



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



LOS ANGELES RIVER 5 LEVEE SYSTEM

LOS ANGELES COUNTY, CALIFORNIA

NLD SYSTEM ID # 3805010054

PERIODIC INSPECTION REPORT NO 1
GENERALIZED EXECUTIVE SUMMARY

FINAL SYSTEM RATING: MINIMALLY ACCEPTABLE

FINAL RATING DATE: 9 DEC 2014

PERIODIC INSPECTION REPORT PREPARED BY THE U.S. ARMY CORPS OF
ENGINEERS, SAN FRANCISCO DISTRICT FOR THE U.S. ARMY CORPS OF
ENGINEERS, LOS ANGELES DISTRICT

SUBMITTED: NOVEMBER 2014
INSPECTED: MARCH 4-5, 2014

EXECUTIVE SUMMARY

This Executive Summary provides an introduction to the periodic inspection, an overview of the Los Angeles River 5 (LAR5) System, a summary of the major findings of the periodic inspection, and the overall system rating.

1.1 Scope and Purpose of Periodic Inspection.

The purpose of the LAR5 System periodic inspection is to identify deficiencies that pose hazards to human life or property. The inspection is intended to identify the issues in order to facilitate future studies and associated repairs, as appropriate.

This assessment of the general condition of the LAR5 System is based on available data and visual inspections. Detailed investigation and analysis involving hydrologic and hydraulic design, topographic mapping, subsurface investigations, testing, and detailed computational evaluations are beyond the scope of this LAR5 System periodic inspection.

1.2 System Summary.

The LAR5 System is located along the left (east) bank looking downstream on the Los Angeles River. The river is lined with concrete along the invert and side slopes. There are vertical retaining walls along both banks. The system is centrally located in Los Angeles, California with an overall system length of 4,096 ft (0.78 miles) between Station 1202+48.43 to 1243+45.29 (Figure 1-1). Three bridge crossings intersect the LAR5 System; Main Street Bridge, Southern Pacific Railroad (SPRR) Bridge, and Union Pacific Railroad (UPRR) Bridge. The Main Street Bridge is located approximately 1,095 ft downstream from the upstream system limit. The surrounding land around the river is highly urbanized with a mixture of residential and commercial buildings with railroad tracks lining both sides of the river. The LAR5 System was federally authorized and subsequently constructed by the United States Army Corps of Engineers, Los Angeles District (USACE LAD). The LAR5 System is entirely operated and maintained by the USACE LAD, Operations Branch. The National Levee Database (NLD) reference number for this system is 3805010054.

After reviewing the documentation for the LAR5 System, it is the opinion of the inspection team that the LAR5 System, as shown on Figure 1-1, contains no levees or floodwalls since there is no explicit or implied design of a levee in the project documents and excavated material consistent with sands and gravels were used as backfill material behind the channel walls. This type of backfill is intended to allow water to drain from behind the wall into the river through weep holes constructed at the toe of the concrete slope and at the base of the vertical walls. The walls are designed as retaining walls in the project documents. The elevation of the backfill behind the retaining walls and the top-of-wall elevation are the same (i.e. no stick up) except at two locations: (i.) Beneath the Main Street Bridge crossing between Station 1231+99.82 and 1232+69.73 (69.9 ft long); and (ii.) Upstream from Spring Street Bridge at Station 1244+46.10 to 1267+03 (near the confluence of the Arroyo Seco). Adjacent to the left bank, there is a set of elevated railroad tracks that look similar to a levee embankment. After reviewing the project documents, the railroad embankment was pre-existing infrastructure before the river was

modified. During the construction of this reach, the railroad was temporarily realigned to construct the concrete slope and retaining walls. When the channel modification was complete, the railroad tracks were reconstructed by other agencies since they were located outside the project right-of-way. Since there is no levee or floodwall structure within the current system alignment, the LAR5 System was referenced as a channel.

1.3 Summary of Major Deficiencies Found.

The periodic inspection of the LAR5 System was conducted on March 4, 2014 by the United States Army Corps of Engineers, San Francisco District (USACE SPN) along with staff from the USACE LAD. Overall, there are no significant levee safety issues in the LAR5 System. Sections of the concrete overlay along the invert have been damaged and are continuing to break away. These areas should be periodically monitored and all concrete joints could be filled to reduce further damage. In addition, concrete spalling, erosion, and joint separation were observed throughout the system.

