



January 14, 1987

Department of Environmental Quality Engineering
Commonwealth of Massachusetts
5 Commonwealth Avenue
Woburn, MA 01801

Attention: Mr. John MacAuley

Dear John:

Attached is the detailed plan for our PHASE II asbestos removal project as requested by your department.

We have tried to address all the concerns discussed during your site visit on 1/7/87.

Sincerely,

BIRD INCORPORATED

John F. Hardy
Manufacturing Manager

kac

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PHASE II ASBESTOS REMOVAL PROJECT

A. OUTLINE

This phase of the project includes the clean up and removal of all asbestos and contaminated waste from the PHASE II work area as described in our drawings submitted on 12/29/86, #SK-1 and #SK-2. The majority of this work will be performed inside some unoccupied mill buildings and as of this date, the entire perimeter of this PHASE II area has been sealed off as required. The portion of the four asbestos insulated tanks that protrude out the north end of the PHASE II buildings are also sealed off from the outside by use of a wood and reinforced plastic film structure. We would like to consider this PHASE II plan as an addendum to our original December 29th PHASE I plan in order to incorporate and include all applicable portions of that plan such as the SK-1 and SK-2 drawings, the materials and equipment list, testing equipment, etc.

B. DETAILED PLAN

- Contractor - Marlyn
- Timetable - Approx. 4 weeks

1. Site Description - Included with this written description of the plan are two additional drawings, #SK-3 and #SK-4, which locate the sub-sections of the PHASE II buildings we will refer to in the plan. Also, these two drawings delineate the locations of such items as the de-con unit(s), air locks, and exhaust units, as well as calculations pertaining to the air volumes and blower requirements (by section).
2. Progress of the Work - As this plan will show, we plan to work on one of the six sub-sections (A, B, and C of #SK-3 and A, B, C of #SK-4) at a time in order to keep the effort organized and eliminate the chance of a previously cleaned area from being recontaminated. The last sub-section or area to work on in a building will be the one closest to the door and de-con unit. As one section is completed, it will be sealed off from all other sections.
3. Priorities - The first area to be cleaned will be area "A" of #SK-3 which is the top floor of the tank room. All floor areas will be lined with poly before removal work begins to preclude any further contamination of the floor. All the asbestos will be wet down using a hotsea machine prior or removal. All asbestos or contaminated material will be properly bagged and sealed, brought downstairs and double bagged and sealed (using the special yellow asbestos poly bags) in the air lock chamber attached and adjacent to the temporary enclosure. Once all the bulk asbestos is removed and all the loose asbestos fibers are picked up, we will vacuum the entire area using a hepa vacuum. The final clean-up step performed before it is sealed off and considered "clean" and ready for inspection will be a final wash-down step, again utilizing the hotsea machines. All washings used during the final water wash will be collected into containers or channelled into a poly-lined sump. This collected contaminated water will then be pumped via sump type pump through a five micron filter prior to discharge onto the ground or storm water drain. The filter which will collect any asbestos particles remaining in the water will be bagged and disposed of as a contaminated material.

