

INFORMATION HANDOUT

For Contract No. 01-0A1004
At 01-DN-101-VAR

Identified by
Project ID 0112000023

WATER QUALITY

California Regional Water Quality Control Board North Coast Region Order No. [R1-2003-0041 General Waste Discharge Requirements](#)

MATERIALS INFORMATION

[Final Seismic Design Recommendations for Bridge No.01-0063, dated January 21, 2015](#)

[Final Seismic Design Recommendations for Bridge No.01-0058F, dated January 22, 2015](#)

[Final Seismic Design Recommendations for Bridge No.01-0046, dated January 23, 2015](#)

[Final Seismic Design Recommendations for Bridge No.01-0023, dated January 22, 2015](#)

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California Regional Water Quality Control Board North Coast Region Order No. [R1-2003-0041 General Waste Discharge Requirements](#)



North Coast Regional Water Quality Control Board

December 17, 2015

Ms. Lisa Embree
California Department of Transportation
1656 Union Street
Eureka, CA 95501

Dear Ms. Embree:

Subject: Notice of Coverage, General Waste Discharge Requirements for Discharges Associated with Transportation Structure Repainting Activities at the California Department of Transportation Rowdy Creek Bridge (Project), State Route 101, Del Norte County

File: General Waste Discharge Requirements, Order No. R1-2003-0041, WDID No. 1B15124RDN

The California Department of Transportation (Permittee) submitted a Report of Waste Discharge (ROWD) dated September 16, 2015, and a permit fee on September 23, 2015, for the discharge of waste to surface waters from the above referenced Project. The Regional Water Quality Control Board (Regional Water Board) determined that the discharge associated with the Project qualifies for enrollment under Order No. R1-2003-0041, *General Waste Discharge Requirements for Discharges Associated with Transportation Structure Repainting Activities* (Order). As of the date of this letter, the Project discharge is covered under the Order.

The Permittee proposes the following maintenance and repainting activities at the following transportation structure:

1. Rowdy Creek Bridge, located on State Route (SR) 101, Post Mile (PM) 39.63
 - a. Sand blasting, cleaning, and painting
 - b. Seismically retrofitting the bridge girders at the two abutments

JOHN W. CORBETT, CHAIR | MATTHIAS ST. JOHN, EXECUTIVE OFFICER

5550 Skylane Blvd., Suite A, Santa Rosa, CA 95403 | www.waterboards.ca.gov/northcoast



Pursuant to the Order, the Permittee shall complete the Project as described in the ROWD, including using all proposed Best Management Practices, containing all waste, and notifying the Regional Water Board of the commencement and completion of the Project.

In order to satisfy the monitoring and reporting requirements of the Order, the Permittee shall comply with *Monitoring and Reporting Program No. R1-2003-0041 for Discharges Associated with Transportation Structure Repainting Activities (MRP)*.

Pursuant to the MRP, photo documentation is required for the purpose of verifying compliance with the Order. The photographs shall be submitted to the Regional Water Board within two weeks of the completion of the Project. Photographs must be taken to document the effectiveness of the BMPs before, during and after the Project activities as described in the ROWD.

Please be aware that coverage under the Order requires a permit fee be paid annually until the Permittee notifies the Regional Water Board that the Project is complete and the Regional Water Board Staff terminates the coverage under the Order.

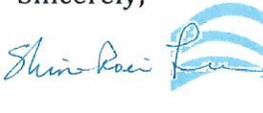
Please read and fully understand the Order and MRP. These documents can be found at:

http://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/060403GeneralWDRsRepainting.pdf and

http://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/060403GeneralWDRMR.pdf.

If you have any questions, please contact Ms. Devon Jorgenson at (707) 576-2701 or Devon.Jorgenson@waterboards.ca.gov or Mr. Charles Reed at (707) 576-2752 or Charles.Reed@waterboards.ca.gov.

Sincerely,

for 

Digitally signed by Shin-

Roei Lee

Date: 2015.12.17

09:20:26 -08'00'

Matthias St. John
Executive Officer

California Regional Water Quality Control Board
North Coast Region

ORDER NO. R1-2003-0041

GENERAL WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES ASSOCIATED WITH TRANSPORTATION STRUCTURE
REPAINTING ACTIVITIES

All Counties

The California Regional Water Quality Control Board, North Coast Region (hereinafter Regional Water Board), finds that:

1. Section 13260(a) of the California Water Code (CWC) requires that any person discharging waste or proposing to discharge waste within any region, other than to a community sewer system, that could affect the quality of the waters of the state, file a Report of Waste Discharge (ROWD).
2. A “transportation structure” (hereinafter “structure”) is defined as a bridge, overhead, underpass, overcrossing, separation, viaduct, tunnel, or tube that when measured parallel to the roadway centerline has a length of more than 20 feet between the faces of the end abutments.
3. Discharges of waste to land associated with structure repainting activities have certain common characteristics, such as similar constituents, concentrations of constituents, and containment and disposal techniques. These types of discharges are appropriately regulated under General Waste Discharge Requirements (General WDRs).
4. These General WDRs are intended to regulate discharges of waste associated with structure repainting activities that may affect waters of the state for which a waiver of WDRs or an individual set of WDRs are not appropriate. Only entities generating waste discharges to land (hereinafter discharger) in amounts that may affect waters of the state shall be eligible for coverage under these General WDRs.
5. Waste produced from structure repainting activities includes: soluble surface contaminants, coatings, lead, rust, oil and grease, mill scale, paint, sharp edges and welds, visible dust, dirt, road film, soaps, wash water, construction debris, spent filters, vacuumed residues, demolition debris, soil, silt, and other organic and earthen material.

6. The existing paint system may contain lead, which requires 100% containment of both the paint debris and other waste material produced from operations. Washwater and any visible dust produced when the paint system is disturbed also shall be 100% contained. All waste material produced from structure repainting activities shall be stored at a designated Hazardous Materials Storage Area.
7. Lead is a toxic heavy metal pollutant and bioaccumulates in animal tissues. The U.S. Environmental Protection Agency's primary maximum contaminant level (MCL) for lead in drinking water is 15 parts per billion (ppb), with the MCL goal of 0 ppb. The U.S. Environmental Protection Agency Health Advisory lists lead as a probable human carcinogen. The Water Quality Control Plan for the North Coast Region states "All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, plant, animal, or aquatic life."
8. Determinations of whether structure repainting activities should be covered by General WDRs, waiver of WDRs, or individual WDRs will be made on a case-by-case basis. In general, however, the Regional Water Board finds that discharges associated with structure repainting activities may affect waters of the state and are appropriate for coverage under General WDRs.
9. The Regional Water Board finds that structure repainting activities have a Threat to Water Quality and Complexity of 2-C as defined in the fee schedule listed in Section 2200 Title 23, California Code of Regulations (CCR).
10. This Order establishes minimum standards for discharges of waste associated with structure repainting activities. In the event of a conflict between the provisions of this Order and the Basin Plan, the more stringent provision prevails and the discharger shall comply with the more stringent standard.
11. The beneficial uses of all receiving waters in the North Coast Region may include some or all of the following:
 - a. municipal and domestic supply (MUN)
 - b. agricultural supply (AGR)
 - c. industrial service supply (IND)
 - d. industrial process (PROC)
 - e. groundwater recharge (GWR)
 - f. freshwater replenishment (FRSH)
 - g. navigation (NAV)
 - h. hydropower generation (POW)
 - i. water contact recreation (REC1)
 - j. noncontact water recreation (REC2)
 - k. commercial and sport fishing (COMM)
 - l. warm freshwater habitat (WARM)
 - m. cold freshwater habitat (COLD)
 - n. preservation of areas of special biological significance (BIOL)

- | | |
|---|---------|
| o. inland saline water habitat | (SAL) |
| p. wildlife habitat | (WILD) |
| q. preservation of rare and endangered species | (RARE) |
| r. marine habitat | (MAR) |
| s. migration of aquatic organisms | (MIGR) |
| t. spawning, reproduction, and/or early development | (SPWN) |
| u. shellfish harvesting | (SHELL) |
| v. estuarine habitat | (EST) |
| w. aquaculture | (AQUA) |
12. The beneficial uses for areal ground waters include:
- a. domestic water supply
 - b. agricultural water supply
 - c. industrial service supply
 - d. industrial process supply
13. This Order does not preempt or supersede the authority of municipalities, flood control agencies, or other local agencies to prohibit, restrict, or control discharges of waste subject to their jurisdiction.
14. The Regional Water Board, acting as the lead agency, has determined that structure repainting activities are categorically exempt from provisions of CEQA as a Class 1, Existing Facility, pursuant to Section 15301, Title 14, CCR. The Categorical Exemption covers new discharges of waste associated with structure repainting activities. New discharges of waste associated with structure repainting activities in compliance with this Order will not result in a significant impact on the environment.
15. This Order is consistent with the provisions of State Water Resources Control Board (State Water Board) Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California." The Order does not allow degradation of water quality.
16. The Regional Water Board has notified potential dischargers and all other known interested parties and agencies of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations.
17. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the proposed discharge.

