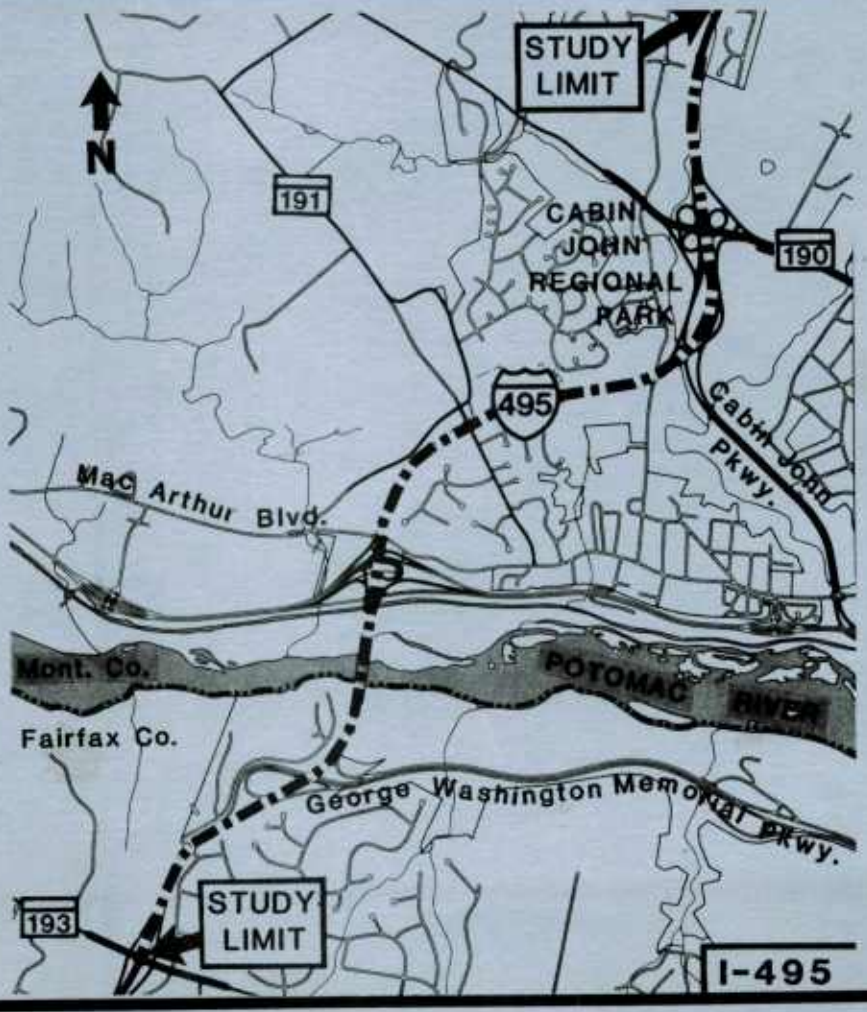
ENVIRONMENTAL ASSESSMENT

FOR

Contract No. M 355-101-372 N

Interstate 495 (Capital Beltway)
From North of Maryland Route 190 (River Rd.)
to Virginia Route 193 (Georgetown Pike)

Montgomery County, Maryland
Fairfax County, Virginia



pared by
. DEPARTMENT OF TRANSPORTATION
DERAL HIGHWAY ADMINISTRATION

and
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

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Report Number: FHWA-MD-EA-84-07-D

Federal Highway Administration
Region III

Interstate Route - 495
from North of Maryland Route 190 to
Virginia Route 193

ADMINISTRATIVE ACTION

ENVIRONMENTAL ASSESSMENT

U.S. Department of Transportation
Federal Highway Administration
and
State of Maryland
Department of Transportation
State Highway Administration

SUBMITTED PURSUANT TO: 42 U.S.C. 4332 (2) (C) and 23 U.S.C.
CEQ REGULATIONS (40 CFR 1500 et seq)

Hal Kassoff
Administrator

12/19/84
DATE

Neil J. Pedersen
Neil J. Pedersen, Director
Office of Planning and
Preliminary Engineering

12/20/84
DATE

for Fred J. Hempel
Federal Highway Administration
Division Federal Highway
Administrator

SUMMARY

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Summary

1. Administrative Action

( ) Environmental Impact Statement

(X) Environmental Assessment

( ) Finding of No Significant Impact

( ) Section 4(f) Involvement

2. Additional Information

Additional information concerning this project may be obtained by contacting:

Mr. Edward Terry,
District Engineer
Federal Highway Administration
The Rotunda-Suite 220
711 West 40th Street
Baltimore, Maryland 21211
PHONE: (301) 962-4010
HOURS: 7:45 a.m. to 4:15 p.m.

Mr. Louis H. Ege, Jr., Acting Chief
Bureau of Project Planning
State Highway Administration
Room 310
707 North Calvert Street
Baltimore, Maryland 21202
PHONE: (301) 659-1130
HOURS: 8:15 a.m. to 4:15 p.m.

3. Description of Action

The project proposes to widen Interstate Route 495 (the Capital Beltway) from north of Maryland Route 190 (River Road) to Virginia Route 193 (Georgetown Pike) in Virginia. The purpose of the project is to relieve traffic congestion currently experienced during peak hours.

4. Alternates Description

The State Highway Administration has considered three preliminary alternates. These alternates were presented at an Alternates Public Meeting on October 4, 1984 in Bethesda. As a result of public and agency comment and evaluation of environmental and engineering studies, Alternate 3 (an outside widening alternate) was dropped from further consideration after the Alternates Public Meeting. Alternate 2 (an inside widening alternate) has been selected as the preferred alternate.

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This alternate proposes to add one lane in each direction to the existing six lane roadway. The additional two lanes would be constructed in the median and would be separated by a continuous concrete barrier. In interchange areas acceleration and deceleration lanes would be lengthened to conform to current American Association of State Highway and Transportation Officials (AASHTO) standards. The No-Build Alternate is being considered.

5. Summary of Impacts

Because Alternate 2 would be constructed entirely within State Highway Administration (SHA) right-of-way, there would be minimal impacts on the existing environment. No relocations or displacements would be necessary. There would be no impacts to public recreational land or to any historic or archeological sites.

The existing roadway crosses and parallels Thomas Branch and its floodplain. Strict enforcement of erosion and sediment control procedures and stormwater management would minimize impacts to the stream. The project area does not support any threatened or endangered animal or plant species. There would be no impacts to wetlands.

Neither the No-Build Alternate nor the Build Alternate would result in violations of the 1-hour or 8-hour State and National Ambient Air Quality Standards for carbon monoxide (CO).

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Federal Noise Abatement Criteria would be exceeded at 15 Noise Sensitive Area receptor sites with the No-Build Alternate, and at 19 NSA receptor sites with Alternate 2.

COMPARISON OF ALTERNATES

	No-Build (Alt. 1)	Inside Widening (Alternate 2)
Social, Economic and Land Use Impacts		
1. Residential Displacements	0	0
2. Commercial Displacements	0	0
3. Other properties impacted	0	0
4. Historic and Archeological Sites impacted		
5. Public recreational lands impacted	0	0
6. Consistent with land use plans	No	Yes
Natural Environment Impacts		
1. Loss of natural habitat	0 acres	0 acres
2. Effect on Wildlife Populations	none	none
3. Stream crossings	0	1
4. Floodplains affected	0	0
5. Agricultural land affected	0	0
6. Air Quality impacts (sites exceeding S/NAAQS)	0	0
7. Noise Level impacts (NSA receptor sites exceeding Federal Noise Abatement Criteria	15	19
Costs		
1. Engineering and Construction	0	$13,200,000
2. Right-of-way	0	0

The following Environmental Assessment Form is a requirement of the Maryland Environmental Policy Act and Maryland Department of Transportation Order 11.01.06.02. It's use is in keeping with the provisions of 1500.4 (k) and 1506.2 and .6 of the Council of Environmental Quality Regulations, effective July 31, 1979, which recommend that duplication of Federal, State, and Local procedures be integrated into a single process.

The checklist identifies specific areas of the natural and social-economic environment which have been considered while preparing this environmental assessment. The reviewer can refer to the appropriate sections of the document, as indicated in the "Comment" column of the form, for a description of specific characteristics of the natural or social-economic environment within the proposed project area. It will also highlight any potential impacts, beneficial or adverse, that the action may incur. The "No" column indicates that during the scoping and early coordination processes, that specific area of the environment was not identified to be within the project area or would not be impacted by the proposed action.

ENVIRONMENTAL ASSESSMENT FORM

	YES	NO	COMMENTS
A. Land Use Considerations			
1. Will the action be within the 100 year flood plain?	___	X	_____
2. Will the action require a permit for construction or alteration within the 50 year flood plain?	___	X	_____
3. Will the action require a permit for dredging, filling, draining or alteration of a wetland?	___	X	_____
4. Will the action require a permit for the construction or operation of facilities for solid waste disposal including dredge and excavation spoil?	___	X	_____
5. Will the action occur on slopes exceeding 15%?	___	X	_____
6. Will the action require a grading plan or a sediment control permit?	X	___	_____
7. Will the action require a mining permit for deep or surface mining?	___	X	_____
8. Will the action require a permit for drilling a gas or oil well?	___	X	_____
9. Will the action require a permit for airport construction?	___	X	_____
10. Will the action require a permit for the crossing of the Potomac River by conduits, cables or other like devices?	___	X	_____
11. Will the action affect the use of a public recreation area, park, forest, wildlife management area, scenic river or wildland?	___	X	_____

	YES	NO	COMMENTS
12. Will the action affect the use of any natural or man-made features that are unique to the county, state, or nation?	___	X	_____
13. Will the action affect the use of an archeological or historical site or structure?	___	X	_____
B. Water Use Considerations			
14. Will the action require a permit for the change of the course, current, or cross-section of a stream or other body of water?	___	X	_____
15. Will the action require the construction, alteration, or removal of a dam, reservoir, or waterway obstruction?	___	X	_____
16. Will the action change the overland flow of storm water or reduce the absorption capacity of the ground?	X	___	_____
17. Will the action require a permit for the drilling of a water well?	___	X	_____
18. Will the action require a permit for water appropriation?	___	X	_____
19. Will the action require a permit for the construction and operation of facilities for treatment or distribution of water?	___	X	_____
20. Will the project require a permit for the construction and operation of facilities for sewage treatment and/or land disposal of liquid waste derivatives?	___	X	_____

	YES	NO	COMMENTS
21. Will the action result in any discharge into surface or sub-surface water?	___	X	___
22. If so, will the discharge affect ambient water quality parameters and/or require a discharge permit?	___	X	___
C. Air Use Considerations			
23. Will the action result in any discharge into the air?	X	___	___
24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	___	X	___
25. Will the action generate additional noise which differs in character or level from present conditions?	X	___	Page IV-5
26. Will the action preclude future use of related air space?	___	X	___
27. Will the action generate any radiological, electrical, magnetic, or light influences?	___	X	___
D. Plants and Animals			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?	___	X	___
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?	___	X	___
30. Will the action require a permit for the use of pesticides, herbicides or other biological, chemical or radiological control agents?	___	X	___

	YES	NO	COMMENTS
E. Socio-Economic			
31. Will the action result in a pre-emption or division of properties or impair their economic use?	___	X	___
32. Will the action cause relocation of activities, structures, or result in a change in the population density or distribution?	___	X	___
33. Will the action alter land values?	___	X	___
34. Will the action affect traffic flow and volume?	X	___	Page III-1
35. Will the action affect the production, extraction, harvest or potential use of a scarce or economically important resource?	___	X	___
36. Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?	___	X	___
37. Is the action in accord with federal, state, regional and local comprehensive or functional plans--including zoning?	X	___	___
38. Will the action affect the employment opportunities for persons in the area?	X	___	Page I-4
39. Will the action affect the ability of the area to attract new sources of tax revenue?	X	___	Page I-4
40. Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?	___	X	___

	YES	NO	COMMENTS
41. Will the action affect the ability of the area to attract tourism?	___	X	_____
F. Other Considerations			
42. Could the action endanger the public health, safety or welfare?	___	X	_____
43. Could the action be eliminated without deleterious affects to the public health, safety, welfare or the natural environment?	___	X	_____
44. Will the action be of statewide significance?	___	X	_____
45. Are there any other plans or actions (federal, state, county or private) that, in conjunction with the subject action could result in a cumulative or synergistic impact on the public health, safety, welfare, or environment?	___	X	_____
46. Will the action require additional power generation or transmission capacity?	X	___	_____
47. This agency will develop a complete environmental effects report on the proposed action.	___	___	_____

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I. DESCRIPTION OF PROPOSED ACTION

I. DESCRIPTION OF PROPOSED ACTION

A. Project Location

The proposed widening of Interstate 495 is located in southwestern Montgomery County in Maryland, and in northeastern Fairfax County in Virginia. (See Figure 1) The roadway runs generally in a north-south direction and crosses the Potomac River as it crosses the state line.

B. Project Description

The proposed project would add one lane in each direction of the existing six lane roadway. The additional two lanes would be constructed in the median and would be separated by a continuous concrete barrier. Ten foot shoulders on both the median side and the outside of the through travel lanes would be provided. To the right of each outside shoulder a clear 24 foot, unobstructed recovery area would be constructed where feasible within existing right-of-way and environmental constraints.

In interchange areas, acceleration and deceleration lanes would be lengthened to conform to current American Association of State Highway Officials (AASHTO) standards. In addition, auxiliary lanes between the two George Washington Memorial Parkways (G.W.M.P.), in Virginia and Maryland, would be needed to maintain an acceptable level of service.

Bridge reconstruction is currently underway for the structures over the Potomac River and the C. and O. Canal. These bridges can accommodate the additional through lanes and auxiliary lanes between the G.W.M.P.. A Section 4(f) Evaluation was prepared to address the temporary impacts to the C. & O. Canal Park during bridge reconstruction. The Section 4(f) Statement (FHWA-MD-4(f)-82-02-F)

was approved, and Location Approval was obtained on March 26, 1984.

The Virginia Department of Highways prepared a Negative Declaration, approved August 3, 1973, for the Virginia portion of this project. That document was reevaluated in October, 1983, and still found to be appropriate. The Negative Declaration and reevaluation are available at the Virginia Department of Highways and Transportation, 1221 East Broad Street, Richmond, Virginia, 23219.

C. Description of Existing Environment

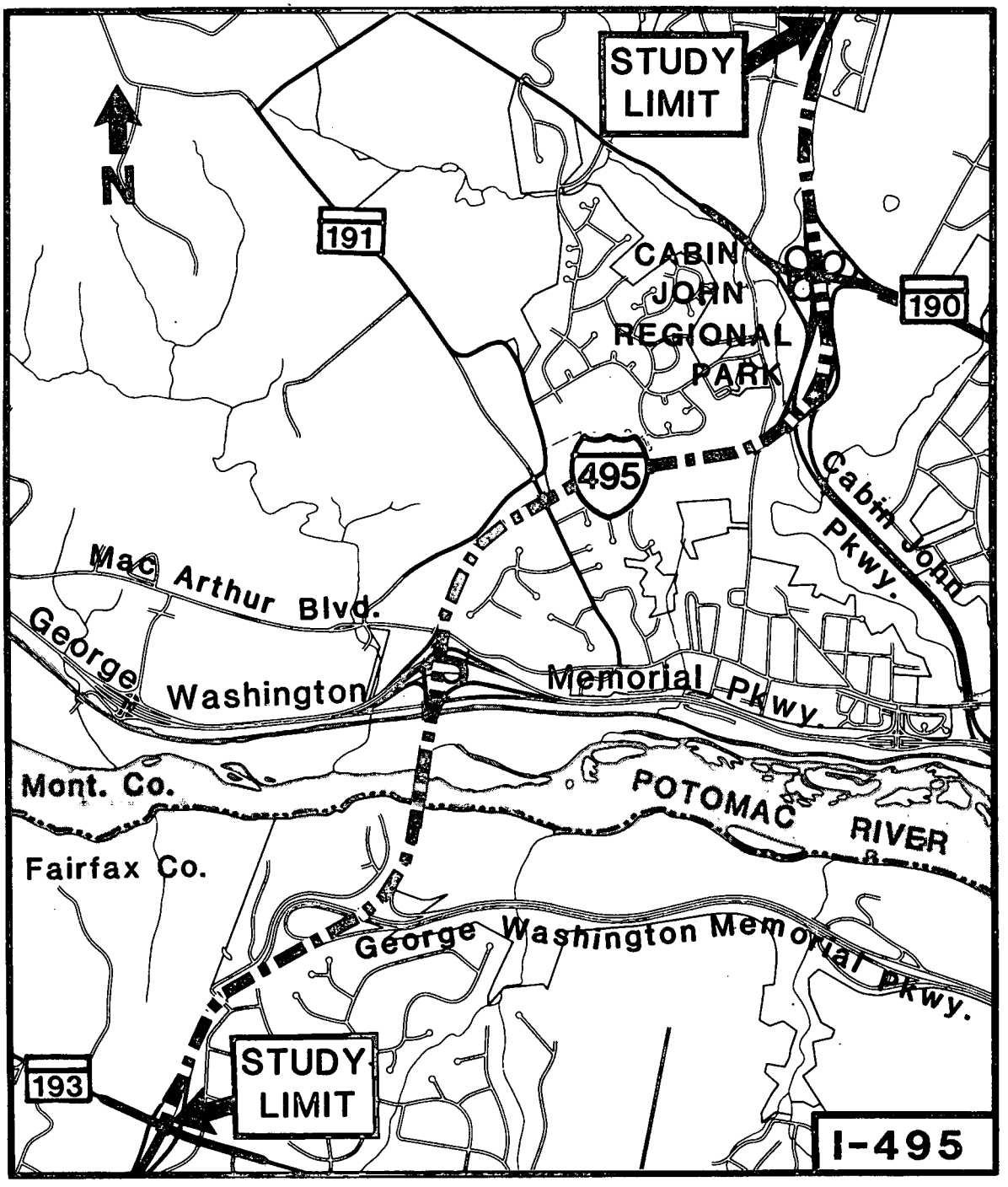
1. Social, Economic and Land Use Characteristics

a. Social Environment

The study area in Maryland lies in the Potomac Planning Area west of the Beltway, and in the Bethesda Planning Area east of the Beltway. (See Figure 3) The Potomac area is considered the "Gold Coast" of Montgomery County's suburbs. Its 1980 median family income, approximately $54,000, was the highest in the county well-above the county median of $33,711.

Bethesda is also a prestigious suburb, although it is older, and more established than Potomac. The 1980 median family income was the third highest in the county, about $46,000.

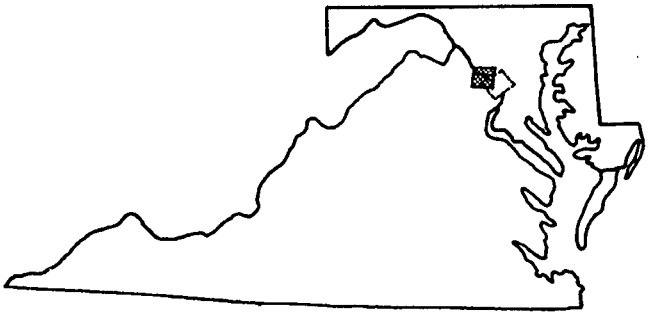
The Potomac Planning Area's population is expected to increase moderately, about 16.4% by 1995. At the same time the population of the Bethesda Planning Area is projected to decrease by 2.1%. This decrease is largely due to the recent nationwide trend toward more single person households which is particularly evident in Bethesda.

