



DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80 VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

12 DEC 2012

CEMVD-PD-N

MEMORANDUM FOR Commander, New Orleans District
(ATTN: CEMVN-PM-OS)

SUBJECT: Review Plan for Southeast Louisiana (SELA) Urban
Flood Control Project

1. References:

a. Memorandum, CEMVN-PM-OS, 8 December 2012, SAB
(encl 1).

b. Memorandum, CEMVD-RB-T, 11 August 2011, subject:
Review Plan (RP) for Agency Technical Review of Southeast
Louisiana Urban Flood Control Project (encl 2).

c. Engineering Circular (EC) 1165-2-209, Change 1, Civil
Works Review Policy, dated 31 January 2012.

2. The subject RP provided under reference 1.a. was reviewed
by the Mississippi Valley Division staff, which concurred with
the RP. The RP provides for an adequate level of peer review
and complies with current peer review policy requirements
outlined in EC 1165-2-209.

3. I hereby approve this RP, which is subject to change as
circumstances require, consistent with the Project Management
Business Process. Subsequent revisions to this RP or its
execution will require new written approval from this office.

4. The RP is to be posted to the District website.

5. The POC for this action is Mr. Gary Young, CEMVD-PD-N, at
(601) 634-5902.

EDWARD E. BELK, JR., P.E., SES
Director of Programs

2 Encl

CF:
CECW-MVD (J. Redican)

REVIEW PLAN

Agency Technical Reviews of Plans and Specifications and Design Documentation Reports
for
Southeast Louisiana Urban Flood Control Project (SELA)

This Plan covers the following Items:

Jefferson Parish:

SELA 07a – Harahan Pump to River, North Discharge Tubes
SELA 07b – Harahan Pump to River, South Discharge Tubes
SELA 07c – Harahan Pump to River, Discharge Structure
SELA 08a – Soniat Canal, Lester to West Metairie
SELA 09 – Harahan Pump to River, Pump Station
SELA 09a – Harahan Pump to River, Intake Structure
SELA 14 – Industry Canal
SELA 15 – Trapp Canal
SELA 16 – Murphy Canal, North
SELA 16a – Murphy Canal, South

Orleans Parish:

SELA 20 – Florida Avenue Canal, Phases 2 and 3
SELA 21 – Jefferson Avenue Canal, Phase 1
SELA 22 – Jefferson Avenue Canal, Phase 2
SELA 23a – Napoleon Avenue Canal, Phase 3
SELA 24b – Claiborne Avenue Canal, Phase 2
SELA 26 – Florida Avenue Canal, Phase 4
SELA 27 – Louisiana Avenue Canal

New Orleans District

Prepared by:
Alexandra Chatters
CEMVN-ED-E

6 May 2011

MSC Approval Date: Pending
Last Revision Date: 30 April 2012



**US Army Corps
of Engineers®**

REVIEW PLAN FOR SOUTHEAST LOUISIANA URBAN FLOOD CONTROL (SELA)

1. General. The Agency performing the technical review in accordance with EC 1165-2-209 dated 31 January 2010 shall furnish all services, materials, supplies, plant, labor, equipment, superintendence, and coordination with Federal authorities as required for the review of all engineering documents and calculations related to the Southeast Louisiana Urban Flood Control (SELA) project. A list of all documents related to the project including estimated dates for the start of each review is included in Section 3. Independent Technical Reviews (ITRs) will continue to be accomplished in lieu of Agency Technical Reviews (ATRs) for SELA-07c, -09, -16, -20, -21 and -24b, because (1) these products have been, or are, in the late stages of design and are very close to advertisement, and (2) the (Project Partnership Agreement) PPAs and the Non-Federal Sponsor's (NFS's) Scope of Work (SOW) were already written to require ITRs.

Independent External Peer Reviews (IEPR). Independent External Peer Reviews are not required per the Review Plan for Implementation of Section 2035 of WRDA 2007 for the Greater New Orleans (GNO) Hurricane and Storm Damage Risk Reduction System (HSDRRS), revision date 15 October 2010.

2. Project Description. The purpose of the project is to reduce damages due to rainfall flooding in Orleans and Jefferson Parishes. Improvements in Orleans and Jefferson Parishes support the parishes' master drainage plans and generally provide flood protection on a level associated with a ten-year rainfall event, while also reducing damages for larger events. The proposed work is located on both the east and west banks of the Mississippi River in Orleans and Jefferson Parishes.

