



final environmental statement

FOR:

CONTRACT No. AA 936-151-572
P 409-151-372

F.A.P. No. I-297-1(1)
MARYLAND ROUTE 3 CORRIDOR STUDY
(PROPOSED I-297)

FROM U.S. ROUTE 50/301
TO MARYLAND ROUTE 32

ANNE ARUNDEL AND
PRINCE GEORGE'S COUNTY, MARYLAND

prepared by
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

and
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

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CORRIDOR STUDY
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REGION III

Maryland Route 3 Corridor Study
 (Proposed I-297)
 From U.S. Route 301
 To Maryland Route 32
 Anne Arundel and Prince George's Counties, Maryland

FINAL ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to 42 U.S.C. 4332 (2) (C)

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

4/4/83

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The objective of the project was to determine the feasibility of upgrading to Interstate standards an existing 7.7 mile section of Maryland Route 3 between U.S. Routes 50/301, in Prince George's County, and Maryland Route 32 in Anne Arundel County. This section of Maryland Route 3 serves commuter traffic to the developing communities south of Baltimore. It also serves thru traffic, including trucks, from Baltimore and points north that wish to by-pass the Washington Metropolitan area for points south. The Selected Alternate, Alternate 7 Modified, will result in the relief of traffic congestion, the reduction of accident rates and the removal of traffic flow impediments.

Alternate 7 Modified is largely within existing right of way and has minimum environmental impacts. These include some acquisition of right of way and homes and businesses, minor wetland and floodplain involvement and in some areas Federal Design Noise Levels are exceeded. All of the impacts can be adequately mitigated. Proposed mitigation measures are described in the document.

I. SUMMARY

I. SUMMARY

A. INTRODUCTION

The Maryland Route 3 Corridor Study was initiated in June, 1977 to investigate the feasibility of improving a section of State highway that had been experiencing significant safety and capacity problems for several years. The study area for this project extends from U.S. 50/301 in Prince George's County to Maryland Route 32 in Anne Arundel County, a distance of approximately 8.5 miles (See Exhibit I-1).

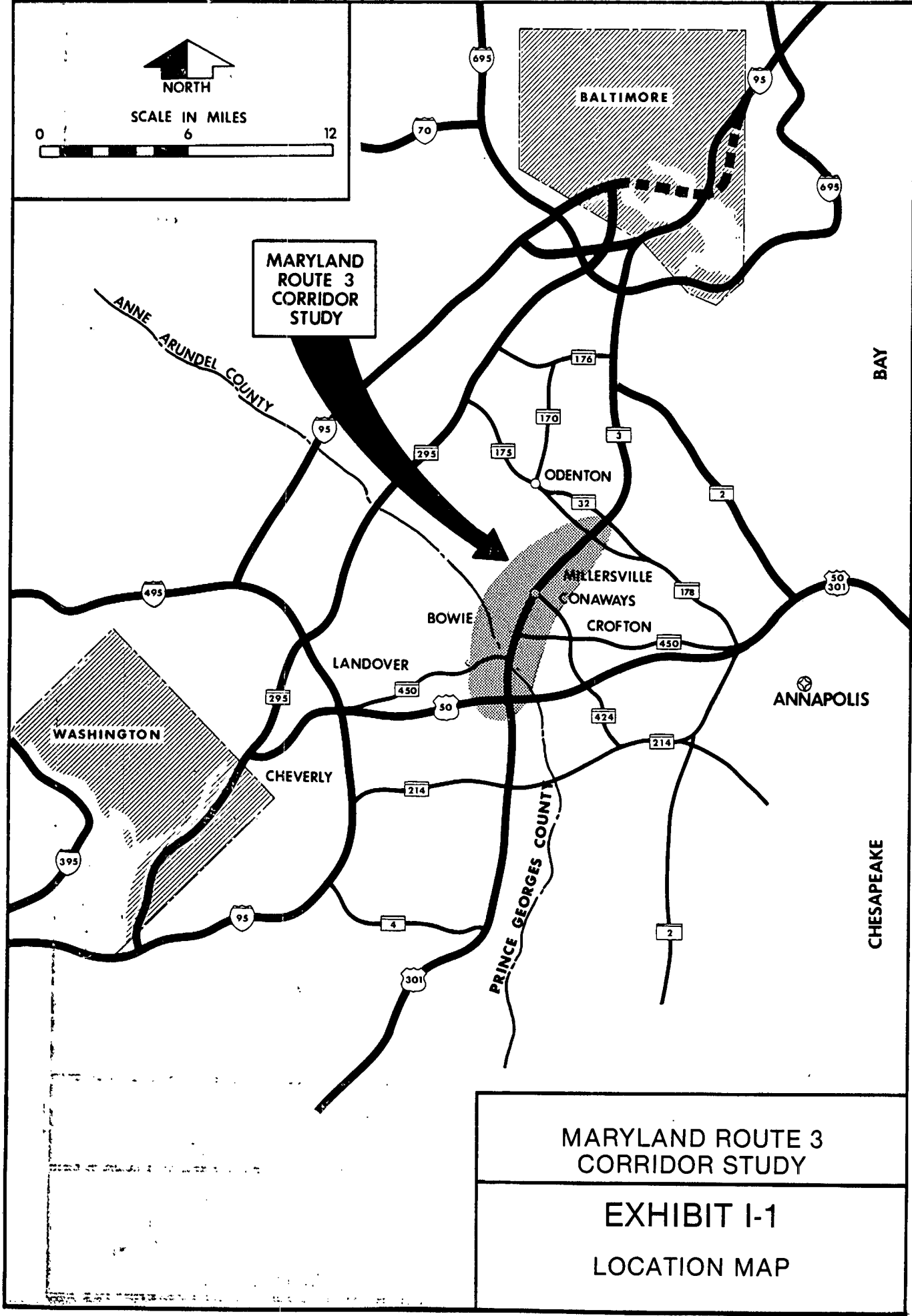
Although this facility has historically carried significant amounts of Interstate traffic, the safety and capacity problems did not fully manifest themselves until residential growth in the corridor began generating increased amounts of local traffic. Because Maryland Route 3 is the only through north-south facility in the corridor, many of the local trips must use some portion of this roadway. Further complicating the situation is total lack of any access control along this portion of Maryland Route 3. The objective of the study became, therefore, to improve the facility by separating thru and local traffic and by controlling access.

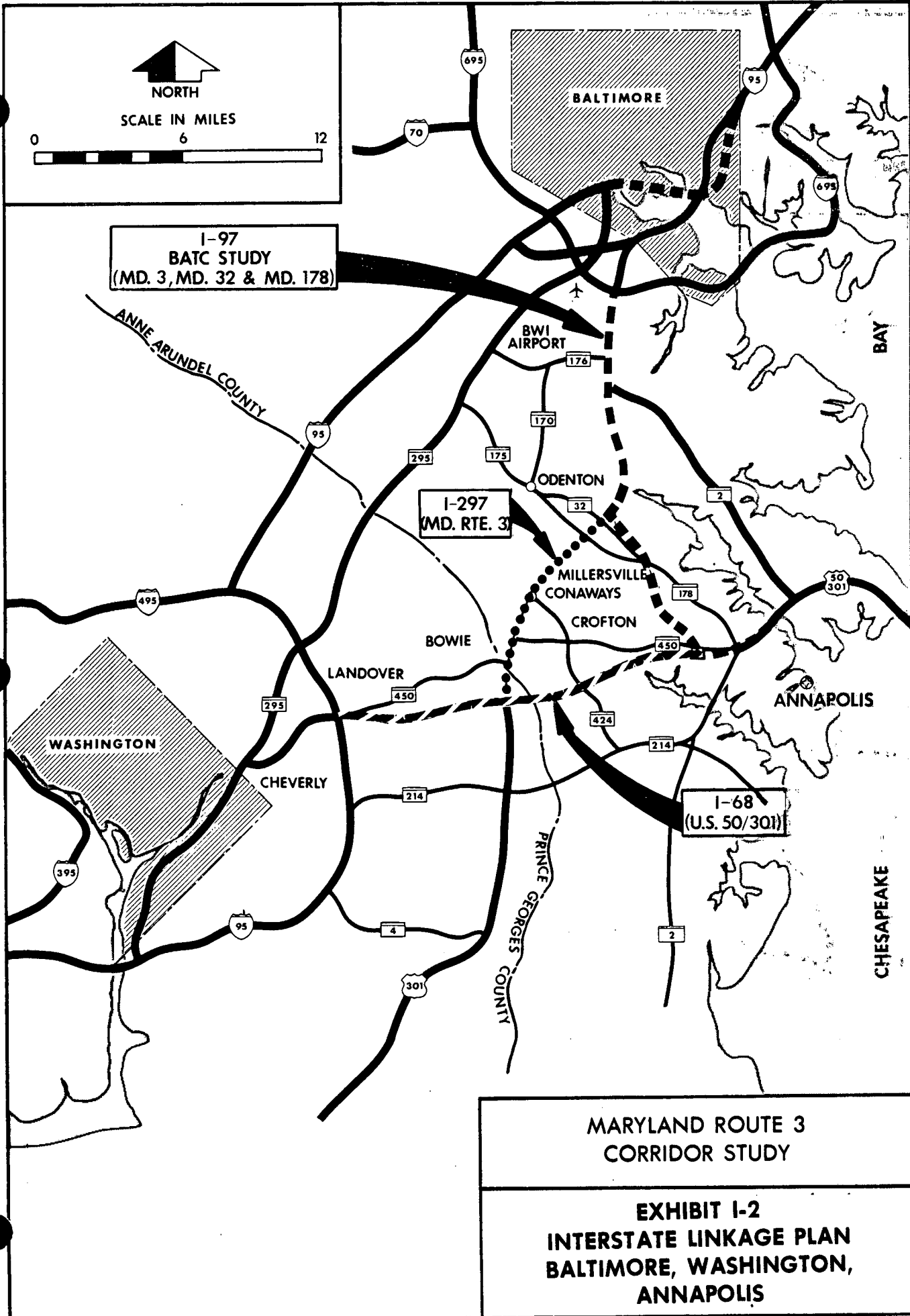
It is the intent of this study to utilize funds transferred from projects that have been deleted from Maryland's Interstate program. Accordingly, alternate improvements were developed that met or exceeded design standards for Interstate highways. During the course of the study, non-Interstate alternates were also included in the study in order to insure that all reasonable alternatives were being considered.

This study has resulted in the selection of an Interstate alternate. Although they minimized environmental impacts, the other alternates failed to provide the separation of thru and local traffic or the control of access needed to solve the safety and capacity problems. The selected action will be designated Interstate 297, and will become a part of a planned three project improvement for the Washington/Baltimore/Annapolis area.

The geographical relationship of these three projects is shown on Exhibit I-2. Interstate 297 is proposed to connect I-97 at Millersville to I-68 at Bowie. (I-595)

The Baltimore/Annapolis Transportation Corridor (BATC) Study has recommended that the portion of Maryland Route 3 from the Baltimore





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Beltway (I-695) southward to Maryland Route 32 be improved to an Interstate design. This highway would turn east along Maryland 32 and Maryland 178 towards Annapolis. This study includes a proposed interchange at the Maryland Route 32 crossing of Maryland Route 3.

The U.S. 50/301 Study was concerned with updating that facility to Interstate design from the Capital Beltway (I-95) to east of the South River Bridge near Annapolis. The improved interchange at U.S. 50/301 and Maryland Route 3 is a part of that study.

B. ALTERNATES CONSIDERED IN THE DRAFT STATEMENT

The Draft Environmental Statement (April, 1981) compared the No Build Alternate with three build alternates: Alternates 6R, 7 and 7 Modified. Alternate 6R considered providing one additional lane in each direction in the median of existing Maryland Route 3. This alternate also provided dual left turn lanes at several major intersections along with deceleration lanes for right turns at major entrances.

Alternate 7 was developed as a major partial access control facility. This alternate provided four lanes of thru traffic along an alignment that closely followed the existing alignment of Maryland Route 3. Alternate 7 considered interchanges at Maryland Route 450 (western leg only), Maryland Route 424, and Waugh Chapel Road. At-grade access was limited to the Crawford Boulevard, Johns Hopkins Road and Maryland Route 175 intersections only. Local traffic was provided a continuous four lane frontage road on the east side of the facility.

Alternate 7 Modified (7M) essentially duplicates the alignment of Alternate 7 except that it was designed to meet the design standards for Interstate highways. This alternate provided grade separated interchanges at Maryland Route 450 (western leg only), Crawford Boulevard, Maryland Route 424, and Waugh Chapel Road. Access to the facility between these interchanges was denied and local circulation was continued through the use of a four lane frontage road. Two optional interchanges were developed for Crawford Boulevard. One interchange (the "Loop") avoided displacement of several homes while the other interchange (the "Diamond") stressed a more efficient design (See Plates 1 thru 6).

As a result of a staff recommendation and subsequent Administrative review, Alternate 7M has been chosen as the Selected Action for the

Maryland Route 3 Corridor Study. After a consideration of all comments received as a result of the circulation of the Draft Statement and the Combined Location/Design Public Hearings, it was determined that Alternate 7M best served the needs of the corridor in terms of access control, capacity and separation of thru and local traffic.

It was determined that Alternates 6R and 7 would not have achieved the same level of improvement as Alternate 7M. Alternate 6R was the most attractive alternate from the environmental and cost standpoints; however, it failed to adequately address the access control related safety problems as well as the intersection related capacity problem.

Alternate 7 was construed as being only a partial solution to the problems being experienced in the corridor. This alternate offered less than Alternate 7M in terms of safety and capacity, but with about the same environmental impacts.

C. DESCRIPTION OF SELECTED ACTION

This action proposes to construct a four lane divided Interstate Highway (I-297) from just north of U.S. 50/301 to just south of Maryland Route 32. A four lane frontage road located to the east of the northbound roadway will provide local access. Interchanges will be provided at Maryland Route 450 (the western segment only), Maryland Route 424, and Waugh Chapel Road. Interchanges at U.S. 50/301 and Maryland Route 32 are included in other project planning studies.

Subsequent to the public hearing, the proposed interchange at Crawford Boulevard was eliminated from the project. This was done as a result of comments received at the hearing and in an effort to reduce the environmental impacts and overall cost of the project. The movements provided by the interchange are still available; however, the access points have been moved in a northerly direction. See the discussion of the modified access on page III-9 and engineering drawings on Plate 3. The shift in the access points will reduce the number of relocations from the previous six families as discussed in the Draft Environmental Statement to two families. The business relocations will remain the same. This change in access will increase travel distances for some families. In general, however, the modification does not represent a substantial change in the proposal or its probable environmental impacts as discussed in the Draft Environmental

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Impact Statement or presented at the public hearing. The modification will reduce the cost of the project, primarily due to less right-of-way requirements, by approximately \$12 million dollars. A detailed description of this action is provided in Section III-B.

D. SUMMARY OF SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATING MEASURES

1. Beneficial Environmental Impacts

- a. A decrease of over 50% in the corridor accident rate.
- b. An improvement in the peak hour level of traffic service from level of service E/F to D.
- c. A reduction in travel time for thru traffic.
- d. A greater ability for local governments to control land use in areas adjacent to the proposed facility.
- e. Local traffic movements separated from thru traffic.

2. Adverse Environmental Impacts

- a. The displacement of two families and six businesses.
- b. The bisection of part of a minority community (a pedestrian overpass has been proposed to mitigate impact).
- c. Several businesses may lose trade as a result of relocating and controlling the access of thru traffic.
- d. The increase in noise levels in eight noise sensitive areas, four of which will exceed Federal Noise Abatement Criteria.
- e. The filling of approximately 43 acres of 100 year floodplain.
- f. The loss of approximately 76.5 acres of wildlife habitat.
- g. The loss of approximately 1.5 acres of non-tidal wetlands.
- h. The loss of approximately 21 acres of prime farmland.

3. Environmental Commitments

- a. All displaced families and businesses will be relocated according to Federal and State relocation assistance laws.
- b. A pedestrian bridge, spanning proposed I-297, will be provided to link the two parts of the Conaways community.
- c. Wetlands will be replaced in kind.

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- d. Sediment and erosion control regulations will be strictly enforced.
 - e. Vehicular and pedestrian traffic will be maintained during construction.

4. Comparison of Alternates

A summary of Impacts for all alternates, including Draft Statement Alternates 6R and 7, is provided on Table I-1.

TABLE I-1
SUMMARY OF IMPACTS

IMPACT CATEGORY	ALTERNATE			Selected Action (Alternate 7M)
	<u>No Build</u>	<u>6R</u>	<u>7</u>	
<u>Community Cohesion</u>				
Creation of access barriers between parts of a community	Minimal	Minimal	Moderate	Moderate
<u>Accessibility of Facilities and Services</u>				
Increase of travel times	Moderate	Minimal	Minimal	Minimal
<u>Displacement of Families and Businesses</u>				
Families (Minority Families)	0(0)	0(0)	2(0)	2(0)
Businesses (Minority Businesses)	0(0)	0(0)	5(0)	6(0)
<u>Air Quality</u>				
Violations of the National Ambient Quality Standards 1985/2005	0/0	-	-	0/0
<u>Noise</u>				
Sites exceeding FHWA Noise Abatement Criteria. (Out of 16 Sites Analyzed)	4	3	3	4
<u>Water Quality</u>				
Potential for impact to water quality.	Low	Low	Low	Low
<u>Flood Hazard Impact</u>				
Areas of Significant Encroachment	0	0	0	0

TABLE I-1
SUMMARY OF IMPACTS (continued)

IMPACT CATEGORY	ALTERNATE			Selected Action (Alternate 7M)
	<u>No Build</u>	<u>6R</u>	<u>7</u>	
<u>Land Use Planning Impacts</u>				
Induced residential and commercial growth.	Minimal	Minimal	Minimal	Minimal
Consistency with local, regional, State and Federal policies and functional plans.	Incon-sistent	Incon-sistent	Consis-tent	Consistent except for P.G. County
<u>Historic Sites</u>				
Impacted sites included or eligible to be included on the National Register of Historic Places.	0	0	0	0
<u>Natural Resources Impact</u>				
Acres of wildlife habitat required.	0	3	76.5	76.5
Acres of 100 year floodplain affected.	0	0	44	43
Acres of wetlands filled.	0	0	1.5	1.5
Acres of farmland required.	0	0	21	21
<u>Construction Phase Impacts</u>				
Temporary disruption to living areas.	None	Low	Low	Low
<u>Traffic Efficiency</u>				
Year 2005 - Peak Traffic Hour Level of Service	F	E-F	E	D
<u>Total Project Cost</u>				
Right-of-Way, Relocation and Construction (in millions).	\$0	\$10.9	\$100.4	\$101.3

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E. AREAS OF CONTROVERSY AND UNRESOLVED ISSUES

There are no significant unresolved environmental issues that would affect the approval of the FEIS. During the course of this project, many local issues emerged. These issues were evaluated and considered by the SHA. Many meetings were held in the study area in an effort to resolve these issues. The main areas of local controversy are:

- Increased development along the proposed continuous frontage road.
- Potential economic impacts to Patuxent Shopping Center if an interchange is not provided at Maryland Route 450 East.
- Whether the scale of the proposed facility is out of proportion to the problems being experienced in the corridor.
- Relationship of I-297 Project with Baltimore/Annapolis Transportation Corridor Study.

F. ACTIONS REQUIRED BY OTHER AGENCIES

During the final design phase, implementation of the Selected Action will require permits from the following agencies:

- U.S. Army Corps of Engineers for the Section 404 Permit
- Maryland Department of Natural Resources for the Sediment Control and Waterway Construction Permits
- Maryland Department of Health and Mental Hygiene for the Water Quality Certificate

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II. PURPOSE AND NEED FOR HIGHWAY IMPROVEMENTS
IN THE MARYLAND ROUTE 3 CORRIDOR

II. PURPOSE AND NEED FOR HIGHWAY IMPROVEMENTS
IN THE MARYLAND ROUTE 3 CORRIDOR

A. DEFICIENCIES OF EXISTING FACILITY

1. Introduction

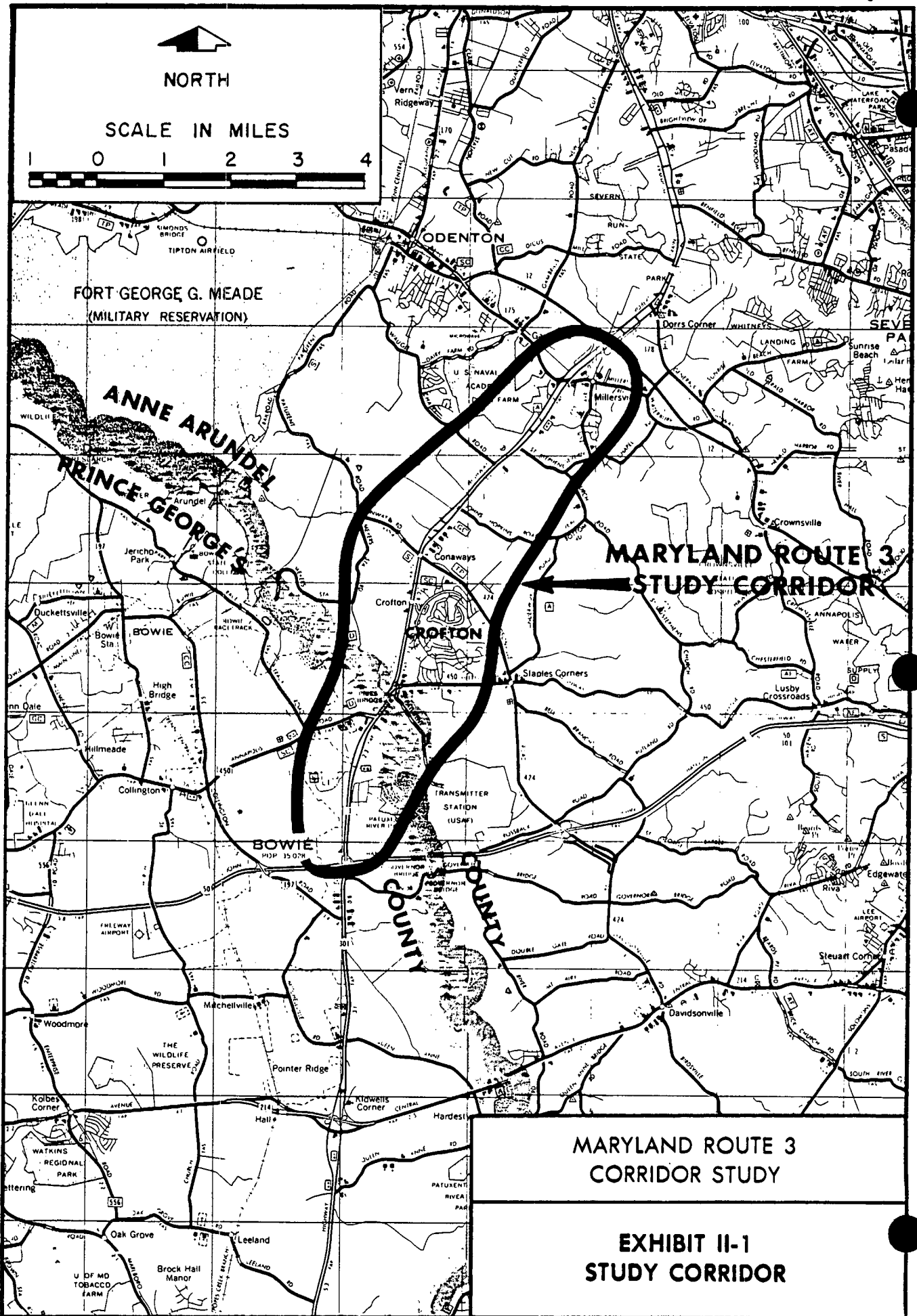
This section of Maryland Route 3 covered by this study directly serves the developing communities of Odenton, Crofton, and Bowie (See Exhibit II-1). Maryland Route 3 also serves as a major thru route for traffic from Baltimore and points north that wish to by-pass the Washington metropolitan area for points south on U.S. 50/301. It also serves truck and commercial vehicle movement between southeast Baltimore industrial and rail transfer areas, and the commercial areas in Cheverly and Landover along U.S. 50 and the Capital Beltway. The trucks traveling through the Maryland Route 3 Corridor account for 17% of the average daily traffic (ADT).

The decision to study the feasibility of improving Maryland Route 3 was made in response to deteriorating operating efficiency and severity of certain types of accidents occurring along this section of highway.

Existing Maryland Route 3 is a four lane divided highway with no access control. The median separating the northbound and southbound roadways varies in width from 50 feet to 400 feet. There are signalized intersections at Belair Drive, Maryland Route 450 (West), Maryland Route 450 (East), Crawford Boulevard, Maryland Route 424, and Maryland Route 175. Numerous crossovers and driveways provide access to Maryland Route 3 from both sides of either roadway. The current posted speed limit is 50 mph.

Parts of the existing pavement are in poor structural condition. Heavy truck traffic has weakened the sub-grade to the point where rutting of the pavement has occurred. This type of structural problem requires significant rehabilitation measures.

One of the primary causes of the accidents that occur along Maryland Route 3 has been the lack of vehicular access control. The high volumes of commercial traffic using this facility (17 percent of the Average Daily Traffic are trucks) create a situation where a significant portion of the traffic is thru traffic, traveling at or near the speed limit whenever possible. Conflicts occur when local traffic is



**MARYLAND ROUTE 3
CORRIDOR STUDY**

**EXHIBIT II-1
STUDY CORRIDOR**

allowed to enter the roadway from at-grade, unsignalized, residential and commercial driveways. These access points occur not only on both sides of the highway, but in the wide median as well. Vehicles enter Maryland Route 3 from the right and left sides, leaving the roadway without an exclusive thru traffic lane. All motorists must be constantly alert for vehicles entering or leaving their lane.

The width of the median also is a problem. Where development exists in the median, the two Maryland Route 3 roadways are typically 300 to 400 feet apart. In some areas, the two roadways are not visible to each other. Motorists exiting commercial establishments often become disoriented and mistakenly turn the wrong way onto a one way roadway. Recent signing additions have helped to improve this condition; however, the potential for such accidents will increase as traffic volumes build.

2. Accident Statistics

An analysis of the accident experience on Maryland Route 3, between U.S. 50/301 and Maryland Route 32, indicates that the existing facility has an accident rate which approximates the statewide average for all similar type highways now under State maintenance. Between 1974 and 1980, the corridor experienced 1380 accidents, resulting in an accident rate of 214 accidents per one hundred million vehicle miles (100 MVM). The statewide average for this same period was 218 accidents/100 MVM.

The recorded number of accidents which have occurred on Maryland Route 3 for the years 1974-1980 are listed below:

<u>Severity</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979*</u>	<u>1980*</u>
Fatal Accidents	4	6	0	0	1	1	5
Injury Accidents	71	61	66	82	84	82	111
Property Damage	<u>102</u>	<u>113</u>	<u>102</u>	<u>133</u>	<u>132</u>	<u>125</u>	<u>99</u>
Total Accidents	177	180	168	215	217	208	215

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Accident rates (number of accidents per 100 million vehicle-miles, MVM) for Maryland Route 3 are listed below for the years 1974-1980. The statewide accident rate for similar facilities is also given for comparison.

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979*</u>	<u>1980*</u>
Accident Rate	219.85	221.17	210.87	226.91	219.60	202.94	198.0
Statewide Average	----- 218 -----						

*The 1979 and 1980 accident statistics reflect a change in accident reporting procedures, wherein not all property damage accidents are reported.

The type of collisions in the study area occurring more frequently than the statewide average, and their respective percentages of the total accidents, along with the statewide average percentages for each collision type, are listed below:

<u>Collision Types</u>	<u>Study Area</u>	<u>Statewide Average</u>
Rear End	30.26%	24.27%
Sideswipe	14.05%	10.88%
Left Turn	5.65%	2.55%

Fifty-nine percent of all accidents in the study area were intersection or intersection related type accidents. There was also a high concentration of rear end and left turn collisions around the intersections studied. Six intersections in the study area were identified as High Accident Intersections (HAI's). The locations and the years contained on the HAI listing are below:

<u>Location</u>	<u>County</u>	<u>Years Listed HAI</u>
MD 3 @ 175	Anne Arundel	1975, 1976, 1977
MD 3 @ Waugh Chapel	Anne Arundel	1979
MD 3 @ 424	Anne Arundel	1975, 1976, 1977, 1978, 1980

<u>Location</u>	<u>County</u>	<u>Years Listed HAI</u>
MD 3 @ Crawford Blvd.	Anne Arundel	1980
MD 3 @ 450	Anne Arundel	1975, 1977, 1978, 1979, 1980
MD 3 @ 450	Prince George's	1975, 1976, 1977, 1978, 1979, 1980
MD 3 @ Belair Drive	Prince George's	1979

Truck and/or tractor-trailers, which comprise 17 percent of all traffic in the study area, were involved as one or more vehicles in 19 percent of the reported accidents.

Accident statistics as shown reflect the latest data available, which is through the year 1980. Although complete information for 1981 and 1982 is not available, a search of police accident records through April 30, 1982 revealed the following additional information regarding fatal accidents:

- a. In 1981 two fatal accidents occurred on Route 3 within the study area, killing a total of five people. Both of these accidents involved a head-on collision in which one of the vehicles involved was traveling southbound in the northbound roadway of the divided highway.
- b. Through the first four months of 1982, one fatal accident occurred, involving a pedestrian attempting to cross the southbound roadway of Maryland Route 3 from the west shoulder toward the median shoulder.

This data indicates that the primary causes of accidents in this corridor are related to the type of traffic carried by the facility and the lack of access control. The existing highway, without any major improvements, will continue to show unsatisfactory accident characteristics, especially at intersection areas. Full control of access, implementation of higher design standards, elimination of at-grade intersections and separation of thru and local traffic will lower the total accident rate to approximately 86 accidents/100 MVM.

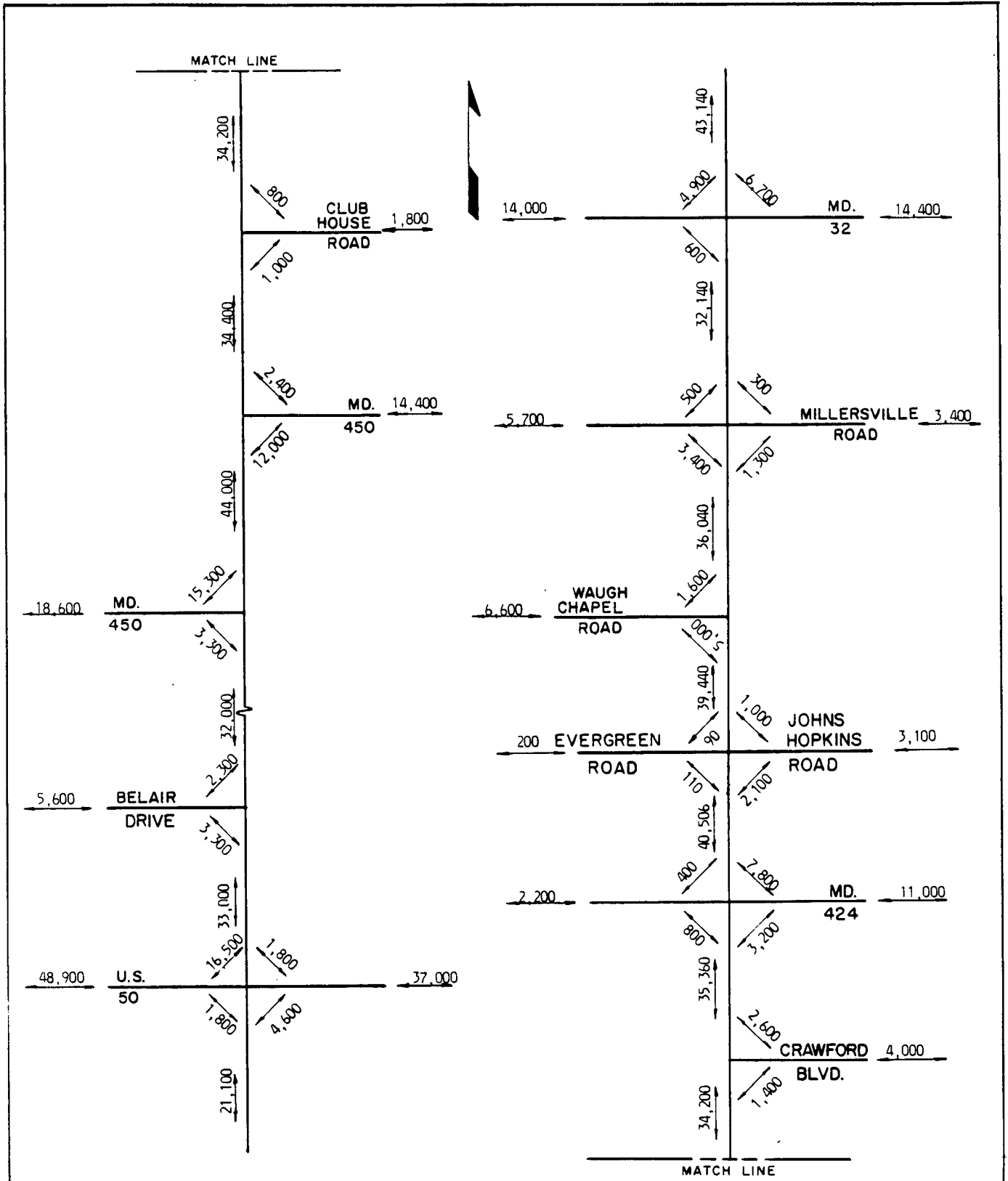
28

This new rate represents a 56% reduction of the 1980 accident rate and a 60% reduction in the average rate over the seven year period from 1974 to 1980.

3. Capacity Analysis

The Millersville-Crofton area is a rapidly developing area of the State. Residential site plans currently in the planning process propose to add nearly 8,500 dwelling units within the study area, while commercial developers are seeking to add over 6,000,000 square feet of building space. The U.S. Military Reservation at Fort Meade is planning to ultimately receive some 1,500 military and civilian transfers from other posts, thus placing even more demands on public facilities. In the next 20 years, traffic levels are expected to increase dramatically along Maryland Route 3, aggravating already serious safety and capacity problems. Exclusive turn lanes, signing, speed limit reductions and other traffic control measures cannot eliminate vehicular conflicts arising from uncontrolled access. As long as vehicles are allowed to enter the stream of traffic from at-grade entrances, the probability of collisions will remain. While recent improvements have successfully enhanced safety, such improvements can only be expected to be effective over the short term. As traffic volumes increase, so will the potential for vehicular conflicts.

The 1982 ADT (Average Daily Traffic) on Maryland Route 3 in the study area ranges from 32,140 vehicles south of Maryland Route 32 to 44,000 vehicles between the two legs of Maryland Route 450 (See Exhibit II-2). By 1985, the traffic volumes on Maryland Route 3 will range from 35,000 to 45,400 vehicles per day and by 2005 the ADT range will be 50,000 to 64,000 vehicles. The design hour volume (peak hour) is 8.6 percent of the ADT, and occurs between 5 and 6 p.m. The current directional split is 65 percent southbound and 35 percent northbound during the peak hour. The design year (2005) directional split during the peak hour is to be 58 percent southbound and 42 percent northbound. Trucks account for 17 percent of the ADT and 9 percent of the design hour volume.



LEGEND
 1982 ADT

MARYLAND ROUTE 3
 CORRIDOR STUDY
 EXHIBIT II-2
 1982 AVERAGE DAILY TRAFFIC

Roadway and intersection operating conditions are described by various "levels of service" on a scale of "A" (unrestricted flow) to "F" (forced flow). Level of service (LOS) "D" is normally the least acceptable operating condition (although this varies depending upon the type of traffic and the degree of improvement achievable). As Table II-1 indicates, the intersections along Maryland Route 3 are operating at LOS "E" or "F" with the roadway segment operating at LOS "D". (During the 120 day horse racing season at Bowie Race Track, the roadway between Maryland Route 450 West and Maryland Route 450 East operates at LOS "E", with severe congestion and delays at both intersections.)

TABLE II-1
LEVELS OF SERVICE

	No Build		Selected Action
	<u>1982</u>	<u>1985/2005</u>	<u>1985/2005</u>
Intersections	E-F	E-F/F	-
Interchanges	-	-	C/C
Roadway Segments	D	D/E-F	C-D/D
No. of Lanes (Thru/Front. Rd.)	4/0	4/0	4/4

Without this project, operating conditions will deteriorate. As residential and commercial development continue throughout the study area, traffic volumes will continue to increase. Development will be accompanied by new access points along Maryland Route 3; and in all probability, new traffic signals to control traffic flow. Each of these factors - increased volumes, more access points, and additional signals - will seriously affect the roadway's capability to move traffic efficiently. Congestion will increase, and the present platooning action will break down as back-ups stretch from one signal to the next.

Access from sites adjacent to the roadway will become increasingly difficult, adding pressure for more traffic signals. By the year 2005, the intersections will be operating at LOS "F" and the roadway segments at LOS "E" or "F".

Mainline segments of the Selected Action should operate at LOS "D" (1985 and 2005). The interchanges should all operate at LOS "C". The complete access control offered by the Selected Action would eliminate the at-grade intersection problems associated with the No Build Alternate. By improving the level of service at these intersections, the Selected Action roadway segments would also operate more efficiently.

Graphic presentations of the traffic projections, showing some of the major turning movements are provided on Exhibits II-3 and II-4.

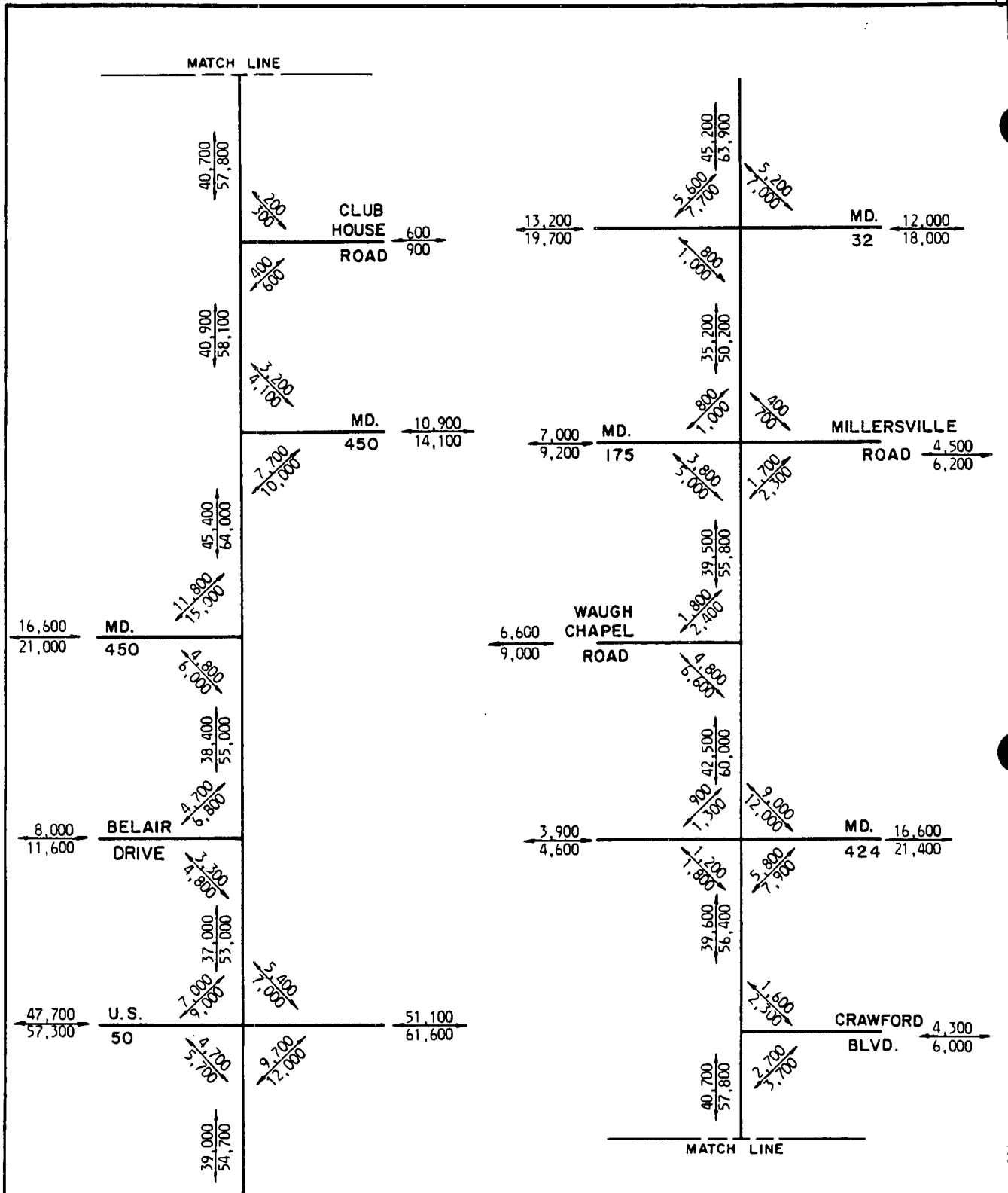
B. PROJECT AUTHORITY AND PLANNING BASE

The Maryland Route 3 project is listed as I-297 in the Interstate portion of the State Highway Administration's Highway Needs Inventory, 1980 as approved by local officials. The project also appears in the Long Range Transportation Plan for the National Capital Region, as adopted by the National Capital Region Transportation Planning Board, and is indicated for early implementation. The Baltimore Regional Planning Council's General Development Plan and Anne Arundel County's General Development Plan also recommend upgrading Maryland Route 3 to Interstate status. Current land use plans in Prince George's County do not recommend upgrading of Maryland Route 3 to Interstate standards.

The Baltimore Region Transportation Improvement Program and the Washington Region Transportation Improvement Program both recommend upgrading Maryland Route 3 to Interstate standards.

It is the intention of the State Highway Administration to utilize Federal Highway Administration funds for the planning, design and construction of this project.

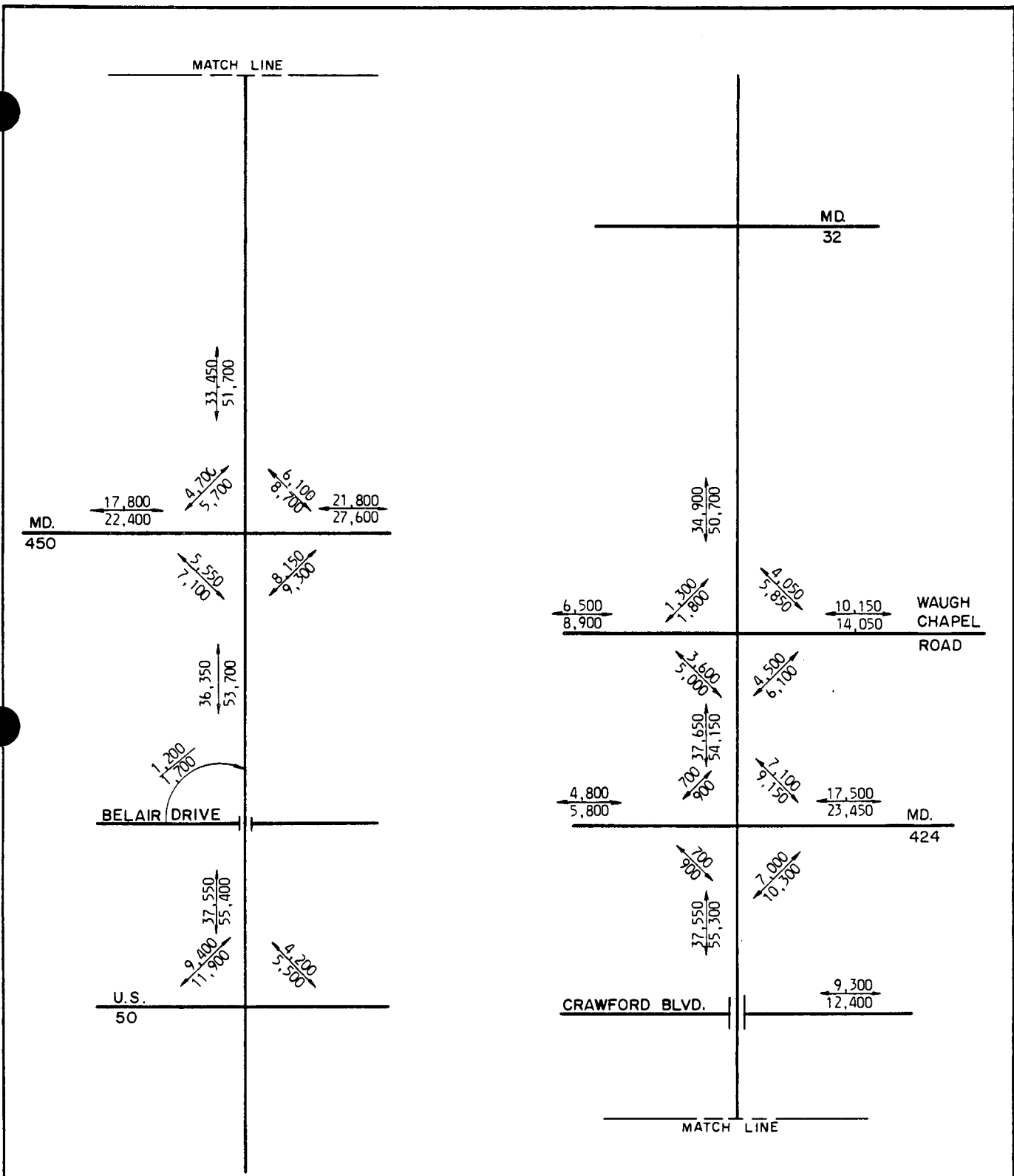
The Interstate funding for this project became available as a result of the transfer of funds from two other State Highway Administration projects which were withdrawn from the Interstate System. These funds were then substituted towards other needed Interstate projects in other parts of the State, including the Maryland Route 3 corridor.



LEGEND
 1985 ADT
 2005 ADT

**MARYLAND ROUTE 3
 CORRIDOR STUDY**

**EXHIBIT II-3
 TRAFFIC PROJECTIONS
 "NO BUILD"**



LEGEND	
1985 ADT	(top number in diagram)
2005 ADT	(bottom number in diagram)

MARYLAND ROUTE 3
CORRIDOR STUDY

EXHIBIT II-4

TRAFFIC PROJECTIONS
ALTERNATE 7 MODIFIED

The Selected Action will fit into a system of highways planned for northern Anne Arundel County. The Baltimore-Annapolis Transportation Corridor Study (FHWA-MD-EIS-78-02-F) concluded in the selection of the Maryland Route 3 corridor as part of the route for Interstate Route I-97 connecting Baltimore and Annapolis. Location approval for BATCS was granted in 1981 and the project is currently in the design phase. The Baltimore to Annapolis portion of I-97 will closely follow the alignment of existing Maryland Route 3 until it reaches Maryland Route 32, where it turns southeastward towards Annapolis (See Exhibit I-2).

