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April 12, 2005

VIA HAND DELIVERY

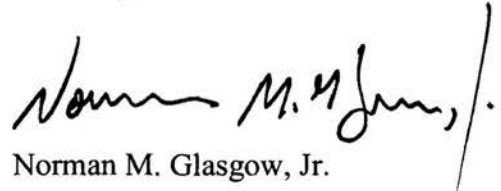
Board of Zoning Adjustment
441 4th Street, NW
Suite 210S
Washington, DC 20001

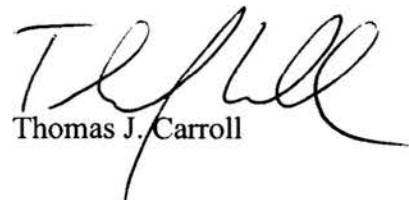
Re: BZA Case No. 17309

Dear Members of the Board:

Enclosed please find one original and 20 copies of the Applicant's Pre-Hearing Statement for BZA Case No. 17309. Please call if you have any questions. Thank you for your attention to this Application.

Sincerely,


Norman M. Glasgow, Jr.


Thomas J. Carroll

Enclosures
cc: ANC 3D
Office of Planning

BZA
Case No. 17309
Exhibit No. 51

Board of Zoning Adjustment
District of Columbia
CASE NO. 17309
EXHIBIT NO. 51A1

RECEIVED
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**BEFORE THE DISTRICT OF COLUMBIA
BOARD OF ZONING ADJUSTMENT**

Application of
Dorchester Associates LLC

BZA Application No. 17309
Public Hearing: April 26, 2004

ANC 3D

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STATEMENT OF THE APPLICANT

**I.
INTRODUCTION**

This application is brought by Dorchester Associates LLC (the "Applicant"), pursuant to 11 D.C.M.R. § 3104, for a special exception under § 2516 of the Zoning Regulations to allow the construction of a theoretical lot subdivision for thirteen (13) detached single family homes and a modification of the requirement of a twenty-five foot roadway under §2516.6(b) as permitted by §2516.6(d) in the CBUT/R-1-A Zone District on Chain Bridge Road, NW, Square 1425, Lot 827 and Parcels 12/63, 12/293 and 12/294 (the "Property"). The Applicant is the owner of the Property. The Applicant submits that it meets the criteria for the requested special exception.

**II.
JURISDICTION OF THE BOARD**

The Board of Zoning Adjustment has jurisdiction to grant the requested special exception relief pursuant to §3104.1 of the Zoning Regulations.

**III.
BACKGROUND**

A. Site and Vicinity Characteristics

1. The Property

The Property includes Lot 827 in Square 1425 and Parcels 12/63, 12/293, and 12/294. The Property is currently vacant being the site of the former Murphy home which was razed in September of 2002. The Property is roughly "pie" shaped and includes 143,190 square feet of land area with approximately 574 feet of frontage

along Chain Bridge Road as shown in Exhibit A. The Property is zoned CBUT/R-1-A as shown in Exhibit B.

2. Vicinity

The adjoining property to the north has a historic school house located on it; this property is also owned by the Applicant. Further north along Chain Bridge Road are single family dwellings. To the east is Battery Kemble Park owned by the National Park Service. To the south and further down Chain Bridge Road are single family dwellings. To the west is University Terrace and a community of single family dwellings.

B. Description of Proposed Development

The Applicant proposes to develop the Property with thirteen (13) detached single-family dwellings. These homes will be high quality custom built homes with superb individual designs. Each of the homes will have its own driveway and at least two parking spaces. The proposed development will have two roadways coming off of Chain Bridge Road to service twelve of the homes. The other home has its own driveway from Chain Bridge Road at the far southern end of the Property.

Of the two proposed interior roadways, the one that is furthest north and services only three of the homes begins with an easement over the existing roadway on the adjoining property of the historic school to the north. The Applicant has submitted an application to the Historic Preservation Review Board for its consideration of the Applicant's proposed use and extension of this existing roadway to service the three homes. As shown on the submitted plans, the Applicant, which owns the adjoining school parcel, proposes to extend the existing roadway to the property line and then construct a continuation of the roadway to service Lots 1, 2, and 3. The existing paved roadway on the school house property is approximately 16-30 feet wide. The Applicant proposes to repave the existing roadway and maintain a 16 foot width for the entire length of the extended roadway until its termination in the cul-de-sac as shown on the submitted plans.

The second roadway utilizes the existing entrance from Chain Bridge Road to the former Murphy home. The existing pavement of this roadway is approximately 13-16 feet wide, with the underlying roadbed maintaining a 16 foot width. The Applicant proposes to repave this roadway to maintain a width of sixteen feet and extend it to the proposed cul-de-sac as shown on the submitted plans. This second roadway would service nine of the proposed homes. As stated above, each of the homes would have its own driveway coming off of the proposed roadway and would have two parking spaces in a garage and the ability to park additional cars in the driveway.

The Applicant commissioned an Arborist, Lew Bloch of the Bloch Consulting Group, to survey the trees located on the Property with circumferences greater than 38" and has submitted his report as Exhibit C. The Applicant has commissioned a second Arborist, Tom Bonifant of Bonifant's Tree Services, to review the "Bloch Report", to perform a field survey of all trees on the property with circumferences between 12"- 38" and to provide measures for tree preservation during construction. The Applicant submits as Exhibit D a preliminary report from Mr. Bonifant including recommended tree protection measures and a plan showing all trees with circumferences between 12"- 38" as Exhibit E. This plan shows that only 16 trees in the 16"- 38" category will be removed by the proposed development, while 64 of such trees will be preserved. The project is designed to comply with and further the tree and slope preservation goals of the CB/UT overlay zone. A minimal number of trees will be removed and the vast majority of slopes will remain undisturbed. The grade of the land outside of the building areas for the homes and driveways will remain the same. No excess grading of the property is proposed. The Applicant has developed Tree and Slope Protection Measures that it will abide by (Exhibit F) and Soil Erosion and Sediment Control Measures that it will adhere to as well (Exhibit G).

In response to comments provided by the Office of Planning, the Applicant submits as Exhibit H, a revised version of its plan entitled "Impervious Area." Applicant decreased the area of impervious surface on Lot E by removing a portion of the proposed driveway, and on Lots A, B, and 3 by changing proposed turnaround areas in the driveways from impervious surface to pervious surfaces. Although the Applicant is not resubmitting a revised version of each plan of its application to reflect these changes, the Applicant submits that it amends its application with this submission of the revised "Impervious Area" plan. Each change on the revised plan is intended to apply to all previously submitted plans.

In order to proceed with this development, the Applicant seeks the following areas of relief from the Zoning Regulations: 1) a special exception pursuant to §2516 to permit thirteen detached single family dwellings on a single subdivided lot, including approval of two sixteen foot roadways 2) a modification of the requirement of the twenty-five foot roadway provision of §2516.6(b) as permitted by §2516.6(d).

V.
COMPLIANCE WITH STANDARDS FOR SPECIAL EXCEPTION RELIEF FROM THE
ZONING REGULATIONS

As for the criteria for a special exception, 11 D.C.M.R. § 3104.1 permits the Board to grant special exceptions, pursuant to the following:

Pursuant to authority contained in the Zoning Act of June 20, 1938 (52 Stat. 797), as amended, the Board is authorized to grant special exceptions, as provided in this title where, in the judgment of the Board, those special exceptions will be in harmony with the general purpose and intent of the Zoning Regulations and Maps and will not tend to affect adversely the use of neighboring property in accordance with the Zoning Regulations and Zoning Maps, subject in each case to the special conditions specified in this title...

In short, the Board is empowered to grant a special exception where it finds

- (1) The proposed use is in harmony with the Zone Plan and Zone Maps; and
- (2) The proposed use is not likely to adversely affect the use of neighboring property.

The Board's discretion in reviewing an application for a special exception is limited to a determination of whether the Applicant has complied with requirements of the section. If the Applicant meets this burden, the Board ordinarily must grant the application. *First Baptist Church of Washington v. District of Columbia Board of Zoning Adjustment*, 432 A.2d 695, 698 (D.C. 1981); *Stewart v. District of Columbia Board of Zoning Adjustment*, 305 A.2d 516, 518 (D.C. 1973).

A. Criteria Under § 2516

Section 2516.3 requires that an application for a theoretical lot subdivision include site plans for all new rights-of-way and easements, and existing and preliminary landscaping and grading plans with approximate building footprint, as well as final landscaping and grading plans and two (2) sets of typical floor plans and elevations. The latter may either be filed with the application or at a later time. In compliance with this requirement, included with this application are site plans showing: (1) existing conditions; (2) proposed conditions; (3) proposed site plan and grading plan; (4) landscape plans; (5) typical house plans; (6) storm water management plan; and (7) a traffic study.

The requirements for a theoretical lot subdivision are set forth in sections 2516.4 through 2516.11 of the Zoning Regulations. As outlined below, the application meets these requirements:

2516.4 The number of principal buildings permitted by this section shall not be limited; provided, that the applicant for a permit to build submits satisfactory evidence that all the requirements of this chapter (such as use, height, bulk, open spaces around each building, and limitations on structures on alley lots pursuant to § 2507), and §§ 3202.2 and 3202.3 are met.

The Subdivision of Lots Plan indicates the buildable area (*ie*, lot area with required side, front and rear yards). Each house will be constructed within this buildable area with a maximum of thirty percent (30%) lot occupancy and, as such, will not take up the entire buildable area. The house locations are depicted on the site plan and the individual lot plans.

With regard to other zoning requirements, each house meets the height, setback and bulk requirements of the zoning regulations for property in an R-1-A District as shown on the submitted house plans. Driveways will have a maximum grade of not more than twelve percent (12%) and shall have a width of at least seven feet (7'). 11 D.C.M.R. 2117.8(a) & (b).

2516.5 If a principal building has no street frontage, as determined by dividing the subdivided lot into theoretical building sites for each principal building, the following provisions shall apply:

- (a) The front of the building shall be the side upon which the principal entrance is located;**

The building sites have been designed in compliance with this requirement. In sensitivity to the surrounding neighborhood and to limit the number of entrances off Chain Bridge Road, 3 of the 4 homes bordering Chain Bridge will have driveway access from the interior roadways.

- (b) Open space in front of the entrance shall be required that is equivalent either to the required rear yard in the zone district in which the building is located or to the distance between the building restriction line recorded on the records of the Surveyor of the District of Columbia for the subdivided lot and the public space upon which the subdivided lot fronts, whichever is greater;**

Front yards of at least twenty-five feet (25') are being provided where required. These front yards are used to create a feeling of openness and spaciousness throughout the development.

- (c) A rear yard shall be required; and**

Rear yards of at least twenty-five feet (25') are being provided for each lot.

- (d) If any part of the boundary of a theoretical lot is located in common with the rear lot line of the subdivided lot of which it is a part, the rear yard of the theoretical lot shall be along the boundary of the subdivided lot.**

The rear yards for proposed Lots G and H comply with this requirement as shown on the "Plat of Improvements" and individual lot plans submitted with the application.

2516.6 In providing for net density pursuant to § 2516.11, the Board shall require at least the following:

- (a) The area of land that forms a covenanted means of ingress or egress shall not be included in the area of any theoretical lot, or in any yard that is required by this title;**

As depicted on the site plan, the interior roadways are not included in the theoretical lots. There is approximately 14,288 square feet of common space provided in the proposed development which includes the two roadways.

- (b) Notwithstanding any other provision of this title, each means of vehicular ingress or egress to any principal building shall be twenty-five feet (25 ft.) in width, but need not be paved for its entire width;**

As depicted on the site plan, the two roadways are proposed to be sixteen feet wide with both of them utilizing in part existing driveways. The Applicant requests a modification of this requirement as permitted by §2516.6(d).

- (c) If there are not at least two (2) entrances or exits from the means of ingress or egress, a turning area shall be provided with a diameter of not less than sixty feet (60 ft.); and**

The proposed cul-de-sacs are sixty feet in diameter as shown on the submitted plans.

