

619-B-312 PAINTING BRIDGE STEEL

(Revised 12-17-20)

The Standard Specifications are revised as follows:

SECTION 619, BEGIN LINE 3, DELETE AND INSERT AS FOLLOWS:

619.01 Description

This work shall consist of preparing surfaces, disposing of waste ~~residue~~, and applying paint *or another coating* to steel bridges, *steel piling, bearing assemblies, or other steel items* in accordance with 105.03.

MATERIALS

619.02 Materials

Materials shall be in accordance with the following:

Epoxy Intermediate Paint.....	909.02(b)
Finish Coat for Weathering Steel.....	909.02(e)
Multi-Component Inorganic Zinc Silicate Primer	909.02(a)1
Organic Zinc Primer	909.02(a)2
Polyurethane Finish Coat.....	909.02(c)
Structural Steel Coating Systems.....	909.03
Waterborne Finish Paint	909.02(d)

~~Material~~s Safety data sheets shall be provided in the QCP for all materials to be delivered to the project site.

SECTION 619, BEGIN LINE 32, DELETE AND INSERT AS FOLLOWS:

619.03 Quality Control and Quality Assurance

The Contractor shall be responsible for the quality of work on the contract and shall ensure that all work has been performed by accepted quality control methods. A QCP shall be prepared and submitted by the Contractor in accordance with ITM 803. No work may begin until written notice has been received that the QCP was accepted by the Engineer. The QC manager shall furnish the current referenced SSPC Standards at the project site.

Cleaning and painting shall be done by a Contractor certified as SSPC-QP 2 for cleaning and painting existing bridge steel on steel ~~bridges constructed~~ *structures shown in the contract documents as being built before 1995, regardless of whether the existing coating is advertised as non-hazardous based or hazardous based*. Cleaning and painting shall be done by a Contractor that at a minimum is certified as SSPC-QP 1 for cleaning and painting new bridge steel or for cleaning and painting existing bridge steel on steel ~~bridges constructed~~ *structures shown in the contract documents as being built after 1994*.

SECTION 619, BEGIN LINE 87, DELETE AND INSERT AS FOLLOWS:

619.04 Prosecution of Work

Prosecution of work shall be in accordance with the applicable requirements of ~~108.03~~ *108.04*. Once the cleaning and painting operations have begun, it shall be performed on all work days without stoppage until all work has been completed. If the contract contains more than one bridge, a schedule shall be included in the QCP which provides the

sequence of work on the bridges. Once work has begun on a bridge, it shall be performed until complete, including all cleanup.

SECTION 619, BEGIN LINE 128, DELETE AND INSERT AS FOLLOWS:

619.07 Environmental and Safety and Environmental Requirements

~~¶~~*Safety requirements, pollution control, and waste disposal of existing paint residue waste and debris shall be in accordance with the following requirements.*

(a) Safety Requirements

The containment system shall be in accordance with 619.07(b)1a or 619.07(b)1b, as applicable, based on the year the structure was built as shown in the contract.

~~Workers shall be protected in accordance with IOSHA requirements~~*The Contractor shall follow OSHA rules and regulations and be responsible for determining the level of hazards that are present in the containment during the removal of the existing bridge coating operation. Once the Contractor establishes the level of hazard present, the Contractor shall be responsible for furnishing personal protective equipment to provide the degree of protection necessary for the established level of hazard. All Contractor and Department personnel on the project site shall wear personal protective equipment to the level of hazard as determined by the sampling and monitoring requirements performed by the Contractor. The protective equipment shall be furnished by the Contractor, including to Department personnel. Training shall be given to all personnel who are provided with the personal protective equipment. Personal protective equipment shall include, but not be limited to, clean air supplied respirators, air purifying respirators, conventional hoods as applicable, eye protection, and protective clothing. Two rooms for changing and washing shall be provided on bridges containing hazardous based coatings.*

(ab) Pollution Control

Pollution control shall consist of two different operations. One shall be controlling and containing the atmosphere generated during the coating removal operation. The other shall be controlling and containing the solid waste stream generated as a result of the coating removal operation.