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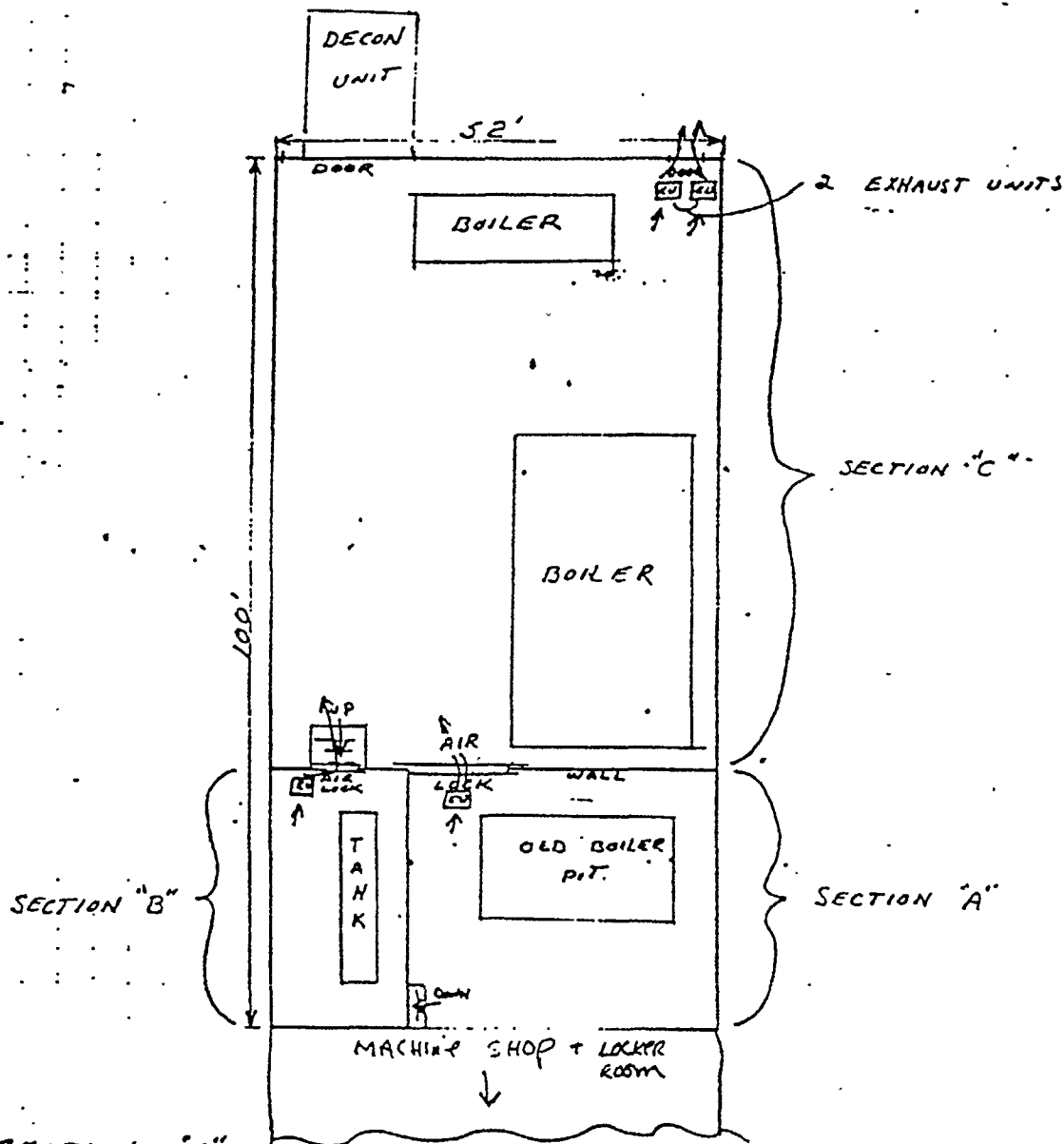
Please note that each area has a location chosen for positioning of the exhaust unit. Care will be taken to insure that each designated area will be sealed from the others (for example, closing off of a stairwell) to keep the negative pressure from the exhaust unit from being diluted by enlarging the area being exhausted. Wherever pipe insulation is encountered, the glove bag method of removal will be utilized.

4. The second area to be cleaned will be the bottom floor of the Tank Room or Area B as shown on SK-3. The same procedures will be followed as were described in Paragraph 3 above, including the use of the same air locks and clean-room chamber for removal of the contaminated materials. This floor will most likely be used as the final wash down water collection point for this building.
5. The third area to be cleaned will be the outside protruding portion of the four tanks that are sealed off from the outside by the temporary poly enclosure. The same methods used in Paragraph 3 above will be followed here. In addition, at the completion of the clean-up of this area, the entire enclosure will be knocked down and disposed of as contaminated while being kept under a negative via hepa vacuums.
6. The fourth area of removal will be Area C on SK-3 also known as the Machine Shop. Since the asbestos in this room is all pipe insulation, the glove-bag method will be utilized. Other procedures used will again be the same as those described in Paragraph 3 above.
7. The next areas to be cleaned will be the Locker Room Building, Sections A, B and C, with A being the first, B the second, and C the third. Sections A and C will be separated by a temporary wood and poly wall to reduce the air volumes required of the exhaust units and confine the asbestos to as small a space as possible. As each area is completed, the double bagging will be performed in the de-con unit that will be attached and sealed to the outside northern doorway of the Locker Room. Air locks will be used to keep a cleaned area from being recontaminated. A separate water wash sump and pump/filter arrangement will be set up on this building to assist in the final wash down water cleaning as well as allow us to decontaminate any individual pieces of debris so they can be treated as regular demolition materials once the asbestos clean-up activities are completed. For example, in areas where the old locker brick rubble has had asbestos fall onto it, we will do the following:
 - 1st - Pick up all visible asbestos manually using proper personnel protection
 - 2nd - Vacuum the entire area to remove the smaller particles
 - 3rd - Where contamination still exists, water wash the surfaces, collect the water into a sealed area or sump, and pump the washings through a five micron filter prior to discharge outside.
8. During the clean-up activities, personnel sampling will be periodically conducted, as well as area sampling once a section is cleaned up.
9. Bird or its authorized representative will notify the D.E.Q.E. when an area or entire phase of this project is ready for removal work to commence as well as when an area is ready for final inspection/.
10. Equipment & Materials:
 - A. All the equipment and materials specified in Paragraph 10 of our PHASE I plan will be used in the PHASE II work as well.