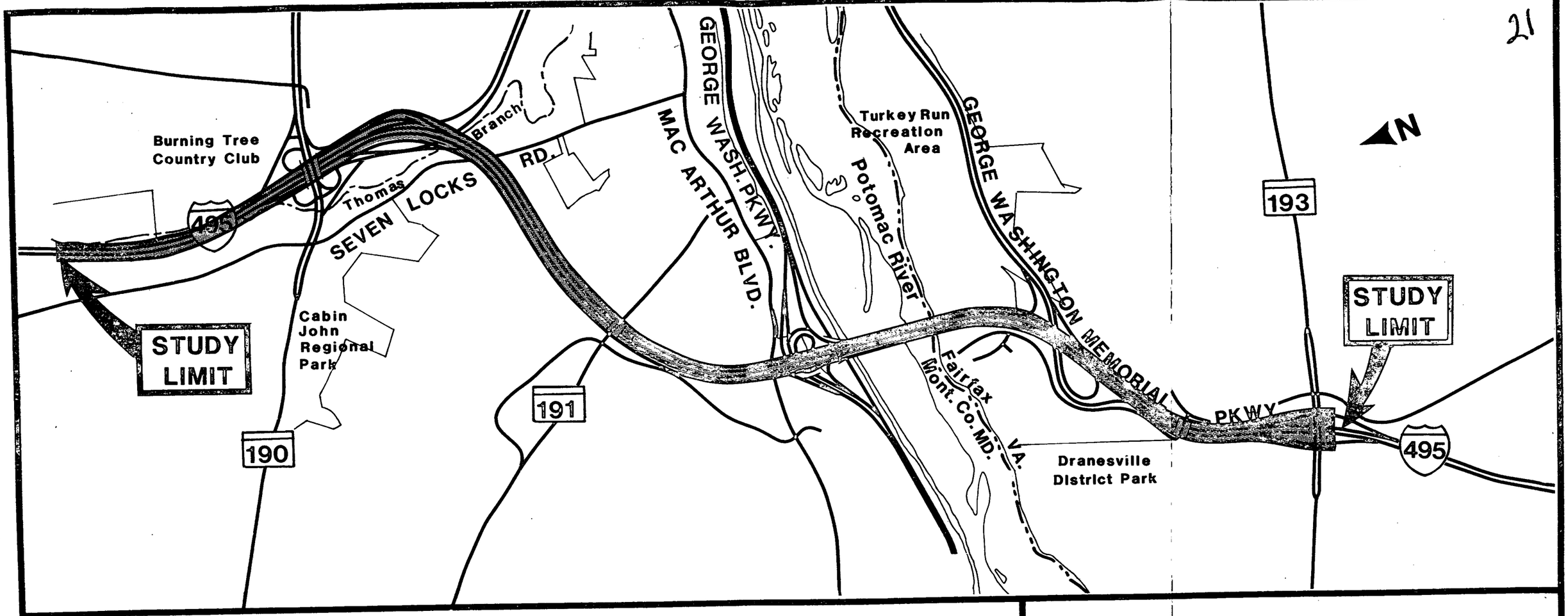


I-495
From North of Md. 190 to Va. 193

Location Map

Figure 1





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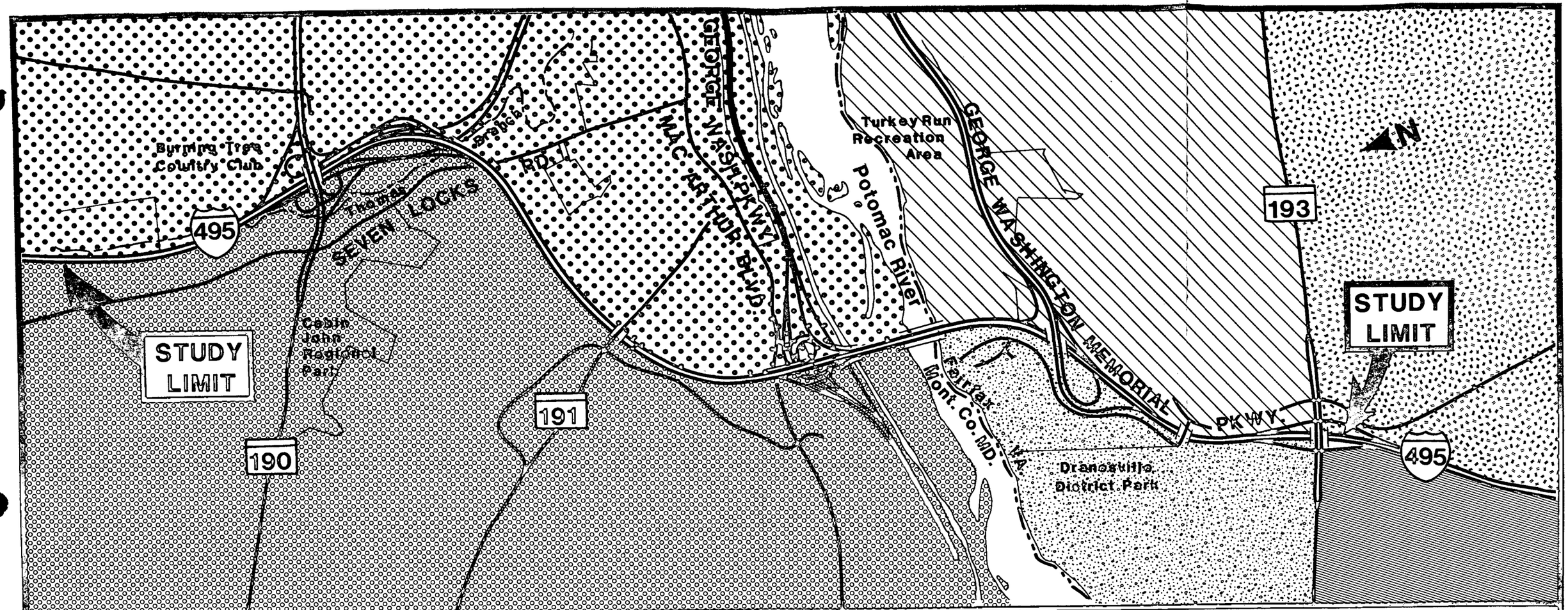
STUDY LIMITS

I-495
FROM NORTH OF MD. 190 TO VA. 193

STUDY AREA

Not to Scale

Figure 2



Legend

PLANNING AREAS

- BETHESDA
- POTOMAC

CENSUS TRACTS

- 4802
- 4801
- 4701
- 4705

I-495

FROM NORTH OF MD. 190 TO VA. 193

PLANNING AREAS & CENSUS TRACTS

Not to Scale

Figure 3

TABLE 1
POPULATION IN STUDY AREA

	1980	Projected 1995	Percent Change
Potomac Planning Area	48,500	56,500	16.4%
Bethesda Planning Area	80,400	78,700	-2.1%

Source: Round II Population Forecasts, Maryland-National Capital Park and Planning Commission, 1984.

The study area is comprised mostly of white residents, and the number of residents of other ethnic origins is lower than the county averages. No ethnic communities or concentrations of elderly or handicapped have been identified in the study area.

TABLE 2
ETHNIC CHARACTERISTICS OF THE STUDY AREA

	Potomac	Bethesda	Montgomery Co.
White	90.9	93.3	85.6
Black	3.2	2.1	8.8
Asian and Pacific Islander	4.7	2.9	3.9
Other	1.2	1.7	1.7
Spanish Origin	4.9	4.8	3.9

Source: Selected Socio-economic Characteristics of Montgomery County Planning Areas, Maryland-National Capital Park and Planning Commission, 1984

Community Facilities

The study area is served by a variety of community facilities including schools, churches, a fire station and several private and public recreational areas.

Schools

Carderock Springs Elementary School (Md.)
Holton Arms School (Md.)
Norwood School (Md.)
The Primary Day School (Md.)

Churches

Hermon Church (Md.)
Gibson Grove AME Zion Church (Md.)
Cabin John United Methodist Church (Md.)

Public Parks

Cabin John Regional Park (Md.)
Bucks Branch Park (Md.)
Seven Locks Park (Md.)
Carderock Springs Park (Md.)
C & O Canal National Park (Md.)

The Master Plan for the Potomac Area recommends acquiring land for a new park along Persimmon Tree Road, as well as the purchase of 55 additional acres for Cabin John Regional Park. In addition, the plan recommends acquiring 239 acres for a stream valley park along Rock Run.

Private Recreational Facilities

Burning Tree Country Club
Congressional Country Club

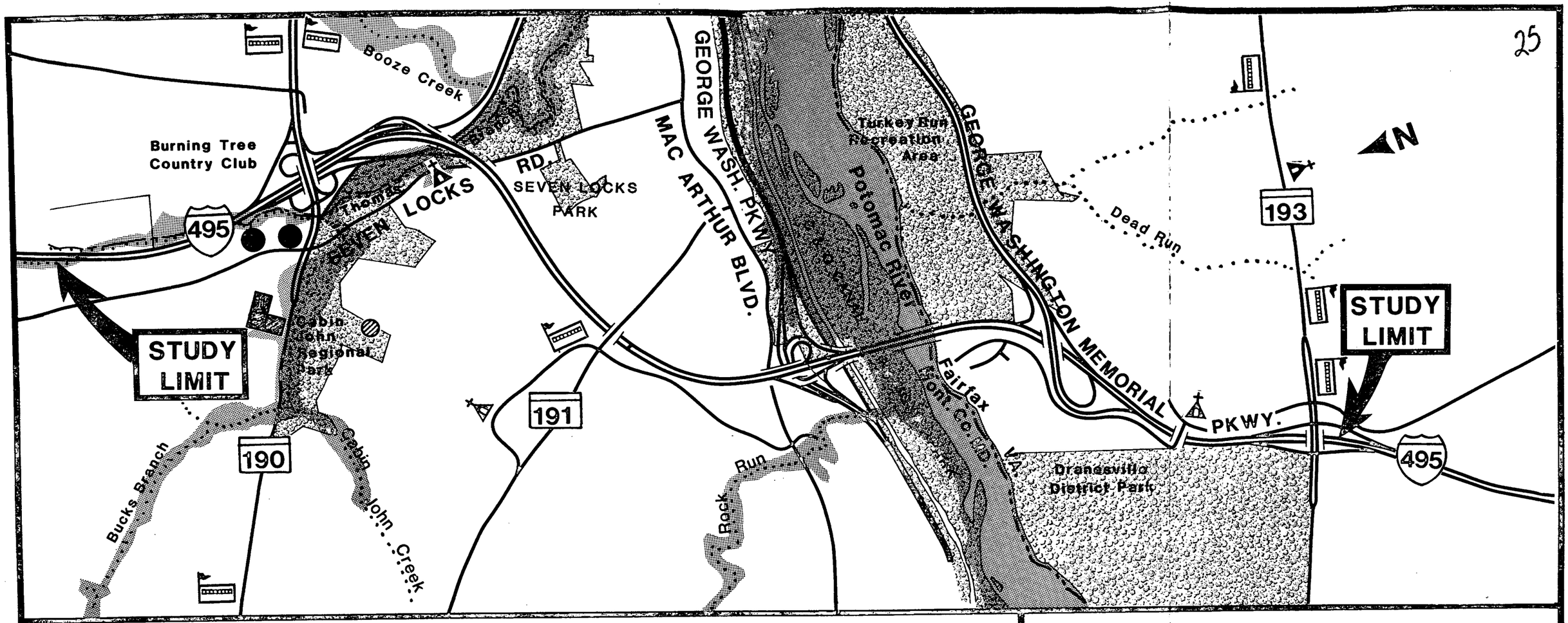
Firehouse on River Road near Seven Locks Road.

Sewer and Water Facilities

Sanitation facilities are provided either by individual on-site septic systems and wells or public water and sewer service. Generally, areas with two-acre zoning are developed with septic systems. Areas with half acre to one acre zoning are developed with both public water and sewer service. Public water and sewers are not provided in areas zoned rural (one dwelling unit per 5 acres).

b. Economic Environment

Many residents of the study area are employed in Washington, D.C. or in Northern Virginia. There are limited employment opportunities within the study area itself. The David Taylor Naval



Legend

- SCHOOL
- CHURCH
- POST OFFICE
- FIREHOUSE
- POTENTIAL NATIONAL REGISTER HISTORIC SITES
- RECREATION CENTER
- STREAM
- PARKS & RECREATION AREAS
- 100 YEAR FLOODPLAIN

I-495
FROM NORTH OF MD. 190 TO VA. 193

COMMUNITY FACILITIES & ENVIRONMENTAL FEATURES

Not to Scale

Figure 4

Ship Research Center employs about 2,700 people and the quarry on Seven Locks Road employs about 20 people.

Just west of the study area is the Potomac Village Shopping Center which has some employment opportunities in retail sales and the restuarant industries. North of the study area is the Montgomery Mall which also provides employment in retail sales, restuarant and related trades.

Although future employment in the study area is limited, employment within the larger Potomac and Bethesda Planning Areas is expected to increase by 6.2% and 11.4% respectively by 1995. This represents a significant increase especially considering the expected decrease in Bethesda's population.

c. Existing Land Use

By far the predominant land use in the study area is low density residential. In general, the density decreases from east to west. The study area east of the Beltway, part of Bethesda, is characterized by older, more established neighborhoods. The residents west of the Beltway live, for the most part, in fairly recent developments. At the western end of the study area are numerous large estates, farms and tracts of vacant land.

There is an unusually high proportion of parks and recreation areas (both public and private) in the study area.

There is no commercial land use in the immediate study area. Just west of the study area is Potomac Village (a small shopping and convenience center) and north of the area is a large, regional shopping mall - Montgomery Mall.

The only industrial uses are the quarry operations around Seven Locks and River Road, and at the Naval Research Center near the Potomac River.

d. Future Land Use

The Master Plans for the Potomac Subregion and the Bethesda-Chevy Chase Planning Area recommend continued low density residential use for most of the study area.

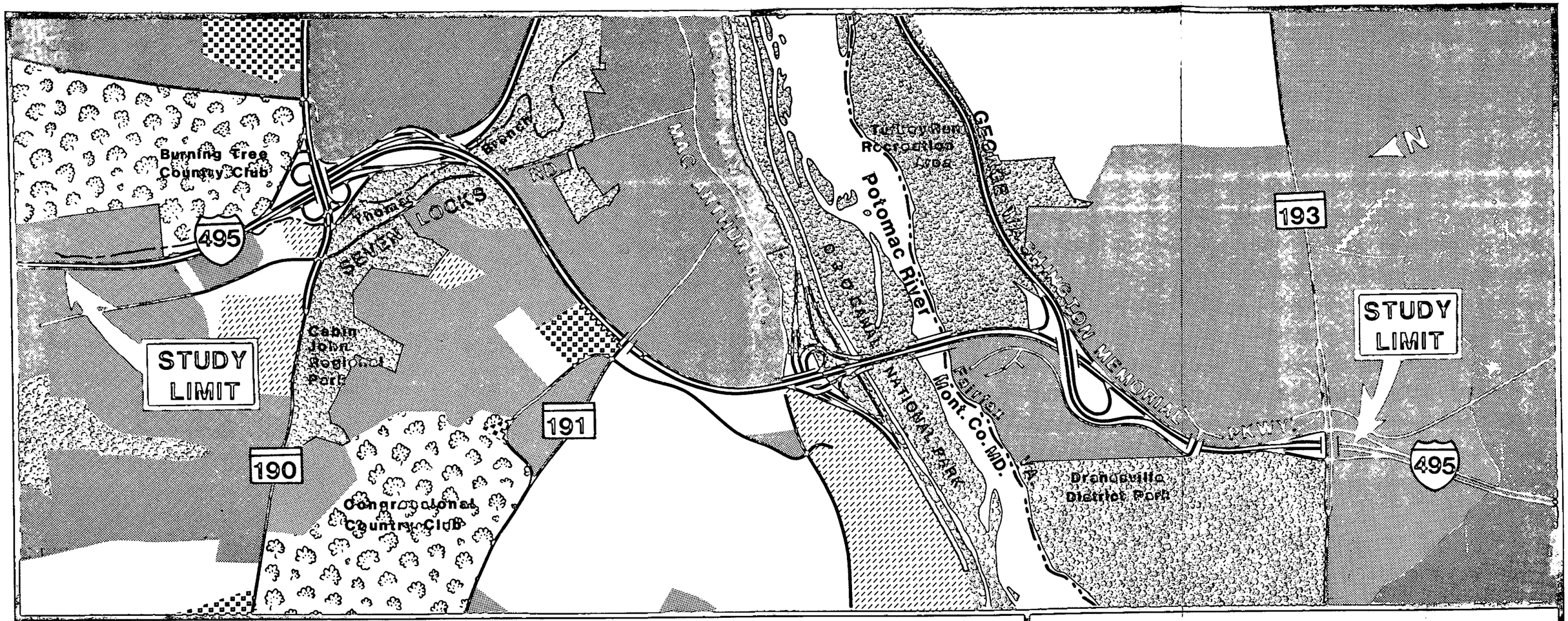
One small area, which is now in industrial use (the quarry located along Seven Locks Road), is recommended for townhouses. Along the Potomac River, clustering of dwelling units within a two-acre minimum lot size is recommended to preserve visual continuity of the C & O Canal National Park. Cluster development is also recommended for the Rock Run drainage basin. In addition, a 200' conservation strip along both sides of Rock Run is recommended to provide a buffer zone for future residential development.

New employment or shopping centers are not recommended for the study area since these uses are not considered consistent with the character of the area. The Naval Ship Research Center, however, is recommended to stay in its current use.

2. Historic and Archeological Resources

A historic sites survey was conducted of the study area, resulting in the identification of two sites which are potentially eligible for the National Register of Historic Sites. These are Stoneyhurst (8314 Seven Locks Road) and Magruders Blacksmith Shop (8300 Seven Locks Road). See Figure 4.