The project was authorized by Section 108 of the Fiscal 1996 Energy and Water Development Appropriations Act and Section 533 of the Water Resources Development Act (WRDA) of 1996. The Coastal Protection and Restoration Authority of Louisiana is the sponsor of record for SELA projects in Orleans and Jefferson Parishes. Traditionally, Jefferson Parish Government has cost-shared the work in that parish, and the Sewerage and Water Board of New Orleans (S&WB) has cost-shared the work in Orleans Parish.

The following is a brief summary of the features of each project covered by this review plan:

Jefferson Parish

SELA 07a – Harahan Pump to River, North Discharge Tubes: Construction of approximately 1,800 linear feet of three (3) parallel 84-inch diameter steel discharge pipes at the north end of the Harahan Pump to River system near the pump station

SELA 07b – Harahan Pump to River, South Discharge Tubes: Construction of approximately 4,600 linear feet of three (3) parallel 84-inch diameter steel discharge

pipes at the south end of the Harahan Pump to River system near the Mississippi River levee crossing

SELA 07c – Harahan Pump to River, Discharge Structure: Construction of approximately 2,100 linear feet of three (3) parallel 84-inch diameter steel discharge pipes, levee crossing and discharge structure at the south end of the system at the Mississippi River

SELA 08a – Soniat Canal, Lester to West Metairie: Construction of a modified concrete trapezoidal flume section and expanded bridge section of the Soniat Canal at the West Metairie Road intersection.

SELA 09 – Harahan Pump to River, Pump Station: Construction of a new 1,200 cfs pump station for the Harahan Pump to River system near Dickory Avenue and Mounes Street

SELA 09a – Harahan Pump to River, Intake Structure: Construction of a new intake conveyance structure connecting the south end of Soniat Canal to the new pump station for the Harahan Pump to River system near Dickory Avenue and Mounes Street

SELA 14 – Industry Canal: Construction of approximately 3,200 linear feet concrete flume to replace three existing concrete culverts in the Industry Canal

SELA 15 – Trapp Canal: Construction to widen approximately 7,400 linear feet of the existing Trapp Canal and provide slope paving and rip rap

SELA 16 – Murphy Canal, North: Construction to widen approximately 15,400 linear feet (total of north (16) and south (16a) ends) of the existing canal and provide slope paving and rip rap (note – this contract only includes north end)

SELA 16a – Murphy Canal, South: Construction to widen approximately 15,400 linear feet (total of north (16) and south (16a) ends) of the existing canal and provide slope paving and rip rap (note – this contract only includes south end)

Orleans Parish

SELA 20 – Florida Avenue Canal, Phases 2 and 3: Construction of approximately 4,500 linear feet of pile founded concrete flume along Florida Avenue from Mazant St. to St. Ferdinand St.

SELA 21 – Jefferson Avenue Canal, Phase 1: Construction of approximately 4,400 linear feet of two (2) reinforced concrete culverts under the median along Jefferson Avenue from South Claiborne Avenue to Dryades Street

SELA 22 – Jefferson Avenue Canal, Phase 2: Construction of approximately 3,600 linear feet of two (2) reinforced concrete culverts under the median along Jefferson Avenue from Dryades Street to Constance Street

SELA 23a – Napoleon Avenue Canal, Phase 3: Construction of approximately 2,800 linear feet of two (2) single-barrel concrete box culverts under the median along Napoleon Avenue from Carondelet Street to Constance Street

SELA 24b – Claiborne Avenue Canal, Phase 2: Construction of approximately 3,500 linear feet of a single-barrel concrete box culvert under the median along South Claiborne Avenue

SELA 26 – Florida Avenue Canal, Phase 4: Construction of approximately 900 linear feet of pile founded concrete flume along Florida Avenue from St. Ferdinand Street to Pumping Station D. The work also includes improvements to lateral drainage improvements around and along People's Canal and Deers, Eads, Painter, Benefit, Treasure and Abundance Streets (each segment between 125 and 1,100 feet in length)

SELA 27 – Louisiana Avenue Canal: Construction of approximately 7,300 linear feet of three (3) single-barrel reinforced concrete culverts along Louisiana Avenue from South Claiborne Avenue to Constance Street

3. Review Management Organization (RMO) and Coordination

The Mississippi Valley Division Office (MVD) is the RMO and will manage the overall review efforts described in this review plan.

