

APPENDICES

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Appendix A

Protocols

State Board of Equalization
 Generic Floor Protocol, Rev. 2
 450 N Street, Sacramento, California

PROTOCOL BY: *LaCroix Davis LLC* DGS IH MONITOR: *LaCroix Davis LLC*
 BOE IH: *HygieneTech Inc* DGS PM: *Mike Moore*
 Remediation Contractor: *JLS Environmental, Inc.*

Note: *This generic floor protocol may be amended in such a way as to properly accommodate the dynamic nature of the ongoing building investigation. This revision of the document was created to address potential issues related to mold-contaminated carpeting and other floor coverings.*

DESCRIPTION	INITIAL PILOT STUDY REQUIREMENT
Defined Work Area	<ul style="list-style-type: none"> • Identify areas to be investigated and/or remediated. Determined during the joint initial floor acceptance “walk around” with DGS and BOE. • This step may also include (with assistance from BPM) planning for deactivation and/or isolation of the building HVAC system for the defined work area. All ceiling vents/openings and other wall penetrations should also be sealed.
Carpeted Floors	<ul style="list-style-type: none"> • Carpeted areas that have been historically impacted by water leaks or flooding, or show signs of significant “staining” will be visually surveyed and tested during the Supplemental Water Damage Assessment that is jointly performed by both the DGS and BOE industrial hygienists; to determine the presence or absence of visible or suspect visible mold growth impacting the carpet. • Areas of known carpet mold-contamination will be marked and subsequently handled by properly-trained abatement personnel. • Carpet removal personnel shall use carpet removal methods that minimize the generation of dust. • Mold-awareness trained carpet removal personnel shall immediately stop work and notify their supervisor any time they notice odors or any other visual indication that mold may be present on the carpet materials or floor. • Any waste carpet that cannot be placed in a closed container shall be “shrink wrapped” to prevent the release of any mold or spores that may be on the carpet. Whether or not the waste carpet is properly contained or “shrink-wrapped”; waste carpet shall not be allowed to remain on the abatement floor overnight.
Results of Microbial Investigation	<p>Areas that have been historically impacted by water leaks or flooding shall be visually surveyed and tested (as needed) to determine the presence or absence of visible or suspect visible mold growth.</p> <ul style="list-style-type: none"> • Areas of suspect visible mold growth (based on both visual and historical evidence) will be sampled (using sampling methods

	<p>such as tape lifts, bulk samples; and possibly destructive testing, if indicated) and confirmed by direct microscopic examination.</p> <ul style="list-style-type: none"> • Additional investigation of “punch out” windows will be discussed and determined during the joint initial floor acceptance “walk around” with DGS and BOE. • In addition, for each floor, photographs generated during the 2005 McGinnis-Chen spandrel wall project will be reviewed by DGS’ industrial hygienist to evaluate the need for any additional destructive testing of the building perimeter walls.
<p>Personnel Training and Qualifications</p>	<p>Only trained and qualified JLS personnel shall be allowed to enter “established” negative-pressure containments.</p>
	<p>Only trained and qualified project IH consulting personnel shall be allowed to enter “established” negative-pressure containments and must be accompanied by JLS personnel.</p>
	<p>Only mold-awareness trained personnel shall be allowed to participate in the removal and handling of waste carpet.</p>
<p>Personal Protective Equipment (PPE) for entering established containments areas</p>	<ul style="list-style-type: none"> • All JLS personnel performing mold removal or cleaning shall wear a full-face air-purifying respirator with HEPA cartridge; disposable protective clothing that covers head and feet; gloves. • Visiting personnel and consultant observers shall provide their own and wear, at minimum, a half-face air-purifying respirator with HEPA cartridge; disposable protective clothing that covers head and feet; gloves. • During the collection of clearance air samples, no respiratory protection is required; disposable protective clothing and gloves are still required.
<p>Occupants/Tenants</p>	<ul style="list-style-type: none"> • BOE staff personnel shall be interviewed and relocated prior to any cleaning or mold removal activities. • Regular elevator access to the floor shall be “locked out”; stairwell access doors alarmed; construction signage posted; and building occupants/tenants notified of current activities on the floor.
<p>Work Area Preparation and/or Containment</p>	<ul style="list-style-type: none"> • Any areas that may require additional investigation or remediation, outside of the building core area on a floor, may require isolation in containments equipped with exhaust equipment to provide a minimum negative air pressure of .02 inches water gauge. • Restrooms and any other core rooms designated for remediation shall be physically isolated with critical barriers/containments and equipped with ventilation exhaust equipment to provide a minimum negative air pressure of .02

