



STAFF REPORT

APPLICATION NUMBER RZ 80-P-030

PROVIDENCE DISTRICT

Applicant: Gerald Waldman

Present Zoning: R-1

Requested Zoning: R-3

Proposed Use: Residential

Acreage: 1.6754

Subject Parcels: 48-3((1))Pt 12

Application Filed: March 19, 1980

Planning Commission Public Hearing: January 8, 1981

Board of Supervisors Public Hearing: January 26, 1981

Staff Recommendation: The staff recommends that the Zoning Ordinance as it applies to Rezoning Application RZ 80-P-030 be amended from the R-1 District to the R-2 District with proffer to Development Conditions #1 as outlined on page 5 of the Staff Report.

The staff further recommends that the Zoning Ordinance be amended to the R-3 District with proffer to all the development conditions outlined on page 5 of the Staff Report.

It should be noted that it is not the intent of the staff to recommend that the Board, in adopting any of the referenced proffers, relieve the applicant from compliance with the provisions of any applicable ordinances, regulations or adopted standards.

KA

RE ZONING APPLICATION



Number: RZ 80-P-030

District: Providence

Acreage: 1.6754

Section Sheet: 48-3

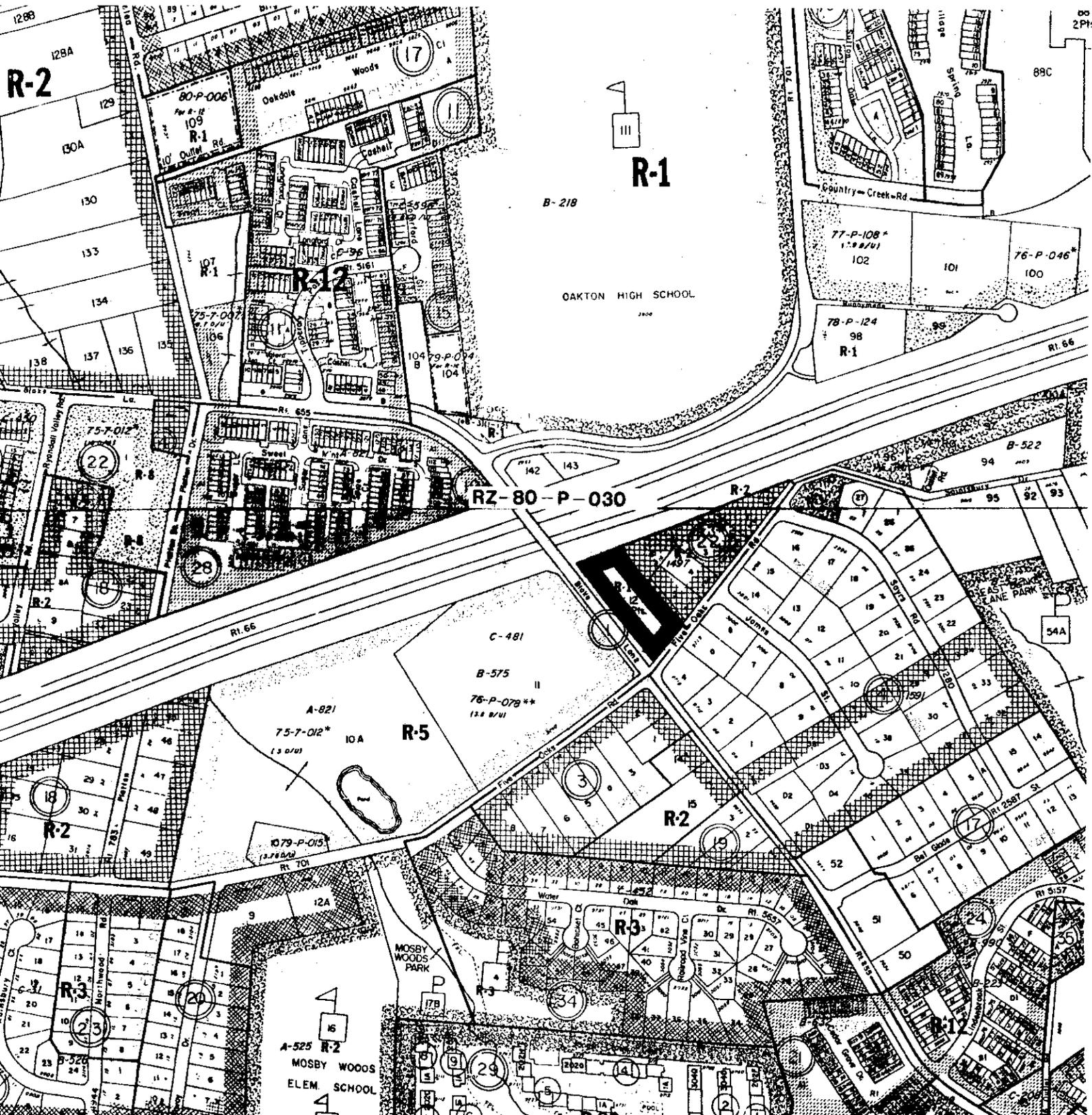
From: R-1

Subdivision: ((1))

To: R-3

Lot: Pt 12

Applicant: Gerald Waldman



R ZONING APPLICATION



Number: RZ 80-P-030

District: Providence

Acreage: 1.6754

Section Sheet: 48-3

From: R-1

Subdivision: ((1))

To: R-3

Lot: Pt 12

Applicant: Gerald Waldman



TRI-ANGLE ACRES

6

PARCEL "A"

407.71'

FIVE OAKS ROAD RTE. #701

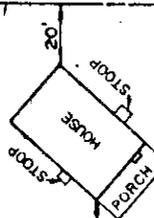
S 41° 19' 40" W 143.78'

N 48° 40' 20" W 15.46'

23,800"

LOT #4

17,100"



LOT #3

15,200"

LOT #2

17,200"

LOT #1



INTERSTATE RTE. #66

N 73° 22' 47" E 489 + 26.81

106'

489 + 30

(YOH BT & EAST BOUND LANE)

N 37° 12' 00" W

N 37° 12' 00" W

BLAKE LANE RTE. #655
(WIDTH VARIES)

N 37° 12' 00" W

109 + 30

109 + 40

TOTAL AREA = 1.6754 AC.



A GLOSSARY OF TERMS FREQUENTLY
USED IN STAFF REPORTS WILL BE
FOUND AT THE BACK OF THIS REPORT

DESCRIPTION OF THE APPLICATION

The applicant requests that 1.6754 acres of land be rezoned from the R-1 District (residential 1 dwelling unit per acre) to the R-3 District (residential, 3 du/ac) for the purpose of subdividing the property into 4 lots. As justification for the rezoning it is noted that the request is in accordance with the County Comprehensive Plan. See Appendix 2.

A waiver of the required development plan submission was approved by the Zoning Administrator (Appendix 3) in accordance with Par 10 of Sect. 18-202 of the Zoning Ordinance.

LOCATION AND CHARACTER OF THE AREA

The application property is located on the northeast side of Blake Lane between the I-66 overpass and Five Oaks Road. One dwelling unit is located on the property. Land surrounding the property is zoned for residential development ranging in density from 1 to 3.5 du/ac. The site of the future Vienna Metro Station is located farther to the east at the end of Five Oaks Road. Oakton High School is located to the north accross I-66.

COMPREHENSIVE PLAN RECOMMENDATION

The application property is located in the V-6 Lee Community Planning Sector of the Vienna Planning District in Area II. The Comprehensive Plan, as amended during the 1980 Annual Plan Review, states on page 179:

"K. In view of the size, configuration and location of parcel 48-3 ((1)) 12, south of I-66, it is recommended for residential development at 2-3 units per acre as compatible infill to maintain the stability of surrounding low-density residential uses. In view of the impact of highway noise from nearby I-66, new development must provide adequate acoustical treatment of all units to reduce the maximum interior noise level of such units to County accepted levels."