1. ~~Containment for Advertised Non-Hazardous Sites~~ Pollution Control during Existing Coating Removal Operations

~~Blasting materials, scrapings, wire brushings, and paint particles shall be contained in accordance with SSPC Guide 6, Class 2A with method A, level 2 emissions, specifically for non-hazardous primed bridges~~*During existing coating removal operations, the Contractor shall recognize that the environment created by removal of the existing coating from the structure may create an atmosphere in which hazards to personnel on the jobsite are likely to be generated, and thus the Contractor shall be responsible for controlling and protecting the exposure of all workers and the surrounding environment from the hazards.*

The characterization of the level of hazard of the existing coating that the Department considers to be present on the structure will be dictated by the year the structure was built as described below. The characterization of the level of hazard of the existing coating is not related to the results of the TCLP.

a. Containment for Structures Built Before 1995

For structures shown in the contract documents as being built before 1995, the Contractor shall provide a containment system in order to contain all blasting materials, scrapings, wire brushings, and paint particles in accordance with SSPC-Guide 6, Class 2A or greater with method A, level 1 emission control capability. The Contractor shall take samples and monitor the work environment in accordance with IOSHA requirements and shall provide personal protective equipment appropriate to the conditions present within the work environment.

b. Containment for Structures Built After 1994

For structures shown in the contract documents as being built after 1994, the Contractor shall provide a containment system in order to contain all blasting materials, scrapings, wire brushings, and paint particles in accordance with SSPC-Guide 6, Class 2A or greater with method A, level 3 emission control capability. The Contractor shall take samples and monitor the work environment in accordance with IOSHA requirements and shall provide personal protective equipment appropriate to the conditions present within the work environment.

~~2. Containment for Advertised Hazardous Sites~~

~~Blasting materials, scrapings, wire brushings, and paint particles shall be contained in accordance with SSPC Guide 6, Class 2A or better with method A, level 0 emissions, for hazardous primed bridges.~~

Regardless of the level of containment as listed above, if a spill, as defined in IDEM Regulation 327 IAC 2-6.1 does occur, all work shall stop and immediate action shall be taken to clean up the site. Spills of material, that enter or threaten to enter the water, shall be handled in accordance with IDEM Regulation 327 IAC 2-6.1. The IDEM Emergency Response Branch, the local health department, and all water intake users within 500 ft of the bridge shall be immediately contacted and advised of the spill. Written documentation of all such contacts and actions shall be kept. All applicable Federal, State, and local rules and regulations described in ~~619.07(b)~~619.07(b)2b(1) shall be observed.

2. Pollution Control of the Generated Waste Stream

3a. Waste Stream Sampling

Each bridge shall generate a separate waste stream and shall not be commingled with other materials. ~~The~~A sample of the waste ~~residue~~waste stream from the bridge shall be obtained at the conclusion of the first day of the *coating* removal operation for that bridge. The sample will be shipped to be tested within 24 h in a manner agreed to by the Department and as described in the QCP. The Engineer will witness the extraction of the waste ~~residue~~waste stream sample. The Department will maintain custody of the waste ~~residue~~waste stream sample until it is shipped. The waste ~~residue~~waste stream sample shall be taken by random method as described in the QCP which reflects representation of the entire bridge. The samples shall be analyzed for all contaminants listed in ITM 803 by the TCLP. ~~All~~The remaining waste ~~residue~~ shall be placed in an approved container. Such containers shall be labeled and maintained to comply with 40 CFR 264.

None of the waste shall remain on the booms or on any water surface overnight. All blasting debris shall be cleaned up after each day's work. All waste material shall be properly stored at the project site to prevent loss or pollution.

If the waste stream sample analysis is returned with one or more of the contaminants meeting or exceeding the regulatory level for the respective contaminant, the entire waste stream for that bridge shall be considered to exhibit the characteristic of toxicity and thus shall be characterized as and considered to be hazardous.

If the waste stream sample characterization is returned with none of the contaminants meeting or exceeding the regulatory level for the respective contaminant, the entire waste stream for that bridge shall be considered to not exhibit the characteristic of toxicity and thus shall be characterized as and considered to be non-hazardous.

Waste stream characterization as either hazardous or non-hazardous for disposal shall be based only on the results of the TCLP. The results of the TCLP do not dictate the level of the containment system required in accordance with 619.07(b)1.

If hazardous materials are found to be present in the waste residue sample of an advertised, non-hazardous site, the Contractor shall immediately stop all cleaning and painting operations on that bridge structure shown in the contract documents as being built after 1994, The Contractor shall immediately notify the Engineer that hazardous materials have been found and, if not addressed in the QCP, the Contractor shall submit revisions to the QCP that detail the necessary changes due to the presence of hazardous materials. The Contractor shall not return to work until the revised QCP is approved in writing.