The U.S 50/301 Study (FHWA-MD-EIS-81-01-F) proposes to connect Washington, D.C. with Annapolis via a new Interstate facility (also I-68) following the existing U.S. 50/301 alignment. Location approval for this project was granted in June, 1982. When implemented, this portion of I-68 will connect with I-297 (Maryland Route 3) at the existing U.S. 50/301 interchange.

These two related studies have been coordinated with the Maryland Route 3 Corridor Study. One major benefit of an improved Maryland Route 3 would be the functionally consistent link it would provide with I-68 and I-97.

III. DESCRIPTION OF ALTERNATES, INCLUDING THE SELECTED ACTION

III. DESCRIPTION OF ALTERNATES, INCLUDING THE SELECTED ACTION

A. DEVELOPMENT OF PROJECT ALTERNATES

The original scope of the Maryland Route 3 Corridor Study, as described in the Project Planning Prospectus, intended that five alternates, in addition to the No-Build Alternate, be developed for study. These five "build" alternates were to be designed as limited access freeways which connected, and were functionally consistent with, the simultaneous studies at U.S. 50/301 to the south and Maryland Route 32 (BATC Study) to the north. The Project Planning Prospectus also recommended that interchanges be studied at Maryland Routes 424, 175, and at one location to be determined during the initial stages of the study.

Research for this project began in the summer of 1977. An environmental inventory was conducted to identify sensitive natural and man-made features located within the study area. Five "build" alternates were then developed which met the criteria set forth in the Prospectus, while at the same time minimized impact to environmentally sensitive areas.

Alternate 1 was intended to be a major relocation, designed to follow an alignment similar to the one presented in the original February 1975 "Interstate Report" (application for transfer of Interstate funds). Alternates 2, 3 and 4 were designed to utilize parts of the existing Maryland Route 3 roadways. Alternate 5 was intended to be a minor relocation. Interchanges were developed for Maryland Routes 424 and 450; however, an interchange at Maryland 175 was eliminated from detailed study because it would have been too close to the proposed Maryland Route 32 interchange (BATC Study) to allow for proper traffic weaving.

Once these preliminary alternates were developed, a series of informal citizen workshop meetings was held to solicit public reaction to the five alternates. These meetings were held in April and May of 1978. There was a great deal of local public interest in the study and many comments were received. As a result of issues raised at these meetings, Alternates 2 and 4 were eliminated from active consideration. Alternates 1, 3 and 5 were extensively changed and an additional alternate - Alternate 6 - was added to the study.

The most significant disadvantage of Alternates 2 and 4 was that they would have re-routed traffic away from the main entrance to the community

of Crofton, and would have created detrimental changes to the traffic patterns on the internal Crofton street system. Alternates 2 and 4 would have also required the relocation of many of the residences and businesses located in the median. The alignments of Alternates 1, 3 and 5 were changed to minimize impact on the median improvements north of Waugh Chapel Road.

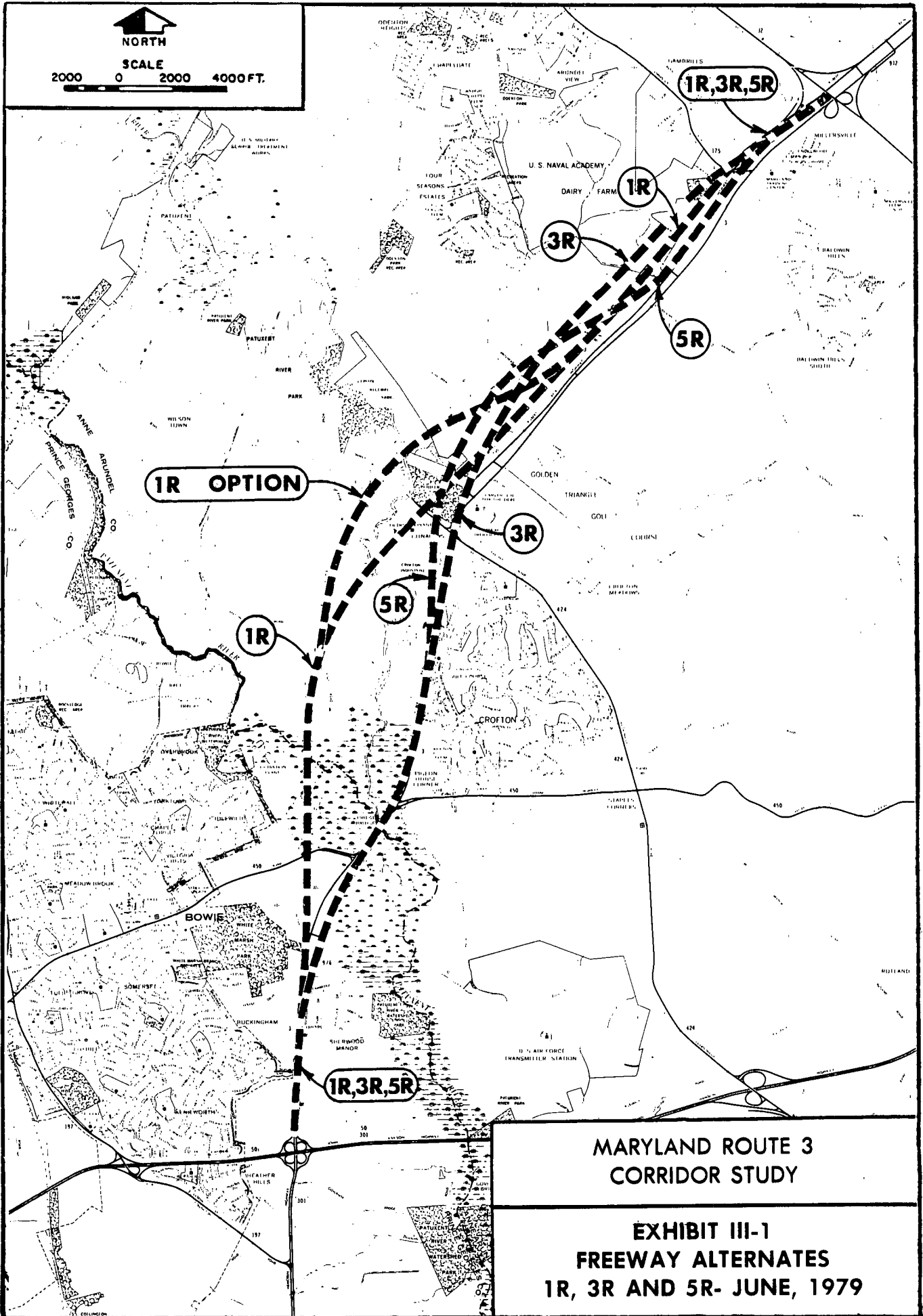
One of the major issues raised by the public during the early involvement process was that the study lacked any alternative between the full access controlled freeway and the "no build". As a response to these concerns, a sixth alternate was developed which represented a lesser project alternative. Alternate 6 involves widening the existing facility to six lanes, construction of double left turn lanes at major intersections and the installation of fully synchronized signals.

Alternates 1, 3, 5 and 6 represented the alternates which were carried forward for further study in Stage I. The alternates were subjected to detailed engineering study and refinement, and construction costs and right-of-way requirements were developed.

In June of 1979, the refined alternates were presented to the public at a series of Alternates Public Workshops. Once again, the quality of the information received was quite good. The planning team acquired an accurate sense of community values and concerns. Based on these comments, suggestions, preferences and issues presented by citizens attending the Alternates Public Workshops, the alternates were adjusted and changed to accommodate local interests. The revised Stage II alternates were assigned new designations - 1R, 3R, 5R and 6R - indicating that they had been revised as a result of the Alternates Public Workshop. Approximate alignments for freeway alternates 1R, 3R and 5R are shown on Exhibit III-1.

During the detailed engineering studies, subsequent to these workshops, it became clear that Alternate 6R did not offer a truly responsive solution to the problems associated with Maryland Route 3. Traffic analyses revealed that, while widening to six lanes would offer temporary relief from traffic accidents and congestion, the at-grade intersections along Route 3 would return to level of service "E" or "F" by 2005.

In order to offer a more effective non-Interstate alternative, a new alternate was conceived. Alternate 7 is a major, partial access control



facility. The design features include a reduced right-of-way width, grade-separated interchanges at major intersections and frontage roads where feasible to reduce the number of driveway entrances.

In an effort to take advantage of alternative funding mechanisms (i.e. eligibility for Interstate funding), a fully access controlled version of Alternate 7 was also developed. Alternate 7 Modified duplicates the alignment of Alternate 7, except that all at-grade intersections have been eliminated.

After reviewing the full range of alternatives described above, the project planning team determined that the social and environmental impacts associated with freeway alternates 1R, 3R and 5R were significant enough to warrant eliminating these alternates from further consideration. As a result, only Alternates 6R, 7, 7 Modified and No Build were evaluated in the Draft Environmental Impact Statement.

B. BASIS FOR SELECTION OF ALTERNATE 7 MODIFIED

After consideration of all comments received as a result of the circulation of the Draft Environmental Impact Statement and the Combined Location/Design Public Hearings, the Project Planning Team recommended the selection of Alternate 7 Modified. The following criteria were central to the selection process:

1. Minimize Environmental Impacts

Alternate 6R (widening to six lanes) would have clearly been the most attractive alternate from an environmental viewpoint; especially in the areas of natural resource impacts and displacement of families and businesses. Alternates 7 and 7 Modified, however, were designed to have significantly fewer environmental impacts than the previously rejected large scale alternates (1R, 3R and 5R).

2. Maximize Traffic Safety and Efficiency

Under this criterion, Alternate 7 Modified has the clear advantage. The separation of thru traffic from local traffic and the elimination of the at-grade intersections associated with Alternate 7 improves safety and traffic efficiency better than any of the other alternates considered in the Draft Environmental Impact Statement.

Without access control, the addition of two lanes and the TSM improvements associated with Alternate 6R would not have significantly

enhanced traffic safety or intersection capacity. Alternate 7, the partial access control alternate, would only offer a temporary solution to the problems being experienced in the corridor. Alternate 7 offers much less than Alternate 7 Modified in terms of safety and capacity, but with about the same environmental impacts.

C. DESCRIPTION OF SELECTED ACTION

1. Description

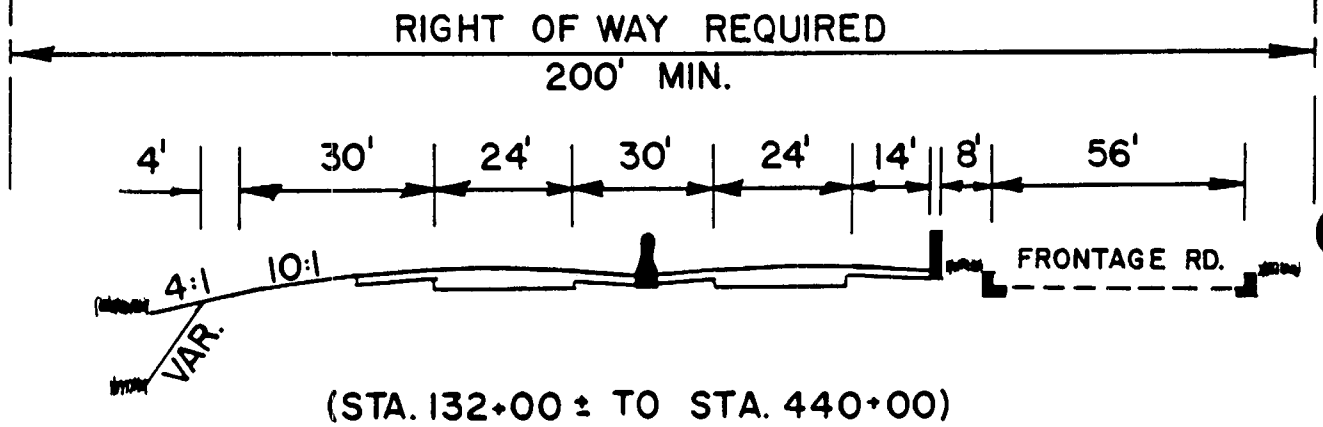
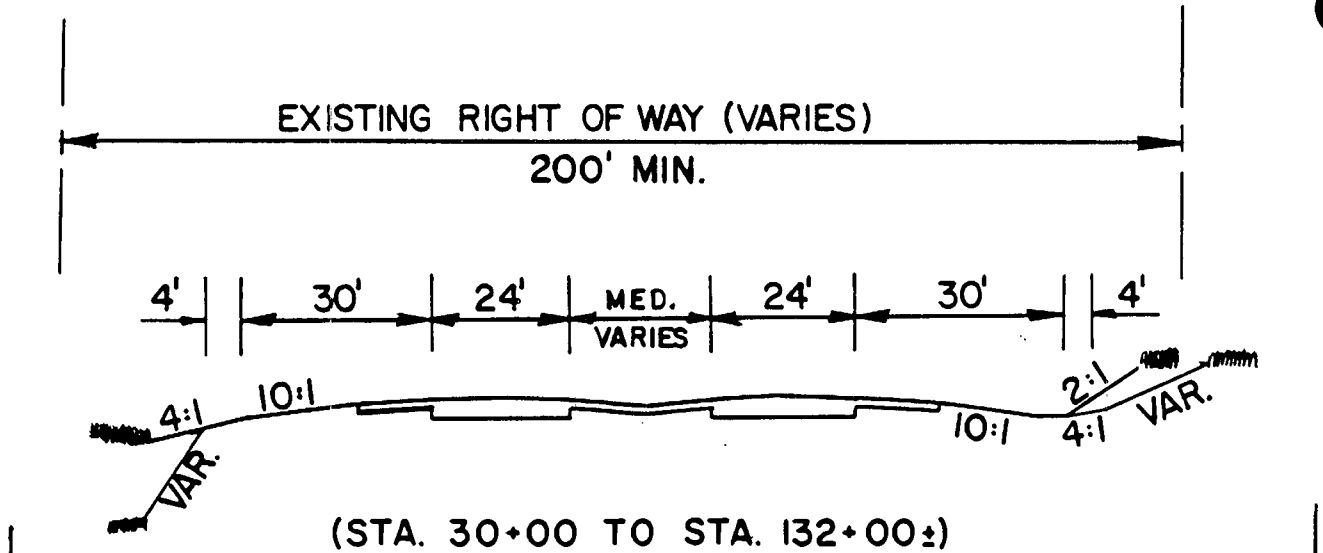
Alternate 7 Modified is shown on Plates 1 thru 6. This alternate provides for the construction of a divided, controlled access highway, closely following the alignment of the existing southbound roadway of Maryland Route 3, from north of the U.S. Route 50/301 interchange to south of the Maryland Route 32 interchange -- a distance of 7.7 miles. The Selected Action also provides for the construction of interchanges at Maryland Route 450 (the western segment only), Maryland Route 424, and Waugh Chapel Road.

A partial interchange is provided at Belair Drive. This proposed interchange is intended to provide access from Bowie to U.S. 50/301 and to points south along U.S. 301. This partial interchange is not intended to provide primary access to the proposed Maryland Research Park. Access to this facility will be provided by U.S. 50/301 (proposed I-68).

Earlier freeway alternates did include an interchange at Maryland Route 450 (east). Detailed environmental and engineering studies indicated, however, that the disadvantages of an interchange at this location far outweighed the advantages. Both legs of Maryland Route 450 carry moderate amounts of traffic and under normal circumstances, two separate interchanges would be warranted. Environmental constraints, such as floodplain values and business relocations, necessitated the design of an unusual and expensive interchange at Maryland Route 450 (east). Furthermore, these studies indicated that the single interchange for both legs of Maryland Route 450 included in the Selected Action would adequately handle the forecasted traffic movements.

The typical section for the Selected Action was revised from that presented at the Combined Location and Design Public Hearings. The

MD. RTE.3 / 1-297



BELAIR DR. TO MD. RTE. 32

NOTE:

THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.
TYPICALS NOT TO SCALE.

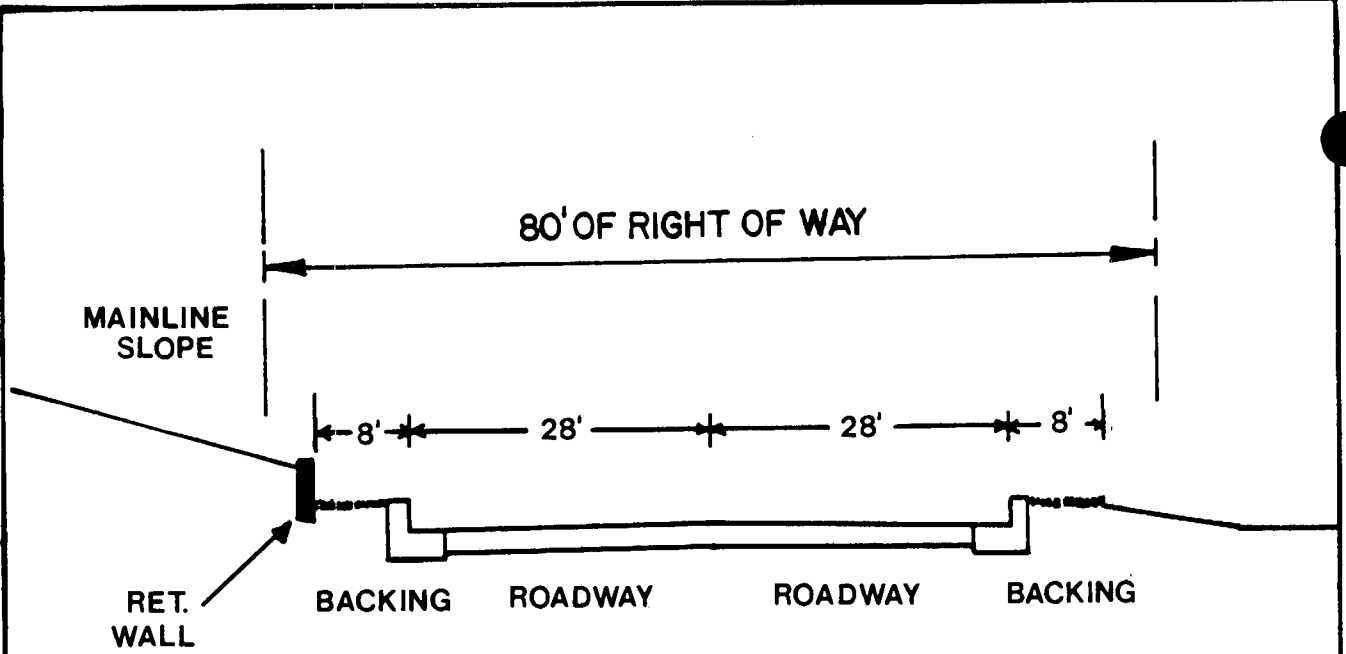
MARYLAND ROUTE 3 CORRIDOR STUDY
EXHIBIT III-2 TYPICAL SECTIONS MAINLINE

highway median width was widened throughout the project to provide increased safety. Drawings of the revised typical sections are shown on Exhibit III-2.

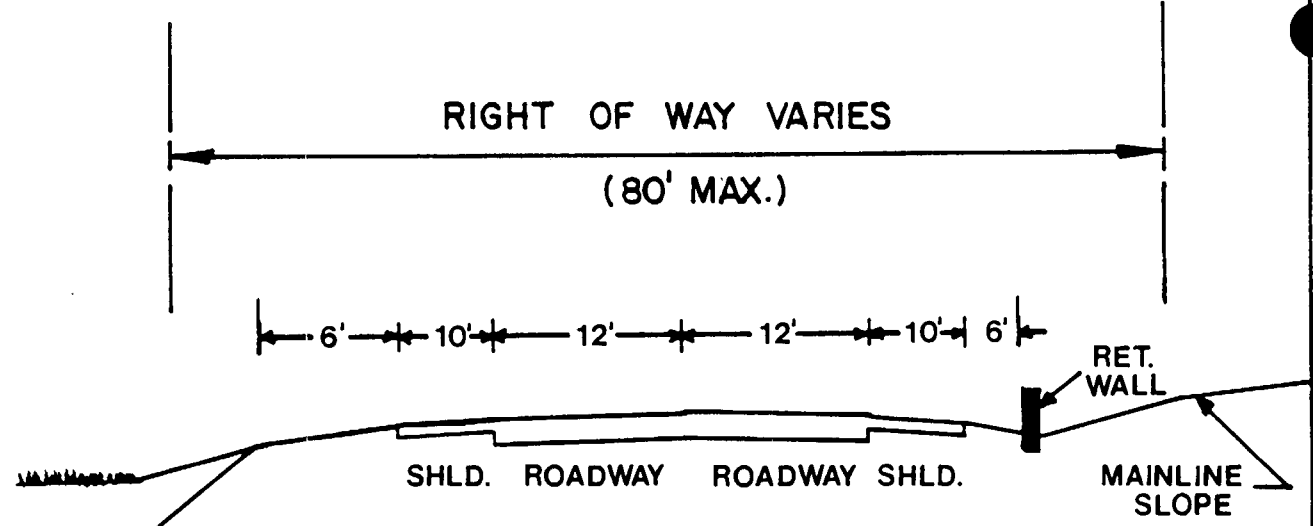
The continuous frontage road begins south and west of the I-68/I-297 (U.S. 50/301/Maryland 3) interchange. At Belair Drive it will turn to the east and follow the extension of Belair Drive to the east side of I-297. From this point, it will parallel I-297 in a northerly direction to Maryland Route 32. The frontage road will be constructed as a new roadway (See Exhibit III-3) from Belair Drive to north of the Maryland 450 (west) interchange, from where it will generally follow the alignment of the existing Maryland Route 3 northbound roadway, except in interchange areas, to Maryland Route 32. At Maryland Route 450 (east), the existing intersection will be modified to accommodate the reconstruction and conversion of the existing northbound roadway into a frontage road, and to improve turning movements.

In order to maintain local access and traffic circulation, at-grade intersections with the frontage road will also be provided at Maryland Route 424, Johns Hopkins Road, and Waugh Chapel Road. To minimize impacts to a recently subdivided church property, the easternmost property line of Waugh Chapel Fire Station has been held as the right-of-way line for the frontage road. The frontage road will intersect with Maryland Route 175 at-grade (existing Maryland 3 northbound roadway and Maryland Route 175 intersection to be modified) and then continue north of the Maryland Route 32 interchange. Double faced concrete traffic barriers will be used in areas where the frontage road is adjacent to the northbound roadway of I-297. Vehicular barriers are recommended at various locations (See Plates 1 thru 6).

A twenty-four foot service road is proposed to provide access to the area known as "Melford at Chase" in the northeast quadrant of the I-68/I-297 interchange, and will be continued to the extension of Belair Drive on the east side of I-297. A typical section for service roads is provided on Exhibit III-3.



FRONTAGE ROAD



SERVICE ROAD

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

MARYLAND ROUTE 3
 CORRIDOR STUDY

EXHIBIT III-3

TYPICAL SECTIONS; FRONTAGE
 AND SERVICE ROADS

A diamond interchange at I-297 and relocated Maryland Route 450 will be provided approximately 1,550 feet south of the existing intersection of Maryland Route 3 and Maryland Route 450 (west). The relocation of Maryland 450 will begin east of the entrance of Sacred Heart Church; and continue through the diamond interchange to a "T" intersection with the four lane frontage road, a distance of approximately 0.6 mile. Provisions will be made for left turning vehicles. In order to maintain the continuity of Maryland Route 450, the segment of four lane frontage road between Maryland 450 West and Maryland 450 East is to be designated and signed as Maryland Route 450.

On the west side of I-297, south of relocated Maryland 450 West, the existing Maryland 3 southbound roadway will remain in use to provide local access to Sylvan Drive, White Marsh Park, and a planned City of Bowie subdivision. A connection will be made from relocated Maryland 450 West to this service road approximately 675 feet west of the interchange ramp terminals. In order to maintain the integrity of the City of Bowie's biketrail system, the shoulder on the west side of the service road may be designated as a bicycle path from the entrance to White Marsh Park to the proposed new subdivision. The location of this bikeway will be determined during the design phase.

The dual lane section of Maryland 450 to be abandoned is recommended as the site of a potential Park and Ride lot, with spaces for approximately 200 vehicles. No other potential Park and Ride sites have been identified. A twenty foot entrance, for the use of maintenance and service vehicles, is to be constructed to the Patuxent River electrical substation from this section of abandoned Maryland 450.

The existing at-grade intersection at Maryland Route 424 will be replaced with a grade separated partial interchange, consisting of a loop and outer ramp in the southwest quadrant. To avoid impacts to the Patuxent River Park, there will be no construction in the northwest quadrant. A ramp connection, from the northbound roadway of I-297 to the frontage road will be provided approximately .3 mile north. A connection from the frontage road to northbound I-297 will also be provided (See Plate 3).

On the west side of I-297, north of Maryland 424, a twenty-four foot service road will be constructed from the Patuxent River Park north to Brickhead Road. This service road will provide access to Conaways, and connections are to be made with Evergreen Road and Johns Hopkins Road. A pedestrian bridge is to be constructed at approximately station 273 + 90, and will cross both the main roadways of I-297 and the service road. This bridge will maintain pedestrian access between the two parts of the Conaways community and will help reduce the community impacts of the Selected Action. A concrete traffic barrier will be constructed from mainline station 267 + 00 to 288 + 30 in order to separate this service road from the southbound roadway of I-297. A retaining wall will be constructed from station 288 + 30 to 292 + 30.

At I-297 and Waugh Chapel Road a diamond interchange will be provided.

Maryland Route 175 will be relocated to the north from west of McKnew Road to east of the existing Maryland 3 northbound roadway, and will cross I-297, via an overpass, at approximate station 428 + 00. There will be no direct connection from I-297 to Maryland 175. Access to properties on the west side of I-297 will be provided by a frontage road extending south from McKnew Road, approximately 3,000 feet. A concrete vehicular barrier will be used to separate this frontage road from the southbound roadway of I-297 from mainline station 283 + 90 to 404 + 70.

The City of Bowie has requested consideration of biketrails near White Marsh Park. During final design, such facilities will be considered for the White Marsh Park area, as well as other areas where bicycle use would warrant construction of biketrails.

2. Summary of Costs

The total estimated cost of the Selected Action is \$101,305,950 (1981). This cost represents the following:

Right-of-Way	\$ 6,709,000
Relocation	80,500
Construction	94,375,950
Environmental Mitigation	<u>140,500</u>
Total	\$101,305,950

Right-of-way costs include the purchase price for land and buildings required for project construction. Relocation costs are estimated in accordance with the provisions of Appendix C of this document entitled "Summary of Relocation Assistance Program."

The construction cost includes items such as mobilization, grading, drainage, paving of roadways and shoulders, normal landscaping, utility relocations, bridges, retaining walls, box culverts, the park and ride lot contingent items, preliminary engineering, construction engineering, administration and overhead. These items have all been combined in a sub-total cost for construction.

Environmental mitigation costs include wetlands replacement and archeological site investigations.

D. OTHER ALTERNATIVES

1. Alternative Transportation Modes

Current Baltimore and Washington transit programs do not include fixed or light rail transit service along any portion of Maryland Route 3. Studies have shown that the predicted patronage does not justify the high capital costs of providing such service.

The issue of alternative transportation modes in this corridor has received a great deal of attention as a result of a proposal put forth in 1980 by then State Delegate James J. Lighthizer and other concerned citizens in Anne Arundel County. Mr. Lighthizer is now County Executive for Anne Arundel County. The Lighthizer proposal (The Arundel Connection) suggests that light rail transit service, linking Baltimore, Washington and Annapolis could more efficiently meet the transportation needs of that corridor. The Maryland Department of Transportation, Office of Transportation Planning responded to the Lighthizer proposal in their Evaluation of the Arundel Connection (April, 1980). Their evaluation discusses several issues, but the one that relates best to this action is the analysis of the "Transit Versus Highway Improvements Issues". The Maryland DOT report states:

Evaluation of projected travel patterns in the Baltimore-Annapolis Corridor and of estimated patronage for the proposed light rail transit system indicates that the proposed transit system will neither satisfy a majority of total corridor travel needs nor divert sufficient numbers of trips from existing Maryland Routes 3 and 178 to allow these existing roadways to operate at a satisfactory level of service. The employment and residential locations within the corridor are and will be at medium density so that the attractiveness of a fixed rail facility to other than the downtown employment center is diminished. Additionally, the transit system proposal does not alleviate the high concentration of heavy truck traffic that exists on Maryland 3 and the safety problems this truck traffic creates. The truck and some automobile travel are longer distance trips, frequently originating and/or terminating in Western Maryland and the Eastern Shore. The recommended Interstate highway improvements in the Maryland Routes 3 and 178 corridor will be required with or without the construction of the proposed transit system to meet these travel needs.

Express bus service in the Maryland Route 3 Study Corridor is not a part of any current transit program. Increasing population densities along the corridor, however, may make such service feasible in the future. The Baltimore-Annapolis Transportation Corridor Study has recommended express bus service in that corridor as a part of a total transportation package. Clearly, if the Baltimore-Annapolis service is expanded and if patronage densities become favorable, express bus service along the Maryland Route 3 corridor will become attractive to the transit administrations. Any improvement to Maryland Route 3 would serve to complement such express service.

2. Transportation Systems Management

Another way of providing higher levels of service and energy conservation in a transportation corridor is Transportation Systems Management - TSM. These measures are designed to maximize efficiency by improving vehicular flow or by reducing the number of vehicles using a highway facility. TSM strategies include preferential lanes for high occupancy vehicles (HOV), ride-sharing, park and ride, parking controls, staggered work hours, reversible lanes, signal timing optimization, and transit fare or gas tax changes.

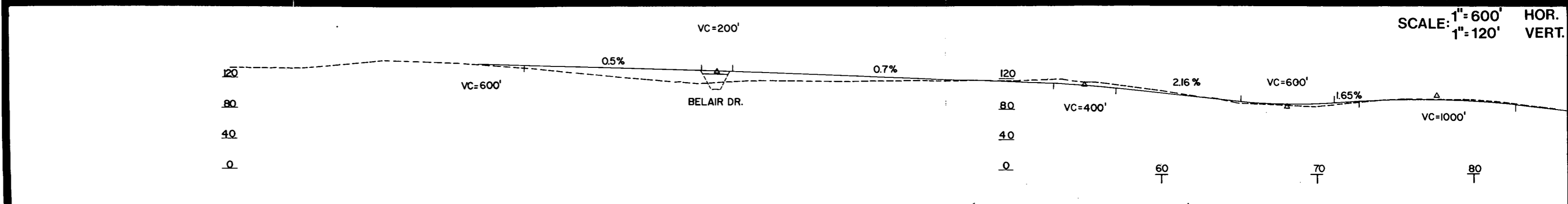
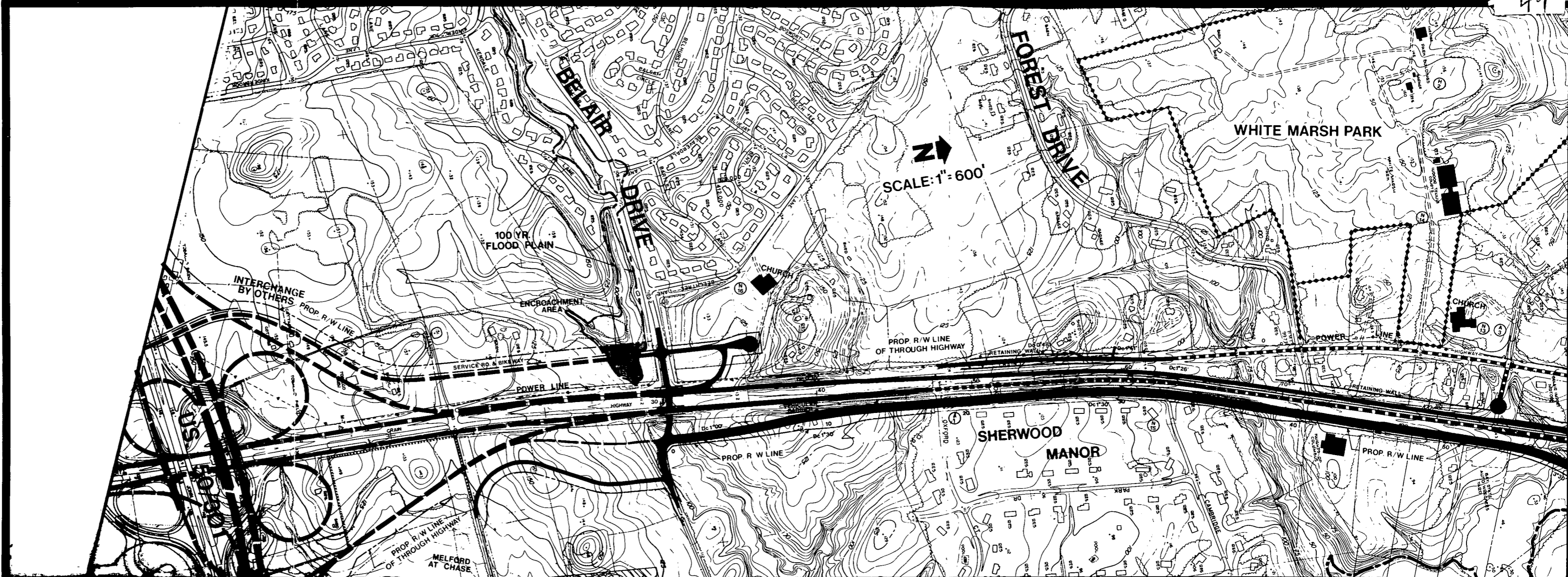
Many of these strategies are applicable only for urban expressways or for major commuter corridors. The traffic currently using Maryland Route 3 is not dominated by any one type of vehicle trip. Long

distance commercial trips, work trips, and local trips are uniformly distributed in the daily traffic movement. Implementation of many of the TSM strategies would not significantly decrease the number of vehicles using the facility. The most effective way of improving the level of service would be to control access.

Since energy conservation has become a critical issue in transportation planning, it is clear that any major action should consider TSM strategies which help reduce energy consumption. "The use of ride-sharing (carpools, vanpools, privately-leased buses, public transportation, and other multi-occupancy modes of travel) can lead to significant energy savings." They can also "reduce congestion, improve air quality and provide an economical and pleasant way to travel" (U.S.D.O.T. Fact Sheets, March, 1980). Park and ride lots are designed to facilitate ridesharing by providing convenient areas to transfer from private automobiles to multi-occupancy modes of travel. HOV facilities are also designed to encourage the use of ridesharing and transit by providing exclusive lanes for buses, carpools and vanpools.

The Maryland Route 3 Corridor Study Selected Action is responsive to energy conservation concerns. The Selected Action utilizes unused existing right-of-way along Maryland Route 450 for a Park and Ride lot. This lot, as presently conceived, could accommodate approximately 200 vehicles. It could also be designed to accommodate bus service.

HOV lanes are not currently being considered for this project. The types and distribution of traffic using this corridor do not justify construction of HOV lanes at this time. The Selected Action has the disadvantage of having insufficient rights-of-way for HOV lanes. Any additional lanes would have to be constructed on the outside of each roadway, and would have a major community impact.

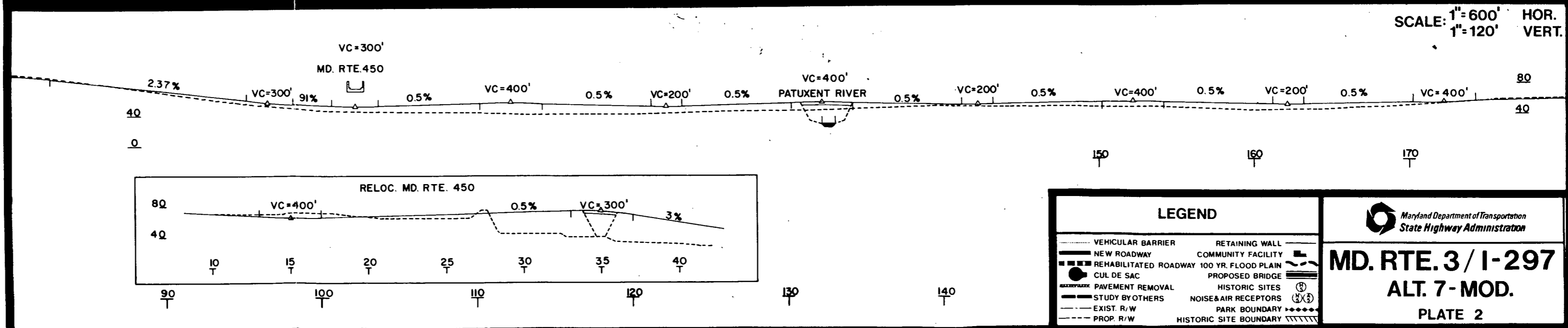
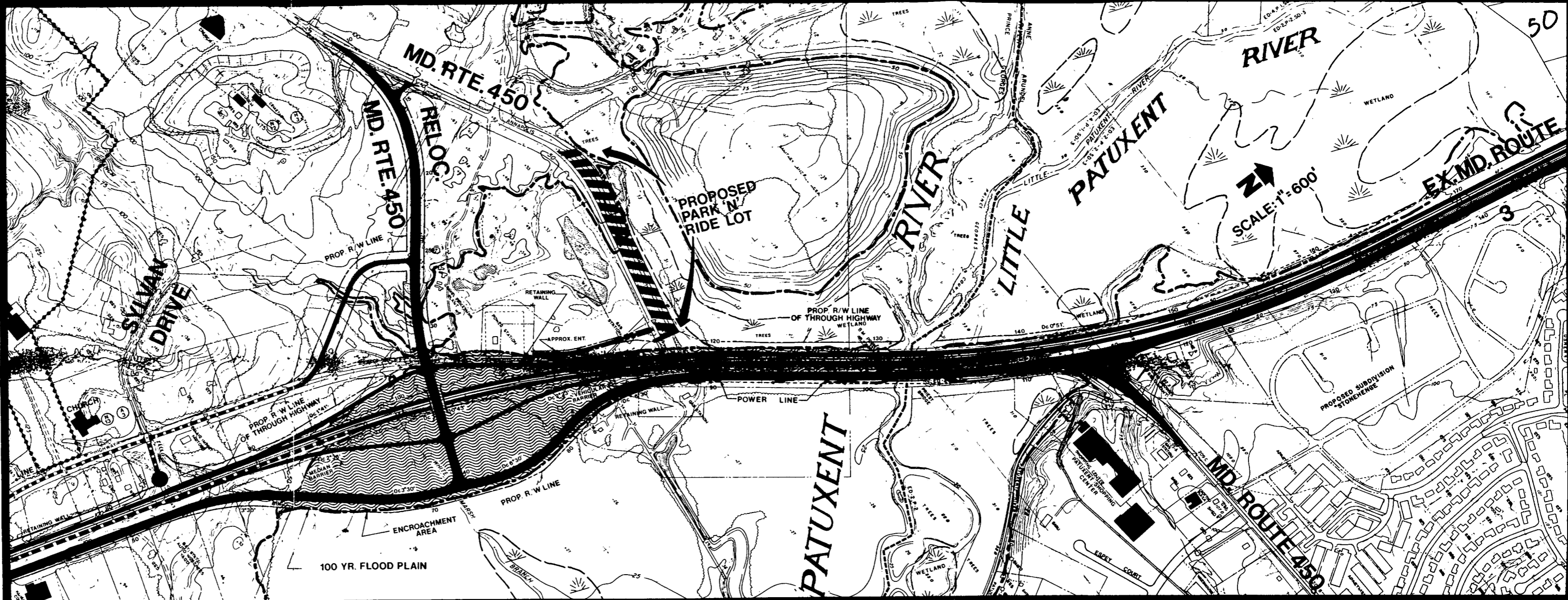


SCALE: 1" = 600' HOR.
1" = 120' VERT.

