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**LEAD-CONTAINING PAINT REMOVAL AND  
SURFACE PREPARATION SPECIFICATION**

**CITY OF WILSON TRAIN STATION CANOPY  
401 EAST NASH STREET  
WILSON, NORTH CAROLINA**

**BY**

**DUNCKLEE & DUNHAM, PC  
511 KEISLER DRIVE, SUITE 102  
CARY, NORTH CAROLINA 27518**

**DESIGNER:** \_\_\_\_\_ **DATE:** June 21, 2017

## **I. GENERAL CONDITIONS**

The intent of this project is to obtain a "clean building" which is defined as a building and/or area where the lead base and trace lead-based paint (LBP) hazard has been reduced, has passed final visual inspection(s), wipe/soil sampling tests and considered acceptable for further construction activities to protect workers. Painted surfaces on this facility are to be removed or surface prepared to reduce exposure to future workers and prevent further contamination of the property so that it may not be a source of lead exposure to trades. During the component removal and surface preparation process, personnel, equipment, material, and facilities will be appropriately protected so that present or future exposure may be reduced. The objective is to remove visible damaged paint areas in order to prepare the surfaces for historical renovation and to reduce or eliminate worker exposure to paint dust.

### **A. Reference Specifications**

The Contractor is responsible for conducting work in accordance with all current applicable rules and regulations governing LBP or trace lead paint operations associated with this project including, but not limited to:

1. "Lead Exposure in Construction." 29 CFR Part 1926.62
2. "Lead Exposure Reduction," TSCA Title IV
3. Hazardous Waste Standards for Generators, Transporters, Operators of Hazardous Waste Treatment, Storage and Disposal Facilities: 40 CFR 262, 263, 264 and 265
4. North Carolina Lead-Based Paint Hazard Management Program (LHMP) N.C. General Statute §130A-453.01 through 453.11 - Lead-Based Paint Hazard Management Program
5. 40 CFR Part 745, Subpart L - Lead-Based Paint Activities External link
6. 40 CFR Part 745, Subpart D – Identification of Dangerous Levels of Lead.

### **B. Pre-Bid Conference**

A mandatory pre-bid conference will be held by the City of Wilson, NC. All lead accredited abatement contractors interested in bidding the project are required to attend. As part of the pre-bid conference, a review of these specifications and a presentation of required safeguards for component removal and surface preparation of LBP and trace lead paint will be made by the Consultant representing the Owner.

## **II.**

## CONTRACTOR REQUIREMENTS

### A. General Requirements

The contractor shall furnish all labor, materials, services, insurance, bonding and equipment necessary to carry out the deleading operations of the paint at the Wilson Train Station Canopy in accordance with the plans and specifications, the Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) regulations and any applicable State and Local government regulations. The contractor will be required to test waste generated on this project, by EPA - Toxicity characteristic leaching procedure (TCLP) procedures under the supervision of the Consultant, to determine its classification for disposal purposes. The contractor will be required to dispose of all waste in accordance with EPA and North Carolina transporting and disposal regulations. The Owner reserves the right to remove the transporting and disposal of hazardous waste from the contract.

The contractor shall obtain a right of entry from the City of Wilson.

All supervisors shall have completed a course in lead base paint abatement as well as a course in supervision of lead based paint removal. All workers on this project shall have been trained in accordance with 29 CFR Part 1926.62 paragraph (1) and be aware of the information concerning lead hazards according to the requirements of OSHA's Hazard Communication Standard for the construction industry, 29 CFR 1926.59 In addition, a minimum of one supervisor per company shall have taken a 24-hour respiratory protection course that is either NIOSH, AIHA or North Carolina Health Hazard Control Unit (HHCU) recognized. The contractor shall submit a copy of his documentation on respiratory protection training as well as lead abatement worker training and supervision of lead based paint abatement to the Consultant.

The contractor/employer has and assumes the responsibility of proceeding in such a manner that he offers his employees a work place free of recognized hazards causing or likely to cause death or serious injury. The contractor shall be responsible for performing this work and disposal so that lead exposures do' not develop.

The contractor shall have at his office and at the job site one copy of each of the programs, lists, schedules, etc. submitted under the requirements of paragraph II.B of this specification as well as copies of memos, letters and all specification changes (etc.) that relate to this project.

The contractor shall be responsible for inspecting the site prior to bidding to confirm the scope of work. Any quantities listed in the plans and specifications are done so as approximations. The actual quantities of work and LBP to be encountered are the responsibility of the contractors.

A bound book will be maintained on site by the contractor to allow written comments to be available for subsequent review and follow-up by inspectors and industrial hygienists.

The bound book will be presented to the Consultant at the end of the project. The Consultant will forward a copy of the book to the Owner in his final report submission. The contractor shall record in the bound book for each work day the name and social security number of each worker, supervisor and visitor and the starting and stopping time for each work shift. The contractor shall also enter into this book the employee's daily air monitoring data as required by the OSHA standard.

The contractor shall be responsible for obtaining prior approval for a waste disposal site for any/all waste generated during the remediation.

The contractor shall provide appropriate work clothes, head covers, footwear and towels at no cost to any official representative of the institution or agency who inspects the job site. The contractor is not required to supply air purifying dual filter type's respirators to the official representatives of the Owner. When other types of respirators are required, the contractor shall make at least two available for official representatives to use. These remain the property of the contractor.

