Asbestos Abatement Work Plan
for the
Carter Carburetor Superfund Site

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March 24, 2014

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APPENDICES

Appendix A Specifications for the Removal and Disposal of Asbestos-Containing Materials

ABBREVIATIONS AND ACRONYMS

ACF	ACF Industries, LLC
ACM	asbestos containing material
AMEC	AMEC Environment & Infrastructure, Inc.
CBI	Carter Building, Inc.
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
ft^2	square feet
ft^3	cubic feet
HASP	Health and Safety Plan
HEPA	high-efficiency particulate air
MDNR	Missouri Department of Natural Resources
NESHAP	National Emission Standard for Hazardous Air Pollutants
OSHA	Occupational Safety and Health Administration
PPE	personal protective equipment
Site	Carter Carburetor Superfund Site
SOW	Scope of Work
Specifications	Specifications, Removal and Disposal of Asbestos-Containing Materials
TEM	transmission electron microscopy
TSI	thermal system insulation
Work Plan	Asbestos Abatement Work Plan
yd^3	cubic yard

1.0 INTRODUCTION

The purpose of this Asbestos Abatement Work Plan (Work Plan) is to document the scope of work (SOW) to be executed to abate the asbestos-containing material (ACM) at the Carter Carburetor Site. The Specifications for the Removal and Disposal of Asbestos-Containing Materials (Specifications) is presented in Appendix A. The Specifications are the basis for the means and methods presented in this Work Plan. Locations of the known ACM are listed below:

- Roof – Flashing, roof cements, transite, thermal system insulation (TSI), transite and mastic
- Fourth Floor – Floor tile and mastic, TSI, plaster, ceiling tiles, fire doors, window caulk and miscellaneous debris
- Third Floor – Floor tile and mastic, TSI, shingles, ceiling tiles, fire doors, window caulk and miscellaneous debris
- Second Floor – Floor tile and mastic, TSI, transite, fire doors, window caulk and miscellaneous debris
- First Floor – Floor tile and mastic, TSI, transite, ceiling tiles, fire doors, window caulk and miscellaneous debris

The specific location and estimated quantities of ACM for each floor are described in Sections 2.0 through 6.0 of this Work Plan.

All work performed under this Work Plan will be in accordance with a contractor developed Site-Specific Health and Safety Plan (HASP) and all federal and state regulations regarding the abatement, handling, storage, transportation and disposal of asbestos and ACM .

The HASP will outline the engineering controls, the administrative controls and the personal protective equipment (PPE) to be used for the execution of this Work Plan. THIS WORK PLAN IS NOT INTENDED TO BE MORE STRINGENT, OR TO REQUIRE MORE, THAN APPLICABLE FEDERAL, STATE OR LOCAL LAWS OR REGULATIONS, INCLUDING BUT NOT LIMITED TO THE ASBESTOS NESHAP, 40 CFR 61.140, ET SEQ. AND THE OCCUPATIONAL SAFETY AND HEALTH ACT ASBESTOS REQUIREMENTS, 40 CFR 1926.1101.

2.0 ROOF ACM ABATEMENT

Prior to the commencement of abatement activities, the location and amount of ACM present will be verified. There are two cooling towers encased with transite louvers and panels and include piping covered with TSI and four mechanical houses contain both TSI piping and transit panels.

Prior to commencing abatement activities on the roof, a visual inspection will be performed and any loose asbestos material will be properly containerized for disposal with other asbestos materials from the roof abatement activities described below.

2.1 Cooling Towers

The two cooling towers on the roof of the CBI Building will be abated as Category 2 materials. Cooling tower 1 is located on the north half of the CBI Building roof and cooling tower 2 is located on the south half of the CBI Building roof. The location of the cooling towers is depicted on Figure EN-5 of the Specifications located in Appendix A.

2.1.1 Cooling Tower 1

WORK SITE PREPARATION

Scaffolding of sufficient height will be erected to access the top of the cooling tower. The scaffolding will be erected in accordance with manufacturer's recommendation, and a competent person will inspect the scaffolding after initial erection and daily prior to use.

The area around the scaffolding will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards. In areas around the cooling tower where there is no access to the area (along the roof edge), no barrier tape or warning signs will be posted. Workers in this area will be tied off for fall protection in compliance with Occupational Safety and Health Administration (OSHA).

Six-mil plastic sheeting will be used to cover the roof in the immediate area of the abatement activities and the adjacent areas up to 20 feet from the base of the cooling tower. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams. This plastic sheeting may be removed at the end of each day of abatement activities and replaced with new plastic sheeting at the beginning of each work day, as necessary to maintain cleanliness.

A dry worker decontamination unit will be constructed adjacent to the abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM, the decontamination unit will be placed as close as practical to the abatement area.

Prior to any abatement activities, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of transite panels prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

TRANSITE PANEL REMOVAL

Transite panels will be sprayed/wetted with amended water and maintained wetted during the removal process. Nail heads will be removed/sheared or screws removed to allow for removal of intact transite panels and/or minimize breakage of the transite panels. If the transite panels are not affixed to the cooling tower with nails or screws, they will be removed from the secured slat or mounting slots.

Keeping the panels wetted, the removed panels will be placed on 6-mil (or thicker) plastic sheeting for storage until a sufficient quantity is generated to warrant packaging for disposal. Wrap transite panels in two layers of 6-mil poly sheeting (or thicker) or place transite panels in two sealable labelled plastic bags of 6-mil minimum thickness Transite panel disposal packages will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area. Palletized waste will be sized to fit the pallets.

Following removal of the transite panels, the exposed substrate will be thoroughly cleaned using a High-efficiency particulate absorption (HEPA) vacuum. Upon completion of transite panel removal from one side of the cooling tower, the AMEC Asbestos Supervisor will be notified to conduct visual observation before moving operations to the next side.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

DISPOSAL OF TRANSITE PANELS

Packaged transite panels stored in temporary waste storage/load out area will be removed from the roof using either a telescopic handler or a crane. The packaged transite panels will be placed into an open top roll off container for transport to the disposal facility. The open top roll offs will be tarped in preparation for transport. All transite panel packages and containers will be treated, packaged, labelled and disposed in accordance with 40 Code of Federal Regulations (CFR) 61 and 49 CFR 171 and 172.

2.1.2 Cooling Tower 2

WORK SITE PREPARATION

Scaffolding of sufficient height will be erected to access the top of the cooling tower. The scaffolding will be erected in accordance with manufacturer's recommendation, and a competent person will inspect the scaffolding after initial erection and daily prior to use.

The area around the scaffolding will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards. In areas around the cooling tower where there is no access to the area (along the roof edge), no barrier tape or warning signs will be posted. Workers in this area will be tied off for fall protection in compliance with OSHA.

Six-mil plastic sheeting will be used to cover the roof in the immediate area of the abatement activities and the adjacent areas up to 20 feet from the base of the cooling tower. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams. This plastic sheeting may be removed at the end of each day of abatement activities and replaced with new plastic sheeting at the beginning of each work day, as necessary to maintain cleanliness.

A dry worker decontamination unit will be constructed adjacent to the abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM, the decontamination unit will be placed as close as practical to the abatement area.

Prior to any abatement activities the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of transite panels prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

TRANSITE PANEL REMOVAL

Transite panels will be sprayed/wetted with amended water and maintained wetted during the removal process. Nail heads will be removed/sheared or screws removed to allow for removal of intact transite panels and/or minimize breakage of the transite panels.

Keeping the panels wetted, the removed panels will be placed on 6-mil (or thicker) plastic sheeting for storage until a sufficient quantity is generated to warrant packaging for

disposal. Wrap transite panels in two layers of 6-mil poly sheeting (or thicker) or place transite panels in two sealable plastic bags of 6-mil minimum thickness and label. Transite panel disposal packages will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area. Palletized waste will be sized to fit the pallets.

Following removal of the transite panels the exposed substrate will be thoroughly cleaned using a HEPA vacuum. Upon completion of transite panel removal from one side of the cooling tower, the AMEC Asbestos Supervisor will be notified to conduct visual observation before moving operations to the next side.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

DISPOSAL OF TRANSITE PANELS

Packaged transite panels stored in temporary waste storage/load out area will be removed from the roof using either a telescopic handler or a crane. The packaged transite panels will be placed into an open top roll off container for transport to the disposal facility. The open top roll off containers will be tarped prior to transport. All transite panel packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

2.2 Thermal System Insulation

There are approximately 130 linear feet of visible thermal system insulation (TSI) on the roof. The location of the TSI is depicted on Figure EN-5 of the Specifications located in Appendix A.

2.2.1 Work Site Preparation

The area around the TSI abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards. In areas around the TSI abatement where there is no access to the area (along the roof edge), no barrier tape or warning signs will be posted. Workers in this area will be tied off for fall protection in compliance with OSHA.

The area will be isolated to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

6-mil plastic sheeting will be used to cover the roof in the immediate area of the TSI abatement activities and the adjacent areas within 20 feet. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams. This plastic sheeting may be removed at the end of each day of abatement activities and replaced with new plastic sheeting at the beginning of each work day, as necessary to maintain cleanliness.

A dry worker decontamination unit will be constructed adjacent to the TSI abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM, the decontamination unit will be placed as close as practical to the TSI abatement area.

Prior to any abatement activities the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of TSI prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

2.2.2 TSI Removal

Depending on the conditions at the time of TSI abatement activities, one of the following methods will be employed: Glove Bag or Unit Wrap.

GLOVE BAG METHOD

A glove bag will be installed as described in Section 3.02 (Paragraph C) of the Specifications (see Appendix A). The TSI will be wetted with amended water and maintained wet during the removal process.

Wetted TSI will be removed in small sections. As it is removed from the pipe, it will be saturated with amended water or removal Encapsulant and placed in the bottom of the glove bag in accordance with the manufacturer's recommendations bagged into another labelled 6-mil bag. Once the TSI has been removed from the pipe in the area encompassed by the glove bag, encapsulant will be sprayed on the piping surfaces and ends of adjoining sections of insulation.

Following removal of TSI and spraying Encapsulant, the AMEC Asbestos Supervisor will be notified to conduct an observation of the work. The glove bag will be required to remain in place until the pipes and joints have been inspected and are accepted. The glove bag will be evacuated with a HEPA vacuum and sealed with the waste material in

the bottom. The glove bag will be removed in accordance with the manufacturer's recommendations and placed in a labelled 6-mil poly bag.

The glove bag and removed TSI will be placed in a temporary waste storage/load out area. The storage area will be established for the storage of TSI prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

UNIT WRAP METHOD

Piping covered with TSI will be wrapped with two layers of 6-mil, or thicker, plastic sheeting. A glove bag will be used to remove 12-inches of insulation where the pipe will be cut as described above (Glove Bag Method). The Unit Wrap Method will be used to segment piping runs into sections 12 feet or less in accordance with the Specifications (Appendix A).

Once the glove bag is removed from the pipe cut area, cover the entire pipe with a layer of 6-mil plastic sheeting including the ends of the pipe and label as asbestos.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

DISPOSAL OF TSI

Packaged TSI stored in the temporary waste storage/load out area will be removed from the roof using either a telescopic handler or a crane. The packaged TSI will be placed into an enclosed container for transport to the disposal facility. All TSI packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

2.3 Rooftop Mechanical Houses

There are four rooftop mechanical houses associated with this project. The location of the mechanical houses is depicted on Figure EN-4 of the Specifications (Appendix A). Visual inspection of the mechanical houses indicated the presence of TSI wrapped piping, transite panels or a combination of both. The three smaller mechanical houses have both TSI wrapped piping and transite panels while the larger mechanical house only has TSI wrapped piping. The mechanical houses have significant amounts of suspected ACM contaminated debris and equipment; this debris will be removed and treated as ACM contaminated waste, equipment will be cut free as necessary to work.

2.3.1 Work Site Preparation

The area around the mechanical houses will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards. In areas around the mechanical house abatement where there is no access to the area (along the roof edge) no barrier tape or warning signs will be posted. Workers in this area will be tied off for fall protection in compliance with OSHA.

The area will be isolated and critical barriers will be erected, as necessary, to separate the abatement area from areas where no abatement is occurring. Since the houses are considered contaminated, pre-cleaning the inside or the roof mechanical houses is not required. The immediately adjacent areas will be pre-cleaned using a HEPA vacuum and/or wet cleaning method as appropriate. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum and/or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

Six-mil plastic sheeting will be used to cover the roof in the immediate area of the mechanical house abatement activities and the adjacent areas within 20 feet. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams. This plastic sheeting may be removed at the end of each day of abatement activities and replaced with new plastic sheeting at the beginning of each work day, as necessary to maintain cleanliness.

A wet worker decontamination unit will be constructed adjacent to the mechanical house abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM, the decontamination unit will be placed as close as practical to the mechanical house abatement area.

Place the work area under negative air ensuring that no unfiltered air is discharged outside the work area. The work area will be under negative air from the beginning of mechanical house removal until the area has been decontaminated and certified clean through the use of air testing.

Prior to any abatement activities, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of transite panels prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

2.3.2 Asbestos Removal

After negative air is established in the roof top houses, the bulk waste materials will be bagged and removed from the area. Wrap transite materials in two layers of 6-mil poly sheeting (or thicker) or place in two sealable plastic bags of 6-mil minimum thickness and label.

Equipment may be cut up as necessary to access the ACM. Non-asbestos materials and equipment will be decontaminated of asbestos material, and left on the roof until demolition or disposed of as contaminated waste as appropriate.

GLOVE BAG METHOD

A glove bag will be installed as described below and in Section 3.02, paragraph C of the Specifications (Appendix A). The TSI will be wetted with amended water and maintained wet during the removal process.

Wetted TSI will be removed in small sections. As it is removed from the pipe, it will be saturated with amended water or removal Encapsulant and placed in the bottom of the glove bag in accordance with the manufacturers recommendations bagged into another labelled 6-mil bag. Once the TSI has been removed from the pipe in the area encompassed by the glove bag, Encapsulant will be sprayed on the piping surfaces and ends of adjoining sections of insulation.

Following removal of TSI and spraying Encapsulant, the AMEC Asbestos Supervisor will be notified to conduct an observation of the work. The glove bag will be required to remain in place until the pipes and joints have been inspected and are accepted. The glove bag will be evacuated with a HEPA vacuum and sealed with the waste material in the bottom. The glove bag will be removed in accordance with the manufacturer's recommendations and placed in a labelled 6-mil poly bag.

The glove bag and removed TSI will be placed in a temporary waste storage/load out area. The storage area will be established for the storage of TSI prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

UNIT WRAP METHOD

Piping covered with TSI will be wrapped with two layers of 6-mil, or thicker, plastic sheeting. A glove bag will be used to remove 12-inches of insulation as described above in Subsection 2.2.2 Glove Bag Method. The Unit Wrap Method will be used on piping runs of 12 feet or less in accordance with the Specifications (Appendix A).

Cut pipe in bare area and cover the entire pipe with a layer of 6-mil plastic sheeting including the ends of the pipe and label as asbestos.
NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

TRANSITE PANEL REMOVAL

Transite panels will be sprayed/wetted with amended water and during the removal process. Nail heads will be removed/sheared or screws removed to allow for removal of intact transite panels and/or minimize breakage of the transite panels.

Remove the wetted transite panels in small sections, keeping the panels wetted. The removed panels will be placed on 6-mil (or thicker) plastic sheeting for storage until enough is generated to warrant packaging for disposal. Wrap transite panels in two layers of 6-mil poly sheeting (or thicker) or place transite panels in two sealable plastic bags of 6-mil minimum thickness and label. Transite panel disposal packages will generated to a weight of no more than 50 pounds to allow for manual transport of the packages to the waste storage/load out area. Palletized waste will be sized to fit the pallets.

Following removal of the transite panels, the exposed substrate will be thoroughly cleaned using a HEPA vacuum. Upon completion of transite panel removal, the AMEC Asbestos Supervisor will be notified to conduct preliminary visual observation and clearance air monitoring, as appropriate. The transite panels will be placed in a temporary packaged waste storage/load out area.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

DISPOSAL OF DEBRIS, TSI AND TRANSITE PANELS

Packaged debris, TSI and transite panels stored in the temporary waste storage/load out area will be removed from the roof using either a telescopic handler or a crane. The packaged waste will be placed into an open top roll off container for transport to the disposal facility. Containers will be tarped prior to transport. All waste packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

3.0 FOURTH FLOOR ACM ABATEMENT

Prior to the commencement of abatement activities, the location and amount of ACM present will be verified. The location of the asbestos on the fourth floor is depicted on Figure EN-4 located in the Specifications (see Appendix A). The location of windows and fire doors on the fourth floor is depicted on Figure EN-9 in the Specifications (see Appendix A). The fourth floor contains the following types of asbestos materials: TSI, floor tile and mastic, ceiling tile and asbestos glue pucks, drywall and joint compound, transite, window caulk and glazing putty and asbestos plaster and debris.

Estimated quantities of each type of asbestos contained on the fourth floor are provided below:

TSI and joint compound – 660 linear feet
Drywall, joint compound and transite panels – 5,475 square feet (ft^2)
Floor tile and mastic – 8,040 ft^2
Ceiling tile with asbestos glue pucks – 2,000 ft^2
Asbestos plaster and debris – 26,100 ft^2
Fire Doors – 7 each

Window caulk and glazing putty are not estimated – this material will be abated by removing the windows as described in this section.

Prior to commencing abatement activities on the fourth floor, a visual inspection will be performed and any loose asbestos material will be properly containerized for future disposal with other asbestos materials from the fourth floor abatement activities described below.

3.1 Thermal System Insulation

3.1.1 Work Site Preparation

The area around the TSI abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

Six-mil plastic sheeting will be used to cover the floor in the immediate area of the TSI abatement activities and the adjacent areas within 20 feet. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams. This plastic sheeting may be removed at the end of each day of abatement activities and replaced with new plastic sheeting at the beginning of each work day, as necessary to maintain cleanliness.

A dry worker decontamination unit will be constructed adjacent to the TSI abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM, the decontamination unit will be placed as close as practical to the TSI abatement area.

Prior to any abatement activities in this area, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of TSI prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

3.1.2 TSI Removal

Depending on the conditions at the time of TSI abatement activities, one of the following methods will be employed: Glove Bag or Unit Wrap.

GLOVE BAG METHOD

A glove bag will be installed as described below and in Section 3.02, paragraph C of the Specifications (Appendix A). The TSI will be wetted with amended water and maintained wet during the removal process.

Wetted TSI will be removed in small sections. As it is removed from the pipe, it will be saturated with amended water or removal Encapsulant and placed in the bottom of the glove bag in accordance with the manufacturers recommendations bagged into another labelled 6-mil bag. Once the TSI has been removed from the pipe in the area encompassed by the glove bag, Encapsulant will be sprayed on the piping surfaces and ends of adjoining sections of insulation.

Following removal of TSI and spraying Encapsulant, the AMEC Asbestos Supervisor will be notified to conduct an observation of the work. The glove bag will be required to remain in place until the pipes and joints have been inspected and are accepted. The glove bag will be evacuated with a HEPA vacuum and sealed with the waste material in

the bottom. The glove bag will be removed in accordance with the manufacturer's recommendations and placed in a labelled 6-mil poly bag.

The glove bag and removed TSI will be placed in a temporary waste storage/load out area. The storage area will be established for the storage of TSI prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

UNIT WRAP METHOD

Piping covered with TSI will be wrapped with two layers of 6-mil, or thicker, plastic sheeting. A glove bag will be used to remove 12-inches of insulation as described above in Subsection 2.2.2 Glove Bag Method. The Unit Wrap Method will be used on piping runs of 12 feet or less in accordance with the Specifications (Appendix A).

Cut pipe in bare area and cover the entire pipe with a layer of 6-mil plastic sheeting including the ends of the pipe and label as asbestos.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

3.1.3 Disposal of TSI

Packaged TSI stored in the temporary waste storage/load out area will be removed from the fourth floor. Remove the glove bag from the pipe, ensuring that exposed ends of the insulation are properly encapsulated using a telescopic handler or similar mechanical device. The packaged TSI will be placed into an enclosed container for transport to the disposal facility. All TSI packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

3.2 Floor Tile and Mastic

3.2.1 Work Site Preparation for Gross Removal of ACM Floors, Category I, Non-friable

The area around the floor tile and mastic abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be

pre-cleaned using a HEPA vacuum and/or wet cleaning method as appropriate. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum and/or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

If the floor tile can be removed generally intact, the following steps will be followed for the abatement of floor tile:

Any baseboards or fixtures that would interfere with access to the floor tile or removal of mastic will be removed. Interior walls, within 10 feet of the abatement area, will be covered with 4-mil plastic sheeting to a height of 4 feet. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

If the floor tile **cannot** be removed generally intact the following steps will be followed for the abatement of floor tile:

Any baseboards or fixtures that would interfere with access to the floor tile or removal of mastic will be removed. Interior walls will be covered to full height with 4-mil plastic sheeting. Place the work area under negative air ensuring that no unfiltered air is discharged outside the work area. The work area will be under negative air from the beginning of floor tile and mastic removal until the area has been decontaminated.

