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Board of Zoning Adjustment
District of Columbia
CASE NO.16924
EXHIBIT NO.38A2

Technical Memorandum - Revised:

TRAFFIC IMPACT ASESSMENT FOR JEMAL'S 1701 KALORAMA ROAD – BOARD OF ZONING ADJUSTMENT APPLICATION, ADAMS MORGAN, NORTHWEST, WASHINGTON, D.C.

(BZA Application No. 16924)

Prepared for:

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November 22, 2002

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(REVISED) TECHNICAL MEMORANDUM

DATE: November 22, 2002

TO: Paul Millstein, Vice President
DOUGLAS DEVELOPMENT COMPANY

FROM: Osborne R. George/Alvin Powell

RE: Traffic Impact Assessment – Board of Zoning Adjustment Application
1701 Kalorama Road, Northwest, Washington D.C. (Application No 16924)

1.0 INTRODUCTION

1.1 Project Background

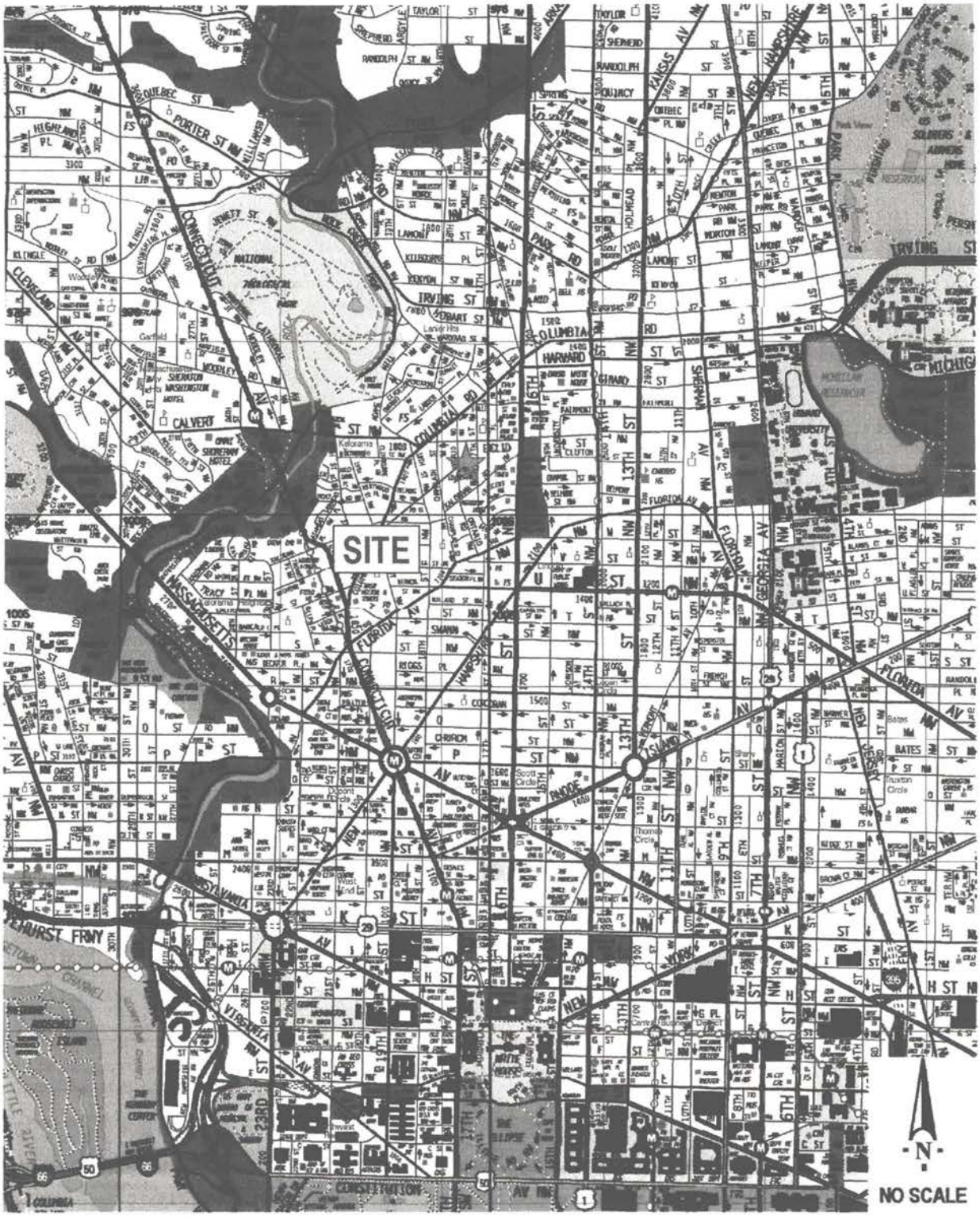
Jemal's Wheel L.L.C, is pursuing an application before the District of Columbia Board of Zoning Adjustment (BZA) for approval to re-develop a corner lot located within Square 2566, in the Adams Morgan neighborhood of Northwest, Washington, D. C. The subject Square is bounded by Euclid Street to the north, 17THStreet to the east, Kalorama Road to the south, and Ontario Road to the west. The proposed development site is part of the "Reed-Cooke Overlay District," which has been designated a special treatment area under the City's Zoning Regulations [District of Columbia Municipal Regulations (DCMR), Title 11 – Zoning]. The subject property is zoned for Moderate Density Commercial (RC/C-2-B) and is presently improved with a commercial warehouse type building, accessed primarily from the adjacent public alley, which abuts the property to the north.

The applicant proposes to modify the existing improvements in order to provide fifty-four (54) apartment units, supported by a 39-space ground floor parking garage (including a service delivery space). The Applicant also proposes five (5) additional parking spaces within an outdoor area of the property, with access from the adjacent public alley connecting to 17TH Street. Primary vehicular access to the development would be via a driveway off Kalorama Road, while pedestrian access would be through an entry off 17TH Street. This proposal requires certain variances from the provisions of the City's Zoning Regulations.

Prior to undertaking this study, discussions were held with staff of the District of Columbia Department of Transportation (DDOT). The related correspondence, which broadly defines the scope of the study, is included as Attachment A. This attachment includes information provided regarding other developments planned for the Adams Morgan area. Exhibit 1 shows the location of the site within the general study area road network.

1.2 Report Organization and Summary

In accordance with the City's Zoning Regulations, this study was undertaken to determine whether the proposed development would *"tend to affect adversely the use of neighboring property"* based on considerations of traffic, parking and other access conditions.



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EXHIBIT 1:

SITE LOCATION MAP

Jemal's 1701 Kalorama Road

BZA Application, Northwest, Washington, D.C.

The following items constitute the key elements of the analyses and results presented in this study:

(a) General observations, traffic data collection and analyses regarding the existing roadway and traffic flow conditions within the local area through which the development would be accessed;

(b) Development of background trips estimates;

(c) Development of trip generations estimates for the proposed use; and

(d) Evaluation of issues pertaining to vehicular access and parking, and adequacy of the local transportation system.

The trip generation characteristics of the proposed use strongly indicate that vehicular trip generation during weekday peak hours will be quite low. This is due to the site location and usage of transit services, as well as the multiple points of access into the local area and the subject property.

The analysis concludes that the development proposal satisfies the City's Zoning Regulation requirements noted above. The bases for these conclusions are presented in the remaining four (4) sections of this memorandum. It is also shown that the proposed development can be adequately accommodated by the existing roadway network, and should not result in appreciable reduction in the levels of service within the local area.

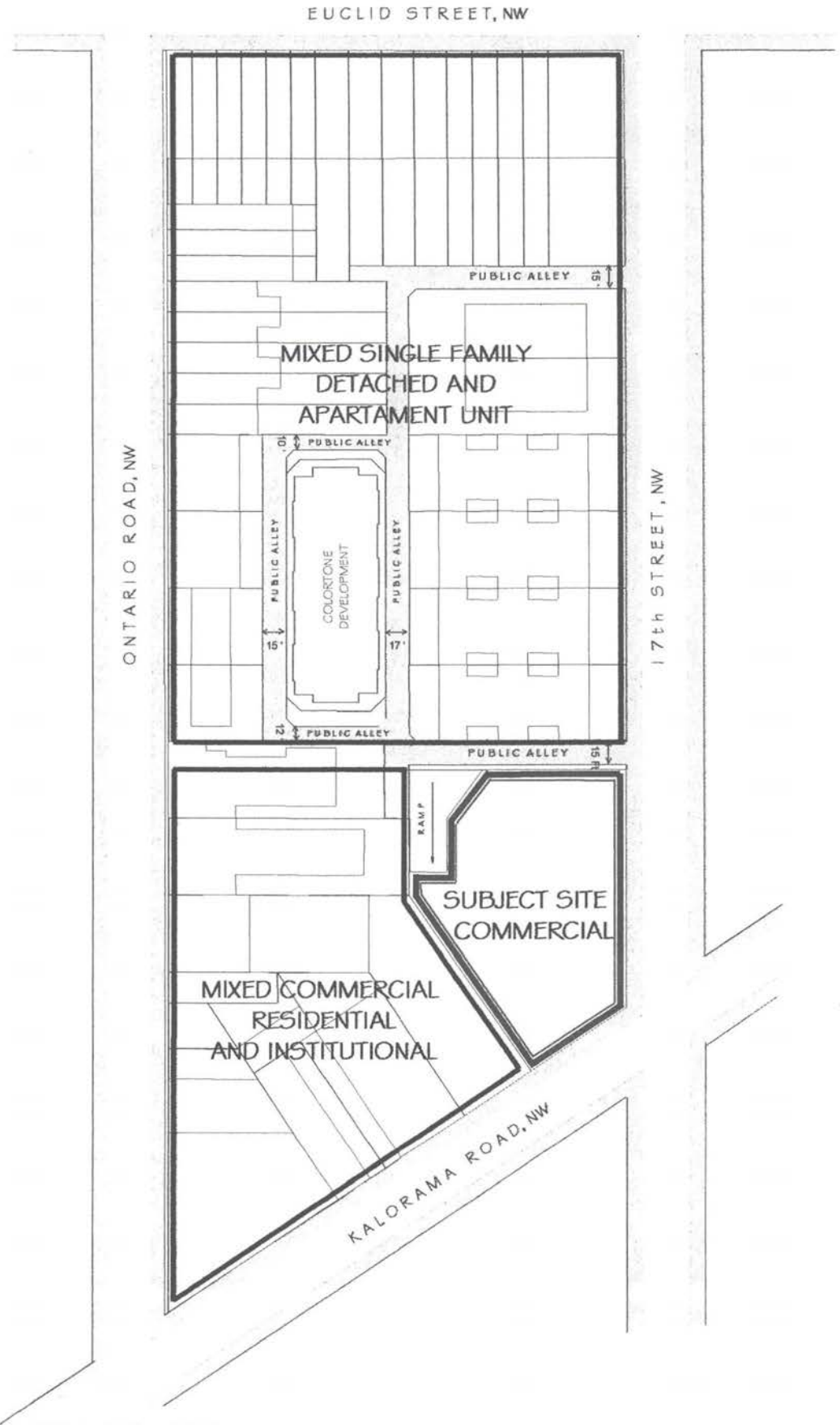
2.0 EXISTING ROADWAY AND TRAFFIC CONDITIONS

2.1 Land Use and Zoning

Based on the District of Columbia Generalized Land Use Policies Map, the general area of the subject property is zoned for moderate density residential uses. As noted earlier, the subject property is also situated within the Reed-Cooke Special Treatment area, which establishes policies regarding residential and small-scale business uses. The general area of the subject property is developed and improved with residential, light commercial, and institutional uses as called for in the Land Use Policies Map and under the provisions of Reed-Cooke Overlay District. Notably, the Marie Reed, and H. D. Cooke Elementary Schools are also situated within the general area, and lend their names to the neighborhood. Square 2566 consists of mixed residential uses along the north and west sections, with commercial uses within the central and southern sections. In order to facilitate the discussion which follow, Exhibit 2 is presented to show the uses within Square 2566.

