

RE: BURNING OF GARDEN REFUSE AT STRIDE AVENUE DUMP

MUNICIPAL MANAGER'S RECOMMENDATION:

1. *THAT the recommendation of the Director Engineering be adopted.*

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TO: MUNICIPAL MANAGER 84 08 01
FROM: DIRECTOR ENGINEERING
SUBJECT: BURNING OF GARDEN REFUSE AT STRIDE AVENUE DUMP

RECOMMENDATIONS:

1. THAT Council approve the appointment of E.H. Hanson & Associates Ltd. to carry out the work described in this report and as further detailed in the Company's proposal for the design and construction of a waste burner using landfill gas for supplementary fuel and smoke control.
2. THAT the estimated total cost of the project of \$119,100 be charged to Capital Budget Account No. 60-90, Contingency.

REPORT:

The above subject was mentioned in the concluding paragraph of Item 11, Manager's Report No. 31, Council Meeting 1984 04 24; a copy of this report is attached.

We have been considering this project for some time and we feel the time is now at hand for its implementation, in light of the considerable increase in complaints from the public and environmental regulatory bodies on occasions when open air burning was being carried out throughout the community.

We consider the project to be most innovative and very economically beneficial. We have monitored the incoming material to Stride Avenue and have calculated that we take delivery of approximately 10,000 metric tonnes of brush and garden waste per annum - this material comes from Burnaby residents, the Recreation & Cultural Services Department and from clearing contracts on Municipal subdivisions and major road projects. Considering that the only alternative to burning this type of material is to dispose of it at the transfer station at a cost of \$23.17 per metric tonne, an annual saving of \$231,700 would be realized by utilizing the process being recommended in this report.

(cont'd)

ITEM 10
MANAGER'S REPORT NO. 50
COUNCIL MEETING 84/08/07

118

-2-

If Council approves the recommendation, we will commence work immediately. Funding for the project is available in Account No. 60-90 of the 1984 Capital Budget Contingency with the balance in the Account currently being approximately \$168,000; at budget preparation time, the Management Committee had approved of this source of financing for this project as being the most appropriate one.

An application for partial funding (up to 50% of the estimated cost) will be forwarded to Environment Canada under the Development and Demonstration of Resources and Energy Conservation Technology (DRECT) Program. The project appears to meet all of the criteria and guidelines established by Environment Canada for the Program.

A subsequent report to Council will provide further information on progress of the project itself and on the outcome of our application for funding assistance from Environment Canada.


DIRECTOR ENGINEERING

EEO:WMR:sp
Attachs.

cc: () Medical Health Officer
() Director Fire Services
() Director Finance

RE: OUTDOOR BURNING POLICY

MUNICIPAL MANAGER'S RECOMMENDATION:

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

* * * * *

TO: MUNICIPAL MANAGER
FROM: DIRECTOR ENGINEERING
SUBJECT: OUTDOOR BURNING POLICY

RECOMMENDATION:

1. THAT a copy of this report be sent to all persons who have made their views known on this matter, including the City of New Westminster.

REPORT:

At the regular Council meeting held on 1984 April 02, Council adopted the following recommendation:

" That the Director Engineering be requested to bring forward a report reviewing the Outdoor Burning Policy of the Municipality. "

As a part of the review, staff from the Engineering, Health, and Fire Departments met to discuss the Outdoor Burning Policy.

The Burnaby Fire Department is opposed to any outdoor burning by Burnaby residents but are not opposed to burning of garden clippings at Stride Avenue by Corporation forces provided that burning is carried out in a properly-controlled manner.

The Medical Health Officer and the Chief Public Health Inspector are understandably concerned about outdoor burning because of complaints they receive from residents with respiratory problems. The Medical Health Officer also pointed out that the timing of the Spring and Fall burning days is approximately coincident with the worst periods for natural irritants which cause problems for persons who suffer from allergies and respiratory problems. The Health Department Officials stated that they would be prepared to agree with the Fire Department's position on outdoor burning but would also be prepared to accept a properly-controlled burning arrangement at Stride by Municipal forces if up-to-date trench burning equipment were to be used and if burning is carried out when atmospheric conditions are the most favourable.

Although the Engineering Department's views are very heavily weighted by economic considerations, we do nevertheless sympathize with those who suffer and we would be prepared to support the position taken by the Fire and Health Departments provided that we continue to burn at the Stride Avenue location using the most up-to-date methods.

