
CERP Guidance Memorandum

South Florida Water Management District – Jacksonville District, U.S. Army Corps Of Engineers

CGM NUMBER: 065.00

EFFECTIVE DATE: February 24, 2016

CATEGORY: Construction

SUBJECT: Project Quality Assurance Coordination Team Roles and Responsibilities

DESCRIPTION:

This CGM establishes systematic procedures, Attachment A, for providing quality assurance oversight during construction of Comprehensive Everglades Restoration Plan (CERP) Projects and to ensure that CERP projects are constructed in accordance with federal laws, standards and regulations applicable to Civil Works projects.

GUIDANCE:

Upon execution of this CGM, the Jacksonville District, U.S. Army Corps of Engineers (USACE) and the South Florida Water Management District (SFWMD) will, prior to initiating construction, establish a Project Quality Assurance Coordination Team (PQAC Team) as required by the CERP Master Agreement, Article V.D.

APPLICATION:

Effective as of the date of this CGM, the Project Managers and Technical Offices of both the USACE and the SFWMD will implement this guidance in accordance with the information provided herein for all CERP Projects.

This document provides working level guidance to assist Project Teams in the implementation of the Comprehensive Everglades Restoration Plan (CERP) program executed between the South Florida Water Management District and the U.S. Army Corps of Engineers. The guidance does not constitute policy for either agency nor does it create authority beyond that granted to any agency member carrying out their duties. Guidance reflecting agency policy on subjects listed in the guidance memoranda section of the programmatic regulations for CERP will be issued when the final programmatic regulations are adopted, using the process stated in the regulations.

CERP Guidance Memorandum

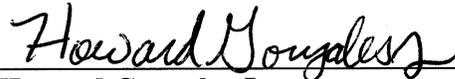
South Florida Water Management District – Jacksonville District, U.S. Army Corps Of Engineers

CGM NUMBER: 065.00

APPROVALS:



Thomas M. Teets, AICP
Division Director, Office of Everglades
Policy and Coordination
South Florida Water Management District



Howard Gonzales Jr.
Chief, Ecosystem Branch
Programs and Project Management Division
Jacksonville District
U.S. Army Corps of Engineers

DATE: 2-22-16

DATE: 2-24-16

This document provides working level guidance to assist Project Teams in the implementation of the Comprehensive Everglades Restoration Plan (CERP) program executed between the South Florida Water Management District and the U.S. Army Corps of Engineers. The guidance does not constitute policy for either agency nor does it create authority beyond that granted to any agency member carrying out their duties. Guidance reflecting agency policy on subjects listed in the guidance memoranda section of the programmatic regulations for CERP will be issued when the final programmatic regulations are adopted, using the process stated in the regulations.

ATTACHMENT A



**US Army Corps
of Engineers®**

**CERP PROJECT QUALITY
ASSURANCE COORDINATION
TEAM ROLES AND
RESPONSIBILITIES**

TABLE OF CONTENTS

I. PURPOSE AND SCOPE

- A. References
- B. Definitions

II. ORGANIZATION AND STAFFING

III. ROLES AND RESPONSIBILITIES

IV. PRE-AWARD

- A. Technical Review
- B. BCOE Review
- C. Plan-In-Hand Review

V. POST-AWARD

- A. Pre-Construction
- B. Quality Assurance Surveillance
- C. Quality Assurance and Quality Control Plan Review
- D. Shop Drawings, Samples and Certificates
- E. Safety
- F. Labor Responsibilities
- G. As-Builts
- H. Operation and Maintenance (O&M) Manuals
- I. Contractor Payments
- J. Environmental Issues
- K. Construction POC Reports and Photo Records

VI. DOCUMENTATION

I. PURPOSE AND SCOPE

The purpose of this document is to establish systematic procedures for providing quality assurance oversight during construction of Comprehensive Everglades Restoration Plan (CERP) Projects and to ensure that CERP projects are constructed in accordance with federal laws, standards and regulations applicable to Civil Works projects. Prior to initiating construction, USACE and the South Florida Water Management District (SFWMD), will establish a Project Quality Assurance Coordination Team (PQAC Team) as required by the CERP Master Agreement, Article V.D. The PQAC Team will include participants from the SFWMD and USACE Construction, Engineering, Program Management and Planning Divisions. While the PQAC Team will include representatives from both the SFWMD and USACE, pursuant to Article II.D and Article II.E of the CERP Master Agreement, only the Contracting Party has the authority to provide direction to the contractor(s). The Non-Contracting Party representatives will provide informal input to the PQAC Team and the Contracting Party's point of contact (POC). All official interagency correspondence will be managed through the respective USACE and SFWMD project managers.

