

APPENDIX K

POLLUTION PREVENTION

Compilation of Standard Construction Specifications

Used for Pollution Prevention

The following information has been taken from the AHTD *Standard Specifications for Highway Construction, Edition of 2003* and is compiled as a listing of the pollution prevention measures required of the contractor during construction of highway facilities.

107.01 Laws and Regulations to be Observed. (e) The Contractor shall comply with Ark. Code Ann. § 2-16-101, et seq., and Title VII of USC and regulations promulgated there under. These laws and regulations have been established to prevent the spread of certain plant pest species, control of pesticides, and control and eradication of Johnson grass. Pursuant to such regulations, the US Department of Agriculture and the Arkansas State Plant Board have established certain domestic quarantine areas within the State of Arkansas for the purpose of preventing further infestation within and beyond these boundaries.

Soil moving equipment operating within or from regulated areas would be subject to plant quarantine regulations. In general, these regulations provide for cleaning soil from equipment before it is moved from regulated areas.

It is the Contractor's responsibility to determine from federal or state plant pest control authorities the exact areas under control. Any list of regulated areas appearing in the proposal is furnished for information purposes only and represents the most recent information available to the Department as of the date indicated. Prospective bidders should be aware that the list of regulated areas is subject to change and they should therefore verify the exact areas under control by contacting the Plant Industry Division of the Arkansas Plant Board or the Plant Protection Program offices of the Arkansas District of the US Department of Agriculture.

(f) If the release of a suspect hazardous substance has occurred, the Contractor shall notify the Engineer. This would not relieve the Contractor or responsible parties of the obligation to notify other appropriate agencies and would not relieve responsible parties of any liability.

Commonly used materials which could be potentially hazardous substances if they are spilled or enter waterbodies are: asphalt materials, concrete, cement, paint, solvents, petroleum products, fertilizers, concrete curing compound, lime, linseed oil, asphalt additives, and concrete additives. This list is not all inclusive.

Notification should be made if, at any time, there is an indication of a spill. Indicators could be:

- Leaking or empty containers, surface staining, chemical odors, vegetation damage, etc.
- Oil, grease or petrochemical substances, which produce residue, coat the banks and/or bottoms of a waterbody, or produce a visible, colored film on the surface.
- Distinctly visible solids, scum, or foam of a persistent nature, or slime, bottom deposits, or sludge banks in a waterbody.

The work involved or the delay or cost incident to compliance with these regulations would not be paid for separately, but full compensation therefore would be considered included in the contract unit prices bid for the various items of the Contract.

107.02 Permits, Licenses, and Taxes. The Contractor shall procure all permits and licenses, pay all charges, fees and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work. These costs would not be paid for directly, but would be considered included in the contract unit prices bid for the various items of the Contract.

107.10 Restraining Conditions. (a) General. A “restraining condition” is defined as a condition and/or material that is, or can reasonably be suspected of being:

- Archeologically or historically significant.
- Environmentally sensitive.
- Hazardous substance or waste.

- 1) Archeologically or historically significant sites may contain artifacts or the remains or prehistoric/historic people's dwelling sites. The determination or archeological or historical significance would be made by the Department in coordination with the appropriate authorities.
- 2) Environmentally sensitive conditions, include, but are not limited to, wetlands, caves, underground streams, and habitats of threatened or endangered species.
- 3) Hazardous substances or waste are defined as any chemical or biological element, compound, mixture, solution, or substance that, when released to the environment, may present substantial danger to public health or welfare or the environment.

Potentially hazardous substances or waste sites may include, but are not limited to tanks, drums, container, and packages (with or without hazardous materials labels), plus any liquids or solids not typical in color, odor, or texture to the native soils or strata of the site. Any indication that the area was a dump site or landfill shall constitute a reason to stop work in that area until a determination can be made as to where the hazardous materials exist.

