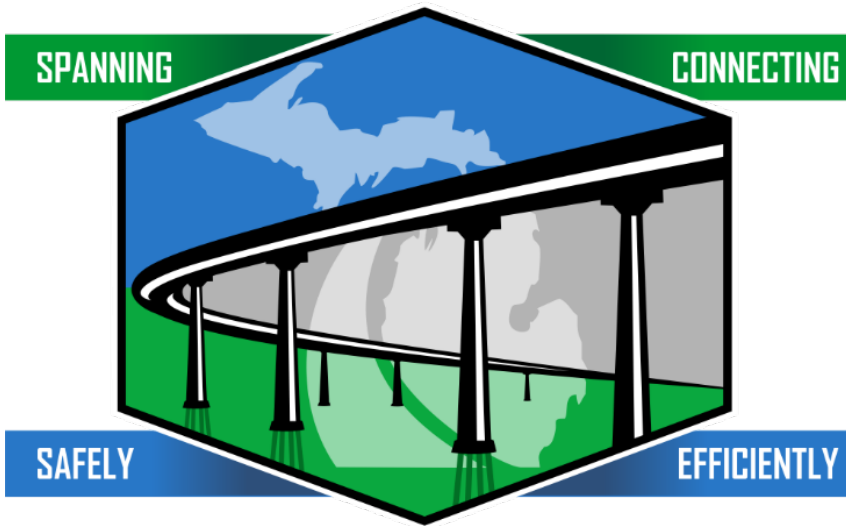
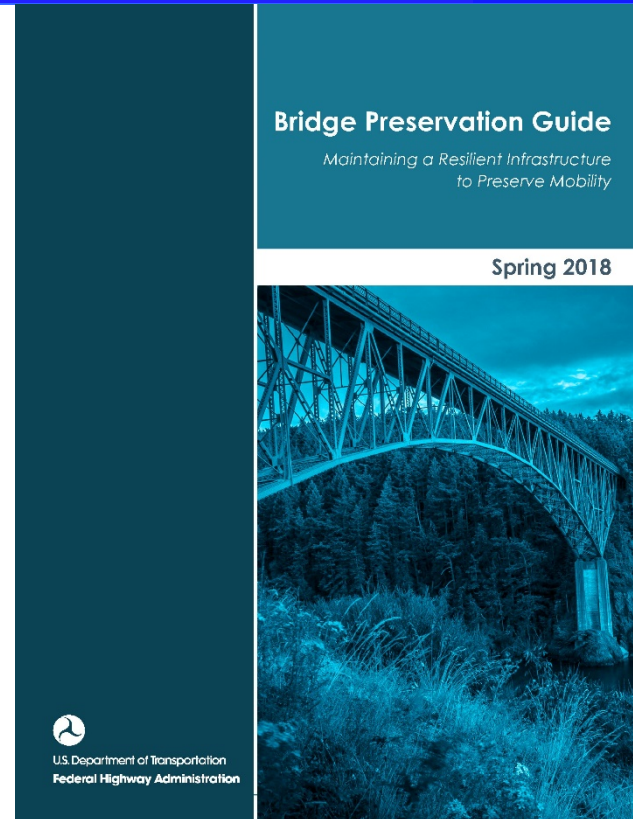


BUREAU of BRIDGES

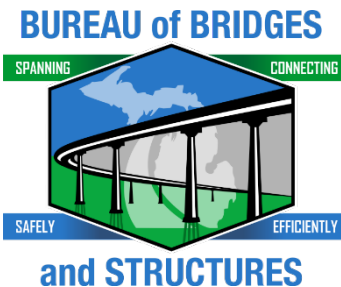


and STRUCTURES

Using the Products of the BPETG – Pocket Guides, Apps and Training Courses



2019 MWBPP - Bismarck

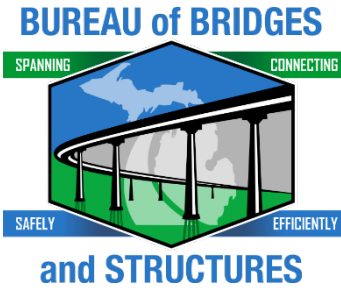


FHWA Bridge Preservation Expert Task Group (BPETG)

Goals & Strategic Objectives

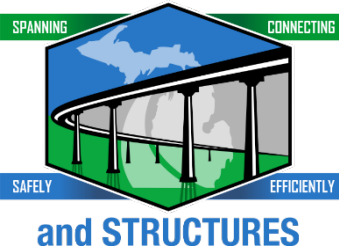
1. Provide information on cost-effective bridge preservation strategies
2. Communicate the benefits of including bridge preservation as a component of asset and performance management
3. Advise and assist in developing educational materials on bridge preservation
4. Foster a collaborative environment that encourages research and innovation