2.2 Study Area Road Network

For purposes of this evaluation, the study area was defined as bounded by 16th Street on the east, Florida Ave. to the south, 18th Street to the west, and Euclid Street/Columbia Road to the north. The general physical characteristics and operational functions of the roadways, which serve the area, are described on page 5.



Source: Arcadia Architects (BZA Application 16815)
Dimensions by O. R. George & Associates

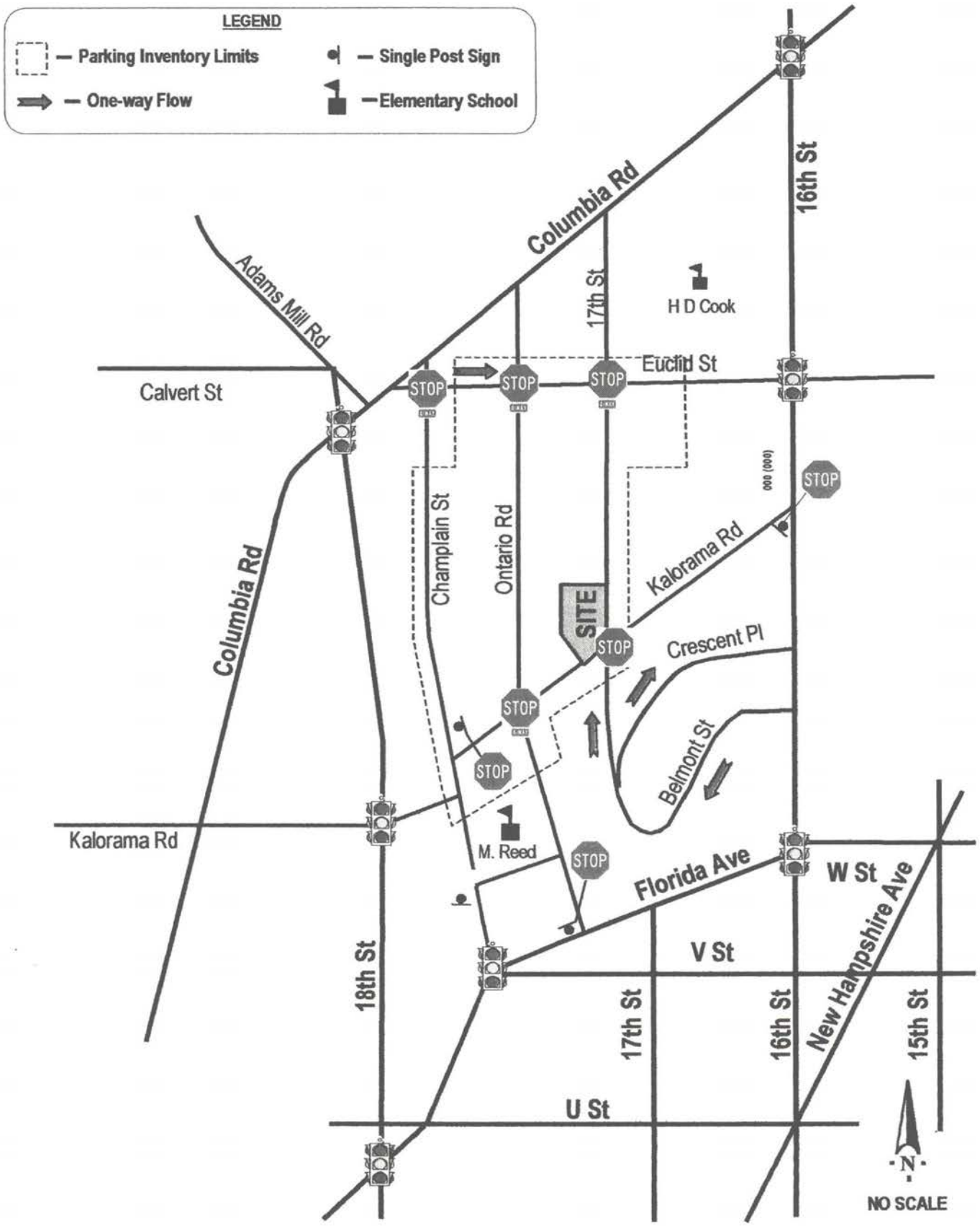
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EXHIBIT 2:
EXISTING LAND USE PATTERN - SQUARE 2566
Jemal's 1701 Kalorama Road Development
Northwest, Washington, D.C.

- **16th Street, NW** is designated as a principal arterial on the City's Functional Roadway Classification Map, and is generally six (6) lanes in cross-section, with parking during off-peak periods. This roadway runs in a north-south direction, and is one of the principal commuter routes serving the area. It currently carries approximately 34,500 vehicles per average weekday. The posted speed limit is in the range of 30 – 35 MPH.
- **18th Street, NW** is classified as a minor arterial on the District's roadway system. This 60-ft wide roadway serves two travel lanes in each direction with parking on both sides. It runs in a generally north-south direction, and currently carries approximately 10,000 vehicles per average weekday. The posted speed limit is in the range of 25 - 30 MPH.
- **Columbia Road, NW** is classified as a minor arterial on the City's roadway system. This 45-ft wide roadway runs in a generally east-west direction, within the area, and serves two travel lanes in each direction with parking along both sides of the roadway. It currently carries approximately 25,300 vehicles per average weekday. The posted speed limit is in the range of 25 - 30 MPH.
- **Kalorama Road and 17TH Street:** Within the area of the site, these two roadways are classified as local roadways by the City. They are in the range of 28 – 30 Ft in width, and serve two-way traffic flow, except for 17THStreet, south of Kalorama Road, which provides for one-way flow, northbound. These roadways are posted for 25 MPH speeds, and with advisory 15 MPH speeds when children are present. Kalorama Road and Seventeenth Street carry volumes in the range of 200 vehicles per average weekday.

Except for Florida Avenue, the roadways noted above serve bus routes on the Washington Metropolitan Area Transit Authority (WMATA) system. Transit service to the area has a bearing on vehicle trip generation for the subject development, and is therefore discussed further in subsequent sections of this report.

For ease of reference, and to facilitate the discussions, which follow, the local area roadways can be broadly described as follows. The roadways serving the local area fall into the local and collector categories, with pavement widths in the range of 28 – 30 feet, and with sidewalks generally measuring 5-ft in width. Except for Euclid Street (which is designated a collector) all the neighborhood streets are local roadways, designed to serve primarily abutting properties. The posted or allowed speed is 25 MPH. In keeping with the neighborhood character of the area, all intersections within the immediate vicinity of the subject property are controlled by multi-way stop signs. The Marie Reed and H. D. Cooke Elementary Schools are situated within the defined impact area. Advisory speed signs (restricting vehicular speeds to 15 MPH when children are present) are provided along most of the neighborhood streets. The study area roadway network is illustrated in Exhibit 3.



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EXHIBIT 3:
Study Area Roadway Network
Jemal's 1701 Kalorama Road Development
Northwest, Washington, D.C.

On-street parking is allowed along both sides of the local roadways, except where specifically restricted. In view of the mixed residential/commercial land uses within the area, metered parking is provided along several roadway sections, notably on Kalorama Road and sections of 17THStreet, Ontario Road, and Champlain Street. As noted earlier, the defined study area is bordered by dense commercial and entertainment uses along 18th Street and Columbia Road; and 16th Street is a major commuter arterial connecting the study area and outlying sections of the City with the central employment area. Because of these factors, and in keeping with the District's neighborhood preservation policies, the local area is covered under the District of Columbia Residential Parking Permit (RPP) program. All of the roadway sections are signed to restrict non-permit holders to 2-hour limits, generally during the period 7:00 AM – 8:30 PM. Existing traffic and parking conditions are further discussed in Section 2.3 following.

2.3 Existing Traffic Conditions

Traffic flow conditions pedestrian, activities and parking relative to Square 2566 were recently assessed in a study done in support of the Colortone Mixed Use Development Application (BZA Application No. 16815). Since the study was reviewed by DDOT and the City, some of the data on parking usage and traffic conditions were considered as part of the current assessment. Updates and observations of traffic conditions were made in order to ensure that the data is current and representative. The current assessment considers the following intersections:

- 16th Street @ Euclid Street (signalized);
- 16th Street @ Kalorama Road (unsignalized);
- 17THStreet @ Kalorama Road;
- Ontario Road @ Florida Avenue (unsignalized); and
- 18th Street @ Kalorama Road (signalized).

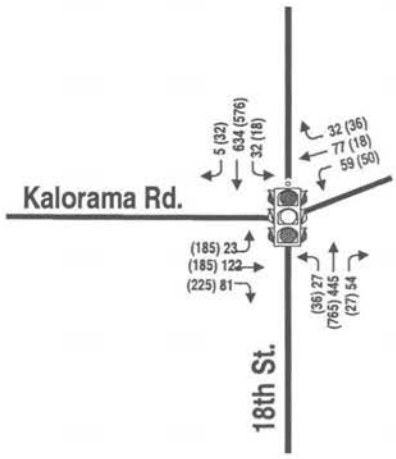
The existing turning movements for the five (5) key portal points into the study area are shown on Exhibit 4. This data was used as the basis for a capacity analysis utilizing the Highway Capacity Manual (HCM) procedures, in accordance with DDOT's requirement. The analysis showed that the above intersections performed at satisfactory levels of service (i.e., LOS C or better), and satisfied the City's Planning Standards. The results are summarized in Table 1 below. Capacity analysis worksheets are presented in Attachment C.

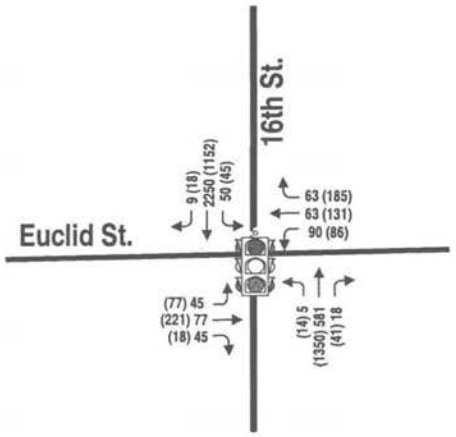
TABLE 1
SUMMARY OF CAPACITY ANALYSIS RESULTS – EXISTING TRAFFIC CONDITIONS

	AM Peak Hour		PM Peak Hour	
Intersection	**Level of Service**	**Average Delay (Sec./Veh.)**	**Level of Service**	**Average Delay (Sec./Veh.)**
• 18th St. @ Kalorama Rd.	B	15.5	B	16.0
• 16th St. @ Euclid St.	C	27.6	C	34.3
• Ontario Rd @ Florida Ave.	B	12.9	B	11.5
• 17THSt. @ Kalorama Road	A	8.3	B	8.2
• 16th St. @ Kalorama Rd.	F*	N/A	F*	N/A

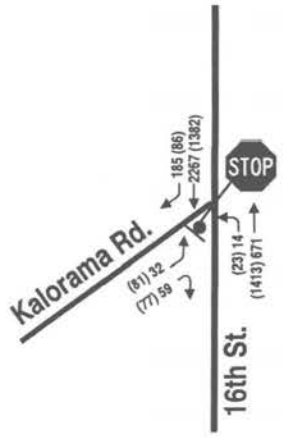
* For two movements only (for this T-Intersection).