A trained supervisor employed by the contractor must be outside the work area at all times to monitor activity, ensure containment security, and provide information to visitors and to provide access to the work area.

The contractor will be responsible for all costs associated with employee monitoring to meet the OSHA requirements.

The contractor is responsible for all costs, including but not limited to, containment preparation, labor, materials, storage and security. The contractor is responsible for notifying the Consultant that he (contractor) is ready for a final visual inspection and/or testing. The Consultant must be given a minimum notice of 48 hours by the contractor unless a different time frame is agreed upon by both the Consultant and the contractor.

The contractor shall provide a trained supervisor for the work crew inside the containment. The contractor shall have at least one employee on the job site in either a foreman or supervisor's position that is bilingual in the appropriate languages when employing workers of another nationality who do not speak fluent English. The contractor shall also post warning signs in each appropriate language.

## **B. Pre-Work Submittal Requirements**

The contractor shall submit for approval to the Consultant prior to the start of work the following information in a manual. The Consultant and Owner shall respond before the start of the project to this submittal with his comments, changes and/or acceptance. Final acceptance of these programs must be received by the contractor in writing from the Consultant before the contract start date.

- 1.

Planned Sequence of Operation. Set forth in this schedule shall be the contractor's proposed method of removal, timetable and sequence for the various phases of the abatement.

2. A signed notarized statement from the contractor certifying that the contractor's Respiratory Protection Program is in accordance with Section II.D.4. of these specifications. In addition, the contractor shall maintain on-site a copy of the respiratory protection program and the most recent fit testing records for all employees, including temporary labor.
3. Certificates of training for workers and supervisors.
4. A list of supervisors and workers assigned to work in contaminated areas and the date of the employees' last medical exam.
5. Personnel Decontamination Program.
6. Procedures for evacuation of injured persons for both life threatening and non-life-threatening occurrences.
7. Certifications of performance showing that vacuums, ventilation equipment and other equipment required containing lead dust conform to ANSI Z9.2-79.
8. Approval for a waste disposal site.
9. A Hazard Communication Program in accordance with OSHA's 29 CFR 1926...59 standard.
10. A Site Safety Plan to be submitted to the Consultant for review and approval prior to the start date of the project. This plan will detail the contractor's strategy for assuring the safety of his workers while on-site. The plan will include, but not be limited to, worker safety in an area where trains are operating.
11. Contractor's letters to EMS, Police and Fire Departments
12. A copy of safety training records with names of personnel and dates of training including, but not limited to, first aid, CPR and fire extinguisher.
13. A copy of the electrical protection protocol including, but not limited to" shutdown, lock out, tag out and ground fault circuit interrupter (GFCI).
14. A statement of qualifications and experience for the Industrial Hygienist to be hired by the contractor.

Acceptance of these submittals in no way implies the Consultant and Owner or his representatives have determined that they meet State or Federal regulations.

C.

## **Permitting and Notifications**

The contractor shall obtain any and all permits required to conduct work the outlined in this specification. The contractor shall notify the local police, emergency medical services and fire departments in writing of the type and scope of the work being performed. Copies of these letters shall be sent to the Consultant for review with prework submittal.

### **D. Worker Protection**

1. The contractor shall train all employees prior to their working in the hazards of lead based paint and lead dust. This training shall include at least the use, limitations, wearing and maintenance of personal protective equipment; good work practices pertaining to all procedures used in LBP removal and the OSHA, EPA and State regulations covering LBP and its disposal. Certificates of training for workers and supervisors will be submitted in accordance with II.B.3.
2. The contractor shall provide medical examinations for all employees in accordance with OSHA rules and the North Carolina Workers' Compensation Act (Sec. 97~60). No minors are allowed to be exposed to LBP. All employees hired by the contractor after start of work shall have medical examinations in accordance with this paragraph before being exposed to lead base paint.
3. Work Clothes: Work clothes. shall meet the OSHA requirements for the regulated area at all times. Minimum working attire shall include head cover, respirator, shoes and appropriate body covering. When the work area is cold, workers may wear disposable coveralls over additional warm garments. When heat stress is a problem, the contractor shall evaluate the work environment and see that proper clothing is selected and worn. Workers may not wear their disposable clothing down around their waists during removal. Workers may not wear garments with cut off arms and/or legs.
4. Respiratory Protection Program: The contractor shall implement a respiratory protection program prior to starting work... The contractor's respiratory protection program shall be implemented in accordance with OSHA standards 29 CFR 191C'f.134 and 29 CFR 1910.1025. All respirators shall be NIOSH/MSHA approved for lead dust and other possible contaminants employees might be exposed to during the project. The type of respiratory protection (air purifying, powered air purifying, supplied air or self-contained breathing apparatus) shall be based on the level of contaminants. The minimum respiratory protection for the project during removal shall be full face piece air purifying respirators equipped' with replaceable high-efficiency filters. Single use respirators are unacceptable.
- 5.

Respirators assigned for higher environmental concentrations may be used at lower concentrations, or when required respirator use is independent of concentration. Respiratory protection for contaminants other than lead shall be selected according to the characteristics of the hazards involved, the capabilities and limitations of the respirators and the ability of employees to obtain a satisfactory fit test.

