

THE CORPORATION OF THE DISTRICT OF BURNABY

TRAFFIC SAFETY COMMITTEE

HIS WORSHIP, THE MAYOR
AND MEMBERS OF COUNCIL

Madam/Gentlemen:

REPORT OF THE TRAFFIC SAFETY COMMITTEE

1. Intersection of Stanley Street and Brantford Avenue

Recommendations:

- a) That the request for stop signs at the intersection of Brantford Avenue and Stanley Street be denied.
- b) That Mrs. B. Cashin, 6195 Brantford Avenue, Burnaby, B. C. V5E 2R8 and Mr. C. Venning, 6191 Brantford Avenue, Burnaby, B. C. V5E 2R8 be sent a copy of this report.

R E P O R T

Council on 1980 January 28 received correspondence and a petition from Mrs. B. Cashin requesting the installation of four-way stop signs at the intersection of Stanley Street and Brantford Avenue.

Council subsequently referred this correspondence and petition to the Traffic Safety Committee for investigation and a subsequent report to Council.

This matter was referred to the Municipal Engineer who reported as follows:

"INTRODUCTION

This report is a summary of a traffic engineering examination of the subject intersection in response to the letter and petition which was submitted by Mrs. B. Cashin on 80 01 17.

TRAFFIC CONTROL DEVICES AND WARRANT SYSTEMS

Regulatory and warning signs should be used only where needed and warranted so that their effectiveness will not be destroyed by excessive frequency. Warrants provide a guide to sound sign application and serve as an aid in preventing the over-use of regulatory signs. Signs which are improperly used are usually disobeyed, cause enforcement problems, and impose additional hazards. An example is the use of stop signs to control speeding. If excessive speed is the sole problem, it should be corrected through increased enforcement efforts of the speed regulation.

ANALYSIS AND FINDINGS

Due to the nature of the request, we directed our investigation to and examined all relative data and warrants for 2-way and 4-way stop sign controls. We checked the vehicular and pedestrian volumes, vehicular speeds and the accident history.

The average weekday traffic (AWDT) volume on Brantford Avenue and

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on Stanley Street were checked with automatic traffic counters in 1980 January. The daily traffic volume on Brantford Avenue was approximately 600 vehicles and on Stanley Street was 1,550 vehicles. For comparison, the daily traffic volume on Stanley Street was 1,710 vehicles in 1977 September.

These traffic volumes are well below the minimum traffic volume condition for considering 4-way stop sign installation which states that the volume from all approaches must average at least 500 vehicles per hour for any eight hours of an average day, 40% of which must be from the minor approach. The vehicles on the minor approach should also experience average delays of 30 seconds during the peak hour.

A manual traffic count including a spot speed study was also performed at the subject intersection. In addition, we were able to obtain a list of the pupils who live north of Stanley, and attend Brantford Elementary School. Although 28 children live north of Stanley Street, upon plotting their addresses on a map, it was apparent that approximately 14 children need cross Stanley at the captioned intersection. The remaining 14 children who live on or adjacent Sperling Avenue, would likely cross Stanley at Sperling Avenue.

During the 3 peak hour periods, we noted less than 30 pedestrians, in total, (mainly school children) crossing Stanley. At all times, the motorists yielded to pedestrians crossing the intersection.

The petitioners indicated their concern regarding the number of speeding motorists. The existing speed limit for Brantford Avenue and Stanley Street is 50 km/h (30 mph). We used radar equipment to monitor the speed of vehicles on Stanley Street. As indicated on the spot speed summary sheets the 85% percentile speed is 40 km/h (25 mph). Although we did notice a few motorists were speeding, (less than 2% of the total traffic) this is not an excessive problem. This indicates that the majority of motorists are driving according to the conditions and are respecting the speed limit.