LEGEND	
— VEHICULAR BARRIER	— RETAINING WALL
— NEW ROADWAY	— COMMUNITY FACILITY
— REHABILITATED ROADWAY	— 100 YR. FLOOD PLAIN
● CUL DE SAC	— PROPOSED BRIDGE
— PAVEMENT REMOVAL	— HISTORIC SITES
— STUDY BY OTHERS	— NOISE & AIR RECEPTORS
— EXIST. R/W	— PARK BOUNDARY
— PROP. R/W	— HISTORIC SITE BOUNDARY

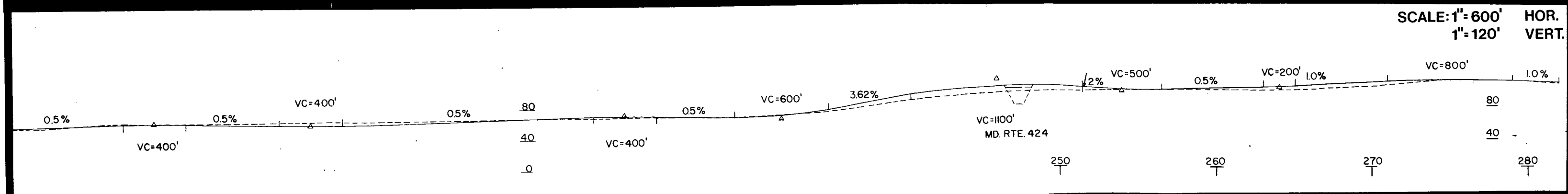
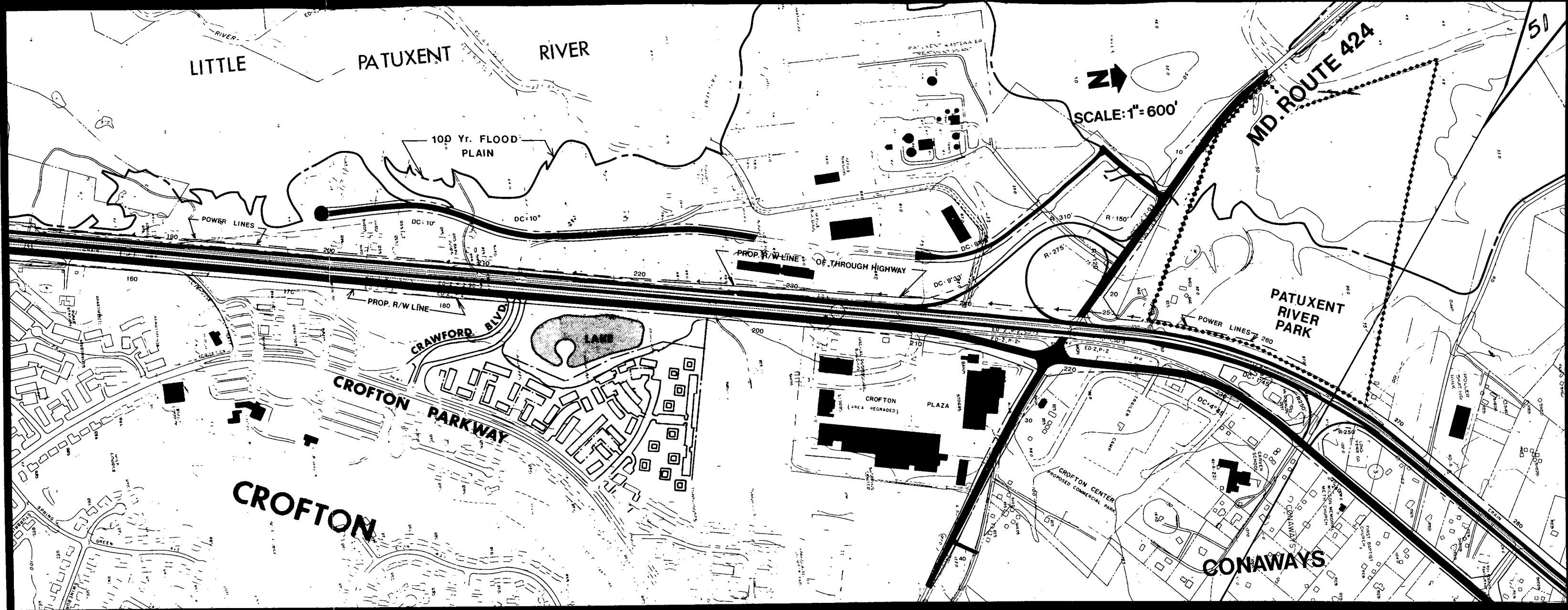
Maryland Department of Transportation
State Highway Administration

MD. RTE. 3 / I-297
ALT. 7 - MOD.
PLATE 1



LEGEND	
VEHICULAR BARRIER	RETAINING WALL
NEW ROADWAY	COMMUNITY FACILITY
REHABILITATED ROADWAY	100 YR. FLOOD PLAIN
CUL DE SAC	PROPOSED BRIDGE
PAVEMENT REMOVAL	HISTORIC SITES
STUDY BY OTHERS	NOISE & AIR RECEPTORS
EXIST. R/W	PARK BOUNDARY
PROP. R/W	HISTORIC SITE BOUNDARY

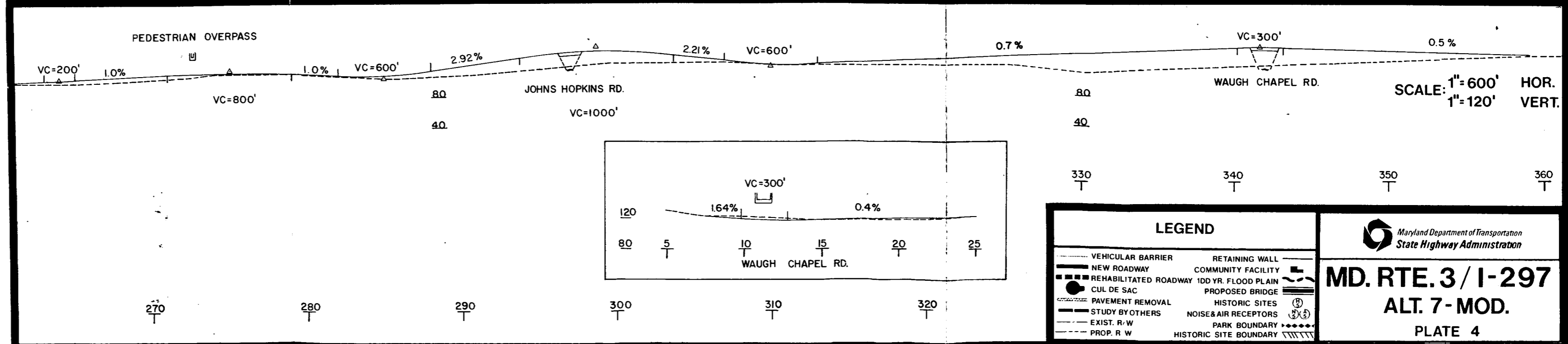
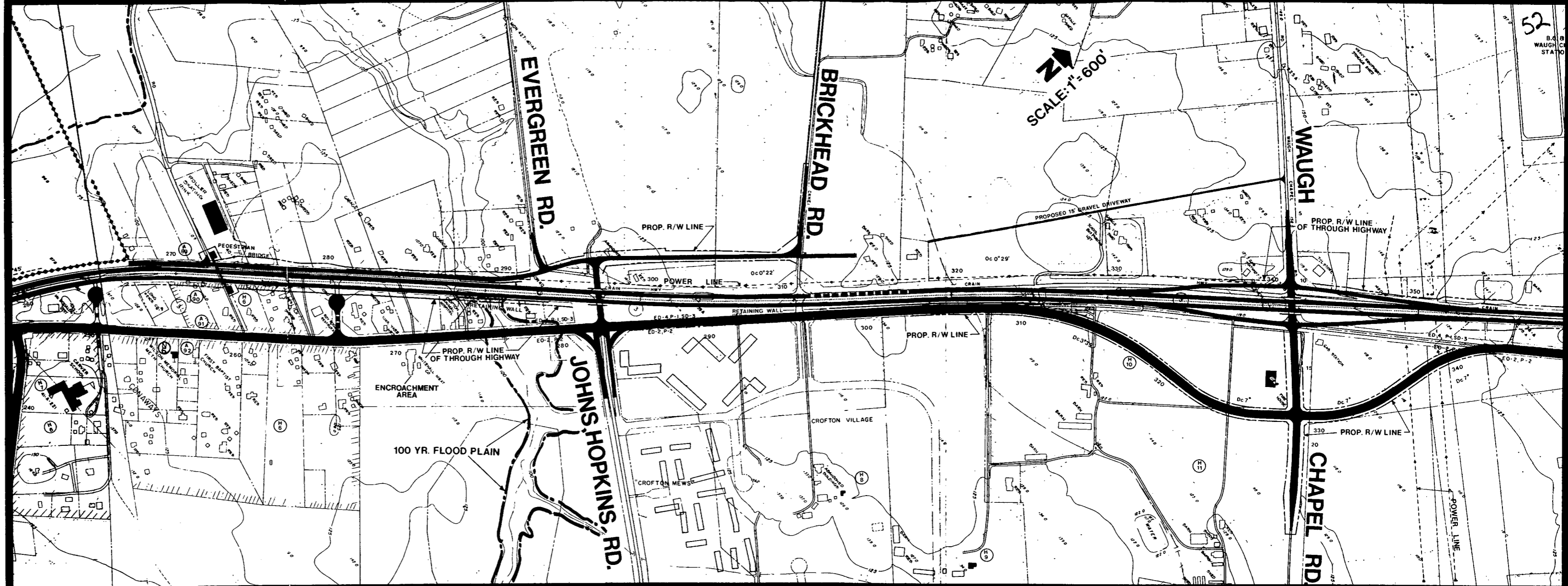
MD. RTE. 3 / I-297
ALT. 7 - MOD.
 PLATE 2



LEGEND

— VEHICULAR BARRIER	— RETAINING WALL
— NEW ROADWAY	— COMMUNITY FACILITY
— REHABILITATED ROADWAY	— 100 YR. FLOOD PLAIN
— CUL DE SAC	— PROPOSED BRIDGE
— PAVEMENT REMOVAL	— HISTORIC SITES
— STUDY BY OTHERS	— NOISE & AIR RECEPTORS
— EXIST. R/W	— PARK BOUNDARY
— PROP. R/W	

MD. RTE. 3 / I-297
ALT. 7 - MOD.
PLATE 3



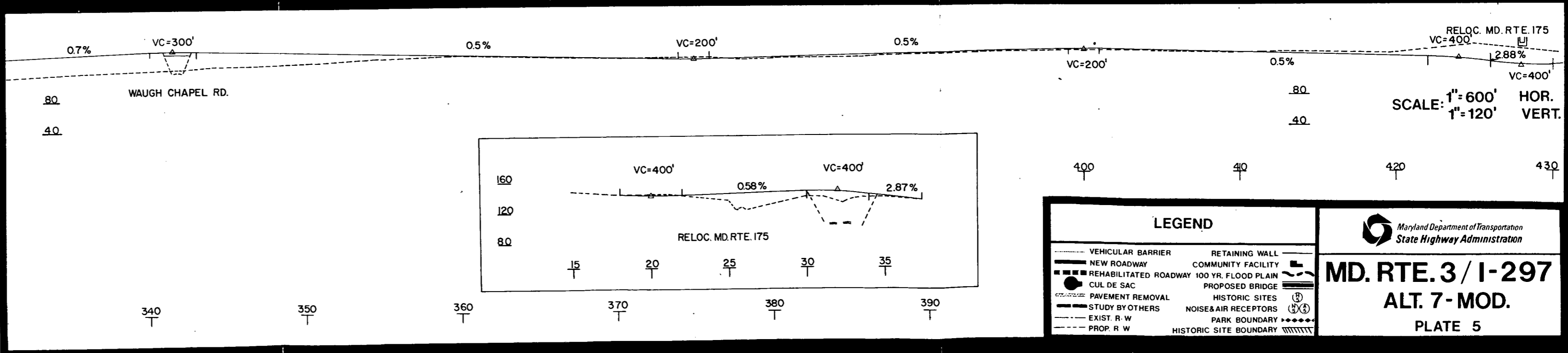
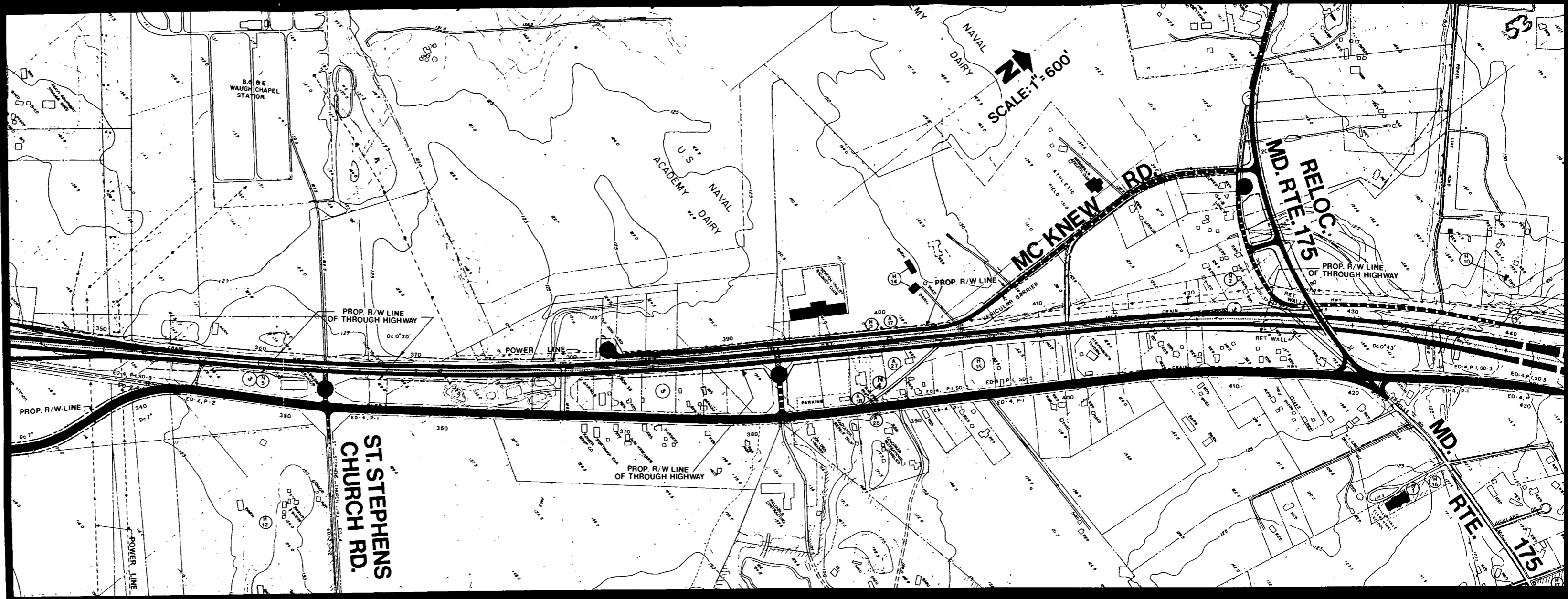
LEGEND

VEHICULAR BARRIER	RETAINING WALL
NEW ROADWAY	COMMUNITY FACILITY
REHABILITATED ROADWAY	100 YR. FLOOD PLAIN
CUL DE SAC	PROPOSED BRIDGE
PAVEMENT REMOVAL	HISTORIC SITES
STUDY BY OTHERS	NOISE & AIR RECEPTORS
EXIST. R/W	PARK BOUNDARY
PROP. R/W	HISTORIC SITE BOUNDARY

Maryland Department of Transportation
State Highway Administration

MD. RTE. 3 / I-297
ALT. 7 - MOD.
PLATE 4

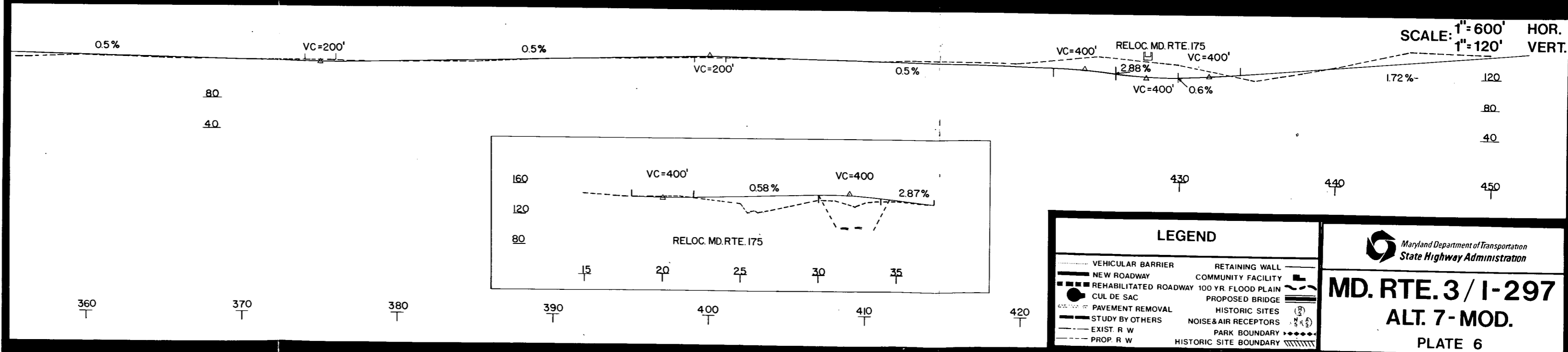
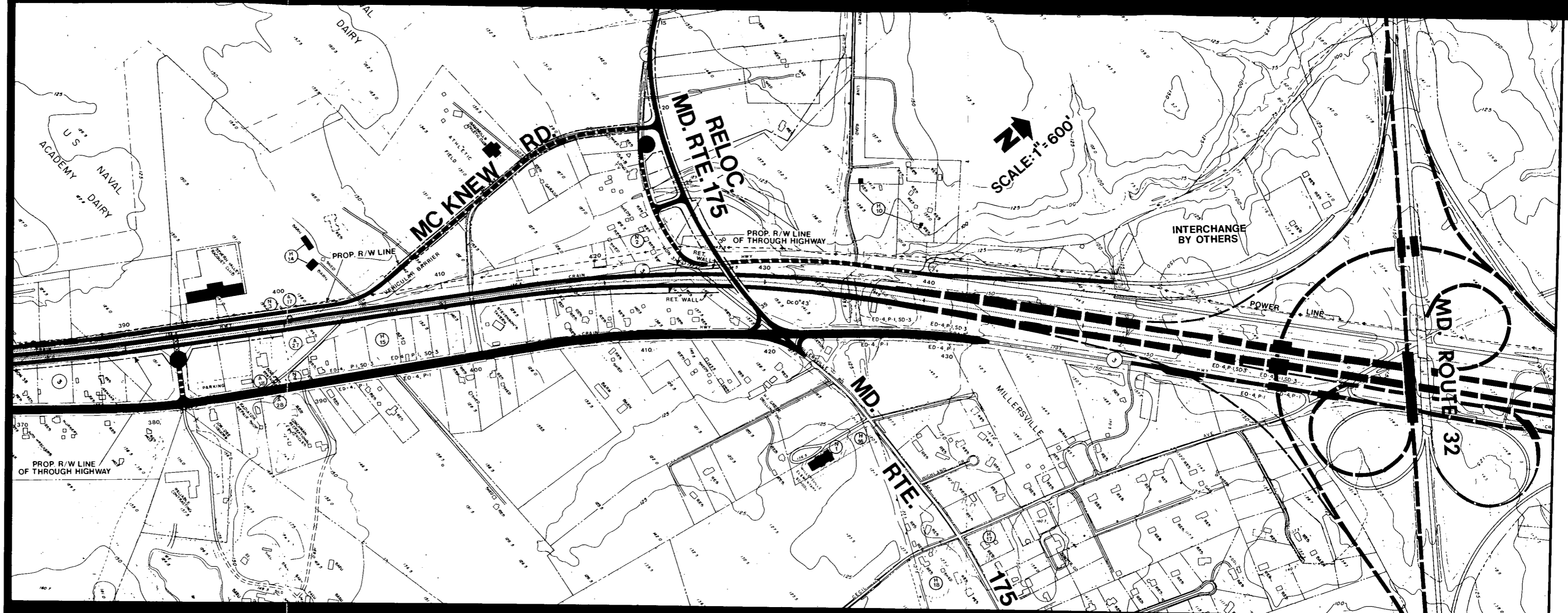
52
B. & B.
WAUGH
STATION



LEGEND			
—	VEHICULAR BARRIER	—	RETAINING WALL
—	NEW ROADWAY	—	COMMUNITY FACILITY
—	REHABILITATED ROADWAY	—	100 YR. FLOOD PLAIN
—	CUL DE SAC	—	PROPOSED BRIDGE
—	PAVEMENT REMOVAL	—	HISTORIC SITES
—	STUDY BY OTHERS	—	NOISE & AIR RECEPTORS
—	EXIST. R-W	—	PARK BOUNDARY
—	PROP. R-W	—	HISTORIC SITE BOUNDARY

Maryland Department of Transportation
State Highway Administration

MD. RTE. 3 / I-297
ALT. 7 - MOD.
PLATE 5



LEGEND

— VEHICULAR BARRIER	— RETAINING WALL
— NEW ROADWAY	— COMMUNITY FACILITY
— REHABILITATED ROADWAY	— 100 YR. FLOOD PLAIN
— CUL DE SAC	— PROPOSED BRIDGE
— PAVEMENT REMOVAL	— HISTORIC SITES
— STUDY BY OTHERS	— NOISE & AIR RECEPTORS
— EXIST. R/W	— PARK BOUNDARY
— PROP. R/W	— HISTORIC SITE BOUNDARY

Maryland Department of Transportation
State Highway Administration

MD. RTE. 3 / I-297
ALT. 7 - MOD.
PLATE 6

IV. AFFECTED ENVIRONMENT

IV. AFFECTED ENVIRONMENT

A. SOCIAL AND ECONOMIC ENVIRONMENT

1. Neighborhood Identity and Settlement Patterns

The most significant spatial characteristic that has affected the social and economic context of the study area is the relative proximity of the corridor to the urban centers of Washington, D.C., Baltimore and Annapolis. Suburban expansion, especially from Washington, is changing the land use at an increasing rate along the Maryland Route 3 corridor. The area is characterized by medium density residential and commercial development separated by large areas of agricultural or open space.

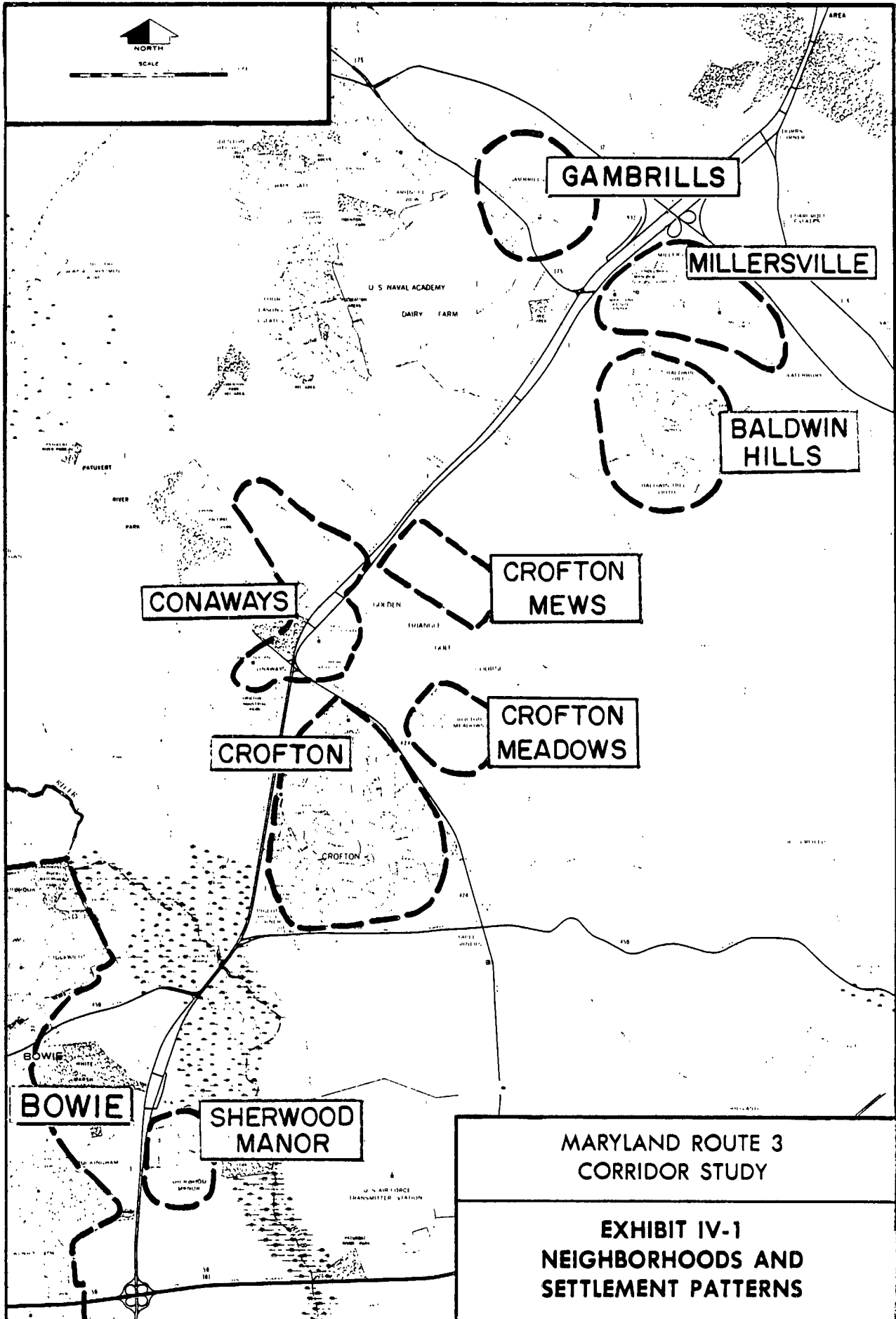
This urbanization process is occurring at a more rapid pace in the Anne Arundel County portion of the corridor. Residential construction activity prior to the rise in interest rates was high. The subdivision of large undeveloped tracts is increasing. Site plan approvals and petitions for zoning changes for commercial ventures are also increasing, as services try to keep pace with residential growth.

The Prince George's County segment of the corridor is not experiencing growth at the same rate as the Anne Arundel County section. The residential areas are more established and fewer housing units and commercial enterprises are being planned. The existing zoning ordinances have established a low-growth development pattern in this area of Prince George's County.

Although the urbanization process is continuing to add new communities to the corridor, a number of established neighborhoods can be identified. These communities are shown on Exhibit IV-1.

The City of Bowie is located just west of Maryland Route 3, on both sides of U.S. 50. Homes in the portion of Bowie within the project corridor consist of single-family frame or brick dwellings on approximately 1/4 acre lots. Houses here are generally well maintained middle income level dwellings. Most of these homes were built within the last 25 years.

Sherwood Manor is a residential area on the east side of Maryland Route 3 in the southern portion of the study corridor, off Oxford Court. Homes are well kept frame or brick single-family dwellings on large lots. There is no commercial section in this community.



Crofton is a relatively new planned community bounded by Maryland Route 3, Maryland Route 450 (east) and Maryland Route 424. Housing consists of single-family dwellings, townhouses and garden apartments. There are two major shopping centers located near Crofton. One is located on Route 3 near Route 424 and the other is located on Route 450, near Route 3. A professional center is located in Crofton near Club House Gate. There are also two elementary schools located in Crofton: Crofton Elementary and Crofton Woods Elementary.

Conaways is located on the east and west side of Maryland Route 3 just north of the Maryland 424 intersection. This is an old minority community consisting of predominantly small, frame, single-family homes. There are two small churches in Conaways facing Maryland Route 3. One of these churches is currently used as an antique store. The Carver Special School is located in Conaways.

Crofton Meadows is a new subdivision located northeast of Crofton near the intersection of Maryland Route 424 and Reidel Road. This residential area is composed of condominium townhouses and apartments which provide middle income housing.

Crofton Mews is a new subdivision of condominium townhouses located north of the Golden Triangle Golf Course on Johns Hopkins Road. The subdivision is presently under construction.

Baldwin Hills lies just east of the study area between Maryland Route 32 and St. Stephens Church Road. This small development consists of brick or frame, single-family dwellings, most of which were constructed within the last 30 years. Lot sizes here are generally less than one acre.

Millersville is in the northeastern portion of the study corridor in the vicinity of Millersville Road. The predominant land use is residential. Homes are detached frame or brick dwellings generally on spacious lots. Also located in the Millersville area are a U.S. Post Office and the Millersville Elementary School. A few commercial sites are located here including a gas station, drilling company, and a construction company.

Gambrills is a small community lying just west of the study corridor boundary between Maryland Route 175 and Maryland Route 32. Land use here is primarily single-family residential. Homes are about 30

to 40 years old. Lots range in size from less than an acre to several acres. The value of homes varies, but families living here are in the middle to upper income levels. There are only a few commercial buildings in the area: Long's TV, Engine Distributors, Inc., and Pinsetteas, Inc.

2. Community Facilities and Public Services

Commercial enterprises are found scattered along the study corridor, even in the median, where space permits. Some of the business in the area is geared to providing services for Maryland Route 3 traffic. Restaurants and gas stations are examples of this type of commercial establishment. Other types of commercial establishments include: taverns, a recreational vehicle dealer, a bowling center, liquor stores, a nursery, an auto wrecking company, an equipment company, a ceramics company and a fence company. Shopping centers are limited to the Crofton Plaza, located near Maryland Route 424, and the Patuxent Shopping Center located on the south side of Maryland Route 450 East.

Some land in the corridor serves as industrial sites. There is a sand and gravel operation on the west side of Maryland Route 3 across from Crofton, and there is a related industry, a concrete mixing operation, also west of Maryland Route 3, near the Crofton Business Community. The Crofton Business Community is a relatively new office and warehouse complex on the west side of Maryland Route 3, just south of Maryland Route 424.

Two wastewater treatment plants lie wholly or partially within the study corridor. The Patuxent Wastewater Treatment Plant lies on the west side of Maryland Route 3 just south of Maryland Route 424. The other wastewater treatment plant is located on the western edge of the corridor in Prince George's County near the Patuxent River. Both of these facilities have secondary treatment systems.

The most notable parks within the study area are White Marsh Park, located in Prince George's County, and Patuxent River Park, located in Anne Arundel County. The 165 acre White Marsh Park, owned by the City of Bowie, provides a range of organized recreational activities, including a repertory theater (See Plate 1). Patuxent River Park is a 52 acre passive open space facility owned by Anne Arundel County (See Plate 3).

In addition, there are smaller, scattered parks which serve the major suburban developments of Bowie, Odenton, Crofton, Baldwin Hills and Millersville. The public schools in these communities also provide open space and recreational opportunities. Crofton Golf Course, Bowie Race Track, Capital Raceway Park, Gambrills Athletic Club, a racquet club and a roller skating rink are privately owned facilities within the study corridor. Crofton contains many acres of open space which was set aside by the developer for use by Crofton residents.

Religious institutions in the study area include Sacred Heart Roman Catholic Church (Maryland Route 450), Seventh Day Adventist Church (Maryland Route 3 at Sylvan Drive), Wilson Memorial Methodist Church (Conaways) and a newly completed church on Beechtree Lane in Bowie.

No hospitals, public health centers or clinics are located within the study corridor. There are private doctors' offices in the Crofton Professional Building. Crownsville State Hospital, a mental health facility, lies east of the corridor on Maryland Route 178.

Many of the area's schools are located either in Crofton or in the City of Bowie. Elementary schools include: Heather Hills, Kenilworth, Fox Hill, Buckingham, Somerset, Chapel Forge, Yorktown (Bowie), Crofton, Crofton Woods, and Millersville. Three junior high schools serve the area: Benjamin Tasker, Bel Air and Ogle (Bowie). Two senior high schools serve students from the corridor: Arundel (Odenton) and Bowie. Other scholastic institutions serving the area are Bowie State College, located west of the corridor, and Carver Special School, located in Conaways. There is a public library located in the Crofton Plaza Shopping Center.

Police protection is provided by County forces; however, there are no stations within the study corridor. A new volunteer fire station has been constructed in the corridor on the east side of Maryland Route 3 opposite Waugh Chapel Road.

Currently, there are no major employment centers in the study corridor. Local employment is provided primarily by service type firms such as the gravel mining operation near Maryland Route 450 or small farm operations. Most of the inhabitants in the study area commute to Washington, Baltimore, Fort Meade or Annapolis. Fort Meade is an

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active U.S. Army base located in the west-central part of Anne Arundel County. Direct employment at the base, including the National Security Administration facility, was nearly 14,000 in 1975.

3. Social/Economic Profile

The rapid suburbanization of parts of the study corridor has resulted in a noticeable degree of social stratification between lower income rural groups and middle income urban groups. For years, this part of the State was noted for its rural settlements, spread over a landscape of farmlands. In the 1960's, the emergence of the communities of Bowie and Crofton signaled an era of rapid growth in this region. These changes have produced new problems for the area: sprawl development, older communities in decline, congestion, an endangered natural environment, services unable to meet demands, housing problems, and disappearing farms.

Table IV-1 summarizes some of the more significant features of the social/economic character of the study area. The census tracts referred to in this table are mapped on Exhibit IV-2. As the table indicates, population levels are increasing significantly in the Anne Arundel County tracts, while the levels are decreasing slightly in Prince George's County. Minorities represent a higher percent of the population in the more rural parts of Anne Arundel County. The housing unit totals on Table IV-1 show a marked difference in the number of apartments in the two counties.

4. Land Use Plans

The two counties traversed by the Maryland Route 3 Corridor Study are members of separate regional planning agencies. The Metropolitan Washington Council of Governments (COG) is the Metropolitan Planning Organization for the Washington area, which includes Prince George's County. Anne Arundel County is a member of the Baltimore Regional Planning Council (RPC).

COG is responsible for formulating and recommending growth policies for the Washington Metropolitan area. Locally, the Maryland-National Capital Park and Planning Commission (M-NCPPC) formulates physical development plans for Montgomery and Prince George's Counties. The current M-NCPPC regional plan, entitled "On Wedges and Corridors", was adopted in 1964, and follows the general guidelines for development contained in the regional plan. These plans are

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TABLE IV-1 - SOCIAL/ECONOMIC PROFILE
MARYLAND ROUTE 3 CORRIDOR

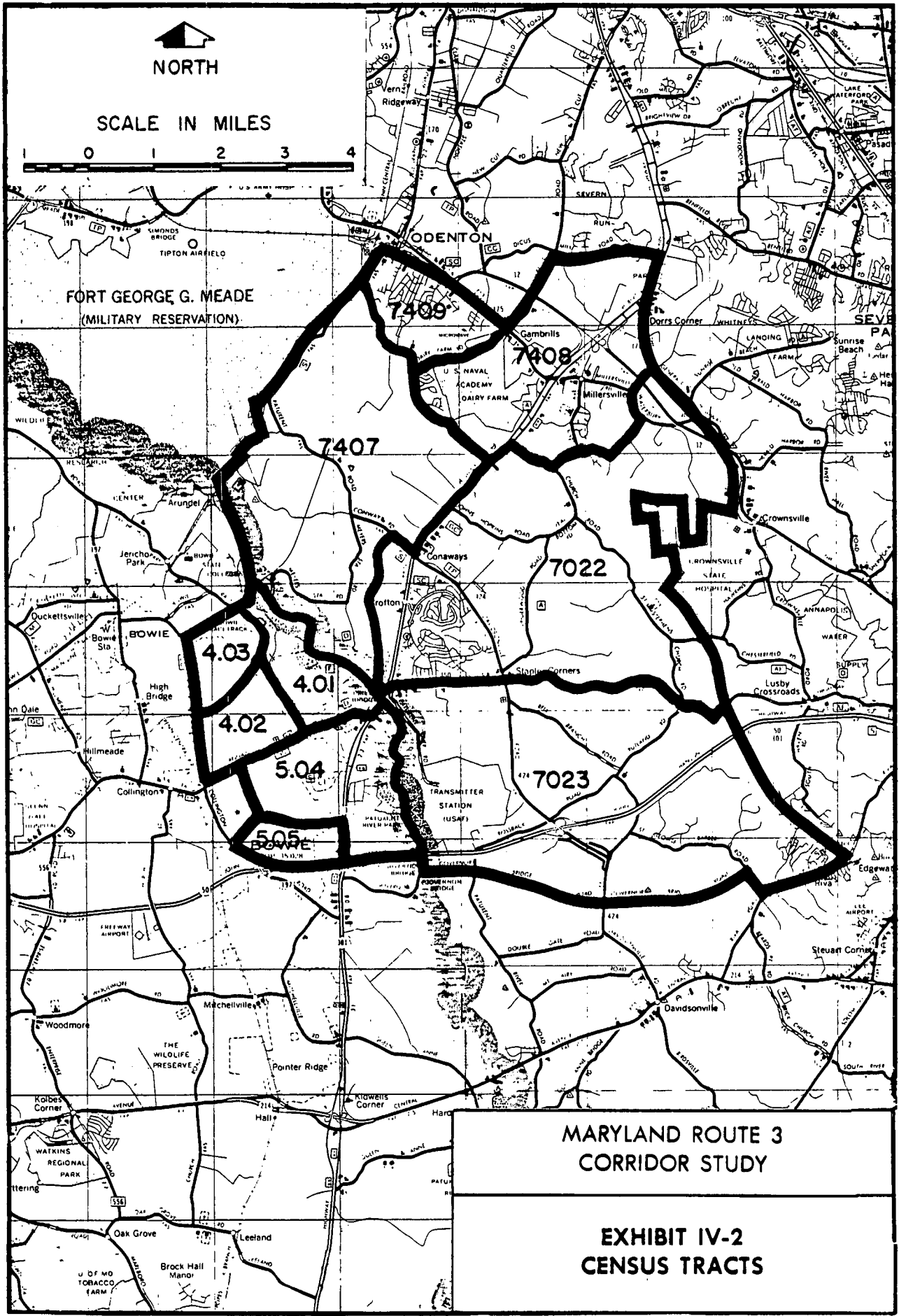
County	Census Tract	Population			1970 % Population Black	1975 Housing		1975 Median Family Income
		1970	1975	1980 (Est.)		Single Family Units	Apartment Units	
Anne Arundel	7407	695	3,246	3,505	less than 1	548	188	(1) 14,928
	7408	2,758	4,416	4,842	4	886	272	19,732
	7409	4,701	5,608	5,937	less than 1	1,235	147	19,014
	7022	6,042	11,510	13,631	17	2,244	366	26,848
	7023	1,831	4,528	5,086	less than 1	1,094	210	17,897
Prince George's	4.01	3,084	2,888	2,724	less than 1	753	0	(2) 17,834
	4.02	7,739	7,413	6,993	1	1,934	0	(County-
	4.03	3,997	3,746	3,541	1	994	3	wide)
	5.04	6,851	6,481	6,118	1	1,598	0	
	5.05	4,570	4,285	4,044	less than 1	1,015	0	
Total		42,268	54,121	56,421	--	12,301	1186	--

(1) Anne Arundel Countywide median was \$15,522.

(2) 1975 Census tract income not available.

Sources: U.S. 1970 Census, Housing Units & Population in Prince Georges County, M-NCPPC, R.P.C. Technical Memorandum No. 5, R.P.C. Round 9 Socio-Economic Data, MD Dept. of Economic and Community Development, Maryland Statistical Abstract, 1977.

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**MARYLAND ROUTE 3
CORRIDOR STUDY**

**EXHIBIT IV-2
CENSUS TRACTS**

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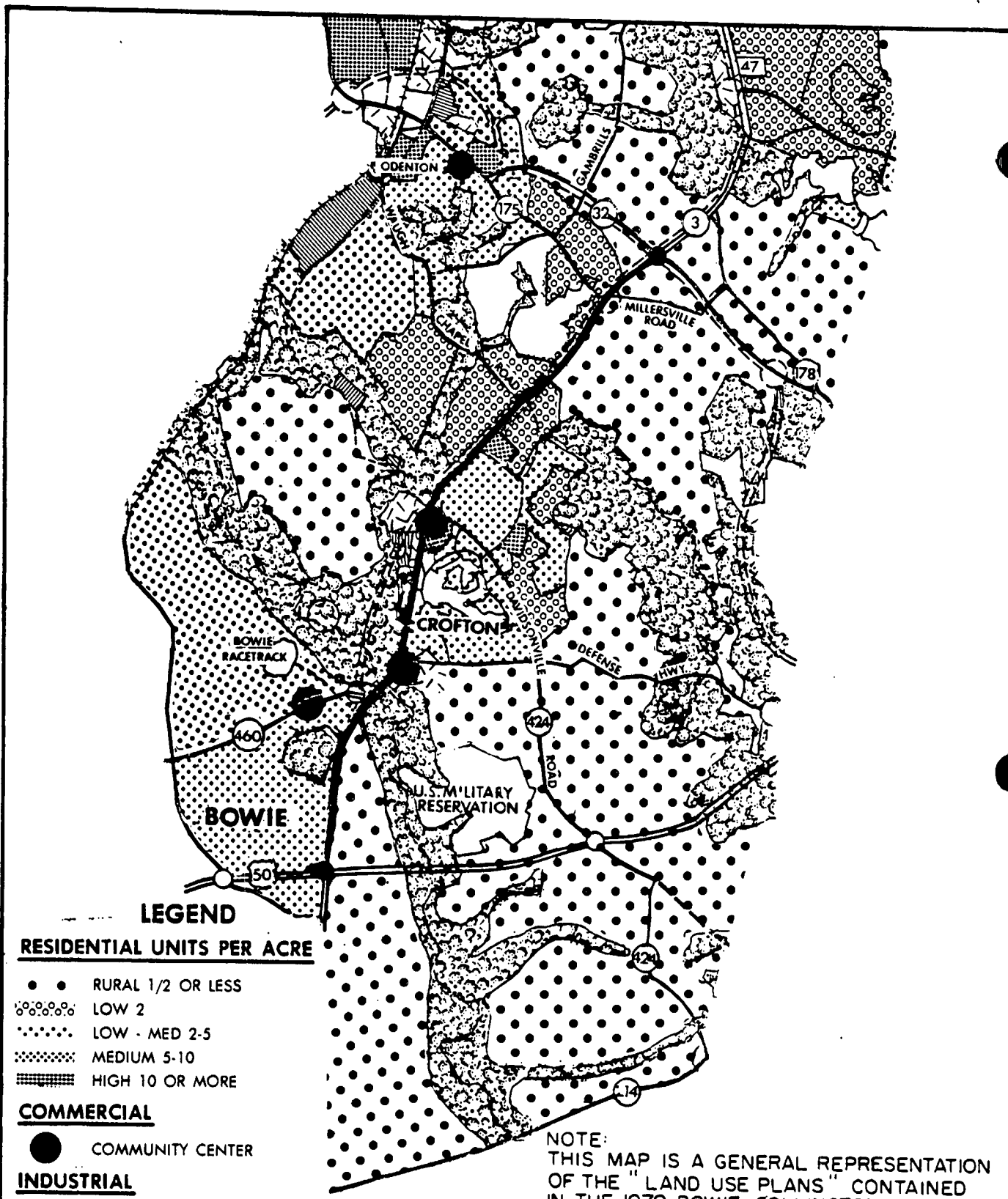
further refined by the 1970 Adopted and Approved Master Plan for the Bowie-Collington Vicinity which directs development in the part of the Prince George's County affected by the Maryland Route 3 Corridor Study.

The Bowie-Collington Plan presents long range planning policies which encourage development towards districts, staged by the presence or availability of adequate public facilities. According to the plan, most of the undeveloped land west of Maryland Route 3 will be allowed to develop into single-family residential communities, contiguous to the existing community of Bowie. The east side of Maryland Route 3, however, is to be characterized by low density development and open space (See Exhibit IV-3). The plan does not endorse a limited access freeway along the Maryland Route 3 alignment. It does, however, recommend that all uses along the "highway be served by a service road, paralleling the main right-of-way".

These recommended development policies for the Bowie-Collington area are reflected on the Sectional Map Amendment, adopted October 2, 1975. This document serves as the basic zoning map for the area. The low density zoning classifications for tracts adjacent to Maryland Route 3 reflect the type of development recommended in the Bowie-Collington Master Plan. Approximate zoning boundaries and general classifications are shown on Exhibit IV-4. The Bowie-Collington Master Plan and the Sectional Map Amendment are on file at the M-NCPPC offices, 6600 Kenilworth Avenue, Riverdale, Maryland 20840.

Local land use policies for Anne Arundel County are contained in the county wide General Development Plan (GDP), adopted in July of 1978. The Plan provides the policy framework for the coordinated implementation of the Growth Management Program. The Growth Management Program has five major elements: (1) the General Development Plan, (2) the Growth Management Ordinance; (3) improved management systems, (4) programs for capital facilities and (5) development-regulating ordinances.

The GDP proposed land use map indicates those areas in the County where certain types of development will be supported. The map does not show any significant changes to existing land use patterns beyond the known development plans. The area on the west side of Maryland Route 3, between Maryland 450 and Waugh Chapel Road, will support residential and commercial land uses. The area west of Maryland Route 3