6. Respirator fit testing shall be performed as a minimum at the beginning of the project, at any change in respiratory protection equipment and at any time during the project if requested by the employee or Consultant. The contractor shall submit a copy of the written respiratory protection program as per this specification.
7. Appropriate respiratory protection, protective clothing and equipment shall be worn by all employees during the following activities:
  - i. during work area preparation prior to removal which may cause disturbance or release of lead dust. This may include but is not limited to: hanging poly, removing/installing walls, installing lights, etc.
  - ii. during LBP component removal and trace lead surface preparation.
  - iii. during all clean up phases
8. If supplied air respirators are used, the contractor shall provide a minimum of Grade "D" breathing air as set forth in the Compressed Gas Association's "Community Specifications for Air," G- 7 .1. as follows:

<u>Limiting Characteristic</u>	<u>Levels</u>
O2	19.5-23.5%
Water	variable
Hydrocarbons	5mg/m3
CO	10ppm
Odor	none
CO2	1,000ppm

9. The contractor shall test for Grade "D" breathing air initially and daily thereafter. Daily testing is not needed if the contractor has an air purification system which has CO and organic purging capabilities as well as a continuous CO monitor and alarm calibrated at 10 ppm.
10. Calibration of the CO monitor and alarm system shall be performed weekly and any time the unit is moved. A copy of the calibration records must be bound in the log book and provided to the Consultant after each calibration.
- 11.

Where Type C respirators are utilized, the contractor is required to have an employee in the vicinity of the source of air. The contractor shall take into account the location of the fresh air intake to ensure no pollutant source is in the vicinity. The audible alarm shall be located where the employees inside and outside containment can hear the alarm. The Consultant may require recalibration or audit the calibration of the CO monitor at any time it is in use on-site.

12. The contractor shall set up employee decontamination units, change rooms and a shower. The contractor shall post the decontamination procedures and work practices to be followed by workers in the clean room. No worker may, except in emergencies, leave and re-enter the work area without going through the decontamination procedures.
13. Workers shall not eat, drink, smoke, chew gum or chew tobacco in the work area, the equipment room, and the load out area or the clean room.
14. Procedures will be written for evacuation of injured workers. Aid for a seriously injured worker will not be delayed for decontamination. Emergency phone numbers will also be posted on site. A first aid kit shall be located in the "clean room.
15. All persons entering the work area shall wear an approved respirator and appropriate work clothes, head cover, footwear and protective equipment.
16. Thermal stress is a concern during this project. The contractor will take this into consideration when, choosing appropriate work clothes. The contractor shall be knowledgeable of environmental conditions in the work place and how to evaluate and minimize thermal stress conditions.
17. An electrical protection protocol including but not limited to shutdown, lockout/tag out and ground fault circuit interrupter (GFCI) shall be written and implemented.
18. The contractor is to make notes of his progress and observations in a bound book kept on site by the contractor. This would include anything from mobilization and setup to final clearance and tear down. A copy of this book shall go to the Consultant upon completion of the project.

#### **E. Contractor's Task**

The contractor is to deliver to the Owner a building visibly free of loose or damaged trace lead or lead base paint and free of lead dust containing trace lead dust and debris.

#### **III.**



## **INDUSTRIAL HYGIENIST/CONSULTANT REQUIREMENTS**

### **A. General Requirements**

1. The Industrial Hygienist (IH) / Consultant representing the Owner shall offer expertise to the contractor but is not directly responsible for the performance of the job. At the job site, the IH/Consultant is expected to observe, be aware of and comment on general work site conditions and activities as they relate to the profession of industrial hygiene and make recommendations in writing to the contractor. These recommendations will be forwarded to the Owner by the Consultant in his final submittal.
2. The IH/Consultant is responsible for overseeing the protection of the environment from contamination, protection of persons in adjacent areas and assurance that the areas are acceptable for occupancy. In addition, the IH/Consultant shall assure that the contractor addresses such work site conditions as employee lead exposure, thermal stress, noise, ventilation, sanitary conditions, confined spaces and other environmental health-related concerns as they may arise.
3. The IH/Consultant has the authority to direct the contractor relative to safety and environmental concerns. This includes stopping the work if necessary. The IH/Consultant may also offer suggestions/comments to the contractor relative to work performance or specification interpretation. All directions and comments made by the IH to the contractor shall be noted in the project site log book.
4. The contractor is to present the proposed project schedule and written standard operating procedures for remediation to the Consultant and Owner prior to commencing work for approval and comment. The IH/Consultant is to conform to the contractor's schedule and shall respond to necessary changes, provided at least forty-eight (48) hours in advance, verbal and written, notice is given by the contractor. This forty- eight (48) hour notice may be reduced if the Owner and Consultant and contractor mutually agree.
5. The IH/Consultant or his representative is, to make notes of his observations in the bound book kept by the contractor. This is to include approval of initial set up, final visual and other items that need to be noted with respect to the job.

### **B. Environmental Monitoring Program**

Monitoring shall be under the direct supervision of the IH/Consultant Firm except for sampling performed by the contractor to satisfy OSHA requirements. Notification and scheduling of the IH for final visual and clearance during the project is the responsibility of the contractor.

