

## 4.6 Sandblasting Waste Management

### Waste Control

**Description:** The objective of sandblasting waste management is to minimize the potential of stormwater quality degradation from sandblasting activities at construction sites. The key issues in this program are prudent handling and storage of sandblast media, dust suppression, and proper collection and disposal of spent media. It is not the intent of this control to outline all of the worker safety issues pertinent to this practice. Safety issues should be addressed by construction safety programs as well as local, state, and federal regulations.

<p style="text-align: center;"><b><u>KEY CONSIDERATIONS</u></b></p> <p><b>DESIGN CRITERIA:</b></p> <ul style="list-style-type: none"> <li>● Prohibit discharge of sandblasting waste</li> <li>● Provide site specific fugitive dust control and containment equipment</li> <li>● Educate employees on proper procedures</li> <li>● Provide proper sandblast equipment for the job</li> <li>● Ensure compliance by supervisors and workers</li> </ul> <p><b>LIMITATIONS:</b></p> <ul style="list-style-type: none"> <li>● Does not address hazardous materials that may be present in the waste</li> <li>● Does not address spill and leak response procedures</li> </ul> <p><b>MAINTENANCE REQUIREMENTS:</b></p> <ul style="list-style-type: none"> <li>● Inspect regularly</li> <li>● Contain and dispose of sandblast grit</li> <li>● Train new employees and regularly re-train all employees</li> </ul>	<p style="text-align: center;"><b><u>APPLICATIONS</u></b></p> <p><b>Perimeter Control</b></p> <p><b>Slope Protection</b></p> <p><b>Sediment Barrier</b></p> <p><b>Channel Protection</b></p> <p><b>Temporary Stabilization</b></p> <p><b>Final Stabilization</b></p> <div style="border: 1px solid black; padding: 2px; text-align: center;"><b>Waste Management</b></div> <p><b>Housekeeping Practices</b></p>
<p style="text-align: center;"><b><u>TARGETED POLLUTANTS</u></b></p> <ul style="list-style-type: none"> <li>○ Sediment</li> <li>● Nutrients &amp; Toxic Materials</li> <li>○ Oil &amp; Grease</li> <li>○ Floatable Materials</li> <li>● Other Construction Wastes</li> </ul>	<p style="text-align: center;"><b><u>IMPLEMENTATION CONSIDERATIONS</u></b></p> <ul style="list-style-type: none"> <li>● Capital Costs</li> <li>● Maintenance</li> <li>● Training</li> <li>○ Suitability for Slopes &gt; 5%</li> </ul> <p><b>Other Considerations:</b></p> <ul style="list-style-type: none"> <li>● <i>OSHA requirements</i></li> <li>● <i>Special procedures for sandblasting operations on structures know to contain hazardous materials</i></li> <li>● <i>Possible site assessment or remediation required if hazardous materials present</i></li> </ul>

### 4.6.1 Primary Use

Sandblasting is typically used to clean a surface or prepare a surface for coatings. Since the sandblasting media consists of fine abrasive granules, it can be easily transported by running water. Sandblasting activities typically create a significant dust problem that must be contained and collected to prevent off-site migration of fines. Particular attention must be paid to sandblasting work on bridges, box culverts, and head walls that span or are immediately adjacent to streams and waterways.

### 4.6.2 Applications

This control should be implemented when sandblasting operations will occur on a construction site.

If a discharge of sandblasting waste occurs, it shall be considered a spill and handled according to the criteria in *Section 4.8 Spill and Leak Response Procedures*.

### 4.6.3 Design Criteria

- Construction plan notes shall include proper sandblasting waste management procedures.
- The contractor should be required to designate the site superintendent, foreman, or other person who is responsible for sandblasting to also be responsible for sandblasting waste management.
- Prohibit the discharge of sandblasting waste.

### Operational Procedures

- Use only inert, non-degradable sandblast media.
- Use appropriate equipment for the job; do not over-blast.
- Wherever possible, blast in a downward direction.
- Install a windsock or other wind direction instrument.
- Cease blasting activities in high winds or if wind direction could transport grit to drainage facilities.
- Install dust shielding around sandblasting areas.
- Collect and dispose of all spent sandblast grit, use dust containment fabrics and dust collection hoppers and barrels.
- Non-hazardous sandblast grit may be disposed in permitted construction debris landfills or permitted sanitary landfills.
- If sandblast media cannot be fully contained, construct sediment traps downstream from blasting area where appropriate.
- Use sand fencing where appropriate in areas where blast media cannot be fully contained.
- If necessary, install misting equipment to remove sandblast grit from the air prevent runoff from misting operations from entering drainage systems.
- Use vacuum grit collection systems where possible.
- Keep records of sandblasting materials, procedures, and weather conditions on a daily basis.
- Take all reasonable precautions to ensure that sandblasting grit is contained and kept away from drainage structures.

### Educational Issues

- Educate all onsite employees of potential dangers to humans and the environment from sandblast grit.

- Instruct all onsite employees of the potential hazardous nature of sandblast grit and the possible symptoms of over-exposure to sandblast grit.
- Instruct operators of sandblasting equipment on safety procedures and personal protection equipment.
- Instruct operators on proper procedures regarding storage, handling and containment of sandblast grit.
- Instruct operators and supervisors on current local, state and federal regulations regarding fugitive dust and hazardous waste from sandblast grit.
- Have weekly meetings with operators to discuss and reinforce proper operational procedures.
- Establish a continuing education program to indoctrinate new employees.

### **Materials Handling Recommendations**

- Sandblast media should always be stored under cover away from drainage structures.
- Ensure that stored media or grit is not subject to transport by wind.
- Ensure that all sandblasting equipment and storage containers comply with current local, state and federal regulations.
- Refer to [Section 4.1 Chemical Management](#) if sandblast grit is known or suspected to contain hazardous components.
- Capture and treat runoff, which comes into contact with sandblasting material or waste.

### **Quality Assurance**

- Foreman and/or construction supervisor should monitor all sandblasting activities and safety procedures.
- Educate and if necessary, discipline workers who violate procedures.
- Take all reasonable precautions to ensure that sandblast grit is not transported off-site or into drainage facilities.

#### ***4.6.4 Design Guidance and Specifications***

No specification for sandblasting waste management is currently available in the Standard Specifications for Public Works Construction – North Central Texas Council of Governments.

#### ***4.6.5 Inspection and Maintenance Requirements***

Sandblasting waste management measures should be inspected regularly (at least as often as required by the TPDES Construction General Permit). Verify that sandblasting grit is contained and disposed of properly. Check for downstream locations and the off-site perimeter for evidence of discharges or off-site transport by wind.

Check that daily records of sandblasting activities are current. Hold weekly meetings with operators to reinforce proper procedures. Regularly re-educate employees on potential dangers and hazards, safety procedures and proper handling.