The SFWMD and USACE will designate an onsite representative to serve as its PQAC Team primary representative throughout the construction phase. The CESAJ Construction Division will appoint a Project Engineer (PE) to be the Construction POC onsite representative for all matters related to the construction project. The SFWMD will appoint a POC from the Operations, Maintenance and Construction Division, or equivalent division, as its lead Construction POC for the construction project. The USACE PE and SFWMD Construction POC will serve as the primary agency leaders for managing the PQAC Team and for coordinating all items related to the construction contract. Construction documents will be provided to the PQAC Team representatives for distribution to their agency.

The PQAC Team is to consist of representatives of USACE and SFWMD during the project construction period to help ensure that the project meets federal standards for operability, safety, efficiency and resilience. The Contracting Party will provide requisite office space and internet connectivity for the Non-Contracting Party.

When USACE is not the Contracting Party, USACE may maintain staff onsite throughout the construction phase. The USACE Area and Resident Engineers will be represented by Quality Assurance Representatives (QAR) on site. All levees and dams are subject to routine USACE Higher Headquarters inspections at all times in accordance with ER 1110-2-1156. All efforts shall be made to accommodate these inspections for a review of construction and documentation.

The PQAC Team will be established in a manner that will encourage a team approach to oversee and ensure quality assurance. Regardless of which agency is leading the construction contract, PQAC Team members from both the Contracting Party and the Non-Contracting Party will be:

- Included as observers in the Pre-construction Conferences held prior to beginning construction.
- Included as observers in construction status meetings.

- Included as observers in any scheduled witness testing. The PQAT Team members will be notified in advance of the scheduled testing in order to plan attendance.
- Included as observers in Substantial Completion Inspections where a punch list for the facility will be compiled. The PQAC Team members will be notified in advance of the scheduled inspections in order to plan attendance. The Contracting Party's PQAC Team PE and the SFWMD Construction POC will monitor the correction of punch list items and annotate the date that each of the items is corrected.
- Included as an observer in the Testing and Commissioning to include testing and performance verification as applicable.

References

- ER 415-1-10 Contractor Submittal Procedures, 30 April 2012
- ER 1180-1-6 Construction Quality Management, 30 Sep 1995
- ER 415-1-11 BCOE Review, 1 January 2013
- EP 415-1-261 Quality Assurance Representative's Guide, 2 January 1992
- ER 1110-1-1901 Project Geotechnical and Concrete Materials Completion Report for Major USACE Projects
- ER 1110-2-1156 Safety of Dams – Policy and Procedures
- ER 1165-2-208 In-Kind Contribution Credit Provisions of Section 221 of the Flood Control Act of 1970, As Amended.

Definitions

Contracting Party – the agency, SFWMD or USACE, that is responsible for solicitation and management of the construction contract.

Non – Contracting Party – the agency, SFWMD or USACE, that is the partner agency that is participating in the Project Quality Assurance Coordination Team, but is not responsible for solicitation and management of the construction contract.

Quality Control (QC) - is the construction contractor's system to manage, control and document that all work is being performed in accordance with the Contract requirements.

Quality Assurance (QA) - is the system by which the contracting party fulfills its responsibility to be certain the contractor's QC is functioning and the specified end product is realized.

Project Engineer (PE) – The USACE onsite representative for all matters relating to the construction project. The PE will be the lead person for USACE to the Project Quality Assurance Coordination Team.

Project Quality Assurance Coordination Team (PQAC Team) – A team of USACE and SFWMD members established in accordance with Article V.D of the CERP Master Agreement for the

purpose of overseeing quality on project construction.