All barriers and plastic enclosures will remain sealed and taped for the duration of the floor tile and mastic abatement activities and final cleaning/testing. Enclosures will be visually inspected after initial construction and at the beginning of each workday. Any damage discovered during inspections or during the workday will be immediately repaired.

A dry worker decontamination unit will be constructed adjacent to the floor tile and mastic abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the floor tile and mastic abatement area.

Prior to any abatement activities in this area, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of floor tile and mastic prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

3.2.2 Floor Tile and Mastic Removal

The floor tile will be sprayed/wetted with amended water during the removal process.

Remove the wetted floor tiles in large pieces with minimum breakage. The removed floor tiles will be placed on 6-mil (or thicker) plastic sheeting for storage until enough is generated to warrant packaging for disposal. Wrap floor tiles in two layers of 6-mil poly sheeting (or thicker) or place floor tiles in two sealable plastic bags of 6-mil minimum thickness and label as asbestos. Floor tile disposal packages will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area. Cardboard barrels or boxes should be used to control the puncturing of bags by sharp tile corners and edges.

Floor tile mastic will be removed by using amended water and/or mastic solvent. Mastic will be removed until all build up of mastic material is removed from the substrate. Scrappers and/or other mechanical floor scrubber may be necessary to achieve the required cleanliness.

Following removal of the floor tile and mastic the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

3.2.3 Disposal of Floor Tile and Mastic

Packaged floor tile and mastic waste stored in the temporary waste storage/load out area will be removed from the fourth floor using a telescopic handler or similar mechanical device. The packaged floor tile and mastic will be placed into an enclosed container for transport to the disposal facility. All floor tile and mastic packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

3.3 Ceiling Tile Glue Pucks

3.3.1 Work Site Preparation for Gross Removal of Ceiling Tile with ACM Glue Pucks, Category I, Non-friable

The area around the ceiling tile glue puck abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate and all trash removed. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

If the ceiling tile glue pucks can be removed generally intact the following steps will be used for the abatement of the ceiling tile glue pucks:

Interior walls will be covered to full height with 4-mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Erect scaffolding or other equipment to gain access to the ceiling tile slated for abatement. Ceiling tiles with no asbestos glue pucks will be disposed as general construction waste.

If the ceiling tile glue pucks **cannot** be removed generally intact, the following steps will be used for the abatement of ceiling tile glue pucks:

Interior walls will be covered to full height with 4-mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Place the work area under negative air ensuring that no unfiltered air is discharged outside the work area. The work area will be under negative air from the beginning of floor tile and mastic removal until the area has been decontaminated...

All barriers and plastic enclosures will remain sealed and taped for the duration of the ceiling tile glue puck abatement activities and final cleaning. Enclosures will be visually inspected after initial construction and at the beginning of each workday. Any damage discovered during inspections or during the workday will be immediately repaired.

A dry worker/equipment decontamination unit will be constructed adjacent to the ceiling tile glue puck abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM, the decontamination unit will be placed as close as practical to the ceiling tile glue puck abatement area.

Prior to any abatement activities in this area, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of ceiling tile glue pucks prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

3.3.2 Ceiling Tile Glue Puck Removal

The ceiling tile will be sprayed/wetted with amended water during the removal process.

Remove the wetted ceiling tiles and scrap the glue pucks from the substrate. Ceiling tile and removed glue pucks will be placed in two sealable plastic bags of 6-mil minimum thickness and label as asbestos. Ceiling tile disposal packages will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area.

Following removal of the ceiling tile and glue pucks, the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

3.3.3 Ceiling Tile and Glue Puck Disposal

Packaged ceiling tile and glue pucks waste stored in the temporary waste storage/load out area will be removed from the fourth floor using a telescopic handler or similar mechanical device. The packaged ceiling tile and glue pucks will be placed into an

enclosed container for transport to the disposal facility. All ceiling tile and glue pucks packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

3.4 Drywall, Transite Panels and Joint Compound

3.4.1 Work Site Preparation

Scaffolding of sufficient height or other approved equipment will be erected to access the top of the drywall/transite panels. The scaffolding will be erected in accordance manufacturer's recommendation and a competent person will inspect after initial erection and daily prior to use.

The area around the abatement area will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

Six-mil plastic sheeting will be used to cover the floor in the immediate area of the abatement activities and the adjacent areas up to 20 feet from the base of the cooling tower. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams.

A dry worker decontamination unit will be constructed adjacent to the abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the abatement area.

Prior to any abatement activities in this area, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of drywall/transite panels prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

3.4.2 Drywall and Transite Panel Removal

Drywall and transite panels will be sprayed/wetted with amended water and maintained wetted during the removal process. Transite fasteners and nail heads will be removed/sheared or screws removed to allow for removal of intact transite panels and/or minimize breakage of the transite panels.

Remove the wetted drywall and/or transite panels in large sections, keeping the panels wetted. The removed drywall and/or transite panels will be placed on 6-mil (or thicker) plastic sheeting for storage until enough is generated to warrant packaging for disposal. Wrap drywall and/or transite panels in two layers of 6-mil poly sheeting (or thicker) or place drywall and/or transite panels in two sealable plastic bags of 6-mil minimum thickness and label. Drywall and/or transite panel disposal packages will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area. Palletized waste will be sized to fit the pallets.

Following removal of the drywall and/or transite panels the exposed substrate will be thoroughly cleaned using a HEPA vacuum. Upon completion of drywall and/or transite panel removal the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

3.4.3 Disposal of Drywall and Transite Panel

Packaged drywall and/or transite panels stored in temporary waste storage/load out area will be removed from the fourth floor using either a telescopic handler or similar mechanical device. The packaged drywall and/or transite panels will be placed into an enclosed container for transport to the disposal facility. All drywall and/or transite panels packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

3.5 Asbestos Plaster and Debris

3.5.1 Work Site Preparation

The area around the asbestos plaster and debris abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. Because the work area is considered contaminated, pre-cleaning is not required. Bulk debris and materials will initially be containerized and removed as contaminated waste

Place the work area under negative air ensuring that no unfiltered air is discharged outside the work area. The work area will be under negative air from the beginning of

abatement until the area is visually clean, has been decontaminated, and certified clean through the use of air testing.

All barriers and plastic enclosures will remain sealed and taped for the duration of the asbestos plaster and debris abatement activities and final cleaning/testing. Enclosures will be visually inspected after initial construction and at the beginning of each workday. Any damage discovered during inspections or during the workday will be immediately repaired.

A wet worker/equipment decontamination unit will be constructed adjacent to the asbestos plaster and debris abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the asbestos plaster and debris abatement area.

Prior to any abatement activities, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of asbestos plaster and debris prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

3.5.2 Removal of Ceiling Plaster and Debris

The ceiling plaster and debris will be wetted with amended water and maintained wet during the removal process.

Wetted ceiling plaster will be removed in sections on the lath if possible. The sections will be lowered to the floor and cut to pallet size. As ceiling plaster is removed it will be saturated with amended water or removal Encapsulant and double wrapped in 6-mil, minimum thickness, plastic sheeting or two sealable plastic bags of minimum thickness and labelled as asbestos.

Once the ceiling plaster has been removed, the remaining substrate will be thoroughly cleaned using a HEPA vacuum or other means as necessary to achieve the appropriate level of cleanliness. Once the debris and ceiling plaster has been removed from the floor, the area will be sprayed with Encapsulant.

Following removal of ceiling plaster and debris and spraying Encapsulant, the AMEC Asbestos Supervisor will be notified to conduct preliminary visual observation and clearance air monitoring.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

3.5.3 Disposal of Ceiling Plaster and Debris

Packaged ceiling plaster and debris stored in temporary waste storage/load out area will be removed from the fourth floor using either a telescopic handler or similar mechanical device. The packaged ceiling plaster and debris will be placed into an enclosed container for transport to the disposal facility. All ceiling plaster and debris packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

3.6 Window Caulk and Glazing Putty

Windows in the CBI Building will be removed as a whole unit. Individual window panes will not be removed to access and abate the window caulk and glazing putty.

3.6.1 Work Site Preparation

The area around the window caulk and glazing putty abatement (window removal) will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate and all trash removed. Erect scaffolding or place other equipment in the window removal area to access the top of the window and assist with removal as necessary.

A dry worker/equipment decontamination unit will be constructed in the vicinity of the window removal activities. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the window removal area.

Prior to any window removal, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, window removal will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of windows and framing prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

3.6.2 Window Removal

Using amended water, wet the window caulk and/glazing putty. The interior face of the window will be isolated using 6-mil, minimum thickness, plastic sheeting. This plastic sheeting will be erected to separate the window removal from areas where no abatement is occurring.

Window frame sections will be removed using one or more (or a combination) of the methods outlined below:

- Using a sawzall, corner cutter or similar device, cut the exterior of the frame free from the wall and remove the window unit as a whole.
- Remove brick work in the immediate vicinity of the window frame and dislodge the frame from the brick work.

Once the window frames have been removed, inspect the area for visible window caulk or glazing putty. Manually remove the pieces of window caulk or glazing putty attached to brick, and using a HEPA vacuum the window ledge and the floor in the immediate area of the window removal activity will be thoroughly cleaned using a HEPA vacuum or other means as necessary to achieve the appropriate level of cleanliness.

Wrap the window frame removed with two layers of 6-mil, minimum thickness, plastic sheeting and labelled as asbestos. The window frames will be staged in the temporary waste storage area.

Following removal of windows, the AMEC Asbestos Supervisor will be notified to conduct preliminary visual observation and clearance air monitoring, as appropriate.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

3.6.3 Disposal of Window Caulking and Glazing Putty

Packaged window frames stored in temporary waste storage/load out area will be removed from the fourth floor using either a telescopic handler or similar mechanical device. The packaged window frames will be placed into a lined open top roll off container for transport to the disposal facility. All window frame packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

3.7 Fire Doors

Intact Fire Doors in the CBI Building are sealed and, therefore, do not require any special handling or area preparation for removal. Damaged doors will be wrapped in two layers of 6-mil plastic. Fire doors will be removed from their framing and labelled as asbestos and placed in the temporary waste storage area. Fire doors will be removed from the fourth floor using either a telescopic handler or similar mechanical device. The fire doors will be placed into an enclosed container for transport to the disposal facility. All fire door packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

4.0 THIRD FLOOR ACM ABATEMENT

Prior to the commencement of abatement activities, the location and amount of ACM present will be verified. The location of the asbestos on the third floor is depicted on Figure EN-3 located in the Specifications (Appendix A). The location of windows and fire doors on the third floor is depicted on Figure EN-8 (Appendix A). The third floor contains the following types of asbestos materials: TSI, floor tile and mastic, ceiling tile and asbestos glue pucks, asbestos shingles and window caulk and glazing putty.

Estimated quantities of each type of asbestos contained on the third floor are provided below:

TSI and joint compound – 370 linear feet
Floor tile and mastic – 1000 ft^2
Ceiling tile with asbestos glue pucks – 1,000 ft^2
Asbestos Shingles – 2,000 ft^2
Fire Doors – 7 each

Window caulk and glazing putty are not estimated – this material will be abated by removing the windows as described in this section.

Prior to commencing abatement activities on the third floor, a visual inspection will be performed and any loose asbestos material will be properly containerized for future disposal with other asbestos materials from the third floor abatement activities described below.

4.1 Thermal System Insulation

4.1.1 Work Site Preparation

The area around the TSI abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

Six-mil plastic sheeting will be used to cover the floor in the immediate area of the TSI abatement activities and the adjacent areas within 20 feet. Plastic sheets will be seamed

together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams. This plastic sheeting may be removed at the end of each day of abatement activities and replaced with new plastic sheeting at the beginning of each work day, as necessary to maintain cleanliness.

A dry worker decontamination unit will be constructed adjacent to the TSI abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM, the decontamination unit will be placed as close as practical to the TSI abatement area.

Prior to any abatement activities in this area, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of TSI packages prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

4.1.2 TSI Removal

Depending on the conditions at the time of TSI abatement activities, one of the following methods will be employed: Glove Bag or Unit Wrap.

GLOVE BAG METHOD

A glove bag will be installed as described here and in Section 3.02, paragraph C of the Specifications (Appendix A). The TSI will be wetted with amended water and maintained wet during the removal process.

Wetted TSI will be removed in small sections. As it is removed from the pipe it will be saturated with amended water or removal Encapsulant and placed in the bottom of the glove bag in accordance with the manufacturers recommendations bagged into another labelled 6 mil bag. Once the TSI has been removed from the pipe in the area encompassed by the glove bag, Encapsulant will be sprayed on the piping surfaces and ends of adjoining sections of insulation.

Following removal of TSI and spraying Encapsulant, the AMEC Asbestos Supervisor will be notified to conduct an observation of the work. The glove bag will be required to remain in place until the pipes and joints have been inspected and are accepted. The glove bag will be evacuated with a HEPA vacuum and sealed with the waste material in the bottom. The glove bag will be removed in accordance with the manufacturer's recommendations and placed in a labelled 6-mil poly bag.

The glove bag and removed TSI will be placed in a temporary waste storage/load out area. The storage area will be established for the storage of TSI prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

UNIT WRAP METHOD

Piping covered with TSI will be wrapped with two layers of 6-mil, or thicker, plastic sheeting. A glove bag will be used to remove 12-inches of insulation as described above in Section 2.2.2 Glove Bag Method. The Unit Wrap Method will be used to segment piping runs of 12 feet or less in accordance with the ACM Specifications, Appendix A.

Cut pipe in bare area and cover the entire pipe with a layer of 6-mil plastic sheeting including the ends of the pipe and label as asbestos.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

4.1.3 Disposal of TSI

Packaged TSI stored in the temporary waste storage/load out area will be removed from the third floor. Remove the glove bag from the pipe, ensuring that exposed ends of the insulation are properly encapsulated using a telescopic handler or similar mechanical device. The packaged TSI will be placed into an enclosed container for transport to the disposal facility. All TSI packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

4.2 Floor Tile and Mastic

4.2.1 Work Site Preparation for Gross Removal of ACM Floors, Category I, Non-friable

The area around the floor tile and mastic abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

If the floor tile can be removed generally intact, the following steps will be followed for the abatement of floor tile:

Any baseboards or fixtures that would interfere with access to the floor tile or removal of mastic will be removed. Interior walls, within 10 feet of the abatement area, will be covered with 4-mil plastic sheeting to a height of 4 feet. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

If the floor tile **cannot** be removed generally intact the following steps will be followed for the abatement of floor tile:

Any baseboards or fixtures that would interfere with access to the floor tile or removal of mastic will be removed. Interior walls will be covered to full height with 4-mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Place the work area under negative air ensuring that no unfiltered air is discharged outside the work area. The work area will be under negative air from the beginning of floor tile and mastic removal until the area has been decontaminated...

All barriers and plastic enclosures will remain sealed and taped for the duration of the floor tile and mastic abatement activities and final cleaning/testing. Enclosures will be visually inspected after initial construction and at the beginning of each workday. Any damage discovered during inspections or during the workday will be immediately repaired.

A dry worker decontamination unit will be constructed adjacent to the floor tile and mastic abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the floor tile and mastic abatement area.

Prior to any abatement activities in the area, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of floor tile and mastic prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

4.2.2 Floor Tile and Mastic Removal

The floor tile will be sprayed/wetted with amended water and maintained wetted during the removal process.

Remove the wetted floor tiles in large pieces with minimum breakage. The removed floor tiles will be placed on 6-mil (or thicker) plastic sheeting for storage until enough is generated to warrant packaging for disposal. Wrap floor tiles in two layers of 6-mil poly sheeting (or thicker) or place floor tiles in two sealable plastic bags of 6-mil minimum thickness and label as asbestos. Floor tile disposal packages generated will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area.

Floor tile mastic will be removed by using amended water and/or mastic solvent. Mastic will be removed until all build up material is removed from the substrate. Scrappers and/or other mechanical floor scrubber may be necessary to achieve the required cleanliness.

Following removal of the floor tile and mastic, the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

4.2.3 Disposal of Floor Tile and Mastic

Packaged floor tile and mastic waste stored in the temporary waste storage/load out area will be removed from the third floor using a telescopic handler or similar mechanical device. The packaged floor tile and mastic will be placed into an enclosed container for transport to the disposal facility. All floor tile and mastic packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

4.3 Ceiling Tile Glue Pucks

4.3.1 Work Site Preparation for Gross Removal of Ceiling Tile with ACM Glue Pucks, Category I, Non-friable.

The area around the ceiling tile glue puck abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate and all trash removed. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

If the ceiling tile glue pucks can be removed generally intact, the following steps will be used for the abatement of the ceiling tile glue pucks:

Interior walls will be covered to full height with -mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Erect scaffolding or other equipment to gain access to the ceiling tile slated for abatement. Ceiling tiles with no asbestos glue pucks will be disposed as general construction waste.

If the ceiling tile glue pucks **cannot** be removed generally intact the following steps will be used for the abatement of ceiling tile glue pucks:

Interior walls will be covered to full height with 4-mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Place the work area under negative air ensuring that no unfiltered air is discharged outside the work area. The work area will be under negative air from the beginning of floor tile and mastic removal until the area has been decontaminated and certified clean through the use of air testing.

All barriers and plastic enclosures will remain sealed and taped for the duration of the ceiling tile glue puck abatement activities and final cleaning. Enclosures will be visually inspected after initial construction and at the beginning of each workday. Any damage discovered during inspections or during the workday will be immediately repaired.

A dry worker/equipment decontamination unit will be constructed adjacent to the ceiling tile glue puck abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the ceiling tile glue puck abatement area.

Prior to any abatement activities in the area, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of ceiling tile glue pucks prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

4.3.2 Ceiling Tile Glue Puck Removal

The ceiling tile will be sprayed/wetted with amended water and during the removal process.

Remove the wetted ceiling tiles and scrap the glue pucks from the substrate. Ceiling tile and removed glue pucks will be placed in two sealable plastic bags of 6-mil minimum thickness and label as asbestos. Ceiling tile disposal packages will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area.

Following removal of the ceiling tile and glue pucks, the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

4.3.3 Ceiling Tile and Glue Puck Disposal

Packaged ceiling tile and glue pucks waste stored in the temporary waste storage/load out area will be removed from the third floor using a telescopic handler or similar mechanical device. The packaged ceiling tile and glue pucks will be placed into an enclosed container for transport to the disposal facility. All ceiling tile and glue pucks packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

4.4 Asbestos Shingles

4.4.1 Work Site Preparation

Scaffolding of sufficient height or other approved equipment will be erected to access the shingles. The scaffolding will be erected in accordance manufacturer's recommendation and a competent person will inspect after initial erection and daily prior to use.

The area around the abatement area will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

Six-mil plastic sheeting will be used to cover the floor in the immediate area of the abatement activities and the adjacent areas up to 20 feet from the abatement area. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams.

A dry worker decontamination unit will be constructed adjacent to the abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the abatement area.

Prior to any abatement activities the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of asbestos shingles prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

4.4.2 Asbestos Shingles Removal

Asbestos shingles will be sprayed/wetted with amended water and maintained wetted during the removal process. Nail heads will be removed/sheared or screws removed to allow for removal of intact shingles and/or minimize breakage of the shingles.

The removed asbestos shingles will be placed on 6-mil (or thicker) plastic sheeting for storage until enough is generated to warrant packaging for disposal. Wrap asbestos shingles in two layers of 6-mil poly sheeting (or thicker) or place the asbestos shingles in two sealable plastic bags of 6-mil minimum thickness and label. Asbestos shingle disposal packages will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area.

Following removal of the asbestos shingles, the exposed substrate will be thoroughly cleaned using a HEPA vacuum. Upon completion of asbestos shingle removal the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

4.4.3 Disposal of Asbestos Shingles

Packaged asbestos shingles stored in temporary waste storage/load out area will be removed from the third floor using either a telescopic handler or similar mechanical device. The packaged asbestos shingles will be placed into an enclosed container for transport to the disposal facility. All asbestos shingle packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

4.5 Window Caulk and Glazing Putty

Windows in the CBI Building will be removed as a whole unit. Individual window panes will not be removed to access and abate the window caulk and glazing putty.

4.5.1 Work Site Preparation

The area around the window caulk and glazing putty abatement (window removal) will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate and all trash removed. Erect scaffolding or place other equipment in the

window removal area to access the top of the window and assist with removal as necessary.

A dry worker/equipment decontamination unit will be constructed in the vicinity of the window removal activities. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM, the decontamination unit will be placed as close as practical to the window removal area.