The plan map indicates residential use at 2 to 3 du/ac.

PUBLIC FACILITIES ANALYSIS

Information regarding sanitary sewer, water, fire and rescue services schools, and Fairfax County Park Authority recommendations are located in Appendixes 4 through 8, respectively. The sanitary sewer analysis, Appendix 4, notes that the main trunk facility is inadequate to accommodate ultimate buildout in accordance with Comprehensive Plan recommendations. The schools analysis, Appendix 7, projects that student membership will exceed capacity at all levels in the 1981 - 82 school year. There appears to be no other problems associated with public facilities.

TRANSPORTATION ANALYSIS

The transportation analysis, Appendix 9 notes that the Countywide Plan includes transportation recommendations for the improvement of both Blake Lane and Five Oaks Road. Blake Lane is a minor arterial and reverse frontage would normally be required unless waived by the Director of the Department of Environmental Management (DEM). It would be preferable to access the proposed lots via an ingress-egress easement contiguous to the northern boundary of the site. This easement could be narrower than a corresponding set of pipestems since Ordinance frontage requirements would be satisfied by the Blake Lane frontage on each lot. The recommended access would be adjacent to a similar existing access for the adjacent Lot 6 of Triangle Acres.

If lots are accessed directly from Blake Lane, the number of such lots should be held to a minimum in order to reduce traffic flow disruptions resulting from turning vehicles.

The recommendations made in Appendix 3 are reflected in the final section of the Staff Report.

ENVIRONMENTAL ANALYSIS

The environmental analysis, Appendix 10, notes that highway noise is the principle environmental concern for this application. Due to a fortuitous topographic position relative to I-66, homes can be constructed on this site adjacent to I-66 and meet acceptable noise exposure levels with noise attenuation measures. The acoustical treatment of homes on Lots 1 and 2 and the provision of a solid acoustical fence six feet in height for rear yard areas of the two lots will provide necessary protection from highway noise along I-66.

ANALYSIS OF THE DEVELOPMENT PROPOSAL

The proposed plat shows the property subdivided into four lots, a density of 2.39 du/ac. Blake Lane provides direct road access to all of the lots. Lot 4 is a corner lot which can also gain access to Five Oaks Road.

The Comprehensive Plan recommends a density of 2 to 3 du/ac as a means of providing compatible infill with surrounding land uses. The proposed subdivisions yields a density within the Plan range. Lot sizes are equivalent to those in the adjacent subdivision to the east. They also exceed the minimum lot size requirements of the R-2 as well as the R-3 Districts. Compatible infill has therefore been achieved.

Pursuant to Sect. 2-414 of the Zoning Ordinance, a minimum distance of 200 feet must be maintained between all residential buildings and interstate highway rights-of-way. Half of the property lies within 200 feet of the right-of-way of I-66. Deviations from the Ordinance requirement may be permitted with Board of Supervisor approval of appropriate proffered conditions if such deviations will further the intent of the Comprehensive Plan, the Zoning Ordinance or other adopted policies. The Plan language recognizes the adverse impacts associated with significant levels of highway noise from I-66. The provision of acoustical treatment for all residential units within the 200 foot setback/noise impact zone and the construction of a solid acoustical fence six feet in height to protect the rear yard area of the affected residences would be appropriate as a means of allowing residential development within the otherwise restricted area. Noise attenuation measures would be necessary for the area identified as lots 1 and 2. The applicant has indicated a willingness to provide noise attenuation measures.

As the transportation analysis in Appendix 9 indicates, direct access to Blake Lane should be avoided. Construction of a private drive along the northeastern boundary of the property from Five Oaks Road to Lot 4 would eliminate direct access to Blake Lane.

The applicants justification for development above the low end of the Comprehensive Plan recommended density range is included in Appendix 11. Three of the five applicable development criteria have been met. They are:

Criteria

3. The property is accessible to existing public facilities
6. Site design is compatible with existing development in the area.

8. Energy conserving features are proposed. Extra insulation and storm windows should be utilized, however, to achieve a level of energy savings in excess of BOCA Code requirements.

The following criteria have not been met.

4. Traffic impacts along Blake Lane from the proposed development could be reduced if access to the four lots was provided via Five Oaks Road. Dedication of right-of-way to 30 feet from centerline on Five Oaks Road would allow for future Plan recommended improvements.
7. Tree preservation is proposed. However there is no indication as to the location of extent of such preservation.

It should be noted that noise attenuations measures are necessary even for development at the low end of the Plan-recommended density range.

In light of potential traffic disruptions and turning movement conflicts at entrances along Blake Lane, it would be highly desirable to eliminate any direct access to that road from the application property. Residential development at 2.39 du/ac would be appropriate with noise attenuation measures to reduce impacts from I-66 and with public road access for all lots via Five Oaks Road to reduce traffic impacts on Blake Lane.

CONCLUSIONS & RECOMMENDATIONS ON THE REZONING

Conclusions

The application proposal for development at 2.39 du/ac falls slightly below the midpoint of the Comprehensive Plan-recommended density range of 2 to 3 du/ac. Development of the property as requested would be fully in accordance with the Plan if noise impacts from I-66 were reduced via the provision of noise attenuation measures and if traffic impacts on Blake Lane were minimized by providing vehicular access to all lots from Five Oaks Road.

Recommendations

The staff therefore recommends that the Zoning Ordinance, as it applies to Rezoning Application RZ 80-P-030 be amended from the R-1 District to the R-2 District with proffer to Development Condition #1 as outlined in the final section of the Staff Report.

The staff further recommends that the Zoning Ordinance be amended to the R-3 District with proffer to all the development conditions outlined in the final section of the Staff Report.

RECOMMENDATIONS ON THE DEVELOPMENT PROPOSAL

Should the Board of Supervisors intend to amend the Zoning Ordinance to the R-3 District, the staff recommends that the following development conditions be proffered pursuant to Sect. 15.1-491(a) of the Code of Va.:

1. To achieve both a maximum residential interior noise level of 55 dBA Leq(h) with open windows and a useable outdoor area with a maximum exterior noise level of 65 dBA Leq(h) within 400 feet of the centerline of I-66:
 - a. Exterior walls exposed to highway noise shall have an STC of not less than 50;
 - b. Doors shall have an STC of not less than 37;
 - c. The proportion of windows to interior wall area shall be no more than 15% for walls exposed to highway noise;
 - d. A solid acoustical fence six feet in height will fully enclose the rear yards of homes constructed within 400 feet of the centerline of I-66.
 - e. Any home constructed within 225 feet of the centerline of I-66 shall be limited to one story in height such that the height of any window exposed to noise from I-66 is no more than eight feet above existing grade.
2. Develop the property with a maximum of four lots, a density of 2.4 du/ac.
3. Provide vehicular access to all lots via Five Oaks Road. No direct access shall be maintained to Blake Lane.
4. On Blake Lane dedicate right-of-way to forty five feet from centerline.
5. On Five Oaks Lane dedicate right-of-way to thirty feet from centerline.

It should be noted that it is not the intent of the staff to recommend that the Board, in adopting any of the above proffers, relieve the applicant from compliance with the Provisions of any applicable ordinances, regulations or adopted standards.

