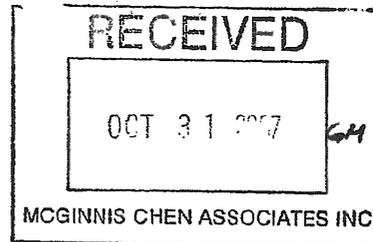


STERLING & ASSOCIATES, INC.
Environmental Health and Safety Specialists

October 29, 2007

McGinnis Chen Associates, Inc.
10 Nottingham Place
San Francisco, CA 94133



ATTN: Mr. Jeff Martin,
Senior Associate

RE: Report of preliminary fungi evaluation at the high-rise office building located at 450 N Street in Sacramento, California

Dear Mr. Martin:

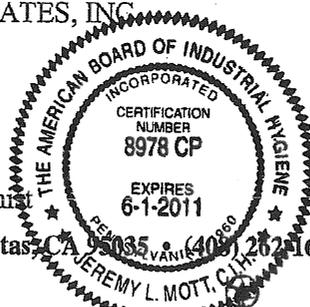
Sterling & Associates was retained by McGinnis Chen Associates, Inc., on behalf of the State of California Department of General Services, to perform a site inspection for potential fungal contamination and excessive moisture issues within the high-rise complex located at 450 N Street in Sacramento, California. Sterling & Associates was informed that a history of water intrusion was documented originating from the 23rd Floor patio. Sterling & Associates was also informed that the patio and associated seams have been repaired ("Curtain Wall Project").

The initial objective of this preliminary investigation was to evaluate fungi levels within the ambient air and on the surfaces where growth may be present or suspected on the 23rd and 22nd Floors of the facility. At the request of the Department of General Services, additional samples were collected from a number of floors on a daily basis following the initial investigation(s) performed on the 23rd and 22nd floors.

The procedures and results of the fungi sampling are enclosed in this report. However, the client should be aware that even with acceptable sampling results, growth or amplification of fungal levels could occur under conditions such as additional water intrusion issues, failure to resolve/repair previous issues, or reoccurrence of those issues previously identified. If you have any questions with regard to the information contained in this report please contact me at (408) 262-1656.

Sincerely,
STERLING & ASSOCIATES, INC


Jeremy Mott, CIH
Senior Industrial Hygienist




Richard Krentz, CIH, REA
Principal



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DGS-IAQ001253

VISUAL OBSERVATIONS

Several locations were noted to have stained ceiling tiles within the building on a number of the floors (including 24, 11, 2, and 1 (cafeteria)). In addition, visible evidence of previous moisture damage was noted under the sinks of some of the breakrooms.

Select visual inspections were performed, which included the removal of cove molding and in some cases cutting of small access holes to observe the condition of the drywall within the wall cavity. The floors selected for detailed inspections were chosen by the Department of General Services based upon current and past water intrusion issues.

FUNGI SAMPLING PROCEDURES

Ambient air samples (spore-trap) were collected from September 26, 2007 thru October 10, 2007 for total fungi using Zefon cassettes and an air-sampling pump calibrated to draw a fixed volume of air at a constant rate of 15 liters per minute for 5 minutes. Outdoor air samples were also collected to obtain a representative sample of the fungi concentrations in the ambient outdoor air for comparison purposes, as fungi involved in indoor air quality issues are ultimately derived from the outdoor environment. Ambient air samples were collected under quiescent conditions (i.e. non-aggressive), with the HVAC system in normal operation (except where the HVAC system(s) have been shut-down, including portions of the 22nd and 23rd floors). The air samples were analyzed for total fungi (concentration and genus identification).

Fungi surface (swab) sampling consisted of the use of a sterile swab, pre-wetted with buffer solution. The swab was used to collect a sample of suspected visible growth, and was then placed in a container and shipped for analysis. The swab sample was submitted for microscopic screening and fungal identification.

Fungi surface (tape lift) sampling consisted of clear tape that is positioned with the adhesive side over the suspected area of fungal growth. The tape is pressed gently, but firmly, onto the sample area. The tape is then removed from the surface and placed on to a sterile microscope slide, then placed in a container and shipped for analysis. Surface samples were submitted for microscopic screening and fungal identification.

All microbiological samples were submitted to Environmental Microbiological Laboratories, an AIHA-EMLAP (Environmental Microbiology Laboratory Accreditation Program) accredited laboratory.

PRELIMINARY INVESTIGATION FUNGI SAMPLING RESULTS

The results of the ambient air and surface samples collected as part of this investigation are summarized in Tables 1-13. All of the laboratory analytical results are included in Appendix A of this report.

24th Floor Investigation Results

Table 1 summarizes the results of the spore trap ambient air samples collected on the 24th floor as part of this preliminary investigation. The air samples collected from cube 24-024 identified potentially abnormal levels of airborne *Stachybotrys* spores as compared to that observed in the outdoor air. *Stachybotrys* is a common water indicator species and could be an indication of a water intrusion issue within the area. Further investigation in this area is recommended.

In addition, a ceiling tile with visible fungal growth was discovered above the suspended ceiling within office 2418. It is likely that a previously water damaged (stained) tile was replaced in this area, with the old tile being left in the return air plenum and a new tile installed. The tile exhibiting fungal growth was bagged and removed from the office upon discovery. It should be noted that the air samples collected within the office before and after removal of the tile do not indicate elevated or abnormal levels of fungi as compared to the outdoor air. The surface sample results collected from the ceiling tile and random surfaces within the office are detailed in Table 2.

TABLE 1. Airborne Total Fungi Results (Spore-trap) – 24th Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
2408 – west library	071003-801	133	<i>Basidiospores</i>
2418 – office (pre-tile removal)	071003-802	253	<i>Cladosporium</i>
2408.09 – east	071003-803	79	<i>Basidiospores</i>
2447 – office	071003-812	13	Unidentified brown spores
Hallway – outside 2402	071003-813	185	<i>Aspergillus/Penicillium, Basidiospores, Cladosporium</i>
2428 – conference room	071003-814	119	<i>Aspergillus/Penicillium, Cladosporium</i>
Hallway – outside 2438	071003-815	53	<i>Aspergillus/Penicillium</i>
24-024 – cube	071003-816	66	<i>Cladosporium, Stachybotrys (20%)</i>
2423 – office	071003-817	53	<i>Aspergillus/Penicillium</i>
2418 – office (post-tile removal)	071003-818	13	<i>Ascospores</i>
Outdoor Air #1 (parking garage roof)	071003-800	973	<i>Basidiospores, Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071003-822	1,866	<i>Aspergillus/Penicillium, Cladosporium</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

Table 2 summarizes the results of the surface samples collected. The results are consistent with the visual observation of mold growth on the ceiling tile removed from office 2418. The surface samples collected from random surfaces within office 2418 did not identify abnormal fungal levels.

