

May 1, 1995

REPORT: Full Building Survey

TO: Linda McCracken-Hunt, Project Development, 100 Shops Building
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SUBJECT: Asbestos Material Survey - Folwell Hall
EH&S Project No: 022-95-032
Client Project No: For Data Base

Scope of Work: A full building asbestos material survey was conducted on March 15 through March 31, 1995. The purpose of the survey was to identify asbestos-containing materials (ACM) as defined by the Environmental Protection Agency (EPA). Any material that is greater than 1% asbestos is considered to be ACM. The intent of the survey was to identify both friable and nonfriable suspect ACM, identify nonfriable ACM that may become friable under demolition or renovation conditions, and to provide approximate cost estimates for the removal of identified ACM prior to renovation of Folwell Hall.

Project Description: Bulk samples of suspect ACM were collected on-site and analyzed via polarized light microscopy (PLM) for asbestos content. Results of analyses are listed in Appendix I of this report. Appendix I is formatted to provide a room by room inventory of suspect ACM, the asbestos content of each material listed, and friability. An explanation of the tables and abbreviations used in the tables is included with Appendix I. Appendix II is a room by room listing of only those suspect materials that tested >1% asbestos. Minnesota Department of Health (MDH) Asbestos Rules regulate only friable ACM (material may be reduced to powder or dust under hand pressure) while the EPA regulates ACM that may become friable under demolition or renovation conditions.

The following friable or potentially friable materials tested positive as ACM:

- <4" white fibrous pipe insulation and associated pipe fitting insulation
- <4" fibrous pipe fitting insulation on fiberglass
- 4"-8" white fibrous pipe insulation and associated pipe fitting insulation
- 9"x9" floor tile, off white with brown
- 9"x9" floor tile, beige with olive and white
- 9"x9" floor tile, beige with cream
- 9"x9" floor tile, light grey with white
- 9"x9" floor tile, black granite
- 9"x9" floor tile, tan granite
- 9"x9" floor tile, off white with white and grey
- 9"x9" floor tile, light grey with white and grey
- 9"x9" floor tile, grey with black and tan
- 9"x9" floor tile, light grey with black and white
- 9"x9" floor tile, beige with tan
- 12"x12" floor tile, tan with cream and beige
- 12"x12" floor tile, mauve marble
- 12"x12" floor tile, cream with olive
- 12"x12" floor tile, grey with white
- 12"x12" floor tile, beige with tan and olive
- 2'x2' ceiling tile, pinhole worm
- 2'x4' ceiling tile, pinhole worm

The following suspect materials tested none detected (ND) as ACM:

- <4" fiberglass pipe insulation
- 4"-8" fiberglass pipe insulation and associated pipe fitting insulation
- ceiling plaster
- wall plaster
- 12"x12" ceiling tile, pegboard
- 12"x12" ceiling tile, random hole
- 12"x12" ceiling tile, fissured
- 12"x12" ceiling tile, computer board
- 2'x2' ceiling tile, pinhole mini-fissure
- 2'x2' ceiling tile, springboard
- 2'x4' ceiling tile, pinhole mini-fissure
- 2'x4' ceiling tile, pinhole fissure
- 12"x12" floor tile, beige with grey and cream
- 12"x12" floor tile, cream with brown
- 12"x12" floor tile, mustard with brown and white
- 12"x12" floor tile, light grey with grey and white
- sheetrock and taping compound
- baseboard adhesive
- concrete block mortar
- red brick mortar
- clay tile mortar
- pyrobar and mortar
- springboard and adhesive
- plaster patching
- pipe putty
- duct putty
- blown-in insulation
- canvass vibration joints
- ceiling tile adhesive

The following nonfriable with low potential to become friable materials tested positive as ACM:

- **floor tile adhesive**

The following nonfriable with low potential to become friable materials tested less than 1% asbestos:

- 2'x2' ceiling tile, nailhole fissured

For room locations of above noted materials, refer to Appendices.

Observations and Recommendations:

1. Department of Environmental Health & Safety (DEHS);
Please refer to condition assessments for specific damaged areas. In general, materials were found to be in good to excellent shape.
2. Facilities Management;
The quantities listed reflect the visibility and accessibility at the time of the survey. Actual quantities must be verified by contracting entities.

Extensive abatement has occurred in the Sub-basement Crawl Space. However, no records could be found to document the extent and coverage of abatement. Therefore, it is possible the dirt under the poly covering may be contaminated with asbestos-containing debris.

In some rooms throughout the building, carpeting is covering the asbestos containing floor tile. This should be noted in case the carpeting is removed during the proposed renovation project. If the floor tile comes up with the carpet, the carpet should then be removed by the Facilities Management Asbestos Abatement Unit or a Minnesota Licensed asbestos abatement contractor.

3. General;

Due to limited access points in the ceilings and walls, some pipe chases and areas above ceilings were completely inaccessible or only slightly visible. As a result, the quantities listed reflect the visibility available at the time of the survey.

Although no roof sampling was done, complete roof sampling is recommended at a time when a qualified roofing contractor is on-site to patch core sample holes in roofing.

Rooms 4, 14B, 37A, 43, 152 and 355 were inaccessible at the time of the survey.

Cost Information: The approximate cost for the removal of all ACM is itemized below. These figures are based on the assumption that all friable and potentially friable ACM are going to be removed. For project specific removal costs, contact this office with your project requirements and unit costs can be calculated for the impacted areas.

<u>MATERIAL TYPE</u>	<u>LOW RANGE</u>	<u>HIGH RANGE</u>
• floor tile	\$52,018	\$104,036
• ceiling tile	8,508	17,016
• thermal system insulation	4,168	5,254
TOTAL	\$64,694	\$126,306

All ACM removal must be performed by a Minnesota licensed asbestos abatement contractor. All asbestos removal shall be performed within the specified procedures as outlined in the University of Minnesota Technical Specification for Asbestos Abatement. Please note that removal costs are highly variable and dependent on such factors as contractor availability, accessibility of work areas and site specific work plans.

Air monitoring is required for many asbestos-related projects. Environmental Health and Safety (EH&S) is available to provide this service. The estimated cost for EH&S to complete air monitoring requirements for specific projects will be made available upon request. The cost of air monitoring is a function of contractor on-site days and may vary dependent upon project specific scope of work. EH&S will provide labor, equipment and project oversight as necessary. Project management and contract administration will be provided by the Facilities Management Project Development Group.

EH&S also recommends that throughout the general renovation activities associated with this building, precautions and work practices should be implemented to minimize nuisance dust levels. Dust suppression techniques (misting the air with water and keeping materials wet) should be required of the general contractor.

If there is any further information required, or other questions arise regarding this request, please contact John Allen at 627-4861.

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