A proposed environmental sampling strategy shall be developed which shall include: a projected number of samples, locations, the type of samples to be collected (personal, area, ambient, soil, wipe), how the air samples are to be collected (TW A, ceiling, other), the equipment to be used (pumps, calibration equipment, filters, other), and how the samples will be transported to the laboratory.

- i. All personal air samples will be collected in such a manner as to comply with OSHA collection and analytical regulations and to provide a valid representation of lead exposure.
- ii. All sampling will comply with EPA recommendations in measuring lead dust.
- iii. Samples will be analyzed and results made available as soon as possible. Copies of all sampling results shall be signed by the analyst and a copy kept at the job site. These copies shall include the following: sample number, sample location, activity represented by sample, flow rate, sample time, comments and sample results.
- iv. If Time-Weighted Average samples are being collected for the purpose of reducing respiratory protection requirements, the IH or his approved designee shall directly observe the conditions and work practices represented by each sample and make appropriate notes in the sampling results.

### **C. Clearance**

1. After the second cleaning operation and after the area is completely dry, the following procedure test shall be performed: A complete visual inspection will be made by the IH Risk Assessor / Consultant to determine if the work area is visibly clean and free of LBP. If the work area is found visibly clean the contractor will proceed to secure five (5), 25 square foot (5' x 5') pieces of clean 6-mil poly to the floor inside the work area, as designated by the IH. These pieces will be left in place for 48 hours. No work is to be conducted on the site during this 48 hour period.
2. After the 24 hours, the Consultant will collect wipe samples within a one square foot area on each piece of poly for a total of five (5) wipe samples and have them analyzed for lead dust content. If the upper limits of the 95% confidence interval. On the mean lead concentration of the wire samples are at or below 100 micrograms per square foot the area will be considered "clean". The purpose of wipe samples is to document the presence of any lead dust settling out of the air.
- 3.

If final visual and/or wipe clearance criteria are not achieved, repeat cleaning, visual inspection and sampling until the area are in compliance.

4. Visual inspections shall confirm that all appropriate materials have been removed. The area shall be dry before beginning any visual inspection. There shall be appropriate seals enclosing the inspection area to keep it separate from clean areas.
5. After the contractor receives a final clearance from the Consultant and begins to tear down the critical barriers and starts removing his equipment, the contractor is still responsible for any residual lead dust generated.

### **Exterior**

1. After the second cleaning operation and after the area is completely dry, the following procedure test shall be performed: A complete visual inspection will be made by the IH / Consultant to determine if the work area is visibly clean and surfaces free of LBP, and has been properly prepared. The exterior building components, asphalt, sidewalk and adjacent areas will be inspected for lead dust/chip debris.
2. If final visual clearance criteria are not achieved, repeat cleaning and visual inspection until the area is in compliance.
3. Visual inspections shall confirm that all appropriate materials have been removed. The area shall be dry before beginning any visual inspection. There shall be appropriate seals totally enclosing the inspection area to keep it separate from clean areas.
4. After the contractor receives; a final clearance from the Consultant and begins to tear down the critical barriers and starts removing his equipment, the contractor is still responsible for any residual lead dust generated. Contractor will apply one coat of white primer to all cleaned surfaces.

### **D. Regulation Violations**

The IH, when at the work site, shall observe and be reasonably aware of monitoring programs, work practices, engineering controls, equipment performance, overall work site conditions and employee protection programs and the overall specifications as they relate to safety and health. When deviations from regulations, specifications or recognized good practice are observed and recognized by the IH or his designee, they shall be verbally discussed with the contractor during the visit, noted in the contractor's log, and documented in the final report.

#### **IV.**

## **SCOPE OF WORK AND TEMPORARY FACILITIES**

### **A. Work to be performed – General**

The work to be performed under this contract includes all the work specified as lead based or trace lead paint surface preparation and component removal for the City of Wilson Train Station Canopy, Wilson, NC.

### **B. Material to be Surface Prepared**

1. All LBP remediation will be conducted prior to general construction.
2. All painted surfaces, including but not limited to, columns, roof support components, roof decking, soffits etc. will be prepped for painting by blasting with a combination liquid/abrasive or cryogenic blasting system.
3. Some surfaces have been severely water damaged and the wooden structure has rotted. These areas will have to be carefully removed by the remediation contractor. These areas will be identified by the Owner and Consultant prior to Remediation Contractor starting work and will be marked to be distinguishable from intact areas.
4. The work area will be isolated and marked with caution tape and signage which states that lead abatement is being undertaken.
5. Work will be done under containment(s) constructed of rigid framing and two layers of 6-mil poly for walls/floors as needed to completely contain the work area and prevent any visible emissions from the lead abatement process, including waste water, mists, dusts etc.
6. A one-stage decontamination unit and 6-mil poly drop cloths will be installed for personnel and equipment cleaning. Work area(s) must be inspected by the IH consultant prior to the start of lead paint removal work.
7. Loose paint debris on vertical and horizontal surfaces shall be collected using HEPA vacuums and wet wiping methods throughout the project duration to prevent the buildup of potentially hazardous materials in the work area, staging areas, or outside the work area.
8. Workers will wear protective equipment, and after remediation has been completed all surfaces will be encapsulated.
9. After final visual clearance of all work areas, prepped surfaces will be coated with one coat of paint within the containment. Paint shall be specified by the Owner.
- 10.