107.18. The Department is responsible for securing all necessary rights of way in advance of construction within the limits indicated on the plans. Acquisition of right of way by the Department does not include areas required by the Contractor for material sources (borrow, gravel, topsoil, sod, etc.), plant sites, equipment storage, stockpiles, disposal of waste or excess material, or any other areas required for the proper prosecution of the work. The contractor is responsible for obtaining, at no cost to the Department; areas outside the right of way required for such purposes and shall, at the Engineer's request, furnish copies of agreements with the property owners. The Contractor may, with the approval of the Engineer, use areas within the right of way that are outside the construction limits for these purposes. Erosion control, prevention of water pollution, and restoration of all such areas, both inside and outside the right of way, shall be performed by the Contractor according to the specifications and at no cost to the Department.

110.2 Responsibility of the Contractor. The contractor shall comply with the requirements for the Federal Water Pollution Control Act, 33 USC§ 1251 et seq., the Arkansas Water and Air Pollution Control Act, Ark. Code Ann. § 8-4-101 et seq., and the regulations, orders, or decrees issued pursuant thereto. In the event of conflict between these regulations, orders, or decrees and the provision shown on plans, the more restrictive requirements shall apply.

110.3 Corps of Engineers Section 404 Permit for Department Right of way and Contractor Facilities (a) General. All requirements of this subsection shall apply to those Contractor's activities covered by the Department's Corps of Engineers Section 404 Permit on or off the right of way. Section 404 of the Federal Water Pollution Control Act as amended, establishes a permit program for the regulation of discharges for dredged or fill material and excavation in wetlands and other water of the United States.

110.04 NPDES Permit for Contractor Facilities Off the Right of Way. The National Pollutant Discharge Elimination System (NPDES) requires a permit to discharge storm water associated with industrial activity or construction sites into the waters of the United States. The Arkansas Department of Environmental Quality issues these permits.

Contractor's operations on lands located off the right of way, such as borrow pits, plant sites, waste sites, or other facilities, may require an NPDES permit. If so, the Contractor shall be responsible for submitting the Notice of Intent, developing a Storm Water Pollution Prevention Plan, implementing the plan, stabilizing the land, submitting the Notice of Termination, and complying with all requirements in the permit and any revisions or additions to it. Contractor facilities off the right of way would not be covered by the NPDES permit obtained by the Department for the right of way.

110.05 NPDES permit for Department Right of way. The Department would obtain an NPDES Permit for all disturbed Department right of way lands and easements.

The Department's Storm Water Pollution Prevention Plan (SWPPP) would contain the temporary and permanent erosion and sedimentation control devices for the right of way.

110.06 Standard Conditions. (a) General. The following conditions are required on all projects for the protection of water quality and wetlands:

- Compliance with all conditions of the Section 404 permit, NPDES permit and Section 401 Water Quality Certification.
- To the maximum extent practicable, discharges of dredged or fill material into waters of the United States shall be avoided or minimized through the use of other practicable alternatives.
- Construction activities shall not cause unacceptable interference with navigation.
- No activity shall substantially interrupt the movement of the species of aquatic life native to the waterbody, including those species, which normally migrate through the area.
- Under a Nationwide Section 404 Permit, no activity shall occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in official study status. Individual permits shall be obtained for activities occurring in these rivers.
- No storage of petroleum, other chemical products, waste materials, trash, etc., shall be allowed within 30 meters (100 feet) of a wetland or waterbody boundary or elevation as shown on the plans. The Engineer reserves the right to limit the storage of any material within the floodplain of a stream to preclude the possibility of an unlawful discharge to the stream.
- To move clean water around the construction area without causing additional turbidity or sediment, the use of construction staging, cofferdams, pipe culverts, lined channels, sandbagged material, barrier wall, or other suitable materials as approved by the Engineer, shall be utilized for directing or confining water from the work area. This water shall be returned to the waterbody downstream from the

construction site. The options utilized should consider the minimization of sedimentation and turbidity as a primary objective.

- If material or debris resulting from Contractor operations enters a waterway, it is considered an unpermitted fill material under the Section 404 Permit and the Engineer shall determine whether it may remain. If it is determined that the material is to be removed from the waterway, the Engineer would approve the Contractor's method of removal. Options for removal should consider the minimization of turbidity as a primary objective.
- No asphaltic material shall be disposed of in wetlands or waters of the United States.
- Temporary bridges or other structures shall be used whenever it is necessary to ford any body of water on the project more than twice in any six-month period.
- Equipment shall not be operated in any body of water on the project except when required to construct channel changes or structures.
- Cofferdams needed for work in water shall be constructed from non-erodible materials.
- Materials excavated during bridge construction shall be placed on dry land outside the channel banks of all streams, at least 10 feet (3 meters) from the channel banks of a perennial stream, and at least 25 feet (8 meters) from the channel banks of a 5 Cubic Feet/Second or larger stream. This includes channelized streams and relief channels. This material shall be properly contained or stabilized to minimize erosion and degradation of water quality and be removed before the beginning of the wet season.