www.fhwa.dot.gov/bridge/preservation/

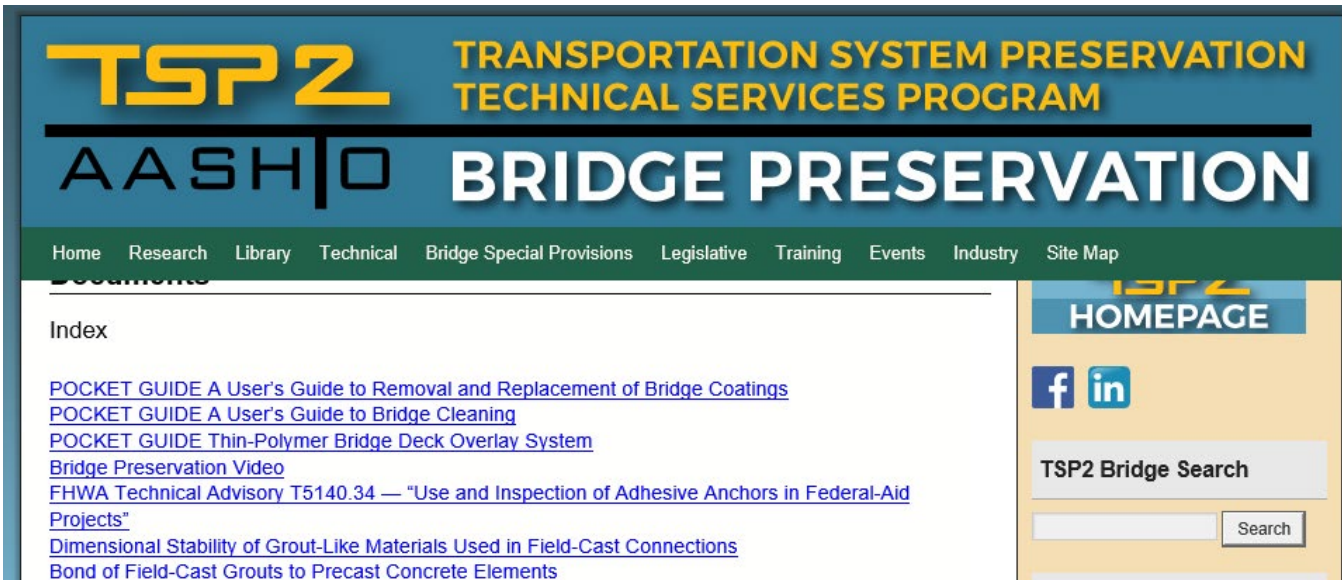


FHWA's Recent Activities Update

- Bridge Preservation Activities
 - What have we accomplished?
 - What's coming?



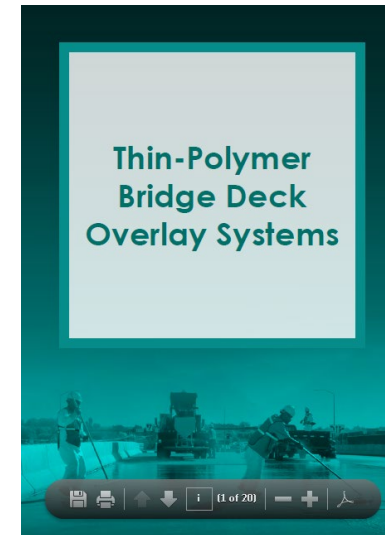
Pocket Guides are also Smart Phone Apps



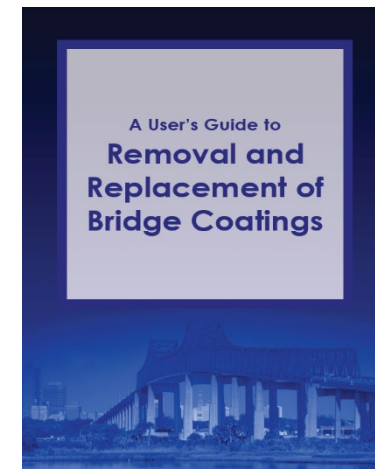
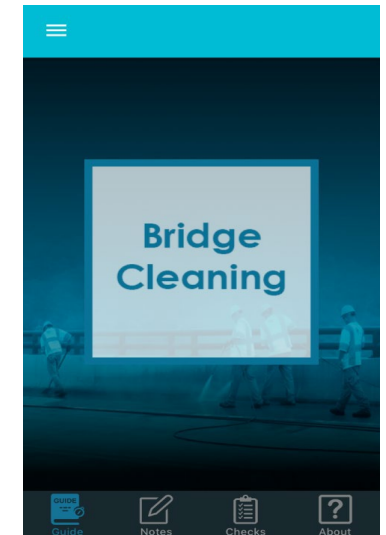
AASHTO TSP2 Web Page

Download Smart Phone App:

- "TPO Pocket Guide" – Thin Polymer Bridge Deck Overlay Systems
- "BC Pocket Guide" – Bridge Cleaning
- "RBC Pocket Guide" – Bridge Coatings