APPENDIXES

1. Rezoning Affidavit
2. Justification
3. Zoning Administrator Waiver of Development Plan Submission Requirement
4. Sewer
5. Water
6. Fire and Rescue
7. Schools
8. Fairfax County Park Authority Memo
9. Transportation
10. Environmental Analysis
11. Development Criteria & Applicant Justification
12. Glossary

REZONING AFFIDAVIT

I, GERALD WALDMAN, do hereby make oath or affirmation that I am an applicant in Rezoning Application Number 80-P-030 and that to the best of my knowledge and belief, the following information is true:

1. (a) That the following constitutes a listing of names and last known addresses of all applicants, title owners, contract purchasers, and lessees of the land described in the application, and if any of the foregoing is a trustee, each beneficiary having an interest in such land, and all attorneys, real estate brokers, architects, engineers, planners, surveyors, and all agents who have acted on behalf of any of the foregoing with respect to the application:

Name	Address	Relationship
MR & MRS ROBERT WALKER		TITLE OWNER
GERALD WALDMAN		CONTRACT PURCH.
C. J. HUNTLEY ASSOCIATES		ENGINEER

(b) That the following constitutes a listing of the shareholders of all corporations of the foregoing who own ten (10) per cent or more of any class of stock issued by said corporation, and where such corporation has ten (10) or less shareholders, a listing of all the shareholders:

Name	Address	Relationship
NONE		

(c) That the following constitutes a listing of all partners, both general and limited, in any partnership of the foregoing:

Name	Address	Relationship
NONE		

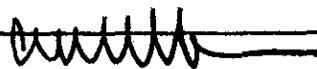
2. That no member of the Fairfax County Board of Supervisors or Planning Commission owns or has any interest in the land to be rezoned or has any interest in the outcome of the decision.
EXCEPT AS FOLLOWS: (If none, so state)

NONE

3. That within the five (5) years prior to the filing of this application, no member of the Fairfax County Board of Supervisors or Planning Commission or any member of his immediate household and family, either directly or by way of partnership in which any of them is a partner, employee, agent, or attorney, or through a partner of any of them, or through a corporation in which any of them is an officer, director, employee, agent, or attorney, or holds outstanding bonds or shares of stock with a value in excess of fifty dollars (\$50), has or has had any business or financial relationship, other than any ordinary depositor or customer relationship with or by a retail establishment, public utility, or bank, including any gift or donation having a value of fifty dollars (\$50) or more with any of those listed in Par. 1 above.
EXCEPT AS FOLLOWS: (If none, so state)

NONE

WITNESS the following signature:



The above affidavit was subscribed and confirmed by oath or affirmation before me this 4 day of DEC 19 80 in the State of Virginia
My commission expires 22 November 1983 Doris M. Matthews Notary Public

RZ-80-K-03C

Appendix 2

Included PC Hearing
12/4/80
amendment accepted 8/14/80
/dm

4719 TROTting LANE
ANNANDALE VA 22003
AUG. 14, 1980

ZONING ADMINISTRATOR
COUNTY OF FAIRFAX
ATTN: MR HARVEY MITCHELL
FAIRFAX, VIRGINIA

DEAR MR. MITCHELL:

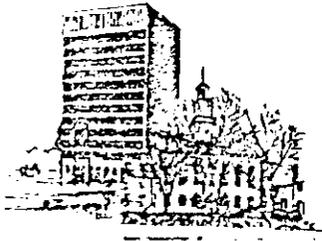
ON MARCH 21, 1980 I submitted
a rezoning application (copy att-
ached) requesting rezoning from
R-1 to C-2.

I would like to amend my
application to request R-3 zoning
which would be in compliance
with the county comprehensive
plan.

I request I be granted a
refund as I am requesting an
amendment to my application. The
fee for C-2 was \$732.50. The
fee for R-3 is \$120.00 + the
amendment fee of \$100.00,

$\$732.50 - 220.00 = \512.50

Thank you,
Gerald Walden



COMMONWEALTH OF VIRGINIA
COUNTY OF FAIRFAX

4100 CHAIN BRIDGE ROAD
FAIRFAX, VIRGINIA 22030



September 8, 1980

Mr. Gerald Waldman,
4719 Trotting Lane
Annandale, Virginia 22003

Re: Rezoning Application RZ 80-P-030

Dear Mr. Waldman,

Your letter of August 27, 1979 requesting waiver of the development plan submission in connection with the above-referenced rezoning application has been approved.

Please be advised, however that the granting of this waiver does not imply a staff recommendation for ultimate approval of the zoning requested. Staff recommendation will rely upon a review and analysis of your basic request and consideration of any proffers to development conditions which you may submit in conjunction with the requested rezoning.

Sincerely,

Philip G. Yates

Philip G. Yates
Zoning Administrator

PGY/KAA/djc

48-3-001-12
1.62 Ac.-C-2

Date 8/20/80

TO: Staff Coordinator (Tel: 691-3387)
Plan Implementation Branch, OCP
5th Floor, Massey Building

FROM: Robert W. Morris (Tel: 691-2191)
Systems Analysis Section, Office of Waste Management,
Department of Public Works

SUBJECT: Sanitary Sewer Analysis, Rezoning Application 80-P-030

The following information is submitted in response to your request for a sanitary sewer analysis for subject rezoning application:

- The application property is located in the Accotink Crk. (M) Watershed. It would be sewered into the Lower Potomac Treatment Plant.
- Based upon current flow and committed flow, there is excess capacity in the Lower Potomac Treatment Plant at this time. For purposes of this report, committed flow shall be deemed that for which fees have been previously paid, building permits have been issued, or priority reservations have been established by the Board of Supervisors. No commitment can be made, however, as to the availability of treatment capacity for the development of the subject property. Availability of treatment capacity will depend upon the current rate of construction and the timing for the development of this site.
- An 8-inch line located in Five Oaks Road and approx. 25 feet from the property is ~~is~~ adequate for the proposed use.
- The following table indicates the condition of all related sewer facilities and the total effect of this application.

<u>Sewer Network</u>	<u>Existing Use + Application</u>		<u>Existing Use + Application + Previous Rezoning</u>		<u>Existing Use + Application + Comp. Plan</u>	
	<u>Adeq.</u>	<u>Inadeq.</u>	<u>Adeq.</u>	<u>Inadeq.</u>	<u>Adeq.</u>	<u>Inadeq.</u>
Collector	<u>x</u>	<u>_____</u>	<u>x</u>	<u>_____</u>	<u>x</u>	<u>_____</u>
Submain	<u>x</u>	<u>_____</u>	<u>x</u>	<u>_____</u>	<u>x</u>	<u>_____</u>
Main/Trunk	<u>x</u>	<u>_____</u>	<u>x</u>	<u>_____</u>	<u>_____</u>	<u>x</u>
Interceptor	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
Outfall	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>