Project Quality Assurance Coordination Team PE and SFWMD Construction Point of Contact (POC) – The lead representatives for the USACE and SFWMD located at the construction site and serving as the onsite leaders of the PQAC Team.

II. ORGANIZATION & STAFFING

A. The Contracting Party has responsibility for construction management and contract administration. The Non-Contracting Party will be helping to observe and oversee project quality assurance and reporting to the PQAC Team. It is envisioned that each CERP construction contract will be staffed by Contracting and Non-Contracting Party PQAC Team members. Staffing within the Non-Contracting Party field office may fluctuate with the actual and projected level of onsite construction activity. In the case of multiple contracts at the same site, the Non-Contracting Agency will determine the requisite level of involvement by the Non-Contracting Party. The Non-Contracting Party PQAC Team representatives will observe ongoing construction, review testing, work progress, and contract technical submittal process. They will coordinate with the Contracting Party PQAC Team Representative but will be in an “observe and report” mode only. The PQAC Team member for the Non-Contracting Party will have no contractual or enforcement authority. Their role is to help monitor compliance with the plans and specifications and keep the PQAC Team informed on the project progress.

B. The PQAC Team will become familiar with both technical aspects and administrative and scheduling aspects of the project. The Non-Contracting Party PQAC Team will function in parallel with the Contracting Party PQAC Team’s quality assurance system to assure a quality product. The PQAC Team Representatives will serve as the primary points of contact for coordination of onsite construction activities.

III. ROLES AND RESPONSIBILITIES

A. PQAC Team Member. The role of the PQAC Team members from the Non-Contracting Party will be to observe, verify and report on quality management matters related to a specific project. They will be responsible for helping to ensure and document compliance with construction plans and specifications and the technical construction requirements of the contract. If any aspect of the construction fails to comply with the requirements of the plans and specifications, the PQAC Team member will notify the PQAC Team and forward specific comments and recommendations to the Contracting Party’s PE, for USACE, or Construction POC for SFWMD, for action. Responsibilities of the PQAC Team Members include:

- During the Technical Review process prior to solicitation, review plans and specifications for Biddability, Constructability, Operability, Environmental and Sustainability (BCOES) and provide comments. Enter comments into DrChecks as appropriate.
- Become familiar with the plans and specifications for the contract.
- Take construction photographs during construction to document progress, quality and compliance with plans and specifications. Provide photos to the PQAC Team as requested.

- Review the Contractor Quality Control Plan and provide comments.
- Study the contractor's Accident Prevention Plan if required to be submitted by the construction contractor per the construction contract documents.
- Review daily construction reports.
- Attend contractor's regularly scheduled coordination, progress, safety, and warranty meetings.
- Monitor contractor's construction schedule and advise the PQAC Team of impacts to the schedule.
- Attend Quality Control meetings and inspections. Continuously monitor the contractor's Quality Control program.
- Attend Warranty Inspections if required by the construction contract.
- The Non-Contracting Party PQAC Team Representative will receive submittals as they are submitted to the Contracting Party and forward for review as appropriate. Ensure submittal procedures are being followed and materials have adequate time for review. Notify the Contracting Party PQAC Team Representative of any significant concerns related to submittals as soon as they are identified.
- Monitor all Quality Control and Quality Assurance materials testing for adherence with the construction plans and specifications. Notify the PQAC Team Representatives of discrepancies between QC and QA testing results.
- Monitor As-Built drawings to ensure they are being maintained up-to-date.
- Monitor the QA/QC deficiency list.
- The Non-Contracting Party PQAC Team members have no safety enforcement authority over the contractors. However, should they identify a dangerous situation developing onsite, the PQAC Team member will immediately alert the onsite Contracting Party staff of any observed safety concerns. The Non-Contracting Party will only take action in situations of imminent danger to life or health.
- The Non-Contracting Party PQAC Team members are not authorized to take contractual actions.
- When USACE is the Non-Contracting Party, the USACE PQAC Team members will help monitor the SFWMD's compliance with Work-In-Kind credit requirements.