Prior to beginning any window removal, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, window removal will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of windows and framing prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

4.5.2 Window Removal

Using amended water, wet the window caulk and/glazing putty. The interior face of the window will be isolated using 6-mil, minimum thickness, plastic sheeting. This plastic sheeting will be erected to separate the window removal from areas where no abatement is occurring.

Window frame sections will be removed using one or more (or a combination) of the methods outlined below:

- Using a corner cutter or similar device, cut the exterior of the frame and remove the window unit as a whole.
- Remove brick work in the immediate vicinity of the window frame and dislodge the frame from the brick work.

Wrap the window frame removed with two layers of 6-mil, minimum thickness, plastic sheeting and labelled as asbestos. The window frames will be staged in the temporary waste storage area.

Once the window frames have been removed, inspect the area for visible window caulk or glazing putty. Manually remove the large pieces of window caulk or glazing putty, if visible, and using a HEPA vacuum the window ledge and the floor in the immediate area of the window removal activity will be thoroughly cleaned using a HEPA vacuum or other means as necessary to achieve the appropriate level of cleanliness.

Following removal of windows, the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

4.5.3 Disposal of Window Caulking and Glazing Putty

Packaged window frames stored in temporary waste storage/load out area will be removed from the third floor using either a telescopic handler or similar mechanical device. The packaged window frames will be placed into an open top roll off container for transport to the disposal facility. All window frame packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

4.6 Fire Doors

Intact Fire Doors in the CBI Building are sealed and, therefore, do not require any special handling or area preparation for removal. Damaged doors will be wrapped in two layers of 6-mil plastic. Fire doors will be removed from their framing and labelled as asbestos and placed in the temporary waste storage area. Fire doors will be removed from the fourth floor using either a telescopic handler or similar mechanical device. The fire doors will be placed into an enclosed container for transport to the disposal facility. All fire door packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

5.0 SECOND FLOOR ACM ABATEMENT

Prior to the commencement of abatement activities, the location and amount of ACM present will be verified. The location of the asbestos on the second floor is depicted on Figure EN-2 (Specifications, Appendix A). The location of windows and fire doors on the second floor is depicted on Figure EN-7 in Appendix A. The second floor contains the following types of asbestos materials: TSI, floor tile and mastic, ceiling tile and asbestos glue pucks, transite and window caulk and glazing putty.

Estimated quantities of each type of asbestos contained on the second floor are provided below:

TSI and joint compound – 850 linear feet
Floor tile and mastic – 54,500 ft^2
Ceiling tile with asbestos glue pucks – 28,000 ft^2
Transite Panels – 3,600 ft^2
Fire Doors – 9 each

Window caulk and glazing putty are not estimated – this material will be abated by removing the windows as described in this section.

Prior to commencing abatement activities on the second floor, a visual inspection will be performed and any loose asbestos material will be properly containerized for disposal with other asbestos materials from the third floor abatement activities described below.

5.1 Thermal System Insulation

5.1.1 Work Site Preparation

The area around the TSI abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum and/or wet cleaning method as appropriate. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum and/or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

Six-mil plastic sheeting will be used to cover the floor in the immediate area of the TSI abatement activities and the adjacent areas within 20 feet. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams. This plastic sheeting may be removed at the end of each day of abatement

activities and replaced with new plastic sheeting at the beginning of each work day, as necessary to maintain cleanliness.

A dry worker decontamination unit will be constructed adjacent to the TSI abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the TSI abatement area.

Prior to any abatement activities, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of TSI packages prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

5.1.2 TSI Removal

Depending on the conditions at the time of TSI abatement activities, one of the following methods will be employed: Glove Bag or Unit Wrap.

GLOVE BAG METHOD

A glove bag will be installed as Section 3.02, paragraph C of Specification Removal and Disposal of Asbestos-Containing Material (Appendix A). The TSI will be wetted with amended water and maintained wet during the removal process.

Wetted TSI will be removed in small sections. As it is removed from the pipe, it will be saturated with amended water or removal Encapsulant and placed in the bottom of the glove bag in accordance with the manufacturers recommendations bagged into another labelled 6-mil bag. Once the TSI has been removed from the pipe in the area encompassed by the glove bag, Encapsulant will be sprayed on the piping surfaces and ends of adjoining sections of insulation.

Following removal of TSI and spraying Encapsulant, the AMEC Asbestos Supervisor will be notified to conduct an observation of the work. The glove bag will be required to remain in place until the pipes and joints have been inspected and are accepted. The glove bag will be evacuated with a HEPA vacuum and sealed with the waste material in the bottom. The glove bag will be removed in accordance with the manufacturer's recommendations and placed in a labelled 6-mil poly bag.

The glove bag and removed TSI will be placed in a temporary waste storage/load out area. The storage area will be established for the storage of TSI prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

UNIT WRAP METHOD

Piping covered with TSI will be wrapped with two layers of 6-mil, or thicker, plastic sheeting. A glove bag will be used to remove 12-inches of insulation as described above in Section 2.2.2 Glove Bag Method. The Unit Wrap Method will be used to segment piping runs to 12 feet or less in accordance with the ACM Specifications (Appendix A).

Cut pipe in bare area and cover the entire pipe with a layer of 6-mil plastic sheeting including the ends of the pipe and label as asbestos.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

5.1.3 Disposal of TSI

Packaged TSI stored in the temporary waste storage/load out area will be removed from the second floor using a telescopic handler or similar mechanical device. The packaged TSI will be placed into an enclosed container for transport to the disposal facility. All TSI packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

5.2 Floor Tile and Mastic

5.2.1 Work Site Preparation for Gross Removal of ACM Floors, Category I, Non-friable

The area around the floor tile and mastic abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

If the floor tile can be removed generally intact, the following steps will be followed for the abatement of floor tile:

Any baseboards or fixtures that would interfere with access to the floor tile or removal of mastic will be removed. Interior walls, within 10 feet of the abatement area will be covered with 4-mil plastic sheeting to a height of 4 feet. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

If the floor tile **cannot** be removed generally intact the following steps will be followed for the abatement of floor tile:

Any baseboards or fixtures that would interfere with access to the floor tile or removal of mastic will be removed. Interior walls will be covered to full height with 4-mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Place the work area under negative air ensuring that no unfiltered air is discharged outside the work area. The work area will be under negative air from the beginning of floor tile and mastic removal until the area has been decontaminated.

All barriers and plastic enclosures will remain sealed and taped for the duration of the floor tile and mastic abatement activities and final cleaning. Enclosures will be visually inspected after initial construction and at the beginning of each workday. Any damage discovered during inspections or during the workday will be immediately repaired.

A dry worker decontamination unit will be constructed adjacent to the floor tile and mastic abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM, the decontamination unit will be placed as close as practical to the floor tile and mastic abatement area.

Prior to any abatement activities, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of floor tile and mastic prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

5.2.2 Floor Tile and Mastic Removal

The floor tile will be sprayed/wetted with amended water and maintained wetted during the removal process.

Remove the wetted floor tiles in large pieces with minimum breakage. The removed floor tiles will be placed on 6-mil (or thicker) plastic sheeting for storage until enough is generated to warrant packaging for disposal. Wrap floor tiles in two layers of 6-mil poly sheeting (or thicker) or place floor tiles in two sealable plastic bags of 6-mil minimum thickness and label as asbestos. Floor tile disposal packages will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area.

Floor tile mastic will be removed by using amended water and/or mastic solvent. Mastic will be removed until all build up material is removed from the substrate. Scrappers and/or other mechanical floor scrubber may be necessary to achieve the required cleanliness.

Following removal of the floor tile and mastic the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

5.2.3 Disposal of Floor Tile and Mastic

Packaged floor tile and mastic waste stored in the temporary waste storage/load out area will be removed from the second floor using a telescopic handler or similar mechanical device. The packaged floor tile and mastic will be placed into an enclosed container for transport to the disposal facility. All floor tile and mastic packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

5.3 Ceiling Tile Glue Pucks

5.3.1 Work Site Preparation for Gross Removal of Ceiling Tile with ACM Glue Pucks, Category I, Non-friable.

The area around the ceiling tile glue puck abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate and all trash removed. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

If the ceiling tile glue pucks can be removed generally intact the following steps will be used for the abatement of the ceiling tile glue pucks:

Interior walls will be covered to full height with 4-mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Erect scaffolding or other equipment to gain access to the ceiling tile slated for abatement. Ceiling tiles with no asbestos glue pucks will be disposed as general construction waste.

If the ceiling tile glue pucks **cannot** be removed generally intact, the following steps will be used for the abatement of ceiling tile glue pucks.

Interior walls will be covered to full height with 4-mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Place the work area under negative air ensuring that no unfiltered air is discharged outside the work area. The work area will be under negative air from the beginning of floor tile and mastic removal until the area has been decontaminated.

All barriers and plastic enclosures will remain sealed and taped for the duration of the ceiling tile glue puck abatement activities and final cleaning. Enclosures will be visually inspected after initial construction and at the beginning of each workday. Any damage discovered during inspections or during the workday will be immediately repaired.

A dry worker/equipment decontamination unit will be constructed adjacent to the ceiling tile glue puck abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the ceiling tile glue puck abatement area.

Prior to any abatement activities, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of ceiling tile glue pucks prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

5.3.2 Ceiling Tile Glue Puck Removal

The ceiling tile will be sprayed/wetted with amended water and maintained wetted during the removal process.

Remove the wetted ceiling tiles and scrap the glue pucks from the substrate. Ceiling tile and removed glue pucks will be placed in two sealable plastic bags of 6-mil minimum thickness and label as asbestos. Ceiling tile disposal packages will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area.

Following removal of the ceiling tile and glue pucks, the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

5.3.3 Ceiling Tile and Glue Puck Disposal

Packaged ceiling tile and glue pucks waste stored in the temporary waste storage/load out area will be removed from the second floor using a telescopic handler or similar mechanical device. The packaged ceiling tile and glue pucks will be placed into an enclosed container for transport to the disposal facility. All ceiling tile and glue pucks packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

5.4 Transite Panels

5.4.1 Work Site Preparation

Scaffolding of sufficient height or other approved equipment will be erected to access the transite panels. The scaffolding will be erected in accordance manufacturer's

recommendation and a competent person will inspect after initial erection and daily prior to use.

The area around the abatement area will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

Six-mil plastic sheeting will be used to cover the floor in the immediate area of the abatement activities and the adjacent areas, as applicable. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams.

A dry worker decontamination unit will be constructed adjacent to the abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the abatement area.

Prior to any abatement activities the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of transite panels prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

5.4.2 Transite Panel Removal

Transite panels will be sprayed/wetted with amended water during the removal process. Transite fasteners and nail heads will be removed/sheared or screws removed to allow for removal of intact transite panels and/or minimize breakage of the transite panels.

Remove the wetted transite panels, keeping them wetted. The removed transite panels will be placed on 6-mil (or thicker) plastic sheeting for storage until enough is generated to warrant packaging for disposal. Wrap transite panels in two layers of 6-mil poly sheeting (or thicker) or place the transite panels in two sealable plastic bags of 6-mil minimum thickness and label. Transite panels disposal packages will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area. Palletized waste will be sized to fit the pallets.

Following removal of the transite panels, the exposed substrate will be thoroughly cleaned using a HEPA vacuum. Upon completion of transite panel removal the AMEC Asbestos Supervisor will be notified to conduct preliminary visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

5.4.3 Disposal of Transite Panels

Packaged transite panels stored in temporary waste storage/load out area will be removed from the second floor using either a telescopic handler or similar mechanical device. The packaged transite panels will be placed into an enclosed container for transport to the disposal facility. All transite panel packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

5.5 Window Caulk and Glazing Putty

Windows in the CBI Building will be removed as a whole unit. Individual window panes will not be removed to access and abate the window caulk and glazing putty.

5.5.1 Work Site Preparation

The area around the window caulk and glazing putty abatement (window removal) will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate and all trash removed. Erect scaffolding or place other equipment in the window removal area to access the top of the window and assist with removal as necessary.

A dry worker/equipment decontamination unit will be constructed in the vicinity of the window removal activities. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the window removal area.

Prior to any window removal, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, window removal will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of windows and framing prior to loading into transport containers for transport to the

disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

5.5.2 Window Removal

Using amended water, wet the window caulk and/glazing putty. The interior face of the window will be isolated using 6-mil, minimum thickness, plastic sheeting. This plastic sheeting will be erected to separate the window removal from areas where no abatement is occurring.

Window frame sections will be removed using one or more (or a combination) of the methods outlined below:

- Using a corner cutter or similar device, cut the exterior of the frame and remove the window unit as a whole.
- Remove brick work in the immediate vicinity of the window frame and dislodge the frame from the brick work.

Wrap the window frame removed with two layers of 6-mil, minimum thickness, plastic sheeting and labelled as asbestos. The window frames will be staged in the temporary waste storage area.

Once the window frames have been removed, inspect the area for visible window caulk or glazing putty. Manually remove the large pieces of window caulk or glazing putty, if visible, and using a HEPA vacuum the window ledge and the floor in the immediate area of the window removal activity will be thoroughly cleaned using a HEPA vacuum or other means as necessary to achieve the appropriate level of cleanliness.

Following removal of windows, the AMEC Asbestos Supervisor will be notified to conduct preliminary visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

5.5.3 Disposal of Window Caulking and Glazing Putty

Packaged window frames stored in temporary waste storage/load out area will be removed from the second floor using either a telescopic handler or similar mechanical device. The packaged window frames will be placed into an open top roll off container for transport to the disposal facility. All window frame packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

5.6 Fire Doors

Intact Fire Doors in the CBI Building are sealed and therefore do not require any special handling or area preparation for removal. Damaged doors will be wrapped in two layers of 6-mil plastic. Fire doors will be removed from their framing and labelled as asbestos and placed in the temporary waste storage area. Fire doors will be removed from the fourth floor using either a telescopic handler or similar mechanical device. The fire doors will be placed into an enclosed container for transport to the disposal facility. All fire door packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

6.0 FIRST FLOOR ACM ABATEMENT

Prior to the commencement of abatement activities, the location and amount of ACM present will be verified. The location of the asbestos on the first floor is depicted on Figure EN-1 and EN-6 in the Appendix A (Specifications). The first floor contains the following types of asbestos materials: TSI, floor tile and mastic, ceiling tile and asbestos glue pucks, drywall and joint compound, and window caulk and glazing putty.

Estimated quantities of each type of asbestos contained on the first floor are provided below:

TSI and joint compound – 1,700 linear feet
Drywall and joint compound – 1,200 ft^2
Floor tile and mastic – 7,100 ft^2
Ceiling tile with asbestos glue pucks – 6,900 ft^2
Asbestos debris – 30,000 ft^2
Fire Doors – 15 each

Window caulk and glazing putty are not estimated – this material will be abated by removing the windows as described in this section.

Prior to commencing abatement activities on the first floor, a visual inspection will be performed and any loose asbestos material will be properly containerized for future disposal with other asbestos materials from the fourth floor abatement activities described below.

6.1 Thermal System Insulation

6.1.1 Work Site Preparation

The area around the TSI abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

Six-mil plastic sheeting will be used to cover the floor in the immediate area of the TSI abatement activities and the adjacent areas within 20 feet. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the

seams. This plastic sheeting may be removed at the end of each day of abatement activities and replaced with new plastic sheeting at the beginning of each work day, as necessary to maintain cleanliness.

A dry worker decontamination unit will be constructed adjacent to the TSI abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the TSI abatement area.

Prior to any abatement activities, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of TSI prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

6.1.2 TSI Removal

Depending on the conditions at the time of TSI abatement activities, one of the following methods will be employed: Glove Bag or Unit Wrap.

GLOVE BAG METHOD

A glove bag will be installed as described in Section 3.02 paragraph C in the Specifications (Appendix A). The TSI will be wetted with amended water and maintained wet during the removal process.

Wetted TSI will be removed in small sections. As it is removed from the pipe it will be saturated with amended water or removal Encapsulant and placed in the bottom of the glove bag in accordance with the manufacturers recommendations bagged into another labelled 6-mil bag. Once the TSI has been removed from the pipe in the area encompassed by the glove bag, Encapsulant will be sprayed on the piping surfaces and ends of adjoining sections of insulation.

Following removal of TSI and spraying Encapsulant, the AMEC Asbestos Supervisor will be notified to conduct an observation of the work. The glove bag will be required to remain in place until the pipes and joints have been inspected and are accepted. The glove bag will be evacuated with a HEPA vacuum and sealed with the waste material in the bottom. The glove bag will be removed in accordance with the manufacturer's recommendations and placed in a labelled 6 mil poly bag.

The glove bag and removed TSI will be placed in a temporary waste storage/load out area. The storage area will be established for the storage of TSI prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

UNIT WRAP METHOD

Piping covered with TSI will be wrapped with two layers of 6-mil, or thicker, plastic sheeting. A glove bag will be used to remove 12-inches of insulation as described above in Section 2.2.2 Glove Bag Method. The Unit Wrap Method will be used on piping runs of 12 feet or less in accordance with the ACM Specifications (Appendix A).

The pipe will be cut in bare area and the entire pipe length covered with a layer of 6-mil plastic sheeting including the ends of the pipe and label as asbestos.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

6.1.3 Disposal of TSI

Packaged TSI stored in the temporary waste storage/load out area will be removed from the first floor using a telescopic handler or similar mechanical device. The packaged TSI will be placed into an enclosed container for transport to the disposal facility. All TSI packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

6.2 Floor Tile and Mastic

6.2.1 Work Site Preparation for Gross Removal of ACM Floors, Class I, Non-friable

The area around the floor tile and mastic abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum and/or wet cleaning method as appropriate. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum

and/or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

If the floor tile can be removed generally intact, the following steps will be followed for the abatement of floor tile:

Any baseboards or fixtures that would interfere with access to the floor tile or removal of mastic will be removed. Interior walls, within 10 feet of the abatement area, will be covered with 4-mil plastic sheeting to a height of 4 feet. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

If the floor tile **cannot** be removed generally intact the following steps will be followed for the abatement of floor tile:

Any baseboards or fixtures that would interfere with access to the floor tile or removal of mastic will be removed. Interior walls will be covered to full height with 4-mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Place the work area under negative air ensuring that no unfiltered air is discharged outside the work area. The work area will be under negative air from the beginning of floor tile and mastic removal until the area has been decontaminated.

All barriers and plastic enclosures will remain sealed and taped for the duration of the floor tile and mastic abatement activities and final cleaning. Enclosures will be visually inspected after initial construction and at the beginning of each workday. Any damage discovered during inspections or during the workday will be immediately repaired.

A dry worker decontamination unit will be constructed adjacent to the floor tile and mastic abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM, the decontamination unit will be placed as close as practical to the floor tile and mastic abatement area.

Prior to any abatement activities, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of floor tile and mastic prior to loading into transport containers for transport to the disposal

facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

6.2.2 Floor Tile and Mastic Removal

The floor tile will be sprayed/wetted with amended water and maintained wetted during the removal process.

Remove the wetted floor tiles in large pieces with minimum breakage. The removed floor tiles will be placed on 6-mil (or thicker) plastic sheeting for storage until enough is generated to warrant packaging for disposal. Wrap floor tiles in two layers of 6-mil poly sheeting (or thicker) or place floor tiles in two sealable plastic bags of 6-mil minimum thickness and label as asbestos. Floor tile disposal packages will be generated will not exceed 50 pounds to allow for manual transport of the packages to the waste package storage/load out area.

Floor tile mastic will be removed by using amended water and/or mastic solvent. Mastic will be removed until all build up material is removed from the substrate. Scrappers and/or other mechanical floor scrubber may be necessary to achieve the required cleanliness.

Following removal of the floor tile and mastic, the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

6.2.3 Disposal of Floor Tile and Mastic

Packaged floor tile and mastic waste stored in the temporary waste storage/load out area will be removed from the first floor using a telescopic handler or similar mechanical device. The packaged floor tile and mastic will be placed into an enclosed container for transport to the disposal facility. All floor tile and mastic packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

6.3 Ceiling Tile Glue Pucks

6.3.1 Work Site Preparation for Gross Removal of Ceiling Tile with ACM Glue Pucks, Category I, Non-friable.

The area around the ceiling tile glue puck abatement will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The area will be isolated and critical barriers will be erected to separate the abatement area from areas where no abatement is occurring. The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate and all trash removed. Any immovable object within the abatement area will be pre-cleaned using HEPA vacuum or wet cleaning method as appropriate. The immovable object will be completely sealed in plastic sheeting after cleaning.

If the ceiling tile glue pucks can be removed generally intact, the following steps will be used for the abatement of the ceiling tile glue pucks:

Interior walls will be covered to full height with 4-mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Erect scaffolding or other equipment to gain access to the ceiling tile slated for abatement. Ceiling tiles with no asbestos glue pucks will be disposed as general construction waste.

If the ceiling tile glue pucks **cannot** be removed generally intact the following steps will be used for the abatement of ceiling tile glue pucks:

Interior walls will be covered to full height with 4-mil plastic sheeting. Plastic sheeting joints will be glued/taped with a 12-inch overlap to minimize/prevent the movement of water.

