

RE: ASBESTOS REMOVAL - MUNICIPAL HALL

MUNICIPAL MANAGER'S RECOMMENDATION:

1. THAT the recommendations of the Director Engineering be adopted.

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TO: MUNICIPAL MANAGER 1986 DECEMBER 02

FROM: DIRECTOR ENGINEERING

SUBJECT: ASBESTOS REMOVAL - MUNICIPAL HALL

RECOMMENDATIONS:

1. THAT the Director Engineering be authorized to proceed with a process to remove asbestos containing material within the Municipal Hall as outlined in this report.
2. THAT a Tax Sale Bylaw in the amount of \$950,000 for asbestos removal be brought forward.

S U M M A R Y

The insulation material applied to the ceilings throughout the Municipal Hall contains varying percentages of asbestos fibres. The Corporation has a legal obligation to comply with a W.C.B. order which requires that portions of the insulation be treated with a sealant or removed. Work procedures for sealing (encapsulation) or removal are essentially the same. It is recommended that the asbestos containing material (ACM) be totally removed as a final and permanent solution.

R E P O R T

Background

The ceiling insulation material above the suspended ceiling throughout the Municipal Hall contains asbestos fibres. Analysis of the insulation material has identified that from 5% to 20% chrysotile asbestos fibres are present in the insulation material. The Workers Compensation Board of B. C., Industrial Health and Safety Regulations, lists asbestos as an airborne contaminant and the regulations control all operations involving the use of materials containing asbestos.

The W.C.B. has an outstanding order against the Corporation which states in part that:

"Damaged asbestos insulation shall be treated with a sealant to reduce fibre release, or, where treatment is not possible, asbestos shall be removed."

This requirement, originally issued in 1983, has never been met. Staff has worked closely with the W.C.B. over the past few years in order to adequately address the requirements of the W.C.B.

Various studies and analyses of the asbestos problem have culminated in the preparation of an independent consulting engineering report entitled, "Asbestos Hazard Assessment and an Abatement Program for Burnaby Municipal Hall". The recommendation of the report is that an abatement program involving complete removal of the asbestos containing material on all floors be undertaken.

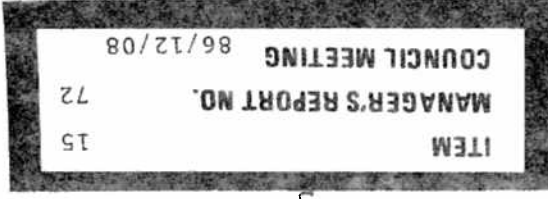
Discussion

There are four recognized methods for controlling the potential health hazard associated with the presence of asbestos in a facility. These are removal, encapsulation, enclosures, and an attendant management and custodial control program associated with the encapsulation and enclosures options. Removal is the ultimate solution because it completely removes the health risk associated with the presence of asbestos. Encapsulation and enclosure are both methods which allow the ACM to remain in place but prevent it from being disturbed during normal building use; this does not, however, include disturbance caused by building maintenance and repair, hence, both methods must be accompanied by the fourth control method, management and custodial control. A Management and Custodial Control Program (MCCP) consists of a set of documented guidelines which strictly specify work methods, procedures, and equipment to be used by any person working in an area that contains asbestos.

The W.C.B. order requires, as a minimum, localized (spot) removal of previously damaged areas and encapsulation of the remaining areas together with an ongoing MCCP. Because encapsulation permits the ACM to remain in place, it has the following inherent drawbacks:

I. INCREASED OPERATING COSTS

- A. Working above the ceiling is restricted to afterhours and weekends with attendant overtime labour rates.
- B. Productivity is greatly reduced as work procedures require set-up of isolation tents when penetrating the ceiling system.
- C. Inconvenience and loss of productivity for staff affected by ventilation, air conditioning, or lighting system failure which cannot be investigated or repaired until afterhours.
- D. Either an increase in staff or a reallocation of effort would be required to fulfill the requirements of a management and custodial control program, which requires:
 - i) regular daily, weekly, or monthly visual observations
 - ii) regular monthly cleaning using special equipment and procedures
 - iii) thorough initial cleaning using special equipment and procedures
 - iv) revised procedures that will intercept outside contractors and inhouse staff prior to having them do work in ACM areas so that these workers will be trained to use the proper work procedures and have provided to them proper equipment and personal respiratory protective equipment
 - v) emergency cleanup of minor amounts of ACM debris