ITEM 11
MANAGER'S REPORT NO. 31
COUNCIL MEETING 1984 04 24

ITEM 10
MANAGER'S REPORT NO. 50
COUNCIL MEETING 84/08/07

84/04/18

ITEM	11
MANAGER'S REPORT NO.	31
COUNCIL MEETING	1984 04 24

3

At present, we are studying the feasibility of using methane gas from the old Stride Dump to start up and assist the burning process in achieving more satisfactory combustion; as soon as this study is complete, a report will be made to Council with firm recommendations on possible Bylaw amendments. At that time (probably in July of this year) we can show the financial impact of any recommended changes in the Outdoor Burning Policy. Also, there will still be sufficient time to make the necessary public announcements before the scheduled 1984 Fall burning days, if it is decided to implement the changes that soon.

120

ITEM	10
MANAGER'S REPORT NO.	50
COUNCIL MEETING	84/08/07

EE O'Keefe
 DIRECTOR ENGINEERING

MR: js

- cc: () Director Administrative & Community Services
- () Medical Health Officer
- () Director-Fire Services

E.H. Hanson & Associates Ltd.

Engineering Services

Suite 100, 9507 - 120th St.
Delta, B.C. V4C 6S3
Phone: (604) 584-1233

July 20, 1984

Corporation of the District of Burnaby,
4949 Canada Way,
Burnaby, B.C.
V5C 1M2

Attn: Mr. E.E. Olson, P.Eng.,
Director Engineering

- Solid Waste Management
- Bio Gas Utilization
- Municipal Engineering
- Land Development
- Planning

ITEM
MANAGER'S REPORT NO. 50
COUNCIL MEETING 84/08/07

Proposal for design and construction of a waste burner
using landfill gas for supplementary fuel and
smoke control - Stride Ave.

Dear Mr. Olson,

This proposal is being submitted as a result of recent meetings and discussions with yourself and your staff. These discussions have led to a better understanding of security requirements and further consideration of appropriate siting layouts.

The economic feasibility of the Stride Avenue facility for disposal of non noxious wastes has been established by our previous reports and confirmed by your staff. This submission therefore considers primarily the layout, engineering design, equipment procurement and management of the above project which would be undertaken by E.H. Hanson & Associates.

It should be noted that our involvement will encompass not only engineering design and project management but also physical assembly of certain components.

Work will consist of the following:

1. Design of total facility.
2. Prepare tenders for well drilling, submit recommendations on award of tender, plus field supervision during installation.
3. Supply and place automatic test inserts in the wells and test for gas quality. Install test pumping equipment and test for quantity of methane.
4. Prepare tenders for connection piping, recommend on award of tender, stake lines and supervise installation. This will include valving to each of the wells for control.
5. Select appropriate blowers for air and landfill gas, obtain competitive pricing where possible, supervise installation or undertake installation ourselves, whichever is more appropriate.
6. Design and obtain pricing for secure small building to enclose landfill gas extractors and blowers, air blowers and generator unit.
7. Obtain competitive prices on fabrication of burners, gas ducting, air ducting, etc. and supervise fabrication.
8. Obtain prices for pit construction plus assembly of all components and supervise construction.
9. Arrange for electrical work.

10. Install or supervise installation of all components.
11. Certify payment of accounts.
12. Start up of units, make necessary adjustments and instruct Burnaby personnel on various aspects of operation.

We propose to undertake all work at the following hourly rates:

Principal	-	\$55.00/hr
Senior Engineer	-	\$40.00/hr
Senior Technician	-	\$30.00/hr.

At the above rates we estimate that our costs will be approximately as follows, and we agree not to exceed this limit unless additional unforeseen work is authorized:

Engineering Design	\$6,000.00
Preparing specifications, obtaining quotations and recommending on purchases	5,000.00
On site inspection and layout	4,000.00
On site assembly	2,500.00
Start up, adjustments, turnover and instructions	<u>2,000.00</u>
	\$19,500.00

Our revised estimates for the total construction costs are as follows:

Wells - complete with bentonite seals and all appurtenances, gravel etc. \$8,800.00

Connecting piping between wells, to blower house and to burner - materials \$11,380.00

Installation of piping	
1380 ft. @ 10.00 ft.	13,800.00
Valves bends etc.	<u>5,000.00</u>
Pit construction and liner	29,000.00
Gas burner	6,500.00
Extraction blower	3,000.00
Air blower	8,000.00
Blower and generator building	11,000.00
Electrical controls (explosion proof)	<u>3,200.00</u>
	TOTAL
	\$99,600.00
Engineering project management and specialized assembly	<u>19,500.00</u>
	TOTAL
	\$119,100.00

We trust the foregoing will meet with your approval and we look forward to working with yourself and your staff on this innovative and interesting assignment.

It is apparent that the benefits of the systems will exceed the capital cost well within the first year of operation.

Yours truly,

E.H. HANSON & ASSOCIATES LTD.

