To:

SUPERSEDED BY
EB 06-057
EFFECTIVE 5/3/07

New York State Department of Transportation
ENGINEERING INSTRUCTION

EI 05-039

Title: **INCIDENTAL PAINTING STANDARD SPECIFICATIONS**

Distribution:
- ☐ Manufacturers (18)
- ☒ Local Govt. (31)
- ☒ Agencies (32)
- ☐ Surveyors (33)
- ☒ Consultants (34)
- ☒ Contractors (39)
- ☐ _____( )

Approved:
Robert L. Sack
Robert L. Sack,
Deputy Chief Engineer, Research

20 DEC 05
Date

ADMINISTRATIVE INFORMATION: This Engineering Instruction (EI) is effective beginning with projects submitted for the letting of May 4, 2006.

- These revisions will be incorporated into a future update of the *Standard Specifications*.
- This EI supersedes EI 94-019 and EI 00-017.

PURPOSE: The purpose of this EI is to:

- Organize paint-related specifications.
- Disapprove several obsolete standard and special painting specifications.
- Issue standard specifications for painting containments.
- Issue health and safety standard specifications regarding working with lead paint.
- Issue shelf notes for material specifications for painting galvanized and aluminum surfaces.
- Issue standard construction specifications for painting galvanized and aluminum surfaces.
- Issue shelf notes to address references to deleted, obsolete specifications.

TECHNICAL INFORMATION:

- This EI is being issued concurrently with EI 05-040 Structural Steel Painting Guidance and EI 05-038 Structural Painting Standard Specifications.
- The paint removal containment and health and safety items are included on nearly all painting contracts as Special Specifications. These items are included for the first time as Standard Specifications.
- Specifications for painting aluminum and galvanized surfaces have been incorrectly located in the Section 740 series. The construction requirements in these specifications have been incorporated into the newly issued Section 657. Material requirements of these coatings will be placed in Section 708.
- General painting information, deleted by the removal of Sections 740-01 and 741-01, is contained in other painting pay items.
- Section 708 specifications are deleted as they are no longer needed.
- Issue new Section 708 specification to clearly define colors commonly used by the Department.
- Designers will now be required to include a special note entitled "*Galvanized and Aluminum Surface to be Painted.*" This note should contain the description of items and estimated area of work.
- There is no significant cost impact anticipated associated with these changes.
- The following information should be used to estimate lead health and safety items:
  Item 570.01, Lead-Exposure Control Plan. Cost of this item shall be estimated at $600 lump sum.
  Item 570.02, Medical Testing. Cost of this item shall be estimated at $3000 per year.
  Item 570.03, Personal-Exposure-Monitoring Sample Analysis. Cost of this item shall be estimated at $3000 per project per specific bridge type (i.e. rolled beam, truss, etc.).
  Item 570.04, Decontamination Facilities. The cost of this item shall be estimated at $500 per facility, per week.

IMPLEMENTATION:

- Designers must include the new items in all proposals effective beginning with those submitted for the letting date of May 4, 2006.

Deleted Specifications	Title
708-01	Paints – General
708-02	Maroon Primer
708-03	Dull Orange Primer
708-08	Ready Mix Aluminum Paint
708-09	Blasted Surface Primer
708-10	Gray Paint
708-11	Sage Green Paint
708-12	Light Gray Paint
708-14	Black Paint
708-15	Blue Paint
708-16	Brown Paint
708-17	Brown-Gray Paint
708-18	Dark Gray Paint
708-19	Dark Blue Paint
708-20	Stain Resistant White Paint
708-22	White Curb Paint
708-23	White Guide Rail Paint
708-24	Weathered Brown Guide Rail Paint
740-01	Painting Metal Structures
740-02	Painting Timber Structures
740-03	Painting Galvanized Surfaces
740-04	Painting Aluminum Surfaces
741	Paint Removal and Containment

Disapproved Items	Description
570.6094--91	Class B Containment Enclosure
570.8611--91	Field Cleaning and Overcoating
570.8612--91	Field Cleaning and Overcoating, SP11, Spray Prohibited
573.9000--91	Field Cleaning and Overcoating, SP11, (Warranty)
573.9001--91	Field Cleaning and Overcoating, SP11, (Warranty) Spray Prohibited
573.9100--91	Field Cleaning and Overcoating, SP6, (Warranty)
573.9101--91	Field Cleaning and Overcoating, SP6, (Warranty) Spray Prohibited
573.9200--91	Field Cleaning and Painting, Total Removal, (Warranty)
573.9201--91	Field Cleaning and Painting, Total Removal, (Warranty) Spray Prohibited
570.1504--18	Class A Containment for Paint Removal
574.1010--18	Class B Containment for Paint Removal
570.01----18	Lead Health and Safety Program
570.02----18	Lead Exposure Control Plan
570.03----18	Medical Testing and Exposure Monitoring Sample Analysis
570.04----18	Field Cleaning and Overcoating, SP11, (Warranty) Spray Prohibited
573.74----16	Cleaning and Coating Weathering Steel
574.1010--11	Class B Containment System
573.97--03	Pressure Washing and Abrasive Blast Cleaning

573.0101--07	Cleaning and Painting Galvanized Railing
573.7401--08	Cleaning and Coating Weathering Steel
570.8618--08	Field Cleaning and Painting Chemically Stripped Steel - Spray Prohibited
570.1601--08	Class 2C – Containment System for Paint Removal Using Chemical Stripping

New Specifications	**Title**
708-05	Standard Paint Colors
708-06	Paint for Galvanized Surfaces
708-07	Paint for Aluminum Surfaces

New Pay Items	**Description**
570.01	Lead Exposure Control Plan
570.02	Medical Testing and Exposure Monitoring Sample Analysis
570.03	Personal-Exposure-Monitoring Sample Analysis
570.04	Decontamination Facilities
570.09nn	Environmental Ground Protection
570.10nn	Environmental Waterway Protection Lump Sum
570.15nn	Class A Containment for Paint Removal
570.16nn	Class B Containment for Paint Removal
657.01nn	Painting Weathered Galvanizing Surfaces
657.02nn	Painting Newly Galvanized Surfaces
657.03nn	Painting Aluminum Surfaces

TRANSMITTED MATERIALS:

- Shelf Notes for "Paints"
- Shelf Notes for Section 570 issuances
- Shelf Notes for Section 657 issuances

CONTACT: Direct questions regarding this issuance to Orlando Picozzi via e-mail at OPicozzi@dot.state.ny.us or William Feliciano via e-mail at WFeliciano@dot.state.ny.us or at the Materials Bureau at (518) 457-4595.

Make the following changes to Volume 2 of 3 of the Standard Specifications of January 2, 2002.

§ 564-2
Page 5-98 **Delete** line 9.

Page 5-98 **Delete** line 14.