TABLE 2. Surface Swab and/or Tape lift Screening Results – 24th Floor.

Sample Location	Sample Number	Fungal Growth and Spore Observations ¹	
		Fungal growth	General Impression
2418 – Office Visible growth on ceiling tile	071003-804	Fungal growth	3+ <i>Stachybotrys</i>
		General Impression	Mold growth
2418 – Post tile removal Random bookshelf surface	071003-819	Fungal growth	None
		General Impression	Normal trapping
2418 – Post tile removal Random desk surface	071003-820	Fungal growth	None
		General Impression	Normal trapping
2418 – Post tile removal Random file cabinet surface	071003-821	Fungal growth	None
		General Impression	Normal trapping

1 – Quantities of molds seen growing are graded 1+ to 4+, with 4+ denoting the highest numbers.

23rd Floor Investigation Results

Table 3 summarizes the results of the spore trap ambient air samples collected on the 23rd floor as part of this preliminary investigation. The air samples collected from the south and east portions of the 23rd floor identified elevated or potentially abnormal levels of airborne fungi as compared to that observed in the outdoor air. Some levels of *Stachybotrys* and/or *Chaetomium* were observed in most of the air samples collected. *Stachybotrys* and *Chaetomium* are both water indicator species indicative of long-term moisture issues. These results are consistent with the observation of visible fungal growth noted on the south and east walls. In addition, the surface/swab samples collected confirmed the presence of visible fungal growth behind the cove molding of the south and east perimeter walls (where the patio meets the building exterior). It was reported to Sterling & Associates that the seam between the patio and the exterior wall has been an ongoing issue that has recently been addressed as part of the “curtain wall” project. Based upon these sample results and the observation of visible fungal growth Sterling & Associates recommends that some level of fungal remediation procedures be performed on the south and east perimeter walls of the 23rd floor.

TABLE 3. Airborne Total Fungi Results (Spore-trap) - 23rd Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified ¹</i>
2305 - west	070926-801	1,277	<i>Aspergillus/Penicillium, Chaetomium (1%), Stachybotrys (13%)</i>
2305 - center	070926-802	4,117	<i>Aspergillus/Penicillium, Stachybotrys (15%)</i>
2305 - east	070926-803	10,623	<i>Aspergillus/Penicillium, Stachybotrys (13%)</i>
2337 - corner office	070926-809	293	<i>Aspergillus/Penicillium, Chaetomium (9%)</i>
2337 - tech office	070926-810	240	<i>Aspergillus/Penicillium, Stachybotrys (28%)</i>
2334 - tech office	070926-812	307	<i>Aspergillus/Penicillium, Cladosporium, Stachybotrys (9%)</i>
2334 - corner office	070926-813	320	<i>Aspergillus/Penicillium, Stachybotrys (13%)</i>
2322 - main office	070926-815	173	<i>Aspergillus/Penicillium, Cladosporium</i>
2314 - corner office	070926-816	266	<i>Aspergillus/Penicillium</i>
2314 - tech office	070926-817	453	<i>Basidiospores</i>
2311 - corner office	070926-818	80	<i>Aspergillus/Penicillium, Stachybotrys (34%)</i>
2311 - corner office (post base board removal)	070926-820	24,957	<i>Aspergillus/Penicillium, Chaetomium (<1%) Stachybotrys (17%)</i>
2337 - reception (post base board removal)	070926-821	13,046	<i>Cladosporium, Stachybotrys (<1%)</i>
Outdoor Air #1 (roof top)	070926-800	3,597	<i>Cladosporium</i>
Outdoor Air #2 (roof top)	070926-807	3,159	<i>Cladosporium</i>
Outdoor Air #3 (parking garage roof)	070926-829	6,356	<i>Cladosporium</i>

1-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND - None Detected

Table 4 summarizes the results of the surface/swab sample collected. The swab results are consistent with the visual observation of mold growth on the surfaces detailed in Table 4. It was reported to Sterling & Associates that the discovery of abnormal fungal conditions within the building were first noted in Room 2305 after the cubicle furniture was moved to allow for tenant improvements (i.e. painting) within the room.

TABLE 4. Surface/Swab Screening Results - 23rd Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Fungal Growth and Spore Observations¹</i>	
2305 – east wall Visible growth behind cove molding	070926-804	Fungal growth	4+ <i>Chaetomium</i> <1+ <i>Aspergillus/Penicillium</i>
		General Impression	Mold growth
2305 – south wall (drywall pillar) Visible growth behind cubicle partition	070926-805	Fungal growth	3+ <i>Stachybotrys</i> <1+ <i>Aspergillus/Penicillium</i>
		General Impression	Mold growth
2305 – south wall cubicle fabric Visible growth on cubicle partition	070926-806	Fungal growth	3+ <i>Aspergillus</i>
		General Impression	Mold growth
2304 – south wall Visible growth behind cove molding	070926-808	Fungal growth	4+ <i>Stachybotrys</i> <1+ <i>Aspergillus/Penicillium</i>
		General Impression	Mold growth
2337 – east wall – adj. to patio door Visible growth behind base board	070926-811	Fungal growth	4+ <i>Stachybotrys</i> 2+ <i>Aspergillus/Penicillium</i>
		General Impression	Mold growth
2334 – corner office east wall Visible growth behind base board	070926-814	Fungal growth	4+ <i>Stachybotrys</i>
		General Impression	Mold growth
2311 – corner office southeast corner Visible growth behind base board	070926-819	Fungal growth	4+ <i>Stachybotrys</i> , 1+ <i>Aspergillus/Penicillium</i>
		General Impression	Mold growth

1 – Quantities of molds seen growing are graded 1+ to 4+, with 4+ denoting the highest numbers.

22nd Floor Investigation Results

Table 5 summarizes the results of the spore trap ambient air samples collected on the 22nd floor as part of this preliminary investigation. Most of the air samples collected from the 22nd floor did not identify elevated or abnormal levels of airborne fungi as compared to that observed in the outdoor air.

The samples collected from offices 2206, 2237, and 2216 identified abnormal spore levels and/or a shift in biodiversity within those locations suggesting internal fungal sources are likely present. These results are consistent with the observation of visible fungal growth noted at nearby locations, which were consistent with the 23rd floor patio seam (i.e. “curtain wall”).

In addition, the surface/swab samples collected confirmed the presence of visible fungal growth behind the cove molding and book shelves along the south and east walls (where the 23rd floor patio meets the building exterior). As previously noted, it was reported to Sterling & Associates that the seam between the patio and the exterior wall has been an ongoing issue that has recently been addressed as part of the “curtain wall” project. Based upon these samples results and the observation of visible fungal growth Sterling & Associates recommends some level of fungal remediation procedures be performed within the offices and walls below the 23rd floor patio “curtain wall” on the south and east of the floor.

