

ITEM 18
MANAGER'S REPORT NO. 37
COUNCIL MEETING May 13/74

Re: Engineering Services for the Design and Inspection of Watermains
(Item 16, Report No. 25, April 1, 1974)
(Item 15, Report No. 27, April 8, 1974)

Following is the report dated May 10, 1974 from the Municipal Engineer regarding outside engineering services that are required for the design and inspection of watermains. Council will note that this report is referenced as Item 2, "Upgrading and supplementing the distribution system" with the Engineer's report dated March 28, 1974 and included with Item 16, Manager's Report No. 25, April 1, 1974.

Council will also note from the following report of the Engineer that, as instructed by Council at its meeting of April 8, 1974 when Item 15, Manager's Report No. 27 was considered, the Engineer has obtained three proposals from outside firms.

RECOMMENDATION:

THAT the Corporation enter into an Agreement for engineering services with Dayton & Knight Ltd. for Phase I of the works as listed and attached to the Engineer's letter of April 25, 1974 to the outside firms. The fees for these services are to be in accordance with "Outline of Services and Scale of Minimum fees" as published by the Association of Professional Engineers of B.C. to a maximum of \$10,000 plus disbursements.
* * * * *

TO: MUNICIPAL MANAGER MAY 10, 1974
FROM: MUNICIPAL ENGINEER
RE: ENGINEERING SERVICES FOR THE DESIGN AND INSPECTION OF WATERMAINS

Subsequent to the Municipal Engineer's report on March 28, 1974 regarding the same subject this report deals with the retention of a Consultant for engineering services for the upgrading of the water distribution system. (Second group of projects.)

Proposals for engineering services were invited from three reputable firms by our letter of April 25, 1974, see Attachment "A". A brief summary of the three proposals (see Attachments "B", "C" and "D") is as follows:

Web Engineering Ltd.

Phase I - design and quantity take-off as per the Corporation's terms of reference for an upset fee of \$5,800. plus disbursements based on the outline of services and scale of minimum fees as recommended by the Association of Professional Engineers of B. C. (Payroll cost plus 100%); plus an upset fee of \$4,460 for a soils investigation.

Phase II - construction administration as per the Corporation's terms of reference of an upset fee of \$5,850. per month based on the outline of services and scale of minimum fees as recommended by the Association of Professional Engineers of B. C. (Payroll cost plus 35%). This cost valid only until May 6, 1975.

McIlhenny Surveying & Engineering Ltd.

Phase I - Design and quantity take-off as per the Corporation's terms of reference for an upset fee of \$14,000. plus disbursements based on the outline of services and scale of minimum fees as recommended by the Association of Professional Engineers of B. C.; plus a soils report on a time and materials basis. (No upset price given.)

Phase II - construction administration as per the Corporation's terms of reference for the same fee as their present Agreement for inspection.

Dayton and Knight Ltd.

Phase I - design and quantity take-off as per the Corporation's terms of reference for an upset fee of \$10,000. plus disbursements based on the outline of services and scale of minimum fees as recommended by the Association of Professional Engineers of B. C. (This includes the cost of a soils investigation.)

Phase II - an upset limit for either general or resident supervision of construction not be set until the contractor's schedule is determined. The cost of supervision varies widely depending on who does the work, when it is done, and how long it takes.

On the basis of the proposals submitted the Engineering Department recommends that the Corporation enter into an Agreement for engineering services with Dayton & Knight Ltd. for Phase I only at this time. This recommendation is based on the quoted upset fee which is less than either of the other two proposals and also based on the fact that Dayton & Knight have completed design and contract document preparation for extensive watermain construction in the Big Bend area immediately adjacent the location of the works included in this project and as soon as all the materials for this earlier project have been received by the Corporation, Dayton & Knight will be retained to supervise the installation as noted in the Engineer's report dated September 20, 1973.

It is, therefore, considered to be economically beneficial to the Corporation to advance the design and take-off of a schedule of quantities to the extent whereby the order for materials for this project could be placed prior to the award of an installation contract for the 1973 project.

Although Dayton & Knight's proposal is qualified by an end of August completion date they have verbally assured this department that a schedule of quantities, sufficient to place an order for materials, could be available by mid-June. The balance of their design time would be taken up by drafting and preparation of specifications, etc.