§ 568-3.01
Page 5-121 **Delete** lines 12 and 13 and **Replace** with the following
"M. Touch-Up Painting. Any damage to the paint on a railing system shall be repaired in accordance with §657 Painting Galvanized Surfaces."

Section 570
Page 5-129, line 37 to Page 5-132, line 5 **Delete** Section 570 *Environmental Ground And Water Protection*, in its entirety and **Replace** it with the following:

"SECTION 570 - PAINT REMOVAL OPERATIONS

570-1 DESCRIPTION. This work shall consist of providing environmental protection and developing and implementing a worker Lead Health Safety program during paint removal operations.

Whenever a structure spans over a railroad, covers shall be placed and maintained in accordance with §105-09 Work Affecting Railroads. Structures that span a navigable waterway may be subject to regulation by various agencies.

570-1.01 Lead-Exposure Control Plan (LECP). This work shall consist of the development and implementation of a Lead Exposure Control Plan to protect workers from the harmful effects of lead exposure in accordance with 29 CFR Subpart D. Work activities which may expose workers to health hazards include, but are not limited to abrasive blasting, paint removal, torch-cutting, welding, grinding, and rivet busting.

570-1.02 Medical Testing. This work shall consist of medical testing to monitor the safety of workers with lead exposures.

570-1.03 Personal-Exposure-Monitoring Sample Analysis. This work shall consist of monitoring the exposure levels of workers to define the hazard and/or to verify the effectiveness of control measures.

570-1.04 Decontamination Facilities. This work shall consist of installation, operation, maintenance, and cleaning of decontamination facilities for personnel with lead exposures.

570-1.05 Environmental Ground Protection. This work shall consist of the collection and removal of waste materials, including old paint chips, corrosion residues, spent abrasives, and newly applied paint that result from cleaning and painting operations as specified in the contract documents or as directed by the Engineer.

570-1.06 Environmental Water Protection. This work shall consist of the collection and removal of waste materials, including paint chips, corrosion residues, spent abrasives and newly applied paint that result from cleaning and painting operations as specified in the contract documents or as directed by the Engineer.

570-1.07 Class B Containment. This work shall consist of furnishing, installing, and removing a containment enclosure around the work area used to contain and collect debris generated during paint removal and surface preparation using vacuum shrouded power tools, vacuum blasters, and hand tools. Open abrasive blasting shall not be conducted in a Class B containment.

570-1.08 Class A Containment. This work shall consist of furnishing, installing, and removing a total containment enclosure around the immediate work area to contain and collect debris generated during paint removal and surface preparation operations as specified in the contract documents or as directed by the Engineer.

570-2 MATERIALS. A high-efficiency particulate air (HEPA) filter shall be defined as a filter that is at least 99.97% efficient against particles that are 0.3μm in diameter.

570-3 CONSTRUCTION DETAILS

570-3.01 Lead-Exposure Control Plan (LECP). At least 20 calendar days prior to starting any work which could entail employee exposure to lead, the Contractor shall submit two copies of a written Lead-Exposure Control Plan (LECP) to the Engineer for review and acceptance. This LECP shall address all of the elements required by 29 CFR Subpart D and shall be coordinated with, and need not be repeated in, the site-specific Health and Safety Plan. The Contractor shall not begin any work which could entail lead exposure until the LECP has been accepted by the Engineer.

Submission of the LECP and its acceptance by the Engineer shall not be construed to imply approval of any particular method for addressing lead health and safety concerns, or to relieve the Contractor of the responsibility for adequately protecting the health and safety of all workers.

A competent person shall have current training as SSPC C-3, Competent Person Training for Deleading of Industrial Structures, or the SSPC C-5 refresher training class.

A. Industrial Hygienist. Where required, the Contractor shall engage an Industrial Hygienist (IH) meeting one or more of the following qualifications:

- Current certification by the American Board of Industrial Hygiene.
- A Bachelor's Degree in engineering, chemistry, physics, biological sciences, industrial hygiene, toxicology, the environmental sciences or a related field, and at least three years of documented full-time work as an IH, including field and sampling experience.
- A Master's Degree in one of the above fields, and at least two years of documented full-time work as an IH, including field and sampling experience.

The IH shall have the following responsibilities:

- Development of a written LECP, LECP updates, and preparation of monthly summary reports.
- Provide general oversight of all aspects of the LECP.
- Review all employee medical tests and exposure monitoring results. If required, take corrective actions.
- Intervention by the IH, consisting of an on-site investigation by the IH, implementation of corrective action, and notification of the Engineer in the next monthly report if either of the following conditions are encountered:
  1. Blood Lead Level (BLL) > 40 μg/dL (micrograms/deciliter) for one or more workers.
  2. BLL increase of 10 μg/dL or more between successive tests for any individual worker.
- Inspect the work site at least monthly during work which produces a potential lead exposure, except where the Contractor documents that employee lead exposure will be below the Permissible Exposure Limit (PEL).

B. Exposure Below the Action Level. If the Contractor can document by air monitoring or the use of appropriate historical data that lead exposure for all employees will be below the Action Level ($\mu g/m^3$), then the Contractor shall develop a written LECP including, but not limited to the following:

- A description of the Contractor's lead health and safety organization, including the responsibilities and qualifications of the competent person, and the project Health and Safety Officer.
- A description of OSHA required lead training provided to both supervisors and workers.
- A description of each activity which will entail a risk for lead exposure.
- An initial assessment of anticipated exposure level(s), including any relevant historical exposure monitoring data.
- A description of arrangements for ensuring that Subcontractors will comply with the LECP.
- Plans for updating the LECP.
- Plans for keeping and maintaining records.
- Exposure monitoring.

C. Exposure Above the Action Level and Below the Permissible Exposure Limit. If the Contractor can document by air monitoring or the use of appropriate historical data that the highest employee lead exposure will be above the Action Level (30 $\mu g/m^3$), but below the Permissible Exposure Limit (50 $\mu g/m^3$), then the Contractor shall develop a written LECP under the direction of an IH, with day-to-day supervision by the competent person, including, but not limited to, the items listed under paragraph B above and the following:

- Medical surveillance and removal program.
- Notifying employees and the Engineer of the results of exposure monitoring and medical tests.
- Worker and supervisor training.
- Monthly summary reports.
- Plans for worker and supervisor lead training.
- Plans for performing exposure monitoring and for notifying employees and the Engineer of results.
- A description of the Contractor's medical surveillance and removal program, including plans for notifying employees and the Engineer of results. This description shall include the names and addresses of the clinic(s) where testing will be performed and of the OSHA-approved laboratory where blood samples will be analyzed.