LEGEND
RESIDENTIAL UNITS PER ACRE

- ● RURAL 1/2 OR LESS
- LOW 2
- LOW - MED 2-5
- MEDIUM 5-10
- HIGH 10 OR MORE

COMMERCIAL

- COMMUNITY CENTER

INDUSTRIAL

- ||||| HEAVY
- /// PARK

TRANSPORTATION

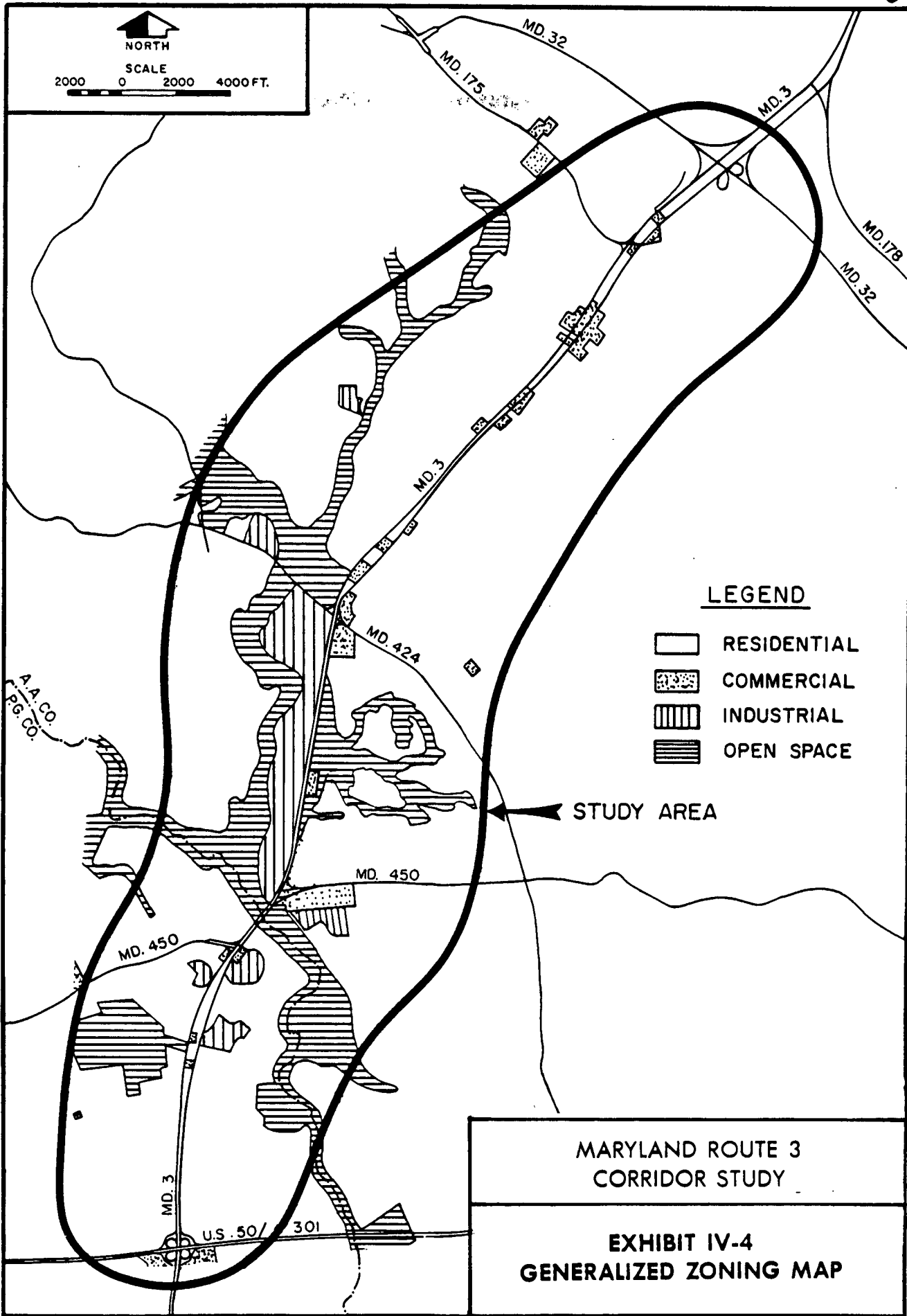
- ==== DIVIDED HIGHWAY
- INTERCHANGE
- MAJOR HIGHWAY
- ARTERIAL
- === PROPOSED FACILITY
- ~~~~ OPEN SPACE AND RECREATION

NOTE:
 THIS MAP IS A GENERAL REPRESENTATION
 OF THE "LAND USE PLANS" CONTAINED
 IN THE 1970 BOWIE COLLINGTON PLAN AND
 THE 1978 ANNE ARUNDEL COUNTY GENERAL
 DEVELOPMENT PLAN.

MARYLAND ROUTE 3
 CORRIDOR STUDY

EXHIBIT IV-3
 PROPOSED LAND USE

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NORTH
 SCALE
 2000 0 2000 4000 FT.

LEGEND

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- OPEN SPACE

STUDY AREA

MARYLAND ROUTE 3
 CORRIDOR STUDY

**EXHIBIT IV-4
 GENERALIZED ZONING MAP**

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near Crofton, will remain an industrial area. The plan supports updating Maryland Route 3 to freeway standards. The plan also recommends the following roadway improvements:

Patuxent Freeway, new road from Maryland Route 175 to Maryland Route 32 at Discus Mill Road.

Maryland Route 170, reconstruct 4 lanes from Maryland Route 175 to future Maryland Route 100.

Reidel Road should be extended to connect from Maryland Route 424 to Maryland Route 3 at Waugh Chapel Road.

Johns Hopkins Road will be widened from Maryland Route 3 to Reidel Road by developers. (Construction of this project has already begun.)

Also, a roadway connecting Maryland Route 3 at Maryland Route 424 to Maryland Route 175 to Odenton has been identified as a long range need.

The only Prince George's County roadway project which could be impacted by changes to Maryland Route 3 is the proposal to relocate Bowie Race Track Road. The road is the subject of a study entitled Bowie Race Track Access Study, issued by the Transportation Planning Division of the Maryland-National Capital Park and Planning Commission and dated January, 1976. The Bowie Race Track Road relocation alternative recommended by the M-NCPPC study can be easily connected to relocated Maryland Route 450, as provided in the Selected Action.

5. Private Residential and Commercial Planning Activities

As a part of the study process, private development plans were reviewed and inventoried as they passed through the local planning process. Table IV-2 lists the plans received to date. Some of these plans may be in a very preliminary stage; therefore, the final development pattern may or may not resemble that which is on file at the planning agencies. Exhibit IV-5 indicates the approximate locations of the major planned developments.

Some of the more notable development plans include Piney Orchard - a 6,000 unit residential development to be located south of Odenton - and the Maryland Research Park - a 6,000,000 square foot employment center to be located near the northeast quadrant of the Maryland Route 3 and U.S. 50/301 interchange.

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TABLE IV-2
RESIDENTIAL AND COMMERCIAL DEVELOPMENT
PLANS SUBMITTED TO LOCAL PLANNING AGENCIES
(AS OF MAY 1980)

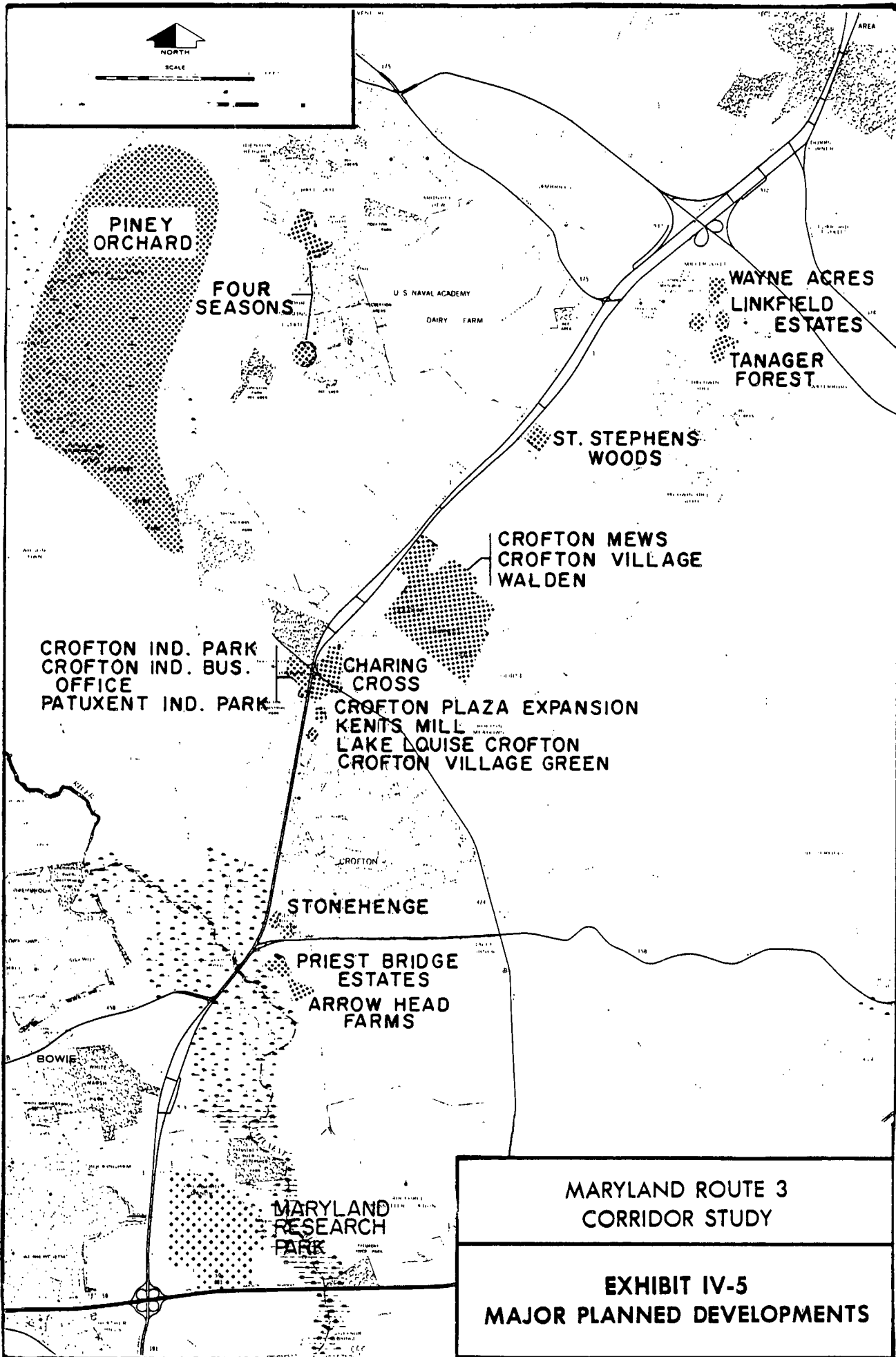
RESIDENTIAL

<u>Subdivision Name</u>	<u>Gross Area (Ac.)</u>	<u>Units</u>
Crofton Village P.U.D.		229 1,698
Addition to Sherwood Manor	31.63	5
Melford Chase	98	59
Crofton Center	9.74	145
Forest Hills	0.96	1
Stonehenge	57.11	163
Wayne Acres	36.6	15
Linkfield Estates	56	16
St. Stephens Woods	135.9	56
Four Seasons Additions	49	227
Charing Cross	24.5	31
Arrow Head Farms	65.6	27
Piney Orchard	Unavailable	6,000 (est.)

COMMERCIAL

<u>Subdivision Name</u>	<u>Gross Area (Ac.)</u>	<u>Gross Sq. Ft.</u>
Crofton Center	12	100,100
Priest Bridge Business Park	65	200,000
Crofton Business Community	9.69	42,693
Hopkins Place	17.78	145,693
Louis Hyatt Property	4.9	57,000
Wendy's Restaurant	1.58	2,000
Hardisty Property	1.28	6,040
Sear's Skatepark	3.58	-
Waugh Chapel Green Shopping Center	16.9	107,400
MAYA Shopping Plaza	1.25	7,920
Rockdale Inc. (Warehouse)	4.2	36,200
Maryland Research Park	-	6,000,000

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6. Historic and Archeological Sites

Research into county inventory maps, along with field surveys by the Maryland Historical Trust, identified 21 properties with National, State or local historical importance within the study corridor (See Table IV-3). The SHPO's coordination letter is reproduced in Section VI, page VI-8.

The general location of the following historic sites is shown on Exhibit IV-6. Those sites located near the Selected Action are located more specifically on Plates 1 thru 6 and are indicated thusly H₁ .

Complete descriptions for these sites are included in the Maryland Route 3 Corridor Study, Volume I, Environmental Inventory, on file at the Baltimore office of the State Highway Administration.

The historical significance of each of these sites has been determined by the State Historic Preservation Officer (see Section VI). Those properties whose eligibility for the National Register of Historic Places has been determined to be either "pending" or "possible" are considered to be protected by Section 4(f) of the Department of Transportation Act.

A preliminary archeological reconnaissance was performed for the Maryland Route 3 Study by the Maryland Geological Survey (MGS). The reconnaissance identified fourteen archeological sites previously recorded in the Maryland Archeological Site Survey. Field surveys also revealed several other sites of potential archeological significance. The MGS reconnaissance report detailing these sites is on file at the Baltimore office of the State Highway Administration.

In order to deter excavation by untrained persons, the locations of archeological sites are not shown on the study area maps.

B. PHYSICAL ENVIRONMENT

1. Air Quality

Of the seven air pollutants having Federal or State standards, three are known to be associated primarily with internal combustion engine emissions: carbon monoxide, hydrocarbons and nitrogen oxides. Observations recorded on the grounds of the Crownsville State Hospital in Crownsville, Maryland, were used to predict background pollutant

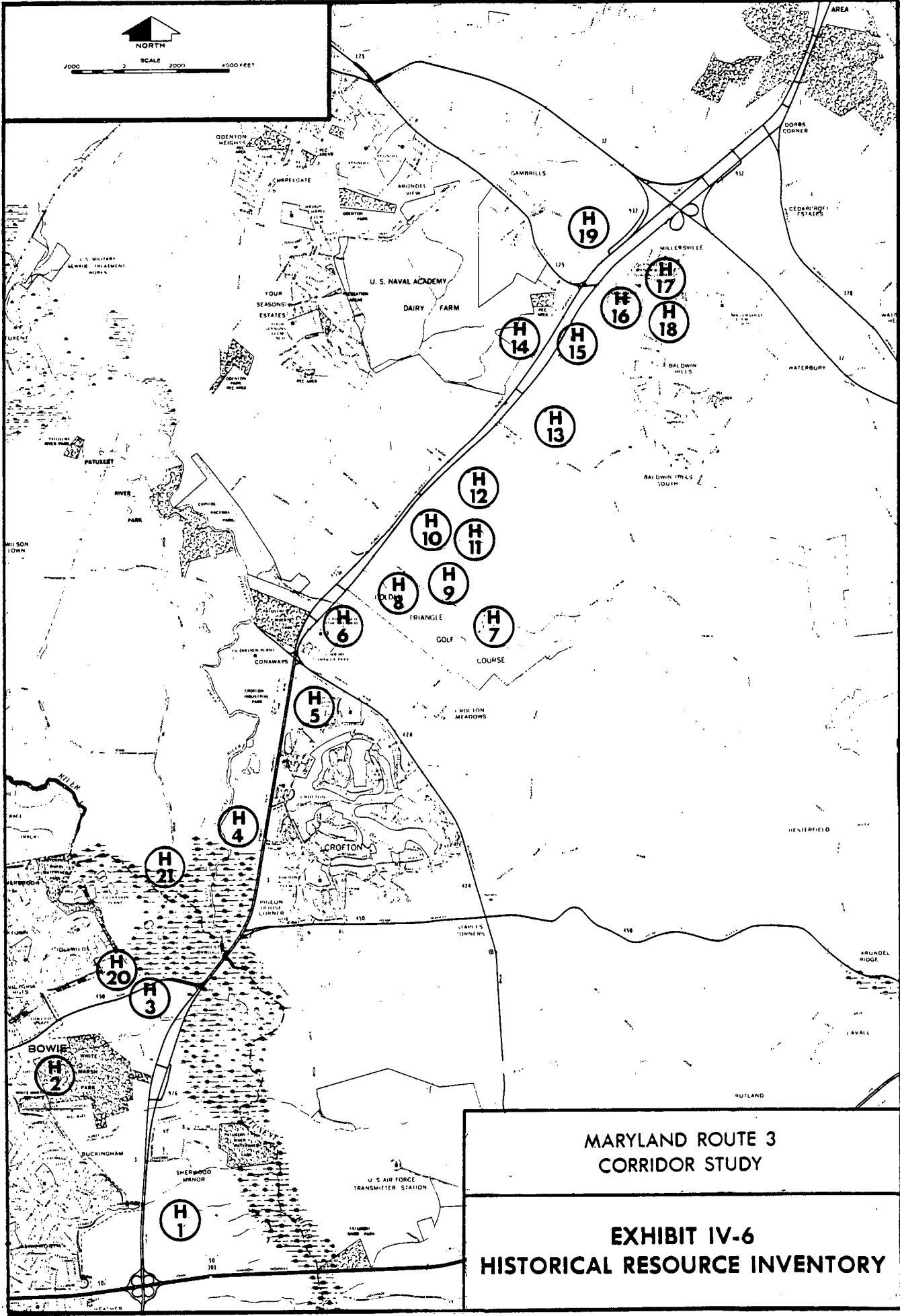
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TABLE IV-3 HISTORIC SITE INVENTORY

<u>HT Inventory No.</u>	<u>Study Site No.</u>	<u>Name of Description</u>	<u>Historical Significance¹</u>
PA 71A-20	H-1	Melford (Howerton's Range)	N.R. ² nomination pending
PA 71B-3	H-2	Williams Plains	Possible N.R. eligible
PA 71A-19	H-3	Sacred Heart Chapel	Possible N.R. eligible
(C)	H-4	Red Barn Liquors	Local
(B)	H-5	Pigeon House Corner	Not Significant
(E)	H-6	Conaways District	Local
AA-187	H-7	Whitehall Farm	Possible N.R. eligible
AA-747	H-8	Farmhouses	Inventory
AA-85	H-9	Nelson/Turner House	Possible N.R. eligible
(G)	H-10	Farm	Not Significant
AA-748	H-11	Ganter Farm	Inventory
(K)	H-12	Carver Farm	Local
(N)	H-13	Church View Farm	Possible N.R. eligible
(P)	H-14	2 Barns	Local
(Q)	H-15	House	Local
(Ta)	H-16	Millersville School	Possible N.R. eligible
AA-745	H-17	House	Possible N.R. eligible
AA-110	H-18	Childs residence	Possible N.R. eligible
AA-744 (Tc)	H-19	2 Buildings	Possible N.R. eligible
(U)	H-20	Farm	Possible N.R. eligible
(V)	H-21	Farm	Possible N.R. eligible

1. Significance determined by State Historic Preservation Officer. See Section VI.

2. National Register of Historic Places.



MARYLAND ROUTE 3
CORRIDOR STUDY

EXHIBIT IV-6
HISTORICAL RESOURCE INVENTORY

levels in carbon monoxide. The results of the monitoring conducted during January and March 1976 are as follows:

COMPARISON OF AMBIENT CARBON MONOXIDE POLLUTION LEVELS TO NATIONAL STANDARDS

<u>Concentration</u>	<u>Ambient Level</u>	<u>National Standard</u>
8 hr. max mg/m ³ *	2.9	10
1 hr. max mg/m ³ *	3.4	40

*milligrams per cubic meter

The locations of air quality sensitive receptor sites are shown on Plates 1 thru 6. These sites are indicated thuslyA₁ .

2. Noise Levels

The Maryland Route 3 Study Corridor is a major north-south arterial carrying a significant amount of truck traffic. The impact of noise generated by the traffic here is currently quite high. In order to determine the acoustic impact of the proposed action, it was necessary to establish existing noise levels. Monitoring locations were selected because of their proximity to the existing facility or to the proposed alternates. A total of sixteen noise sensitive receptors were identified as being either of primary or representative importance. Ambient noise levels were recorded at these sites in December, 1977, using a Type I Sound Level Meter. The general locations of the monitoring sites are shown on Exhibit IV-7 while the observed levels are listed on Table IV-4. The monitoring site locations are shown in greater detail on Plates 1 thru 6 and are indicated thuslyN₁ .

3. Water Quality

The Patuxent River and Little Patuxent River watersheds drain approximately 90 percent of the study corridor. The Patuxent and its tributaries are designated Class I waters by Maryland Water Resources Administration. Class I waters are those "suitable for water contact sports, play and leisure time activities where the human body may come

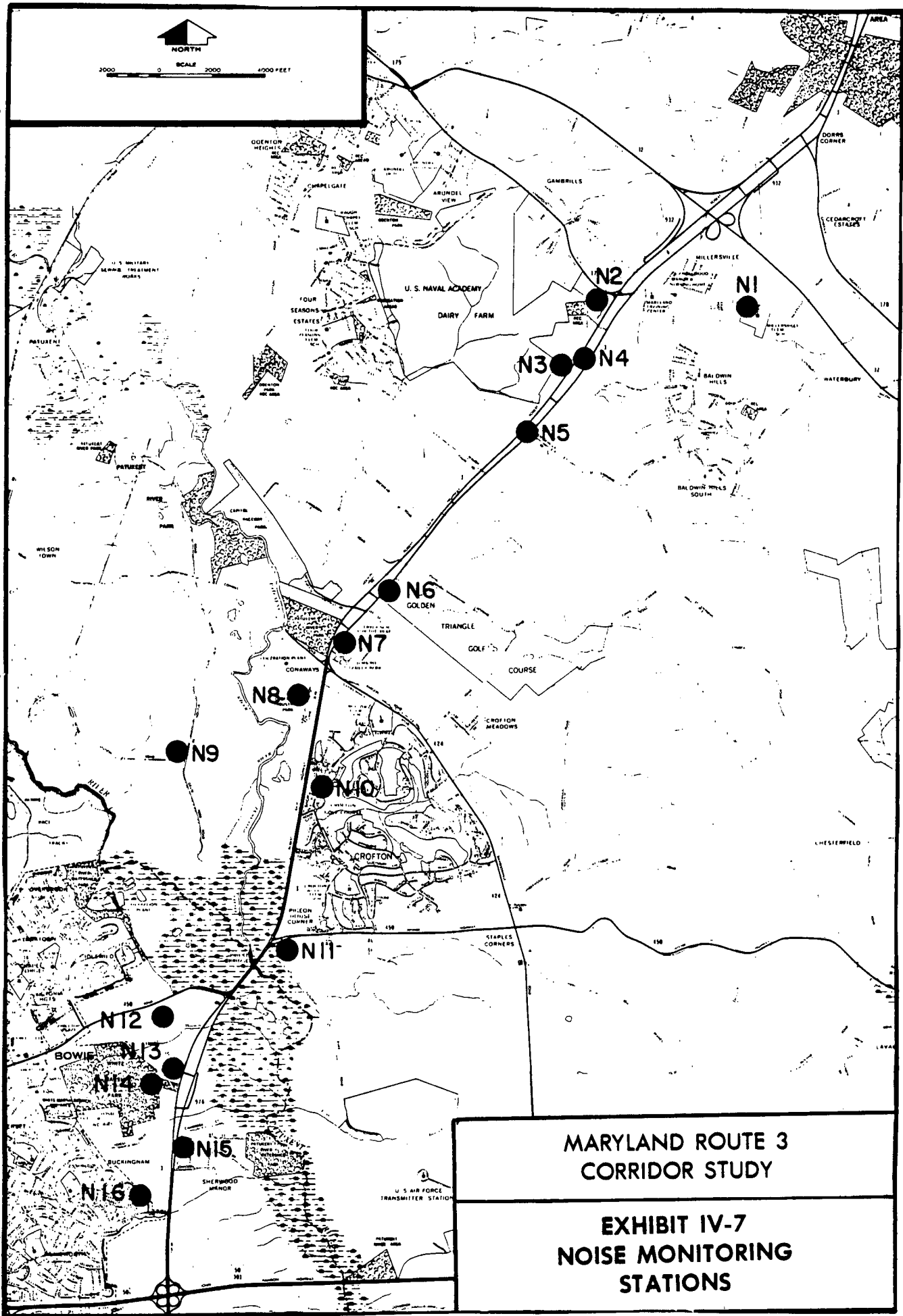


TABLE IV-4
AMBIENT NOISE LEVELS

<u>Monitoring Station</u>	<u>Monitoring Station Location</u>	<u>Ambient L₁₀ (dBA)</u>
N1	Millersville Elementary School	65
N2	Intersection of Routes 175 and 3	78
N3	Severn Valley Racquet Club	74
N4	Bon-Fire Restaurant	70
N5	High Bridge Ceramics	73
N6	Between Churches - Conaways	79
N7	Carver Special School	62
N8	Crofton Business Community	61
N9	Intersection: Myers Station Road and Grays Ford Road	57
N10	Crofton Golf Course	57
N11	Route 450 across from Widow Brown's Restaurant	65
N12	Sacred Heart Chapel	57
N13	New Church near entrance to White Marsh Park	67
N14	White Marsh Park	60
N15	Cambridge Court, Sherwood Manor	71
N16	Beechtree Lane, Bowie	57

in direct contact with the surface water, and the growth and propogation of fish (other than trout), other aquatic life, and wildlife." (Regulation 08.05.04.03 - Receiving Water Quality Standards, effective June 30, 1980). Receiving Water Quality Standards appear in Appendix A.

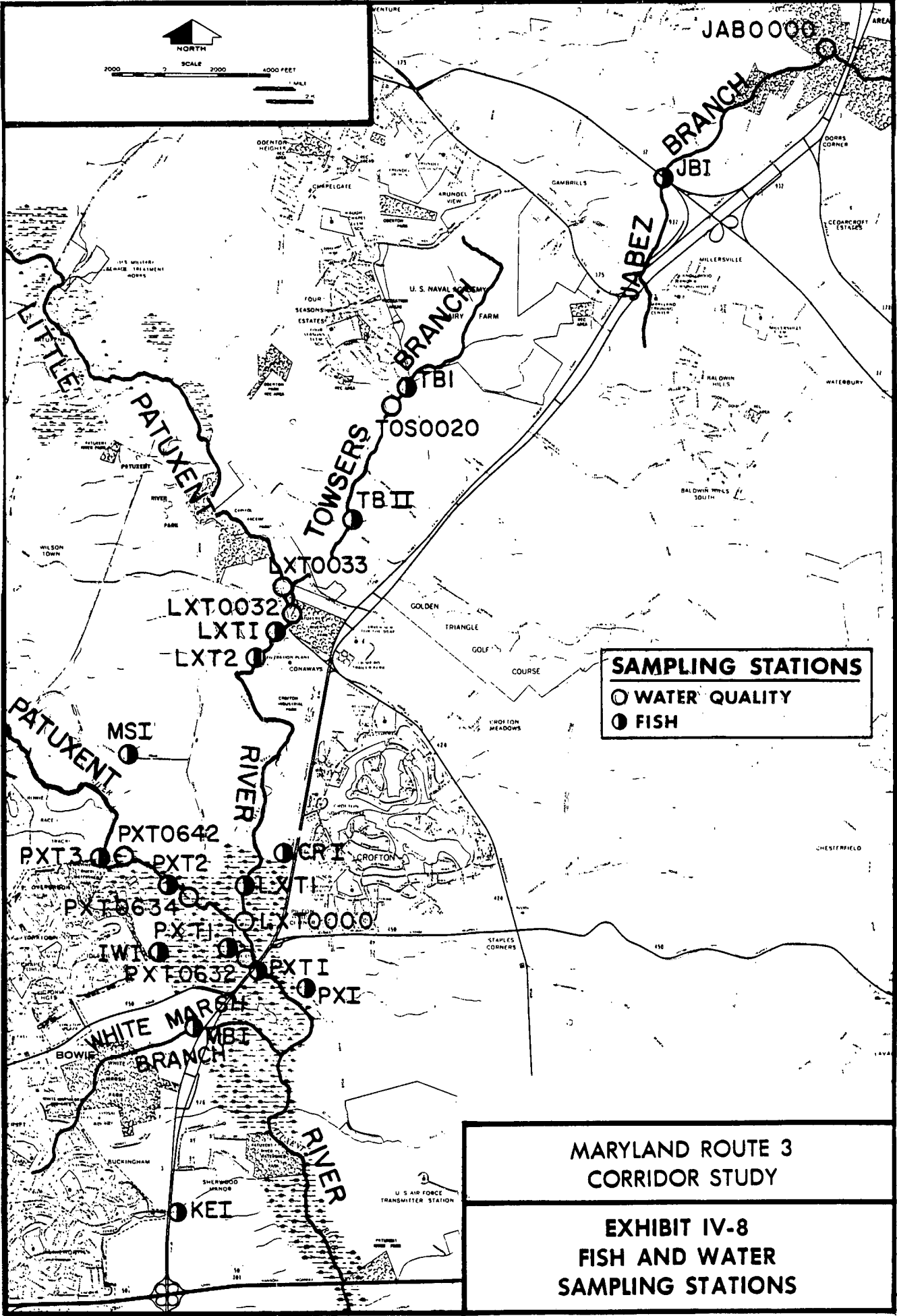
The Little Patuxent River is a major tributary of the Patuxent River. Twenty discharges are listed for the Little Patuxent including five major wastewater treatment plants with a combined discharge of 5 million gallons per day, two discharges which include industrial and domestic waste treated together, one industrial discharge, dairy wastes (Manor Dairy and Naval Academy Dairy), milk production waste, water treatment wastes, and sand and gravel operations.

Only about ten percent of the study corridor lies within the Severn watershed. This area, located in the northern portion of the corridor, is drained north, via Jabez Branch. Severn Run and its tributaries are designated as recreational trout waters (Class IV). These waters are those "capable of holding or supporting adult trout for put-and-take fishing; and managed as a special fishery by periodic stocking and seasonal catching." (Regulation 08.05.04.03 - Receiving Water Quality Standards, effective June 30, 1980).

Water quality samples were taken and analyzed at several locations within and immediately adjacent to the study area by the Water Resources Administration. Data supplied by the Administration give minimum, maximum and mean values for each parameter tested along with the number of samples analyzed. These data appear in Appendix B. The sampling stations indicated in the data are shown on Exhibit IV-8.

The quality of water in the Patuxent River within the study corridor is degraded. Factors in or very near the corridor contributing to this degradation include Bowie's sewage treatment plant and another plant on the Little Patuxent (both of which are secondary treatment facilities), runoff from livestock farms, and runoff from land where fertilizers have been applied. Sediment from agricultural lands and developing urban areas are also contributors to this deterioration (Patuxent River Basin Water Quality Management Program, Maryland Department of Natural Resources, Water Resources Administration, April 29, 1977, pp 1-3). A more detailed analysis of the water quality of

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SAMPLING STATIONS

○ WATER QUALITY

● FISH

MARYLAND ROUTE 3 CORRIDOR STUDY

EXHIBIT IV-8 FISH AND WATER SAMPLING STATIONS

the Patuxent River, as well as the other major tributaries in the study area, is presented in an earlier document prepared for this study. This document is entitled Maryland Route 3 Corridor Study, Volume I, Environmental Inventory and is available from the Maryland State Highway Administration.

The quality of water in the study corridor portion of the Little Patuxent is also degraded. Factors affecting this degradation include some 20 wastewater discharges, applied fertilizers in the watershed and small livestock operations. In a 1970-1971 study, major pollutants in principal wastewater discharges were nitrogen fractions (Maryland Water Quality, 1975, Water Resources Administration and Environmental Health Administration, Chapter 14, pp. 14-19).

The Little Patuxent was sampled at three locations within our study corridor by the Water Resources Administration (Exhibit IV-8). One sampling location (LXT0000) is just upstream from its confluence with the Patuxent. One is at Maryland Route 424 (LXT0032) and the other just upstream from the confluence with Towsers Branch (LXT0033). A sewage treatment plant is located between stations LXT0032 and LXT0000.

Towsers Branch water quality is also degraded. The greatest pollution source is probably the U.S. Naval Academy Dairy Farm, but fertilizer application, and smaller livestock operations are probably also contributing to the problem. Towsers Branch is the largest tributary of the Little Patuxent in the study area (Exhibit IV-8). One location at Waugh Chapel Road (TOS0020) was sampled.

Jabez Branch in the northern end of the study corridor was sampled in 1973 by the Water Resources Administration (JAB0000). Based on this data (Appendix B), and the appearance of brook trout, it is apparent that the quality of water of Jabez Branch in the study corridor is very good. Brook trout are not tolerant of pollution and would not normally appear in a polluted situation.

The lake located east of Maryland Route 3 and just north of Crawford Boulevard is known as Lake Louise. The lake has an area of about 4 acres and is part of the privately owned Crofton open space set aside. Although the Maryland Department of Resources does not

test the quality of water in this lake, fish sampling conducted in nearby streams indicates that the lake probably supports some aquatic life.

4. Subsurface Conditions

a. Geology

The study corridor lies in the western shore division of the Coastal Plain Physiographic Province underlain by a poorly consolidated wedge-shaped mass of stratified deposits of sand, gravel, silt, and clay. Below these deposits lies igneous and metamorphic crystalline bedrock which dips toward the southeast at a rate of 60 to 110 feet per mile. In the area of the study corridor, the bedrock lies at a depth of approximately 1,050 feet. Typically, these types of geologic conditions offer little or no difficulty in performing excavations.

Economic deposits of minerals in the study area are limited to sand and gravel. These deposits occur primarily along the Patuxent River in Anne Arundel and Prince George's Counties. The geological formation associated with these deposits is considered, however, the least significant source of sand and gravel in the State (Geology, Aquifers, Minerals, Maryland Department of State Planning, 1974).

The availability of high quality groundwater is good in the study area. The best aquifer formations in the area occur in the Magothy, Patapsco and Patuxent formations. Groundwater production has been estimated to be approximately 19 million gallons per day from the aquifers associated with these formations (Groundwater in Prince George's County by Frederick K. Mack, Maryland Geological Survey, 1966, p. 72). There are no sole source aquifers in the study area identified by EPA.

A detailed description of the subsurface physiography for the study area can be found in a previous report developed for this study entitled Maryland Route 3 Corridor Study, Volume I, Environmental Inventory, dated June, 1978. This report is available through the Maryland State Highway Administration.

The major geologic formations found in the study area are shown on Exhibit IV-9. The following symbols are used to indicate the formations:

- | | |
|-------------------------------|---|
| Alluvium (Qal) | Monmouth-Matawan Formations (Kmo) |
| Patuxent River Terraces (Qtp) | Magothy Formation (Km) |
| Calvert Formation (Tc) | Sand-Gravel Facies (Potomac Group)
(Kps) |
| Aquia Formation (Ta) | Silt-Clay Facies (Potomac Group)
(Kpc) |

The Patuxent formation (Qtp) and the Magothy formation (Km) are associated with the active aquifers found in the area.

b. Soils

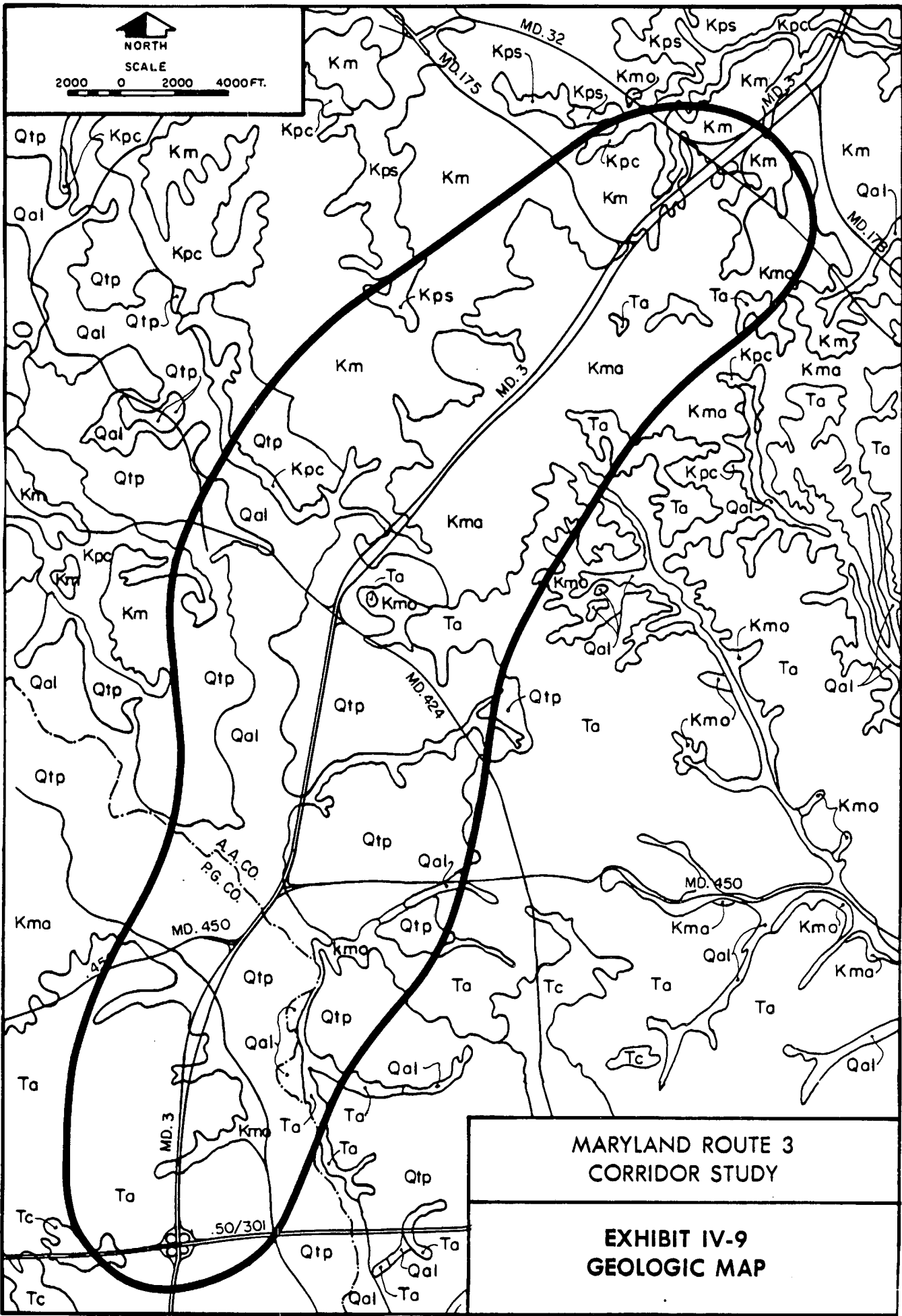
Five soil associations occur within the study corridor: 1) Bibb-Tidal Marsh, 2) Galestown-Evesboro-Rumford, 3) Monmouth-Collington, 4) Collington-Adelphia-Monmouth, and 5) Evesboro-Rumford-Sassafras.

The Galestown-Evesboro-Rumford association and the Bibb-Tidal Marsh association occur in narrow bands parallel to the Patuxent River. The Bibb soils formed on level or nearly level floodplains within the Coastal Plain. These poorly drained soils were recently deposited from silty sandy uplands to stream floodplains. The Galestown-Evesboro-Rumford association soils formed on nearly level to gently sloping sandy topography.

The southern end of the corridor (approximately 20 percent) is made up of the Collington-Adelphia-Monmouth association. These upland soils are deep, nearly level to strongly sloping, and moderately well to well drained. Soils in this association were developed in glauconite-containing sediments.

The most extensive soil association within the study corridor (approximately 60 percent) is the Monmouth-Collington association. Soils of this association are formed in nearly level to moderately steep topography. The sandy and loamy soils are well drained and were developed in glauconite-containing sediments as were soils of the similar Collington-Adelphia-Monmouth association.

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**MARYLAND ROUTE 3
CORRIDOR STUDY**

**EXHIBIT IV-9
GEOLOGIC MAP**

The northern portion of the corridor (approximately 10 percent) consists of soils of the Evesboro-Rumford-Sassafras association. Soils were formed on gently sloping, moderately steep topography. These soils are loamy and excessively well drained to well drained. Soils associated with prime farmland occur in the northern part of the study area. Impacts to farmland are discussed at the end of Section V-B5.

Specific soil types and their physical/chemical properties are described in the Soil Survey of Anne Arundel County, Maryland (1973) and in the Soil Survey of Prince George's County, Maryland (1967), both published by the U.S. Soil Conservation Service. Study area soils are mapped in Maryland Route 3 Corridor Study, Volume I, Environmental Inventory, which is available from the Maryland State Highway Administration.

During the design of this project, on-site soils testing will be conducted so that excavation techniques, pavement types and drainage systems can be designed to fit the existing subsurface conditions.

5. Climate and Hydrology

a. Climate

The Maryland Route 3 Study Corridor has a humid semi-continental climate. Generally, weather systems move into the area from west to east. The warm summers are generally dominated by air originating in the southwestern United States and Mexico or the Gulf of Mexico, while the relatively mild winters are dominated by cold dry air from central Canada. The Atlantic Ocean may occasionally influence local weather. In summer, easterly winds bring cool air inland to the corridor area; and in the winter, occasional northeasterly winds bring much of the season's precipitation. The mean annual temperature is approximately 56 degrees Fahrenheit. The annual precipitation in the corridor is between 44 and 45 inches. Precipitation is distributed fairly evenly through the year, but May through August is usually the wettest period. Summer precipitation usually occurs as local thundershowers, while winter storms generally cover large areas. July usually is the warmest month and January the coldest.

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When precipitation occurs in the study corridor and surrounding areas, it either flows overland, percolates into the ground or evaporates. Some of the water in the ground is taken up by plants and lost via transpiration. About 60 percent of the annual precipitation re-enters the atmosphere through evapotranspiration (Mack, Frederick K., Groundwater in Prince George's County, Maryland Geological Survey, Baltimore, 1966, pp 6-7). Approximately 35 percent of the annual precipitation flows off the corridor surface in streams. The rest of the water which percolates into the ground (about 5 percent of the annual precipitation) reaches the saturated zone and becomes groundwater.

b. Hydrology

Jabez Branch, part of the Severn River system, drains the northernmost portion of the study corridor. Runoff from about 10 percent of the corridor area flows north via Jabez Branch until it reaches the Severn River where it flows eastward to the Chesapeake Bay. The rest of the corridor is within the Patuxent River watershed. The main tributaries of the Patuxent River within the study corridor north of Priest Bridge are the Little Patuxent River and Towsers Branch. The rest of the corridor drains into the Patuxent River mostly in an easterly direction via small tributaries.

In order to determine the hydrologic and hydraulic impacts created by this project, studies were conducted to delineate existing 100 year floodplains of the major watersheds (400 acres or more) in the study area.

For clarity, the following definitions of flood frequency are set forth:

100 Year Flood Frequency is a flood, the magnitude of which has a 1 percent chance of being equaled or exceeded in any given year.

The exceedance probability in percent of any other flood frequency is obtained by dividing its frequency into 100.

For Example:	50 Year Flood Frequency	=	2% chance
	25 Year Flood Frequency	=	4% chance
	10 Year Flood Frequency	=	10% chance
	2 Year Flood Frequency	=	50% chance

Other hydrologic terms used in this discussion are defined in the Glossary of Terms (See Appendix E).

Both the Patuxent River and the Little Patuxent River are currently being studied in accordance with the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973; the Patuxent River in Prince George's County by the Corps of Engineers, and the Little Patuxent in Anne Arundel County by the Maryland Department of Natural Resources. The report for the Patuxent River has been completed and was published in January, 1982. The report for the Little Patuxent River has been completed and is currently in the public comment period.

The flood studies for the Maryland Route 3 Corridor Study were conducted utilizing all available, pertinent data from the above mentioned flood insurance studies. The material was reviewed and, where deemed judicious, modified or supplemented.

Preliminary hydraulic studies were conducted using the Corps of Engineers Computer Program "HEC-2", supplemented by the U.S. Department of Transportation, Federal Highway Administration's Electronic Computer Program for Hydraulics of Bridge Waterways (Program HY-4-69) reprinted October, 1975.

Water surface profiles for the 2, 10, 25, 50 and 100 Year Flood events were developed for the floodplains under present conditions and then for each of the alternate alignments studied. Methodology and details of the flood studies are incorporated into a technical report which will be on file at the State Highway Administration.

Results and conclusions of the flood studies for the existing floodplains are presented in this section. Impacts created by the Selected Action are set forth in Section V (Environmental Consequences) of this statement. Final hydraulic design shall be in accordance with all of the latest laws, ordinances and policies of the Federal, State and local governments.

The Patuxent River

The source of the Patuxent River is near the juncture of the Montgomery, Howard and Frederick County lines in central Maryland, and flows in a southeasterly direction to the study area. Reach length from source to Maryland Route 3 is approximately 44 miles. Just below Laurel, Maryland, a major tributary, Walker Branch, empties into the Patuxent River. Immediately above the Maryland Route 3 crossing is the confluence with the Little Patuxent River, which has a watershed almost comparable to that of the Patuxent River at this point.

The Patuxent River watershed is characteristically long and narrow and, with the exception of the Laurel area, is largely undeveloped. The major portion of the river has retained much of its original physiography. The river valley and the relatively broad, gently sloped, alluvial terraces of the floodplain are heavily wooded with Oaks, Sweetgum and Yellow Poplars. The slightly meandering low flow channel averages approximately 90 ft. wide and 5 ft. in depth.

To the intent of preserving the natural and scenic values of the River, the Patuxent River Watershed Act of 1961 was adopted by the State of Maryland with the following provisions:

- (1) Prevent floodplain encroachment by urban development.
- (2) Protect areas subject to erosion and sediment damage.
- (3) Promote conservation.
- (4) Initiate flood prevention programs.

The Master Plan for the Patuxent River Watershed Park of 1964, prepared by the Maryland-National Capital Park and Planning Commission, provided for flood prevention by floodplain land acquisition, with land uses restricted to non-development activities (i.e., parks, trails, recreation, etc.). In 1977, the Patuxent

River was further protected environmentally by its inclusion in the State Scenic River System.

The river is regulated by two dams: the T. Howard Duckett Dam of the Rocky Gorge Reservoir at Laurel and the Brighton Dam of the Tridelphia Reservoir near Brighton. The two reservoirs, operated by the Washington Suburban Sanitary Commission, contribute significantly to the water supply system of the Baltimore-Washington metropolitan corridor.

Since the flood of Hurricane Agnes in 1972, the Washington Suburban Sanitary Commission has developed, under the direction of Mr. Timothy Beacham, a comprehensive plan of cooperating the two dams in such a manner as to sharply attenuate peak discharges from the Duckett Dam. The following table, supplied by Mr. Beacham, is offered as demonstration of the effectiveness of the currently operating flood control plan:

<u>STORM/DATE</u>	COMPUTED PEAK	MEASURED	PERCENT REDUCTION
	DISCOUNTING DAMS (CU. FT./SECOND)	PEAK (CU. FT./SECOND)	
8/3 and 4/71	13,000	7,000	46
9/1 and 12/71	29,200	11,800	60
(Agnes) 6/22/72	47,000	26,000	45
(Eloise) 9/26/75	26,500	16,800	37
(David) 9/5 and 6/79	16,500	1,800	89

The 100 Year Floodplain for present conditions, as well as Build conditions, are delineated on Plates 1 thru 6. Water surface profile computations for the 100 Year event indicate that resultant backwater at the Maryland Route 3 bridge (Priest Bridge) coupled with that of the 18 ft. x 5 ft. box culverts at White Marsh Branch inundates Maryland Route 3 and Maryland Route 450. The flooding of Maryland Route 3 extends from White Marsh to about 600 ft. north of the Maryland Route 450 intersection. Depth of flooding over the roadway at the intersection is about 2.5 ft.

Backwater from Priest Bridge also inundates the roadway through the sag area near the Maryland Route 450 intersection under the 50 Year Flood. The depth of flooding at the intersection is about 1.4 ft. for the 50 Year event.

The only improvements affected by the backwater from Priest Bridge under the cited flood frequencies are the power station on the west side between White Marsh Branch and Maryland Route 450, and a service station on the southwest corner of the intersection. However, tailwater along the east side of Route 3 inundates the improvements opposite the power station under the 25, 50, and 100 Year Flood frequencies. Tailwater from the 100 Year event floods the service station opposite the Maryland Route 450 intersection, but it also would be caught by the weir flow wash of the 25 and 50 Year Floods over Maryland Route 3.

The Little Patuxent River

The source of the Little Patuxent River is located near the intersection of U.S. Route 40 and Maryland Route 97 in Howard County. From this point it flows southeasterly approximately 32 miles to its confluence with the Patuxent River. Its watershed borders along that of the Patuxent River and is of similar physiography, although somewhat more developed. The similarity of the two watersheds is attested to in that the derived peak discharges for all frequencies just above the confluence on each river are closely the same. The Little Patuxent River, as a tributary of the Patuxent, is a component of the State Scenic River System.

However, unlike the Patuxent, the Little Patuxent River is not regulated by dams. According to the preliminary Federal Emergency Management Administration (FEMA) flood study report on the Patuxent River, the Little Patuxent River near the confluence carries a heavy silt load, wastewater effluent and landfill leachate.

Within the study area, the floodplain of the Little Patuxent is also closely similar to that of the Patuxent with the exception that the low flow channel is considerably more meandrous.

The Little Patuxent River, under influence of backwater from Priest Bridge, inundates the roadway sag about 0.36 miles north of

Maryland Route 450 East under the 50 and 100 Year Floods. Depth of flooding over the roadway is a little more than 1 ft. for the 100 Year event and about 0.5 ft. for the 50 Year. Backwater from the Maryland Route 424 bridge also floods the roadway sag about 1/4 mile west of the Maryland Route 3 intersection under the 50 and 100 Year Floods. Depth of inundation of the roadway is approximately 1.7 ft. for the 100 Year event and 0.1 ft. for the 50 Year.

Because of the sharp curvature of the low flow channel immediately upstream from the Route 424 bridge, alluvial deposits along the west bank have reduced flow area of the bridge by an estimated one third.

Stream Crossing Near Belair Drive

This stream, paralleling Belair Drive on the south, is a major storm drain outfall for the City of Bowie. The upstream closed system empties into an open channel, lightly wooded along its banks and well maintained, grassy slopes beyond.

At Kendale Lane, the stream flow is conveyed downstream by a 117 in. x 79 in. structural plate pipe arch (SPPA), approximately 565 ft. long where it discharges into an open channel similar to the upstream section. About 650 ft. downstream, the flow is carried under Maryland Route 3 by an 84 in. structural plate pipe. The outfall of this pipe is tributary to the Patuxent River.

The Maryland Route 3 culvert is under some 20 ft. of embankment. Therefore, even though the structure is considerably under-designed by today's standards, it is able to pass even the 100 Year Flood without overtopping Maryland Route 3, although with high headwater and outlet velocity.

However, the backwater from this culvert causes high tailwater at the outlet of the pipe arch upstream with the result that the headwater of the pipe arch for the 100 Year event causes flooding at the Beaverdale Lane/Belair Drive intersection (See Plate 1). Depth of roadway inundation is estimated to be about 2 ft. Backwater is dissipated before reaching Kembridge Drive (approximately 1400 ft. upstream).

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White Marsh Branch

At the White Marsh Branch crossing, Maryland Route 3 is bifurcated and the stream is carried under the northbound and southbound roadways by separate 18 ft. x 5 ft. reinforced concrete box culverts. The stream is another principal storm drain outfall from the City of Bowie. In its lower reach where it passes through White Marsh Park, it is a typical woodlawn stream.

The two culverts are under the shallow cover of a flat portion of Maryland Route 3. The outlet of the southbound roadway culvert is submerged by the 100 Year Flood of the Patuxent. Computations indicate that both roadways are overtopped by the 50 and 100 Year Floods. Depth of inundation of the northbound roadway is about 0.8 ft. for the 100 Year event. The roadway is barely overtopped under the 50 Year Flood. The same is true for the southbound roadway although headwater elevations are about 2 ft. higher due to the elevated grade of the southbound roadway.

Stream Crossing North of Maryland Route 450 West

Runoff from the southern portion of Crofton is carried under Maryland Route 3 by two structural plate pipe arches to a common outfall ditch. The larger culvert is a 14'-1" by 8'-9" SPPA; the other is a 12'-4" by 7'-9" SPPA. For all but very minor storms, these two culverts operate under common headwater.

Flow patterns at this crossing, for floods greater than the 25 Year Flood frequency, are extremely complex and not readily calculable. This is because, for headwaters exceeding elevation 54.5 +, the runoff spills over into a ditch paralleling Route 3 on the east to the low point some 1300 ft. to the south. In all probability, there would also be some water sheeting across the northbound roadway and possibly the southbound roadway as well. However, it is anticipated that any flow over the roadways would be easily fordable.

Crossing South of Johns Hopkins Road

At this stream crossing, Maryland Route 3 is bifurcated. Horizontal separation of the northbound and southbound roadways is about 350 ft. The southbound roadway is elevated approximately 12 ft. above the northbound roadway. The structure under the southbound roadway is a 96 in. diameter structure plate pipe (SPP).

Under the northbound roadway is a 5 ft. x 6 ft. reinforced concrete box culvert with 72 in. structural plate pipe extensions both upstream and downstream.

In the course of engineering the site development for the proposed Walden Subdivision, the developer was required to provide stormwater management to hold the 100 Year release rate to pre-development peak runoff. A review of the rating curve for the northbound roadway of Maryland Route 3, derived in conjunction with the stormwater management computations, indicates that the backwater effect of the 96 in. SPP under the southbound roadway was apparently overlooked.

Backwater from the 96 in. SPP submerges the outlet of the structure under the northbound roadway for all flood frequencies studied and inundates the northbound roadway of existing Maryland Route 3 under all but the 2 Year event. However, the southbound roadway is about 10 ft. above the 100 Year headwater of the 96 in. SPP. Depths of inundation of the northbound roadway are about 0.6 ft., 1.1 ft., 1.7 ft. and 2.5 ft. for the 10, 25, 50 and 100 Year Floods respectively.

Effects of Flooding Under Present Conditions upon Normal Traffic and Access by Emergency Vehicles

The probability of peak flows of flood peaks for a given frequency occurring simultaneously for the Patuxent and Little Patuxent Rivers and for the four major stream crossings is very remote, although possible. The type of storm producing flooding conditions for the Patuxent and Little Patuxent River in the study area would be that lasting several hours or perhaps days and having widespread distribution. Those causing floods on the major stream crossing would most likely be relatively brief, localized storms, but with higher rainfall intensities.

Therefore, it would be expected that flooding conditions on the Patuxent and Little Patuxent River would interrupt traffic on both Maryland Route 3 and 450 at the intersection and also on Maryland Route 424 just north of Route 3. Since even storms of comparatively low intensities flood the northbound roadway of Maryland Route 3 near Johns Hopkins Road, this roadway could also be blocked.

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Although traffic and emergency vehicles could be detoured from these areas, routes would be long and circuitous.

Under such storms causing flooding of the major stream crossings, traffic flow could be blocked on Belair Drive at Kendale Lane, at both roadways of Maryland Route 3 at White Marsh Run, and at the northbound roadway near Johns Hopkins Road. Such interruptions are anticipated to be relatively brief.

6. Fish, Wildlife and Habitats

A complete listing of species of fish and wildlife either observed in or associated with habitats in the study area is included in the previously referenced Environmental Inventory prepared for this project.

Research and on-site investigations did not reveal an important species composition or diversity of fish in the freshwater tributaries of the study area. Perhaps the most significant species collected was the brook trout (*Salvelinus fontinalis*). Their occurrence in Jabez Branch is indicative of good water quality, since these fish are not tolerant of polluted conditions. The existence of two sewage treatment plants located in the study area was found to have a significant effect on the quality and number of fish species inhabiting the local streams.

The varied plant associations found in the project corridor provide suitable habitat for many mammals, birds, reptiles and amphibians. Encroachment by urbanization is, however, forcing wildlife into more confined habitats. No known rare or endangered plants or animals, however, were found to exist in the study area. (See coordination letter from U.S. Fish and Wildlife Service in Section VI.)

The vegetation communities in the project corridor are subdivided into several distinct types based upon natural succession and the activities and intervention of man. The natural climax vegetation of this study corridor is the hardwood forest. Much of the area is still in hardwood forest or has reverted to forest after many years of abandonment. Also, much of the area is dominated by man for business, industry, residences, and agriculture. Lands more recently left to the natural process of succession have become abandoned fields or have progressed to the shrub vegetation community. Each vegetation community is distinct in its species dominance but there is considerable overlapping of species between communities.

Vegetation communities are mapped and described in detail in the Environmental Inventory referenced earlier. Estimates of the acreage required of each land cover type are presented in the Environmental Consequences section (See Section V-B5) of this Statement.

7. Sensitive Areas

The extensive floodplains surrounding the Patuxent and Little Patuxent Rivers contain sensitive natural areas. The vegetation type is that of a typical floodplain. Major canopy species found in the channel area include Boxelder, Elm, Green Ash, River Birch, Red Maple, and other moist site hardwoods. The understory is comprised of Pawpaw, Boxelder, and Carpinus, with Spicebush, Pawpaw and Blackhaw the dominant shrub species. The herbaceous layer is quite diverse, with Jewelweed, false and stinging nettles, Poison Ivy, Jack-in-the-Pulpit, Cardinal flower, ferns and others present. There are parts of the site that are marshy floodplain, characterized by Saggitaria, Cardinal flower, Water Plantain, and Sparganium in standing water. The river is silt laden, with trash being a major disturbance. Bluebell Meadow Island is located at Priest Bridge, where Maryland Route 3 crosses the Patuxent River. This island is covered with wildflowers, highlighted by Virginia Bluebells.

The non-tidal wetland areas in the Patuxent River floodplain serve as habitat for mammals, many species of fish and waterfowl. They also represent an important link in the food chain. The Maryland Department of Natural Resources has provided information concerning the location of the non-tidal wetlands that occur in the project corridor. These areas appear on Plates 2 and 3.

The Patuxent River, as well as the Little Patuxent River itself, must also be considered sensitive areas. These rivers were designated Scenic Rivers under the Wild and Scenic Rivers Act of 1977. (Annotated Code of Maryland, Article - Natural Resources, Section 8-401 thru 8-410.) This act provides that the scenic qualities of the Patuxent and Little Patuxent must be taken into consideration before construction for any river crossing, and that "a dam or other structure impeding the natural flow of a scenic and wild river may not be constructed, operated or maintained in a scenic and wild river unless the Secretary [Maryland Department of Natural Resources] specifically approves." (NR 8-406).

V. ENVIRONMENTAL CONSEQUENCES

V. ENVIRONMENTAL CONSEQUENCES

A. SOCIAL AND ECONOMIC IMPACTS

1. Community Cohesion

As discussed in Section IV-A, several distinct residential communities can be identified in the study area (See Exhibit IV-1). Settlement patterns within the study area have developed a suburban structure. Communities are, for the most part, separated from each other by large open spaces.

The interactive linkages between the residential areas and the shared community facilities are much harder to define, however. Many of the social analysis models used to determine interactive boundaries and characteristics require primary data beyond the scope of this study. Most of the analysis presented in this section of the Impact Statement is based on empirically derived information. The basic sources of this information were the community meetings held throughout the study period.

Impacts to community cohesion are usually measured in qualitative terms. For the purposes of this analysis, an alternative action will be considered as having an impact on community cohesion if a discernible change in the quality of the neighborhood is likely to occur. Such changes will include splitting of neighborhoods, isolation of distinct ethnic or minority groups or disruption due to the construction period.

The Selected Action follows the alignment of Maryland Route 3, remaining within existing rights-of-way wherever possible and does not, therefore, impact the boundaries of any of the adjacent communities. The minority community of Conaways, however, is already bisected by the existing highway and will experience some unavoidable impacts. Discussions with members of the Conaways community revealed the importance of the pedestrian linkage between the Wilson Memorial area to the east and the Evergreen area to the west. Residents in the Evergreen area, some of whom are elderly, walk to the homes, school and church located on the west side of Maryland Route 3. Residents in the Wilson Memorial area cross Maryland Route 3 to enjoy the roller skating rink on the west side. Since the Selected Action is a limited

access facility, an access barrier is created between the Evergreen area and the Wilson Memorial area. In order to reduce this community impact, a pedestrian overpass has been incorporated into the Selected Action. This pedestrian bridge is to be constructed at approximately station 273 + 90 (See Plate 4) and will cross both the main roadways of I-297 and the frontage road.

Under the Selected Action, the existing two lane northbound roadway of Maryland Route 3 will be converted into a four lane frontage road. Although this conversion would widen the roadway that now separates the two parts of this community, the lower traffic volumes and speeds associated with the frontage road may help alleviate some of the existing cohesion impacts.

The Maryland Route 424 access points (Duke of Kent Drive, Farrell Street, etc.) will remain linked to the thru corridor movements because of the proposed interchange at Maryland Route 424. The northern and eastern sections of Crofton should not, therefore, have its travel patterns changed by the Selected Action.

The proposed continuous frontage road will provide local access in the Crofton area. Locally-oriented traffic patterns are not expected to be affected by the Selected Action.

No other communities are expected to experience significant changes in neighborhood quality as a result of constructing the Selected Action.

The No Build Action, since it does not involve major construction or right-of-way acquisition activities, will not create new community cohesion impacts. What may occur, however, is an increased sense of isolation experienced by some communities due to the increased amounts of traffic which will be traveling Maryland Route 3. Motorists making local trips will experience a decrease in mobility. The potential for accidents along the corridor will increase.

2. Accessibility of Facilities and Services

Study alternatives are considered as having accessibility impacts if they create changes in the travel patterns between facilities and the people who use them. Facilities and services likely to be affected include schools, recreation areas, churches, businesses, hospitals, employment centers, police and fire stations, government offices and existing transportation systems.

The Maryland Route 3 study corridor is located in a part of the State which is rapidly changing from rural to suburban. Public transit facilities in the corridor are limited. With few exceptions, residents use private automobiles to get to facilities and services. All alternates developed for this study were designed to provide the maximum feasible vehicular accessibility to local residents. The alignment of the Selected Action is oriented towards one of the existing roadways, leaving large sections of the remaining roadway to serve as a local access facility. In areas where these alternates pre-empt the use of Maryland Route 3, frontage roads are provided which assure access to adjoining properties and provide freedom of movement for local traffic.

Although no area will be denied access to any other area, changes in local travel patterns between points may occur. Local motorists will have a choice, in most instances, of using the limited access facility for part of their trip or of completing the entire trip on the frontage roads.

These access changes will be most noticeable for trips made from one side of the corridor to the other, between the interchanges. The Conaways West area will experience some increase in vehicular trip lengths, especially to destinations to the south. The greatest increase (+2.0 miles) would occur between Conaways West and the Crofton business community. Persons driving to the Seventh Day Adventist Church and White Marsh Park from Bowie or Sherwood Manor will experience increased trip lengths of 1.1 to 1.3 miles. Some other local trips in the corridor will be lengthened by less than 0.3 mile. The lengths of most local trips will be unaffected by the project.

In general, the proposed facility will improve access within the corridor as well as through the corridor. The separation of local and thru traffic may increase some local trip lengths; however, travel times between most points will be significantly decreased, especially during the peak traffic hour.

A conceptual signing study conducted by the SHA indicated that the Selected Action could be signed in a safe and logical manner.

3. Displacement of Families and Businesses

A relocation assistance analysis conducted by the State Highway Administration for the Selected Action indicates that two families and six businesses will be relocated by proposed I-297. It is estimated that ten persons will be displaced from their residences. None of the families relocated are members of minority groups. There is no evidence that any of the families relocated by the Selected Action are either elderly or handicapped. This action will not cause the relocation of any institutions or non-profit organizations.

All relocations will be carried out in accordance with the requirements of the Uniform Relocation Assistance and Land Acquisition Act of 1970 (Public Law 91-646). This act requires that relocations be effectuated in a timely and humane fashion. It is estimated that a lead time of approximately 12 to 24 months would be needed prior to construction to complete the relocation plan and that the relocation plan will cost approximately \$80,500 to implement. The complete relocation plan is available for review at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland 21201.

Information relating to services available to displaced businesses through local, State and Federal programs is available from the district relocation officer. Personnel from the Bureau of Relocation Assistance will contact all businesses to be displaced by the project in order to provide required assistance and services.

A review of local newspapers and Multiple Listing Services indicated that there should be adequate replacement housing available and within the means of one of the families. With the "housing as a last resort" program (See Appendix C), the other family will be relocated to replacement housing that is within their financial means. Table V-1 describes the availability of replacement homes and businesses in each county affected by this project. A summary of the relocation assistance program of the Maryland State Highway Administration is found in Appendix C. The State's Equal Employment Opportunity Program is as follows:

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TABLE V-1
RESIDENTIAL AND BUSINESS REPLACEMENT AVAILABILITY
ANNE ARUNDEL COUNTY
Residential Improvements

For Sale		For Rent								
Asking Price Range (000's)	Dwlg.	Monthly Rent						Apt.	Homes	Totals
		\$0 to \$100	\$100 to \$150	\$150 to \$200	\$200 to \$250	\$250 to \$300	\$300 & Up			
\$ 0-30										
\$ 30-60	10					1	1		2	2
\$ 60-	11						2	1	1	2
Totals	21						5		5	5