IV. PRE-AWARD. The greatest opportunity to affect/influence the quality of a project is during the design phase of a project.

A. Technical Reviews. The agencies will coordinate to conduct technical reviews as agreed in the Project Review Plan and participate in Technical Review Briefings.

B. Biddability, Constructability, Operability, Environmental and Sustainability (BCOES) Reviews and Backcheck Reviews. This effort consists of performing the BCOES review so as to

avoid construction problems and operability problems during and after construction. The PQAC Team should carefully review the technical requirements of the contract plans and specifications, as well as conduct an on-site plan-in-hand review to assure the existing conditions/facilities are accurately depicted on the proposed contract documents. The PQAC Team will enter comments into Dr Checks. An integral part of this process is a careful review of Division 1 Specification Sections and Special Clauses. The PQAC Team will ensure that the Contractor Quality Control specifications have an adequate level of oversight and testing assurance activities. To meet minimum federal government standards of ER 1180-1-6, Construction Quality Management, the Contracting Party's Quality Control specification shall include the following:

- Describe Quality Control Organization: Include an Organization Chart with lines of authority and reporting. Contractor QC Staff shall include a Contractor QC System Manager who shall perform his duties. The Contractor QC System Manager shall be a competent QC representative who has the experience, duty, responsibility and authority to enforce and implement the Contractor's Quality Control Plan. For Contractor QC matters, Contractor QC System Manager shall directly report to the Contractor other than Project Manager/Site Superintendent.
- Definable Features of Work: Although each section of specifications may generally be considered as a definable feature of work, there is frequently more than one definable feature under a particular section.
- CQC Staff Qualifications: Names, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.
- Submittal Control: Procedures for scheduling, reviewing, certifying, and managing submittals, including submittal items from subcontractors, offsite fabricators, suppliers, and purchasing agents.
- Testing: Control, verification, and acceptance testing procedures. Provide a list of specific tests. Provide information including test type or testing standard, specification paragraph requiring test, feature of work being tested, test frequency, and identify who (i.e., Contractor, subcontractor, Testing Laboratory) is responsible for each test. The Laboratory facilities shall be USACE Validated.
- Procedures: Procedures to implement the quality control system. Procedures to plan and document the quality control process.
- Deficiency Tracking: Procedures for tracking construction deficiencies from identification through acceptable corrective action. Establish procedures that verify deficiencies have been corrected and document correction.
- Reports and Forms: Reporting procedures, including proposed reporting formats and sample forms.
- Table of Contents: Pages of the QC plan shall be numbered, including appendices. Table of contents shall be provided. Sections of the plan and all appendices shall be indexed in the table of contents.

C. Plan-in-Hand Reviews. Plan-in-Hand reviews are held onsite near the end of the design process. The PQAC Team PE and SFWMD Construction POC should attend any and all Plan-in-Hand reviews.

V. POST-AWARD.

A. Pre-construction Conference. After award of contract, the Contracting Party will set up a Pre-construction Conference. The PQAC Team should attend the conference. After this meeting, minutes and an attendee list shall be compiled and copies furnished to the PQAC Team members.

B. Quality Assurance Oversight. Quality assurance is the process by which the Contracting and Non-Contracting Party assures quality construction. The process starts well before construction and includes reviews of the plans and specifications for biddability, constructability, operability and environmental responsibility; plan-in-hand site reviews; coordination with using agencies or local interests; establishment of performance periods and quality control requirements; field office planning and preparation of QA plans; reviews of quality control plans; enforcement of contract clauses; maintenance of quality assurance and quality control inspection and work records; and acceptance of completed construction.

1) Deficiencies. Any known deficiency should be brought to the immediate attention of the Contracting Party's PE and SFWMD Construction POC. Deficiencies should be noted on quality assurance reports. Deficiencies shall be tracked, managed, and reported as appropriate during the PQAC Team Meetings and Construction Progress Meetings. If a deficiency continues to occur or is repetitive in nature, the PQAC Team member shall inform the PQAC Team.