D. Exposure At or Above the Permissible Exposure Limit. When the highest employee lead exposure will be above the Permissible Exposure Limit (50 $\mu g/m^3$), the Contractor shall develop a written LECP under the direction of an IH, with day-to-day supervision by the competent person. The LECP shall include, but not be limited to, the items listed under paragraphs B and C above and the following:

- A description of the engineering, administrative, and work practice controls which will be used to reduce exposure. All feasible engineering, administrative, and work practice controls shall be implemented before considering the use of respirators to reduce exposure.
- Decontamination facilities to be provided including a description and floor plan, a description of any hand-wash stations to be provided, and a description of mandatory hygiene practices which employees will be required to follow.
- A description of a Respirator Program including respirator-fit testing and respirator training.
- A description of Provision of Personal Protective Equipment (PPE), including required cleaning and/or replacement.
- Plans for posting and maintenance of warning signs in high-exposure areas.
- Schedule of periodic work site inspections by the IH and the competent person.

E. Monthly Summary Reports. Except where the Contractor can document that employee lead exposure will be below the Action Level, for each month of work which entails potential lead

exposure, the Contractor shall submit a monthly summary report to the Engineer which has been reviewed and signed by the IH not later than the 15th of the following month. This report shall contain the following elements:

1. A summary of the work producing potential lead exposure completed in the past month.
2. A description of any interventions or deficiencies noted, and a summary of corrective actions.
3. A summary of exposure monitoring or medical testing results which were completed in the past month. To protect worker privacy, these results shall not include individual names; instead, workers shall be identified by trade and with an individual control number (not Social Security Number) to allow tracking of their exposure.
4. A certification that, with the exception of any deficiencies noted, the past month's work has been in compliance with the requirements of 29 CFR 1926.62 and this specification.

570-3.02 Medical Testing. The Contractor shall arrange for employees to receive all required medical tests. All medical tests shall be completed by, or under the supervision of, a licensed physician. Blood sampling and analysis shall meet the accuracy requirements of 29 CFR Subpart D and shall be conducted by an OSHA-approved laboratory. The Contractor shall provide the Engineer a summary of medical testing results which were completed in the past month prior to a request for payment. The Contractor shall provide documentation of any medical removals, a description of what triggered them, and the corrective measures taken. The Contractor shall provide an exit medical exam consisting of blood sampling and analysis for lead and zinc protoporphyrin (ZPP) levels for all workers who were potentially exposed within 5 work days of the time a worker completes or is removed from all work which entails a potential for lead exposure. Exit exams shall also be offered within 5 work days of seasonal shutdown or for other periods exceeding 30 calendar days in which no work involving potential lead exposure is scheduled or anticipated. The results of all medical tests shall be provided to affected workers within 5 work days of receipt, and to the Engineer in the next monthly report.

For employees who are offered an exam but choose not to participate or fail to respond, the Contractor shall provide a written declination signed by the worker or, for workers who are no longer on the payroll, a registered letter to the worker's last known address.

570-3.03 Personal-Exposure-Monitoring Sample Analysis. The Contractor shall conduct exposure monitoring. Exposure monitoring samples shall be obtained by the IH, a competent person under the direction of the IH, or other qualified persons as specified in the LECP. Exposure monitoring samples shall be analyzed by a laboratory selected by the Contractor, using a method which meets the accuracy requirements of 29 CFR Subpart D. The Contractor shall provide the Engineer a summary of exposure monitoring sample test results which were completed in the past month prior to a request for payment.

570-3.04 Decontamination Facilities. Except where the Contractor can document that employee lead exposure will be below the PEL, a minimum of one climate-controlled decontamination facility shall be provided, and shall be utilized by all workers with potential lead exposure. The number of facilities to be provided will be dictated by site conditions and by the Contractor's sequence of operations and shall be approved by the IH and the Engineer.

Each facility shall consist of a "clean" area where workers can remove and store their street clothing when they arrive on site; a shower room with hot and cold running water, soap and clean towels; and a "dirty" area where workers can remove and store their work clothing and PPE at the end of their work shift. The "clean" area and the "dirty" area shall each have a separate entrance. Decontamination facilities shall be cleaned as required, or at least once every week of use. All waste water generated from showers or as a result of cleaning operations shall either be tested and filtered through a 5 μm filter or considered as lead contaminated, and disposed of in accordance with State and Federal regulations.

570-3.05 Environmental Ground Protection.

A. General. Covers shall be provided on or over the ground under all structures that are to be cleaned and painted. Depositing or dropping waste materials into water and onto the ground or roadways outside the specified collection areas is not permitted.

The length of the cover shall be 3 m longer on each end than the length of the work area, and the width shall be at least 3 m wider on each side of the work area. The cover shall be positioned in such a manner as to contain and prevent the loss of waste materials.

Environmental Ground Protection shall consist of covers or other material capable of catching and holding waste materials on or over the ground under the structure in the work area. A bridge deck or a highway pavement and paved shoulder under a structure from which wastes may be collected and removed by vacuuming may be used in place of a cover providing that within that area such usage is confined to lanes and shoulders closed to traffic.

Covers on or over roadways or railroads or sidewalks or other similar areas shall not present a hazard of any kind and no cover shall remain in place overnight unless otherwise authorized by the Engineer.

B. Containment Operations. Cleaning or painting operations shall not be performed when the direction or velocity of prevailing winds causes waste materials to fall outside the collection area. If wind or other factors prevent collection, the Contractor may, with the approval of the Engineer, use drapes or other means to prevent drift beyond all specified collection areas.

C. Waste Collection. All waste materials shall be removed from the ground protection by vacuuming. Sweeping, shoveling, or other mechanical means to remove the waste materials from the ground protection is not permitted. Air exhausted from vacuuming equipment shall pass through a HEPA filtering system. All waste materials that collect on a bridge deck, or on a highway pavement and paved shoulder under a structure or on covers shall be removed at least once a day or more frequently if directed by the Engineer. No waste material shall remain on the bridge deck, pavement, pier, pedestals, abutments, or containment covers overnight.

570-3.06 Environmental Waterway Protection.

A. General. Covers shall be provided under all structures that span bodies of water, waterways, and stream beds, and that are to be cleaned and painted in the field. Depositing or dropping waste materials into water and onto the ground or roadways outside the specified collection areas is not permitted.

A cover shall be suspended from the structure and shall, as measured over the water, be at least 3 m greater in length and at least 3 m wider than each side of the area on which work is underway. The cover shall be positioned in a manner so as to collect and prevent the loss of waste materials. The cover shall not remain in place overnight if it presents a hazard of any kind.

If floating waste materials form on the water surface, they shall be contained from moving upstream or downstream. Floating waste material shall be collected daily, or more frequently. Straw or screening used in the fabrication of water booms shall be replaced with clean material weekly or as otherwise directed by the Engineer.

