



Asbestos & Mold Services, LLC

Mold Remediation Protocol

Prepared For:

**15644 Connie Lane
Montgomery, Texas 77316**

Prepared By:

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As Directed By:

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February 19, 2020

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Expiration: 7/22/2021

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1.0 SUMMARY OF WORK

1.1 WORK DESCRIPTION AND LOCATION

- A. The work of this contract will occur in the following affected areas: Kitchen and front room. The work will be performed at 15644 Connie Lane, Montgomery, Texas 77316. The exact dates of the removal have yet to be determined. AMS estimates less than 25 square feet of mold will need to be removed therefore state notification is not required. If during remediation additional square footage of mold is discovered, work will cease and the state licensed mold remediation contractor will file the required notification forms with the state. An additional estimate per square foot for any additional mold found will need to be included in the contractor's bids. The moisture problems in the affected areas will need to be fully identified and resolved prior to the reinstallation of new building materials that are removed during the remediation process.
- B. AMS ran one air quality sample inside the property and one sample was taken outside for comparison. Elevated levels of the toxic mold *Penicillium/Aspergillus* was detected on the inside air quality samples as compared to the outside control sample. Results indicate there is a problem with the air quality as related to mold inside the tested area of the property at this time. High abundance of the toxic molds *Penicillium/Aspergillus* and *Chaetomium* were detected on a swab of mold taken from the visible mold on the kitchen island.

- C. The color codes on the site removal diagram if applicable to this report are as follows: entire cabinet removal areas are shaded in purple and all of the manufactured flooring in the front room must be removed. Based on the air and bulk samples AMS recommends an airtight containment constructed of 6 Millimeter polyethylene sheeting be placed on the floor and walls to contain the affected areas to prevent the release of mold spores to other areas of the property. Once containments are constructed AMS recommends the areas marked the site removal diagram be removed to two feet past any visible mold growth, moisture, water stains and/or water damage. Any mold contaminated drywall or insulation found inside any other miscellaneous/adjacent/adjoining wall, floor or ceiling cavities needs to be removed and disposed of even if not marked on the site removal diagram.
- D. After all the affected areas are thoroughly inspected for mold and cleaned accordingly an EPA approved biocide needs to be applied inside all the removal areas to kill any remaining mold spores. After 24 hours is allowed for the biocide to dry an encapsulant specifically designed for mold encapsulation needs to be applied on all the affected areas. High Efficiency Particulate Air (HEPA) scrubbers shall be placed in all containments and surrounding areas to filter any airborne mold spores that may have been disturbed during the remediation procedure. AMS recommends a minimum of 100 air changes per unit for the air to be properly cleaned.
- E. All interior surfaces and heavy contents (furniture, desks, bed frames etc.) in the containment not removed from the remediation area shall be wet wiped or HEPA vacuumed to remediate any mold that may have been disturbed during the remediation procedure or any mold adhered to the contents that were present prior to the remediation action. All porous surfaces not removed shall be HEPA vacuumed. All heavily mold damaged items may need to be discarded.
- F. Clearance shall be achieved upon receipt of air samples where the interior sample mold counts are below the outside control sample mold count and that the visual inspection conducted by the licensed mold consultant is deemed satisfactory and that no visible mold remains.
- G. The work will consist of cleaning or removing any and all materials that have been or may have been contaminated with mold. See Section 3.8 for preparation, removal, and post remediation assessment procedures. Please see the work area locations indicated on the attached Site Removal Diagram.
- H. Owner refers to property as 15644 Connie Lane, Montgomery, Texas 77316

1.2 GENERAL REQUIRMENTS

Confirm and coordinate the following general requirements with the Owner:

- A. Utilities: Contractor may temporarily connect to existing permanent utilities during execution of the work. Make connections in locations designated by owner. All plumbing connections between owner's utilities and the contractor's facilities shall be with industrial strength tubing or hose, or hard piped. Remove connections and all extensions of utilities at project completion. Owner will pay the cost of water and power consumed.
- B. Storage Space: Owner will provide limited storage space. Utilize part of the



building space designated by owner for storage. Supply any additional temporary storage required for storage of equipment and materials for the duration of the project.

