

# Introduction

## Caltrans – Temporary Structures – Manuals and Guidelines

- Jim Nicholls – Falsework Engineer
  - Provide technical support to field staff for temporary structures
  - Develop guidelines and standards
  - Railroad liaison for temporary structures

# Teams

## Caltrans – Temporary Structure Technical Team (TSTT)

- Sponsor: Bryan Bet
- Chair: Jim Nicholls
- Members:
  - 4 Senior Bridge Engineers
  - 5 Structure Representatives
- Meets monthly
- Goals:
  - Develop guidelines and standards
  - Discuss field issues not addressed in current guidelines
- Publish a quarterly newsletter

# Teams

## Caltrans / Industry – Falsework Advisory Team (FWAT)

- Last meeting May 2023
- Typically Meets twice a year
- Meeting are hybrid in person and online
- Goals:
  - Discuss guidelines and standards for safe temporary structure design and construction
  - How to improve temporary structure specifications
  - Eliminate temporary structure failures

# Manuals produced by the Temporary Structure Technical Team (TSTT)

- Falsework Manual
- Bridge Removal Manual
- Temporary Structure Manual

# Falsework Manual

- Revised manual published April 2020
- Revision 1 published September 2020
  - Minor revisions to figures in chapter 8 *Foundations*
- Revision 2 published January 2021
  - Minor revision to figures in chapters 3 and 4
  - Revision to chapter 5 for calculating shear stress to conform to NDS
- Revision 3 published August 2021
  - Minor typos and clarification
  - Chapter 3 *Loads*, added stream flow force
  - Chapter 7 *Manufactured Assemblies*, removed requirement for second engineers stamp for metal shoring systems and removed restrictions on screw jacks at base
- Revision 4 published June 2022
  - Removed requirement for BCE to initial forms TR-0019 and TR-0029 for change of clearance or load rating through falsework openings

# Falsework Manual

- Revision 5 will be published soon
  - Minor typos in chapter 2
  - Section 4-8 *Prestressing Forces*, Clarification was added to what loads the are required to be supported after dead load redistribution due to prestressing the structure
  - Section 4-12.03, *Horizontal Clearances*, revised to agree with horizontal clearance requirements of contract specification section 12-3.20 *Temporary Barrier Systems*

Version with updates through Revision 5 is being converted to be ADA compliant. Noncompliant versions can be requested by emailing the address below:

[osc.administration@dot.ca.gov](mailto:osc.administration@dot.ca.gov)

# Bridge Removal Manual

- Published July 2023
- Table of Contents

## TABLE OF CONTENTS

<b>Chapter 1</b>	<b>Introduction</b>	<b>Page</b>
	1-1 Purpose and Scope	1-2
	1-2 Statement of Structure Construction Policy	1-2
	1-3 Contract Specifications and References	1-2
	1-4 Contractual Relationships	1-4
	1-5 Cal/OSHA Demolition References	1-4
	1-6 Definitions	1-4
<b>Chapter 2</b>	<b>Review and Authorization of Bridge Removal Work Plans</b>	<b>Page</b>
	2-1 Introduction	2-2
	2-2 Design Calculations and Shop Drawing	2-2
	2-3 Bridge Removal Work Plan Review	2-3
	2-4 Safety and Cal/OSHA Requirements	2-10
	2-5 Design Revisions to Authorized Plans	2-12
<b>Chapter 3</b>	<b>Bridge Removal Methods</b>	<b>Page</b>
	3-1 Introduction	3-2
	3-2 Bridge Removal Types	3-2
	3-3 Partial Bridge Removal	3-3
	3-4 Complete Bridge Removal	3-4
	3-5 Typical Equipment	3-5
	3-6 Temporary Supports	3-15
	3-7 Special Locations	3-19
<b>Chapter 4</b>	<b>Loads</b>	<b>Page</b>
	4-1 Introduction	4-2
	4-2 General Loading Requirements	4-2
	4-3 Dead Loads	4-3
	4-4 Live Loads	4-3
	4-5 Horizontal Loads	4-4
	4-6 Removal Sequence	4-5
	4-7 Stability	4-5

<b>Chapter 5</b>	<b>Design Considerations</b>	<b>Page</b>
5-1	Introduction	5-2
5-2	Protected Facilities	5-2
5-3	Types of Protective Covers	5-2
5-4	Protective Cover Design	5-7
5-5	Traffic Openings	5-7
5-6	Railroad Requirements at Railroad Openings	5-7

<b>Chapter 6</b>	<b>Bridge Removal Elements</b>	<b>Page</b>
6-1	Barrier Rail and Edge of Deck	6-2
6-2	Deck	6-9
6-3	Girders	6-16
6-4	Bent Caps	6-18
6-5	Bents and Columns	6-19
6-6	Abutments	6-21
6-7	Footings	6-23
6-8	Pilings	6-23
6-9	Special Locations	6-24

<b>Chapter 7</b>	<b>Environmental Considerations</b>	<b>Page</b>
7-1	Introduction	7-2
7-2	Stormwater Pollution Protection Program (SWPPP)	7-3
7-3	Air Quality	7-6
7-4	Lead Compliance	7-9
7-5	Biological Protection	7-9
7-6	Noise	7-13

<b>Chapter 8</b>	<b>Inspection</b>	<b>Page</b>
8-1	Introduction	8-2
8-2	Contract Plans and As-Built Project Plans	8-3
8-3	Bridge Removal Work Plan	8-4
8-4	Traffic	8-6
8-5	Protective Covers	8-7
8-6	Equipment and Crew	8-8
8-7	Superstructure	8-9
8-8	Substructure	8-11
8-9	Special Locations	8-12
8-10	Contractor's Engineer	8-12

