

American Society of Civil Engineers  
Los Angeles Section  
2009 Awards

## Outstanding Government Civil Engineering Project, Honorable Mention

### Repairs to 48-Inch North Outfall Sewer under the Los Angeles River

City of Los Angeles

Department of Public Works/Bureau of Engineering

In May 2007, it was discovered that a section of 48-inch North Outfall Sewer (NOS) adjacent to and under the Los Angeles (L.A.) River was severely damaged and had possibly failed. Failure of this section of the NOS had the potential to leak large quantities of untreated sewage into the L.A. River and the surrounding area.

The NOS upstream of the L.A. River is a 48-inch semi-elliptical tile-lined reinforced concrete pipe (RCP) that transitions to a 48-inch tile lined circular RCP under the river and downstream. This portion of the NOS was designed and constructed by the U.S. Army Corps of Engineers in 1939 as part of improvements to the L.A. River after the floods of 1938 during which the L.A. River jumped its banks.



The City of Los Angeles Bureau of Engineering Emergency Sewer Repair Group mobilized a contractor to stabilize the sewer and the concrete structure for the L.A. River, mitigate and control sewage flow into the river and adjacent wetlands, and make the necessary repairs to restore the structural integrity of the sewer and the L.A. River channel.

In order to assess and make emergency repairs to the NOS sewage flows, the NOS had to be bypassed. A 4,000 foot long sewage bypass, consisting of double 24-inch diameter high density polyethylene (HDPE) piping running parallel to and over the river was installed to carry the sewage around the damage NOS. It was one of the longest, largest, and most complex bypass systems installed and operated in the City.

The objective of this emergency sewer repair project was to control sewage flows and mitigate sewage leaks; stabilize, expose, and assess damage to the sewer and to the structure of the L.A. River; rehabilitate the NOS; restore the structural integrity of the L.A. River; and restore the work site. Throughout the project, the City project team worked closely with the local residents, the U.S. Army Corps of Engineers, the Metropolitan Transportation Agency, and the railroads to successfully complete repairs.