(b) Waste Disposal

Regardless of the waste characterization obtained from the waste stream sample, disposal of existing paint and debris shall be in accordance with SSPC-Guide 7 and the following requirements.

1.(1) Laws to be Observed

Federal and State laws and regulations regulate the disposal of bridge painting debris. Bridge paint debris shall be manifested or certified and shall be disposed of at an appropriate disposal facility.

The Contractor shall have direct knowledge regarding compliance with laws pertaining to pollution control and waste management such as, *but not limited to*, the following.

- a. subtitle C of the RCRA, 40 CFR 261, 262, 263, 265, and 268;
- b. the Solid Waste Rule, 329 IAC 10;
- c. the Hazardous Waste Rule, 329 IAC 3.1;
- d. the Air Pollution Rule 329 IAC 6-4;

- e. the Water Pollution Rule, 327 IAC 2-6.1;
- f. the United States Department of Transportation regulations 49 CFR 172.300; and
- g. OSHA worker safety regulations 29 CFR 1926.

2.(2) Time Limitations

The maximum time limit from the date the generated waste is placed in a container and the date the material is transported to a permitted treatment, storage, and disposal facility shall be 90 calendar days.

3.(3) Marking of Spent Material Containers

Spent material containers shall be marked with the date that waste residue is first placed in the container. Until laboratory results *described in 619.07(b)2a* are received concerning the category of the waste residue stream, the containers shall be labeled "LEAD PAINT WASTE DEBRIS" or "ZINC PAINT WASTE DEBRIS", as appropriate. The labeling shall include the contract number, bridge number, sample number, and sample date. Labeling of containers as hazardous waste will not be required until the appropriate laboratory analysis determines the waste residue stream to be hazardous in accordance with the current RCRA hazardous waste definitions. Immediately upon notice that the waste residue is hazardous, the containers shall be marked in accordance with 49 CFR 172, Subpart D.

4.(4) Instruction for Disposal of Paint Waste

Residue

~~Sampling and analysis of the paint waste residue shall be performed to determine if the wastes are hazardous. If the waste residue is not found to be hazardous in accordance with current RCRA hazardous waste definitions, the waste residue material shall be disposed of at an appropriate disposal facility. If the waste residue stream is found to be hazardous, IDEM will be notified and the Engineer will obtain an EPA identification number will be obtained from IDEM. This number will be provided to the Contractor within 30 days of the start of waste generation for bridges having hazardous waste paint debris. The waste residue from different bridges shall not be commingled. The Contractor shall have the following responsibilities:~~

- a. determining the location for disposal, treatment, or recycling of the waste residue, obtaining the Engineer's approval of the site, and arranging with the approved site for acceptance of the materials;
- b. preparing a hazardous waste manifest, as required by Federal and State requirements, for signature;
- c. scheduling the shipment of waste residue to the permitted disposal site;

- d. ensuring that the hazardous waste manifest is carried in the transportation vehicle;
- e. ensuring that all required hazardous materials placards are properly displayed on the vehicle;
- f. ensuring prompt movement of the vehicle to the disposal site; and
- g. returning one copy of signed manifest documents to the Engineer. A copy of the chemical and physical analysis of the waste *stream*, all deposit receipts, manifests, and required paperwork for disposal shall be given to the Engineer, and all waste residues disposed of before the ~~contract~~ waste disposal item will be accepted paid.

If the waste stream is found to be non-hazardous in accordance with current RCRA hazardous waste definitions, the waste shall be disposed of at an appropriate disposal facility.

5.(5) Instructions for Disposal of Other Project

Generated Waste

~~The~~ Other wastes that may be generated on the project include, but are not limited to, spent solvents from cleaning of equipment and empty or partially empty containers of paint, paint thinners, spent abrasives, and solvents. The Contractor shall recycle or dispose of all project generated waste materials.

If the waste *stream* is defined as a hazardous waste in accordance with the current RCRA definitions, the waste shall be recycled or disposed of in accordance with ~~619.07(b)~~ 619.07(b)2b(4). All project generated waste and the method of recycling or disposal shall be identified in the QCP.