Business Sites	Type of Site	Business
	Sale	15
	Lease	5
	Total	20

Source: Anne Arundel County

Multiple Listing Service 5/2/80

PRINCE GEORGE'S COUNTY
Residential Improvements

For Sale		For Rent								
Asking Price Range (000's)	Dwlg.	Monthly Rent						Apt.	Homes	Totals
		\$0 to \$100	\$100 to \$150	\$150 to \$200	\$200 to \$250	\$250 to \$300	\$300 & Up			
\$ 0-20										
\$ 20-40										
\$ 40-	46						6		6	6
Totals	46						6		6	6

Business Sites	Type of Site	Business
	Sale	18
	Lease	9
	Total	27

Source: Washington Post

and Local Realtors 4/80

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It is the policy of the Maryland State Highway Administration to insure 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 age, sex, race, color, religion, national origin, physical or mental handicap in all State Highway 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 provisions of relocation advisory assistance. This policy has been incorporated into all levels of the highway planning process in order that proper consideration be given to the social, economic, and environmental effects of all highway projects. Alleged discrimination actions should be addressed to the Equal Opportunity Section of the State Highway Administration for investigation.

4. Effects on the Local Economy

The adverse impacts to local business activity resulting from this project are primarily associated with relocation, construction activities and change in access.

As discussed in the preceding section on Displacements, a total of six businesses will be relocated by this project. Three of these businesses - service station, ambulance service, and truck rental - are located at the same location on Maryland Route 450 (West). The other three businesses are a natural gas supplier, a package goods store, and a seasonal fruit stand. The most difficult of these to relocate will be the service station due to the special zoning, market and access requirements needed at a replacement site. The other five businesses can be relocated without difficulty. None of the businesses are minority owned. It is estimated that these six businesses employ a total of 15 persons.

The adverse effects of construction activities will be temporary. Businesses will suffer some sales losses due to the increases in noise and dust and the inconvenient access. The construction of this project will provide short term (several years) employment for some local residents.

Since the Selected Action is designed to control access between interchanges, some firms located in the Maryland Route 3 corridor may experience a loss of business due to the reduced number of vehicles having direct access to their establishments. For the most part, these impacts would be experienced by those businesses located on the west side of Maryland Route 3. The significance of the loss of business will depend heavily on the percentage of the firm's non-transient trade. Those businesses that attract local trade should not experience significant sales losses. Loss of direct access along the east side is partially mitigated by the proposed continuous frontage road.

One group of businesses, the Patuxent Shopping Center, argued that the shopping center will suffer significant loss of business if the proposed I-297 is constructed without an interchange at Maryland Route 450 (East). In an effort to address their concerns, a separate study was conducted to determine the effects of not providing direct Interstate access to the shopping center. The study report concludes that:

Access for Patuxent (Shopping Center) patrons with Alternates 7 and 7M will either not be affected, or will improve. Most local shoppers will be able to avoid the Route 3 "thru" traffic; thereby reducing travel time, gas consumption and aggravation. Shoppers from outside the primary trade area who use Route 3 will also experience less congestion and improved access by using the Crofton and Maryland Route 450 (West) exits and following the access road which is parallel to the existing route." (Effects of Maryland Route 3 Corridor Improvements on the Patuxent Shopping Center at Crofton, Maryland, SHA, 1981).

Some businesses in the corridor depend upon transient trade for some portion of their trade. These businesses would include service stations, fast food restaurants, taverns and motels. The one motel located in the corridor (median area, near Forest Drive) will probably be seriously affected. The restaurants, service stations and taverns may be able to attract enough local business to replace the transient business lost to the interchange. While there will be individual business owners adversely impacted by this project, the magnitude of the impact will be small when compared to the overall public benefit produced by the proposed transportation improvement.

5. Land Use Planning Impacts

a. Inducement of Growth

The construction of a new transportation facility can have a significant effect on residential and business growth within an impact corridor. Increased accessibility from the corridor to centers of employment and shopping facilities is but one factor, however, in determining whether or not growth is induced. The other factors include:

- The availability of raw land suitable for residential development.
- The market appeal associated with the existing residential sectors in the corridor.
- The availability of water and sewer service.
- Zoning regulations and growth policies.

Raw land suitable for residential development is generally available in the study corridor. While a significant portion of the open space occurs within the Patuxent River floodplain, a substantial amount of relatively flat, usable land does exist in other areas.

The market appeal of the residential areas within the study corridor appears to be strong. Crofton and Bowie are attractive places to live and homes in this area are in demand.

The availability of public utilities, particularly sewerage, may be a limiting factor on residential growth in the area. There are two treatment plants located in the area - one on either side of the Patuxent River. A court ordered moratorium on new hook-ups has been imposed on the Bowie plant until a new facility is constructed. (The new plant was scheduled to be completed in 1982.) The Crofton Plant has been recently enlarged and has an estimated excess capacity of about 700,000 gallons per day. The existing plant could accommodate approximately 2,000 more housing units.

Zoning regulations and growth policies will play a significant role in determining how much growth will take place in the Maryland Route 3 study area. Planning agencies in both jurisdictions

support orderly, controlled growth, and their current policies and regulations reflect that goal.

The potential for additional growth in the corridor as a result of constructing an Interstate is, therefore, primarily dependent on the enforcement of the growth policies in each county. As indicated in Sections II-A3 and IV-A4 of this statement, significant growth is already occurring in the Maryland Route 3 corridor, especially in the Anne Arundel County portion. The Maryland Route 3 study was initiated, at least in part, as a response to the increase in traffic volumes and the demand for additional traffic signals brought about by new housing developments in the corridor.

Historically, the introduction of access controls along roadways has afforded local planners and zoning boards much greater flexibility in controlling growth as compared to roadways without access control. This benefit, however, will probably be more apparent on the west side of I-297 than the east. The continuous frontage road proposed along the east side of I-297 will not, obviously, be access controlled. Development can occur, therefore, along the frontage road, checked only by local zoning powers.

b. Relationship to Existing Plans

The overall goals and objectives, along with specific plans and programs for the planning agencies and developers within the study corridor, were summarized in Section IV-A4 of this statement. The Maryland Route 3 study area crosses regional planning jurisdictional boundaries. An examination of the current planning policies of RPC, COG, M-NCPPC, and the planning departments of Anne Arundel County and the City of Bowie revealed that the local planning goals were in general accord with respect to the issue of improving the Route 3 corridor. The land use plans in Anne Arundel County recommend upgrading the existing facility to interstate standards. The current land use plans in Prince George's County, however, only recommend actions that would limit access to Maryland Route 3.

6. Historic and Archeological Impacts

Section 4(f) of the Department of Transportation Act (23 USC 138) requires that publicly owned land from a park, recreation area, wild-life and/or waterfowl refuge, or historic site of national, state or local significance can be used for Federal-Aid Highway projects only if there is no feasible and prudent alternative to its use, and if the project includes all possible planning to minimize harm to "4(f) lands".

These Section 4(f) requirements apply to "significant" publicly owned parks, recreation areas, wildlife refuges, or historic sites. FHWA regulations state that "a historic site is significant only if it is included on or is eligible for inclusion on the National Register of Historic Places".

An inventory summary of historic sites in the vicinity of the study corridor is provided in Section IV-A6 of this statement. Complete descriptions for these sites are included in the Maryland Route 3 Corridor Study, Volume I, Environmental Inventory on file at the Baltimore office of the State Highway Administration. The following table summarizes the impacts to historic sites associated with the Selected Action.

<u>Site No.</u>	<u>Name</u>	<u>Significance</u>	<u>R/W Required</u>
H-6	Conaways District	Inventory	Fee take (0.4 Ac.)
H-10	Farm	Inventory	Fee take (7.6 Ac.)
H-11	Ganter Farm	Inventory	Fee take (0.5 Ac.)

None of these sites are included or are eligible for inclusion on the National Register.

The Draft Statement issued for this study indicated that Alternate 7 Modified required property from a National Register quality historic site (H-1 Melford). A subsequent reappraisal of the site by the Maryland Historical Trust, in regard to the U.S. 50/301 study, resulted in a reduction in the boundaries. As a result, the Selected Action no longer affects this historic site; therefore there will be no effect on historic properties eligible for the National Register of Historic Places.

Preliminary archeological reconnaissance surveys for the Maryland Route 3 Corridor Study were conducted by the Maryland Geological Survey, (MGS) Division of Archeology, in 1977 and 1980. The 1977 literature search and limited field reconnaissance identified twenty-eight prehistoric localities and four historic sites in the corridor. A supplemental investigation was conducted in the spring of 1980 by the MGS, encompassing a more defined study area. This supplemental study concluded that "six historic archeological sites and two prehistoric archeological sites are located in or near the proposed construction corridors." The full Addendum Report on the Archeological Reconnaissance is on file at the State Highway Administration office in Baltimore.

When the Maryland Geological Survey report mapping was compared with the alignment of the Selected Action, two sites (18 PR 33 and 18 AN 511) were found to be directly impacted and one site (18 AN 503) was partially impacted.

The State Archeologist and the SHPO have determined that the archeological resources associated with site 18 AN 511 are not of sufficient value to be eligible for the National Register and that further testing is not justified (See coordination letters in Section VI). Relative to site 18 AN 503, it was determined in consultation with the State Archeologist and the SHPO that the significant concentration of artifacts are located in the immediate vicinity of the site buildings and that Phase II work is not necessary in the area impacted by this project. The right-of-way will be fenced to avoid any impacts on the remaining portion of this site.

It was also determined that site 18 PR 33 was significant for artifacts only, and that these artifacts need not remain insitu. Accordingly, further testing of this site will be conducted, and the eligibility of these objects for the National Register will be determined at that time. Any mitigation and/or salvage measures recommended by this survey are to be agreed upon by the State Archeologist, the SHPO, SHA, and FHWA.

B. PHYSICAL IMPACTS

1. Air Quality

a. Introduction

As noted in Section IV (Affected Environment) of this Statement, there are three primary pollutants associated with the internal combustion engine emissions: carbon monoxide, hydrocarbons and nitrogen oxides. A fourth pollutant, photochemical oxidants (smog) is basically a combination of hydrocarbons, nitrogen oxides, and sunlight.

The Maryland Route 3 Corridor lies within both the Metropolitan Washington and Metropolitan Baltimore Intrastate Air Quality Control Regions. This area of the State has been classified by the Environmental Protection Agency as a non-attainment area with respect to photochemical oxidant standard compliance. As a result, the transportation planning process is required to address air quality considerations and to assess the consistency of transportation goals and regional air quality goals.

The air quality non-attainment area in which this project is located has transportation control measures in the State Implementation Plan (SIP). This project conforms with the SIP since it comes from a conforming Transportation Improvement Program.

Since regional pollutants such as hydrocarbons and oxides of nitrogen, precursors of photochemical oxidants (smog), are addressed through the regional planning process, only carbon monoxide emissions, a more localized pollutant, are being addressed quantitatively in this analysis.

b. Carbon Monoxide Microscale Analysis

A description of existing air quality was presented in the Affected Environment Section of this statement. The existing background levels are as follows:

8 hr. maximum (mg/m ³)	2.9
1 hr. maximum (mg/m ³)	3.4

These concentrations were adjusted to 1985 and 2005 levels utilizing the "rollback" technique described in EPA's AP-42

Supplement V. The resulting background concentrations used in the analysis are as follows:

	<u>1985</u>	<u>2005</u>
8 hr. maximum (mg/m ³)	1.5	1.3
1 hr. maximum (mg/m ³)	1.8	1.5

Carbon monoxide (CO) levels at the edge of the proposed right-of-way were predicted for each alternate. To ensure a "worst case" analysis, sites were selected at points where traffic conditions and right-of-way width combined to produce maximum carbon monoxide concentrations. Analysis was also conducted at other sites deemed to be sensitive to air quality. The location of the receptor sites are indicated on Plates 1 thru 6 and are indicated thusly A₁.

Composite emission factors for this analysis were developed through the use of the Environmental Protection Agency's Mobile Source Emissions Model. A credit for an Inspection/Maintenance Program was assumed. By applying the projected traffic assignments, composite emission rates were developed for each segment of roadway. Peak-hour CO concentrations were modeled through the use of EPA's HIWAY-2 model. This model computes inert pollutant concentrations in the vicinity of a roadway using the Gaussian plume formulation. Eight-hour carbon monoxide levels were determined by applying a persistence factor to the peak-hour levels.

A detailed presentation of the assumptions used in these models, along with other technical information are provided in the Air Quality Analysis Technical Report (December, 1980) and the Addendum (March, 1982), which are on file at SHA offices, 707 North Calvert Street, Baltimore, Maryland 21201.

Tables V-2 and V-3 compare the predicted carbon monoxide levels with the applicable National Ambient Air Quality Standards.

c. Air Quality Impact Assessment

The CO dispersion analysis conducted for the Selected Action and the No Build Alternate revealed that neither of these alternatives violate the National Ambient Air Quality Standards for

PREDICTED CARBON MONOXIDE LEVELS - NO BUILD ALTERNATE

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Site Description	Sensitive Receptor No.	ONE-HOUR			EIGHT-HOUR		
		1985	2005		1985	2005	
		Includes 1.8 mg/m ³ Background Level	Includes 1.5 mg/m ³ Background Level	National Ambient Standard	Includes 1.5 mg/m ³ Background Level	Includes 1.3 mg/m ³ Background Level	National Ambient Standard
Residence nr. Oxford Ct.	A1	4.2	2.7	40	3.0	2.1	10
Church nr. Sylvan Drive	A3	5.7	3.4	40	4.0	2.5	10
Widow Brown's Restaurant	A37	10.3	5.9	40	6.9	4.1	10
Crofton Plaza	A75	6.1	3.1	40	4.2	2.3	10
Conaways	A89	7.1	4.1	40	4.8	2.9	10
Conaways	A90	7.0	4.0	40	4.8	2.9	10
Conaways	A91	4.9	3.0	40	3.4	2.2	10
Conaways	A92	4.4	2.8	40	3.1	2.1	10
Millersville	A18	5.5	3.3	40	3.8	2.4	10
Millersville	A28	8.7	5.1	40	5.9	3.6	10
Millersville	A17	4.6	2.9	40	3.3	2.2	10
Millersville	A27	7.7	4.3	40	5.2	3.0	10

PREDICTED CARBON MONOXIDE LEVELS - SELECTED ACTION

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Site Description	Sensitive Receptor No.	ONE-HOUR			EIGHT-HOUR		
		1985	2005		1985	2005	
		Includes 1.8 mg/m ³ Background Level	Includes 1.5 mg/m ³ Background Level	National Ambient Standard	Includes 1.5 mg/m ³ Background Level	Includes 1.3 mg/m ³ Background Level	National Ambient Standard
Residence Near Oxford Ct. (Sta. 50 + 70; 180' RT.)	A1	5.5	3.4	40	3.9	2.5	10
Church near Sylvan Drive (Sta. 82 + 70; 480' LT.)	A3	4.1	2.7	40	3.0	2.0	10
Widow Brown's Restaurant (Sta. 148 + 40; 180' RT.)	A37	6.0	3.5	40	4.1	2.5	10
Crofton Plaza (Sta. 235 + 20; 280' RT.)	A75	6.1	3.7	40	4.2	2.7	10
SB Right-of-Way Line (Sta. 270 + 50; 100' LT.)	A89	7.1	4.2	40	4.9	3.0	10
NB Right-of-Way Line (Sta. 270 + 50; 90' RT.)	A90	8.1	4.6	40	5.5	3.3	10
Ex. Right-of-Way Line (Sta. 270 + 50; 350' RT.)	A91	4.3	2.7	40	3.1	2.1	10
Ex. Right-of-Way Line (Sta. 270 + 50; 420' RT.)	A92	4.5	3.7	40	3.2	2.7	10
Ex. Right-of-Way Line (Sta. 401 + 00; 320' RT.)	A18	4.0	2.5	40	2.9	2.0	10
Ex. Right-of-Way Line (Sta. 401 + 00; 450' RT.)	A28	3.8	2.6	40	2.7	2.0	10
Right-of-Way Line (Sta. 401 + 00; 230' LT.)	A17	4.6	2.9	40	3.2	2.2	10
Right-of-Way Line (Sta. 401 + 00; 40' RT.)	A27	7.8	4.5	40	5.3	3.2	10

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carbon monoxide concentrations during either of the two years studied - Estimated Time of Completion (1985) and Design Year (2005). The analysis also indicates that the Selected Action will result in slight increases in CO levels in the corridor.

In the Draft Statement, both the No Build Alternate and Alternate 7 Modified were cited as violating the eight-hour CO standard at several locations in 1985. Since the release of the Draft Statement, supplemental air analyses were conducted using a more recent version of EPA's highway air pollution model entitled HIWAY-2. This model is an updated version of the original HIWAY model and reflects recent studies conducted by General Motors and the New York State Department of Environmental Conservation (See User's Guide for HIWAY-2, EPA, 1980).

Based upon the revised microscale air quality assessment, this project has been found to be consistent with the State Implementation Plan. (NOTE: The elimination of the Crawford Boulevard interchange from Selected Alternate would result in increased traffic volumes on Maryland 450 and Maryland 424 and associated ramp movements. The resultant increase in CO concentrations would be minimal for sensitive receptors A-3, A-37 and A-75. The increased CO concentrations resulting from the increased traffic volumes would not approach or violate the National Ambient Air Quality Standard [NAAQS].)

2. Noise Impacts

a. Highway Noise Fundamentals

There are many ways of analyzing and measuring noise levels. The decibel is the basic unit of sound measurement. It is an indication of the pressure created by the noise and is measured on a logarithmic scale. In order to create a more convenient system for comparing decibels, three weighting networks were devised. Of the three networks, the A weighted network best approximates the human ear's reaction to sound.

When describing the noise impacts associated with highway traffic, certain statistical indicators are used by analysts. Highway noise is usually measured in terms of how often a particular reference level is exceeded during one hour. The term L₉₀ indicates that the level is exceeded 90 percent of the time; L₅₀ is the mean level; L₁₀ is the level which is exceeded only 10 percent of the time.

b. Noise Standards

The noise standards and criteria used in this study are those established by the Federal Highway Administration in 23 CFR Part 772. Table V-4 summarizes the four land use categories and their associated noise abatement criteria. In order to comprehend the significance of these standards, typical noise levels resulting from several everyday experiences are shown on Table V-5.

c. Predicted Noise Levels

The Federal Highway Administration Level 2 Highway Traffic Noise Prediction Model, STAMINA 1.0, was used to predict noise levels from the Selected Action and the No Build Alternate. A detailed presentation of the assumptions used in the STAMINA Model, along with other technical information, are provided in the Noise Impact Analysis Technical Report (October, 1980) and Addendum (April, 1982), which are on file at SHA offices, 707 N. Calvert Street, Baltimore, Maryland 21201. Table V-6 compares the predicted and ambient noise levels with the applicable FHWA noise abatement criteria. Those sites (i.e., N-1, N-9, N-12, N-14 and N-16) not appearing in these tables are not impacted by the F.E.I.S. project alternates.

d. Noise Impact Assessment

The Selected Action will increase noise levels in the corridor. Four of the sites experiencing increased noise levels are expected to fall into the 0 to 4 dB(A) increase range. Another four would be expected to experience increases in the 5 to 9 dB(A) range. No sites are expected to experience increases of 10 dB(A) or more. Three areas are expected to experience decreased noise levels as a result of traffic being relocated away from noise sensitive areas.

The Selected Action will also cause noise levels to exceed FHWA criteria at four sites (N-2, N-5, N-6 and N-15). According to FHWA policy, noise attenuation measures must be considered when predicted levels exceed the noise abatement criteria.

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TABLE V-4
NOISE ABATEMENT CRITERIA

L ₁₀	Land Use Category
60 dB(A) (Exterior)	Land 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.
70 dB(A) (Exterior)	Residences, motels, hotels, schools, churches, libraries, hospitals, picnic areas, recreation areas, playgrounds, active sports areas and parks.
75 dB(A) (Exterior)	Developed lands, properties or activities not included in the above two categories.
55 dB(A) (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.
As an attempt to put the significance of these noise levels in perspective, noise levels associated with daily situations are given in the following table:	

TABLE V-5
TYPICAL NOISE LEVELS

Noise Generator	Level
Quiet Suburban Area (nighttime)	30-40 dB(A)
Normal Conversation (3 - 6 Feet Apart)	60-65 dB(A)
Television	70 dB(A)

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TABLE V-6
PREDICTED NOISE LEVELS

Sensitive Receptor No.	Site Description	L ₁₀ (dBA) Noise Levels			
		Ambient	Predicted No Build	Predicted Selected Action	FHWA Design
N 2	Residence @ Md. Rte. 3 & Md. 175	77.9	71.1	76.5 (Barrier not Recommended)	70
N 3	Rte. 3 R/W @ Racquet Club	73.8	71.8	74.2	75
N 4	Bon-Fire Restaurant	70.4	74.3	73.1	75
N 5	Highbridge Ceramics	73.0	75.4 ¹	78.5 (Barrier not Recommended)	75
N 6	Church at Conaways	78.5	77.1 ¹	73.1 (Barrier not Recommended)	70
N 7	Carver School	61.5	64.9	66.6	70
N 8	Crofton Business Community	60.7	67.0	66.9	75
N 10	Crofton Pkwy. & Crawford Blvd.	57.4	62.4	61.5	70
N 11	Shopping Center @ Md. Rte. 450E	65.1	69.1	69.3	75
N 13	Church at Sylvan Drive	66.5	71.0 ¹	61.2	70
N 15	Residence on Cambridge Court	71.3	72.6 ¹	72.5 (Barrier not Recommended)	70

1. Exceeds FHWA Noise Abatement Criteria

e. Mitigation of Noise Impacts

There are several strategies available for reduction of highway noise. The strategy or combination of strategies selected for use depend upon the latitude of options available to the designer. Physical attenuation devices, such as earth berms or solid wall barriers, require additional right-of-way as well as a high degree of access control to be effective. Other solutions include manipulations of the traffic (restricting volume, vehicle type, average speed) and roadway alignment shifts (vertical or horizontal). Outright acquisition of property for use as a buffer zone can be considered where a great deal of open space is available. Partial measures, such as visual screening, are sometimes considered when other strategies prove infeasible or non cost effective.

Due to the commercial, long distance use of the Maryland Route 3 corridor, restrictions of volume, vehicle type and speed are not feasible. The horizontal and vertical alignments of the Selected Action were designed to the strict curvature and grade criteria of Interstate highways. The alignment also represents compromises to other environmental concerns. For these reasons, further roadway alignment shifts for noise control are not feasible. Partial control measures, such as visual screening, were investigated, but because of the heavy volume of trucks using the facility, these measures were determined to be ineffective. The noise impact mitigation strategy which appears most feasible for this situation, therefore, would be to employ physical attenuation devices. Due to right-of-way restrictions along the alternate alignments, the solid wall type barriers would be the most effective attenuation device.

Each site considered for noise attenuation was then examined for physical compatibility and abatement effectiveness. Physical compatibility characteristics include access control and elevation differential. Lack of access control can significantly reduce barrier attenuation. Driveways and other access points create voids in the noise barrier. Each void or gap in the wall reduces the effectiveness of noise attenuation. Noise barriers must also

have the proper elevation differential in order to break the line of sight between the noise source and the receptor.

Another consideration influencing the recommendation of noise barriers is abatement effectiveness. Not only should the barrier effectively attenuate highway noise, but it should do so in a reasonably cost effective manner.

In order to assist local governments in planning development near this project, the results of this noise analysis are being made available to the local planning jurisdictions. (In compliance with Federal-Aid Highway Program Manual 7-7-3, par. 10)

No Build

An analysis of the No Build Alternate revealed that noise levels will increase in the corridor over the next 24 years as traffic increases along the existing facility. Four sites will exceed FHWA noise abatement criteria in the design year. Noise barriers were not considered for the No Build Alternate. Future consideration of noise attenuation measures would be a separate action.

Selected Action

The FHWA noise abatement criteria are exceeded at the following locations: N-2 (Millersville - Plate 6), N-5 (Highbridge Ceramics - Plate 5), N-6 (Conaways - Plate 4), and N-15 (Sherwood Manor - Plate 1).

Site N-5 (Highway Ceramics) will be located approximately 20 feet from the proposed right-of-way line of through Highway. The predicted noise level of 79 dB(A) at this location does exceed the FHWA criterion of 75 dB(A). Noise barriers, however, are not recommended at Site N-5 for the following reasons:

- There are no other sensitive receptors in the area that would benefit from a noise barrier.
- The "build" levels represent only minor increases over ambient and "no build".
- The building's air conditioning system will reduce highway noise impact.

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In the Millersville area (N-2), approximately 15 homes can be expected to experience noise levels in excess of the Noise Abatement Criteria. At this location, the predicted "build" noise level of 77 dB(A) exceeds the FHWA criterion of 70 dB(A). A noise barrier constructed on the west side of proposed I-297 (See Plate 6), with a total length of 850 feet and a height of 11 feet would reduce the highway noise to below 70 dB(A) for 5 homes. The cost of this barrier is approximately \$159,000. It has been determined, however, that the cost per dwelling protected is too high and that a noise barrier at this location would not be cost effective. As a result, a noise barrier is not recommended along the west side of I-297 at this location.

The retaining wall on the east side of proposed I-297 in the Millersville area will be of sufficient height to effectively attenuate noise for the ten homes located in the existing median. The cost of this retaining wall is included in the construction cost estimate provided in Section III-C2.

There are approximately 20 homes in the Conaways community, in addition to Wilson Memorial Methodist Church (N-6), that are likely to be impacted by the Selected Action. Fifteen of these affected homes are located in the Wilson Memorial area, east of proposed I-297. Since these homes are fairly close together, a noise barrier was investigated for this area (See Plate 3 & 4). The high volumes of traffic along the frontage road, however, reduce the effectiveness of a barrier at this location. Since only a 2 - 3 dB(A) reduction in highway noise is achievable in the Conaways East area, a noise barrier is not recommended.

The remaining affected homes are located in the Evergreen area, to the west of proposed I-297. The homes in this area are fewer in number and the spaces between them are larger than in the Wilson Memorial area. While a noise barrier could be designed to attenuate noise in this area, the cost would be clearly prohibitive.

In the Sherwood Manor community (N-15), approximately 7 homes would be adversely impacted by highway noise (See Plate 1). According to the predicted noise levels (Table V-6) this

residential area can be expected to experience levels in excess of 76 dB(A) in the design year. A 2450 foot long by 15 foot high barrier placed between the northbound roadway and the frontage road would only reduce the highway noise by approximately 4 dB(A). Again, the frontage road traffic reduces the effectiveness of this barrier. The cost of this barrier would be approximately \$625,000. For reasons of poor cost effectiveness, a noise barrier at this location is not recommended.

The Millersville, Conaways and Sherwood Manor communities are the only concentrated residential areas in the corridor that should experience noise levels in excess of the noise criteria. In addition to these areas, there are approximately 15 single family residences scattered along the proposed route that may experience noise above the FHWA noise criterion of 70 dB(A). Due to the large spaces between these homes, however, noise protection would not be cost effective.

3. Water Quality Impacts

The quality of the surface water of most of the major tributaries located within the corridor is currently considered degraded (See Section IV-B3). The primary cause of the degraded water quality is the discharge of treated sewage into the Patuxent and Little Patuxent Rivers (Patuxent River Basin Water Quality Management Program, Maryland Department of Natural Resources, April, 1977, pp. 1-3). Jabez Branch, a tributary of the Severn River, currently has good water quality. The Patuxent and its tributaries are designated Class 1 waters by Maryland's Water Resources Administration. Class 1 waters are subject to WRA's receiving water quality standards (Reg. 08.05.04.02. See Appendix A).

Most of the soils found in the corridor are compatible with the excavation required by highway construction. The Monmouth-Collington soils, which cover approximately 60 percent of the corridor, have low erosion potential and are well drained. The most poorly drained soils (Manor-Glenelg-Chester) are located primarily in the Patuxent flood-plain. These soils cover approximately 10 percent of the corridor area and are highly erodible when cleared for urban development and highways.

Increased erosion and sedimentation affect aquatic organisms. Their habitat may be altered by reducing the amount of sunlight or by covering the stream bottom with silt. Any turbidity may cause aquatic organisms themselves to suffer direct physical damage.

Water quality and aquatic ecosystems may also be affected by contaminants which are washed from highways by stormwater runoff. Contaminants deposited on roadways include deicers, weed control chemicals and substances spilled accidentally by trucks. If enough of the contaminated runoff percolates into the ground, the quality of the groundwater may also be affected.

As was noted earlier, aquifers in the study area are typically located in the unconsolidated deposits of sand, gravel, silt and clay associated with the Magothy, Patapsco and Patuxent formations. Aquifers located in this type of subsurface material are better able to dilute and filter contaminants before they reach the water table. No sole source aquifers are known to exist in this area.

In addition to affecting the quality of local groundwater, highway construction may also affect the quantity of groundwater stored in the aquifer. Roadway cuts or new drainage systems may interrupt groundwater flow and divert it into surface drainage. The weight of the new roadway itself may cause consolidation of underlying soils and rock.

Impacts to aquifer storage capacity will, however, be insignificant, due to the local abundance of groundwater supplies. The likelihood of groundwater quality degradation due to percolation of contaminated runoff will be greatly diminished by the presence of generally deep, sandy soils.

This project has been coordinated and reviewed in accordance with the Memorandum of Understanding between the Maryland Department of Natural Resources and the Maryland Department of Transportation and is considered consistent with the goals and objectives of Maryland's Coastal Management Program.

Mitigation measures to be used during the construction period are discussed in Section VB-6, Construction Phase Impacts.

4. Stream Modification and Flood Hazard Impacts

a. Introduction

In accordance with the FHWA Federal-Aid Highway Program Manual: Volume 6, Chapter 7, Section 3, Subsection 2 dated November 15, 1979, a necessary and important component of the Environmental Impact Statement for this project is the determination of the effect of encroachments of the various alternate alignments upon the floodplains of the Patuxent and Little Patuxent Rivers. Additionally, State Highway Administration criteria requires analysis of the impact of highway encroachments or modification of existing roadways upon floodways having watersheds of 400 acres or more. Construction in the 100 year floodplain is also guided by Executive Order 11988 (Floodplain Management).

At this stage of the study, the objective of the hydrologic and hydraulic analysis is to determine whether the specific alternate alignment constitutes a "significant encroachment." By definition, a significant encroachment is a highway encroachment and any direct support of base floodplain development that would involve one or more of the following construction or flood related impacts.

- (1) Likely future damage associated with the encroachment that could be substantial in cost or extent, including potential interruption or termination of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route.
- (2) A high probability of loss of human life, or
- (3) A notable adverse impact on natural and beneficial floodplain values.

The term "natural and beneficial floodplain values" shall include but not be limited to: fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, forestry, aquaculture, natural moderation of floods, water quality maintenance and groundwater recharge.

The following flood hazard assessment is based upon the analysis contained in Maryland Route 3 Corridor Study - Hydrologic and Hydraulic Report. This report is available from the State Highway Administration.

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b. Patuxent River Floodplain

The Maryland Route 450 interchange of I-297 will preclude the weir flow of the 25, 50 and 100 Year floods at the present intersection, thereby forcing all the flow of the Patuxent River through the Priest Bridge. Therefore, it is proposed to provide sufficient extension of these two structures to maintain the present 100 Year headwater elevation. The final sizing of the structures over the Patuxent River will be in accordance with FHWA Federal-Aid Highway Program Manual (FHPM) Vol. 6, Chapter 7, Section 3 and WRA Rules and Regulations Governing Construction on Non-Tidal Waters and Floodplains.

The increased span of these bridges will result in lowering the water surface profiles for the 10, 25 and 50 Year floods. The 2 Year profile remains essentially the same, however, since the flow is primarily confined to the low flow channel. The Selected Action will reduce the flooding conditions discussed in Section IV.

Clearing of the construction area will, of course, be required. The Maryland Route 450 interchange will fill approximately 40 acres of the Patuxent River 100 year floodplain. Compared to the total storage volume available, however, the loss of 40 acres of storage area will be insignificant. Some wildlife habitat losses will occur and these losses are discussed in Section VB-5 of this statement. The Park and Ride lot proposed for the abandoned section of Maryland Route 450 does not represent a new encroachment, since this section of roadway is already located in the 100 year floodplain. Emergency access will not be affected nor will there be added risk to human life. The Selected Action does not, therefore, constitute a significant encroachment upon the Patuxent River floodplain.

c. Little Patuxent Floodplain

The Selected Action has virtually no impact upon the Little Patuxent Floodplain. The service road providing access to the Crofton Business Community touches the fringe of the floodplain on its approach to Maryland Route 424 but lies well away from the affected flow area.

As is the case under existing conditions, the Maryland Route 424 intersection of the Crofton Business Community service road will be inundated under the 50 and 100 Year floods. This does not represent an increase in flooding conditions. Approximately one acre of the Little Patuxent 100 year floodplain will be filled along the southern segment of this service road.

The Selected Action will not cause a significant encroachment upon the Little Patuxent Floodplain.

d. Other Stream Crossings

The Selected Action will not require the relocation of White Marsh Branch. The flow of this stream can be carried through the Maryland Route 450 interchange and the service road connection without a significant effect on the upstream water surface elevation. The structures carrying the stream through this interchange will be sized in accordance with the latest State and Federal Regulations governing construction in the 100 year floodplain. Approximately one acre of the floodplain will be filled. The Selected Action will not create a significant encroachment at this location.

The impact of the Selected Action on the stream crossing near Belair Drive is essentially the same as the White Marsh Branch crossing. By sizing the crossing in accordance with the latest State and Federal Regulations governing construction on the 100 year floodplain, current flooding conditions can be decreased. This crossing will require the filling of approximately one acre of floodplain, but is not considered a significant encroachment.

The hydrologic and hydraulic analysis and design for the stream crossing near Crofton shall be in accordance with the State and Federal criteria previously cited for the other small stream crossings. The Selected Action does not create a significant encroachment at this location.

The sizing of structures for the crossing south of Johns Hopkins Road will be in accordance with the latest State and Federal Regulations governing construction on the 100 year floodplain. The 100 year floodplain encroachment by the alignment will

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only amount to about 0.3 acres and will not produce any significant floodplain impacts.

Since there are no significant encroachments, a floodplain finding is not required.

e. Measures Proposed to Minimize Impacts to Floodplain Values

During the conceptual design stage of the Selected Action, care was taken to avoid encroachment within the 100 year floodplains of the Patuxent River and other streams within the corridor. The Maryland Route 450 interchange is proposed to be constructed within the Patuxent 100 year floodplain. The vertical grades of the mainline and frontage road were kept to minimize elevations (above flood elevation) in order to reduce the required fill. The horizontal alignment of the interchange roadways are set at the minimum separation distance required for vehicular safety, therefore minimizing the size of the interchange.

Each proposed stream and floodplain crossing structure will be designed to prevent or minimize increases in upstream water surface elevation. The flow release rates for these structures will attempt to match present conditions thus avoiding impacts to upstream or downstream improvements.

Protection measures will also be taken during the construction phase. These measures will include those normally taken to protect water quality (See Section VB-6). Construction procedures will conform to the requirements of the Corps of Engineers Section 404 water quality permit as well as any necessary State permits.

f. Changes in Surface Flow

Construction of the Selected Action will result in a small increase in the amount of impervious surfaces in the corridor watersheds as well as an increase in the volume and rate of stormwater runoff. Within the context of the total size of contributing watersheds, however, these changes will not be significant.

5. Natural Resources Impacts

a. Terrestrial and Aquatic Habitat

The Selected Action will require approximately 76.5 acres of

right-of-way through areas identified as being habitat for terrestrial and aquatic wildlife. Most vegetation within the path of the Selected Action would be destroyed and replaced by the highway itself and tolerant species of plants seeded or set on highway aprons and medians. The amount of habitat lost to the Selected Action is as follows:

Active Agricultural	10 acres
Abandoned Field	11 acres
Shrub	10 acres
Hardwood Forest	44 acres
Wetland	<u>1.5 acres</u>
Total	76.5 acres

The largest single habitat area lost to construction will be a 23 acre tract of hardwood forest in the Maryland Route 450 area. Most fauna populating a zone of construction will either be lost or displaced. More mobile forms such as larger mammals and birds will be able to vacate. Others, such as most reptiles and amphibians and small mammals (e.g. meadow vole), which are less mobile will face heavy losses in the construction zone.

For the whitetail deer, which has a large home range, relocation will probably not be difficult, although a new highway may cause changes in its range and travel routes. The amount of change will depend on how much a particular alternate interferes with the deer's habits and habitat.

Smaller mobile mammals, such as the grey squirrel, opossum, raccoon, and foxes, stand a good chance of escaping direct effects if they inhabit the construction zone. Displacement, however, will cause them to search for new denning and home range areas on adjacent lands. If it is assumed that the carrying capacity of this adjacent land is near its peak, there will be little room left for the displaced animals. Although some will find new homes, others will undoubtedly be lost in the process.

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Birds will also be forced to move to adjacent lands and compete for nesting sites and home ranges. Since birds are generally much more mobile than mammals, they stand a better chance of locating suitable unoccupied habitat elsewhere.

Several streams will be crossed by the Selected Action. During construction, aquatic life immediately downstream from construction zones may be temporarily impacted. Strict adherence to erosion control measures during construction will greatly decrease the severity of potential impacts.

Fish may be able to move away from some areas if turbidity or sedimentation become problems, but less mobile forms of life such as aquatic plants, benthic invertebrates, fish eggs and fish larvae may be heavily impacted. Any waterfowl, shorebirds, aquatic mammals, reptiles or amphibians could possibly be affected within and downstream from a zone of construction. In some cases they would be forced to move elsewhere and face the previously discussed problems of resettlement.

Noise from construction activities and the completed highway is not expected to have a severe effect on surrounding animal populations because impacted areas are currently very near the existing Maryland Route 3 corridor and its associated noise. If fauna in the area is not affected by ambient noise, adverse impacts due to construction and operation are expected to be low.

b. Sensitive Areas

(1) Wetlands

Wetlands are areas covered permanently or periodically by water. These areas usually provide habitat for either submerged or emergent aquatic plants. Wetlands are considered an important part of the wildlife ecosystem.

Wetlands in the study corridor were identified with the assistance of the Maryland Department of Natural Resources. Their report entitled "Non-Tidal Wetlands Study of the Patuxent River Watershed" identifies approximately 95 acres of frequently flooded and/or saturated wetlands within the study corridor (See letter from DNR in Section VI). These areas were subsequently field checked for accuracy of location and habitat type.

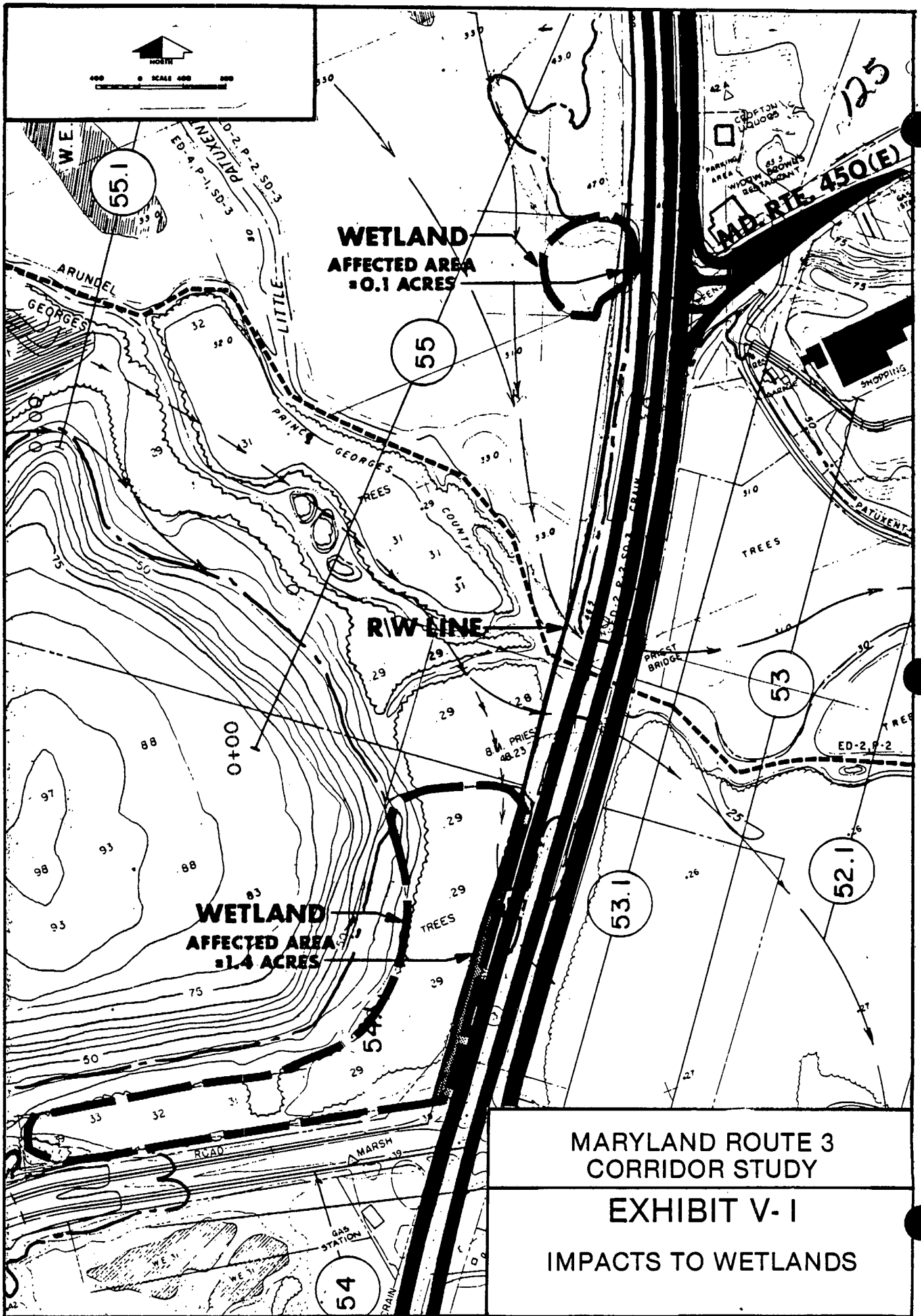
Exhibit V-1 indicates the two wetland areas affected by the Selected Action. These areas are marshy and contain shrubs and broad-leaved deciduous trees. A total of approximately 1.5 acres of wetland will be filled by the Selected Action. The quality of these wetland areas is diminished, however, due to several factors. Since these wetlands are adjacent to an existing highway, they are filled with roadside refuse such as tires, bottles, tin cans, and other litter. In addition, leachate and runoff from the adjacent municipal solid waste and sludge landfill have also reduced the value of this wetland area.

In order to avoid construction in this area, it would be necessary to either shift the alignment of the Selected Action to the east or build retaining walls to hold back the roadway embankment. A shift in the horizontal alignment would require the acquisition of at least one business at Maryland Route 450 East. Construction of retaining walls in this area would cost at least \$100,000. Given the poor quality of the affected wetland, neither of these avoidance options are warranted.

The SHA will employ methods to mitigate impacts to adjacent wetlands during construction. These methods will include the use of earth berms, sediment traps, and slope drains. Care will be taken not to schedule earthmoving during winter months, when little vegetation exists to filter runoff. Any construction activity in wetland areas will require a Corps of Engineers Section 404 (Clean Water Act) permit.

In addition, SHA will provide full in-kind replacement of the approximately 1.5 acres of wetland lost to construction. The details of the location and site design of the replacement wetland will be coordinated with State of Maryland Department of Natural Resources.

Wetland Finding: Based upon the above considerations, it is determined that there is no practicable alternative to the proposed new construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.



MARYLAND ROUTE 3
CORRIDOR STUDY

EXHIBIT V-1

IMPACTS TO WETLANDS

(2) Floodplains

It is estimated that 44 acres of land within the 100 year floodplain will be affected by the Selected Action.

As discussed in the Land Use Planning Impacts section of this document, the potential for additional growth in the corridor will probably be enhanced by the improvement of Maryland Route 3. The limiting factor influencing the occurrence of such growth is the local land use plans and zoning enforcement. This same pressure for growth also applies to floodplain areas. Any development in these areas, including highway improvements, has the potential for creating longitudinal encroachments on the floodplain. The laws and policies governing development in floodplains are however extremely restrictive. Both Anne Arundel and Prince George's Counties have zoned the floodplain area Open Space - a classification which prohibits non-recreational development. The Maryland-National Capital Park and Planning Commission enforces strict guidelines for floodplain development, as do the Department of Housing and Urban Development and Federal Emergency Management Administration. Perhaps the most restrictive criteria for floodplain development, however, are the regulations enforced by Maryland's Department of Natural Resources (DNR). In consideration of these highly restrictive policies and regulations, it is clear that, although the potential of development pressure does exist, the possibility of any secondary development in these areas is remote.

(3) Farmland