THEREFORE, IT IS HEREBY ORDERED that dischargers of structure repainting waste, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, shall comply with the following:

A. APPLICATION PROCEDURES

1. Dischargers shall seek coverage under these General WDRs by filing: (1) a Report of Waste Discharge (Form 200) or an equivalent document; and (2) an annual fee.¹ The Regional Water Board staff will review the application and will make a preliminary determination of whether coverage under these General WDRs, individual WDRs, or a waiver of WDRs is appropriate.
2. Coverage under these Waste Discharge Requirements shall not take effect until: (1) the discharger's application is determined to be complete, and (2) the discharger has received written notification from the Executive Officer of the Regional Water Board (Executive Officer) stating that coverage under this order is appropriate. The Executive Officer shall not issue this notification upon finding that coverage of the project in question under this Order has caused or will likely cause significant public controversy. For such controversial projects, the determination of whether coverage under this Order is appropriate will be made by the Regional Water Board at a regularly scheduled board meeting.
3. A determination by the Executive Officer that a specific discharge is appropriately covered under these General WDRs creates no vested right to continued future coverage. The Regional Water Board may decide, based on good cause, to rescind coverage of a specific discharge under these General WDRs. Such a discharge may be eligible for coverage under a waiver of WDRs, another set of General WDRs, individual WDRs, and/or a National Pollutant Discharge Elimination System (NPDES) permit. If the Regional Water Board decides to regulate a discharge covered by these General WDRs, a waiver of WDRs, under another set of General WDRs, under individual WDRs and/or an NPDES permit, the applicability of these General WDRs to the discharge is immediately terminated on the date the coverage under the other set of General WDRs takes effect, or on the effective date of the waiver of WDRs, individual WDRs or NPDES permit.

B. DISCHARGE PROHIBITIONS

1. The discharge of any waste not specifically regulated by this Order is prohibited.
2. Creation of a pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code (CWC), is prohibited.
3. The discharge of waste to land that is not under the control of the discharger is prohibited, except as authorized under **C. SOLIDS DISPOSAL**.

¹ The annual fee for coverage corresponds to a Threat to Water Quality and Complexity of 2-C, as defined in the fee schedule listed in 23 CCR 2200. The annual fee for this category of discharge currently is \$2,025.

4. The discharge of any waste, treated or untreated, to surface waters, surface water drainage courses, or areas where the wastes could pass into surface waters is prohibited.
5. The operation of construction equipment in surface waters is prohibited.
6. The discharge of waste that is not authorized by these General WDRs or other Order or waiver by the Regional Water Board is prohibited.

C. SOLIDS DISPOSAL

1. Solid waste removed from the job site shall be disposed at a legal point of disposal, and in accordance with the provisions of Title 27, Division 2, Subdivision 1, CCR or as waived pursuant to Section 13269 of the CWC.

D. GENERAL PROVISIONS

1. Fuel/Toxic Materials Storage

The storage and use of any fuels, oils or toxic substances at the project location or offsite staging areas shall be managed to prevent discharges of waste. All spills and leaks shall be cleaned up immediately and all contaminated materials shall be disposed at an approved disposal site.

2. Water Pollution Control Plan

The discharger shall submit a Water Pollution Control Plan at least thirty days prior to commencement of the project. The plan shall describe the chronology of construction activities for this project and Best Management Practices to be employed.

3. Waste Disposal

Excess earthen materials, demolition materials and organic material generated during the project shall be disposed at a legal point of disposal and in accordance with provisions of Title 27, Division 2, Subdivision 1, CCR. If a disposal site is to be used that has not been previously approved by a Regional Water Board, the discharger shall obtain approval of the new disposal site at least 30 days prior to initiation of proposed work.

4. Operation and Maintenance

The discharger shall properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with conditions of this Order. The discharger shall keep in a state of readiness all systems necessary to achieve compliance with the conditions of this Order. All systems, both those in service and in reserve, shall be inspected and maintained on a regular basis. Records shall be kept of the inspections and maintenance and made available to the Regional Water Board.

5. Availability

The discharger shall ensure that all site-operating personnel are familiar with the contents of this Order and shall maintain a copy of this Order at the site.

6. Modification

Prior to any modifications of the discharger's facility which would result in a material change in the quality or quantity of waste treated or discharged, or any material change in the location of discharge, the discharger shall report all pertinent information in writing to the Regional Water Board and obtain confirmation from the Regional Water Board that such modifications do not disqualify the discharger from coverage under these General WDRs. Either confirmation or new WDRs shall be obtained before any modifications are implemented.

7. Waste Containment

The discharger shall have an engineer monitoring the site to ensure the effectiveness of the containment system. The system shall be approved by the site engineer prior to commencement of work by the contractor. The site engineer also shall be responsible for assuring compliance with this Order. The discharger shall establish a liaison contact with Regional Water Board staff for the purpose of assuring that compliance with this Order is maintained. A list of designated liaison personnel, addresses, telephone numbers, and specific area(s) of responsibility shall be submitted one month prior to commencement of the construction.

8. Notification

The Regional Water Board's Executive Officer shall be notified immediately of any failure of the waste containment facilities. Such failure shall be promptly corrected in accordance with the requirements of this Order.

9. Permit Responsibility

This Order does not relieve the discharger from responsibility to obtain other necessary local, state, and federal permits to construct facilities necessary for compliance with this Order, nor does this Order prevent imposition of additional standards, requirements, or conditions by any other regulatory agency.

10. Storm Water

If land disturbance (excluding agricultural activity) is one acre or more, the applicant must apply for a Construction Activities Storm Water Permit prior to commencement of construction. If storm water runoff from any industrial processing area is to be discharged to any surface water, coverage under the National Pollution Discharge Elimination System (NPDES) General Permit No. CAS000001-Discharges Of Storm Water Associated With Industrial Activities Excluding Construction Activities Permit will be required.

11. Inspections

The discharger shall allow the Regional Water Board or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

- a. enter upon the premises where a regulated facility or activity is located or conducted or where records are required to be kept under the conditions of this Order;
- b. have access to and copy at reasonable times any records required to be kept under the conditions of this Order;
- c. inspect, at reasonable times, any facilities, equipment, practices, or operations regulated or required under this Order; and
- d. sample, photograph, video record, and/or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the CWC, any substances or parameters at this location.

12. Periodic Review

The Regional Water Board will review this Order periodically and will revise this Order when necessary.

13. Severability

Provisions of these waste discharge requirements are severable. If any provision of these requirements is found invalid, the remainder of these requirements shall not be affected.

14. Change in Ownership

In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the following items by letter, a copy of which shall be forwarded to the Regional Water Board:

- a. existence of this Order, and
- b. the status of the dischargers' annual fee account

15. Vested Rights

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the discharger from his liability under federal, state, or local laws, nor create a vested right for the discharger to continue the waste discharge.

16. Order Termination

After notice and opportunity for a hearing, coverage of an individual discharge under this Order may be terminated or modified for cause, including but not limited to the following:

- a. violation of any term or condition contained in this Order;
- b. obtaining this Order by misrepresentation or failure to disclose all relevant facts;
- c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge;
- d. a change in a wastewater treatment system to a configuration that is not eligible for coverage under this Order;
- e. violation of any term or condition contained in this Order;
- f. obtaining this Order by misrepresentation or failure to disclose all relevant facts;
- g. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge;
- h. a change in the discharge that is not eligible for coverage under this Order.

17. Compliance

The discharger shall comply with all of the conditions of this Order. Any noncompliance with this Order constitutes a violation of the Porter-Cologne Water Quality Control Act and/or Basin Plan and is grounds for an enforcement action.

18. Liability

The Regional Water Board may impose administrative civil liability, may refer a discharger to the State Attorney General to seek civil monetary penalties, may seek injunctive relief, or take other appropriate enforcement action as provided in the California Water Code or federal law for violation of State Water Board or Regional Water Board orders.

19. Monitoring

The discharger shall comply with Contingency Planning and Notification Requirements Order No. 74-151 and with Monitoring and Reporting Program No. R1-2003-0041 and any modifications to these documents as specified by the Regional Water Board Executive Officer. Such documents are attached to this Order and incorporated herein. Chemical analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services.

20. Signatory Requirements

- a. All Report of Waste Discharge applications submitted to the Regional Water Board shall be signed by either the chief executive officer of the agency or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- b. Reports required by this Order and other information requested by the Regional Water Board shall be signed by either the chief executive officer of the agency or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency or may be signed by a duly authorized representative provided:
 - i. the authorization is made in writing by a person described in paragraph (a) of this provision;
 - ii. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity or an individual or position having overall responsibility for environmental matters for the agency; and
 - iii. the written authorization is submitted to the Regional Water Board prior to or together with any reports, information, or applications signed by the authorized representative.
- c. Any person signing a document under paragraph (a) or (b) of this provision shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the

information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

21. Analyses

Unless otherwise approved by the Regional Water Board’s Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of “Guidelines Establishing Test Procedures for Analysis of Pollutants,” promulgated by the U.S. Environmental Protection Agency (U.S. EPA.

22. Record Keeping

The discharger shall retain records of all monitoring information including all calibration and maintenance records, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, or report. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Executive Officer.

23. Record Request

The discharger shall furnish, within a reasonable time, any information the Regional Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the discharger’s coverage under this Order. The Discharger shall also furnish to the Regional Water Board, upon request, copies of all records required to be kept by this Order.

24. Noncompliance

In the event the discharger is unable to comply with any of the conditions of this Order due to:

- a. breakdown of equipment;
- b. accidents caused by human error or negligence; or
- c. other causes such as acts of nature;

the discharger shall notify the Executive Officer by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within two weeks of the telephone notification. The written notification shall include pertinent information explaining reasons for the noncompliance and shall indicate the steps taken to correct the problem and the dates thereof, and the steps

being taken to prevent the problem from recurring.

25. Planned Changes

The discharger shall file with the Regional Water Board an application at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.

26. Other Information

When the discharger becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application, or in any report to the Regional Water Board, the discharger shall promptly submit such facts or information.

27. False Reporting

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall be subject to enforcement procedures as identified in the Order and/or in these Standard Provisions.

28. Anticipated Noncompliance

The discharger shall give advance notice to the Regional Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with waste discharge requirements.