619.08 Surface Preparation of Concrete and Steel

The tops of all concrete and steel pier caps, concrete abutment caps, and 2 ft down all sides of concrete pier and abutment caps shall be washed. The washing shall be accomplished by means of a pressure washer with potable water. The pressure shall be between 800 and 1,500 psi. If detergents or other additives are added to the water, the surface shall be rinsed with potable water before the detergents dry.

Cleaning of steel surfaces shall be performed by an SSPC certified contractor. This requirement will not apply to the following:

- (~~a~~) shop cleaning; or
- (~~b~~) sections of beams or other structural members less than 180 sq ft of total area to be painted for the contract where heat-straightening or similar repairs have taken place.

Surfaces to be painted shall be cleaned in accordance with the SSPC classification, unless otherwise specified. Compressed air shall pass through an oil and water extractor before entering another apparatus.

~~Pressure washing in accordance with 619.08(a) and s~~Solvent cleaning in accordance with 619.08(~~ba~~) shall be performed to remove all oils, soluble salts, visible grease, and any other surface contaminants before all other cleaning methods are started.

Field cleaned steel surfaces shall be primed the same day as cleaned, *except for areas requiring a second abrasive blast cleaning. Those areas shall be primed the same day as the second cleaning.* If rust forms after cleaning, the surface shall be cleaned again before painting. Work shall be stopped when there is disagreement about whether a surface has been adequately cleaned. Written notification shall be provided specifically identifying the problem.

SECTION 619, AFTER LINE 326, DELETE AND INSERT AS FOLLOWS:

For structures shown on the contract documents as being built before 1995, the Contractor shall assume that mill scale is present on the existing steel. All mill scale shall be removed as a part of the cleaning operations.

~~(a)~~ Pressure Washing

~~All surfaces to be painted and the tops of pier and abutment caps shall be washed. The washing shall be accomplished by means of a low pressure power water washer with potable water. The pressure shall be between 800 and 1,500 psi. If detergents or other additives are added to the water, the surface shall be rinsed with potable water before the detergents dry. All washed surfaces shall be completely free of all oils and soluble salts. The Contractor shall obtain the hold point release for pressure washing prior to beginning other surface preparation activities.~~

~~(ba)~~ Solvent Cleaning

~~After the hold point for pressure washing cleaning has been released, s~~Solvent cleaning shall be performed in accordance with SSPC-SP 1.

After the hold point for solvent cleaning has been released, one or more of the following cleaning methods shall be performed.

~~(eb)~~ Hand Tool Cleaning

Hand tool cleaning shall be in accordance with SSPC-SP 2.

~~(dc)~~ Brush-Off Blast Cleaning

Brush-off blast cleaning shall be in accordance with SSPC-SP 7/NACE No. 4.

~~(ed)~~ Commercial Blast Cleaning

Commercial blast cleaning shall be in accordance with SSPC-SP 6/NACE No. 3.

~~(fe)~~ Near-White Blast Cleaning

Near-white blast cleaning shall be in accordance with SSPC-SP 10/NACE No. 2.

In addition, all steel within a cross-sectional area measuring 5 ft longitudinally, on both sides of a bridge deck joint, as well as all areas of visible corrosion pitting, as determined by the Engineer, shall be abrasive blast-cleaned two times. After the first cleaning, all dust shall be removed from the cleaned surfaces and the surfaces shall be wetted with potable water either by hand wiping or atomized low volume spray. The volume of water used shall be low enough to preclude runoff. The surfaces shall be left undisturbed for a minimum of 24 h then cleaned a second time to the specified standard.

(gf) White Metal Blast Cleaning

White metal blast cleaning shall be in accordance with SSPC-SP 5/NACE No. 1.

(hg) Power Tool Cleaning

Power tool cleaning shall be in accordance with SSPC-SP 3.

(ih) Commercial Grade Power Tool Cleaning

Commercial grade power tool cleaning shall be in accordance with SSPC-SP 15.

(ji) Power Tool Cleaning to Bare Metal

Power tool cleaning to bare metal shall be in accordance with SSPC-SP 11.

SECTION 619, BEGIN LINE 467, INSERT AS FOLLOWS:

(e) Application of Paint

All paint coatings shall be of colors to produce a distinct contrast with adjacent coatings, including the color of a clean steel surface.

Paint shall be applied by either an airless or conventional spray method which has been recommended by the paint manufacturer. The compressed air used for painting shall pass through an oil and water extractor before entering the paint pot. However, areas to be painted which are inaccessible to spray application or areas requiring touchup may be painted with brush or daubers. Epoxy intermediate and polyurethane finish paints may *also* be applied by brushes or rollers provided the coating cures to a smooth and uniform finish. Spray shall be adjusted to produce a uniform coating.

