



**US Army Corps
of Engineers** ®
Los Angeles District



**LOS ANGELES RIVER/COMPTON
CREEK 2 LEVEE SYSTEM
LOS ANGELES COUNTY, CALIFORNIA
NLD SYSTEM ID # 3805010033**

**PERIODIC INSPECTION REPORT NO 1
GENERALIZED EXECUTIVE SUMMARY**

**FINAL SYSTEM RATING: UNACCEPTABLE
FINAL RATING DATE: MARCH 20, 2013**

PERIODIC INSPECTION REPORT PREPARED BY URS GROUP, INC.
FOR THE U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT

SUBMITTED: AUGUST 2012
INSPECTED: JULY 26, 2010 THROUGH AUGUST 26, 2010

EXECUTIVE SUMMARY

This Executive Summary provides an introduction to the periodic inspection, an overview of the system, a summary of the major findings of the periodic inspection, and the overall rating for the system.

1.1 Scope and Purpose of this Periodic Inspection

The U.S. Army Corps of Engineers (USACE) Los Angeles District has authorized URS Group, Inc. (URS) to perform a Periodic Inspection (PI) of the Los Angeles River/Compton Creek 2 (LAR/CC2) Levee System in Los Angeles County, California. This Periodic Inspection Report was prepared following the Scope of Work for Task Order CQ01 on USACE Contract W912P9-10-D-0501, *Indefinite Delivery A-E Contract for Dam and Levee Safety for Areas Selected by the St. Louis District, US Army Corps of Engineers*.

1.2 System Summary

The LAR/CC2 Levee System, shown on Figure 1, is located in the County of Los Angeles, California and is in the Los Angeles County Drainage Area (LACDA).

The LAR/CC2 Levee System comprises three levee segments:

- Los Angeles River LAR/CC2a Levee Segment which runs on the right (west) bank from the City of Vernon to the City of Cudahy.
- Los Angeles River LAR/CC2b Levee Segment which runs on the right (west) bank from the City of Cudahy to the confluence with Compton Creek.
- Compton Creek LAR/CC2 Levee Segment which runs on the left (east) bank from the 91 Freeway to the confluence with the Los Angeles River.

The LAR/CC2 Levee System, along with other similar works in the Los Angeles County Drainage Area, was authorized initially by the Emergency Relief Act of 1935 to provide drainage and flood control. On June 30, 1937, this levee system was transferred to the more comprehensive project adopted in the Flood Control Act of June 22, 1936. Portions of the Los Angeles River channel were improved under the provisions of the Flood Control Act of 1941. The Los Angeles County Drainage Area, California Flood Control Improvements project was authorized under Title I, Section 101(b) of the Water Resources Development Act of 1990 (Public Law 101-640).

The USACE Los Angeles District and the Los Angeles County Flood Control District (LACFCD) entered into a Project Cooperation Agreement on August 7, 1995, as required by Public Law 99-622. The LACFCD is responsible for operating and maintaining all the non-federal features of the LACDA. The Los Angeles County Department of Public Works (LACDPW) has assumed the functions of the LACFCD.

The LACDPW is the Local Sponsor for the Los Angeles River LAR/CC2b and the Compton Creek LAR/CC2 Levee Segments. The USACE is the Local Sponsor for the Los Angeles River LAR/CC2a Levee Segment.

1.3 Field Inspection and Summary of Major Deficiencies Found

The field inspection for the LAR/CC2 Levee System was conducted from July 26, 2010 to August 17, 2010. The associated pump stations were inspected on August 19, 2010 and August 26, 2010.

The Local Sponsors show an active participation in operation and maintenance of the project; however, some deficiencies were noted and remedial actions are required. The main system deficiencies are:

Levee Embankments

- **Unwanted Vegetation Growth:** Non-compliant vegetation growing on the crown and landside slope of the levee embankment.
- **Encroachments:** The encroachment of side drains, ramps, buildings, facilities, utilities, power poles, retaining walls, irrigation lines, sewer manholes and cell phone towers.
- **Erosion/Bank Caving:** Erosion on the landside slope and crown, typically caused by broken irrigation pipes or drainage from the crest.
- **Depressions/Rutting:** Depressions and rutting on the crown and landside slope.
- **Cracking:** Cracking of the crown.
- **Animal Control:** Large animal burrows occurring in the crown and landside slope.
- **Culverts/Discharge Pipes:** See Culverts/Discharge Pipes under Interior Drainage System for details.
- **Revetments other than Riprap:** Grouted riprap displacement due to vegetation or animal burrows.
- **Underseepage Relief Wells/Toe Drainage Systems:** Vegetation and debris obstructing the weep holes/toe drains. Manhole covers and metal doors to the subdrainage system are missing.