B. Containment Operations. Cleaning or painting operations shall not be performed when the direction or velocity of prevailing winds causes waste materials to fall outside the collection area. If wind or other factors prevent collection the Contractor may, with the approval of the Engineer, use drapes or other means to prevent drift beyond all specified collection areas.

C. Waste Collection. All waste materials shall be removed from the waterway protection by vacuuming. Sweeping, shoveling, or other mechanical means to remove the waste materials from the

waterway protection is not permitted. Air exhausted from vacuuming equipment shall pass through a HEPA filtering system.

All waste materials that collect on a bridge deck, or on a highway pavement and paved shoulder under a structure or on covers shall be removed at least once a day or more frequently if directed by the Engineer. No waste material shall remain on the bridge deck, pavement, pier, pedestals, abutments, or containment covers overnight.

570-3.07 Class B Containment.

A. General. The containment system includes the cover panels, screens, tarps, scaffolds, supports, and shrouds used to enclose an entire work area. The purpose of the containment is to prevent debris generated during surface preparation from entering the environment and to facilitate the controlled collection of the debris for disposal.

The containment shall meet the requirements of SSPC-Guide 6, Class 2P. The containment may have either air penetrable or impenetrable walls, rigid or flexible framing, shall have fully sealed joints, and shall have overlapping entry ways. Flexible covers for flooring shall be impermeable and will be allowed only if the ground or paved surfaces are smooth enough to vacuum debris. If a smooth surface is not available, rigid materials shall be used for the floor of the enclosure.

B. Containment Operations. All cleaning and paint removal work and all work associated with the collection of paint waste debris, including the subsequent air blow-down or vacuuming of debris from the steel surfaces on the structure in preparation for painting, shall be performed inside the containment enclosure.

The Contractor shall make every attempt to limit workers from entering or exiting the containment enclosure when paint removal operations are being performed.

C. Waste Collection. Following paint removal work, all steel surfaces inside containment shall be vacuumed of debris. All waste material that results from paint removal operations shall be cleaned up and collected from the floor, walls, and other surfaces inside of the containment enclosure by vacuuming. Sweeping, shoveling, or other mechanical means to remove the waste materials will not be allowed. Cleanup operations shall be performed daily, prior to inspection, before new paint is applied or before a prolonged work stoppage, such as for weather interruptions.

Prior to disassembly or moving of the containment enclosure, the inside surfaces of the enclosure shall be cleaned of dust and other spent material by vacuuming. The Contractor shall take all measures necessary to prevent the release of waste material during moving or removal of the containment.

All vacuum equipment that is used for collection and clean up work shall be equipped with HEPA filters. All used filters from dust collectors, vacuums, and straw and screening from dam devices, shall be disposed of in accordance with all applicable local, State, and Federal Laws, regulations, and codes. The cost for disposing of these materials shall be included in the lump sum price bid for this item.

D. Ventilation. Ventilation inside the enclosure is not specifically required and may be by natural means. It may be necessary to provide mechanical ventilation to meet OSHA requirements for worker exposure to lead and other provisions. If mechanical ventilation is provided to address these requirements, filtration of exit air is not required.

E. Lighting. Light intensity by natural or artificial means inside the containment enclosure shall be maintained at a minimum of 535 lux on the steel surface. During inspection activities, light shall be maintained at a minimum of 1075 lux. Auxiliary lighting shall be provided as necessary. The Contractor shall provide the Engineer with one portable light meter with a scale of 0 to 1075 lux.

This meter will be returned to the Contractor at the completion of work. All lighting used in the containment shall be explosion-proof.

F. Containment Performance. The effectiveness of the containment enclosure shall be determined by visual inspection for dust plumes or other visible evidence of emissions materials into the environment. Throughout the duration of work there shall be no visible discharges. If there is a visible discharge the Contractor shall immediately stop work and perform necessary repairs to the containment enclosure or modifications to cleaning operations to the Engineer's satisfaction.

The Engineer may direct the Contractor to stop all work activities and immediately clean up all waste materials within the enclosure when threatening weather conditions exist or are predicted. This measure may be exercised when an apparent threat exists that could cause the release of waste material to the surrounding environment, such as high winds or heavy rain.

If the wind velocity causes the containment enclosure to billow, or to emit dust, or to otherwise be a hazard in the opinion of the Engineer, the Contractor shall immediately cease work and clean up all the debris. Under severe conditions the Contractor shall disassemble the containment enclosure.

G. Releases From the Containment. For structures that are located over or adjacent to water, if floating waste materials form on the water surface, they shall be contained from moving upstream or downstream by the use of floating water booms. Floating waste material shall be collected daily, or more frequently.

Any waste material that is released outside the containment enclosure shall be immediately cleaned up using vacuums. Care shall be taken on pavement and other surfaces to collect all waste material so as to prevent it from being redistributed into the air and environment by traffic or other means.

All used filters from dust collectors, vacuums, and straw and screening from dam devices, shall be disposed of in accordance with all applicable Local, State, and Federal Laws, regulations and codes. The cost for disposing of these materials shall be included in the lump sum price bid for this item.

570-3.08 Class A Containment. Fifteen (15) days prior to the start of any abrasive-blast cleaning or paint removal work, the Contractor shall submit for approval detailed working drawing(s) of the Class A containment system that is to be supplied for each structure. The drawings shall be prepared and stamped by a Professional Engineer. Six (6) complete copies of the working drawings shall be submitted for approval.

The working drawings shall detail the proposed containment enclosure and include the following information at a minimum:

- Plan and elevation of the containment enclosure in relation to the structure.
- The type of solid or rigid floor and working platform with appropriate safety and fall protection measures. A description of worker access to the enclosure and the procedures and equipment that will be used to provide fall-protection. If a barge or another type of floating platform is used, include details regarding its construction, such as materials and dimensions, how the platform will be tied-off, how the debris will be collected and off- loaded, etc.
- A description of how the existing drainage will be routed through the enclosure.
- A description of the type of material(s) for the containment walls, floor, and ceiling.
- The type of support structure that will be used for the floor, walls, and ceiling, including the attachment of the enclosure materials to the support structure.
- The method by which the enclosure will be supported or attached to the bridge, i.e., rollers, clamps. Welding, bolting, or similar connections will not be allowed.
- The method that will be used to seal the joints (seams) formed when fabricating the containment enclosure, and the method that will be used to seal the mating joints between the containment enclosure and the bridge structure.