5. Other pertinent information or comments: _____

Date August 28, 1980

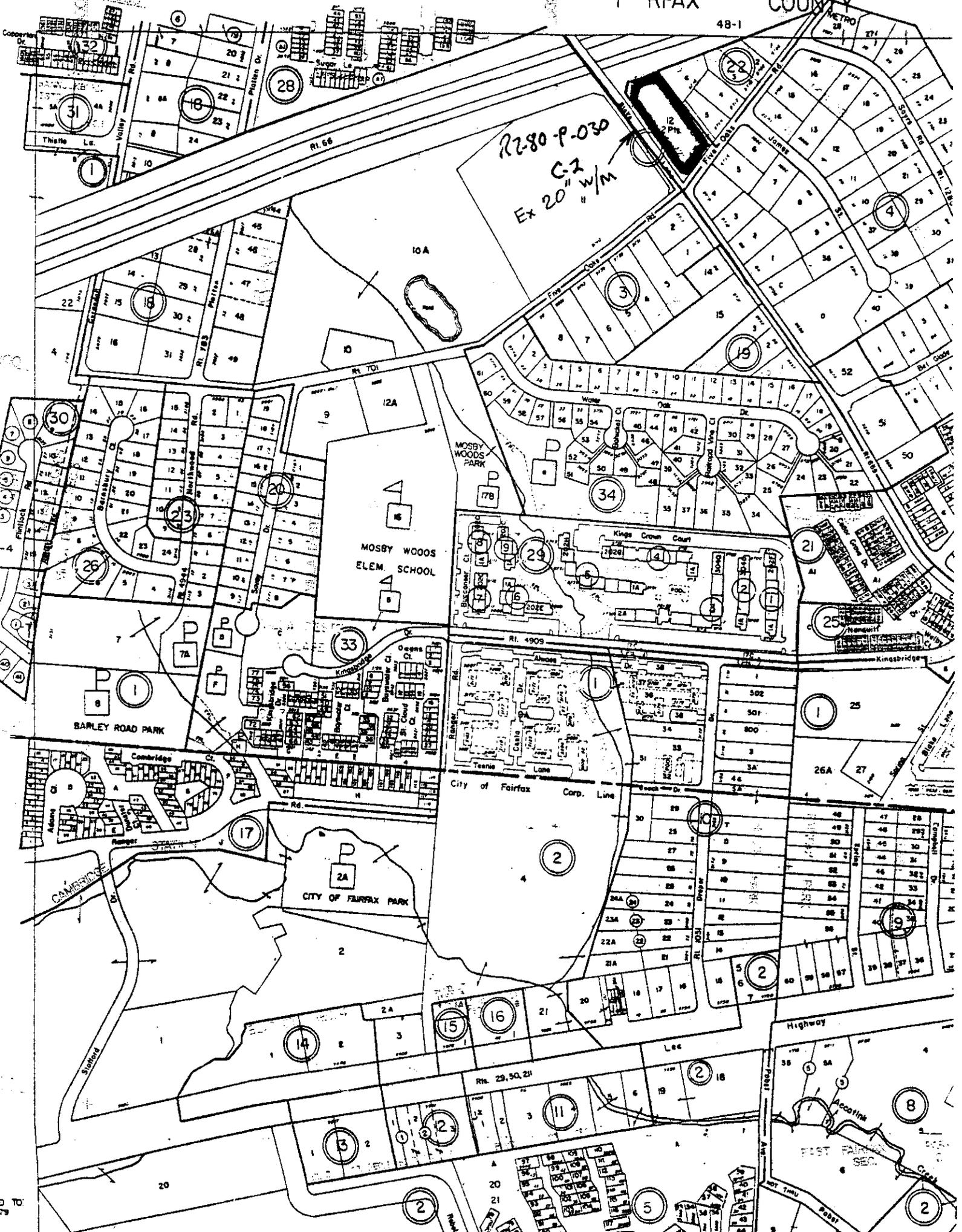
TO: Staff Coordinator (Tel: 691-3387)
 Zoning Evaluation Branch
 5th Floor, Massey Building

FROM: Chief, Planning and Engineering (Tel: 698-5600)
 Engineering and Construction Division
 Fairfax County Water Authority

SUBJECT: Water Service Analysis, Rezoning Application KL-80-P-030

The following information is submitted in response to your request for a water service analysis for subject rezoning application:

1. The application property is located within the franchise area of the Fairfax County Water Authority.
2. Adequate water service is available at the site.
 Yes No
3. Offsite water main extension is required to provide
 Domestic Service Fire Protection Service Not Applicable
4. The nearest adequate water main available to provide
 Domestic Service Fire Protection Service
 is a 20 inch main located at ~~XXXXXXXXXX~~
 the property. See enclosed property map.
5. Other pertinent information or comments: _____



R2-80-P-030
 G-2
 Ex 20" W/M

MOSBY WOODS
 ELEM. SCHOOL

MOSBY WOODS
 PARK

BARLEY ROAD PARK

CITY OF FAIRFAX PARK

City of Fairfax Corp. Line

Rts. 29, 50, 211

Highway

POST FAIRFAX SEC.

Date September 22, 1980

TO: Staff Coordinator (Tel: 691-3387)
Zoning Evaluation Branch, OCP
5th Floor, Massey Building

FROM: Stephen L. Smith, Captain (Tel: 691-3421)
Research and Planning Office
Fire and Rescue Services

SUBJECT: Fire and Rescue Services Preliminary Analysis, Rezoning
Application RZ-80-P-030 C-2

The following information is submitted in response to your request for a preliminary Fire and Rescue Services analysis for the subject rezoning application:

1. The Fire and Rescue Services' protection guidelines for this type of development is that the development should be no farther than 2 miles from a properly manned fire station. The Insurance Services Office mileage guideline for maximum insurance benefits for this property is 1.5 miles.

2. The application property is 2 miles from the Merrifield Fire Department, Company Number 30.

3. This fire department is equipped with the following apparatus:
1 piece Engine Company, Truck

4. This fire department is authorized 31 personnel. As of 1-80, the department was ~~at strength~~ short/over 6 personnel in providing proper staffing of its apparatus, or 2 paid firefighters short/over per shift.

5. After construction programmed for FY , this property will be serviced by the Fire Department which will be miles away. This distance is/is not adequate under the minimum mileage response criteria.

6. In summary, the Fire and Rescue Services considers that fire protection:

- XXX a. is adequate now
- b. would be adequate with satisfactory personnel allocation
- c. will be adequate when the proposed fire station becomes fully operational
- d. is not adequate and will not become adequate without an additional facility which is not currently planned or funded

KAREN ARNOLD

TO: Staff Coordinator (Tel: 691-3387)
 Zoning Evaluation Branch (OCP)
 5th Floor, Massey Building

FROM: B. Ralph Bell (Tel: 256-4481)
 Facilities Planning Services Office
 Facilities Services Department
 Fairfax County Public Schools

SUBJECT: Schools Analysis, Rezoning Application RZ 80-P-030

The following information is submitted in response to your request for a school analysis for the referenced rezoning application:

1. School Administrative Area: II; 1979-80 Student Ratio used for estimating potential students.
2. A comparison of estimated student generation between the proposed development plan and that possible under existing zoning are as follows:

School Level	Dwelling Type	Estimated Students Under Proposed Zoning		Dwelling Type	Estimated Students Under Existing Zoning		Increase Decrease
		Units	Ratio		Units	Ratio	
Elem.	SF	3	x .265 = 1	SF*	0	x .265 = 0	+1
			x _____ = _____			x _____ = _____	
			x _____ = _____			x _____ = _____	
<hr/>							
Total							
Inter.	SF	3	x .099 = 0	SF*	0	x .099 = 0	0
			x _____ = _____			x _____ = _____	
			x _____ = _____			x _____ = _____	
<hr/>							
Total							
High	SF	3	x .268 = 1	SF*	0	x .268 = 0	+1
			x _____ = _____			x _____ = _____	
			x _____ = _____			x _____ = _____	
<hr/>							
Total							

3. Schools which serve this property, their current membership and capacity, and their projections for next year:

Schools	9-30-80 Membership	1980-81 Capacity	1981-82 Projected Membership	1981-82 Projected Capacity
Elem: Oakton	733	656	703	656
Inter: Jackson	962	1000	1036	1000
High: Oakton	2585	2200	2541	2200

*NOTE: Property contains one existing single family home which is proposed to remain.

4. Discussion

SCHOOL ADMINISTRATIVE AREA II

It is difficult to project the ultimate effect of rezoning applications upon the projected student memberships of the public schools serving a given area. The difficulty is related to the variations in the time that passes between the filing of an application for rezoning and the occupying of the proposed units. The projected number of students to be derived from a type of dwelling unit tends to vary over time and by geographic area. Should the total time from application to approval exceed the time for which the data are valid, the effect would change. In addition, the outcome of other applications affecting the same area could either increase or reduce the impact of an individual application.

The current practice for determining the effect is to multiply the most recent ratio of students per dwelling unit type by the total number of each unit type contained in the rezoning application. The effect of the rezoning application does not consider the existence or status of other applications.

Subdivisions and/or sections of subdivisions are assigned to school attendance areas by the Fairfax County School Board. Temporary assignments can be made by the Area Superintendent. The assignments consider the current and projected capacities and memberships of the schools as well as the projected number of students to be derived from a subdivision. The extent to which students would be assigned to the schools currently serving the geographic location of the site identified in the rezoning application varies with the administrative area.

