

SPECIAL NOTE FOR PREVENTIVE MAINTENANCE

1. DESCRIPTION.

Perform all work in accordance with the Kentucky Transportation Cabinet, Department of Highway's Standard Specifications for Road and Bridge Construction and applicable Supplemental Specifications, the Standard Drawings, (current editions), this Note and Attached Detailed Drawings. Section references are to the Standard Specifications. This work consists of the following: (1) Furnish all labor, materials, tools, and equipment, (2) Bridge Cleaning, (3) Concrete Coatings (4) Bearing Lubrication (5) Any other work specified as part of this contract.

2. MATERIALS.

A. Wash Water

Use clean potable water for all pressure washing.

B. Concrete Coatings

See The Division of Material's list of approved materials for concrete coatings and Section 821.

C. Rust Inhibitor

Use the follow rust inhibitor or approve equivalent:

Manufacture	Lubricant
Rhomar,	Black Max

D. Bearing Lubricant

Use one of the lubricants from the following manufactures:

Manufacture	Lubricant
Bostik Inc.,	Never Seez - Mariner's Choice
Mobil Oil	Mobil Centaur Moly NLGI Grades 1 or 2
Certified Labs	Premalube #1 WG

3. CONSTRUCTION.

A. Bridge Cleaning.

All debris shall be removed from the bridge components. See attached detailed drawings addressing components having debris removal. Equipment for removing debris from the bridge components shall be determined by the Contractor, subject to the approval of the Engineer. The Contractor shall prevent any debris from entering any body of water, bridge drainage system, or traffic lanes. All debris removed shall be disposed of in a suitable off-site disposal facility. Prior to all cleaning work, the Contractor shall confirm that any bridge drainage system is not blocked by un-removable debris. A blocked drainage system is considered to be one from which debris cannot be removed using the means specified in this note. If the Engineer has been notified and concurs that the drainage system is blocked prior to performing other cleaning work, then proceed at the direction of the engineer. If the Contractor does not inspect the bridge drainage system and notify the engineer prior to beginning work any blocked drains will be considered to be the result of the Contractor's operations, and all clearing and cleaning of the drainage system shall be done as part of the work of the specification. All vegetation present at areas of the bridge that are to be addressed in this proposal shall be removed as determined by the Engineer.

All cost to complete Debris Removal, Clean Deck Drains and Remove Vegetation shall as specified shall be incidental to the Lump Sum price for “Concrete Coatings”.

B. Stratified and Pack Rust Removal.

Stratified and pack rust shall be removed from all bearing devices and specified limits of beams. All existing bearing lubrication shall be removed. See attached detailed drawings for each bridge showing location and quantity of the bearing devices. Hand tools including wire brushes, scrapers or impact devices (hand hammers or power chisels) are to be used for removing stratified and pack rust. All surfaces to have stratified and pack rust removed shall be cleaned to an SSPC SP-2 level. All debris collected shall be disposed of in a suitable off-site disposal facility. **All cost to complete Stratified and Pack Rust shall be considered incidental to the unit price bid for “Lubricate Bearing”.**

C. Pressure Washing.

Specified bridge components shall be pressure washed. See attached detailed drawings addressing components to be pressure washed. All equipment for pressure washing shall be operated at a minimum pressure of up 4,000 psi with 0-degree spinner tip and/or fan tips as determined by the engineer at the working location with a minimum flow rate of 3.5 gal/minute provided that these pressures do not damage any components of the structure. Pressure and flow rates shall be reduced to a level satisfactory to the Engineer should any damage occur due to power washing procedures. Pressure washing shall be operated at distance of approximately six inches from and perpendicular to the surface. All pressure washing wands shall be equipped with a gauge to accurately determine the amount pressure used. Pressure washing of any bridge element will proceed from top of wash area to bottom of wash area. Wash water will not be released to a bridge element previously washed. Perform all pressure washing at temperatures above 40 degrees Fahrenheit. **All cost to complete Pressure Washing as specified shall be incidental to the Lump Sum price for Lump Sum price for “Concrete Coatings”.**