- (d) The requirements of paragraphs (a) and (c) of this subsection may be modified if the Board finds that a lesser width or diameter will be compatible with, and**

will not be likely to have an adverse effect on, the present character and future development of the neighborhood; provided, that the Board shall give specific consideration to the spacing of buildings and the availability of resident, guest, and service parking.

In an effort to preserve as many trees as possible on the site, the Applicant requests a modification of the requirement that the roadway be 25 feet in width. The Applicant proposes to utilize two existing driveways, maintaining a width of 16 feet and extending both to the proposed interior cul-de-sacs. Each of the homes serviced by these roadways has its own driveway off of the roadway and has twice the required number of parking spaces. The lesser width of the roadways will be compatible with, and will not be likely to have an adverse effect on, the present character and future development of the neighborhood. One of the primary purposes of the CB/UT overlay is tree preservation. Reducing the width of the roadway furthers this purpose of the overlay district. Furthermore, reducing the roadway does not reduce resident, guest or service parking. In addition to garage parking, all of the homes have additional areas on site that can be used for guest and service parking.

2516.7 Where not in conflict with the Act to Regulate the Height of Buildings in the District of Columbia, approved June 1, 1910 (36 Stat. 452, as amended; D.C. Official Code §§ 6-601.01 to 6-601.09 (2001) (formerly codified at D.C. Code §§ 5-401 to 5-409 (1994 Repl. & 1999 Supp.))), the height of a building governed by the provisions of this section, in all zone districts, shall be measured from the finished grade at the middle of the front of the building.

All homes proposed for the development comply with the height requirements of the Zoning Regulations.

2516.8 The provisions of this section shall also apply to buildings erected under the terms and conditions of § 410, relating to a group of one-

family dwellings, flats, or apartment houses, or a combination of such buildings.

This provision is not applicable, as the development is in the R-1-A district and not in the R-4 or R-5 districts.

2516.9 The proposed development shall comply with the substantive provisions of this title and shall not likely have an adverse effect

on the present character and future development of the neighborhood.

The development complies with all applicable provisions of the Zoning Regulations. As illustrated herein, great care has been taken by the Applicant to ensure that the development will not have an adverse effect on the surrounding neighborhood, whether in terms of storm water management, density, traffic, landscaping or otherwise. With regard to the present character of the neighborhood, The Applicant has taken steps to ensure the new development is compatible with this character. The style and quality of the houses will match that of the other houses in the surrounding existing neighborhoods. The siting of houses on the lots will be consistent with the surrounding neighborhood. The Applicant created larger lots as required by the CB/UT overlay zone, that are consistent with the neighboring properties. Finally, the Applicant has proposed a significant amount of landscaping within the development so as to draw the park like setting of the surrounding area into the Property.

Each home will provide off-street parking for at least two cars, which will be located in a garage or other permitted location on the lot. Additional parking will be available in the individual driveways. The Project will comply with the provisions of this title and will not have an adverse effect on the character or future development of the neighborhood. The proposal calls for 13 single family homes, four of which have frontage on Chain Bridge Road and may be permitted as a matter of right. The frontage of the Property as previously stated is approximately 555 feet. Each of the homes complies with the applicable setbacks and yard requirements. In addition, ample landscaping is proposed to provide privacy and separation from surrounding properties. The addition of 13 single family homes will not adversely effect the surrounding residential neighborhood. As shown in the Traffic Study prepared by O.R. George & Associates (Exhibit I, p. 18), the proposed development “would have no significant adverse impacts on the operational efficiency and safety” of the roadways in the study area. The report also found that the proposed site access and parking provide for acceptable means of ingress and egress, as well as on-site circulation and parking. The Applicant has developed a storm water management system for the property and is currently revising it in response to comments provided by the DC government. Storm water management plans are reviewed and approved as part of the building permit approval process. The Applicant has also submitted guidelines for Tree and Slope Protection (Exhibit F) that it will abide by during construction to ensure that the trees and slopes of the area are preserved.

There will be no adverse impact on the future development of the neighborhood. First, there will be no significant additional demand for City services created by the Project. Second, all construction activity will take place within the Property and, as such, it will not affect the ability of surrounding property owners to develop their property. The Applicant has submitted Soil

Erosion and Sediment Control Measures that it will abide by to prevent any adverse effect on neighboring properties (Exhibit G).

Section 2516.10:

Before taking final action on an application under this section, the Board shall refer the application to the D.C. Office of Planning for coordination, review, and report, including:

(a) The relationship of the proposed development to the overall purpose and intent of the Zoning Regulations, and other planning considerations for the area and the District of Columbia as a whole, including ...

- (1) Public safety relating to police and fire concerns;**
- (2) The environment, relating to water supply, water pollution, soil erosion, and solid waste management;**
- (3) Public education;**
- (4) Recreation;**
- (5) Parking, loading, and traffic;**
- (6) Urban design; and**
- (7) As appropriate, historic preservation and visual impacts on adjacent parkland;**

(b) Considerations of site planning; the size, location, and bearing capacity of driveways; deliveries to be made to the site; side and rear yards; density and open space; and the location, design, and screening of structures;

(c) Considerations of traffic to be generated and parking spaces to be provided, and their impacts;

(d) The impact of the proposed development on neighboring properties; and

(e) The findings, considerations and recommendations of other District government agencies.

The addition of thirteen families to the area will not significantly impact the provision of public services. Public sewer and water is available, and the addition of 13 families will not significantly increase the local school enrollment. Sufficient parking is provided for each home, and there will be not be a significant impact on traffic conditions caused by the project. The subject property lies within the CB/UT overlay district and the project is designed to adhere to the particular

environmental goals of the district. The Applicant is requesting a reduction from the required 25 foot width to 16 feet for the two proposed roadways in an attempt to preserve trees on the subject property. The appropriate side and rear yards and open space are provided as shown on the plans, and there is significant landscaping proposed in addition to the existing trees that are being preserved. The proposed development will have minimal, if any, impact on neighboring properties. All of the surrounding properties are either single family residential or park land. The proposed homes meet the applicable lot size, yard and setback requirements. Each has double the required number of parking spaces and provides for ample landscaping to maintain the privacy of neighboring properties.

2516.11 The Board may impose conditions with respect to the size and location of driveways; net density; height, design, screening, and location of structures; and any other matter that the Board determines to be required to protect the overall purpose and intent of the Zoning Regulations.

The Applicant has proposed to develop the Property in a manner which is sensitive to the landscape, the adjacent properties and Battery Kemble Park.

In short, the Applicant believes that it has adequately addressed all issues relating to theoretical lot approval for the Property. The density, height and location of proposed homes have been carefully designed to comply with the requirements of the R-1-A Zone District. In fact, all of the proposed lot sizes are at least slightly larger than that required by the regulations. Individual lots will be landscaped in accordance with the submitted landscape plans.

B. The Special Exceptions Will Be in Harmony with the General Purpose and Intent of the Zone Plan and Maps and the Relief Will Not Adversely Affect the Neighborhood.

1. The Special Exception is in Harmony with the General Purpose and Intent of the Zone Plan and Maps.

The proposed development is in harmony with the intent of the Zoning Regulations, which, in accordance with Section 2516, is to allow the construction of two (2) or more principal buildings on a single, subdivided lot, provided that the articulated requirements are met and the development does not adversely impact the surrounding neighborhood. As illustrated by this statement, the application and the testimony to be presented at the hearing on this matter, those requirements are met, if not exceeded, by this application. The Applicant's intent in developing the plans for this proposal was to create a high quality development appropriate to the context of the surrounding area. Such intent is clearly evident

in the plans and guidelines submitted with this statement, as well as by the care and time the Applicant has taken in meeting with government officials and adjoining neighbors. The end result is a high-quality proposal that will enhance the surrounding neighborhood.

2. The Requested Relief will Not Adversely Affect the Use of Neighboring Property.

The development complies with all applicable provisions of the Zoning Regulations will not have an adverse effect on the use of neighboring properties, whether in terms of storm water management, density, traffic, landscaping or otherwise.

a. Environmental Factors.

The Applicant has proposed a significant amount of landscaping within the development to maintain the privacy of adjoining properties and to draw upon the park like setting of the surrounding area. In addition to proposing new landscaping the Applicant is preserving existing trees on the property as required by the CB/UT overlay. The Applicant's Arborist surveyed the property and identified all trees required to be preserved. Those trees are detailed on the Plan entitled "Trees to Be Saved" and submitted with the application. The Applicant has also submitted guidelines for Tree and Slope Protection (Exhibit F) that it will abide by during construction to ensure that the trees and slopes of the area are preserved. The Applicant has submitted Soil Erosion and Sediment Control Measures that it will abide by to prevent any adverse effect on neighboring properties (Exhibit G). The Applicant has developed a storm water management system for the property and is currently revising it in response to comments provided by the DC government. Storm water management plans are reviewed and approved as part of the building permit approval process.

b. Other Factors

As stated in the Traffic Study prepared by O.R. George & Associates (Exhibit I, p. 18), the proposed development "would have no significant adverse impacts on the operational efficiency and safety" of the roadways in the study area. The report also found that site access and parking provide for acceptable means of ingress and egress, as well as on-site circulation and parking. Each home will provide off-street parking for at least two cars, which will be located in a garage or other permitted location on the lot. Additional parking will be available in the individual driveways.

The proposal calls for 13 detached single family homes, four of which have frontage on Chain Bridge Road and may be permitted as a matter of right. The frontage of the Property as previously stated is approximately 574 feet. Each of the

homes complies with the applicable setbacks and yard requirements. In addition, ample landscaping is proposed to provide privacy and separation from surrounding properties. The addition of 13 single family homes will not adversely effect the provisions of public services to the area.

Finally, all construction activity will take place within the Property and, as such, it will not affect the ability of surrounding property owners to develop their property.

C. Matter of Right Development within the CB/UT Overlay District

Section 1568.1

Except as provided in §1568.2, development within the CB/UT development zone is only permitted as a matter of right subject to the tree removal provisions of subsections (a-c) of this section.

The Applicant complies with the requirement of the CB/UT overlay as shown on the submitted plan detailing the trees saved and those to be removed.

Section 1568.2:

The prohibitions of §1568.1 do not apply to the removal or cutting down of any dead or unhealthy tree or a tree that creates an unsafe condition. The need for the removal of any tree shall be certified by a tree care professional certified by the International Society of Arboriculture.

As shown in the Arborist's Report and the plans labeled Trees Saved and Trees to be Removed, the Applicant's plans comply with the requirements of this section.

For all the above reasons, the Applicant satisfies its burden of proof for a special exception pursuant to §§ 2516 and 3104 of the Zoning Regulations.

**VI.
WITNESSES**

- A. Morton Bender, Dorchester Associates LLC, Applicant
- B. Stan Andrulis, Architect

- C. Osborne George, O.R. George & Associates, Inc., Traffic Consultant
- D. James Affel, Engineer
- E. Representative Bonifant's Tree Services, Arborist
- F. Steven E. Sher, Director of Zoning and Land Use Services, Holland & Knight
LLP

VII.
EXHIBITS IN SUPPORT OF THE APPLICATION

Before proceeding with the discussion of the merits of this application, the following additional materials are submitted:

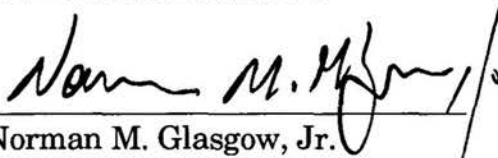
- Exhibit A: A portion of the Sanborn Atlas showing the Property highlighted in yellow.
- Exhibit B: A portion of the Zoning Map showing the Property highlighted in yellow, with zoning designation of R-1-A.
- Exhibit C: Report of Bloch Consulting dated July 20, 2002
- Exhibit D: Preliminary Report and Recommended Tree protection Measures of Bonifant's Tree Services
- Exhibit E: Plan of 12" – 38" Circumference Trees
- Exhibit F: Tree and Slope Protection Measures
- Exhibit G: Soil Erosion and Sediment Control Measures
- Exhibit H: Traffic Impact Assessment, O.R. George & Associates, Inc.
- Exhibit I: Revised Plan Entitled "Impervious Area"
- Exhibit J: Outline of testimony of Morton Bender, Dorchester Associates LLC, Applicant.
- Exhibit K: Outline of testimony of Stan Andrulis, Architect.
- Exhibit L: Outline of testimony of Osborne George, Traffic Consultant
- Exhibit M: Outline of testimony of James Affel, Engineer
- Exhibit N: Outline of testimony of Bonifant's Tree Service, Arborist
- Exhibit O: Outline of testimony of Steven E. Sher, Director of Zoning and Land Use Services, Holland & Knight LLP.