TABLE 5. Airborne Total Fungi Results (Spore-trap) – 22nd Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
2238 - office	070926-822	1,186	<i>Basidiospores, Cladosporium</i>
2237 - office	070926-823	5,500	<i>Aspergillus/Penicillium, Cladosporium</i>
2206 - office	070926-825	3,093	<i>Aspergillus/Penicillium</i>
22-085 – cube (SE corner)	070926-826	120	<i>Basidiospores</i>
22-078 cube	070926-828	160	<i>Basidiospores, Cladosporium</i>
2207 – office	070928-802	120	<i>Cladosporium</i>
22-088 - cube	070928-803	53	<i>Cladosporium</i>
22-074 - cube	070928-804	120	<i>Cladosporium</i>
2214 - office	070928-805	53	<i>Cladosporium</i>
2215 - office	070928-806	160	<i>Cladosporium</i>
2216 - office	070928-807	66	<i>Chaetomium (80%), Stachybotrys (20%)</i>
22-72.02 - cube	070928-808	106	<i>Aspergillus/Penicillium, Cladosporium</i>
2217 – law library	070928-809	<13	No Predominants Observed
2225 – cube	070928-810	66	<i>Cladosporium</i>
22-63.01 – cube	070928-811	106	<i>Basidiospores, Cladosporium</i>
22-057 – cube	070928-812	79	<i>Cladosporium</i>
22-005 - cube	070928-813	120	<i>Aspergillus/Penicillium</i>
22-001 – cube	070928-814	333	<i>Aspergillus/Penicillium, Cladosporium</i>
2233 – Ledge library	070928-816	120	<i>Cladosporium</i>
2234 - office	070928-817	160	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #1 (roof top)	070926-800	3,597	<i>Cladosporium</i>
Outdoor Air #2 (roof top)	070926-807	3,159	<i>Cladosporium</i>
Outdoor Air #3 (parking garage roof)	070926-829	6,356	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	070928-800	973	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (parking garage roof)	070928-801	1,480	<i>Cladosporium</i>
Outdoor Air #3 (12 th floor fresh air intake)	070928-818	1,080	<i>Cladosporium</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

Table 6 summarizes the results of the surface/swab sample collected. The swab results are consistent with the visual observation of mold growth on the surfaces detailed in Table 6. It should be noted that the sample results collected from suspected fungal growth within cubicles 010 and 065 did not identify fungal growth.

TABLE 6. Surface/Swab Screening Results – 22nd Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Fungal Growth and Spore Observations¹</i>	
2238 – adj. to door Visible growth behind base board	070926-824	Fungal growth	4+ <i>Stachybotrys</i>
		General Impression	Mold growth
2206 – office Visible growth behind base board	070926-827	Fungal growth	4+ <i>Chaetomium</i>
		General Impression	Mold growth
SW corner – outside cube 22-073 Visible growth behind cove molding	070928-819	Fungal growth	1+ <i>Chaetomium</i>
		General Impression	Mold growth
2216 – hallway Visible growth behind cove molding	070928-820	Fungal growth	4+ <i>Penicillium</i>
		General Impression	Mold growth
2214 – east wall Visible growth behind cove molding	070928-821	Fungal growth	2+ <i>Penicillium</i>
		General Impression	Mold growth
2213 – east wall Visible growth behind cove molding	070928-822	Fungal growth	2+ <i>Penicillium</i>
		General Impression	Mold growth
2234 – east wall Visible growth behind cove molding	070928-823	Fungal growth	2+ <i>Penicillium</i>
		General Impression	Mold growth
22-010 – northeast corner wall Suspected growth on backside drywall	070928-824	Fungal growth	None
		General Impression	Normal trapping
22-065 – northwest corner wall Suspected growth on backside drywall	070928-825	Fungal growth	None
		General Impression	Normal trapping

1 – Quantities of molds seen growing are graded 1+ to 4+, with 4+ denoting the highest numbers.

21st Floor Investigation Results

Table 7 summarizes the results of the spore trap ambient air samples collected on the 21st floor as part of this preliminary investigation. Most of the air samples collected from the 21st floor did not identify elevated or abnormal levels of airborne fungi as compared to that observed in the outdoor air.

The samples collected from office 2103 identified potentially abnormal levels of airborne *Chaetomium* spores as compared to that observed in the outdoor air. *Chaetomium* is a common water indicator species and could be an indication of a water intrusion issue within the area. Further investigation in this area is recommended.

TABLE 7. Airborne Total Fungi Results (Spore-trap) – 21st Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
21-003 – cube (SE corner)	070928-830	66	<i>Cladosporium</i>
21-030 cube (SW corner)	070928-831	133	<i>Cladosporium</i>
21-119 – cube (NE corner)	070928-832	106	<i>Aspergillus/Penicillium, Cladosporium</i>
21-108 – cube (North)	070928-833	106	<i>Aspergillus/Penicillium, Cladosporium</i>
21-055 – cube (West)	070928-834	53	<i>Cladosporium</i>
2103 – office	071003-805	119	<i>Basidiospores, Cladosporium, Chaetomium (11%)</i>
Hallway – outside 2117	071003-806	119	<i>Ascospores, Basidiospores</i>
2113 – Break room (N)	071003-807	66	<i>Basidiospores</i>
21 st Floor Elevator lobby	071003-808	92	<i>Basidiospores</i>
Hallway – outside 2102	071003-809	132	<i>Basidiospores, Cladosporium</i>
2108 – Break room (S)	071003-810	145	<i>Aspergillus/Penicillium, Basidiospores</i>
Outdoor Air #1 (parking garage roof)	070928-800	973	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (parking garage roof)	070928-801	1,480	<i>Cladosporium</i>
Outdoor Air #3 (12 th floor fresh air intake)	070928-818	1,080	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071003-800	973	<i>Basidiospores, Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071003-822	1,866	<i>Aspergillus/Penicillium, Cladosporium</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

Table 8 summarizes the results of the surface/swab sample collected on the 21st floor. The swab results are consistent with the visual observation of mold growth behind the cove molding adjacent to the break room sink (2108). Based upon the confirmation of fungal growth in the 2108 break room, fungal remediation procedures are recommended within this area.

TABLE 8. Surface/Swab Screening Results – 21st Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Fungal Growth and Spore Observations¹</i>	
2108 – adj. to break room sink Suspected growth behind cove molding	071003-811	Fungal growth	2+ <i>Chaetomium</i>
		General Impression	Mold growth

¹ – Quantities of molds seen growing are graded 1+ to 4+, with 4+ denoting the highest numbers.

12th Floor HVAC Supply Fan Rooms Investigation Results

The air samples collected from the 12th floor supply plenum (Fan Room #1 & #2) identified total counts of fungi within the ambient air that were less than, or similar to, that observed in the outdoor air. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air. However, visible fungal growth was noted growing on the drywall pillars and chilled water plumbing insulation located in each of the supply fan rooms (see surface sampling results below in Table 10).

