AIR QUALITY and

WASTE MANAGEMENT

FOR THE REMOVAL OF PAINT
(USING DRY ABRASIVE BLASTING)
ON STEEL BRIDGE STRUCTURES

IN COMPLIANCE WITH MN RULES
CHAPTER 7025, CHAPTER 7035,
&
CHAPTER 7045

for

BRIDGE INSPECTORS & CONTRACTORS

ANY QUESTIONS OR ASSISTANCE CALL 651.284.3790

INTRODUCTION

This manual is designed to be a guide, to comply with Minnesota Air Quality and Waste Management regulations associated with paint removal operations from steel bridge structures. The manual is written for Mn/DOT Bridge Design, Bridge Inspection, and Contractors representing Mn/DOT in these areas. Since the needs vary for both Design and Construction, the manual is separated into issues specifically to design and issues specifically to construction. A few paragraphs are repeated throughout the manual, this is done only as a convenience to the reader. A current form of the manual is on the Office of Environmental Services web site at http://www.dot.state.mn.us/environment, go into publication, then into *Removing Paint From Steel Bridge Structures*.

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Mn/DOT Paint Removal Outline

Identify if Lead Paint

Is lead Concentration Greater or Equal to 0.5%, 5,000 ppm, or 0.5mg/cm^2

NO

Non-Lead Paint

Pollution Control/ Containment

Properly Containerize and Store
Blasting Residue

Waste Log Form for Blasting Residue

Waste Disposal Records

Documentation: Must Be Kept In File Permanently

1. **Record Indicating No Lead Paint**
2. **Waste Tracking Log**
3. **Waste Disposal Records**

YES

Lead Paint

Bridge Classification/ Notification/Pollution Control

Properly Containerize and Store
Blasting Residue

Waste Log Form for Blasting Residue

Hazardous Blasting Residue?

NO

Waste Disposal Records

YES

HW Manifest, EPA ID#, & MN Hazardous Waste Generator License

Documentation:
Must Be Kept In File Permanently

1. **Notification Form (MPCA)**
2. **Notification Letter (Local Residence)**
3. **Bridge Classification Form**
4. **Blasting Residue Lab Results**
5. **Waste Tracking Log**
6. **Waste Disposal Records**
7. **If Hazardous, Weekly Inspections of Blasting Residue in Storage, EPA ID#, & MN Hazardous Waste Generators License**

PRECONSTRUCTION REQUIREMENTS

Preconstruction Overview

1. Determination if Lead or Non-Lead Paint is present on Steel Bridge Structures.
   a. From existing documentation.
   b. From testing
      i) Field sampling and laboratory analysis or
      ii) X-ray florescence analysis

2. Determining MPCA Bridge Classification (only if paint has been determined).

3. Documentation Form
   a. Determination of Paint system on Steel Bridge Structures.
   b. Determining Pollution Control for Lead Paint Removal.

4. Specifications
   See Mn/DOT Standard Specification for Construction and related Special Provisions.

DETERMINATION OF PAINT SYSTEM ON STEEL BRIDGE STRUCTURES

Bridge Number_____

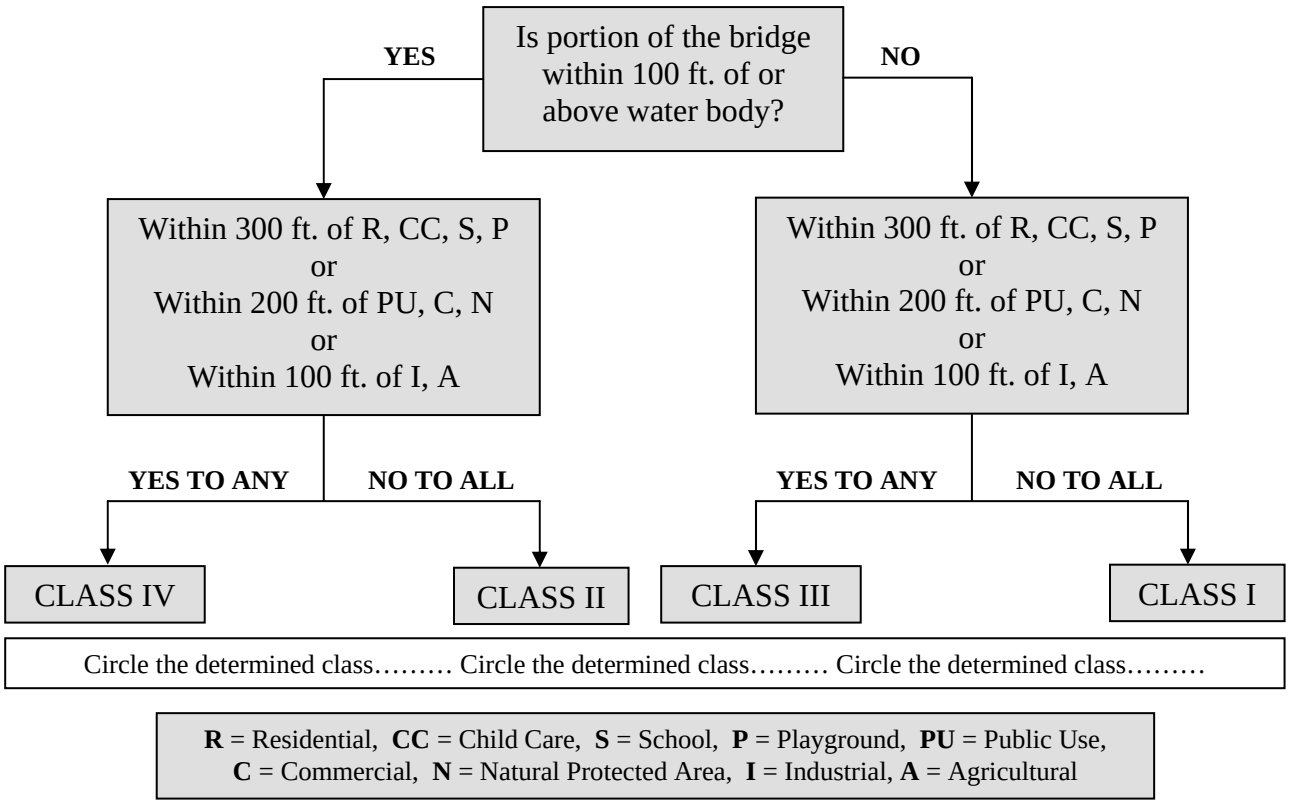
It was determined by the following that the existing paint system (does) (does not) contain a lead concentration equal to or greater than 0.5%, 5000 ppm, or 0.5 mg/cm^2.

- ❑ Reviewed Original Plan and Proposal.
- ❑ Reviewed Inventory Records.
- ❑ Reviewed Historical Documents.
- ❑ Sampled and tested the in-place paint system. Average lead content is _____ppm (attach lab test results).