Place the work area under negative air ensuring that no unfiltered air is discharged outside the work area. The work area will be under negative air from the beginning of floor tile and mastic removal until the area has been decontaminated.

All barriers and plastic enclosures will remain sealed and taped for the duration of the ceiling tile glue puck abatement activities and final cleaning. Enclosures will be visually inspected after initial construction and at the beginning of each workday. Any damage discovered during inspections or during the workday will be immediately repaired.

A dry worker/equipment decontamination unit will be constructed adjacent to the ceiling tile glue puck abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread

of ACM, the decontamination unit will be placed as close as practical to the ceiling tile glue puck abatement area.

Prior to any abatement activities the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of Ceiling Tile Glue Puck waste prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

6.3.2 Ceiling Tile Glue Puck Removal

The ceiling tile will be sprayed/wetted with amended water during the removal process.

Remove the wetted ceiling tiles and scrap the glue pucks from the substrate. Ceiling tile and removed glue pucks will be placed in two sealable plastic bags of 6-mil minimum thickness and label as asbestos. Ceiling tile disposal packages will not more than 50 pounds to allow for manual transport of the packages to the waste package storage/load out area.

Following removal of the ceiling tile and glue pucks, the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

6.3.3 Ceiling Tile and Glue Puck Disposal

Packaged ceiling tile and glue pucks waste stored in the temporary waste storage/load out area will be removed from the first floor using a telescopic handler or similar mechanical device. The packaged ceiling tile and glue pucks will be placed into an enclosed container for transport to the disposal facility. All ceiling tile and glue pucks packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

6.4 Drywall and Joint Compound

6.4.1 Work Site Preparation

Scaffolding of sufficient height or other approved equipment will be erected to access the top of the drywall. The scaffolding will be erected in accordance manufacturer's recommendation and a competent person will inspect after initial erection and daily prior to use.

The area around the abatement area will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

Six-mil plastic sheeting will be used to cover the floor in the immediate area of the abatement activities and the adjacent areas up to 20 feet from the base of the cooling tower. Plastic sheets will be seamed together with spray adhesive and duct tape with a minimum 12-inch overlap at the seams.

A dry worker decontamination unit will be constructed adjacent to the abatement area. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the abatement area.

Prior to any abatement activities the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, abatement activities will commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary packaged waste storage/load out area will be established for the storage of drywall prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

6.4.2 Drywall Removal

Drywall will be sprayed/wetted with amended water and maintained wetted during the removal process. Nail heads will be removed/sheared or screws removed to allow for removal of intact drywall to minimize breakage of the drywall.

Remove the wetted drywall in small sections, keeping the panels wetted. The removed drywall will be placed on 6-mil (or thicker) plastic sheeting for storage until enough is generated to warrant packaging for disposal. Wrap drywall in two layers of 6-mil poly sheeting (or thicker) or place drywall in two sealable plastic bags of 6-mil minimum

thickness and label. Drywall disposal packages will not exceed more than 50 pounds to allow for manual transport of the packages to the waste package storage/load out area.

Following removal of the drywall the exposed substrate will be thoroughly cleaned using a HEPA vacuum. Upon completion of drywall removal, the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

6.4.3 Disposal of Drywall

Packaged drywall stored in temporary waste storage/load out area will be removed from the first floor using either a telescopic handler or similar mechanical device. The packaged drywall will be placed into an enclosed container for transport to the disposal facility. All drywall packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

6.5 Window Caulk and Glazing Putty

Windows in the CBI Building will be removed as a whole unit. Individual window panes will not be removed to access and abate the window caulk and glazing putty.

6.5.1 Work Site Preparation

The area around the window caulk and glazing putty abatement (window removal) will be demarcated with barrier tape and warning signs to alert personnel of the abatement activities and the potential hazards.

The immediate area will be pre-cleaned using a HEPA vacuum or wet cleaning method as appropriate and all trash removed. Erect scaffolding or place other equipment in the window removal area to access the top of the window and assist with removal as necessary.

A dry worker/equipment decontamination unit will be constructed in the vicinity of the window removal activities. The location of the decontamination unit will be agreed upon in the field with the AMEC Asbestos Supervisor. To minimize the potential spread of ACM the decontamination unit will be placed as close as practical to the window removal area.

Prior to any window removal, the AMEC Asbestos Supervisor will be notified to perform a pre-work inspection. Upon completion of a satisfactory inspection, window removal will

commence. If issues arise from the inspection, the issues will be resolved and the area re-inspected until a satisfactory inspection result is achieved.

A temporary waste storage/load out area will be established for the storage of windows and framing prior to loading into transport containers for transport to the disposal facility. This location will be agreed upon in the field with the AMEC Asbestos Supervisor.

6.5.2 Window Removal

Using amended water, wet the window caulk and/glazing putty. The interior face of the window will be isolated using 6-mil, minimum thickness, plastic sheeting. This plastic sheeting will be erected to separate the window removal from areas where no abatement is occurring.

Window frame sections will be removed using one or more (or a combination) of the methods outlined below:

- Using a corner cutter or similar device, cut the exterior of the frame and remove the window unit as a whole.
- Remove brick work in the immediate vicinity of the window frame and dislodge the frame from the brick work.

Wrap the window frame removed with two layers of 6-mil, minimum thickness, plastic sheeting and labelled as asbestos. The window frames will be staged in the temporary waste storage area.

Once the window frames have been removed, inspect the area for visible window caulk or glazing putty. Manually remove the large pieces of window caulk or glazing putty, if visible, and using a HEPA vacuum the window ledge and the floor in the immediate area of the window removal activity will be thoroughly cleaned using a HEPA vacuum or other means as necessary to achieve the appropriate level of cleanliness.

Following removal of windows, the AMEC Asbestos Supervisor will be notified to conduct visual observation.

NOTE: It is the primary GOAL of this abatement project to produce No Visible Emissions during the execution of this Work Plan.

6.5.3 Disposal of Window Caulking and Glazing Putty

Packaged window frames stored in temporary waste storage/load out area will be removed from the first floor using either a telescopic handler or similar mechanical device. The packaged window frames will be placed into an enclosed container for

transport to the disposal facility. All window frame packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

6.6 Asbestos Debris

6.7 Fire Doors

Intact Fire Doors in the CBI Building are sealed and therefore do not require any special handling or area preparation for removal. Damaged doors will be wrapped in two layers of 6-mil plastic. Fire doors will be removed from their framing and labelled as asbestos and placed in the temporary waste storage area. Fire doors will be removed from the fourth floor using either a telescopic handler or similar mechanical device. The fire doors will be placed into an enclosed container for transport to the disposal facility. All fire door packages and containers will be treated, packaged, labelled and disposed in accordance with 40 CFR 61 and 49 CFR 171 and 172.

Appendix A

Specifications for the Removal and Disposal of Asbestos-Containing Materials

Project No.: 242413183
24 March 2014

Specifications
Removal and Disposal of Asbestos-Containing Materials

ACM Abatement
ASA AOC CERCLA 07-2013-008
Carter Carburetor Superfund Site
St. Louis, MO

February 6, 2014

amec

REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING MATERIALS

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Perform all planning, coordination, administration, execution, and cleaning necessary to safely remove asbestos-containing materials (ACM) from the former Carter Carburetor building as indicated in the Contract Documents. Ensure there are no visible emissions during all phases of the work. Asbestos survey reports are available at AMEC Environment & Infrastructure, Inc. (AMEC)'s office.

B. The Abatement Contractor shall fully indemnify and save harmless the Owner, the Consultant (AMEC), and Testing Laboratory from all claims of damages and expenses arising out of or connected with the abatement project.

C. Approval of or acceptance by the Consultant, Testing Laboratory, or Owner of various construction activities or methods proposed by the Abatement Contractor does not constitute an assumption of liability for inadequacy or adverse consequences of said activities or methods.

D. The ACMs to be abated at Carter Carburetor are included in the following list. Refer to the attached drawings for locations.

INTERIOR

1. Remove all layers of ACM flooring and mastic, all floors.
2. Remove ceiling tiles with ACM glue "pucks," all floors.
3. Remove ACM thermal system insulation (TSI) from piping and/or hard joints, all floors.
4. Remove TSI from ductwork, all floors.
5. Abate all ACM from pump room on first floor, G-7.
6. Abate all ACM from the boiler room on the first floor, J-6.
7. Abate ACM board roof enclosure, J-6.
8. Abate all ACM from the non-enclosed boiler room first floor, KK-7.
9. Remove all ACM and asbestos–contaminated debris from second floor offices and restrooms.
10. Remove stockpiled window units from the third and fourth floors.
11. Abate drywall with ACM joint compound, first and fourth floors.
12. Remove and dispose of ACM plaster ceiling, brown coat and wire ceiling lath in 4th Floor Cafeteria area and adjoining spaces. Remove ACMs and contaminated debris from on the floor and horizontal surfaces.
13. Remove ACM debris from floor of 4th floor, MM-13 to SS-10.
14. Remove all ACM and asbestos–contaminated debris from former floor mechanical BB-1.
15. Incidental ACM pipe insulation encountered during the execution of this work is considered part of the work, and should be removed while the area is in containment.

ROOF

1. Remove ACM thermal system insulation (TSI) from piping and/or hard joints, ductwork, and debris from roof top mechanical units, O-4, O-9, and M-3.
2. Remove ACM cement louvers and associated pipe insulation from the large cooling tower #1, G-7.
3. Remove ACM cement louvers and associated pipe insulation from the cooling tower #2, BB-10.

ROOF ALTERNATE

1. Remove ACM roof cements from capstones and parapet walls.
2. Remove ACM roof flashings from perimeters of built-up roofs.

BUILDING ENVELOPE (Recommended to schedule as last abatement)

1. Remove fire doors intact.
2. Remove window units with asbestos caulking and glazing compound throughout.

E. Properly package and dispose of all ACM and asbestos-contaminated waste materials in an approved landfill. Provide landfill receipts to document proper disposal of waste.

F. Include work listed in these specifications. Require that all phases of the Work be executed by asbestos certified (State of Missouri) skilled craftsman experienced in their respective trades.

G. Work Summary:

1. Verify location and amount of all ACM present in areas scheduled for abatement. Existing conditions are reflected correctly to the best of the Consultant's knowledge. Should conditions be encountered over 10% of the abatement project fees that are not exactly as indicated, modification to the Work shall be made as required at no additional expense to Owner.

   LIST OF DRAWINGS
   EN-1 – ASBESTOS ABATEMENT FIRST FLOOR INTERIOR
   EN-2 – ASBESTOS ABATEMENT SECOND FLOOR INTERIOR
   EN-3 – ASBESTOS ABATEMENT THIRD FLOOR INTERIOR
   EN-4 – ASBESTOS ABATEMENT FOURTH FLOOR INTERIOR
   EN-5 – ASBESTOS ABATEMENT ROOF
   EN-6 – ASBESTOS ABATEMENT FIRST FLOOR BUILDING ENVELOPE
   EN-7 – ASBESTOS ABATEMENT SECOND FLOOR BUILDING ENVELOPE
   EN-8 – ASBESTOS ABATEMENT THIRD FLOOR BUILDING ENVELOPE
   EN-9 – ASBESTOS ABATEMENT FOURTH FLOOR BUILDING ENVELOPE

2. Segregate abatement areas from non-abatement areas.
3. Prepare work areas prior to ACM abatement as described in this Section, paragraph 3.01.
4. Abate ACMs in areas scheduled for abatement as described in this Section, paragraph 3.02.

5. Clean and clear all work areas as described in this Section, paragraph 3.04.
6. Discard all removed ACMs and asbestos-contaminated materials and wastes as described in this Section, paragraph 3.05.
7. The Abatement Contractor shall be responsible for all damage resulting from the Work to the Willco Building or neighboring properties.

1.02 COORDINATION

1. Should a conflict arise, assist workers of other contractors and other trades by performing removal of ACMs or other items, which may require disturbance of ACMs.

2. Provide air monitoring or a negative exposure assessment for safety of Contractor's employees required by the U.S. Occupational Safety and Health Administration (OSHA), and in accordance with Contract Documents.

3. Cooperate with the AMEC's Asbestos Air Sampling Professional in accomplishing the environmental air monitoring and work practice documentation services.

1.03 DEFINITIONS

A. The following definitions pertain to the Work of these Contract Documents.

1. **Abatement** – Procedures to decrease or eliminate fiber release from cast, spray- or trowel-applied ACMs by removal, encapsulation, or enclosure of these materials.
2. **Airlock** – System for permitting ingress or egress of personnel without permitting air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained or fixed-louvered doorways at least 3 feet apart.
3. **Air Monitoring** – The process of measuring the fiber content of a specific volume of air during a stated period of time.
4. **Amended water** – Water that has had surfactant added.
5. **ANSI** – American National Standards Institute.
6. **Clean Room** – An uncontaminated area or room that is part of the worker decontamination enclosure system, with provisions for storage of workers' street clothes and protective equipment, also known as the "Change Room."
7. **Critical Barrier** – Seal applied to openings connecting the abatement area with adjacent spaces that will not be included in the containment. Critical barriers shall not be exposed to the gross removal environment. Examples of openings requiring critical barriers include, but are not limited to HVAC vents and diffusers; doorways; windows; floor, wall, and ceiling penetrations; and air plenums.
8. **Decontamination Enclosure System** – A series of connected rooms, with doorways between any two adjacent rooms, for the decontamination of workers or of materials and equipment. A worker decontamination enclosure system always contains at least five

airlocks (rooms). An equipment decontamination system always contains at least three airlocks (rooms).

9. **Doorway** – A device to allow ingress or egress from one room to another while minimizing air movement between the rooms. Two curtained doorways or rigid doors with fixed louvers spaced apart a minimum of three feet.
10. **Dry Decon** – a procedure used in conjunction with a Wet Decon where a worker wearing two suits is HEPA vacuumed off by another worker then removes the outer suit, the worker still wearing the inner suit to a centrally located wet decon for final decontamination. Procedure is limited to the abatement of non-friable material when a Wet Decon is not practical.
11. **Encapsulation** – The sealing of surfaces following abatement involving application of a material (encapsulant) that will eliminate fiber fallout.
12. **EPA** – United States Environmental Protection Agency.
13. **Equipment Decontamination Enclosure System** – A decontamination enclosure system for materials and equipment, consisting of a washroom, an airlock, and a holding area.
14. **Equipment Room** – An area or room that is part of the worker decontamination enclosure system with provisions for storage of contaminated clothing and equipment.
15. **Fixed Object (Immovable object)** – A unit of equipment or furniture in the work area, which cannot be removed from the work area.
16. **Glove Bag** – A method for removing ACM from piping, valves, joints, and elbows in a non-contaminated work area. The glove bag assembly is a manufactured or fabricated device consisting of a glove bag (typically constructed of six-mil transparent plastic), two inward projecting long sleeve rubber gloves, one inward projecting water wand sleeve, and internal tool punch, and an attached labelled receptacle for asbestos waste. The glove bag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains all asbestos fibers released during the removal process.
17. **HEPA Filter** – A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97 percent of asbestos fibers greater than 0.3 microns in length.
18. **HEPA Vacuum Equipment** – Vacuuming equipment equipped with a HEPA-filtration system.
19. **Holding Area** – A chamber between the washroom and uncontaminated area in the equipment decontamination enclosure system. The holding area comprises an airlock.
20. **Movable Object** – A unit of equipment or furniture in the work area, which can be removed from the work area.
21. **NESHAP** – National Emissions Standard for Hazardous Air Pollutants.
22. **NIOSH** – National Institute for Occupational Safety and Health.
23. **OSHA** – Occupational Safety and Health Administration.
24. **Plastic Sheeting** – Plastic sheet material of specified thickness used for protection of walls, floors, etc., and used to seal openings into the work area.
25. **Removal** – The act of removing ACMs or contaminated materials from the structure under properly controlled conditions to a suitable disposal site.

26. **Shower Room** – A room constituting an airlock, between the clean room and the equipment room in the worker decontamination enclosure system, with hot and cold or warm running water suitably arranged for complete showering during decontamination.
27. **Surfactant** – A chemical wetting agent added to water to improve penetrating ability, thus reducing the quantity of water required to saturate ACMs.
28. **Wet Cleaning** – The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with amended water, and disposing of these cleaning tools as asbestos-contaminated waste.
29. **Washroom** – A room between the work area and the holding area in the equipment decontamination enclosure system. The washroom comprises an air lock.
30. **Work Area** – Area or areas of Project that undergo abatement or are contaminated.
31. **Worker Decontamination Enclosure System** – A decontamination enclosure system for workers, typically consisting of a clean room, an airlock, a shower room, an airlock, and an equipment room.

1.04 DISPOSAL SITES

The friable ACM and associated contaminated debris must be disposed at an asbestos-approved sanitary landfill. Non-friable material may be disposed of at either an asbestos-approved sanitary landfill or at a landfill that has been properly notified that non-friable ACM, such as roofing, is being disposed of at their site. The landfill(s) must be designated in the pre-job submittals prior to the start of work. A landfill receipt with the location of the waste in the landfill defined for each load is required.

1.05 QUALITY ASSURANCE

Contractor performing asbestos removal shall:

A. Be currently registered in the State of Missouri as an Asbestos Contractor as required by 10 CSR 10-6.214 and Chapter 643 RSMo. Contractor shall meet all local and state licensing requirements.

B. Have a record during the past three years of successful experience in asbestos removal and related work on at least three projects similar in scope and magnitude to this Project.

C. Provide a full-time On-Site Supervisor who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures, disposal procedures, etc. This person shall be the Competent Person as required by OSHA in 29 CFR 1926 for the Contractor and is the Contractor's Representative responsible for compliance with all applicable federal, state and local regulations, particularly those relating to ACMs. Supervisor must be approved by Consultant prior to the start of the Work and shall not be changed without prior approval from Consultant.

D. The Contractor's On-Site Supervisor must have completed not less than a five-day (40 hours) course at an EPA/Missouri Accredited Training Center, that meets the criteria in Missouri Air Conservation

Commission regulations RSMo 10 CSR 10-6.250, 10 CSR 10-6.080 which adopts by reference 40 CFR Part 61 Subpart M, and RSMo Chapter 643.230, EPA AHERA, and be a Missouri Occupational Certified Asbestos Supervisor. Additionally, the On-Site Supervisor must have had a minimum of two years on-the-job training as a Project Supervisor, meet any additional requirements set forth in 29 CFR 1926 for a Competent Person, and any local or state requirements. Supervisor shall remain on site at all times work is in progress.

E. Provide one experienced Inside Job Foreman for every crew, not to exceed ten asbestos removal workers or portion thereof, utilized on the Project. Job Foreman shall be a Missouri Occupational Certified Asbestos Supervisor, and shall remain inside work area at all times that work is in progress.

F. Use only Missouri Occupational Certified, Asbestos Workers to perform the work of this Section. Workers shall meet all federal, local and state requirements.

1.06 REFERENCE STANDARDS

A. Acknowledge, by execution of the Contract, awareness and familiarity with the contents and requirements of the following regulations, codes, standards, and guidance documents. Assume responsibility for the performance of the Work in strict compliance with these documents and for every instance of failure to comply with these documents. The current issue of each document shall govern. Where conflict exists between these documents and the Contract Documents, the more stringent requirements shall apply.

1. OSHA Asbestos Regulations 29 CFR 1910.1001, 29 CFR 1910.134, 29 CFR 1910.1200, 29 CFR 1926.1101.
2. EPA Office of Pesticide and Toxic Substances (OPTS) Guidance Document, "Guidance for Controlling Asbestos-Containing Materials in Buildings," EPA 560/5-85-024.
3. EPA National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 61 Subpart M (61.140-61.157).
4. EPA Toxic Substances; Asbestos Abatement Projects 40 CFR 763.
5. Clean Air Act, 42 USC7401.
6. American National Standards Institute, practices for Respiratory Protection, ANSI Z88.2-1980.
7. EPA OPTS Guidance Document, "Guide to Respiratory Protection for the Asbestos Abatement Industry," EPA-560-OPTS-86-001.
8. U.S. Department of Transportation (DOT) Regulations 49 CFR 172 and 173.
9. Missouri Department of Natural Resources 10 CSR 10-6.020, 10 CSR 10-6.080, 10 CSR 10-6.230, 10 CSR 10-6.241, 10 CSR 10-6.250.
10. Missouri Air Conservation Law Statutes 643.225-643.250, Chapters 643.225, 643.228, 643.230, 643.232, 643.235, 643.237, 643.240, 643.242, 643.245, 643.250
11. All State, County, and City codes and ordinances as applicable.