VIII.
CONCLUSION

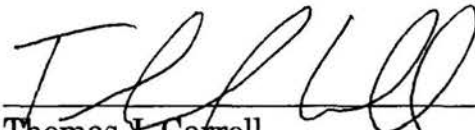
For the reasons stated above, the requested relief meets the applicable standards of the Zoning Regulations and can be granted without substantially impairing the intent, purpose and integrity of the Zoning Regulations. The Applicant therefore requests that the Board grant the application.

Respectfully submitted,

HOLLAND & KNIGHT LLP

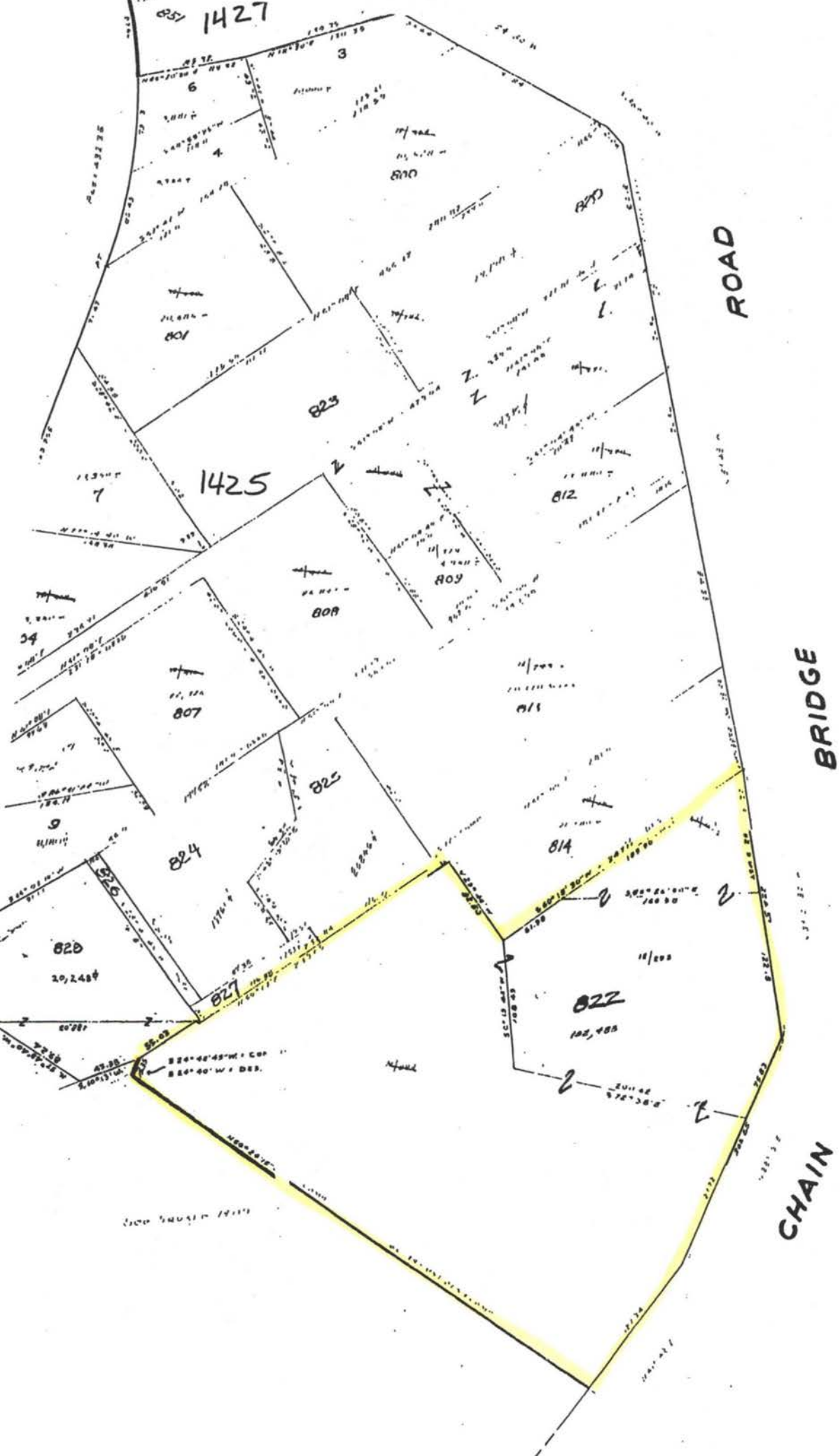


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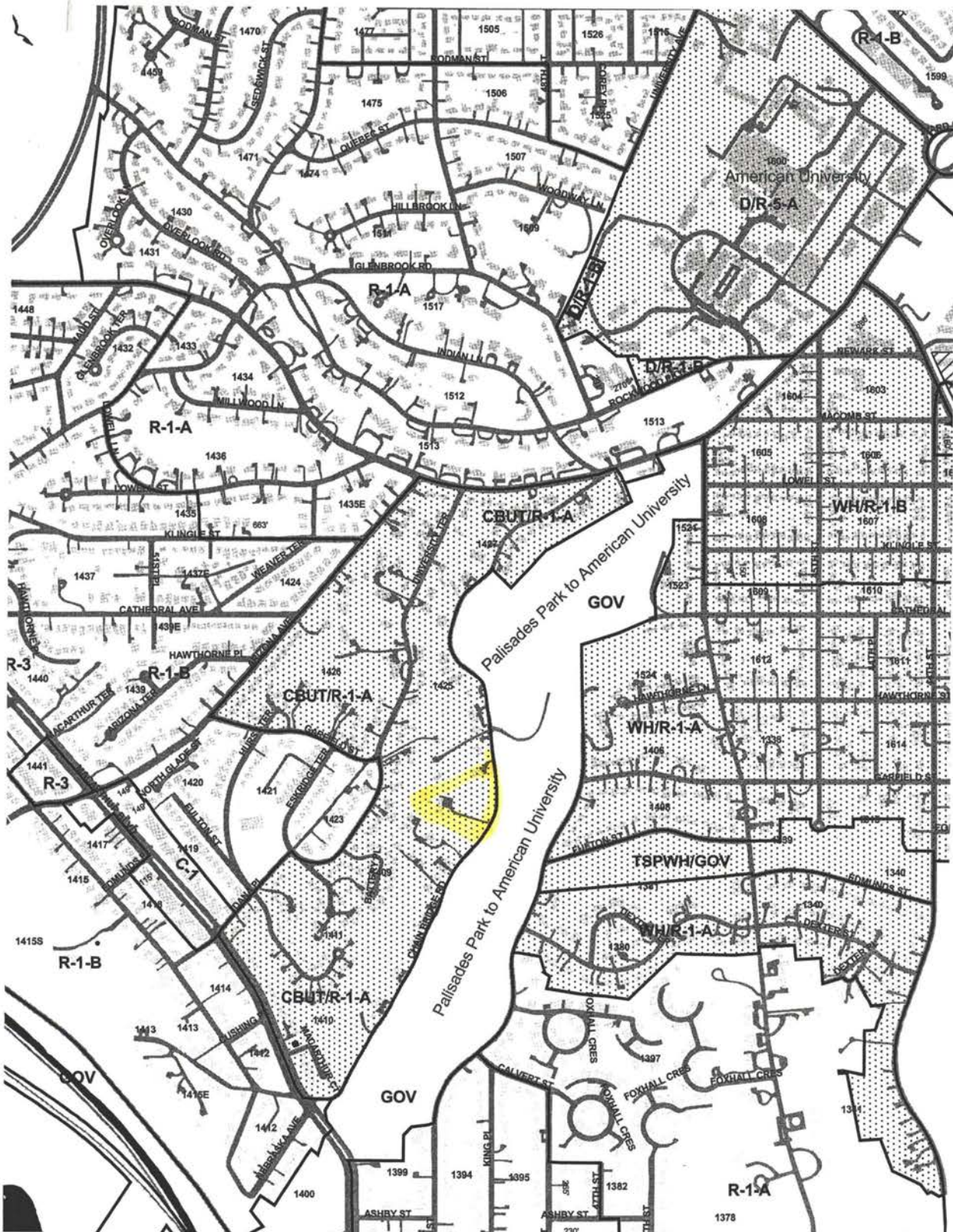


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2099 Pennsylvania Avenue, NW
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A



B



C



Lew Bloch
Bloch Consulting Group

July 20, 2002

Mr. Morton Bender
Morton Bender, Inc.
1025 Connecticut Ave. NW
Suite 606
Washington, D.C. 20036

Washington Association LLC

RE: Chain Bridge Road Project

As you requested, I made a site inspection of the above-mentioned project at 2762 Chain Bridge Road NW with Mr. Jim Johnson of your company. The purpose of this inspection was to inventory and assess the health AND structural stability of all of the trees larger than 38 inches in circumference measured at 4.5 high.

I awarded each tree a percentage factor for its health and structure. This was based on the condition rating system as described in the condition chapter of *The Guide for Plant Appraisal* (9th edition, 2000) written by the Council of Tree and Landscape appraisers. With this process, the appraiser rates the roots, the trunk and the scaffold branches for both health and structure, and rates the small branches and foliage/buds for health. A tree can be healthy, that is have plenty of nice green foliage, and appear to be safe, but it may have severe structural weaknesses. This can result in tree failure later or even a sudden failure soon.

With this rating system, it is my opinion that any tree rated less than 50% should be removed. A 50% rated tree is marginal and MAY be retained if there is no new construction close by the tree. With a 51 to 60% rated tree, I suggest the tree needs monitoring annually for any changes in condition. Although there can be no guarantees, any tree rated 61% or higher should be viable. Of course this also depends on the construction contractor properly protecting and maintaining them.

The tree number in the following key is based upon the plan that we used in making this tree inventory in the field.

subject of this report. I have no personal interest or biases with respect to the parties involved, and have based my appraisal on the situation as I have seen it.

My compensation is not contingent on the reporting or a predetermined condition that favors the cause of the client, the attainment of a stipulated result, or the occurrence of a subsequent event.

My opinions and conclusions were developed, and this report prepared in conformity with standard arboricultural practices, and my expertise and experience as a plant appraiser.

I further certify that I made a personal inspection of the property, and no one provided any significant professional assistance to this report.

Thank you for the opportunity to be of service and if you have any questions, do not hesitate to call.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Lew Bloch', with a long horizontal line extending to the right.

Lew Bloch, Registered Consulting Arborist

<u>Tree #</u>	<u>Species</u>	<u>Circ. (inches)</u>	<u>Rating</u>
1	Pin oak	91	85%
2	White pine	62	60%
3	Pin oak	110	60%
4	American elm	99	70%
5	Flowering cherry	68	50%
6	Pin oak	114	70%
7	Red oak	87	50%
8	Red oak	51	60%
9	White oak	77	70%
10	Red oak	87	70%
11	Red oak	117	65%
12	Poplar	124	70%
13	Beech	41	75%
14	Beech	41	45%
15	Beech	56	60%
16	Beech	48	65%
17	Beech	61	45%
18	Red maple	37	60%
19	Beech	54	65%
20	Black cherry	126	50%
21	Black cherry	49	45%
22	Box elder	64	45%
23	Poplar	74	75%
24	Poplar	73	75%
25	Poplar	70	70%
26	Poplar	74	75%
27	Red oak	37	75%
28	American holly	67	80%
29	Red maple	127	50%
30	Red maple	112	45%
31	Flowering cherry	55	45%
32	Hemlock	102	40%
33	Hemlock	48	45%
34	Spruce	48	45%
35	Magnolia	48	65%
36	White pine	61	45%
37	Hemlock	56	45%
38	Sycamore	89	60%
39	Poplar	96	30%
40	Poplar	121	75%
41	Poplar	102	40%
42	White oak	42	65%
43	White oak	44	50%

44	Beech	87	75%
45	Beech	53	50%
46	Beech	84	50%
47	Beech	65	60%
48	Beech	78	50%
49	Beech	77	50%
50	Beech	66	50%
51	Beech	62	60%
52	Beech	52	60%
53	Beech	102	65%
54	Hemlock	43	45%
55	White pine	50	40%
56	White pine	54	40%
57	White pine	42	40%
58	Hemlock	92	40%
59	Hemlock	48	40%
60	American holly	83	50%
61	White pine	40	45%
62	Willow oak	62	75%
63	Red oak	64	60%
64	Red oak	44	50%

As an arborist, I am a tree specialist and use my knowledge, education, training and experience to examine trees, recommend measures to enhance their beauty and health, and attempt to reduce the risk of living near trees. As the client, you may choose to accept or disregard these recommendations, or seek additional advice.