(b) Wetland Areas.

Wetland areas on and off the right of way shall be preserved and protected whenever possible. Work in or near wetlands shall be performed in a manner that would minimize harm to the wetlands. The Contractor shall be responsible for the protection of adjacent wetlands.

Clearing of wetlands shall be limited to the minimum necessary for the completion of the project.

- Wetland areas inside or outside the construction limits would not be used for storage, parking, access, borrow material, haul roads or any other construction support activity unless specifically approved in advance by the Engineer and according to the applicable Section 404 Permit.
- When heavy equipment is working in wetlands, appropriate measures such as placing the equipment on mats, shall be taken to minimize soil disturbance.
- Material shall not be wasted or temporarily stockpiled in wetlands.

(c) Temporary Fill.

- Unless otherwise provided, temporary work ramps or haul roads, when permitted, shall provide sufficient waterway openings to allow the passage of expected high flows during the time the ramp or haul road is in place.
- Temporary fills or structures, if washed downstream, are considered to be unauthorized fill under the Section 404 Permit and the Engineer shall determine whether it may remain. If it is determined that the material is to be removed from the waterway, the Engineer would approve the Contractor's method of removal. When considering options for removal, the Contractor shall consider the minimization of turbidity as a primary objective. Replacement of washed fill may require a Section 404 permit change or an additional permit.
- All fill for temporary work ramps or haul roads placed within the channel banks of a stream, within 10 feet (3 meters) of the channel banks of a perennial stream, and within 25 feet (8 meters) of the channel banks of a 5 Cubic Feet/Second or larger stream, shall be constructed using a riprap of the size specified in Subsection 816.02(a)(2), or larger material. This includes channelized streams and relief channels. A minimal amount of clean stone or gravel may be placed on top of the temporary fill in order to obtain a smooth working surface. The clean stone

or gravel utilized shall have less than twelve percent passing the #200 (0.075 mm) sieve. Upon removal, salvaged material that meets the requirements of Subsection 816.02 would be paid for when reused in areas, which require the utilization of riprap.

- Unless specifically authorized under the Section 404 Permit as temporary or permanent fill material, bridge demolition rubble may not be dropped into a waterbody or wetland.
- All fill material shall be free from toxic pollutants in harmful amounts.
- All temporary fills must be removed and the affected areas returned to their preexisting elevation.
- All temporary fill in any body of water or wetland shall be properly contained or stabilized to minimize erosion and degradation of water quality.

(d) Erosion and Sediment Control.

- The Contractor shall install, construct, and maintain erosion and sedimentation control items as shown on the plans or as directed by the Engineer.
- Contractor shall install, construct, repair, and maintain erosion and sedimentation control items within seven calendar days of being instructed to do so by the Engineer.
- Minimizing time of exposure of disturbed ground is a primary objective. Therefore, disturbing an area and postponing subsequent work could result in the Contractor being required to stabilize the area at no cost to the Department. Unless modified on the plans or directed by the Engineer, the total surface area of disturbed soil on the right of way at any one time shall be limited to a maximum of 25 acres (10 hectares). Disturbed soil is defined as exposed bare soil denuded of vegetative cover or lacking stabilization. Stabilized soil is defined as soil that is covered by grass, seeded and mulched, mulched, covered by erosion control matting, or covered by permanent stabilization as shown on the plans or as

directed by the Engineer. The Engineer would have the authority to increase or decrease the limitation on surface area of disturbed land based upon the Contractor's capability to effectively control erosion and sedimentation on these areas and contain the sediment within the right of way limits, including temporary construction easements (TCE). The Contractor shall be responsible for making the necessary arrangements with the proper owner(s) and for reclaiming sediment and stabilizing the area that is not contained within these limits. This work would be the responsibility of the Contractor and shall be performed at no cost to the Department.