E. ENFORCEMENT PROVISIONS

1. The provisions in this enforcement section shall not act as a limitation on the statutory or regulatory authority of the Regional Water Board.
2. Any violation of this Order constitutes violation of the California Water Code and regulations adopted thereunder and is the basis for enforcement action, termination of the Order, revocation and reissuance of the Order, denial of an application for reissuance of the Order or a combination thereof.
3. It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

Expiration

Individual coverage by this Order expires upon completion of the structure repainting project or five years from the date of coverage under the General WDRs, whichever occurs first. If the discharger wishes to continue an activity regulated by this Order after the expiration date of coverage by this Order, the discharger shall apply for and obtain new Waste Discharge Requirements. A new report of waste discharge must be submitted to the Regional Water Board at least 30 days in advance of new coverage by Waste Discharge Requirements.

Certification

I, Susan Warner, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on May 15, 2003.

Susan A. Warner
Executive Officer

California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING PROGRAM NO. R1-2003-0041

FOR

DISCHARGES ASSOCIATED WITH TRANSPORTATION STRUCTURE
REPAINTING ACTIVITIES

All Counties

MONITORING

The following monitoring program shall be conducted whenever there is any waste discharge from transportation structure repainting activities to a surface water or locations where these materials could pass into surface waters. Fugitive sandblasting dust that escapes from the sandblasting containment system constitutes a waste discharge. The sampling schedule shall continue until the discharge stops. Samples of the affected waterway in the area of the discharge shall be collected immediately downstream as well as immediately upstream from the affected area and shall be analyzed for the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
Turbidity	NTU's	Grab	Not less than once every four hours
Lead	ppb	Grab	Not less than once every four hours

REPORTING

Monitoring reports shall be submitted to the Regional Water Board monthly by the first day of the second month following the monitoring period. Monitoring reports shall include all laboratory analyses reports. If no discharge occurs, no monitoring report need be submitted.

In reporting monitoring data, the discharger shall arrange the data in tabular form on an 8 1/2 by 11-inch sheet so the date, constituents, and concentrations are readily discernible. The monitoring reports shall contain new data as well as historical data. The monitoring reports shall contain a detailed map showing the location of sample collection points. If the discharger is unable to collect samples for any reason, the monitoring report shall so indicate. The monitoring data and any necessary narrative reports shall be properly titled and referenced to this Order and shall be submitted to the Regional Water Board and certified to be true and correct by penalty of perjury.

NOTIFICATION

In the event of a discharge to a surface water or locations where these materials could pass into surface waters, the discharger shall notify the Executive Officer by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within two weeks of the telephone notification. The written notification shall include pertinent information explaining reasons for the noncompliance and shall indicate the steps taken to correct the problem, the dates thereof, and the steps being taken to prevent the problem from recurring.

Ordered by: _____

Susan A. Warner
Executive Officer

May 15, 2003

INFORMATION HANDOUT

For Contract No. 01-0A1004

At 01-DN-101-VAR

Identified by

Project ID 0112000023

MATERIALS INFORMATION

[Final Seismic Design Recommendations for Bridge No.01-0063, dated January 21, 2015](#)

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. DAN ADAMS
Senior Bridge Engineer
Division of Engineering Services
Office of Bridge Design-South 2
Bridge Design Branch 10

Date: January 21, 2015

File: 01-DN-101-PM 28.32
01-0A1000
Rail Road Avenue O.C
Bridge No. 01-0063

Attention: Larry Wu

From: HOSSAIN SALIMI
Senior Materials and Research Engineer
Division of Engineering Services
Geotechnical Services – MS-5
Office of Geotechnical Design-West

Subject: Final Seismic Design Recommendations

Introduction

This memorandum is in response to your request dated December 17, 2014 to provide the Final Seismic Design Recommendations (FSDR) for the proposed retrofit of the existing 2-span Railroad Avenue Overcrossing (Bridge No. 01-0063) located about a kilometer outside of Crescent City in Del Norte County. The structure was built in 1971/1972, is supported on driven pre-stressed pre-cast class XI (10" X 10") and class XII (12' X 12") concrete piles at the abutments, and spread footings at bent 2.

It should be noted that the Preliminary Seismic Design Recommendations (PSDR) for this structure was submitted to your Office in a memorandum dated June 24, 2014. I had in that report recommended that a site/subsurface investigation to include exploratory borings with Standard Penetration Test (SPT), measurement of the ground water table, and the collection of samples for subsequent laboratory gradation analysis, plasticity index, shear tests, etc. be conducted prior to the completion of the FSDR. However, the decision was made not to proceed with the subsurface investigation. Therefore, most of the findings in the original PSDR and as outlined in this memorandum are still valid and considered final.

Mr. Dan Adams
January 21, 2015
Page 2

Railroad Avenue Overcrossing
Bridge No. 01-0063

Seismicity and Fault Data

According to the latest California Seismic Hazard Map (Version 2.3.06), which is based on the United States Geological Survey (USGS) and California Geological Survey (CGS) maps, the nearest active faults are Big Lagoon-Bald Mountain (Reverse) with Maximum Magnitude, $M_{max}=7.5$, located about 12.5 kilometers west of the site, Cascadia Subduction Zone (Reverse) with Maximum Magnitude, $M_{max}=8.3$, located just under 34 kilometers west of the site, and Trinidad (Reverse) with Maximum Magnitude, $M_{max}=7.5$, located over 34 kilometers southwest of the site. Please note that the distance provided here and in the table on page 3 for each fault is the horizontal distance to the fault trace or surface projection of the top of rupture plane.

There are no known faults projecting towards or passing directly through the project site. Therefore, the potential for surface rupture at the site due to fault movement is considered minimal.

Geology and Subsurface Conditions

The available subsurface data include original Log-of-Test-Borings (LOTB) from 1968 (three 2.5-inch rotary borings drilled to a maximum depth of 70 feet and two Cone Penetrometer holes about 53 feet in depth). According to the LOTBs and the content of the Foundation Report dated January 1969, the site is underlain by layers of compact to dense/very dense fine brown sand.

Groundwater and Liquefaction Potential

Groundwater was encountered at elevations 22 feet and 25 feet in 1968 corresponding to about 18 to 20 feet below ground. Due to the nature of the materials encountered (compact/dense sand with SPT blow counts ranging from the low thirties to the high sixties), the potential for soil liquefaction is minimal.

Fault and Seismic Data

Based on the LOTBs and using the available correlations, a shear wave velocity $V_{s30} = 300$ meters per second (m/s) is assigned to the site and used for the analysis. The following table includes the seismic data for nearby faults, distances, and Maximum Magnitudes.

Mr. Dan Adams
 January 21, 2015
 Page 3

Railroad Avenue Overcrossing
 Bridge No. 01-0063

Source	Fault Type	Distance to Site (km)	Maximum Magnitude (Mmax)	Peak Ground Acceleration (PGA)
Big Lagoon-Bald Mountain Fault	Reverse	12.5	7.5	0.46
Cascadia Subduction Zone Fault	Reverse	33.6	8.3	0.34
Trinidad Fault	Reverse	34.4	7.5	0.16
Probabilistic Seismic Hazard Analysis (975 year Return Period)	-	-	-	0.51

Note: The distance provided is the horizontal distance to the fault trace or surface projection of the top of rupture plane.

Acceleration Response Spectrum

The Acceleration Response Spectrum (ARS) curves based on both Caltrans ARS On-Line Deterministic Seismic Hazard Analysis (DSHA) and Probabilistic Seismic Hazard Analysis (PSHA) version 2.3.06 using a 975-year return period (5% probability of exceedance in 50 years) were generated for the site, incorporating the latest Attenuation Relationship models, and all four curves were compared. Due to the high seismicity of the site, the PSHA response spectrum (Caltrans ARS On-Line) was higher than the other spectra (please see Figure 1), and chosen as the recommended ARS for the site (see Figure 2).

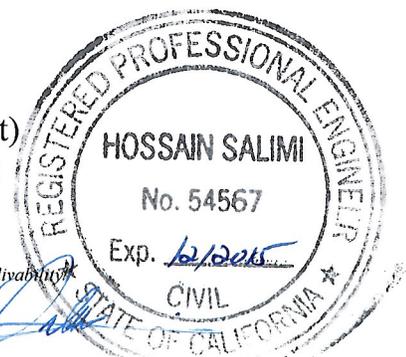
The final ARS curve has been modified to account for the proximity of the site to the fault. The modifications are such that there is no increase in spectral acceleration in periods less than 0.5 seconds and a 20% increase for periods greater than one second. A linear interpolation was used between 0.5 and one second.

If there are any questions, please contact Hossain Salimi at (916) 227-7147.