The 9-30-80 memberships and capacity and the 1981-82 projections for the schools in Area II are as follows:

<u>Grade Level</u>	<u>9-30-80 Membership</u>	<u>1980-81 Capacity</u>	<u>1981-82 Projected Membership</u>	<u>1981-82 Projected Capacity</u>
Elementary (K-6)	13,974	15,428	13,157	15,428
Intermediate (7-8)	4,703	5,600	4,929	5,600
High (9-12)	11,755	12,500	11,291	12,500

Source: Fairfax County Public School Pupil Membership Report for September 30, 1980, and Facilities Services Department for capacity and projections.

5. Other pertinent information or comments:

_____ A school boundary adjustment is being considered at the _____ level.

_____ Use of modular classrooms may be necessary.

X Other: None

**Fairfax County Park Authority****M E M O R A N D U M**

To: Sidney R. Steele, for Staff Coordinators
Chief, Zoning Evaluation Branch-OCP

Date: Nov. 6, 1980

From: Dorothea L. Stefen, Associate Planner *W 32*
Division of Land Acquisition-FCPA

Subject: RZ-80-P-030
Loc: 48-3-((1))-12

The Fairfax County Park Authority staff has reviewed the above referenced rezoning application and it appears that the proposal does not conflict with the plans, policies and/or holdings of the Park Authority.

CC: Oscar Hendrickson-DEM
Ed Spann-OCP

DLS/dgl

FAIRFAX COUNTY, VIRGINIA

MEMORANDUM

TO: Sidney R. Steele, Chief
Zoning Evaluation Branch, OCP DATE December 4, 1980

FROM: Robert L. Moore *RLM*
Office of Transportation

FILE NO: 3-4

SUBJECT: Transportation Impact

REFERENCE: RZ80-P-030 (Waldman), 48-3

IMPACT ANALYSIS AND DESIGN CONSIDERATIONSCompatibility with the Adopted Plan

No development plan has been submitted for this application and it is therefore not possible to make a detailed review of the application. Some major points, however, should be addressed. The Countywide Plan includes transportation recommendations for the improvement of both Blake Lane and Five Oaks Road. These recommendations should be accommodated at least by dedication of right-of-way. The Fairfax County Public Facilities Manual subdivision design criteria requires reverse frontage for all lots along major or minor arterial highways. Blake Lane is a minor arterial and reverse frontage would normally be required. The subject site may not be suitable for reverse frontage design because of its configuration and may qualify for waiver of this requirement. The director of the Department of Environmental Management would make this determination at the time of subdivision plan review. If lots are accessed directly from Blake Lane, the number of such lots should be held to a minimum in order to reduce impacts on through traffic resulting from traffic flow disruption caused by turning vehicles.

The severity of the impact of a site this size would normally be relatively low but because of the potential for a number of individual lot entrances directly onto Blake Lane, the impact would be magnified. These impacts would be directly related to the amount of traffic generated at the site. The potential trip generation of the site is estimated to be about 10 vpd at its existing R-1 zone, 40 vpd with the applied for R-3 zone, and 30 to 40 vpd for development within the Plan-recommended density range of 2 to 3 du/ac. These traffic volumes are based on the single family detached dwelling trip generation rate of 10 vpd/du from the ITE Trip Generation Report.

The traffic generated at this site would have its greatest impact on Blake Lane and Five Oaks Road. The 1979 VDH&T traffic counts for these two roads are:

Five Oaks Road (Rt. 4949)	
just northeast of Blake Lane	251 vpd
just southwest of Blake Lane	1,012 vpd
Blake Lane (Pt. 655)	
west of Sutton Road	10,633 vpd
Sutton Road to Five Oaks Road	12,291 vpd
Five Oaks Road to Kingsbridge Drive	12,314 vpd
Kingsbridge Drive to Lee Highway	13,582 vpd

Five Oaks Road is a two lane road with narrow pavement and inadequate shoulders. This subdivision street does not meet current Fairfax County Public Facilities Manual design standards and should not be subjected to any significant increase in traffic without improvement. The addition of traffic from the proposed dwellings would not be significant.

Blake Lane is also a two lane road with inadequate shoulders. This road has a relatively high traffic volume and therefore turning movements during the peak hours can have a substantial deleterious effect. Vehicles waiting to turn left would block through traffic in that direction until an adequate gap in the opposing flow occurred. The major traffic constriction in this vicinity, however, is the Blake Lane/Lee Highway intersection. This signalized intersection is estimated to be operating at level of service F.

Access to the Surrounding Street System

The Fairfax County Public Facilities Manual recommends that access for subdivision lots not be provided directly from major or minor arterial roads. Although waiver provision is made for extenuating circumstances, it is preferable to provide alternate access. If the Department of Environmental Management determines waiver of the reverse frontage requirement to be appropriate, the number of lots permitted direct access to Blake Lane should be kept to a minimum. Each lot permitted direct access to Blake Lane should have on-site turnaround capability so that vehicles would not need to back out onto Blake Lane.

It would be preferable to access lots 1, 2 and 3 via an ingress-egress easement contiguous to the northern boundary of the site. This easement could be narrower than a corresponding set of pipestems since ordinance frontage requirements would be satisfied by the Blake Lane frontage of each lot. This recommended access would be adjacent to a similar existing access for the adjacent lot 6 of Triangle Acres.

It should be noted that Five Oaks Road, now a local subdivision street, is recommended for improvement to serve as an access road to the Vienna Metro Station. This improvement would not be constructed with the Metro station but would be needed to handle the anticipated

traffic adequately. The improvement of this road should accommodate not only Metro traffic, but also subdivision traffic and on-street parking for the existing dwellings. The current Metro plans indicate that a 36-foot wide curb-to-curb street is proposed for the Metro access road. A 44-foot wide street in a 60-foot wide right-of-way would probably be needed on Five Oaks Road to provide additional space for parked vehicles.

RECOMMENDATION

The Office of Transportation has no objection to the approval of this R-3 application with the stipulation that:

- o On Blake Lane
 1. The development is designed to employ the reverse frontage concept unless this provision of the Public Facilities Manual is waived by the Department of Environmental Management,
 2. Right-of-way is dedicated to 45 feet from centerline,
 3. If reverse frontage is not required, Blake Lane is improved by construction of widening to 12 feet from centerline plus a shoulder to ameliorate the impacts associated with direct access to this minor arterial facility. On-site turnarounds should also be provided for the lots.
- o On Five Oaks Road, right-of-way is dedicated to 30 feet from centerline,

RLM/JCH/tlh

Project Number: 80-P-030

Location: 48-3((1))12

Existing Zoning: R-1

Proposed Zoning and/or Use: R-3

Acreeage: 1.6

Site Features	Presence		Comments
	yes	no	
A. Geology: Coastal Plain, Piedmont, Triassic			
1. shallow bedrock		X	
2. groundwater resource		X	
3. mineral resources		X	
B. Topography:			
1. steep slopes (>15%)		X	Site topography is a plus in this application. I-66 is partially shielded by a steep road cut, just north of this site.
2. irregular landform		X	
C. Hydrology:			
1. water features		X	
2. critical location in watershed		X	
3. water supply watershed		X	
D. Soils:			
1. marine clays		X	The soil type, Glenelg, on this site is good for single family construction. Bearing strength and drainage are good.
2. shrink-swell clays		X	
3. highly erodible soils	X		This soil is composed of fine grained minerals which are highly susceptible to erosion when disturbed, i.e. during construction. Careful compliance with the County's erosion and sediment controls can minimize this problem.
4. high water table soils		X	
5. soils with low bearing strength		X	
6. poor infiltration soils		X	
E. Vegetation, Wildlife & Open Space:			
1. quality vegetation		X	
2. wildlife habitat		X	
3. adopted EQC		X	

Environmental Quality	Problems		Comments
	yes	no	
F. Noise:			
1. airport noise		X	I-66 poses a serious noise impact on this site. The sites topographic position provides a partial noise berm which reduces the noise level so that it can be mitigated through acoustical treatment.
2. highway noise	X		
3. railroad noise		X	
4. other types of noise		X	
G. Water:			
1. point source pollution		X	Development of this parcel will increase this site's contribution of nonpoint pollution. The size of the parcel and type of development make this a minor concern.
2. nonpoint source pollution	X		
H. Air:			
1. mobile source pollution		X	
2. stationary source pollution		X	
I. Aesthetics: For example: internal views, views from site, views of site from adjacent development		X	
J. Other:			

Environmental Site Analysis (cont.)