	inches water gauge.
Stained Gypsum Board Walls	Any "suspect" liquid stains (i.e., has a history or other physical evidence of water-related problems) on the gypsum board walls will be sampled to confirm the presence or absence of VMG; surface samples are to be collected using Bio-Tape™ or similar method(s) at the discretion and consensus of the project industrial hygienists.
Stained Fire-Proofing	All "stained" fire proofing in areas that have been historically impacted by leaks or floods will be identified and sampled at locations showing the most critical staining. A bulk sample shall be collected from each stained area on the fire-proofing with an emphasis on collecting a sample from what appears to be the most severely impacted area of the fire-proofing.
Areas With Visible Mold Growth (VMG)	<ul style="list-style-type: none"> • All areas of visible and suspect mold growth will be sampled and analyzed by direct microscopic examination.
Work and Egress Areas	<ul style="list-style-type: none"> • HEPA vacuum work area and egress path. • Clean areas with a damp cloth and/or mop and/or detergent solution.
Drying Areas	In general, work areas should be left dry and visually clear of contamination and debris. Some contamination and debris may remain during intermediate stopping points in the removal and cleaning process.
Air Monitoring	<ul style="list-style-type: none"> • During removal: no air monitoring is required unless a release episode occurs that could impact other occupied areas within the building. • However, at the discretion of the project industrial hygienists, random air sampling may be periodically performed to demonstrate the efficacy of control measures and work practices.
Clearance	<ul style="list-style-type: none"> • Any work areas or containments that have been established, but mold growth is not visually present, shall not require a 24-hour air scrubbing period prior to the collection of air clearance.
	<ul style="list-style-type: none"> • Work area to be cleared should be dry and visually clear of contamination and debris as determined by the project industrial hygienists. • Each area that is cleaned shall require a minimum of 24-hours of air scrubbing. • Two (2) outside air samples (one outside the containment, but on the same floor; one at ground level) prior to collection of inside containment samples. • The number of inside air samples shall be determined by the size of the containment and at the discretion and consensus of

	<p>the project industrial hygienists; as few as one (1) and no more than five (5).</p> <ul style="list-style-type: none"> • Two (2) outside air samples after collection of inside samples (one outside the containment, but on the same floor; one at ground level on opposite side of the building where initial outside sample was collected). • Criteria for successful air sample clearance: <ul style="list-style-type: none"> ○ Quantitative spore counts collected inside containment are less than those observed in outside samples. ○ Similar in rank order and distribution ○ Air sample does not contain specific spores of concern that were identified during initial identification of VMG.
	<ul style="list-style-type: none"> • Criteria for successful surface sample clearance: <ul style="list-style-type: none"> ○ No VMG based on direct microscopic examination. ○ Surface sample does not contain specific spores of concern that were identified during initial identification of VMG.
De minimis Quantities	<ul style="list-style-type: none"> • Any confirmed quantity of VMG to be removed shall be done so under isolation containment.

This generic floor remediation protocol directs project personnel on how to proceed when investigating and removing installed carpet. This activity constitutes the planned removal of installed carpet that may or may not be contaminated with mold.

Note: For the purpose of this protocol, a "suspect" location is an area suspected or known to have been historically impacted by flooding/water damage and a record of subsequent investigation and remediation does not exist. The project certified industrial hygienist (CIH) shall be used to detect, test and direct project management staff when mold is suspected/present.

