

ITEM 24

MANAGER'S REPORT NO. 23

COUNCIL MEETING Mar. 26/73

24. Re: Feasibility Study of Land Reclamation for
Waterfront Recreation Purposes Between
Phillips Avenue and Highland Avenue, Burrard Inlet

Arising from discussions related to the possible acquisition of property on Burrard Inlet, the Municipal Council on February 5, 1973, authorized N. D. Lea & Associates Limited to proceed with a study of access to the land on the North side of the C.P.R. tracks in the vicinity of the Texaco or Kapoor property.

While this work has been proceeding, further discussion by the staff, the Parks and Recreation Commission, the Municipal Council and submissions received from residents in the general area, have led to the conclusion that in addition to the specific report on access to the area in question, a comprehensive planning report is required on the recreational use of Burrard Inlet, part of which would be a feasibility study of creating waterfront lands on the North side of the C.P.R. tracks by filling or dredging.

Since N.D. Lea is already working for us on a specific project in this area which will be related to the feasibility study that we are suggesting at this time, it seems logical to have that Company do this further study. Attached you will find a copy of N. D. Lea's proposal of March 21, 1973, advising that the estimated cost of the work involved is \$4,000 plus roughly \$500 to \$1,000 for marine biologist's report. Also attached is a copy of this Company's background experience in marine work.

RECOMMENDATION:

THAT N. D. Lea & Associates Limited be engaged to undertake a feasibility study of land reclamation for waterfront recreation purposes between Phillips Avenue and Highland Avenue on Burrard Inlet on the basis of the per diem rates approved by the Association of B.C. Professional Engineers at a cost not to exceed \$4,000 plus the commissioning of a marine biologist's report at a cost of \$500 to \$1,000.

ITEM 24
MANAGER'S REPORT NO. 23
COUNCIL MEETING Mar. 26/73

N. D. Lea & Associates Ltd.
TRANSPORTATION ENGINEERS

Norman D. Lea, S.M.
J. A. C. Andrews, B.Sc.

740 NICOLA STREET • VANCOUVER 5 • B.C. • CANADA • TELEPHONE (604) 685-9381 • CABLE: LEACONSULT

Ref. 8103.01

March 21, 1973

RECEIVED IN
ENGINEERING DEPT.

MAR 21 1973

Mr. E.E. Olson,
The Corporation of the
District of Burnaby,
Municipal Hall,
4949 Canada Way,
Burnaby 2, B.C.

Attention: Mr. V. Kennedy, P.Eng.,
Deputy Municipal Engineer.

Re: Feasibility Study Re Land Reclamation
Burrard Inlet

Dear Sir,

Further to your letter of March 13th, I have reviewed your Terms of Reference and visited the site at low tide. As shown on the copy of the attached hydrographic chart, there is a fair width of intertidal beach which consists mainly of small rock, crushed shell and sand. The high tide mark being right against the railway embankment and low tide mark about 200 feet out.

Generally speaking, the bottom is mud and rock in this area of Burrard Inlet and it is probably difficult to find a suitable sand for dredging. However we do feel that a sand beach area could be contained on the water front at several locations either by natural promontaries or by artificial ones.

Based on your terms of reference (copy attached) our outline of the work involved for a study on the land reclamation along an 11,000 foot stretch of foreshore follows:

1. Obtain existing available data, including soundings dredging data, property maps of foreshore, topographic and soils.
2. Take cross-sections along foreshore and soundings at 200 foot intervals.