An arborist cannot detect every condition that could possibly lead to a tree or limb failure. Trees are living organisms that may fail in many ways we do not fully understand. Conditions are often hidden within the trees and below the ground. As arborists, we cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Sometimes trees may appear "healthy," but may be structurally unsound. Likewise, remedial treatment, like any medicine, cannot be guaranteed.

Furthermore, certain trees are borderline cases as to whether they should remain or be removed. Also conditions change, and a tree may need further monitoring in the future to determine its health and structure. Of course the only really safe option is removal.

Trees can be managed, but they cannot be controlled, and to live near a tree is to accept some degree of risk. The only way to eliminate all risks is to remove all trees.

I certify that the statements made in this report to be true and correct to the best of my knowledge. The opinions expressed are my personal, unbiased professional opinions and conclusions, and I have no present or prospective interest in the vegetation that is the

subject of this report. I have no personal interest or biases with respect to the parties involved, and have based my appraisal on the situation as I have seen it.

My compensation is not contingent on the reporting or a predetermined condition that favors the cause of the client, the attainment of a stipulated result, or the occurrence of a subsequent event.

My opinions and conclusions were developed, and this report prepared in conformity with standard arboricultural practices, and my expertise and experience as a plant appraiser.

I further certify that I made a personal inspection of the property, and no one provided any significant professional assistance to this report.

Thank you for the opportunity to be of service and if you have any questions, do not hesitate to call.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Lew Bloch', with a long horizontal line extending to the right.

Lew Bloch, Registered Consulting Arborist

D

BONIFANT'S TREE SERVICE

16300 OAK HILL ROAD
SILVER SPRING, MARYLAND 20905
(301) 942-7890 • (202) 362-7890

April 6, 2005

Dorchester Associates
1025 Connecticut Ave., N. W.
Suite 606
Washington, D. C. 20036

Dear Mr. Bender:

Pursuant to your request, I have completed a field review of the "Tree Survey" performed by Lou Bloch dated July 20, 2002 for your Chain Bridge Road project. The survey identified trees with circumferences 38 inches or greater and rated the health of each tree. I have also performed a field survey of all trees with circumferences between 12 and 38 inches.

As a result, I find the Bloch survey to be mostly correct. Trees with a rating less than 50% normally have serious health problems and a short life expectancy. These same low rated trees often times are hazardous. Therefore, I have recommended the removal of some of these trees before construction begins.

According to the present development plans, 14.5% of all the trees, based on the aggregate circumference of all trees 12 inches in circumference or greater, will be removed. The additional trees I recommend be removed, will increase this percentage to approximately 24%.

Should you have any questions, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Bonifant", with a long horizontal flourish extending to the right.

Tom Bonifant

BONIFANT'S TREE SERVICE

**16300 OAK HILL ROAD
SILVER SPRING, MARYLAND 20905
(301) 942-7890 • (202) 362-7890**

General Information

Trees are damaged in different ways during construction:

1. Roots cut during excavation, trenching and grading.
2. Soil compaction caused by traffic of trucks, heavy equipment and personnel.
3. Fill dirt added to grade.
4. Mechanical injury to tree trunks, roots, and limbs by equipment.
5. Poisoning by toxic materials spilled or dumped on site.

The following steps can be taken to lessen and, in some cases, eliminate the above problems.

1. Fencing off non-disturbance areas to keep digging equipment from going beyond plans. Tunneling under root systems when bringing in utilities. Do not reduce grade in the non disturbance areas. The maximum allowed root disturbance for mature trees is 25%-30% total. In some cases, homes are built on piers, rather than footers, greatly reducing the need for excavation and trenching.
2. Prohibiting all traffic over root areas in non-disturbance areas will eliminate soil compaction. Placing a 4"-6" layer of woodchip mulch and matting over an area where traffic can't be avoided also will protect root systems. Storage of building supplies and fill dirt in the existing open areas will eliminate compaction also.
3. As little as 4" of fill dirt will smother roots. Therefore, hauling away excess soil is very important and grading around the houses should be kept to a minimum.
4. Fence barriers again will keep equipment away from the trees so they won't be banging into them. Keeping equipment off the critical root zone also will keep equipment from damaging surface roots.
5. Strict rules by the contractors prohibiting burying of debris and any dumping of paint or other materials usually is sufficient to control this problem.

E

F

September 1, 2004

Chain Bridge Road Project

Tree & Slope Protection

The existing healthy mature trees on the site are an invaluable asset that we are dedicated to preserve to the greatest extent possible. We have made every effort to disturb as few trees as possible and to maintain the existing topography with minimal disturbance.

Trees shall be protected by these measures:

- 1) 48" orange plastic mesh fence shall be used for tree protection. Fence shall be placed at the drip line of all trees to be protected. Fence posts to be #5 rebar at 4'-0" oc driven 1'-6" below finished grade. Orange fence shall be attached to rebars with metal tie wire.
- 2) Nothing shall be stored or stockpiled or parked under the drip line of any tree.
- 3) Foot traffic over the tree roots shall be restricted to the greatest extent possible.
- 4) If any work occurs within the drip line the tree fencing shall be reinstated as soon as possible after each stage of the work is completed.
- 5) As required, additional protection measures will be instituted on an individual basis for those trees that will have work done within their drip line.
- 6) The Owner's arborist will be available throughout the construction process to advise on additional measures that may be taken to preserve the health of the existing trees.

G

September 1, 2004

Chain Bridge Road Project

Soil Erosion and Sediment Control Measures

During construction, measures will be instituted to eliminate soil erosion and to control sediment.

- 1) Maintain a 20" high woven wire and filter cloth silt fence at those portions of the site that are susceptible to silt runoff.
- 2) Portable sediment tanks will be utilized as required.
- 3) Brickbat ground cover will be utilized where necessary to provide temporary ground cover over denuded earth.
- 4) Maintain a stabilized construction entrance, as necessary. The construction entrance will be maintained to prevent the flow of sediment off site and onto public right-of ways. Vehicle wheels will be cleaned (as required) prior to entrance onto the public right-of-way.
- 5) Storm water runoff quality will be protected by either burlap sediment filters or straw bale sediment filters.

H

Technical Memorandum:

**TRAFFIC IMPACT ASSESSMENT-
BOARD OF ZONING ADJUSTMENT
APPLICATION FOR CHAIN BRIDGE
ROAD PROPERTIES, PALISADES AREA,
NORTHWEST, WASHINGTON, D.C.**

(BZA Case No.17309)

Prepared for:

DORCHESTER ASSOCIATES, INC
1025 Connecticut Avenue, N.W., Suite 606
Washington, D.C. 20036
➤ Morton Bender, President

Correspondents:

HOLLAND & KNIGHT, LLP
2099 Pennsylvania Avenue, N.W, Suite 100
Washington, D.C. 20006-6081
➤ Norman M. Glasgow, Jr., Esquire

Prepared by:

O. R. GEORGE & ASSOCIATES, INC.
Transportation Planning & Engineering Consultants
10210 Greenbelt Road, Suite 310
Greenbelt, MD 20706-2218
Tel: (301) 794-7700

March 29, 2005

O. R. GEORGE & ASSOCIATES, INC.

Traffic Engineers – Transportation Planners

10210 Greenbelt Road, Suite 310 • Lanham, MD 20706-2218

Tel: (301) 794-7700 • Fax: (301) 794-4400

E-mail: orgassoc@aol.com

TECHNICAL MEMORANDUM

DATE: March 29, 2005
TO: Dorchester Associates, Inc
ATT: Mr. Morton Bender, President
FROM: Osborne R. George/Iain J. Banks
RE: Traffic Impact Assessment – Board of Zoning Adjustment Application No: 17309,
Chain Bridge Road (Properties 2762 & 2800), Northwest, Washington, D.C.

INTRODUCTION

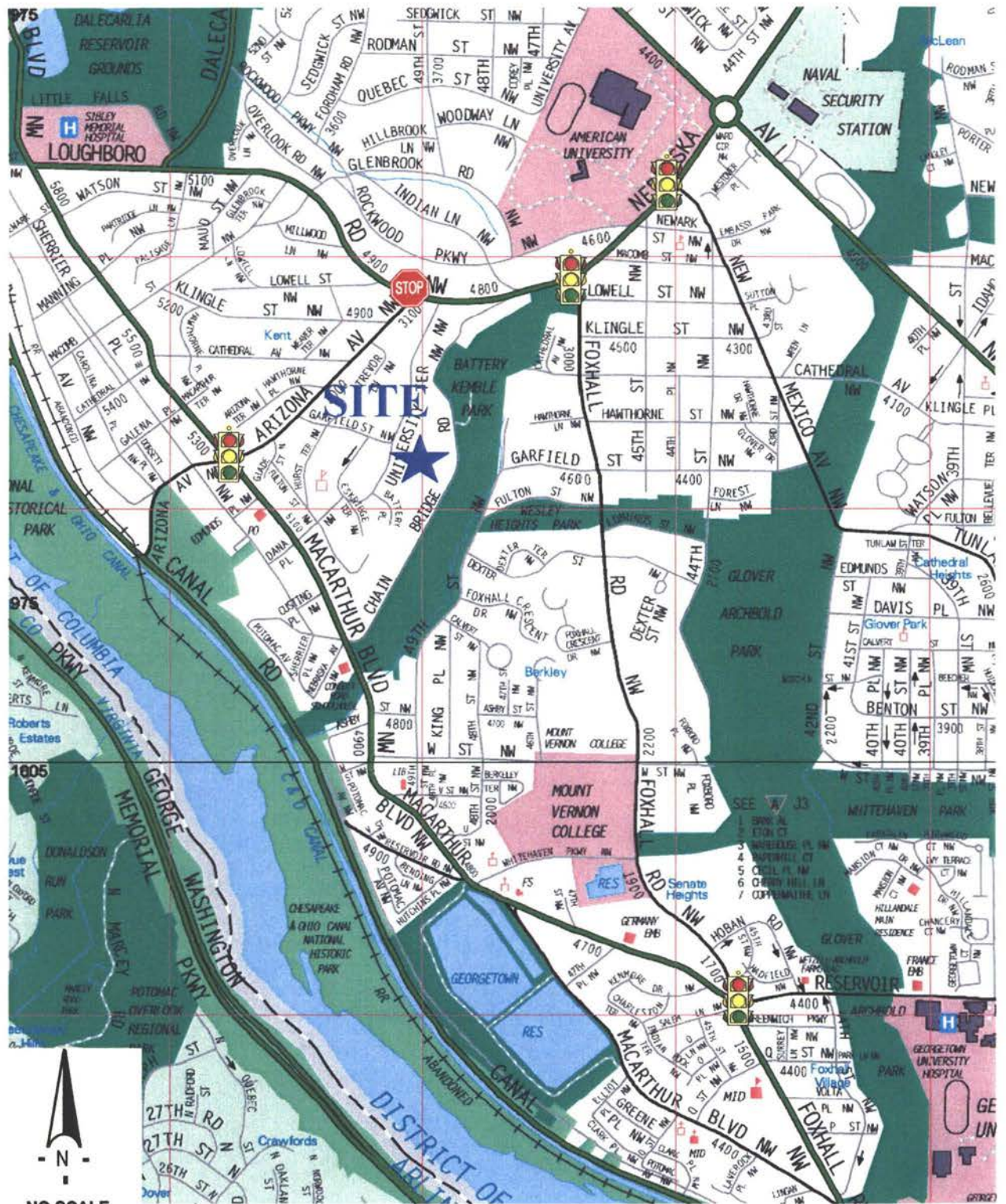
The Applicant, Dorchester Associates Inc., plans to develop thirteen (13) single-family-detached residential units in a property situated along the west side of Chain Bridge Road, in the Palisades area of Northwest, Washington, D.C. The property is zoned R-1-A (Low Density Single-Family-Detached Dwellings) and is within the Chain Bridge/University Terrace Overlay District. The proposed residential community would be accessed off Chain Bridge Road via three (3) driveways, two (2) of which currently exist. One existing driveway would serve nine (9) lots, one existing driveway would serve three (3) lots and a new driveway would serve a single lot. Each residential unit will be provided with a two-car garage and driveway of substantial length. The development proposal requires that the Applicant seek relief through the City's Board of Zoning Adjustment (BZA) with respect to the following two (2) development elements.