D. Concrete Coatings Application.

Specified bridge components shall have concrete coating applied to as specified after bridge cleaning. See attached detailed drawings for addressing the bridge components. Use compressed air to remove any loose debris from the surfaces that are to be coated after power washing. See concrete coating diagram. All coatings shall be applied within manufacturers recommended dry film thickness range. For recommended conditions for application, see Section 614.03.02 and coatings supplier specifications. Allow the surfaces to be coated to dry before any coating is applied. The coating must be applied to a clean and dry surface. All coating application shall be executed using brushes, rollers, etc. No spray application will be permitted. The Department requires acceptance testing of samples obtained on a per-lot basis per-shipment. The Division of Materials will perform acceptance testing. See Section 821.04. The finish coat shall be Light Gray for Concrete. See Section 821.02. **All cost to complete Concrete Coating Application as specified shall be included in the Lump Sum price for “Concrete Coatings”.**

E. Rust Inhibitor Application.

After all stratified rust is removed from the member surface. The specified rust inhibitor shall be applied to the rusted areas of the structural steel within 4 feet of the joint or centerline of pier. This includes all primary steel members (beams, stringers, floor beams, diaphragms, etc.) in the specified limits. **All cost to complete Rust Inhibitor Application as specified shall be included in the unit price Each for “Bearing Lubrication”.**

F. Bearing Lubrication Application.

Bearing devices shall be lubricated as specified after all stratified rust and pack rust is removed and power washing is complete, bearing devices shall have lubricant applied to all surfaces of the bearing including bearing plates and points of movement. See attached detailed drawings for each bridge showing location and quantity of the bearing devices. Allow bearing devices to dry before lubricant is applied. Perform all bearing lubrication application at temperatures above 40 degrees Fahrenheit or in accordance with manufactures specifications. **All cost to complete Bearing Lubrication Application as specified shall be included in the unit price Each for “Lubricate Bearing”**

G. Sequence of Work.

Complete work in the sequence listed below:

1. Debris Removal
2. Stratified Rust Removal
3. Pressure Washing
4. Concrete Coating Application
5. Rust Inhibitor Application
6. Bearing Lubrication Application

H. Inspection.

The Cabinet will provide inspection for all items required in this contract. Visual inspection will be required upon completion of each work item for each structure component or at the discretion of the Engineer at any time. All visual inspection shall be performed within arm's length distance.

1. **Debris Removal:** Visual Inspection.
2. **Stratified Rust or Pack Rust Removal:** Visual Inspection and Scraper
Test any surface cleaned to SSPC SP2 will be inspected by a dull scraper test to ascertain adherence of existing coating and a hammer test for tightness of pack rust.
3. **Pressure Washing:** Visual Inspection.
4. **Concrete Coating:**
Prime Coat Application Check for wet film thickness*, and defects in the Paint.
Finish Coat Application Check for wet film thickness*, paint appearance, color and quality of application.
5. **Rust Inhibitor Application:** Visual Inspection. (054B00165N only)
6. **Bearing Lubrication.** Visual Inspection. (054B00165N only)

I. Verifying Field Conditions.

The Contractor shall be familiar with all conditions at each bridge site. The Cabinet will not consider any claims due to the Contractor having not familiarized themselves with requirements of this work.

J. Residual Lead.

Residual lead paint may still be on bridge. The Contractor is advised to take all necessary protective measures including worker safety and environmental regulations when performing surface preparation. The Department will not consider any claims based on residual lead paint.

K. Damage to the structure.

The Contractor shall bear all responsibility and expense for any and all damage to the structure during the repair work, even to the removal and replacement of a fallen span, should the fallen span result from the Contractors actions.

4. MEASUREMENT.

A. Concrete Coating.

The Cabinet will measure this item by Lump Sum, completed and accepted.

B. Bearing Lubrication:

The Cabinet will measure this item by Each, completed and accepted.

5. PAYMENT.

A. Concrete Coating (24982EC).

Payment at the contract unit price for "Lump Sum" is full compensation for applying the concrete coatings and all incidental items required to complete this work as specified in this note and attached detailed drawings.

B. Bearing Lubrication (24983EC): Payment at the contract unit price "Each" is full compensation for applying bearing lubrication and all incidental items required to complete this work as specified in this note and attached detailed drawings.