The archeological potential in the Maryland portion of the study area has been examined by the Maryland Geological Survey's



Legend

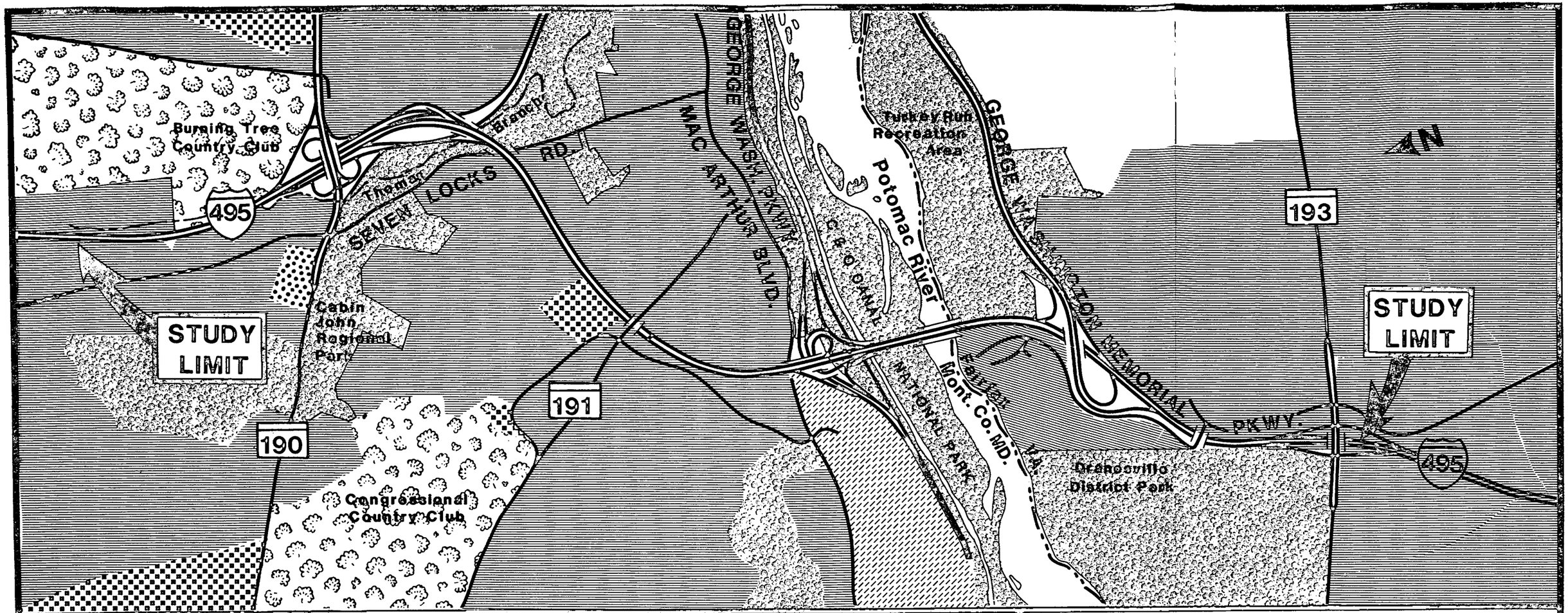
- RESIDENTIAL (LOW DENSITY)
- RURAL/VACANT
- INDUSTRIAL
- INSTITUTIONAL
- PUBLIC PARK & RECREATION
- PRIVATE RECREATION

I-495
FROM NORTH OF MD. 190 TO VA. 193

EXISTING LAND USE

Not to Scale

Figure 5



Legend

- RESIDENTIAL (LOW DENSITY)
- RESIDENTIAL (MEDIUM DENSITY)
- INDUSTRIAL
- INSTITUTIONAL
- PUBLIC PARK & RECREATION
- PRIVATE RECREATION

I-495
FROM NORTH OF MD. 190 TO VA. 193

FUTURE LAND USE

Not to Scale

Figure 6

Division of Archeology. The only area which may have archeological remains is well outside of the impact area in the western part of the I-495/George Washington Parkway Interchange.

The Heritage Resources Branch of the Fairfax County Office of Comprehensive Planning has identified two archeological sites within the existing right-of-way in the Virginia portion of the study area.

3. Natural Environment

a. Geology, Topography, and Soils

The study area lies near the eastern edge of the Piedmont physiographic province. Three major geologic formations occur in the study area.

The major bedrock component is the Upper Peltitic Schist of the Wissahickon formation. This is generally on albite-chlorite-muscovite quartz schist. A narrow pocket of Wissahickon Boulder Gneiss, containing thick-bedded to massive pebble - and boulder-bearing arenaceous to peltitic metamorphic rocks, runs north-south just west of I-495. The Georgetown Mafic Complex of poorly exposed tonalite, dark quartz diorite, gabbro, amphibolite and undifferentiated basic rocks is present on the east side of I-495 just north of the Potomac River.

The topography is gently rolling, with relief provided by stream and river valleys.

Soils in the study area are moderately deep to deep and belong to the Glenelg-Manor-Chester association. This association consists of well-drained, silty, micaceous soils that are mainly strongly sloping. These soils are the best in the county for agriculture and are also well suited to suburban development.

The U.S. Department of Agriculture, Soil Conservation Service has designated certain soil types as prime farmland soils. One area of prime farmland soils is located west of I-495 between MacArthur Boulevard to the Carderock Springs development. The other is immediately east of I-495 between Cabin John Parkway and River Road. Both of the areas are planned for low density residential development.

b. Groundwater

The Wissahickon Upper Peltitic Schist is a major source of groundwater for domestic use in Montgomery County. About 52 percent of the wells in this formation yield 6 to 25 gpm, and 23 percent yield more than 25 gpm. U.S. Geological Survey data show the mean yield to be 11 gpm.

Depth to the water table is generally less than 10 feet over about one-third of the area and between 10 and 35 feet deep in most of the remaining area. Most of the study area is served by WSSC sewer and water.

c. Surface Water

The study area is in the Potomac River basin and major streams include Cabin John Creek, Thomas Branch, Rock Run, Booze Creek, Dead Run, and the Potomac River. Thomas Branch runs parallel to Interstate Route 495 from north of the study area to its confluence with Cabin John Creek at River Road. It was extensively channellized and relocated during the original construction of I-495. Cabin John Creek runs parallel to, and crosses I-495 at Cabin John Parkway. The study area streams are shown on the Community Facilities and Environmental Map. (Figure 4)

All the streams in the study area are designated Class I, Water Contact Recreation and Aquatic Life by the Maryland Department of Health and Mental Hygiene. Water quality in study area streams has declined over the past several decades due to urbanization (Dietemann, 1976).

Floodplains

The U.S. Department of Housing and Urban Development, Federal Insurance Administration has issued Flood Insurance Rate Maps for the study area. These maps indicate 100 year floodplains for Thomas Branch, Cabin John Creek, Booze Creek, Rock Run, and the Potomac River. The 100 year floodplains are shown on Figure 4.

d. Terrestrial Habitat and Wildlife

The highly urbanized character of the study area provides little natural habitat for wildlife. Most of the remaining undeveloped land adjacent to I-495 is in Cabin John Creek Regional Park along Rock Run, north of MacArthur Boulevard.

Natural forest vegetation in the study area is predominantly Tulip-Poplar association. River Birch-Sycamore lines the Potomac River and Cabin John Creek, south of River Road, and Sycamore - Green Ash - Box Elder - Silver Maples runs along Cabin John Creek, north of River Road. Brief descriptions of these forest associations are provided below:

> Tulip Poplar Association. Characterized by the presence of tulip poplar, commonly associated with red maple, flowering dogwood, Virginia creeper, black gum, white oak, sassafras, black cherry, grape, mockernut hickory, southern arrowwood, and Japanese honeysuckle.
>
> River Birch - Sycamore Association. Identified by the presence of river birch and/or sycamore; representative species include slippery elm, green ash, spicebush, and poison ivy; other common species include red maple, Virginia creeper, greenbriars, Japanese honeysuckle,

southern arrowwood, tulip poplar, and black gum; extends along some rivers, especially the Potomac, into the Piedmont.

Sycamore - Green Ash - Box Elder - Silver Maple Association. Defined by the presence of any 2 of sycamore, green ash, box elder or silver maple; silver maple is the least frequent species, occurring predominantly along the Potomac River; common species include red maple, white oak, flowering dogwood, grape and black cherry; understory plants include Virginia creeper, poison ivy, spicebush, and grape; this association is generally found in bottomlands throughout the Piedmont.

(Brush, et al., 1977)

Over 30 species of mammals are believed to exist in the study area despite its rapid urbanization. Development of the area has reduced habitat and food supply for many species, and introduced domestic predators (dogs and cats). Populations of some species such as opossums, racoons and skunks may have increased due to reduced pressure from natural predators, and increases in food supply from human sources. Deer, fox and other larger animals require larger areas where they are free from domestic harassment, and are rare. The shelter and food supply of smaller species, such as squirrels, chipmunks, and mice, have been largely unaffected by urbanization.

Development has provided a more diverse set of habitats for birds. Since they are more mobile, they are able to seek out suitable habitat more easily. Woodland margins along roads and development provide grassed and shrub areas where a number of species find food and shelter. Open meadows are another habitat which is man-generated. Approximately 60 species of birds inhabitat the study area due to habitat diversity.

e. Aquatic Habitat and Wildlife

Urbanization of the Cabin John Creek watershed has had a profound effect on the amount of aquatic habitat available and on the water quality. Contamination from pesticides, fertilizers, and roadway runoff has reduced fish populations to those species considered to be "pollution tolerant". Sedimentation and increased frequency and magnitude of floods has adversely affected reproduction of fish and amphibians. Almost all the aquatic habitats in the study area are located in parks. The only large wooded floodplain is located along Cabin John Creek between River Road and I-495.

Threatened or Endangered Species

Coordination with the Maryland Department of Natural Resources, Virginia Game Commission, and the U.S. Fish and Wildlife Service indicates there are no known populations of threatened or endangered species in the study area.

II. NEED FOR THE PROJECT

II. NEED FOR THE PROJECT

A. Purpose

The project within the study limits is one of only three six-lane segments remaining on the Capital Beltway. The transportation problem in the study area is the lack of traffic carrying capacity. During the morning peak hours, traffic volume exceeds capacity on the northbound lanes, with back-ups south of the American Legion Memorial Bridge over the Potomac River into Virginia. A similar condition occurs on the southbound lanes during the evening peak hours, with back-ups occurring from the bridge through the Maryland Route 190 interchange.

B. Project Background

This project is currently listed in the Virginia Department of Highway's Six Year Program, and in the Maryland Department of Transportation's 1984-1989 Consolidated Transportation Program (C.T.P.) for planning and engineering. The project is also listed in the 1985-1990 Draft C.T.P. for planning, engineering and construction.

In addition, the project is recommended in the 1983 Report on Comprehensive Planning Policies by the Montgomery County Planning Board of the Maryland-National Capital Park and Planning Commission.

C. Existing and Project Traffic Conditions

1. Quality of traffic flow along a highway is measured in terms level of service (LOS). This measure is dependent upon highway geometry and traffic characteristics, and ranges from LOS "A" (Best), to LOS "C" (minimum desirable), to "E" (Capacity), to LOS "F" (worst or forced flow). The Capital Beltway within the study limits currently experiences forced flow (Level of Service=F)

conditions during the peak hours. Average Daily Traffic (ADT) has increased drastically since 1980. The permanent traffic counter station south of Maryland Route 193 recorded ADT's of 101,000 for 1980; 108,000 for 1981; 116,000 for 1982; and 120,000 for 1983. These figures represent a significant yearly increase of nearly 6%. Traffic projection for the design year of 2010 indicates approximately 170,000 vehicles per day on the Beltway within the study limits.

Since the Beltway, in the study area, is already experiencing forced flow (LOS "F"), adding these projected traffic volumes without adding any lanes would result in much longer durations of "stop and go" congestion with speeds ranging from 0-30 m.p.h. during peak hours.

Under the Build Alternate the levels of service would range from LOS "C" to LOS "E". (See Table 3) Speeds would average about 50 m.p.h. during peak hour and the forced flow would be eliminated.

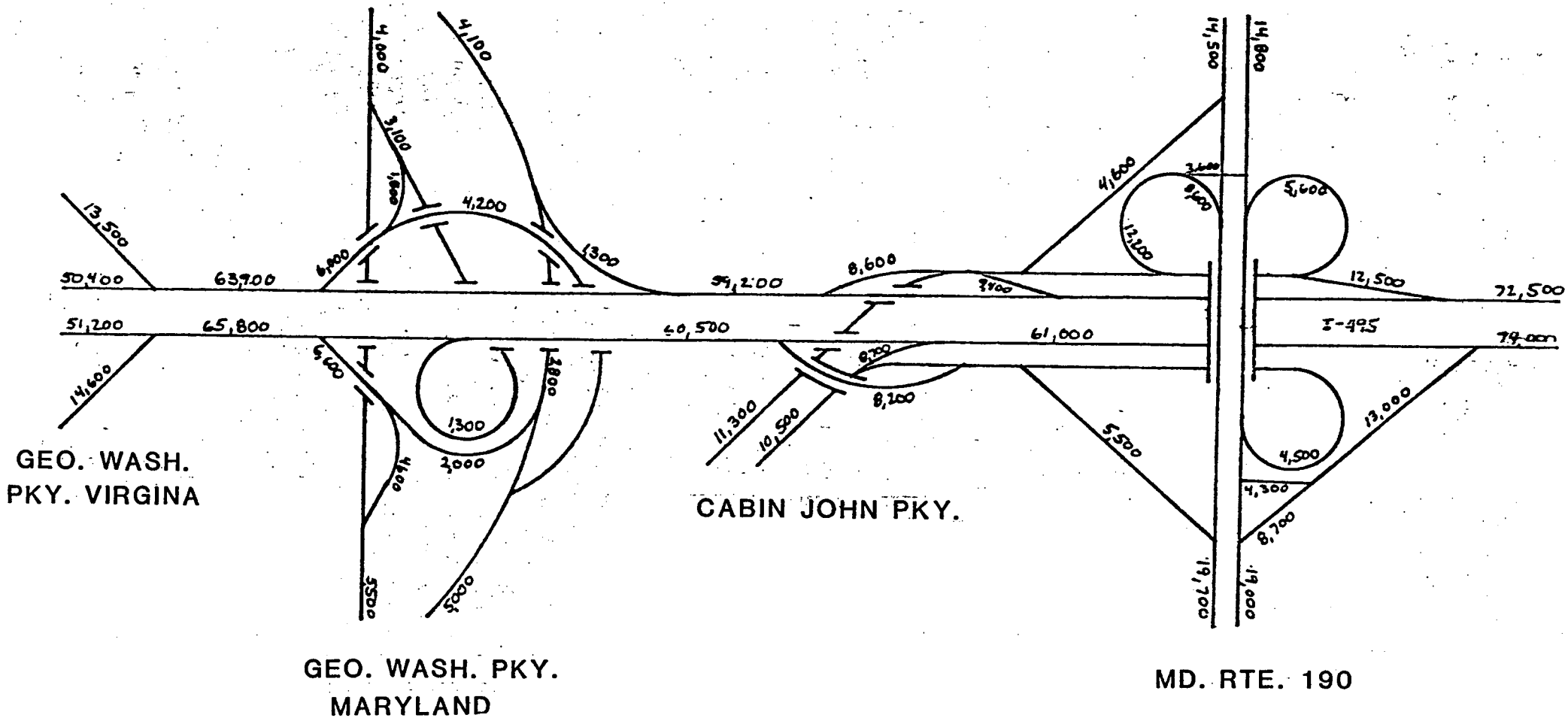
TABLE 3
AVERAGE DAILY TRAFFIC/LEVEL OF SERVICE

	Existing 1983	No-Build 2010	Build 2010
I-495 (N. of MD 190)	145,000/E	160,000/F	180,000/E
MD 190 Interchange	D	F	E
I-495 (G.W. Mem. Pkwy.-MD 190)	120,000/E	125,000/E	150,000/E
G.W. Mem. Pkwy. Interchange (Maryland)	F	C	C
I-495 (@ Potomac River)	130,000/F	135,000/D/E	165,000/E
G.W. Mem. Pkwy. Interchange (Virginia)	E/F	F	F
I-495 (S. of G.W. Mem. Pkwy.)	120,000/E	125,000/E	145,000/E

2. Because of these high volumes of traffic this segment of the Beltway experiences an accident rate of 89 accidents per one hundred million vehicle miles of travel. This is 31% higher than the statewide average of 68 accidents per one hundred million vehicle miles for highways of similar design.

The rate of fixed object type collisions exceeds the statewide average by 8%. These collisions are mainly associated with weaving at interchanges and "stop and go" traffic flow associated with congestion. In addition, the .5 mile segment on the inner loop from the Virginia line to the bridge over the George Washington Parkway is designated a High Accident Section.

Recognizing the need to reduce the accident rate, and because traffic volumes are expected to increase substantially, eight through lanes are required for the entire length of the project.