1.4 Overall Rating.

A Levee Safety Officer (LSO) out-brief meeting was held on May 28, 2014. Based on the design criteria review and observations documented during the field inspection, it is anticipated that the system will perform as intended during the next significant runoff event. At the conclusion of the out-brief meeting, the LSO determined that overall system rating to be “Minimally Acceptable.” A “Minimally Acceptable” system rating is defined as, “One or more items are rated as Minimally Acceptable or one or more items are rated as Unacceptable and an engineering determination concludes that the Unacceptable items would not prevent the segment / system from performing as intended during the next significant runoff event.” Meeting minutes from the LSO out-brief meeting are documented in Appendix IX.

1.5 Proposed Revisions to the Levee Extent and Leveed Area.

Upstream from Spring Street Bridge on the left bank, there appears to be a floodwall ranging from 1.8 to 9.6 ft between Station 1244+46.10 and 1267+03 [Section 6.6 (USACE 1941)]. Adjacent to the floodwall, there is a 60 to 80 ft corridor used by the railroad (Figure 6-1 and Figure 6-2). In this corridor, the ROW is generally located between the left bank floodwall and nearest railroad track. Access to this corridor is limited between Spring Street to the confluence of Arroyo Seco. For the purposes of this report, the design documentation for this apparent floodwall was not reviewed or inspected apart of this effort. If the design documentation supports a floodwall condition, it is recommended that the LAR5 System alignment be revised from Station 1202+48.43 to 1243+45.29 to the proposed system alignment (Station 1244+46.10 to 1267+03) along with revisions to the leveed area. The proposed revisions to the system alignment and leveed area are illustrated in Figure 6-3.

