COUNC	IL MEET	ING M	lay 1	3/74
MANAG	ER'S RE	PORT	NO.	37
ITEM	18	a Sector Sector		

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<sup>6</sup>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

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FROM: MUNICIPAL ENGINEI'R

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 encineering 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 <u>Attachments</u> "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. (Pavroll cost plus 100%); plus an unset fee of \$4,460
	for a soils investigation.

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

# McElhanney Surveying & Engineering Ltd.

Phase I - Jesign and quantity tabe-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 solls report on a time and materials basis. (No unset price given.)

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

## Davton 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 videly 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 & Enight Ltd. for Phase I only at this time. This recommendation is based on the quoted ubset fee which is less than either of the other two proposals and also based on the fact that Dayton & Enight 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 & Enight 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 & Enight'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:

- 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 1073 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.

#### RECORDIENDATION:

THAT the Corporation enter into an Agreement for engineering services with Dayton & Knight Ltd. for Phase L 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.

VNW:wlb Attachments



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" f: "

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 Hains

Attached is an outline of engineering services required to complete Eurnaby'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 LINGINEER

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VHW:w1b

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

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.

ITEM	18		
MANAGE	R'S REPO	)RT NO.	37
COUNCIL	MEETIN	G May	y 13/
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Engineering Ltd.

101 - 1861 Welch Street North Vancouver, B.C. V7P 1B7 Telephone 985-9556

May 6th, 1974.

The Corporation of the District of Burnaby 4949 Canada Way BURNABY, B.C. V5G 1M2

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

Dear Sirs:

Re: Engineering Services for the design and inspection of watermains

Reference is made to your letter dated April 25th, 1974. The required services are for the design and inspection of construction, for approximately 5,800-feet of 12-inch dia. main on Byrne Road and approximately 3,700-feet of 10-inch dia. main on Trapp, Fenwick and Meadow, as described in your letter.

Phase I will be as outlined in your letter, including Points 1,3,4 and 5. Point 2 (study of sub-soil conditions), will contain a test every 100-feet to a depth of 16-feet and a total of 4 bore holes to 44-feet. The results of this condition will be summarized in a soils report and recommendation. We recommend the firm of McKinney Laboratories Ltd. for this work.

Phase II is based on Points 1, 2 and 3 as outlined in your letter. The cost stipulated for Phase II would be good for the period of one year of this date since it is based on present wages. Should construction be postponed beyond this period, the stipulated cost should be revised.

Fees for Phase I are based on Payroll Cost Plus 100%. Fees for Phase II are based on Payroll Cost Plus 85%.

Cost for all services will be based on the outline of services and scale of minimum fees as recommended by the Association of Professional Engineers of the province of B.C.

<u>Phase I</u> - Points 1, 3, 4 and 5 the cost not to be exceeded will be \$5,800.00 Point 2 the cost of the study of sub-soil conditions will not exceed \$4,460.00.

Phase II - The cost per month not to be exceeded will be \$5,850.00.

We appreciate being considered for engineering services.

Yours very truly,

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# MCELHANNEY SURVEYING & ENGINEERING LTD.

7832 - 120th STREET, SURREY, B.C., CANADA • PHONE: 596-0391 • ZENITH 6201

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6 May 1974

V3W 3N2

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  $7\frac{1}{2}\%$  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.

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

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REF		2010 I S	

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> R. GORDON KNIGHT, P. ENG. MARTIN J. J. DAYTON, P. ENG. AGRIS BERZINS, P. ENG. KENLEY R. KERR, P. ENG.

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ENGINEERING DEPT.

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DAYTON & KNIGHT LTD. Consulting Engineers 1865 MARINE DRIVE, BOX 91247. WEST VANCOUVER, B.C. V7V 3N9 PHONE 922-3255

> The District of Burnaby, Municipal Hall, 4949 Canada Way, Burnaby 2, B.C. V5G 1M2

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

Dear Mr. Wiebe:

Re: Engineering Services for Design and Construction of Watermains

Thank you for your letter of April 25, 1974 with respect to engineering services for design and construction of watermains.

We are sorry that our present work load would not enable us to complete Phase I by the end of June. However, it may be possible to do so by the end of August, and if satisfactory to you, our upset limit would be \$10,000.

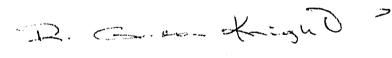
Regarding Phase II, we would prefer to know more about the successful contractor before quoting a monthly rate.

We shall await your further advice.

Yours very truly,

DAYTON & KNIGHT LTD.

May 3, 1974



R. Gordon Knight, P.Eng.