Attachments

c: TPokrywka (OGD-West)
 MMacaranes (OGD-West)

RNashed (OGD-West)
 MHung (OGD-West)



Acceleration Response Spectra comparisons for Railroad Avenue Overcrossing

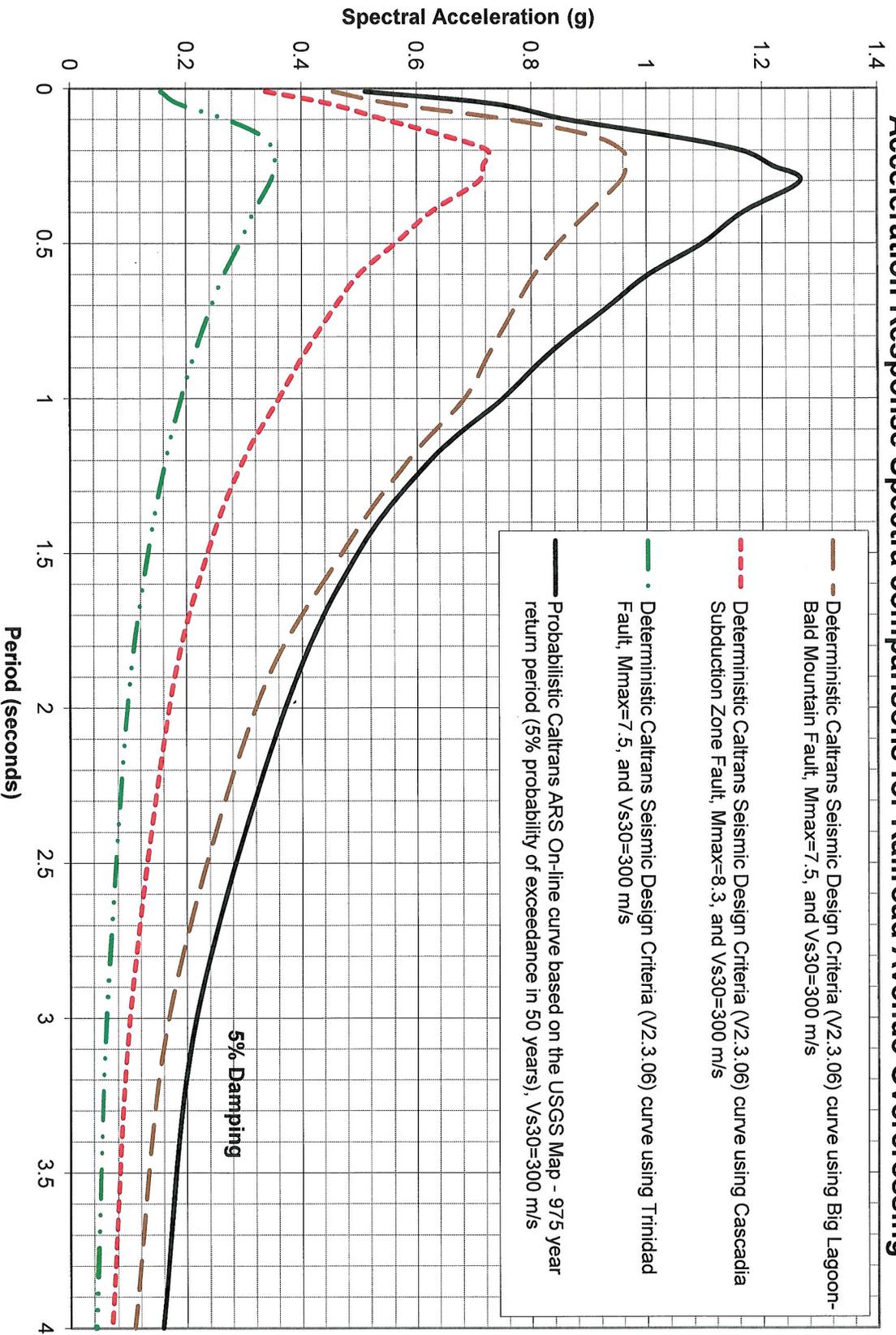


Figure 1

Recommended Final Acceleration Response Spectrum for Railroad Avenue Overcrossing

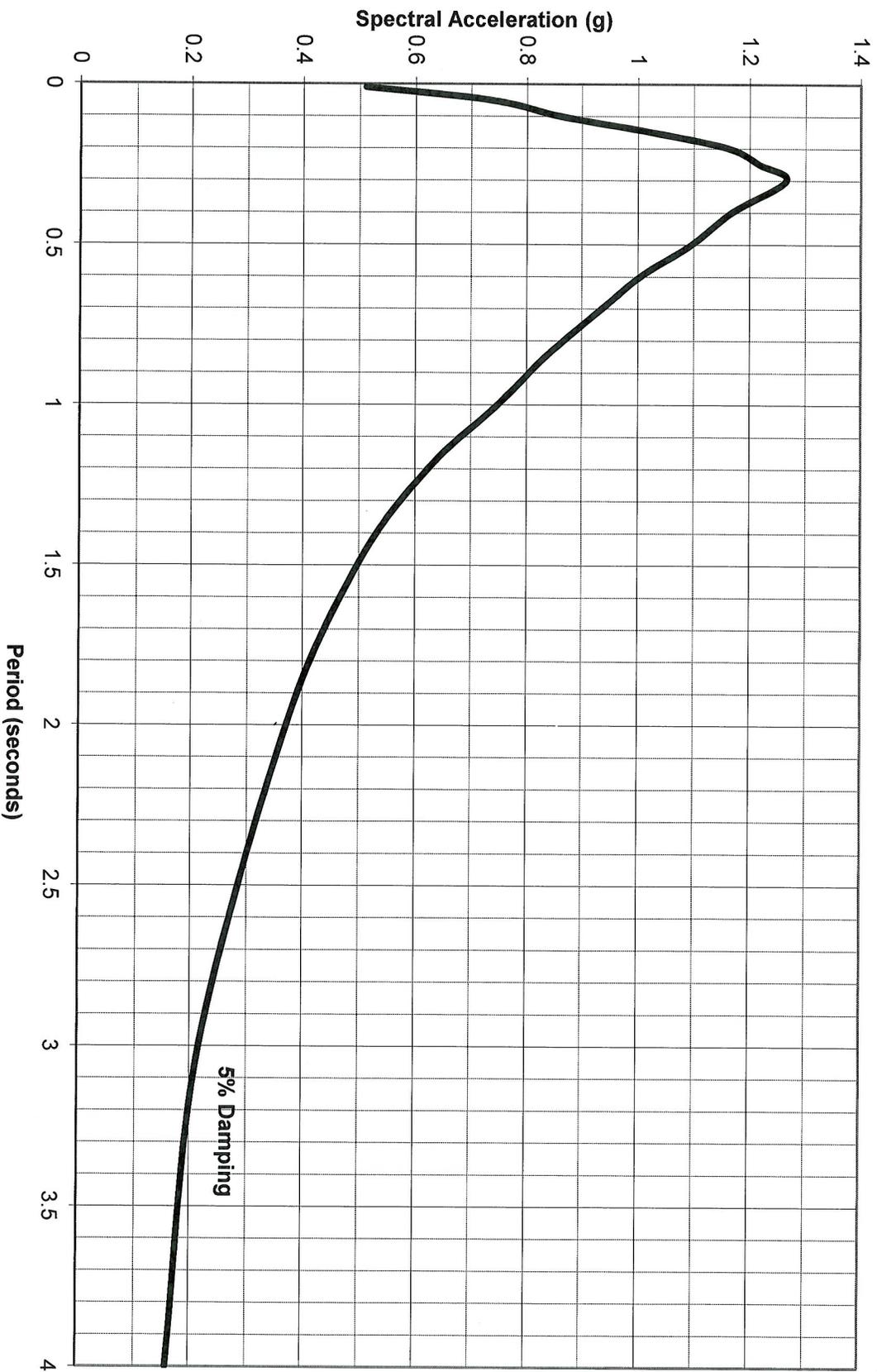


Figure 2

INFORMATION HANDOUT

For Contract No. 01-0A1004

At 01-DN-101-VAR

Identified by

Project ID 0112000023

MATERIALS INFORMATION

[Final Seismic Design Recommendations for Bridge No.01-0058F, dated January 22, 2015](#)

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. DAN ADAMS
Senior Bridge Engineer
Division of Engineering Services
Office of Bridge Design-South 2
Bridge Design Branch 10

Date: January 22, 2015

File: 01-DN-199-PM T0.51
01-0A1000
SR 199/101 Connector
Bridge No. 01-0058F

Attention: Larry Wu

From: HOSSAIN SALIMI
Senior Materials and Research Engineer
Division of Engineering Services
Geotechnical Services – MS-5
Office of Geotechnical Design-West

Subject: Final Seismic Design Recommendations

Introduction

This memorandum is in response to your request dated December 17, 2014 to provide the Final Seismic Design Recommendations (FSDR) for the proposed retrofit of the existing 2-span State Route 199/101 Connector Overcrossing (Bridge No. 01-0058F) located approximately 4 miles (6 kilometers) northeast of Crescent City in Del Norte County. The structure was built in 1972, and is supported on driven pre-stressed pre-cast 45-Ton and 70-ton concrete piles.

It should be noted that the Preliminary Seismic Design Recommendations (PSDR) for this structure was submitted to your Office in a memorandum dated June 24, 2014. I had in that report recommended that a site/subsurface investigation to include exploratory borings with Standard Penetration Test (SPT), measurement of the ground water table, and the collection of samples for subsequent laboratory gradation analysis, plasticity index, shear tests, etc. be conducted prior to the completion of the FSDR. However, the decision was made not to proceed with the subsurface investigation. Therefore, most of the findings in the original PSDR and as outlined in this memorandum are still valid and considered final.

Mr. Dan Adams
January 22, 2015
Page 2

Route 199/101 Connector
Bridge No. 01-0058F

Seismicity and Fault Data

According to the latest California Seismic Hazard Map (Version 2.3.06), which is based on the United States Geological Survey (USGS) and California Geological Survey (CGS) maps, the nearest active faults are Big Lagoon-Bald Mountain (Reverse) with Maximum Magnitude, $M_{max}=7.5$, located over 14 kilometers west of the site, Cascadia Subduction Zone (Reverse) with Maximum Magnitude, $M_{max}=8.3$, located just under 36 kilometers west of the site, and Trinidad (Reverse) with Maximum Magnitude, $M_{max}=7.5$, located over 37 kilometers southwest of the site. Please note that the distance provided here and in the table on page 3 for each fault is the horizontal distance to the fault trace or surface projection of the top of rupture plane.

There are no known faults projecting towards or passing directly through the project site. Therefore, the potential for surface rupture at the site due to fault movement is considered minimal.

Geology and Subsurface Conditions

The available subsurface data include original Log-of-Test-Borings (LOTB) from 1968 (three 2.5-inch rotary borings drilled to a maximum depth of 50 feet and two Cone Penetrometer holes about 30 feet in depth). According to the LOTBs and the content of the Foundation Report dated January 1969, the materials encountered consist of about 27 to 34 feet of slightly compact sand, loose to slightly compact silty sand, and some clayey silt underlain by weathered Shale.