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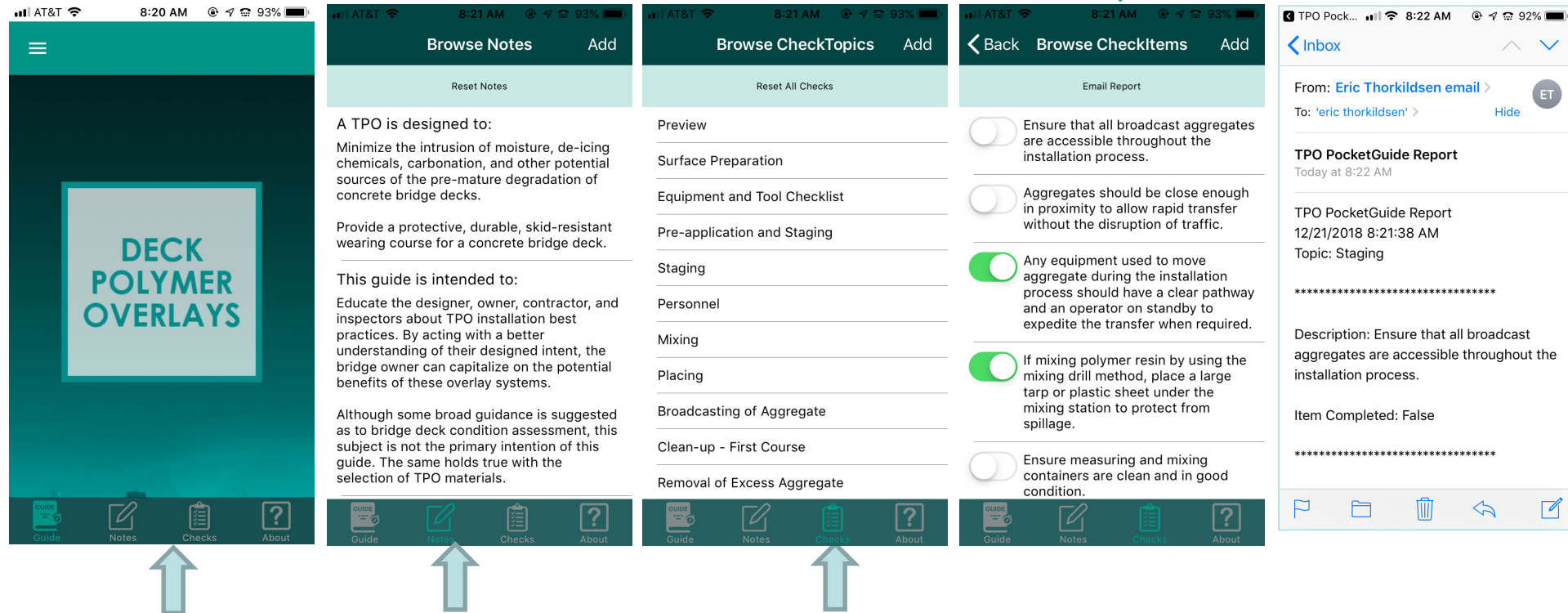
Pocket Guides are also Smart Phone Apps

