

Preface

California's vast transportation network serves as the backbone of the state's economy, with the California Department of Transportation (Caltrans) and local agencies overseeing the safety and structural integrity of over 26,000 bridges. As these vital structures age, are subjected to increasing traffic demands, and face severe environmental conditions, preservation and structural rehabilitation become paramount.

The *Structure Rehabilitation and Repair Manual* has been developed to provide technical guidance and specification interpretation related to the duties of SC staff when administering construction projects involving:

1. Normal maintenance or retrofit of existing structures
2. Repair of structures in emergencies
3. Repair of defective structure-work.

In 2015, Structure Construction (SC) initiated a team to develop a Quality Management System (QMS) based on ISO 9001:2015. As part of this effort, it became apparent that this manual was needed to gather legacy technical resources, tribal knowledge, and business practices related to rehabilitation and repair projects (RRP). This would provide a valuable resource for training of SC staff; additionally, it also allows for SC top management to clearly define the organization's products and services and how they are to be delivered to ensure quality. It is important to note that this manual is only one component of the SC QMS. The *SC Bridge Construction Records and Procedures Manual (BCR&P Manual)* provides SC-specific policies, processes, procedures, expectations, and technical guidance related to the duties of SC staff. This rehabilitation manual serves as a companion to the *BCR&P Manual* in providing further details, explanations, and examples related to RRP. Additionally, there is substantial overlap in work operations and techniques related to both new construction and RRP. This manual avoids duplication of information for overlapping work and instead simply refers to other Caltrans publications that currently contain the information.

In developing this manual, SC Technical Team D - Structure Rehabilitation Team, worked in close collaboration with other Caltrans' functional units, including Bridge Design, Structure Maintenance & Investigations, Materials Engineering and Testing Services, Structure Specifications Research and Development, and Structures Independent Quality Assurance. They have provided invaluable contributions to this manual, and SC would like to recognize and thank them for their effort.

This manual is intended to serve as a guidance document and is not a substitute for sound engineering knowledge, experience, or judgment. This is because every structure and repair scenario presents unique challenges – such as site accessibility, traffic constraints, and material limitations. SC provides its staff with other valuable resources and expertise to assist with their challenging work. These resources include their Bridge Construction Engineer, SC Technical Teams, SC Headquarters Specialists, and the assistance of other Caltrans functional units.

As specifications, construction practices, and structural policies evolve, the Division of Engineering Services will issue updates to this manual. Users are encouraged to utilize the most current version available on the internet and are responsible for remaining up to date with the latest policies. The latest version of the manual is published directly through the Caltrans Division of Engineering Services [Manuals](#) portal; change letters are available on the SC Intranet via the corresponding “Manuals” tab.

Signed,



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