- C. Building Occupancy: The owner will ensure the work areas are not occupied during the entire remediation project. Coordinate all activities with the owner to ensure no conflicts with activities that may be occurring in the area during the scheduled work period.
- D. Working Hours will be from 8:00am till 5:00pm, Monday through Friday, unless additional hours and days are approved or requested by Owner.
- E. Parking is available at the project location. Park in areas designated by owner.
- F. Security: Maintain personnel on the site at all times when any portion of the work areas are open or not properly secured. Completely secure work areas at the end of each working day. Coordinate work area security with the owner.
- G. Segregation of Work Areas: Segregate the work areas from surrounding building areas with visual barriers for the duration of the work. Obtain owner's approval of materials to be used for segregation.
- H. Pre-Job Damage Survey of Facility
 - 1. Perform a thorough survey of all work areas at the project location with Owner prior to starting the work in order to document existing damage. Items identified on this list will not be the responsibility of contractor unless further damaged by contractor during execution of the project.
 - 2. Consider any damage to property at the project location not identified in the pre-job damage survey as having resulted from execution of these work procedures and correct at no additional expense to owner.
- I. Clean Up at Completion of Work
 - 1. Dismantle and dispose of all construction barriers erected to isolate the work areas only after clearance for re-occupancy has been achieved.
 - 2. Leave all areas visibly clean.

1.3 EXISTING CONDITIONS

- A. Existing conditions are reflected correctly to the best of owner's knowledge, modification to work shall be made as required at no additional expense to owner should minor conditions be encountered which are not exactly as indicated.
- B. Contractor is advised that the locations of all fungal contamination in the designated work areas may not have been completely identified and that contractor shall proceed with caution in all phases of the work. Additional fungal contamination may be uncovered during the course of the work. Owner may



direct contractor to include this uncovered material in the work at an agreed upon price.

1.4 OBSERVATIONS

- A. Owner or consultant may observe the status and progress of the work for completeness and general compliance with the requirements of these remediation specifications.
- B. Contractor will notify owner or consultant at least four hours in advance of the need and readiness for observations. Do not proceed until such observations by owner or consultant are performed and/or have been given verbal approval to proceed.

2.0 SUBMITTALS

2.1 GENERAL

- A. Make submittals in a timely manner and at appropriate time to allow for review by owner or consultant. Revise and resubmit, as necessary. The work may not proceed until approved by Owner or consultant.
- B. Pre-job submittals can be reviewed on-site by owner or consultant prior to the start of work.

2.2 PRE-JOB SUBMITTALS

- A. Insurance certificate issued to owner by contractor's insurance carrier listing all coverage's required by the Owner. The owner and consultant shall be named as additional insured on all certificates.
- B. Any building permits as required by the applicable municipality for the construction or demolition work required during the progress of the work.
- C. Company or contractor license issued by the Texas Depart of State Health Services or documentation that such license is pending.
- D. Documentation that each employee to be utilized on the Project has had instruction on the hazards of fungal exposure, protective equipment, and on all aspects of work procedures and protective measures regarding fungus removal. This can be a statement from a company officer with a list of employees or individual employee statement letters.
- E. Certification that the air filtration system to be utilized meets the requirements of the Remediation Specifications.

2.3 POST-JOB SUBMITTALS

Submit the attached Certificate of Completion (SF-1) to the Owner upon completion of fungal remediation in the areas designated in the Remediation Specifications.



2.4 OWNER'S OR MOLD ASSESSMENT CONSULTANT REVIEW

- A. Partial submittals may be rejected for non-compliance with the remediation specifications.
- B. Review by owner or consultant does not relieve the contractor from responsibility for errors that may exist in the submitted data.
- C. Make revisions when required by owner or consultant and resubmit for review.

3.0 FUNGUS REMOVAL

3.1 GENERAL

- A. Perform all planning, administration, execution, and cleaning necessary to safely remove and dispose of fungal-contaminated material.
- B. Approval of or acceptance by owner or consultant of various construction activities or methods proposed by contractor does not constitute an assumption of liability either by owner or consultant for inadequacy or adverse consequences of said activities or methods.

3.2 WORK INCLUDED

- A. General items include but are not necessarily limited to:
 - 1. Coordination with owner for use of building utilities.
 - 2. Preparation of the work areas as specified in these specifications.
 - 3. Performance of incidental mechanical and electrical work necessary for conducting the work.
 - 4. Clean up of the work areas as specified elsewhere.
- B. Remediation Area. The following are the area requiring remediation under containment. See the attached diagram or document for location of affected areas in the building:
- C. Mechanical items include but are not limited to:
 - 1. Incidental mechanical work not specified herein but necessary for the successful execution of the work as set forth in the Remediation Specifications.
 - 2. Temporary mechanical work necessary to comply with Removal Work Procedures. Remove temporary mechanical work installed and correct any damage to property at completion of project.
- D. Electrical items include but are not limited to:



1. Installation of temporary lighting and power necessary to perform the work of the remediation specifications. All tie-ins to the Owner's electrical system are to be performed by a licensed electrician. All materials and equipment required shall be:
 - a. Approved by Underwriters Laboratories and so labeled.
 - b. For wire and cable, marked as required by Article 310-10 National Electrical Code.
 - c. Installed by mechanics skilled in their trades, working under the direct supervision of competent experienced foremen or superintendents.
 - d. Installed in compliance with all applicable Occupational Safety and Health Administration and city electrical codes.
2. Installation of Ground Fault Circuit Interrupter (GFCI) panels for contractor's equipment or use of UL-approved in -line systems.
3. Decontaminate and remove all temporary lighting and other temporary electrical items after removal of fungal-contaminated material in the work areas. Correct any damage to property that is not part of fungus remediation.