SECTION 619, BEGIN LINE 546, DELETE AND INSERT AS FOLLOWS:

(a) Non-Weathering Steel

All structural steel shall be cleaned in accordance with 619.08(~~fe~~).

All structural steel shall receive an inorganic zinc primer, including faying surfaces of high strength bolted connections and areas in contact with concrete. Surfaces, other than the contact surfaces described above, which are inaccessible after erection shall be painted in the shop with the full paint system required on the completed bridge.

(b) Weathering Steel

All structural steel shall be left unpainted, except as shown on the plans. All diaphragms, stiffeners, and other appurtenances located within the limits shown on the plans shall be included in the painting area. Surfaces to be painted shall be cleaned in accordance with 619.08(~~fe~~). Surfaces shall be painted in accordance with 619.09(a), except the finish coat shall be in accordance with 909.02(e).

619.12 Field Painting New Steel Bridge

All structural steel surfaces which are accessible after final erection shall be painted with the remaining coatings specified for structural steel paint system in accordance with 619.09(a) in the field after final erection.

If application of inorganic zinc primer on a steel surface is not performed in the shop before erection of the bridge, the surfaces which are exposed shall be cleaned in accordance with 619.08(a), ~~619.08(b)~~, and 619.08(~~fe~~). These surfaces shall then be painted with the structural steel paint system after final erection.

Surface areas where the inorganic zinc primer was damaged during shipping, handling, and erection shall be cleaned in accordance with 619.08(a), ~~619.08(b)~~, and either 619.08(~~ed~~) or 619.08(~~ji~~). Likewise, all bolt and field connections shall be cleaned in the same manner. All the damaged areas, and bolt and field connections shall then be painted with the inorganic zinc primer applied in the shop. This requirement will not apply to temporary steel bridges.

Where steel surfaces have been painted with the full paint system and the paint coatings have been damaged, the affected steel surface areas shall be cleaned in accordance with 619.08(~~ji~~). Structural steel paint system shall then be re-applied.

For weathering steel girders, caulk shall be applied to act as a drip bead as shown in the plans.

619.13 Painting Existing Steel Bridges

The surfaces to be cleaned and painted shall include the surfaces of all steel members of the superstructure, substructure, floor beams, stringers, plates, castings, bearing assemblies, ornamental handrails, lattice work, and other steel appurtenances. When shear connectors have been specified, the top of the top flange shall not be painted.

If the contract specifies clean steel bridge, the bridge steel shall be cleaned in accordance with 619.08(a), ~~619.08(b)~~, and either 619.08(e) or 619.08(~~ji~~). The structural steel paint system in accordance with 619.09(a) shall be used for painting.

If the contract specifies clean steel bridge, partial, the bridge steel shall be cleaned in accordance with 619.08(a), ~~619.08(b)~~, and either 619.08(e), or 619.08(h), ~~or 619.08(j)~~. The partial paint system in accordance with 619.09(b) shall be then used for painting.

619.14 Handling of Steel Bridge Superstructure to be Removed

If the Contractor elects to take ownership of the steel in accordance with 202.03, a QCP shall be submitted in accordance with 619.03. The entire surface area of the steel shall be cleaned in accordance with 619.08(d) prior to the steel leaving the construction limits and becoming the property of the Contractor. Mill scale shall be assumed to be present on the existing steel. Cleaning in accordance with 619.08(a) shall not be performed. A level of containment in accordance with 619.07(a) shall be used.

Testing of the waste stream and disposal of the waste produced by this cleaning shall be in accordance with 619.07.

619.145 Drain Castings Treatment

Roadway drain castings located in a bridge deck shall be satisfactorily cleaned in accordance with 619.08(d) or 619.08(hg). The castings shall not be shot-blasted.

The roadway drain castings shall be painted with a black finish coat in accordance with 909.02(c).

If a roadway drain casting extension pipe is damaged or missing, it shall be replaced. The extension pipe shall be in accordance with 715.

619.16 Clean and Paint Bearing Assemblies

When shown on the plans or a pay item is included in the schedule of pay items, all bearing assemblies, including top and bottom plates of each assembly, shall be cleaned in accordance with 619.08(a) and 619.08(d). Pollution control shall be in accordance with 619.07.