- The method that will be used to seal the entryway. At a minimum, the use of multiple overlapping door tarps shall be provided to minimize dust escape through the entryway.
- The ventilation system including open-air make-up points, dust collector and exhaust fan(s), location, type of equipment, manufacturer's data sheets, and airflow capacities.
- The type, size, and configuration of auxiliary lighting provided inside the containment enclosure. All lighting must be explosion proof.
- A design analysis of the loads on the structure due to the containment enclosure including: maximum dead and live loads of the enclosure, the workers, blast abrasive, and equipment; maximum allowable load for the floor and working platform; wind loads imposed on the structure by the enclosure; and maximum wind velocity that the containment enclosure is designed to withstand.
- If the containment system is supported by the structure, the working drawing submittal shall include certification by the Professional Engineer that the loads imposed do not cause the overall stress level of any element of the bridge to exceed the Operating Rating Allowable Stresses defined in AASHTO Manual for Maintenance Inspection of Bridges.
- The analysis shall account for all loads on the structure, including the enclosure dead load, worker live load, blast-abrasive load, equipment load, wind load, structure dead load, and highway live load using M18 loading unless other-wise specified plus impact. The highway live load used for analysis purposes shall be either an MS18 truck or equivalent lane loading, whichever is greater, unless a different highway live load is shown in the contract documents. Except as noted, the analysis shall use the loadings and design assumptions in the NYSDOT Standard Specifications for Highway Bridges.
- Details on how the enclosure is assembled, disassembled and moved to a new location on the structure as surface preparation work progresses. Indicate how the dust collector will be included in the containment enclosure. All other pertinent details relating to the containment enclosure shall be included with the working drawings as notes or as written narrative.
- Details on how the use of the enclosure will be coordinated with the maintenance and protection of traffic. Encroachments onto roadways and clearances over waterways and railroads shall be clearly identified.

A. General. The containment system includes the cover panels, screens, tarps, scaffolds, supports, and shrouds used to enclose an entire work area. The purpose of the containment is to prevent all debris generated during surface preparation from entering the environment and to facilitate the controlled collection of the debris for disposal.

The containment shall meet the requirements of SSPC-Guide 6, Class 1A. The containment shall have air impenetrable-walls, rigid or flexible framing, fully sealed joints, and resealable entry ways. Negative air shall be achieved by forced air flow. Exhaust air shall be filtered.

Flexible covers for flooring shall be impermeable and will be allowed only if the ground or paved surfaces are smooth enough to vacuum debris. If a smooth surface is not available, rigid materials shall be used for the floor of the enclosure.

B. Containment Operations. All abrasive-blast cleaning and paint removal work, and all work associated with the collection of paint waste debris, including the subsequent air blow-down or vacuuming of debris from the steel surfaces on the structure in preparation for painting and inspection, shall be performed inside the containment enclosure.

The Contractor shall attempt to limit workers from entering or exiting the containment enclosure when blast cleaning and paint removal operations are being performed.

C. Waste Collection. All waste material that results from abrasive blasting and paint removal operations shall be cleaned up and collected from the floor, walls, and other surfaces inside of the containment enclosure by vacuuming. Sweeping, shoveling, or other mechanical means to remove the waste materials will not be allowed unless the containment is intact and the vacuuming system is

operating. Clean up operations shall be performed daily, prior to inspection, before new paint is applied or before a prolonged work stoppage, such as for weather interruptions.

Prior to disassembly or moving of the paint enclosure, the inside surfaces of the enclosure (walls, floors, ceiling, etc.) shall be cleaned of dust and other spent material by vacuuming. The Contractor shall take all measures necessary to prevent the release of waste material during moving or removal of the containment.

All vacuum equipment that is used for collection and cleanup work shall be equipped with HEPA filters. All used filters from dust collectors, vacuums, and straw and screening from dam devices, shall be disposed of in accordance with all applicable local, State, and Federal Laws, regulations, and codes. The cost for disposing of these materials shall be included in the lump sum price bid for this item.

D. Ventilation. The size of the exhaust-fan system supplied shall be designed to produce an average minimum cross-draft air velocity or an average minimum downdraft air velocity inside the containment enclosure. For enclosures designed with horizontal air flow, the exhaust fan shall have the capacity to produce an average minimum cross-draft velocity of 0.5 m/s, based on theoretical calculations. For enclosures designed with vertical air flow, the exhaust fan shall have the capacity to produce an average minimum downdraft velocity of 0.25 m/s, based on theoretical calculations. Forced exhaust air shall flow into dust collectors. The dust collectors shall be used and appropriately sized for the type, size of particulate matter, volume, and velocity of air moved through the containment. All air exhausted from the containment enclosure shall pass through the dust collection system.

Proper operation of the ventilation system shall be maintained after each assembly of the containment and during all phases of work.

E. Lighting. Light intensity by natural or artificial means inside the containment enclosure shall be maintained at a minimum of 535 lux on the steel surface. During inspection activities, light shall be maintained at a minimum of 1075 lux. Auxiliary lighting shall be provided as necessary. The Contractor shall provide the Engineer with one portable light meter with a scale of 0 to 1075 lux. This meter will be returned to the Contractor at the completion of work. All lighting used in the containment shall be explosion-proof.

F. Containment Performance. NYSDOT will perform air quality monitoring (AQM) for ambient particulate and lead during abrasive blasting/cleanup. Real-time AQM will be used for all Class A containments. High-volume AQM may be used in addition to real-time AQM. The effectiveness of the containment and accessory equipment in preventing unacceptable levels of particulate and lead emissions will be assessed based on established AQM criteria for both the real-time and high-volume monitoring. Throughout the duration of work, there shall be no visible discharges. If the Engineer observes a visible discharge, the Contractor shall immediately stop work and perform necessary repairs to the containment enclosure or modifications to blast cleaning operations to the Engineer's satisfaction.

The Engineer may direct the Contractor to stop all work activities and require the Contractor to immediately clean up all waste materials within the enclosure when severe weather conditions exist or are predicted. This measure may be exercised when an apparent threat exists that could cause the release of waste material to the surrounding environment, such as high winds or heavy rain.

If the wind velocity causes the containment enclosure to billow or to emit dust, or to otherwise be a hazard in the opinion of the Engineer, the Contractor shall immediately cease work and cleanup all the debris. If severe conditions are predicted, the Contractor shall disassemble the containment enclosure.

G. Releases From the Containment. For structures that are located over or adjacent to water, if floating waste materials form on the water surface, they shall be contained from moving upstream or

downstream by the use of floating water booms. Floating waste material shall be collected daily, or more frequently.

Any waste material that is released outside the containment enclosure shall be immediately cleaned up using vacuums. Care shall be taken on pavement and other surfaces to collect all waste material so as to prevent it from being redistributed into the air and environment by traffic or other means.

All used filters from dust collectors, vacuums, and straw and screening from dam devices, shall be disposed of in accordance with all applicable Local, State, and Federal Laws, regulations and codes. The cost for disposing of these materials shall be included in the lump sum price bid for this item.

570-4 METHOD OF MEASUREMENT.

570-4.01 Lead-Exposure Control Plan (LECP). The work under the Lead Exposure Control Plan will be measured for payment on a lump sum basis.

570-4.02 Medical Testing. The work under medical testing will be measured for payment on a dollars-cents basis.