II. PRESENCE OF ACM SEVERELY CONSTRAINS BUILDING FLEXIBILITY AND INCREASES RISKS OF BUILDING USE

- A. Past records indicate that many alterations have occurred within the facility since the building was erected. In the past these were done with no consideration being given to the presence of ACM and the generation of elevated fibre concentrations through contact damage. Today, work of this type in a facility containing ACM must be done using rigidly controlled work procedures and specialized equipment which increases the cost of the work and places constraints on the scheduling and duration of alteration work.
- B. It will become increasingly difficult, if not impossible to obtain liability insurance on facilities containing ACM. The risk of major unauthorized disturbance of the ACM with the associated generation of excessive asbestos fibre concentrations is ever-present.
- i) at the discretion of the WCB, a sizable area surrounding the infraction location will require cleaning using special ACM equipment and techniques
 - ii) adverse publicity could result in negative effects, both from political and public health points of view
 - iii) there will be associated costs, both human and financial
- D. As long as the ACM is in place, it will remain as a potential issue between management and employees.
- E. Being a municipal government, this facility will be in use for the long term with little chance of relocating to new premises; hence, there is no merit in initiating low-cost short-term control because the hope of relocating to new premises in the near future is virtually non-existent.
- F. There would be an inherent difficulty of determining with any appreciable degree of certainty whether or not any given future health problem resulted from the presence of ACM in the Municipal Hall.
- G. There is a finite amount of ACM within facilities in the region and there are presently a number of contractors that are concentrating on providing asbestos control services. The number of qualified contractors will dwindle as the volume of untreated ACM decreases and it will get progressively more difficult and expensive to have the work done.

From discussions with the WCB, the work area decontamination procedures for the Spot Removal and Encapsulation would be the same as those for Total Removal until an extensive air monitoring program verified that the fibre concentration generated by the Spot Removal and Encapsulation are so low that less restrictive work methods could be used. Until such a point is reached the cost and disruption associated with Total Removal would not be significantly higher than that associated with Spot Removal and Encapsulation. It is generally recognized that when costs are evaluated on a life-cycle-cost basis, Total Removal becomes the best long-term solution.

Costs and Methodology

Our consultant has provided cost ranges for two alternative abatement programs, i.e.:

- a) Spot Removal and Encapsulation
- b) Total Removal

The costs for initial treatment are estimated as follows:

	<u>Alternative 1</u>	<u>Alternative 2</u>
	Spot Removal and	Total Removal
	Encapsulation	
	\$	\$
Contractor Costs	341,000 - 460,000	605,000 - 855,000
Engineering, Construction Administration & Supervision Fees	51,000 - 60,000	79,000 - 95,000
TOTALS	----- 392,000 - 520,000	----- 684,000 - 950,000

In addition to the initial treatment costs shown under Alternative 1, it would be necessary for that Alternative only to include the long term costs associated with a management and custodial control program. These costs are essentially unknown due to the significant inherent variance in estimating the extent of future building alteration and maintenance requirements. However, it is not unreasonable to assume that an additional operating cost of \$30,000 per year would be incurred dealing with ACM in place which, over a 10-year period, extends to \$300,000. In any event, specialized removal of the asbestos would, with little doubt, have to be undertaken at the time of building demolition. We are of the opinion that from an overall perspective, Alternative 2 is rendered the preferred option.

In either case, the works would be undertaken by a contractor specializing in asbestos treatment and removal. It would also be necessary for the Corporation to retain a consultant to provide engineering advice in this specialized field. At this time it would appear that the work would best be undertaken primarily on weekends in order to minimize disruption of municipal services and minimize costly temporary displacement of employees; however, all options of work methods would be explored at or prior to the time of tender call.

The work of asbestos removal would be expected to take up to two years to complete. Asbestos removal must be considered a project in its own right because no major renovations are likely to take place in the next 5 to 10 years which could have been integrated with this project.

Financing

All of the financing alternatives were considered and the Director Finance concluded that the \$950,000 highest estimated cost of the project should be funded as follows: First, from 1986 general revenue fund surplus, if any, after allocation of the \$1 million needed for carry forward as revenue for 1987. Second, from 1986 capital surplus, if any, and finally, the balance from the Tax Sale Reserve.

However, the amount of surplus available will not be known until after year-end 1986, i.e. early in 1987, and because the full

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amount of funding has to be in place prior to commencement of the project, it is recommended that the \$950,000 be authorized by a Tax Sale Bylaw. In actual fact, the Tax Sale Reserve account will only be used to the extent needed, after utilization of available surplus funds. The net amount from tax sale would be repaid over 20 years at prevailing interest rates.

The Tax Sale Bylaw requires a two-thirds approval of full Council as well as Ministerial approval.

No revenue sharing or assistance grants from senior levels of government are available for projects of this nature.

Conclusion

The presence of asbestos containing materials in buildings and other structures is a problem which has confronted many public and private employers. "Removal" orders are not uncommon and have been enforced in such public areas as Vancouver Planetarium, B. C. Ferries, Vancouver International Airport, B.C.I.T., and B. C. Hydro buildings. The Corporation has a legal requirement to comply with the regulations of the W.C.B. Overall assessment of the options available leads to the conclusion and recommendation that Total Removal of the ACM is the preferred solution in the long term.


 DIRECTOR ENGINEERING

WCS:ml

- cc: () Director Finance
 () Medical Health Officer
 () Municipal Solicitor