If the pay item clean and paint bearing assemblies is listed in the schedule of pay items for a particular structure, the entire bearing assembly shall be painted with the structural steel paint system in accordance with 619.09(a).

If the pay item, paint steel bridge, or paint steel bridge, partial, is listed in the schedule of pay items for a particular structure, the entire bearing assembly shall be painted with the structural steel paint system that is being used on the rest of the bridge.

619.16.1 Clean and Paint Steel Piling

All exposed steel piling shall be cleaned in accordance with 619.08(a) and either 619.08(e) or 619.08(i). The structural steel paint system in accordance with 619.09(a) shall be applied. The color of the topcoat shall be SAE-AMS-STD-595, color No. 13711.

619.1517 Responsibility for Damage

Unless otherwise specified by the Engineer in writing, full containment shall be provided when performing the surface preparation operation and when applying all coats of paint, except primer coats, with spray equipment. All persons and property shall be protected from damage or injury from the surface preparation operations and painting operations by providing containment as described in the QCP. Persons and property shall include, but not be limited to, pedestrians, vehicles, and other traffic upon or underneath a bridge, all portions of the bridge superstructure and substructure, and all adjacent property. The Contractor shall be responsible for damages in accordance with 107.17.

619.1618 ~~Blank~~Top of Top Flange of Steel Structural Members

When shown on the plans or a pay item is included in the schedule of pay items, the top of the top flange of steel structural members shall be cleaned in accordance with 619.08 by a contractor certified as SSPC-QP 2. The Contractor shall assume the existing coating on the top of the top flange contains hazardous materials and mill scale, and shall use pollution control and containment in accordance with 619.07(b)1. A QCP shall be prepared and submitted in accordance with 619.03. The steel shall be cleaned to a level of

cleanliness in accordance with 619.08(e) or 619.08(h), however solvent cleaning in accordance with 619.08(a) shall not be performed.

Each bridge shall generate a separate waste stream and shall not be commingled with other materials. The waste stream shall be sampled in accordance with 619.07 and all other requirements of 619.07 shall be followed. Once the result from the waste stream sampling is known and the waste stream is appropriately characterized as hazardous or non-hazardous, all waste shall be disposed of in accordance with 619.07(b).

619.1719 Method of Measurement

Cleaning and painting ~~will not be measured for payment~~ of steel structural members, cleaning the top of the top flange of steel structural members, cleaning and painting of bearing assemblies, and cleaning and painting of steel piling will not be measured for payment. Cleaning areas around bridge joints and other areas with visible corrosion pitting a second time will not be measured for payment. Disposal of the waste stream generated by the cleaning operation will not be measured for payment.

Cleaning roadway drain castings, caulking joints of lapping members, and caulking on weathering steel will not be measured for payment.

For steel that will become the property of the Contractor, cleaning existing steel, removal of mill scale, testing, disposal of the waste, containment, and all other items involved with this work will not be measured as per 202.13.

If a ~~bridge is advertised~~ structure is shown in the contract documents as being built before 1995 ~~having existing hazardous materials~~, no measurement will be made of the area covered by mill scale. For ~~bridges advertised as having existing non-hazardous materials~~ Otherwise, the area of structural steel covered by mill scale will be measured for payment after a proper cleaning of the entire containment area or an agreed large portion thereof and removing all other existing materials, including all paint and rust. The percentage of the area of structural steel covered by existing mill scale will be representative of this entire area. The pre-established remedies for this changed condition apply in accordance with 104.02(d) and ~~619.18~~619.20.

Roadway drain casting extension pipe will be measured in accordance with 715.13.

The estimated weight, length, number of steel spans, surface area of steel, and type of primer shown on the plans or in the Proposal book is incidental information. Such information is approximate only. The Department will not guarantee its accuracy.

619.1820 Basis of Payment

Existing steel bridges to be cleaned, or partially cleaned, whichever is specified, will be paid for at the contract lump sum price for clean steel bridge or clean steel bridge, partial, at the bridge number specified. *Cleaning the top of the top flange of existing steel bridges will be paid for at the contract lump sum price for clean steel bridge, top flanges, at the bridge number specified.* Existing steel bridges to be painted, or partially painted, whichever is specified, will be paid for at the contract lump sum price for paint steel bridge or paint steel bridge, partial, at the bridge number specified.