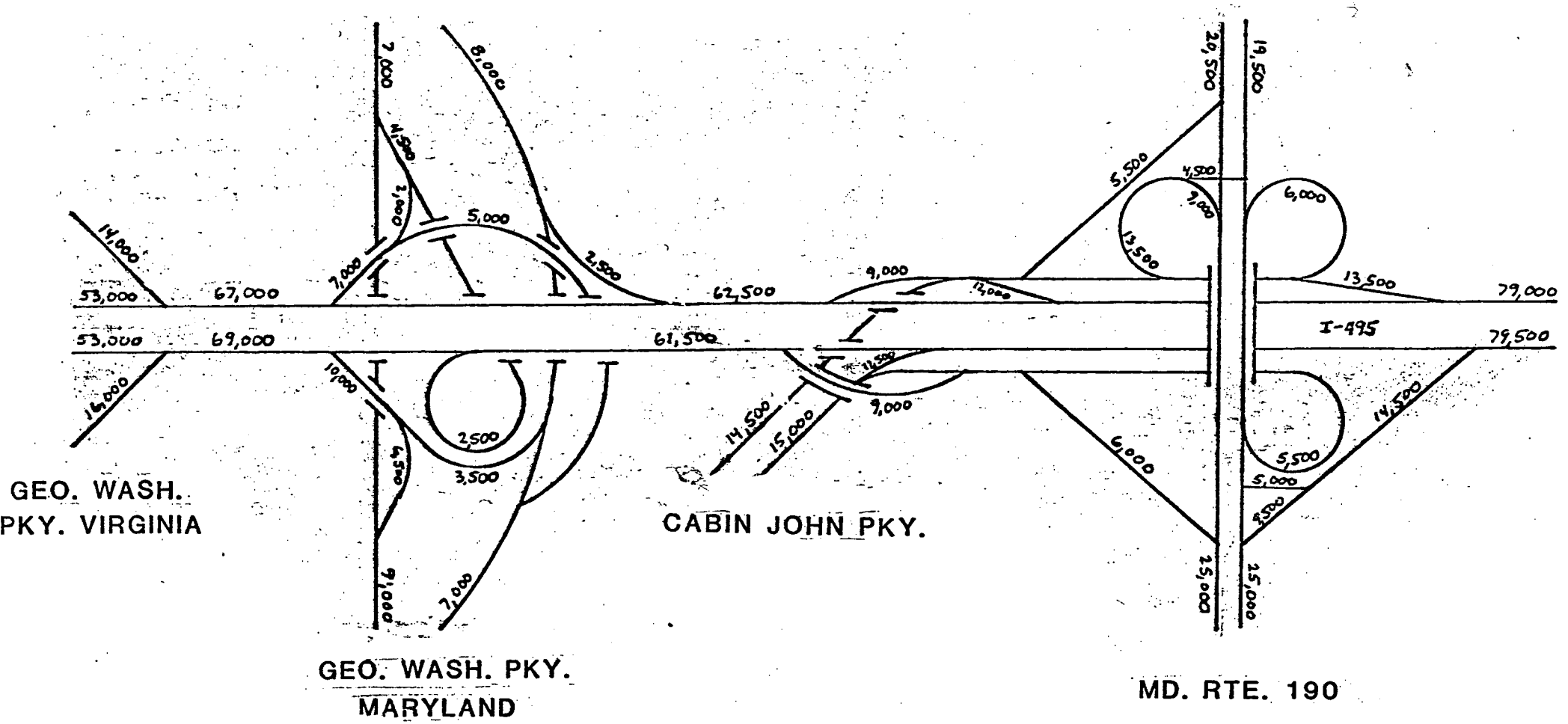


EXISTING 1983 AVERAGE DAILY TRAFFIC

Figure 7

Maryland Department of Transportation
State Highway Administration

I-495
FROM MD. RTE. 190
TO VA. RTE. 193

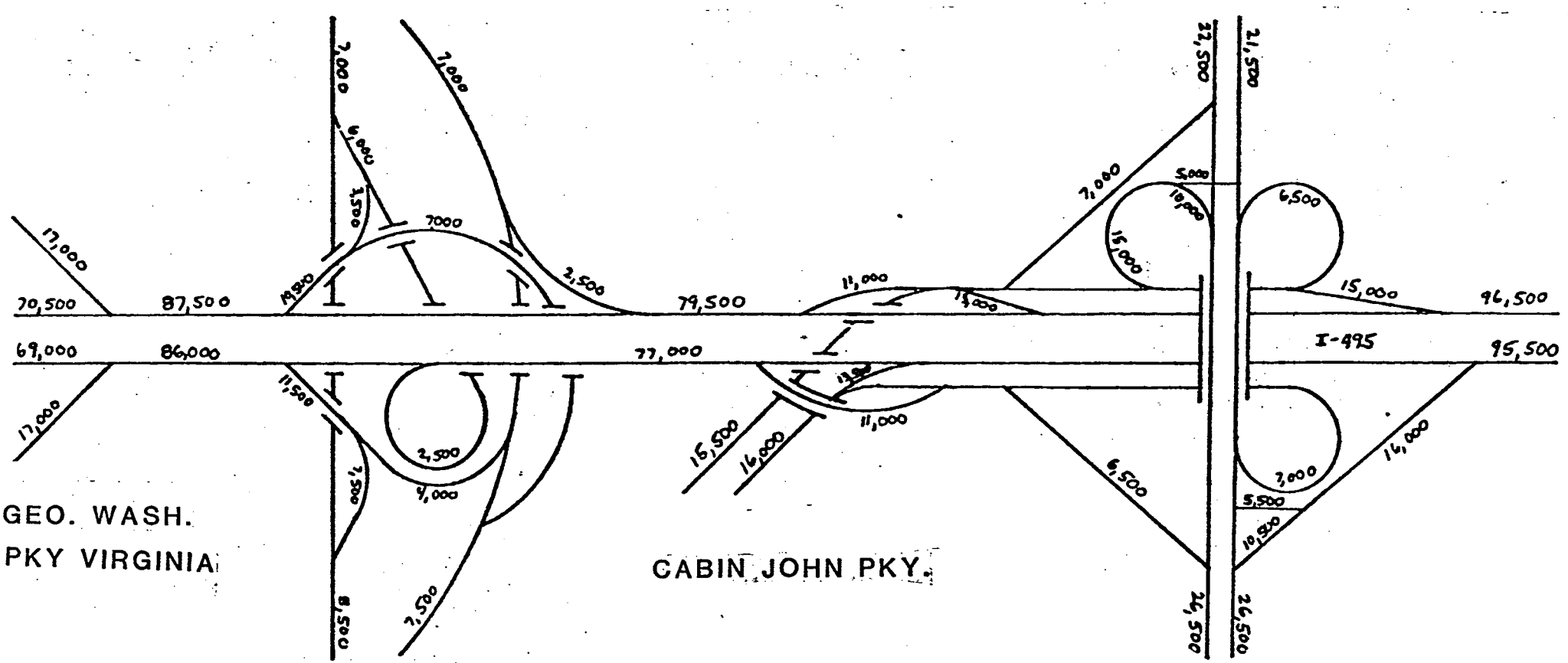


NO – BUILD 2010 AVERAGE DAILY TRAFFIC

Figure 8

Maryland Department of Transportation
State Highway Administration

I-495
FROM MD. RTE. 190
TO VA. RTE. 193



BUILD 2010 AVERAGE DAILY TRAFFIC

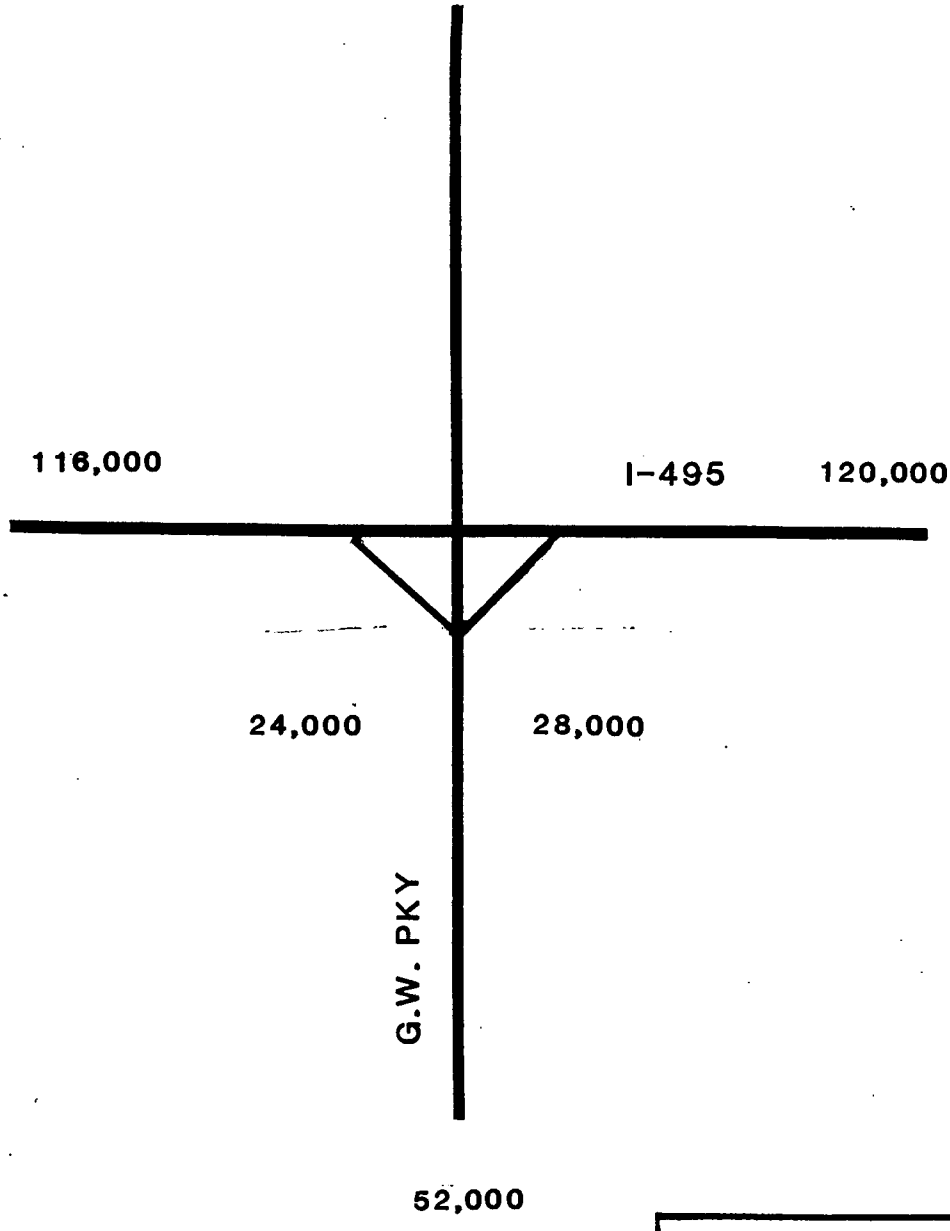
Figure 9

Maryland Department of Transportation
State Highway Administration

I-495
FROM MD. RTE. 190
TO VA. RTE. 193

EXISTING 1984 AVERAGE DAILY TRAFFIC

I-495 at George Washington Parkway (Va.)



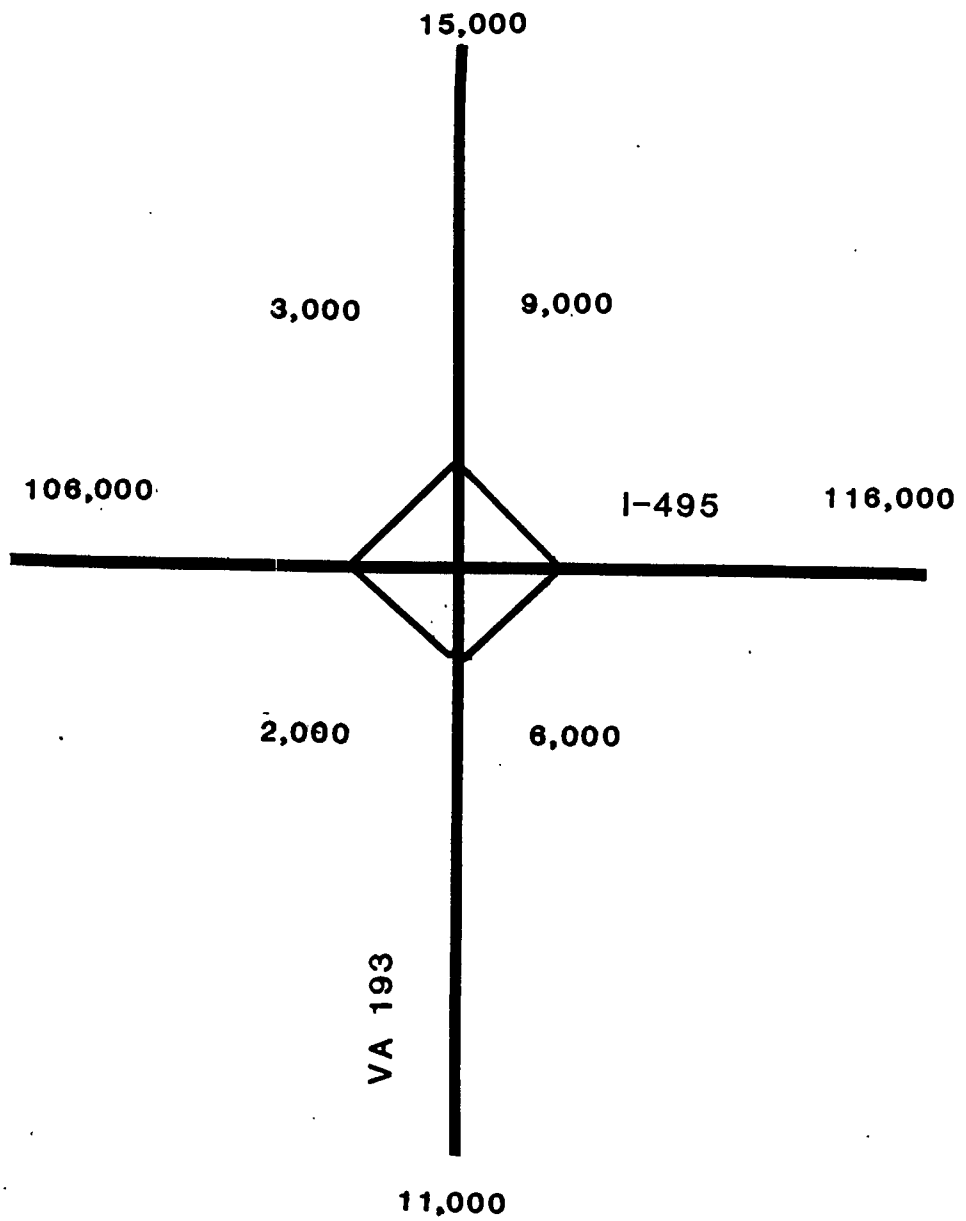
Maryland Department of Transportation
State Highway Administration

I-495
FROM MD. RTE. 190
TO VA. RTE. 193

Figure 10

EXISTING 1984 AVERAGE DAILY TRAFFIC

I-495 at Va. 193



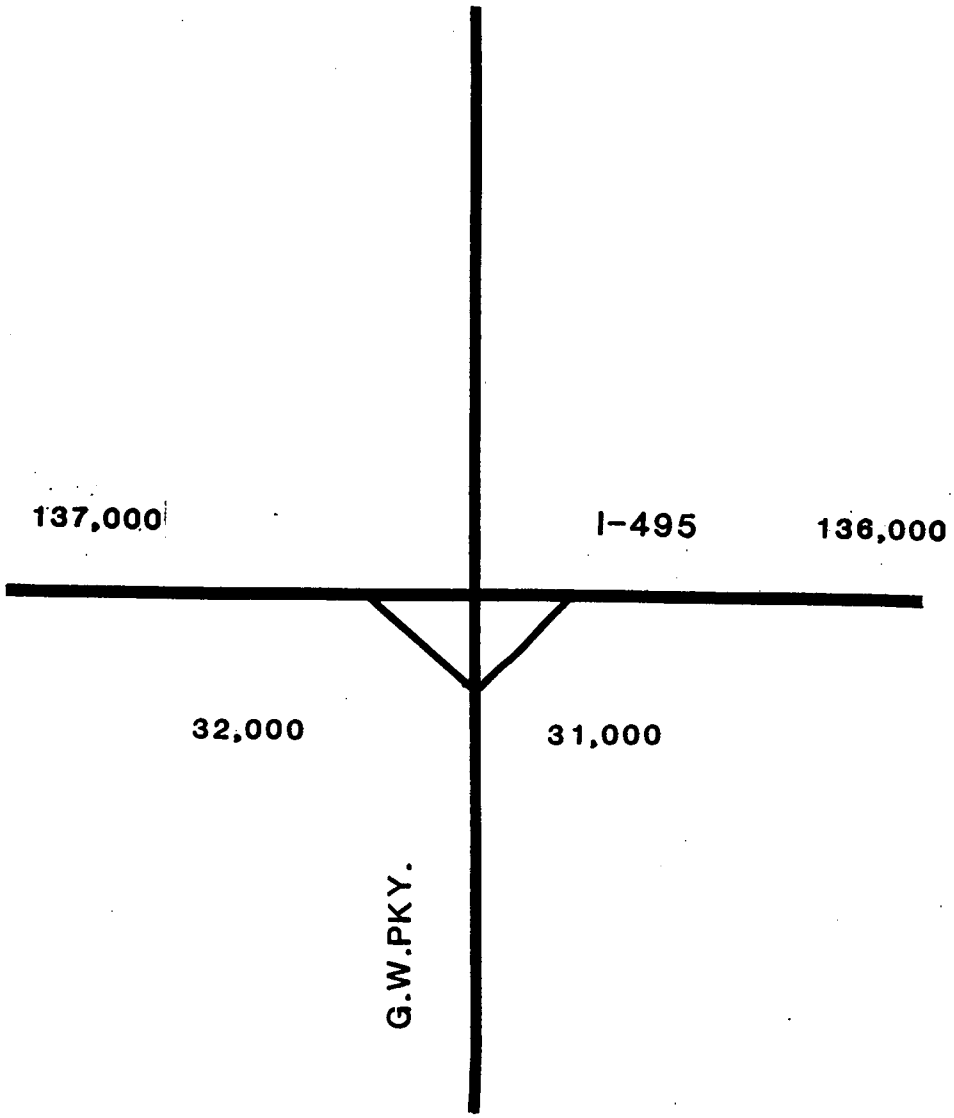
Maryland Department of Transportation
State Highway Administration

I-495
FROM MD. RTE. 190
TO VA. RTE. 193

Figure 11

NO-BUILD 2010 AVERAGE DAILY TRAFFIC

I-495 at George Washington Parkway (Va.)



