

ITEM 7
MANAGER'S REPORT NO. 39
COUNCIL MEETING May 26/75

Re: Design of Kensington Avenue Grade Separation Structure and
Associated Roadworks
(Item 5, Report No. 31, April 28, 1975)

Council, at its meeting of April 28, 1975, considered the above-noted report and adopted the recommendation that the Corporation enter into an engineering agreement with Associated Engineering Services Ltd. to carry out the engineering services for the subject works. At that meeting an enquiry was raised regarding the difference in costs as between the Sperling Avenue and the Kensington Avenue alignments.

Following is the Municipal Engineer's report in reply to the enquiry regarding the difference in cost of the two alignments.

This is for the information of Council.

16 May, 1975

TO: MUNICIPAL MANAGER
FROM: MUNICIPAL ENGINEER
SUBJECT: KENSINGTON/SPERLING GRADE SEPARATION STUDY

In answer to an enquiry by Alderman Mercier regarding the subject of costs associated with the Sperling Avenue alignment, we wrote to the consultant and asked for a complete assessment of the structures, ramps, etc required, and the estimated costs associated with, these various components. A copy of our letter is attached as Attachment 1.

The Consultant's reply, a copy of which is attached as Attachment 2, indicates that a prime reason for the high cost of the Sperling Avenue alignment is the fact that the structure is approximately 200 feet longer, which is a product of the poor soil conditions and the location of the Sperling alignment relative to the Kensington alignment, the latter lending itself to having one of its approaches virtually eliminated by the high embankment of good bearing material immediately north of the Loughheed Highway.

A second high-cost component on Sperling is the two ramps, primarily because of property requirements. Either one or both of the ramps can be eliminated in an effort to reduce costs; however, in doing so, it must be understood that various turning movements will be eliminated and will therefore have to be incorporated at other locations. Some of these other locations are mentioned in the Consultant's reply along with improvements which would be required, such as widening the Loughheed Highway and revising the signalization to increase intersection capacity (if possible).

In summary, the only real area of saving may be in the elimination of the ramps; however, in doing so, the "true saving" may in fact be very small when all associated matters are given their full recognition.

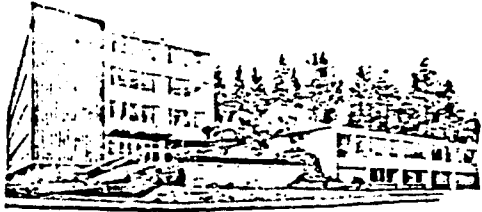
This is submitted for Council's information.


MUNICIPAL ENGINEER

VW:cmg
Atch.
c.c. () Planning Director

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THE CORPORATION OF THE DISTRICT OF BURNABY

MUNICIPAL HALL
 4949 CANADA WAY
 BURNABY B.C. V5G 1M2
 TELEPHONE 299-7211

February 19, 1975

The Office of the Engineer

Associated Engineering Services Ltd.
 1661 West 8th Avenue
 Vancouver, B. C.
 V6J 1V1

Attention: Mr. R. Ross, P. Eng.
Project Manager

Dear Sirs:

Re: Kensington Sperling Grade Separation Study

Further to your conversation with Mr. V. N. Wiebe yesterday would you please comment on a question raised by one of the Alderman at last Monday's Council meeting.

Briefly stated the question is whether or not the proposed ramp arrangement associated with the Sperling Avenue alignment is the prime reason for the higher cost of that Alternative. It should be noted that even with the inclusion of these ramps a number of traffic movements would have to be eliminated at the Winston-Sperling intersection and introduced somewhere else in the adjoining street system.

Another approach to this question would be to consider whether or not the ramps proposed in Alternate No. 1 are the most economic solution to the problem of accommodating a maximum number of traffic movements at the Winston-Sperling intersection. In considering these questions please include reference to all aspects such as traffic conflicts, ease of movement, signal capacities, limitations of number of turning movements, property acquisitions, property restoration, etc.