Signature of Reviewer: _____ Date: _____

DETERMINING POLLUTION CONTROL FOR LEAD PAINT REMOVAL
(Based on Minnesota Rules Chapter 7025)

CONTAINMENT CLASS



Circle the determined class…… Circle the determined class…… Circle the determined class……

R = Residential, **CC** = Child Care, **S** = School, **P** = Playground, **PU** = Public Use, **C** = Commercial, **N** = Natural Protected Area, **I** = Industrial, **A** = Agricultural

Signature of Reviewer: _____ Date: _____

CC: Resident Engineer / Project File

DETERMINATION IF LEAD OR NON-LEAD PAINT ON STEEL BRIDGE STRUCTURES

Lead or Non-lead Paint Determination

There are three of ways to determine the presence of lead paint for a Steel Bridge Structures. One way is to review the original plan and proposal, another is to review the inventory records of the bridge, another is to review historical documents of the paint used on the bridge. If these records do not convince the reviewer that the paint is or is not lead based then the definitive option is to test representative samples of the coating on the steel structure for lead concentration. Acceptable test methods include either the laboratory analysis or using the x-ray fluorescence (XRF) analysis. The form *Determination of Paint System on Steel Bridge Structures*, must be filled out and signed by the owner prior to contract letting**.** If the paint system is sampled and tested the district (agency) doing the sampling will sign the form. If reviewing records makes the determination, the reviewer will sign the form. **A copy of the form MUST be kept in the project file permanently**.

Lead Paint

Lead paint is defined as paint that contains equal or greater than 0.5% (5,000 ppm) total lead by weight or 0.5 mg/cm^2 by XRF.

Non-lead paint is defined as paint that contains less than 0.5% (5,000 ppm) total lead by weight or less than 0.5 mg/cm^2 by XRF.

SAMPLING TO DETERMINE PRESENCE OF LEAD BASED PAINT SYSTEMS

A minimum of one paint sample from a girder bridge or one paint sample from the trusses and one from the girders of a truss bridge must be collected for analysis if a determination of lead paint cannot be made from documentation contained in as built bridge files. If portions of the bridge have been historically repainted, these portions must be grouped and analyzed separately.

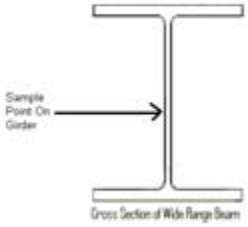
EQUIPMENT

X Paint scraper*.
X Self-sealing plastic bags (Ziploc®).
X Permanent ink marker.
X Clean, unused paper towel.

*Paint scraper should be new or dedicated to taking paint samples from bridges. This is to avoid cross-contamination from one project to another.

SAMPLING PROCEDURE

X Using a permanent ink marker, label the bag(s) with the following:
1. Name of bridge.
2. Name of Sampler.
3. Name of Project Engineer.
4. District.
5. Date of sample.
6. Unique number for each bag, example: 1, 2, 3.



X Paint scraper should be new or wiped with a clean unused paper towel between every bridge sampled.
X Sample should be taken on girder at wide flange beam mid-height.
X Sampling from truss should be on flat surface area.
X Scrape down to bare metal.
X Scrape until a minimum of five grams of sample has been collected.
X When sampling has been completed, use the marker to label the area adjacent to the sampling point on the bridge with the unique sample number and date.

Send samples to Chemical Lab Director, Office of Materials and Road Research, MS 645.

After test results are received, complete the **Determination of Paint System on Steel Bridge Structures** form. Attach copies of the test results to the form. The original shall be placed in the Project Engineers permanent project file.

Mn/DOT
BRIDGE LEAD PAINT TESTING
USING THE
X-RAY FLUORESCENCE (XRF)
PRIOR TO BLASTING

Nuclear materials within the XRF lead-testing instrument require training and certification prior to use. Individuals interested in training should contact Mn/DOT Industrial Hygienist, at 651.296.9233.

A minimum of five paint readings from a girder bridge or five paint readings from the trusses and five from the girders of a truss bridge must be taken. The concentration shall be determined by the mean value of the separate measurements for that surface. If portions of the bridge have been historically repainted, these portions must be grouped and analyzed separately.

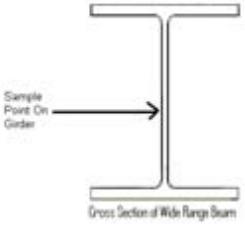
EQUIPMENT

X XRF Lead testing instrument
X Permanent ink marker

READINGS PROCEDURE

X Readings should be taken randomly on the girders at mid-height of web.
X Readings for a truss should be taken randomly on flat surface areas.
X Record the following information for file.
1. Name of bridge.
2. Name of person performing the test.
3. Name of Project or Resident Engineer.
4. District.
5. Date of sample.
6. Unique number for each test point, example: 1, 2, 3.

X When sampling has been completed use the permanent ink marker to label the area adjacent to the sampling point on the bridge with a unique sample number, and date.



Cross Section of Wide Range Beam

The **Bridge Lead Paint Testing Using The XRF** form must be completed when testing with the XRF. This documentation must be kept in the Project Engineers file permanently.

After test results are received, complete the **Determination of Paint System on Steel Bridge Structures** form. Attach copies of the test results to the form. The original shall be placed in the Project Engineers permanent project file.

Mn/DOT
BRIDGE LEAD PAINT TESTING
USING THE XRF
PRIOR TO BLASTING

Bridge #: _____

Date Sampled: _____

Truss or Girder Bridge: _____

District: _____

Person Performing Test: _____

Sample # or Test Point	T for truss or G for girder	Date Tested	Results mg/sq cm	Comments
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

MPCA BRIDGE CLASSIFICATIONS
(Based on Minnesota Rules Chapter 7025)

The District (Agency) responsible for the project will complete the "Determining Pollution Control for Lead Paint Removal (PCLPR)" form. A permanent copy shall be placed in the projects permanent file.

MPCA Bridge Classification must be determined by the District (agency) prior to preparing project special provisions which will identify special procedures to be used depending on the Bridge Classification.

Definitions:
For the purposes of MN Rule 7025 the following terms have the meanings given.

RESIDENTIAL PROPERTY (R): A single family or multi-unit building for human habitation.

CHILDCARE PROPERTY (CC): A building that incorporates a place where children are cared for or supervised at any time of the day or year.

SCHOOL PROPERTY (S): A public school building, nonpublic school, church, or religious organization, or home-school in which a child is provided instruction.

PLAYGROUND (P): An area designated for children's play including a school playground, a childcare building playground, a play area of a public park, or an area that contains permanent play equipment.

PUBLIC USE PROPERTY (PU): A building used by the public, recreational area or public parking lot.

PROTECTED NATURAL AREA (N): A designated national park, national wildlife refuge, national wild and scenic river, natural center or environmental learning center. An area designated by the Minnesota Department of Natural Resources (Mn/DNR) as a wildlife management area, scientific and natural area, State Park, research natural area, waterfowl protection area, area of special interest. A site officially registered with any unit of government through the scientific and natural area program of the Mn/DNR or a site of occurrence of unique plant or animal life identified by the natural heritage program of the Mn/DNR.