"Level of Service" is a qualitative measure describing operational conditions within a traffic stream or at an intersection, and their perception by roadway users. Principal factors are speed and travel time, delay, and freedom to maneuver, traffic interruptions, comfort, convenience and safety. Current engineering practice defines six (6) levels of service (A-F), with "A" representing best operating conditions (that of uninterrupted free flow), and Level of Service "F" representing worst conditions (that of severe congestion). Level of Service D is generally considered by the District of Columbia as the minimum acceptable standard for planning purposes.











LEGEND

000 — AM Peak Hour Volumes

(000) — PM Peak Hour Volumes



O. R. GEORGE & ASSOCIATES, INC.

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Exhibit 4:

EXISTING PEAK HOUR TURNING MOVEMENT VOLUMES

Jemal's 1701 Kalorama Rd, BZA Application, Northwest, Washington D.C.

In addition to the capacity analysis, field observations were made of traffic and pedestrian movements within the local area. These showed considerable pedestrian activity, particularly during the morning peak period, which coincided with the start of the school hours for the adjacent elementary schools. It is noted that painted crosswalks are provided at all intersections, and that crossing guards are stationed at a number of critical locations. Accident records obtained from the City showed no significant safety deficiencies within the study area. Most intersections experienced no accidents within the most recent three-year period for which data was available.

These factors compare well with the moderate traffic flows and multiway stop sign provisions at the local intersections. Traffic volumes were generally quite low and vehicular speeds were moderate, contributing to a safe and efficient environment for both vehicular and pedestrian users. An assessment was made to determine the growth rates of traffic on the roadway network within the local area. The locations and volumes are presented in Table 2. In general, the data shows that traffic volume on the area roadway network has remained relatively stable. Within the vicinity of the site, Kalorama Road appears to be the most heavily traveled roadway. It is particularly noteworthy that data for the adjacent sections of Kalorama Road show average daily volumes in the range of 4,000 vehicles/day and that these volumes have remained relatively stable over the past five (5) years. Furthermore, these volumes are well within the typical ranges experienced on local City streets. There appears to be some degree of cut-through traffic between Columbia Road and 18th Street (south of Kalorama Road) via 17THStreet.

TABLE 2
TRAFFIC GROWTH TRENDS FOR KEY STUDY AREA ROADWAYS

Location	1996	1997	1998	1999	2000	Average Change
18th St. South of Kalorama Rd	19.8	19.6	20.2	20.4	20.4	+0.15%
Kalorama Rd west of 18th St.	1.7	1.5	1.6	1.5	1.6	-0.15%
Columbia Rd west of 16th St	24.8	24.2*	24.6*	24.5	24.3	-0.05%
16th St south of Kalorama Rd	32.8	32.0	32.8	31.7	28.0	-3.75%
Kalorama Rd west of 17THSt	4.2	4.1	4.2	4.3	4.3	+0.50%
Kalorama Rd west of 16th St	1.9	2.0	2.2	2.1	2.1	+2.6%
17THStreet North of Kalorama Road	3.4	3.3	3.2	3.4	3.6	1.5%

2.4 Parking Conditions

As noted earlier, the Applicant's proposal calls for thirty-nine (39) off-street parking spaces within the proposed building, and five (5) out-door spaces accessed off the adjacent public alley. This is well in excess of the eighteen (18) spaces required by the Zoning Regulations. However, in order to provide background to the Applicant's submission, parking inventory and usage data detailed in the Colortone Special Exception application was reviewed. This covered an estimated two-block radius (approximately 5-minute walking distance) from the Colortone property and, by extension, this subject development. Table 3 presents a summary of the local area parking supply situation as determined by that study.

The study shows that approximately 49 of the 309 spaced are metered. The metered spaces are located primarily along sections of Kalorama Road, Champlain Street, and 17THStreet adjacent to commercial development along these roadways, and in proximity to the retail and entertainment corridor along 18th Street. The general area roadway network surveyed is covered under the City's Residential Parking Permit program. This program restricts parking to two-hour limits, generally between 7:00 AM – 8:30 PM (Monday thru Friday).

TABLE 3

LOCAL AREA PARKING INVENTORY AND USAGE SUMMARY

JEMAL'S 1701 KALORAMA ROAD BZA APPLICATION

Item	Location	Number of Spaces		Total Spaces
		General	Metered	
1	17th St. (Kalorama Rd. to Euclid St.)			
	East side	22		22
	West side	18	5	23
2	Euclid St. (17th St. to Mozart Pl.)			
	North side	12		12
	South side	15		15
3	Euclid St. (17th St. to Ontario Rd.)			
	North side	13		13
	South side	13	1	14
4	Euclid St. (Ontario Rd. to Champlain St.)			
	North side	12		12
	South side	12		12
5	Ontario Rd. (Euclid St. to Kalorama Rd.)			
	East side	37		37
	West side	35		35
6	Kalorama Rd. (Ontario Rd. to Champlain St.)			
	North side	-		-
	South side	9		9
7	Kalorama Rd. (Ontario Rd. to 17th St.)			
	North side		11	11
	South side		11	11
8	Champlain St. (Euclid St. to Kalorama Rd.)			
	East side	29	11	40
	West side	24		24
9	Kalorama Rd. (Mid-block to 16th St. from 17th St.)			
	North side	9		9
	South side	10	10	10
	Total	**270**	**49**	**309**

Source: O. R. George & Associates.

The study also conducted parking usage surveys during the following peak demand periods:

- Weekday – 10:00 AM to 3:00 PM (to reflect commercial and residential use demand);
- Weekday – midnight to 6:00 AM (to reflect peak residential usage); and
- Friday – 6:00 to 9:00 PM (to reflect the peak commercial/entertainment as well as residential parking demand).

In general, the surveys showed that parking demand was heavy during all the periods surveyed. Overall usage ranged between 85% on weekday afternoons, to close to 100% capacity during the early evening hours on a typical Friday.

In order to further support trip generation and parking needs for the subject site, the study considered data obtained from the City's Office of Planning, regarding vehicle ownership and availability for the Census Tract within which the subject development is located, and for four (4) other tracts within the general Adams Morgan area. The source of this information was the 1990 Population and Housing Census Data, published by the U.S. Census Bureau. The residential vehicle ownership and availability data is summarized in Table 4 below. Comparable data from census 2000 is not currently available.

The data shows that, for Census Tract No. 38 (within which this subject property is located), the average vehicle ownership or availability was 0.59 vehicles per rental apartment unit. It is further noted that, for the more general area, vehicle availability ranges between 0.41 and 0.59, with an average of 0.54 vehicles per unit.

TABLE 4

RESIDENTIAL VEHICLE OWNERSHIP DATA -
ADAMS MORGAN AREA, NORTHWEST, WASHINGTON, D.C.

Census Tract	No. of Occupied Rental Units	No. of Vehicles Available	Auto Availability Ratio)
37.0	1,754	719	0.41
38.0	1,850	1,099	0.59
39.0*	2,998	1,646	0.55
40.02	1,242	713	0.57
42.01	1,457	837	0.57
Total	**9,301**	**5,014**	**0.54****

Note: * = Based on total occupied units (Breakdown not available).
** = Average for entire area.

Source: District of Columbia Office of Planning , United States Census Bureau and O. R. George & Associates

3.0 FUTURE TRAFFIC AND PARKING CONDITIONS

3.1 Introduction

Evaluation of future traffic conditions, related to the proposed Jemal's 1701 Kalorama Road Development, was based primarily on the requirements stipulated by the District of Columbia Zoning Regulations, and procedures recommended by the District Department of Transportation (DDOT). The procedures require that the Applicant's expected building program and usage of the site be considered, in conjunction with other potential development activity within the local area of impact. The latter constitutes what is generally referred to as "background traffic" conditions. These conditions are presented in the following section.

3.2 Background Traffic Conditions

Based on discussions with the District of Columbia Office of Planning staff (Community Planning Division) and information provided at the official website of the Department, two background developments were identified for consideration. These are listed below.

1) **The Lofts at Adams Morgan:** Located at 2328 Champlain St., N.W., this development consists of sixty (60) condominium units with 4,000 GSF of retail space, and a 340-space parking garage supporting both residential and commercial uses. Field observations show that this development has been built out and is substantially occupied. Access to two hundred and fifty (250) spaces serving the commercial uses will be off 18th street.
2) **The Colortone Development:** This development will consist of fourteen (14) multi-family units, a 10,000 SF community center and 5,000 SF of office space supported by twenty-four (24) parking spaces.
3) **2327 Champlain Street, NW:** This development was recently approved by the City, and will consist of 68 apartment units, supported by 52 off-street parking spaces.

Other development activity in the area consists of upgrading or refurbishing other residential properties. Based on the above factors, it is apparent that only the Colortone and Champlain Street developments warrant consideration under the current study. The analysis submitted in support of the Colortone application shows that an average of fifteen (15) vehicle trips (total inbound and outbound) would be generated by that development during weekday peak hours. Similar documentation for the Champlain Street development shows that this project is projected to generate an average of 25 vehicle trips accessing the site during weekday peak hours. Considering the multiple points of access to the area, it is apparent that level of trip generation will not have an appreciable impact on the local area intersections.

3.3 Jemal's 1701 Kalorama Road Development Plan

As noted earlier, the subject property is currently improved with approximately 52,000 GSF of commercial space within an existing three-story building. The building has historically been used for a variety of commercial purposes, including as warehouse and for other commercial purposes. The Applicant proposes to expand the building to approximately 78,500 GSF and to provide for fifty-four (54) studio apartments, supported by thirty-nine (39) parking spaces and a 10 Ft x 20 Ft. loading space within the ground-floor garage. An additional five (5) surface parking spaces will be provided outdoors, to be accessed off the adjacent public alley abutting the property to the north.

The proposed development would not increase the density above what is allowed under the C-2-B zoning category. In terms of potential impacts related to traffic generation, parking demands and loading facilities, the following table defines the development elements to be analyzed

Development Element	Allowed/Required (Matter-of-Right)	Proposed Per Application	Analysis Requirement
1) Building Density (GSF)	78,498 GSF	78,498 GSF	No change requested.
2) Approximate no. of apt. Units	54 Units	54 Units	Potential impact of three (3) additional apartment units.
3) Loading Berths	None Currently Provided	None Proposed	No change and impact.
4) Parking Spaces	18 Spaces	44 Spaces	Potential positive impact on neighborhood.

Source: Applicant's submission (Case No. 16924), and
O. R. George & Associates.

The potential impacts of the four elements identified above are addressed in Section 3.4 following.