Maryland Department of Transportation
State Highway Administration

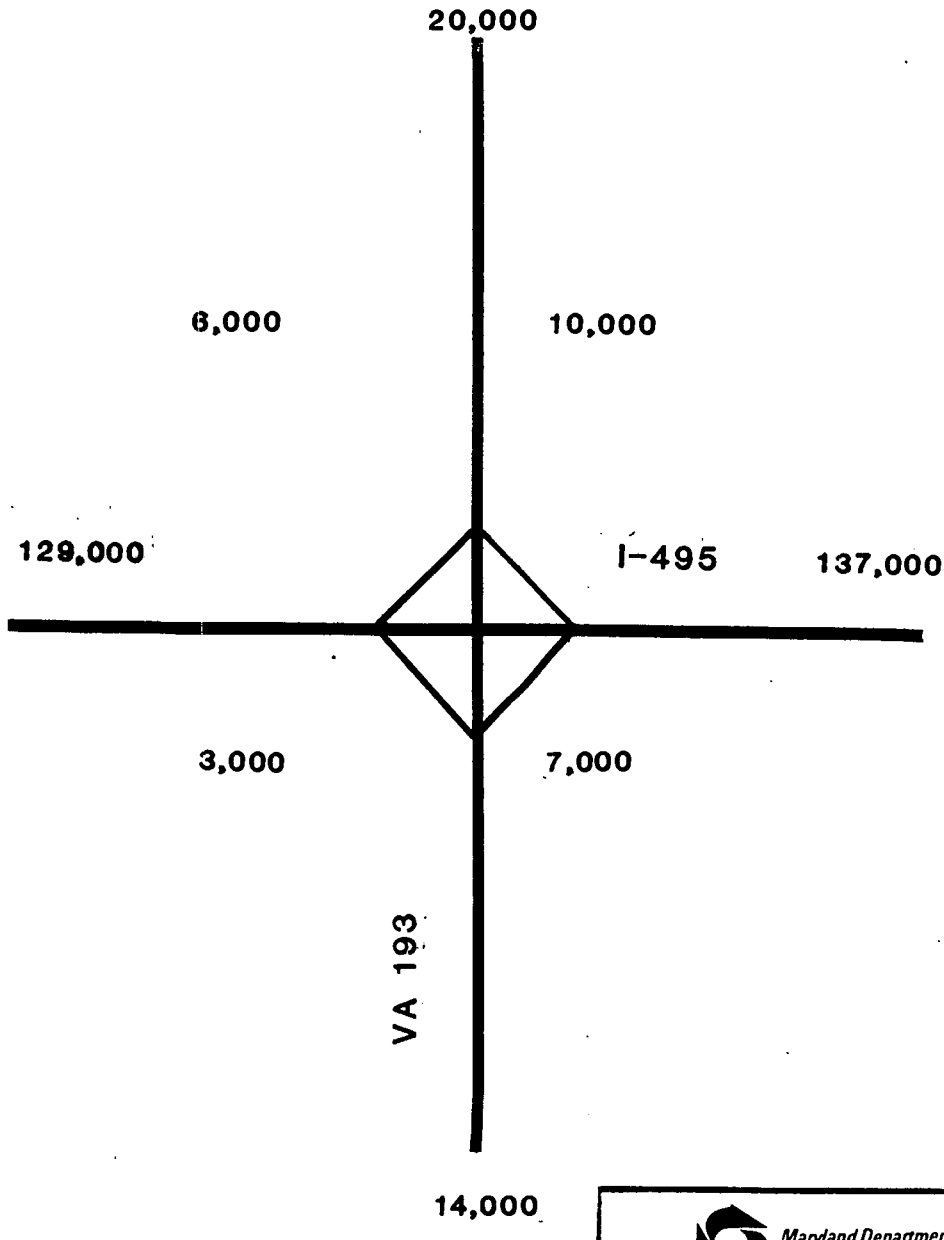
I-495
FROM MD. RTE. 190
TO VA. RTE. 193

Figure 12

45

NO-BUILD 2010 AVERAGE DAILY TRAFFIC

I-495 at Va. 193



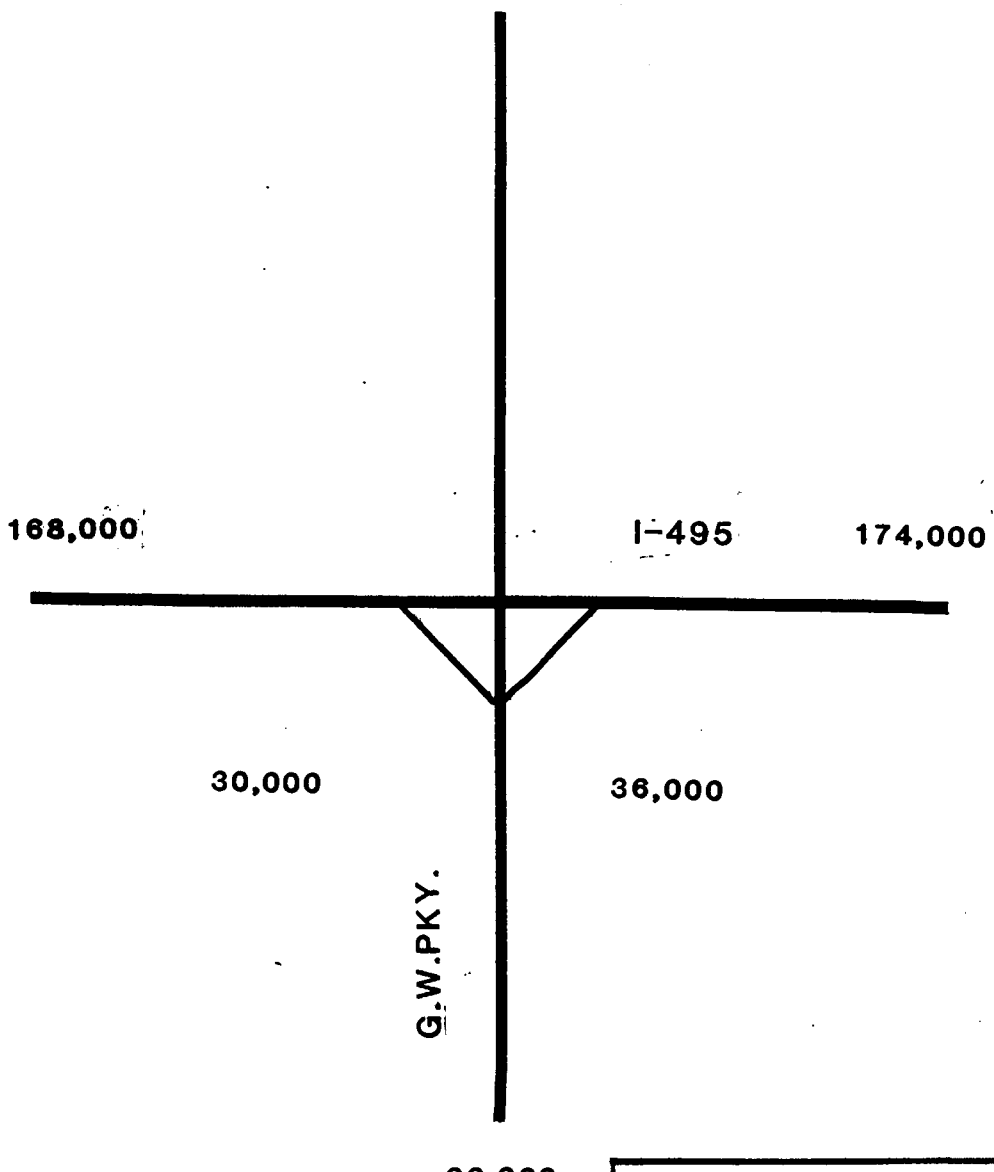
Maryland Department of Transportation
State Highway Administration

I-495
FROM MD. RTE. 190
TO VA. RTE. 193

Figure 13

BUILD 2010 AVERAGE DAILY TRAFFIC

I-495 at George Washington Parkway (Va.)



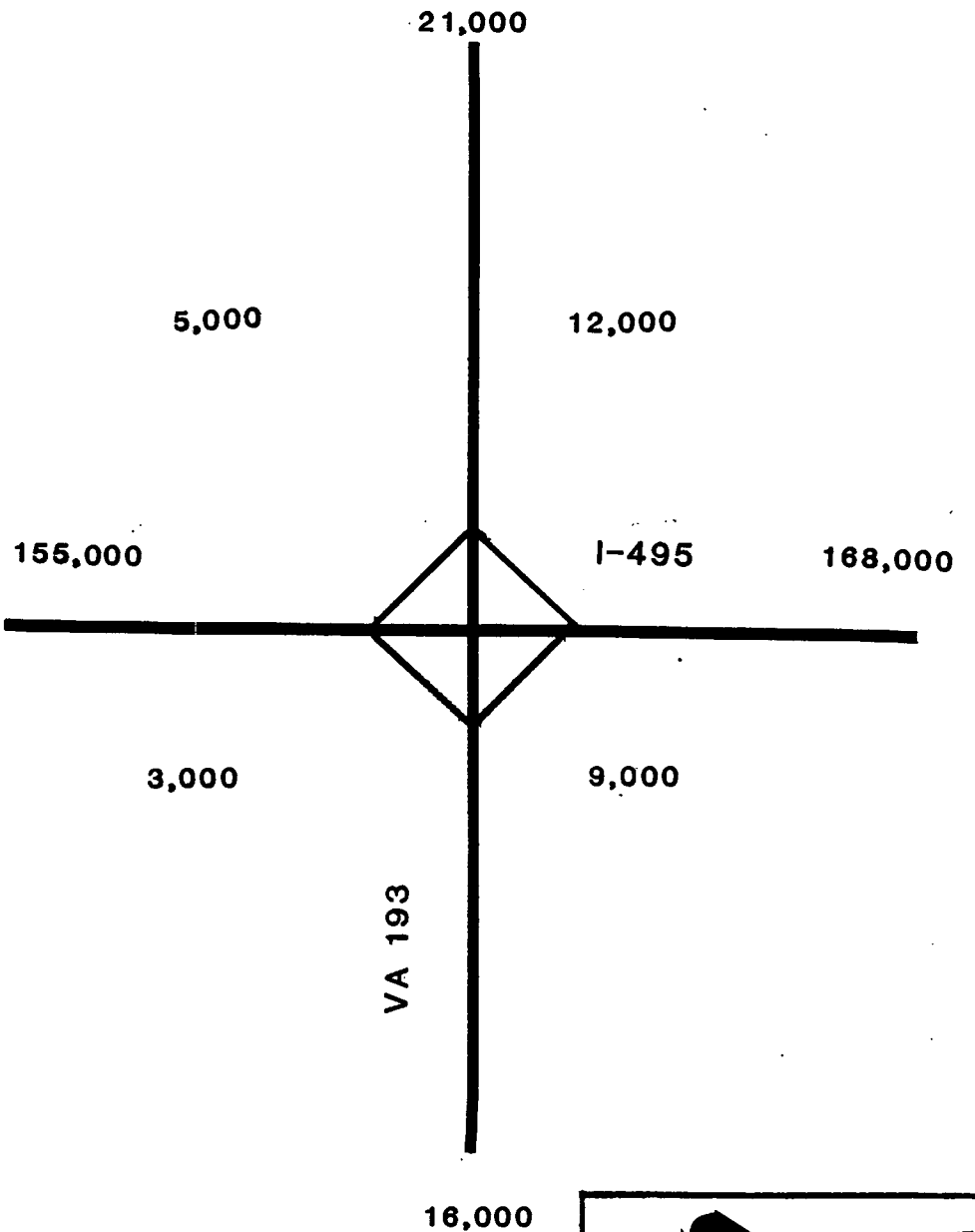
Maryland Department of Transportation
State Highway Administration

I-495
FROM MD. RTE. 190
TO VA. RTE. 193

Figure 14

BUILD 2010 AVERAGE DAILY TRAFFIC

I-495 at Va. 193



Maryland Department of Transportation
State Highway Administration

I-495
FROM MD. RTE. 190
TO VA. RTE. 193

Figure 15

III. ALTERNATES CONSIDERED

III. ALTERNATES CONSIDERED

A. Alternate 1 - No-Build Alternate

This alternate would provide no major improvements to the through roadways or interchanges. Normal maintenance such as resurfacing and bridge redecking would be accomplished as warranted. As traffic volumes grow, the frequency and duration of congested periods would increase. Increasing congestion is expected to result in higher collision rates which already exceed statewide averages.

B. Alternate 2 - Inside Widening (the Preferred Alternate)

This alternate proposes the addition of one lane in each direction to the existing six lane roadway. The additional two lanes would be constructed in the median and would be separated by a continuous concrete barrier.

Ten foot shoulders on both the median side and the outside of the through travel lanes would be provided. To the right of each outside shoulder a clear, 24 foot, unobstructed recovery area would be constructed where feasible within existing right-of-way and environmental constraints.

In interchange areas, acceleration and deceleration lanes would be lengthened to conform to current American Association of State Highway Transportation Officials Standards. In addition, auxiliary lanes between the two George Washington Memorial Parkways (G.W.M.P.) in Maryland and Virginia would also be needed to maintain an acceptable level of service. (These lanes are being built under the current bridge reconstruction project.) Retaining walls would be constructed to avoid using any additional right-of-way.

This alternate was chosen as the preferred alternate because its cost is lower, and it has fewer environmental impacts than Alternate 3.

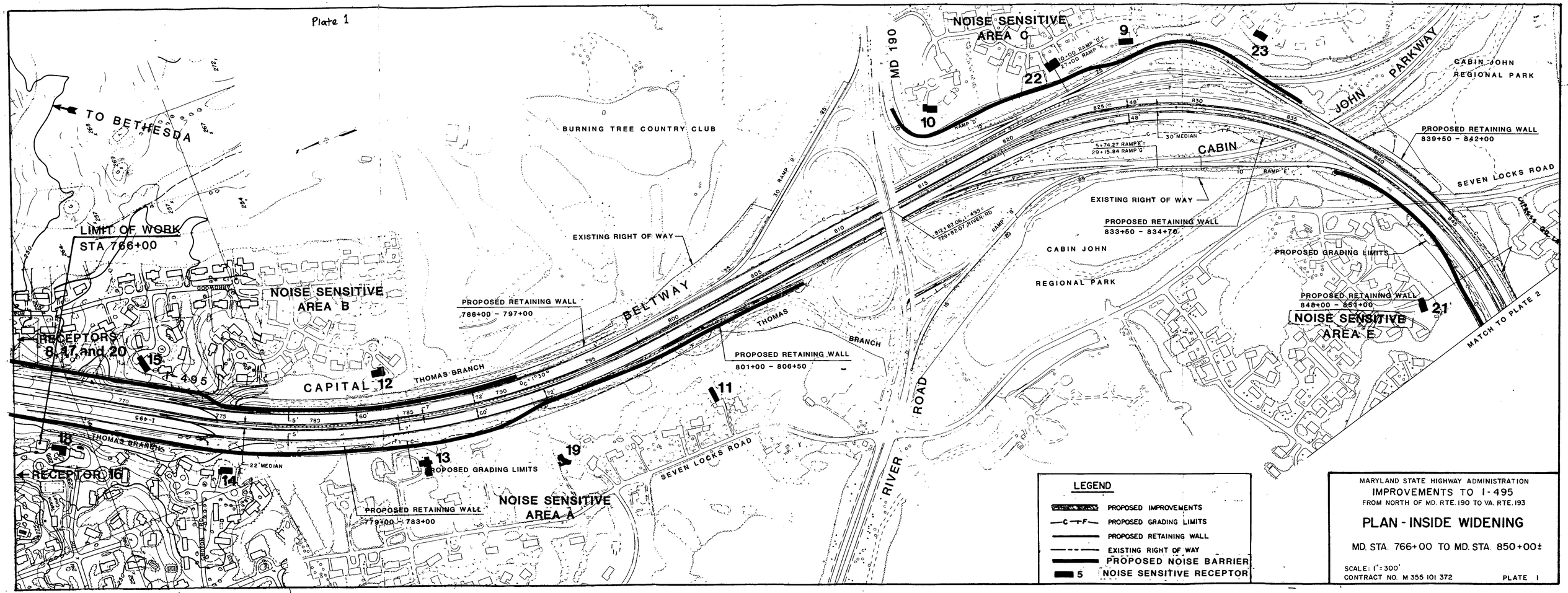
C. Alternate 3 - Outside Widening (Dropped from further consideration)

This alternate was dropped from further study after the Alternates Public Meeting due to public and agency comments, as well as environmental and engineering studies, which indicated that this alternate would more severely impact the local communities and environment by moving traffic and associated noise impacts closer to nearby houses, and by impacting Thomas Branch and its floodplain.

Alternate 3 proposed to add one lane in each direction on the outside of the existing six lane roadway. This outside widening would stay within right-of-way, while maintaining the existing median width. This alternate would not require a continuous median barrier as in Alternate 2.

This alternate, like Alternate 2, would provide a 24 foot unobstructed recovery area outside of the proposed ten foot shoulders. The median side of the roadways would also have ten foot shoulders. The acceleration and deceleration lanes would be lengthened at interchanges and the auxiliary lanes at George Washington Parkway would be constructed. Retaining walls would be constructed in some areas to avoid taking any additional right-of-way.

Plate 1



LEGEND

- PROPOSED IMPROVEMENTS
- PROPOSED GRADING LIMITS
- PROPOSED RETAINING WALL
- EXISTING RIGHT OF WAY
- PROPOSED NOISE BARRIER
- 5 NOISE SENSITIVE RECEPTOR

MARYLAND STATE HIGHWAY ADMINISTRATION

IMPROVEMENTS TO I-495

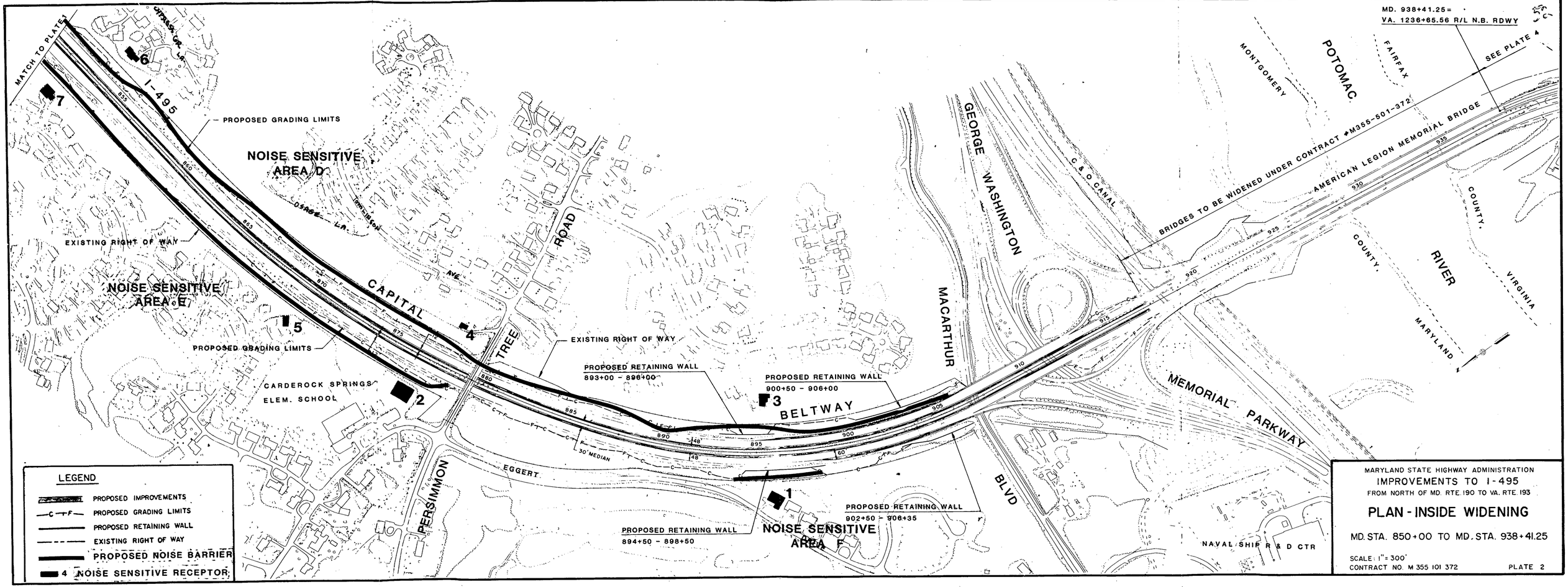
FROM NORTH OF MD. RTE. 190 TO VA. RTE. 193

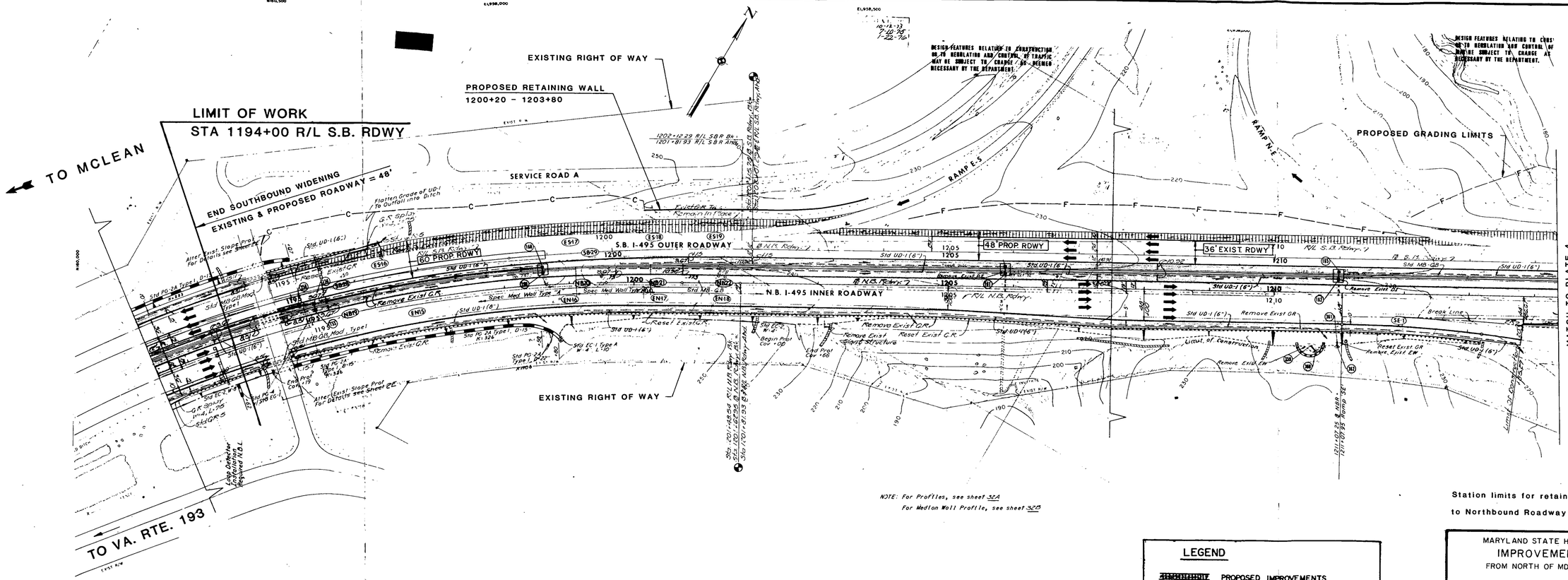
PLAN - INSIDE WIDENING

MD. STA. 766+00 TO MD. STA. 850+00±

SCALE: 1"=300'