Groundwater and Liquefaction Potential

Groundwater was encountered as high as elevation 60 feet in November 1968, corresponding to about 10 feet below ground.

It should be noted that thin intermittent layers of loose to slightly compact silty sand were encountered below groundwater table during the field investigation in 1968. Due to lack of more detailed soil data from these layers and the relatively high seismicity of the area, there is a low potential for soil liquefaction in these intermittent layers. However, the pile driving records from March 1972 indicate that the piles were driven through the granular materials, and imbedded into grey blue Shale. This fact along with the intermittent and non-continuity of these aforementioned loose granular layers compel me to consider the liquefaction potential to have little to no impact to the substructure.

Mr. Dan Adams
 January 22, 2015
 Page 3

Route 199/101 Connector
 Bridge No. 01-0058F

Fault and Seismic Data

Based on the LOTBs and using the available correlations, a shear wave velocity $V_{s30} = 420$ meters per second (m/s) is assigned to the site and used for the analysis. This table includes the seismic data for nearby faults, distances, and Maximum Magnitudes.

Source	Fault Type	Distance to Site (km)	Maximum Magnitude (Mmax)	Peak Ground Acceleration (PGA)
Big Lagoon-Bald Mountain Fault	Reverse	14.3	7.5	0.39
Cascadia Subduction Zone Fault	Reverse	35.8	8.3	0.33
Trinidad Fault	Reverse	37.1	7.5	0.14
Probabilistic Seismic Hazard Analysis (975 year Return Period)	-	-	-	0.45

Note: The distance provided is the horizontal distance to the fault trace or surface projection of the top of rupture plane.

Acceleration Response Spectrum

The Acceleration Response Spectrum (ARS) curves based on both Caltrans ARS On-Line Deterministic Seismic Hazard Analysis (DSHA) and Probabilistic Seismic Hazard Analysis (PSHA) version 2.3.06 using a 975-year return period (5% probability of exceedance in 50 years) were generated for the site, incorporating the latest Attenuation Relationship models, and all four curves were compared. Due to the high seismicity of the site, the PSHA response spectrum (Caltrans ARS On-Line) was higher than the other spectra (please see Figure 1), and chosen as the recommended ARS for the site (see Figure 2).

The final ARS curve has been modified to account for the proximity of the site to the fault. The modifications are such that there is no increase in spectral acceleration in periods less than 0.5 seconds and a 20% increase for periods greater than one second. A linear interpolation was used between 0.5 and one second.

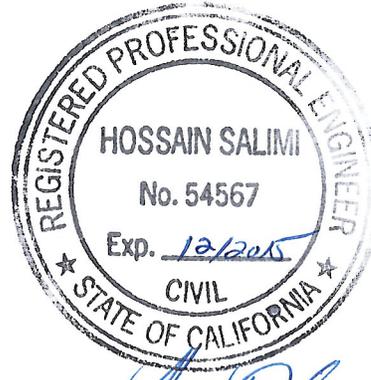
Mr. Dan Adams
January 22, 2015
Page 4

Route 199/101 Connector
Bridge No. 01-0058F

If there are any questions, please contact Hossain Salimi at (916) 227-7147.

Attachments

- c: TPokrywka (OGD-West)
- MMacaranes (OGD-West)
- RNashed (OGD-West)
- MHung (OGD-West)



A handwritten signature in blue ink, appearing to read "Hossain Salimi", written over a horizontal line.