3.4 Assessment of Development Impacts

As noted earlier, the Zoning Regulations require the Applicant to demonstrate that the proposed uses would not tend to cause objectionable conditions to neighboring properties. This section examines the future access needs, considering potential traffic generation and parking demands. As further background to the analysis and discussion which follows, it is also noted that the proposed development is in keeping with the policies, established by the City's Zoning Commission for the Reed Cook Overlay District as elucidated in Order No.523-A(b)(1): *"Protect current housing in the area, and provide for the development of new housing."*

The C-2-B Zoning District is intended for development of medium to high-density community business center uses. This includes general office, and a wide range of commercial, retail and service establishment activity, as well as warehousing and commercial parking. The latter uses were predominant over the recent life of the subject property. It can therefore be qualitatively assessed that these uses would generate significant traffic, including heavy vehicles, distributed over the typical weekday, and perhaps on weekends. Increased traffic, noise, and neighborhood intrusion from such access would be expected consequences. However, in order to provide a more quantitative basis for this assessment, Table 5 following was developed to indicate the potential trip generation and parking demands of the subject property, considering existing and other potential (matter-of-right) uses, as well as those proposed under the current application.

TABLE 5
Comparative Transportation-Related Needs and Impacts –
Under Alternative Land Use Scenarios for 1701 Kalorama Road

Land Use/ Development Scenario	Development Density	Off-Street Parking Requirement	Loading Berth/Service Requirement	Vehicle Trip Generation						Remarks
				AM Peak Hour			PM Peak Hour			
				IN	OUT	TOTAL	IN	OUT	TOTAL	
A) Existing Site Improvements	52,000 GSF	N/A*	N/A*	19	4	30	6	20	26	Use as warehouse assumed.
B) Potential Development. (Matter-Right Uses) Mixed Use Commercial (1.5 FAR)/ Residential (2.0 FAR)	Commercial 33,642 GSF (minus 3,612 SF devoted to parking) Residential 44,856 GSF (minus 4,788 SF devoted to parking) (30 Apartments)	16 spaces 10 spaces	- 1 @ 30 ft deep - 1 @ 20 ft deep - 1@ 55Ft deep	9 2	9 4	18 6	55 4	55 2	110 6	Uses shown are alternatives based upon current zoning.
Total (Item B)	**78,498 GSF**	**26 Spaces**	**N/A**	**11**	**13**	**24**	**59**	**57**	**116**	**Significantly greater neighbor-hood intrusion**
C) Proposed Develop. (Per Application)**	54 Apartment Units	18 Spaces Req. (44 Spaces Proposed)	- 1 @ 55 ft. (One @ 12 Ft. x 20 Ft proposed)	2	12	14	11	14	16	Loading zone proposed along 17th Street. Potential for loading provided inside garage.

* None assumed to be required, since site improvements predate the Zoning Regulations

** Reflects assumed use of transit (@ 50%).

The estimated weekday trip productions for the proposed development are shown (in Table 5) to be in the range of 15 peak hour trips. As shown in item C of the table on page 16, this level of trip generation is approximately 50% of the potential trip generation under the existing commercial use. The trip generation under the proposed use is also extremely low when compared with the potential matter-of-right uses under the current zoning. Table 5 shows the advantage of and benefits to the area considering the development proposed under the current application

3.5 Parking Needs and Impacts

As discussed earlier, the Zoning Regulations require that one parking space per three (3) apartment units be provided for this development. This considers the C-2-B Zoning District in which the property is located. The applicant proposes to provide forty-two (42) parking spaces within its first-floor garage, and five (5) outdoor spaces.

Vehicle ownership and availability data for the local area was presented in Section 2.3 of this report. It was noted that 0.54 vehicles per rental unit could be expected. The supply of 44 spaces proposed by the Applicant computes to a per-unit rate of 0.81 (i.e., 44 ÷ 54 units). This is approximately 50% higher than the ownership rate based upon the demographic data cited. This parking supply should therefore be quite adequate. This parking supply should also provide for a factor of safety, given the heavy demand for on-street parking within the local area. Accordingly, this study concludes that the parking supply element of the development proposal will not adversely impact the local area.

With regard to access to the future development parking, it is noted that the existing site is currently served by a forty-foot wide ± driveway (with a five-foot median separator) off the north side of Kalorama Road. Service access is also provided via a ramp off the public alley abutting the property to the north. This Kalorama Road driveway is currently situated approximately 22 ft. from the 17THStreet curb line. This driveway will be modified to provide a 16-ft. wide driveway into the garage. The new driveway arrangement would provide a 45 ft. clearance from the adjacent 17THstreet curb line. The proposed garage has a 14.0 ft. vertical clearance (compared to the required 7.2 ft.). This latter factor has implications for the site loading provisions, which is discussed in Section 3.6 following.

Justification for the mix of parking spaces (between standard and compact sizes) is presented elsewhere in the Applicant's submission. In order to facilitate this discussion, the proposed garage parking layout is included as Attachment B. This attachment shows that, due to restrictions of existing column spacing, an approximate 55 ft. section of drive aisle is approximately 18-ft. 9 in. in clear width. The impact of this marginal difference is not likely to be significant for the following reasons:

a) The arrangement provides for in excess of the 20 ft requirement between the adjacent rows of parking, except at the locations of the columns, and;

b) Six (6) of the twelve parking spaces affected by the reduced widths are compact-sized, thus reducing potential operational impacts and inconvenience.

The potential impacts can be further mitigated by pavement edgeline markings, and retro-reflective material applied to the columns within the area described.

3.6 Loading/Service Vehicle Access Needs and Impacts

The Zoning Regulations require a loading berth of 12 ft X 55 ft. The submitted plan does not provide for this facility, and this is the subject of a variance request. In lieu of this requirement the plan provides for the following loading arrangement.

a. A loading zone along the adjacent west side of 17TH Street. *(This would result in the elimination of two (2) metered parking spaces.)*

b. The potential for loading within the garage adjacent to the stairwell. *(It is understood that this alternative would be used as supplementary loading, and during inclement weather.)*

c. Trash removal would be through the following arrangement: Trash pick-up will be one to two times per week, and will be through a roll-out arrangement whereby the trash bin (dumpster) would be brought to the sidewalk along Kalorama Road where it would be picked up by the trash truck.

This study finds that the proposed arrangement for loading should be generally adequate. This is because, with the development consisting of studio-type apartment units, vehicles to be accommodated would generally be of the cargo-van and single-unit truck size (i.e., 30 ft in length). The Applicant would be required to follow the City's process for designating the adjacent loading zone along 17TH Street. In addition, the Applicant proposes to arrange for use of the garage loading arrangement primarily during non-peak garage access periods. Use of cones and manual traffic control assistance within the garage will also be programmed. Based on these considerations, there should be no constraints placed on the access needs of the subject building. Furthermore, provision for loading through the adjacent alley could be a consideration. However, such an arrangement would likely have significant adverse impacts on other land uses within the square, as well as on the local area as a whole.

3.7 Pedestrian Access Considerations

Pedestrian access to the subject development would be via the entry off 17THStreet, and through the garage. It is anticipated that there will be considerable walk trips along the adjacent roadways linking the site with transit facilities (i.e., bus stops) along 16th and 18th Streets, and along Columbia Road. The following are general observations related to pedestrian activities within the area of the subject site.

a. The Marie Reed and H. D. Cooke Elementary Schools located a few blocks away, and significant pedestrian usage of the neighborhood streets currently exists.

b. All neighborhood streets are provided with sidewalks along each side of every roadway. Field observations show no inadequacy of sidewalk facilities.

c. All intersections within the vicinity of the subject property are controlled by multi-way stop signs.

d. The adjacent intersections (i.e., 17TH Street at Euclid Street and Street at Kalorama Road) are provided with marked crosswalks. School crossing guards have been observed at a number of intersections, generally during the period of the commencement and closure of schools.

e. Advisory speed signs (with speed reduction to 15 MPH) are provided along the east side (northbound direction) of 17THStreet, between Kalorama Road and Euclid Street.

4.0 SUMMARY AND CONCLUSION

Based upon the foregoing data, analysis and discussion presented, this assessment concludes that the use proposed per the subject application should have no appreciable adverse impacts on the local area. The uses should also not tend to be objectionable to neighboring properties. The following list highlights the basis for this conclusion.

a) ***Trip Generation***: Vehicle trips generated by the site will be quite low, in the range of sixteen (16) to nineteen (19) trips during weekday morning and afternoon peak hours. These trips should also be well distributed, considering the number of portal points into the area of the site.

b) ***Parking Supply***: The parking supply proposed is well in excess of the City's standards [i.e., forty-four (44) proposed versus eighteen (18) required]. The ratio of parking spaces to dwelling units is also considerably higher than is indicated by available demographic census data provided by the City's Office of Planning. The auto availability per rental dwelling unit ratios are 0.54 for the general area, versus 0.86 based upon the Applicant's proposal.

c) ***General Trip Generation/Parking Demand Considerations***: The proximity of the site to transit routes, its location relative to the downtown employment core, and the type of dwelling units proposed (i.e., studio apartments) are all factors supporting the low trip generation and parking demand cited in items (a) and (b) above.

d) ***Safety Considerations***: Sidewalks are provided along all local streets; local intersections are controlled by multi-way stop signs; advisory 15 MPH speed signs a provided within the area of the two elementary schools; and school crossing guards are posted at strategic locations.

e) ***Building Access and Parking Layout***: The Applicant's plan to consolidate vehicular access to a single driveway along Kalorama Road, further removed from Seventeenth Street, is quite positive. The minor reduction in parking drive aisle width (i.e., from 20 ft. to 18 ft. 9 in) should have no appreciable impact on users, since this garage will be used almost exclusively by residents. This study also included recommendations that should mitigate this relatively minor deficiency.

f) ***Elimination of Alley Access***: The Applicant's proposal to eliminate the existing access via the adjacent alley to the north is quite positive. Specifically, this would reduce vehicular traffic within the alley. The latter factor is particularly important in view of the recent approval by the Board of Zoning Adjustment of additional housing and a youth center for the Colortone Property under BZA Case No. 16815.

g) ***Service Delivery and Loading***: The arrangements proposed for trash service does not impact traffic on the adjacent street to an appreciable degree. Also, considering the type of apartment units, a 55-Ft loading berth should not be required. The loading/service bay within the garage, and the forty-foot loading along 17THStreet should be quite adequate to serve the needs of the proposed building.

The Applicant's statement cites the requirements of the City's Zoning Regulations, with respect to the variance request for increased height. Clearly, this increase pertains to corresponding increments in building density, and the consequence with respect to vehicle trip generation, parking and loading. This application makes no request for increased density. However, for purposes of completeness, the following sections of the Regulations are specifically noted:

> ***Section 1403.1 (b):*** Vehicular access(ingress) and egress shall be designed and located so as to minimize conflict with pedestrian ways, to function efficiently and to create no dangerous or otherwise objectionable traffic condition.
>
> and
>
> ***Section 1403.1(c):*** Adequate off-street parking shall be provided for employees, trucks and other service vehicles

These two requirements of the Zoning Regulations were addressed extensively through the discussions of existing traffic and parking conditions in Section 2 (pages 3 – 11) and in the assessment of projected traffic, parking and loading requirements and conditions, in Section 3 (pages 14 – 18). The data, analysis and discussions have demonstrated that the conditions are satisfied.