CONTRACT NO. M 355 101 372 PLATE 1


MATCH TO PLATE 1
OVERPASS OF I-495
I-495
PROPOSED GRADING LIMITS
NOISE SENSITIVE AREA D
OSAGE LA.
TERRIBLETOWN
EXISTING RIGHT OF WAY
NOISE SENSITIVE AREA E
CAPITAL BELTWAY
PROPOSED GRADING LIMITS
CARDEROCK SPRINGS ELEM. SCHOOL
TREE ROAD
EXISTING RIGHT OF WAY
PROPOSED RETAINING WALL 893+00 - 896+00
PROPOSED RETAINING WALL 900+50 - 906+00
30' MEDIAN
EGGERT
PERSIMMON
PROPOSED RETAINING WALL 894+50 - 898+50
NOISE SENSITIVE AREA F
PROPOSED RETAINING WALL 902+50 - 906+35
MACARTHUR BLVD
GEORGE WASHINGTON MEMORIAL PARKWAY
NAVAL SHIP R & D CTR
C & O CANAL
MD. 938+41.25 = VA. 1236+65.56 R/L N.B. RDWY
SEE PLATE
MONTGOMERY COUNTY, MARYLAND
POTOMAC RIVER
FAIRFAX COUNTY, VIRGINIA
BRIDGES TO BE WIDENED UNDER CONTRACT #M355-501-372
AMERICAN LEGION MEMORIAL BRIDGE
1
2
3
4
5
6
7
LEGEND
PROPOSED IMPROVEMENTS
PROPOSED GRADING LIMITS
PROPOSED RETAINING WALL
EXISTING RIGHT OF WAY
PROPOSED NOISE BARRIER
4 NOISE SENSITIVE RECEPTOR
MARYLAND STATE HIGHWAY ADMINISTRATION
IMPROVEMENTS TO I-495
FROM NORTH OF MD. RTE. 190 TO VA. RTE. 193
PLAN - INSIDE WIDENING
MD. STA. 850+00 TO MD. STA. 938+41.25
SCALE: 1" = 300'
CONTRACT NO. M 355 101 372
PLATE 2



NOTE: For Profiles, see sheet 3A
For Median Wall Profile, see sheet 3C

Station limits for retaining walls relate to Northbound Roadway Baseline.

LEGEND

- PROPOSED IMPROVEMENTS
- C — F — PROPOSED GRADING LIMITS
- PROPOSED RETAINING WALL
- EXISTING RIGHT OF WAY

MARYLAND STATE HIGHWAY ADMINISTRATION

IMPROVEMENTS TO I-495

FROM NORTH OF MD. RTE. 190 TO VA. RTE. 193

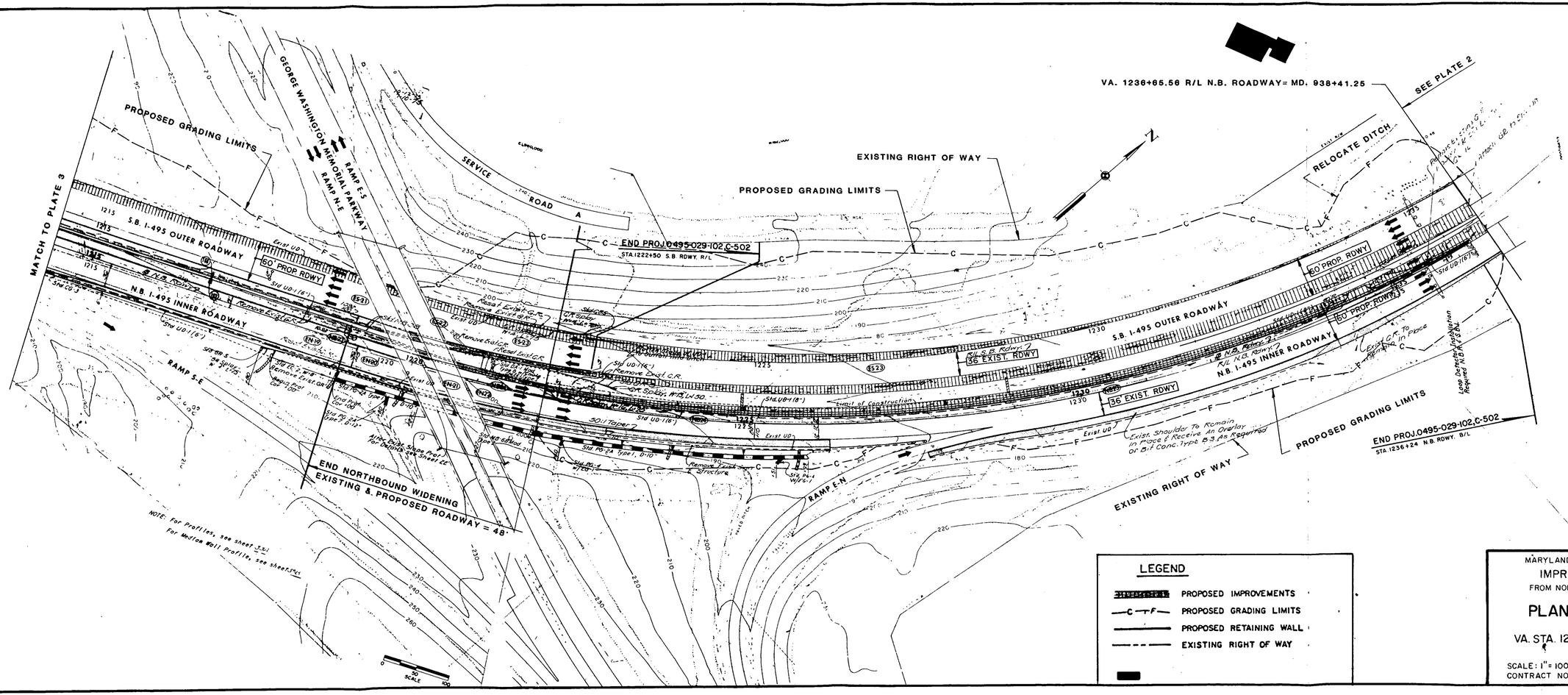
PLAN - INSIDE WIDENING

VA. STA. 1192+50 TO VA. STA. 1214+00 ±

SCALE: 1"= 100'

CONTRACT NO. M 355 101 372

PLATE 3



LEGEND

- PROPOSED IMPROVEMENTS
- PROPOSED GRADING LIMITS
- PROPOSED RETAINING WALL
- EXISTING RIGHT OF WAY

MARYLAND STATE HIGHWAY ADMINISTRATION

IMPROVEMENTS TO I-495

FROM NORTH OF MD. RTE. 190 TO VA. RTE. 193

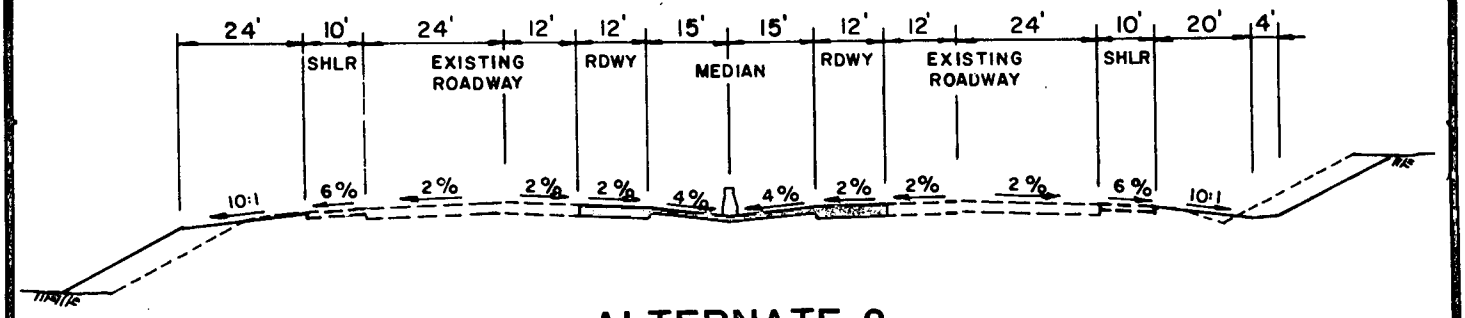
PLAN - INSIDE WIDENING

VA. STA. 1214+00± TO VA. STA. 1236+65.56

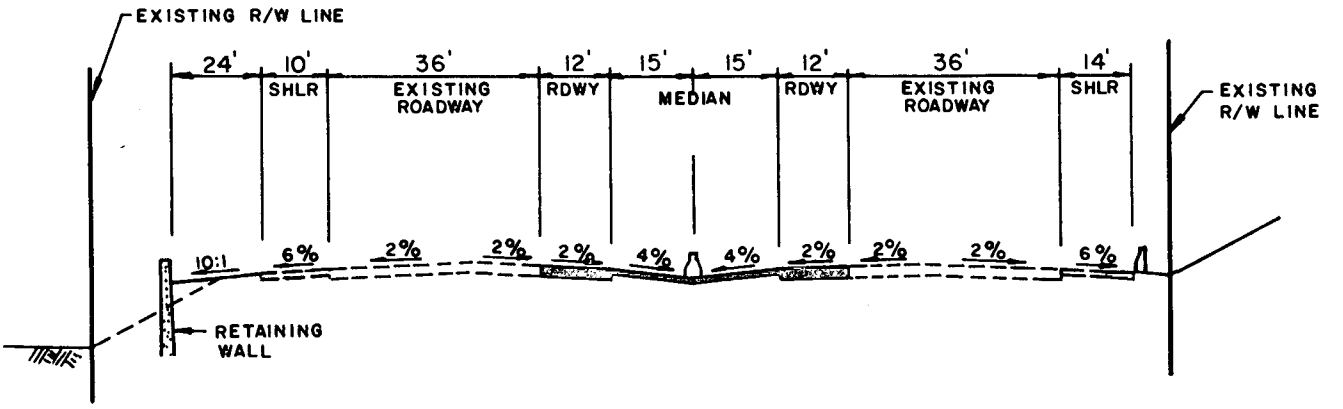
SCALE: 1" = 100'

CONTRACT NO. M 355 101 372

PLATE 4



ALTERNATE 2
WIDENING TO THE INSIDE
(Preferred Alternate)



WIDENING TO THE INSIDE
(In Restricted Right-of-Way Areas)

THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACT, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

NOT TO SCALE

MARYLAND STATE HIGHWAY ADMINISTRATION
IMPROVEMENTS TO I-495
FROM NORTH OF MD. 190 TO VA. 193

TYPICAL SECTIONS

Figure 16

IV. ENVIRONMENTAL IMPACTS

IV. ENVIRONMENTAL IMPACTS

A. Social, Economic, and Land Use Impacts

1. Social Impacts

Alternate 1 - the No-Build Alternate

The No-Build Alternate would not address the existing traffic congestion problem within the project limits. Consequently, access to facilities and services within the project area would grow worse for those using the Capital Beltway. When traffic volumes increase, as predicted, motorist safety would be further jeopardized. The No-Build Alternate would require no relocations or displacements, and would have no impact on the integrity or cohesion of local communities. However, some drivers could begin to use the local road network instead of the Beltway which could result in a some impacts on the quality of life in nearby communities.

Alternate 2

This alternate would relieve traffic congestion on the Beltway and improve safety and access to community facilities and services both in the study area and in the metropolitan Washington region as a whole. No relocation or displacements would be necessary, and no impacts to the integrity or cohesion of local communities is expected.

TITLE VI STATEMENT

It is the policy of the Maryland State Highway Administration to ensure compliance with the provisions of Title VI of the Civil Rights Act of 1964, and related civil rights laws and regulations which prohibit discrimination on the grounds of race, color, sex, national origin, age, religion, physical or mental handicap in all State Highway Administration program projects funded in whole or in part by the Federal Highway Administration. The State Highway Administration will not discriminate in highway planning, highway design, highway construction, the acquisition of right-of-way, or the provision of relocation advisory assistance.

This policy has been incorporated into all levels of the highway planning process in order that proper consideration may be

given to the social, economic, and environmental effects of all highway projects. Alleged discriminatory actions should be addressed to the Equal Opportunity Section of the Maryland State Highway Administration for investigation.

2. Economic Impacts

Alternate 1 - the No-Build Alternate

The No-Build Alternate could have long term impacts on the regional economy. The Capital Beltway is a vital link to the Washington, D.C. and Northern Virginia market areas and employment centers. Not alleviating the already severe congestion and safety problems would delay the exchange of goods and services, as well as make the Washington area a less attractive place to work. In light of the high levels of traffic forecast for this area of the Beltway, as well as the growing population and employment estimates, it is clear that the No-Build Alternate would undermine the expected growth of a large segment of the regional economy.

Alternate 2

This alternate would provide "the missing link", in the form of two additional lanes, which would alleviate the bottleneck in the study area. Providing these lanes would be an important step in addressing the transportation needs of the growing Washington, D.C. and Northern Virginia market areas.

3. Land Use Impacts

Alternate 1 - the No-Build Alternate

This alternate could have some impact on the land use goals set forth in the Master Plans. Although most of the study area is expected to continue in low density residential use, some potential residents and developers may be discouraged from building in areas closest to the Beltway because of increasing traffic congestion. This could result in pressure to develop the land further out in the

county at a higher density than recommended. Much of this land is designated for rural, residential or agricultural preservation. Consequently, this alternate is not consistent with land use goals in the study area.

Alternate 2

This alternate is consistent with land use goals, and is not expected to have an impact on land use in the study area other than to reinforce the master plan goals for providing an adequate transportation network to support planned development.

B. Historic and Archeological Impacts

The Maryland State Historic Preservation Officer has determined that the proposed project would have no effect on the two sites (Stoneyhurst and the Magruder Blacksmith Shop) that may be eligible for the National Register of Historic Places.

The Heritage Resources Branch of the Fairfax County Office of Comprehensive Planning recommends that the two archeological sites located within the Virginia portion of the study limits be fenced during construction to ensure that neither site is disturbed without further controlled investigation.

No archeological resources would be impacted by the proposed work in Maryland.

C. Natural Environment

The improvements to Interstate Route 495 are proposed to take place within existing right-of-way.

The only potential impacts would be erosion and sedimentation during construction, and increased roadway runoff from additional paved areas. The State Highway Administration would develop a Sediment and Erosion Control plan to minimize erosion and prevent sedimentation of area streams. This plan would be reviewed and

approved by the Maryland Department of Natural Resources. Temporary sediment traps, silt fences, interceptor dikes and ditches, slope stabilization and other erosion control measures would be included.

Significant grading is not expected since the improvements would be within the existing median. The existing roadway would prevent most of the sediment from escaping the construction site. Sediment traps in the median would help prevent sediment from going down storm drains.

Additional impervious surfaces would increase the amount of roadway runoff by approximately 33.3 percent. The deposition of roadway contaminants would increase proportionally with increased traffic volumes. Pollutant loads would increase by approximately 31.9 percent with the Build Alternate by the year 2010. This represents a 25 percent increase in pollutants by the Build Alternate over the No-Build for 2010.

Stormwater management techniques, approved by the Maryland Department of Natural Resources would ensure that no significant increases in the rate of runoff would occur. These controls would also serve to remove some of the roadway contaminants by the use of infiltration and other impoundments.

Stormwater management would also ensure that no significant increases in upstream or downstream flood levels would occur. Improvements to the outside of the roadway would occur within existing right-of-way, and retaining walls would prevent any encroachments into the 100 year floodplain, as well as any new stream crossings.

No natural terrestrial habitat would be affected by the proposed improvements. Some temporary sediment loading may occur during construction, but this would not adversely affect aquatic

organisms significantly. No threatened or endangered species would be affected by the proposed improvements.

D. Noise Impacts

1. Identification of Noise Sensitive Areas

Six noise sensitive areas have been identified in the study area. These areas consist of residential and educational uses. The six areas, designated A through F, as well as the ambient monitoring sites, are shown on Plates 1 and 2. All of the areas identified are Category B uses as defined by Federal Highway Administration FHPM 7-7-3. (Table 4)

Area A consists of the area west of I-495 and north of River Road (Maryland 190). The area is approximately one mile in length and includes ambient monitoring sites 11, 13, 14, 16, 18 and 19.

Area B is the area east of I-495 and north of River Road. As with Area A, the section extends approximately one mile. This area includes ambient sites 8, 12, 15, 17 and 20.

Area C is a 2,200 foot section parallel to and east of I-495 between River Road and the Cabin John Parkway. The area is primarily affected by Exit Ramp K. This area includes ambient monitoring sites 9, 10, 22 and 23.

Area D extends south from the underpass of Seven Locks Road to the underpass of MacArthur Boulevard along the east side of I-495. This area is approximately 5,800 feet in length and includes ambient monitoring sites 2, 4 and 6.

Area E extends along the west side of I-495 from the underpass of Seven Locks Road to the Persimmon Tree Road overpass, a section approximately 4,000 feet in length. This area includes ambient monitoring sites 2, 5, 7 and 21. Site 2 is the Carderock Springs Elementary School while the others are residences.

Area F is a cluster of five dwellings along Eggert Drive north

TABLE 4

NOISE ABATEMENT CRITERIA AND LAND USE RELATIONSHIPS
SPECIFIED IN FHPM 7-7-3

ACTIVITY CATEGORY	Leq (h)	L10 (h)	DESCRIPTION OF ACTIVITY CATEGORY
A	57 (Exterior)	60 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	70 (Exterior)	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	75 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	--	Undeveloped lands.
E	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

of the MacArthur Boulevard underpass, on the west side of I-495. Ambient monitoring site 1 was analyzed as the typical case for a section approximately 800 feet in length.

The sensitive receptors within each area are residential except for Site 2. Site 2 is the Carderock Springs Elementary School playground near Persimmon Tree Road.