- a) Relief to construct thirteen (13) residential units on theoretical lots (DCMR § 2516);
- b) Relief that would maintain the existing driveways at 16ft widths, relative to the 25ft width stipulated by the Zoning Regulations [DCMR §2516.6(b)].

Given the size and zoning of the subject property, it is our understanding that between six (6) and nine (9) residential units could be constructed without BZA approval. The Applicant is thus required to demonstrate that the relief sought will not have adverse or objectionable impacts on neighboring properties based on traffic, parking and safety considerations, among other factors. This memorandum addresses this requirement. In order to facilitate the presentation, which follows Exhibit 1 is presented to show the location of the subject property. For further context an extract of the Functional Classification Map of the City's Roadways is included as Exhibit 2.

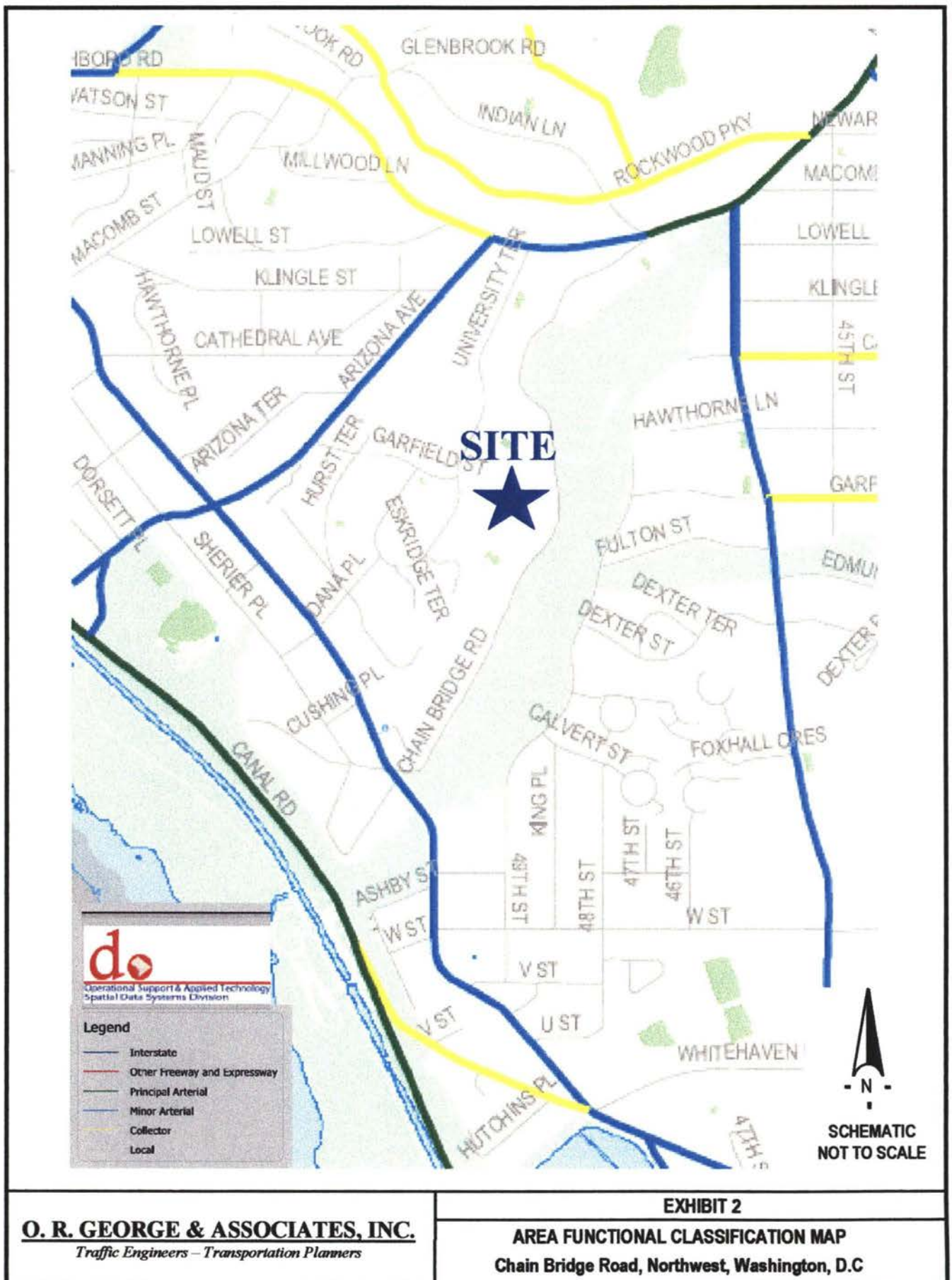
As part of the study, discussions were held with staff of the Policy and Planning, and Traffic Services Administration of the District Department of Transportation (DDOT). Relevant correspondence is included in Appendix A. The study involved the following key tasks:

- Site visit and reconnaissance of the adjacent roadway network;
- Field observations of traffic volumes on the adjacent roadway network;
- Consideration of other developments planned for the immediate site area, as well as annual traffic growth trends for the adjacent roadways; and
- Analyses and general assessments of the information and perspectives gained from the above tasks and DDOT staff, relative to the subject application.



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

EXHIBIT 1
SITE LOCATION MAP
Chain Bridge Road, Northwest, Washington, D.C



Our field investigations show that Chain Bridge Road represents somewhat of a unique situation in terms of its alignment, traffic control and signage and the low traffic volumes, which it serves. In conjunction with these factors, it is evident that the relief sought would result in minimal traffic generation. This pointed to the need for emphasis upon a more qualitative assessment that would address potential mitigation measures taking into consideration standards and criteria recommended by DDOT and the Design Manual of the American Association of State Highway and Transportation Officials.

This study concludes that the proposed development would not adversely impact traffic, access, and safety, such that it will affect the quality of life in the surrounding community. As such, this study finds that the Applicants proposal satisfies the stated requirements of the City's Zoning Regulations.

SITE ZONING, LOCATION AND ACCESS

As noted the subject site is situated along the west side of Chain Bridge Road. The property is zoned R-1-A (*Low Density Single Family Detached Dwellings*) and lies within the Chain Bridge University Terrace Overlay District. The site has historically been referred to as the Murphy Property and is covered with significant woodland. Land uses in the general area are consistent with the residential (R-1-A) zoning, with single-family-detached residences dominating the area west of Chain Bridge Road, and Battery Kemble Park, which is situated along the east side of Chain Bridge Road for virtually its entire length.

The location and nature of the adjacent roadway network indicates that vehicle trips generated by the proposed development will have a relatively low impact. As noted earlier three (3) separate driveways off Chain Bridge Road would provide vehicular access to the proposed development. Chain Bridge Road provides access between MacArthur Boulevard (to the south) and Loughboro Road (to the north), and is the only means of access for the abutting residential properties. Given the location of the property and the configuration of the area roadway network, this study considered that the two (2) critical intersections would be Chain Bridge Road with Loughboro Road to the north, and MacArthur Boulevard to the south. The study area roadways have the following characteristics, and Exhibit 2 shows the roadway configuration and traffic control devices provided at the study area intersections.

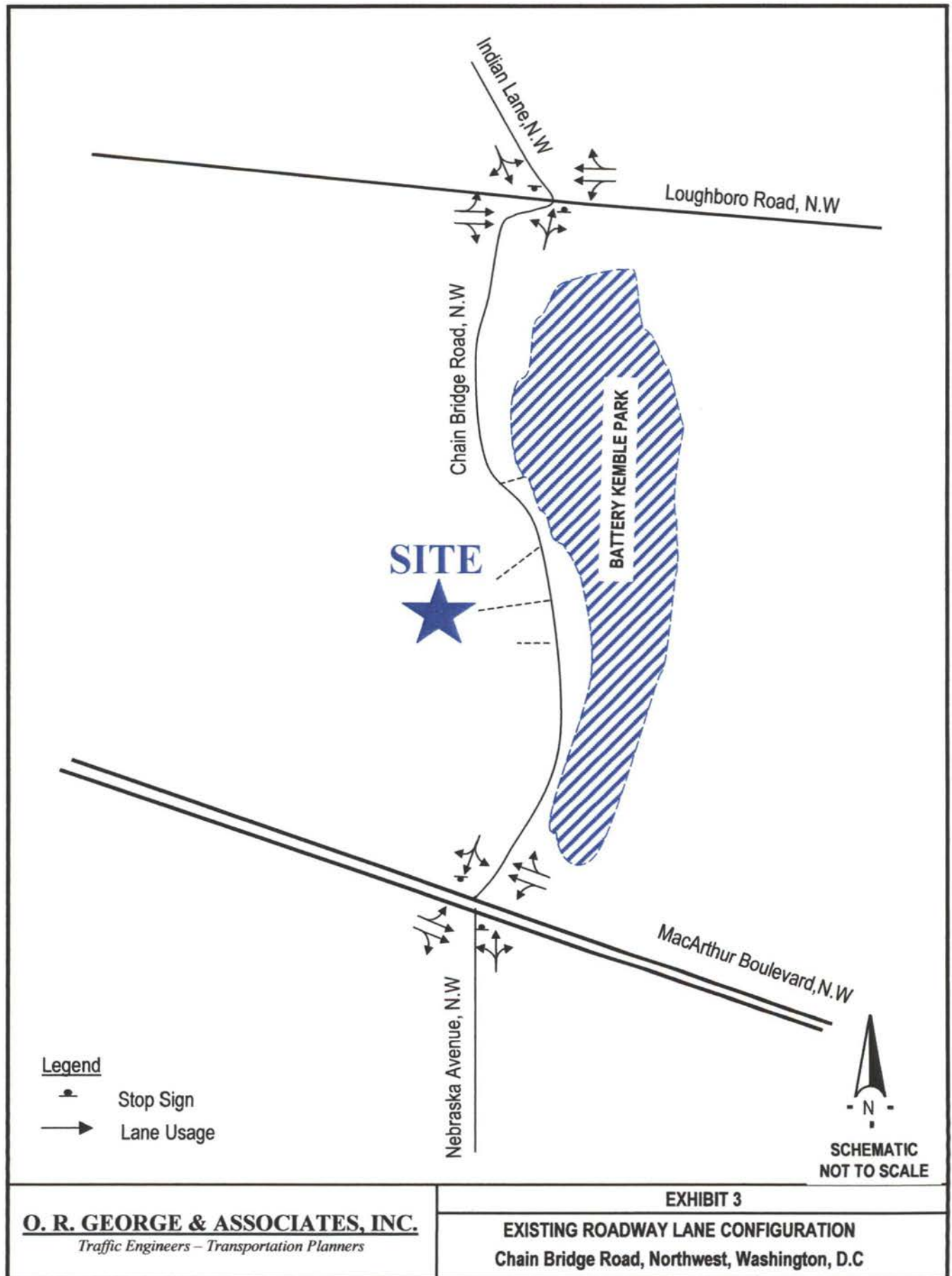
- **Chain Bridge Road, N.W.** is identified as a local roadway on the City's Functional Classification Map (see Exhibit 2). The roadway is narrow with widths ranging from 17ft –25ft. It is also of a curved/meandering horizontal alignment and has a significant gradient, rising from south to north for most of its length. This roadway provides two (2) travel lanes with parking permitted along the west side. The facility is primarily a residential access route, but also provides access to Battery Kemble Park. The roadway has a posted speed limit of 25 MPH, and serves Average Daily Traffic in the range of 675 vehicles. Due to the roadway geometrics and other conditions noted above, advisory speed limit signs of 15 MPH are provided (Photographs showing roadway conditions and signage are provided in Exhibits 4a and 4b on pages 7 and 8)

- **MacArthur Boulevard, N.W.** is a Minor Arterial on the City's roadway system. This divided roadway provides four (4) travel lanes in the Palisades area. The facility is a prominent commuter route, and carries approximately 21,000 vehicles per day. The posted speed limit is 25 MPH. MacArthur Boulevard provides access to four (4) bus routes.
- **Loughboro Road, N.W.** is an east-west Minor Arterial on the City's roadway system. Four (4) travel lanes are provided in the vicinity of the Chain Bridge Road intersection. The Average Daily Traffic is approximately 18,000 vehicles and the posted speed limit is 25 MPH.