In addition to the above specific factors, it is important to note that the use proposed under the current application compares quite favorably with the current use and others that could be developed on the site, as a matter-of-right. This is based on its zoning classification and the comparative trip generation impacts and parking requirements cited in the report. These include current warehousing, as well as potential office, and service retail. As such, this study finds that the Applicant's proposal fully satisfies the requirements of the Zoning Regulations for the subject variance requests.

We trust that this satisfies the current requirements for this application. If we can be of further assistance in this matter, please let us know.

ORG/tj

Attachment: As Noted

<<<<<::::: >>>>>

ATTACHMENT

A

RELATED DDOT CORRESPONDENCE

O. R. GEORGE & ASSOCIATES, INC.

Traffic Engineers – Transportation Planners

10210 Greenbelt Road, Suite 310 • Greenbelt, MD 20706-2218
Tel: (301) 794-7700 Fax: (301) 794-4400
E-Mail: orgassoc@aol.com

September 6, 2002

Mr. Abdoulaye Bah, Senior Transportation Engineer
Office of Intermodal Planning
District of Columbia Departmentof Public Works
2000 14th Street, N.W., 7th Floor
Washington, D.C. 20009

Re: Board of Zoning Adjustment Application –
1701 Kalorama Road, N.W., Washington, DC.

Dear Mr. Bah:

Please be advised that we have been retained by the Applicant, Douglas Development Company, to prepare a traffic impact analysis in support of the referenced matter. The subject property is situated within Square 2566 in the Adams Morgan Area of Northwest, Washington, D.C. The property is zoned commercial (RC/C-2-B), and is currently improved with a commercial use building of approximately 67,500 Gross Square Feet. The Applicant proposes to redevelop and expand the existing building to provide sixty-five (65) apartment units supported by a fifty-space (50) parking garage.

Our assessment is that the future development will generate less than twenty (20) vehicle trips during both morning and afternoon peak hours. These trips will access the site via a number of "gateways" allowing for a well distributed traffic pattern. These factors strongly suggest that the development will not have any appreciable impact. However, in keeping with the City's guidelines for processing applications to the Board of Zoning Adjustment, we propose to undertake a generalized assessment of traffic as well as parking conditions within the area bounded by 16th Street to the east, Florida Avenue to the south, 18th Street to the west, and Euclid Street/Columbia Road to the north. Our study will consider other potential developments within the area, as background to our assessment. We are also attaching a site location map for your convenience.

Should you have any questions or further information, which my be useful to our study effort, please let us know. Thanks for your usual attention and assistance in this matter.

Sincerely,
O. R. GEORGE & ASSOCIATES, INC.

Osborne R. George
President

ORG/tdj

cc: Paul Millstein, President
Douglas Development Company

D.C. - 44
APRIL 1980

Memorandum ● Government of the District of Columbia

TO: Jill Dennis
Director
Office of Planning

Department, Public Works
Agency, Office: Policy & Planning

FROM: Kenneth Laden
Acting Administrator

Date: JUN 11 1997

SUBJECT: Zoning Commission No. 97-1C - Request for approval of a Consolidated Planned Unit Development (PUD) in Square 2560, Lots 90,91,92,105,106, and 125 at 2415 18th Street N.W.

The Department of Public Works (DPW) has reviewed the application and other material accompanying your memorandum received on May 28, 1997. This report addresses the transportation elements of the proposal.

The applicant, the Adams Morgan Development Corporation, requests a consolidated review and approval of a Planned Unit Development (PUD) for the properties at 2415 18th Street and 2328 Champlain Street, N.W. The properties are located in the C-2-B and the RC/C-2-B Zone Districts. If the application is granted, the applicant will construct a parking garage containing approximately 330 to 350 spaces and a residential building with 50 to 80 apartment units and approximately 4,000 square feet of retail space.

We have reviewed the proposed PUD in terms of trip generated by the residential component of the project and the public parking facility being built to meet the growing parking needs in the Adams Morgan area.

With regard to trip generation, approximately 15 to 24 vehicles will be generated during the a.m. and p.m. peak hours. A review of the existing capacity of the street system leading to and from the site indicates that all adjacent intersections are operating at a good level of service during both the a.m. and p.m. peak hours. The addition of 24 vehicles generated by this project will have a negligible impact in terms of capacity and level of service in the area road network.

With respect to providing a pubic parking facility, it should be noted that the District Government, through the Office of Business and Economic Development, in cooperation with DPW, has been involved for decades in trying to solve the parking problems in the Adams Morgan area. It was in that context that angle parking was designed and installed along the east side of 18th Street between California Street and Columbia Road. The construction of the parking facility will significantly contribute toward solving the shortage of off-street parking in the Adams-Morgan neighborhood area and will support the commercial/retail activities along the 18th Street Columbia Road corridors.

A-2

We note that the applicant is not providing the 55 foot loading berth required under the Zoning Regulations for the residential component of the project. We believe that the lack of the off-street loading facility will have some adverse impact on traffic circulation on the local street adjacent to the project. To mitigate this impact, loading activity should be limited to Champlain Street only during the non peak hours.

From a transportation standpoint, this project will bring a very much needed public parking facility in an area where parking is in short supply. Accordingly, DPW supports the PUD.

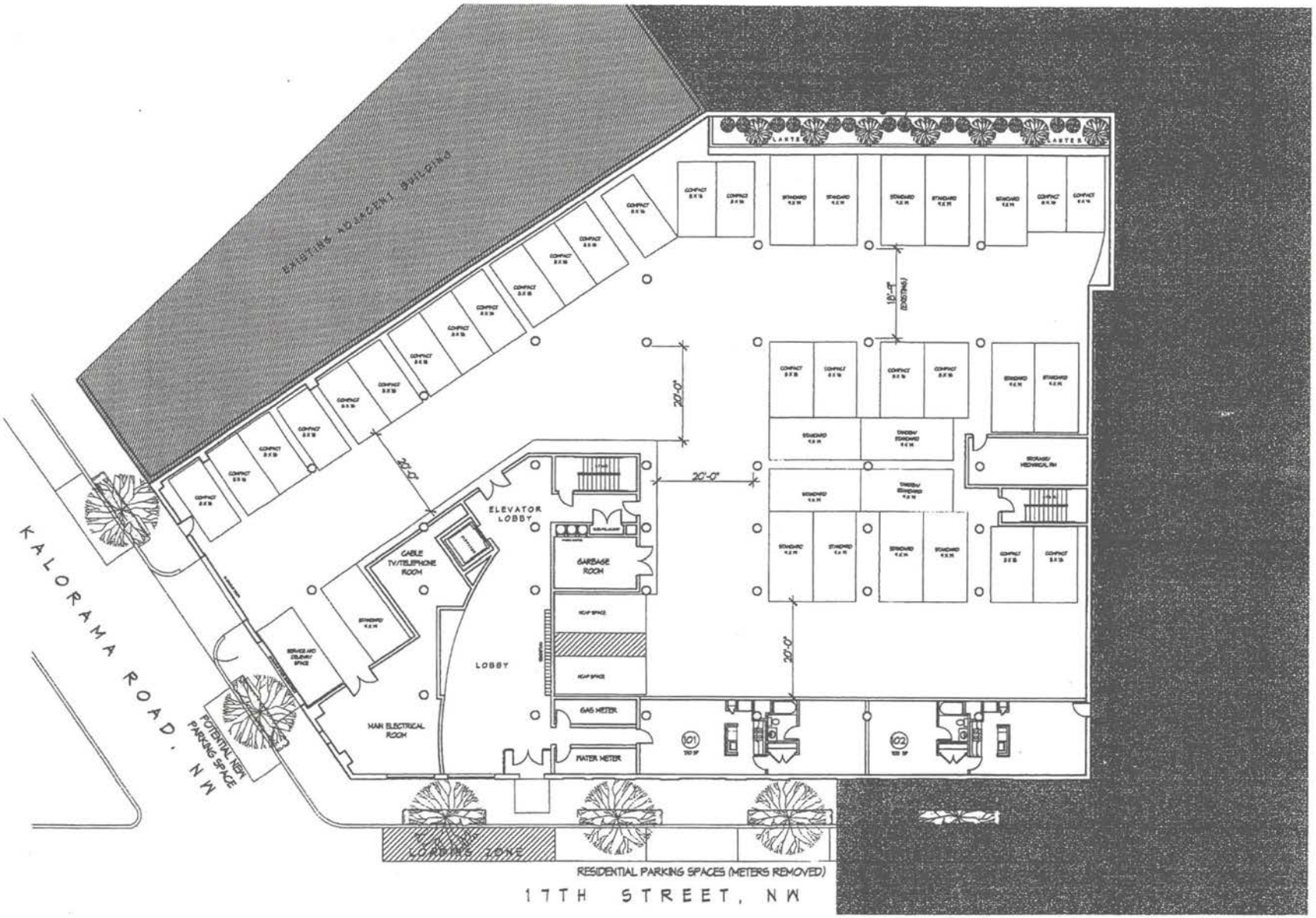
OPP:Laden,Pourciau,Bah
OPP:Chron,subj files
OPP:Bah:wmw:6/09/97
WO5.1,ZC97-1C

A-3

ATTACHMENT

B

FIRST FLOOR PLAN



1 / A-1 1ST FLOOR PLAN (PARKING LEVEL)
SCALE: 1" = 10'

1ST FLOOR PLAN

ARCHITECT: ERIC COLBERT & ASSOCIATES
717 5TH STREET, N.W. WASHINGTON, D.C. 20001

CLIENT: DOUGLAS DEVELOPMENT
702 H STREET, NW SUITE 400 WASHINGTON, DC 20001

PROJECT: 1701 KALORAMA ROAD, NW
WASHINGTON, D.C.

A

ATTACHMENT

C

CAPACITY ANALYSIS SUMMARY SHEETS

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	ORGA
Agency/Co.	ORGA
Date Performed	11/22/02
Analysis Time Period	AM Peak Period

Site Information

Intersection	Florida Ave. @ Ontario Rd.
Jurisdiction	District of Columbia
Analysis Year	2002

Project Description: 1701 Kalorama Road

East/West Street: Florida Avenue — North/South Street: Ontario Road

Intersection Orientation: East-West — Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	32	230	0	0	306	18
Peak-Hour Factor, PHF	0.96	0.96	1.00	1.00	0.96	0.96
Hourly Flow Rate, HFR	33	239	0	0	318	18
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		1			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	23	0	9
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.97	1.00	0.97
Hourly Flow Rate, HFR	0	0	0	23	0	9
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)		0			-1	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	33						32	
C (m) (vph)	1227						489	
v/c	0.03						0.07	
95% queue length	0.08						0.21	
Control Delay	8.0						12.9	
LOS	A						B	
Approach Delay	--	--					12.9	
Approach LOS	--	--					B	

C-1

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	ORGA	Intersection	Florida Ave. @ Ontario Rd.
Agency/Co.	ORGA	Jurisdiction	District of Columbia
Date Performed	11/22/02	Analysis Year	2002
Analysis Time Period	PM Peak Period		

