport vehicle loading	RAWP	Stone & Webster	Surveillance	2x Week	
Decommissioning wells	RAWP	Stone & Webster	Audit	2x Year	
Establishment of grid system	RAWP	Stone & Webster	Inspection	1 x Prior to excavation	
Spill Kit in place	RAWP	Stone & Webster	Inspection	1 x Prior to Excavation/lx Year	
Identification of utilities	RAWP	Stone & Webster	inspection	ix Prior to Excavation	
Perimeter air sampling	SSHP	Stone & Webster	Surveillance	1 x Prior to <b>Excavation</b> /2x Month	
Signage	SSHP	Stone & Webster	Surveillance	1x <b>Initially</b> /3x Year	
<b>Loadout</b>					
Transport to transport vehicles	RAWP	Stone & Webster	Surveillance	2x Week	
Materials sampling	CDQMP	Stone & Webster	Surveillance	2x Week	
Condition of incoming transport vehicles	RAWP	Stone & Webster	inspection	Ongoing	
Lining of <b>transport</b> vehicles	RAWP	Stone & Webster	Surveillance	2x Week	
Loading of transport vehicles	RAWP	Stone & Webster	Surveillance	2x Week	
Placarding	RAWP	Stone & Webster	Surveillance	2x Week	
Transfer to rail cars	RAWP	Stone & Webster	Surveillance	2x Week	

\* The frequency of inspections shall be finalized as mutually agreed upon by Stone & Webster and USACE.



**OVERSIGHT MATRIX (Continued)**

<b>Definable Feature of Work</b>	<b>Governing Documents</b>	<b>Responsible Organization</b>	<b>Method of Verification</b>	<b>Frequency*</b>	<b>Comments</b>
Manifesting and chain-of-custody	RAWP	Stone & Webster	Surveillance	2x Week	
Shipment tracking	RAWP	Stone & Webster	Surveillance	2x Week	May vary with the amount of material shipped
<b>Verification</b>					
Verification of disposal	RAWP	Stone & Webster	Inspection	Ongoing	As documentation is received.
Verification sampling of excavated area	RAWP	Stone & Webster	Inspection	1x Week	
Surveying of excavated area	RAWP	Stone & Webster	Inspection	1x Month	
<b>Backfill and Restoration</b>					
Geotechnical laboratory	CDQMP	Stone & Webster/ Subcontractor	Surveillance	2x Year	Geotechnical laboratory are to be approved by <b>USACE</b> prior to performing work.
Backfill analytical testing	CDQMP	Stone & Webster/ Subcontractor	Surveillance	Per source	
Geotechnical testing	CDQMP	Stone & Webster/ Subcontractor	Surveillance	2x week	
Equipment and materials	CDQMP	Stone & Webster	Surveillance	2x Week	
Backfill operations	RAWP	Stone & Webster	Inspection	Ongoing	
Final restoration	RAWP	Stone & Webster	Surveillance	As areas are completed	
Permanent erosion control	RAWP	Stone & Webster	Surveillance	As the permanent controls are installed	
Final surveying and grading	RAWP	Stone & Webster	Surveillance	As the areas are <b>completed</b>	

**OVERSIGHT MATRIX (Continued)**

<b>Definable Feature of Work</b>	<b>Governing Documents</b>	<b>Responsible Organization</b>	<b>Method of Verification</b>	<b>Frequency*</b>	<b>Comments</b>
<b>ARARS</b>					
	EE/CA RAWP	Stone & Webster	Audit	Audit should be scheduled 2-6 weeks after groundbreaking	Reschedule based on results of initial audit.
<b>Support Services</b>					
Health physics, radiological surveys, dosimetry and radiological sample collection	SSHP	Stone & Webster / Subcontractor	Audit/Surveillance	2x Year/1x Week	Health physics contractor responsible for own oversight program with S&W performing Audits and Surveillances.
<b>Water Management</b>					
Control of decontamination fluids	RAWP	Stone & Webster/ Subcontractors	Audit/Surveillance	1x Year/1x Month	
Control of ground water	RAWP	Stone & Webster	Audit/Surveillance	1x Year/1x Month	
Control of storm water	RAWP	Stone & Webster	Audit/Surveillance	1x Year/1x Month	
Sedimentation discharge	RAWP	Stone & Webster	Audit/Surveillance	1x Year/1x Month	
<b>Other</b>					
Document control	CQCP	Stone & Webster	Surveillance	1 x Monthly	
Data control	CQCP	Stone & Webster	Surveillance	1 x Monthly	
Manifest/materials tracking	RAWP	Stone & Webster	Surveillance	As materials are processed through to the completion of the disposal stage	
<b>Security</b>					
Site security	RAWP	Stone & Webster	Surveillance	1 x Monthly	
Personnel security	SSHP	Stone & Webster	Surveillance	1x Monthly	

This matrix will be maintained as a living document and updated as necessary to reflect the project oversight requirements.

## **APPENDIX H**

- **Inspection Matrix**
- **Matrix of Control, Verification,  
and Acceptance Testing Procedures**

### Preparatory and Initial Inspection Matrix

Inspection No.	P/I	Activity	Date

**Matrix of Control and Acceptance Testing Procedures**

<b>Test Name</b>	<b>Specification Paragraph</b>	<b>Feature of Work</b>	<b>Test Frequency</b>	<b>Responsible Individual</b>