When specified as a separate pay item in the contract, cleaning and painting bearing assemblies will be paid for at the contract lump sum price for clean and paint bearing assemblies, at the bridge number specified.

When specified as a separate pay item in the contract, cleaning and painting steel piling will be paid for at the contract lump sum price for clean and paint steel piling, at the bridge number specified.

(a) Pre-Established Remedies for Changed Conditions

1. Discovery of Hazardous Materials but No Mill Scale on a Site Advertised as Non-Hazardous Structure Shown in the Contract Documents as Being Built After 1994

The payment will be an additional 25% of the clean steel bridge item as computed in 619.1820(b)1 in accordance with 109.05 as payment for all additional costs incurred.

2. Discovery of Mill Scale but No Hazardous Materials on a Site Advertised as Non-Hazardous Structure Shown in the Contract Documents as Being Built After 1994

If, on a ~~bridge advertised as having existing non-hazardous materials~~ structure shown in the contract documents as being built after 1994 and the presence of hazardous materials has not been confirmed by laboratory analysis, the area of structural steel covered by mill scale comprises greater than ~~15~~25% of the area of structural steel in accordance with ~~619.17~~619.19, additional compensation for the removal of the mill scale will be made as an adjustment to the clean steel bridge item ~~in accordance with the following~~. *The adjustment will be an additional payment of 30% of the clean steel bridge item as computed in accordance with 619.20(b)1 will be made.*

- ~~a. For areas of structural steel greater than 15% and up to and including 25% of the area covered by mill scale, an additional payment of 15% of the clean steel bridge item as computed in accordance with 619. 18 (b) 1 will be made.~~
- ~~b. For areas of structural steel greater than 25% and up to and including 50% of the area covered by mill scale, an additional payment of 30% of the clean steel bridge item as computed in accordance with 619. 18 (a) 1 will be made.~~
- ~~c. For areas of structural steel greater than 50% and up to and including 75% of the area covered by mill scale, an additional payment of 45% of the clean steel bridge item as computed in accordance with 619. 18 (b) 1 will be made.~~

- ~~d. For areas of structural steel greater than 75% of the area covered by mill scale, an additional payment of 60% of the clean steel bridge item as computed in accordance with 619.18 (b) 1 will be made.~~

3. Discovery of Hazardous Materials and Mill Scale on a Site Advertised as Non-Hazardous Structure Shown in the Contract Documents as Being Built After 1994

If the laboratory analysis of a waste residue stream sample on a bridge advertised as having non-hazardous materials structure shown in the contract documents as being built after 1994 yields results indicating the presence of hazardous materials, the entire bridge shall be considered as having mill scale and the following pre-established remedy for this changed condition in accordance with 104.02(d) shall apply. If agreed to in writing between the Contractor and the Department, the work shall proceed with the Contractor assuming all risks for removal of mill scale. An additional 55% of the clean steel bridge item as computed in 619.1820(b)1 in accordance with 109.05 will be paid as additional compensation for the removal and disposal of the hazardous materials, the removal of the mill scale, the additional containment required, and all other incidental items associated with the removal of the hazardous materials and mill scale.

(b) Prices used in Pre-Established Remedies to Changed Conditions

The following prices will be computed and used as the price for the pay item identified below in all pre-established remedies to changed conditions referenced in this section.

The price for the clean steel bridge item, per bridge, used in all pre-established remedies to changed conditions referenced in this section will be limited to the lesser of the following:

1. 70% of the sum of the clean steel bridge item and paint steel bridge item for that bridge; or
2. the actual amount for the clean steel bridge item for that bridge shown in the Schedule of Pay Items.

Roadway drain casting extension pipe will be paid for in accordance with 715.14.

For steel that will become the property of the Contractor, payment for cleaning existing steel, removal of mill scale, testing, disposal of the waste, containment, and all other costs involved this work will be in accordance with 202.14.

The cost of transportation and disposal of waste materials, waste residues, waste residue containers, and all other debris generated from environmental pollution control and cleaning that is disposed of will be paid for at the contract lump sum price for disposal of cleaning waste, hazardous or non-hazardous, at the bridge number specified.