- PDF of Guide on App

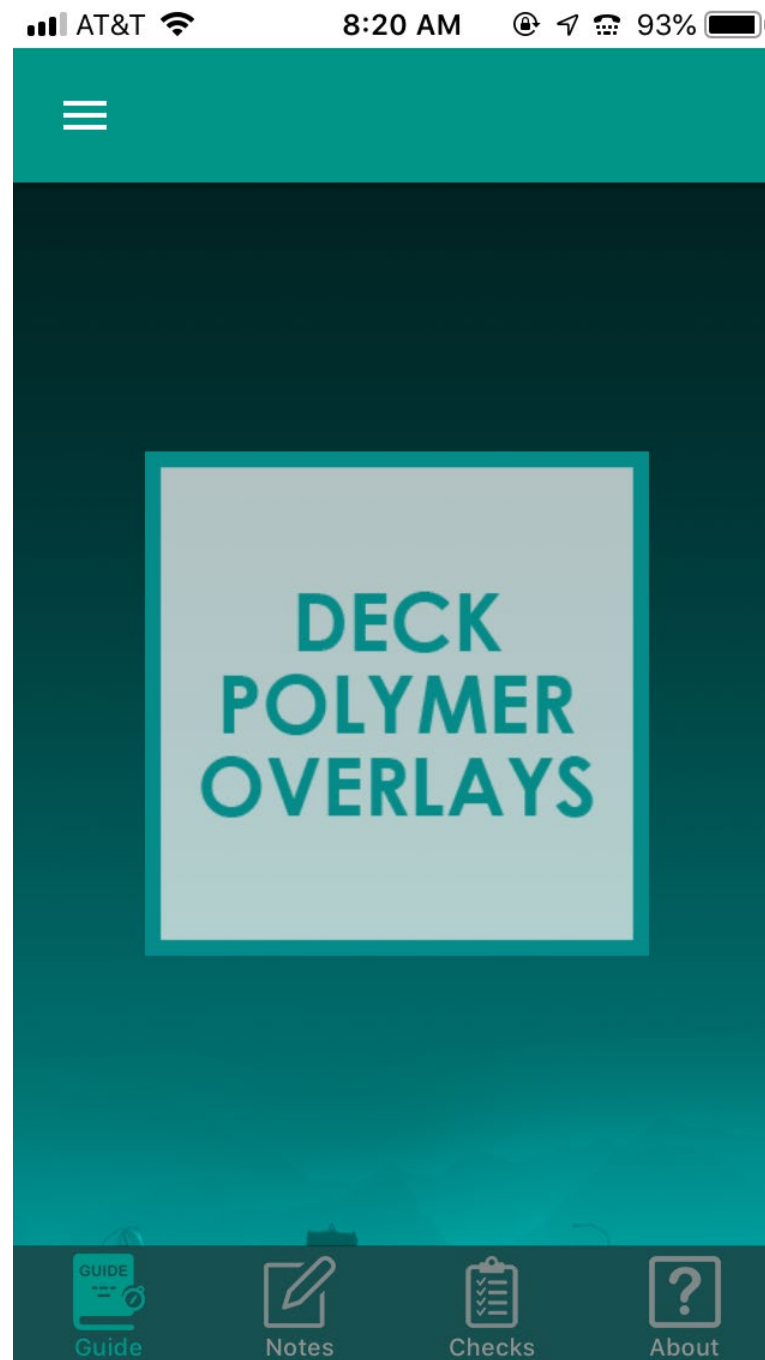
- Notes

- Checklists

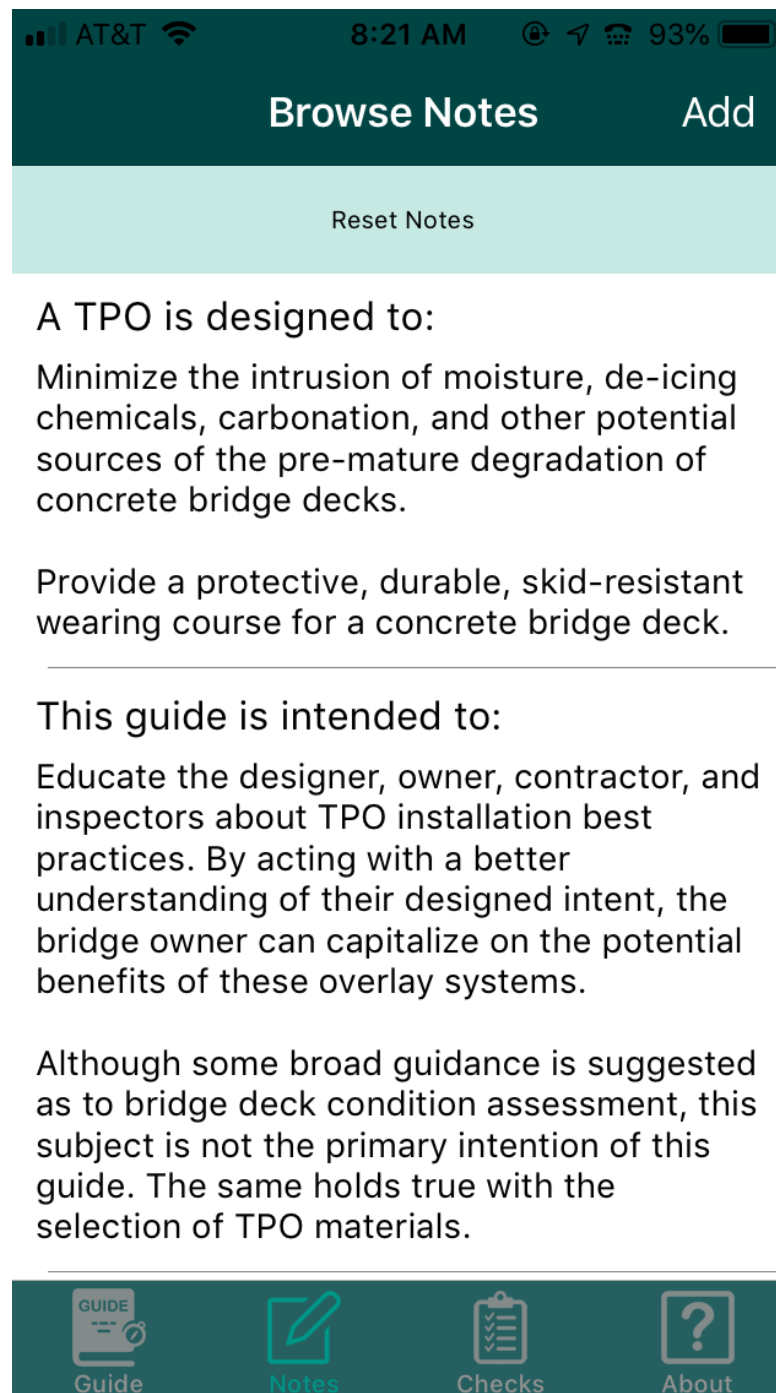
- Email Report



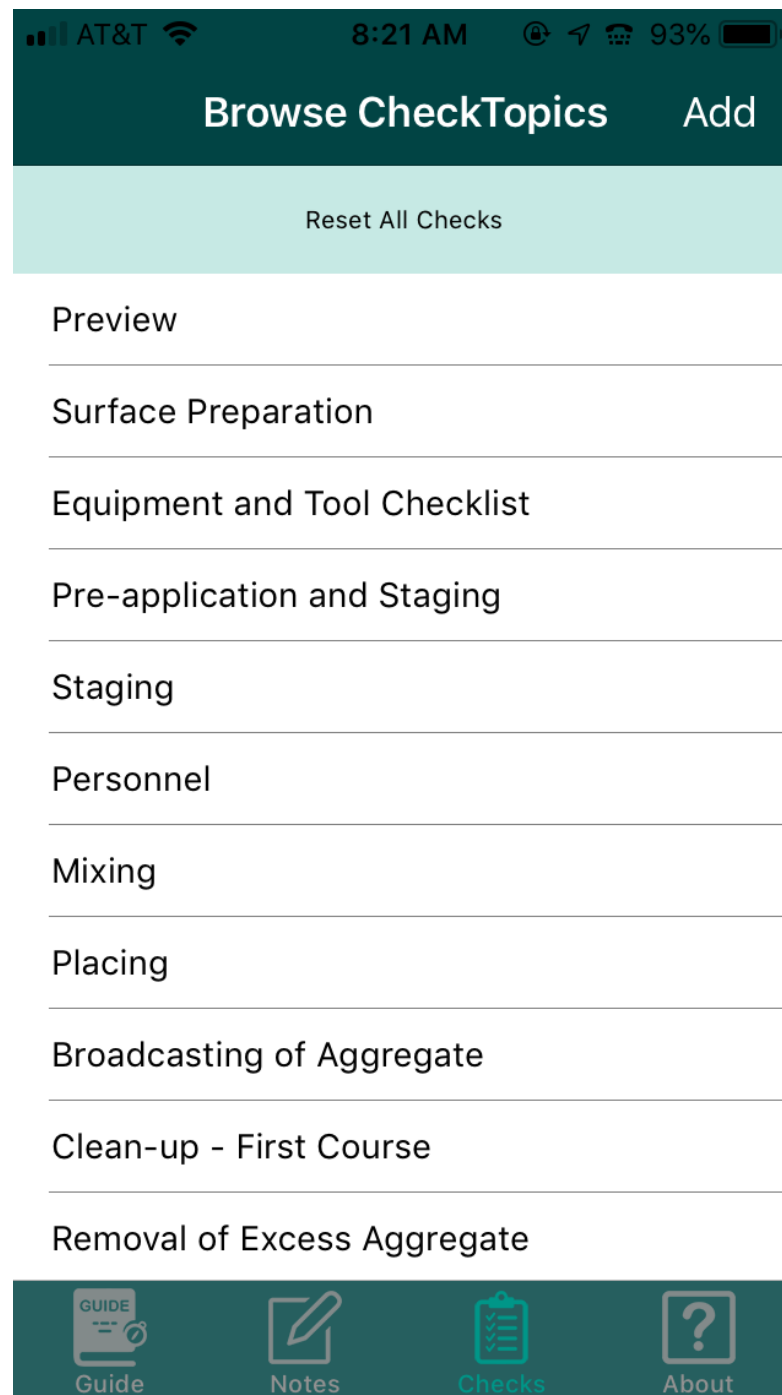
TPO APP



TPO APP



TPO APP



TPO Surface Prep Checklist

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< Back Browse CheckItems Add

Email Report

☐ Is there a requirement for an adhesion/bond test for this project? If so, is the necessary testing equipment available and have the testing procedures been reviewed and understood?

☐ Have any un-sound areas been properly repaired with a compatible repair mortar? If so, make sure the repair materials are fully cured/or hardened to accept the overlay system.

☐ Remove paint markings, visible grease, oils, and other surface contaminants prior to shot-blasting. Mechanical methods for removing contaminants may include sand-blasting, grinding and/or scarification. Solvents can be used for spot removal of grease or other contaminants. Confirm the resin binder system manufacturer has approved of any methods used for removing contaminants and that everything is compliant with the specification.

☐ Shot-blast the entire deck with the proper equipment, shot size, and equipment speed to remove all contaminants, including weak surface mortar. Shot-blasting should provide the specified surface profile with an open

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TPO Surface Prep Checklist

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Email Report

☐

Shot-blast the entire deck with the proper equipment, shot size, and equipment speed to remove all contaminants, including weak surface mortar. Shot-blasting should provide the specified surface profile with an open pore structure and exposed coarse aggregate of the concrete deck surface. The ICRI Technical Guideline No. 03732, "Selecting and Specifying Concrete Surface Preparation for Coatings, Sealers, and Polymer Overlays," is a good reference guide for the determination of proper surface preparation.

☐

Remove dust or debris just before application of the resin with oil-free, compressed air. A high-pressure air-compressor (180 cfm) fitted with an oil trap and an air lance is commonly used. Cover the whole deck area while moving the air lance in a circular motion about 12 inches above the deck.

☐

Apply the overlay system immediately after final cleaning operations have taken place. Determinations are sometimes made in the field allowing traffic on the deck 24 hours after surface preparation has been finished; in this situation, a light shot-blast and/or brush-blast of the deck prior to the installation of the overlay is recommended.