COMMERCIAL (C): Property use which is characterized by extremely varied and broad commercial use, encompassing everything from day care centers and schools to gas stations and warehouses. The physical setting of commercial properties and the activities that workers and the general public engage in at these sites are also extremely variable. This land use designation has been divided into unrestricted and restricted subcategories based on exposure potential

INDUSTRIAL (I): Use of property for industrial purposes. MPCA may consider property use to be considered "industrial" for risk characterization where property use will not allow public access to areas where residual contamination may be present in soil. In risk evaluation scenarios, potential occupational exposure assumptions are used in the calculation of cleanup levels. Industrial property uses generally include, but are not limited to, the following: public utility

services, rail and freight services, raw storage facilities, refined material storage facilities, and manufacturing facilities engaged in the mechanical or chemical transformation of materials or substances into new products.

AGRICULTURAL (A): Use of property for farming. Specific uses could include: cultivation of soil; growing and harvesting of any agricultural, horticultural, or floricultural commodity; dairying; raising livestock, bees, fish, fur-bearing animals, or poultry; and turf and tree farming. Agricultural land use does not include property used for commercial storage, processing, distribution, marketing, or shipping operations.

WATER BODY: "Water body" means any river, stream, lake, pond, marsh, watercourse, waterway, spring, reservoir, drainage ditch, and any other body of surface water that is contained within, flows through, or borders the state.

PORTION OF THE BRIDGE: Only the part of the bridge within the distance of 300 ft, 200 ft, or 100 ft of the referenced area is required to have the more strict pollution control.

DETERMINATION IF DRY ABRASIVE BLASTING RESIDUE IS A HAZARDOUS WASTE

Definition of Abrasive Blasting Residue
Currently, dry abrasive blasting includes the following materials:

1. Mineral aggregate mixed with Blastox approximately 15% by weight, or in proportion as recommended by the manufacturer.
2. Mineral aggregate abrasive.
3. Steel grit or steel shot abrasives.

Determine Abrasive Blasting Residue as Hazardous or Nonhazardous Waste
When removing lead paint, all blasting residues must be managed as a hazardous waste, with the exception of mineral aggregate abrasives mixed with Blastox. Abrasive-blasting residue resulting from the use of mineral aggregate abrasives mixed with Blastox shall be not be moved off site until the residue is tested to determine if the waste should be treated as a non-hazardous waste. The owner will sample the blasting residue and deliver the sample to a laboratory chosen by the Contractor. The sample will be sent to a certified Minnesota Department of Health laboratory, a certified Wisconsin Department of Natural Resources laboratory, or a certified laboratory accepted by the Office of Environmental Services for the Resource Conservation Recovery Act (RCRA) metals and analyzed by the Toxicity Characteristic Leaching Procedure (TCLP). The blasting residues shall be managed according to test results. *See detail on sampling and laboratory analysis*. Copies of the test results shall be furnished to the Project Engineer and kept on file permanently.

Air Quality Rules define lead paint as paint that contains 0.5% (5,000 ppm) or more total lead by weight or 0.5 mg/cm^2 or more by XRF. Non-lead paint is defined as paint that contains less than 0.5% (5,000 ppm) total lead by weight or less than 0.5 mg/cm^2 by XRF. Lead concentrations in non-lead paint are not commonly found near the 0.5%, 5,000 ppm, and 0.5 mg/cm^2 threshold. Lead paint concentrations are significantly higher and non-lead paint concentrations are significantly lower than the regulatory thresholds. Therefore, non-lead paint is non-hazardous and lead paint is mostly hazardous.

Abrasive blasting residue from removing non-lead paint is non-hazardous. No further analyses are required. But blasting residue must still be contained and disposed of as an industrial (regulated) waste.

CONSTRUCTION REQUIREMENTS

Removal of **Non-Lead** Based Paint

INSPECTOR'S CHECKLIST FOR REMOVING **NON-LEAD** PAINT FROM STEEL BRIDGE STRUCTURES

X	DESCRIPTION
	DETERMINE IF PAINT IS LEAD OR NON-LEAD**
	A copy of the "Determination of Paint System on Steel Bridge Structures" indicating non-lead paint placed in project file..
	BRIDGE POLLUTION CONTROL (CONTAINMENT) DURING BLASTING
	Contractor is using proper containment.
	BLASTING RESIDUE
	Properly containerized and stored.
	Bridge paint residue tracking form filled out and in project file.
	Three-signature copy of non-hazardous manifest and/or scale tickets, other proper disposal and/or temporary storage records on file.

* Determination of lead paint can be conducted by review of paint records, sampling and laboratory analysis, and/or by an X-Ray Fluorescence (XRF). Lead paint is defined as paint that contains 0.5% (5,000 ppm) or more by weight or 0.5 mg/cm^2 or more by XRF. This Documentation must be completed prior to letting and should be found in the project file at letting.

REMOVING **NON-LEAD** PAINT FROM STEEL BRIDGE STRUCTURES (OVERVIEW)

Non-Lead Paint Determination
Non-lead paint is defined as paint that contains less than 0.5% (5,000 ppm) total lead by weight or less than 0.5 mg/cm^2 by XRF. *See "Determination if Lead or Non-lead Paint on Bridge Steel Structures".*

Pollution Control (Containment)
The Contractor must meet the owner's requirements for non-lead paint removal. *See the "Checklist for Removing NON-LEAD Paint".*

Abrasive Blasting Residue Management
Non-hazardous paint blasting residue must have proper documentation, container labeling, transportation, and disposal. *See "NON-HAZARDOUS Waste Management of Abrasive Blasting Residue" for proper management methods.*

Abrasive Blasting Residue Tracking Form
An operation log should be used to inventory blasting residue produced on site. *See "Bridge Paint Blasting Residue Tracking Form".*

Non-Hazardous Manifests/Waste Temporary Storage and Disposal Records for Non-Hazardous Blasting Residue
The Contractor must use proper documentation for disposal and shipping the waste off site for temporary storage. The Contractor must provide the owner this documentation within 30 days of shipment. *See "NON-HAZARDOUS Waste Management of Abrasive Blasting Residue" for proper management methods.*

Used Solvent and Paint
The Contractors use their own solvent and paint; it is their waste and their responsibility to manage and dispose of properly. The contract states the Contractor must follow MPCA regulation in handling and disposing this waste. Solvents can be reused, but unusable solvent and paint sludge must be disposed of through a licensed hazardous waste disposal facility. Drying and disposing of waste solvent and oil base paint in the garbage is not a legal option for Contractors.

Documentation
Documentation will be kept in the owner's project file, permanently:
See the "Checklist for Removing NON-LEAD Paint".

1. *Lead or non-lead paint determination. (from Bridge Office)
2. *Laboratory results of lead paint determination, if applicable.
3. Waste tracking form.
4. Manifests/Temporary Storage/Disposal records.

* Completed prior to letting.

Just in Time Training

It is recommended that Bridge Inspectors receive training covering this manual. This training is provided during bridge inspection certification or upon request at ph: 651.284.3790.

CONTRACTOR'S REQUIREMENTS FOR CONTAINMENT OF **NON-LEAD** PAINT

Contractor's requirements for containment are summarized below. These requirements do not supersede MPCA requirements or contract specifications.