Highway noise is the only serious environmental constraint on the development of this parcel. Other site conditions such as soil type, drainage and vegetation pose only minor limitations.

The analysis that follows is a discussion of the extent to which highway noise acts as a constraint on the proposed development, and potential mitigation measures. Where mitigation measures are described, the discussion is intended only to demonstrate to the applicant, the County government, and the public that such measures are available. The discussion of mitigation techniques is not intended to limit the applicant to any particular solution to the environmental problems unless the particular solution has been required by ordinance or mandated by previously adopted Board policy. However, staff judgments about the appropriateness of the application are based on the assumption that the developer incorporates corrective measures to mitigate the impact of highway noise.

Highway Noise

An analysis of traffic counts for I-66 indicates that the potential for a serious noise impact exists on this parcel. Fortunately, the elevation of the site relative to the highway, and the road cut which acts as a man-made noise barrier, combine to reduce the noise to a mitigatable level. Without this earthen barrier, noise levels would exceed 75 dBA Leq(h) within 400 feet of I-66. If this had been the case, residential development would have been inappropriate due to the potential impact of high levels of noise on human health and welfare, unless the developer were to erect a large wall.

The topographic noise barrier reduces the noise impact on lot number 1 to about 70 dBA Leq(h) at the center of the lot, 175 feet from the centerline of I-66. However if built, the second story of a two-story house on this lot would benefit very little from the barrier. The upper story of a two-story house on lot number 2 would be exposed to about as much noise as a one-story house on lot 1.

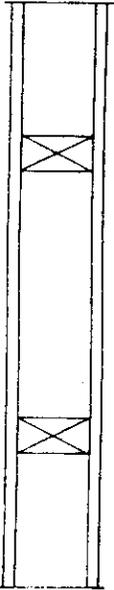
For health and comfort, maximum recommended residential noise levels are 55 dBA Leq(h) for interiors and 65 dBA Leq(h) for exteriors. In order to achieve a maximum interior noise level of 55 dBA Leq(h) with open windows and a maximum exterior noise level of 65 dBA Leq(h), the following acoustical treatment standards can be applied:

1. Exterior walls exposed to the traffic source (usually 3 of 4) should have a sound transmission class (STC) of not less than 50. Figures 1 and 2 show STC for several wall types. STC's for these materials is partially additive. For instance, a 4-inch brick wall (STC=40) used in conjunction with a common stud wall (STC=35) would achieve an STC of 50+.
2. Doors exposed to traffic noise shall have an STC of not less than 37.
3. The proportion of windows to interior wall area shall be not more than 15% for walls exposed to the highway noise source.
4. Rear yards should be enclosed by a 6 foot solid privacy fence.

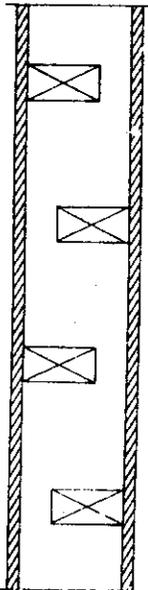
Conclusion

A house on lot number 1 on the applicant's plat can meet the interior and exterior noise standards if the house is limited to one-story, a privacy fence encloses the rear yard and the house has the acoustical construction described above. A house on lot number 2 may be two-stories and must meet the same acoustical treatment

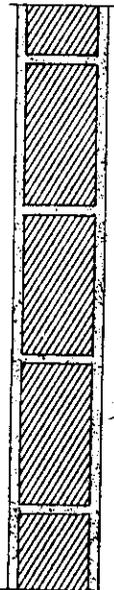
Common Stud Wall
 STC = 35
 cost = .87/ft²



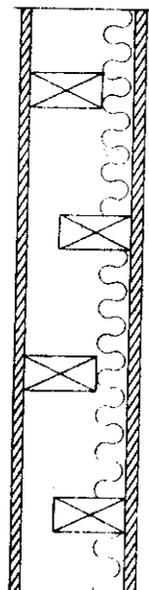
Staggered Stud Wall
 STC = 39
 cost = 1.12/ft²



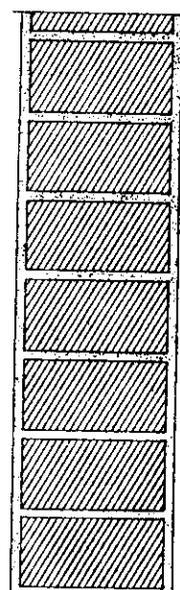
4" Brick Wall
 STC = 40
 cost = 2.00/ft²



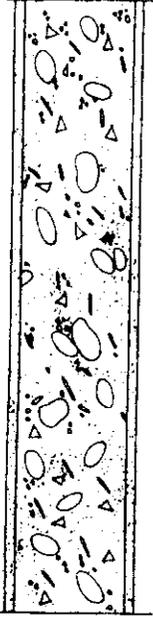
Staggered Stud Wall with Absorbent Blanket
 STC = 43
 cost = 1.25/ft²



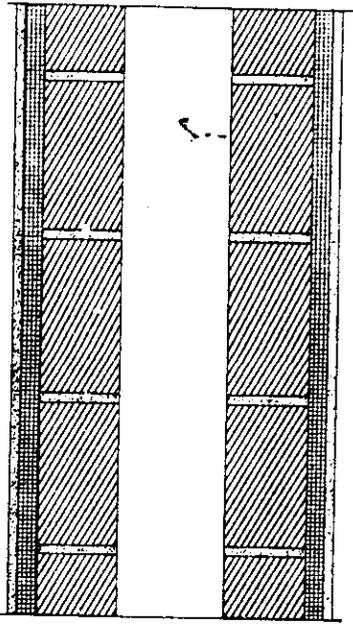
9" Brick Wall
 STC = 52
 cost = 2.52/ft²



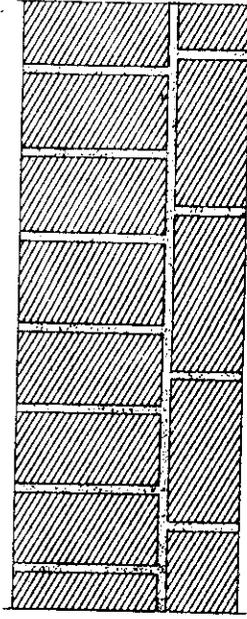
7" Concrete Wall
 STC = 52
 cost = 1.97/ft²



Double Brick Wall
 STC = 53
 cost = 2.80/ft²



12" Brick Wall
 STC = 54
 cost = 4.25/ft²



7 Los Angeles Department of Airports, *Guide to the Soundproofing of Existing Homes Against Exterior Noise*, Report No. WCR 70-2, March 1970, pp. 9-11, 22-30. In this report, the function and performance of a number of operable seals are described.

SOUND RATING 56

3-1/2" mineral wool batts

7/8" stucco

1/2 inch sound board

2 x 6 top and bottom plates

2 x 4 staggered studs

1/2" sound board

1/2" Gypsum board

SOUND RATING 50

3-1/2" batts

2 x 6 top and bottom plates

7/8" stucco

1/2" sound board

5/8" Gypsum board

2 x 4 staggered studs

SOUND RATING 50

7/8" stucco

3-1/2" mineral wool batts

1/2" Gypsum board

A-4 Construction plans for exterior walls

Development Criteria for Residential Density Ranges

Residential density ranges recommended in the plan and shown on the planning area maps are defined in terms of units per acre. Where the plan map and text differ, the text governs.

Only the lower end of the density range is planned as a presumptive appropriate density contingent upon satisfactory conformance with applicable ordinances, policies, regulations and standards and assurance of the protection of the health, safety, and general welfare of the public.