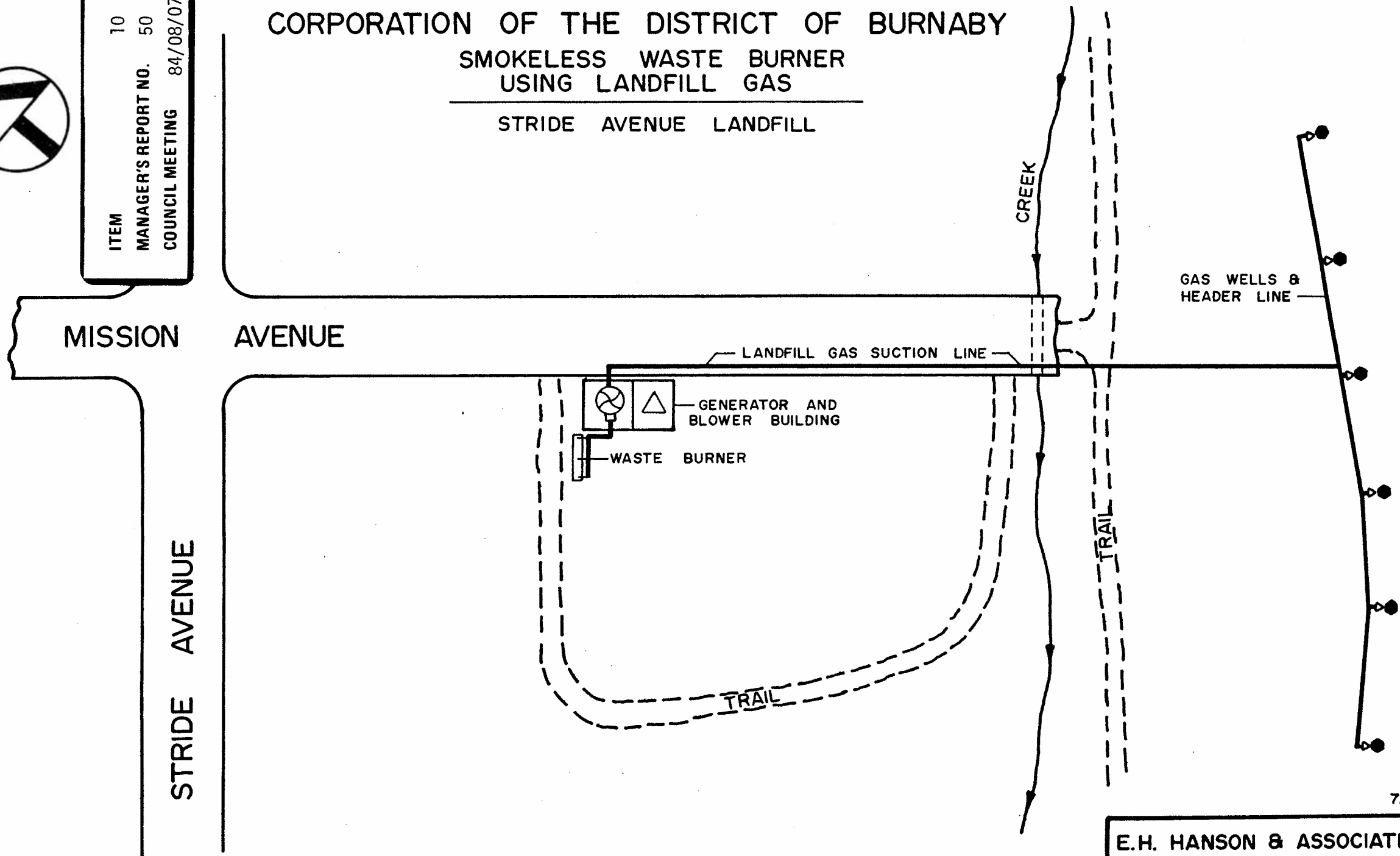


E.H. Hanson, P.Eng.
President



ITEM 10
 MANAGER'S REPORT NO. 50
 COUNCIL MEETING 84/08/07

CORPORATION OF THE DISTRICT OF BURNABY
 SMOKELESS WASTE BURNER
 USING LANDFILL GAS
 STRIDE AVENUE LANDFILL



GAS WELLS &
 HEADER LINE

LANDFILL GAS SUCTION LINE

GENERATOR AND
 BLOWER BUILDING

WASTE BURNER

TRAIL

TRAIL

CREEK

MISSION AVENUE

STRIDE AVENUE

7/84

E.H. HANSON & ASSOCIATES LTI
 SUITE 100, 9507-120th ST.
 DELTA, B.C.