- Cut and fill slopes shall be completed and stabilized in increments not to exceed 25 feet (8 meters), measured vertically, as the construction progresses.
- Completed areas, including increments described above, shall receive permanent seeding, temporary seeding, or mulch cover within 14 calendar days after completion as directed by the Engineer.
- Disturbed areas that are temporarily abandoned shall be stabilized within 14 calendar days after activity ceases unless work is to be resumed within 21 calendar days after activity ceases. Payment for this work would be made if abandoned due to no fault or negligence of the Contractor. Payment would not be made for temporary stabilization required by Contractor negligence, by the lack of proper Contractor scheduling, or for the convenience of the Contractor.
- Excavation, including silt removed from erosion and sedimentation control devices, shall not be deposited where it can be eroded into waters of the United States. At locations of drainage structures, care shall be taken to prevent mounds of excavation on the inlet end from washing through the structure or on the outlet end from washing downstream.
- Water pumped from excavated footings shall be diverted into a sediment basin of the appropriate type as shown on the standard drawings or other device as

approved by the Engineer. This sediment basin or device and its holding capacity shall be approved by the Engineer.

- Off-site vehicle tracking of sediments and the generation of dust shall be minimized.
- After cut sections have been constructed, the tops of backslopes would be rounded to blend the slopes into natural ground when practicable. At transitions from cut to fill, ditches shall be tailed out to prevent erosion of the toe of slope.
- Temporary erosion and sedimentation control devices shall not be removed or destroyed by the Contractor without permission from the Engineer.

The Engineer would also have the authority to direct the Contractor to provide permanent or temporary erosion and sedimentation control measures. If required, additional temporary and permanent erosion and sedimentation control items on the right of way that are not attributed to the Contractor's negligence, carelessness, or failure to install permanent controls, shall be performed as ordered by the Engineer and would be paid for either at unit bid prices or as provided for in Subsection 109.04.

110.07 Pollutants. (a) General. The Contractor shall employ best management practices to prevent pollution by spills. Pollutants such as chemicals, fuels, lubricants, asphalt, raw sewage, concrete drum wash water, and other harmful wastes shall not be discharged into or alongside any waters of the United States, but shall be disposed of in accordance with governing state and federal regulations. Storage of these materials shall not be allowed within 100 feet (30 meters) of a wetland or waterbody.

(b) Spill Prevention.

(1) Good Housekeeping.

- The quantity of materials stored on the project should be limited, as much as practical, to that quantity required to perform the work in an orderly sequence and should be stored in a neat, orderly manner in their original containers with the original manufacturer's label.

- Manufacturer's recommendations for proper use and disposal of materials shall be followed. All disposals shall be according to all local, state and federal regulations in a permitted landfill or permitted disposal facility.
- The Contractor should inspect daily to ensure proper use and disposal of materials.

(2) Hazardous Products.

- Hazardous products shall be kept in original containers with their original labels unless they are not re-salable or are damaged.
- Material Safety Data Sheets shall be retained and shall be available to all personnel at all times.
- If surplus products must be disposed of, manufacturer's recommendations and local, state, and federal regulations shall be followed.

(3) Product Specific Practices. The Contractor shall limit the amount of petroleum products and other chemicals in work areas adjacent to wetlands, waterbodies, and other sensitive areas. The following product specific practices shall be followed on-site:

- **Petroleum Products.** All on-site vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers that are clearly labeled. All asphalt substances used on-site shall be applied according to manufacturer's recommendations and/or Department specifications. Construction of berms, or other similar measures, may be required for storage/refueling areas as a best management practice to restrict spill areas.
- **Fertilizers.** Fertilizers shall be applied only in the manner and amounts required by the specifications. Material shall be stored in a covered area and shall not be exposed to precipitation. Partially used bags shall not be discarded, but removed and disposed of properly. No storage of these materials shall be allowed within a wetland or floodplain.