The amount shown in the itemized proposal for this work will be considered the price bid even though payment will be made for actual work performed. This amount is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figure will be disregarded, and the original price will be used to determine the total amount bid.

570-4.03 Personal-Exposure-Monitoring Sample Analysis. The work under the personal exposure monitoring sample analysis will be measured for payment on a dollars-cents basis.

The amount shown in the itemized proposal for this work will be considered the price bid even though payment will be made for actual work performed. This amount is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figure will be disregarded, and the original price will be used to determine the total amount bid.

570-4.04 Decontamination Facilities. The quantity to be measured for payment will be in calendar weeks.

570-4.05 Environmental Ground Protection. This work will be measured for payment on a lump sum basis.

570-4.06 Environmental Water Protection. This work will be measured for payment on a lump sum basis.

570-4.07 Class B Containment. This work will be measured for payment on a lump sum basis.

570-4.08 Class A Containment. This work will be measured for payment on a lump sum basis.

570-5 BASIS OF PAYMENT.

570-5.01 Lead-Exposure Control Plan (LECP). The lump sum price bid shall include the cost of all labor, materials and equipment necessary to satisfactorily complete the work.

570-5.02 Medical Testing. Payment shall include all reasonable and customary costs incurred (based on receipted bills submitted to the Engineer, plus 5% overhead and profit).

No payments shall be made for additional medical tests or laboratory analyses required due to an increase in the blood lead level of any employee above the OSHA threshold.

570-5.03 Personal-Exposure-Monitoring Sample Analysis. Payment shall include all reasonable and customary costs incurred (based on receipted bills submitted to the Engineer, plus 5% overhead and profit), for laboratory analysis of exposure monitoring samples.

570-5.04 Decontamination Facilities. The unit price bid per week for each facility shall include the cost of all labor, materials, equipment, utility, and disposal charges necessary to satisfactorily complete the work.

570-5.05 Environmental Ground Protection. The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work.

570-5.06 Environmental Water Protection. The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work.

570-5.07 Class B Containment. The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work.

Progress payments will be made based upon the amount of work completed using a daily rate of payment determined from the estimate of work days of cleaning and painting shown in the Contractor's approved progress schedule and the lump sum price bid.

Should the Engineer request a revised progress schedule and use that schedule to establish a new daily rate, the lump sum price bid shall be reduced by the total of the amounts previously authorized for payment, prior to the establishment of the new daily rate.

570-5.08 Class A Containment. The lump sum price bid shall include the cost of all labor, materials and equipment necessary to complete the work.

No payment will be made for each calendar day during which there are substantial deficiencies. Substantial deficiencies are defined as: (1) The second occurrence of a visible emission for a cause which has been previously identified and corrected, or (2) air quality monitoring produces unacceptable results as defined in the Department's Air Quality Monitoring (AQM) Protocols.

The nonpayment will be calculated as follows:

(Lump Sum Price Bid/Actual # of Work Days) x (# of Days with Substantial Deficiencies)

In addition to the non payment for substantial deficiencies, the costs of any extension of the Air Quality Monitoring beyond the basic monitoring program or random audits defined in the AQM Protocol, which are necessitated by unacceptable AQM results, will also be charged to the Contractor.

Both of these amounts will be deducted from monies due to the Contractor.

Payment will be made under:

Item No.	Item	Pay Unit
570.01	Lead-Exposure Control Plan	Lump Sum
570.02	Medical Testing	Dollars-Cents
570.03	Personal-Exposure-Monitoring Sample Analysis	Dollars-Cents
570.04	Decontamination Facilities	Calendar Week
570.09nn	Environmental Ground Protection	Lump Sum (each structure)
570.10nn	Environmental Waterway Protection	Lump Sum (each structure)
570.15nn	Class A Containment	Lump Sum (each structure)
570.16nn	Class B Containment	Lump Sum (each structure)

NOTE: nn denotes serialized pay item."

§ 606-2
Page 6-22 **Delete** line 8
Page 6-22 **Delete** line 9 and **Replace** with "Paint for Galvanized Surfaces 708-06"

§ 606-2.10
Page 6-23 **Delete** Lines 36 to Line 38 and **Replace** with the following:
"C. All components shall be galvanized in accordance with §719-01 *Galvanized Coating and Repair Methods*, Type I or Type II. If required by the plans, the components shall be painted to match the existing railing. Painting shall be done in accordance with Section 657 except that:"

§ 630-2
Page 6-122 line 19, **Delete** "Paint 708"

§ 630-2.01
Page 6-122 **Delete** line 27

§ 645-2
Page 6-148 **Delete** line 16

§ 645-3.12
Page 6-153 Lines 10-11, **Delete** and **Replace** with the following:
"4. Weathered Brown Guide Rail Paint defined by §708-05 shall be used to paint all miscellaneous visible galvanized steel hardware except the vicinity of the hinge plate slots."

§ 656-3.04
Page 6-176 **Delete** lines 30 through 32 and **Replace** with the following
"**656-3.04 Painting.** All unembedded metal except castings shall be painted in accordance with Section 574, Localized Painting of Structural Steel. Galvanized material shall be painted in accordance with Section 657."

Section 657
Page 6-177, after line 1, **Insert** the following:

"SECTION 657 – PAINTING GALVANIZED AND ALUMINUM SURFACES

657-1 DESCRIPTION. This work shall consist of painting galvanized and aluminum surfaces. The surfaces will not have been painted previously. See special note entitled "Galvanized and Aluminum Surface to be Painted" for the description of serialized items.

657-2 MATERIALS

657-2.01 Paint For Use On Galvanized Surfaces. Material for this work shall meet the requirements of:

708-06 Paint for Galvanized Surfaces

657-2.02 Paint for Use On Aluminum Surfaces. The portions of aluminum or aluminum alloys that will be in contact with cast or projected concrete shall meet the requirements of:

708-04 Zinc Chromate Primer

Substitutions for this material will be considered, provided the material is specifically formulated for use over aluminum and to reduce alkali attack.
Aluminum surfaces not in contact with concrete shall be painted as described in the contract documents with;

708-07 Paint for Aluminum Surfaces

657-2.03 Paints.

A. Data Sheets. At least five work days prior to the start of work, the Contractor shall supply the Engineer with one copy of the paint manufacturer's current technical data and materials safety data sheets for each coat to be applied. If manufacturer's recommendations are more restrictive or require additional effort not defined in this specification, then the manufacturer's recommendations shall be followed.

B. Storage. Paint in storage shall be protected from damage and maintained in accordance with manufacturer's recommendations. Paint will be considered in storage if it is onsite for more than 8 hours prior to application.

C. Color. The color of the primer will be the Contractor's option; however, it shall contrast with the underlying substrate. The color of the topcoat shall be in accordance with the contract documents or defined by §708-05. A 'Rustic' color shall be Weathered Brown.