The RMO will establish ATR teams for review of P&S and DDRs in accordance with EC 1165-2-209 and coordinate with the Cost Engineering Branch & Directories of Expertise (DX) to conduct any necessary ATRs of cost estimates, construction schedules and contingencies.

4. Execution of District Quality Assurance.

Quality Assurance and Technical Reviews. Because the P&S and DDRs are being prepared by AE firms, District quality assurance review teams will be comprised of appropriate personnel from USACE, Non-Federal Sponsors, and others as appropriate for quality assurance and technical reviews of the documents in accordance with the applicable provisions set forth in this review plan based on the engineering publications and methodology identified in this plan.

Required Quality Assurance Review Expertise. The quality assurance / technical reviewers will be chosen from a pool of reviewers submitted by appropriate technical elements. The team will be made up of individuals who are familiar with the project and documents being produced. A copy of QCPs for each product will be distributed to each member of the Quality Assurance / Technical Review Team. The Team will be

comprised of the selected disciplines that have experience in the type of analysis in which they are responsible for reviewing. The makeup of the review team may be modified as the work progresses to meet review requirements.

5. Documents Requiring ATR

The CEMVN Engineering Division, with the assistance of Jefferson Parish and the Sewerage and Water Board of New Orleans and their A-E designers, will prepare Plans and Specifications (P&S) and Design Documentation Reports (DDRs) for the SELA project. These documents are critical for successful completion and execution of the project.

Plans and Specifications—P&S will be prepared for each SELA contract. There are currently 17 contracts under design as described in Section 2.0. Due to the expedited project schedule, the ATR of P&S will be performed at the 95% level of completion concurrent to the BCOE review.

Design Documentation Reports—DDRs will be prepared for each SELA contract. There are currently 17 contracts under design as described in Section 2.0. Due to the expedited project schedule, the ATR of DDRs will be performed at the 95% level of completion concurrent to the BCOE review.

Formal technical reviews through the use of DrChecks will take place at the 65% level of completion (DQC by MVN Team) and at the 95% level of completion (ATR team and MVN BCOE Review Team) for each document. Table 1 below shows the number of reviewers from each discipline that is required to complete the ATRs and the approximate dates that the documents will be available for review. Because the following projects are in the late stages of design and are very close to advertisement, the products have either already undergone ITR or will undergo ITR: SELA-07c, -09, -16, -20, -21, -24b.

Plans & Specifications		Estimated Date that P&S/DDR will be ready for ATR/ITR		Number of each Discipline Needed			
	SELA Contract	65% P&S	95% P&S	Geotechnical	Civil	Structural	Mechanical
	<i>Jefferson Parish:</i>						
	SELA 07a – Harahan Pump to River, North Discharge Tubes	n/a	1/12/2012 (a)	1	1	1	1
	SELA 07b – Harahan Pump to River, South Discharge Tubes	n/a	4/9/2012 (a)	1	1	1	1
	SELA 07c – Harahan Pump to River, Discharge Structure*	n/a	3/31/2011 (a)	1	1	1	1
	SELA 08a – Soniat Canal, Lester to West Metairie	n/a	8/2/2012 (a)	1	1	1	n/a
	SELA 09 – Harahan Pump to River, Pump Station*	n/a	3/14/2011 (a)	1	1	1	1
	SELA 09a – Harahan Pump to River, Intake Structure	n/a	10/1/2012 (a)	1	1	1	1
	SELA 14 – Industry Canal	5/16/2011 (a)	4/4/2012 (a)	1	1	1	n/a
	SELA 15 – Trapp Canal	5/16/2011 (a)	4/4/2012 (a)	1	1	1	n/a
	SELA 16 – Murphy Canal, North*	n/a	4/21/2011 (a)	1	1	1	n/a
	SELA 16a – Murphy Canal, South	n/a	1/28/2013	1	1	1	n/a
	<i>Orleans Parish:</i>						
	SELA 20 – Florida Avenue Canal, Phases 2 and 3*	n/a	4/29/2011 (a)	1	1	1	n/a
	SELA 21 – Jefferson Avenue Canal, Phase 1*	n/a	3/31/2011 (a)	1	1	1	n/a
	SELA 22 – Jefferson Avenue Canal, Phase 2	10/18/2011 (a)	4/28/2012 (a)	1	1	1	n/a
	SELA 23a – Napoleon Avenue Canal, Phase 3	8/30/2011 (a)	5/7/2012 (a)	1	1	1	n/a
	SELA 24b – Claiborne Avenue Canal, Phase 2*	n/a	4/18/2011 (a)	1	1	1	n/a
	SELA 26 – Florida Avenue Canal, Phase 4	n/a	2/13/2013	1	1	1	n/a
	SELA 27 – Louisiana Avenue Canal	n/a	1/17/2013	1	1	1	n/a

* These projects have already undergone, or will undergo, ITRs.