- **Paints and Solvents.** All containers shall be tightly sealed and stored when not required for use. Excess material and waste shall not be discharged, but shall be properly disposed of according to manufacturers' instructions and/or state and federal regulations. No storage of these materials shall be allowed within a wetland or floodplain.
- **Concrete Trucks.** Concrete trucks shall be allowed to discharge surplus concrete or drum wash water on site only in areas designated by the Engineer. Discharge areas shall not be in or where the discharge can be washed into wetlands or waterbodies.
- **Concrete Curing Agents.** Concrete curing agents shall be applied only in the manner and amount required by the specifications. Excess material shall not be allowed to run off the area being treated.

(c) Spill Reporting and Cleanup Practices. All spills shall be reported as described in Subsection 107.01(f).

In addition, the practices below shall be followed:

- All spills shall be cleaned up immediately after discovery or contained until appropriate cleanup methods can be employed.
- The spill area shall be contained and personnel shall wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- Manufacturer's recommended methods for spill cleanup shall be followed along with proper disposal methods in accordance with local, state, and federal regulations referred to previously.

Further, where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR §§ 110, 117, or 302, occurs on the right of way during a 24-hour period, the following action shall be taken by the Engineer:

- A report shall be submitted to the Arkansas Department of Environmental Quality within 14 calendar days of the knowledge of the release. The report shall include a written description of the release (including the type and estimate of the amount of material released); the date that such a release occurred; the circumstance leading to the release; and the corrective actions taken.
- The Stormwater Pollution Prevention Plan must be modified within 14 calendar days of knowledge of the release by addition of the above information. Review and modification of the plan must be made to identify measures to prevent the reoccurrence of such releases, and to respond to such releases.

If the spill occurs on a site off of the right of way, the Contractor shall follow the reporting procedures as described above.

110.08 Contractor Negligence. If the Contractor violates the requirements of the Section 404 Permit, NPDES Permit, or any other requirement of these specifications, and fails to properly maintain, install and/or construct erosion and siltation control items, the Engineer may take, but is not limited to, one or more of the following actions:

- Cessation of other project related work,
- Withholding of Contractor payments,
- Suspension of the Project,
- Default of the Contract.

All work required due to the violation of provisions of the Section 404, NPDES Permits, or other requirements of these specifications which results from Contractor negligence, carelessness, or failure to perform work as scheduled, shall be performed by the Contractor at no cost to the Department. In addition, the Contractor would be assessed the amounts of any and all fines and penalties assessed against and costs incurred by the Department which are the result of the Contractor's failure to comply with a Section 404 Permit or NPDES Permit.

Failure to comply with the conditions of the Section 404 Permit may result in the Corps of Engineers issuing a cease and desist order for all permitted activities. To obtain a new Section 404 permit may require 60 –120 calendar days processing time.

The Department would not be responsible for any delays or costs due to the Contractor's failure to comply with the above special conditions. The Contractor would not be granted additional compensation or contract time due to loss of permits for noncompliance.

In the event that pollutant spills occur which are the result of the Contractor's actions or negligence, the clean-up shall be performed by the Contractor at no cost to the state.

201.3 Construction Requirements. Work required under Section 110 and other applicable NPDES requirements shall be conducted in conjunction with clearing and grubbing. The construction limits for the project shall be cleared as defined above, except those objects designated to remain shall be carefully protected from abuse, marring, or damage during construction operations. Trees shall be felled and removed in such a manner as to avoid injury to other trees or other objects designated to remain. In case of injury to bark, limbs, or roots of vegetation designated to remain, the Contractor shall repair such damage by corrective pruning or other appropriate methods. Trees or other debris falling outside the right of way shall be removed and disposed of according to these specifications.

Holes remaining after removal of trees, stumps, etc., shall be backfilled with material approved by the Engineer and compacted as directed except in areas to be excavated. The Contractor shall complete the operation by blading, bulldozing, or other approved methods, so that the right of way shall be free of holes, ditches, or other abrupt changes in elevations that resulted from the clearing and grubbing operations.

409.03 Mixing Plants. (b) Requirements of All Plants. (8) Pollution Control Equipment. Asphalt mixing plants shall be so designed, equipped, and operated that the quality and quantity of pollutants emitted would conform to the requirements of applicable federal, state, and local laws, ordinances, and regulations.

628.02 Materials. Topsoil may be obtained from sources outside the right of way limits or from areas within the project limits that would be occupied by cuts and/or embankments.