Project Description: 1701 Kalorama Road
East/West Street: Florida Avenue | North/South Street: Ontario Road
Intersection Orientation: East-West | Study Period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	54	432	0	0	185	5
Peak-Hour Factor, PHF	0.96	0.96	1.00	1.00	0.96	0.96
Hourly Flow Rate, HFR	56	450	0	0	192	5
Percent Heavy Vehicles	0	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		1			1	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	23	0	54
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.97	1.00	0.97
Hourly Flow Rate, HFR	0	0	0	23	0	55
Percent Heavy Vehicles	0	0	0	0	0	0
Percent Grade (%)	0			-1		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	56						78	
C (m) (vph)	1406						632	
v/c	0.04						0.12	
95% queue length	0.12						0.42	
Control Delay	7.7						11.5	
LOS	A						B	
Approach Delay	--	--					11.5	
Approach LOS	--	--					B	

SHORT REPORT

General Information		Site Information	
Analyst	ORGA	Intersection	18th St. @ Kalorama Rd.
Agency or Co.	ORGA	Area Type	CBD or Similar
Date Performed	11/22/02	Jurisdiction	District of Columbia
Time Period	AM Peak Period	Analysis Year	2002

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Lane group		LTR			LTR			LTR			LTR	
Volume (vph)	5	27	18	59	77	32	27	446	54	32	636	5
% Heavy veh	0	1	0	0	1	0	0	2	0	0	2	0
PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.97	0.97	0.97
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time		2.0			2.0			2.0			2.0	
Ext. eff. green		2.0			2.0			2.0			2.0	
Arrival type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	15	0	0	25	0	0	70	0	0	85	0	0
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	-2	N	N	1	N	N	0	N	N	0	N
Parking/hr			25			20			40			40
Bus stops/hr		0			0			20			20	
Unit Extension		3.0			3.0			3.0			3.0	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 28.0	G =	G =	G =	G = 72.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 — Cycle Length C = 110.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB	WB	NB	SB
Adj. flow rate	52	177	544	694
Lane group cap.	314	293	1502	1539
v/c ratio	0.17	0.60	0.36	0.45
Green ratio	0.25	0.25	0.65	0.65
Unif. delay d1	31.9	36.1	8.6	9.3
Delay factor k	0.50	0.50	0.50	0.50
Increm. delay d2	1.1	8.9	0.7	1.0
PF factor	1.000	1.000	1.000	1.000
Control delay	33.0	45.0	9.3	10.3
Lane group LOS	C	D	A	B
Apprch. delay	33.0	45.0	9.3	10.3
Approach LOS	C	D	A	B
Intersec. delay	14.9	Intersection LOS		B

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Short Report

SHORT REPORT

General Information		Site Information	
Analyst	ORGA	Intersection	18th St. @ Kalorama Rd.
Agency or Co.	ORGA	Area Type	CBD or Similar
Date Performed	11/22/02	Jurisdiction	District of Columbia
Time Period	PM Peak Period	Analysis Year	2002

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Lane group		LTR			LTR			LTR			LTR	
Volume (vph)	41	41	50	50	18	36	36	765	27	18	576	32
% Heavy veh	0	1	0	0	1	0	0	2	0	0	2	0
PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.97	0.97	0.97
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time		2.0			2.0			2.0			2.0	
Ext. eff. green		2.0			2.0			2.0			2.0	
Arrival type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	15	0	0	25	0	0	70	0	0	85	0	0
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	-2	N	N	1	N	N	0	N	N	0	N
Parking/hr			25			20			40			40
Bus stops/hr		0			0			20			20	
Unit Extension		3.0			3.0			3.0			3.0	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 30.0	G =	G =	G =	G = 70.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB	WB	NB	SB
Adj. flow rate	139	110	854	646
Lane group cap.	303	288	1479	1506
v/c ratio	0.46	0.38	0.58	0.43
Green ratio	0.27	0.27	0.64	0.64
Unif. delay d1	33.3	32.5	11.5	10.0
Delay factor k	0.50	0.50	0.50	0.50
Increm. delay d2	4.9	3.8	1.6	0.9
PF factor	1.000	1.000	1.000	1.000
Control delay	38.2	36.3	13.1	10.9
Lane group LOS	D	D	B	B
Apprch. delay	38.2	36.3	13.1	10.9
Approach LOS	D	D	B	B
Intersec. delay	15.8	Intersection LOS		B

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SHORT REPORT

General Information

Analyst	ORGA
Agency or Co.	ORGA
Date Performed	1/29/02
Time Period	AM Peak Period

Site Information

Intersection	16th St. @ Euclid St.
Area Type	CBD or Similar
Jurisdiction	District of Columbia
Analysis Year	2002

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	1	0	0	1	0	0	2	0	0	3	0
Lane group		LTR			LTR			LTR			LTR	
Volume (vph)	45	77	45	90	63	63	5	581	18	50	2250	9
% Heavy veh	0	1	0	0	1	0	0	2	0	0	2	0
PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.97	0.97	0.97
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time		2.0			2.0			2.0			2.0	
Ext. eff. green		2.0			2.0			2.0			2.0	
Arrival type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	100	0	30	70	0	45	40	0	7	80	0	6
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/hr			25			25						
Bus stops/hr		0			0			20			20	
Unit Extension		3.0			3.0			3.0			3.0	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 32.0	G =	G =	G =	G = 68.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB	WB	NB	SB
Adj. flow rate	144	180	615	2375
Lane group cap.	319	273	1741	2488
v/c ratio	0.45	0.66	0.35	0.95
Green ratio	0.29	0.29	0.62	0.62
Unif. delay d1	31.8	34.2	10.3	19.6
Delay factor k	0.50	0.50	0.50	0.50
Increm. delay d2	4.6	11.8	0.6	10.2
PF factor	1.000	1.000	1.000	1.000
Control delay	36.4	46.1	10.8	29.7
Lane group LOS	D	D	B	C
Apprch. delay	36.4	46.1	10.8	29.7
Approach LOS	D	D	B	C
Intersec. delay	27.4	Intersection LOS		C

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SHORT REPORT

General Information		Site Information	
Analyst	ORGA	Intersection	16th St. @ Euclid St.
Agency or Co.	ORGA	Area Type	CBD or Similar
Date Performed	11/22/02	Jurisdiction	District of Columbia
Time Period	PM Peak Period	Analysis Year	2002

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	0	1	0	0	1	0	0	2	0	0	3	0
Lane group		LTR			LTR			LTR			LTR	
Volume (vph)	77	221	18	86	131	185	14	1350	41	45	1152	10
% Heavy veh	0	1	0	0	1	0	0	2	0	0	2	0
PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.97	0.97	0.97	0.97	0.97	0.97
Actuated (P/A)	P	P	P	P	P	P	P	P	P	P	P	P
Startup lost time		2.0			2.0			2.0			2.0	
Ext. eff. green		2.0			2.0			2.0			2.0	
Arrival type		3			3			3			3	
Unit Extension		3.0			3.0			3.0			3.0	
Ped/Bike/RTOR Volume	100	0	12	70	0	120	40	0	28	80	0	6
Lane Width		12.0			12.0			12.0			12.0	
Parking/Grade/Parking	N	0	N	N	0	N	N	0	N	N	0	N
Parking/hr			25			25						
Bus stops/hr		0			0			20			20	
Unit Extension		3.0			3.0			3.0			3.0	

Phasing	EW Perm	02	03	04	NS Perm	06	07	08
Timing	G = 40.0	G =	G =	G =	G = 60.0	G =	G =	G =
	Y = 5	Y =	Y =	Y =	Y = 5	Y =	Y =	Y =

Duration of Analysis (hrs) = 0.25 Cycle Length C = 110.0

Lane Group Capacity, Control Delay, and LOS Determination

	EB	WB	NB	SB
Adj. flow rate	320	297	1419	1238
Lane group cap.	387	344	1555	1858
v/c ratio	0.83	0.86	0.91	0.67
Green ratio	0.36	0.36	0.55	0.55
Unif. delay d1	31.8	32.5	22.6	17.9
Delay factor k	0.50	0.50	0.50	0.50
Increm. delay d2	18.0	23.8	9.7	1.9
PF factor	1.000	1.000	1.000	1.000
Control delay	49.9	56.3	32.3	19.8
Lane group LOS	D	E	C	B
Apprch. delay	49.9	56.3	32.3	19.8
Approach LOS	D	E	C	B
Intersec. delay	31.5	Intersection LOS		C

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	ORGA - AP	Intersection	17th St at Kalorama Rd
Agency/Co.	ORGA	Jurisdiction	District of Columbia
Date Performed	11/22/02	Analysis Year	2002
Analysis Time Period	AM Peak		

Project ID 1701 Kalorama Road

East/West Street: Kalorama Rd | North/South Street: 17th Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	38	56	0	0	142	19
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
Movement	L	T	R	L	T	R
Volume	23	11	4	11	0	48
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT		TR		LTR		LR	
PHF	0.69		0.83		0.79		0.67	
Flow Rate	136		193		47		87	
% Heavy Vehicles	0		0		0		0	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

	Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns	0.4		0.0		0.6		0.2	
Prop. Right-Turns	0.0		0.1		0.1		0.8	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	4.51		4.51		4.51		4.51	

Departure Headway and Service Time

	Eastbound		Westbound		Northbound		Southbound	
hd, initial value	3.20		3.20		3.20		3.20	
x, initial	0.12		0.17		0.04		0.08	
hd, final value	4.51		4.51		4.51		4.51	
x, final value	0.17		0.23		0.06		0.10	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	2.5		2.5		2.5		2.5	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	386		443		297		337	
Delay	8.43		8.59		8.14		7.75	
LOS	A		A		A		A	
Approach: Delay	8.43		8.59		8.14		7.75	
LOS	A		A		A		A	
Intersection Delay	8.34							
Intersection LOS	A							

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ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information	
Analyst	ORGA	Intersection	17th St at Kalorama Rd
Agency/Co.	ORGA	Jurisdiction	District of Columbia
Date Performed	11/22/02	Analysis Year	2002
Analysis Time Period	PM Peak		

Project ID 1701 Kalorama Road

East/West Street: Kalorama Rd | North/South Street: 17th Street

Volume Adjustments and Site Characteristics

Approach	Eastbound			Westbound		
Movement	L	T	R	L	T	R
Volume	32	77	0	0	66	21
%Thrus Left Lane	50			50		
Approach	**Northbound**			**Southbound**		
Movement	L	T	R	L	T	R
Volume	41	20	6	17	0	57
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT		TR		LTR		LR	
PHF	0.69		0.83		0.79		0.67	
Flow Rate	157		104		83		110	
% Heavy Vehicles	0		0		0		0	
No. Lanes	1		1		1		1	
Geometry Group	1		1		1		1	
Duration, T	0.25							

Saturation Headway Adjustment Worksheet

Prop. Left-Turns	0.3		0.0		0.6		0.2	
Prop. Right-Turns	0.0		0.2		0.1		0.8	
Prop. Heavy Vehicle	0.0		0.0		0.0		0.0	
hLT-adj	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	4.53		4.53		4.53		4.53	

Departure Headway and Service Time

hd, initial value	3.20		3.20		3.20		3.20	
x, initial	0.14		0.09		0.07		0.10	
hd, final value	4.53		4.53		4.53		4.53	
x, final value	0.20		0.13		0.11		0.13	
Move-up time, m	2.0		2.0		2.0		2.0	
Service Time	2.5		2.5		2.5		2.5	

Capacity and Level of Service

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	407		354		333		360	
Delay	8.64		8.03		8.28		7.82	
LOS	A		A		A		A	
Approach: Delay	8.64		8.03		8.28		7.82	
LOS	A		A		A		A	
Intersection Delay	8.23							
Intersection LOS	A							

