

RE: PROPOSED ALKYLATION PLANT - CHEVRON REFINERY

MUNICIPAL MANAGER'S RECOMMENDATION:

1. THAT the recommendation of the Director Planning & Building Inspection be adopted. \* \* \* \* \*

TO: MUNICIPAL MANAGER 1985 MARCH 21  
FROM: DIRECTOR PLANNING & BUILDING INSPECTION  
RE: PROPOSED ALKYLATION PLANT - CHEVRON REFINERY

RECOMMENDATION:

1. THAT this report be received for information purposes.

REPORT

1.0 INTRODUCTION

The Planning & Building Inspection Department has received a Preliminary Plan Approval application #7675 from Chevron Canada Ltd. for a proposed Alkylation Plant project at their Burnaby Refinery site located at 5201 Penzance Drive. This unit is required in order for Chevron to comply with the proposed reduction in lead usage in gasoline blends.

2.0 BACKGROUND

Effective 1987 January 01, maximum lead usage (in motor fuels) will be reduced from 0.77 grams/litre to 0.29 grams/litre due to new Federal Government regulations.

The net effect of this legislation will be to reduce the lead usage in leaded motor gasoline. The main function of the lead is to act as an octane booster. In order for Chevron to meet the 1987 forecast demand, future restrictions, and possible total phase out of lead gasoline usage, the refinery will have to rely on the Alkylation Unit.

2.1 ENVIRONMENTAL CONSIDERATIONS

Alkylation is a low pressure low temperature process that involves olefins (propylene and butylene) reacting with isobutane in the presence of a sulphuric acid catalyst. The resulting blend or "alkylate" has a very high octane number highly desirable as a gasoline component.

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Intermediate storage of the olefin and isobutane feed stock will be located on the refinery site as shown on the attached site plan.

The process as proposed is a closed system; that is to say, there will be no emissions to the atmosphere. The process uses sulphuric acid which is regenerated on the refinery site. Any small amounts of uncontained acids will be neutralized and sent to the refinery's oil sewer treatment system prior to being discharged to the sewer system. All effluent water streams will comply with GVS&DD regulations.

There will be no increase in refinery processing throughput capacity. In fact, due to the higher octane levels produced by this system, enabling more complete use of product stream components in the production of gasoline, crude requirements and throughput of the plant may decrease slightly.

As noted above, there will be no new or increased atmospheric emissions due to the installation of this plant.

### 3.0 CONCLUSION

The proposed Alkylation Plant technology has been used by refineries for several years. A similar process is presently in operation at the Gulf Port Moody refinery.

The project has been reviewed by the Environmental Health Department and Fire Department with favourable comments.

As a result, it is intended that P.P.A. #7675 and the necessary building permits will be issued shortly for construction of the proposed Alkylation Plant in accordance with the prevailing zoning bylaw and other pertinent Municipal regulations.

This is for the information of Council.



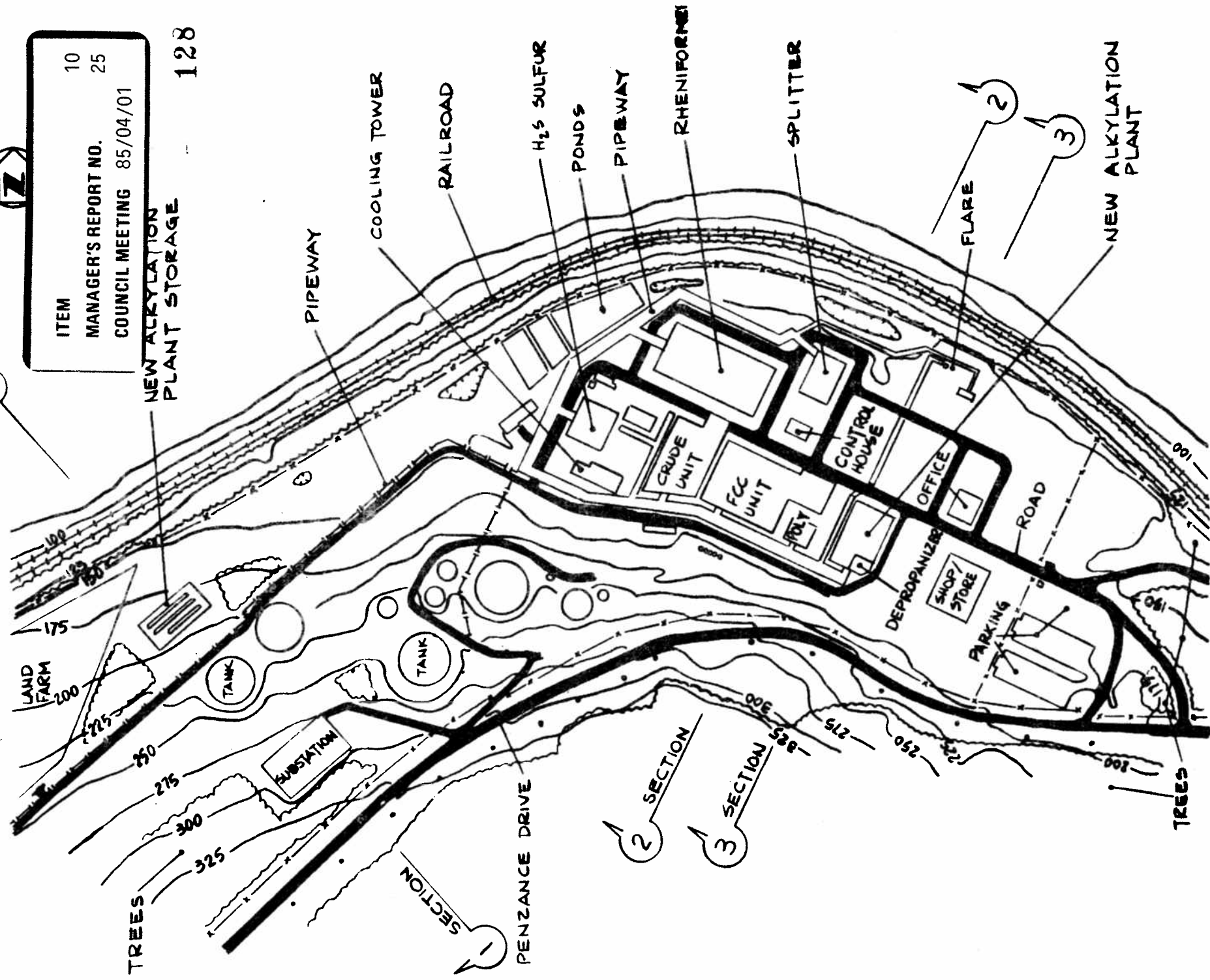
A. L. Parr,  
DIRECTOR PLANNING &  
BUILDING INSPECTION

JCu:ad  
cc: Chief Public Health Inspector  
Fire Prevention Office  
Chief Building Inspector

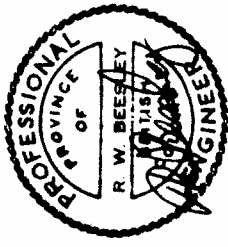
Att.

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NEW ALKYLATION  
 PLANT STORAGE 128



———— PARTIAL PLOT PLAN ————



PG 21 B

	<b>Chevron Canada Limited</b> <b>Burnaby Refinery</b>		PERMIT DRAWING ALKYLATION PROJECT
	E AS SHOWN DEC 1 1985 UPRR DEPT APPROVED	PW CK ENG APPROVED	PLANT 28 ALKYLATION PLANT A W O S O