Traffic volumes noted above are taken from the City's Average Daily Traffic Volume Map and from surveys conducted as part of this study.

It is again noted that Chain Bridge Road is very much of a "rural" character, based upon its roadway width and open cross-section not providing a curb or gutter. Many existing driveways are located where sight distances are limited (due to the narrow and curved alignment of the roadway) and there are six (6) locations where convex mirrors are in use as well as numerous "Hidden Driveway" signs. Exhibits 4-a and 4-b on pages 7 and 8 present photographs, which show some of the features, described in this paragraph.

No sidewalk and bicycle facilities are provided along Chain Bridge Road, and as such pedestrian activity in the vicinity of the site is low. Battery Kemble Park is in close proximity to the site with access to its parking and activity area just to the north of the subject site.



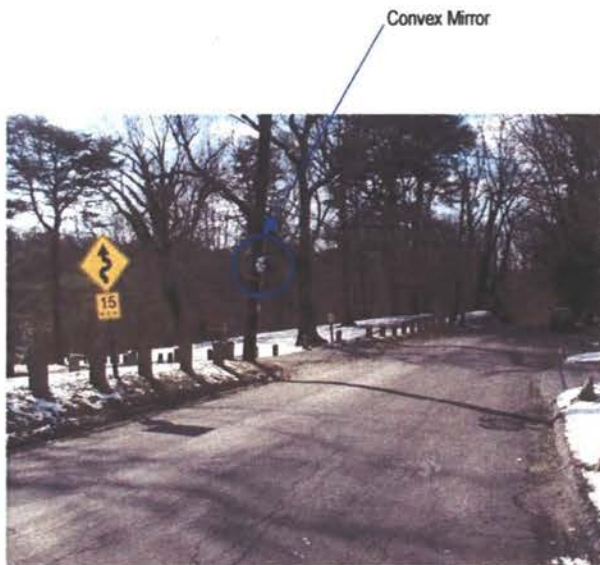


Photo 1: "Winding Roadway" sign and convex mirror located just north of the site entrance at Battery Kemble Park (Looking south).

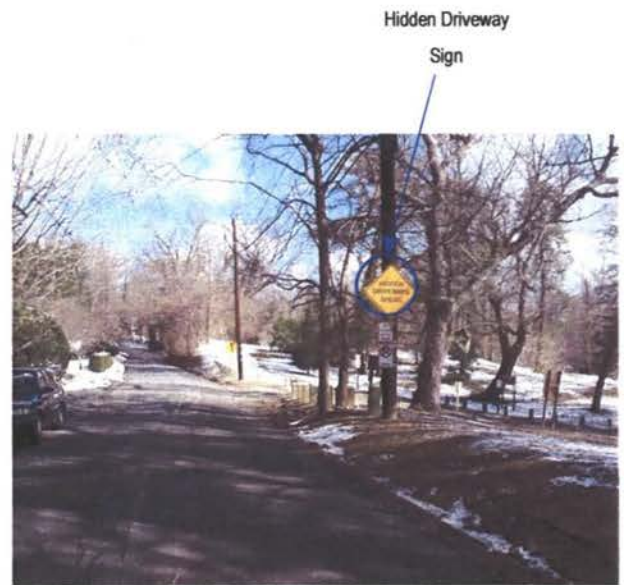


Photo 2: "Hidden Driveways Ahead" sign and located to the north of the site (Looking north).



Photo 3: Curved alignment and "Hidden Driveway" sign in the vicinity of the subject property (Looking south).



Photo 4: "Advisory Speed" sign and "Winding Roadway" sign. (Looking south).



Photo 5: Representative cross-section of Chain Bridge Road in the vicinity of the site (Looking north).



Photo 6: "Hidden Driveways Ahead" sign



Photo 7: Representative cross-section of Chain Bridge Road in the vicinity of the site (Looking north).



Photo 8: "Hidden Driveway " sign just before main site driveway access (looking south).

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

EXHIBIT 4-B
ROADWAY SIGNAGE AND GEOMETRIC ALIGNMENT PHOTOS
Chain Bridge Road, Northwest, Washington, D.C

EXISTING TRAFFIC SITUATION

In order to assess the existing traffic situation, field observations were made of typical weekday traffic flow conditions within the study area during the morning and afternoon peak periods. Additionally, peak period traffic turning movement counts were conducted on typical weekdays at the two key study intersections. Observations were made of roadway conditions and traffic control devices within the broader sub-area. The purpose was to get some further perspective of travel patterns within the local area in general.

Based on these observations and traffic counts performed, the morning and afternoon peak hours for the study intersections were determined to be 7:45 - 8:45 AM and 4:45 - 5:45 PM. Exhibit 5 shows the existing peak hour turning movement volumes. In accordance with DDOT requirements, the peak hour volumes were analyzed using the Highway Capacity Manual (HCM) procedures for unsignalized intersections. The capacity analysis results are presented in Table 1 below. These results show that the study area roadway network currently operates at acceptable levels of service². The count summaries are presented in Appendix B and the capacity analysis worksheets are presented in Appendix C.

TABLE 1
SUMMARY OF CAPACITY ANALYSIS RESULTS –
EXISTING WEEKDAY PEAK HOUR TRAFFIC SITUATION

Intersection	AM Peak Hour		PM Peak Hour	
	Level of Service	Average Delay	Level of Service	Average Delay
1. MacArthur Boulevard @ Chain Bridge Road, NW.	D	29.1	B	13.6
2. Loughboro Road @ Chain Bridge Road, NW.	D	25.8	C	24.6

Note: The City's standard is generally Level of Service D with a control delay limit of 35 seconds per vehicle during the peak periods.

Source: O. R. George & Associates.

The computed levels of service are in keeping with field observations made during the data collection and field reconnaissance phases of the study. These observations showed no excessive queuing, delays, or other situations indicating significant capacity and safety deficiencies for vehicular traffic at the MacArthur Boulevard intersection. Some delays were observed along the Indian Lane approach to the Loughboro Road intersection. This appeared to be due to sight distance restrictions and geometric conditions along that approach.

² Level of Service is a qualitative measure describing operational conditions within a traffic stream or at an intersection, and their perception by road users. Principal considerations are factors such as speed and travel time, delay, freedom to maneuver, traffic interruptions, comfort, convenience and safety. Current engineering practice defines six (6) levels of service ranging from A to F. Level of Service A represents the best (free flow) conditions where drivers are unaffected by the presence of others in the traffic stream, and are free to change speeds and maneuver, etc., at will. Level of Service F represents the worst (forced flow) conditions where road users experience considerable delay and inconvenience.

In order to quantify the low vehicle volumes along Chain Bridge Road a seven-day vehicle classification count was undertaken just north of the site. The vehicle classification data (included within Appendix B) shows that the Average Daily Traffic (ADT) on Chain Bridge Road is six hundred eighty five (685) vehicles on weekdays and five hundred forty-five (545) on a Saturday. This level of usage suggests that Chain Bridge Road would be placed within the category of a local or sub-collector roadway. It also fits within the characteristics of “ Very Low-Volume Local Roads” as defined by AASHTO².

In addition to the low volumes described above, an important operational consideration with respect to safety and access management is the issue of gap availability. Therefore a Gap Study was carried out in the vicinity of the site during the morning and afternoon peak hours to indicate the average gaps observed between vehicles passing the proposed main site entrance. The survey indicated that gaps ranging from 13 seconds to 5 minutes were observed in the morning peak period with an average of 1 minute 23 seconds. In the afternoon peak period the gaps ranged from 10 seconds to 2 and a half minutes with an average of 57 seconds. As such sufficient gaps exist in the existing traffic flow for safe ingress and egress from the proposed site entrances. The details of the gap study are included as Appendix D1.

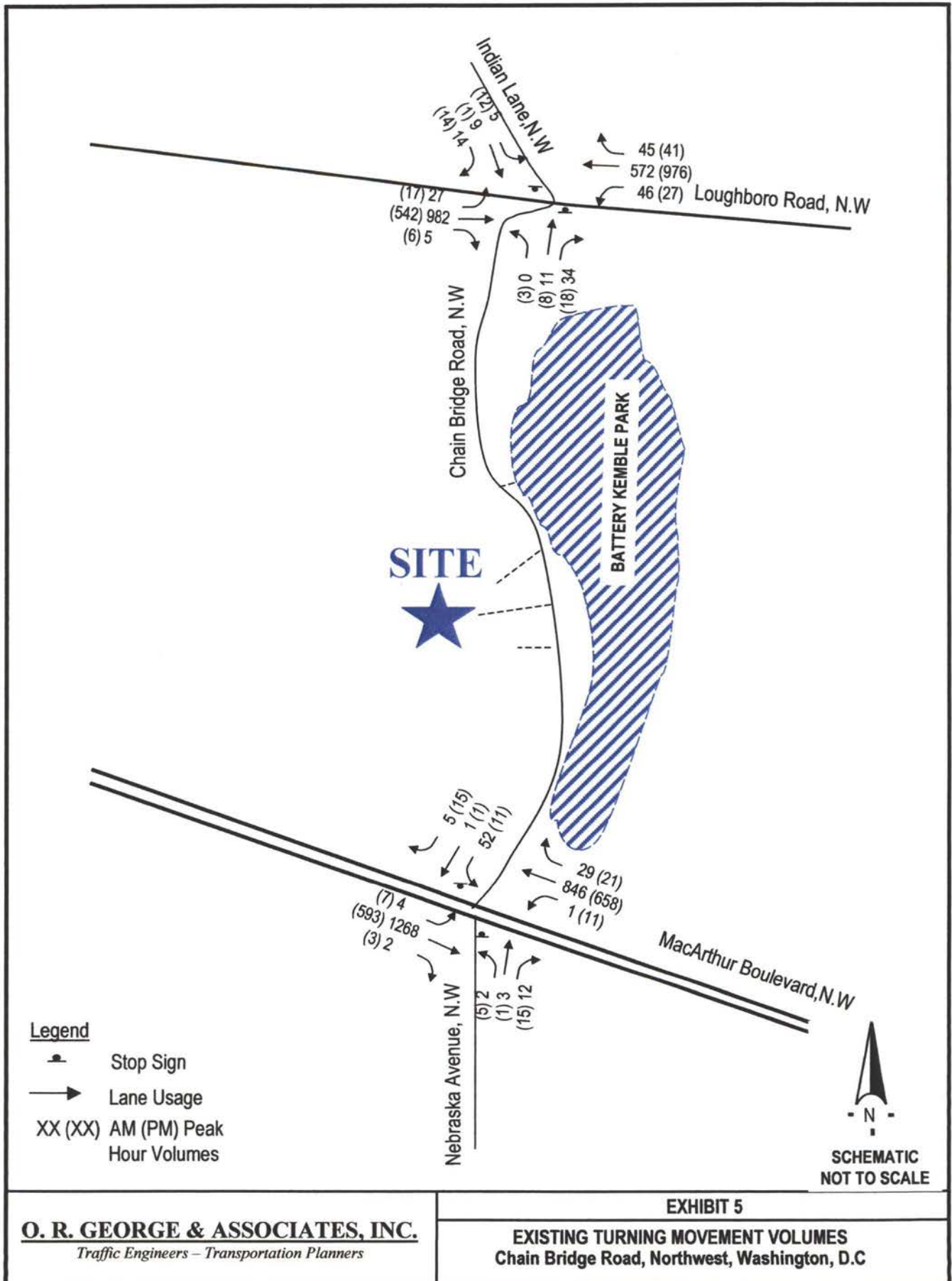
Records of reported accidents were obtained from the DDOT Traffic Services Administration, for the study area intersections covering the most recent three-year period, i.e., 2000 - 2002. Copies of the accident data summaries are included as Appendix D2 and are summarized in the table below. Review of this data indicates that there are currently no significant safety deficiencies at the study area intersections, warranting further analysis and evaluation.