Approval of densities above the low end of the density range is contingent on the proffer at the time of rezoning of development conditions that will produce residential development that exceeds minimum development standards.

The responsibility for demonstrating that a proposed development merits approval at a density above the low end of the comprehensive plan density range rests with the applicant. Justification can be demonstrated by proffer of: (1) a development plan which graphically portrays in sufficient detail a quality of development which exceeds minimum development standards through fulfillment of the development criteria below, or (2) finite development conditions which fulfill those criteria, or (3) a combination of (1) and (2).

In all cases, evaluation of the fulfillment of development criteria will weigh the number of criteria credited through proffered conditions against the number of criteria which are feasible for the specific rezoning application being considered. As a general guide, at least two-thirds of applicable criteria should be satisfied for approval of density at the high end of a one-unit density range. As a general guide for multi-unit density ranges, approximately one-half of the criteria should be satisfied for approval of mid-range densities and three-fourths satisfied for approval of high end of the density range.

Criteria need not be equally weighted. In exceptional instances, a single criterion may be overriding in evaluating the merits of a development proposal.

For a more detailed discussion, see the Comprehensive Plan text, page 420.

Development criteria include, but need not be limited to, the following:

1. Proffer of a development plan incorporating design layout and features determined through staff analysis to merit recognition for good design and amenities for the property in the application.
2. Provision of supporting public facilities beyond minimal ordinance, regulations and standards to alleviate the impact of the proposed development on the community.
3. Accessibility to existing public facilities, and/or phasing of development completion to coincide with the programmed provision of public facilities shown in the current Capital Improvement Program (CIP) to reduce interim adverse impacts of the proposed development on the community.
4. Provision of public road improvements and/or commitment to a reduction in traffic volume in order to reduce development traffic impact.
5. Provision of developed recreational areas which meet adopted standards, other amenities, or common or publicly owned open space for passive recreation to create a more attractive environment within the new residential area. At least ten percent of such recreation and/or open space area should be provided outside of any floodplain area as defined in the zoning Ordinance.

6. Compatibility in architecture and site design with existing and other planned development within the community to reduce the impact of new development.

7. Design sensitivity and exceptional conservation measures to preserve and/or protect environmental resources associated with the application site.

8. Innovative design to incorporate energy-conserving features or design features of particular value to future residents of the development.

9. Incorporation of noise attenuation measures which will significantly reduce aircraft, railroad, or highway noise impact that otherwise would be determined an obtrusive nuisance to persons living or working on the application property.

10. In recognition of the County's need for moderately-priced housing, the provision of moderately-priced housing, to make available housing over a broad cost range to serve better the needs of the entire population, all housing developments except single-family detached in excess of 150 units should be approved for the upper end of the density range only if they have provided a proportion, usually 15% of the units, for low- and moderate-income families or the applicant should prove to the satisfaction of the Board the provision of low- and moderate-income housing is technically or economically infeasible.

11. On tracts containing soils locally described as marine clay, approval above the low end of the density range should be considered only when: (1) proposed construction avoids the marine clay; (2) the development proposal requests apartment development on the marine clay and the Comprehensive Plan permits such development either explicitly or by recommending a density of at least 8-12 dwelling units per acre; or (3) a planned development district application, which is compatible with the comprehensive plan, proposes apartment development on marine clay portions of the site.

12. Where appropriate, land assembly and/or development plan integration which facilitate achievement of plan objectives.

13. Where appropriate, preservation and/or restoration of buildings, structures or other features of architectural, historic or environmental significance to preserve our heritage.

ZONING DISTRICTS GENERALLY ASSOCIATED WITH COMPREHENSIVE PLAN RESIDENTIAL DENSITIES

.1-.2	R-P	R-A or R-C
.2-.5	R-A or R-C	R-E
.5-1	R-E	R-1
1-2	R-1	R-2
2-3	R-2	R-3
3-4	R-3	R-4
4-5	R-4	R-5
5-8	R-5	R-8
8-12	R-8	R-12
12-16	R-12	R-16
16-20	R-16	R-20

Development Criteria for Commercial and Industrial Evaluations

While the comprehensive plan has no equivalent to the residential density range in areas planned for commercial or industrial uses, each such rezoning application will be evaluated using pertinent development criteria as a basis for such evaluation. The pertinent development criteria will be those set forth in the list of residential development criteria numbered as 1, 2, 3, 4, 6, 7, 8, 9, 11, 12 and 13."

* NOT APPLICABLE
 IN THIS INSTANCE, NOISE ATTENUATION MEASURES ARE NEEDED EVEN FOR DEVELOPMENT AT THE LOW END OF THE PLAN DENSITY RANGE. ITEM 9 IS NOT APPLICABLE AS A MEANS OF ACHIEVING HIGHER DENSITY DEVELOPMENT.

4719 Trotting Lane
Annandale, Va. 22003
October 31, 1980

Zoning Evaluation Branch
Office of Comprehensive Planning
Attn: Ms. Karen Arnold
County of Fairfax
Fairfax, Va. 22030

Re: Development Criteria in Rezoning Application
RZ 80-P-030

Dear Ms. Arnold:

Of the 13 development criteria items, numbers 1, 5, 10, 11, 12, and 13 are not applicable. The remaining 7 are addressed below:

Number 2- The applicant will dedicate Five Oaks Road to 25 feet from centerline to permit the improvement of Five Oaks Road, as already planned by the county, for access to the Vienna Metro Stop.

Number 3- All public facilities are available to the site. It is expected that construction on the subdivided lots will coincide with Metro Construction of the Vienna Metro Stop, which is within walking distance to the site.

Number 4- Develop as low density, single family, residential, as compared to the high density in the area, which will mean a comparative minimal impact in traffic volume in the area.

Number 6- Homes and lots will be compatible with exist-
ind development and compare very favorably with the planned development just accross Blake Lane (RZ 76-P-078) which includes R-5 Zoning and lots that average 7,200 square feet.

Number 7- The layout of the lots will permit the preservation of the many beautiful trees and plantings on the property.

Number 8- Extra insulation and storm windows will be utilized in construction.

Number 9- Construct a solid wood fence along the common property line with Route 66 and lot 1 and build only a 1 story house on lot 1.

This rezoning will permit a subdivision of this property into 4 lots, averaging in excess of 18,000 square feet, within walking distance to the planned Vienna Metro stop. The average lot size exceeds the average lot required in the R-2 Zone although this area is planned for R-2/R-3.

I believe my proposed use of the property is reasonable, will be an asset to the community, and meets all of the applicable development criteria.

Sincerely,

Gerald Waldman

GLOSSARY

This Glossary is presented to assist citizens in a better understanding of Staff Reports; it should not be construed as representing legal definitions.

BUFFER - A strip of land established as a transition between distinct land uses. May contain natural or planted shrubs, walls or fencing, singly or in combination.

CLUSTER - The "alternate density" provisions of the Zoning Ordinance, which permits smaller lots and pipestem lots, if specified open space is provided. Primary purpose is to preserve environmental features such as stream valleys, steep slopes, prime woodlands, etc.

COVENANT - A private legal restriction on the use of land, recorded in the land records of the County.

DEVELOPMENT PLAN - Conceptual, Final, Generalized. A Development Plan consists of graphic, textual or pictorial information, usually in combination, which shows the nature of development proposed for a parcel of land. The Zoning Ordinance contains specific instructions on the content of development plans, based upon the purpose which they are to serve. In general, development plans contain such information as: topography, location of streets and trails, means by which utilities and storm drainage are to be provided, general location and types of structures, open space, recreation facilities, etc. A Conceptual Development Plan is required to be submitted with an application for the PDH or PDC District; a Final Development Plan is a more detailed plan which is required to be submitted to the Planning Commission after approval of a PDH or PDC District and the related Conceptual Development Plan; a Generalized Development Plan is required to be submitted with all residential, commercial and industrial applications other than PDH or PDC.

DEDICATE - Transfer of property from private to public ownership.