TABLE 9. Airborne Total Fungi Results (Spore-trap) – 12th Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
Fan Room #1/2 Supply plenum	070928-815	173	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	070928-800	973	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (parking garage roof)	070928-801	1,480	<i>Cladosporium</i>
Outdoor Air #3 (12 th floor fresh air intake)	070928-818	1,080	<i>Cladosporium</i>

1-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
ND – None Detected

Table 10 summarizes the results of the surface/swab sample collected. The swab results are consistent with the visual observation of mold growth on the surfaces detailed in Table 10. Based upon the confirmation of fungal growth in the surfaces tested in the supply plenums, Sterling & Associates recommends that these surfaces undergo some level of fungal remediation procedures.

TABLE 10. Surface/Swab Screening Results – 12th Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Fungal Growth and Spore Observations¹</i>	
Fan Room #1/2 Visible growth on drywall pillar	070928-826	Fungal growth	2+ <i>Cladosporium</i>
		General Impression	Mold growth
Fan Room #1/2 Visible growth on chilled water pipe	070928-827	Fungal growth	3+ <i>Cladosporium</i>
		General Impression	Mold growth
Fan Room #3/4 Visible growth on drywall pillar	070928-828	Fungal growth	3+ <i>Cladosporium</i>
		General Impression	Mold growth
Fan Room #3/4 Visible growth on chilled water pipe	070928-829	Fungal growth	3+ <i>Cladosporium</i>
		General Impression	Mold growth

1 – Quantities of molds seen growing are graded 1+ to 4+, with 4+ denoting the highest numbers.

11th Floor Investigation Results

Total counts of fungi within the 11th floor ambient air were less than, or similar to, that observed in the outdoor air on the day of sampling. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 11. Airborne Total Fungi Results (Spore-trap) – 11th Floor.

Sample Location	Sample Number	Total Fungi (per M ³ of air)	Predominant Fungi Identified ¹
11-056 – cube (North)	070928-835	173	<i>Aspergillus/Penicillium, Cladosporium</i>
11-032 – cube (West)	070928-836	53	<i>Cladosporium</i>
11-028 – cube (South)	070928-838	<13	No Predominants Observed
11-040 – cube (East)	070928-839	<13	No Predominants Observed
Outdoor Air #1 (parking garage roof)	070928-800	973	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (parking garage roof)	070928-801	1,480	<i>Cladosporium</i>
Outdoor Air #3 (12 th floor fresh air intake)	070928-818	1,080	<i>Cladosporium</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

Table 12 summarizes the results of the surface/swab sample collected on the 11th floor. The sample results collected from suspected fungal growth within cubicles 021 did not identify fungal growth.

TABLE 12. Surface/Swab Screening Results – 11th Floor.

Sample Location	Sample Number	Fungal Growth and Spore Observations ¹	
11-021 – cube	070928-837	Fungal growth	None
Suspected growth behind cove molding		General Impression	Normal trapping

¹ – Quantities of molds seen growing are graded 1+ to 4+, with 4+ denoting the highest numbers.

3rd Floor Investigation Results

None of the ambient air samples collected from the 3rd floor identified elevated or abnormal fungal levels on the day of testing. Total counts of fungi within the 3rd floor ambient air were less than, or similar to, that observed in the outdoor air on the day of sampling. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 13. Airborne Total Fungi Results (Spore-trap) – 3rd Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
3-056 – cube (West)	070928-840	106	<i>Basidiospores, Cladosporium</i>
3-035 – cube (North)	070928-841	106	<i>Basidiospores, Cladosporium</i>
3-129 – cube (East)	070928-842	53	<i>Cladosporium</i>
3-094 – cube (South)	070928-843	106	<i>Basidiospores, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	070928-800	973	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (parking garage roof)	070928-801	1,480	<i>Cladosporium</i>
Outdoor Air #3 (12 th floor fresh air intake)	070928-818	1,080	<i>Cladosporium</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.

ND – None Detected

No suspected visible fungal growth was observed on the 3rd floor on the day of this cursory visual preliminary inspection. As such, surface samples were not collected.

DAILY AIR SAMPLING RESULTS

24th Floor Daily Air Sampling Results

Table 14 summarizes the results of the spore trap ambient air samples collected on the 24th floor as part of the on-going daily air sampling requested by the Department of General Services. The ambient air samples collected from the 24th floor did not identify elevated or abnormal fungal levels on the days of testing. Total counts of fungi within the ambient air were less than, or similar to, that observed in the outdoor air on the day of sampling. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 14. Airborne Total Fungi Results (Spore-trap) – 24th Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
2410 – office (SE)	071004-161	120	<i>Cladosporium</i>
2429 – office (NW)	071004-162	107	<i>Cladosporium</i>
Hallway – adj. to 2419 (SW)	071005-101	293	<i>Cladosporium</i>
2442 – NE corner	071005-102	132	<i>Aspergillus/Penicillium, Cladosporium</i>
2408 – library	071007-803	106	<i>Aspergillus/Penicillium, Cladosporium</i>
2445 – office	071007-804	79	<i>Cladosporium</i>
Hallway – NW corner	071008-803	<13	No Predominants Observed
Hallway – SE corner	071008-804	213	<i>Ascospores, Aspergillus/Penicillium</i>
Hallway – SW corner	071009-801	66	<i>Cladosporium</i>
Hallway – NE corner	071009-802	226	<i>Cladosporium</i>
24B – mail center/storage rm	071010-821	172	<i>Aspergillus/Penicillium, Basidiospores, Cladosporium</i>
2446 - office	071010-822	160	<i>Aspergillus/Penicillium, Basidiospores</i>
Outdoor Air #1 (parking garage roof)	071004-150	586	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071004-167	2,123	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071005-100	1,132	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071005-117	1,667	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071007-800	3,057	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071007-823	2,160	<i>Basidiospores, Cladosporium</i>
Outdoor Air #1 (Front lobby N street)	071008-800	4,314	<i>Basidiospores</i>
Outdoor Air #2 (Front lobby N street)	071008-821	2,596	<i>Cladosporium</i>
Outdoor Air #1 (Front lobby 5 th street)	071009-800	1,599	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (Front lobby 5 th street)	071009-819	1,787	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071010-800	1,307	<i>Ascospores</i>
Outdoor Air #2 (parking garage roof)	071010-823	2,984	<i>Basidiospores</i>

¹ -Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.

ND – None Detected

No suspected visible fungal growth was observed on the 24th floor, nor were any random surface samples collected on the 24th floor as part of this investigation.