3.3 DEFINITIONS

- A. The following definitions pertain to these remediation specifications.
 1. Air lock - A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways separated by a distance of approximately 3 feet, such that one passes thru one doorway into the airlock, allowing the doorway sheeting to close off the opening before proceeding though the second doorway, thereby preventing flow-thru contamination.
 2. Critical Barrier - Seal applied to openings connecting work areas with adjacent spaces that will not be included in the containment. 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.
 3. Fixed or Immovable Objects - a unit of equipment or furniture in the work areas that cannot be removed from the work areas.
 4. HEPA Filter - a High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97 percent of particulate material of 0.3 microns or greater in size.



5. HEPA Vacuum - a vacuum equipped with a HEPA -filtration system.
6. HFU - HEPA filtering unit generally used to create a reduced air pressure within containment with the intake placed inside the containment and the exhaust directed to the outside atmosphere. Both the intake and exhaust are generally located within the containment when unit is operated in re-circulation mode for removal of airborne particulate after remediation work is completed bur prior to final clearance testing.
7. MSHA - Mine Safety and Health Administration.
8. NIOSH - National Institute for Occupational Safety and Health.
9. OSHA - Occupational Safety and Health Administration.
10. Plastic Sheeting - Plastic sheet material of 6-mil.specified thickness used for protection of walls, floors, etc., and used to seal opening into the work areas.
11. Removal - The act of removing contaminated materials from the structure under properly controlled conditions to a suitable disposal site.
12. Work area - Area or areas of project, which will undergo remediation or are contaminated based on the scope of work.

3.4 QUALIFICATIONS FOR PERFORMANCE OF WORK

- A. The remediation contractor will maintain an on-site project superintendent/head foreman to direct fungus removal at all times work is in progress.
- B. Use only trained personnel experienced in removing fungus contamination in the work area.

3.5 PERSONNEL PROTECTION

- A. Prior to commencement of work, instruct all workers in the appropriate Procedures for personnel protection and fungus 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 or MSHA for the type of work being performed.
- D. Provide sufficient cartridges for replacement, as necessary, when respirators with disposable cartridges are used.



- E. Provide respirator protection at all times during remediation of fungal contamination in the work areas. The minimum acceptable respiratory protection used for this project shall be the half-face respirators with combination N-95 particulate and organic vapor filter cartridges (protection factor of 10) for workers during HEPA vacuuming and wet wipe down of all areas in the work areas.
- F. Permit no visitors, except those authorized by Owner, in the work areas after commencement of cleaning in the work areas.
- G. Leave reusable equipment, apparel and protection devices (excluding respirators) in the contaminated equipment room until the end of the remediation work, at which time such items shall be disposed of or decontaminated for reuse.

3.6 MATERIALS

- A. Plastic Sheeting - Utilize plastic sheeting of 6-mil. Minimum thickness in sizes to minimize the frequency of joints. Use of "spray-on poly" is not permitted.
- B. Tape - glass fiber or other tape 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. Cleaning solution - light detergent solution approved by the EPA in kitchen or food related areas.
- D. Other Materials - provide all other materials, such as lumber, nails and hardware that may be required to construct and dismantle the decontamination system and the barriers that isolate the work areas.

3.7 TOOLS AND EQUIPMENT

- A. Provide suitable tools for removal of fungal contamination:
 - 1. Air Purifying equipment - for exhausting HEPA filtered air to outside of building from Work Areas or internal re-circulation in the Work Areas. Verify that no internal air movement system or purification equipment exhausts contaminated air from inside the work areas into uncontaminated areas.
 - 2. Transportation - as required for loading, temporary storage, transit, and unloading of contaminated waste without exposure to persons or property.
 - 3. Half-Face Air Purifying Respirator (APR) Equipment - negative pressure, half-face air purifying respirators approved by NIOSH or MSHA with combination cartridges for particulate and organic vapor protection.