TABLE 2
ACCIDENT RECORD SUMMARY (2000 - 2002) -
STUDY AREA INTERSECTIONS

Location	Accidents			Average/ Year
	2000	2001	2002	
1) Loughboro Road @ Chain Bridge Road, N.W	0	0	1	0.3
2) MacArthur Blvd @ Chain Bridge Road, N.W	2	2	1	1.67

Source: DDOT Traffic Services Administration, and O. R. George & Associates.

² AASHTO “ Guidelines for Geometric Design of Very Low-Volume Local Roads” (2001)



Based on the above factors, this study concludes that application of an assumed growth rate of one percent (1.0%) unto year 2007, would adequately cover the projected trip generation of any future development plans within the local area. The future (2007) traffic situation evaluated in the study was therefore derived by combining the year 2007 base traffic volumes (which reflects the 1.0% annual growth factor and is presented as Appendix E) and the projected site traffic assignment (Exhibit 6). The year 2007 total traffic situation is shown in Exhibit 7. These volumes were analyzed, as was done for the existing traffic situation. The analysis results are provided in Table 4; and the analysis worksheets are provided as Appendix F.

TABLE 4
SUMMARY OF CAPACITY ANALYSIS RESULTS –
PROJECTED 2007 TOTAL TRAFFIC SITUATION

Intersection	AM Peak Hour		PM Peak Hour	
	Level of Service	Average Delay	Level of Service	Average Delay
1. MacArthur Boulevard @ Chain Bridge Road NW.	D	33.9	B	14.9
2. Loughboro Road @ Chain Bridge Road NW	D	28.0	D	25.4

Source: O. R. George & Associates.

The traffic impact of the subject development can readily be seen by comparing Table 1 (Existing Traffic Situation on page 9) with Table 4 (Projected 2007 Total Traffic Situation). The comparison shows that the existing and future level-of-service/average delay situations would be substantially the same. As Exhibit 6 shows, fourteen (14) additional trips would be added to the study area intersections during the peak hours. This equates to an additional vehicle arriving at the adjacent intersections on average every four (4) to six (6) minutes. As such this will have a minimal impact on control delay and supports the overall Level-of-Service shown above.

FUTURE TRAFFIC SITUATION

As noted earlier, the Applicant proposes to develop a residential community consisting of thirteen (13) single-family-detached units. Between six (6) and nine (9) units could be developed on the property without BZA approval. Accordingly the impact of the Applicants proposal must be based on an increment of between four (4) and seven (7) units. As such, an average increment of six (6) units was considered in this assessment. In accordance with DDOT's guidelines, trip generation estimates were developed for the site using rates recommended by the Institute of Transportation Engineers (ITE) "*Trip Generation Manual*" (2003). Review of the census data for the area tract shows auto ownership to be 1.8 vehicles per dwelling. In order to be conservative this study assumed a higher level of vehicle ownership, and adjusted the trip generation accordingly using ITE data. The trip rates and projected vehicle trips are shown in Table 3 below.

TABLE 3
PROJECTED TRIP GENERATION –
PROPOSED CHAIN BRIDGE ROAD DEVELOPMENT

Trip Rates	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
• Trips/S-F-D Unit (Assumed 3 vehicles per unit)	0.47	1.06	1.53	1.33	0.68	2.01
• Trips/6 S-F-D Units	3	6	9	8	4	12
• Trips/13 S-F-D Units	6	14	20	17	9	26

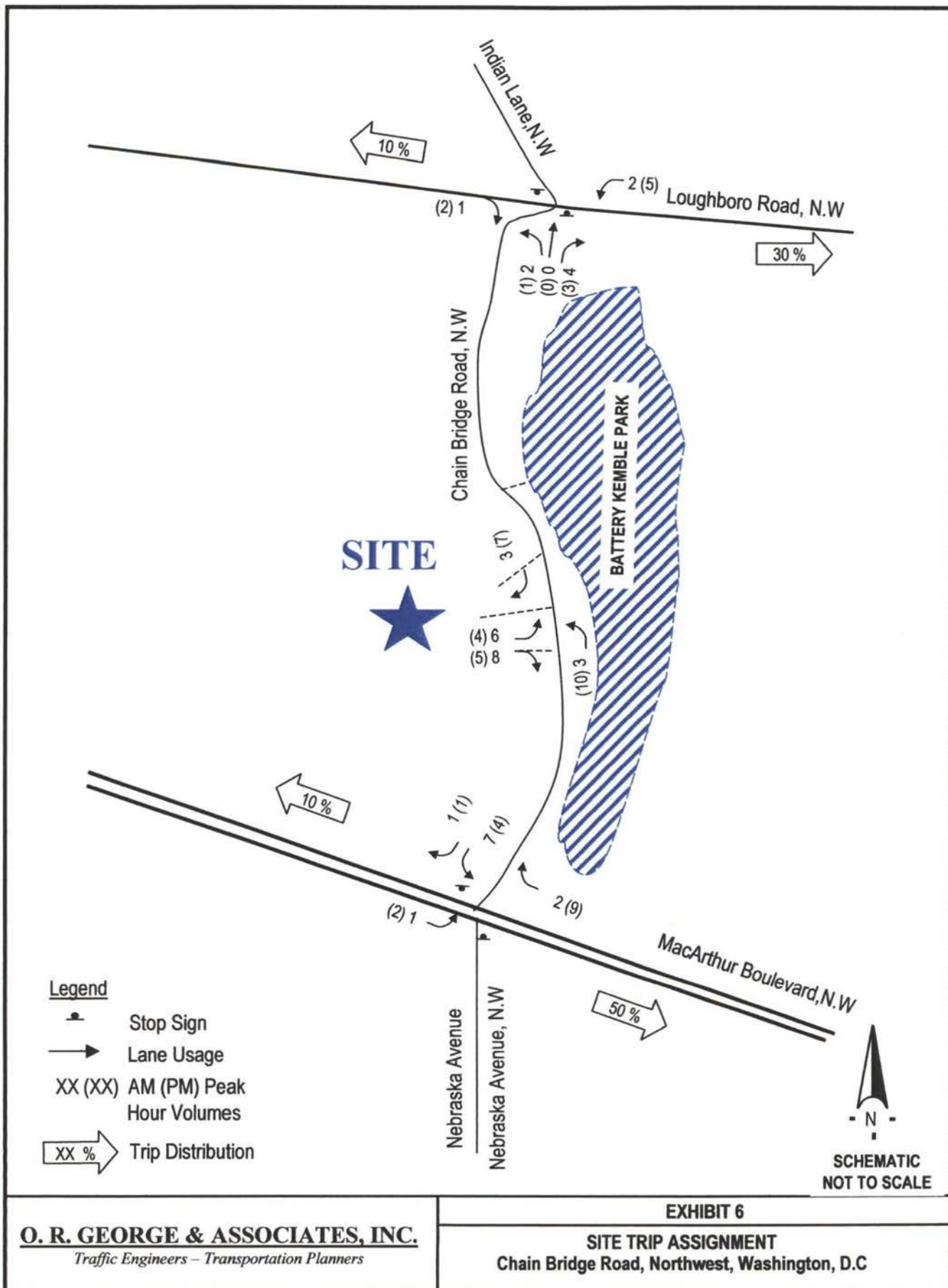
S-F-D = Single-Family-Detached Dwelling

Source: O. R. George & Associates.

Given this level of total and incremental trips, and considering the information on traffic volumes and gap availability, it is quite apparent that the proposed development would not have a significant impact on traffic demand and safety. However, the matter of safety and mitigation is addressed more specifically later in this report.

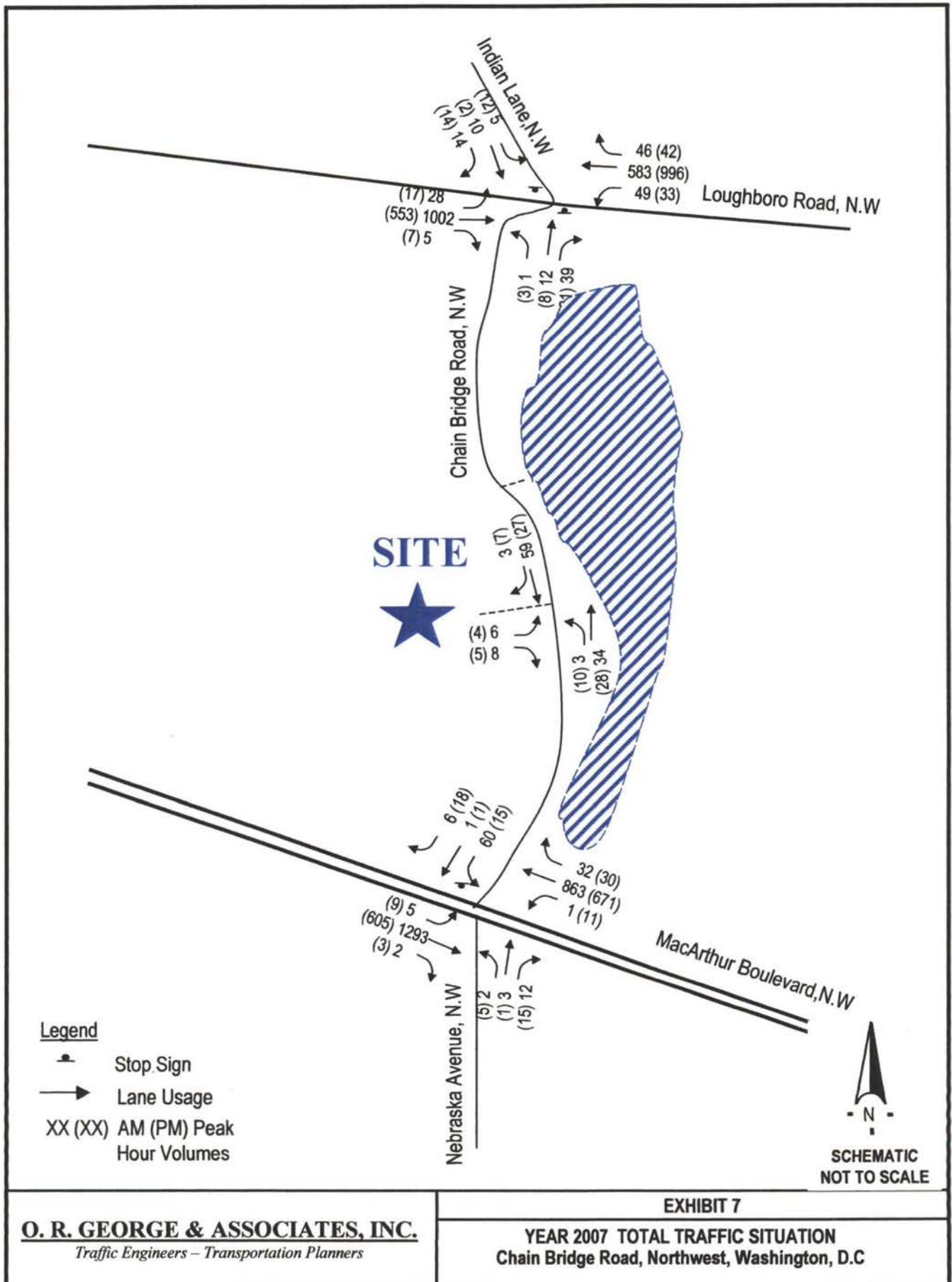
Review of historical Average Daily Traffic (ADT) data provided by DDOT indicates that traffic volumes on the study area roadways have increased by approximately one percent (1%) per year over the period 1997 - 2001. This data was for roadways such as Loughboro Road, MacArthur Boulevard, Foxhall Road and Arizona Avenue. However, in order to be conservative a growth factor of one percent (1%) was applied to the existing traffic volumes, to project traffic for the design year (2007). This is in keeping with DDOT general recommendations and guidelines. The year 2007 "base" traffic volumes are included in Appendix E.