23rd Floor Daily Air Sampling Results

Table 15 summarizes the results of the spore trap ambient air samples collected on the 23rd floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 24th floor identified significantly elevated or abnormal fungal levels on the days of testing. However, slightly elevated levels of *Aspergillus/Penicillium* (as compared to the outdoor air samples collected on the same day) were noted in the samples collected from the break room (2302) and the construction office (2304). In addition, low levels of *Chaetomium* were observed in the sample collected from office 2337. *Chaetomium* is a common water indicator species and could be an indication of a water intrusion issue within the area. Further investigation in these areas is recommended.

TABLE 15. Airborne Total Fungi Results (Spore-trap) – 23rd Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
2314 – NW corner	071004-163	79	<i>Cladosporium</i>
2334 – NE corner	071004-164	53	<i>Cladosporium</i>
2337 – NE corner	071005-103	79	<i>Cladosporium, Chaetomium (16%)</i>
2305 – SW corner	071005-104	53	<i>Cladosporium</i>
2305 – W cube area	071007-805	53	<i>Aspergillus/Penicillium</i>
2337 - reception	071007-806	812	<i>Ascospores, Basidiospores, Cladosporium</i>
Hallway – SE corner	071008-805	827	<i>Basidiospores</i>
Hallway – NW corner	071008-806	279	<i>Cladosporium</i>
Hallway – NE corner	071009-803	119	<i>Basidiospores, Cladosporium</i>
Hallway – SW corner	071009-804	346	<i>Aspergillus/Penicillium, Cladosporium</i>
2304 – construction office	071010-817	666	<i>Aspergillus/Penicillium, Cladosporium</i>
2302 – break room	071010-818	974	<i>Basidiospores</i>
Outdoor Air #1 (parking garage roof)	071004-150	586	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071004-167	2,123	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071005-100	1,132	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071005-117	1,667	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071007-800	3,057	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071007-823	2,160	<i>Basidiospores, Cladosporium</i>
Outdoor Air #1 (Front lobby N street)	071008-800	4,314	<i>Basidiospores</i>
Outdoor Air #2 (Front lobby N street)	071008-821	2,596	<i>Cladosporium</i>
Outdoor Air #1 (Front lobby 5 th street)	071009-800	1,599	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (Front lobby 5 th street)	071009-819	1,787	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071010-800	1,307	<i>Ascospores</i>
Outdoor Air #2 (parking garage roof)	071010-823	2,984	<i>Basidiospores</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.

ND – None Detected

Table 16 summarizes the results of the surface tape lift sample collected to screen for potential surface contamination on randomly selected surfaces on the 23rd floor. Some surface contamination was noted in the samples collected from the copy room (2340) and the Reception desk of office 2337. As such, it is recommended that some level of cleaning be performed prior to removing items and materials from the affected portions of the 23rd floor.

TABLE 16. Surface Swab/Tape Lift Screening Results - 23rd Floor.

Sample Location	Sample Number	Fungal Growth and Spore Observations ¹	
		Fungal growth	General Impression
2337 – Reception desk; desk surface	071007-807	Fungal growth	<1+ <i>Cladosporium</i>
		General Impression	Minimal Mold growth
2340 – Copy room; recycle tub	071007-808	Fungal growth	<1+ <i>Aspergillus/Penicillium</i> <1+ <i>Stachybotrys</i>
		General Impression	Minimal Mold growth
2322 – office; bookshelf surface	071008-810	Fungal growth	None
		General Impression	Normal Trapping
2337 – office; paper stack	071010-819	Fungal growth	None
		General Impression	Normal Trapping
2329 – office; paper stack	071010-820	Fungal growth	None
		General Impression	Normal Trapping

1 – Quantities of molds seen growing are graded 1+ to 4+, with 4+ denoting the highest numbers.

22nd Floor Daily Air Sampling Results

Table 17 summarizes the results of the spore trap ambient air samples collected on the 22nd floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 22nd floor identified significantly elevated or abnormal fungal levels on the days of testing. However, low levels of *Stachybotrys* were observed in the sample collected from the southeast corner hallway. *Stachybotrys* is a common water indicator species and could be an indication of a water intrusion issue within the area. Further investigation in this area is recommended.

TABLE 17. Airborne Total Fungi Results (Spore-trap) – 22nd Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
2232 – NW corner	071004-165	120	<i>Cladosporium</i>
2210 – SE corner	071004-166	66	<i>Cladosporium</i>
2232 – NE corner	071005-105	53	<i>Cladosporium</i>
2210 – SW corner	071005-106	<13	No Predominants Observed
2221 – conf. room	071007-809	307	<i>Cladosporium</i>
2232 – N-19 cube area	071007-810	66	<i>Basidiospores</i>
Hallway – SE corner	071008-807	119	<i>Ascospores, Aspergillus/Penicillium, Stachybotrys (11%)</i>
Hallway – NW corner	071008-808	53	<i>Ascospores</i>
Hallway – SW corner	071009-805	66	<i>Cladosporium</i>
Hallway – NE corner	071009-806	79	<i>Cladosporium</i>
2210-073 – cube	071010-813	53	<i>Aspergillus/Penicillium</i>
2232-065 – cube	071010-815	266	<i>Aspergillus/Penicillium</i>
Outdoor Air #1 (parking garage roof)	071004-150	586	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071004-167	2,123	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071005-100	1,132	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071005-117	1,667	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071007-800	3,057	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071007-823	2,160	<i>Basidiospores, Cladosporium</i>
Outdoor Air #1 (Front lobby N street)	071008-800	4,314	<i>Basidiospores</i>
Outdoor Air #2 (Front lobby N street)	071008-821	2,596	<i>Cladosporium</i>
Outdoor Air #1 (Front lobby 5 th street)	071009-800	1,599	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (Front lobby 5 th street)	071009-819	1,787	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071010-800	1,307	<i>Ascospores</i>
Outdoor Air #2 (parking garage roof)	071010-823	2,984	<i>Basidiospores</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.

ND – None Detected

Table 18 summarizes the results of the surface tape lift sample collected to screen the surface contamination of random surfaces on the 22nd floor. Potential surface contamination was noted in the samples collected from the credenza in office 2226. Further investigation in this area is recommended.

TABLE 18. Surface/Swab Screening Results - 22nd Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Fungal Growth and Spore Observations¹</i>	
2232 - N-19; credenza surface	071007-811	Fungal growth	None
		General Impression	Normal Trapping
2210-071 - cube; desk surface	071007-812	Fungal growth	None
		General Impression	Normal Trapping
2226 - office; credenza surface	071008-809	Fungal growth	Hyphal fragments detected
		General Impression	Mold growth in vicinity?
2210-073 - cube; cardboard box	071010-814	Fungal growth	None
		General Impression	Normal Trapping
2232-065 - cube; 3-ring binder cover	071010-816	Fungal growth	None
		General Impression	Normal Trapping

1 - Quantities of molds seen growing are graded 1+ to 4+, with 4+ denoting the highest numbers.