Another sensitive area within the corridor is productive agricultural land. This land is of high quality, used for growing a variety of crops. Some of this land has been farmed since colonial times. While urban sprawl and development continue to claim farmland within the corridor, many acres of prime productive agricultural land remain.

Coordination with the Soil Conservation Service helped to identify soils associated with prime and unique farmland. According to the soil survey, most of the soils found in the

corridor between Evergreen Road and Maryland Route 175 on both sides of existing Maryland Route 3 are associated with prime farmland. The right-of-way required for the Selected Action will require approximately 21 acres of prime farmland.

The Selected Action will not, however, require the total or near total acquisition of any existing farms in the study area.

6. Construction Phase Impacts

The primary source of impacts to air quality at a highway construction site is the fugitive dust generated by the earthmoving process. As required by Regulation 10.03.38.03, Rules and Regulations Governing the Control of Air Pollution in the State of Maryland, measures will be taken to prevent increases in particulate concentrations and will include, but will not be limited to, the use of water, petroleum products, and chemicals during periods of excavation or backfilling. Open-bodied vehicles used to transport materials on public highways will be covered with appropriate materials.

Construction activities generally generate noise levels in excess of those in the project environs. These levels will vary relative to the particular operation in progress. Table V-8 shows typical energy-equivalent noise levels at 50 feet from various types of construction equipment. These levels range from 72 to 96 dB(A) for earthmoving equipment, from 75 to 88 dB(A) for materials-handling equipment, and from 70 to 87 dB(A) for stationary equipment. Impact equipment may generate noise levels up to 115 dB(A). There is typically a 6 dB(A) reduction of noise for each doubling of the distance between the source of the noise and the receiver.

There will be unavoidable periods of annoyance from construction equipment noise for the duration of the construction of this project. However, the operation of this equipment is generally confined to week-day daylight hours. No adverse impact is anticipated in the evening hours or on weekends when outdoor living spaces are used most.

Studies have established that the noisiest phase of road construction is the bulk earthmoving phase in areas of cut and fill and material hauling. The state of the art for abatement of noise from

CONSTRUCTION EQUIPMENT NOISE RANGES

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		Noise level at 50 ft. dBA						
		60	70	80	90	100	110	
Equipment powered by internal combustion engines	Earth-moving	Compactors (rollers)		-				
		Front loaders		—	—			
		Backhoes		—	—	—		
		Tractors		—	—	—		
		Scrapers, graders		—	—	—		
		Pavers				—		
		Trucks		—	—			
	Materials-handling	Concrete mixers		—	—			
		Concrete Pumps			—			
		Cranes, movable		—	—			
		Cranes, derrick				—		
	Stationary	Pumps		—				
		Generators		—	—			
		Compressors		—	—			
Impact equipment	Pneumatic wrenches			—				
	Jackhammers and rock drills			—	—			
	Impact pile drivers, peaks					—		
Other	Vibrator		—	—				
	Saws		—	—				

Source: Canter, L., Environmental Impact Assessment, McGraw-Hill, 1977.

construction equipment has advanced over recent years. An August, 1979, study prepared for the U.S. Department of Transportation concluded that:

...construction equipment produced since the late 1960's or early 1970's have utilized adequate muffling such that exhaust noise is not generally the dominant noise source. In addition, if reasonable mufflers are used, the exhaust noise level will not vary significantly with the size of the machine. Improved muffling will generally lower the overall level by 1 to 3 dB(A). In cases, however, where a particular piece of equipment either does not have or has a very poor muffler, exhaust noise is dominant and application of a good muffler will reduce the overall noise by 6 to 12 dB(A). (Noise Abatement Techniques for Construction Equipment, William J. Roth, Society of Automotive Engineers, Inc.

Other strategies available to the contractor include providing temporary or permanent noise barriers or changing activity areas in an effort to redistribute noise events in time and position.

Construction activities may cause short-term impacts on local water quality if steps are not taken to control sediment erosion from disturbed earth. During the design phase an extensive sediment and erosion control plan will be developed.

A temporary control schedule and method of operation will be coordinated and approved by the State Highway Engineer prior to construction operations. The Contractor will be required to control stormwater runoff by means of earth berms, slope drains, and portable flumes. Where necessary energy dissipators, placed riprap, sediment traps and basins and similar design items will be incorporated at the earliest time possible in order to keep pollution control measures in accordance with the approved schedule. Permanent items in the contract specifications will restrict pollution by requirements such as: final clean-up on completion of project, careful handling and storage of materials, seeding embankments and cuts to ensure stability, trimming of borrow pits after use, replacement of salvaged topsoil, etc. These activities will also be conducted in accordance with DNR/WRA Regulations governing Construction in Non-Tidal Waters and Floodplains.

The construction of this project will also create temporary inconveniences to motorists in the corridor. Temporary detours around construction areas will cause congestion and delays. Efforts will be made, however, to maintain a high degree of traffic safety during the construction period. Barriers, signs and painted markings will be installed in conformance with FHWA's Manual on Uniform Traffic Control Devices (1978).

C. ENERGY IMPACTS

1. General

The threat of future energy shortages has greatly influenced the transportation planning process, since transportation accounts for 25 percent total annual energy consumption in the United States (U.S. Department of Transportation, Energy Impact Analysis Resource Information, 1976, p. 19). New highway projects require energy for fabricating and installing construction materials and use of fuel by the vehicles themselves.

2. Energy of Materials Production

The Selected Action is expected to require some 543×10^6 Kwht of energy to produce the materials necessary to construction. This estimate of energy of materials production is based on analyses presented the U.S. Department of Transportation publication Energy Impact Analysis Resource Information. The "Dollar Value Method" was used to produce these estimates. The units of energy are expressed in Kilowatt-hours thermal (Kwht), the intrinsic energy value of a nonrenewable resource.

These energy estimates are based on the use of all new bituminous pavement materials specially designed for the particular soil conditions along the corridor. During final design, an economic analysis will be conducted to determine which type of pavement material will be most cost effective. This analysis will include recycling of available bituminous materials.

3. Energy of Construction Operations

Another way energy is consumed on highway projects is for the operation of equipment at the construction site. It is estimated that

the Selected Action will use approximately 7,246,000 gallons of petroleum products during construction of the project. This estimate is also based on the "Dollar Value Method" described in USDOT's Energy Impact Analysis Resource Information.

4. Vehicle Propulsion Energy Consumption

The best available method of estimating highway vehicle propulsion energy consumption is contained in USDOT's Energy Impact Analysis Resource Information. This publication provides a series of fuel consumption curves based upon traffic characteristics and roadway design. The curves are somewhat outdated in terms of current vehicle types and power systems; however, they provide an adequate methodology for determining basic comparative fuel consumption for the two different types of facilities being considered in this study.

The following fuel consumption estimates were generated using 1985 traffic data and speeds. They include analysis of the frontage and service roads associated with each alternate.

FUEL CONSUMPTION COMPARISON

<u>Alternate</u>	<u>Total Fuel Consumed</u>	<u>Change From No Build</u>
No Build	73,400 gals./day	0
7 Modified (Selected Action)	69,500 gals./day	-5.3%

D. IMPACTS TO THE VISUAL ENVIRONMENT

The alignment of the Selected Action is close to the existing highway alignment, and therefore should not create new landscapes. There are several areas along the corridor where particular care should be taken to avoid new visual intrusions of the highway. These areas would include Melford (Historic Site H-1), White Marsh Park, Patuxent River Park, and the Patuxent River (a Scenic River).

The Selected Action has been designed to mitigate impacts to the visual environment by adjusting horizontal and vertical alignments (within speed, safety and traffic controls) to compliment and minimize the

alteration of the existing landscape. The conceptual plans for the Selected Action, developed during the location studies, attempted to be sensitive to the proximity of rivers, hills, forests, vistas and geological formations; however, these concerns had to be balanced with other environmentally sensitive features in the corridor.

Another method of mitigating visual impact of highway construction is the landscaping of highway rights-of-way. Proper landscaping can not only improve the appearance of a highway, but provide necessary erosion control on roadside areas as well.

All areas exposed by construction activities will be revegetated with native grasses, shrubs and trees. The shrubs and trees will be located to soften harsh lines of construction scars, traffic barriers and retaining walls. To avoid potential hazards of large trees close to the traveled way, an area of at least 30 feet from the edge of the roadway should be kept clear of trees with diameters greater than 4 inches.

VI. COMMENTS AND COORDINATION

VI. COMMENTS AND COORDINATION

A. HISTORICAL BACKGROUND

The Maryland Route 3 Corridor Study was initiated in 1977 to investigate the feasibility of upgrading the existing 8.5 mile section of Maryland Route 3 between U.S. 50/301 in Prince George's County and Maryland Route 32 in Anne Arundel County.

The Project Initiation Meeting was held on September 27, 1977 at the Crofton Woods Elementary School. At this meeting, the study was explained and the project planning team was introduced. During the ensuing 18 months, nine smaller meetings were held in the corridor with community organizations, business leaders and elected officials.

From June 12 to June 14, 1979, three Alternates Public Workshops were held at various locations in the corridor. The purpose of these meetings was to present the results of the location studies and environmental assessment for public reaction and comments. After revisions were made to the study alternates, another series of workshops was conducted from May 27 to June 3, 1980.

Following these meetings, the State Highway Administration decided to hold Combined Location/Design Public Hearings for this project. Accordingly, the engineering analysis for the Draft Statement alternates was completed to the detail required for a Design Hearing.

The Draft Environmental Statement was distributed in April, 1981. The three Combined Location/Design Public Hearings were held May 27 to June 1, 1981.

B. PUBLIC MEETING RECORD

- September 27, 1977. Project Initiation Meeting (Crofton Elementary School)
- April 17, 1978. First public workshop meeting. Representatives from Odenton, Crofton, Route 3 Coalition, Tanager and Four Seasons (Crofton Library)
- April 24, 1978. Presentation to Bowie City Council (Bowie City Hall)
- May 16, 1978. Second public workshop meeting. (Crofton Woods Elementary School)

- August 28, 1978. Meeting with community representatives held at SHA. Ms. Jean Woods, (Crofton Mews), Rev. Charles W. Creek (Conaways), State Sen. John Cade.
- September 13, 1978. Workshop meeting with community representatives. (Heritage Realty Company, Crofton)
- September 20, 1978. Meeting with Del. Patricia Aiken and Crofton residents Fred Wood, Harold W. Feder, and Chuck McIntosh (SHA Relocation Assistance Office, District 5, Parole, Maryland)
- November 8, 1978. Meeting with Odenton residents. (Odenton Fire Hall)
- November 30, 1978. Follow up meeting with Crofton Civic Association (Crofton Elementary School)
- January 29, 1979. Update briefing with Bowie City Council (Bowie City Hall)
- June 12, 1979. Alternates Public Workshop 1. (Arundel Senior High School, Odenton)
- June 13, 1979. Alternates Public Workshop 2. (Benjamin Tasker Junior High School, Bowie)
- June 14, 1979. Alternates Public Workshop 3. (Crofton Woods Elementary School, Crofton)
- July 9, 1979. Workshop with community and business representatives to discuss proposed revisions to alternates. (Crofton Library)
- August 28, 1979. Meeting with Conaways residents. (Wilson Memorial Methodist Church, Conaways)
- February 26, 1980. Meeting with Crofton community and business representatives. (Crofton Town Hall)

- March 27, 1980. Meeting with Conaways residents. (Wilson Memorial Methodist Church, Conaways)
- May 27, 1980. Public Informational Meeting 1. (Benjamin Tasker Junior High School, Bowie)
- May 28, 1980. Public Informational Meeting 2. (Crofton Woods Elementary School, Crofton)
- May 28, 1980. Public Informational Meeting 3. (Arundel Senior High School, Odenton)
- January 13, 1981. Meeting with local businessmen. (Knights of Columbus Hall, Bowie)
- March 23, 1981. Update briefing with Bowie City Council (Bowie City Hall)
- May 27, 1981. Combined Location/Design Public Hearing #1 (Crofton Woods Elementary School, Crofton)
- May 28, 1981. Combined Location/Design Public Hearing #2 (Arundel Senior High School, Gambrills)
- June 2, 1981. Combined Location/Design Public Hearing #3 (Benjamin Tasker Junior High School, Bowie)

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C. SUMMARY OF COMBINED LOCATION/DESIGN PUBLIC HEARINGS

MAY 27, 28 and JUNE 2, 1981

Three separate public hearings were held for the I-297 project at three locations within the study area: Bowie, Crofton and Gambrills. The Crofton hearing, on May 27, was the most well attended, drawing 85 persons. Fifteen people offered spoken testimony. Several of those speaking at the Crofton hearing represented civic groups such as the Crofton Civic Association, Citizens Against the Interstate, and the Crofton Meadows Homeowners Association.

Only three citizens testified at the Gambrills hearing held on May 28 and only two testified at the Bowie hearing on June 2.

A summary of the major substantive issues offered in the testimony at these hearings and from subsequent written correspondence is provided below:

1. No Build Alternate

The No Build Alternate was clearly the preference of those attending the public hearings. Arguments against a build alternate centered around the growth and land use changes that would occur if the highway were improved. Many residents expressed a desire for additional safety improvements and public transit instead of a new highway.

Urbanization and land use change may occur as a result of this project; however, the local subdivisions, through their zoning powers, can control the timing and location of growth if such pressures develop. Moreover, this project is consistent with the approved and adopted master plans for the area. The State Highway Administration's safety improvement program for Maryland Route 3 has continued during the I-297 study, and additional safety improvements are planned for the near future. These improvements, however, will not increase the capacity of the existing roadway. Without this additional capacity, Maryland Route 3 will continue to be a hazardous facility. A lack of sufficient population density in the study area makes consideration of mass public transit infeasible at this time.

2. Interchange Location

Several comments expressed concern over the effect that the Crawford Boulevard interchange would have on traffic patterns in Crofton. Owners, tenants, and patrons of the Patuxent Shopping Center were concerned that the lack of an interchange at Maryland Route 450 East would seriously hamper access to the center. Some individuals challenged the accuracy of the traffic counts presented at the Public Hearings.

Due to environmental impact and cost considerations, the interchange at Crawford Boulevard has been eliminated. The impact to the Patuxent Shopping Center as a result of deletion of an interchange at Maryland Route 450 East was the subject of a separate study conducted by SHA. That study concluded that the access provided by Alternate 7 Modified would actually reduce travel time and aggravation for most local shoppers by allowing them to travel exclusively on service roads and thus avoid mixing with the corridor through traffic. Existing traffic volumes for the study area are based on machine counts made by SHA. The traffic predictions for this study are based upon future land use data received from the Baltimore Regional Planning Council and the Metropolitan Washington Council of Governments.

3. Service/Frontage Roads

Several persons expressed concern that the frontage road would breed strip commercial zoning. Representatives of the church on Sylvan Drive were concerned that their location on a non-thru service road would lead to vandalism and isolation from police and fire protection.

As discussed previously, zoning and land use control are local responsibilities. Strip commercial zoning cannot occur without local support. The church on Sylvan Drive will not be isolated from the rest of the community. The non-thru service road also provides access to many homes, a business and a park located south of the church. In addition, the southern terminus of the service road will provide future access to a planned City of Bowie subdivision. The service road serving this part of the corridor would connect directly to Relocated Maryland Route 450, thus facilitating police and fire access.

4. Citizen/Public Written Comments

Those letters received containing substantive comment have been reproduced (except for one of due length) in this section of the FEIS.

Mr. Tilford A. Jones, owner of the Patuxent Shopping Center, submitted a 21 page comment document including a shopper petition. In summary, the document claimed that the environmental impacts of the Crawford Boulevard/I-297 interchange were underestimated in the DEIS and that an interchange at Maryland Route 450 East (which is near the Patuxent Shopping Center) should be substituted for an interchange at Crawford Boulevard.

Mr. Jones' comments indicated that the Crawford Boulevard assessment

in the DEIS was inadequate in the following areas: 1) impacts to the aesthetics of the lake area were underestimated and no specific mitigation was offered; 2) the use of open space land for the interchange was in conflict with the Anne Arundel County land use plan; and 3) no specific water quality impacts were described for the lake near the proposed interchange.

The comments also focused on a need for an interchange at Maryland Route 450 East. It pointed out that commercial development and traffic data presented in the DEIS were inaccurate. The comments claimed that corrected development and traffic data would indicate that an interchange at Maryland Route 450 East is needed. The comment document also stated that environmental and economic impacts could be avoided with an interchange at Maryland Route 450 East.

The letter also included a petition, signed by over 1400 shoppers, opposing the construction of I-297 without an interchange at Maryland Route 450 East.

The State Highway Administration has met with Mr. Jones on several occasions to discuss the comment letter and the petition. In addition, the previously mentioned separate study of impacts to the shopping center was conducted. This study (See page IV-7) concluded that an interchange at Maryland Route 450 East would not significantly improve access for shopping center patrons. The engineering studies conducted for the DEIS also indicated that an interchange at Maryland Route 450 East was unnecessary from a traffic service viewpoint.

The commercial data referred to in the comment document have been updated in the FEIS. The traffic data, however, were found to be entirely accurate. The traffic volumes reflect the completion of I-97 to Annapolis. This connection will reduce the traffic demand in the area near the shopping center.

A discussion of the adequacy of the DEIS appraisal of the Crawford Boulevard interchange is not needed since other public input has resulted in a decision not to build an interchange at Crawford Boulevard.

D. AGENCY COORDINATION AND COMMENTS ON THE DRAFT ENVIRONMENTAL STATEMENT

1. Chronological Listing of Agency Coordination

- July 14, 1977. Initial Project Coordination Meeting.

- July 21, 1977. Letter from DNR Fisheries Administration providing fish species and distribution references.
- August 9, 1977. Project Coordination Meeting with Anne Arundel County Public Works and Planning personnel.
- August 22, 1977. Letter from Maryland Historical Trust providing preliminary list of historic sites.
- August 23, 1977. Project Coordination Meeting with consultant performing studies on U.S. 50/301, with representatives of Anne Arundel and Prince George's Counties.
- August 29, 1977. Coordination Meeting to discuss the Baltimore/Annapolis Transportation Corridor Study.
- October 10, 1977. Preliminary Archeological Reconnaissance Report received from Maryland Geological Survey.
- November 18, 1977. Letter from Baltimore Gas and Electric Co. providing locations of underground facilities in the study area.
- February 24, 1978. General coordination meeting with SHA District Engineers.
- June 16, 1978. Meeting to review project alternates.
- June 21, 1978. General coordination meeting with Anne Arundel County Planning to discuss modified alternates.
- September 26, 1978. Meeting to discuss and evaluate Stage I Alignment Studies.
- March 15, 1978. Meeting to review proposed ramps at Belair Drive.
- November 13, 1979. Meeting with DNR Water Resources to solicit comments on Stage II alternates.

- December 6, 1979. Coordination letter from Anne Arundel County, Department of Public Works providing information on Patuxent River Park.
- January 7, 1980. Coordination letter from USDA Soil Conservation Service.
- January 7, 1980. Letter from DNR Capital Programs Administration.
- January 9, 1980. Meeting with DNR Water Resources, Wildlife Administration, Tidal Fisheries and Coastal Resources to solicit comments.
- January 22, 1980. Letter from State Historic Preservation Officer concerning historic site boundaries and levels of significance.
- January 31, 1980. Letter from U.S. Department of the Interior identifying public recreation resources in the project area.
- May 23, 1980. Supplemental Archeological Reconnaissance Report received from Maryland Geological Survey.
- October 21, 1980. Coordination letter from U.S. Fish and Wildlife Service concerning endangered or threatened species.
- March 27, 1981. Letter from Maryland Historical Trust revising significance of Ganter Farm (H-11).

2. Agency Comment on Draft Environmental Statement

Important letters and/or memoranda of conferences which resulted from coordination efforts are reproduced in the following section. Reproductions of all substantive comments received on the Draft EIS are also included with responses noted in the pages following the comments where appropriate. All remaining letters and memoranda are available for public inspection at the State Highway Administration, 707 N. Calvert Street, Baltimore, Maryland 21201.

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Maryland Historical Trust

PROJECT PLANNING

Mr. Eugene T. Camponeschi
Bureau of Project Planning
State Highway Administration
Maryland Department of Transportation
300 West Preston Street
P.O. Box 717
Baltimore, Maryland 21203

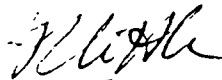
January 22, 1980

Re: Maryland Route 3
Contract No. AA 936-000-570
FAP #I-297-1(1)

Dear Mr. Camponeschi:

A secondary reconnaissance of the above-referenced project corridor has been carried out by my staff. Following further investigation and research, levels of significance for certain sites have been revised from those tentatively established by Deale and Greenwood (letter of August 11, 1977). The enclosed list enumerates these revisions. Historic boundaries for all significant sites in the vicinity of proposed alternates 1R, 3R, 5 and 6 are shown on the maps which accompany this letter.

Sincerely,


J. Rodney Little
State Historic
Preservation Officer

JRL/rst
Enclosures

cc: Mark Edwards
Richard Krolak
Rita Suffness
CHARLIE UTERMÖHLE

No Response Necessary

VI-10

<u>SITE</u>		<u>Previous significance</u>	<u>Revised significance</u>
A	Farm & outbuildings	possible N.R. eligible	not significant
PA 71A-20	Melford (Howerton's Range)	probable N.R. eligible	nomination pending
PA 71B-3	Williams Plains	probable N.R. eligible	possible N.R. eligible
PA 71A-19	Sacred Heart Chapel	probable N.R. eligible	possible N.R. eligible
PA 71A-18	Priest Bridge Site	possible N.R. eligible	refer to historical archaeologist to determine significance and boundaries
B	Pigeon House Corner	conservation	not significant
C	Red Barn Liquors complex	conservation	2 buildings of local significance (see map); others not significant
D	House & outbuildings	conservation	local
E	Conaways district	conservation	local
AA-187	Whitehall farm	probable N.R. eligible	possible N.R. eligible
F	Farmhouses	conservation	1 demolished
AA-85	Nelson/Turner house	possible N.R. eligible	1 local
G	Farm	conservation	possible N.R. eligible
H	House	possible N.R. eligible	not significant
I	Farm	possible N.R. eligible	not significant
J	Farm	possible N.R. eligible	local
K	Carver Farm	possible N.R. eligible	possible N.R. eligible
AA-173	Brandy	possible N.R. eligible	local
L	2 houses	conservation	refer to historical archaeologist to determine significance and boundaries
M	6 houses	conservation	not significant
N	Church View Farm	possible N.R. eligible	not significant
O	7 houses	conservation	possible N.R. eligible
P	2 barns	conservation	not significant
Q	house	possible N.R. eligible	local
R	house	conservation	local
S	house	conservation	not significant

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<u>SITE</u>	<u>Previous significance</u>	<u>Revised significance</u>	
T	Millersville district	possible N.R. eligible	not significant as district, but individual buildings are significant:
Ta	Millersville school		possible N.R. eligible
Tb	House, NE corner Millersville Rd. & Cecil Avenue		possible N.R. eligible
AA-110	Childs residence		possible N.R. eligible
Tc	2 buildings north of power line, west of Rt. 3		possible N.R. eligible
Two additional sites have been identified:			
U	Farm, North side of Rt. 450, opposite Sacred Heart Chapel		possible N.R. eligible
V	Farm, 1575 Gray's Ford Road		possible N.R. eligible

VI-11

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Maryland Historical Trust

March 27, 1981

RE: Maryland Route 3
Contract No. AA 936-000-570
F.A.P. No. I-297-1 (1)

Mr. Wm. F. Schneider, Jr., Chief
Bureau of Project Planning
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Dear Mr. Schneider:

At the request of the State Highway Administration, Site AA-748, the Ganter Farm, was re-examined with regard to its significance. The revised level of significance is that of a Maryland Historical Trust Inventory site.

Very truly yours,

Janet L. Davis
Historic Sites Surveyor

JLD:mcr

cc: Mr. Richard S. Krolak
Mr. George Andreve
Ms. Rita M. Suffness
MR. CHARLES UTERMOTHE, KIDDE CONSULTANTS

No Response Necessary

146



UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
DELMARVA AREA OFFICE
1825 VIRGINIA STREET
ANNAPOLIS, MD 21401

Mr. David L. Manly
Kidde Consultants, Inc.
1020 Cromwell Bridge Road
Baltimore, MD 21204

Re: Maryland Route 3
Corridor Study
US 50/301 to MD Rt. 32

Dear Mr. Manly:

This responds to your October 8, 1980, request for information on the presence of Federally listed or proposed endangered or threatened species within the impact area of the referenced project in Anne Arundel and Prince George's Counties, Maryland.

Except for occasional transient individuals, no Federally listed or proposed species under our jurisdiction 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 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.

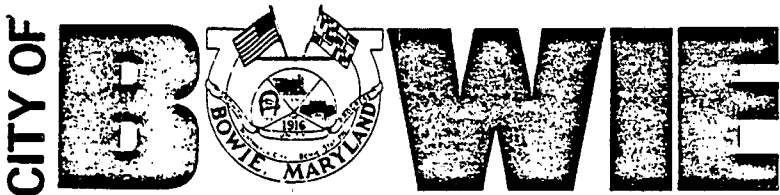
Please contact Andy Moser (301-269-6324), our Endangered Species Specialist, if you need further assistance.

Sincerely yours,

John D. Green
Area Manager

No Response Necessary

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CITY HALL • BOWIE, MARYLAND 20715 • 262-6200

April 22, 1981

Mr. Hal Kassoff, Director
Office of Planning and Preliminary Engineering
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21203

Re: Route I-297

Dear Mr. Kassoff:

At a regularly scheduled meeting on Monday, April 20, 1981, the City Council reviewed the two alternates, 7 and 7 M, for the Route I-297 project. We are recommending alternate 7 M subject to modifications. First we would prefer that an evaluation be conducted to determine if the proposed western service road from Route 450, which ends near Forest Drive, can be extended to the proposed Derbyshire development site (see attached map). This extension would serve to provide an additional access point to this site, which is currently being proposed for the construction of 62 single family detached units. This would reduce the traffic generated by the Derbyshire development from travelling through the adjacent Buckingham community.

1

This extension should occur only if it is determined that there will be no detrimental effect on the residences in the area.

Second, we would like a redesigning of the Route 50/301 interchange to include direct access from the southbound service road onto the eastbound Route 50 lanes (see attached map). We believe that this would better facilitate traffic movement in the area and provide a more direct route for vehicles from Belair Drive desiring to enter onto eastbound, Route 50.

2

Third, in accordance with the City's adopted hiker-biker Master Plan, there should be a biketrail incorporated in the design of the Route I-297 project. The biketrail should be constructed from the entrance to the Whitmarsh Park to the Route 50/301 interchange (see attached map). The biketrail can be built along the west side of the southbound lane of Route I-297 within the existing right-of-way. It is our understanding that federal regulations permit the construction of biketrails as accessories to federally funded highway projects.

3

MAYOR
AUDREY E. SCOTT

MAYOR PRO TEM
RICHARD J. LOGUE

COUNCIL
NORMAN L. COOPER • MICHAEL F. DIMARIO • RICHARD D. PADGETT
WALTER G. PLANET • HERBERT M. SACHS

CITY MANAGER
G. CHARLES MOORE

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Overall, we support alternate 7 M because there are no at-grade intersections in the Bowie area. We feel that this alternate will improve traffic mobility, provide a minimal amount of access points and traffic signals, and provide an adequate separation between local traffic and highway users.

We thank you for this opportunity to comment.

Sincerely,

BOWIE CITY COUNCIL

By: Audrey E. Scott
Audrey E. Scott
Mayor

RJN:AES:d1a

cc: *Kidde Consultants, Inc.*
Attn: C. Udermahl

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Response to City of Bowie

- 1 The western service road was extended approximately 1500 feet as requested. See Plate 1. In order to avoid impacts to two residences, a retaining wall will be needed on the west side of the service road.

- 2 This redesign is not considered feasible. The Final Environmental Statement for U.S. Route 50/301 (Proposed I-97) explains that:

"The interchange improvements, suggested here, were investigated and found not feasible because it did not meet minimum engineering design requirements. Two on-ramps followed by an off-ramp within a short distance along westbound U.S. Route 50 would result in unacceptable traffic operations, thus resulting in unsafe conditions. Accordingly, the suggested improvements are not included in the Selected Action."

- 3 The SHA is considering providing future bike access from Belair Drive to the White Marsh Park area.



M. 12-11 23058

metropolitan washington
COUNCIL OF GOVERNMENTS

150

1875 Eye Street, N.W., Suite 200, Washington, D.C. 20006 223-6800

COG #22

A-95 METROPOLITAN CLEARINGHOUSE MEMORANDUM

DATE: May 5, 1981

TO: Mr. Kenneth V. Duncan
Chief Administrative Officer
County Courthouse
14741 Governor Oden Bowie Drive
Upper Marlboro, Maryland 20870

SUBJECT: PROJECT NOTIFICATION AND REVIEW FOR

PROJECT: Draft Environmental Impact Statement— COG NO.: 81-03-022
Maryland Rte. 3 Corridor Study (Proposed I-297)—Prince George's County

APPLICANT: Maryland Department of Transportation

The project title, COG number, and applicant's name should be used in all correspondence with COG concerning this project. Correspondence should be addressed to Mr. Walter A. Scheiber, Executive Director. The staff may be reached by telephone at 223-6800.

PROJECT NOTIFICATION

The above item was received on _____ and has been referred to appropriate local governmental agencies for their review and comment. This review will be conducted as expeditiously as possible.

A copy of the above item is enclosed for your review and comment, in accordance with OMB Circular A-95 requirements. Your review should focus on this item's compatibility with the plans, programs and objectives of your organization. You may indicate your interest in or comments concerning this item by returning this sheet to the Metropolitan Clearinghouse by 5/18/81.

RESPONSE TO CLEARINGHOUSE

We do not wish to comment on the above item.

We have reviewed the above item, find it in conformance with local plans, programs and objectives, and recommend a favorable Metropolitan Clearinghouse review.

We are interested in the above item and wish to make the following comments:
(Use attachment)

We desire an extension of time until _____ for further consideration of this item (subject to certain restraints imposed by the OMB Circular).

We have further interest and/or questions concerning the above item and wish the Clearinghouse to set up a conference with the applicant.

Signature Kenneth V. Duncan
Chief Administrative Officer
Organization Prince George's County

JUN 18 1981

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Comments of Prince George's County Government
on Maryland Route 3 Corridor Study
Draft EIS

It is the expressed intention of the State Highway Administration (SHA) to use Federal Highway Administration (FHWA) funds for the planning, design and construction of any of the three "build" alternatives for improvement of the subject 8.5 mile portion of Md. Route 3 between Md. Route 32 and the U.S. 50/301 interchange. Of the three, only one (Alternate 7 Modified or M) would be eligible for 90% Interstate participation, while the other two (Alternates 6R and 7) would have to compete for 75% Primary funding.

With selection of Alternate 7M, we are advised that "prospects are good that the improved roadway could be constructed and open to traffic by 1990." Interstate transfer funds, representing a portion of the original set-aside for extension of I-95 south of the Capital Beltway, would be used for this purpose. Should a non-Interstate alternate be selected, we are informed that the funds would be lost as current FHWA policy precludes the further substitution of these funds. We are also informed that selection of a non-Interstate alternative would probably result in significant delays in construction due to the "intense competition" for Primary funds.

1

Based on the air quality analysis performed, only Alternates 7 and 7M were found consistent with the State Implementation Plan and would not cause a design year violation of the N.A.A.Q. standard. Consistency, according to the Statement, is necessary for SHA approval of facility construction.

We are advised, as well, that the original intent of the improvement project was to respond to deteriorating operating efficiency and the severity of certain types of accidents along this section of the highway. According to the Statement, a dramatic reduction in fatalities has been recorded since safety improvements were made, traffic control measures were taken, and speed limits were more stringently enforced. Further, the Statement attributes worst operating conditions at present to peak periods. Nevertheless, the Statement projects that safety conditions will again deteriorate as traffic volumes increase and conflicts arise from uncontrolled access and backups from at-grade intersections. Such long-term relief would only be possible, the Statement indicates, through limitation of access and grade-separated interchanges-- preferably the total access control provided under Alternate 7M.

In addition, the Statement observes that the Md. Route 3 project is listed as I-297 in the Interstate portion of the SHA's Highway Needs Inventory, 1980 as approved by local officials, in the Baltimore RPC's General Development Plan, and in Anne Arundel's General Development Plan for upgrading to freeway status. The Statement notes, however, that current land use plans in Prince George's County do not recommend upgrading of Md. Route 3 to freeway status, although the M-NCPPC's plans and those of the City of Bowie are interpreted to recognize the need to limit access to the facility for safety and operating considerations. In these, access control is also seen as a way to control development in the corridor.

Lastly, the Statement contends that Alternate 6R would not have any short term impact on local business, although increased traffic could ultimately make it less attractive to do business with firms along the Route. Alternates 7 and 7M are seen as having little impact on existing businesses, although the limitation of access under Alternate 7 and the elimination of direct access at Forest Drive in Prince George's could have a significant impact on "transient dependent" businesses located near this intersection. No mention is made of the potential adverse impact on the proposed Maryland Research Park which could result from the circuitous routing of traffic southbound on Md. Route 3 to the site located east of Md. Route 3 and north of U.S. 50 (see attached report). This issue will be addressed more fully in County comments on the companion study report concerning alternative improvements to U.S. 50 and the U.S. 50/Md Route 3/301 interchange.

2

From this review, we would conclude that the Statement's emphasis is on selection of Alternate 7M to achieve benefits in terms of improved traffic operations, reduced safety hazards, control of land use, early construction, consistency with the N.A.A.Q. standard for air quality, and reduced travel times from Washington to BWIA and the Port of Baltimore. Alternate 6R, involving the addition of 2 travel lanes in the median and double left turns, is viewed as least desirable in consideration of these same factors although it would cost an estimated \$10.9 million as opposed to \$110.5 million for Alternate 7M. Finally, Alternate 7, which would provide partial control of access and 4 travel lanes in each direction, is seen as having the major disadvantage of costing almost as much (\$100.4 million) as Alternate 7M although it would not be eligible for 90/10 Interstate funding.

From this County's perspective, we would contend that the majority of the projected increase in traffic creating the longer term need for full access control under Alternate 7M will be generated outside of Prince George's County. While it is advantageous from a cost standpoint to select Alternate 7M, full control of access, especially through the elimination of the access point at Forest Drive, might adversely impact the County's business development interests as represented in the proposed Maryland Research Park project.

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Finally, we would note that the local match for Alternate 7M would total roughly the full cost for Alternate 6R. If the State can fully fund the local match for Alternate 7M, why then would the State require Alternate 6R to compete for 75/25 Primary funds? For these reasons and others, we would tend to support an alternate which at the least assures direct access to the Maryland Research Park site. This might well be achieved through innovative design of Alternate 7M.

3

cc: Kenneth Collins
Frank Derro

Response to Prince George's County Government

- 1 Since the circulation of the DEIS, this route (I-297) has been determined to be an Interstate Gap, which means its funds can be withdrawn and transferred to substitute projects. The Selected Alternative could be partially constructed with substitute funds and other funds such as Federal-aid Primary funds or State funds. The FEIS does not state that the Interstate funds cannot be withdrawn from this route.

- 2 The I-297 project, as presently conceived, will not provide direct access to the proposed Maryland Research Center. A dedicated interchange near this site would be infeasible due to the close proximity of the U.S. 50/301 interchange. Southbound traffic would have access to the site via the Maryland Route 450 interchange and connecting four lane frontage road.

- 3 Based on the current availability of State and Federal Interstate funds, the prospects are good that the Interstate project could be constructed and opened to traffic by 1990. If non-Interstate funding is sought for the implementation of the Selected Alternative, other federal and available State funds would have to be used. The competition for these other resources is intense and more time would be required to implement and complete the Selected Alternative.



United States
Department of
Agriculture

Soil
Conservation
Service

4321 Hartwick Road
College Park, Maryland
20740

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May 18, 1981

Mr. William F. Schneider, Jr., Chief
Bureau of Project Planning (Room 310)
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Dear Mr. Schneider:

We have reviewed the draft environmental impact statement for Maryland Route 3 (Proposed I-297) and offer the following comments for its improvement.

On page V-42 the EIS states " . . . all or most of the active agricultural lands lost to construction can be considered prime farmland." This analysis of prime farmland losses should take into account the fact that the present land use of prime farmland is not restricted to active agricultural land. In the study corridor, it could currently be pastureland, forestland or other (including abandoned field) land. Accordingly, the losses stated in the draft EIS should be re-examined to see if any additional areas could be considered prime farmland.

On page V-36 it is stated " . . . the potential for additional growth in the corridor will probably be enhanced by the improvement of Maryland Route 3." We concur with this statement and believe you should state in the Environmental Consequences that additional areas of prime farmland and wildlife habitat are expected to be converted to more intensive land use as an indirect impact of the improvement of Maryland Route 3.

Sincerely yours,

Gerald R. Calhoun
State Conservationist

cc: Norman Berg, Chief, SCS, Washington, D.C.

CRANFORD B. BARNHILL, KIDDE C. BARNHILL

1

2



The Soil Conservation Service
is an agency of the
Department of Agriculture

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Response to Soil Conservation Service

- 1 The prime farmland losses were re-examined. The 21 acres referred to in Section VB5b of the FEIS includes all prime farmland, regardless of its present use.

- 2 Although it is generally correct that additional growth will be enhanced by this project, it is also true that such growth is in accordance with local planning policies and goals. The conversion of farmland and wildlife habitat to more intensive land use is under the control, therefore, of the local zoning powers.

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GARDINER AND GARDINER JOINT VENTURE
2152C Defense Highway, Crofton, Maryland 21114

Balt - 793-3922

Wash - 261-6006

FRANCIS E. GARDINER, SR.

FRANCIS E. GARDINER, JR.

June 2, 1981

Maryland Department of Transportation
Office Of Planning and Preliminary Engineering
707 North Calvert Street
Baltimore, Maryland 21203

Att: Mr. Hal Kassoff, Director

Gentlemen:

Concerning Maryland Route 3, proposed I-297 and contemplated interchange in the Crofton area, we respectfully submit the following information.

There currently exists the Priest Bridge Business Park of sixty-five (65) acres, thirty-five (35) acres of which are zoned W-2 Industrial.

Presently there is 55,000 square feet of occupied office and warehouse facilities plus a 30,000 square feet Bowling Center in full operation. In addition there are approved plans for immediate construction of an additional 56,000 square feet of office and warehouse space. Beyond the presently occupied and functional space there is a total of 200,000 square feet of available space which we fully expect to accomodate 100 to 150 businesses in the next five (5) years.

Enclosed please find copies of the existing and proposed facilities (master plan), Priest Bridge Business Park and blueprints of roads, water and sewer accomodations for same. As mentioned at your recent meeting at the Crofton Woods Elementary School, we now furnish this pertinent information as we feel it highlights the fact that an interchange at Routes 3 and 450 is vital to accomodate the expanding growth this particular area will continue to experience.

1

2

3

Respectfully submitted,

Paul Gardiner
Business Development Manager
Priest Bridge Business Park

- Encl: 1) Master plan
- 2) Blueprints

Response to Mr. Paul Gardiner

- 1 This information has been indicated in the FEIS. Exhibit IV-3, Proposed Land Use, now indicates this area as a planned industrial park. Exhibit IV-4, Generalized Zoning Map, shows the increased W-2 Industrial zone.

- 2 The information concerning the planned floor space capacity has been added to Table IV-2, Residential and Commercial Development Plans.

- 3 The traffic projections for this study took into consideration land use patterns as suggested by local planning policy and by recorded development plans. Plans for the expansion of Priest Bridge Business Park were included in the traffic forecast. These projections have been coordinated with both the U.S. 50/301 Study and the BATC Study.



DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MARYLAND 21203

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REPLY TO ATTENTION OF:

12 JUN 1981

NABPL-E

Mr. William F. Schneider, Jr.
Chief
Bureau of Project Planning
Room 310
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Dear Mr. Schneider:

This letter is in response to your Draft Environmental Impact Statement (DEIS), Maryland Route 3 Corridor Study (Proposed I-297) and letter dated 29 April 1981. Comments are directed towards the five "build" alternatives and one "no action" alternative presently under consideration for the proposed freeway design project in Prince George's and Anne Arundel Counties, Maryland.

This agency's areas of concern are flood control hazard potentials, permit requirements under Section 404 of the Clean Water Act, Sections 9, 10, and 13 of the River and Harbor Act of 1899, and other direct and indirect impacts on Corps of Engineers existing and/or proposed projects. In accordance with these responsibilities, our office has the following comments.

The Flood Plain Management Services Program is the Corps' means of using its technical expertise in flood plain management matters to help those outside the Corps, both Federal and non-Federal, to deal with flood and flood plain related matters. Section 206 of the Flood Control Act of 1960, as amended, provides the authority for this program. The subject DEIS provides sufficient flood plain related information.

With the exception of the no-build alternative, all alternatives will require Department of the Army authorization pursuant to Section 404 of the Clean Water Act since each will involve five stream crossings and since three of the four alternatives under consideration involve the filling of 1.5 acres of wetlands.

The proposed stream crossings required by alternate 6R may be authorized under the terms of the Department of the Army Nationwide Permit; however,

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NABPL-E

Mr. William F. Schneider, Jr.

12 JUN 1981

since alternatives 7, 7 modified, and 7 modified with the optional inter-
change, each involves placing fill in wetlands beyond the limits authorized
by the Nationwide Permit, an individual permit will be required for any of
these alternatives. In any case, a representative of the Maryland Department
of Transportation should contact Mr. Ted Rugiel at (301) 962-4252 to deter-
mine the permit requirements of the selected alternative.

1

It has been determined that there are no existing and/or proposed Corps'
projects within the proposed construction locale which would become adversely
impacted due to construction.

The Baltimore District appreciates the opportunity to comment on your DEIS
and is looking forward to the review of the final statement. If we can be
of further assistance, please do not hesitate to contact either Mr. Rick
Popino or Mr. Larry Lower of my staff at (301) 962-2558.

Sincerely,