Acceleration Response Spectra comparisons for Route 199/101 Connector

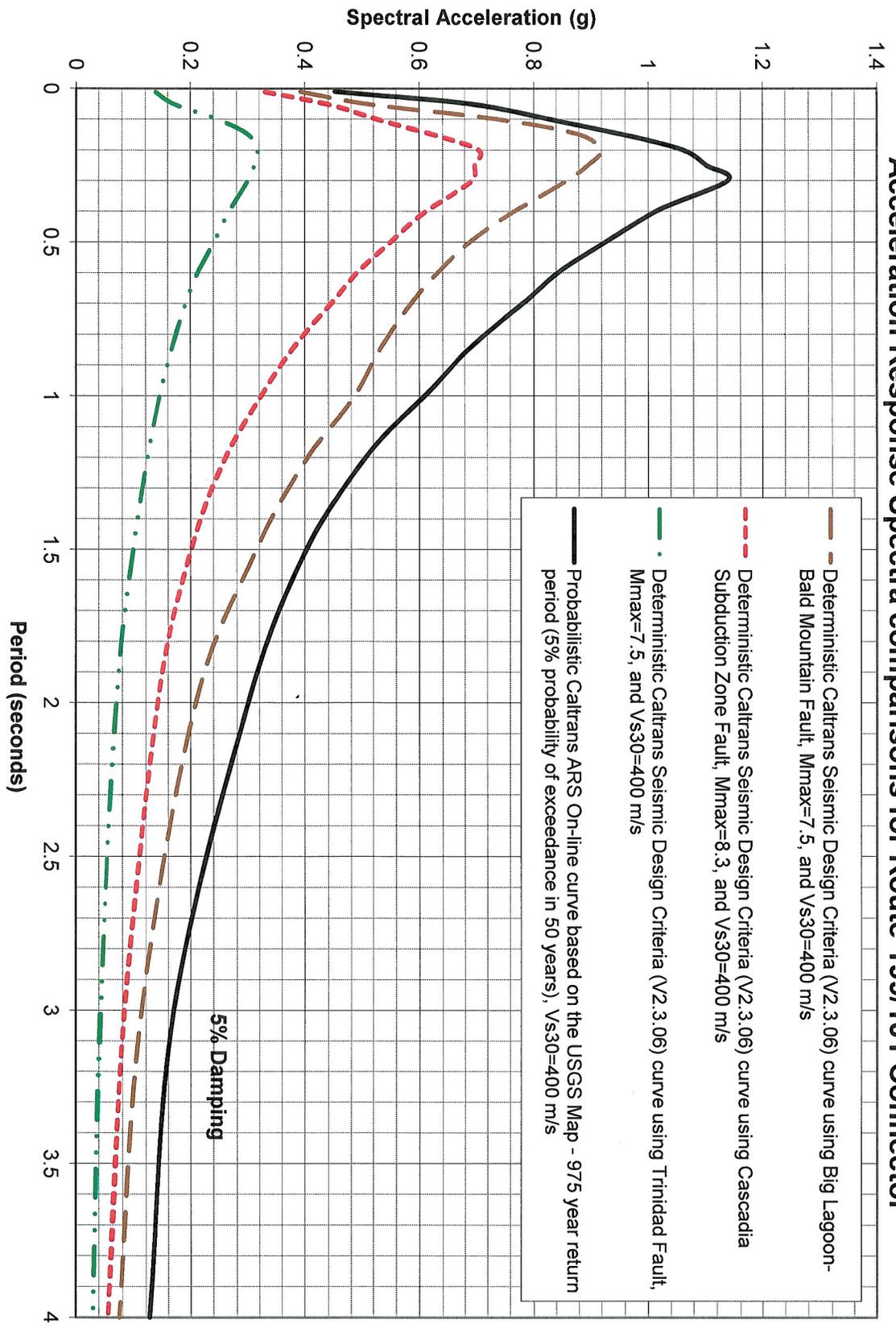


Figure 1

Recommended Final Acceleration Response Spectrum for Route 199/101 Connector

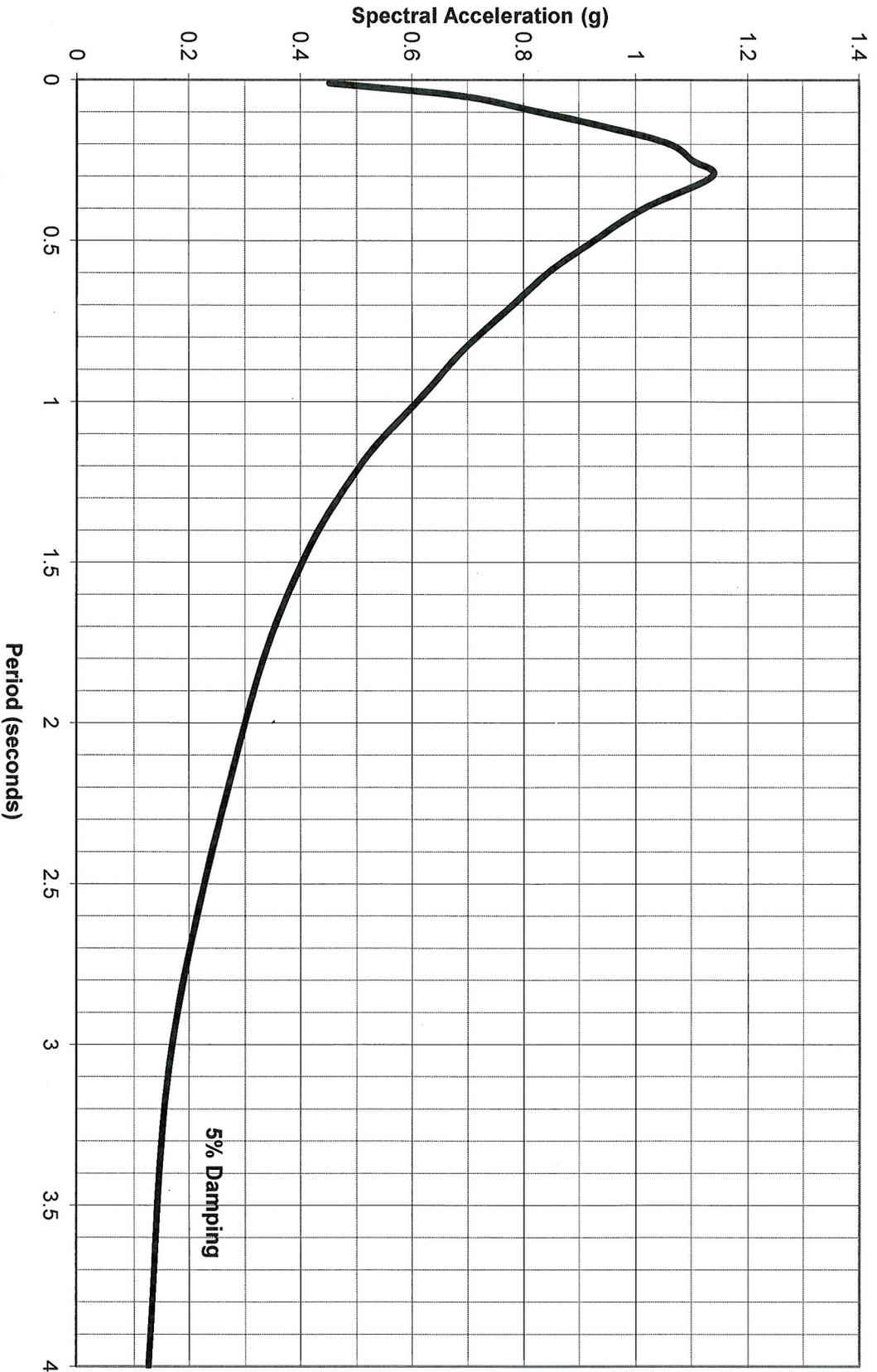


Figure 2

INFORMATION HANDOUT

For Contract No. 01-0A1004

At 01-DN-101-VAR

Identified by

Project ID 0112000023

MATERIALS INFORMATION

[Final Seismic Design Recommendations for Bridge No.01-0046, dated January 23, 2015](#)

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. DAN ADAMS
Senior Bridge Engineer
Division of Engineering Services
Office of Bridge Design-South 2
Bridge Design Branch 10

Date: January 23, 2015

File: 01-DN-101-PM 35.77
01-0A1000
Smith River Overflow
Bridge No. 01-0046

Attention: Larry Wu

From: HOSSAIN SALIMI
Senior Materials and Research Engineer
Division of Engineering Services
Geotechnical Services – MS-5
Office of Geotechnical Design-West

Subject: Final Seismic Design Recommendations

Introduction

This memorandum is in response to your request dated December 17, 2014 to provide the Final Seismic Design Recommendations (FSDR) for the proposed retrofit of the existing continuous 10-span Smith River Overflow Bridge (No. 01-0046) located on Route 101 approximately 8 miles (13 kilometers) north of Crescent City in Del Norte County. The structure was built in 1955 utilizing Step Taper Raymond Reinforced Concrete driven piles for foundation, and widened in 2003, utilizing 24-inch driven open-ended steel pipe piles for foundation.

It should be noted that the Preliminary Seismic Design Recommendations (PSDR) for this structure was submitted to your Office in a memorandum dated June 19, 2014. I had in that report recommended that a site/subsurface investigation to include exploratory borings with Standard Penetration Test (SPT), measurement of the ground water table, and the collection of samples for subsequent laboratory gradation analysis, plasticity index, shear tests, etc. be conducted prior to the completion of the FSDR. However, the decision was made not to proceed with the subsurface investigation. Therefore, most of the findings in the original PSDR and as outlined in this memorandum are still valid and considered final.

Mr. Dan Adams
January 23, 2015
Page 2

Smith River Overflow Bridge
Bridge No. 01-0046

Seismicity and Fault Data

According to the latest California Seismic Hazard Map (Version 2.3.06), which is based on the United States Geological Survey (USGS) and California Geological Survey (CGS) maps, the nearest active faults are Big Lagoon-Bald Mountain (Reverse) with Maximum Magnitude, $M_{max}=7.5$, located over 15 kilometers west of the site, Cascadia Subduction Zone (Reverse) with Maximum Magnitude, $M_{max}=8.3$, located just over 36 kilometers west of the site, and Trinidad (Reverse) with Maximum Magnitude, $M_{max}=7.5$, located under 45 kilometers southwest of the site. Please note that the distance provided here and in the table on page 3 for each fault is the horizontal distance to the fault trace or surface projection of the top of rupture plane.

There are no known faults projecting towards or passing directly through the project site. Therefore, the potential for surface rupture at the site due to fault movement is considered minimal.

Geology and Subsurface Conditions

The available subsurface data include original Log-of-Test-Borings (LOTB) from 1954 as well as a single boring (B02-01) from 2002. Based on the LOTBs, the site is underlain by mostly granular soils consisting of loose to very dense sand, silty gravelly sand, and sandy gravel. Cobbles and boulders were also encountered during the 1954 and 2002 investigations.

Groundwater and Liquefaction Potential

Groundwater was not encountered during the 2002 field investigation. However, Foundation Recommendations dated December 1954 estimated ground water at approximate elevation 18 feet, corresponding to a depth of about 10 to 15 feet below existing ground surface within the stream channel.

Due to the nature of the materials at the site, presence of water table, and high seismicity of the region (0.49 Peak Ground Acceleration), there is a low to moderate potential for soil liquefaction in the upper 10 to 15 feet of granular soils within the stream channel during a seismic event. Please note that the liquefaction potential is based on the presence of water table which has not been verified. The potential for lateral spreading for the stream banks is minimal to none.

Mr. Dan Adams
 January 23, 2015
 Page 3

Smith River Overflow Bridge
 Bridge No. 01-0046

Fault and Seismic Data

Based on the subsurface data and using the available correlations, a shear wave velocity $V_{s30} = 300$ meters per second (m/s) is assigned to the site and used for the analysis. The following table includes the seismic data for nearby faults, distances, and Maximum Magnitudes.

Source	Fault Type	Distance to Site (km)	Maximum Magnitude (Mmax)	Peak Ground Acceleration (PGA)
Big Lagoon-Bald Mountain Fault	Reverse	15.2	7.5	0.35
Cascadia Subduction Zone Fault	Reverse	36.3	8.3	0.33
Trinidad Fault	Reverse	44.7	7.5	0.13
Probabilistic Seismic Hazard Analysis (975 year Return Period)	-	-	-	0.49

Note: The distance provided is the horizontal distance to the fault trace or surface projection of the top of rupture plane.

Acceleration Response Spectrum

The Acceleration Response Spectrum (ARS) curves based on both Caltrans ARS On-Line Deterministic Seismic Hazard Analysis (DSHA) and Probabilistic Seismic Hazard Analysis (PSHA) version 2.3.06 using a 975-year return period (5% probability of exceedance in 50 years) were generated for the site, incorporating the latest Attenuation Relationship models, and all four curves were compared. Due to the high seismicity of the site, the PSHA response spectrum (Caltrans ARS On-Line) was higher than the other spectra (please see Figure 1), and chosen as the recommended ARS for the site (see Figure 2).

The final ARS curve has been modified to account for the proximity of the site to the fault. The modifications are such that there is no increase in spectral acceleration in periods less than 0.5 seconds and a 20% increase for periods greater than one second. A linear interpolation was used between 0.5 and one second.

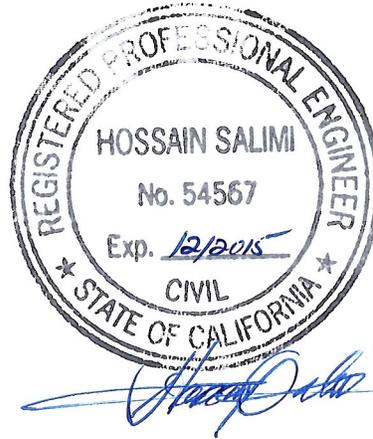
Mr. Dan Adams
January 23, 2015
Page 4

Smith River Overflow Bridge
Bridge No. 01-0046

If there are any questions, please contact Hossain Salimi at (916) 227-7147.

Attachments

- c: TPokrywka (OGD-West)
- RNashed (OGD-West)
- MMacaranes (OGD-West)
- MHung (OGD-West)