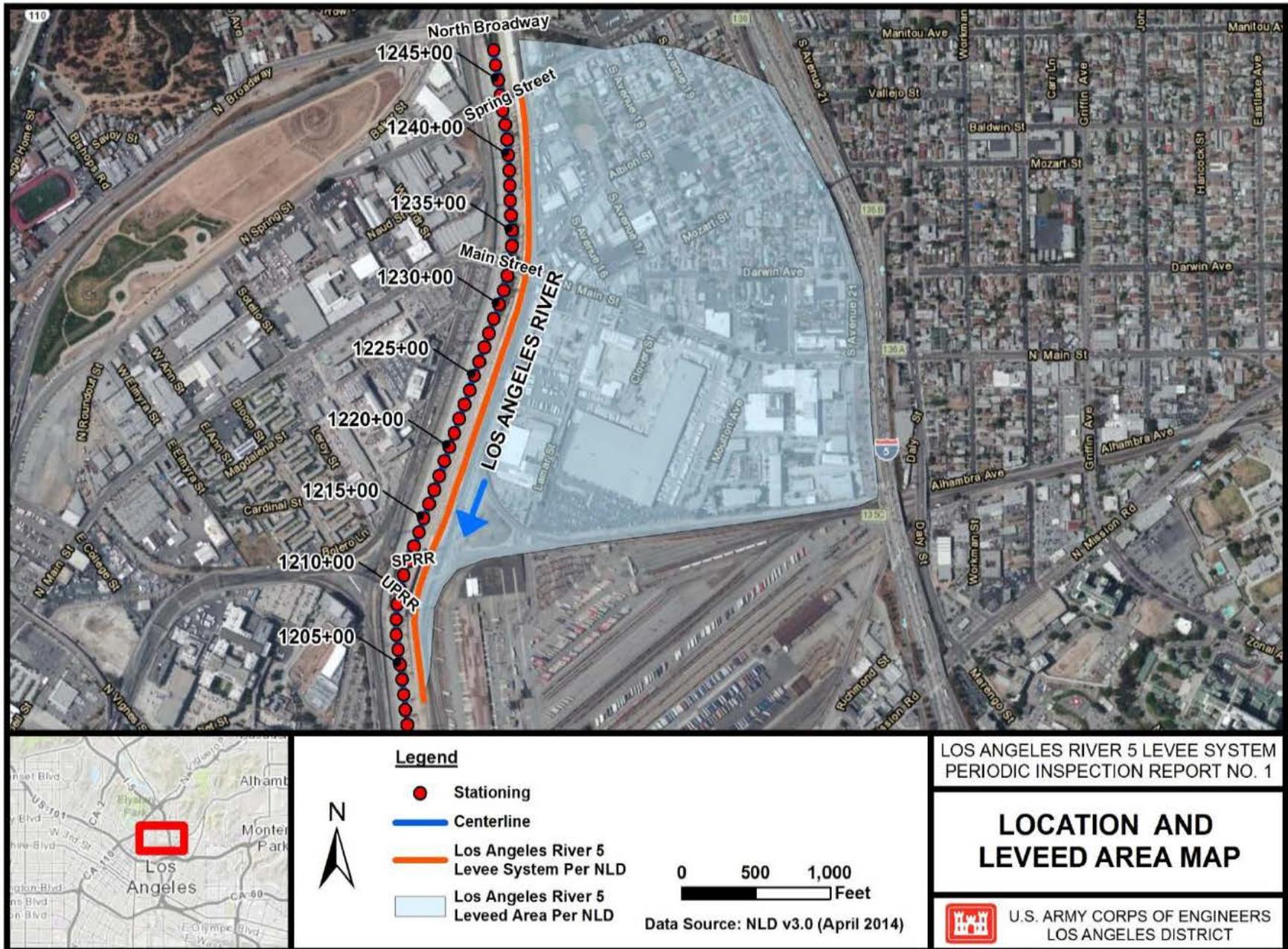


Figure 1-1: Los Angeles River 5 Levee System

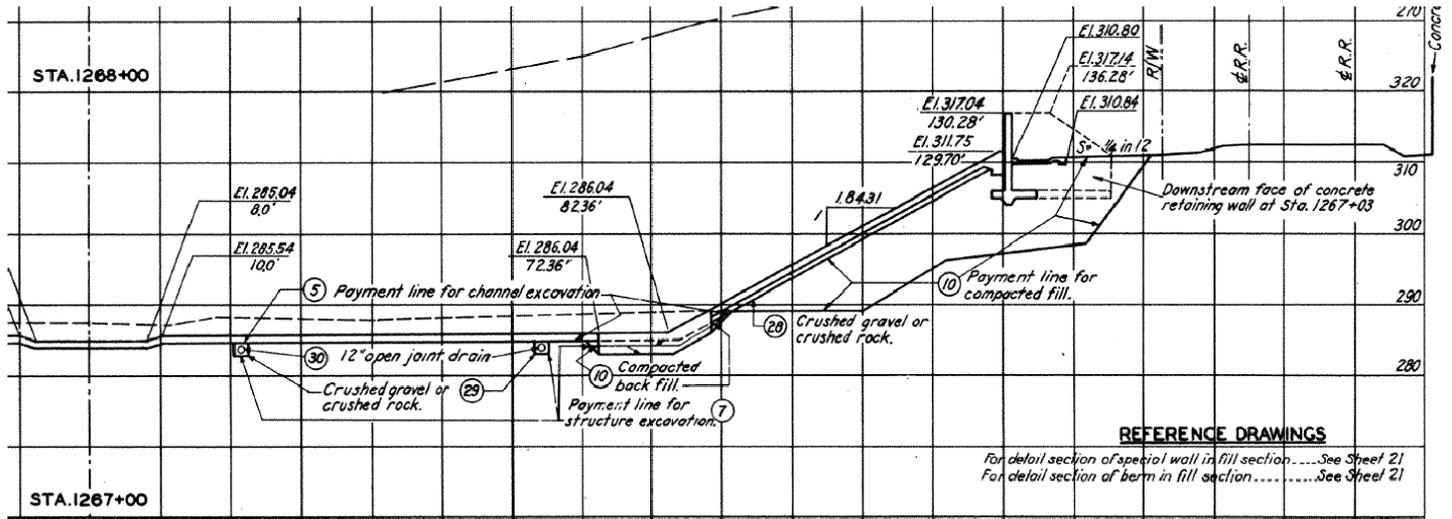


Figure 6-1: Los Angeles River Left Bank Cross-Section (Looking Upstream At Station 1267+00 [District File No. 303/13])