WILLIAM E. TRIESCHMAN, Jr.
Chief, Planning Division

Response to the Corps of Engineers

- 1 It is recognized that a 404 Permit will be required for this project.
This permit will be processed during the design stage.

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NATIONAL CAPITAL PLANNING COMMISSION

1325 G STREET NW.

WASHINGTON, D.C. 20576

IN REPLY REFER TO:
NCPC File No. 2126

JUN 17 1981

Mr. Rae A. Barnhart
Administrator
Federal Highway Administration
Department of Transportation
400 7th Street, S.W.
Washington, D.C.

Dear Mr. Barnhart:

In response to your request, the National Capital Planning Commission, at its meeting on June 11, 1981, approved the enclosed report to the Federal Highway Administration and the Maryland Department of Transportation on the Draft Environmental Impact Statement on the Maryland Route 3 Corridor Study (Proposed I297), Prince George's County, Maryland.

Sincerely,

Reginald W. Griffith

Reginald W. Griffith
Executive Director

Enclosure

cc: Kidde

MARYLAND	
6/29	
<input checked="" type="checkbox"/>	EC
<input type="checkbox"/>	P & R
<input type="checkbox"/>	BR E
<input type="checkbox"/>	ADM M
<input type="checkbox"/>	E/W
<input type="checkbox"/>	A
<input checked="" type="checkbox"/>	B
<input type="checkbox"/>	OAI
<input type="checkbox"/>	APP
<input checked="" type="checkbox"/>	SK
<input checked="" type="checkbox"/>	* ACTION

9030

163

NATIONAL CAPITAL PLANNING COMMISSION
1325 G STREET NW.
WASHINGTON, D.C. 20576

NCPC File No. 2126

MARYLAND ROUTE 3 CORRIDOR STUDY
(PROPOSED I-297), PRINCE GEORGE'S COUNTY
MARYLAND - DRAFT ENVIRONMENTAL IMPACT STATEMENT

Report of Commission to the Federal Highway Administration
and the Maryland Department of Transportation

June 11, 1981

The Commission comments to the Federal Highway Administration and the Maryland Department of Transportation on the Draft Environmental Impact Statement on the Maryland Route 3 Corridor Study (Proposed I-297), dated April 15, 1981, prepared and submitted by the Maryland Department of Transportation, as follows:

The improvement of Maryland Route 3 in Prince George's County, Maryland would not involve or affect any Federal properties or facilities by any of the alternatives covered in the Draft Environmental Statement. Wetlands and floodplain areas of the Patuxent River would be affected by alternatives requiring existing bridges to be replaced, but proposed new construction would extend the bridge spans sufficiently to maintain the present 100 year headwater elevation. Therefore, the project would be in compliance with Executive Order 11990 on Wetlands Protection.

* * *

BACKGROUND AND STAFF EVALUATION

Project Description

The Maryland Department of Transportation has issued a Draft Environmental Statement on the Maryland Route 3 corridor extending from Maryland Route 32 in Anne Arundel County to US Route 50/301 in Prince George's County. Only the Prince George's County portion, about one mile of the 8.5 mile corridor, is in the National Capital Region.

The four alternates being considered in the DEIS are the No-Build, two non freeway alternates (6R and 7) and a freeway alternate (7 Modified).

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Alternate 6R involves adding two lanes in the median of the existing facility, construction of double left turn lanes at major intersections and the installation of fully synchronized signals. Intersections and points of access would remain as they exist in the Prince George's County section as would the bridge over the Patuxent River.

Alternate 7 is designed to be a partial access control facility, with four lanes of traffic separated by a 22 foot median. Grade separated interchange will be provided at major crossings with the number of at-grade crossings significantly reduced.

Freeway Alternate 7 Modified is designed to be a four-lane full access control facility with a 22 foot median and a minimum 180 foot right-of-way.

Both Alternates 7 and 7 Modified are similar in the Prince George's County section in that they have the same alignment, incorporate a new frontage road on the east side, and have a new relocated, grade-separated interchange with Maryland Route 450. Only some of the local accesses have minor differences.

This project is related to the US 50/301 upgrading to Interstate standards (Proposed I-97) which has an interchange with Route 3 at the south end of the corridor.

Maryland Route 3 crosses the Patuxent River as it enters Prince George's County. It crosses about 1500 feet of 100 year floodplain south of the river. Alternate 6R would not change the bridges crossing the Patuxent River. Alternates 7 and 7 Modified would require new bridges, which are proposed to have longer spans, improving the flood protection.

Alternates 7 and 7 Modified both contain a proposed park-and-ride lot for commuters to be located on the to-be-abandoned right-of-way of Route 450, west of Route 3.

Previous Commission Action

On March 5, 1981, the Commission commented on the Draft Environmental Statement on studies for the improvement of US Route 50/301, between the Capital Beltway and the Patuxent River, a project which interchanges with Route 3 at the end of the corridor now under study.

Environmental Impact

The major subject of Federal concern is the encroachment on wetlands or floodplains. The No-Build Alternate and Alternate 6R would require no new construction in the Patuxent River floodplain.

Alternates 7 and 7 Modified are essentially the same with respect to floodplains and wetlands.

The Maryland Route 450 Interchange of this alternate will preclude the weir flow of the 25, 50 and 100 Year Floods at the present intersection, thereby forcing all the flow of the Patuxent River thru the Priest Bridge. Therefore, it is proposed to provide sufficient extension of these bridges to maintain the present 100 Year headwater elevation. The final sizing of the structures over the Patuxent River will be in accordance with FHWA Federal - Aid Highway Program Manual (FHPM) Vol. 6, Chapter 7, Section 3 and WRA Rules and Regulations Governing Construction on Non-Tidal Waters and Floodplains.

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The increased span of these bridges will result in the lowering the water surface profiles for the 10, 25 and 50 Year Floods. The 2 Year profile remains essentially the same, however, since the flow is primarily confined to the low flow channel in both instances.

Clearing of the construction area will, of course, be required. Some temporary disruption to wildlife can be anticipated near the construction area. Loss of floodplain storage will be insignificant. Alternate 7 does not, in accordance with the definition, constitute a Significant Encroachment upon the Patuxent River Floodplain.

According to Department of Natural Resources mapping, there are approximately 95 acres of non-tidal wetlands in the project vicinity. DNR uses the definition contained in Classification of Wetlands and Deepwater Habitats of the United States (U.S. Fish and Wildlife Service, Office of Biological Services, December 1979) to identify non-tidal wetlands. The U.S. Army Corps of Engineers will also be involved in wetlands determination as a part of its Section 404 (water quality) permit process.

Alternate 7 and 7 Modified will both impact the wetland area located on the west side of Maryland Route 3, just north of Maryland Route 450. Approximately 1.5 acres of this wetland will be filled by each alternate. Alternate 6R will not affect any known wetland.

Measures normally employed to mitigate impacts to wetlands during construction are similar to those used to reduce water quality impacts. In addition to these measures, the construction schedule should consider seasonal ecological patterns so that habitat modification would not violate breeding and nursery activities. Care should also be taken, however, not to schedule earthmoving during winter months, when little vegetation exists to filter runoff. It is possible in some instances to replace wetlands. The importance of the impacted wetland and the significance of the highway impact will help determine feasibility of replacing wetlands. All wetlands replaced become public property.

Federal Interest Evaluation

There are no Federal properties or facilities directly affected by the proposed highway improvements. The protection of the floodplain and wetlands of the Patuxent River appear to be adequately covered in the DEIS and mitigating measures are proposed which would keep the project in compliance with Executive Order 11990 and make it conform to the Environmental Element of the Comprehensive Plan, Section 328.00, Environmentally Sensitive Areas.

No Response Necessary



164

MARYLAND
DEPARTMENT OF STATE PLANNING
301 W. PRESTON STREET
BALTIMORE, MARYLAND 21201

HARRY HUGHES
GOVERNOR

June 18, 1981

CONSTANCE LIEDER
SECRETARY

Mr. Hal Kassoff, Director
Office of Planning & Preliminary Engineering
Department of Transportation
707 N. Calvert Street
Baltimore, Md., 21203

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT (EIS) REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Proposed I-297 from U S Rtes 50/301 to Md.
32 SHA #AA936-151-572 and P409-151-372 FAP# I-297-1 (1)

State Clearinghouse Control Number: 81-5-848

State Clearinghouse Contact: James McConnaughay (383-2467)

Dear Mr. Kassoff:

The State Clearinghouse has reviewed the above Statement. In accordance with the procedures established by the Office of Management and Budget Circular A-95, the State Clearinghouse received comments from the following:

Department of Health and Mental Hygiene - Office of Planning; and the Office of Environmental Programs, Department of Economic and Community Development, including their Historical Trust section, Dept. of Agriculture, Dept. of General Services, Dept. of Education, Dept. of Public Safety & Correctional Services, Dept. of Budget & Fiscal Planning, Interagency Committee for Public School and Construction, and our staff, noted that the Statement adequately covers those areas of interest to their agencies.

Department of Natural Resources indicated (copy attached) a preference for Alternative 6R and provided some informational comments regarding the alternatives and their responsibilities in this regard.

Baltimore Regional Planning Council and the Metropolitan Washington Council of Governments conducted the regional and local A-95 review of the Statement and advised that the project is not inconsistent with regional and local plans. The Baltimore Council also provided some informational comments (attached) for the applicant's consideration.

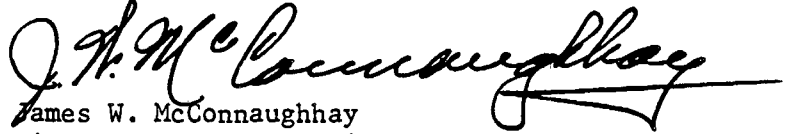
National Capital Planning Commission was provided the opportunity to review and comment on the project but has not responded as of this date. If any substantive comments are received, they will be forwarded.

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Mr. Hal Kassoff
June 18, 1981
Page Two

The State Clearinghouse appreciates your attention to the A-95 process and looks forward to continued cooperation with your agency.

Sincerely,


James W. McConaughay
Director, State Clearinghouse

JWM:mmk

cc: Stephanie O'Hara 81-120/Walter Scheiber 81-03-022/Clyde Pyers
Wayne Cawley/Herbert Sachs/Earl Seboda/W. Eisenberg/Betsy Barnard
Reginald Griffith/Lowell Frederick/Jeff Bresee/Wm. Foy/Thomas
Schmidt/David Ricker

cc: Kidde Consultants, Inc.
ATTN: C. E. Uhlmann

No Response Necessary

Date: June 15, 1981

✓ 168

Maryland Department of State Planning
State Office Building
301 West Preston Street
Baltimore, Maryland 21201

DEPT. OF STATE PLANNING	
RECEIVED	
JUN 17 1981	
REVIEWED	
ANSWERED	

SUBJECT: PROJECT SUMMARY NOTIFICATION REVIEW

Applicant: State Highway Administration

Project: Draft EIS - Proposed I-197 from US Rte. 50/301 to Md. Rte. 32

State Clearinghouse Control Number:

81-5-848

CHECK ONE

This agency has reviewed the above project and has determined that:

1. The project is not inconsistent with this agency's plans, programs or objectives and where applicable, with the State approved Coastal Zone Management Program. _____
2. The project is not inconsistent with this agency's plans, programs or objectives, but the attached comments are submitted for consideration by the applicant. x
3. Additional information is required before this agency can complete its review. Information desired is attached. _____
4. The project is not consistent with this agency's plans, programs or objectives for the reasons indicated on attachment. _____

Signature: [Handwritten Signature]

Title: for the DIRECTOR

Agency: WATER RESOURCES ADMINISTRATION

Address: TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

[Handwritten Signature]



169

JAMES E. COULTER
SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
TIDEWATER ADMINISTRATION
TAYES STATE OFFICE BUILDING
ANNAPOLIS 21401

LOUIS N. PRIPPE, JR.
DEPUTY SECRETARY

May 27, 1981

MEMORANDUM

TO: Elder Ghigiarelli, Coastal Resources Division
FROM: W. P. Jansen, Director, ~~Coastal~~ Fisheries
Division
SUBJ: Draft Environmental Statement-Proposed
I-297 From U.S. Rte. 50/301 to MD Rte. 32

We have reviewed the subject data and consider it to be an adequate description and analysis from the standpoint of fisheries resources and habitat.

We have no preferences between the four alternates (including the no-build alternate). All the build alternates depend on use of the median to supply space for additional lanes. This is an efficient and environmentally sound way to meet the needs for additional highway capacity. Differences between build alternatives largely involve the number of at-grade crossing.

We are returning the data as requested and do not feel we need a permanent copy.

WPS/dah

Attachment

cc Journal
Subject File
RLS

No Response Necessary



✓ 170

JAMES B. COULTER
SECRETARY

LOUIS W. PHEM, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
TAVEL STATE OFFICE BUILDING
ANNAPOLIS 21401

(301) 269-2784

MEMORANDUM

RECEIVED

JUN 10 1981

TO: Paul Clement,
Watershed Permits Division, WRA

FROM: Elder ~~Greg~~ ^{CO} Belli, Jr.,
Coastal Resources Division,
Tidewater Administration

WATER PERMITS AND
WATERSHED PERMITS

DATE: June 9, 1981

SUBJECT: DEIS, Proposed I-297 from U.S. Rte. 50/301 to MD Rte. 32.

Tidewater Administration has reviewed the referenced project and finds that the document adequately addresses the concerns of this agency. Attached is a memorandum from Tidal Fisheries Division.

Although the alternatives presented in the DEIS are not inconsistent with the objectives of this agency, alternate 6R is preferable due to its minimal impacts on the natural environment.

rjc

No Response Necessary



171

THOMAS C. ANDREWS
DIRECTOR

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
WATER RESOURCES ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401
(301) 269-2265

MEMORANDUM

TO: Karen L. Pushkar, Clearinghouse Coordinator
FROM: H. Earl Shaver, Watershed Permits *ES*
DATE: June 12, 1981
RE: Review of Clearinghouse Project 81-5-848 - Draft EIS -
Proposed I-297 from US Rte. 50/301 to MD Rte. 32 WRA No.
81-PP-0862

The attached comments are in response to the review of the above referenced project by DNR Personnel. Additional comments from the Wildlife Administration, Inland Fisheries, shall be sent at a later date.

In addition to the comments above the Watershed Permits Division offers the following comments:

1. Alternate 6R would have the least impact on the 100-year floodplains throughout the study area. This alternate would be preferred from the Watershed Permits Division perspective.
2. Alternate 7 and Alternate 7 Modified would both require extensive floodplain analysis to access the impacts of the new construction. Permits would be required for all work within the 100-year floodplain. Of particular interest is the proposed park 'n' ride lot at the Patuxent River. 1
3. The impacts of the increases in impervious areas would have to be analyzed to determine what effect they would have on downstream flooding for all alternatives. 2
4. All alternatives would require extensive sediment and erosion control plans to minimize any impacts to the environment.

rad

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Response to Water Resources Administration (Watershed Permits)

- 1 The proposed Park and Ride lot would not represent a significant flood-plain encroachment. Construction of this facility involves the repaving of a section of Maryland Route 450 West that will be abandoned between the limits indicated on Plate 2. The elevation in this area would not be significantly changed.

- 2 Construction of the Selected Action will result in an increase in the amount of impervious surfaces in the corridor watersheds as well as an increase in the volume and rate of stormwater runoff. Within the context of the total size of contributing watersheds, these changes will not be significant. More detail concerning hydrological impacts is provided in Maryland Route 3 Corridor Study - Hydrologic and Hydraulic Report. This report is available from the State Highway Administration.



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THOMAS C. ANDREWS
DIRECTOR

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
WATER RESOURCES ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401
(301) 269-3871

June 2, 1981 .

MEMORANDUM

TO: Paul Clement, Watershed Permits Division
FROM: Theodore J. Hogan, Wetland Permits Division. TH
SUBJ: DES (Md. Rt. 3 from U. S. Route 50/301 to Md. Route 32)

The DES used the Department of Natural Resources' Patuxent River non-tidal wetland maps in identifying wetlands within the study area and assessing highway construction impacts on these wetlands. The DES also states that DNR uses the definition contained in the U. S. Fish and Wildlife Service (U.S.F. & W.S.) "Classification of Wetlands and Deepwater Habitats of the United States" to identify non-tidal wetlands.

Although DNR has used the Fish and Wildlife's classification system in its wetland inventory, it has not used, the all inclusive U.S.F. & W.S. definition of wetlands. Specifically, DNR has not mapped the "temporarily" and "intermittently" flooded wetlands. It has only mapped wetlands that are frequently flooded and/or saturated during most of the year. This is explained in the report entitled "Non-Tidal Wetlands Study of the Patuxent River Watershed". Care should be taken in using these maps to identify wetlands within the project corridor. A less restrictive definition of wetlands would result in the inclusion of most or all of the area within the 100-year floodplain at the project site.

We have mapped the wetland which would be impacted by alternates 7 and 7 Modified as a palustrine, scrub/shrub, broad-leaved deciduous wetland.

We have no comment on the alternate selection process except to point out that alternate 8R would avoid direct wetland impacts and therefore would be preferred from a wetland protection perspective.

TJH/ew

1

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Response to Water Resources Administration (Wetlands Permit)

- 1 The wetlands discussed in this Statement are those described in the DNR report. The reference to the U.S. Fish and Wildlife Service definition has been removed.



NATURAL RESOURCE BUILDING
ANNAPOLIS 214
AREA 301288-2

TO Paul F. Clement

DATE June 1, 1981

FROM Carlo E. Edmunds OLS

SUBJ: DEIS - Proposed I-297 from US 50/301 to MD Rt. 32

The major area of concern is the proximity of the road to the Little Patuxent River and the Patuxent River Bridge.

Either alternate 6 or 7 (and 7 mod.) could be acceptable so long as all possible protection is afforded these two areas. Particularly, the minimization of impacts due to direct habitat removal and sedimentation.

If you additional input, let us know: The impacts on wildlife section was, in general, well done.

JUN 8 1981
WILDLIFE SERVICES ADMIN.
WATERSHED PERMITS

CRB:SEM:wfs

No. Response Necessary



178

JAMES B. COULTER
SECRETARY
LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CAPITAL PROGRAMS ADMINISTRATION
TAVES STATE OFFICE BUILDING,
ANNAPOLIS, MARYLAND 21401
(301) 269-3656

FRED L. ESKEW
ASSISTANT SECRETARY
FOR CAPITAL PROGRAMS

June 5, 1981

MEMORANDUM

TO: Paul F. Clement, Watershed Permits Division
FROM: Frank M. Oslislo, Land Planning Services *[Signature]*
SUBJECT: DES, I 297, US Rt. 50/301 to MD Rt. 32

We have reviewed to re: document and offer the following comments:

1. The DES is consistent with our comments made December 3, 1979.
2. The scenic river considerations have been adequately addressed.
3. Page IV-30. The Little Patuxent River, as a tributary to the Patuxent is in fact a component of the State Scenic River System.
4. We would prefer and recommend alternate 6R, which is a widened roadway within the existing median strip.

FMO:FRB:jgf

No Response Necessary



Regional Planning Council
225 North Charles Street Baltimore, Maryland 21218 (301) 383-5938
J. Hugh Nichols, Chairman Walter J. Kowalczyk, Jr., Executive Director

177
✓

Date: May 15, 1981

Mr. James W. McConnaughay, Chief
State Clearinghouse
Dept. of State Planning
301 W. Preston Street
Baltimore, Maryland 21201

RE: Metropolitan Clearinghouse
Review and Referral Memorandum,
Project: 81-120 Draft Environmental Impact Statement — Rte. 3 Corridor Study

Dear Mr. McConnaughay:

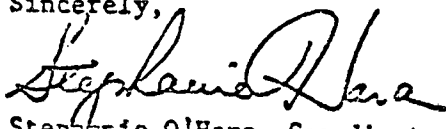
The attached review and referral memorandum is certification that the above referenced project has undergone review and comment by the Regional Planning Council and a recommended action has been determined based on the Council's findings.

Comments on this project were requested from: Anne Arundel and Howard Counties.

Comments from the following jurisdictions are included with the Clearinghouse review: Anne Arundel County.

We appreciate your attention to Metropolitan Clearinghouse procedures. If you have any questions, please contact us at 383-7110.

Sincerely,


Stephanie O'Hara, Coordinator
Metropolitan Clearinghouse

Attachment

Baltimore City Anne Arundel County Baltimore County Carroll County Harford County Howard County State of Maryland

REVIEW AND REFERRAL MEMORANDUM

Project: 81-120 Draft Environmental Impact Statement -- Route 3 Corridor Study. The objective of the project is to determine the feasibility of upgrading the existing 8.5 mile section of Maryland Route 3 between U.S. Routes 50/301, in Prince George's County, and Maryland Route 32 in Anne Arundel County. This section of Maryland Route 3 serves commuter traffic to the developing communities south of Baltimore. It also serves through traffic, including trucks, from Baltimore and points north that wish to by-pass the Washington Metropolitan area for points south. The improvement would result in the relief of traffic congestion, the reduction of accident rates and the removal of traffic flow impediments with resultant positive and negative environmental consequences.

Referral Source: Dept. of State Planning
Program: 05.111 EIS

COMMENT

See Attached.

Recommendation: ENDORSEMENT IS RECOMMENDED SUBJECT TO ATTACHED COMMENTS

I HEREBY CERTIFY that at its 204th meeting, held May 15, 1981, the Regional Planning Council concurred in this Review and Referral Memorandum and incorporated it into the minutes of that meeting.

May 15, 1981

DATE

WALTER J. KOWALCZYK, JR.

Walter Kowalczyk
Executive Director

SUMMARY OF REGIONAL CLEARINGHOUSE REVIEW
OF TRANSPORTATION RELATED PROJECT

APPLICANT: State Highway Administration

PROJECT NAME AND DESCRIPTION: # 81-120

Draft EIS-Md. 3 Corridor Study (proposed I-297) - US 301 to MD. 32 - to determine feasibility of upgrading existing Md. 3. Alternates include no-build and 3 build alternatives: 6P, upgrade existing at grade, 7, partial access control and 7 modified, full access control. Excerpts from DEIS are attached for information.

1. Staff Comments and Recommendation:

Date: 5-5-81

The project is included in MDOT's PD&E program, so funding is not assured at this time. DEIS implies that as an interstate project (7 modified), funding is probable by 1990. This should be modified to explain the high uncertainty of state matching funds after 1985.

The DEIS is also being reviewed by environmental staff - any comments will be available at meeting. We will make no recommendation pending that review.

Environmental staff has no comments.

5-14-81

Recommend approval with comment: Discussion on pages II-13 and II-14 on ability to fund this project should be modified to more clearly reflect the lack of state matching funds under current projections of existing revenue sources.

2. Plan and Program Committee Comments and Recommendation:

Date: 5-15-81

A number of minor technical errors were noted - these will be addressed in comments forwarded by Anne Arundel County staff. Committee recommends approval with staff comment.

3. Transportation Steering Committee Comments and Recommendation:

Date: 5-15-81

Recommend approval with comment.

4. Regional Planning Council Disposition:

Date: 5-15-81

Approved.

FROM: Mr. Alexander Speer
Referral Coordinator
Office of Planning & Zoning
Arundel Center
Annapolis, Maryland 21401

DATE: May 5, 1981

180

B & P Meeting:
R P C Meeting: 5/15/81

Joint EPC/CHESA Review Cycle (up to 60 days)

REGIONAL PLANNING
COUNCIL
MAY 18 1981
BALTIMORE, MARYLAND

SUBJECT: REFERRAL COORDINATOR REVIEW SUMMARY

Applicant: REFERRAL SOURCE: Dept. of State Planning

Project: Draft Environmental Impact Statement — Route 3 Corridor Study

R & R File No.: 81-120

Comments Should be Returned By: AS SOON AS POSSIBLE

This project has been forwarded to the following local departments or agencies
(Check appropriate blanks and attach comments from the reviewing agencies):

Planning Public Works
 Environmental Protection Human Relations
 Others (specify) _____

JURISDICTION'S COMMENTS

Check One

- This jurisdiction has no comments on this particular project.
- This project is consistent with or contributes to the fulfillment of local comprehensive plans, goals and objectives.
- This project raises problems concerning incompatibility with local plans, or intergovernmental, environmental or civil rights issues and a meeting with the applicant is requested (attach comments).
- This project raises problems concerning incompatibility with local plans, or intergovernmental, environmental or civil rights issues, however, a meeting with the applicant is not requested (attach comments).
- This project is generally consistent with local plans, but qualifying comments are necessary (attach comments).

RETURN TO:
Coordinator, Metropolitan Clearinghouse
Regional Planning Council
2225 E. Charles Street
Baltimore, Maryland 21218

Signature: *[Handwritten Signature]*
Title: *[Handwritten Title]*
Agency: *[Handwritten Agency Name]*
Date: *5/12/81*

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

6TH AND WALNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

JUN 23 1981

Mr. William F. Schneider, Jr., Chief
Bureau of Project Planning (Room 310)
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Re: Maryland Route 3 Corridor Study (Proposed I-295)

Dear Mr. Schneider:

We have reviewed the Draft EIS for the project referenced above, and have classified it in EPA's Reference Category ER-2. This classification is explained in the attachment and will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal Actions under Section 309 of the Clean Air Act.

There are two aspects of this project that are of concern to EPA. The first is the Air Quality Analysis that appears in the EIS. This analysis contains data that is different from that in the Air Quality Analysis Technical Report, yet the EIS references that report as the source of the air quality study. This point is of particular concern to EPA because the EIS states that the air quality analysis was coordinated with EPA. We did review the Technical Report (our comment letter was dated January 27, 1981), but we have not seen the data presented in this EIS.

1

This issue is significant because the Technical Report indicated that there would be no violations of the National Ambient Air Quality Standards (NAAQS) in the design year (2005). The Draft EIS now says that there will be such a violation with Alternate 6R at receptor A-37 (Widow Brown's Restaurant). This new information jeopardizes the viability of Alternate 6R, which was the most attractive Alternate from an environmental standpoint. This issue should be reexamined and clarified before a Final EIS is prepared.

2

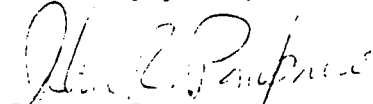
It is also important to point out once again that EPA is not in a position to comment favorably on any project alternative that results in a violation of the NAAQS. This point was made at a project meeting on September 25, 1980, and in our comment letter on the Air Quality Analysis Technical Report (January 27, 1981). Although the Draft EIS observes that it is "highly unlikely" that this project could be finished before 1988, it is important to us that the Maryland State Highway Administration make an explicit commitment not to open the roadway until the air quality violations are eliminated. Without such a commitment, none of the alternates can be acceptable to EPA, because they all result in NAAQS violations in the designated year of completion (1985).

3

Also of concern to EPA is the question of the project's impacts on wetlands. At the project meeting last September 25, we encouraged your office to work closely with the U.S. Army Corps of Engineers on the wetlands issue, because it may be necessary to obtain a Section 404 permit from the Corps. It does not appear, however, that such coordination has taken place. We continue to raise this issue because such early coordination is called for in a Memorandum of Agreement (March 24, 1980) between the U.S. Department of Transportation and the Department of the Army.

If you have any questions concerning our comments, please contact Mr. Eric Johnson of my staff (215) 597-4388.

Sincerely yours,



John R. Pomponio
Chief

EIS & Wetlands Review Section

cc: Kidde Consultants, Inc.
ATTN: C.E. Uelmobile

Note

See letter from COE to Schneider, dated June 12, 1981, in Appendix C.

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Response to EPA

- 1 The air quality was re-run as a result of a change in the traffic projections. The new analysis is presented in the Addendum to the Air Quality Analysis Technical Report, April, 1982. A copy of this addendum has been forwarded to EPA. (EPA commented on this addendum in its letter of May 26, 1982. This letter is reproduced on page VI-60.)

- 2 Between the first Technical Report and the Draft Statement, there was a change in the anticipated peak hour traffic volumes in the north-bound lanes of Alternate 6R. This change resulted in a CO violation at Receptor Number 37 (Widow Brown's Restaurant).

- 3 Subsequent to the Draft Statement, further air quality analyses were conducted for the FEIS. This analysis utilized a newer version of the EPA approved model - HIWAY 2. The analysis conducted for the Selected Action and the No Build Alternate revealed that neither of these alternates violate the NAAQ Standards for carbon monoxide concentrations during either of the two year studied - Estimated Time of Completion (1985) and Design Year (2005). In light of this revised information, a commitment to delay the opening of the roadway is no longer necessary.

- 4 Coordination with the U.S. Army Corps of Engineers has been initiated. See letter from COE to Schneider, dated June 12, 1981, located on page VI-25.

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United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Project Review
15 State St
Boston, MA 02109

July 6, 1981

ER-81/1156

Mr. William F. Schneider, Jr., Chief
Bureau of Project Planning (Room 310)
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Dear Mr. Schneider,

This responds to your request for the Department of the Interior's comments on the draft environmental statement for Maryland Route 3. We have no suggestions for its improvement.

The U.S. Fish and Wildlife Service of this Department will review and comment on the Corps of Engineers Section 404 permit. Their most probable position would be one of no objection. However, any application for wetland filling should be accompanied by a wetlands mitigation plan. Since alternative 6R involves the least taking of wetlands and other wildlife habitats, and incidentally is the least expensive, it would be the alternative of choice.

1

As planning progresses and more detailed information becomes available, it would be beneficial to coordinate further. We believe the newly created highway coordination meeting would be a proper forum for discussion.

Sincerely yours,

William Patterson

Regional Environmental Officer

cc: Kilde Poulakis, Inc.

185

Response to Department of the Interior

- 1 Wetlands impacts will be mitigated as discussed in Section VB5. Any further mitigation features identified in the COE permit process will be incorporated in the final plans.

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Maryland Historical Trust

July 8, 1981

Mr. Willaim F. Schneider, Jr.
Chief, Bureau of Project Planning
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Re: MD 3 (I-297), from U.S. 50/301 to MD 32
Contract No.: AA 936-151-572, F.A.P. I-297-1 (1)

Dear Mr. Schneider:

There will be no effect on the historic resources potentially eligible for the National Register of Historic Places for Alternates 6, 7 and 7 Modified of the subject project.

Yours truly,

Nancy A. Miller
Deputy State Historic
Preservation Officer

NAM/JLD/pc

cc: George J. Andreve
Richard Krolak
Rita Suffness
Anthony F. Christhilf
R. Allen Irvine

Kidd

No Response necessary



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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Services Division
Habitat Protection Branch
7 Pleasant Street
Gloucester, Massachusetts 01930
JUL 13 1981

Mr. Wm. F. Schneider, Jr., Chief
Bureau of Project Planning
State Highway Administration
707 North Calvert Street
Room 310
Baltimore, Maryland 21202

Dear Mr. Schneider:

We have received the Draft Environmental Impact Statement (DEIS) entitled Maryland Route 3 Corridor Study (Proposed I-297). Due to insufficient levels of funding and staffing, we are unable to thoroughly review and comment on the subject DEIS.

However, alternatives which would result in the least amount of wetland alteration, sedimentation, new sources of runoff and stream crossings, would generally be preferred by this agency.

Sincerely,

Ruth O. Rehfus
Acting Branch Chief

cc: Kidde Bauknecht, Inc

No Response Necessary



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DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

UNITED STATES GOVERNMENT

memorandum

Subject: I-297, Anne Arundel and Prince Georges
Counties, Maryland (FHWA-MD-EIS-81-01-D)

Date: JUN 8 1981

From: Director, Office of Environment and Safety

Reply to
Attn. of:

To: Chief, Environmental Programs Division, FHWA/HEV-10

We have completed our review of the draft environmental impact statement and have the following comments.

Land Use and Development Pressures - It would be helpful if the final EIS contained further discussion of the development pressures and future land use trends and controls for the area east of the Route 3 corridor, and the impact of the various alternatives on these development pressures.

1

Stream Modifications and Flood Hazard Impacts - If Alternate 7 or 7R is recommended, the final EIS should include discussion of measures which will be taken to minimize the amount of construction and encroachment within the flood plains of the Patuxent River and other streams within the corridor.

2

We appreciate the opportunity to review and comment on this draft environmental impact statement.

M. Convisser
Martin Convisser



It's a law we
can live with.

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Response to U.S. D.O.T. Office of the Secretary

- 1 A discussion of the possible development pressures along the eastern frontage road is provided on Page V-10. This project is consistent with local land use plans.

- 2 A section entitled Measures Proposed to Minimize Impacts to Floodplain Values has been added at Section VB4.

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1982 JUN 4 11 11

Maryland Historical Trust

June 1, 1982

Mr. Louis H. Ege, Acting Chief
Environmental Management Section
Bureau of Project Planning
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203

RE: Contract No. AA 936-151-572
Maryland Route 3(I-297)
From U. S. Route 50 to Patuxent Freeway

Dear Louis:

Thank you for your letter of April 29, which states that the preferred alternate, Alternate 7 modified, of the above referenced project may impact sites 18 PR 33 and 18 AN 511. We were pleased that you concur that site 18 PR 33 warrants additional testing and look forward to receiving the results of that testing.

Concerning the historic site, 18 AN 511, we have re-evaluated the site in light of the available site information. The mid-19th century site is rather late in time and is apparently a typical house site of which many exist in a better state of preservation in the region. Moreover, the site was apparently occupied until very recently and thus is not of as great a research interest as a site which would have been occupied for a shorter time span. In light of these observations and since the reports do not provide any convincing arguments why this site would contribute significantly to research issues in Maryland archeology, I concur with your assessment that the site does not contain sufficient research value to justify further testing. In short, the site is not, in my opinion, eligible for nomination to the National Register, and additional work at the site is not requested.

I understand that the archeological team at the Division of Archeology plans to conduct work at 18 PR 33. They should first consult with Wayne Clark about sampling strategies before undertaking the work. At the same time, I request that they bring the plans for Alternate 7 modified so that we can review the need, if any, for additional survey.

Sincerely,

J. Rodney Little
Director/State Historic
Preservation Officer

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Mr. Louis H. Ege, Acting Chief
June 1, 1982
Page -2-

cc: Ms. Rita Suffness
Ms. Maureen Kavanagh
Mr. Dennis Curry
Mr. Richard R. Johnson
Mr. Anthony F. Christhilf
Mr. R. Allen Irvine
Mr. Wayne E. Clark

No Response necessary

COMMISSION
M. GORDON WOLMAN
CHAIRMAN
S. JAMES CAMPBELL
RICHARD W. COOPER
JOHN C. GEYER
JES M. COFFROTH

STATE OF MARYLAND



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DIRECTOR
KENNETH N. WEAVER

DEPUTY DIRECTOR
EMERY T. CLEAVES

TELEPHONE:
301-338-7066

MARYLAND GEOLOGICAL SURVEY

THE JOHNS HOPKINS UNIVERSITY
MERRYMAN HALL
BALTIMORE, MARYLAND 21218

13 May 1982
Division of Archeology

Mr. William F. Schneider, Jr., Chief
Bureau of Project Planning
State Highway Administration
707 N. Calvert St. - 3rd Floor
Baltimore, MD 21202

Re: Maryland Route 3 (I-297)
Archeological Involvement

Dear Mr. Schneider:

In reference to your 29 April 1982 letter on 18AN511, the Hall site, we concur that further archeological work appears unwarranted. While mid-19th century sites are valuable cultural resources, their relative abundance often tempers the need for archeological study. In the case of the Hall site, the apparent paucity of probate and other records would seem to lessen the site's potential archeological significance. Also, the existence of other nearby examples of mid-19th century structures in better condition would seem to obviate the need to examine 18AN511. Given these reasons, and since there is no known unique aspect to the site that might warrant study, we recommend no further work at the site.

If I can be of further assistance on this matter, please let me know.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Tyler Bastian'.

Tyler Bastian
State Archeologist

cc: L. Ege
J.R. Little
R. Suffness

No Response Necessary



OFFICE OF ENVIRONMENTAL PROGRAMS

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

201 WEST PRESTON STREET • BALTIMORE, MARYLAND 21201 • Area Code 301 • 383- 3245

Harry Hughes, Governor

Charles R. Buck, Jr., Sc.D. Secretary

May 19, 1982

Mr. Louis H. Ege, Jr., Chief
Environmental Management
Bureau of Project Planning (Room 310)
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Dear Mr. Ege:

RE: Contract No. AA 936-151-572
P 409-151-372
F.A.P. No. F 903-1(2)
Maryland Route 3
(Proposed I-297)
Addendum to Draft Air
Quality Analysis

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 yours,

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

ELC:jl

No Response Necessary



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

MAY 26 1982

Mr. Louis H. Ege, Jr., Chief
Environmental Management
Bureau of Project Planning (Rm. 310)
Maryland State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Re: Maryland Route 3 Corridor Study, Anne Arundel County, Maryland

Dear Mr. Ege:

We reviewed the Addendum to the Air Quality Analysis Technical Report for the above-referenced project. We offer the following comments for your consideration during further project development.

1. The Addendum has analyzed CO impacts resulting from the no build alternative and Alternative 7M utilizing the HIWAY-2 model. Since the CEQ Guidelines Implementing NEPA state that agencies shall devote substantial treatment to each alternative so reviewers may evaluate their comparative merits, the air analysis should be revised utilizing the same modeling procedures for all alternatives. This is particularly important to EPA since Alternative 6R appears to be the most attractive to us from an environmental standpoint.

1

2. On Page 3, it is stated that a temperature of 20°F was used for the 1 hour analysis. The final statement should indicate if the temperature or any of the other modeling inputs for the 8 hour analysis were different than for the 1 hour analysis.

2

3. From all indications, the traffic data has been changed several times during the various assessments prepared for the project. Since the traffic data used has a significant impact in determining both the impacts and need for the project, the Department should discuss what factors have occurred which have necessitated these changes.

3

4. The final statement should include a discussion which gives a rationale for the technical assumptions used for running modes. The 100% hot running mode for the mainline may not reflect a worst case analysis.

4

We hope that these comments assist you in meeting your NEPA responsibilities. Since the use of the HIWAY-2 model has shown no violations of NAAQS for both Alternative 7M and the no-build alternative, the project appears to be accept-

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able from an air quality standpoint. However, we believe that the above points must be addressed to our satisfaction in the final statement so we can be more confident in this evaluation. As such, we have rated this document as LO-2 in EPA's reference category. If you have any questions, feel free to contact Mr. William J. Hoffman of my staff at 215-597-2650.

Sincerely yours,

James R. Butch

for S. F. Thomsin
Acting Chief
EIS & Wetlands Review Section

Response to E.P.A.

- 1 The basis for rejection of Alternate 6R lies wholly with inability of this alternate to adequately provide for traffic safety and capacity in the study area and not with the fact that there was an air quality violation at one intersection. A re-modeling of the two rejected alternates would not produce any information that would have a bearing on the selection of Alternate 7 Modified.

- 2 A complete eight hour analysis was deemed unnecessary due to the low one hour values expressed by the model. The eight hour levels indicated in the assessment were estimated using the persistence factor method.

- 3 There has been only one change in the predicted traffic data during the course of this study. This change occurred several months prior to the release of the Draft Statement. It involved changing the directional split in the design year in order to account for changes in land use in the corridor. These revisions to the traffic did not change the need for the project nor did they significantly change the environmental impacts.

- 4 The heaviest contributions of CO are likely to come from at-grade intersections along the proposed four lane frontage road. The 100% hot running mode assumption for mainline is standard practice for interstate highways and its application for this project is not considered unreasonable.

THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY
SAINTS

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03 June 1981

SUITLAND MARYLAND STAKE

State Highway Administration
Bureau of Project Planning
Mr. Carroll B. Higdon, Project Manager
707 North Calvert Street
Baltimore, MD 21201

(301) 659-1106

Re: Maryland Rte. #3 (Proposed I-297)

Dear Mr. Higdon:

Mr. Richard G. Reynolds, our Stake Executive Secretary, spoke in behalf of the Church at the Combined Location/Design Public Hearing on the references project held in Bowie last evening. We wish to offer the following comments in writing.

The Suitland Maryland Stake is a grouping of eight congregations of the Church, consisting of about 2,500 members. The Bowie Ward, one of these congregations, meets in a Chapel at 16621 Sylvan Drive adjoining the south-bond lane of the present Route #3 just outside Bowie (as noted on each of the design plates). We have followed this project since late 1976, when it was first rumoured during the construction of the Bowie Chapel. We have had representation at each of the briefings and informational sessions, and have watched as many alternatives have come and gone.

The present alternatives afford us minimum impact when compared to some of the earlier proposals. We have no concerns either way with regard to the "No-Build" option. Addressing Alternate "6R", we note a sound barrier slated for in front of the Church to bring the noise below the 70DB FHWA design standard. We would like the opportunity to review proposed designs for these barriers and how they may impact the visual astetics of the Bowie Chapel and grounds. Alternate "7" gives us some access problems, but the at grade intersection at Forrest Drive does provide reasonable entrance for the Bowie membership which resides in South Bowie, Bowie, and Crofton. It may be desirable to open the northern end of the service road onto Maryland Rte. #450 in order to reduce some of the isolation which will result; perhaps placing a "Stop" sign at Sylvan to break-up short cutting traffic movements. Alternate "7-Modified" (the interstate alternate) is unacceptable to us because it results in poor access and a zone of isolation leading to unnecessary travel for our members and potential security and vandalism problems at the building. A crossover to the eastern service road or the continuation of the Sylvan Drive service road to Belair Drive would alleviate both of these concerns, otherwise there has been created a blind area. This has the potential of poor police support, poor fire department support, and increases in teenage "parking" with associated drinking and property damage.

1

2

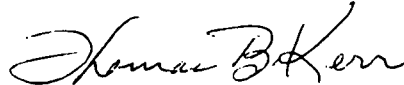
03 June 1981
Mr. C. Higdon
Page 2

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Although our Chapel is not in the City of Bowie, we understand they oppose the connection of the service road to Belair Drive on the basis that it will become a by-pass for racetrack traffic. One might observe that If the proposed interchange at Rte. #450 is going to be that inefficient, perhaps it needs a little more attention, and also, appropriate stop signs and traffic control could reduce the temptation to use this as a by-pass.

Please keep us appraised of your continued work on this project.

Sincerely,



Thomas B. Kerr
Stake President

cc: City of Bowie

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Response to Thomas B. Kerr

- 1 For reasons of poor cost effectiveness, noise barriers at this location are not recommended (See page V-23).

- 2 See discussion of Service/Frontage Roads on page VI-5.

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10 Village Green
Crofton, Maryland 21114

June 15, 1981

Maryland Department of Transportation
State Highway Administration
Office of Planning & Preliminary Engineering
Box 717
Baltimore, Maryland 21203

Re: Contract No. P-409-151-372
AA-936-151-572
Maryland Route 3, U.S. Route
50/301 to Maryland Route 32

Gentlemen:

The Crofton Meadows Homeowners' Association (the "Association"), representing approximately 1200 homes in the Crofton Meadows Subdivision of the County, would like to take this opportunity to comment on the State Highway Administration's four proposals to modify Maryland Route 3 between Route 50/301 and Route 32, particularly as it affects the Crofton community area.

After a careful review of the Administration's proposal and attendance at the public hearings held in the Crofton area, the Association urges the State Highway Administration to review its proposal in more depth and to seriously consider a "No Build" alternative instead of Alternate 6R, 7 or 7-Modified.

The Association cannot and will not endorse either Proposal 6R, 7 or 7-Modified.

Proposals 6R, 7 and 7-Modified are extremely costly (\$10-110 Million) in a time when inflation is rampant. In spite of the fact that the State Highway Administration contends that 75-90% of the cost of the proposal would be covered by "Federal" funds, it is ultimately the taxpayers who are providing the financing for the construction, through increased Federal, State and County tax liabilities.

An interstate in the Crofton area will increase noise pollution, air pollution and will destroy the esthetic beauty of the Crofton area. Noise barriers and concrete median barriers

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will give a "Beltway" effect to the area with all lanes and interchanges which will be required under proposals 7 and 7-Modified.