2) Quality Assurance Testing. The Contracting Party conducts QA materials tests at the job site to assure acceptability of the completed work. To meet minimum federal government standards, the Contracting Party will perform a sufficient number of independent quality assurance tests but not less than 5 percent of the frequency of the Contractors QC tests. Results shall be used to verify Contractor's QC test procedures and results. Only laboratories that are validated by the USACE Materials Testing Center (MTC) will be used. USACE validated laboratories are listed at the following link:

<http://www.erd.usace.army.mil/Media/FactSheets/FactSheetArticleView/tabid/9254/Article/476661/materials-testing-center.aspx>

3) Completion Inspections. When the project is substantially complete, the contractor and Contracting Party will perform a substantial completion inspection. The Non-Contracting Party will be invited to this inspection. The Contracting Party will develop a punch list of items that do not conform to the contract plans and specifications. When the work on the punch list has been completed, a final completion inspection shall be performed to verify all punch list items have been corrected. The PQAC Team members will be notified in writing of all substantial completion and final completion inspections. In addition, the PQAC Team members will provide input on lessons learned from the project, any other pertinent feedback on the project, and recommendations for future designs/projects.

4) Warranty Inspections. If required by contract, warranty inspections shall be conducted after contract physical completion. Inspections will be conducted with the contractor, facility owner, Contracting Party and PQAC Team. The PQAC Team will be invited to attend.

5) Progress. Monitoring contract progress is a responsibility of both the Contracting Party and the Contractor. The Contracting Party and Non-Contracting Party QA

staff will review the contractor's Quality Control Reports and Test Reports. If the reports indicate that the Contractor's Quality Control System is not functioning, the Contracting Party's PE or SFWMD Construction POC will identify the issues to PQAC Team for resolution.

C. Quality Assurance and Quality Control Plan Review. The construction contractor shall prepare a Contractor Quality Control Plan as a requirement of the contract. The Contracting Party will prepare a Job Specific Quality Assurance Plan. The Contracting and Non-Contracting Parties should coordinate a review of the Quality Assurance Plan and the Construction Contractors Quality Control Plan as soon as they are available. One key objective of these reviews is to ensure that the Construction Contractor's Quality Control Plan complies with minimum federal standards and the Quality Assurance Plan describes how to monitor the project quality effectively.

1) **Job-Specific Quality Assurance Plan (QA Plan):** Prior to the start of work, the Contracting Party shall prepare a Job-Specific QA Plan with input from the Non-Contracting Party. The QA Plan should be developed after review of the contract documents and the Contractor's Quality Control Plan. The QA Plan will provide a "road map" for the PQAC Team quality assurance operations for the contract. The Job-Specific QA Plan should include the following information:

- a) Project/Contract Description
- b) Identification of PQAC Team POCs
- c) Identification of PQAC Team Members
- d) Identification of Contracting and Non-Contracting Party QA Staffing
- e) QA Surveillance Responsibilities
- f) Job-specific QA testing to include type, frequency and identification of USACE Validated laboratory.
- g) Definable Features of Work

2) **Quality Control Plan.** After submittal of the Contractor's Quality Control plan, the Contracting and Non-Contracting Party construction staff will review the plan to insure it is adequate and conforms to the minimum federal standards of ER 1180-1-6 and listed above in Section V. QC materials testing laboratories used by the construction contractor shall be validated by the USACE Materials Testing Center.

D. Shop Drawings, Samples and Certificates. Shop Drawings, Samples and Certificates are an integral and important part of the Quality Control process. The Contracting Party PQAC Team POC will verify that documents are kept up to date during the contract. The contractor must submit shop drawings in a timely manner, and the reviewers must process the shop drawings in accordance with contract requirements. The Contracting Party's PE or SFWMD Construction POC will maintain a current copy of the Submittal Register at the project office.

E. Safety. The Non-Contracting Party PQAC Team members have no safety enforcement authority over the contractors. However, should they identify a dangerous situation developing on site, the PQAC Team member will immediately alert the onsite Contracting Party

staff of any observed safety concerns. The Non-Contracting Party will only take action in situations of imminent danger to life or health.

D. Labor Responsibility. The Contracting Party has responsibility for handling labor issues and work stoppages caused by labor disputes.