1.07 SUBMITTALS

A. Timing and Review of Submittals

1. Make submittals **NOT LESS THAN 1 WEEK IN ADVANCE** of schedule date(s) of commencement, execution or installation to provide time required for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing deliveries.
2. Accept sole responsibility for delays resulting from incomplete submittal package. Partial submittals may be rejected for non-compliance with the Contract Documents.
3. Submittal format shall follow the order of this Section, Part 1, Section 1.07 (B, C, or D) as appropriate.
4. Review by Consultant does not relieve Contractor from sole responsibility for errors that may exist in the submitted data.

B. Pre-Job Submittals

1. Provide Copy of Missouri Contractor's License, Missouri Registered Asbestos Abatement Contractor, state or local permits, and certifications.
2. Provide Copy of Asbestos Project Notification (form MO 780-1226 (11-13) available at (http://www.dnr.mo.gov/env/apcp/asbestos.html), 10 working days prior to commencing work in writing to:

Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, Missouri 65102
573-751-4817; 800-361-4827

With a copy in writing (10 working days prior to commencing work) to:

Missouri Department of Natural Resources
St. Louis Regional Office
7545 S. Lindbergh, Suite 210
St. Louis, Missouri 63125
314-416-2960

St. Louis Division of Air Pollution Control
Air Quality Program
1520 Market Street, Room 4058
St. Louis, Missouri 63103
314-613-7300

Submit a copy of the notice package along with Certified Mail Receipts of notifications to aforementioned agency.

3. Provide Copy of all required permits, site location, and arrangements for on-site temporary storage, transport and disposal of ACMs or contaminated materials. Submit signed letter from the landfill or the agency accepting the material that states that the landfill site to be used is permitted to accept the appropriate category of waste.
4. Submit a detailed "Work Plan" including a schedule for completion of the project within the allowable time period. The work plan should include abatement procedures to be utilized, locations of decontamination units, waste handling, and clean material storage. Also include data for exposure assessments relative to the respiratory protection to be utilized on site.
5. Included in the work plan provide a written description and sketch of the plans for location(s) and construction of an asbestos worker and barrel/equipment decontamination enclosure system and for isolation of the work area in compliance with the Contract Documents.
6. Provide a written description and sketch of the plans for location(s) for temporary waste storage within the building, and waste removal from the site.
7. Provide a written health, safety, and security plan to be utilized and the locations of fire and emergency exits to be maintained during each phase of the Work. Include the protection of the general public as a result of this work as part of the plan.
8. Provide a written description, sketch, or combination thereof, of the work procedures or practices to be utilized on the Project.
9. Provide a specimen copy of Sign In/Sign Out Log forms to be used. Indicate name, date, time, company or agency represented, and reason for entering Work area.
10. Provide a listing of supervisory personnel (including foremen) and workers along with their Missouri Asbestos Supervisor and Worker certifications per Paragraph 1.05this Section. Certificates must be current according to state and AHERA Regulations (may not be more than one-year old).
11. Provide documentation that each and every asbestos abatement worker to be utilized on the Project is actively involved in a medical surveillance program. Include copies of each employee's medical statement permitting use of respiratory protection.
12. Individually signed copies of form SF-1 by each and every asbestos abatement worker to be utilized on the Project, documenting that each is actively involved in a respirator protection program and has had appropriate training in respiratory protection.
13. Individually signed copies of Certificate of Worker's Release Form SF-2 for each and every asbestos abatement worker to be utilized on the Project.

C. Weekly submittals

1. Copy of executed Sign In/Sign Out Logs for project.
2. Copy of personnel air monitoring results from this project relative to OSHA respiratory protection level compliance.
3. Medical examinations, worker release forms, asbestos certification forms, and respirator training documentation of all new employees to be used on the Project.
4. Receipts from landfill operator that acknowledge the Contractor's deliveries of waste material for each load. Receipts shall include date, quantity of material delivered, a written

description or sketch of location of material in landfill, and signature of authorized representative of landfill.

D. Post-Job Submittals

1. Copy of executed Sign In/Sign Out Logs for project duration.
2. Copy of personnel air monitoring results from this project relative to OSHA respiratory protection level compliance.
3. Submit to MDNR and provide a copy of the Post Notification Submittal to include air clearance test results and waste manifests.
4. Medical examinations, worker release forms, asbestos certification forms, and respirator training documentation of all new employees used on the Project since the pre-job submittal.
5. Receipts from landfill operator that acknowledge the Contractor's deliveries of waste material for each load. Receipts shall include date, quantity of material delivered, a written description or sketch of location of material in landfill, and signature of authorized representative of landfill.

1.08 DELIVERY AND STORAGE

A. Deliver materials in the original packaging bearing the name of the manufacturer and brand name.

B. Store material subject to damage off the ground, away from wet or damp surfaces, and under cover to prevent damage or contamination.

C. Remove from premises all damaged or deteriorating materials. Dispose of materials that have become contaminated with asbestos in accordance with applicable regulatory requirements.

1.09 PERSONNEL PROTECTION

A. Prior to commencement of work, instruct all workers in the appropriate procedures for personnel protection and asbestos removal. Ensure that workers are knowledgeable in these procedures.

B. Acknowledge and agree to sole responsibility for enforcing worker protection requirements at least equal to those specified in this Section.

C. Provide workers with personally issued and marked respiratory equipment approved by NIOSH and OSHA for the type of work being performed.

D. Where respirators with disposable filters are used, provide sufficient filters for replacement as necessary.

E. Provide respiratory protection as required by OSHA 29 CFR 1926.1101 or as more stringently specified herein from the time of the first operation that may disturb the asbestos (including construction of airtight barriers/barricades, and placing of plastic sheeting on walls) until acceptance of final air test results by Asbestos Consultant.

1. Provide a minimum of half-face dual cartridge respirators for workers anytime a possibility for disturbance of the ACM may occur.
2. Provide a minimum of half-face dual cartridge respirators during Class II abatement of floor tile and mastic, roofing materials, ceiling tiles, transite removal, and removal of pipe insulation by the unit wrap or glove bag methods.
3. Provide a minimum of full-face powered air purifying respirators (PAPR) during removal of the ceiling plaster material on wire lath.
4. Provide full face supplied air respirator operated in the pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus for all employees within the regulated area where Class I work is being performed and for which a negative exposure assessment has not been produced.

F. Be solely responsible for scheduling necessary air sampling by an independent testing laboratory for compliance monitoring of abatement workers' respiratory protection with OSHA regulations. Pay for all OSHA testing.

G. Provide workers with sufficient sets of protective disposable clothing, consisting of full-body coveralls, head covers, gloves, and foot covers, of sizes to properly fit individual workers.

H Leave reusable equipment, apparel, and personal protective equipment (excluding respirators) in the contaminated equipment room until the end of the asbestos abatement work, at which time such items shall be disposed of as contaminated waste or decontaminated for reuse.

I. Provide suitable respirators and other personal protective equipment for use by authorized visitors, Owner, Consultant, and Testing Laboratory representatives. Furnish these items in as many sets as required for full-time monitoring by Testing Laboratory.

J. Provide a qualified Independent Testing Laboratory to perform personal monitoring required by OSHA Regulations.

1.10 SCHEDULING OF THE WORK

A. Submit a project schedule prior to the start of work. Conduct a weekly on-site meeting to adjust the schedule and resolve any conflicts.

B. No ACM may be disturbed prior to the end of the required MDNR 10-day notification period.

1.11 SIGN IN/SIGN OUT LOG

A. Contractor shall maintain a sign in/sign out log in the immediate vicinity of the change room of any decontamination area. Log shall be maintained from the time the first activity is performed until acceptance of the final air tests. Designers, owners, government officials shall be required to sign in and out each time upon entering and leaving the controlled area.

B. Permit no visitors, except for governmental inspectors having jurisdiction, or individuals authorized by Consultant and/or Owner, in the work areas from commencement of asbestos disturbance or removal until clearance has been achieved.

PART 2 – PRODUCTS

2.01 MATERIALS

A. **Plastic Sheeting** – Thickness as specified, in sizes to minimize the frequency of joints. Utilize reinforced plastic sheeting of specified thickness as crawl space barriers.

B. **Tape** – Glass fiber or other type capable of sealing joints of adjacent sheets of plastic and for attachment of plastic sheet to finished or unfinished surfaces under both dry and wet conditions.

C. **Surfactant (wetting agent)** – Mixture of "Dust-Set Amended Water Base" (Matheson Chemical Corporation), and water, mixed to Manufacturer's specifications or BWE Removal encapsulant (Better Working Environments, Inc.) mixed to Manufacturer's specifications or equal.

D. **Sealant (encapsulant)** – Manufactured by reputable, established manufacturer of encapsulant materials and approved specifically for use in asbestos-contaminated environment.

E. **Impermeable Containers** – Suitable to receive and retain asbestos-containing or contaminated materials until disposal at an approved site and labelled in accordance with 29 CFR 1926.1101 and 49 CFR 171-172. Containers shall be both air and water tight. Pre-approved types of impermeable containers:

1. Metal or fiber drums with tightly fitting lids, lined with six-mil plastic.
2. Double-bagged six-mil plastic bags.
3. Double wrapped and sealed in six-mil plastic.
4. Plastic lined lockable dumpsters.

F. **Warning Labels and Signs** – As required by OSHA 29 CFR 1926.1101 and DOT 49 CFR 172.

G. **Clothing** – Full-body coveralls including head covers and foot covers of sizes to properly fit individual workers.

2.02 TOOLS AND EQUIPMENT

A. **Sprayer** – Utilize airless or other low-pressure sprayer for amended water and encapsulant application.

B. **Air Filtration Devices (AFDs)** – Provide high efficiency particulate air (HEPA) filtration systems equipped with filters which complies with ANSI 29.2-79, for local exhaust ventilation and work area air filtration. The AFDs shall be capable of maintaining an air pressure differential across the filters equivalent to 0.05 inches of water. Air movement systems or air filtering equipment shall not discharge unfiltered air outside the work area. A sufficient quantity of AFDs (both inside the work area and at work area exhaust) shall be utilized so as to provide full air circulation and one work area air change every 10 minutes.

C. **Scaffolding** – As required to accomplish the specified work and meet all applicable safety regulations.

D. **Transportation** – As required for loading, temporary storage, transit, and unloading of contaminated waste without exposure to persons or property. Use only enclosed or covered trucks or dumpsters to haul waste containers to prevent loss or damage of containers in route to the landfill.

E. **Differential Pressure Recorder** – Capable of producing a continuous strip chart recording of the water column differential pressure in the work area during Class I work. Instrument shall have a visual and an audible alarm, which is activated if diminished pressure differential in work area of 0.02 inch of water, is not maintained.

PART 3 - EXECUTION

3.01 PREPARATION

A. Coordinate sequence of work area preparation throughout Project with Owner, Consultant, Testing Laboratory, and other trades or contractors. Work on this project is to be completed in phases. Schedule all Class I friable work on each floor first, if possible.

B. **CONSTRUCT CENTRAL WET DECONS ON EACH FLOOR** of the building near the entrance to the main access stairwell. Construct worker and barrel/equipment decontamination units in compliance with EPA guidelines concerning number, size and placement of airlocks, etc. Shower in worker decontamination unit shall open into airlocks on both contaminated and uncontaminated sides. Construct decontamination units of appropriate materials including plastic sheeting (to provide airtight barriers) and plywood or other suitable rigid materials to allow continuous diminished pressure to be maintained in work area. Supply sufficient number of baskets or lockers, in worker decontamination unit change or "clean" room, for workers' clothing. Reserve one basket or locker for Testing Laboratory personnel or authorized visitors. Post OSHA decontamination procedures in change room for duration of Project. In decontamination system shower, trap, filter using filters having a pore size of not larger than one micron, and drain shower wastewater into a sanitary sewer. Replace contaminated filters when they become clogged or at least every three days. Dispose of filters as contaminated waste. Contractor may trap and collect shower wastewater in impermeable containers and dispose of as contaminated material, at his option, rather than filtering and draining into sanitary sewer.

SUPPLEMENT THE CENTRAL WET DECONS WITH DRY DECONS at each remote work area where non-friable materials are being abated. A Dry Decon consists of a sheet of clean Poly placed on the ground near the work area. A worker wearing two suits steps on the poly. A second worker HEPA vacuums all dust and debris off the outer suit of each worker for a minimum of 5 minutes making sure they include the area around the respirator seal. The worker then removes the outer suit by rolling it down the body always keeping the dirty side of the suit to the inside (Inside-out). The contaminated suit is placed in a lined drum and the worker proceeds along the designated route to the central decon to shower out.

C. Work Site Preparation Inside Building for Class I Work – Friable Material.
Gross Removal of Asbestos-Containing Surfacing Material, and Friable TSI:

1. Demarcate work area with barrier tape and warning signs.
2. Provide temporary power, water and lighting, as necessary to maintain a safe work environment. No utilities service the property.
3. Isolate the work area. Erect critical barriers to separate work areas from areas where no abatement is occurring.
4. Maintain emergency and fire exits from the work area, or establish alternative exits satisfactory to OSHA and/or fire officials of local jurisdiction.

5. If necessary, pre-clean all surfaces and objects within the work area using HEPA vacuum equipment or wet-cleaning methods as appropriate to access the material to be abated. Do not use methods that raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filtration.

6. Completely seal in plastic all immovable objects in the work area. Remove HVAC system filters and dispose of as contaminated waste.

7. Construct a small wet decon adjoining the work area for all Class I Friable work. Construct worker and barrel/equipment decontamination units in compliance with EPA guidelines concerning number, size and placement of airlocks, etc.

8 Erect curtained doorways or rigid doors with fixed louvers in openings between adjacent areas in work area to minimize fiber dispersal between adjacent areas.

9. Place work area under diminished air pressure with AFDs. Allow no air movement system or air filtering equipment to discharge unfiltered air outside the work area. Maintain an area of diminished pressure on the work area continuously from the start of asbestos removal and until the area has been decontaminated and certified as such by the required air testing. Accomplish the EPA recommended minimum of four air changes per hour in the work area. Exhaust all filtered and discharged air outside the Building.

10. Erect scaffolding or other equipment as necessary to access ACM scheduled for abatement.

11. Notify Asbestos Consultant and Testing Laboratory of work area readiness for observation of the preparation of job site prior to any removal of ACM.

D. Work Site Preparation for Gross Removal of ACM Floors, Class I, Non-friable.

1. Demarcate work area with barrier tape and warning signs.

2. Provide temporary power, water and lighting, as necessary to maintain a safe work environment. No utilities service the property.

3. Isolate the work area. Erect critical barriers to separate work areas from areas where no abatement is occurring.

4. Remove trash and Pre-Clean the work areas as necessary to access the material to be abated using HEPA vacuum equipment or wet-cleaning methods as appropriate. Do not use methods that raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filtration.

5. Maintain emergency and fire exits from the work area, or establish alternative exits satisfactory to OSHA and/or fire officials of local jurisdiction.

6. Preclean immovable objects, within the proposed work areas, using HEPA vacuum equipment or wet cleaning methods as appropriate. Completely seal in plastic all immovable items following cleaning.

7. Construct dry worker and barrel/equipment decon area. The Contractor shall coordinate location of the area and the route to central wet decon with Owner and Consultant.

8 Floor Tile: Remove baseboards and fixtures where present to access floor tile edges, and cover interior walls to a minimum height of four feet with one layer of four mil plastic sheeting as a splash guard during removal of floor mastic (full wall height if required by regulations or floor tile will be made friable by the removal method). If ceiling tile is to be

abated from the same area; construct barriers full height. Glue and tape in such a manner to prohibit water movement at all joints in plastic sheeting.

9. Demonstrate that Floor Tile can be removed generally intact or place work area under diminished air pressure with local exhaust ventilation. Allow no air movement system or air filtering equipment to discharge unfiltered air outside the work area. Maintain an air of diminished pressure on the work area continuously (24 hours per day) from the start of asbestos removal, until the area has been decontaminated and certified as such by the required air testing. Maintain a minimum of 0.02 inch of water equivalent diminished air pressure. Exhaust all filtered and discharged air outside the building away from any air intake devices.
10. Ensure that all barriers and plastic enclosures remain effectively sealed and taped for duration of asbestos removal and subsequent cleaning. Repair damaged barriers and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period. Use smoke methods to test effectiveness of barriers.
11. Notify the AMEC on site representative of work area readiness for observation of the preparation of job site prior to disturbing any ACM.

E. Work Site Preparation for Gross Removal of Ceiling Tile with ACM Glue Pucks, Class I, Non-friable.

1. Demarcate work area with barrier tape and warning signs.
2. Provide temporary power, water and lighting, as necessary to maintain a safe work environment. No utilities service the property.
3. Isolate the work area. Erect critical barriers to separate work areas from areas where no abatement is occurring.
4. Remove trash and pre-clean the work areas if necessary using HEPA vacuum equipment or wet-cleaning methods as appropriate to access the material to be abated. Do not use methods that raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filtration.
5. Maintain emergency and fire exits from the work area, or establish alternative exits satisfactory to OSHA and/or fire officials of local jurisdiction.
6. Preclean immovable objects, within the proposed work areas, using HEPA vacuum equipment or wet cleaning methods as appropriate. Completely seal in plastic all immovable items following cleaning.
7. Construct dry worker and barrel/equipment decon area. The Contractor shall coordinate location of the area and route to central wet decon with Owner and Consultant.

8 Ceiling Tile: Erect scaffolding or other equipment as necessary to access ACM ceiling material scheduled for abatement.

9. Non-asbestos ceiling tile may be removed and disposed of as general construction waste provided the tile do not have asbestos-containing glue attached.
10. Demonstrate Glue pucks can be removed generally intact or place work area under diminished air pressure with local exhaust ventilation. Allow no air movement system or air filtering equipment to discharge unfiltered air outside the work area. Maintain an air of diminished pressure on the work area continuously (24 hours per day) from the start of asbestos removal and until the area has been decontaminated and certified as such by the required air testing. Maintain a minimum of 0.02 inch of water equivalent diminished

air pressure. Exhaust all filtered and discharged air outside the building away from any air intake devices.

11. Ensure that all barriers and plastic enclosures remain effectively sealed and taped for duration of asbestos removal and subsequent cleaning. Repair damaged barriers and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period. Use smoke methods to test effectiveness of barriers.
12. Notify AMEC on site representative of work area readiness for observation of the preparation of job site prior to disturbing ACM glue pucks.

E. Work Site Preparation for Glove Bag or Unit Wrap Removal of ACM Insulated Pipe Insulation.

1. Demarcate work area with barrier tape and warning signs.
2. Provide temporary power, water and lighting, as necessary to maintain a safe work environment. No utilities service the property.
3. Isolate the work area. Erect critical barriers to separate work areas from areas where no abatement is occurring
4. Pre-clean the immediate work area using HEPA vacuum equipment or wet-cleaning methods as appropriate. Do not use methods that raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filtration.
5. Pre-clean immovable objects, within the proposed work areas, using HEPA vacuum equipment or wet cleaning methods as appropriate. Completely seal, in plastic, all immovable items following cleaning.
6. Construct dry worker and barrel/equipment decon area. The Contractor shall coordinate location of the area and route to central wet decon with Owner and Consultant.
7. Cover floor with a layer of six-mil plastic for use as a drop cloth.
8. Notify the AMEC on site representative for observation of the preparation of jobsite prior to disturbing any ACM.

F. Work Site Preparation for Removal of ACM roofing Materials and Transite Louvers.

1. Demarcate work area with barrier tape and warning signs.
2. Provide temporary power, water and lighting, as necessary to maintain a safe work environment. No utilities service the property.
3. Remove ballasts as necessary to access the ACM roofing material and to avoid contamination by the abatement. Do not use methods that raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filtration.
4. Construct dry worker and barrel/equipment decon area. The Contractor shall coordinate location of the area and route to central wet decon with Owner and Consultant.
5. Cover adjacent roof areas with a layer of six -mil plastic for use as a work area.
6. Notify the AMEC on site representative for observation of the preparation of jobsite prior to any removal of ACM.

3.02 ASBESTOS REMOVAL

A. Remove and properly dispose of all ACM indicated to be removed as described in the Contract Documents in accordance with the methods and procedures outlined in the OSHA Asbestos Regulations (Code of Federal Regulations Title 29, Part 1926, Section 1926.1101) or as more stringently specified herein.

B. Gross Removal of Surfacing Material, and Friable TSI, Class I:

1. Prepare work areas as previously specified.
2. Spray ACM to be removed with amended water, using spray equipment recommended by surfactant manufacturer and that is capable of providing a "mist" application to reduce the release of fibers. Wet the material sufficiently to penetrate. Maintain wet condition of the ACM, but do not use excessive amounts of amended water.
3. Contractor shall be solely and completely, financially and otherwise responsible for all damage caused by using excess water throughout the removal operation.
4. Remove the wetted ACM in small sections. Do not allow material to dry out. As it is removed, place material, saturated with amended water or removal encapsulant, in two layers of plastic of six-mil minimum thickness, or in sealable plastic bags (2) of six-mil minimum thickness and label containers for transport.
5. Ensure that all barriers and plastic enclosures remain effectively sealed and taped for duration of asbestos removal and subsequent cleaning. Repair damaged barriers and remedy defects immediately upon discovery. Visually inspect enclosures at the beginning of each work period. Use smoke methods to test effectiveness of barriers.
6. Following removal of the ACM thoroughly clean exposed substrate, and notify AMEC on site representative to schedule visual observation and clearance air monitoring.