21st Floor Daily Air Sampling Results

Table 19 summarizes the results of the spore trap ambient air samples collected on the 21st floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 21st floor identified significantly elevated or abnormal fungal levels on the days of testing. Total counts of fungi within the floors ambient air were less than, or similar to, that observed in the outdoor air. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 19. Airborne Total Fungi Results (Spore-trap) – 21st Floor.

Sample Location	Sample Number	Total Fungi (per M ³ of air)	Predominant Fungi Identified ¹
2102 – NW corner	071004-157	66	<i>Cladosporium</i>
2102 – SW corner	071004-158	213	<i>Cladosporium</i>
2102 – SW corner	071005-107	160	<i>Cladosporium</i>
2102 – NE corner	071005-108	106	<i>Aspergillus/Penicillium, Cladosporium</i>
2102-039 – cube	071007-813	160	<i>Basidiospores, Cladosporium</i>
2102-091 – cube	071007-814	53	<i>Cladosporium</i>
Hallway – SE corner	071008-811	53	<i>Basidiospores</i>
Hallway – NW corner	071008-812	53	<i>Cladosporium</i>
Hallway – NE corner	071009-807	53	<i>Cladosporium</i>
Hallway – SW corner	071009-808	146	<i>Aspergillus/Penicillium, Cladosporium</i>
2103 - office	071010-811	53	<i>Basidiospores</i>
2113 – break room	071010-812	53	<i>Aspergillus/Penicillium</i>
Outdoor Air #1 (parking garage roof)	071004-150	586	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071004-167	2,123	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071005-100	1,132	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071005-117	1,667	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071007-800	3,057	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071007-823	2,160	<i>Basidiospores, Cladosporium</i>
Outdoor Air #1 (Front lobby N street)	071008-800	4,314	<i>Basidiospores</i>
Outdoor Air #2 (Front lobby N street)	071008-821	2,596	<i>Cladosporium</i>
Outdoor Air #1 (Front lobby 5 th street)	071009-800	1,599	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (Front lobby 5 th street)	071009-819	1,787	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071010-800	1,307	<i>Ascospores</i>
Outdoor Air #2 (parking garage roof)	071010-823	2,984	<i>Basidiospores</i>

¹ - Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

No suspected visible fungal growth was observed on the 21st floor, nor were any random surface samples collected on the 21st floor as part of this investigation.

20th Floor Daily Air Sampling Results

Table 20 summarizes the results of the spore trap ambient air samples collected on the 20th floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 20th floor identified significantly elevated or abnormal fungal levels on the days of testing. Total counts of fungi within the floors ambient air were less than, or similar to, that observed in the outdoor air. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 20. Airborne Total Fungi Results (Spore-trap) – 20th Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
2002 – NW corner	071004-159	53	<i>Cladosporium</i>
2002 – SE corner	071004-160	53	<i>Cladosporium</i>
Hallway – SW corner	071009-809	66	<i>Cladosporium</i>
Hallway – NE corner	071009-810	119	<i>Ascospores, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071004-150	586	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071004-167	2,123	<i>Cladosporium</i>
Outdoor Air #1 (Front lobby 5 th street)	071009-800	1,599	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (Front lobby 5 th street)	071009-819	1,787	<i>Aspergillus/Penicillium, Cladosporium</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

No suspected visible fungal growth was observed on the 20th floor, nor were any random surface samples collected on the 20th floor as part of this investigation.

17th Floor Daily Air Sampling Results

Table 21 summarizes the results of the spore trap ambient air samples collected on the 17th floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 17th floor identified significantly elevated or abnormal fungal levels on the days of testing. Total counts of fungi within the floors ambient air were less than, or similar to, that observed in

the outdoor air. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 21. Airborne Total Fungi Results (Spore-trap) – 17th Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
Hallway – SE corner	071008-813	<13	No Predominants Observed
Hallway – NW corner	071008-814	40	<i>Smuts, Myxomycetes, Unidentified brown spores</i>
Outdoor Air #1 (Front lobby N street)	071008-800	4,314	<i>Basidiospores</i>
Outdoor Air #2 (Front lobby N street)	071008-821	2,596	<i>Cladosporium</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

No suspected visible fungal growth was observed on the 17th floor, nor were any random surface samples collected on the 17th floor as part of this investigation.

14th Floor Daily Air Sampling Results

Table 22 summarizes the results of the spore trap ambient air samples collected on the 14th floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 14th floor identified significantly elevated or abnormal fungal levels on the days of testing. Total counts of fungi within the floors ambient air were less than that observed in the outdoor air.

TABLE 22. Airborne Total Fungi Results (Spore-trap) – 14th Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
1407 – K20	071010-809	106	<i>Basidiospores, Cladosporium</i>
1407 – N-20	071010-810	53	<i>Rusts</i>
Outdoor Air #1 (parking garage roof)	071010-800	1,307	<i>Ascospores</i>
Outdoor Air #2 (parking garage roof)	071010-823	2,984	<i>Basidiospores</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

No suspected visible fungal growth was observed on the 14th floor, nor were any random surface samples collected on the 14th floor as part of this investigation.

12th Floor Daily Air Sampling Results

Table 23 summarizes the results of the spore trap ambient air samples collected on the 12th floor (supply fan rooms) as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the supply fan rooms identified elevated or abnormal fungal levels on the days of testing. Total counts of fungi within the floors ambient air were less than, or similar to, that observed in the outdoor air. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 23. Airborne Total Fungi Results (Spore-trap) – 12th Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
Fan Room #1/2 Supply plenum	071004-155	53	<i>Cladosporium</i>
Fan Room #1/2 Supply plenum	071005-113	160	<i>Cladosporium</i>
Fan Room #3/4 Supply plenum	071005-114	106	<i>Aspergillus/Penicillium, Cladosporium</i>
Fan Room #1/2 Supply plenum	071007-801	<13	No Predominants Observed
Fan Room #3/4 Supply plenum	071007-802	106	<i>Basidiospores, Cladosporium</i>
Fan Room #1/2 Supply plenum	071008-815	<13	No Predominants Observed
Fan Room #3/4 Supply plenum	071008-816	<13	No Predominants Observed
Fan Room #1/2 Supply plenum	071009-811	<13	No Predominants Observed
Fan Room #3/4 Supply plenum	071009-812	160	<i>Cladosporium</i>
Fan Room #1/2 Supply plenum	071010-807	<13	No Predominants Observed
Fan Room #3/4 Supply plenum	071010-808	<13	No Predominants Observed
Outdoor Air #1 (parking garage roof)	071004-150	586	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071004-167	2,123	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071005-100	1,132	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071005-117	1,667	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071007-800	3,057	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071007-823	2,160	<i>Basidiospores, Cladosporium</i>
Outdoor Air #1 (Front lobby N street)	071008-800	4,314	<i>Basidiospores</i>
Outdoor Air #2 (Front lobby N street)	071008-821	2,596	<i>Cladosporium</i>
Outdoor Air #1 (Front lobby 5 th street)	071009-800	1,599	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (Front lobby 5 th street)	071009-819	1,787	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071010-800	1,307	<i>Ascospores</i>
Outdoor Air #2 (parking garage roof)	071010-823	2,984	<i>Basidiospores</i>

¹ -Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

No further suspected visible fungal growth was observed in the supply fan rooms on the 12th floor, nor were any random surface samples collected on the 12th floor as part of this investigation. It should be noted that the drywall pillars previously exhibiting fungal growth (see Table 10) were painted and the chilled water plumbing insulation was cleaned. Sterling & Associates was not involved in the remediation in the fan rooms nor is Sterling & Associates aware of the procedures employed to during the aforementioned remediation.