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	ORGA	Intersection	16th St. @ Kalorama Rd.
Agency/Co.	ORGA	Jurisdiction	District of Columbia
Date Performed	11/22/2002	Analysis Year	2002
Analysis Time Period	AM Peak Period		
Project Description	1701 Kalorama Road		
East/West Street:	Kalorama Rd.	North/South Street:	16th St.
Intersection Orientation:	North-South	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	14	671	0	0	2687	185
Peak-Hour Factor, PHF	0.97	0.97	1.00	1.00	0.97	0.97
Hourly Flow Rate, HFR	14	691	0	0	2770	190
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration	LT	T			T	R
Upstream Signal		1			1	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	32	0	59
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.95	1.00	0.92
Hourly Flow Rate, HFR	0	0	0	33	0	64
Percent Heavy Vehicles	0	0	0	2	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	14						97	
C (m) (vph)	68						12	
v/c	0.21						8.08	
95% queue length	0.70						13.35	
Control Delay	71.2							
LOS	F						F	
Approach Delay	--	--						
Approach LOS	--	--					F	

>

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C-9

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	ORGA	Intersection	16th St. @ Kalorama Rd.
Agency/Co.	ORGA	Jurisdiction	District of Columbia
Date Performed	11/22/2002	Analysis Year	2002
Analysis Time Period	PM Peak Period		
Project Description	1701 Kalorama Road		
East/West Street:	Kalorama Rd.	North/South Street:	16th St.
Intersection Orientation:	North-South	Study Period (hrs):	0.25

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	23	1413	0	0	1382	88
Peak-Hour Factor, PHF	0.97	0.97	1.00	1.00	0.97	0.97
Hourly Flow Rate, HFR	23	1456	0	0	1424	88
Percent Heavy Vehicles	2	--	--	2	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	2	0	0	2	1
Configuration	LT	T			T	R
Upstream Signal		1			1	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	0	0	0	81	0	77
Peak-Hour Factor, PHF	1.00	1.00	1.00	0.95	1.00	1.00
Hourly Flow Rate, HFR	0	0	0	85	0	77
Percent Heavy Vehicles	0	0	0	2	0	0
Percent Grade (%)		0			0	
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration					LR	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (vph)	23						162	
C (m) (vph)	477						77	
v/c	0.05						2.10	
95% queue length	0.15						14.75	
Control Delay	12.9						625.6	
LOS	B						F	
Approach Delay	--	--					625.6	
Approach LOS	--	--					F	

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ATTACHMENT

D

SUBJECT AREA CENSUS DATA (1990) & TRACTS

1990 CENSUS OF POPULATION AND HOUSING
PROFILE 25 - Housing: Utilities and Vehicles Available

H30. House Heating Fuel
(Universe: Occupied housing units)

Utility gas	698
Bottled, tank, or lp gas	26
Electricity	565
Fuel oil, kerosene, etc.	195
Coal or coke	0
Wood	0
Solar energy	0
Other fuel	39
No fuel used	322

H23. Source of Water
(Universe: Housing units)

Public system or private company	2,214
Individual well:	
Drilled	0
Dug	0
Some other source	0

H24. Sewage Disposal
(Universe: Housing units)

Public sewer	2,214
Septic tank or cesspool	0
Other means	0

H42. Kitchen Facilities
(Universe: Housing units)

Complete kitchen facilities	2,176
Lacking complete kitchen facilities	38

H35/36. Telephone in Housing Unit by Tenure, Age of Householder
(Universe: Occupied housing units)

	Total	%	Owner	Renter	Age of Householder 15-59	60-64	65-74	75+
With telephone	1,685	91.3%	91	1,594	1,357	122	138	68
No telephone	160	8.7%	0	160	97	13	34	16

H37/38. Vehicles Available
(Universe: Occupied housing units)

	Total	%	Owner	Renter
None	1,095	59.3%	15	1,080
1	675	36.6%	46	629
2	63	3.4%	18	45
3	12	0.7%	12	0
4	0	0.0%	0	0
5 or more	0	0.0%	0	0
Mean vehicles available	0.5		1.3	0.4

H39/40. Race and Hispanic Origin by Vehicles Available
(Universe: Occupied housing units)

	White	Black	Amer Ind Esk & Al	Asian & Pac Isl	Other Race	Hispanic Origin
None	40	943	0	0	112	141
1 or more	85	514	0	0	151	162

H41. Age of Householder by Vehicles Available
(Universe: Occupied housing units)

	15-64 Years	65 + Years
None	895	200
1 or more	694	56

1990 CENSUS OF POPULATION AND HOUSING
PROFILE 25 - Housing: Utilities and Vehicles Available

H30. House Heating Fuel
(Universe: Occupied housing units)

Utility gas	1,041
Bottled, tank, or lp gas	94
Electricity	732
Fuel oil, kerosene, etc.	373
Coal or coke	0
Wood	0
Solar energy	0
Other fuel	18
No fuel used	8

H23. Source of Water
(Universe: Housing units)

Public system or private company	2,453
Individual well:	
Drilled	0
Dug	0
Some other source	0

H24. Sewage Disposal
(Universe: Housing units)

Public sewer	2,453
Septic tank or cesspool	0
Other means	0

H42. Kitchen Facilities
(Universe: Housing units)

Complete kitchen facilities	2,453
Lacking complete kitchen facilities	0

H35/36. Telephone in Housing Unit by Tenure, Age of Householder
(Universe: Occupied housing units)

	Total	%	Owner	Renter	Age of Householder 15-59	60-64	65-74	75+
With telephone	2,118	93.5%	416	1,702	1,748	85	145	140
No telephone	148	6.5%	0	148	148	0	0	0

H37/38. Vehicles Available
(Universe: Occupied housing units)

	Total	%	Owner	Renter
None	1,041	45.9%	107	934
1	930	41.0%	182	748
2	256	11.3%	103	153
3	26	1.1%	11	15
4	13	0.6%	13	0
5 or more	0	0.0%	0	0
Mean vehicles available	0.7		1.1	0.6

H39/40. Race and Hispanic Origin by Vehicles Available
(Universe: Occupied housing units)

	White	Black	Amer Ind Esk & Al	Asian & Pac Isl	Other Race	Hispanic Origin
None	263	635	39	14	90	199
1 or more	679	502	0	8	36	96

H41. Age of Householder by Vehicles Available
(Universe: Occupied housing units)

	15-64 Years	65 + Years
None	850	191
1 or more	1,131	94

Subject	Number
1960 to 1969	118
1969 or earlier	46
TELEPHONE	
No telephone in unit	106
VEHICLES AVAILABLE	
None	1,234
1	1,284
2	133
3 or more	32
MORTGAGE STATUS AND SELECTED MONTHLY OWNER COSTS	
Specified owner-occupied housing units	112
With a mortgage	105
Less than $300	0
$300 to $499	0
$500 to $699	0
$700 to $999	6
$1,000 to $1,499	53
$1,500 to $1,999	36
$2,000 or more	10
Median (dollars)	1,365
Not mortgaged	7
Less than $100	0
$100 to $199	0
$200 to $299	7
$300 to $399	0
$400 or more	0
Median (dollars)	275
SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME IN 1989	
Specified owner-occupied housing units	112
Less than 20 percent	71
20 to 24 percent	22
25 to 29 percent	0
30 to 34 percent	0
35 percent or more	19
Not computed	0
GROSS RENT	
Specified renter-occupied housing units	1,942
Less than $200	37
$200 to $299	40
$300 to $499	644
$500 to $749	887
$750 to $999	236
$1,000 or more	84
No cash rent	15
Median (dollars)	559
GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME IN 1989	
Specified renter-occupied housing units	1,942
Less than 20 percent	710
20 to 24 percent	336
25 to 29 percent	192
30 to 34 percent	208
35 percent or more	460
Not computed	36

Total housing units in 39 = 2,998

(X) Not applicable
Source: U.S. Bureau of the Census, 1990 Census of Population and Housing, Summary Tape File 3 (Sample Data)
Matrices H1, H4, H6, H7, H23, H24, H25, H28, H30, H31, H35, H37, H42, H43, H43A, H51, H52, H52A, H58, H64.

1990 CENSUS OF POPULATION AND HOUSING
PROFILE 25 - Housing: Utilities and Vehicles Available

H30. House Heating Fuel
(Universe: Occupied housing units)

Utility gas	862
Bottled, tank, or lp gas	36
Electricity	409
Fuel oil, kerosene, etc.	570
Coal or coke	0
Wood	0
Solar energy	0
Other fuel	36
No fuel used	39

H23. Source of Water
(Universe: Housing units)

Public system or private company	2,132
Individual well:	
Drilled	0
Dug	0
Some other source	0

H24. Sewage Disposal
(Universe: Housing units)

Public sewer	2,132
Septic tank or cesspool	0
Other means	0

H42. Kitchen Facilities
(Universe: Housing units)

Complete kitchen facilities	2,084
Lacking complete kitchen facilities	48

H35/36. Telephone in Housing Unit by Tenure, Age of Householder
(Universe: Occupied housing units)

	Total	%	Owner	Renter	Age of Householder 15-59	60-64	65-74	75+
With telephone	1,932	99.0%	782	1,150	1,702	77	72	81
No telephone	20	1.0%	0	20	12	0	0	8

H37/38. Vehicles Available
(Universe: Occupied housing units)

	Total	%	Owner	Renter
None	549	28.1%	137	412
1	1,122	57.5%	483	639
2	260	13.3%	155	105
3	11	0.6%	7	4
4	10	0.5%	0	10
5 or more	0	0.0%	0	0
Mean vehicles available	0.9		1.0	0.8

H39/40. Race and Hispanic Origin by Vehicles Available
(Universe: Occupied housing units)

	White	Black	Amer Ind Esk & Al	Asian & Pac Isl	Other Race * * * * *	Hispanic Origin
None	512	25	0	0	12 *	58
1 or more	1,213	126	7	28	29 *	97

H41. Age of Householder by Vehicles Available
(Universe: Occupied housing units)

	15-64 Years	65 + Years
None	437	112
1 or more	1,354	49

1990 CENSUS OF POPULATION AND HOUSING
PROFILE 25 - Housing: Utilities and Vehicles Available

H30. House Heating Fuel
(Universe: Occupied housing units)

Utility gas	958
Bottled, tank, or lp gas	26
Electricity	438
Fuel oil, kerosene, etc.	393
Coal or coke	0
Wood	0
Solar energy	0
Other fuel	17
No fuel used	0

H23. Source of Water
(Universe: Housing units)

Public system or private company	1,966
Individual well:	
Drilled	0
Dug	0
Some other source	0

H24. Sewage Disposal
(Universe: Housing units)

Public sewer	1,966
Septic tank or cesspool	0
Other means	0

H42. Kitchen Facilities
(Universe: Housing units)

Complete kitchen facilities	1,957
Lacking complete kitchen facilities	9

H35/36. Telephone in Housing Unit by Tenure, Age of Householder
(Universe: Occupied housing units)

	Total	%	Owner	Renter	Age of Householder 15-59	60-64	65-74	75+
With telephone	1,832	100.0%	590	1,242	1,546	36	150	100
No telephone	0	0.0%	0	0	0	0	0	0

H37/38. Vehicles Available
(Universe: Occupied housing units)