Ground Areas
The Contractor shall provide tarpaulins on the sides and ground beneath the structure in the work area. The work area, as necessary to confine the blasting residue, shall determine the lengths. The width of the ground cover shall meet the outside edge of side enclosures. Ground cover is not required for unbroken paved surfaces. All edges of the ground cover shall be tipped up to prevent spent material from spilling over the edges. Adjacent edges shall overlap a minimum of six inches.

Waterway Protection
The Contractor shall provide tarpaulins sufficient in length and width to protect the waterway. The tarpaulins shall be placed on the sides and suspended beneath the work area and be capable of catching and holding the blasting residue.

Containment
The Contractor's containment must be adequate enough to stop blasting residue from being released into the environment. There should be no visible emissions of particulate matter or visible deposits on the ground outside the containment area.

Wind speed limitation
The Contractor shall not conduct paint removal when wind speeds render the curtains and ground cover ineffective in containment.

Cleanup of waste material
The Contractor shall clean up all visible deposits of waste material containing paint or paint particles. The Contractor shall recover this material by manual means or by vacuum, but may not use an air pressure or water stream that redistributes the waste material. Methods of handling and movement of waste material shall prevent fugitive dust and other loss of any material until final disposition of the material.

See contract documents for additional requirements.

CONTRACTORS RESPONSIBILITIES
FOR WASTE MANAGEMENT OF NON-HAZARDOUS PAINT BLASTING RESIDUE

Pollution Control (Containment)
See contract documents for additional requirements.

Storage Containers
The Contractor shall provide containers intended to hold hazardous wastes that meet the requirements of CFR 49, subp. 178.502. Use only UN containers bearing the UN Logo. This UN Logo must be visible on all drums. The containers must meet the requirements of the identification codes 1A2 (steel 55-gallon drum with removable head) or 1H2 (plastic 55-gallon drum with removable head) which will be with the UN Logo.

The Contractor shall have the option to store blasting residue for transportation in roll-offs with covering. Covering must be adequate to protect from the outside elements and prevent release during storage and transport.

Drums must be clean and in good condition (no dents, rust, etc.).

Containers holding the waste shall be stored closed, except when adding more waste.

The Contractor shall label all containers “Non-Hazardous” and “Blasting Residue”.

The Contractor shall mark all containers with the date when the container becomes full.

Disposal
Dispose of non-hazardous abrasive blasting residue at a Minnesota MPCA permitted lined mixed municipal solid waste landfill.

Within 30 days of transportation of waste off site, the Contractor shall furnish to the owner the records of disposal including, but not limited to: waste manifests, scale tickets, and invoices. These documents must be kept on file permanently. *See following pages in this section for description of waste manifest and shipping paper.*

Disposal of waste material (paint pails, rags, clothing, waste oil, spent cleaning solvents, brushes, etc.,) with the blasting residue is prohibited.

Disposal Records
NON-HAZARDOUS WASTE MANIFEST

Blasting residue can be shipped as non-hazardous only if paint is non-lead or if test results are on hand indicating lead paint residue is non-hazardous after using Blastox.

STEP 1: The Owner Representative (the Contractor may sign in lieu of the Owner Representative if predetermined at the Preconstruction meeting) shall sign the non-hazardous waste manifest and the transporter (truck driver) shall sign the manifest.

STEP 2: A copy of the manifest with two signatures (owner representative & transporter) shall be given to the owner of the waste within 30 days after the waste is shipped off site.

STEP 3: Retain copy for file.

STEP 4: The Contractor must receive a copy of the non-hazardous manifest from the end site facility (landfill) within 30 days of shipment confirming acceptance at the disposal facility. If not, contact the landfill and notify the owner. This copy will have three signatures; the generator, the transporter, and the landfill (end site).

STEP 5: A copy of the manifest with three signatures (contractor, transporter, and end site) shall be given to the owner of the waste within 30 days after the waste is shipped off site.

Scale Tickets

The scale ticket is given when the waste is received by the landfill. The scale ticket must have the following information:

- Waste description.
- Date of delivery.
- Quantity.
- Generation Site.
- Landfill name and address.

A copy of the scale ticket shall be given to the owner of the waste within 30 days after the waste is shipped off site.

Temporary Storage

Non-hazardous abrasive blasting residue can be stored temporally at a location off site. The shipping document must clearly state, "transport to temporary storage". The shipping documentation must include ship from, ship to, date of shipment, # and type of containers, container contents, name of transport company, signature of transporter, and, signature of person signing waste off to transporter. A copy of records of transport and site of temporary storage must be given to the owner within 30 days after the waste is shipped off of its original site.

Used Solvent and Paint

Contractors are required to use their own solvents and paints. It is their waste and therefore, their responsibility to properly manage and dispose of. In the contract it states the Contractor must follow MPCA regulation in handling and disposing this waste. Solvents can be reused, but unusable solvent and paint sludge must be disposed of through a licensed hazardous waste disposal facility. Drying and disposing waste solvent and oil base paint in the garbage is not permitted.

Documentation

The Contractor must provide the owner the following documentation for the project file:
Manifests/Temporary Storage/Disposal records within 30 days of shipment of blasting residue off site.

THE OWNER'S RESPONSIBILITIES
FOR REMOVING **NON-LEAD** PAINT FROM
STEEL BRIDGE STRUCTURES

Non-Lead Paint Determination
Obtain a copy of the non-lead paint determination from the project engineer. The non-lead paint determination form is completed prior to contract letting.

Pollution Control (Containment)
The owner will require the Contractor to meet the requirements for non-lead paint containment. *See "Contractor's requirements for containment of Non-lead paint".*

Abrasive Blasting Residue Management
The owner will require the Contractor to meet the requirements for waste management and disposal.

Abrasive Blasting Residue Tracking Form
The owner representative fills out an abrasive blasting residue tracking form, tracking every container of blasting residue. *See "Bridge Paint Blasting Residue Tracking Form".*

Non-Hazardous Manifests/Waste Temporary Storage and Disposal Records for Non-Hazardous Blasting Residue

The owner representative will receive documentation, signed by the Contractor for disposal and shipping the waste off site for temporary storage. The Contractor must provide the owner this documentation within 30 days of shipment.

Documentation in Project File
The Contractor must provide the owner representative the following documentation:
1. Manifests/Temporary Storage/Disposal records within 30 days of shipment.

The owner representative must provide the following documentation:
2. Waste tracking form.

The Bridge Office will supply the owner representative with the following:
"Determination of Paint System on Steel Bridge Structures" form.