(a) - actual date

Table 1. ATR Timetable and Required Disciplines for Reviews of P&S and DDRs

6. Specific Required Work Items. Specific work items shall include but not be limited to the following:

- Review of all documents identified in Section 5.
- Review design calculations.
- Enter and resolve all review comments resulting from reviews of the work through Dr. Checks.
- ATR certification upon completion of review. ATR certification requirements are found in EC 1165-2-209. ATR certificates shall be used to certify all reviews. Each certification will include copies of DrChecks review comments showing that all comments are resolved and closed (see paragraph 7).
- Specific submission requirements will be coordinated with the below POC.

7. ATR Review Objectives.

The primary objectives of the review are to ensure that:

- The project meets the Government's scope, intent and quality objectives.
- Design concepts are valid.
- The design is feasible and will be safe, functional, and constructible.
- Appropriate methods of analysis were used and basic assumptions are valid and used for the intended purpose.
- The source, amount, and level of detail of the data used in the analysis are appropriate for the complexity of the project.
- The project complies with accepted practice and design criteria within the industry.
- All relevant engineering and scientific disciplines have been effectively integrated.
- Content is sufficiently complete for the current phase of the project and provides an adequate basis for future development effort.
- Project documentation is appropriate and adequate for the project phase.

Team Membership. Team members will demonstrate senior-level competence in the type of work being reviewed. Junior-level staff cannot be members of the team. All team members should have a minimum of 10 years of experience within their discipline and should be registered in their field of expertise.

Comments. The DrChecks review tool will be used by the ATR Team in the formal review of the documents. A MVN Engineering Division Project Engineer will facilitate DrChecks setup and act as the Review Manager for the reviews. All comments will give a clear statement of the concern, the basis of the concern and, when appropriate, the actions necessary to resolve the concern. Comments will cite appropriate references. The Design Team (USACE, OSWB and/or A-E Designer) responses will clearly state concurrence or non-concurrence with the comment. Concurrences shall include what the corrective action is and where and when it will be done. The Design Team will evaluate and respond to each comment in Dr. Checks. Non-concurrences by the Design Engineers will require a mutual resolution between the designer and the ATR Team, before the ATR Team's Statement of Independent Technical Review is signed. A printout of all DrChecks comments together with the Statement will accompany the submittal of each document noted above. A Statement template is attached at the end of this Scope of Work.

8. ATR Review Certifications.

The ATR team will certify each of their reviews using the latest version of the ATR certificate found in Appendix C of EC 1165-2-209. The ATR team leader will assure the certificate is completed and forwarded to the RMO for final review and signature. The RMO will review and sign the ATR certificate and forward to the MVN ED POC below for final signature by Chief of Engineering in MVN.

9. References

Review Plan for Hurricane and Storm Damage Risk Reduction System (HSDRRS), revision date 15 Oct 2010.

Information and Design Criteria. All designs shall be based on established engineering practices, incorporating advanced technology when it has been demonstrated that such technology gives safe and efficient designs. The ATR team shall review the design features of the various projects in accordance with the applicable provisions set forth in engineering publications and the design methodology provided below.

CEMVN Design Guidelines. Hurricane and Storm Damage Risk Reduction System Design Guidelines. New Orleans Engineer District Engineering Division, June 2008

11. Review Plan Approval and Changes.

The Mississippi Valley Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input to the appropriate scope and level of review for the P&S and DDR documents. Like the PMP, the Review Plan is a living document and may change as the work progresses. MVN will keep the Review Plan up to date. Significant changes to this Review Plan (such as changes to the scope and/or level of review) will be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, will be posted on the MVN public webpage. Changes to this plan will be annotated in the following table.

Revision Date	Description of Change	Page / Paragraph Number
04/30/2012	DQC at 65% and full ATR at 95% per discussions with MVD	Section 5 and Table 1

12. Points of Contact.

The MVN technical point of contact for this plan is Alexandra Chatters, phone (504) 862-2027.

The agency or USACE organization performing the review shall appoint one individual as team lead for the ATR to serve as a single point of contact and liaison between their organization, MVD and MVN.