May 24, 1994

REPORT: Full Building Survey

TO: Ken Almer, Project Development, 100 Shops Building, 319 15th Avenue SE, Minneapolis, MN 55414

FROM: John Allen, Asbestos Group, Environmental Health and Safety, B-7 U-Tech Building, 1313 5th St. S.E., Minneapolis, MN 55414

SUBJECT: Asbestos Material Survey - Health Services, St. Paul
EH&S Project No: 361-94-037
Client Project No: 361-94-1115

Scope of Work: A full building asbestos material survey was conducted on April 11 through April 28, 1994. 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 Health Services.

Project Description: Eighty-eight (88) bulk samples of suspect ACM were collected on-site and seventy-eight (78) 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" aircell pipe insulation and associated pipe fitting insulation
- <4" felt pipe insulation and associated pipe fitting insulation
- 4"-8" aircell pipe insulation and associated pipe fitting insulation
- white fibrous tank insulation
- 2'x2' ceiling tile, pinhole worm
- 9"x9" floor tile, cranberry
- 9"x9" floor tile, black with cream
- 9"x9" floor tile, white with light grey
- 9"x9" floor tile, grey with black and tan
- 12"x12" floor tile, black with cream
- 12”x12” floor tile, light gray with beige and white
- 12”x12” floor tile, tan with beige
- tan and beige linoleum

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

- <4” fibrous pipe fitting insulation on fiberglass
- ceiling plaster
- wall plaster
- 12”x12” ceiling tile, pegboard
- 2’x4’ ceiling tile, pinhole crater
- 9”x9” floor tile, black with white
- 9”x9” floor tile, red with white
- white with tan linoleum
- brown linoleum
- grey flooring
- baseboard adhesive, brown
- sheetrock and taping compound
- red brick mortar
- clay tile mortar
- concrete block mortar
- black lab top
- canvass vibration joint
- ceiling tile adhesive

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

- floor tile adhesive

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

Observations and Recommendations: In Rooms 8 and 8 A in the basement, it appears as if asbestos abatement has taken place. However, asbestos containing pipe lagging was found in the walls of both Rooms 8 and 8 A. Precautions should be taken if any of these walls are disturbed during a renovation or demolition process.

Asbestos containing ceiling tiles were found in Rooms 116/116 A&B. Proper Operation & Maintenance (O&M) procedures should be followed whenever working on or above these ceiling tiles.

In some areas of the building, carpeting is covering the asbestos containing floor tile. This should be noted in case the carpeting is removed during a 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.

Due to limited access points in the plaster ceilings and walls, some pipe chases 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.
At the time of the survey, the following areas were inaccessible: Rooms 113, 113 A and 115.

**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.

<table>
<thead>
<tr>
<th>MATERIAL TYPE</th>
<th>LOW RANGE</th>
<th>HIGH RANGE</th>
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<tbody>
<tr>
<td>• thermal system insulation</td>
<td>$59,228</td>
<td>$77,851</td>
</tr>
<tr>
<td>• floor tile &amp; adhesive</td>
<td>23,374</td>
<td>46,748</td>
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<tr>
<td>• ceiling tile</td>
<td>624</td>
<td>1,248</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$83,226</strong></td>
<td><strong>$125,847</strong></td>
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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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