DENSITY - Number of dwelling units divided by the gross acreage being developed (DU/AC). Density Bonus is an increase in the density otherwise allowed, and granted under specific provisions of the Zoning Ordinance when developer provides excess open space, recreation facilities, moderately priced housing, etc.

DESIGN REVIEW - The Division of the Department of Environmental Management which reviews all subdivision plats and site plans for conformance with County policies and requirements contained in the Zoning Ordinance, the Subdivision Control Ordinance, the Public Facilities Manual, the Building Code, etc, and for conformance with any proffered plans and/or conditions.

EASEMENT - A right given by the owner of land to another party for specific limited use of that land. For example, an owner may give or sell easements to allow passage of public utilities, access to another property, etc.

OPEN SPACE - The total area of land and/or water not improved with a building, structure, street, road or parking area, or containing only such improvements as are complementary, necessary or appropriate to use and enjoyment of the open area.

Common - All open space designed and set aside for use by all or designated portions of residents of a development, and not dedicated as public lands (dedicated to a homeowners association which then owns and maintains the property).

Dedicated - Open space which is conveyed to a public body for public use.

Developed Recreation - That portion of open space, whether common or dedicated, which is improved for recreation purposes.

PROFFER - A Development plan and/or written condition, which, when offered by an owner and accepted by the Board of Supervisors, becomes a legally binding part of the regulations of the zoning district pertaining to the property in question. Proffers, or proffered conditions, must be considered by the Planning Commission and submitted by an owner in writing prior to the Board of Supervisors public hearing on a rezoning application, and thereafter may be modified only by an application and hearing process similar to that required of a rezoning application.

PUBLIC FACILITIES MANUAL - The manual, adopted by the Board of Supervisors, which defines guidelines which govern the design of those facilities which must be constructed to serve new development. The guidelines include streets, drainage, sanitary sewers, erosion and sediment control and tree preservation and planting.

SERVICE LEVEL - An estimate of the effectiveness with which a roadway carries traffic, usually determined under peak anticipated load conditions.

SETBACK, REQUIRED - The distance from a lot line or other reference point, within which no structure may be located.

SITE PLAN - A detailed plan, to scale, depicting development of a parcel of land and containing all information required by the Zoning Ordinance. Site plans are required, in general, for all townhouse and multi-family residential development and for all commercial and industrial development.

SUBDIVISION ORDINANCE - An ordinance regulating the division of land into smaller parcels and which, together with the Zoning Ordinance, defines required conditions laid down by the Board of Supervisors for the design, dedication and improvement of land.

SUBDIVISION PLAT - A detailed drawing, to scale, depicting division of a parcel of land into two or more lots and containing engineering considerations and other information required by the Subdivision Ordinance.

USE - The specific purpose for which a parcel of land or a building, is designed, arranged, intended, occupied or maintained.

Permitted - Uses specifically permitted by the Zoning Ordinance Regulations of the Zoning District within which the parcel is located. Also described as a Conforming Use.

Non-Conforming - A use which is not permitted in the Zoning District in which the use is located but is allowed to continue due to its existence prior to the effective date of the Zoning Regulation(s) now governing.

USE - Continued.

Special Permit - A use specified in the Zoning Ordinance which may be authorized by the Board of Zoning Appeals or the Board of Supervisors in specified zoning districts, upon a finding that the use will not be detrimental to the character and development of the adjacent land and will be in harmony with the policies contained in the latest adopted comprehensive plan for the area in which the proposed use is to be located. A Special Permit is called a Special Exception when granted by the Board of Supervisors.

Transitional - A use which provides a moderation of intensity of use between uses of higher and lower intensity.

VARIANCE - A permit which grants a property owner relief from certain provisions of the Zoning Ordinance when, because of the particular physical surroundings, shape or topographical condition of the property, compliance would result in a particular hardship or practical difficulty which would deprive the owner of the reasonable use of the land or building involved. Variances may be granted by the Board of Zoning Appeals after notification, advertising, posting and conduct of a public hearing on the matter in question.

VPD - Vehicle trips per day (for example, the round trip to and from work equals two VPD). Also ADT - Average Daily Traffic.

ENVIRONMENTAL TERMS

ACOUSTICAL BERM - Usually a triangular-shaped earthen structure paralleling a highway noise source and extending up from the elevation of the roadway a distance sufficient to break the line of sight with vehicles on the roadway.

AQUIFER - A permeable underground geologic formation through which groundwater flows.

AQUIFER RECHARGE AREA - A place where surface runoff enters an aquifer.

CHANNEL ENLARGEMENT - A development-related phenomenon whereby the stream's bank full capacity is exceeded with a greater frequency than under natural undeveloped conditions, resulting in bank and stream bottom erosion. Hydrology literature suggests that flows produced by a storm event which occurs once in 1.5 years are the channel defining flows for that stream.

COASTAL PLAIN GEOGRAPHIC PROVINCE - In Fairfax County, it is the relatively flat southeastern 1/4 of the County, distinguished by low relief and a preponderance of sedimentary rocks and materials (sands, gravels, silts) and a tendency towards poorly drained soils.

dB(A) - Abbreviation for a decibel or measure of the noise level perceived by the ear in the A scale or range of best human response to a noise source.

DRAINAGE DIVIDE - The highest ground between two different watersheds or subheds.

ENVIRONMENTAL LAND SUITABILITY - A reference to a land use intensity or density which should occur on a site or area because of its environmental characteristics.

ERODIBLE SOILS - Soils susceptible to diminishing by exposure to elements such as wind or water.

FLOODPLAIN - Land area, adjacent to a stream or other surface waters, which may be submerged by flooding; usually the comparatively flat plain within which a stream or riverbed meanders.

IMPERVIOUS SURFACE - A natural or man-made surface (road, parking lot, roof top, patio) which forces rainfall to runoff rather than infiltrate.

MONTMORILLONITIC CLAY - A fine grained earth material whose properties cause the clay to swell when wet and shrink when dry. In addition, in Fairfax County these clays tend to slip or slump when they are excavated from slope situations.

NEF - Noise Exposure Forecast - A noise description for airport noise sources.

PERCENT SLOPE - The inclination of a landform surface from absolute horizontal: formula is vertical rise (feet) over horizontal distance (feet) or V/H.

PIEDMONT GEOGRAPHIC PROVINCE - The central portion of the County, characterized by gently rolling topography, substantial stream dissection, V-shaped stream valley, an underlying metamorphic rock matrix (schist, gneiss, greenstone) and generally good bearing soils.

PIES/ENVIRONMENT - Project Impact Evaluation - A systematic, comprehensive environmental review process used to identify and evaluate likely environmental impacts associated with individual project or area plan proposals.

SHRINK-SWELL RATE - The susceptibility for a soil's volume to change due to loss or gain in moisture content. High shrink-swell soils can buckle roads and crack foundations.

SOIL BEARING CAPACITY - The ability of the soil to support a vertical load (tons) from foundations, roads, etc.

STREAM VALLEY - Any stream and the land extending from either side of it to a line established by the high point of the concave/convex topography, as delineated on a map adopted by the Stream Valley Board. For purposes of stream valley acquisition, the five-criteria definition of stream valleys contained in "A Re-study of the Potomac Watershed" (1969) will apply. The two primary criteria include all the land within the 100-year floodplain and the area along the floodplain in slopes of 15 percent or more.

STORM WATER MANAGEMENT - An emerging art/science that attempts to treat storm water runoff at the source and as a resource. Storm water management programs seek to mitigate or abate quantity and quality impacts typically associated with development by the specific design of on-site systems such as Retention Devices which slow down runoff and in some cases improve quality, and Retention Systems, which hold back runoff.

TRIASSIC GEOGRAPHIC PROVINCE - The western 1/4 of Fairfax County, characterized by broad expanses of nearly level topography, subtle ridge lines, a shallow depth to sedimentary rocks which are locally intruded by igneous rocks and a tendency towards soils with high shrink-swell properties.