B. The following tools are not suitable for fungal-contaminated material removal operations and are prohibited from the work areas:

1. Utility Water Hose and spray Attachments
2. Brooms
3. Pressure washers.

3.8 GENERAL PREPARATION, REMOVAL, AND POST REMEDIATION ASSESSMENT PROCEDURES

A. General Work Areas Preparation:

1. Coordinate sequence of work area preparation with Owner or consultant to properly segregate work areas from areas that must remain fully or partially operational. Contractor shall get the Owner's or consultant approval of work areas enclosure, and personnel and equipment decontamination chambers, prior to start of abatement activities.
2. The work areas will include cleaning by HEPA vacuuming and wet wiping of all walls, cabinets, furniture and all existing contents. Once the rooms and all remaining contents in the work area have been cleaned, the areas that will not be included in the abatement activities will be covered with a minimum of one layer of 6-mil (or equivalent) polyethylene sheeting.
3. Install critical barriers over all openings in work area containments.
4. Place one layer of 6 mil plastic sheeting over floor.
5. One air lock will be installed per work area containment for access and egress.
6. Install fire extinguishers in Work Areas per NFPA recommendations and the requirements of OSHA Safety and Health Standards.
7. Maintain emergency and fire exits from the work areas.
8. Provide temporary power and lighting as necessary to maintain safe and comfortable work environment. Owner will supply normal water and electric utilities.
9. Set up barriers to prevent inadvertent entry of personnel into remediation area.

B. Removal of and cleaning of fungal contaminated materials:

1. Construct a sealed containment in accordance with Section 3.8 A of this document.
2. Place a minimum of one HEPA filtration negative air units continuously circulating under negative pressure within each work area containment. If the containment exceeds 1,000 square feet additional 2000 Cubic feet per minute (CFM) HEPA filtration air units may be required per containment. Or additional HEPA filtration negative air units will be needed to filter the containment areas based on the cubic feet per minute (CFM) to achieve 100 air changes based on the square footage of the containment area or areas before clearance for re-occupancy can be achieved. The needed CFM is to be calculated by the remediation contractor.
3. The built-in cabinets/metal shelving shall be inspected for visible mold and cleaned, wet wiped and treated with an anti-fungal agent. All removed walls are to be wet wiped and treated with an anti-fungal agent. All other drywall to be removed will be as noted. All insulation in the remediation areas will also need to be removed.

C. Clean Up.

1. Clean visible dust from all exposed surfaces as visible dust will result in clearance testing failure.
2. Damp-wipe plastic sheeting on floor and roll up. HEPA- vacuum areas.
3. Clean all equipment used in the work areas prior to removal from Work Areas.
4. Notify Owner or Consultant or observation of cleaning to determine completeness.
5. Notify Owner or Consultant for collection of clearance air samples.

D. Post Remediation Assessment.

1. When notified by the Contractor that the Work Areas have been cleaned and damp-wiped and the containments of been removed, the consultant, if required by Owner, will visually survey the work areas for the presence of particulate matter on surfaces. The contractor will be required to conduct additional HEPA vacuuming and damp wiping if the work area is not adequately cleaned as determined by the consultant.
2. When cleaning is deemed complete by the consultant, he/she will collect clearance air samples to determine the effectiveness of the fungus removal and cleaning of the work area. Air sampling



will be accomplished using spore traps (Air-O-Cell Cassettes or similar). The air samples will be submitted to an appropriate laboratory for analysis.

3. Air samples will be collected from the work area and from outside the building for comparison purposes. The results of the inside samples will be compared to the outside results. The cleanliness of the work area will be considered acceptable if the inside fungal spore concentrations do not exceed the outside spore concentrations or as determined acceptable by the consultant.
4. Additional cleaning will be required by the contractor at his own expense if any work area does not pass clearance. Additional testing by the consultant will be conducted at the contractor's expense.
5. The contractor's job will be considered complete when the consultant issues a passed clearance report to the Owner and contractor.

3.9 FIELD QUALITY CONTROL.

- A. The Owner or IAQ consultant will perform visual observations after final clean up to determine the presence of visible fungal contamination in the work areas.
- B. Perform additional cleaning at no additional expense to Owner, if based on the Owner or IAQ consultant's final visual observation, cleaning is determined to be inadequate.



CERTIFICATE OF COMPLETION (SF-1)

TO: (Owner): _____

FROM: (Contractor): _____

BUILDING NAME: 15644 Connie Lane, Montgomery, Texas 77316

PROJECT: Remediation of Fungal Contaminated Materials

LOCATION WITHIN BUILDING:

The Work for the above referenced Project has been completed in accordance with applicable requirements of the Texas Mold Assessment and Remediation Rules and applicable contract and specifications.

By: _____

Authorized Representative.

Date.