ITEM 24

MANAGER'S REPORT NO. 23

COUNCIL MEETING Mar. 26/73

N. D. Lea & Associates Ltd.
TRANSPORTATION ENGINEERS

- 2 -

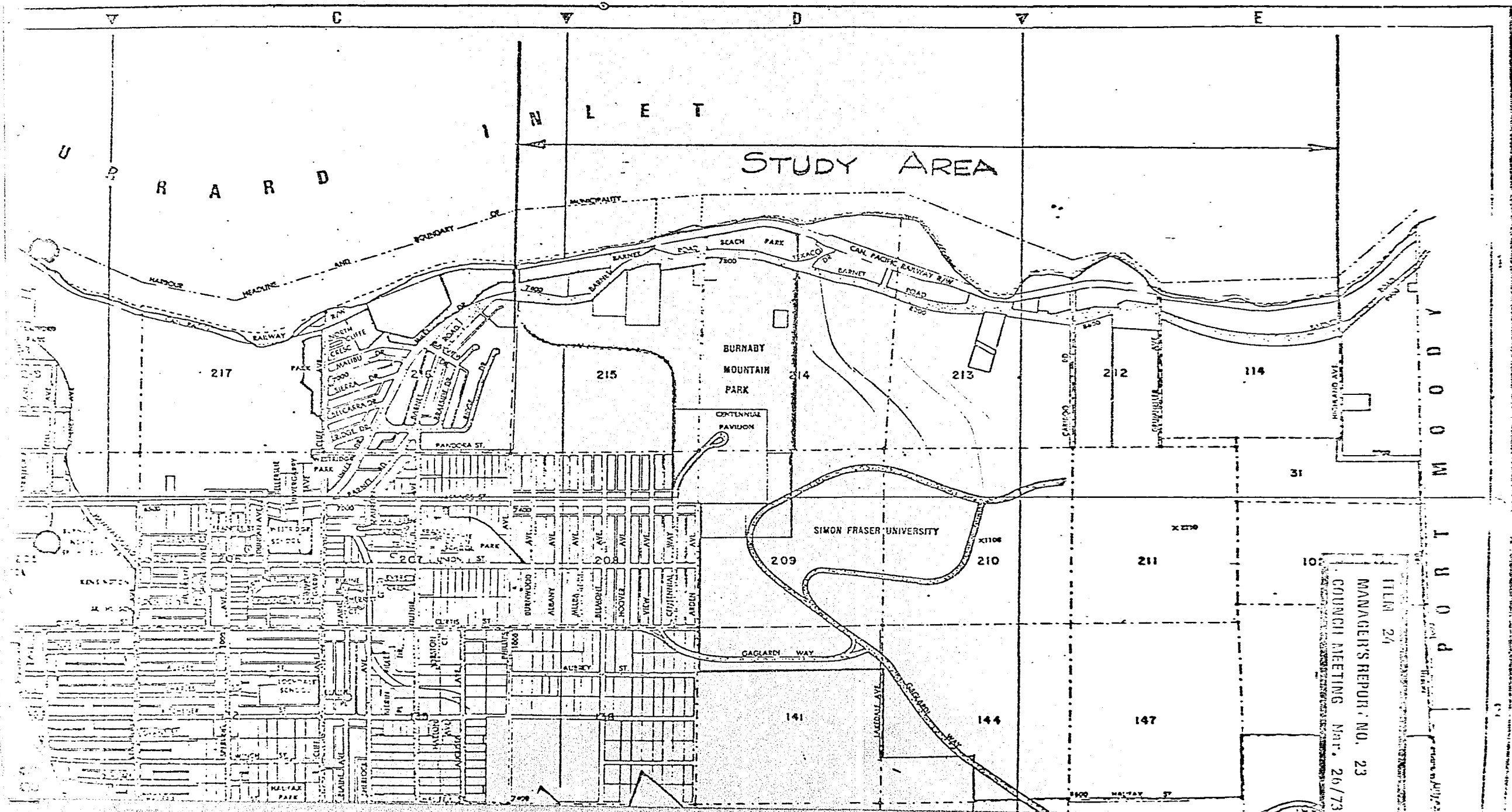
3. Discuss with N.H.B. the possibilities of filling requirements and possible dredging material, investigate other sources of supply, etc.
4. Review with Parks & Recreation various alternatives of waterfront development they wish considered, and prepare layouts of same with respect to filling operations.
5. Analyse effect of current and tidal flows on fill replacement and on sand retention at possible beaches and analyse type of protection required.
6. Retain marine biologist to prepare inventory of inter-tidal marine life and effect of filling operations.
7. Estimate costs of landfill and necessary protection.
8. Study access routes.
9. Prepare written report.