Prior to the removal of the containment, the area shall be cleaned using HEPA vacuums and wet wiping methods.

11. Final clearance will be by wipe samples, soil samples, and air samples.
12. Also, all waste will have TCLP's collected to determine if waste is hazardous prior to disposal. All samples must be collected by the IH/Consultant.

#### **C. Contractor Use of Premises**

1. The Contractor shall have sole use of one-half of the train station canopy at a time, but must not interfere with the daily operations of the owner, and shall conform to site rules and regulations while engaged in project construction.
2. Do not unreasonably encumber the site with materials or equipment. Secure all equipment and vehicles to prevent unauthorized use. Do not leave vehicles or equipment unattended or accessible to unauthorized persons. The Owner and representative are not responsible for damage or loss of equipment or supplies due to theft, fire or other unforeseen circumstances.
3. Smoking will not be permitted in the vicinity of the work area or Owner's property. Contractor may have a designated area set up outside work area as "smoking area" as approved by the Owner and Designer.

#### **D. Period of performance**

The specifications, schedule, and bids will be submitted to the Owner for review. After the Owner approves the submittal and releases funds for the project, the contract will be awarded. Within 10 working days of being awarded the contract, the contractor shall begin work on the site. The contractor will submit bids based on work being completed within 3 weeks.

#### **E. Available Data**

The Contractor shall visit the job site and confirm all estimates and locations to ensure that the amount of material to be removed is accurate. All permits and contracts should be based on the Contractor's own estimate of the work required to satisfy this design.

#### **V. LEAD BASED PAINT SURVEY**

Lead based paint testing was conducted by Duncklee & Dunham, summary of the materials tested and results are included as an attachment.

#### **VI. TECHNICAL SPECIFICATIONS**

## **A. Personnel Decontamination Procedures**

### **1. *Decontamination Areas***

- a. An adequate decontamination area consists of a serial arrangement of connected rooms/spaces. All persons shall pass through this decontamination area during entry to and exit from the work area for any purpose except in case of emergencies.
- b. Decontamination facilities (decon) must include a large area for storage of equipment, a shower and a clean room. It will be constructed with plywood or similar material and lined with two layers of 6 mil poly.
- c. If the decontamination unit becomes contaminated or its integrity diminished through use as determined by the Consultant, IH or Contractor, no employee shall use the unit until corrective steps are taken and approved by the Consultant.

### **2. *Decontamination Procedures***

- a. The following decontamination procedure is included as a guide. The contractor shall provide a written description of the decontamination procedure he intends to use to comply with EPA and OSHA regulations as applicable for the project.
- b. Outside room (clear area): In this room, the workers shall leave all street clothes and don clean working clothes (usually disposable coveralls). Respiratory protection equipment shall be kept in this area. No lead contaminated items shall enter this room. Workers enter this room either from outside the structure dressed in street clothes or directly from the showers. This room shall be separated from the outside by poly barriers and a lockable plywood door.
- c. Shower Room: This is a separate room used for transit by cleanly dressed workers entering the job from the outside (clean) room or by workers showering after undressing in the equipment room. The shower stall shall have two open sides. and be set up to allow a single pass through between the clean room and equipment room and be built with rigid sides and top. Shower water shall be tested to determine proper disposal requirements. Shower drain water shall be considered contaminated and must be treated, tested and/or disposed of properly.

The shower shall include standard fixtures including an elevated shower head, hot and cold-water knobs, soap dish, etc. Hot and cold-water shall be available at a minimum of three gallons of water per worker. There

shall be one shower for every ten workers. Hot and cold-water shall be available and controlled within the shower. This assembly is to be set up as a permanent fixture for the duration of the project. A water hose and bucket is not an acceptable shower.

- d. Equipment Room (contaminated areas): Work equipment, footwear and additional contaminated work clothing shall be left here. This is a change and transit area for workers. This room shall be separated from the outside by poly barriers (Z flaps).
- e. Interior Work Area: The work area shall be separated from the equipment room by polyethylene barriers.

3. ***Entry Sequence (from outside to work room)***

- a. Worker enters outside (clean area) room and removes clothing, dons clean work clothes and clean respiratory protection equipment and passes through the shower area into the equipment room.
- b. Any additional clothing and equipment left in the equipment room (contaminated area) required by the work is put on. When the work area is too cold for coveralls only, the contractor shall provide workers with additional warm garments. These must be treated as contaminated clothing and left in the equipment room or work area at all times.
- c. Any additional clothing and equipment left in the equipment room (contaminated area) required by the work is put on. When the work area is too cold for coveralls only, the contractor shall provide workers with additional warm garments. These must be treated as contaminated clothing and left in the equipment room or work area at all times.
- d. Worker proceeds to work area.