When topsoil is furnished from sources outside the right of way, the Contractor shall be responsible for locating and obtaining the material and for performing all work, including erosion control, prevention of water pollution, and restoration, according to the specifications. The cost of such work would be considered included in the contract unit price bid for Topsoil Furnished and Placed. At the request of the Engineer, the Contractor shall furnish copies of agreements with the property owners.

Topsoil from all sources shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth and shall be reasonably free from subsoil and stumps, roots, brush, stone, clay lumps, or similar objects larger than 2" (50 mm) in greatest diameter. In no case shall topsoil be excavated more than 12" (300 mm) from the original ground level. Brush and other vegetation that would not be incorporated with the soil during handling operations shall be cut and removed. Ordinary sods and herbaceous growth, such as grass and weeds, shall not be removed but shall be thoroughly broken up and intermixed with the soil during handling operations. Topsoil may contain a reasonable amount of waste from clearing operations, such as small twigs and roots that can be expected to reach early decay.

638.01 General. Miscellaneous steel is normally all metal used on the project except that used in bridges. When painting of miscellaneous steel is specified, the Contractor may, at Contractor option, elect to use either the paint system specified for painting bridges on the project or the paint system specified in this Section. Existing bridge steel may also be painted by this system when specified in the plans and cleaned according to Subsection 820.05(b).

The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent pollution of rivers, streams, or impoundments. Painting and cleaning operations conducted over or in the vicinity of public waters shall be controlled to prevent materials or waste, considered a contaminant by the ADEQ, from falling into the water. Any material or waste that falls into the water or onto areas where there is a likelihood that it would be picked up by rising water levels shall be retrieved and properly disposed of in approved locations. The Contractor shall protect pedestrian, vehicular, or other traffic against damage or disfigurement by drift, spatters, splashes, and smirches of paint or paint materials.

807.75 Painting. General. The painting of metal structures shall include, unless otherwise provided in the Contract, the preparation of the metal surface and the application, protection, and drying of the paint coatings. All references to this subsection at other locations in these specifications shall be deemed to include Subsections 807.75 through 807.88, as applicable.

The prime and finish coats shall be the type and color specified in the Contract.

The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent pollution of rivers, streams, or impoundments. Painting and cleaning operations conducted over or in the vicinity of water shall be controlled to prevent materials or waste, considered a contaminant by the ADEQ, from falling into the water. All material or waste that falls into the water, or onto areas where there is a likelihood that it would be picked up by rising water levels, shall be retrieved and properly disposed of in approved locations.

When paint is to be applied to a structure that spans a waterway, the Contractor shall notify the ADEQ, in writing, at least 2 weeks prior to the date work is to begin. A copy of this notification shall be furnished to the Engineer.

The Contractor shall protect pedestrian, vehicular, or other traffic upon, underneath, or in the vicinity of the bridge, and all portions of the bridge superstructure and substructure against damage or disfigurement by drift, spatters, splashes, or smirches of paint or paint materials.

All scaffolding, ladders, and other equipment, materials, or tools that restrict vertical or horizontal clearances shall be clear of all lanes and shoulders open to traffic when not in use or protected by appropriate traffic control devices.

820.04 Special Protection of the Environment. The requirements of this subsection shall apply only for those sites that are so designated in the plans. They cover the requirements for environmental protection, containment, handling, transporting, and disposing of solid wastes generated from bridge paint removal.

(a) Pre-Work Conference. A Pre-Work Conference would be required prior to beginning any paint removal operations. At the Pre-Work Conference, the Contractor shall submit to the Engineer the following information:

- The Contractor's name, address, and phone number.
- The designated hazardous waste transporter's name, address, phone number, owner's name, and US EPA ID Number.
- The designated hazardous waste disposal facility name and site; the Company name, address, and phone number; the name of the facility owner or manager; and the US EPA ID Number.
- The non-hazardous waste disposal facility name and site; the Company name, address, and phone number; the name of the facility owner or manager; and the US EPA ID Number.

The Contractor's operations shall comply with all governing environmental laws and regulations.