As a 4-way stop was clearly not required we investigated the accident history to check the warrant system adopted by the Traffic Safety Committee for a 2-way stop. As indicated on the accident summary sheet, there have been 3 reported accidents at the subject intersection since 1976 January. The only available detailed report involved a neighbourhood resident accidentally driving off the roadway at 03:00 h. It was also noticed that there have not been any pedestrian accidents at this intersection since the beginning of the records in 1961. This low accident history was far below the minimum conditions requiring a 2-way stop sign control. The minimum conditions, as adopted by the Traffic Safety Committee, are as follows:

1. Three reported accidents per year of a type correctable by stop sign control for three consecutive years, involving a vehicle approach from the same leg of the intersection, or, *
2. Five reported accidents per year of a type correctable by stop sign control, for three consecutive years. *

* Motorists are required to report accidents to the Police Department when personal injury or \$200 worth of damage is involved. This warrant system deals with proven accident histories not with potential accidents which could happen at any intersection.

The last condition involving stop sign installation is street reclassification. Presently Brantford and Stanley Streets are classified as local residential streets. To upgrade the street classification to a collector street would permit and encourage commuter traffic. Although previous studies have indicated a low volume of commuter traffic, the increase of this traffic volume, as a result of reclassification, would undoubtedly not be favourable from an engineering or the resident standpoint. Therefore it is not desirable to install the stop signs for this reason."

2. Request to designate First Avenue from Boundary Road to Gilmore Avenue as a collector street together with the installation of stop signs on all intersecting streets.

Recommendations:

- a) That Council concur with the request of Mr. Wakeling, and the intent of the Conceptual Transportation Plan and the Engineering Department, that First Avenue between Boundary Road and Gilmore Avenue be designated as a collector Street.
- b) That Council direct the Municipal Engineer to implement this designation through the installation of stop signs on all intersecting streets and the centre lining of First Avenue between Boundary Road and Gilmore Avenue.
- c) That Mr. R.J. Wakeling, Service Manager, Jay-Cee Air Conditioning, 4006 East First Avenue, Burnaby, B. C. V5C 3W4 be notified of the decision to proceed with the designation of First Avenue from Boundary Road to Gilmore Avenue as a collector street.

R E P O R T

A letter dated 1980 February 01 was received from Mr. R.J. Wakeling, Service Manager, Jay-Cee Air Conditioning, 4006 East First Avenue, Burnaby, B. C. requesting the designation of First Avenue from Boundary Road to Gilmore Avenue as a collector street together with the installation of stop signs on all intersecting streets.

This matter was referred to the Municipal Engineer who reported as follows:

"The captioned request, from R.J. Wakeling, is in keeping with both the Council adopted Conceptual Transportation Plan and the Engineering Department's intentions. The arguments presented by Mr. Wakeling in his request are valid in that the drivers are assuming that First Avenue is a continuation of the Vancouver designation and driving accordingly, i.e. without due regard to cross street traffic. This illusion is compounded by the fact that this section of First Avenue is through a Heavy Industrial District, (M3) Zoning.

The accident histories for each of the intersections along this section of First Avenue are not as severe as would be required to meet individual stop sign warrants. Nonetheless, we feel the pending completion of a Local Improvement Project, on the subject section of First Avenue, bringing the roadway to a 14 metre pavement width will result in increased traffic volumes and subsequent increased accident statistics. It was the completion of this project, there are still some wooden poles belonging to Hydro and/or Telephone requiring relocation, that the Engineering Department was awaiting before proceeding with changes in the traffic control."

3. Request to remove parking restriction signs on the east side of Holdom Avenue and designate Holdom Avenue, from Capitol Drive to Dundas Street, as one-way northbound.

Recommendations:

- a) That the existing 'No Parking Anytime' on the east side of Holdom Avenue, between Capitol Drive and Dundas Street, be retained.
- b) That the designation of Holdom Avenue as one-way not be considered at this time.
- c) That Mr. D.J. Domae, 4 South Holdom Avenue, Burnaby, B. C. V5B 1K3 and Mr. T. Canosa, 8 South Holdom Avenue, Burnaby, B. C. V5B 1K3 be sent a copy of this report.