We estimate that the study would take 2 months and estimated cost is \$4,000. plus roughly \$500. - \$1,000. for marine biologist report. We would probably retain B.C. Research to do this work although we may be able to get the Department of the Environment to provide much of the information. We are prepared to make the former figure for our work a maximum amount. The latter figure needs confirmation after discussion with the Department of the Environment on their probably requirements.

Yours very truly,

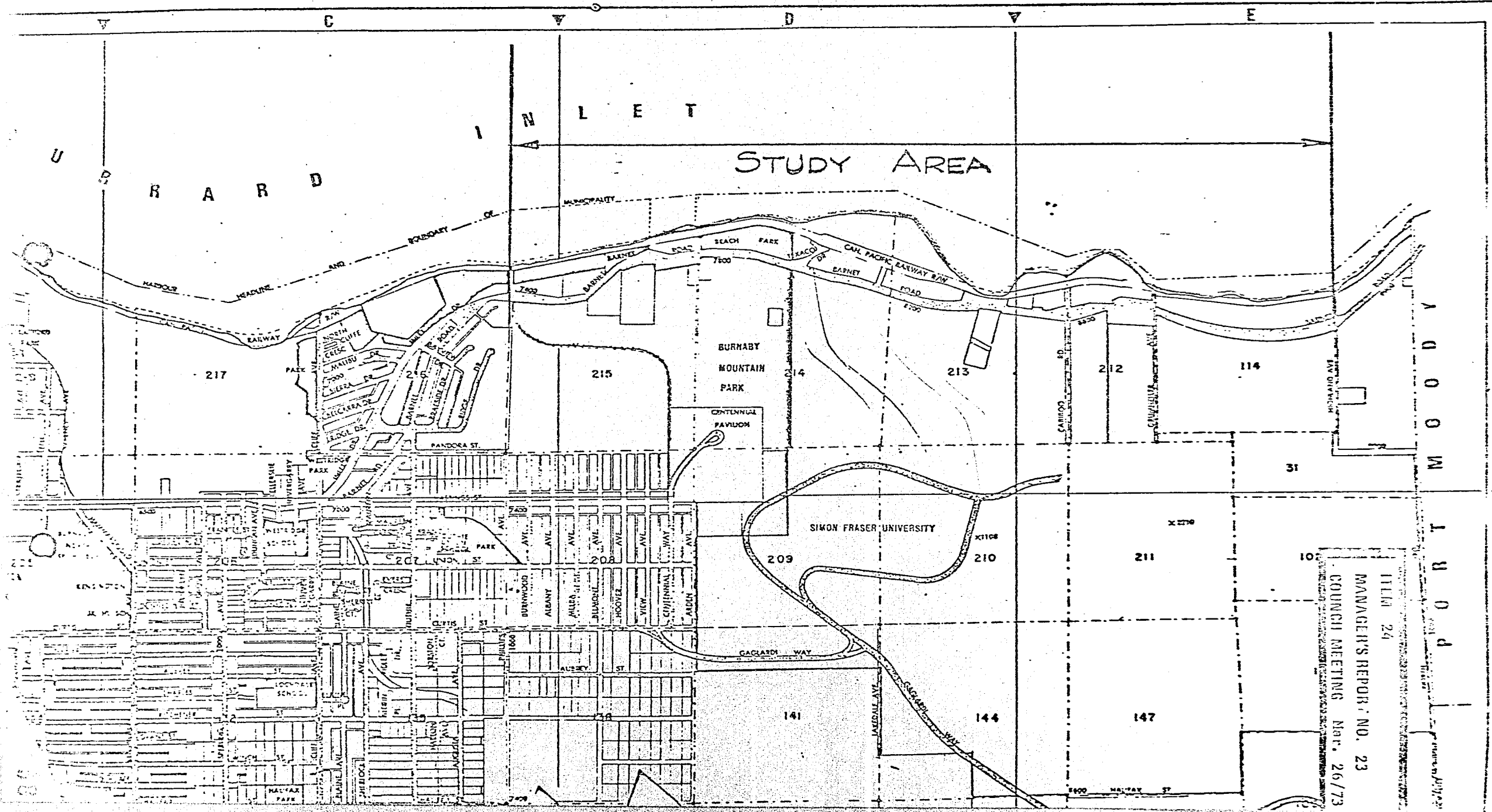
N.D. LEA & ASSOCIATES LTD.,

J.A. Andrews
J.A./C. Andrews, P. Eng
JACA/ab



MANAGER'S REPORT NO. 23
 COUNCIL MEETING MAR. 26/73
 FILM 24

1000 W
 1000 D
 1000 M



STUDY AREA

URBARD

INLET

BURNABY MOUNTAIN PARK

SIMON FRASER UNIVERSITY

MANAGER'S REPORT NO. 23
 ILLD 24
 COUNCIL MEETING MAR. 26/73

1000 M

1000 M

ITEM 24

MANAGER'S REPORT NO. 23

COUNCIL MEETING Mar. 26/73

M. D. Lea
ASSOCIATES LTD.

marine transport

CANADIAN PACIFIC FERRY TERMINALS

Planning and design of ferry slip and pier A re-development 1967 Vancouver Harbour. Also Schwartz Bay Ferry Terminal.

WELLAND CANAL OPERATIONS

Investigated methods of scheduling and controlling vessels in the Long Level of the Welland Canal to minimize delays to motor vehicle traffic using the lift bridges in Port Colborne and Welland. Work executed for the St. Lawrence Seaway Authority.

MARINE ACCESS — WESTFROB MINES

This major mining project is located on a fjord on the Queen Charlotte Islands, where it is completely inaccessible by road or rail. As a part of a feasibility study, LEA staff reviewed the entire marine access question, considering barges, steamers and a combination of facilities.

LODESTONE IRON — BARGING

In an evaluation of this major project a detailed economic comparison was made between forty miles of shipping down the Fraser River by barge, pipe line, truck or rail. Barge transportation with special loading facilities was found to be by far the most economical. This work was carried out in 1962.

