

ITEM 15
MANAGER'S REPORT NO. 48
COUNCIL MEETING 1983 07 11

RE: PROPOSED ALRT LINE THROUGH THE BYRNE CREEK RAVINE:
PROVISION FOR THE POSSIBILITY OF CONSTRUCTION OF THE EDMONDS EXTENSION
(ITEM 22 SUPPLEMENTARY REPORT NO. 37, 1983 MAY 24)

MUNICIPAL MANAGER'S RECOMMENDATION:

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

* * * * *

TO: MUNICIPAL MANAGER 83 07 05
FROM: DIRECTOR ENGINEERING
SUBJECT: PROPOSED ALRT LINE THROUGH THE BYRNE CREEK RAVINE:
PROVISION FOR THE POSSIBILITY OF CONSTRUCTION OF THE
EDMONDS EXTENSION

RECOMMENDATIONS:

1. THAT B.C. Transit be advised of the Municipal position that B.C. Transit would be considered responsible for any extra costs, resulting from the required protection of ALRT footings and piles which are incurred if and when the construction of the Edmonds extension is pursued at a future date.
2. THAT a copy of this report be sent to B.C. Transit, Rapid Transit Project, Ste. 874, Four Bentall Centre, P.O. Box 49297, 1055 Dunsmuir Street, Vancouver, B.C., V7X 1P6.

REPORT:

At its meeting of 1983 05 24 (Manager's Report No. 37, Supplementary Item No. 22) Council received the attached report submitted by the Director Planning and Building Inspection. At that time Council referred Recommendation No. 3 back to staff for further determination as to whether it would be feasible to accommodate the extension of Edmonds (the Gilley alternate proposal) within the ALRT design.

Council will recall that, although the Edmonds extension is not in the adopted Comprehensive Transportation Plan, the Municipality is committed to safeguarding the alignment's right-of-way pending the satisfactory implementation of the Marine Way-Tenth Avenue connector as part of the agreement with the Province regarding the Comprehensive Transportation Plan major road network.

The ALRT columns and Byrne Creek are positioned so as to allow the possibility of the road to pass under the Advance Light Rapid Transit (ALRT) guideway in an alignment that is substantially the one proposed in preliminary design from the Gilley Alternate studies of several years ago (see Figure 1). However, the roadway elevation is considerably below the level of the ALRT

column footings as shown in the cross section (see Figure 2).

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To accommodate the road, it will be necessary to excavate to road elevation and provide some means of retaining the fill beneath the footings during and after construction. Your Director Engineering considers such a construction technique to be technically feasible of being done at time of construction and, conversely, feels that pre-investment of public funds in protective works that would be "buried" pending the future uncertain need is not justified.

Disturbance to the ALRT footings and pilings could be minimized if the Edmonds extension was split into two carriageways, each to be carried under two separate adjacent spans of the ALRT guideway. Slope retention works would still likely be required, but they could, in all probability, be placed without extensive undermining or interfering with the ALRT footings and piles. This split of the alignment would be operationally less desirable, would be more destructive to the attractive ravine area to the south, and would also be more expensive to construct than the original road proposal (primarily because of the extra structural work required to underpass the B.C. Hydro Freight Railway). In spite of the disadvantages, it is good to know that the alternative is available.

It is concluded that the Edmonds extension (Gilley Alternate) construction is technically feasible but some extra construction costs would result from the presence of the ALRT system. The precise amount of such costs could be independently determined as, if, and when the road proposal is advanced to the construction stage.



DIRECTOR ENGINEERING

PL/EE0/ch

Atts.

c.c. () Director Planning and Building Inspection

RE: PROPOSED ALRT LINE THROUGH THE BYRNE CREEK RAVINE

ACTING MUNICIPAL MANAGER'S RECOMMENDATION:

1. THAT the recommendations of the Director Planning & Building Inspection be adopted.

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SUPPLEMENTARY

TO: MUNICIPAL MANAGER 1983 MAY 20
FROM: DIRECTOR PLANNING & BUILDING INSPECTION Our File: R.Z. #47/82 & 10.230

SUBJECT: PROPOSED ALRT LINE THROUGH THE BYRNE CREEK RAVINE

RECOMMENDATIONS:

1. THAT Council accept the position of B.C. Transit as outlined in its letter of 1983 May 17 on condition that an appropriate extensive restorative and park/trail landscaping scheme for any disturbed areas as noted on the submitted engineering drawings (fill access shelf, fill retaining slope, creek realignment cuts and fills) be designed and constructed by B.C. Transit.
2. THAT the proposed relocated and new overhead power lines be kept on the west side of the B.C. Hydro tracks as originally indicated by B.C. Hydro, in order to preserve the Byrne Creek Ravine; and that B.C. Transit be requested to pursue this west side alignment.
3. THAT B.C. Transit be advised of the Municipal position that B.C. Transit would be considered responsible for any extra costs, resulting from the accommodation of the ALRT footings, which are incurred if and when the construction of the Edmonds extension is pursued at a future date.

REPORT

The issue of the desired lowering of footings for the ALRT guideway in order to preserve the Byrne Creek Ravine has received extensive examination and discussion by Council, B.C. Transit, and Municipal staff. Council is on record as requesting that the top of the identified footings within the Byrne Creek Ravine be lowered by B.C. Transit as required for ravine preservation.

MANAGER'S REPORT NO. 37
COUNCIL MEETING 1983 05 24

SUPPLEMENTARY

PLANNING & BUILDING INSPECTION DEPARTMENT
PROPOSED ALRT LINE THROUGH BYRNE CREEK RAVINE
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In response to this request and discussions with Municipal staff, B.C. Transit has submitted the attached letter dated 1983 May 17. B.C. Transit indicates that the fill shelf alongside the existing rail alignment is required for access to accomplish the placement of the guideway columns and beams for the ALRT. Therefore, it is proposed that the amount of fill and elevation of footings remain unchanged in accordance with the drawings provided by B.C. Transit.

In light of this letter and staff discussions with B.C. Transit, the conclusion of Municipal staff is that B.C. Transit will proceed with the construction of the fill area and footings in accordance with the current drawings. Under these regrettable circumstances, it is the view of staff that an extensive restorative landscaping treatment is imperative as a minimum. An engineering site plan sketch is also attached illustrating an access shelf of fill along the ALRT guideway alignment, an additional fill slope supporting the access shelf, and a reconfiguration with cut and fill slopes of a short portion of creek in order to accommodate a straight culvert extension. It is noted that the straight rather than an angled culvert extension is a fisheries requirement and Municipal staff concur with this requirement. In discussions, B.C. Transit has indicated a willingness to landscape the disturbed areas including the accommodation of a park/trail linkage utilizing the access fill shelf between the Edmonds ALRT station and Rumble Street. This would avoid the continued unauthorized use of the actual B.C. Hydro tracks as an informal pedestrian linkage. It is the view of staff that a carefully planned extensive restorative landscaping treatment emphasizing natural foliage ranging from ferns to shrubs, cedars, maples, etc., is necessary. Municipal Parks and Planning staff will cooperate with B.C. Transit staff in achieving appropriate landscape provisions.

Another point related to the Byrne Creek Ravine and outlined on the engineering sketches submitted by B.C. Transit is the proposed relocation of overhead B.C. Hydro distribution wires on poles (approximately 18 m from the centreline of the guideway alignment) further northeast into the ravine as a result of the ALRT guideway and filling. Another parallel 69 KV overhead line is outlined as a future proposal a further 10 m into the ravine. The consequence of these power line proposals would be to further affect the natural aspect of the Byrne Creek Ravine both from an undesirable visual point of view and also in the light of the common practice of clearing a swath beneath overhead power lines of existing trees and major foliage. Staff would recommend that the relocation of any power lines and new lines on an overhead basis should be kept to the west side of the B.C. Hydro tracks where an existing overhead line exists and then allowed to cross the ALRT guideway alignment in the vicinity of Griffiths Avenue. This alternative alignment would assist in preserving the very deep well-treed ravine area east of the ALRT guideway. It is our understanding that B.C. Hydro had originally preferred this alternative alignment. To avoid any crossing difficulties associated at the intersection of Griffiths Avenue with the ALRT guideway, the dipping of the B.C. Hydro line underground under the ALRT guideway similar to the arrangements for crossing electrical lines all along the ALRT alignment is considered appropriate. This matter has been discussed with B.C. Transit staff and B.C. Transit has agreed to examine this situation.