CONSTRUCTION REQUIREMENTS

Removal of **Lead** Based Paint

CHECK LIST FOR REMOVING **LEAD** PAINT FROM BRIDGE STEEL STRUCTURES

X	Description
	***DETERMINE IF PAINT IS LEAD**
	File copies of records, laboratory results, and/or XRF results that indicate lead paint
	NOTIFICATION
	Contractor provided copy of notification (letter) to local residences
	Contractor provided copy of notification form to the MPCA
	***BRIDGE CLASSIFICATION AND POLLUTION CONTROL**
	Bridge classification form filled out and on file
	Contractor is using proper pollution control method needed for the bridge classification and working properly.
	ABRASIVE BLASTING RESIDUE
	Properly containerized and stored
	Laboratory results on file
	Tracking form completed and on file
	NON HAZARDOUS, BLASTOX, ABRASIVE BLASTING RESIDUE
	3-Signature copies of non-hazardous manifest and/or scale ticket on file
	HAZARDOUS ABRASIVE BLASTING RESIDUE
	EPA Notification of Regulated Waste Activity, Form 8700-12, on file/MN Hazardous Waste Generator License on file
	2-Signature copy of hazardous waste manifest on file
	3-Signature copy of hazardous waste manifest on file
	LDR (Land Disposal Restriction form) on file

* These documents must be completed prior to letting and should be found in the project file at letting.

If it has been decided that the abrasive blasting residue will be hazardous, laboratory tests are not necessary.

REMOVING **LEAD** PAINT FROM STEEL BRIDGE STRUCTURES (OVERVIEW)

Lead Paint Determination (Prior to Contract Letting)
Lead Paint Determination has been made prior to Contract Letting. Lead paint is defined as paint that contains 0.5% (5,000 ppm) or more total lead by weight or 0.5 mg/cm^2 or more by XRF.

Bridge Classification, Pollution Control (Containment) and Cleanup
A "*Determining Pollution Control for Paint Removal"* form must be filled out by the owner prior to construction letting, and shall be kept on file permanently. Minnesota rules classify bridges according to their distance from water, schools, protected natural areas and other areas sensitive to lead pollution. The type of pollution control method needed for lead paint removal from a bridge depends on the classification. Classification is made prior to contract letting so that appropriate containment requirements are included in contract specifications.

Notification
The Contractor shall provide written notice at least ten working days prior to the removal project. A copy of the notification (letter) shall be sent to local residence and a completed copy of notification (MPCA form) to the MPCA. The Contractor shall send copies to the Project Engineer at the same time. These copies must be kept in the project file permanently. Those to be notified include neighbors and owner/administrators of child care or school buildings within 200 feet of the bridge portion.

If the Contractor postpones abrasive blasting more than five days from the anticipated start of abrasive blasting stated in the written notices, the Contractor shall, at least two days before the start of abrasive blasting, revise and redistribute the notices with the new days and hours during which abrasive blasting is anticipated.

Laboratory Analysis of Abrasive Blasting Residue
All abrasive-blasting residue will be managed as hazardous waste. The only exception is abrasive blasting with Blastox. Owner shall conduct sampling of Blastox blasting residue. The sample will be taken to a certified Minnesota Department of Health Laboratory, or a certified Wisconsin Department of Natural Resources laboratory, or a certified laboratory accepted by the Office of Environmental Services to determine if the waste-blasting residue from the use of Blastox is non-hazardous. The choice of laboratory and cost of the laboratory analysis is the responsibility of the Contractor. Blasting residue-containing Blastox shall not be moved off site until laboratory testing determines it as non-hazardous.

Abrasive Blasting Residue Management
Abrasive blasting residue must have proper documentation, storage, transportation, and disposal.

EPA ID#/MN Hazardous Waste Generators License
If blasting residue is treated as a hazardous waste, an EPA ID# and a Minnesota hazardous waste generators license must all be obtained. Your district (owner) may already have this set up for you, call 651.284.3790 for more detail.

Abrasive Blasting Residue Tracking Form

The owner must permanently keep an operation log for abrasive blasting residue produced on site. Each container must be individually logged.

Transport and Disposal Records for Abrasive Blasting Residue

A hazardous waste manifest and a licensed hazardous waste transporter must be used for all hazardous waste shipped off site. When shipping blasting residue containing Blastox, testing non-hazardous, the Contractor must use proper documentation for disposal and shipping the waste off site for temporary storage. The Contractor must provide the owner this documentation within 30 days of shipment.

Used Solvent and Paint

Contractors are required to use their own solvents and paints. It is their waste and therefore, their responsibility to properly manage and dispose of. In the contract it states the Contractor must follow MPCA regulation in handling and disposing this waste. Solvents can be reused, but unusable solvent and paint sludge must be disposed of through a licensed hazardous waste disposal facility. Drying and disposing waste solvent and oil base paint in the garbage is not permitted.

Documentation

The following items must be kept in the owner's project file permanently:

1. Determining of Paint System on Steel Bridge Structures form.
2. Laboratory results of lead paint determination (if applicable).
3. Determining Pollution Control for Lead Paint Removal form.
4. 10-day notification
5. EPA ID # (hazardous waste only).
6. Minnesota Hazardous Waste Generator License (hazardous waste only)
7. Waste tracking form.
8. Weekly inspection of blasting residue in storage (hazardous waste only).
9. Manifests/Disposal records.

Just in Time Training

It is recommended that the owner representatives receive training covering this manual. This training is provided during bridge inspection certification training or upon request at ph: 651.284.3790.

CONTRACTOR CONTAINMENT REQUIREMENTS FOR CLASS I, II, III, & IV BRIDGE WITH **LEAD** PAINT

The type of pollution control method needed for lead paint removal from a bridge depends on the bridge classification, Class I being the least stringent to Class IV being the most stringent. The following is a summery of requirements in Minnesota Rules 7025. Specific project requirements will be provided in the contract special provisions.

CLASS I BRIDGE

Application. The Contractor who removes lead paint from a class I bridge or bridge portion by dry abrasive blasting shall use the methods required in this part as minimum pollution control. For those portions of the bridge where curtains and ground cover cannot be used, the Contractor shall use the suspended containment methods required in the class II Bridge.

Ground cover. The Contractor shall use 100 percent impermeable tarpaulins to prevent deposition on the soil and on vegetation. The Contractor shall overlap the tarpaulins at least 1-1/2 feet and weight them to prevent separation except on woody vegetation. The tarpaulins must cover the surface of all bare soil and vegetated areas inside the curtains required below and shall extend a minimum of 30 feet in all directions beyond the vertical extension of the curtains. Hard paved surfaces such as asphalt and concrete roadway, sidewalk, and slope paving may be left uncovered if they have an unbroken surface and if the Contractor thoroughly cleans these surfaces as described below in cleanup of waste material.

Curtains or barriers. The Contractor shall use curtains rated by the manufacturer at not less than 100 percent impermeable and in good condition (without rips and tears) to contain lead paint particles generated from both trusses and girders. The curtains must overlap at least three feet unless the edges are completely joined.

A. Girders and undertrusses. When lead paint is removed from girders and undertrusses, the Contractor shall suspend curtains from the bridge deck so that the work area is contained on four sides. The Contractor shall seal the spaces between the beams above the transverse curtain. The curtains must extend to the ground cover and they must be anchored.