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Notes

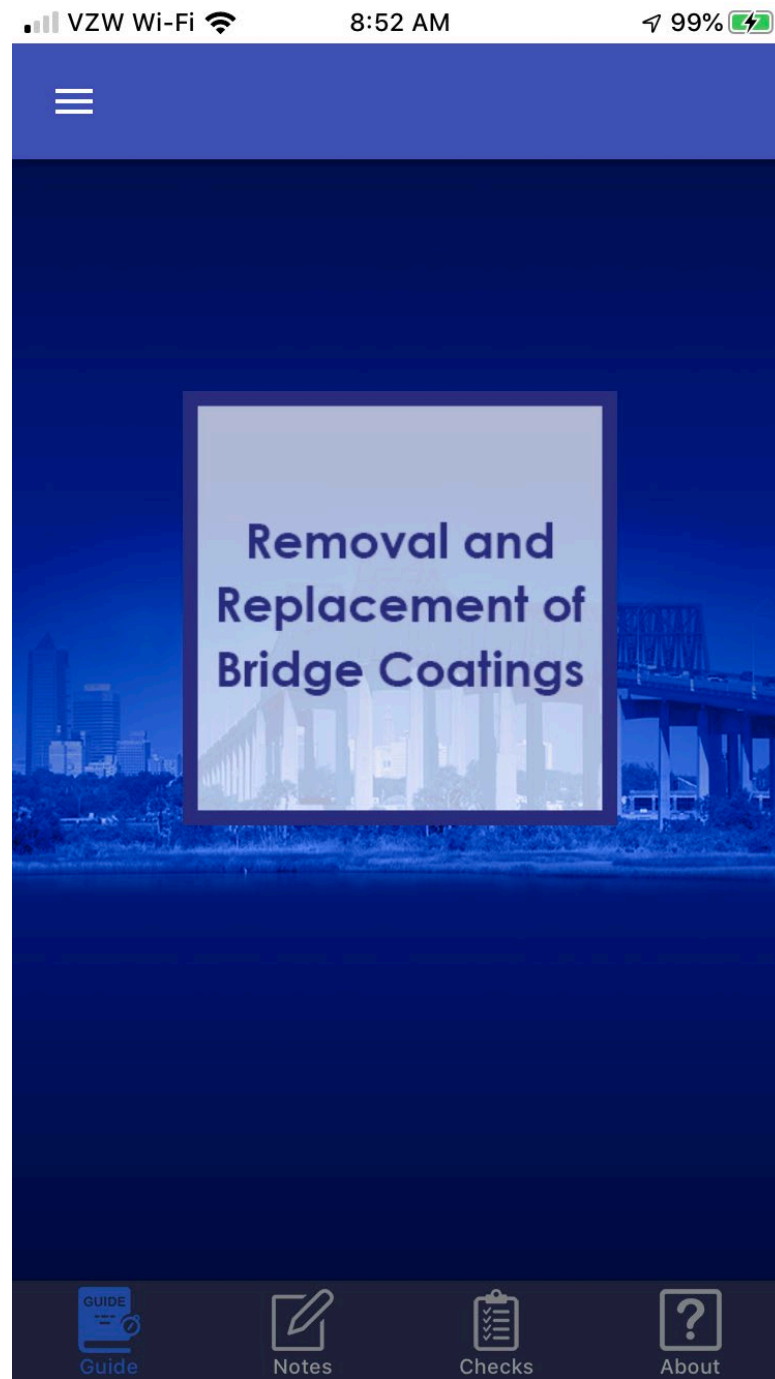
Checks

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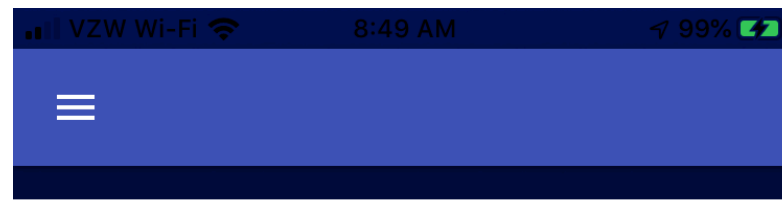
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About