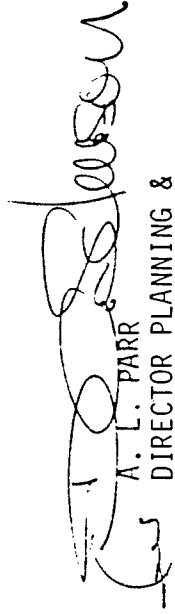
It is also appropriate to advise B.C. Transit that the Municipal position regarding the Edmonds extension (Gilley alternate) is that B.C. Transit would be considered responsible for any extra costs (special retaining walls, etc.) resulting from the accommodation of the ALRT footings which are incurred if and when the construction of the Edmonds extension is pursued at a future date.

ALP

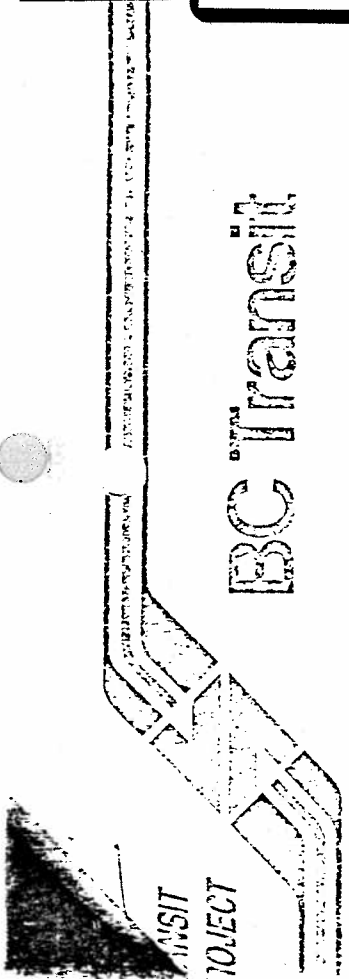
KI:lf

Attachments

cc: Director Engineering &
Director Recreation &
Cultural Services


A. L. PARR
DIRECTOR PLANNING &
BUILDING INSPECTION





ITEM SUPPLEMENTARY 22
 MANAGER'S REPORT NO. 37
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May 17, 1983

Mr. M. Shelley
 Municipal Manager
 Corporation of the District
 of Burnaby
 Municipal Hall
 4949 Canada Way
 Burnaby, B.C.
 V5G 1M2

Dear Sir:

Re: Section J Guideway Construction Across Byrne
 Creek Ravine

One of the outstanding items which we promised to have our Contractor and Consultants investigate more thoroughly was the matter of how the guideway columns and placing of beams could be accomplished across the above named ravine without necessitating the placing of fill in the ravine. This is to advise that our prime consultant, the section designers and the beam supplier have studied this problem at length and advise that the only feasible manner in which the guideway could be constructed and the beams placed in the area of the ravine without building an access road across the ravine would be by delivering the beams alongside the railway track and having a crane with sufficient load and boom capacity to swing the beams out over the ravine and place them on the crossheads. It is the consensus of all concerned that this would require two 400-ton cranes to provide the capacity and long reach that would be necessary and we are advised that there is only one such crane available in Western Canada and therefore such an alternative is not practical.

I therefore must advise that we are proposing to proceed with the design and construction of the guideway in accordance with drawings which have already been provided to you.