C. Gross Removal of ACM Floors, Class I, Non-friable.

1. Prepare work areas as previously specified.
2. Spray areas of ACM with amended water, using spray equipment recommended by surfactant manufacturer and that is capable of providing a "mist" application to reduce the release of fibers. Wet the material sufficiently to penetrate without causing damage to the substrate. Maintain wet condition of the ACM, but do not use excessive amounts of amended water.
3. Contractor shall be solely and completely, financially and otherwise responsible for additional work caused by using excess water throughout the removal operation.
4. Remove the wetted asbestos flooring material in large pieces with minimum breakage. Do not allow material to dry out. As it is removed, place material, saturated with amended water or removal encapsulant, in sealable plastic bags (2) of six-mil minimum thickness and place in labelled containers for transport.
5. Use amended water and/or mastic solvent as appropriate to remove floor tile mastic. Continue to remove mastic until all build-up of material is gone from the substrate. It may be necessary to use scrapers, brooms, and/or a mechanical floor scrubber to achieve the required cleanliness.

6. Remove wetted ceiling tiles and place in bags. Wet scrape glue pucks behind ceiling tile from substrate.
7. Following removal of the ACM, notify the AMEC on site representative to schedule preliminary visual observation and clearance air monitoring.

D. Gross Removal of Ceiling Tile with ACM Glue Pucks, Class I, Non-friable.

1. Prepare work areas as previously specified.
2. Spray areas of ACM with amended water, using spray equipment recommended by surfactant manufacturer and that is capable of providing a "mist" application to reduce the release of fibers. Wet the material sufficiently to penetrate without causing damage to the substrate. Maintain wet condition of the ACM, but do not use excessive amounts of amended water.
3. Contractor shall be solely and completely, financially and otherwise responsible for all damage caused by using excess water throughout the removal operation.
4. Remove the wetted Ceiling tile in large pieces with minimum breakage. Do not allow material to dry out. As it is removed, place material, saturated with amended water or removal encapsulant, in sealable plastic bags (2) of six-mil minimum thickness and place in labelled containers for transport.
5. Use amended water and/or mastic solvent as appropriate to remove floor tile mastic. Continue to remove mastic until all build-up of material is gone from the substrate. It may be necessary to use scrapers, brooms, and/or a mechanical floor scrubber to achieve the required cleanliness.
6. Remove wetted ceiling tiles and place in bags. Non-asbestos ceiling tile may be removed and disposed of as general construction waste provided the tile do not have asbestos-containing glue attached.
7. Wet scrape glue pucks behind ceiling tile from substrate.
8. Following removal of the ACM, notify AMEC the onsite representative to schedule preliminary visual observation and clearance air monitoring.

E. Glove Bag Removal of ACM Pipe Insulation.

1. Install critical barriers and decontamination units for the work area.
2. Clean all surfaces and objects in the work area using wet-cleaning or HEPA vacuuming procedures as appropriate.
3. Cover the soil, floors and objects in the work area which are within ten feet of a work location with a minimum of one layer of six-mil plastic sheeting.
4. Provide a diminished air pressure glove bag enclosure using EPA protocol outlined below.
    a. Tape a poly flap, inside the bag over an opening cut into the bag to enable make-up air to enter the bag without allowing it to leave.

b. Attach the bag to the pipe using approved methods. If the size of the pipe warrants it, a small rigid plastic collar should be inserted into the bag to ensure that the bag does not collapse when diminished air pressure is created. Insert all of the necessary tools and equipment into the bag prior to its being sealed. Smoke test installed glove bag.

c. Create a diminished air pressure within the glove-bag by using small HEPA-filtered vacuum unit and maintain throughout the use of the bag.

d. Remove ACM insulation and clean the piping using normal engineering controls, including amended water, during the removal process.

e. Spray encapsulant onto the exposed piping surfaces and ends of adjoining sections of insulation.

f. Remove diminished air pressure containment bag by an approved method and treat as asbestos-containing waste. Each bag shall be used only once.

5. Following removal of the ACM, notify the AMEC on site representative to schedule visual observation and clearance air monitoring.

F. Unit Wrap Removal of ACM Pipe Insulation

1. Prepare work area in the same manner that you prepare the area for glove bag removal.
2. Remove pipe and insulation using the following procedure:
   a. Wrap the pipe and insulation, even if encased in a jacket, with two layers of six mil poly.
   b. Glove bag 12 inches of insulation from each major bend in the pipe or approximately every 12 feet or less of pipe run, and at any other location where the pipe will be cut.
   c. Treat the exposed end of the insulation with encapsulant while it is still in the glove bag and cover with duct tape.
   d. Cut pipe in bare area.
   e. Cover the entire pipe with a layer of six mil poly including the ends of the pipe and label as asbestos.
3. Following removal of the ACM, notify the AMEC on site representative to schedule visual observation and clearance air monitoring

G. Removal of ACM Roofing Materials

1. Prepare work areas as previously specified.
2. Spray ACM to be removed with amended water, using spray equipment recommended by surfactant manufacturer and that is capable of providing a "mist" application to reduce the release of fibers. Wet the material sufficiently to penetrate. Maintain wet condition of the ACM, but do not use excessive amounts of amended water.
3. Remove roofing intact if possible. For asbestos flashing removal when the roof field is non-ACM, cut non-asbestos roof field beyond flashing to minimize potential for fiber release. Slice asphalt-based asbestos roofing flashing material into sections that can be handled. Use of power cutting tools is permitted if the material can be kept wet at the point of cutting or the dust can be controlled by HEPA vacuum attachment.

4. Remove the wetted asbestos material in small sections. Do not allow material to dry out. As it is removed, place material, saturated with amended water or removal encapsulant, in lined dumpster with two layers of plastic of six-mil minimum thickness, or in sealable plastic bags (2) of six-mil minimum thickness and label containers for transport.
5. Following removal of the ACM thoroughly clean exposed substrate with HEPA vacuum, and notify AMEC on site representative to schedule visual observation and clearance air monitoring.

H. Removal of Transite Louver Materials

1. Prepare work areas as previously specified.
2. Spray ACM to be removed with amended water, using spray equipment recommended by surfactant manufacturer and that is capable of providing a "mist" application to reduce the release of fibers. Wet the material sufficiently to penetrate. Maintain wet condition but do not use excessive amounts of amended water.
3. Remove Transite intact if possible. Cut nail heads if necessary to remove with minimum breakage.
4. Remove the wetted asbestos material in small sections. Do not allow material to dry out. As it is removed, place material, saturated with amended water or removal encapsulant, in two layers of plastic of six-mil minimum thickness, or in sealable plastic bags (2) of six-mil minimum thickness and label containers for transport.
5. Following removal of the ACM thoroughly clean exposed substrate with HEPA vacuum, and notify AMEC on site representative to schedule visual observation and clearance air monitoring.

3.03 OBSERVATIONS

A. Asbestos Consultant or his representative will periodically observe the status and progress of the Work for completeness and general compliance with the requirements of the Contract Documents. Notify Consultant at least 24 hours in advance of the need and readiness for such observations. Should advance notice not be given to Designer, Designer will make reasonable effort to comply with time of requested observations. Any delay in the completion of the Project caused by lack of advance notice by Contractor to Consultant shall not be sufficient cause for any extension of time or extension of the Project completion deadline

B. The AMEC Representative will perform daily work observations. The following observations will be conducted at a minimum:
1. Following complete preparation of work areas and prior to proceeding with actual removal.
2. Final inspection prior to tear down of containment.
3. Upon completion of work.

3.04 CLEANUP OF WORK AREA

A. Clean Up:
1. Remove all visible accumulations of ACM or contaminated material and debris.

2. Clean all surfaces in the work area.
3. Clean all sealed impermeable containers and all equipment (excluding that needed for further cleaning) used in the work area and remove from work area via the equipment decontamination enclosure system.
4. Notify the AMEC on site representative for observation of initial cleaning to determine completeness. Re-clean areas that are not completely cleaned.
5. After a settling period perform second cleaning of all horizontal surfaces in work area and immediately adjacent areas.
6. Notify AMEC on site representative to schedule visual observation of final cleaning to determine completeness for encapsulation application.

3.05 CLEARANCE TESTING

A. Standard of Cleaning for Clearance

1. The work area and all other decontaminated areas and cleaned areas shall be considered ready for final clearance when all material has been removed, the area is visibly clean and free of debris, and air testing shows fiber concentrations equal to or less to 0.01 fibers per cubic centimeter of air (f/cc) for all clearance test samples based on a minimum of five air samples collected in each work area. Preliminary Clearance air testing shall be performed by the Testing Laboratory using the NIOSH 7400 Method for Phase Contrast Microscopy (PCM).

B. Initial Observations and Testing:

1. Areas which do not comply with the standard of cleaning for clearance shall continue to be cleaned by and at the Contractor's expense until the specified standard of cleaning is achieved as evidenced by visual observation and results of air sampling tests accepted by Testing Laboratory as previously specified.
2. Following successful compliance with the standard of cleaning, apply one coat of approved encapsulant to all floor and wall plastic in work area using misting, spraying and pumping equipment, as recommended by the encapsulant material manufacturer. Encapsulant shall be mixed and applied in accordance with manufacturer's instructions.
3. Notify Testing Laboratory of readiness of work area for observation of encapsulant application for completeness and air testing.
4. Upon notice from Contractor that work area and all other contaminated and cleaned areas are ready for Clearance Testing, the Testing Laboratory will collect multiple samples per work area to test for the Phase I Clearance Level of 0.01 fibers per cubic centimeter of air (f/cc).

C. Final Observation and Testing:

1. Upon notice from the Testing Laboratory that the Initial Clearance level has been achieved, remove any wall and floor plastic and dispose of as contaminated waste. Do not remove critical barriers or plastic sheeting covering penetrations to areas outside of the work area.
2. A final observation of the cleaning work of this Section will be performed by Testing Laboratory and deficiencies reported to the contractor. When the contractor achieves the visual standard of cleaning, the Testing Laboratory will collect multiple samples per work area to test for the Final Clearance by TEM according to the AHERA protocol. Testing will be analyzed on standard turn around basis.
4. When Final Clearance is achieved and observation by Testing Laboratory visually determines that the areas have been decontaminated, the decontamination enclosure system shall be removed, the areas thoroughly cleaned, and materials from the equipment room and decon disposed of as contaminated waste. The remaining barriers between contaminated and clean areas and all seals over openings into the work area shall be removed and disposed of as contaminated waste.

D. Payment for Testing Services

1. The Consultant will supply up to 100 regular shifts (Monday through Friday) of air testing, including initial and final air clearance testing required by the Contract Documents. When initial and final clearance tests indicate noncompliance with the Contract Documents, subsequent retesting will be performed by the same testing Laboratory, and all associated costs will be paid by the Contractor.
2. When additional testing is required; due to a breach in the containment, Contractor non-compliance with the Contract Documents, overtime, or failure to complete the work within the allotted shifts subsequent and additional testing shall be performed by Asbestos Air Monitoring Professional and all associated costs will be paid by the Abatement Contractor.

3.06 DISPOSAL OF CONTAMINATED WASTE

A. Remove sealed and labelled containers of contaminated material and wastes and dispose of in approved sanitary landfill as follows:

1. Asbestos may be temporarily stored on site in locked containers or on a poly drop cloth within building in designated areas with proper demarcation and labelling.
2. Treat, package, label, and dispose of asbestos-containing waste material in accordance with 40 CFR 61 and 49 CFR 171 and 172.
3. Use only enclosed or covered vehicles to haul impermeable containers to prevent loss or damage to containers enroute to landfill.
4. Allow only sealed plastic bags or impermeable containers to be deposited in landfill. Leave damaged, broken, or leaking plastic bags in the impermeable container and deposit entire container in landfill.
5. Ensure that there are no visible emissions to air from site where materials and waste are deposited.

6. Contractor may recycle uncontaminated impermeable containers.

3.07 STANDARD FORMS

A. The following special standard forms for the Contractor's use and reference in documenting the Project are attached:

1. SF-1, Respirator Training Certification
2. SF-2, Certificate of Worker's Release

RESPIRATOR TRAINING CERTIFICATION

PROJECT _____

_____

I hereby certify that I have been trained in the use of each type of respiratory protection equipment required for use on this Project. The training included the following:

1. Explanation of dangers related to misuse.
2. Instruction on putting on, fitting, testing and wearing the respirator.
3. Instruction on inspection, cleaning and maintaining respirator.
4. Instruction on emergency situations.

I further certify that I understand the use, care and inspection of the respirator and have tested and worn the unit.

Social Security No.: xxx-xx-xxxx

Name (print or type): _____

Signed: _____

(Submit one copy for each employee prior to starting work)

AMEC Environment & Infrastructure, Inc.
15933 Clayton Road, Suite 215
St. Louis, Missouri 63011

CERTIFICATE OF ASBESTOS WORKER'S RELEASE

TO: _____

In consideration of my employment by _____(Contractor) in connection with the removal and disposal of asbestos and lead-based paint, or other work in lead or asbestos-contaminated work areas, and in consideration of the sum of ONE AND NO/100 DOLLAR ($1.00) and other good and valuable consideration in hand paid, at and before the sealing and delivery of these presents, the receipt, sufficiency, and adequacy of which are hereby acknowledged, the undersigned does hereby acknowledge, warrant, represent, covenant, and agree as follows:

1. I acknowledge and understand that I have been or will be employed in connection with removal of, disposal of, or other work in asbestos-contaminated work areas, and I acknowledge that I have been advised of and I understand that dangers inherent in handling asbestos and breathing asbestos dust, including, but not limited to, THE FACT THAT ASBESTOS CAN CAUSE ASBESTOSIS AND IS A KNOWN CARCINOGEN AND CAN, THEREFORE CAUSE VARIOUS TYPES OF CANCER.

2. I acknowledge and understand that ANY CONTACT WITH ASBESTOS, WHETHER IT CAN BE SEEN OR NOT, MAY CAUSE ASBESTOSIS AND VARIOUS FORMS OF CANCER, WHICH MAY NOT SHOW UP FOR MANY YEARS, and I covenant and agree faithfully to take all precautions required of me.

3. I knowingly assume all risks in connection with potential exposure to asbestos, and I do hereby covenant not to sue, and to release and forever discharge the Owner, Consultant, Testing Laboratory or consultants employed by the Owner, Consultant, or Testing Laboratory and all of their directors, officers, employees, nominees, personal representatives, affiliates, successors, and assigns for, from and against any and all liability whatsoever, at common law or otherwise, except any rights which I may have under the provision of the applicable workmen's compensation laws. Except as specifically set forth herein I hereby waive and relinquish any and all claims of every nature which I now have or may have or claim to have which are in any way, directly or indirectly, related to exposure to asbestos and asbestos-containing materials.

4. I hereby warrant and represent that I can read the English language, or that I have had someone read this instrument to me, and that I understand the meaning of all the provisions contained herein.

Social Security No.: xxx-xx-xxxx

Name (print or type): _____

Signed: _____

Appendix A

Figures

LEGEND

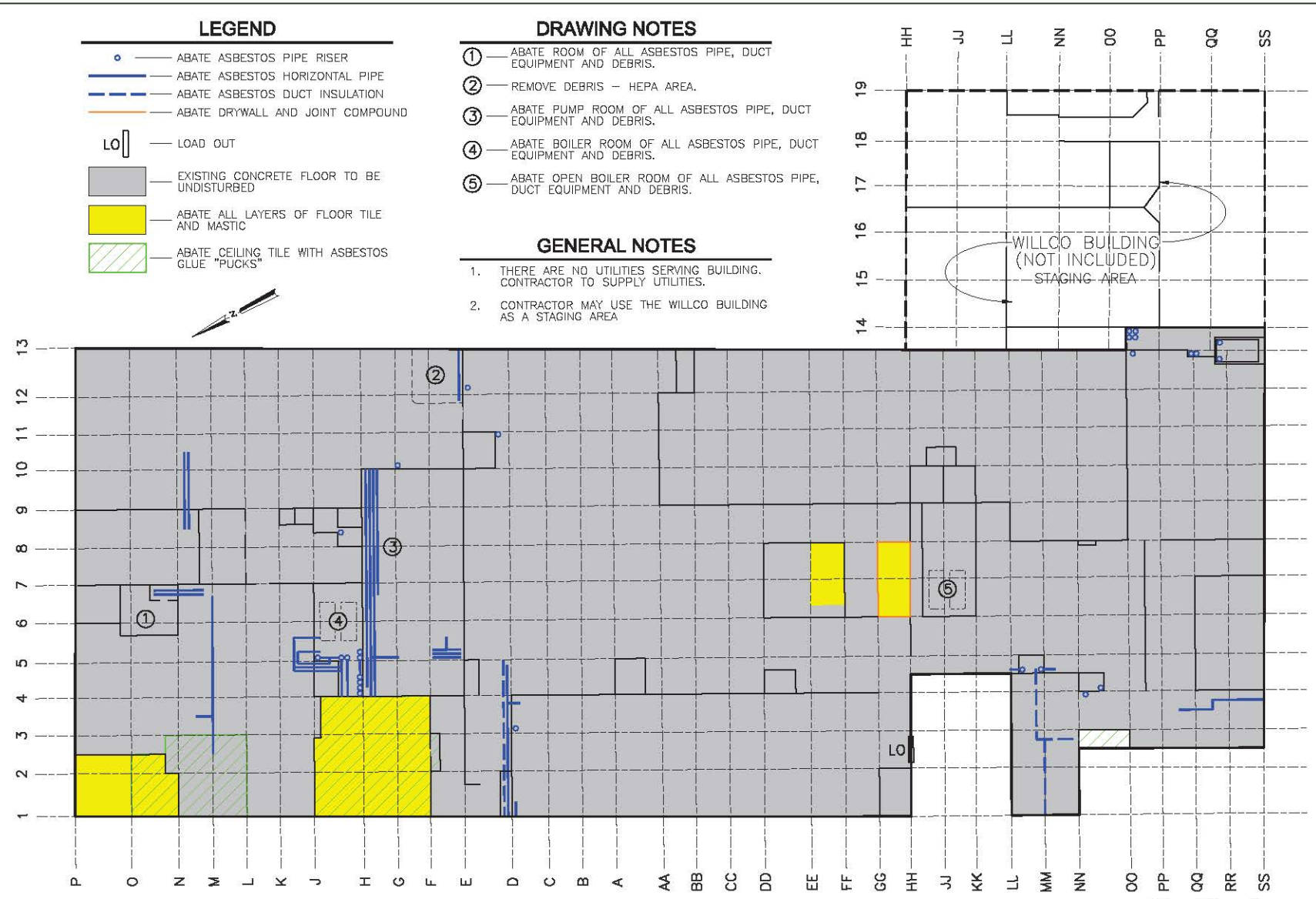
- ABATE ASBESTOS PIPE RISER
- ABATE ASBESTOS HORIZONTAL PIPE
- ABATE ASBESTOS DUCT INSULATION
- ABATE DRYWALL AND JOINT COMPOUND
- LO — LOAD OUT
- EXISTING CONCRETE FLOOR TO BE UNDISTURBED
- ABATE ALL LAYERS OF FLOOR TILE AND MASTIC
- ABATE CEILING TILE WITH ASBESTOS GLUE "PUCKS"

DRAWING NOTES

1. ABATE ROOM OF ALL ASBESTOS PIPE, DUCT EQUIPMENT AND DEBRIS.
2. REMOVE DEBRIS – HEPA AREA.
3. ABATE PUMP ROOM OF ALL ASBESTOS PIPE, DUCT EQUIPMENT AND DEBRIS.
4. ABATE BOILER ROOM OF ALL ASBESTOS PIPE, DUCT EQUIPMENT AND DEBRIS.
5. ABATE OPEN BOILER ROOM OF ALL ASBESTOS PIPE, DUCT EQUIPMENT AND DEBRIS.