11th Floor Daily Air Sampling Results

Table 24 summarizes the results of the spore trap ambient air samples collected on the 11th floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 11th floor identified significantly elevated or abnormal fungal levels on the days of testing. Total counts of fungi within the floors ambient air were less than, or similar to, that observed in the outdoor air. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 24. Airborne Total Fungi Results (Spore-trap) – 11th Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
1104 – NW corner	071004-153	66	<i>Cladosporium</i>
1104 – SE corner	071004-154	53	<i>Aspergillus/Penicillium</i>
1104 – SW corner	071005-109	<13	No Predominants Observed
1104 – NE corner	071005-110	173	<i>Cladosporium</i>
1104-062 – cube	071007-815	66	<i>Basidiospores</i>
1104 – N-22	071007-816	66	<i>Basidiospores</i>
Hallway – SE corner	071008-817	146	<i>Ascospores, Aspergillus/Penicillium</i>
Hallway – NW corner	071008-818	120	<i>Aspergillus/Penicillium</i>
Hallway – SW corner	071009-813	147	<i>Cladosporium</i>
Hallway – NE corner	071009-814	399	<i>Aspergillus/Penicillium, Cladosporium</i>
Hallway – W elec. room	071010-805	66	<i>Aspergillus/Penicillium</i>
Hallway – E elec. room	071010-806	320	<i>Basidiospores, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071004-150	586	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071004-167	2,123	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071005-100	1,132	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071005-117	1,667	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071007-800	3,057	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071007-823	2,160	<i>Basidiospores, Cladosporium</i>
Outdoor Air #1 (Front lobby N street)	071008-800	4,314	<i>Basidiospores</i>
Outdoor Air #2 (Front lobby N street)	071008-821	2,596	<i>Cladosporium</i>
Outdoor Air #1 (Front lobby 5 th street)	071009-800	1,599	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (Front lobby 5 th street)	071009-819	1,787	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071010-800	1,307	<i>Ascospores</i>
Outdoor Air #2 (parking garage roof)	071010-823	2,984	<i>Basidiospores</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.

ND – None Detected

No suspected visible fungal growth was observed on the 11th floor, nor were any random surface samples collected on the 11th floor as part of this investigation.

8th Floor Daily Air Sampling Results

Table 25 summarizes the results of the spore trap ambient air samples collected on the 8th floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 8th floor identified significantly elevated or abnormal fungal levels on the days of testing. However, low levels of *Ulocladium* were observed in the sample collected from the southwest corner hallway. *Ulocladium* is a common water indicator species and could be an indication of a water intrusion issue within the area. Further investigation in this area is recommended.

TABLE 25. Airborne Total Fungi Results (Spore-trap) – 8th Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
NE corner	071005-111	53	<i>Cladosporium</i>
SW corner	071005-112	119	<i>Aspergillus/Penicillium, Cladosporium, Ulocladium (11%)</i>
Outdoor Air #1 (parking garage roof)	071005-100	1,132	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071005-117	1,667	<i>Cladosporium</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

No suspected visible fungal growth was observed on the 8th floor, nor were any random surface samples collected on the 8th floor as part of this investigation.

3rd Floor Daily Air Sampling Results

Table 26 summarizes the results of the spore trap ambient air samples collected on the 3rd floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 3rd floor identified significantly elevated or abnormal fungal levels on the days of testing. Total counts of fungi within the floors ambient air were less than, or similar to, that observed in the outdoor air. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 26. Airborne Total Fungi Results (Spore-trap) – 3rd Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
0317 – NW corner	071004-151	66	<i>Cladosporium</i>
0308 – SE corner	071004-152	66	<i>Cladosporium</i>
0327 – SW corner	071005-115	119	<i>Aspergillus/Penicillium, Cladosporium</i>
0317 – NE corner	071005-116	53	<i>Cladosporium</i>
0327 – K-20 (station 109)	071007-817	<13	No predominants observed
0317 – N-20 (station 035)	071007-818	<13	No predominants observed
Hallway – SE corner	071008-819	186	<i>Aspergillus/Penicillium</i>
Hallway – NW corner	071008-820	119	<i>Aspergillus/Penicillium, Cladosporium</i>
Hallway – NE corner	071009-815	172	<i>Aspergillus/Penicillium, Basidiospores, Cladosporium</i>
Hallway – SW corner	071009-816	480	<i>Aspergillus/Penicillium, Cladosporium</i>
0308 – cube area	071010-803	<13	No predominants observed
0317-001 – cube	071010-804	53	<i>Aspergillus/Penicillium</i>
Outdoor Air #1 (parking garage roof)	071004-150	586	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071004-167	2,123	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071005-100	1,132	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071005-117	1,667	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071007-800	3,057	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071007-823	2,160	<i>Basidiospores, Cladosporium</i>
Outdoor Air #1 (Front lobby N street)	071008-800	4,314	<i>Basidiospores</i>
Outdoor Air #2 (Front lobby N street)	071008-821	2,596	<i>Cladosporium</i>
Outdoor Air #1 (Front lobby 5 th street)	071009-800	1,599	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (Front lobby 5 th street)	071009-819	1,787	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071010-800	1,307	<i>Ascospores</i>
Outdoor Air #2 (parking garage roof)	071010-823	2,984	<i>Basidiospores</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

No suspected visible fungal growth was observed on the 3rd floor, nor were any random surface samples collected on the 3rd floor as part of this investigation.

2nd Floor Daily Air Sampling Results

Table 27 summarizes the results of the random spore trap ambient air samples collected on the 2nd floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 2nd floor identified significantly elevated or abnormal fungal levels on the days of testing. Total counts of fungi within the floors ambient air were less than, or similar to, that observed in the outdoor air. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 27. Airborne Total Fungi Results (Spore-trap) – 2nd Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
0200-126 – cube	071007-819	160	<i>Aspergillus/Penicillium, Cladosporium</i>
0200-056 – cube	071007-820	106	<i>Ascospores, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071007-800	3,057	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071007-823	2,160	<i>Basidiospores, Cladosporium</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

No suspected visible fungal growth was observed on the 2nd floor, nor were any random surface samples collected on the 2nd floor as part of this investigation.