Acceleration Response Spectra comparisons for Smith River Overflow Bridge

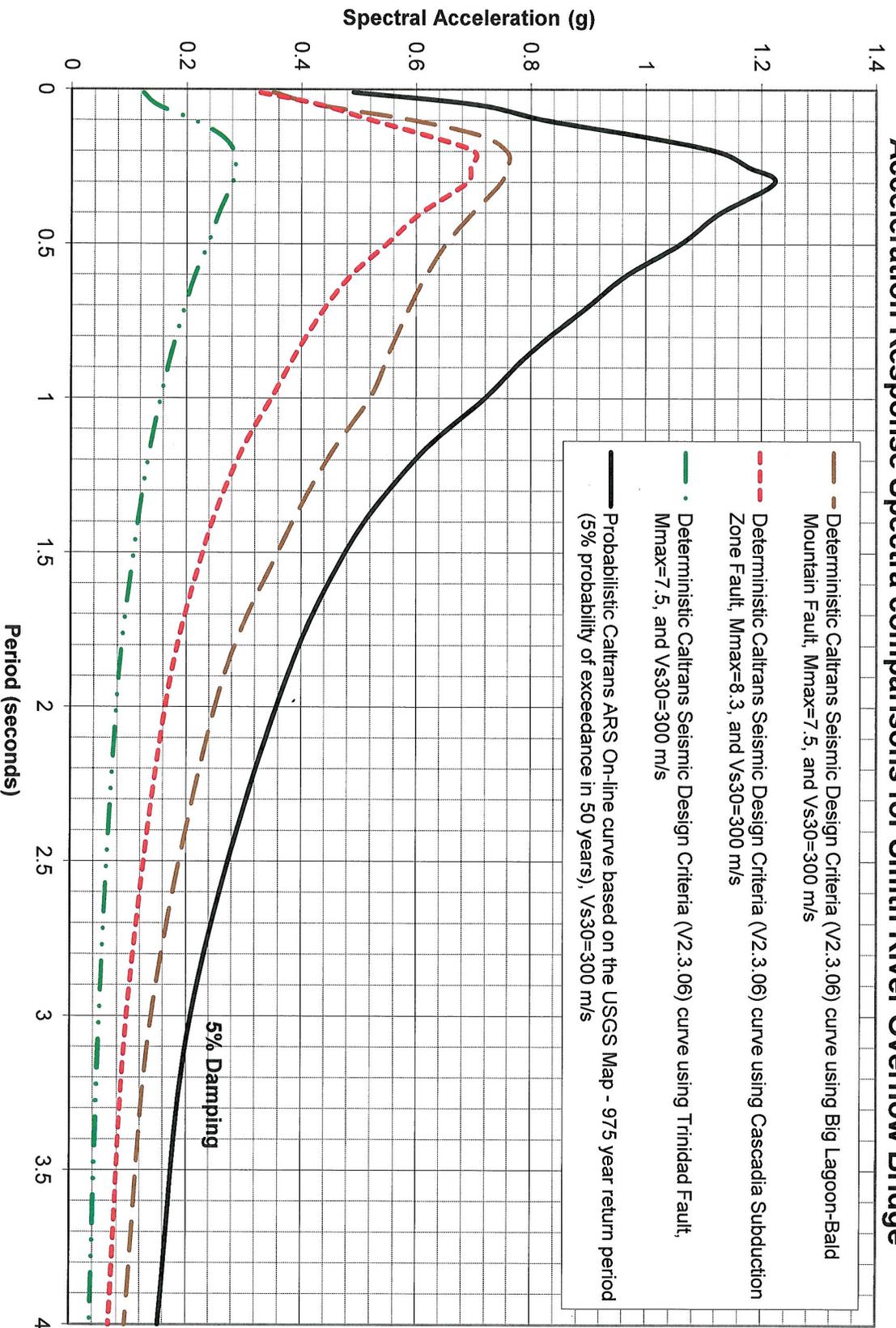


Figure 1

Recommended Final Acceleration Response Spectrum for Smith River Overflow Bridge

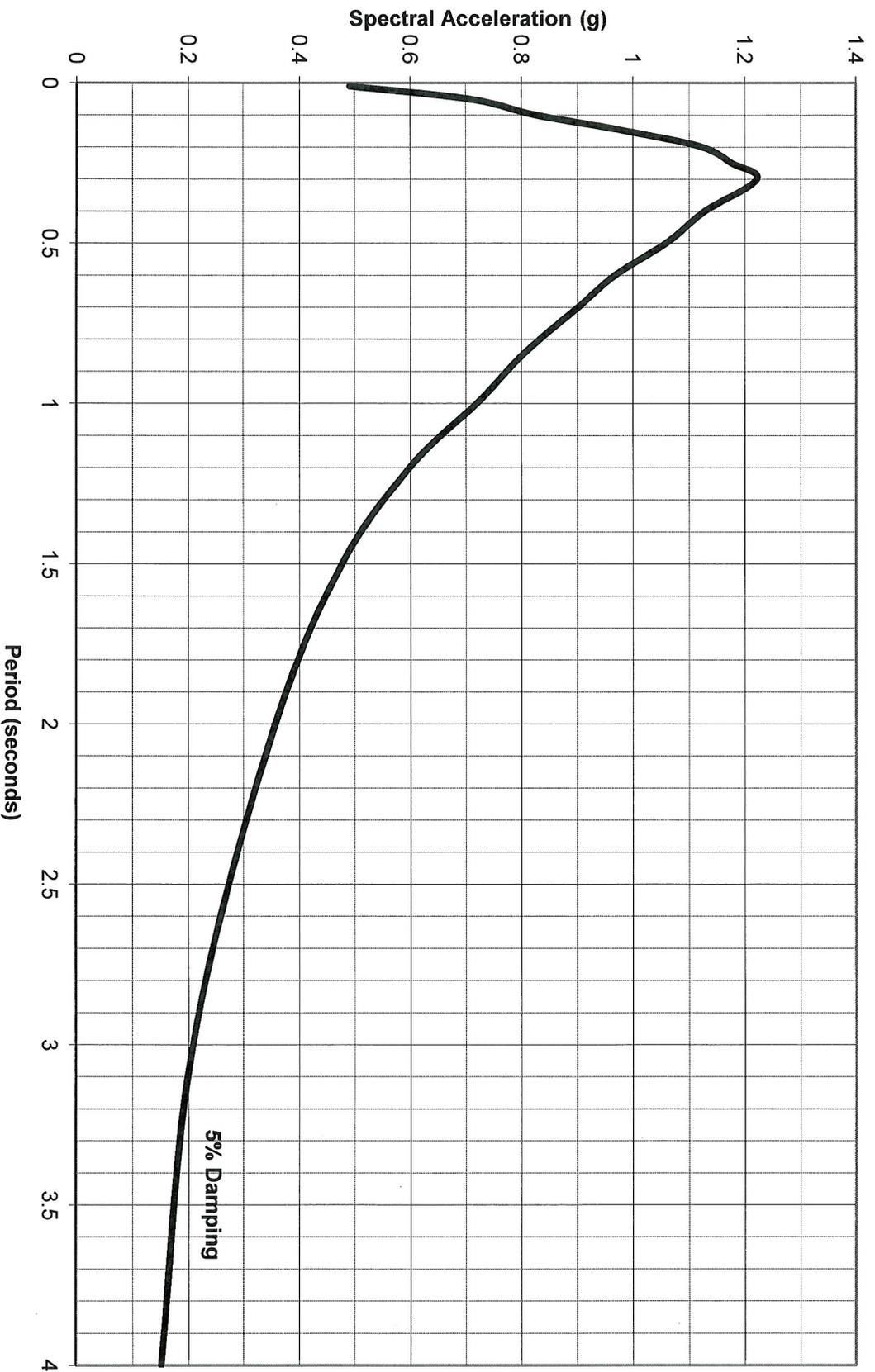


Figure 2

INFORMATION HANDOUT

For Contract No. 01-0A1004

At 01-DN-101-VAR

Identified by

Project ID 0112000023

MATERIALS INFORMATION

[Final Seismic Design Recommendations for Bridge No.01-0023, dated January 22, 2015](#)

Memorandum

*Flex your power!
Be energy efficient!*

To: MR. DAN ADAMS
Senior Bridge Engineer
Division of Engineering Services
Office of Bridge Design-South 2
Bridge Design Branch 10

Date: January 22, 2015

File: 01-DN-101-PM 39.63
01-0A1000
Rowdy Creek Bridge
Bridge No. 01-0023

Attention: Larry Wu

From: HOSSAIN SALIMI
Senior Materials and Research Engineer
Division of Engineering Services
Geotechnical Services – MS-5
Office of Geotechnical Design-West

Subject: Final Seismic Design Recommendations

Introduction

This memorandum is in response to your request dated December 17, 2014 to provide the Final Seismic Design Recommendations (FSDR) for the proposed retrofit of the existing simply supported 2-span Rowdy Creek Bridge (No. 01-0023) located on Route 101 north of Crescent City in Del Norte County. The existing structure was built in 1951, widened in 1991, and is supported on reinforced concrete spread footings.

It should be noted that the Preliminary Seismic Design Recommendations (PSDR) for this structure was submitted to your Office in a memorandum dated June 18, 2014. Due to the available more recent subsurface data and the nature of the materials encountered at the site, a new subsurface investigation was not deemed necessary. Therefore, most of the findings in the original PSDR and as outlined in this memorandum are still valid and considered final.

Seismicity and Fault Data

According to the latest California Seismic Hazard Map (Version 2.3.06), which is based on the United States Geological Survey (USGS) and California Geological Survey (CGS)

Mr. Dan Adams
January 22, 2015
Page 2

Rowdy Creek Bridge
Bridge No. 01-0023

maps, the nearest active faults are Big Lagoon-Bald Mountain (Reverse) with Maximum Magnitude, $M_{max}=7.5$, located over 15 kilometers west of the site, Cascadia Subduction Zone (Reverse) with Maximum Magnitude, $M_{max}=8.3$, located just over 36 kilometers west of the site, and Trinidad (Reverse) with Maximum Magnitude, $M_{max}=7.5$, located over 50 kilometers southwest of the site. Please note that the distance provided here and in the table on page 3 for each fault is the horizontal distance to the fault trace or surface projection of the top of rupture plane.

There are no known faults projecting towards or passing directly through the project site. Therefore, the potential for surface rupture at the site due to fault movement is considered minimal.

Geology and Subsurface Conditions

The available subsurface data include original Log-of-Test-Borings (LOTB) from 1949 as well as two more recent borings from 1989. The LOTBs from 1989 designated as B-1, and B-2 were drilled to depths of 50 feet and 39 feet, respectively. Based on these borings, the geology at the site consists of about 20 to 25 feet of slightly compact to dense sandy gravel, silty sand, and some stiff silty clay underlain by very dense moderately to highly fractured and weathered Shale.

Groundwater and Liquefaction Potential

Groundwater was measured and is consistent with the water surface elevation in the creek (elevation 38 feet). However, soil liquefaction potential during a seismic event is considered low due to the nature of materials encountered.

Fault and Seismic Data

Based on aforementioned LOTBs and using the available correlations, a shear wave velocity $V_{s30} = 500$ meters per second (m/s) is assigned to the site and used for the analysis. The following table includes the seismic data for nearby faults, distances, and Maximum Magnitudes.