B. Overtrusses. When lead paint is removed from overtrusses, whether the roadway is closed to traffic or not closed to traffic, the Contractor shall:

   (1) Suspend curtains both inside and outside of each truss from a height greater than the point of paint removal, with a width less than the length of ground cover, and with the bottom edges within curtains suspended from the bridge deck in the manner required for girders; or

if the roadway is closed to traffic, the Contractor shall:

(2) Suspend curtains outside of the opposite trusses from a height greater than the point of paint removal, with a width less than the length of ground cover, and with the bottom edges resting on the roadway or within curtains suspended from the bridge deck in the manner required for girders; or

(3) Suspend a rigid barrier outside the truss with the bottom edge resting on or directly above the roadway and inclined at an angle of 45 to 55 degrees with the truss, with a width less than the length of ground cover, a length not less than the height of the truss, and with the space between the end of the barrier and the truss closed with impermeable material; and

(4) Suspend curtains across the bridge deck between the opposite trusses at both ends of the area of paint removal from a height greater than the point of paint removal.

Windspeed limitation. The Contractor shall not conduct paint removal whenever wind speeds render the curtains and ground cover ineffective in containment.

Cleanup of waste material. The Contractor shall clean up all visible deposits of waste material containing paint or paint particles at the end of each workday from all areas on the ground and the ground covers outside the curtains and store it in containers. The Contractor shall recover this material by manual means or by vacuum, but may not use an air pressure or water stream, which redistributes the waste material. Methods of handling and movement of waste material shall prevent fugitive dust and other loss of any material until final disposition of the material.

CLASS II BRIDGE

Application. A Contractor who removes lead paint from a class II bridge or bridge portion by dry abrasive blasting shall use the methods required in a class I bridge and the below information as minimum pollution control.

The Contractor shall use a boom on the downstream or the downwind side of the bridge with skimming or vacuuming of the water surface to remove paint particles before they sink, except on those parts of the water surface where frequent boat navigation or water turbulence prevents effective recovery.

Protection of any body of water. To prevent lead paint particles from entering any water body, the Contractor shall:

A. Suspend impermeable tarpaulins horizontally beneath the bridge deck or suspend nets lined with impermeable tarpaulins horizontally beneath the bridge deck to contain waste materials;

B. Suspend scaffolding that supports a platform beneath the bridge deck lined with impervious materials to contain waste deposits;

C. Secure a barge or a raft covered with impervious materials beneath the bridge and use impervious materials to direct waste material to the raft or to within the barge; or

D. Collect and remove waste material from a frozen water surface with ground cover as required in a class I bridge, except that the ground cover must extend in a downwind direction on the ice to a distance greater than the highest point of paint removal.

The curtains used to contain the girders and trusses shall extend from outside the painted surfaces to inside the tarpaulins, or to the platform or the raft, or inside impervious material that extends to inside the barge, or to the ice.

Protection of narrow bodies of water. These methods may be applied as an alternative by the Contractor who shall:

A. Suspend an impermeable tarpaulin across the underside of the bridge deck at a point more than halfway across the water body with the bottom edge anchored at the farther bank so that it overlaps the ground covers, seal the spaces between the beams above the tarpaulin, and then repeat the procedure in the opposite direction; or
B. Cover a platform above the water surface with impermeable tarpaulins that overlap the ground covers. The curtains used to contain the girders and trusses as described in a class I bridge shall extend from outside the painted surfaces to inside the tarpaulin or inside impervious material that extends to the platform.

CLASS III BRIDGE

Application. A Contractor who removes lead paint from a class III bridge or bridge portion by dry abrasive blasting shall use the methods required in a class I bridge and the below information as minimum pollution control.

Dry abrasive blasting in total enclosure with negative air pressure. The Contractor who conducts dry abrasive blasting inside a totally enclosed workspace shall:

A. Maintain the enclosure at less-than-atmospheric air pressure during abrasive blasting by use of a dust collector with filtration of exhaust air to eliminate dust emissions; and

B. Use either a recyclable or nonrecyclable abrasive, but a recyclable abrasive must be cleaned to remove nonabrasive material before it is reused.

CLASS IV BRIDGE

The Contractor who removes lead paint from a class IV bridge or bridge portion shall use the methods required the strictest pollution control. Removing lead paint from a class IV bridge must meet the requirements outlined in class I (containment), class II (tarpaulins suspended beneath work area to protect the waterway), and class III (dust collection system, negative air pressure).

CONTRACTORS RESPONSIBILITY
REMOVING **LEAD** PAINT FROM
STEEL BRIDGE STRUCTURES

Notification
The Contractor shall provide a completed written notice at least ten working days prior to the removal project. *See MPCA notification form and contents of residential notification letter.* A copy must be sent to the Project Engineer at the same time it's sent to the MPCA and local Residences. If the project is delayed and the ten-day notification is not met, the notification must be amended (given again). Within 2 days after notices are sent, the Contractor will provide a copy of the notifications to the owner representative.

Bridge Classification, Pollution Control (Containment) and Cleanup
The Contractor must meet requirements for lead paint removal as described in this manual and contract language.

Laboratory Analysis of Abrasive Blasting Residue
The choice of laboratory and cost of the laboratory analysis is the responsibility of the Contractor. Samples of the blasting residue will be taken by the owner representative and sent to a certified Minnesota Department of Health or certified Wisconsin Department of Natural Resources laboratory or a certified laboratory accepted by the Office of Environmental Services to determine if the waste-blasting residue from the use of Blastox is non-hazardous. The lab results will be provided to the owner representative before the waste is shipped off site.

Abrasive Blasting Residue Management
The Contractor shall provide proper storage containers, container labeling, transportation, disposal, and disposal records.

Transport and Disposal Records for Abrasive Blasting Residue
The Contractor must use proper and complete documentation for disposal and shipping the waste off site for temporary storage. The Contractor must provide the owner representative this documentation within 30 days of shipment.

Used Solvent and Paint
Contractors are required to use their own solvents and paints. It is their waste and therefore, their responsibility to properly manage and dispose of.

Documentation
The Contractor shall supply the owner representative with the following information:

1. 10-day notifications.
2. Chain-of-Custody and Laboratory results of blasting residue testing (if Blastox).
3. Manifests/Disposal records.

MPCA Notification Form

Minnesota Pollution Control Agency

Notification of

LEAD PAINT REMOVAL

from Steel Structures

(Minn. R. 7025.0200 to 7025.0380)

[ ] Original [ ] Amended #_____ [ ] Cancellation

Note: Any changes made to this form must be in compliance with the rule.

Lead Paint Removal Contractor:

Name:_____
Address:_____
_____
City, State, Zip:_____
Contact Person:_____
Telephone Number:_____

Steel Structure(s) Information:

Structure Name:_____
Address (attach a map and/or directions if necessary):_____
_____
_____
City, State, Zip:_____

Environmental Consultant:

Name:_____
Address:_____
_____
City, State, Zip:_____
Contact Person:_____
Telephone Number:_____

Steel Structure Owner:

Name:_____
Address:_____
_____
City, State, Zip:_____
Contact Person:_____
Telephone Number:_____

1. **Type of Structure:**
   - [ ] BRIDGE: Is the bridge located above a water body or within 100 linear feet of a water body? YES* NO (circle one)
   - [ ] STORAGE STRUCTURE**: Go to number 2.
   - [ ] OTHER STEEL STRUCTURE (i.e. railcars, pipelines, boats and barges, transmission towers, transformers, light poles, exterior metal components of buildings, parking ramps, handrails, and vehicles that are used for commerce, industry, or construction): Is all or part of the structure above a water body, located within 100 linear feet of a water body, or located in a water body? YES* NO** (circle one)

   *Bridge class of pollution control is required (check box in number 3).
   **Storage Structure class of pollution control is required (check box in number 3.)