Payment will be made under:

Pay Item	Pay Unit Symbol
<i>Clean and Paint Bearing Assemblies, Br. No. _____</i>	<i>LS</i>
<i>Clean and Paint Steel Piling, Br. No. _____</i>	<i>LS</i>
<i>Clean Steel Bridge, Partial, QP- _____, Br. No. _____</i>	<i>LS</i>
<i>Clean Steel Bridge, QP- _____, Br. No. _____</i>	<i>LS</i>
<i>Clean Steel Bridge, Top Flanges, QP-2, Br. No. _____</i>	<i>LS</i>
<i>Disposal of Cleaning Waste, _____, Br. No. _____</i>	<i>LS</i>
<i>waste type</i>	
<i>Paint Steel Bridge, Br. No. _____</i>	<i>LS</i>
<i>Paint Steel Bridge, Partial, Br. No. _____</i>	<i>LS</i>

The cost to prepare a QCP shall be included in the cost of the pay items of this section. The cost of providing the Department with access to the bridge and seasonal or weather limitations shall be included in the cost of the pay items of this section.

~~If a bridge is advertised as having existing hazardous materials~~ *structure is shown in the contract documents as being built before 1995*, no additional payment will be made for the removal of mill scale. The cost of the removal of mill scale shall be included in the cost of clean steel bridge ~~or~~, clean steel bridge, partial, *clean and paint bearing assemblies, clean and paint steel piling, or clean steel bridge, top flanges.*

~~If a bridge is advertised as having existing non-hazardous materials~~ *structure is shown in the contract documents as being built after 1994* and the percentage of the area covered by mill scale is less than or equal to ~~15~~25% of the total structural steel surface area of a bridge measured in accordance with ~~619.17~~619.19 no additional payment will be made for the removal of mill scale. The cost of the removal of mill scale shall be included in the cost of clean steel bridge or clean steel bridge, partial.

The cost of furnishing all materials, equipment, and labor required for ~~washing,~~ solvent cleaning, scraping, steel brushing, or other acceptable methods for removing paint in the locations directed shall be included in the cost of clean steel bridge ~~or~~, clean steel bridge, partial, *clean and paint bearing assemblies, clean and paint steel piling, or clean steel bridge, top flanges.* The cost of cleaning roadway drain castings shall be included in the cost of clean steel bridge or clean steel bridge, partial.

The cost of providing containment in accordance with ~~619.15~~619.07 and 619.17 and personal protective equipment shall be included in the cost of the pay items of this section.

The cost of furnishing all materials, equipment, and labor required to perform the quality control tasks outlined in 619.03 shall be included in the cost of clean steel bridge or, clean steel bridge, partial, *clean and paint bearing assemblies, clean and paint steel piling, or clean steel bridge, top flanges.*

The cost of furnishing all materials including caulk, equipment, and labor to perform caulking and painting, including the stripe coats, with the structural steel paint system or the partial paint system shall be included in the cost of paint steel bridge or paint

steel bridge, partial. The cost of switching stripe coat application methods shall be included in the cost of paint steel bridge or paint steel bridge, partial. The cost of furnishing all materials, equipment, and labor to perform painting of the roadway drain castings shall be included in the cost of paint steel bridge or paint steel bridge, partial.

The cost of all equipment, material, labor, testing, use of special cleaning methods, and shipping of waste residue stream samples shall be included in the cost of the clean steel bridge or, clean steel bridge, partial, *clean and paint bearing assemblies, clean and paint steel piling, or clean steel bridge, top flanges, pay items.*

The cost of dust removal, wetting, and cleaning areas within the cross sectional area measuring 5 ft longitudinally on both sides of a bridge deck joint as well as all areas of visible corrosion pitting a second time shall be included in the clean steel bridge, clean steel bridge, partial, clean and paint bearing assemblies, or clean steel bridge, top flanges pay items.

When a pay item is included in the schedule of pay items for clean and paint bearing assemblies, all costs associated with cleaning and painting bearing assemblies, except disposal of cleaning waste, shall be included in the cost of the pay item. If clean steel bridge, clean steel bridge, partial, paint steel bridge, or paint steel bridge, partial, are included as pay items in the schedule of pay items, no separate payment will be made for cleaning and painting bearing assemblies on that bridge number. The cost of cleaning and painting bearing assemblies shall be included in the cost of the respective clean steel bridge, clean steel bridge, partial, paint steel bridge, or paint steel bridge, partial, pay items for that bridge number.

When a pay item is included in the schedule of pay items for clean and paint steel piling, all costs associated with cleaning and painting steel piling, except disposal of cleaning waste, shall be included in the cost of the pay item.