Mr. Dan Adams
January 22, 2015
Page 3

Rowdy Creek Bridge
Bridge No. 01-0023

Source	Fault Type	Distance to Site (km)	Maximum Magnitude (Mmax)	Peak Ground Acceleration (PGA)
Big Lagoon-Bald Mountain Fault	Reverse	15.4	7.5	0.35
Cascadia Subduction Zone Fault	Reverse	36.2	8.3	0.23
Trinidad Fault	Reverse	50.3	7.5	0.1
Probabilistic Seismic Hazard Analysis (975 year Return Period)	-	-	-	0.4

Note: The distance provided is the horizontal distance to the fault trace or surface projection of the top of rupture plane.

Acceleration Response Spectrum

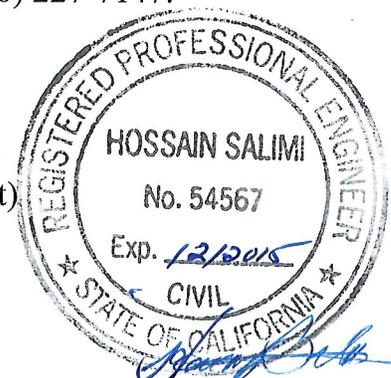
The Acceleration Response Spectrum (ARS) curves based on both Caltrans ARS On-Line Deterministic Seismic Hazard Analysis (DSHA) and Probabilistic Seismic Hazard Analysis (PSHA) version 2.3.06 using a 975-year return period (5% probability of exceedance in 50 years) were generated for the site, incorporating the latest Attenuation Relationship models, and all four curves were compared. Due to the high seismicity of the site, the PSHA response spectrum (Caltrans ARS On-Line) was higher than the other spectra (please see Figure 1), and chosen as the recommended ARS for the site (see Figure 2).

Please note that the final ARS curve has been modified to account for the proximity of the site to the fault. The modifications are such that there is no increase in spectral acceleration in periods less than 0.5 seconds and a 20% increase for periods greater than one second. A linear interpolation was used between 0.5 and one second.

If there are any questions, please contact Hossain Salimi at (916) 227-7147.

Attachments

c: TPokrywka (OGD-West) MHung (OGD-West)
MMacaranes (OGD-West) RNashed (OGD-West)



Acceleration Response Spectra comparisons for Rowdy Creek Bridge

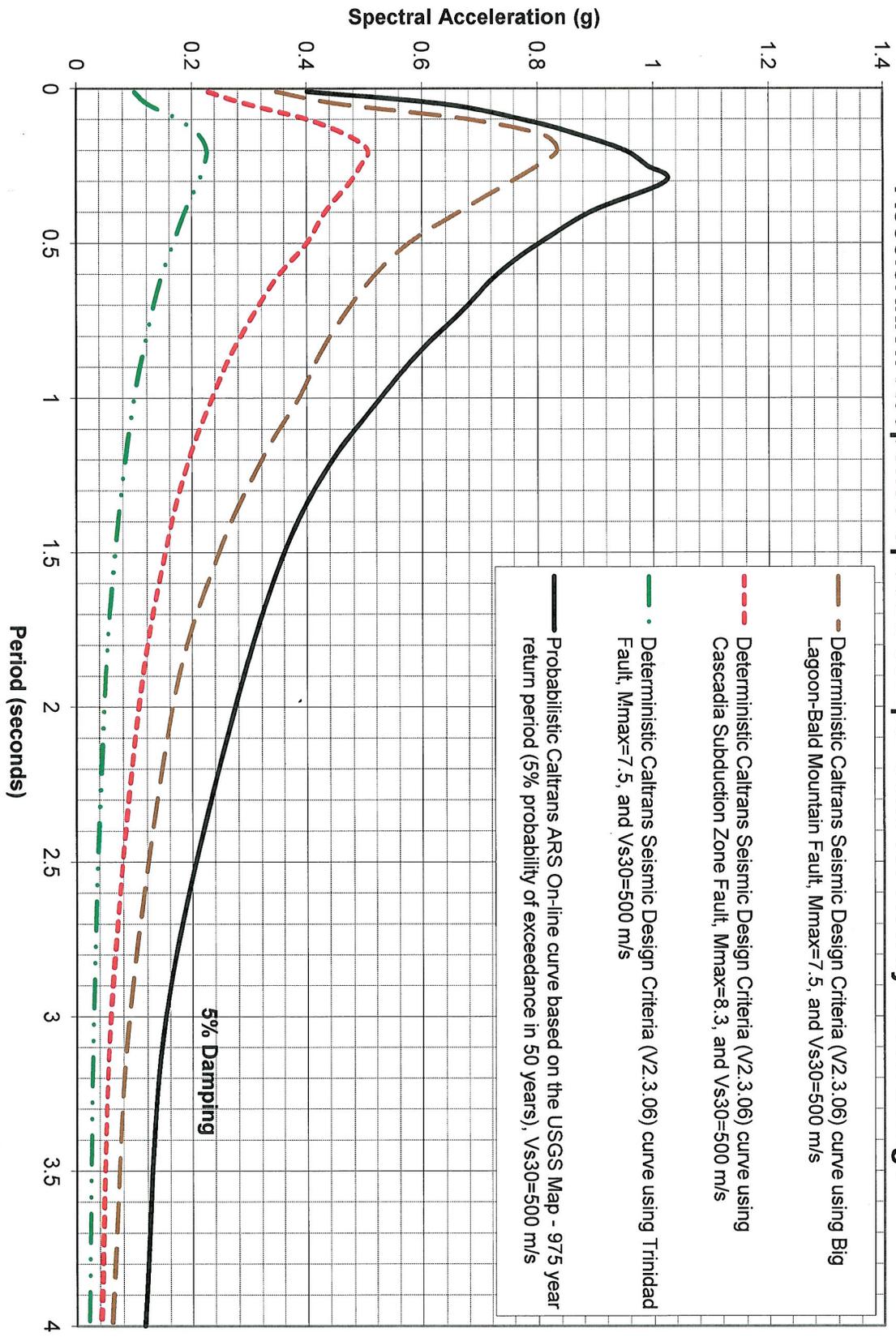


Figure 1

Recommended Final Acceleration Response Spectrum for Rowdy Creek Bridge

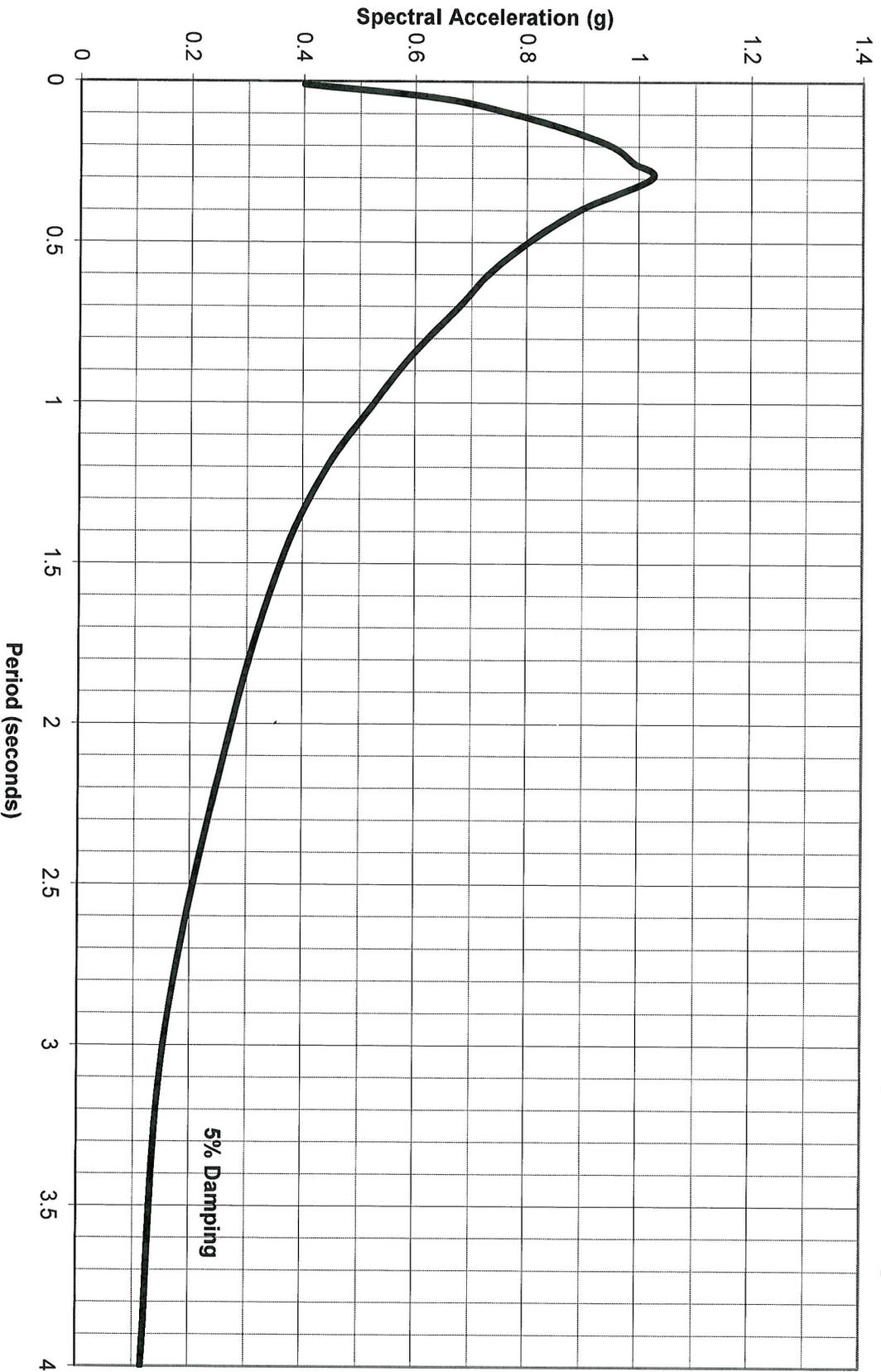


Figure 2