R E P O R T

A letter dated 1980 February 04 was received from Mr. D.K. Domae and Mr. T. Canosa requesting the removal of the parking restriction signs on the east side of Holdom Avenue and the designation of Holdom Avenue, from Capitol Drive to Dundas Street, as one-way northbound.

This matter was referred to the Municipal Engineer who reported as follows:

"1. The letter has requested that parking be removed from the east side of Holdom Avenue. We are assuming that they mean between Capitol Drive and Dundas Street. Parking was restricted on the east side of Holdom Avenue because of insufficient room to park off the existing six metre interim pavement and vehicles parked on the pavement were obstructing traffic. As these blockages were of a concern to the Fire Department, parking was restricted until such time as the street was upgraded to its final 8.5 metre standard by local improvement.

A letter was sent to Mr. Domae, dated 79 03 14 advising him of the above.

A local improvement was initiated for this block in 1979 by the Municipality but was defeated by the adjacent property owners.

2. The designating of one-way streets is usually done to improve flow on a major collector system, to resolve a high accident rate or to fit into a centralized signal system that will function more efficiently within an area of one-way streets.

The subject section of Holdom Avenue does not fit any of the above and we fail to see any benefit to be derived from a classification to one-way."

4. Intersection of Nelson Avenue and Rumble Street

Recommendations:

- a) That the request for four-way stop sign control at the intersection of Nelson Avenue and Rumble Street be denied.
- b) That Council approve the installation of a semi-actuated traffic signal, with pedestrian control at the intersection of Nelson Avenue and Rumble Street.

- c) That funds for the acquisition of the semi-actuated traffic signal be acquired from the Engineering Department Traffic Management Budget.
- d) That Mr. H. Krikau, 4792 Carson Place, Burnaby, B. C. V5J 2Y5 be sent a copy of this report.

R E P O R T

A letter dated 1980 February 07 was received from Mr. H. Krikau, 4792 Carson Place, Burnaby requesting the installation of stop signs at the intersection of Nelson Avenue and Rumble Street.

This matter was referred to the Municipal Engineer who reported as follows:

"In response to Mr. Krikau's letter we checked our statistics for the captioned intersection and reassessed the need for additional traffic control. The accident history for this intersection shows that the number of reported accidents has been increasing. The figures for 1976 consecutively and inclusive to 1979 are 4, 9, 6 and 13 reported accidents with 3, 7, 5, and 12 right angle collisions respectively. The accident warrant for 4-way stops, as given by the Institute of Transportation Engineers, (I.T.E.) is as follows:

'An accident problem as indicated by five or more reported accidents in a 12 month period of a kind susceptible to correction by a multiway STOP installation.'

From the above statistics the captioned intersection has met this accident warrant for each of the past three years.

In addition to the accident history the I.T.E. warrant includes a vehicular and pedestrian volume warrant which requires that the volumes on each of the intersecting roads be equal and that:

'The total vehicular volume entering the intersection from all approaches must average at least 500 vehicles per hour for any 8 hours of an average day, and, the combined vehicular and pedestrian volume from the minor street or highway must average at least 200 units per hour for the same 8 hours, with an average delay to minor street vehicular traffic of at least 30 seconds per vehicle during the maximum hour.'

The following vehicle statistics are taken from the most recent automatic traffic counts, taken 79 10 23:

<u>Time of Day</u>	<u>Volumes Entering on Rumble</u>	<u>Intersection on Nelson</u>	<u>Nelson as % of Rumble</u>
07:00 - 08:00	684	179	26
08:00 - 09:00	669	183	27
09:00 - 10:00	679	122	18
10:00 - 11:00	456	150	33
11:00 - 12:00	524	173	33
12:00 - 13:00	520	175	34
13:00 - 14:00	602	190	32
14:00 - 15:00	637	188	30
15:00 - 16:00	1,020	265	26
16:00 - 17:00	1,282	234	18

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<u>Time of Day</u>	<u>Volumes Entering on Rumble</u>	<u>Intersection on Nelson</u>	<u>Nelson as % of Rumble</u>
17:00 - 18:00	995	268	27
18:00 - 19:00	644	202	31
19:00 - 20:00	544	166	31
TOTAL	9,256	2,395	26