Installed Carpet Removal
Project Planning
Step 1. <ul style="list-style-type: none">• The floor/area of carpet to be removed by project personnel shall be determined by project management.• Project personnel assigned the task of carpet removal shall review the proposed location of carpet removal.• If the proposed area of carpet removal is NOT known to have been historically subjected to flooding or any other complaints (e.g., odors) that may be associated with carpet contamination, DGS contractor may proceed with removal of the carpet. In any case, caution should be taken whenever removing carpet and work should <u>immediately cease</u> if the presence of mold is identified.• Any carpeted area known to have been historically subjected to flooding <u>and</u> NOT known to have been investigated and remediated, as needed; shall be performed after-hours or weekends <u>and</u> in unoccupied and/or an isolated area of the building.• Initial Screening: Any location with "suspect" carpet should be initially "screened" by the project certified industrial hygienist to determine if the backside of the carpet or carpet pad is contaminated with mold. For the purpose of this protocol, "screening" means to inspect a representative section of the backside of the carpet; using a HEPA-ventilated glove box or other similar device to control the release of any mold components during inspection of the carpet. If the carpet, pad, and floor appear to be free of any visual mold, then personnel can proceed with careful removal of the carpet.

Project Execution
<p>Step 2. Removing "Suspect" Carpet</p> <ul style="list-style-type: none">• A project CIH shall be used to define control measures to be used for the removal of carpet in an area known to have been historically subjected to flooding or has a history of complaints; the extent of these controls may vary depending on the potential for mold contamination being present.• Prior to removal of the carpet, the project CIH will determine if the activity will require construction of a protective containment at the location of the carpet and evaluate the extent of any VMG.• If VMG is present (See Step 4 below), any protective containment used to isolate the work area shall be cleaned and then cleared by the project CIH before returning the space for use by building personnel.
<p>Step 4. Removing Mold-Contaminated Carpet</p> <ul style="list-style-type: none">• As needed, BOE staff personnel shall be relocated prior to any carpet removal activities.• This step may also include (with assistance from BPM) planning for deactivation and/or isolation of the building HVAC system for the defined work area. All ceiling vents/openings and other wall penetrations should also be sealed.• Carpet removal personnel shall use carpet removal methods that minimize the generation of dust.• Mold-awareness trained carpet removal personnel shall immediately stop work and notify their supervisor when they notice odors or any other visual indication that mold may be present on the carpet materials or floor.• Local exhaust ventilation (i.e., HEPA-filtered air scrubber) shall be used in the area where the carpet is being actively being pulled away from the floor;• Actively HEPA vacuum the point when the carpet is being pulled away from the floor.• Any waste carpet that cannot be placed in a closed container shall be "shrink wrapped" to prevent the release of any mold or spores that may be on the carpet. Whether or not the waste carpet is properly contained or "shrink-wrapped"; waste carpet shall not be allowed to remain in the area overnight.

<p>Step 5. Clearance (when isolation containments are used)</p> <ul style="list-style-type: none">• Work area to be cleared should be dry and visually clear of contamination and debris as determined by the project industrial hygienists.• Each area that is cleaned shall require a minimum of 24-hours of air scrubbing. Shorter scrubbing periods may be allowed at the discretion of the project CIH.• Two (2) outside air samples (one outside the containment, but on the same floor; one at ground level) prior to collection of inside containment samples.• The number of inside air samples shall be determined by the size of the containment and at the discretion and consensus of the project industrial hygienists; as few as one (1) and no more than five (5).• Two (2) outside air samples after collection of inside samples (one outside the containment, but on the same floor; one at ground level on opposite side of the building where initial outside sample was collected).• Criteria for successful air sample clearance:<ul style="list-style-type: none">○ Quantitative spore counts collected inside containment are less than those observed in outside samples.○ Similar in rank order and distribution○ Air sample does not contain specific spores of concern that were identified during initial identification of VMG.• Any requirements for surface clearances shall be determined by the project CIH.
<p>Project Completion</p>
<ul style="list-style-type: none">• Any mold-contaminated areas identified during the carpet removal process shall be documented for future reference by other projects requiring access into the same area.