

BURLINGTON NORTHERN SANTA FE RAILROAD,  
CAJON SUBDIVISION , STRUCTURE NO. 66.0  
Between Cajon Summit and Keenbrook  
Devore vicinity  
San Bernardino County  
California

HAER CA-2259-Q  
CA-2259-Q

HAER  
CA-2259-Q

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
PACIFIC WEST REGIONAL OFFICE  
National Park Service  
U.S. Department of the Interior  
1111 Jackson Street, Suite 700  
Oakland, CA 94607

HISTORIC AMERICAN ENGINEERING RECORD

Burlington Northern Santa Fe Railroad, Cajon Subdivision,  
Structure No. 66.0

HAER  
CA-2259-Q

HAER No. CA-2259-Q

**Location:** BNSF Railway Company(BNSF) Railroad Structure No. 66.0, a reinforced-concrete box culvert, is located at Milepost 66.0 on Main Tracks 1 and 2, Devore vicinity, San Bernardino County, California. The culvert is bounded by the Union Pacific Railroad to the west and Cajon Boulevard (historic U.S. Highway 66) to the east.

The culvert lies within the NE ¼ of the NW ¼ of the SW ¼ of Section 13, Township 2 North, Range 6 West, on the 1956 Cajon, California (photorevised 1988), 7.5-minute U.S. Geological Survey quadrangle. Universal Transverse Mercator Coordinates: Zone 11, NAD83, Geodetic Reference System 1980 ellipsoid, mN 3790787, mE 456766 (inlet); mN 3790791, mE 456780 (outlet).

**Date of Construction:** 1938

**Architect/Engineer:** unknown

**Builder:** Atchison, Topeka and Santa Fe Railway (AT&SF)

**Present Owner:** BNSF

**Present Use:** Culvert on Main Tracks 1 and 2.

**Significance:** The section of railroad through Cajon Pass provided a vital link between the greater Los Angeles area and distant markets. In 1998, the California State Historic Preservation Office determined the historic route of the AT&SF (now BNSF) railroad alignment through Cajon Pass to be eligible for listing in the National Register of Historic Places under Criteria a and c. By connecting Los Angeles and San Bernardino to markets throughout the United States, the railroad dramatically affected demographic, commercial, and cultural trends in southern California. Furthermore, construction of the long, winding alignment through rugged and often steep terrain represents a significant engineering feat for its time. Structure No. 66.0 contributes to the function and significance of the railroad line by mitigating the effects of erosion on the integrity of the system.

**Report Prepared by:** Scott Thompson, Senior Historian  
John Goodman, Archaeologist  
Statistical Research, Inc.  
Tucson, Arizona

**Date:** March 2008

## I. ARCHITECTURAL AND ENGINEERING INFORMATION

Structure No. 66.0 is a reinforced-concrete box culvert situated on a small secondary drainage that bisects the corridor route in an east-west direction and terminates at Cajon Creek (Figure 1). A culvert is a structure designed to protect the roadbed from the erosive effects of storm runoff by carrying water safely under the track. Culverts are placed at points along the roadbed where the railroad intersects normally dry channels. The size of a culvert is determined by the anticipated rate of flow during periods of heavy rainfall (Hay 1953:282, 284; Webb 1932:249).

The structure consists of an inlet transition on the west side of the roadbed embankment that diverts and channels water under the track through a 3'-0"-high, 6'-0"-wide opening. The section of culvert through the roadbed is rectangular in cross section and was cast in place as a single unit. A headwall and two wing walls hold back the roadbed fill from the culvert opening, and an apron prevents scouring around the inlet. The headwall is 7'-10" long and 4'-10" high. Two wings, positioned at slightly obtuse angles to the headwall, slope downward to the apron located at the base of the culvert opening. The wings are 5'-8" long, with a maximum height of 4'-2" and a minimum height of 2'-0". Both wings have a standard 1" bevel. The apron is 8'-0" at its widest point and measures 3'-9" from its outer edge to the culvert opening. A date of 1938, signifying the year the structure was built, is stamped in the center of the headwall. The culvert barrel is 40'-0" long with an overall length (including aprons on the upstream and downstream sides) of 47'-6" (Bridge List, First District, Los Angeles Division, p. 49, Structures Department, BNSF Railway Company [BNSF], Kansas City, Kansas; Br. OA-67, First District, Los Angeles Division, 6 ft. x 3 ft. Reinforced Concrete Box, drawing, 1938, Structures Department, BNSF). A 7" x 16" x 14'-0" wooden beam is attached to the top of the headwall with two 4" x 4" L-iron brackets. The timber beam serves as a ballast curb. The culvert outlet is essentially the same as the inlet, except that two lengths of timber, each secured to the headwall by two L-iron brackets, form the ballast curb.