As can be seen from these statistics, even at their lowest, volumes on Rumble Street are at least three times the volumes on Nelson Avenue. A comparison with a few existing 4-way stops shows that this situation would be unusual, if not unworkable:

<u>Main Street</u>	<u>Pk. Hr. Vol.</u>	<u>Minor Street</u>	<u>Pk. Hr. Vol.</u>
Moscrop Street	502	Smith Avenue	570
Royal Oak Avenue	1,100	Moscrop Street	1,092
Gilmore Avenue	636	Douglas Road	662
Curtis-Parker Streets	1,251	Holdom Avenue	681

The latter of these intersections, Curtis-Parker, Holdom has an imbalance in traffic volumes on the respective streets and as such is the source of many complaints. These complaints include vehicles crossing intersection two abreast during peak periods, extra hazards to pedestrians crossing due to driver impatience as the result of long line-ups, and speeding on the exiting side of the intersection. These factors are among those considered in our reluctance to install the requested 4-way stop sign controlled intersection at Nelson and Rumble.

One other warrant for 4-way stop sign controls is where traffic signals are warranted and urgently needed a 4-way stop can be installed as an interim measure. We checked the R.T.A.C. warrant for traffic signals and found that the subject intersection has met 95% of this warrant with 91% being attributable to the vehicular volumes. In view of this 'near' warrant we are prepared to recommend the installation of a semi-activated traffic signal at this location during 1981. The reasons for waiting until 1981 are the current lack of a warrant which, considering its increasing trend, may be met by then, and the lack of funds (current estimated cost \$30,000) available within the 1980 budget. Another factor in our long term recommendation is the Conceptual Transportation Plan which designates Nelson Avenue from Imperial Street to Marine Way as a major collector street. We do not have a completion date for Marine Way but based on current knowledge the earliest date would be in 1982.

In summary, the warrants, both accident rate and volumes, for a 4-way stop are met at the intersection of Nelson Avenue and Rumble Street. Due to the imbalance of traffic on Rumble Street, almost 4 to 1, as compared to Nelson Avenue we feel a 4-way stop at this location may create more problems than it may solve. The signal warrant has increased, from 83% in 1976 to 95% in 1979, and may in the near future, with the completion of Marine Way, result in a signal warrant being met. A semi-actuated traffic signal, with pedestrian control, should not be as disruptive on the existing traffic patterns while at the same time, hopefully, resolving the problems which have developed at this intersection. Unfortunately current budget restrictions prevent us from ordering and installing the necessary equipment at this time therefore we are recommending that a traffic signal be installed as soon as possible in 1981.

STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE

1. That the request for 4-way stops at Nelson Avenue and Rumble Street be denied.
2. That the Traffic Safety Committee approve the installation of a semi-actuated traffic signal with pedestrian control at the intersection of Nelson Avenue and Rumble Street.
3. That Recommendation No. 2 not be proceeded with until 1981 when funds will be available to cover the costs involved.
4. That Mr. Krikau be sent a copy of this report."
5. Request for bus stops - both directions on Curtis Street at Augusta Avenue

Recommendations:

- a) That Council approve the establishment of two new bus stops on Curtis Street at Augusta Avenue, one eastbound Curtis farside Augusta and the other westbound farside Augusta in front of 7281 Curtis Street.
- b) That Mr. J.L. Bates, British Columbia Hydro Transit, 850 Southwest Marine Drive, Vancouver, B. C. V7P 1R8 and Mrs. G. Barrington-Foote, 1205 Augusta Avenue, Burnaby, B. C. V5A 2B5 be notified of this approval.

R E P O R T

The Municipal Engineer received a request from Mrs. Barrington-Foote for bus stops on Curtis Street at Augusta Avenue.

The Municipal Engineer prepared a report on this matter which reads as follows:

"The captioned request was received from Mrs. Barrington-Foote of 1205 Augusta Avenue. Our investigation of this request found that the requested stops were warranted based upon existing bus stop spacing and the increasing development within the immediate vicinity.