<b>Appendices</b>	Appendix A: Removing Concrete from Bridges NCHRP 169
	Appendix B: Bridge Removal Work Plan Review



# Temporary Structure Manual

- Currently being drafted
- Addresses temporary structure not found in the Falsework or Trenching and Shoring manuals
- Format of chapters are as follows
  - Introduction
  - Contractual requirements
  - Cal-OSHA requirements
  - Review and authorization
  - Design considerations
- Example problems for select topics located in Appendix A

# Temporary Structure Manual

<b>Chapter 1</b>	<b>Introduction</b>	<b>Page</b>
	1-1 Purpose and Scope	1-X
	1-2 Definitions	1-X
	1-3 Statement of SC Policy	1-X
	1-4 Contract Specifications and References	1-X
	1-5 Contractual Relationships	1-X
<b>Chapter 2</b>	<b>Review and Authorization of Temporary Structure Plans</b>	<b>Page</b>
	2-1 Introduction	2-X
	2-2 Design Calculations	2-X
	2-3 Initial Review	2-X
	2-4 Temporary Structure Plan Authorization	2-X
	2-5 Safety and Cal/OSHA Requirements	2-X
	2-6 Design Revisions to Authorized Drawings	2-X
<b>Chapter 3</b>	<b>Design Considerations</b>	<b>Page</b>
	3-1 Introduction	3-X
	3-2 Dead Loads	3-X
	3-3 Live Loads	3-X
	3-4 Environmental Loads	3-X
	3-5 Load Combinations	3-X
<b>Chapter 4</b>	<b>Trestles, Haul Bridges and Platforms</b>	<b>Page</b>
	4-1 Introduction	4-X
	4-2 Contractual Requirements	4-X
	4-2 Loads	4-X
	4-3 Design Considerations	4-X
<b>Chapter 5</b>	<b>Guying Forms and Rebar Assemblies</b>	<b>Page</b>
	5-1 Introduction	5-X
	5-2 Contractual Requirements	5-X
	5-3 Cal/OSHA Requirements	5-X
	5-4 Review and Authorization	5-X
	5-5 Design Considerations	5-X

Addresses temporary structures that are not falsework or shoring

Addresses review and authorization similar to what can be found in the falsework and bridge removal manuals

Discusses types of structures, typical loading based on industry standards, and references that can be used to determine loads. Methods for determining wind loads are discussed.

Guideline for review of trestles, haul bridges, and work platforms with emphasis on verifying loads provided by designer are reasonable and are supported by industry standards. Moving loads from equipment, dynamic loads from drilling operations and standards for design will be addressed

This chapter will include information found in the Reviewing Guy Wire Plans, published in 2003. The information will be updated to current specifications and figures redrawn for clarity.

# Temporary Structure Manual

	<a href="#">5-6 Design Calculations</a>	5-X
	<a href="#">5-7 Construction</a>	5-X
<b>Chapter 6</b>	<b>Deck Plates</b>	<b>Page</b>
	<a href="#">6-1 Introduction</a>	6-X
	<a href="#">6-2 Contractual Requirements</a>	6-X
	<a href="#">6-3 Design Considerations</a>	6-X
	<a href="#">6-4 Caltrans Designed Deck Plates</a>	6-X
	<a href="#">6-5 Contractor Designed Deck Plates</a>	6-X
	<a href="#">6-6 Field Maintenance and Inspection</a>	6-X
		6-X
<b>Chapter 7</b>	<b>Bridge Scaffolds</b>	<b>Page</b>
	<a href="#">7-1 Introduction</a>	7-X
	<a href="#">7-2 Contractual Requirements</a>	7-X
	<a href="#">7-3 Cal/OSHA Requirements</a>	7-X
	<a href="#">7-4 Design Considerations</a>	7-X
	<a href="#">7-5 Review and Authorization</a>	7-X
	<a href="#">7-6 Containments Systems</a>	7-X
		7-X
<b>Chapter 8</b>	<b>Temporary Bridges</b>	<b>Page</b>
	<a href="#">8-1 Introduction</a>	8-X
	<a href="#">8-2 Contractual Requirements</a>	8-X
	<a href="#">8-3 Cal/OSHA Requirements</a>	8-X
	<a href="#">8-4 Design Considerations</a>	8-X
<b>Chapter 9</b>	<b>Temporary Supports</b>	<b>Page</b>
	<a href="#">9-1 Introduction</a>	9-X
	<a href="#">9-2 Contractual Requirements</a>	9-X
	<a href="#">9-3 Cal/OSHA Requirements</a>	9-X
	<a href="#">9-4 Design Considerations</a>	9-X
<b>Appendices</b>		
	Appendix A – Examples	

Addresses review and approval of contractor designed deck plates and field inspection of deck plates. Chapter will include check list for inspection along and maintenance of both contractor and Caltrans designed plates.

Guideline for review of scaffolding and the structures they are attached to. Emphasis on specification requirements and what is expected to be included in the submittal package. The role of SC and bridge design in the submittal review will be discussed. Typical examples will be included..

Guideline for review of temporary bridges. Emphasis on specification requirements and what is expected to be included in the submittal package. The role of SC and bridge design in the submittal review will be discussed

Addresses typical temporary supports including loading and connections that are different than falsework

Appendix A will include example problems as needed. Currently three problems have been drafted for guying, scaffolds, and wind loading.

# Questions?

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