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BOILER ROOM

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SECTION "A"

$$30' \times 35' \times 25' = 26,250 \text{ CF} \div 15 = 1,750 \text{ CF/min} \div 2000 = 1 \text{ UNIT}$$

SECTION "B"

$$30 \times 17 \times 10 = 5,100 \text{ CF} \div 15 = 340 \text{ CF/min} \div 2000 = 1 \text{ UNIT}$$

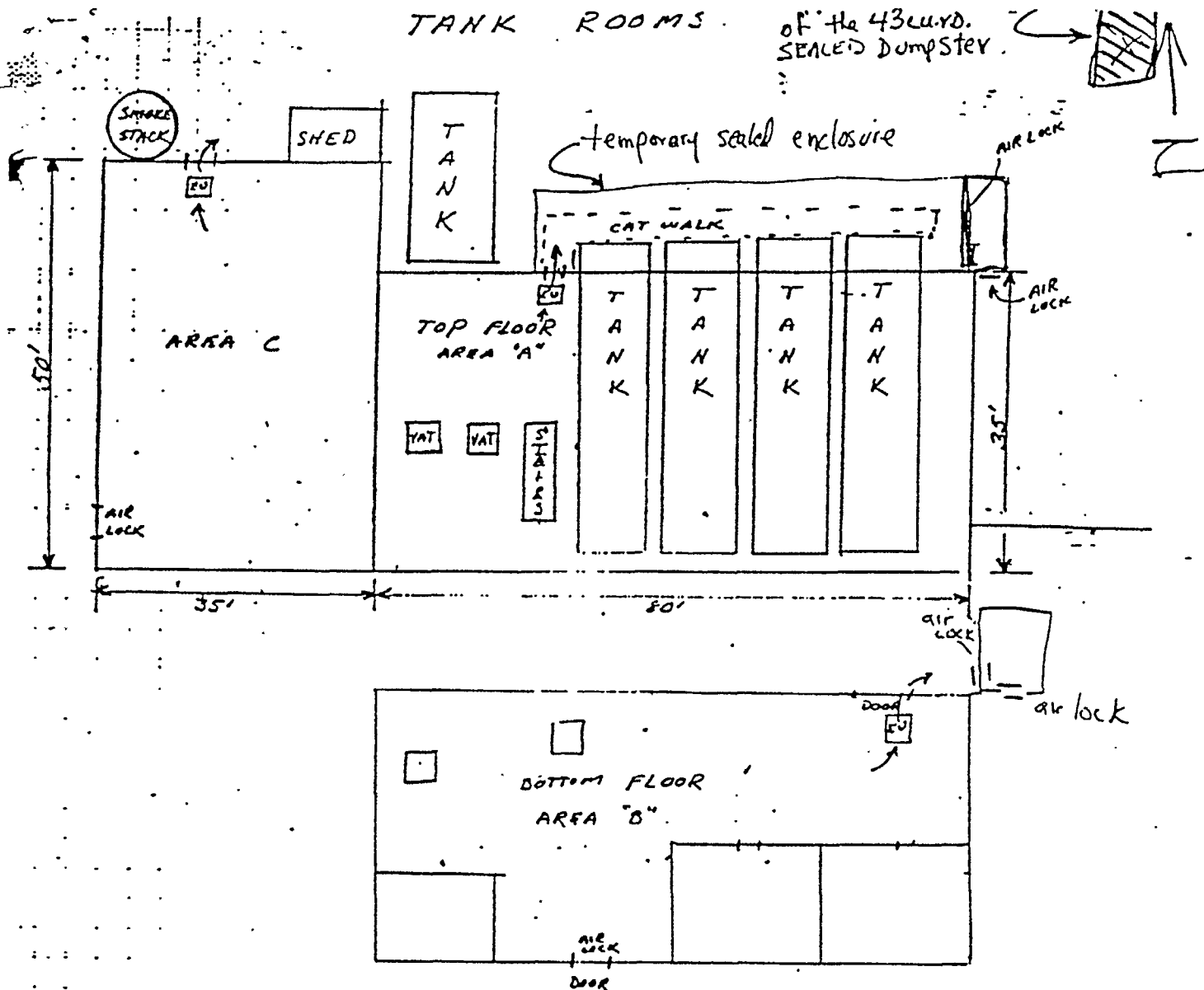
SECTION "C"

$$52 \times 70 \times 20 = 72,800 \text{ CF} \text{ LESS } 25\% \text{ FOR AREA OF BOILERS} = 54,600 \text{ CF} \div 15 = 3,640 \text{ CF/min} \div 2000 = 2 \text{ UNITS}$$

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TANK ROOMS

of the 43 cu. yd.
SEALED DUMPSTER.



AREA "A"

$$35 \times 80 \times 10 = 28,000 \text{ CF} \div 15 = 1,867 \text{ CF/m} \div 2000 = 1 \text{ UNIT}$$

AREA "B"

$$35 \times 20 \times 10 = 28,000 \text{ CF} \div 15 = 1,867 \text{ CF/m} \div 2000 = 1 \text{ UNIT}$$

AREA "C"

$$35 \times 35 \times 20 = 35,000 \text{ CF} \div 15 = 2,333 \text{ CF/m} \div 2000 = 1.2 \text{ UNITS}$$

(WE WILL USE GLOVE BAGS IN THIS AREA BUT KEEP 1 UNIT FOR SAFETY)

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