In keeping with policy positions for bus stops, the eastbound stop will be farside Augusta Avenue and the westbound stop position will be in front of 7281 Curtis Street which is farside the Augusta Avenue leg of this 'T' intersection. These stop locations are shown on the attached Appendix 'A'.

The B.C. Hydro Transit have been advised of this request and are agreeable to the suggested stop locations.

These two stops are on a street with gravel shoulders and the volumes on Curtis are high for this standard of street. Therefore, if approved, the Engineering Department will be providing asphalt pull-off areas leading up to the existing concrete sidewalks which will serve as passenger loading areas."

6. Request for Time Limited Parking - 4000 Block Graveley

Recommendations:

- a) That the requested time limited parking within the 4000 block Graveley Street be denied.

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- b) That Mr. Ken Perry, World Book Encyclopedia, 4050 Graveley Street, Burnaby, B. C. V5C 3T6 be sent a copy of this report.

R E P O R T

The Municipal Engineer received a request from Mr. Ken Perry, World Book Encyclopedia, 4050 Graveley Street, Burnaby, B. C. for time limited parking within the 4000 block Graveley Street.

The Municipal Engineer prepared a report on this matter which reads as follows:

"The captioned request was received from Ken Perry of World Book Encyclopedia at 4050 Graveley Street. Our investigation of this request included a survey of the parking and interviews with the businesses and residents within the 4000 block Graveley Street. A summary of the parking survey, which consisted of four license plate checks between 10:00 and 15:30 hours on 80 02 14, is as follows:

Total number of legal parking stalls	20
*Average number of vehicles parked	27
*Average number of repeats (two consecutive checks)	22
Average number of vacancies (legal only)	1
Average number of illegally parked vehicles	8
*Total number of vehicles appearing at all 4 checks	18

*Includes illegally parked vehicles

These statistics show that the available legal parking spaces are mainly occupied by 'all day' parkers which creates a hardship on the short term parker, usually customers and delivery people.

With these statistics we conducted interviews with the business firms and residences within the subject block. The results were that of ten parties contacted only four were in favour of time limited parking. The majority expressed concern over where, if a restriction was installed, their employees would be able to park and they also stated that the majority of their customers are dealt with at outside locations.

In view of the opposition to the requested parking ban and the apparent lack of significant demand for short term parking, we are recommending against the request."