D. Labeling. Paint arriving at the work site in new, unopened containers and labeled with the manufacturer's name, product name, component part, batch number, color, and shelf life date shall be used. Paint in containers having expired shelf life dates shall not be used. They shall be immediately removed from the work site.

657-2.04 Water for Pressure Washing. Water shall be clean, fresh potable water.

657-2.05 Abrasive for Sweep Blasting Galvanizing Surfaces. Abrasive size shall range between 200 and 500 microns, and shall have a Mohr's hardness of 5 or less. Use of steel grit or shot is prohibited.

657-2.05 Paint Inspection Equipment. Prior to the start of and throughout the duration of the work, the Contractor shall ensure that the Engineer or Inspector is supplied with the following equipment in good working order:

- One bound copy of the Steel Structures Painting Council surface preparation specification, SSPC - SP COM "Surface *Preparation Commentary for Steel and Concrete Substrates*".
- One bound copy of the Steel Structures Painting Council surface preparation specification, SSPC SP-1 - "*Solvent Cleaning*".
- One bound copy of the Steel Structures Painting Council surface preparation specification , SSPC-SP 7, "*Brush-Off Blast Cleaning*".
- One bound copy of the Steel Structures Painting Council method SSPC-PA2, Paint Application Specification No. 2 – "Measurement *of Dry Film Thickness With Magnetic Gages*".
- ASTM A 123 Standard Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products.
- ASTM D 4417 Test Method for Field Measurement of Surface Profile of Blast Cleaned Steel.
- ASTM D 4285 Test Method for Indicating Oil or Water in Compressed Air.

- One Air Thermometer, pocket type, -10°C to +40°C.
- One Magnetic Dry-Film Thickness Gage, Type 2 (fixed probe).
- Two Wet-Film Thickness Gages, Prong-Type, capable of measuring 25 µm to 250 µm in 25 µm increments.
- Sling Psychrometer and US Weather Bureau Psychrometric Tables.

657-3 CONSTRUCTION DETAILS

657-3.01 Classification and Surface Preparation of Surfaces. For the purposes of this specification, a surface will be considered weathered if the galvanizing has been uncoated and exposed to a well-ventilated environment for a minimum of two years. A surface will be considered new if it was galvanized less than two years ago.

A. Weathered Galvanized Surfaces. All surfaces to be painted shall be pressure washed using equipment operating at a minimum pressure of 12.5 MPa, a water temperature of 85°C to 93°C, and a minimum flow of 15 L/minute. The nozzle shall be held at a distance of 150 mm to 300 mm from the surface.

When the washing is completed, the cleaned surfaces shall be free of dust, dirt, oil and grease, animal waste, salts, and other debris. Oil and grease shall be removed by solvent cleaning as described in SSPC SP1. The areas shall be pressure washed again following this cleaning.

B. Newly Galvanized Surfaces. All surfaces to be painted shall be pressure washed, using equipment operating at a minimum pressure of 21 MPa, and a minimum flow of 15 L/minute. The nozzle shall be held at a distance of 150 mm to 300 mm from the surface.

When the washing is completed, the cleaned surfaces shall be free of dust, dirt, oil and grease, animal waste, salts, and other debris. Oil and grease shall be removed by solvent cleaning as described in SSPC SP1. The areas shall be pressure washed again following this cleaning.

Once cleaned, all galvanized surfaces shall receive a light sweep blast using abrasive blasting equipment. All compressed air used to satisfy the requirements of this specification shall be clean. The cleanliness shall be verified with a white blotter test according to ASTM D 4285 at least once per shift.

The light blast shall remove zinc oxides from the galvanizing as well as etch the surface. The light sweep blast shall not remove excessive amounts of zinc from the galvanized surface. The sweep blast shall impart to the galvanized surface an anchor profile of 25 to 40 microns as measured using profile tape and a spring-loaded micrometer according to ASTM D 4417.

The initial thickness of the galvanizing prior to sweep blasting shall be established using a magnetic thickness gage in a manner as described under ASTM A123. If the sweep blast results in a 15% or greater loss of galvanized coating, the article shall be rejected. The sweep blast shall be performed in a manner that does not result in disbondment and flaking of the galvanizing.

After sweep blasting, the galvanized surfaces shall be thoroughly blown down with clean compressed air to remove all blast residue. Any sharp, protruding defects in the galvanized surface such as that commonly found on edges and holes shall be removed by hand tools.

Application of the primer shall be performed within 12 hours of sweep blasting the galvanized surface. If more than 12 hours elapse prior to priming, the galvanized surfaces shall be reblasted according to this specification at no additional cost to the State. If re-blasted, the item shall not have lost 15% or more of its original galvanized coating thickness.

C. Aluminum Surfaces. Aluminum surfaces shall be prepared using methods and technologies as described in the latest version of SSPC-SP COM, *Surface Preparation Commentary for Steel and Concrete Substrates*. Chemical stripping and water jetting methods for surface preparation are prohibited. The effectiveness of the method chosen shall be verified prior to production work for its

ability to remove aluminum oxides and provide a surface profile as required by the paint manufacturer.

657-3.02 Painting.

A. Atmospheric Conditions. No paint shall be applied when the receiving surface and ambient temperatures are less than 5°C or greater than 38°C. If the manufacturer's recommendations for temperature are more restrictive than those listed in this specification, the manufacturer's temperature limits shall be used for application requirements. No paint shall be applied unless the receiving surface is absolutely dry.

Paint shall not be applied when the relative humidity is more than 85% unless the coating manufacturer's requirements are more stringent. No paint shall be applied during rain.

Manufacturer's recommended humidity and dew point restrictions shall be observed.

B. Mixing Paint. All paint shall be thoroughly mixed with mechanical mixers in accordance with the manufacturer's recommendations. After mixing, the bottom of the container shall be free of any unmixed pigment prior to use.

C. Solvents and Thinners. Paint may be thinned if recommended by the manufacturer and approved by the Engineer. Under no circumstance should the paint be thinned where the resulting VOC level exceeds 340 g/L. The manufacturer shall be able to advise the Contractor and Engineer as to the maximum amount of thinner allowed.

Use of unauthorized solvents and thinners or using excess amounts of solvents and thinners is prohibited. Paint thinned excessively or incorrectly shall be removed at no additional cost.

D. Paint Application. Painting shall not begin until cleaned surfaces have been inspected. The Contractor shall also provide sufficient time for the work to be inspected at various stages of completion. The item(s) shall cure in an environment that is free of airborne dust and dirt until the paint is dry to the touch. Paint may be applied using brush or roller, unless otherwise indicated by the contract documents. All paint shall be applied to produce a uniform, even coating free of runs, sags, drips, ridges or other defects. Areas exhibiting these defects shall be re-cleaned at no additional cost to the State.