E. As-Built Drawings. The PQAC Team members should review As-Built Drawings at least monthly and shall coordinate the time for this review with the construction contractor.

F. Operation and Maintenance Manuals (O&M). PQAC Team should review the Operation and Maintenance Manuals for compliance when provided as a submittal by the construction contractor and review in accordance with the contract documents.

G. Contractor Payments. The Non-Contracting Party has no responsibility for the payment of contractors. The PQAC Team members will monitor modifications to ensure the Construction Change Control Request (CCCR) process is being followed and inform the respective agency PMs accordingly.

H. Environmental Issues. The PQAC Team PE and SFWMD Construction POC shall review at least monthly the Contractor's Environmental Protection Plan's activities to assure compliance with the required permits. Suspected non compliance with any permit should be reported to the Contracting Party immediately.

I. Quality Assurance (QA) Daily Report. For USACE led construction, the PE will write a daily QA Report on all significant activities that occurred. Photographs will be attached to the daily QA Report as necessary. For SFWMD led construction, the PE will write a weekly QA Report on all significant activities that occurred. Photographs will be attached to the weekly QA Report as necessary.

J. Submittals. The Contracting Party will provide submittals to the Non-Contracting Party for review in accordance with the provisions of the CERP Master Agreement. For USACE constructed projects, submittals will be provided to the SFWMD PQAC Team POC. For SFWMD constructed projects, submittals will be provided to the USACE Project Engineer. The USACE Project Engineer will follow the guidelines of the mutually agreed document "CESAJ Engineering Division Management of Projects Implemented by Non-Federal Sponsors".

K. Engineering During Construction (EDC). The Contracting Party will provide EDC services for the duration of the construction project. EDC services may be provided in-house by the Contracting Party or through an Architectural Engineering (A/E) firm. Further clarification of EDC and submittal review requirements is provided in the mutually agreed document "CESAJ Engineering Division Management of Projects Implemented by Non-Federal Sponsors".

VI. DOCUMENTATION.

A. Documentation During Construction. It is a USACE responsibility to verify quality standards are being met during construction of the project by the SFWMD. In addition to the

participation items listed in section I “PURPOSE AND SCOPE”, the following documents will be provided by the SFWMD to the USACE Project Engineer onsite during construction. Copies of the following documents will be provided to the USACE Project Engineer weekly or monthly, as appropriate, for situational awareness.

- 1) Construction contractor’s daily QC report.
- 2) QC Materials Testing Reports.
- 3) “Look Ahead Schedule” so USACE can plan inspection participation.
- 4) Change Request Register or other document that tracks contract changes.
- 5) Aerial photographs if required by the contract. Provide as photographs become available.
- 6) Project Schedule.
- 7) Submittal Register.

B. Documentation After Construction. Upon completion of construction, the contracting party will provide the Non-Contracting party with the closeout documentation detailed below. Closeout documentation is required to ensure the project has been constructed to minimum Federal Government standards and to meet the Project Partnership Agreement requirements for documentation necessary for transfer of project features to the OMRR&R Phase.. Following completion of a project, or functional portion of a project, the following items will be provided to the Non-Contracting Party. The Contracting Party will provide the Non-Contracting Party the following documents in electronic format on CD/DVDs. Electronic documents will be provided in Adobe Acrobat .pdf or Joint Photographic Experts Group JPEG format. Documents shall be provided and reviewed before the Non-Contracting Party certifies the construction for In-Kind credit, or for transfer to Operation, Maintenance, Repair, Replacement, and Rehabilitation.

- 1) Final As-Builts
- 2) Final Operations and Maintenance Manuals
- 3) Commissioning Plan and Data.
- 4) Materials Testing Reports
- 5) Modifications
- 6) Submittal Register
- 7) Correspondence.
- 8) Geotechnical and Concrete Materials Completion Report. Provide the “Geotechnical and Concrete Materials Completion Report” if required. Report content requirements and applicability can be found in ER 1110-1-1901 “PROJECT GEOTECHNICAL AND MATERIALS COMPLETION REPORT FOR MAJOR USACE PROJECTS”.
- 9) Final aerial photographs if required by contract or available.