Yours truly,

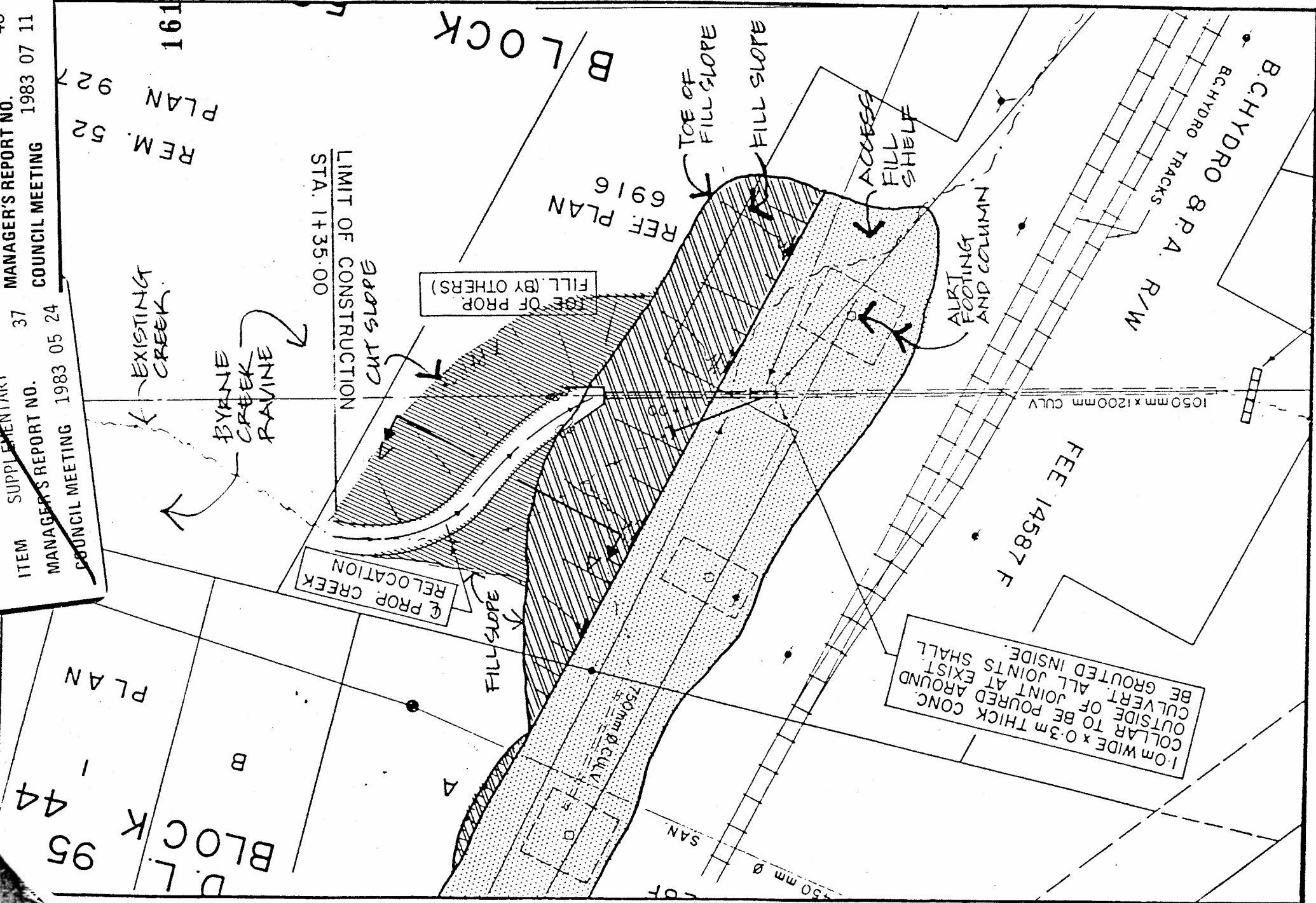
M. J. O'Connor, P. Eng.
 Project Administrator


MJOC/VK/sh

cc: Mr. E. Olson, Director of Engineering



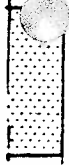
Mr. A.L. Parr, Planning Director

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**BYRNE CREEK RAVINE
 ALERT ALIGNMENT.**
 Burnaby Planning Department

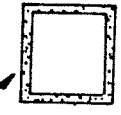
Date	MAY/03.
Scale	1:500
Drawn By	

-  CUT & FILL SLOPE FOR REALIGNED PORTION OF BYRNE CREEK.
-  SUPPORTING FILL SLOPE APPROX. 2:1 SLOPE.
-  ACCESS FILL SHELF ALONG ALERT ALIGNMENT.

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APPRVD.

REVISION



BYRNE CREEK
CULVERT

Cross Section of Future
 Gilly Alternate at the B.C.
 Hydro Railway, Looking South
 (A - A)

APPRVD. BY

CHECKED BY

DRAWN BY F.C.

DESIGNED BY D.J.B.

L. 1965

DRWG NO.