## II. REFERENCES CITED

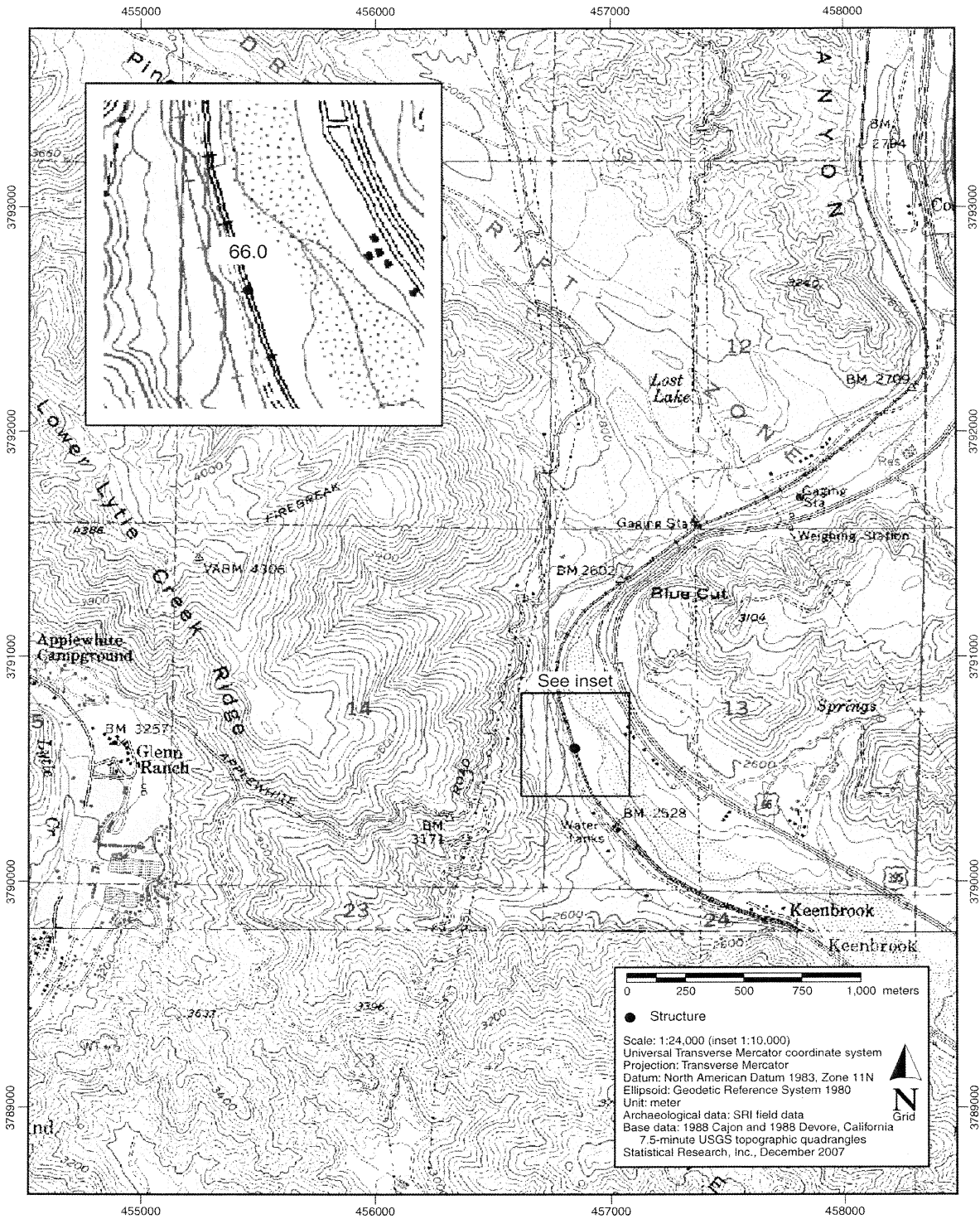
Hay, William W.

1953 *Railroad Engineering, Volume One*. John Wiley & Sons, New York, and Chapman and Hall, London.

Webb, Walter L.

1932 *Railroad Construction: Theory and Practice*. 9th ed. John Wiley and Sons, New York.

Burlington Northern Santa Fe Railroad, Cajon Subdivision,  
 Structure No. 66.0  
 HAER No. CA-2259-Q  
 (page 3)



**Figure 1. Project location (1956 Cajon, California,  
 7.5-minute U.S. Geological Survey quadrangle [photorevised 1988]).**