4. ***Exit Sequence (from contaminated work area to outside)***

- a. Before leaving the work area~ each worker shall remove all debris from himself and his clothing. Special effort and attention is needed to clean top and bottom of shoes. In practice~ this is usually carried out by one worker assisting another.
- b. The worker shall proceed to the equipment room and removal all clothing except respiratory protection equipment. Extra work clothing may be stored in this area. Disposable work clothes are placed in a bag for testing and disposal with other materials. The worker shall then proceed into the

shower. After the employee and the respirator with filters are thoroughly wet, the filters will be removed and discarded as contaminated material.

- c. After showering, the worker shall move to the clean room and dress in either new coveralls for re-entry into the work area or in street clothes to leave the project.
- d. After showering, each employee shall inspect, clean and repair his respirator as needed. The respirator shall be dried, placed in a suitable storage bag and properly stored.
- e. Workers must go through decontamination procedures (shower) at the end of every work shift, before leaving the site.

## **B. Work Area Preparation**

1. The contractor shall set up a work area load out area and decontamination area. The decontamination facility shall consist of a change room, shower room and equipment room. Any alterations to the designed decontamination facility shall be approved by the Consultant and the IH.
2. The contractor shall thoroughly seal the interior work area for the duration of the work by completely sealing off all openings and fixtures in the work area with 6-mil plastic sheeting taped securely in place. Containment measures will be necessary to protect the outside environment from contamination. Six-mil poly may be secured to rigid frames in order to contain any lead particles or dust within the work area. Entrances and exits into the work area will have air locks and triple barriers of plastic sheeting so that the work area is always closed off by one barrier when workers enter or exit.
3. All equipment, materials, floor and wall surfaces in the work area shall be considered contaminated. Integrity of all containment seals shall be regularly checked and maintained by the contractor.
4. A system of HEPA equipped air filtration devices shall be configured so that a pressure differential is established between the work area and the surrounding area ( -0.02 to -0.04" water column).. The contractor shall monitor this differential pressure continuously and document daily to confirm this condition. Additional air filtration devices are provided inside the work space so that the air is changed every 15 minutes. The total air exchange is the exhaust air plus the re-circulated air. The pressure differential is maintained at all times after preparation is complete and until the final visual inspection and tests confirm the area is clean and acceptable for occupancy. All exhaust units shall be vented outside the building. The exhaust system will be monitored by the IH or his representative for



leaks. The contractor shall check daily for leaks and log his findings in the bound log book. This includes internal checks to air moving devices.

6. The contractor shall establish and mark emergency and fire exits from the work area. Emergency procedures shall have priority over established decontamination entry and exit procedures. A minimum of (1) ABC dry chemical rated fire extinguisher shall be in the clean room plus one for every 3,000 square feet in the work area.
7. The contractor shall implement an electrical practice protocol that includes, but is not limited to, lockout/tag out and GFCI shutdown. All electrical powered equipment utilized during the project shall have ground-fault protection as described in NC as Construction Standards 29 CFR 1926.404(b). All equipment and wiring shall be in compliance with National Fire Protection Association standard 70 and the National Electrical Code.
8. The contractor shall provide adequate lighting throughout the work area, as needed, including the decontamination unit and load out area. The lighting will stay on and operational until final clearance.
9. Seal all seams with tape. Have containers available to hold waste for storage and disposal. Liquid waste can be pumped, vacuumed or bailed for transfer to disposal facility after testing.
10. Remove as much of the surface plastic as practical at the end of each work day. If the plastic may not remain intact overnight, it shall be removed. If the plastic is left in place, barricades must be erected to secure the area.
11. Exterior abatement will not take place when weather (e.g., high winds, rain) prevent work from occurring in a manner both safe for workers and protective of the environment.

### **C. Method of Removal**

1. The Contractor shall submit with his bids his proposed method(s) and specific equipment for the removal project. The Contractor shall consider the safety of the workers, protection of the environment, economic feasibility, and the preservation of the historical value of the building when choosing removal methods. A combination of removal methods may be acceptable.
2. The selected Contractor will submit to the Consultant three copies of a detailed standard operating procedure (SOP) for his proposed method(s). The Contractor shall include all MSDS sheets for chemicals which will be used on this project with the SOP. The Consultant and IH will review the SOP and the proposed removal method and may decide on further precautions or modifications to

protect the safety of the public and protect the environment. The Architect will review the procedures to ensure they preserve the historical value of the building. The Consultant will make comments and written instructions on the SOP and return to the Contractor for comments. The Contractor is urged to consult with all the parties involved in developing the SOP.

3. The following paint removal methods will be prohibited:
  - i. Torch or flame burning.
  - ii. Dry abrasive blasting using sand, grit or any other particulate.
  - iii. Use of potassium or sodium hydroxide based solutions, ethylene chloride or caustic chemicals.
  
4. Suggested paint removal methods are listed below, but other methods will be considered:
  - i. Use of heat guns, plates or steam.
  - ii. Stripping with solvent-based no caustic chemical solutions
  - iii. Scraping without gouging woodwork (Wet Method)
  - iv. Sanding with HEPA vacuum attachment (Wet Method)
  - v. Abrasive blasting with wet misting or HEPA vacuum system on structures which will not be damaged by blasting or water.
  