The net result of this could be that:

1. The entire water distribution network in the eastern portion of the Big Bend would be designed by the same Consultant for the most economical cost.
2. The materials for this project would be delivered prior to the completion of the installation of the 1973 works, thereby availing us of the opportunity to call a combined installation contract. This will save the Corporation money because only one Contractor has to mobilize his equipment and manpower. Also, because of the poor soil conditions this type of construction can only be done during the drier summer and early fall months and with the afore-mentioned scheduling both projects could be completed this year whereas otherwise the installation of the 1974 project may have to be postponed to the summer of 1975.
3. The supervision of construction for both projects will be done by the one Consultant, namely the same one who designed the works.

RECOMMENDATION:

THAT the Corporation enter into an Agreement for engineering services with Dayton & Knight Ltd. for Phase I of the works listed in the Engineer's letter of April 25, 1974. The fees for these services are to be in accordance with 'Outline of Services and Scale of Minimum fees' as published by the Association of Professional Engineers of B. C. to a maximum of \$10,000. plus disbursements.

VW:wlb
Attachments

E. E. O'Connell
MUNICIPAL ENGINEER

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COUNCIL MEETING May 13/74

April 25, 1974

The Office of the Engineer

McElhanney Surveying & Engineering Ltd.
7832 120th Street
Surrey, B. C.
V3W 3N2

Dear Sirs:

Re: Engineering Services for Design
and Construction of Water Mains

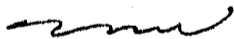
Attached is an outline of engineering services required to complete Burnaby's 1974 Capital Works Program for Waterworks. I hereby invite you to submit a proposal for the specified.

As you are aware, we find it necessary that you stipulate an upset limit for your fee for this work whenever you consider it possible. The work is divided into two phases which you should evaluate separately as we do not guarantee that the services in Phase II will necessarily follow the completion of Phase I.

We would appreciate receiving your proposal by May 7, 1974.

Yours truly,

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



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

VNW:wlb

Att.
cc: () Design Engineer

Required Services from Consulting Engineer for design and construction of water mains as follows:

1. 12" diameter on Byrne Road between Marine Drive and Mandeville.
2. 10" diameter on Fenwick between Marine Drive and Trapp.
3. 10" diameter on Trapp between Meadow and Fenwick.
4. 10" diameter on Meadow between Trapp and C.N.R. right-of-way.

Phase I

1. Field Survey to establish location and grades for mains.
2. Study of sub-soil conditions.
3. Design of mains and all appurtenances including connections to existing mains.
4. Preparation of bill of quantities, specifications and tender-contract documents based on Corporation standards.
5. Cost estimate for the work.

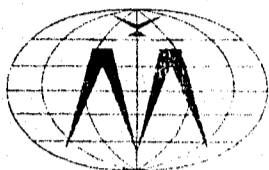
This work to be completed June 30, 1974

Phase II

1. Provide office administration of construction, including checking of construction proposals, interpretation of drawings and specifications to the contractor, evaluation of equipment to be installed for approval by the Corporation, routine visits by senior Engineering personnel to inspect the execution of the work, certification of interim and final payments to the contractor and preparation of as-built record drawings.
2. Provision of resident inspection and survey staff for detailed layout of all work and supervision of construction of the work as authorized by the Corporation.
3. Maintain a daily work diary of each days work for submission to the Corporation at completion of construction, submit to the Corporation a weekly progress report on the progress of the work, maintain continuous close liaison with the Corporation throughout the course of construction, in order to ensure that all work is performed to the satisfaction of the Corporation.

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McELHANNEY SURVEYING & ENGINEERING LTD.
7832 - 120th STREET, SURREY, B.C., CANADA • PHONE: 596-0391 • ZENITH 6201
V3W 3N2

6 May 1974
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RECEIVED IN
ENGINEERING DEPT.

MAY 7 1974

REFER TO T DATE
VW. 10/10/74

The Municipal Engineer
Corporation of Burnaby
4949 Canada Way
Burnaby, B.C.

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

Gentlemen:

Watermain Design and Supervision

Thank you for your letter of April 25th requesting our proposal for watermain engineering.

We have just completed designs of similar works for the District of Surrey where we found costs averaged around 7½% for the Phase I portion you describe. However, this did not include part 2 "Study of sub-soil conditions" which we would propose to complete on a time and materials basis.

For the balance of phase I, we would propose an upset cost of \$14,000.00 for design with part 3 additional as above.

We would propose to complete Phase II on the same basis as our current supervision program with your department.

We could meet the date for completion of design by June 30th provided the work was assigned firm with the design package by May 15, 1974.

We appreciate the opportunity of submitting this proposal and look forward to working with you on the project.

Yours very truly
McELHANNEY SURVEYING & ENGINEERING LTD.

F.T. Wilton, P. Eng., Manager
Lower Mainland Municipal Engineering Branch

FTW/ds