Bridge Coating App



Bridge Coating Pocket Guide

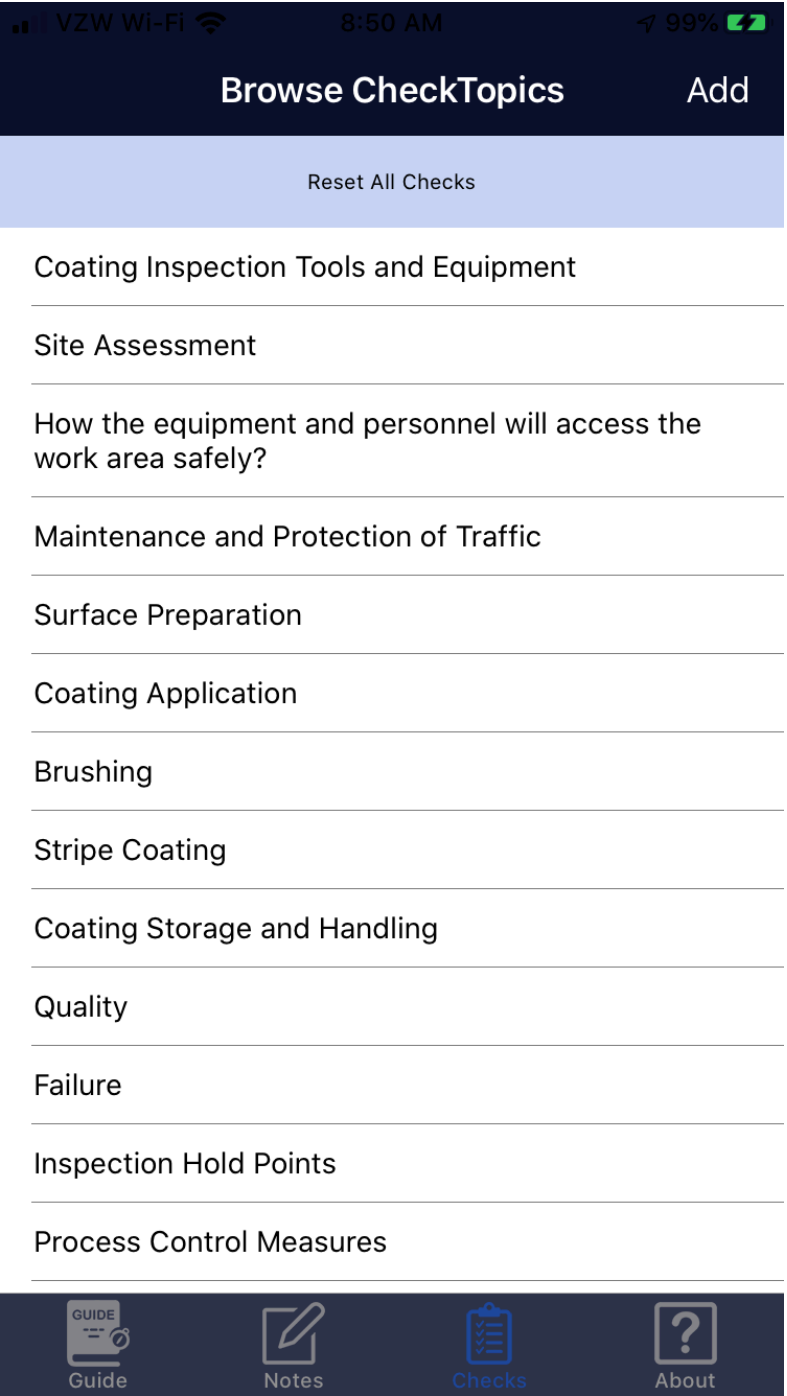


Introduction

This guide has been developed to encourage a better understanding of the process to completely remove and replace bridge coatings for the structural steel elements of bridges in service. The guide describes how to plan and execute a coatings removal and replacement operation with an emphasis on the three primary activities of containment, surface preparation and painting. This guide does not cover shop applied coatings or spot painting operations, however much of the information presented represents best practices for all bridge coating work.



Bridge Coating Checklists



Bridge Coating Safety Checklist

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Add

Email Report

☐

Identify the toxicity of the existing coating (Lead, PCBs, cadmium, chromium, hexavalent chromium).

☐

Identify the removal, safe handling and disposal methods of hazardous materials.

☐

Maintain a safe and uncluttered passageway for foot traffic in the containment system, and between staging and work areas.

☐

Ensure employees are trained on the proper fit and use of a respirator.

☐

Review Personal Protective Equipment (PPE) protocols including fall protection requirements.

☐

Review the procedure for decontamination and handling of contaminated clothing.

☐

Confirmation that Safety Data Sheets (SDS) information for the paint systems and solvents are available and reviewed with the Safety Administrator.

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Bridge Cleaning APP



Bridge Cleaning Table of Contents

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BC Pocket Guide

- Bridge Cleaning
- Introduction
- Background
- Accumulation of Contaminants
- Planning and Preparation
- Bridge Components to be Cleaned
- Equipment
- Frequency of Cleaning
- Environmental Regulations
- Maintenance and Protection of Tr...
- Safety

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Bridge Cleaning Frequency

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Frequency of Cleaning

Bridge owners should set performance targets for activities such as bridge cleaning as a method to preserve the useful service life of their bridges. For example, the performance target could be to sweep a bridge every year and wash the bridge every second year. These targets are generally a baseline and do not account for the unique circumstances of some bridges. The following factors may help bridge owners establish the appropriate cleaning frequency:

- The types of contaminants that might collect on a bridge and its elements.
- The immediate danger that such deposits could create, such as drainage backed up from a blocked scupper.
- The locations on the bridge where specific contaminants would collect.
- The most appropriate method of cleaning and the necessary equipment to do the cleaning.
- Any special access equipment for reaching the

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Bridge Cleaning Checklists

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Reset All Checks

Accumulation of Contaminants

Bridge Components to be Cleaned

Equipment

Types of Access Equipment

Frequency of Cleaning

Environmental Regulations(Washington State DOT example)

Maintenance and Protection of Traffic

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Bridge Cleaning Washington DOT Sample Environmental

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Email Report

☐

Allows flushing the bridge after the bridge has undergone a "dry" cleaning.

☐

Requires drains to be protected using BMPs to prevent the dirty water from entering the stream or river below.

☐

Requires steel bridges that have flaky paint to be hand cleaned only and not washed.

☐

Requires bridges not over waterways to be hand cleaned, and drains protected, then the bridge may be flushed.

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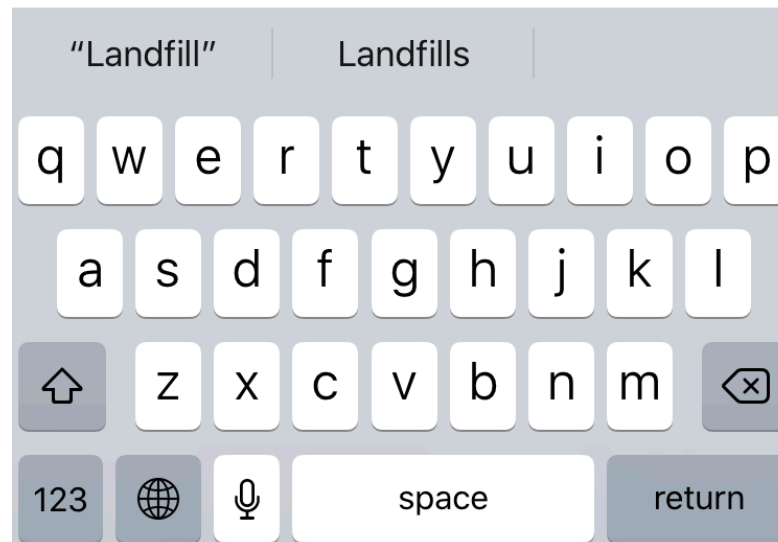
Adding to Checklists