5. All methods of removal should be in accordance with the manufacturer's instructions.
  
6. The Contractor must consider the following precautions when choosing a removal method and must address safety plans within his SOP. The Contractor is solely responsible for the safety of his workers and protection of railroad and city property while conducting work.
  - i. A worker or supervisor representing the contractor must be assigned the sole duty of remaining in radio contact with the railroad flagman and clear personnel, materials and equipment from the tracks, prior to a train passing the station.
  - ii. Equipment and materials will not be stored at any time within ten feet of the inside track.

- iii. The Contractor will have a written hearing protection program in accordance with 29 CFR 1910.101. The written program will be submitted to the Consultant with the pre-work submittal package. All workers within fifty feet of the tracks will wear appropriate hearing protection.
7. Prior to removal, the contractor's equipment, work area and decontamination units will be inspected and approved by the IH / Consultant.

#### **D. Disposal of Waste and Related Contaminated Debris**

1. All materials and miscellaneous contaminated debris shall be properly sealed and protected and the storage area shall be secured and have limited access. Collect liquid waste in 55-gallon drums or smaller. Wrap or bag dry waste in two layers of 6-mil plastic/bags and store in covered container or area.
2. Test all waste for disposal purpose and separate hazardous from non-hazardous wastes.
3. If the waste is hazardous, appropriate EPA, Department. of Transportation and State regulations must be followed.
4. Waste may not be stored for more than 180 days. All hazardous waste containers must be labeled with "HAZARDOUS WASTE" and the date waste was first accumulated in that container, along with all other disposal labeling requirements.
5. Keep containers in good condition, replace leaking containers, and inspect the containers and storage area at the beginning and end of each work day, at a minimum.
5. The Contractor will be responsible for testing all waste, with the Consultant present, and will submit his results to the Consultant within 24 hours of receiving them. The Contractor will be responsible for disposing of all waste in accordance with EPA, DOT, OSHA and State regulations, unless notified in writing by the Owner.
6. An enclosed vehicle will be used to haul waste material to the disposal site. No rental vehicles or trailers shall be used. Vehicle selection, vehicle covers and work practices shall assure that no waste becomes airborne during the loading, transport and unloading activity and that material is placed in the waste site without breaking any seals.
  - a. Waste disposal bags: Polyethylene bags (6 mil) with labels.
  - b. Containers: Non-porous (steel/plastic) drums or equivalent appropriate for holding waste disposal bags during transportation to the disposal site.

7. The contractor shall be responsible for transporting the containers and bags of waste material to the approved waste disposal site.
8. The contractor shall distribute a copy of all waste shipment records to the Consultant after the completion of the project.

#### **E. Decontamination of Work Areas**

The minimum final clean-up procedures are as follows:

1. Remove the top layer of 6-mil poly (where applicable) and seal in bags or clean 6-mil poly.
2. Remove bags of poly and waste and store in a secure area.
3. Vacuum all surfaces with a HEPA -equipped vacuum beginning with the ceiling and working down.
4. Wash all surfaces with a Trisodium Phosphate (TSCP) detergent solution.
5. Vacuum **all** surfaces a second time.
6. Wash all surfaces a second time.
7. Remove all contaminated equipment and material. to secure storage area.
8. Have area inspected and cleared by IH and Consultant.
9. Remove final layer of poly.
10. Wash and vacuum surfaces a final time.

### **VII. GENERAL CONDITIONS**

#### **GENERAL INSTRUCTIONS**

It is understood and agreed that by submitting a bid that the Contractor has examined these contract documents, drawings and specifications and has visited the site of the Work, and has satisfied himself relative to the Work to be performed.

#### **MATERIALS, EQUIPMENT AND EMPLOYEES**

- a. The contractor shall, unless otherwise specified, supply and pay for all labor, transportation, materials, tools, apparatus, lights, power, heat, sanitary facilities, water, scaffolding, and incidentals necessary for the completion of his work, and

shall install, maintain and remove all equipment of the construction, other utensils or things, and be responsible for the safe, proper and lawful construction, maintenance and use of same, and shall construct in the best and most workmanlike manner, a complete job and everything incidental thereto, as shown on the plans, stated in the specifications, or reasonably implied there from, all in accordance with the contract documents.

- b. All materials. shall be new and of quality specified, except where reclaimed material is authorized herein and approved for use. Workmanship shall at all times. be of grade accepted as the best practice of the particular trade involved, and as stipulated in written standards of recognized organizations or institutes of the respective trades except as exceeded or qualified by the specifications.
- c. No changes shall be made in the Work except upon written approval and order of the Designer/Owner.
- d. Whenever products, materials, or equipment are named in the specifications, the specifications shall be interpreted to mean an item of material or equipment similar to that named and which is suited for the same use and capable of performing the same function as that named. Upon notice, the Contractor shall furnish evidence as to quality of materials.
- e. Each Contractor shall obtain written approval from the Owner for the use of substitute products, materials or equipment claimed as equal to those specified. Such approvals must be obtained as soon after contract awards as possible and before any materials are ordered.
- f. If at any time during the construction and completion of the work covered by these contract documents, the conduct of any workman of the various crafts be adjudged a nuisance to the Owner or if any workman be considered detrimental to the work, the Contractor shall order such parties removed immediately from grounds.