The "*Economic Development Map*" of the D.C Office the Deputy Mayor of Planning and Economic Development, shows that there are no planned developments for the immediate Palisades area. As such, this study has assumed that traffic growth as a result of future development will be negligible, and would be allowed for in the growth factors applied.



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

EXHIBIT 6
SITE TRIP ASSIGNMENT
Chain Bridge Road, Northwest, Washington, D.C



SITE ACCESS AND PARKING EVALUATION

Site Access/Driveway Widths

As noted earlier, the proposed residential community would be accessed exclusively off Chain Bridge Road via three (3) driveways as detailed below (A copy of the site plan drawing showing the proposed site layout and access situation is included as Appendix G);

- 1) **Driveway No.1** (The northern most entrance) - An existing sixteen (16) foot driveway that would serve three (3) lots;
- 2) **Driveway No.2** (The middle entrance) - An existing sixteen (16) foot driveway that would serve nine (9) lots; and
- 3) **Driveway No.3** (The southern entrance) - A future driveway, eight (8) foot wide that serve a single lot.

Relief is being sought for the reduced widths of driveways No. 1 and 2. The Applicants Statement makes reference to Section 2516.6 and to 2516.11 (by reference). Based upon careful review of this section and Chapter 25 generally, it is apparent that the driveway width indicated in the zoning regulation is intended to apply to various uses that may be undertaken on a lot in general. Such uses may include commercial/retail, industrial and high-density residential, and not only (or necessarily) to low-density single-family-detached residential dwellings such as in the subject development. Section 2516.11 notes that factors such as net density, height, design and screening as well as location of structures all have a bearing on designed driveway widths. Perhaps most importantly, Section 2516.6(d) notes that the spacing of buildings and the availability of resident, guest and service parking are primary considerations.

Based on the foregoing factors and considerations, this study finds that the 16ft driveway widths would be appropriate for the following reasons:

- a) The lots would each be provided with generous access driveway lengths, ranging from 40ft to 100+ft with convenient on-site turnarounds;
- b) The parking provided for each dwelling and the walking distances to many units would make on-street parking unattractive;
- c) The low traffic generation and the direction split during peak hours would not result in significant passing maneuvers. (In any case travel speeds would not likely exceed 5-10 MPH for the 200±ft and 300±ft access driveways);
- d) Field observations show a number of public roadways within the Chain Bridge Road/University Terrace Overlay District serving collector functions to be at and even below the stipulated 25 ft driveway widths. Some of these are indicated below;
 - Foxhall Road in the vicinity of Cathedral Avenue (24ft serving two-way traffic);
 - Dexter Street, west of Foxhall Road (25ft serving two-way traffic);
 - Klinge Street, in the vicinity of Macomb Street (26ft serving two-way traffic);
 - Fulton Street, south of Dana Place (26ft serving two-way traffic); and
 - 49th Street (27ft serving two-way traffic).
- e) The open roadway cross-section (i.e., with no curb and gutter) provides for an additional 2-3ft of effective driveway width due to the increased lateral clearance.

It is important to note that all of the roadways cited in item (d) serve significant volumes of traffic and allow for on-street parking, with the exception of Foxhall Road.

With traffic along the driveway projected to be very low, the 16 feet width would be adequate to accommodate the infrequent service vehicles such as refuse collectors and emergency vehicles to access the community. In this connection it is noted that the both driveway serving multiple units terminate in a “cul-de-sac/turnaround” areas of 60ft diameter, in keeping with DDOT and AASHTO standards. In further support of this statement, it is noted that a number of alleyways within the City are at or below the 16 - 18ft driveway width. To conclude on the appropriateness of the driveway width, it is noted that one of the definite references on residential street/access design is the publication “Residential Streets”³. At page 55, this document addresses the subject of “Shared Driveways”, and notes that “the shared driveway should be just wide enough to pass i.e., approximately 16ft”. The Applicant’s site plan shows a buffer area between the driveway and the abutting line of trees.

Parking Provision

This Application does not seek relief in respect to parking. However, it is noted that Section §2101.1 of the D.C Zoning Regulations requires one parking space per dwelling unit in the R-1-A zone district. The required parking spaces, reflecting these ratios, are compared below with the proposed parking spaces, which includes two-car garages per dwelling unit and between one (1) to three (3) additional parking spaces per dwelling driveway. A roadway width of 16 feet will enable on-street parking, if required, without significant impact to access and circulation being impacted.

<u>Land Use Category</u>	<u>Parking Spaces</u>	
	<u>Required</u>	<u>Proposed</u>
• Per 13 S-F-D Units	13	26 (in garages) 26 (driveway spaces)

Note: Driveway spaces shown are approximate.

The above table does not include public space parking, which could be used during infrequent, special situations. While the on-site parking should be quite adequate, this study finds that it would be appropriate to request the City to prohibit parking within 40-50ft of the driveways serving multiple units in order to enhance sight distance and safety. This is addressed further in the mitigation section of the summary and conclusion, which follows.

³“Residential Streets. Second Edition” American Society of Civil Engineers, National Association of Home Builders and the Urban Land Institute (1990). (Extract included as Appendix H).

SUMMARY OF FINDINGS

The foregoing data, discussion and analysis have shown that development of the Chain Bridge Road Residential Community, as currently proposed, would have no significant adverse impacts on the operational efficiency and safety of the study area roadways. The site access and parking provisions should also provide for acceptable means of ingress and egress, as well as on-site circulation and parking. Considerable data and discussion have been presented regarding the physical and operational characteristics of Chain Bridge Road. In essence, this roadway is somewhat unique in that it provides a generally 'rural' roadway environment, with signage designed to regulate vehicle speeds to the 15-20 MPH range.

More specifically, the analysis has determined the following:

- a) Current traffic operational conditions show that the adjacent intersections of Loughboro Road at Chain Bridge Road and MacArthur Boulevard at Chain Bridge Road operate acceptably during the morning and afternoon peak hours.
- b) The observed traffic volumes along Chain Bridge Road, and the location and alignment of this roadway within the local area network indicates that this roadway serves travel demand generated largely by the abutting land uses, and attracts limited through traffic. *[The data shows that Chain Bridge Road serves an average of 685 vehicles on typical weekdays and approximately 545 vehicles on weekends.]*
- c) The subject development would generate an average of twenty-three (23) trips (combined inbound and outbound) during the weekday peak hours. This would have no appreciable impact on the traffic operations within the defined study area.
- d) The study has noted that the incremental development requiring relief would be between 4 and 7 units; and that these would have minimal impact in terms of trip generation on a daily and peak hour basis.
- e) Due to the alignment, gradients and overall roadway environment, Chain Bridge Road is currently provided with advisory speeds and other warning signs throughout most of its length. Among these signs are 'Hidden Driveway' signs.
- f) Field observations show that these provisions serve to effectively moderate travel speeds. Furthermore, traffic accident data and discussions with staff of the DDOT Traffic Services Administration indicate no significant safety deficiencies.
- g) Field surveys show gaps in traffic averaging between 60 –90 seconds during the morning and afternoon peak hours. Gaps were also observed to be as high as 3-5 minutes. These gaps indicate that egress and ingress from the proposed development would not be constrained.

Given the above, this study examined potential measures that could be taken by the Applicant and/or the City to enhance site access and safety along Chain Bridge Road in general, and at the site access specifically. These are addressed in the section following.

CONCLUSION AND POTENTIAL MITIGATION MEASURES

Considering the discussions in the previous section, this study reviewed recent publications by AASHTO and the Federal Highway Administration⁴ addressing design standards and criteria applicable to low-volume roadways. In particular, AASHTO notes that...*"Because of their unique characteristics, design guidelines for very low-volume local roads can be less stringent than those used for higher volume roads or roads that serve primarily unfamiliar drivers."* (See footnote 2 on page 10). The FHWA publication cited above also makes reference to the use of mirrors to enhance sight distances along such roadways.

Based on discussions with DDOT and the information presented in earlier sections of this report, this study recommends that the Applicant consider the following measures:

- a) Design the site entrances serving multiple dwelling units to provide for curbed radii of 6ft minimum, in accordance with DDOT's standards.
- b) Work with DDOT to prohibit parking for a minimum distance of 40ft along the west side of Chain Bridge Road on both approaches for the driveways serving multiple dwelling units.
- c) Work with DDOT and arrange for the provision of sight distance mirrors to be positioned at the two (2) driveways serving multiple dwelling units.
- d) Provide stop signs for the driveways serving multiple dwelling units.

We understand that as part of the landscape treatment along the frontage of the property the Applicant will be seeking opportunity to enhance sight distance. We believe that this would be appropriate. In addition we note that, in discussions with DDOT, they have advised that they will be examining the need to potentially reduce the speed limit along Chain Bridge Road to between 15-20 MPH. We recommend that the Applicant work with DDOT as may be appropriate in this effort.

This study concludes that development of the subject site, per the submitted application, would satisfy the requirements of the Zoning Regulations, from the perspective of impacts associated with traffic and parking. It is also specifically noted that the requested Special Exception relief (reduction in standard driveway width from 25ft to 16ft, and the incremental lot density) would not present constraints and adverse impacts on the local area.

Please note that with the onset of Spring weather, we intend to undertake further field surveys and data collection. As such we intend to supplement the report as may be necessary in advance of the scheduled public hearings.

We trust that the above satisfies your requirements. If we can be of further assistance in this matter, please let us know. Thank you.

ORG/ijb

⁴ FHWA "Low Cost Traffic Engineering Improvements: A Primer" US Department of Transportation, Federal Highway Administration, Office of Transportation Management (April, 2003)

APPENDIX

A

TRAFFIC STUDY SCOPING AGREEMENT
AND RELEVANT CORRESPONDENCE
WITH DDOT STAFF

O. R. GEORGE & ASSOCIATES, INC.

Traffic Engineers – Transportation Planners

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December 28, 2004

Mr. Abdoulaye Bah, Sr. Transportation Engineer
Transportation Policy and Planning Administration
District of Columbia Department of Transportation
2000 14th Street, N.W. (7th Floor)
Washington, D.C. 20009

Re: Chain Bridge Road Residential Properties - Board of Zoning Adjustment
Application, Northwest, Washington, D.C.

Dear Mr. Bah:

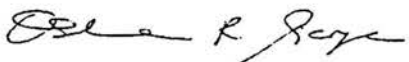
Please be advised that Dorchester Associates, Inc has retained our firm to provide consulting services in connection with the referenced application.

The application is for the development of a residential community situated along Chain Bridge Road in the Palisades area of Northwest, Washington D.C. The subject property is zoned R-1-A (Low Density Single Family Residential Dwellings) and is within the Chain Bridge University Terrace Overlay District. The development will consist of thirteen (13) single-family-detached residential dwellings and will be accessed via three driveways off Chain Bridge Road.

The Applicant is seeking variance in respect to the width of the driveway access. In order to address the requirements of the BZA, we propose to evaluate traffic conditions within the adjacent roadway network, i.e. MacArthur Boulevard at Chain Bridge Road, and Loughboro Road at Chain Bridge Road intersections. We will consider traffic growth and background developments in projecting future traffic conditions, in accordance with your Department's usual requirements.

Should your Department have any particular issues, safety concerns, or information that may be pertinent to this matter, please let us know. Thanks for your usual cooperation and assistance in this matter.

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



Osborne R. George
President

cc: Mr Morton Bender, Dorchester Associates, Inc
Norman Glasgow, Esquire. Holland & Knight, LLP