Figure 6-2: Los Angeles River Left Bank Railroads Corridor (View Looking Upstream From the North Broadway Overcrossing)

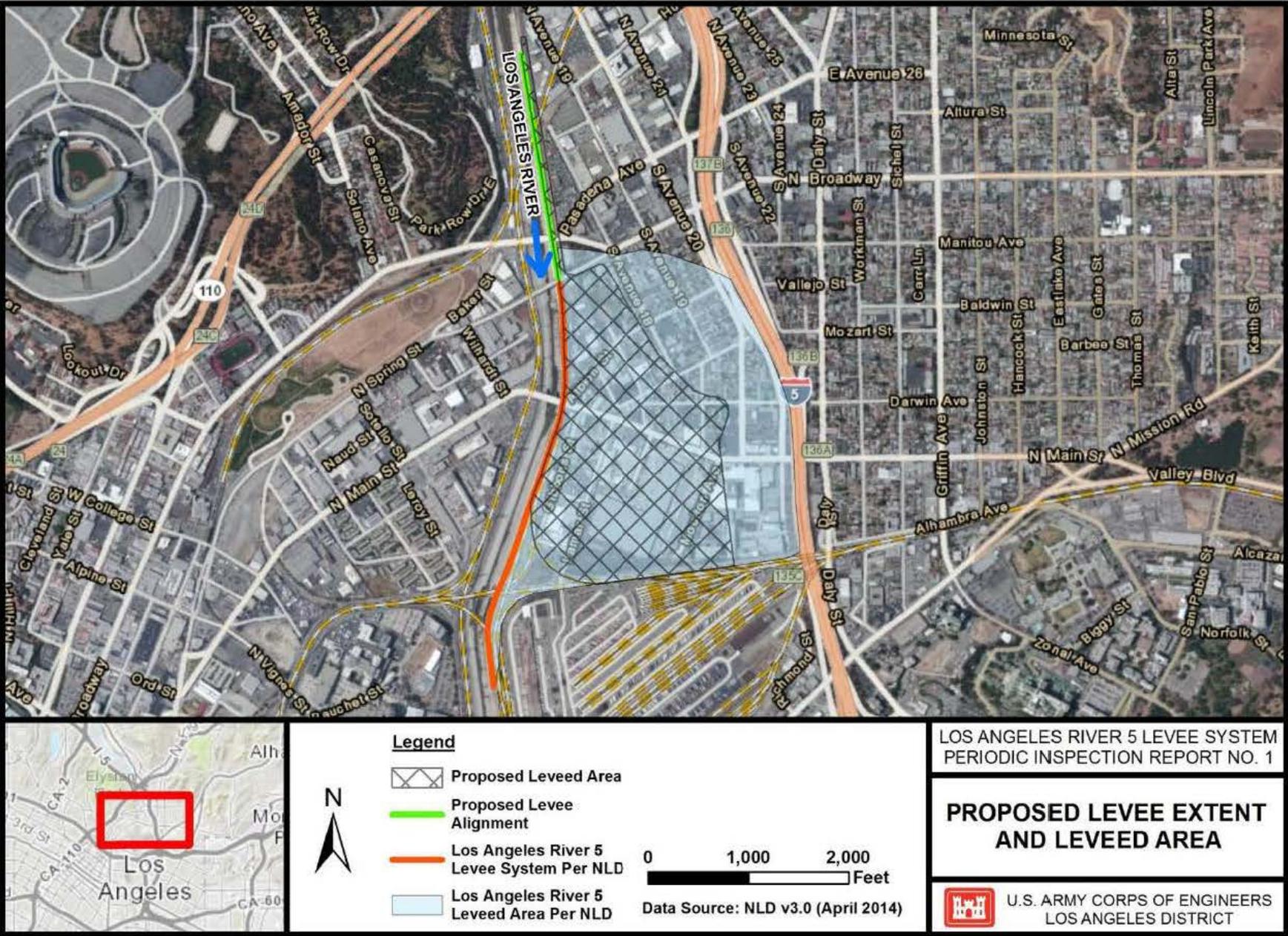


Figure 6-3: Proposed Levee Extent And Leveed Area