GENERAL NOTES

1. THERE ARE NO UTILITIES SERVING BUILDING. CONTRACTOR TO SUPPLY UTILITIES.
2. CONTRACTOR MAY USE THE WILLCO BUILDING AS A STAGING AREA



FIRST FLOOR PLAN

EN-1

DWN BY: DKD
CHK'D BY: JKH
SCALE: NOTED

ACM Abatement
ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site
2840 North Spring Avenue
St. Louis, Missouri 63107

ASBESTOS ABATEMENT
FIRST FLOOR

CLIENT:

amec

AMEC Environment & Infrastructure
16933 Clayton Road, Suite 215
St. Louis, Missouri 63011

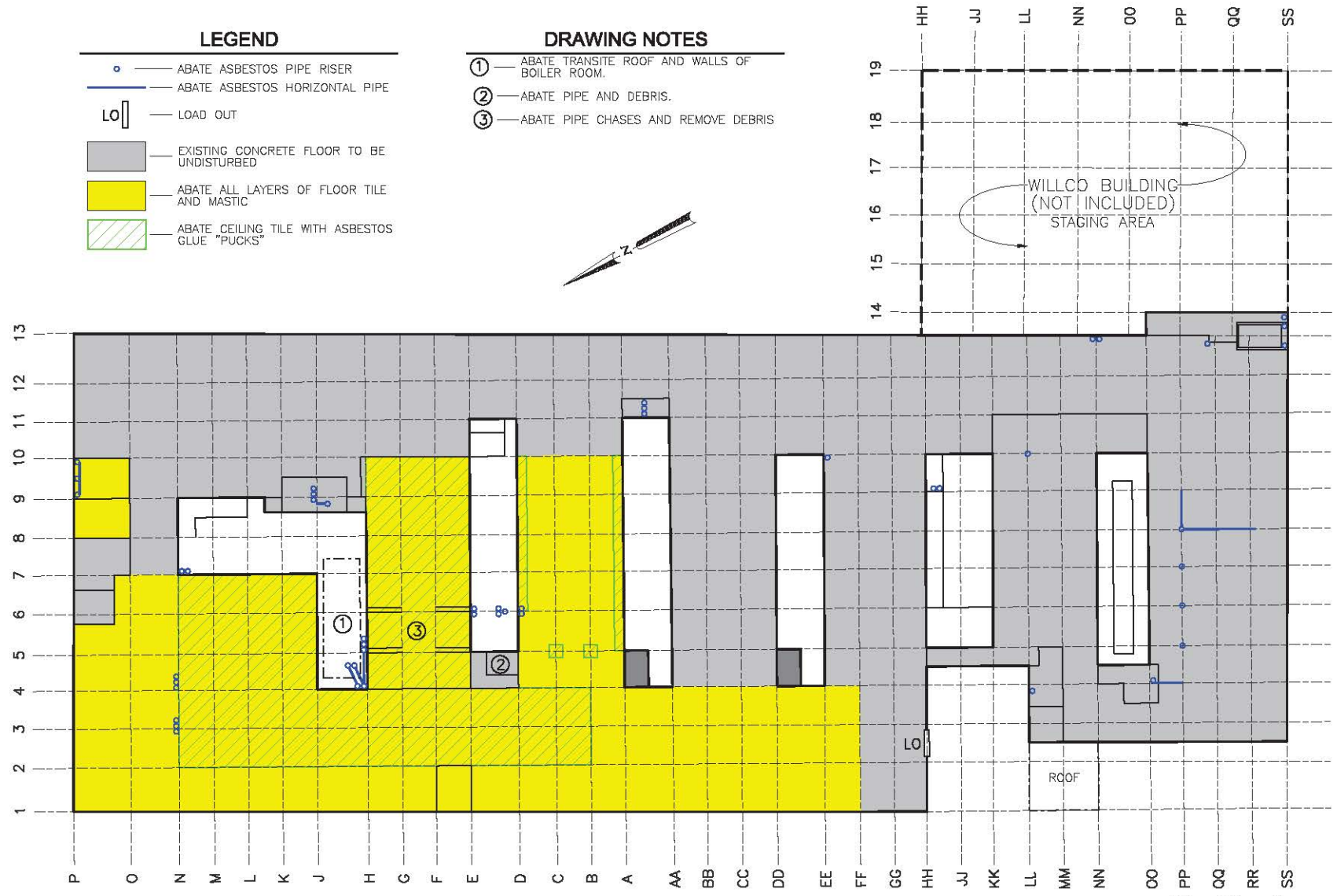
DATE: January 2014
PROJECT NO: 242413183.001.0009
REV. NO.: 0
FIGURE No. EN-1

LEGEND

- ABATE ASBESTOS PIPE RISER
- ABATE ASBESTOS HORIZONTAL PIPE
- LO — LOAD OUT
- EXISTING CONCRETE FLOOR TO BE UNDISTURBED
- ABATE ALL LAYERS OF FLOOR TILE AND MASTIC
- ABATE CEILING TILE WITH ASBESTOS GLUE "PUCKS"

DRAWING NOTES

1. ABATE TRANSITE ROOF AND WALLS OF BOILER ROOM.
2. ABATE PIPE AND DEBRIS.
3. ABATE PIPE CHASES AND REMOVE DEBRIS



SECOND FLOOR PLAN

EN-2

DWN BY: DKD
CHK'D BY: JKH
SCALE: NOTED

ACM Abatement
ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site
2840 North Spring Avenue
St. Louis, Missouri 63107

ASBESTOS ABATEMENT
SECOND FLOOR INTERIOR

CLIENT:

amec

AMEC Environment & Infrastructure
16933 Clayton Road, Suite 215
St. Louis, Missouri 63011

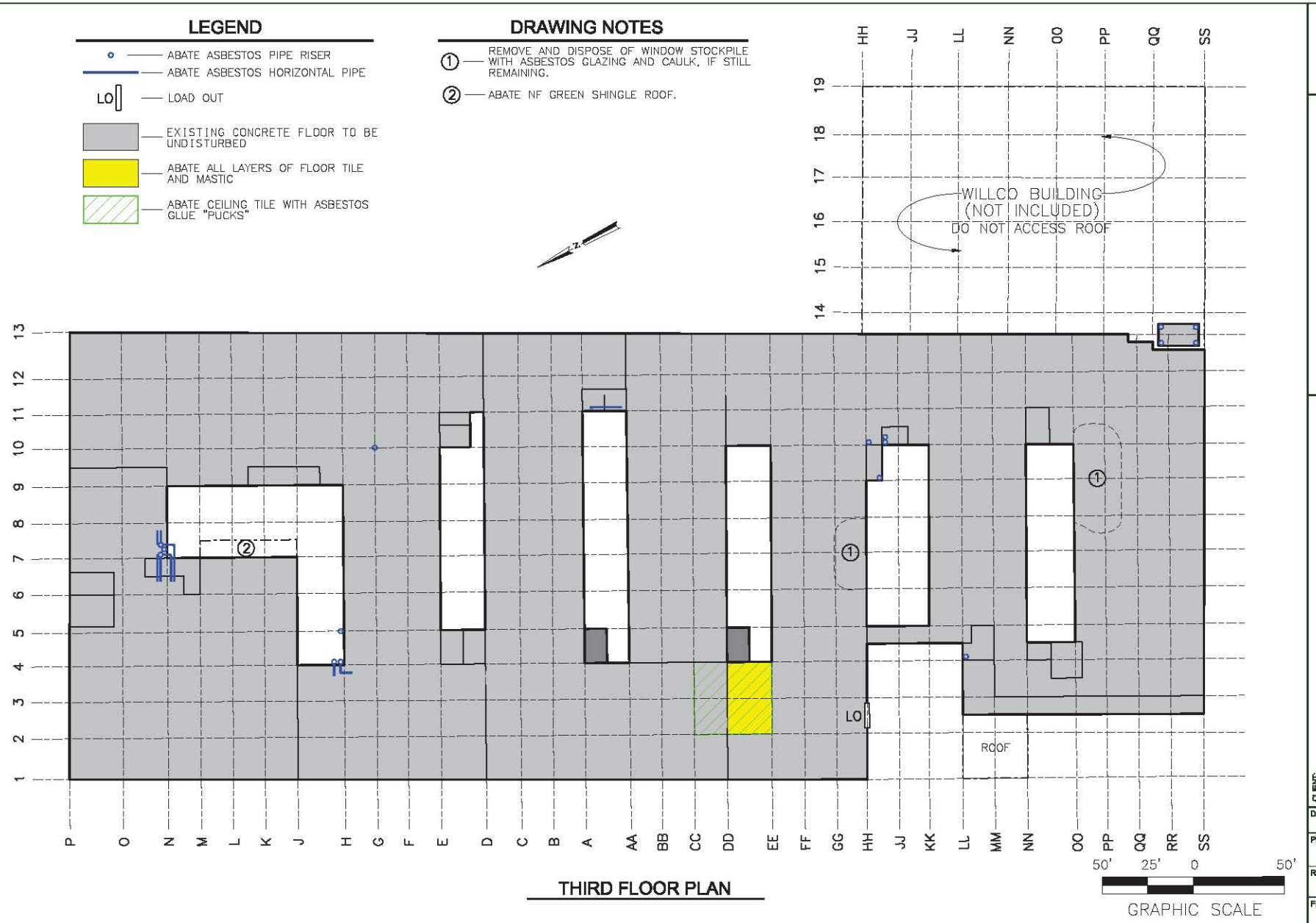
DATE: January 2014
PROJECT NO: 242413183.001.0009
REV. NO.: 0
FIGURE No. EN-2

LEGEND

- ABATE ASBESTOS PIPE RISER
- ABATE ASBESTOS HORIZONTAL PIPE
- LO — LOAD OUT
- EXISTING CONCRETE FLOOR TO BE UNDISTURBED
- ABATE ALL LAYERS OF FLOOR TILE AND MASTIC
- ABATE CEILING TILE WITH ASBESTOS GLUE "PUCKS"

DRAWING NOTES

1. REMOVE AND DISPOSE OF WINDOW STOCKPILE WITH ASBESTOS GLAZING AND CAULK, IF STILL REMAINING.
2. ABATE NF GREEN SHINGLE ROOF.



THIRD FLOOR PLAN

EN-3

DWN BY: DKD
CHK'D BY: JKH
SCALE: NOTED

ACM Abatement
ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site
2840 North Spring Avenue
St. Louis, Missouri 63107

ASBESTOS ABATEMENT
THIRD FLOOR INTERIOR

CLIENT:

AMEC Environment & Infrastructure
16933 Clayton Road, Suite 215
St. Louis, Missouri 63011

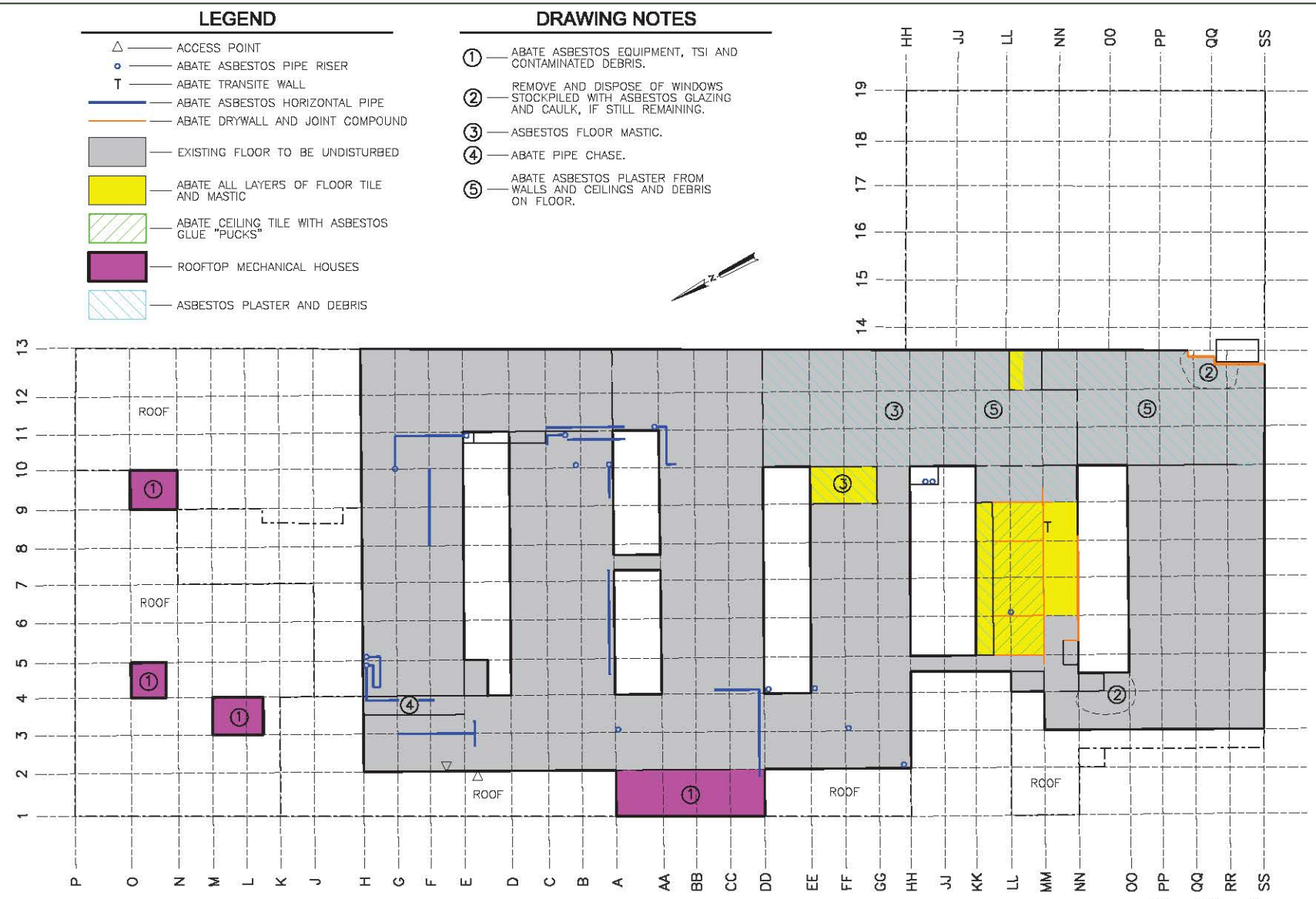
DATE: January 2014
PROJECT NO: 242413183.001.0009
REV. NO.: 0
FIGURE No. EN-3

LEGEND

- △ — ACCESS POINT
- ○ — ABATE ASBESTOS PIPE RISER
- T — ABATE TRANSITE WALL
- ABATE ASBESTOS HORIZONTAL PIPE
- ABATE DRYWALL AND JOINT COMPOUND
- EXISTING FLOOR TO BE UNDISTURBED
- ABATE ALL LAYERS OF FLOOR TILE AND MASTIC
- ABATE CEILING TILE WITH ASBESTOS GLUE "PUCKS"
- ROOFTOP MECHANICAL HOUSES
- ASBESTOS PLASTER AND DEBRIS

DRAWING NOTES

1. ABATE ASBESTOS EQUIPMENT, TSI AND CONTAMINATED DEBRIS.
2. REMOVE AND DISPOSE OF WINDOWS STOCKPILED WITH ASBESTOS GLAZING AND CAULK, IF STILL REMAINING.
3. ASBESTOS FLOOR MASTIC.
4. ABATE PIPE CHASE.
5. ABATE ASBESTOS PLASTER FROM WALLS AND CEILINGS AND DEBRIS ON FLOOR.



FOURTH FLOOR PLAN

50' 25' 0 50'

GRAPHIC SCALE

EN-4

DWN BY: DKD
CHK'D BY: JKH
SCALE: NOTED

ACM Abatement
ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site
2840 North Spring Avenue
St. Louis, Missouri 63107

ASBESTOS ABATEMENT
FOURTH FLOOR

CLIENT:

amec

AMEC Environment & Infrastructure
16933 Clayton Road, Suite 215
St. Louis, Missouri 63011

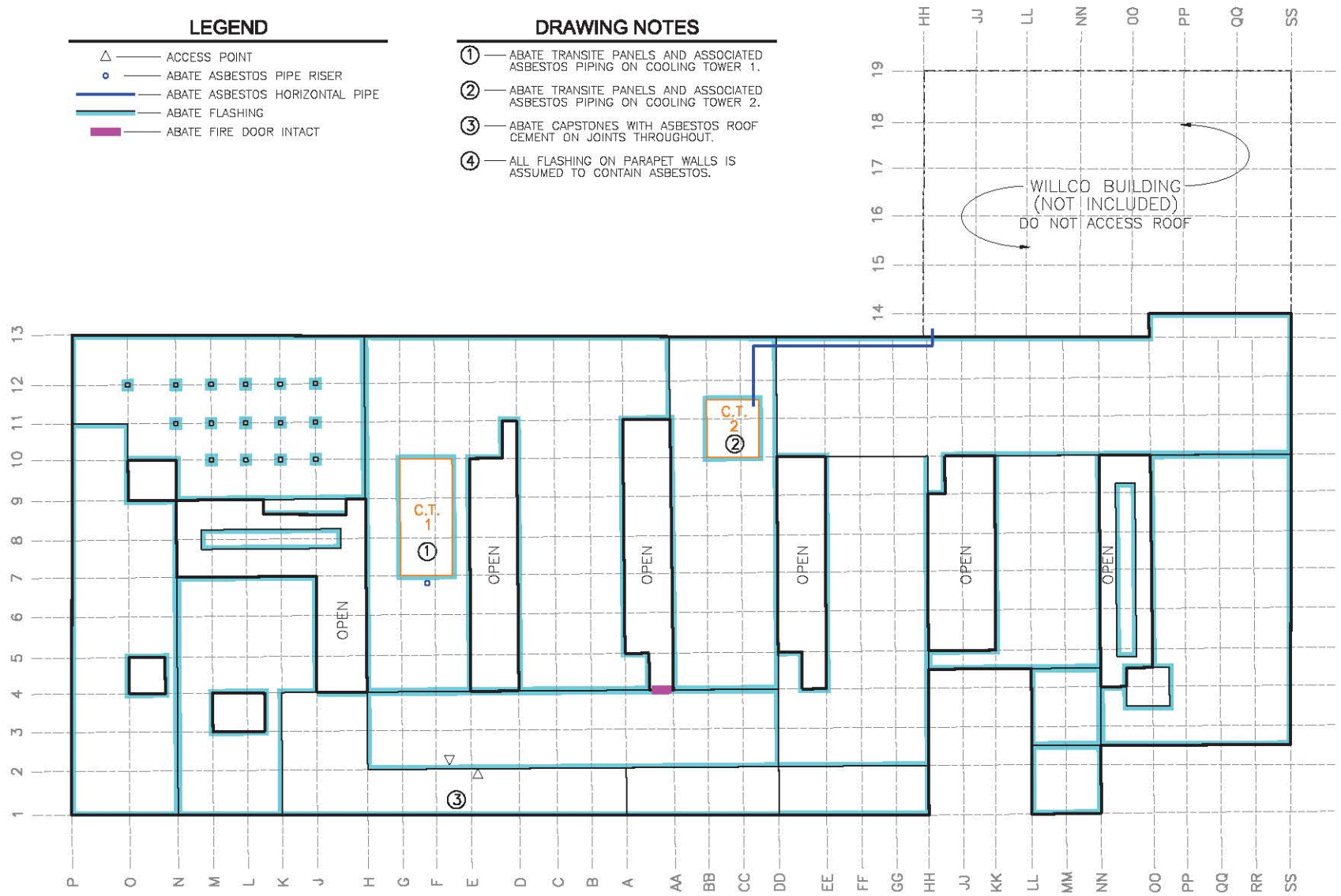
DATE: January 2014
PROJECT NO: 242413183.001.0009
REV. NO.: 0
FIGURE No. EN-4

LEGEND

- △ — ACCESS POINT
- ○ — ABATE ASBESTOS PIPE RISER
- ABATE ASBESTOS HORIZONTAL PIPE
- ABATE FLASHING
- ABATE FIRE DOOR INTACT

DRAWING NOTES

1. ABATE TRANSITE PANELS AND ASSOCIATED ASBESTOS PIPING ON COOLING TOWER 1.
2. ABATE TRANSITE PANELS AND ASSOCIATED ASBESTOS PIPING ON COOLING TOWER 2.
3. ABATE CAPSTONES WITH ASBESTOS ROOF CEMENT ON JOINTS THROUGHOUT.
4. ALL FLASHING ON PARAPET WALLS IS ASSUMED TO CONTAIN ASBESTOS.