DATE 83.07.04

SCALE 1:100

DESIGN DIVISION

CORPORATION OF THE DISTRICT OF BURNABY
 ENGINEERING DEPARTMENT

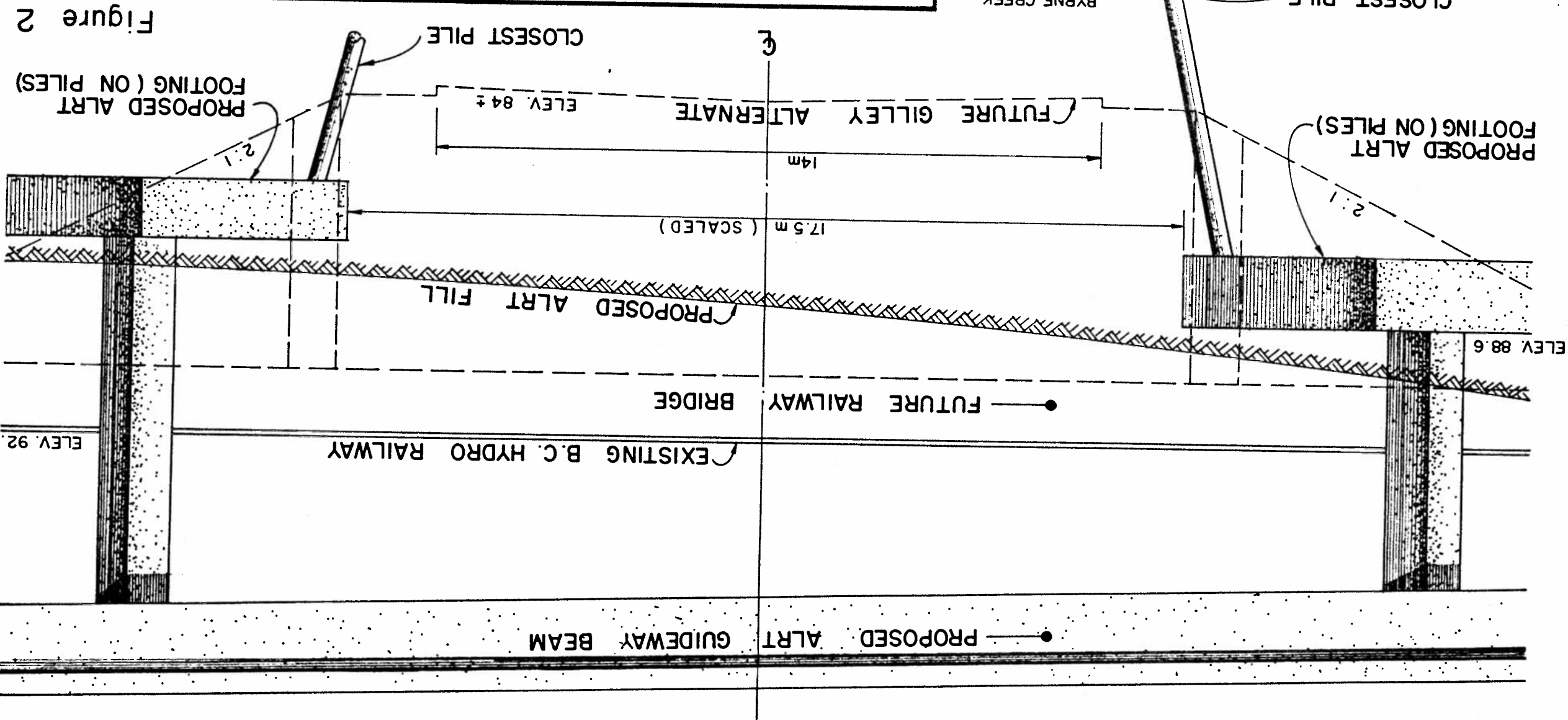


Figure 2

ELEV 88.6

ELEV 92.1

CLOSEST PILE

CLOSEST PILE

PROPOSED ALRT
FOOTING (ON PILES)

PROPOSED ALRT
FOOTING (ON PILES)

FUTURE GILLEY ALTERNATE

PROPOSED ALRT FILL

FUTURE RAILWAY BRIDGE

EXISTING B.C. HYDRO RAILWAY

PROPOSED ALRT GUIDEWAY BEAM

E

14m

17.5m (SCALED)

ELEV. 84 ±

2:1

2:1

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(B.C.H.&P.A.)

