

Appendix H

Construction Noise Technical Memorandum

MEMORANDUM

To: Thaleena Bhattal, Caltrans District 3 Associate Environmental Planner Project No.: SA-18139
Cc: Mark Christison, Yolo County
From: Julie Passalacqua, Mark Thomas
Date: August 6, 2021
RE: BRLO-5922(104) - Dry Slough Bridge Construction Noise Technical Memorandum

PURPOSE

The purpose of this construction noise technical memorandum is to demonstrate the noise generated from the construction of the County Road (CR) 96 over Dry Slough Replacement Project will result in less than significant impacts to the area residents.

PROJECT DESCRIPTION

Project Need

The existing bridge (Bridge No. 22C0127) has been given a sufficiency rating of 53.6 and has a status of functionally obsolete. The bridge has longitudinal shear cracking along the girders and evidence of water penetration through the deck. The bridge railing is in poor condition with spalling and exposed rebar. The bridge has been programmed for replacement in the Highway Bridge Program (HBP).

Existing Conditions

CR 96 is a rural local roadway that extends between Russell Boulevard on the south and CR 27 on the north. Within the bridge vicinity, CR 96 is paved and has an approximate width of 20 feet. The bridge, with an Average Daily Traffic count of 216 vehicles, is bordered by agricultural and residential parcels. The bridge, built in 1929, is a 44-foot-long single span reinforced concrete "T" girder.

Proposed Improvements

The proposed project will construct a new bridge along the same roadway alignment. The new structure will accommodate two 11-foot travel lanes and two-foot shoulders. The new bridge will be a 60 foot long single-span structure. The structure type will be a cast-in-place, post-tensioned concrete slab. The roadway and bridge profile will be lowered slightly to smooth out the existing substandard vertical curve, while still providing clearance over the 100-year storm event.

Construction of the bridge will involve excavation for and construction of concrete abutments, founded on driven steel pipe piles. Other temporary work within Dry Slough includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments. Temporary slough diversion is anticipated to complete activities within the waterway. Construction of the roadway approaches will involve the removal of existing pavement and placement of roadway fill material, aggregate base, and hot mix asphalt pavement.

Relocation of overhead electrical and communication lines, including four utility poles, along the west side of CR 96 is anticipated as part of the project. Although the traveled way and shoulders will remain within the County's right of way, permanent acquisitions may be needed for the approach grading and utility relocation from three to four parcels. Temporary construction easements may be needed from up to seven parcels adjacent to the project to facilitate driveway conforms, utility relocations, and allow construction access.

CONSTRUCTION NOISE

Project construction would generate noise that could affect sensitive receptors within the project vicinity. The FHWA defines a noise sensitive receptor as a property where frequent outside human use occurs and where a lowered noise level would be beneficial.

The table below shows typical equipment noise levels for various construction equipment and activities, including measured sound levels at 50 feet from the source. Noise sources associated with the project construction would include excavation, construction truck traffic, and other noises typically associated with a construction site.

Construction Equipment Noise Levels

Construction Equipment	Maximum Noise Level dBA at 50 feet
Backhoe	78
Compactor (ground)	83
Compressor (air)	78
Concrete Mix Truck	79
Concrete Pump Truck	81
Crane	81
Dozer	82
Drill Rig Truck	79
Dump Truck	76
Excavator	81
Front End Loader	79
Generator	81
Paver	77
Pneumatic Tools	85
Pumps	81
Roller	80
Scraper	84

Source: FHWA Roadway Construction Noise Model User's Guide, 2006

There are several sensitive receptors bordering the project area. These include three residential properties located at 25540, 25599, and 25635 CR 96. These residences are located approximately 75 feet north, 250 feet south, and 350 feet south of the bridge, respectively.

Yolo County does not currently have a Noise Ordinance. The Caltrans Standard Specifications will govern the allowable level of noise. Section 14-8.02 titled "Noise Control" of the Standard Specifications

states "Control and monitor noise resulting from work activities. Do not exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m."

EQUIPMENT NOISE CONTROL

To avoid substantial construction-period noise impacts to nearby sensitive receptors, the best practices listed below will be included during project construction. With implementation of these standard construction-period specifications, the project will not result in excessive construction-period noise effects.

1. Project-related noise-generating activities at, or adjacent to, the construction site shall comply with the Caltrans standard specifications section 14-8.02. "Control and monitor noise resulting from work activities. Do not exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m."
2. All internal combustion engine driven equipment shall be equipped with the appropriate intake and exhaust mufflers, which are in good condition.
3. "Unnecessary" idling of internal combustion engines shall be strictly prohibited.
4. Avoid staging construction equipment within 200 feet of residences and locate all stationary noise-generating construction equipment as far as practical from existing noise receptors. Construct temporary barriers to screen noise generating equipment when located in areas adjoining noise-sensitive land uses.
5. "Quiet" air compressors and other stationary noise sources shall be used when applicable.
6. All construction traffic shall be routed to and from the project site via designated truck routes. Construction-related heavy truck traffic shall be prohibited in residential areas where feasible. Construction truck traffic shall be prohibited in the project vicinity during non-allowed hours.
7. The businesses, residents and schools in the project area shall be notified in writing by the County of the construction schedule.
8. The County shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint and implement reasonable measures to correct the problem. The contractor shall visibly post the telephone number for the disturbance coordinator at the construction site. The County shall include the telephone number in the notice sent to residents regarding the construction schedule.