EN-5

DWN BY: DKD
CHKD BY: JKH
SCALE: NOTED

ACM Abatement
ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site
2840 North Spring Avenue
St. Louis, Missouri 63107

CLIENT:

ASBESTOS ABATEMENT
ROOF PLAN

amec

AMEC Environment & Infrastructure
15933 Clayton Road, Suite 215
St. Louis, Missouri 63011

DATE: January 2014

PROJECT NO: 242413183.001.0009

REV. NO.: 0

FIGURE No. EN-5

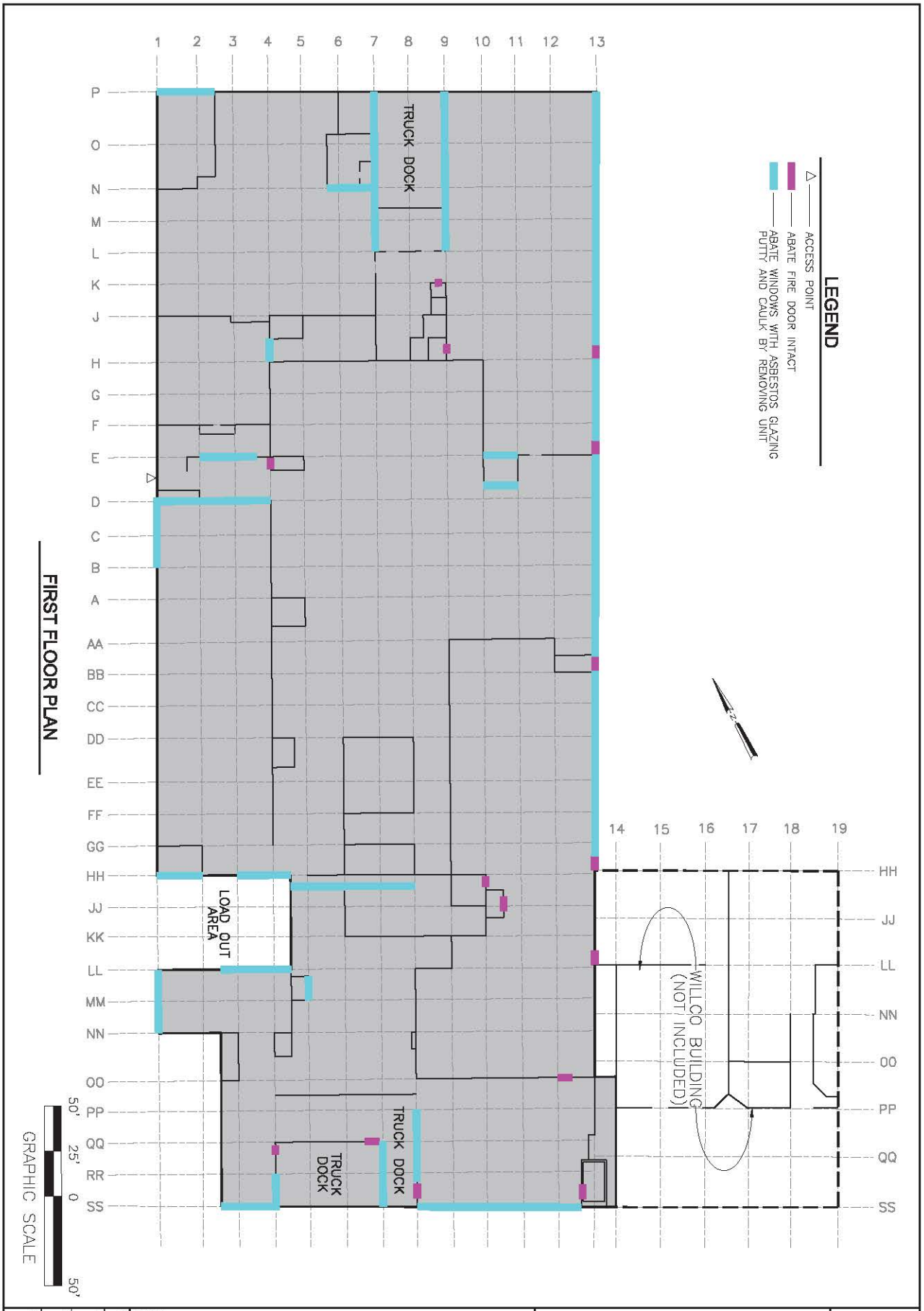


FIGURE No.: EN-6	REV. NO.: 0	PROJECT NO.: 242413183.001.0009	DATE: January 2014

CLIENT:

ASBESTOS ABATEMENT
FIRST FLOOR - BUILDING ENVELOPE

AMEC Environment & Infrastructure
15933 Clayton Road, Suite 215
St. Louis, Missouri 63011

amec

ACM Abatement
ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site
2840 North Spring Avenue
St. Louis, Missouri 63107

EN-6

DWN BY:	DKD
CHK'D BY:	JKH
SCALE:	NOTED

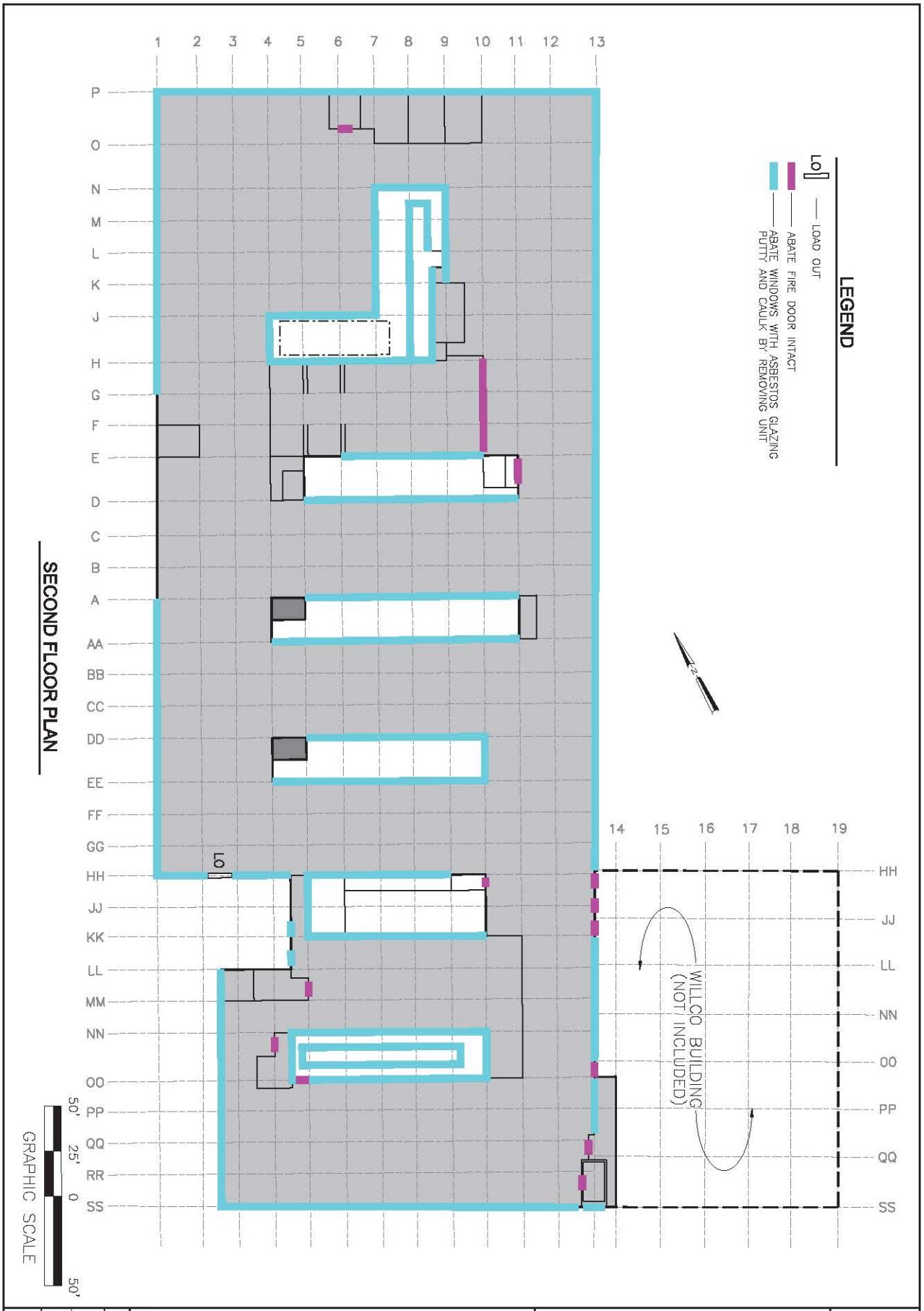


FIGURE No.: EN-7	REV. NO.: 0	PROJECT NO.: 242413183.001.0009	DATE: January 2014

CLIENT:

ASBESTOS ABATEMENT
SECOND FLOOR - BUILDING ENVELOPE

AMEC Environment & Infrastructure
15933 Clayton Road, Suite 215
St. Louis, Missouri 63011

amec

ACM Abatement
ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site
2840 North Spring Avenue
St. Louis, Missouri 63107

EN-7

DWN BY: DKD
CHK'D BY: JKH
SCALE: NOTED

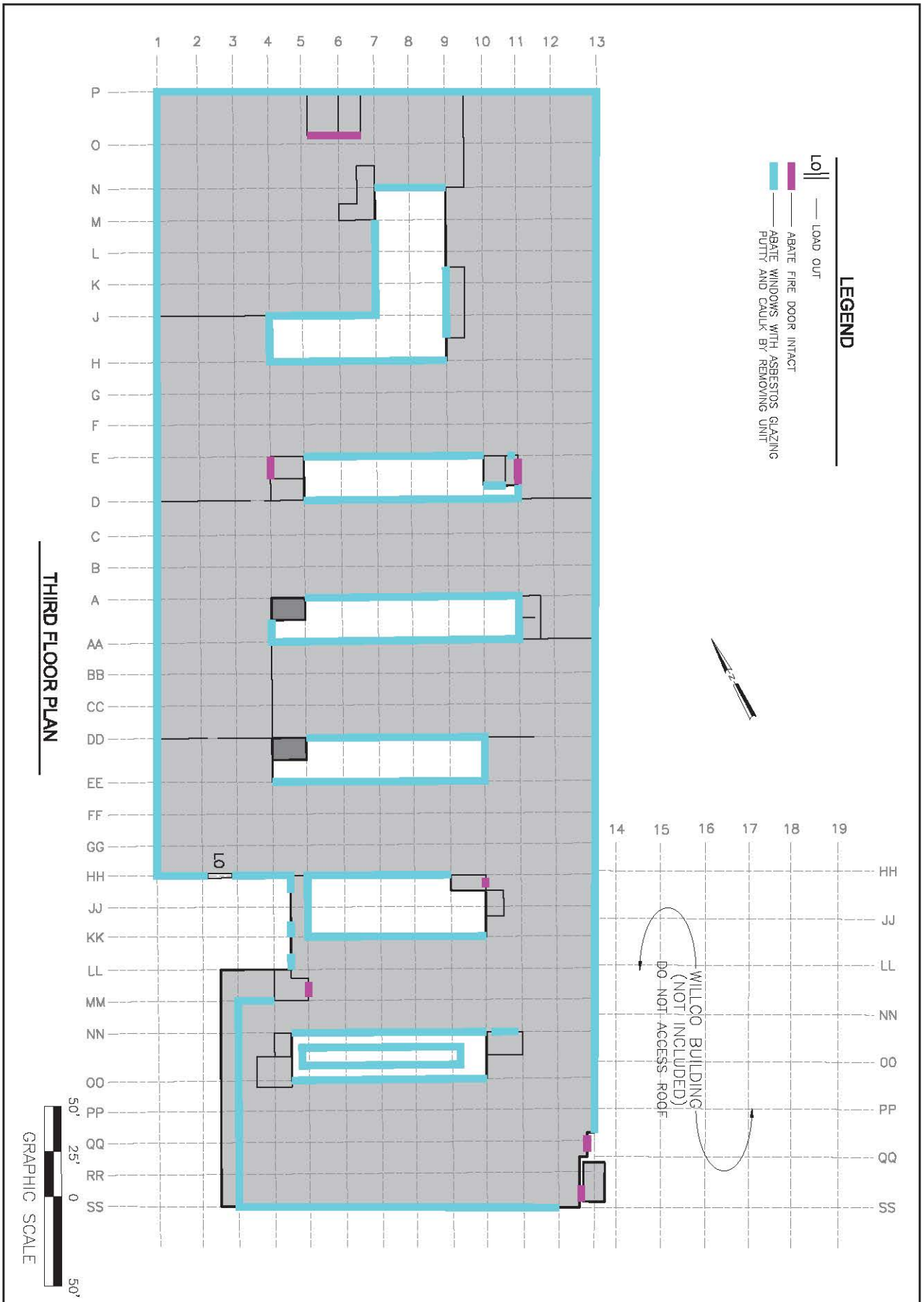


FIGURE No.: EN-8	CLIENT: ASBESTOS ABATEMENT THIRD FLOOR - BUILDING ENVELOPE	ACM Abatement ASA CERCLA 07-2013-008 Carter Carburetor Superfund Site 2840 North Spring Avenue St. Louis, Missouri 63107	EN-8
REV. NO.: 0	AMEC Environment & Infrastructure 15933 Clayton Road, Suite 215 St. Louis, Missouri 63011		DWN BY: DKD
PROJECT NO.: 242413183.001.0009	amec		CHKD BY: JKH
DATE: January 2014			SCALE: NOTED

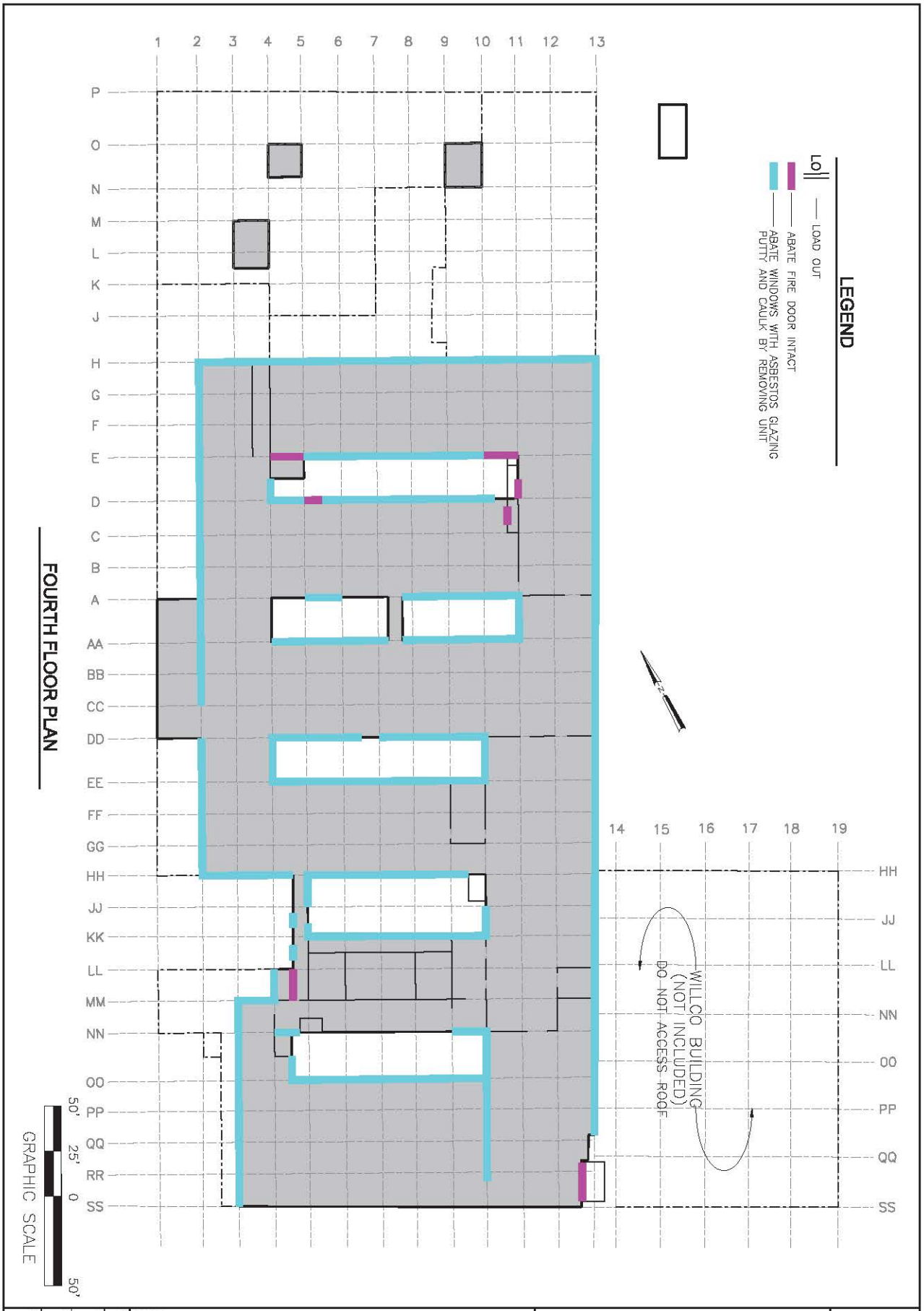


FIGURE No.: EN-9	REV. NO.: 0	PROJECT NO.: 242413183.001.0009	DATE: January 2014

CLIENT:

ASBESTOS ABATEMENT
FOURTH FLOOR - BUILDING ENVELOPE

AMEC Environment & Infrastructure
15933 Clayton Road, Suite 215
St. Louis, Missouri 63011

ACM Abatement
ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site
2840 North Spring Avenue
St. Louis, Missouri 63107

EN-9

DWN BY:	DKD
CHKD BY:	JKH
SCALE:	NOTED

Appendix B

Photographic Log

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
JKH

Date: 1/21/2014

Location:
1PP-18

Comments:
P-5 – Willco Building Interior Building can be used for staging and storage.

Photographer:
JKH

Date: 1/21/2014

Location:
1J-6

Comments:
P-6 – Enclosed Boiler room with asbestos breeching.

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
JKH

Date: 1/21/2014

Location:
1J 6

Comments:
P-7 – Enclosed boiler room Remove asbestos contaminated equipment and debris to access asbestos Thermal system Insulation

Photographer:
JKH

Date: 1/21/2014

Location:
2J 6

Comments:
P-8- Boiler room is enclosed with Transite roof and wall panels.

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
JKH

Date: 1/21/2014

Location:
Pump Room

Comments:
P-9– Insulated duct and piping in pump room area

Photographer:
JKH

Date: 1/21/2014

Location:
1J1-1F4

Comments:
P-10 – office area first floor

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
JKH

Date: 1/21/2014

Location:
Close-up

Comments:
P-11 – Typical fire door installation

Photographer:
JKH

Date: 1/21/2014

Location:
Open Boiler Room, 1J 6

Comments:
P-12 – "Open" Boiler Room Area is no longer enclosed. Remove asbestos insulation and asbestos-contaminated debris.

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
JKH

Date: 1/21/2014

Location:
2 B 7

Comments:
P-13 – Asbestos glue "pucks" behind ceiling tiles mounted to wall are similar to those on the ceilings. Floor tile and mastic also to be removed. Windows with asbestos glazing and putty are part of the building envelope.

Photographer:
JKH

Date: 1/21/2014

Location:
2 F 5

Comments:

P-14 – Plumbing fixtures removed from restrooms. Floor debris must be removed to access floor tile and piping in chases.

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
JKH

Date: 1/21/2014

Location:
3 GG 7

Comments:
P-15 – Windows removed by others from load out locations are stockpiled in building. Window caulks and glazing putty is ACM.

Photographer:
JKH

Date: 1/21/2014

Location:
2 NN 5

Comments:

P-16 – Several open light wells have roofs and windows at lower elevations in the building.

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
JKH

Date: 1/21/2014

Location:
4 HH 11, South

Comments:
P-17 – Main cafeteria Asbestos plaster falling from ceiling has resulted in considerable asbestos debris on the floor.

Photographer:
JKH

Date: 1/21/2014

Location:
4 HH 11, North

Comments:
P-18- Damaged asbestos-ceiling plaster is hanging down.

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
J. Hampel

Date: 1/21/2014

Location:
4 BB 2

Comments:
P-19 – Rooftop mechanical house. Equipment removed. Debris on floor is contaminated with asbestos ceiling plaster and TSI

Photographer:
J. Hampel

Date: 1/21/2014

Location:
R M 3, Rooftop House I

Comments:
P-20- Asbestos insulation and hard joints is in poor condition. All debris and equipment is assumed contaminated.

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
J. Hampel

Date: 1/21/2014

Location:
R O 4, Rooftop House II

Comments:
P-21 – Rooftop mechanical house. Insulation board on duct is layered Transite and AirOCell.

Photographer:
J. Hampel

Date: 1/21/2014

Location:
CT-1

Comments:
P-22- Main Cooling Tower has asbestos louvers and pipe insulation

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
J. Hampel

Date: 1/21/2014

Location:
CT-2

Comments:
P-23 –Cooling Tower 2 has asbestos louvers and pipe insulation

Photographer:
J. Hampel

Date: 1/21/2014

Location:
R O 5

Comments:
P-24- Roof capstones have asbestos cement on all of the joints. Flashing material and roof cements at parapet walls are ACM.

AMEC Environment & Infrastructure, Inc.
Photographic Record

Project: **ACM Abatement** **Project Number: 242413183.001.0009**

Site Name: ASA CERCLA 07-2013-008
Carter Carburetor Superfund Site

Site Location: 2840 North Spring Avenue
St. Louis, Missouri

Photographer:
J. Hampel

Date: 1/21/2014

Location:
R D 3

Comments:
P-25 –Residual roof cements are present on parapet walls behind newer roof flashings. Assume this is typical of all roofs.

Photographer:
J. Hampel

Date: 1/21/2014

Location:
Load Out

Comments:
P-26- Load out area on spring street.