52 (BURNABY)

PLAN OF PROPOSED A.L.R.T.
AND FUTURE GILLEY ALTERNATE

DESIGNED BY	D. J. B.	APPRVD. BY	
DRAWN BY	P. M.	CHECKED BY	
DATE	1983-07-06	DRWG NO.	L. 1964
SCALE	1:500		

CORPORATION OF THE DISTRICT OF BURNABY
ENGINEERING DEPARTMENT
DESIGN DIVISION

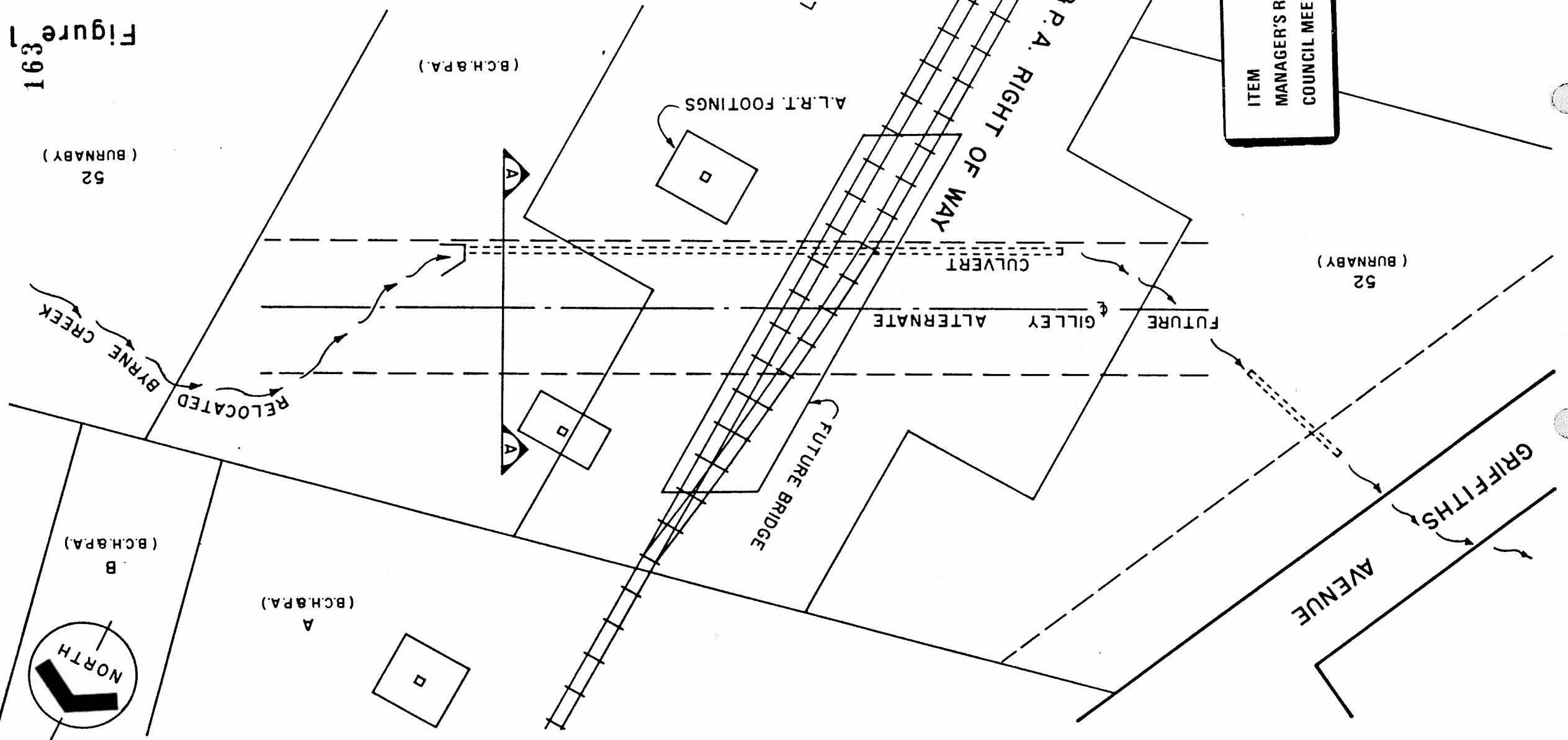


Figure 1
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