(b) Containment Systems. The Contractor shall provide a containment system for capturing all blasting waste during the paint removal operations. The classes of containment required would be either Class 2, 3, or 4, as defined by SSPC Publication 98-04, Guides on Environmental Protection. The class of containment required for each individual site would be determined by the Department and designated on the plans.

The containment system shall:

- Prevent emissions of dust and debris that could pollute the ambient air, water, or soil.
- Be designed with consideration given to the proximity of the containment to other structures (e.g., houses, businesses, etc.) and to areas of public access (e.g., sidewalks, bike paths, etc.).
- Be capable of withstanding heavy winds and weather conditions that can be expected at project sites.

- Provide ventilation to minimize the health risks and provide adequate visibility to personnel working inside.
- Not prevent the flow of traffic either on or below the bridge unless provisions have been made in the plans for traffic detours.

If the Engineer determines that the containment system fails to comply with these requirements, cleaning and painting operations shall cease immediately and shall not resume until corrections to the containment system have been made. If the Contractor's operations result in contamination, the situation shall be remedied at no cost to the Department before operations are resumed. In addition, any and all fines and penalties assessed against and costs incurred by the Department would be assessed to the Contractor. The Department would not be responsible for any time delay due to the Contractor's failure to comply with these requirements.

The Contractor shall protect all storm and sanitary sewer systems from water borne solid waste contamination generated by cleaning operations.

(c) Handling and Transporting Non-Hazardous and Hazardous Waste. The Contractor shall handle, store, and transport both hazardous and non-hazardous solid waste according to the requirements of 40 CFR §§ 261, 262, 263, and 265; 49 CFR §§ 172 and 177; and HM-181. The solid waste would be determined hazardous or non-hazardous according to Appendix II of 40 CFR § 268.3G by an accredited laboratory selected by the Department using Toxicity Characteristic Leaching Procedures (TCLP). Sampling and testing would be the responsibility of the Department.

The Engineer would notify the Contractor in writing of the TCLP results.

The Contractor shall be responsible for the proper storage of the solid waste at or near the bridge site until such time that it is transported to the treatment or disposal facility. Solid waste shall be secured from vandalism, theft, spillage, and damage by adjacent traffic. Solid waste shall not be stored in a floodplain. All appropriate authorizations, manifests, and certifications are to be correctly completed and signed prior to removal to the permitted landfill or hazardous waste facility.

The solid waste would be treated and disposed of according to the requirements of 40 CFR §§ 148, 264, 265, 268, and 302.

The waste shall be stored in sealable steel drums (approx. 55-gallon [200-liter] volume) or other US Department of Transportation (DOT) approved containers. The containers shall be clearly marked with DOT approved labels clearly stating the Bridge Number, location, and number of containers from that site (e.g., 1 of 4, 2 of 4, 3 of 4, etc.). Information shall be provided on these labels according to 40 CFR § 262, 49 CFR § 172, 49 CFR § 177, and HM-181.

(1) Non-Hazardous Waste. If the TCLP tests show the solid waste to be non-hazardous, the Contractor shall dispose of the waste at the non-hazardous waste facility so designated at the pre-work conference.

The Department would provide the Non-Hazardous Waste Certification. The Certification shall be signed by the Testing Laboratory Representative, the Department's Environmental Division Representative, the Engineer, and the Contractor prior to removal of the waste from the storage site. Upon delivery to the non-hazardous waste disposal site, the Certification shall be signed by a responsible representative of that facility. The Certification shall be returned to and become the property of the Department.

(2) Hazardous Waste. If the TCLP tests show the waste to be hazardous, the Contractor shall dispose of the hazardous waste according to the following requirements:

The containers shall be clearly marked with DOT approved hazardous waste labels. Information shall be provided on these labels according to 40 CFR § 262 and 49 CFR § 172.

All hazardous solid waste shall be accompanied by an ADEQ Manifest or an approved Hazardous Waste Manifest supplied by the Contractor's Treatment, Storage and Disposal (TSD) facility. Actions should follow 40 CFR § 268.7 "Land Ban Disposal Procedures."

The transporter shall also hold valid permits from all states in which the waste would travel between the storage site and the final hazardous waste disposal facility.

The properly executed original copy of the hazardous waste manifest shall be returned to and would become the property of the Department. All other copies of the manifest shall be distributed as designated on the manifest.