1st Floor Daily Air Sampling Results

Table 28 summarizes the results of the spore trap ambient air samples collected on the 1st floor as part of the on-going daily air sampling requested by the Department of General Services. None of the ambient air samples collected from the 1st floor identified significantly elevated or abnormal fungal levels on the days of testing. Total counts of fungi within the floors ambient air were less than, or similar to, that observed in the outdoor air. In addition, the fungi observed were generally of similar biodiversity as that observed in the outdoor air.

TABLE 28. Airborne Total Fungi Results (Spore-trap) – 1st Floor.

<i>Sample Location</i>	<i>Sample Number</i>	<i>Total Fungi (per M³ of air)</i>	<i>Predominant Fungi Identified¹</i>
Cafeteria - tables	071007-821	106	<i>Aspergillus/Penicillium, Cladosporium</i>
Day care – 165 playroom	071007-822	106	<i>Aspergillus/Penicillium, Cladosporium</i>
Cafeteria - tables	071008-801	426	<i>Basidiospores, Cladosporium</i>
Day care – personal storage	071008-802	<13	No Predominants Observed
Cafeteria - tables	071009-817	107	<i>Basidiospores</i>
Day care – 165 staff room	071009-818	266	<i>Aspergillus/Penicillium</i>
Day care – 165 Kitchen	071010-801	185	<i>Aspergillus/Penicillium, Basidiospores, Cladosporium</i>
Cafeteria - tables	071010-802	239	<i>Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071007-800	3,057	<i>Cladosporium</i>
Outdoor Air #2 (parking garage roof)	071007-823	2,160	<i>Basidiospores, Cladosporium</i>
Outdoor Air #1 (Front lobby N street)	071008-800	4,314	<i>Basidiospores</i>
Outdoor Air #2 (Front lobby N street)	071008-821	2,596	<i>Cladosporium</i>
Outdoor Air #1 (Front lobby 5 th street)	071009-800	1,599	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #2 (Front lobby 5 th street)	071009-819	1,787	<i>Aspergillus/Penicillium, Cladosporium</i>
Outdoor Air #1 (parking garage roof)	071010-800	1,307	<i>Ascospores</i>
Outdoor Air #2 (parking garage roof)	071010-823	2,984	<i>Basidiospores</i>

¹-Predominant fungi primarily include fungi levels > 25% of the total observed, unless otherwise noted.
 ND – None Detected

No suspected visible fungal growth was observed on the 1st floor, nor were any random surface samples collected on the 1st floor as part of this investigation.

CONCLUSIONS/RECOMMENDATIONS

There are currently no guidelines or regulations to indicate "safe" or "normal" spore, fungi, or bacterial levels. However, indoor concentrations in the absence of an indoor source are typically less than outdoor concentrations. Sterling & Associates, Inc., following industry accepted practices, recommends that the indoor concentration of fungi be maintained at concentrations which are lower than that outdoors, both on a total basis and on a genus by a genus basis. Indoor and outdoor level comparisons should also be evaluated with an awareness of the building type, activity level, and weather conditions prevalent at the time of sampling. Variation is an inherent part of microbiological sampling. The presence or absence of a few genera in small numbers may not necessarily be considered abnormal. A substantial increase of one or two fungal types which are inconsistent with and non-reflective of the outside distribution of fungal types can be an indicator of an indoor reservoir of fungi.

The ambient air sampling performed as part of this preliminary investigation identified low levels of *Stachybotrys*, *Chaetomium*, and *Ulocladium* (common water indicator fungi species) within the building (most notably on the 23rd and 22nd floors), as compared to the outdoor air. Furthermore, the surface/swab sample collected confirmed the identification of visible fungal growth in many of the areas tested (behind the cove molding of the perimeter walls adjacent to windows).

Fungi sampling confirmed the presence of significant fungal contamination, which is consistent with the observation of visible fungal growth behind sheetrock, cove moldings, and baseboards along the south and east perimeter walls (areas adjacent to the 23rd floor patio).

The following recommendations are being provided based on the results and observations of this preliminary microbiological evaluation:

1. Based on the results of the air and surface/swab samples collected, and the visual observations of fungal growth and/or water damage, portions of the facility will require removal and remediation. A contractor who specializes in projects of this type should perform the remedial actions on fungi-contaminated areas. Specifically, the 23rd and 22nd floor (South and East walls) perimeter walls are affected. In addition, it is recommended that the 21st floor break room (2108) be subject to remediation procedures to address the fungi identified adjacent to the sink. The 12th floor supply fan rooms (fan room #1/2 and #3/4) should have the drywall removed from the pillars directly adjacent to the cooling coils to prevent future fungal growth in these areas. The standard drywall can be replaced with a material that does not promote fungal growth such as Densglass drywall. It is recommended that the fan room drywall be removed under negative pressure containment.

2. Additional investigation is recommended in some areas based upon suspicious or suspect air sampling results. This includes, but is not limited to, the following areas:
 - 24th Floor – Cube 024
 - 23rd Floor – Break room 2302 & Office 2337 (if not already included in the remediation project)
 - 22nd Floor – Office 2226 (if not already included in the remediation project)
 - 21st Floor – Office 2103
 - 8th Floor – SW Hallway corner
 - All break room sinks and adjacent areas within the building (long-term water damage was noted below several of the sinks inspected)
3. Prior to initiating remediation, a written protocol for fungal remediation should be developed. This protocol should include specific procedures for the remediation/clean-up and provisions for the protection of remediation workers, and building occupants.
4. The remediation contractor should follow a protocol to ensure that contamination is controlled and not spread throughout the adjacent areas of the residence. This would include the use of a negative air containment system(s) during remedial operations.
5. Following completion of remediation activities, the affected areas should be visually inspected, followed by re-testing (post-remediation testing) to ensure that fungi levels are acceptable and the remediation is complete. Sterling & Associates can perform the post-remediation sampling upon request.

Sterling & Associates adheres to general consensus guidelines/recommendations developed by the American Industrial Hygiene Association, the American Conference of Governmental Industrial Hygienists, the Environmental Protection Agency, and the New York City Department of Health for investigation, evaluation and control of microbiological contaminants. Currently, there are no governmental regulations or guidelines for fungal exposures.

LIMITATIONS

The data, information, interpretations, and recommendations contained in this technical report are presented solely as a basis and guide to the existing conditions as evaluated at the facility located at 450 N Street in Sacramento, California. Sterling & Associates, Inc. developed the conclusions and professional opinions presented herein in accordance with generally accepted Industrial Hygiene principles and practices. As with all Industrial Hygiene evaluations and reports, the opinions expressed here are subject to revisions in light of new information that may be developed in the future, and no warranties are expressed or implied.

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