SMALL BOAT STUDY — STRAITS OF GEORGIA

A study for the Government of Canada of boating in the Straits of Georgia with an evaluation of recreation boating facility requirements. The object of this 1965-66 study was to establish information which could be used to evaluate the impact of possible programs of Federal assistance in recreational boating facility construction.

COMOX FERRY

A traffic and economic analysis was conducted in 1964 for the British Columbia Government, concerning a proposed ferry service crossing the Gulf of Georgia between the Towns of Comox and Powell River. This involved a forecast of traffic, and the evaluation of vessels and of the economics of the project.

Continued * *

ITEM 24

MANAGER'S REPORT NO. 23

COUNCIL MEETING Mar. 26/73

HORSESHOE BAY FERRY TERMINAL

Retained by B.C. Ferry Authority to prepare detailed plans for approaches to the car ferry terminal at Horseshoe Bay which is one of the busiest in North America.

HOVERCRAFT

The evaluation of a highway from Goose Bay to Churchill Falls in Labrador was supplemented by an associated and comparative study of a hovercraft freight and passenger operation as a substitute for the proposed road.

THAILAND

As a part of the assessment of the multi-modal transport system in the Thon Buri - Pak Tho Region, the inland and coastal waterway transport was evaluated in terms of comparative economic costs and benefits. A five year investment priorities programme for various feasible improvements aimed at the reduction in economic costs of transport was developed.

MONTREAL WATERWAY COMPLEX - RECREATIONAL BOATING

A study for the Department of Industry, Trade and Commerce, Office of Tourism, Government of Canada of the existing and future potential for recreational boating in the Montreal area (Lake of Two Mountains, St. Lawrence River, Richelieu River). The object of this preliminary study conducted in 1969 was to assess and to evaluate the waterway in terms of recreational boating potential and requirements.