Brushes and rollers used to apply the paint must be of a quality to produce a smooth uniform coating and not leave fibers in the coating. The roller nap length shall be limited in accordance with the paint manufacturer's recommendation.

If the surface becomes contaminated before paint is applied, the surface shall be cleaned as described in this specification at no additional cost.

E. Paint Film Thickness. Paint shall be applied to produce the specified dry-film thickness as directed by the paint manufacturer's data sheets.

The actual dry-film thickness over galvanizing shall be determined in accordance with SSPC-PA 2, Paint Application Specification No. 2 - Measurement of Dry-Film Thickness with Magnetic Gages, using a Type 2 fixed-probe magnetic gages. The gage(s) shall be properly calibrated over the galvanized surface according to their manufacturer's recommendation prior to paint application.

The actual dry-film thickness over aluminum surfaces will be estimated using a wet-film thickness gauge.

Areas failing to meet the specified minimum dry film thickness shall be overcoated with the same type of paint to produce the total dry film thickness required. The overcoating must be performed within the paint manufacturer's specified recoat window.

657-4 METHOD OF MEASUREMENT. The unit measurement for this work is lump sum.

657-5 BASIS OF PAYMENT. The unit price bid shall include the cost of all labor, materials, and equipment necessary to complete the work.

657-5.01 Progress Payments. Progress payments will be made based on the ratio of area cleaned and painted to the total area to be painted as described in the contract documents.

Payment will be made under:

Item No.	Item	Pay Unit
657.01nn	Painting Weathered Galvanized Surfaces	Lump Sum
657.02nn	Painting Newly Galvanized Surfaces	Lump Sum
657.03nn	Painting Aluminum Surfaces	Lump Sum

*nn Serialized number identified structure detailed in contract documents."

re ... 20, ***Add*** the following: **"SECTION 658 (VACANT)"**

Make the following changes to Volume 3 of 3 of the Standard Specifications of January 2, 2002,

Section 708
Page 7-86, **Delete** Line 4 to Page 7-88, Line 20, and **Replace** it with the following:

"SECTION 708-01 THROUGH 708-03 (VACANT)"

Page 7-88 **Delete** lines 24 and 25.

§ 708-05
Page 7-89, **Delete** Line 20 to Page 7-94, Line 5, and **Replace** it with the following:

"708-05 STANDARD PAINT COLORS

SCOPE: This specification defines commonly used colors.

DEFINITIONS:

Color Reference Standard	
Sage Green Paint	Munsell 7.5 GY 5/4
Light Gray Paint	Munsell 10B 6/1
Blue Paint	Federal Color Standard 595, # 35177
Brown Paint	Federal Color Standard 595, # 30111
Brown-Gray Paint	Federal Color Standard 595, # 36306
Dark Blue Paint	Federal Color Standard 595, # 15090
Textured Concrete Finish Paint	Federal Color Standard 595, # 36440
Weathered Brown Guide Rail Paint	Federal Color Standard 595, # 20059

Assistance in providing definitions for other colors is offered by the Materials Bureau.

BASIS OF ACCEPTANCE: The Engineer may require manufacturer's certification that the color provided meets the requirements of this specification.

708-06 PAINT FOR GALVANIZED SURFACES

SCOPE. This specification covers the materials requirements for paints to be applied over galvanized surfaces.

PAINT. Paint shall be a two-coat system with an polyamide epoxy primer and an aliphatic urethane, suitable for exterior use. The paints shall have a VOC level below 340 g/L, shall be produced by the same manufacturer, and the prime and top coat shall be compatible. The primer shall be specifically formulated for use over galvanized surfaces.

BASIS OF ACCEPTANCE. The material shall be accepted with the submission of the technical data sheets and the manufacturer's certification ensuring compliance with this specification.

708-07 PAINT FOR ALUMINUM SURFACES

SCOPE. This specification covers the materials requirements for paints to be applied over aluminum surfaces not in contact with concrete.

PAINT. Paint shall be a two-coat system with an epoxy primer and an aliphatic urethane, suitable for exterior use. The paints shall have a VOC level below 340 g/L, shall be produced by the same manufacturer, and the prime and top coat shall be compatible. The primer shall be specifically formulated for use over aluminum surfaces.

BASIS OF ACCEPTANCE. The material shall be accepted with the submission of the technical data sheets and the manufacturer's certification ensuring compliance with this specification.

SECTION 708-08 THROUGH 708-29 (VACANT)"

§ 710-24

Page 7-114 **Delete** section "**F. Painting Rustic Railing**" and replace with the following:
"When paint is used to obtain a rustic appearance, all components of the railing system shall be galvanized and then the visible portions of the system shall be painted in accordance with §657 Painting Galvanized and Aluminum Surfaces. Paint color shall be 'Weathered Brown' as defined by 708-05 Standard Paint Colors."

Page 7-116, **Delete** Line 27 to Line 30, and **Replace** it with the following:
"The materials and construction requirements of Box Beam End Assemblies, Type III (Rustic) and Box Beam Median Barrier End Assembly, Type C (Rustic) shall be the same as Box Beam End Assemblies, Type III and Box Beam Median Barrier End Assembly, Type C except exposed galvanized metal surfaces shall be painted in accordance with Section 657 *Painting Galvanized and Aluminum Surfaces*."

§ 716-12

Page 7-188 **Delete** lines 37 through 45 and **Replace** with the following:
"welding. All surfaces shall be cleaned and painted in accordance with §572, Structural Steel Paint System, Shop Applied. Color shall match that of the finish coat of other structural steel. For bearing used in conjunction with unpainted steel, the finish coat shall match "Weathered Brown" as defined by 708-05 *Standard Paint Colors*."

§ 730-27

Page 7-281 **Delete** lines 6 and 7 and **Replace** with the following:
"All exposed galvanized surfaces, except in the vicinity of the slots in the hinge plates, shall be painted in accordance with §657 *Painting Galvanized and Aluminum Surfaces*."

Section 740

Page 7-290, Line 25 to Page 7-300, Line 37 **Delete** Sections 740 and 741 in their entirety and **Replace** with the following:

"SECTION 740 THRU 799 (VACANT)"

Standard Sheet M630-1, issued under EI 96-019, HIGHWAY BARRIER AND HIGHWAY – RAILROAD BARRICADE:

Delete the following portion of the note located at the left end of the "ELEVATION" view. "Wood Posts Shall Be Field Painted With A Stain Resistant White Paint In Accordance With The Provisions Of §740-02 "Painting Timber and Lumber."

and **Replace** with, "Wood Posts Shall Be Primed With A Wood Stain Specifically Formulated For This Application. Surface Preparation Shall Be Done In Accordance With Stain Manufacturer's Recommendations."