Floodwalls

- **Unwanted Vegetation Growth:** Vine growth on the floodwalls.
- **Encroachments:** Openings in floodwalls that may require a closure structure. Encroachments from bridge structures and irrigation systems at bottom of floodwalls.
- **Concrete Surfaces:** Cracking and spalling.
- **Foundation of Concrete Structures:** Undermining and exposure of the floodwall foundation.

Interior Drainage System

- **Vegetation and Obstructions:** Vegetation and debris obstructing drainage.
- **Encroachments:** A trash rack was added on one side drain where the available drawings do not show one.
- **Concrete Surfaces:** Cracking and spalling were observed in several headwalls and wingwalls drainage outlet structures.
- **Monolith Joints:** The joints at inlet and outlet structures were observed to be deteriorated and/or vegetation was found growing within the joints. Note that some joints are not monolith joints but are included in this rated item for reporting purposes.

- **Culverts/Discharge Pipes:** Documentation of the interior condition of the pipes (via video or visual inspection methods) was not provided. The interior condition of side drains needs to be inspected.
- **Flap Gates/Flap Valves/Pinch Valves:** Flap gate hinges bent/broken and flap gates missing. Verification of operability of flap gates was incomplete due to flap gates being inaccessible.

Pump Stations

- **Pump Stations Operating, Maintenance, Training, & Inspection Records:** Maintenance and Inspection Records lacked detailed information. Records of safety tests, operator training and refresher training were not provided.
- **Pump Station Operations and Maintenance Equipment Manuals:** Manuals were not at the pump station and were not readily available. The pump station Operation and Maintenance equipment manuals were present and updated but incomplete.
- **Fencing and Gates:** Padlock for the gate entrance leading to a station was vandalized.
- **Pumps:** Maintenance records for pumps were incomplete. Pump not operational due to vandalism. Proper operation of the pumps was not demonstrated.
- **Motors, Engines, Fans, Gear Reducers, Back Stop Devices, etc.:** Motors at a pump station were not operational due to vandalism.
- **Sumps/Wet Well:** Wet well contained significant trash, debris and sediments.
- **Power Source:** Power source to a pump station was not operational due to vandalism. There was no backup generator on-site.
- **Electrical Systems:** The electrical systems were not operational due to vandalism.
- **Megger Testing on Pump Motors and Critical Power Cables:** The megger testing programs for the pump stations were not available.
- **Enclosures, Panels, Conduit and Ducts:** Major conduits and cables critical to the operation of the station were damaged due to vandalism.
- **Intake and Discharge Pipelines:** Pipelines were inaccessible to visually inspect intake pipes.
- **Cranes:** A 15-ton overhead crane was not functioning during the inspection. Load testing was not conducted.
- **Other Metallic Items (Equipment, Ladders, Platform Anchors, etc.):** A pump station door entrance was vandalized. Safety railing requires replacement.

Flood Damage Reduction Channels

- **Vegetation and Obstructions:** Vegetation and debris were observed periodically along the concrete surface of the slope and the toe of the slope.
- **Encroachments:** Pipe penetrations into concrete channel slope.
- **Concrete Surfaces:** Cracking and spalling of the concrete channel slope.

- **Tilting, Sliding or Settlement of Concrete Structures:** Settlement observed at joints in the concrete pavement on the channel slope.
- **Slab and Monolith Joints:** The monolith joints of the concrete surface were observed to be deteriorated and/or vegetation was found growing within the joints.
- **Flap Gates/Flap Valves/ Pinch Valves:** See Flap Gates/Flap Valves/Pinch Valves under the Interior Drainage System heading for further details.
- **Revetments other than Riprap:** Holes were observed in grouted riprap.

URS presented an out-brief concerning Periodic Inspection No. 1 to the Los Angeles District Levee Safety Officer, reviewers of the draft report, and other interested USACE personnel. The USACE Los Angeles District has determined the overall system rating for the LAR/CC2 Levee System as described in section 1.4 below.

1.4 Overall System Rating

The Levee Safety Officer, Los Angeles District, has determined the overall system rating of Los Angeles River/Compton Creek 2 Levee System to be “Unacceptable.” An “Unacceptable” system rating is defined as:

The Periodic Inspection has identified one (or more) System Components which are rated Unacceptable and require immediate correction. An engineering determination has concluded that the Unacceptable System Components identified seriously impair the functioning of the levee system, would prevent the system from performing as intended, and pose unacceptable risk to public safety.