2. **Distance from the bridge or structure to nearest property line (indicate linear ft. to all that apply, distances > 500 ft. need not be reported).**
   - _____linear feet to residential, child care, or school property, or a playground
   - _____linear feet to public use, commercial, or protected natural area property
   - _____linear feet to industrial or agricultural property

3. **Class of pollution control: (check the highest class that applies):**
   - [ ] BRIDGE: [ ] Class I [ ] Class II [ ] Class III [ ] Class IV
   - [ ] STORAGE STRUCTURE: [ ] Class I [ ] Class II [ ] Class III

4. **Amount of lead paint to be removed:** _____square feet of surface area from which lead paint will be removed

5. **Scheduled starting date*:**_____ **Completion date:**_____
   Workshifts, Time and Days (e.g. 7 am to 3 pm, Mon.-Fri.)_____
   *Note that specific rule criteria exist when changing the starting date.

6. **Description of the paint removal and pollution control methods to be used:**
   A. Paint removal methods_____

10/17/97

B. Pollution control methods (including containment)_____

7. **Calculation of potential Risk Factor for lead paint removal from a storage structure, or an other structure as described in Minn. R. 7025.0370, Item A. (Bridges are not included).**
   Concentration of lead: _____% or _____mg/cm^2 Height of structure: _____ft
   Surface area to be removed: _____ft^2
   RF: (concentration of lead (%/100) or (mg/cm^2/100)) x (height/10)$^{1.4}$ x (surface area/1000) = _____

8. **Waste Disposal Site Information (if the waste will not be deposited at a waste disposal site, go to 9).**
   Site Name:_____
   Owner/Operator:_____
   Address/Location:_____
   City, State, Zip:_____
   Telephone Number:_____

9. **Description of the proposed waste disposal method, if not being deposited at a waste disposal site. (If the waste generator is a hazardous waste facility permitted by the MPCA, include the facility's EPA identification number).**

10. **Submit along with this notification form:**
    A. A copy of the notice given to the adult residences of any buildings and the owner or administrator of any child care or school buildings along with a list of the addresses that received the notice.
    B. A copy of the painting records or paint test results for the lead paint to be removed from the steel structure.

    NOTE: Project Manuals are not required to be submitted. The MPCA does not review or approve Project Manuals.

I certify that the above information is correct and I am a bona fide representative of the contractor or structure owner and have authority to enter into agreements for my employer.

Signature of Contractor/Owner_____Date_____
Title/Position_____
Company/Affiliation_____

Send a copy of this notice postmarked, delivered or faxed at least 10 working days (Mon.-Fri.) prior to the start of lead paint removal to:

Lead Program Coordinator
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, MN 55155-4194
For questions call 612-296-7300 or 1-800-657-3864
Fax #: (612) 215-1593

RESIDENTIAL
10-DAY
CONTRACTOR'S WRITTEN NOTIFICATION REQUIREMENTS
REMOVING **LEAD** PAINT

Required
The Contractor must mail or deliver written notice to the adult residents of buildings, and to the owner or administrator of any childcare or school buildings, within 200 feet of a bridge portion.

If the Contractor postpones the beginning of paint removal more than five working days from the date stated in the written notices, the Contractor shall redistribute each of the notices with the revised schedule for paint removal within five working days of the original starting date.

Contents of notice to residents, administrator, and owner
The notice shall state that lead paint is present on the structure, shall specify the days and the hours during which paint removal is anticipated, and shall advise to prevent children under the age of ten years from entering the outdoor area within 100 feet of bridge portion from the start of paint removal each day until the completion of cleanup after paint removal.
The notice shall also advise within 100 feet of the bridge portion to:

- Close all doors, windows, and storm windows on the walls that face the structure to be abrasive blasted and their adjoining walls.
  Turn off all air conditioning units that use outdoor air exchange on the walls that face the structure and their adjoining walls, and tightly cover these units with impermeable material.

Take inside or remove from the exterior property all pets, pet houses, pet food and water bowls, and all children's toys and play equipment, or cover the equipment that cannot be moved.

OWNER REPRESENTATIVES RESPONSIBILITY
REMOVING LEAD PAINT FROM
STEEL BRIDGE STRUCTURES

Notification
The owner representative will receive a copy of the notifications sent to the MPCA and residents, from the contractor, within 2 days after the letters are sent. The owner representative will review the copy to determine its accuracy and completeness. Work will not start until copies are on file.

Bridge Classification, Pollution Control (Containment) and Cleanup
The owner representative will ensure the contractor meets specification requirements for lead paint removal containment requirements. *See Type of Pollution Control Method page.*

Laboratory Analysis of Abrasive Blasting Residue Required for Blastox Blasting Residue
The owner representative shall take the sample, complete a Chain-of-Custody form, and delivery it to the laboratory. The choice of laboratory and cost of the laboratory analysis is the responsibility of the contractor. One sample shall be taken during the first day of blasting for each bridge. The waste shall not be shipped off site until certified test results are received that confirm the waste is non-hazardous.

Abrasive Blasting Residue Tracking Form
The owner representative will fill out an abrasive blasting residue tracking form, tracking every container of blasting residue.

Transport and Disposal Records for Abrasive Blasting Residue
The owner representative will receive documentation from the contractor for disposal and shipping the waste off site for temporary storage. The contractor must provide the owner this documentation within 30 days of shipment.

Abrasive Blasting Residue Management
The owner representative shall perform weekly inspections of containers (if treated as hazardous waste) and will ensure the contractor meets storage container requirements and disposal requirements.

EPA ID# & Minnesota Hazardous Waste License (required if treated as a hazardous waste)
The owner representative will work in conjunction with the owners hazardous waste contractor to obtain an EPA ID# before any hazardous waste is shipped off site. The owner will be receiving a MN hazardous waste generators license from the MPCA after receiving the EPA ID number. A license fee will be assessed depending on the amount of hazardous waste disposed.

Documentation in Project File
The Contractor must provide the owner representative the following documentation:
1. Residential 10-day written notification letter (must be sent to Residents and MPCA at the same time)
2. Laboratory results of blasting residue testing (if using Blastox).
3. Manifests/Temporary Storage/Disposal records within 30 days of shipment.

The owner representative must provide the following documentation:

1. Waste tracking form.
2. EPA ID# (if treated as hazardous waste)
3. Weekly inspection (if treated as hazardous waste)

Just in Time Training

It is recommended that owner representatives receive training covering this manual. This training is given during bridge inspection certification training and upon request at ph: 651.284.3790.

SAMPLING
BRIDGE ABRASIVE BLASTING RESIDUE
REQUIRED WHEN USING BLASTOX

The owner's representative will sample blasting residue and deliver the sample to the laboratory for laboratory analysis. A minimum of one random sample will be taken per bridge structure when the waste is first produced.