2. Existing Noise Monitoring Program and Results

An on-site noise monitoring program was conducted at 23 sites. The monitoring was performed on November 6, 7, 8, 15 and 16, 1984 utilizing a BBN Model 614 Portable Noise Monitor System and a hand-held General Radio Sound Level Meter, Type 1565-A. The 614 is a combination sound level meter/microprocessor/printer which automatically measures, calculates and prints a wide range of statistical and cumulative sound levels including L_{10} noise level for the receptor through statistical analysis.

The 614 modeling was performed for 20-minute periods. The system's microphone was calibrated before and after the monitoring day to ensure the accuracy of results. In one case, at Receptor 21, a 24-hour monitoring period was used. The 24-hour monitoring was performed to determine the noise variations occurring during the day within the study corridor, as well as to correlate the 20-minute readings taken at the other noise sensitive receptors.

The hand-held meter was used to take 50 readings at 10-second intervals to determine the L_{10} value. (The L_{10} value is the noise level that is exceeded 10 percent of the time period under analysis. In cases where the confidence limits of the L_{10} value was less than 95 percent, a second set of 50 readings was made and the L_{10} value recalculated. Further sets of readings were added

where required to meet a 95 percent confidence level. Once the L10 value was obtained, it could be adjusted to determine the L_{eq} noise level for the site. The Leq or "Equivalent Sound Level" is the energy averaged sound level for a given period.) The meter's microphone was calibrated before and after each measurement to ensure the accuracy of results.

The results of the monitoring program are shown in Table 5.

TABLE 5
EXISTING NOISE LEVELS

Area	Site	Use	Address	Ambient L_{eq}
A	11	Residential	3405 Seven Locks Road	[70]
	13	Residential	7706 Cindy Lane	[73]
	14	Residential	7704 Groton Road	[69]
	16	Residential	7604 Quintana Court	[73]
	18	Residential	7605 Dwight Drive	[69]
	19	Residential	8613 Seven Locks Road	65
B	8	Residential	7409 Arrowwood Road	[68]
	12	Residential	7725 Arrowwood Court	[72]
	15	Residential	3 Arrowwood Terrace	[68]
	17	Residential	9104 Kittery Lane	[69]
	20	Residential	7417 Arrowwood Road	62
C	9	Residential	7541 Pepperell Drive	61
	10	Residential	33 Pepperell Court	66
	22	Residential	7525 Pepperell Drive	63
	23	Residential	7613 Royal Dominion Drive	62
D	3	Residential	8513 Carlynn Drive	64
	4	Residential	6925 Persimmon Tree Road	65
	6	Residential	8021 Cypress Grove	66
E	2	Educational	Persimmon Tree Lane	[69]
	5	Residential	8218 Stone Trail	67
	7	Residential	7608 Hamilton Springs Road	63
	21	Residential	8016 Thornley Court	66
F	1	Residential	8700 Eggert Road	62

[ ] Exceeds Federal Highway Administration Noise Abatement Criteria.

3. Noise Evaluation Criteria

The noise abatement criteria, as shown in Table 4, are based on the FHWA Procedures for Abatement of Highway Traffic Noise and Construction Noise (FHPM 7-7-3). These criteria were used to determine the overall noise impact of the proposed project. The criteria state that, for the existing land use categories in the project area, design hour L_{eq} sound levels must not exceed 67 dBA. The L_{eq} metric represents the average noise level in a predetermined time period, in this case one hour.

4. Modeling Approach

Future year (2010) noise level modeling for both the Build and No-Build conditions was performed using the STAMINA 2.0 computer model developed by the FHWA. This model, the most recently approved program from the FHWA, allows the input of multiple roadways and receptors making it ideal for the project's configuration.

Necessary input data for the STAMINA program include:

Coordinates and elevation of each roadway segment;

Number of vehicles of each type (cars, medium trucks, heavy trucks) per roadway segment;

Average speed for each vehicle type;

Location and elevation of any ground cover material such as trees and/or shrubs; and

Location and elevation of each receptor.

Roadway, ground cover and receptor coordinates were based on the photogrammetric mapping provided by the Administration. Receptor coordinates correspond to the monitoring locations. Traffic volumes utilized reflect Level of Service C traffic in design year (2010). Directional splits and average speeds were all

derived from previously prepared Administration data.

5. No-Build Alternate

Evaluation of the No-Build Alternate was performed to serve as a base case from which to assess the specific noise level increases resulting from the proposed improvements. The No-Build Alternate assumes that no improvements, other than normal maintenance, will occur within the project area. Modeling of this scenario resulted in the predicted hourly L_{eq} values shown in Table 6.

The results of the modeling show several situations where the predicted noise levels are lower than the current measured ambient levels. The explanation for this is based upon the fact that the ambient noise levels can be expected to fluctuate during the day and from day-to-day. This is due to differing traffic volumes, vehicle mix and speeds, influence from non-highway noise sources, etc. The monitoring programs did not attempt to determine vehicular volume, mix, or speed, therefore, it can be expected that there may be circumstances where predicted levels do not equal or exceed monitored values. Additionally, because ambient noise levels will not be increased above the 10 dBA criteria, the relationship to FHWA Noise Abatement Criteria is more critical.

Receptors within all six of the sensitive areas wil experience design year noise levels which exceed the FHWA L_{eq} 67 dBA noise abatement criteria. The maximum noise level would be 73 dBA within Area A with the maximum increase over the ambient L_{eq} (9 dBA) occurring within Area E.

As these noise levels are expected to occur without any improvements to the existing interstate, abatement considerations are not warranted.

BUILD ALTERNATE NOISE LEVELS

Noise Sensitive Area	Receptor Site	Ambient L_{eq}	No-Build L_{eq}	Build L_{eq}	Build Change From Ambient L_{eq}	Build Optimized Barrier L_{eq}	Attenuation L_{eq}
A	11	[70]	66	67	-3	64	3
	13	[73]	[71]	[72]	-1	61	11
	14	[69]	[71]	[72]	+3	63	9
	16	[73]	[73]	[74]	+1	62	12
	18	[69]	[70]	[71]	+2	63	8
	19	65	67	[68]	+3	65	3
B	8	[68]	67	[68]	0	58	10
	12	[72]	[71]	[72]	0	65	7
	15	[68]	[70]	[71]	+3	62	9
	17	[69]	67	[68]	-1	59	9
	20	62	67	[68]	+6	59	9
C	9	61	66	67	+6	56	11
	10	66	[68]	[69]	+3	60	9
	22	63	65	66	+3	56	10
	23	62	63	64	+2	59	5
D	3	64	[70]	[71]	+7	63	8
	4	65	[71]	[72]	+7	61	11
	6	66	[70]	[71]	+5	60	11
E	2	[69]	[69]	[70]	+1	61	9
	5	67	[72]	[73]	+6	64	9
	7	63	[71]	[72]	+9	60	12
	21	66	[69]	[70]	+4	60	10
F	1	62	[68]	[69]	+7	59	10

TABLE 6

6. Build Alternate

Construction of the proposed improvements would not necessarily place traffic closer to the noise sensitive areas. However, the anticipated overall increase in traffic volume resulting from the added travel lane would yield the hourly L_{eq}'s at each receptor within each site shown in Table 6.

The analysis of impact was based upon two criteria as follows:

- Relationship of predicted noise levels to ambient levels. Where ambient levels would increase by more than 10 dBA abatement consideration is warranted.
- Relationship of predicted noise levels to FHWA abatement criteria. If predicted noise levels exceed the criteria, abatement measures warrant consideration.

a. Relationship to Ambient Levels

The Build Alternate would not result in increases in ambient noise levels in excess of the 10 decibel criteria used for consideration, therefore, abatement considerations are not warranted at any site for any receptor based on this criterion.

b. Relationship to FHWA Abatement Criteria

The basis for consideration of noise abatement measures utilized in this analysis is an L_{eq} noise level greater than 67 dBA.

Examination of Table 6 indicates that hourly L_{eq} noise levels in all six of the noise sensitive areas analyzed would exceed 67 dBA. A summary of this follows.

c. Abatement Analysis

The abatement analysis, using computer modeling, was performed by the placement of a barrier between the roadway and receptor sites in each noise sensitive area. A base height was chosen and the barrier broken into segments. Computer model runs were then made to

determine the optimum barrier, both in height and length that could be constructed to meet the following three criteria. First, that the L_{eq} noise level be at or below the FHWA 67 dBA Leq noise abatement criteria. Second, that the attenuation from the barrier be approximately 10 dBA, and third, that the barrier result in a balanced Leq throughout the area. The exact barrier dimensions may be refined during the Final Design Phase of this project.

Area A would experience Build hourly Leq levels ranging from 67 dBA to 74 dBA. The resultant change from the ambient would be up to a 3 dBA increase. A barrier ±4,740 feet in length varying in height from 19 to 22 feet would lower the resultant L_{eq} values to within the FHWA criteria. These levels would range from 61 dBA to 65 dBA. The cost of the barrier would be approximately $2,370,000. The barrier would provide protection for approximately 27 first row residences at an average cost of $87,800 per residence. The barrier would begin at Station 759± and provide an attentuation range from 3 to 12 decibels.

Area B, north and east of I-495 River Road interchange, would experience L_{eq} levels ranging from 68 to 72 dBA. To meet the FHWA criteria, a barrier ±3,850 feet long and 20 feet in height would be required. This would result in design year L_{eq} values ranging from 58 to 65 decibels. The cost of such a barrier is estimated to be $1,925,000 to protect approximately 28 first row residences ($68,800 per residence). The barrier would start at Station 754± and provide attenuations ranging from 7 to 10 decibels.

Area C, south and east of the I-495 River Road interchange, would require a barrier ±2,200 feet in length with heights ranging from 20 to 25 feet to provide protection for 18 residences and

obtain noise levels within the FHWA criteria. Without the barrier, L_{eq} levels would range from 64 to 69 dBA where the aforementioned barrier would lower levels to a range from 56 to 60 dBA. The cost of the barrier would be approximately $1,210,000 ($67,200 per residence). The attenuation would range from 5 to 10 decibels for the barrier placed along Ramp D.

Area D, east of I-495 between MacArthur Boulevard and Seven Locks Road, would have design year L_{eq}'s in the 71-72 dBA range for 36 residences. A barrier 18 to 23 feet in height, ±5,740 feet long, beginning at Station 849±, would provide protection to meet the FHWA criteria at an approximate cost of $2,870,000 ($79,700 per residence). This barrier would maintain noise levels at or near the present ambient range (60-63 dBA) and provide attentuations ranging from 8 to 11 decibels.

Area E, between Persimmon Tree Road and Seven Locks Road west of I-495, would have resultant L_{eq} levels ranging from 70 to 73 dBA. A barrier ±3,980 feet long ranging from 18 to 24 feet in height would lower the Build L_{eq} levels at or below the FHWA criteria and within the range of 60 to 64 dBA. The cost of such a wall, located beginning at Station 838±, is approximately $2,089,500. Approximately 30 residences ($69,700 per residence) would be protected, as well as the Carderock Springs Elementary School. Attenuation would range from 9 to 12 decibels.

Area F, on Eggert Road, would require a barrier ±410 feet long and 22 feet tall to provide protection needed for five residential dwellings. Such a wall would lower the L_{eq} level from 69 dBA to 59 dBA at an approximately cost of $225,500 ($45,100 per residence). The barrier would begin at Station 894±.

The approximate cost of the barriers is based on an in-place cost of $25.00 per square foot and is in 1984 dollars.

7. Construction Noise

An inevitable increase in project area noise levels will occur during the construction of the proposed improvements. Such noise differs significantly from that generated by normal traffic due to its unusual spectral and temporal nature. The actual level of noise impact during this period will be a function of the number and types of equipment being used, as well as the overall construction procedure.

Generally, construction activity would occur during normal working hours on weekdays. Therefore, noise intrutions from construction activities probably would not occur during critical sleep or outdoor recreation periods.

A number of measures can be utilized in order to minimize noise resulting from such activities. Such measures include, but by no means are limited to, the following:

- Any internal combustion engine used for any purpose on or related to the job should be equipped with a properly operating muffler;
- Conduct truck loading, unloading and hauling so that noise is kept to a minimum;
- Route construction equipment and vehicles in areas that will cause the least disturbance to nearby receptors where possible; and
- When appropriate, place continuously operated diesel-powered equipment, such as compressors or generators, in areas as far from or shielded from noise sensitive locations.

8. Conclusions

Analysis of the study results indicates the following:

- 2010 design hour L_{eq} noise levels, at the identified sensitive areas, will increase existing noise levels by a maximum of 8 dBA for the No-Build situation and 9 dBa for the Build situation.

- Design hour noise levels will not increase ambient levels by 10 decibels or more. Abatement consideration based on this criteria is not warranted.

- Noise abatement measures for all six noise sensitive areas are warranted based on the FHWA noise abatement criteria of 67 dBA Leq for the Build situation.

E. Air Quality Impacts

1. Analysis Objectives, Methodology, and Results

The objective of the air quality analysis is to compare the carbon monoxide (CO) concentrations estimated to result from traffic configurations and volumes of each alternate with the State and National Ambient Air Quality Standards (S/NAAQS). The NAAQS and SAAQS are identical for CO: 35 PPM (parts per million) for the maximum 1-hour period and 9 PPM for the maximum consecutive 8-hour period.

A microscale CO pollution diffusion analysis was conducted using the third generation California Line Source Dispersion Model, CALINE 3. This microscale analysis consisted of projections of 1-hour and 8-hour CO concentrations at sensitive receptor sites under worst case meteorological conditions for the No-Build and the Build Alternates for the design year (2010) and the estimated year of completion (1990).

a. Analysis Inputs

A summary of analysis inputs is given below. More detailed information concerning these inputs is contained in the Interstate 495 Air Quality Analysis which is available for review at the

Maryland State Highway Administration, 707 North Calvert Street, Baltimore, Maryland 21202.

Background CO Concentrations

In order to calculate the total concentration of CO which occurs at a particular receptor site during worst case meterological conditions, the background CO concentrations are considered in addition to the levels directly attributable to the facility under consideration. The background concentration resulting from area-wide emissions from both mobile and stationary sources was assumed to be the following:

	CO, PPM	
	1 hour	8 hour
1990	2.9	2.0
2010	2.9	2.0

Traffic Data, Emission Factors, and Speeds

The appropriate traffic data was utilized as supplied by the Bureau of Highway Statistics (June, July, 1983; February, April, 1984) of the Maryland State Highway Administration.

The composite emission factors used in the analysis were derived from the Environmental Protection Agency (EPA) Mobile Source Emission Factors (March, 1978), and were calculated using the EPA MOBILE 1 computer program. An ambient air temperature of 20° F was assumed in calculating the emission factors for both the 1 hour analysis and 35°F for the 8 hour analysis in order to approximate worst case results for each analysis case. Credit for a vehicle inspection maintenance (I/M) emission control program beginning in 1984 was included in the emission factor calculations.

Average vehicle operating speeds used in calculating emission factors were based on the capacity of each roadway link considered, the applicable speed limit, and external influences on speed through the link from immediately adjacent links. Average operating speeds ranged from 30 mph to 55 mph depending upon the roadways and alternate under consideration.

Meteorological Data

Worst-case meteorological conditions of 1 meter/second for wind speed and atmospheric stability class F were assumed for both the 1 hour and 8 hour calculations. In addition, as stated above, a worst-case temperature of 20° F was assumed for the 1 hour analysis and 35°F for the 8 hour analysis.

The wind directions utilized as part of the analysis were rotated to maximize CO concentrations at each receptor location. Wind directions varied for each receptor and were selected through a systematic scan of CO concentrations associated with different wind angles.

b. Sensitive Receptors

Site selection of sensitive receptors were made on the basis of proximity to the roadway, type of adjacent land use, and changes in traffic patterns on the roadway network. Fourteen (14) receptor sites were chosen for this analysis consisting of twelve (12) residences, one (1) church, and a school. The receptor site locations were verified during study area visits by the analysis team. Receptor 17 borders I-495 directly outside the project limits as shown on Plate 5. The receptor sites are shown on

Plates 5 and 6, and a description of the sites follows:

Site Number	Description
4*	Residence, one (1) 1/2 story brick, Eggert Drive
5	Carderock Springs Elementary School Basketball Courts, Persimmon Tree Lane
6	Residence, two (2) story brick, Carlynn Drive
7	Residence, two (2) story, Persimmon Tree Road
8	Residence, two (2) story, Stone Trail Drive
9	Residence, two (2) story brick, Cypress Grove Lane
10	Residence, one (1) story, Hamilton Spring Road
11	Gibson Grove Zion Church, Seven Locks Road
12	Residence, two (2) story brick, Pepperell Drive
13	Residence, two (2) story, Pepperell Drive
14	Residence, one (1) story stone, Seven Locks Road
15	Residence, two (2) story brick, Arrowood Court
16	Residence, one (1) story, Cindy Lane
17	Residence, one (1) story, 7604 Carteret Drive

*Sites 1-3, located in Virginia, were not included in the analysis because an air quality analysis for the Virginia part of the project was included in the approved Negative Declaration prepared by the Virginia Department of Highway and Transportation (See Project Description on page I-1).

c. Results of Microscale Analysis

The results of the calculations of CO concentrations at each of

the sensitive receptor sites for the No-Build and Build Alternates are shown on Table 7. The values shown consist of predicted CO concentration attributable to traffic on various roadway links plus projected background levels. A comparison of the values in Table 7 with the S/NAAQS shows that no violations will occur for the No-Build or Build Alternates in 1990 or 2010 for the one-hour or eight-hour concentrations of CO. The projected CO concentrations vary between alternates depending on receptor locations as a function of the roadway locations and traffic patterns associated with each alternate.