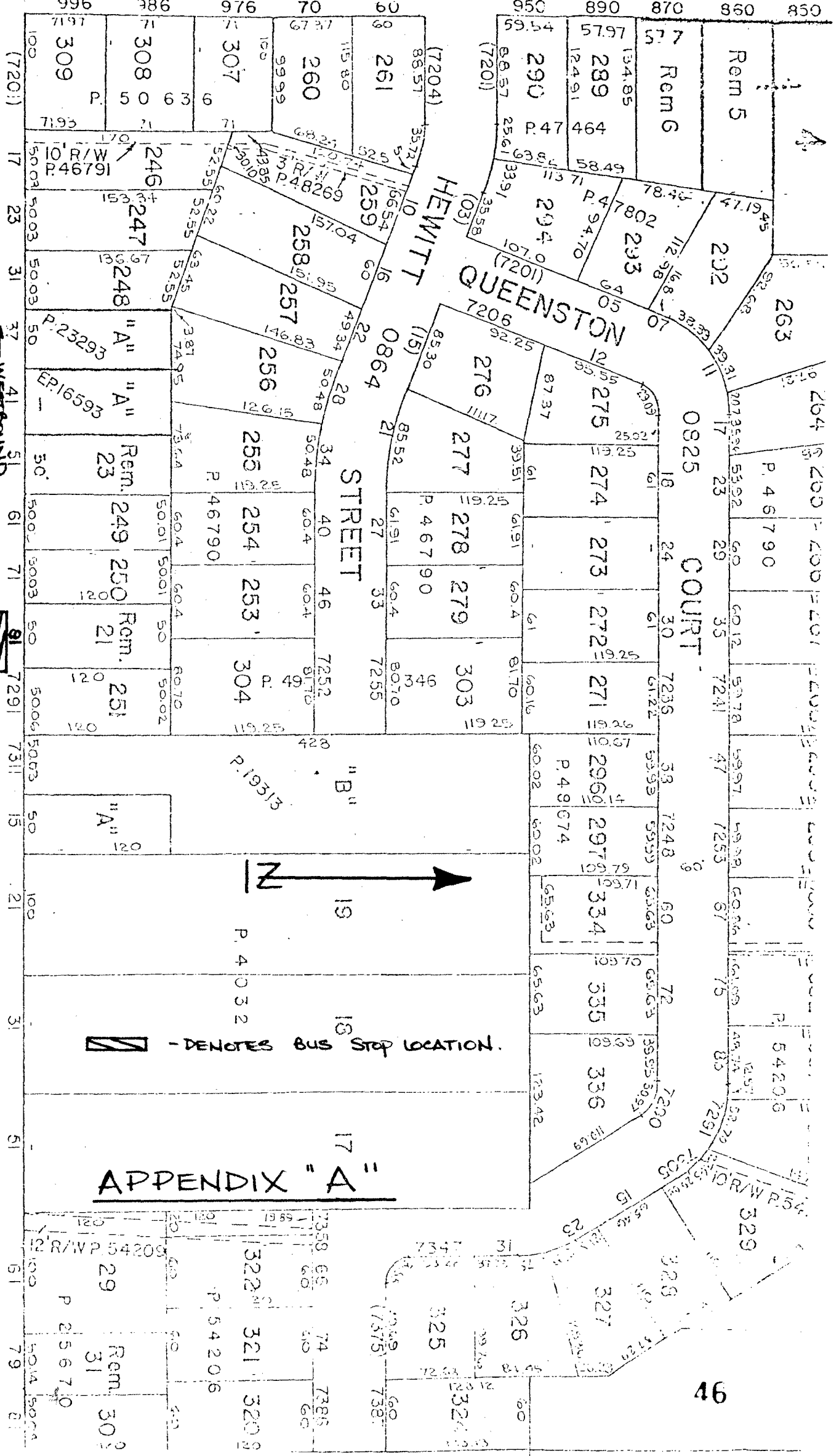
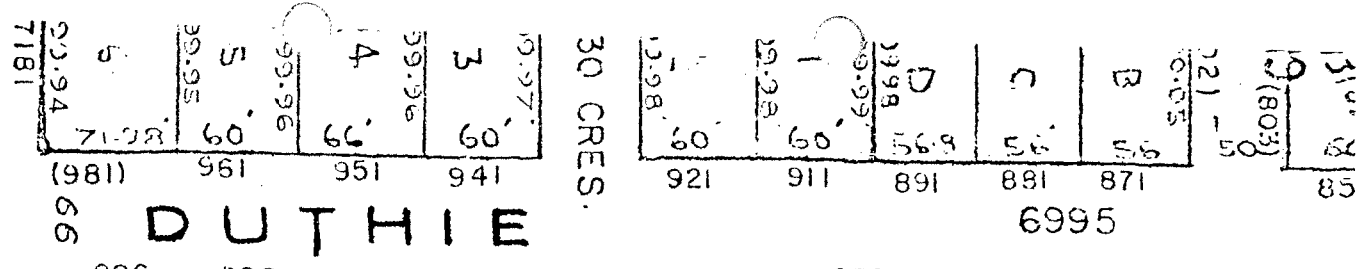
Respectfully submitted,

Alderman G.D. Ast,
Chairman

Alderman W.A. Lewarne,
Member

Alderman V.V. Stusiak,
Member

RDS:ef
attach: Appendix 'A'



- DENOTES BUS STOP LOCATION.

APPENDIX "A"

CURTIS STREET
 WESTBOUND ←
 EASTBOUND →

GUSTAVUS AVENUE

