

Dixie Fire Emergency Repairs

Greenville, California

Culvert

Owner:

California Department of
Transportation (Caltrans)

Engineer:

Contract EA 02-3J2204

Contractor:

Stimple-Wiebelhaus

Installation:

October 2021



The Dixie Fire was an enormous California wildfire that began July 13, 2021. It is named after the creek near where it started. The fire began in the Feather River Canyon near Cresta Dam and spread to nearby counties Butte, Plumas, Lassen, Shasta and Tehama. While the initial cause of the fire is undetermined, the drought, combined with hot weather, strong winds, and exceptionally dry vegetation, resulted in very active fire behavior. The blaze was the second-largest in California's history.

For two months, the Dixie Fire threatened Northern California — stripping forests, forcing thousands from their homes, resulting in devastating loss both to the surrounding communities as well as the local infrastructure. The burn area covered roughly 963,309 acres of land (1,505 square miles), an area greater than New York City, Chicago, Dallas and Los Angeles combined. The California Department of Forestry and Fire Protection (CAL FIRE) responded immediately and over several weeks worked tirelessly to quell the fire and by the end October 2021 had it 100% contained.

During that time many of the existing culverts within the Dixie Fire boundaries were destroyed and had to be replaced. Additionally, many new roads had to be constructed to clear the fire debris of trees and vegetation. Caltrans reached out to Contech Engineered Solutions to incorporate a HEL-COR® solution. HEL-COR® corrugated metal pipe (CMP) was the only type of culvert that performed well during the fire and, as a result, was selected exclusively by Caltrans for all the new culverts crossings. Other culvert materials would either melt/burn or were too

Technical Description:

- Product: HEL-COR® 12 GA, galvanized CMP
- Diameter(s): Various
- Length: ~5,100 LF



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heavy to get into the remote locations where needed.

To account for the increased storm runoff anticipated as a result of the decreased vegetation resulting from the devastating fires, additional new storm sewer systems were also needed. Fortunately, Contech had several nearby manufacturing plants able to handle the increased demand and quickly supplied the necessary culverts and storm sewer systems needed in this emergency situation. Approximately 5,100 LF of various diameters of 12 GA, galvanized HEL-COR® were supplied to aid in the improvement projects. Additionally, Contech provided drawings and details associated with some unique aspects of the project. Several of the culverts needed inlets built into them but stationing and elevations were unknown. As a result, Contech was able to help provide the details and a custom HEL-COR® inlet with a “mousehole” so that the contractor could easily place it as they uncovered the need. Given the devastation to the area, there were also unique height limitations for loads delivered to the jobsite. Truck drivers had to cross under very old, low height bridges to get the loads to the jobsite. Contech worked to ensure that the loads were efficient and would address some of these constraints while also reducing trucking costs. As part of a unique application, HEL-COR® CMP was also used in a vertical application to serve as a retaining wall just off the shoulder of Highway 70.