The Local Sponsor will be notified of the overall rating of the levee system by letter with instructions to correct “Critically Unacceptable” rated items immediately, “Unacceptable” rated items as soon as possible, and to correct the “Minimally Acceptable” rated items within two years so that they do not deteriorate further and become “Unacceptable.” Because this levee system is rated as “Unacceptable” a public notice will be prepared and coordinated between the USACE and LACDPW. Additionally, due to the “Unacceptable” rating, the levee system will be removed from the USACE Rehabilitation and Inspection Program (RIP). Once the “Critically Unacceptable” deficiencies are corrected by the sponsor and verified by the USACE, the system rating will be revised to “Minimally Acceptable” and the system will be reevaluated for eligibility in the RIP.

LOS ANGELES RIVER/COMPTON CREEK 2 LEVEE SYSTEM
 FINAL PERIODIC INSPECTION REPORT NO. 1

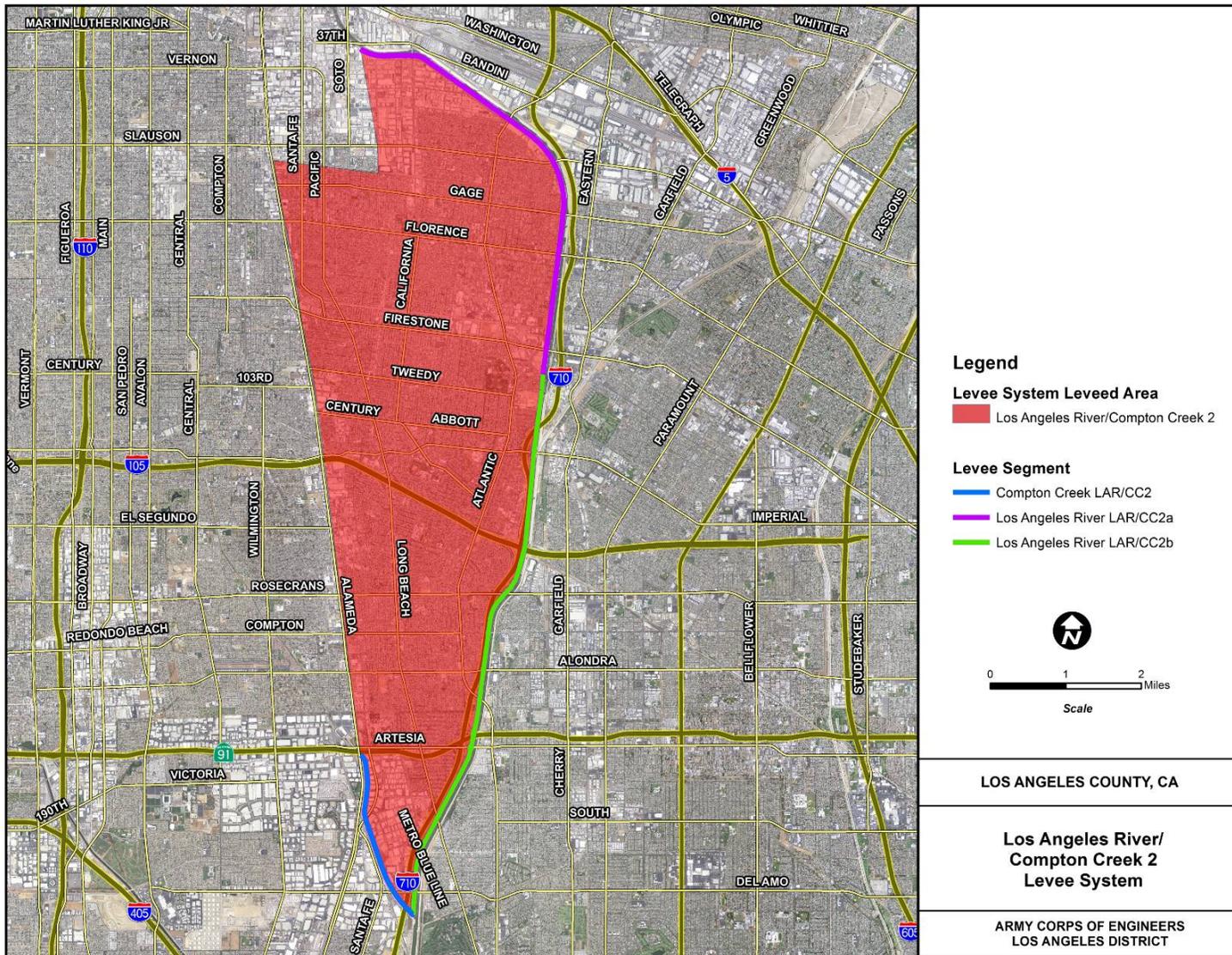


Figure 1. Los Angeles River/Compton Creek 2 Levee System