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Text

oulds to be disposed at Hazardous Material Landfill



Adding to Checklists

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Email Report

☐ Allows flushing the bridge after the bridge has undergone a "dry" cleaning.

☐ Requires drains to be protected using BMPs to prevent the dirty water from entering the stream or river below.

☐ Requires steel bridges that have flaky paint to be hand cleaned only and not washed.

☐ Requires bridges not over waterways to be hand cleaned, and drains protected, then the bridge may be flushed.

☐ Michigan DOT requires full collection of solids prior to flushing

☐ Michigan DOT requires all collected solids to be disposed at Hazardous Material Landfill

GUIDE Notes Checks About

BC PocketGuide Report
10/15/2019 9:29:56 AM
Topic: Environmental Regulations(Washington State DOT example)

Description: Requires bridges not over waterways to be hand cleaned, and drains protected, then the bridge may be flushed.

Checklist
Report

Item Completed: False

Description: Michigan DOT requires all collected solids to be disposed at Hazardous Material Landfill

Item Completed: True

Pocket Guides – Future Topics

- Spot, Zone and Overcoat Painting
- Deck Patching (In production)
- Concrete Substructure Repairs
- Concrete Superstructure Repairs
- Rigid Overlays
- Steel Superstructure Repairs
- Bearings: Clean, Reset and Grease
- Removing Channel Debris and Scour Repairs

AASHTO – TC3

Formed an Alliance with AASHTO
Transportation Curriculum Coordination
Council (TC3)

- FHWA Bridge Preservation Guide –
Module 1 – Bridge Preservation Overview
Module 2 – How to start a Bridge Preservation
Program?
- Bridge Cleaning
- Thin Polymer Overlays
- Bridge Coatings

Technical Training

Find Training

PDHs

- ☐ Offers PDHs 27
- ☐ Does not offer PDHs 7

Category [see all](#)

- Maintenance 109

Subcategory [see all](#)

- ☒ Bridge & Culvert Maintenance

Discipline

- ☐ Cleaning 2
- ☐ Decks 3
- ☐ Erosion Control 1
- ☐ Repair 11

Maintenance Sort By: Alphabetical (A-Z)

There are 34 of 109 training(s) currently selected. Total 1 filter(s) selected.

Bridge & Culvert Maintenance

Bridge Cleaning (1 PDH)

This course was developed to give the user a better understanding of the cleaning methods appropriate for the removal of debris and chemicals, natural or manufactured, that can accumulate on a bridge. This course describes how to plan and execute a bridge cleaning operation considering best...

Non-Member Price:	\$50.00
Member Price:	\$25.00
Subscription Price:	\$0.00

Bridge Preservation Guide (1.5 PDH) - Price shows 50% DISCOUNT normally \$75

"This course follows the Bridge Preservation Guide that was developed for Federal, State, and local bridge engineers, bridge owners, and bridge preservation practitioners to support the Federal-aid Highway Program. The Bridge Preservation Guide: Maintaining a Resilient Infrastructure to Preserve..."

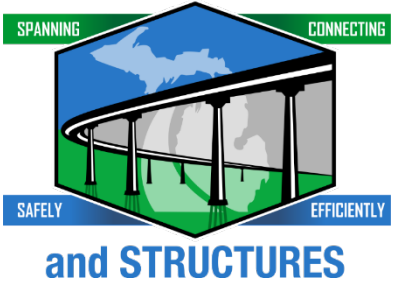
Non-Member Price:	\$38.00
Member Price:	\$19.00
Subscription Price:	\$0.00

CDL Air Brakes (1.5 hours)

Non-Member Price:	\$75.00
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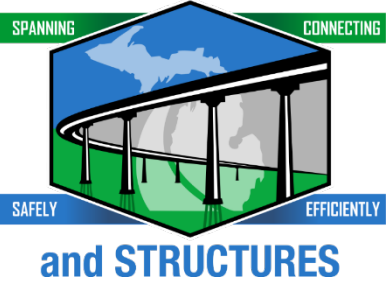
AASHTO TC3 Web Page

Training (Web-based Microlearning Sessions)



Current Available Classes – AASHTO – TC3

- Bridge Cleaning (TC3MN037-19-T1 (1.0PDH))
 - Bridge Preservation Guide (TC3MN036-19-T1 (1.5PDH))
 - Removal and Replacement of Bridge Coatings (TC3MN039-19-T1 (1.0PDH))
 - Thin-Polymer Bridge Deck Overlay Systems (TC3MN038-19-T1 (1.5PDH))
-
- TC3 Web Based Training are **Free** for employees of State DOT's that contribute annually to the TC3 Technical Service Program
-



Questions?