	Total	%	Owner	Renter
None	818	44.7%	202	616
1	891	48.6%	330	561
2	104	5.7%	58	46
3	16	0.9%	0	16
4	3	0.2%	0	3
5 or more	0	0.0%	0	0
Mean vehicles available	0.6		0.8	0.6

H39/40. Race and Hispanic Origin by Vehicles Available
(Universe: Occupied housing units)

	White	Black	Amer Ind Esk & Al	Asian & Pac Isl	Other Race	* * * * *	Hispanic Origin
None	562	183	6	28	39	*	87
1 or more	856	110	0	30	18	*	88

H41. Age of Householder by Vehicles Available
(Universe: Occupied housing units)

	15-64 Years	65 + Years
None	631	187
1 or more	951	63

CENSUS TRACT : 42.1

1990 CENSUS OF POPULATION AND HOUSING
PROFILE 25 - Housing: Utilities and Vehicles Available

H30. House Heating Fuel
(Universe: Occupied housing units)

Utility gas	837
Bottled, tank, or lp gas	31
Electricity	1,016
Fuel oil, kerosene, etc.	151
Coal or coke	0
Wood	0
Solar energy	0
Other fuel	0
No fuel used	8

H23. Source of Water
(Universe: Housing units)

Public system or private company	2,235
Individual well:	
Drilled	0
Dug	0
Some other source	0

H24. Sewage Disposal
(Universe: Housing units)

Public sewer	2,235
Septic tank or cesspool	0
Other means	0

H42. Kitchen Facilities
(Universe: Housing units)

Complete kitchen facilities	2,217
Lacking complete kitchen facilities	18

H35/36. Telephone in Housing Unit by Tenure, Age of Householder
(Universe: Occupied housing units)

	Total	%	Owner	Renter	Age of Householder 15-59	60-64	65-74	75+
With telephone	1,975	96.7%	586	1,389	1,864	37	31	43
No telephone	68	3.3%	0	68	57	0	11	0

H37/38. Vehicles Available
(Universe: Occupied housing units)

	Total	%	Owner	Renter
None	833	40.8%	121	712
1	995	48.7%	329	666
2	193	9.4%	127	66
3	13	0.6%	0	13
4	9	0.4%	9	0
5 or more	0	0.0%	0	0
Mean vehicles available	0.7		1.1	0.6

H39/40. Race and Hispanic Origin by Vehicles Available
(Universe: Occupied housing units)

	White	Black	Amer Ind Esk & Al	Asian & Pac Isl	Other Race	Hispanic Origin
None	455	264	0	18	96	144
1 or more	933	223	0	48	6	52

H41. Age of Householder by Vehicles Available
(Universe: Occupied housing units)

	15-64 Years	65 + Years
None	769	64
1 or more	1,189	21

1990 CENSUS OF POPULATION AND HOUSING
PROFILE 25 - Housing: Utilities and Vehicles Available

H30. House Heating Fuel
(Universe: Occupied housing units)

Utility gas	857
Bottled, tank, or lp gas	17
Electricity	590
Fuel oil, kerosene, etc.	297
Coal or coke	0
Wood	0
Solar energy	0
Other fuel	18
No fuel used	18

H23. Source of Water
(Universe: Housing units)

Public system or private company	2,029
Individual well:	
Drilled	6
Dug	0
Some other source	0

H24. Sewage Disposal
(Universe: Housing units)

Public sewer	2,035
Septic tank or cesspool	0
Other means	0

H42. Kitchen Facilities
(Universe: Housing units)

Complete kitchen facilities	1,982
Lacking complete kitchen facilities	53

H35/36. Telephone in Housing Unit by Tenure, Age of Householder
(Universe: Occupied housing units)

	Total	%	Owner	Renter	Age of Householder 15-59	60-64	65-74	75+
With telephone	1,736	96.6%	373	1,363	1,192	100	198	246
No telephone	61	3.4%	0	61	51	0	0	10

H37/38. Vehicles Available
(Universe: Occupied housing units)

	Total	%	Owner	Renter
None	1,105	61.5%	90	1,015
1	538	29.9%	211	327
2	141	7.8%	67	74
3	13	0.7%	5	8
4	0	0.0%	0	0
5 or more	0	0.0%	0	0
Mean vehicles available	0.5		1.0	0.4

H39/40. Race and Hispanic Origin by Vehicles Available
(Universe: Occupied housing units)

	White	Black	Amer Ind Esk & Al	Asian & Pac Isl	Other Race	Hispanic Origin
None	267	736	15	12	75	103
1 or more	387	285	0	0	20	44

H41. Age of Householder by Vehicles Available
(Universe: Occupied housing units)

	15-64 Years	65 + Years
None	735	370
1 or more	608	84



NO SCALE

O. R. GEORGE & ASSOCIATES, INC.
Traffic Engineers - Transportation Planners

CENSUS TRACTS –
JEMAL'S 1701 KALORAMA ROAD BZA APPLICATION
Northwest, Washington, D. C.

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BOLAN SMART ASSOCIATES, INC.
900 NINETENTH ST. NW, SUITE 600, WASHINGTON, DC 20006 • (202) 371-1333 • FAX (202) 371-1334

November 26, 2002

District of Columbia Board of Zoning Adjustment
Washington, DC

RE: 1701 Kalorama Road, NW
BZA Application No. 16924
Application of Jemal's Wheel, L.L.C.

Dear Board Members:

Bolan Smart Associates has undertaken a financial feasibility analysis of the proposed 1701 Kalorama Road multi-family residential building. The property is located on Lot 90 of Square 2566, in the RC/C-2-B District, also within the Reed-Cooke Overlay District. The site is approximately 22,428 square feet in size, and is currently improved with a three-story vacant warehouse building of approximately 52,033 square feet.

The applicant proposes to rehabilitate the existing structure, increasing its size to a total of 78,498 gross square feet by adding two additional floors to the existing structure, creating a total of 54 residential dwelling units together with off street parking far in excess of zoning requirements. A second theoretical option would be to rehabilitate the existing structure, adding only one additional floor to the present building, creating a 42 unit apartment structure together with off street parking. Bolan Smart Associates has undertaken a financial feasibility analysis of these two alternatives, testing their financial viability against the alternative of simply rehabilitating the existing structure for its currently zoned use.

Our findings and conclusions are summarized as follows:

1. The property in question is currently assessed by the District of Columbia at $1,624,270. Of that amount, $1,233,540 represents land value and $390,730 represents the value of the improvements.

2. As Table 1 indicates, if the property were simply rehabilitated, and leased for flex-industrial use, it would generate a pre-tax profit to the owner of an estimated **$689,688**. The derivation of those numbers is as follows. The total cost of development, including the current assessed value of the land and improvements, the costs of rehabilitation, the leasing and soft costs associated with its rental, would total $2,456,798. The net operating income (NOI) from the building is estimated at $330,381 annually. Capitalizing this income stream at a rate of 10.5 percent indicates a value of the structure and land of $3,146,486. Subtracting the total cost of the property from its market value indicates a pre-tax profit of **$689,688**.

3. As shown in Table 2, if the property were rehabilitated and expanded to a total of 78,498 square feet, creating a 54 unit apartment building, the pre-tax profit is projected at **$692,758,** a figure almost identical to the profits to be derived from the "by-right" development as flex/industrial use. The derivation of these numbers is as follows. The current assessed value of the land and improvements, together with the costs of rehabilitation and expansion for residential use are estimated at $10,487,320. The net operating income (NOI) derived from this development is estimated at $1,006,207. Capitalizing this income stream at a rate of 9 percent results in a value of $11,180,078. Subtracting the total cost of the property from its market value indicates a pre-tax profit of **$692,758.**

4. As Table 3 indicates, if the property in question were rehabilitated and expanded to include a total of only 42 dwelling units, this would result in a projected pre-tax loss of **$8,053.** The derivation of these numbers is as follows. The building would be reduced in size to a total of 62, 202 square feet, including parking of 8,400 square feet. The total cost of the project is estimated at $8,450,320 including land and present improvements, rehabilitation and expansion of the building to a total of 62,202 square feet, and parking related costs. The net operating income (NOI) derived from the building is projected at $759,804. Capitalizing this income stream at a rate of 9 percent yields a value of the property of $8,442,267. This indicates a pre-tax **loss of $8,053.**

5. Table 4 recaps the value upon completion of each alternative for the property, the total costs associated with their development and the profit or loss projected. From this, it can be seen that development "by right" for flex/industrial purposes and development as a 54 unit apartment building result in virtually identical profits. It can also be seen that development as a smaller (42 unit) apartment development is financially infeasible. It should also be noted that development of the subject property as an apartment building rather than as a flex/industrial building will yield an assessed valuation to the District of Columbia that is three and one half times greater.

Sincerely,

Lewis Bolan
Principal, Bolan Smart Associates

BSA TABLE 1

I. "BY-RIGHT" DEVELOPMENT

Rehabilitate the existing building and lease for flex industrial use

Assessed Value – Land & Improvements	$1,624,270
Rehab 52,033 SF @ $12.00/SF	$624,396
Lease Up/Soft Costs @ $4.00/SF	$208,132
TOTAL COST	**$2,456,798**

II. INCOME

43,187 SF @ $9.00/SF NNN	$388,683
Less vacancy/credit loss (15%)	$58,301
NOI	$330,381
VALUE @ 10.5 CAP	$3,146,486
Pre-Tax Profit	$689,688

BSA Table 2

II. REDEVELOP AND REHABILITATE INTO 54 UNIT APARTMENTS

Assessed Value – Building & Land	$1,624,270
Building: 70,098 SF @ $125.00/SF	$8,762,250
Parking – 8,400 SF @ $12.00/SF	$100,800
TOTAL COST	**$10,487,320**

II. INCOME

70,098 SF x 85% = 59,583 SF @ $2.50/SF	$1,489,575
Less vacancy/credit loss (5%)	- $74,488
TOTAL	**$1,415,087**
Less operating expense and tax (35%)	$495,280
TOTAL	**$919,807**
Plus Parking 48 spaces @ $150.00/mo NNN	$86,400
NOI	$1,006,207
VALUE @ 9.0 CAP	$11,180,078
Pre-Tax Profit	$692,758

BSA Table 3

III. REHABILITATE AS 42 UNIT APARTMENT BUILDING

Assessed Value -- Building & Land	$1,624,270
Building: 53,802 SF @ $125.00/SF	$6,725,250
Parking -- 8,400 SF @ $12.00/SF	$100,800
TOTAL COST	**$8,450,320**

III. INCOME

53,802 SF x 85% = 45,732 SF @ $2.50/SF	$1,143,300
Less vacancy/credit loss (5%)	- $57,165
TOTAL	**$1,086,135**
Less operating expense and tax (38%)	$412,731
TOTAL	**$673,404**
Plus Parking 48 spaces @ $150.00/mo NNN	$86,400
NOI	$759,804
VALUE @ 9.0 CAP	$8,442,267
Pre-Tax Loss =	$8,053

BSA Table 4
1701 Kalorama Road
SUMMARY

DEVELOPMENT OPTION	VALUE UPON COMPLETION	COST	PROFIT
1. "By-Right" Industrial/Offices	$3,146,486	$2,456,798	$689,688
2. 54 Unit Apartment Building	$11,180,078	$10,487,320	$692,758
3. 42 Unit Apartment Building	$8,442,267	$8,450,320	($8,053)