EQUIPMENT

- Chain-of-Custody (COC) form.
- Disposable spatula dedicated for each sample. *
- Sample bottle provided by the laboratory.
- Permanent ink marker.

Note: The laboratory can supply the COC, disposable spatula, and sample bottle.

* A new spatula shall be used per sample.

Sampling Procedure

- Using a marker, label the sample bottle with the following:
  1. Name of bridge or bridge number.
  2. Name of Sampler.
  3. District and "Mn/DOT"
  4. Date of sample.
  5. Unique name "Blasting Residue".
- Sample should be taken a minimum of six inches below the surface.
- When sample bottle is full, discard disposable spatula in the trash.
- Properly complete COC, *see example on following page*.
- Analysis for, "TCLP for RCRA metals and pH" shall be requested on COC.
- Deliver sample to the laboratory accompanied by the COC, sign the COC and hand over. The laboratory then signs the COC and takes possession of the sample. The lab will give you a copy of the COC, retain copy and file the copy.

Laboratory Results

A copy of the COC shall accompany the laboratory results. The information on the COC (bridge #, sampler, date, etc.) should match the information on the Lab form. The results should say TCLP and list eight metals and the pH. If any one of the following results are exceeded the waste must be treated as a hazardous waste: Lead 5 mg/l, Arsenic 5 mg/l, Barium 100 mg/l, Cadmium 1 mg/l, Chromium 5 mg/l, mercury 0.2 mg/l, Selenium 1 mg/l, and Silver 5 mg/l. The pH should be in the 10 range and not exceed 12.5. If there are any questions call the Office of Environmental Services at 651.284.3790.

BRAUN INTERTEC

Braun Intertec Corporation
6875 Washington Ave. S.
Edina, MN 55439-0108

Bottle orders and sampling inquires:
labservices@brauncorp.com
Phone: 612-942-4930 Fax: 612-942-4844

REQUEST FOR LABORATORY ANALYTICAL SERVICES

IMPORTANT
Date Results Requested: _____
Time _____
Rush Charges Authorized? ___ Yes ___ No
Rush / Quote # _____

Page ___

For Braun Intertec Use Only
Braun Intertec Project No.

REPORT RESULTS TO
Contact Name MN/DOT Employee | Project ID/Project Name Bridge #XXXX, Blasting Residue | P.O. #
Company MN Dept. of Transportation
Mailing Address XXXX Cool St.
City, State, Zip Catfish, MN 55555
Telephone # 777.777.7777 | Fax # 888.888.8888

SEND INVOICE TO
Contact Name Contractor | Company Contractor
Address Contractor
City, State, Zip Contractor
Telephone # Contractor | Fax # Contractor

Special Instructions and/or Specific Regulatory Requirements:
(method, limit of detection, petroleum, reporting units)

Circle metals that require low detection limits
Ag | As | Be | Cd | Cr | Pb | Ni | Sb | Se | Tl | V | Other

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request)

	CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	Metals Field Filtered Y/N	pH	TCLP for RCRA metals	FOR LAB USE ONLY
1	Blasting Residue	1-1-2111	9:00a					X	X	
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

CHAIN OF CUSTODY
Collected by: (Print) MN/DOT Employee | Collector's Signature:
Relinquished by: ~~~~ | Date/Time 1-1-2111 10:00 am | Received by: | Date/Time
Relinquished by: | Date/Time | Received Contents Not Verified: | Date/Time
Received Contents Verified: | Date/Time

Evidence Tape Intact ☐ Yes ☐ No ☐ N/A
Sample Condition Upon Receipt: ☐ Acceptable ☐ Other _____
Temperature _____ °C ☐ Received on Ice
Matrix Spike Samples Received: ☐ Yes ☐ No ☐ N/A

Comments:

HAZARDOUS
WASTE MANAGEMENT
OF
ABRASIVE BLASTING RESIDUE

EPA ID # and Minnesota Hazardous Waste Generator License

The owner representative will work in conjunction with the owner's Hazardous Waste Contractor to obtain an EPA ID# before any hazardous waste is shipped off site. The owners name and mailing address must be used on the EPA ID form. At the end of the year the owner will receive a MN hazardous waste generators license from the MPCA after receiving the EPA ID number. A license fee will be assessed depending on the amount of hazardous waste disposed. Call 651.284.2970 for assistance.

Storage Containers

The Contractor shall provide containers intended to hold hazardous wastes, which meet the requirements of CFR 49, subp. 178.502. Use only UN containers bearing the UN Logo. This UN Logo must be visible on all containers. The containers must meet the requirements of the identification codes 1A2 (steel drum with removable lid) or 1H2 (plastic drum with removable lid) which will be with the UN Logo.

The Contractor shall have the option to store blasting residue for transportation in roll-offs with covering. Covering must be adequate to protect from the outside elements and prevent release during storage and transport.

The Contractors drums must be clean and in good condition.

Containers holding the waste shall be stored closed, except when adding more waste.

The Contractor shall label all containers “Hazardous Waste” and “Blasting Residue”.

The Contractor shall mark all containers with the date when the container becomes full.

The Contractor must provide a waste storage area protected from unauthorized access and inadvertent damage (fence with locked gate or small building with locked door for example).

The owner representative will conduct weekly inspections. These inspections must be documented and kept on file permanently.

Disposal

The Contractor shall have all hazardous waste transported and disposed of with the owner's approved hazardous contractor. Contact the Office of Environmental Services at 651.284.3790 for information on Owner’s present hazardous waste contractor.

Hazardous Waste Manifest and LDR

The Contractor will sign the hazardous waste manifest and Land Disposal Restriction (LDR) form for all shipments off site. The hazardous waste contractor will need a form signed by the owner giving permission for the contractor to sign the hazardous waste manifest. The contractor will supply a copy of the two-signature manifest, three-signature manifest, and LDR to the owner that must be kept on file permanently. The Contractor must follow the directions on the hazardous waste manifest, a copy of the form must be sent to the Minnesota Pollution Control Agency and a copy to the state regulatory agency of the waste end site. Owner must receive a copy of the 3-signature manifest from the end site facility within 30 days of shipment, if not, call 651.284.3790.

Waste Tracking Form

A waste tracking form shall be filled out by the owner representative and kept on file permanently. *See "Waste Tracking Form".*

BRIDGE PAINT BLASTING RESIDUE TRACKING FORM

Bridge#	
SP#	

TYPE OF BLASTING MEDIA:

EXAMPLES OF TYPE OF BLASTING MEDIA'S ARE BLASTOX, STEEL GRIT, ETC.

IF TYPE OF BLASTING MEDIA CHANGES USE A NEW PAGE

EACH CONTAINER MUST BE NUMBERED AND ENTERED INTO THE FORM INDIVIDUALLY

Container Number	Cont. Size (55 gal, 20 yd, etc.)	% Full	Date Filled	Date Shipped Temp Storage*	Date Shipped Disposal	Manifest Number	Date, 3rd Signature Cpy

* Non-Hazardous Only

WEEKLY HAZARDOUS WASTE INSPECTION LOG

Date	Name	Comments/Condition of Waste