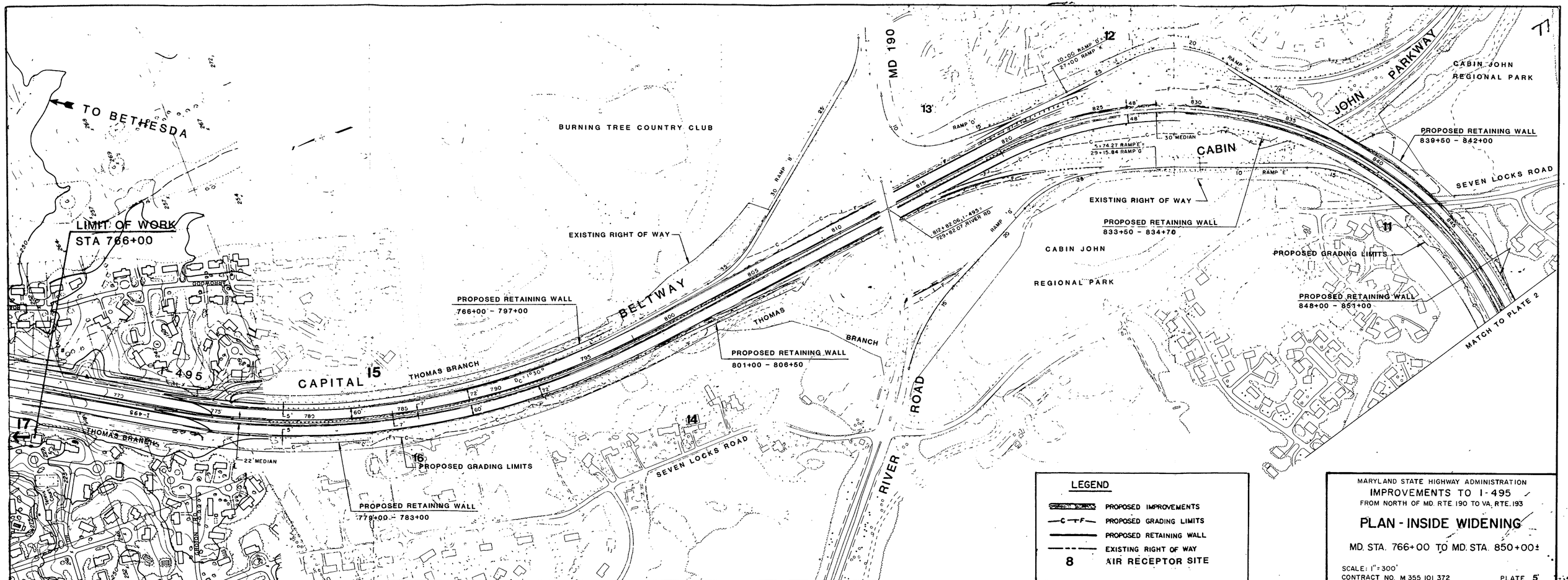
The Build Alternate produces, overall, slightly lower 1 hour concentrations than the No-Build Alternate in 1990 due to the increased speed with which traffic can flow on I-495 and the widening into the median. In 2010, the 1 hour concentrations created by the No-Build Alternate are consistently higher than those of the Build Alternate due to the lower travel speeds expected under the No-Build Alternate.

The 8 hour concentrations are consistently lower than the 1 hour concentrations due to the higher travel speeds during the off-peak period and the lower volumes.

In conclusion, the No-Build Alternate and Build Alternates will not result in violations of the one-hour or eight-hour S/NAAQS in 1990 or 2010.

2. Construction Impacts

The construction phase of the proposed project has the potential of impacting the ambient air quality through such means as fugitive dust from grading operations and materials handling. The State Highway Administration has addressed this possibility by



MARYLAND STATE HIGHWAY ADMINISTRATION

IMPROVEMENTS TO I-495

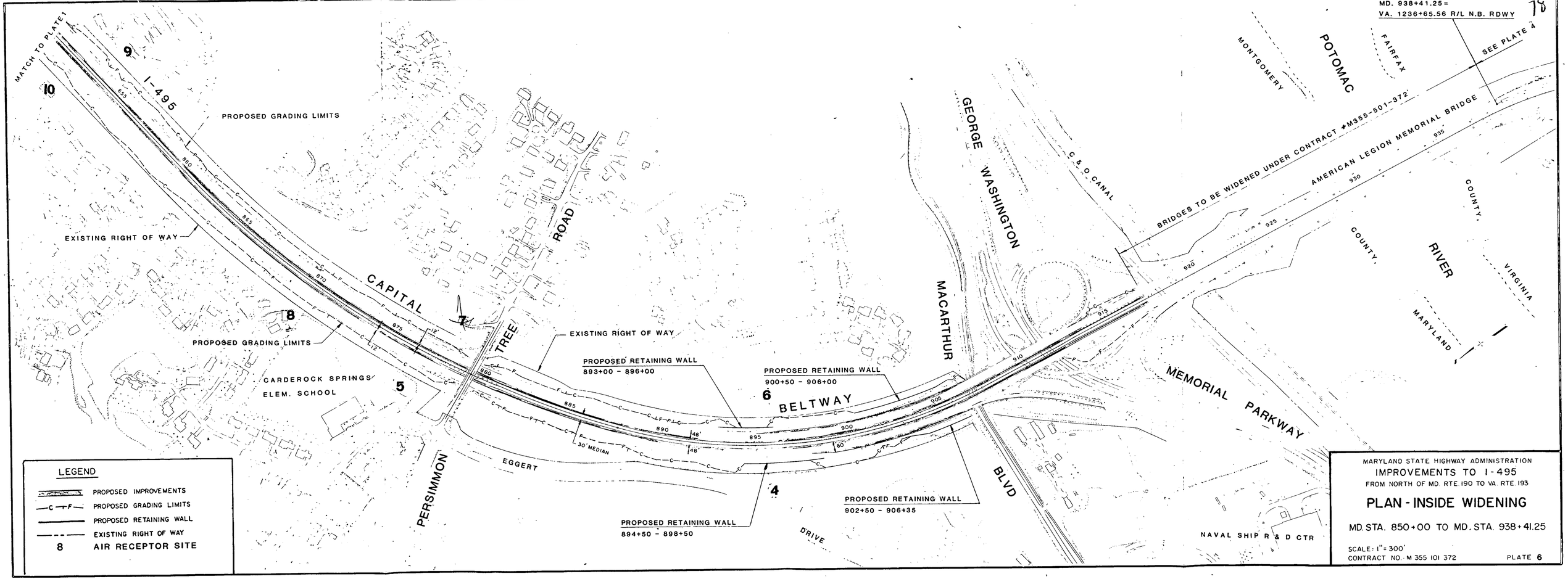
FROM NORTH OF MD. RTE. 190 TO VA. RTE. 193

PLAN - INSIDE WIDENING

MD. STA. 766+00 TO MD. STA. 850+00±

SCALE: 1"=300'

CONTRACT NO. M 355 101 372 PLATE 5



MARYLAND STATE HIGHWAY ADMINISTRATION

IMPROVEMENTS TO I-495

FROM NORTH OF MD. RTE. 190 TO VA. RTE. 193

PLAN - INSIDE WIDENING

MD. STA. 850+00 TO MD. STA. 938+41.25

SCALE: 1" = 300'

CONTRACT NO. M 355 101 372

PLATE 6

CO Concentrations* at Each Receptor Site, PPM

RECEPTORS	NO-BUILD (Alternate 1)				BUILD (Alternate 2)			
	1990		2010		1990		2010	
	1 Hr.	8 Hr.	1 Hr.	8 Hr.	1 Hr.	8 Hr.	1 Hr.	8 Hr.
4	3.6	2.6	5.0	2.7	3.6	2.6	3.8	2.7
5	4.4	3.2	5.5	3.7	4.3	3.2	5.0	3.7
6	3.5	2.5	3.9	2.6	3.4	2.4	3.6	2.6
7	4.0	2.9	4.9	3.3	3.9	2.8	4.4	3.2
8	3.5	2.5	4.0	2.7	3.5	2.5	3.9	2.8
9	3.6	2.6	4.1	2.8	3.6	2.6	3.8	2.7
10	3.8	2.7	4.5	3.0	3.7	2.7	4.1	3.0
11	3.9	2.8	4.8	3.2	3.9	2.8	4.3	3.1
12	3.6	2.6	4.0	2.7	3.5	2.5	3.8	2.7
13	3.6	2.6	4.1	2.8	3.6	2.6	3.9	2.8
14	3.2	2.2	3.4	2.3	3.2	2.2	3.4	2.4
15	3.8	2.7	4.3	2.9	3.7	2.7	4.0	2.9
16	3.9	2.8	4.5	3.0	3.7	2.7	4.2	3.0
17	4.5	3.3	5.4	3.6	4.4	3.2	5.0	3.7

* Including Background Concentrations

The SINAAQS for CO: 1 Hr. maximum = 35 PPM
8 Hr. maximum = 9 PPM

establishing Specifications for Materials, Highways, Bridges and Incidental Structures which specifies procedures to be followed by contractors involved in state work.

The Maryland Bureau of Air Quality Control was consulted to determine the adequacy of the Specifications in terms of satisfying the requirements of the Regulations Governing the Control of Air Pollution in the State of Maryland. The Maryland Bureau of Air Quality Control found that the specifications are consistent with the requirements of these regulations. Therefore, during the construction period, all appropriate measures will be taken to minimize the impact on the air quality of the area.

3. Conformity with Regional Air Quality Planning

The project is in an air quality nonattainment area which has transportation control measures in the State Implementation Plan (SIP). This project conforms with the SIP since it originates from a conforming transportation improvement program.

4. Agency Coordination

Copies of the technical Air Quality Analysis are being circulated to the U.S. Environmental Protection Agency and the Maryland Air Management Administration for review and comment.

V. COMMENTS AND COORDINATION

V. COMMENTS AND COORDINATION

Coordination of this project with the public consisted of the Alternates Public Meeting held at Carderock Springs Elementary School on October 4, 1984. Approximately 101 people attended the meeting. The majority of the comments from this meeting expressed support for Alternate 2. Citizens were also concerned about the potential noise increase which may result from the proposed project.

Coordination of this project with appropriate resource agencies was begun on August 11, 1983 at the Inter-Agency Quarterly Review held by the State Highway Administration. Representatives from the National Park Service, the National Capital Planning Commission, the Maryland-National Capital Park and Planning Commission, as well as the Virginia Department of Highways and Transportation attended this meeting.

In addition, this project has been coordinated with the Maryland Geological Survey, the Maryland Historical Trust, the Heritage Resources Branch of Fairfax County's Office of Comprehensive Planning, the U.S. Fish and Wildlife Service, the Maryland Forest, Park and Wildlife Service and the Maryland Natural Heritage Program of the Maryland Department of Natural Resources.

Continuing efforts will be made to coordinate the proposed project with appropriate review agencies and the public. A Combined Location/Design Public Hearing is anticipated in January, 1985.

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State of Maryland

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OFFICE OF ENVIRONMENTAL PROGRAMS
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

201 WEST PRESTON STREET • BALTIMORE, MARYLAND 21201 • AREA CODE 301 • 383-3245

TTY FOR DEAF: Balto. Area 383-7555
D.C. Metro 565-0451

Adele Wilzack, R.N., M.S., Secretary

William M. Eichbaum, Assistant Secretary

December 14, 1984

Ms. Cynthia D. Simpson, Acting Chief
Environmental Management
Bureau of Project Planning (Room 310)
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

RE: P.D.M.S. No. 151087
Contract No. M 355-101-372
Interstate Route 495
North of Maryland 190 to
Virginia 193

Dear Ms. Simpson:

We have reviewed the Draft Air Quality Analysis for the above subject project and have found that it is not inconsistent with the Administration's plans and objectives.

Thank you for the opportunity to review this analysis.

Sincerely,

Edward Carter

Edward L. Carter, Chief
Division of Air Quality Planning
and Data Systems
Air Management Administration

ELC:cw

Torrey C. Brown, M.D.
SECRETARY
LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CAPITAL PROGRAMS ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

FRED L. ESKEW
ASSISTANT SECRETARY
FOR CAPITAL PROGRAMS

December 6, 1983

Mr. Wm. F. Schneider, Jr., Chief
Bureau of Project Planning
State Highway Administration
P.O. Box 717
707 North Calvert Street
Baltimore, Md. 21203

RE: Contact No. M 355-101-372
Interstate Route 495 from South of the Potomac River to North of River Road.

Dear Mr. Schneider:

Review of the Heritage Programs data base indicates that although no species presently included on the state or federal Endangered Species Lists have been reported within the study area for this project, a number of plants and animals identified as rare in Maryland by the MNHP are present. Most of these species have been reported from Plummers Island or the adjacent shore along the Potomac River. If your proposed action will be completed within the existing right-of-way of Route 495, and will not require additional pier or abutment work at the Route 495 crossing of the Potomac River, significant impact to these populations may not occur. We will be glad to provide additional comment when the scope of proposed construction has been identified in more detail.

Sincerely,

Arnold Norden

Arnold Norden
Maryland Natural Heritage Program

AWN:dks

TELEPHONE: (301) 269-3656/3344
TTY FOR DEAF-BALTIMORE 269-2609, WASHINGTON METRO 565-0450

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DEPARTMENT OF NATURAL RESOURCES
Maryland Forest, Park & Wildlife Service
TAWES OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

TORREY C. BROWN, M.D.
SECRETARY

DONALD E. MacLAUCHLAN
DIRECTOR

December 7, 1983

Mr. Louis H. Ege, Jr.
State Highway Administration
P.O. Box 717/707 North Calvert Street
Baltimore, Maryland 21203-0717

Dear Mr. Ege:

There are no known populations of listed threatened or endangered species in the area of project influence for the proposed widening of Interstate Rt. 495 from south of the Potomac River to north of River Road as described to me in your letter of November 28, 1983.

Sincerely,

Gary J. Taylor
Nongame & Endangered
Species Program Manager

GJT:ba
cc: Carlo Brunori

Telephone (301) 827-8612
TTY FOR DEAF: STATEWIDE 1-800-492-5062; BALTIMORE 269-2609

86

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
6TH AND WALNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

DEC 14 1984

Ms. Cynthia D. Simpson, Acting Chief
Environmental Management
Bureau of Project Planning (Room 310)
Maryland State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Re: I-495, MD 190 to VA 193, Montgomery County, Maryland and Fairfax County, Virginia (A-FHW-0ØØ12-00)
I-70, Mr. Phillip Road to MD 144, Frederick County, Maryland (A-FHW-0ØØ11-MD)

Dear Ms. Simpson:

We reviewed the air quality analyses performed for the above referenced projects. Based upon this review, we have no objection to either of the projects from from an air quality standpoint. As such, we have rated the documents 'LO' in EPA's classification system. Please note that these comments relate only to air quality impacts of the facility, and that we will comment on other impacts of the project when the appropriate documents are submitted for our review.

If you have any questions, or if we can be of further assistance, please contact Mr. William J. Hoffman of my staff at 215-597-7828.

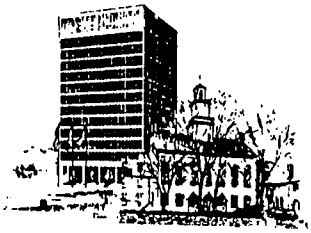
Sincerely,

Will J. Hoff

John R. Pomponio, Chief
Environmental Impact and
Marine Policy Branch

1984 DEC 21 AM 11 23

87



COMMONWEALTH OF VIRGINIA
COUNTY OF FAIRFAX
4100 CHAIN BRIDGE ROAD
FAIRFAX, VIRGINIA 22030

December 18, 1984

Ms. Cynthia D. Simpson, Acting Chief
Environmental Management
Maryland Department of Transportation
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203

Re: Contract No. M 355-101-372; I-495 north of Maryland Route 190 to Virginia Route 193; PDMS No. 151087.

Dear Ms. Simpson:

Mr. Dennis Curry and I conducted a second reconnaissance of sites 44FX374 and 44FX389 which are adjacent to I-495 on the Virginia side of the Potomac River at Cabin John (report attached). We found that both sites contained a moderate amount of artifacts, some of which were of high information potential, and a high potential for horizontal integrity (light disturbance). As a result, I have recommended that both sites be fenced off and neither site be disturbed without further controlled investigation (Phase II assessment).

Please let me know if you have any questions or need further assistance.

Sincerely,

Mike Johnson

MFJ:sg
Encl.

Mike Johnson, Archaeologist
Heritage Resources Branch
Office of Comprehensive Planning

cc: Dennis C. Curry, Archaeologist
Maryland Geological Survey

Dr. Stephen R. Potter, Archaeologist
National Park Service

Bruce Larson, Archaeologist
Virginia Historic Landmarks Commission

Maryland Historical Trust

December 18, 1984

Ms. Cynthia D. Simpson
Environmental Management
State Highway Administration
P.O. Box 717
707 N. Calvert Street
Baltimore, Maryland 21203-0717

Re: Contract No. M 355-101-372
I-495 from MD Rt. 190 to VA Rt. 193
P.D.M.S. No. 151087

Dear Ms. Simpson:

Thank you for your letter of November 19, 1984 regarding the above-referenced project.

We concur with your opinion that Stoneyhurst (M 29-41) and the Magruder Blacksmith Shop (M 29-40) may be eligible for the National Register. We further concur that the Gibson Grove A.M.E. Zion Church (M 29-39), the Lynch House (M 35-18) and the Potter House (M 29-35) appear to be inventory-quality sites and not eligible for the Register.

We believe that the proposed improvements as shown on the plans will have no effect on Stoneyhurst or the Magruder Blacksmith Shop.

Sincerely,

J. Rodney Little
Director
State Historic Preservation Officer

JRL/KEK/bjs

cc: Mrs. George Kephart
Ms. Roberta Hahn
Ms. Rita Suffness
Mr. Mark Walston

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UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

DIVISION OF ECOLOGICAL SERVICES
1825B Virginia Street
Annapolis, Maryland 21401

December 21, 1983

Mr. Louis H. Ege, Jr.
Environmental Management
State Highway Administration
P.O. Box 717
707 N. Calvert Street
Baltimore, MD 21203

Dear Mr. Ege:

This responds to your November 28, 1983, request for information on the presence of Federally listed endangered or threatened species within the impact area of Interstate Route 495 (Capitol Beltway) from south of the Potomac River to north of River Road.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 Consultation is required with the Fish and Wildlife Service (FWS). Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to endangered species under our jurisdiction. It does not address other FWS concerns under the Fish and Wildlife Coordination Act or other legislation.

Thank you for your interest in endangered species. If you have any questions or need further assistance, please contact Andy Moser of our Endangered Species staff at (301) 269-6324.

Sincerely yours,

Glenn Kinser
Supervisor
Annapolis Field Office

TORREY C. BROWN M.D.
SECRETARY
LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
MARYLAND GEOLOGICAL SURVEY
THE ROTUNDA
711 W. 40TH STREET, SUITE 440
BALTIMORE, MARYLAND 21211

KENNETH N. WEAVER
EMERY T. CLEAVES

2 June 1983
Division of Archeology

Ms. Rita M. Suffness
Environmental Management Office
Bureau of Project Planning
State Highway Administration
Room 314
707 N. Calvert Street
Baltimore, MD 21202

Re: I-495 (River Rd to G-W Pkwy)
Archeological Potential

Dear Rita:

Enclosed is a copy of our Site Survey map which encompasses the subject project. The project, as you described to me, is restricted to the north (west) side of the Beltway; therefore, my comments are restricted to only that area.

As you can see, June Evans surveyed a transect along Cabin John Creek at the River Road/I-495 interchange and found no sites. Likewise, M/DOT Transect 12-001 failed to locate any sites near the GW Parkway/I-495 interchange. The intervening area appears to have low archeological potential.

The one area that may have archeological remains in the study area is at the GW Parkway/I-495 interchange where two village sites are reported (18M022 and Quad File #3). Both areas appear to have been heavily impacted by road construction, although if they were in fact villages one might expect intact remains and features on the fringes of the impact areas.

Finally, the Franklin & Gregory (1980) survey does not report any additional archeological material in this area, although the intensity of their survey is difficult to ascertain from the report.

If I can be of further assistance on this matter, please do not hesitate to call me.

Sincerely yours,

Dennis C. Curry
Archeologist

PS - Map showing the Ritchie Parkway alignment that I surveyed and the location of the cemetery I found is also enclosed.

cc: Barbara Smith

TELEPHONE 301-338-7066

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