Please consider this request as your authority to proceed with additional work under Clause 5 of Article IV of your current Engineering Agreement.

Yours truly,

E. E. Olson, P. Eng.
 MUNICIPAL ENGINEER

VNW:wlh
 cc: () Municipal Treasurer
 () Director of Planning
 (✓) Design Engineer

by: V. N. Wiebe, P. Eng.
 DESIGN ENGINEER

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AEC

ASSOCIATED ENGINEERING SERVICES LTD 1661 W 8TH AVE., VANCOUVER, B.C., V6P 1M1 TEL: (604) 736-7361. TELEX: 045-4577. CABLE: CANENCO

March 17, 1975
File: 4004-R911

RECEIVED IN
ENGINEERING DEPT.

MAR 20 1975

REFER TO	NOTED	DATE
VII		

ACTION BY	REF. DATE

The Corporation of Burnaby,
Municipal Hall,
4949 Canada Way,
BURNABY, B. C.
V5G 1M2

Attention: Mr. V. N. Wiebe, P. Eng.

Dear Sirs:

Re: Kensington Sperling Grade Separation Study,
Review of Ramps and Costs.

Thank you for your letter dated February 19, 1975, requesting us to review the traffic and economic implications of the ramp arrangement associated with Alternative 1 of our report. Our comments are as follows:

1. Based on construction costs only, valid at the time of issue of the report, the ramps are not the prime reason for the higher cost of Alternative 1. The prime reason is the longer structure, 1,035 feet for Alternative 1 in comparison to 847 feet for Alternative 2 and 3. The cost of constructing the ramps is approximately \$60,000 whereas the additional cost of the longer structure is \$450,000. Property acquisition costs could not be evaluated since these were beyond the terms of reference of our report.
2. If; however, the land purchase costs shown in Table 1 of the Burnaby Planning Department Report "Kensington and Sperling Alignments, A Comparative Review" are taken into consideration, then the cost of ramps increase to over \$600,000, and therefore are more significant than the increased cost of the structure.
3. It is recognized that the following turning movements would be eliminated at the intersection of Sperling Avenue and Winston Street:
 - a) west bound on Winston turning right onto Sperling
 - b) south bound on Sperling turning left onto WinstonSince both movements are relatively light and are oriented in a northerly direction, these movements can be readily accommodated at the following adjacent intersections:
 - a) Lougheed Highway - Sperling Avenue
 - b) Lougheed Highway - Bainbridge Avenue
 - c) Sperling Avenue - Broadway

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4. The ramp arrangement recommended with Alternative 1, does not affect the length or height of the structure, but rather takes advantage of the configuration of the structure and the close proximity of Winston Street to the railroad tracks. Since a vertical clearance of 23 feet 6 inches is required over the railroad in comparison to only 16 feet over the roadway, it is convenient to extend Winston beneath the structure and construct the west bound to south bound on-ramp to Sperling. The existing north bound to east bound turning traffic from Sperling Avenue to Winston can similarly be accommodated by constructing the loop on the Dairy-land property.
5. An alternate possible solution to both ramps would entail widening of the Loughheed Highway between Sperling Avenue and Bainbridge by one lane east bound and the creation of a dual left turn lane for west bound to south bound traffic. Even with this arrangement, the intersection would be operating in a range of 130 percent capacity during the evening peak period. It is estimated that the construction cost of the required modifications would be \$150,000. A preliminary roadway and channelization design would be necessary to determine property requirements and costs.
6. The recommended ramp arrangement in comparison to the alternative of improving the Loughheed Highway results in more balanced and safer traffic operating characteristics for the following reasons:
 - a) Vehicle conflicts points are less
 - b) Ease of movement is Superior via the ramps
 - c) Additional capacity will be available on the Loughheed Highway as a result of the ramps

We trust the above comments clarify the issues which you have referred to us. However, if we can be of any further assistance please do not hesitate to call.

Yours truly,

K. E. Fenton, P.Eng.,
Traffic Engineer.