#### **CODES, PERMITS AND INSPECTIONS**

- a. The Contractor shall give all notice and comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the work under this contract. If the Contractor observes that the drawings and specifications are at variance therewith, he shall promptly notify the Owner in writing. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, codes, rules and regulations, and without such notice to the Owner, he shall bear all cost arising there from.
- b. All work under this contract shall conform to the North Carolina State Building Code and other state, local and national codes as are applicable. The cost of all required inspection and permits shall be the responsibility of the Contractor.

## **SAFETY REQUIREMENTS**

- a. The Contractor shall be responsible for the entire site and the building or construction of the same and provide all the necessary protections as required by laws or ordinances governing such conditions and as required by the Owner or Designer. He shall be responsible for any damage to the Owner's property or that of others on the job, by himself, his personnel or his subcontractors, and shall make good such damages. He shall be responsible for and pay for any claims against the Owner arising from such damages.
- b. The Contractor shall adhere to the rules, regulations and interpretations of the North Carolina Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations, Part 1926 published in Volume 39, Number 122, Part 11, June 24, 1974 Federal Register), and revisions thereto as adopted by General Statutes of North Carolina 95-126 through 155.
- c. The Contractor shall provide all necessary safety measures for the protection of all persons on the work, including the requirements of the A.G.C. Accident Prevention Manual in Construction as amended, and shall fully comply with all state laws or regulations and North Carolina State Building Code requirements to prevent accident or injury to persons on or about the location of the work. He shall clearly mark or post signs warning of hazards existing, and shall barricade excavations, elevator shafts, stairwells and similar hazards. He shall protect against damage or injury resulting from falling materials and he shall maintain all protective devices and signs throughout the progress of the work.

### **Equal Opportunity**

- a. The non-discrimination clause contained in Section 202 (Federal) Executive Order 11246, as amended by Executive Order 11375, relative to Equal Employment Opportunity for all persons without regard to race, color, religion, sex or national origin, and the implementing rules and regulations prescribed by the Secretary of Labor, are incorporated herein.
- b. The Contractors agree not to discriminate against any employees or applicant for employment because of physical or mental handicap in regard to any position for which the employees or applicant is qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices.

## **INSURANCE**

The Contractor shall not commence work until he has obtained all insurance required, and such insurance has been approved by the Owner, nor shall the Contractor allow any

subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been obtained.

The Contractor shall provide and maintain during the life of this. Contract Workmen Compensation Insurance for all employees employed at the site of the project under his contract.

The Contractor shall provide and maintain during the life of this contract such Public Liability and Property Damage Insurance as shall protect him and any subcontractor performing work covered by this contract, from claims for damage for personal injury, including accidental death, as well as from claims for property damages which may arise from operations under this contract, whether such operation be by the Contractor himself or by any subcontractor, or by anyone directly or indirectly employed by either of the them and the amounts of such insurance shall be as follows:

Public Liability Insurance in an amount not less than \$300,000 for injuries, including accidental. death, - to anyone person and subject to the same limit for each person, in amount not less than \$500,000 on account of one accident; and Property Damage Insurance in an amount not less than \$100,000/\$300,000.

The Contractor shall furnish such additional insurance as may be required by General Statutes of North Carolina, including motor vehicle insurance in amounts not less than statutory limits.

Each Certificate of Insurance shall bear the provision that the policy cannot be canceled, reduced in amount or coverage eliminated in less than fifteen (15) days after mailing written notice to the insured an/or the Owner of such alteration or cancellation, sent by registered mail.

The Contractor shall furnish the Owner with satisfactory proof of carriage of the insurance required before written approval is granted by the Owner.

#### **INVOICES FOR PAYMENT**

No partial payment will be made unless agreed to in advance. Payment will be made lump sum within thirty (30) consecutive days after acceptance of the work and the submission both of notarized contractor's affidavit and four copies of invoices which are to include the contract, account and job order numbers.

The contractor's affidavit shall state: "This is to certify that all costs of materials, equipment, labor, and all else entering into the accomplishment of this contract, including payrolls, have been paid in full."

Executed contract documents, insurance certifications and, upon completion and acceptance of the work, invoices and other information requested are to be sent to:

Mr. Raymond Childress  
Duncklee & Dunham  
511 Keisler Drive, Suite 102  
Cary, NC 27518

It is imperative that contract documents, invoices, etc., be sent only to the above address in order to assure proper and timely delivery and handling.

### **CLEANING UP**

The Contractor shall keep the building and surrounding area reasonably free from rubbish at all times and shall remove debris from the site from time to time or when directed to do so by the Owner. Before final inspection and acceptance of the building. Each Contractor shall clean his portion of the work and completely prepare the building for use by the Owner.

### **GUARANTEE**

- a. The Contractor shall guarantee the materials and workmanship against defect due to faulty materials or faulty workmanship or negligence for a period of twelve (12) months following the final acceptance of the work. Where items of equipment or material carry a manufacturer's warranty for any period in excess of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. The contractor shall replace such defective materials, equipment or workmanship without cost to the Owner within the stipulated guarantee period.
- b. Roof Guarantees are stipulated in the Supplementary General Conditions.

### **CONTRACTOR-SUBCONTRACTOR RELATIONSHIPS**

The contractor agrees that the terms of these contract documents shall apply equally to a subcontractor as to the Contractor, and that the subcontractor is bound by those terms as an employee of the Contractor.