Construction of an interstate will merely congest the Route 3 corridor where it does not now exist. Certainly a motorist may be able to reach Route 50 or the Baltimore Beltway a minute or two faster (theoretically), but what additional traffic congestion and safety problems will be caused by this increase in traffic in the Crofton area.

In addition, an interstate would force more traffic onto Route 3 because of the closing of several existing intersections, including Route 450 East. That means that people will be forced to either (i) go through the town of Crofton to get to Route 450 East, or (ii) go to Route 424, turn right, travel approximately two to three miles (past the Crofton Meadows Subdivision), turn right on Route 450, and travel an additional two to three miles to reach the shopping area now conveniently located off Route 3 and Route 450 East. This area contains drug stores, food stores, gas stations, and other essential consumer needs for the Crofton area residents.

Residents of the County living on Route 450 east of Route 3 would be required to travel several additional miles to reach their homes and/or businesses.

With the increase of traffic use of an interstate, there will be increased traffic through the town of Crofton itself, and on Route 424. Will the State next propose to widen the Crofton Parkway, or Route 424, to accommodate the increased traffic which will be forced onto these routes. Route 424 currently requires additional safety features with the amount of residents using the road. Our area requires traffic signals. However, even though a traffic light has been "approved" for our area, it is not known when the money can be budgeted for its completion.

If the interstate is built, residents will have to contend with the increased traffic, and a four-lane service road crossing Route 424 at the existing Crofton Shopping Center, in order to reach such essential consumer services as shopping, banks, gas stations, grocery stores, and Route 3, which will be the only exit from the Route 424/Crofton area.

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Maryland Department of Transportation
Page Three
June 15, 1981

The residents of the Crofton area have made it abundantly clear that they are opposed to the construction of an interstate highway in this area. They overwhelmingly (83%) opposed the proposal in a referendum vote in early 1980. Residents of the area attending the public hearings are against the proposal for an interstate. The civic and homeowners' associations of the Crofton area have made statements which make it very clear that the residents do not want an interstate highway going--literally, in some cases--right through their backyard. Therefore, we fail to see why the State Highway Administration continues to force these proposals on the residents of this area. Instead of spending \$100 Million on an interstate highway, such needs as mass transportation should be a priority. If the area had a workable public transportation system which connected the Baltimore-Washington business communities, more people would use public transportation; therefore, there would be less cars on the road, and there would be no need to spend hundreds of millions of dollars constructing roads so that more people can drive more cars on more roads.

Lastly, would the State Highway Administration be as willing to build an interstate if the Federal government (taxpayers) were not providing 75-90% of the financing needed for such a project. Would the State Highway Administration be willing, or permitted, to spend upwards of \$100 Million of State-provided (taxpayer) funds to construct such a project.

We would like to assure you that we will continue to oppose the construction of an interstate highway in the Crofton area and will urge our local, state and federal legislators, who are being provided a copy of this letter, to represent the Crofton area residents' opposition to such a project.

Very truly yours,

CROFTON MEADOWS HOMEOWNERS ASSOCIATION
BOARD OF DIRECTORS

By: _____
Joyce C. Smith
President

jrr

Attachment
(Distribution list
to legislators)

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ATTACHMENT

The Honorable Charles McC. Mathias, Jr.
United States Senate
358 Russell Senate Office Building
Washington, D.C. 20510

The Honorable Marjorie S. Holt
The United States House of
Representatives
2412 Rayburn House Office Building
Washington, D.C. 20515

The Honorable O. James Lighthizar
Maryland House of Delegates
156 South Street
Annapolis, Maryland 21401

The Honorable Wallace R. Childs
Anne Arundel County Council
P.O. Box 1831
Annapolis, Maryland 21404



Maryland Department of Transportation

State Highway Administration

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James J. O'Donnell
Secretary

M. S. Galtrider
Administrator

July 15, 1981

RE: Contract No. AA 936-151-572
and P 409-151-372
F.A.P. No. I-297-1(1)
Maryland Route 3
U.S. Route 50/301 to
Maryland Route 32

Mrs. Joyce C. Smith, President
Crofton Meadows Homeowners Association
10 Village Green
Crofton, Maryland 21114

Dear Mrs. Smith:

This is in response to your letter of June 15, 1981 regarding the proposed improvements to Maryland Route 3. We appreciate your review of our proposals and assure you that your comments and the position that the Crofton Meadows Homeowners Association has taken will be fully considered. Your letter will be made a part of the official record by being entered into the public hearing transcript.

As you know, public hearings were recently held in the communities of Crofton, Gambrills, and Bowie. The purpose of the hearings was to present the various alternates that are being studied, along with the engineering, environmental, and socio-economic issues associated with them, and to provide a forum by which all interested persons could present their views and comments.

The primary purpose of the Maryland Route 3 project is to improve the safety of this highway. Currently, high speed through traffic mixes with local traffic along a principal arterial roadway characterized by growing strip development on both sides and in the median. I want to emphasize that while spot safety improvements have been, and will continue to be made where feasible and warranted, the only way to significantly improve the overall safety of this highway is to gain controls of access and separate through traffic from local traffic. That is what this project is intended to accomplish.

While an alternate has not been selected by the State Highway Administrator, we are now in the process of preparing our recommendation to him. Based on our studies and after a complete evaluation of this project, that recommendation will be for an alternate that provides control of access and separates through traffic from local traffic.

My telephone number is (301) 659-1110

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As a result of extensive community involvement in this Project Planning study, the scope and cost of this project have been sharply reduced. We would be most interested in discussing with you further how your Association feels that the safety goals of this project can be achieved without providing access controls and separate roadways for through and local traffic. As a matter of fact, we believe that a complete assessment of this project will reveal widespread community benefits by providing a separate local circulation system. Again, we would be pleased to discuss these concepts more fully in a meeting with you and your Association.

Traffic noise levels in the Maryland Route 3 Corridor can be expected to increase with traffic volume regardless of which alternate, including the No-Build, is selected. In several areas along the highway, the noise will exceed the design noise levels recommended by the Federal Highway Administration. However, this is not the case in the immediate Crofton area, where predicted noise levels are not expected to exceed Federal Highway Design Standards.

The Air Quality Analysis conducted for this study indicates that Alternate 7 and 7 Modified, which have a full control of access, will satisfy all air quality standards by the year 1986. Alternate 6R was found to have an air quality problem in the area of the Route 3 and Route 450 East intersection and is not, therefore, consistent with the State Implementation Plan of Ambient Air Quality Standards.

All three build alternates being considered utilize existing rights of way wherever possible. This mandates a narrow median in two of the proposed alternates, 7 and 7 Modified, and traffic barriers are recommended in order to separate opposing lanes of traffic.

Studies by this Administration do not indicate that construction of a freeway would cause congestion in the Route 3 Corridor where it does not now exist. To the contrary, our studies show that if the No-Build Alternate is chosen, some congestion will continue to grow on Maryland Route 3.

All alternates developed for this study were designed to provide the maximum feasible access to local residents. Alternates 7 and 7 Modified are generally oriented toward one of the existing roadways, leaving large sections of the remaining roadway to serve as a local access facility. Frontage roads are provided which assure access to adjoining properties and provide freedom of movement for local traffic.

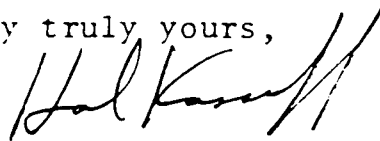
Although no area will be denied access to any other area, changes in actual travel patterns may occur. Local motorists will have a choice, in most instances, of using the limited access facility for part of their trip or of completing the entire trip on frontage roads. In either case, travel times for local trips will not be significantly affected.

Mrs. Joyce C. Smith
July 15, 1981
Page 3

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Again, I would like to express my appreciation for your review of this project and the comments that you have provided. They, along with the comments of other community organizations, are invaluable in our decision making process. I would also like to reiterate our interest in meeting with your Association to more fully discuss these concepts.

Very truly yours,



Hal Kassoff, Director
Office of Planning and
Preliminary Engineering

HK:bh

cc: Honorable Charles McC. Mathias, Jr.
Honorable Marjorie S. Holt
Honorable O. James Lighthizer
Honorable Wallace R. Childs
Mr. Edward H. Meehan
Mr. Wm. F. Schneider, Jr.

bcc: Mr. Charles Utermohle
Mr. Lew Frees

VII. LIST OF AGENCIES, ORGANIZATIONS AND OFFICIALS
TO WHOM COPIES OF THE DRAFT
STATEMENT WERE SENT

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VII. LIST OF AGENCIES, ORGANIZATIONS AND OFFICIALS
TO WHOM COPIES OF THE DRAFT
STATEMENT WERE SENT

FEDERAL AGENCIES

*State Conservationist
Soil Conservation Service
Room 522
4321 Hartwick Avenue
College Park, Maryland 20740

*Mr. Bruce Blanchard
Director, Office of Environmental Project Review
U.S. Department of the Interior
18th and C Streets, N.W.
Washington, D.C. 20242

*Environmental Protection Agency
Environmental Impact Statement Coordinator
Curtis Building 6th Floor
Sixth and Walnut Streets
Philadelphia, Pennsylvania 19106

*Regional Director
National Marine Fisheries Service
Federal Building
14 Elm Street
Gloucester, Massachusetts 01930

Mr. Larry Levine
Environmental Officer
Department of Housing and Urban Development
Curtis Building
Sixth and Walnut Street
Philadelphia, Pennsylvania 19106

Office of the Secretary
Department of Agriculture
Washington, D.C. 20250

Office of Economic Opportunity
Director
1200 - 19th Street, N.W.
Washington, D.C. 20506

*commented on DEIS

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Commander
U.S. Coast Guard, 5th District
431 Crawford Street
Portsmouth, Virginia 23703

*Commander
Corps of Engineers
Baltimore District
Box 1715
Baltimore, MD 21201
ATTN: NABOP-F

Division of NEPA Affairs
Department of Energy
Room 4G, 064
1000 Independence Avenue, S.W.
Washington, D.C. 20230

*Mr. Robert W. Harris
Chief, Transportation Planning
National Capital Planning Commission
1325 G Street, N.W.
Washington, D.C. 20576

Mr. Franz K. Gimmler
Region III, Director
UMTA
Suite 1010
434 Walnut Street
Philadelphia, Pennsylvania 19106

Associate Director for Planning
Management and Demonstration
Urban Mass Transit Administration
400 7th Street, S.W.
Washington, D.C. 20590

LOCAL GOVERNMENT AGENCIES

*Mrs. Florence B. Kurdle
Planning and Zoning Officer
Arundel Center
Annapolis, Maryland 21401

Mr. Les Wilkenson
Maryland-National Capital Park
and Planning Commission
Transportation Planning Division
14741 Governor Oden Bowie Drive
Upper Marlboro, Maryland 20870

*commented on DEIS

Mr. Anthony T. Ferrara
Director of Public Works
One Harry S. Truman Parkway
Annapolis, Maryland 21401

*Mr. Walter Scheiber
Metropolitan Washington COG
1875 Eye Street, N.W.
Washington, D.C. 20006

Mr. Vaughn E. Barkdoll
Director - Department of Public Works and Transportation
County Administration Building
Upper Marlboro, Maryland 20870

MARYLAND DEPARTMENT OF TRANSPORTATION

Director
Division of Public Affairs
Maryland Department of Transportation

Mr. Clyde E. Pyers, Director
Office of Transportation Planning
Maryland Department of Transportation

Mr. Larry Saben
Washington Regional Office
8720 Georgia Avenue - Suite 904
Silver Spring, Maryland 20910

STATE CLEARINGHOUSE

Local Governments

*Department of State Planning

*Department of Natural Resources

Department of Budget and Fiscal Planning

Department of General Services

Department of Economic and Community Development

Department of Education

*Department of Health and Mental Hygiene

Inter-agency Committee for School Construction

Maryland Environmental Trust

*Maryland Geological Survey

Department of Public Safety and Correctional Services

*Maryland Historical Trust

*commented on DEIS

VIII. LIST OF PREPARERS

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VIII. LIST OF PREPARERS

A. Federal Highway Administration

Mr. Roy Gingrich, P.E., District Engineer
Mr. Tony D'Eramo, Area Engineer
Ms. Kathleen Laffey, Environmental Specialist
Mr. William Sageman, Regional Environmental Engineer

B. State Highway Administration Personnel

Mr. Louis Ege, Chief, Environmental Management
Mr. Ronald Moon, Project Manager, Bureau of Project Planning
Mr. Neil Pedersen, Deputy Director, Office of Planning and
Preliminary Engineering

C. Kidde Consultants, Inc. Personnel (Consultant to SHA)

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The basic provisions under FHWA Process Guidelines (FHPM 7-7-1) require the States to have an interdisciplinary capability in addressing environmental concerns in planning and decision making. These FHWA requirements, which are implemented under State Environmental Action Plans, are generally considered sufficient to assure such FHWA compliance with the spirit of the National Environmental Policy Act and pertinent CEQ regulations.

IX. APPENDICES

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APPENDIX A

MARYLAND RECEIVING WATER QUALITY STANDARDS

(Code of Maryland Regulations, Title 8, Natural Resources, Subtitle 5 — Water Resources Administration, Chapter 4 — Water Pollution Control, Section .02; Adopted July 11, 1980)

A. Introduction.

(1) The receiving water quality standards consist of two parts: the designated uses of the waters involved, and the water quality criteria for the waters based upon these uses. Water quality criteria are numerical and descriptive limits for water constituents which are designed to protect designated uses of a body of water (for example, "dissolved oxygen may not be less than 4.0 mg/liter", or "no floating scum or debris").

(2) Sections B — H of this regulation define specific water use classes for Maryland surface (or receiving) waters and designate water quality criteria for each class. These sections also contain the State's anti-degradation policy required by U.S. Environmental Protection Agency regulation 40 CFR § 130.17 (1978) and other policies which apply to water quality standards. Section I, Classification of the Surface Waters of the State, assigns all Maryland receiving waters to a water use class.

B. Water Uses and Classes.

(1) Beneficial Water Uses.

(a) The Administration* will manage and regulate the waters of the State* to protect the following beneficial water uses:

- (i) Water contact recreation;
- (ii) Fish*, other aquatic life*, and wildlife;
- (iii) Shellfish harvesting;
- (iv) Public water supply;
- (v) Agricultural water supply; and
- (vi) Industrial water supply.

(b) The actual uses of water are not limited to those designated in this regulation. Any lawful and reasonable use is permitted provided that the receiving water quality standards are not adversely affected by it.

(2) Basic Water Use. All waters of the State shall be protected for the basic uses of water contact recreation, fish, other aquatic life, and wildlife. These uses compose Class I. Criteria for Class I Waters shall apply to all waters of the State unless contravened by more restrictive criteria for other specific classes. Criteria to protect Class I waters are sufficiently stringent to afford protection also for public water supply in fresh water areas (with treatment by filtration and disinfection), agricultural water supply, and industrial water supply. More restrictive criteria are established to protect shellfish harvesting waters*, natural trout waters*, and recreational trout waters*.

3. Specific Receiving Water Use Classes. The follow-

ing water use classes are established for the waters of the State. The concepts of suitability and capability for a water use as expressed in these classes are not based solely on existing conditions but include water uses to be made possible by anticipated improvements in water quality.

(a) class I: Water Contact Recreation and Aquatic Life. Waters which are suitable for:

- (i) Water contact sports;
- (ii) Play and leisure time activities where the human body may come in direct contact with the surface water; and
- (iii) The growth and propagation of fish (other than trout), other aquatic life, and wildlife.

(b) Class II: Shellfish Harvesting Waters. Waters where shellfish are propagated, stored, or gathered for marketing purposes, including actual or potential areas for the harvesting of oysters, softshell clams, hardshell clams, and brackish water clams.

(c) Class III: Natural Trout Waters. Waters which have the potential for or are:

- (i) Suitable for the growth and propagation of trout; and
 - (ii) Capable of supporting natural trout populations and their associated food organisms.
- (d) Class IV: Recreational Trout Waters, Cold or warm waters which have the potential for or are:
- (i) Capable of holding or supporting adult trout for put-and-take fishing; and
 - (ii) Managed as a special fishery by periodic stocking and seasonal catching.

(4) Actual Water use Not Limited. The actual use of water is not limited to the water use classes established by this regulation. Any lawful and reasonable use is permitted if the receiving water quality standards are not adversely affected.

C. General Water Quality Criteria. The waters of the State at all times shall be free from:

(1) Substances attributable to sewage*, industrial waste*, or other waste* that will settle to form sludge deposits that are unsightly, putrescent, or odorous to a degree as to create a nuisance, or that interfere directly or indirectly with water uses;

* The meaning of this term is described in Regulation 08.05.04.01 — Definitions, published at page 801:0501.

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(2) Floating debris, oil*, grease, scum, and other floating materials, attributable to sewage, industrial waste, or other waste in amounts sufficient to be unsightly to a degree as to create a nuisance, or that interfere directly or indirectly with water uses;

(3) Materials attributable to sewage, industrial waste, or other waste which produce taste, odor, or change the existing color or other physical and chemical conditions in the receiving waters* to a degree as to create a nuisance, or that interfere directly or indirectly with water uses; and

(4) High-temperature, toxic*, corrosive or other deleterious substances attributable to sewage, industrial waste, or other waste in concentrations or combinations which interfere directly or indirectly with water uses, or which are harmful to human, animal, plant, or aquatic life.

D. Specific Water Quality Criteria.

(1) Applicability. The following receiving water quality criteria are established for the classes indicated. These criteria shall apply during periods of flow greater than or equal to the 7-day, 10-year low flow. Where the waters of the State are or may be affected by discharges* from point sources*, these standards shall apply outside of any mixing zones which may be designated by the Administration. It is recognized that in some cases the natural* water quality of a stream segment may not be consistent with the criteria established for the stream. In these cases, it is not intended that these natural conditions constitute a violation of the water quality standards, or that the water quality to be maintained and achieved be substantially different from that which would occur naturally.

(2) Criteria for Class I Waters: Water Contact Recreation and Aquatic Life.

(a) Bacteriological. There may not be any sources of pathogenic or harmful organisms in sufficient quantities to constitute a public health hazard. A public health hazard will be presumed if the fecal coliform density exceeds a log mean of 200 per 100 ml, based on a minimum of not less than five samples taken over any 30-day period, or if 10 percent of the total number of samples taken during any 30-day period exceed 400 per 100 ml, unless a sanitary survey approved by the Department of Health and Mental Hygiene disclosed no significant health hazard.

(b) Dissolved Oxygen. The dissolved oxygen concentration shall be not less than 5.0 mg liter at any time.

(c) Temperature. For all discharges of heat, the maximum temperature outside the mixing zone determined in accordance with §F of this regulation or with Regulation .13 may not exceed 90°F (2°C) or ambient temperature of the receiving waters, whichever is greater. In addition, a discharge of heat may not create thermal barriers that adversely affect aquatic life.

(d) pH. Normal pH values may not be less than 6.5 or greater than 8.5.

(e) Turbidity. Turbidity may not exceed levels detrimental to aquatic life. Turbidity in the receiving water* resulting from any discharge may not exceed 150 NTU (Nephelometer Turbidity Units) at any time or 50 NTU as a monthly average. Note tht NTUs are

equivalent measures to FTUs (Formazin Turbidity Units) and JTUs (Jackson Turbidity Units).

(f) Toxic Materials. The toxic materials listed here may not exceed these designated limits at any time:

i) Polychlorinated Bisphenyls (PCB's) — .001 micrograms/liter;

(ii) Endrin — .004 micrograms/liter;

(iii) Toxaphene — .005 micrograms/liter;

(iv) DDT — .001 micrograms/liter;

(v) Benzidine — .1 micrograms/liter;

(vi) Aldrin-Dieldrin — .003 micrograms/liter;

(3) Criteria for Class II Waters: Shellfish Harvesting.

(a) Bacteriological. There may not be any sources of pathogenic or harmful organisms in sufficient quantities to constitute a public health hazard in the use of waters for shellfish harvesting. A public health hazard will be presumed whenever the most probable number (MPN) of fecal coliform* organisms exceeds a median concentration of 14 MPN per 100 ml or whenever more than 10 percent of samples taken exceed 43 MPN per 100 ml for a 5-tube decimal dilution test or 49 per 100 ml for a 3-tube decimal dilution test, unless a sanitary survey approved by the Department of Health and Mental Hygiene discloses no significant health hazard.

(b) Dissolved oxygen same as Class I waters.

(c) Temperature — same as Class I waters.

(d) pH — same as Class I waters.

(e) Turbidity — same as Class I waters.

(f) Toxic Materials — same as Class I waters.

(4) Bacteriological — same as Class I waters.

(b) Dissolved Oxygen. The dissolved oxygen concentration may not be less than 5.0 mg/liter at any time, with a minimum daily average of not less than 6.0 mg/liter.

(c) Temperature. For all discharges of heat, the maximum temperature outside the mixing zone determined in accordance with §F of this regulation or with Regulation .13 may not exceed 68°F (20°C) or ambient temperature of the receiving waters, whichever is greater. In addition, a discharge of heat may not create thermal barriers* that adversely affect aquatic life.

(d) pH — same as Class I waters.

(e) Turbidity — same as Class I waters.

(f) Total residual Chlorine. Total residual chlorine concentrations shall be less than .002 mg/liter.

(g) Toxic Materials — same as Class I waters.

(5) Criteria for Class IV Waters: Recreational Trout Waters.

(a) Bacteriological — same as Class I waters.

(b) Dissolved oxygen — same as Class I waters.

(c) Temperature. For all discharges of heat, the maximum temperature outside the mixing zone determined in accordance with §F of this regulation or with Regulation .13 may not exceed 75°F (23.9°C) or ambient temperature of the receiving waters, whichever is greater. In addition, a discharge of heat may not create thermal barriers* that adversely affect aquatic life.

(d) pH — same as Class I waters.

(e) Turbidity — same as Class I waters.

(f) Total Residual Chlorine — same as Class III waters.

(g) Toxic Materials — same as Class I waters.

E. Anti-Degradation Policy.

(1) It is recognized that certain waters of the State possess an existing quality which is better than the water quality standards established for them. The quality of these waters shall be maintained unless and until it has been demonstrated to the satisfaction of the Administration that a change is justifiable as a result of necessary economic or social development and will not diminish uses made of or presently possible in these waters. To accomplish this objective, all proposed new or increased sources* of pollution* are required to provide the degree of waste treatment necessary to maintain these waters at this higher quality.

(2) The Administration will discourage downgrading any stream from a water use class with more stringent criteria to one with less stringent criteria. Downgrading may only be considered if:

(a) The designated use is not attainable because of natural causes;

(b) The designated use is not attainable because of irretrievable man-induced conditions; or

(c) Substantial and widespread adverse social and economic impacts will result from maintaining the designated use. Before downgrading any stream, the Administration will provide public notice and opportunity for a public hearing on the proposed change.

(3) Water which does not meet the standards established for it shall be improved to meet the standards.

F. Mixing Zone Policy.

(1) Mixing zones are areas which are allowed for mixing of effluent waters with the receiving water. They are not considered to be areas where effluents are treated. The waters outside of the zones shall meet the standards for the particular body of water.

(2) The Administration may designate mixing zones by regulation or in individual permits, or allow for mixing zones in the determination of effluent limitations in individual permits, subject to the following requirements:

(a) There shall be no interference with biological communities or populations of indigenous species to a degree which is damaging to the aquatic life or ecosystem;

(b) There shall be no diminishing of other legitimate beneficial uses;

(c) Mixing zones may not form barriers to the migratory routes of aquatic life;

(d) Mixing zones shall be designated and located to protect surface waters and shallow-water shoreline areas;

(e) The criteria of §C apply within mixing zones.

(3) A mixing zone is not permitted for toxic materials identified in §D(2)(f) of this regulation.

(4) Mixing zones which are not determined in accordance with Regulation .13 shall be subject to the following size restrictions. These restrictions are not intended to define individual effluent mixing zones, but will set maximum limits within which most biological and

physical considerations will be satisfied in designating a particular mixing zone.

(a) In freshwater streams and rivers, a mixing zone width may not exceed one-third of the width of the receiving water body.

(b) In lakes, the combined area of all mixing zones may not exceed 10 percent of the lake surface area.

(c) In estuarine areas, the maximum cross-sectional area of the mixing zone may not exceed 10 percent of the cross-sectional area of the receiving water body.

G. Intermittent Stream Policy.

(1) Discharges to intermittent streams are not permitted when feasible alternatives are available.

(2) Effluent limitations* for discharges to specific intermittent streams may be determined by the Administration on a case-by-case basis. The effluent limitations may not be less stringent than:

(a) The minimum national effluent guidelines established pursuant to the Federal Water Pollution Control Act, as amended;

(b) Those levels necessary to maintain the water quality standards of downstream segments; or

(c) Those levels necessary to protect the biological community of the intermittent stream.

H. Review and Revision.

(1) Procedure. Pursuant to State law and to §303(c) of the Federal Water Pollution Control Act, as amended, and to 40 CFR 130.17(a), the Administration shall review and revise its water quality standards as appropriate and transmit changes to the U.S. Environmental Protection Agency.

(2) Hearing Transcripts. Transcripts of public hearing on proposed standards revisions shall be available for public inspection in the main office of the Administration and shall be furnished to the U.S. Environmental Protection Agency upon request.

I. Classification of the Surface Waters of the State.

(1) All surface waters of the State shall be protected for use in water contact recreation, for fish, other aquatic life, and wildlife (Class 1).

(2) For interstate waters those classifications apply only to those waters within the State.

(3) A stream segment is a distinct portion of a sub-basin.

(4) If the stream segment limits are specified as beginning at a specific point, streams terminating downstream of this point are not included in the same segment. For example "Deer Creek and all tributaries above Eden Mill Dam" does not include Little Deer Creek.

(5) Listed below, in tabular form by sub-basin, are those stream segments which shall be given the additional protection required for the uses of shellfish harvesting (Class II), natural trout (Class III), and recreational trout (Class IV). For each sub-basin, information is arranged under the following headings:

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(k) SUB-BASIN 02-13-10: WEST CHESAPEAKE BAY AREA

Class	Waters	MCGS	Limits
Class II:			
All estuarine portions of tributaries except:			
(i)	Magothy River and tributaries	936.9 455	Above Henderson Point
(ii)	Severn River and tributaries	920.6 451	Above mouth of Forked Creek
(iii)	South River and tributaries	918.8 410.1	Above Pointer Point
(iv)	Rockhold Creek and tributaries	925.7 315.8	Above Mason Beach Road
(v)	Tracys Creek	924.5 344.2	Above Route #256 Class III:
	Jabez Branch and all tributaries	905 455	
Class IV:			
	Severn Run and all tributaries	907.3 454.1	Above Route #3

(l) SUB-BASIN 02-13-11: PATUXENT RIVER AREA

Class	Waters	MCGS	Limits
Class II:			
All estuarine portions of tributaries except:			
	Patuxent River and tributaries	886.8 316.3	Above Ferry Landing
Class III:			
	Patuxent River and tributaries	787.2510.7	Above Tridelphia Reservior
Class IV:			
	Patuxent River and all tributaries	813.2 476.8	Between Rocky Gorqe Reservior and Tridelphia Reservior and including Tridelphia Reservior

(m) SUB-BASIN 02-14-01: LOWER POTOMAC RIVER AREA

Class	Waters	MCGS	Limits Class II:
All estuarine portions of tributaries except:			
	Potomac River and tributaries	From 723.8 211.8 to	Above line from Smith Point to
		710.9 205.3	Simms Point
Class III: None			
Class IV: None			

APPENDIX B

WATER QUALITY FOR THE STUDY CORRIDOR

I.D. Number	Location of Sampling Station	Dates Sampled		Water Temp. °C.	Dissolved Oxygen Mg/L	BOD Mg/L ⁵	Specific Conductance (Micromhos)	Field pH	Turbidity (FTU)	Total Phosphates (Mg/LP)
PXT0632	Patuxent River at Md. Rte. 3 Bridge. (River Mile 63.2)	1967	Minimum	9.9	4.0	0.5	152	6.7	6.0	0.34
			to Maximum	25.8	6.8	40.0	204	7.8	40.0	1.56
		1977	Mean	21.9	5.4	8.4	187	6.9	14.7	0.95
			Count	23	23	22	9	20	9	9
PXT0634	Patuxent River above confluence with the Little Patuxent (River Mile 63.4)	1966	Minimum	2.5	1.8	0.5	122	6.3	6.5	0.17
			to Maximum	25.1	10.8	38.0	280	7.7	370.0	3.06
		1977	Mean	19.0	5.2	9.9	187	6.8	36.2	1.64
			Count	38	38	37	22	31	23	10
PXT0642	Patuxent River above Bowie Belair STP (River Mile 64.2)	1968	Minimum	21.5	4.6	0.5	--	6.4	6.6	0.37
			Maximum	25.0	6.1	19.0	--	6.8	46.0	1.14
			Mean	23.3	5.5	5.0	--	6.6	25.5	0.68
			Count	12	12	12	0	11	3	5
LXT0000	Little Patuxent River, above confluence with Patuxent River	1966	Minimum	1.8	4.0	0.5	95	6.5	3.0	0.37
			to Maximum	25.7	12.5	40.0	260	7.7	440.0	1.53
		1977	Mean	18.9	6.6	6.9	133	6.6	39.2	1.07
			Count	39	39	35	24	35	22	12

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APPENDIX B
WATER QUALITY FOR THE STUDY CORRIDOR (CONTINUED)

I.D. Number	Location of Sampling Station	Dates Sampled		Water Temp. °C.	Dissolved Oxygen Mg/L	BOD Mg/L ⁵	Specific Conductance (Micromhos)	Field pH	Turbidity (FTU)	Total Phosphates (Mg/LP)
LXT0032	Little Patuxent River at Md. Rt. 424 Bridge	1967	Minimum	10.0	4.6	3.4	110	6.3	2.5	0.31
			to Maximum	27.0	9.3	37.0	233	7.7	230.0	1.14
		1976	Mean	22.4	6.3	10.8	178	7.0	28.9	0.77
			Count	24	25	23	13	21	11	10
LXT0033	Little Patuxent River above confluence with Towsers Branch	1966	Minimum	0.7	3.8	3.1	94	6.6	6	--
			to Maximum	24.0	12.9	9.1	255	7.5	420	--
			Mean	12.0	9.0	5.8	148	7.3	47	--
		Count	12	12	12	11	12	12	0	
TOS0020	Towsers Branch at Waugh Chapel Road	1967	Minimum	8.5	3.9	2.6	116	6.3	6.5	0.31
			to Maximum	27.0	9.5	26.0	124	7.2	23.0	0.40
		1968	Mean	18.4	6.5	8.5	121	6.9	11.8	0.37
			Count	8	7	8	3	8	--	5
JAB0000	Jabex Branch at confluence with Severn Run	16 Oct. 1973	One Sample	15.0	9.7	--	--	6.9	22 (JTU)	--

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APPENDIX B
WATER QUALITY FOR THE STUDY CORRIDOR (CONTINUED)

I.D. Number	Dates Sampled		Organic Nitrogen (Mg/LN)	Ammonia (Mg/LN)	Nitrate N ₂₃	Nitrate NO ₂ (Mg/LN)	Inorganic Nitrogen	Total Coliforms MPN/100 ml	Fecal Coliforms MPN/100 ml	Suspended Solids Mg/L
PXT0632	1967	Minimum	0.60	0.25	2.50	0.30	2.5	93	43	10
	to	Maximum	1.74	0.63	2.50	0.30	3.5	110,000	46,000	20
	1977	Mean	1.12	0.42	2.50	0.30	2.8	25,771	7,908	13
		Count	4	4	1	1	3	9	9	6
PXT0634	1966	Minimum	0.48	0.34	2.00	0.186	1.9	230	9	4
	to	Maximum	1.17	0.83	3.02	0.186	4.7	240,000	46,000	260
	1977	Mean	0.90	0.68	2.51	0.186	2.7	14,725	2,999	36.8
		Count	4	4	2	1	4	21	21	20
PXT0642	1968	Minimum	--	--	--	--	1.5	2,300	430	--
		Maximum	--	--	--	--	2.7	240,000	46,000	--
		Mean	--	--	--	--	2.1	88,766	16,910	--
		Count	0	0	0	0	3	3	3	0
LXT0000	1966	Minimum	0.68	0.06	2.00	0.279	0.3	120	4	3
	to	Maximum	1.85	1.15	2.83	0.375	3.8	460,000	46,000	332
	1977	Mean	0.95	0.65	2.32	0.311	1.85	41,419	3,395	37
		Count	6	6	4	3	4	22	22	21

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APPENDIX B
WATER QUALITY FOR THE STUDY CORRIDOR (CONTINUED)

I. D. Number	Dates Sampled		Organic		Nitrate	Nitrate	Inorganic Nitrogen	Total	Fecal	Suspended
			Nitrogen (Mg/LN)	Ammonia (Mg/LN)	N ₂₃	NO ₂ (Mg/LN)		Coliforms MPN/100 ml	Coliforms MPN/100 ml	Solids Mg/L
LXT0032	1967	Minimum	0.59	0.25	2.43	0.279	2.6	210	75	4
	to	Maximum	2.17	0.89	2.53	0.300	4.1	110,000	46,000	220
	1976	Mean	1.12	0.52	2.48	0.289	3.3	17,271	7,682	37
		Count	4	5	2	2	4	11	11	8
LXT0033	1966	Minimum	--	--	--	--	--	93	4	4
		Maximum	--	--	--	--	--	240,000	9,300	1,048
		Mean	--	--	--	--	--	24,650	1,065	107
		Count	0	0	0	0	0	12	12	12
TOS0020	1967	Minimum	0.56	0.59	--	--	4.0	4,300	4,300	7
	to	Maximum	0.91	0.79	--	--	5.2	93,000	93,000	13
	1968	Mean	0.73	0.67	--	--	4.6	55,860	36,846	10
		Count	2	2	0	0	2	5	5	3
JAB0000	16 Oct. 1973	One Sample	--	--	--	--	--	--	--	1

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APPENDIX C

"SUMMARY OF THE RELOCATION ASSISTANCE PROGRAM OF THE
STATE HIGHWAY ADMINISTRATION OF MARYLAND"

All State Highway Administration projects must comply with the provisions of the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" (Public Law 91-646) and/or the Annotated Code of Maryland, Real Property, Title 12, Subtitle 2, Sections 12-201 thru 12-212. The Maryland Department of Transportation, State Highway Administration, Bureau of Relocation Assistance, administers the Relocation Assistance Program in the State of Maryland.

The provisions of the Federal and State Law require the State Highway Administration to provide payments and services to persons displaced by a public project. The payments that are provided include replacement housing payments and/or moving costs. The maximum limits of the replacement housing payments are \$15,000 for owner occupants and \$4,000 for tenant occupants. In addition, but within the above limits, certain payments may be made for increased mortgage interest costs and/or incidental expenses. In order to receive these payments, the displaced person must occupy decent, safe and sanitary replacement housing. In addition to the replacement housing payments described above, there are also non-profit organizations. Actual moving costs for residences include actual moving costs up to 50 miles or a schedule moving cost payment, including a dislocation allowance, up to \$500.

The moving cost payments to businesses are broken down into several categories, which include actual moving expenses and payments "in lieu of" actual moving expenses. The owner of a displaced business is entitled to receive a payment for actual reasonable moving and related expenses in moving his business, or personal property; actual direct losses of tangible personal property; and actual reasonable expenses for searching for a replacement site.

The actual reasonable moving expenses may be paid for a move by a commercial mover or for a self-move. Generally, payments for the actual reasonable moving expenses are limited to a 50 mile radius. In both cases, the expenses must be supported by receipted bills. An inventory of the items to be moved must be prepared, and estimates of the cost may be obtained. The owner may be paid an amount equal to the low bid or estimate. In some circumstances, the State may negotiate an amount not to exceed the lower of the two bids. The allowable expenses of a self-move may include amounts paid for equipment

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hired, the cost of using the business's vehicles or equipment, wages paid to persons who physically participate in the move, and the cost of the actual supervision of the move.

When personal property of a displaced business is of low value and high bulk, and the estimated cost of moving would be disproportionate in relation to the value, the State may negotiate for an amount not to exceed the difference between the cost of replacement and the amount that could be realized from the sale of the personal property.

In addition to the actual moving expenses mentioned above, the displaced business is entitled to receive a payment for the actual direct losses of tangible personal property that the business is entitled to relocate but elects not to move. These payments may only be made after an effort by the owner to sell the personal property involved. The costs of the sale are also reimbursable moving expenses. If the business is to be re-established, and personal property is not moved but is replaced at the new location, the payment would be the lesser of the replacement costs minus the net proceeds of the sale or the estimated cost of moving the item. If the business is being discontinued or the item is not to be replaced in the re-established business, the payment will be the lesser of the difference between the value of the item for continued use in place and the net proceeds of the sale or the estimated cost of moving the item.

If no offer is received for the personal property and the property is abandoned, the owner is entitled to receive the lesser of the value for continued use of the item in place or the estimated cost of moving the item and the reasonable expenses of the sale. When personal property is abandoned without an effort by the owner to dispose of the property by sale, the owner will not be entitled to moving expenses, or losses for the item involved.

The owner of a displaced business may be reimbursed for the actual reasonable expenses in searching for a replacement business up to \$500. All expenses must be supported by receipted bills. Time spent in the actual search may be reimbursed on an hourly basis, but such rate may not exceed \$10 per hour.

In lieu of the payments described above, the State may determine that the owner of a displaced business is eligible to receive a payment equal to the average annual net earnings of the business. Such payment shall not be less than \$2,500 nor more than \$10,000. In order to be entitled to this payment, the State must determine that the business cannot be relocated without a

substantial loss of its existing patronage, the business is not part of a commercial enterprise having at least one other establishment in the same or similar business that is not being acquired, and the business contributes materially to the income of a displaced owner.

Considerations in the State's determination of loss of existing patronage are the type of business conducted by the displaced business and the nature of the clientele. The relative importance of the present and proposed locations to the displaced business, and the availability of suitable replacement sites are also factors.

In order to determine the amount of the "in lieu of" moving expenses payment, the average annual net earnings of the business is considered to be one-half of the net earnings before taxes, during the two taxable years immediately preceding the taxable year in which the business is relocated. If the two taxable years are not representative, the State, with approval of the Federal Highway Administration, may use another two-year period that would be more representative. Average annual net earnings include any compensation paid by the business to the owner, his spouse, or his dependents during the period. Should a business be in operation less than two years, but for twelve consecutive months during the two taxable years prior to the taxable year in which it is required to relocate, the owner of the business is eligible to receive the "in lieu of" payment. In all cases, the owner of the business must provide information to support its net earnings, such as income tax returns, for the tax years in question.

For displaced farms and non-profit organizations, actual reasonable moving cost generally up to 50 miles, actually direct losses of tangible personal property, and searching costs are paid. The "in lieu of" actual moving cost payments provide that the State may determine that a displaced farm may be paid a minimum of \$2,500 to a maximum of \$10,000 based upon the net income of the farm, provided that the farm has been discontinued or relocated. In some cases, payments "in lieu of" actual moving costs may be made to farm operations that are affected by a partial acquisition. A non-profit organization is eligible to receive "in lieu of" actual moving cost payments, in the amount of \$2,500.

A more detailed explanation of the benefits and payments available to displaced persons, businesses, farms, and non-profit organizations is available in Relocation Brochures that will be distributed at the public hearings for

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this project and will also be given to displaced persons individually in the future.

In the event comparable replacement housing is not available to rehouse persons displaced by public projects or that available replacement housing is beyond their financial means, replacement "housing as a last resort" will be utilized to accomplish the rehousing. Detailed studies will be completed by the State Highway Administration and approved by the Federal Highway Administration before "housing as a last resort" could be provided to displaced persons in several different ways although not limited to the following:

1. An improved property can be purchased or leased.
2. Dwelling units can be rehabilitated and purchased or leased.
3. New dwelling units can be constructed.
4. State acquired dwellings can be relocated, rehabilitated, and purchased or leased.

Any of these methods could be utilized by the State Highway Administration and such housing would be made available to displaced persons. In addition to the above procedure, individual replacement housing payments can be increased beyond the statutory limits in order to allow a displaced person to purchase or rent a dwelling unit that is within his financial means.

The "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" requires that the State Highway Administration shall not proceed with any phase of any project which will cause the relocation of any person, or proceed with any construction project until it has furnished satisfactory assurances that the above payments will be provided and that all displaced persons will be satisfactorily relocated to comparable decent, safe and sanitary housing within their financial means or that such housing is in place and has been made available to the displaced person.

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APPENDIX D

DESIGN CRITERIA

FOR

SELECTED ACTION

(ALTERNATE 7 MODIFIED)

The design of the Selected Action is based on a 70 mph design speed and is in accordance with the current State Highway Administration design criteria. Engineering and safety practices recommended by the American Association of State Highway and Transportation Officials (AASHTO) have been incorporated into the design of the Selected Action. Maximum grade will be 3.62%, maximum degree of curve will be 1045" with a maximum rate of superelevation of 0.065 ft/ft.

Widening the existing roadways will be accomplished by constructing additional lanes in the median and/or on the outside of existing pavements. Where the resulting median width has been reduced to 30 feet or less, median construction will consist of full width paved shoulders and a double-faced concrete barrier to separate opposing traffic. Paved median shoulders, 10 feet in width, will be constructed where the median is greater than 30 feet. Paved shoulders 10 feet in width will also be provided along the right sides of the roadways with an additional 24 feet graded on flat slopes (i.e. 10:1 for 20 feet plus 10:1 to 4:1 for 4 feet) to provide a 34 foot safety recovery area. In some areas, this recovery area is less than 34 feet due to right-of-way restrictions. In these areas, guard rail is provided.

The interstate highway will be fenced adequately and lighting will be provided at interchanges as and where required.

Interchange Ramps

Ramps proposed for construction with the U.S. Route 50/301 interchanges will be in accordance with AASHTO requirements and will have the following major design features:

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Inner Loops -

- Design Speed - 30 miles per hour minimum
- Ramp Width - Per AASHTO requirements, 16 foot minimum
- Paved Shoulders - 10 foot shoulder on left, curb on right
- Vehicle Recovery Area - Total of 30 feet left side

Diamond Ramps -

- Design Speed - Variable 60-40 mph; 60 mph if interstate
- Ramp Width - Per AASHTO requirements, 15 foot minimum
- Paved Shoulders - 10' wide on right, 4' wide on left
 - (Radii > 450')
 - 10' wide on left, curb on right
 - (Radii < 450')
- Vehicle Recovery Area - Total of 30 feet including paved shoulder

Directional Ramps

- Design Speed - 60 miles per hour desirable, 40 mph minimum
- Ramp Width - Per AASHTO requirements, 15 foot minimum
- Paved Shoulders - 10 foot wide on right, 4 foot wide on left
- Vehicle Recovery Area - Total of 30 feet including paved shoulder

Design of ramp terminals on interstate roads will be based on the State Highway Administration standards for acceleration and deceleration lanes. Ramp terminals on other roadway will be based on AASHTO requirements.

Intersecting Roadways

Design requirements and typical section will vary for each intersecting road; however, the improvements will be based on AASHTO requirements and State and/or County standards. The improvements for the intersecting roads are outlined in the detailed description of the Selected Action. The horizontal and vertical geometry for all State and County roads will be based on a minimum 50 mile per hour design speed, unless otherwise noted in the detailed description.

Frontage Roads

Frontage roads planned will have a minimum of 2 travel lanes (24' pavement) with two-way operation. The design will be in accordance with AASHTO requirements and State Highway Administration standards.

Bridge Structures

Bridge structures will be designed to accommodate HS 20 loading. They will be in accordance with the standards of the State Highway Administration and will conform to current AASHTO and AREA Specifications. Structure widths and clearances will be based on the following:

Structure Width -

- Freeways and Ramps - Ultimate roadway width plus shoulders
- Intersecting Roads - As required by State and County standards.

Horizontal Clearance -

Freeways and Directions Ramps - 30 feet where continuous concrete traffic barriers are required, piers may be at back of barrier, i.e. 14' offset from edge of roadway to pier and/or abutment.

Outer Ramps - 30 feet where continual concrete traffic barriers are required, piers may be at back of barrier, i.e. 14' offset from edge of roadway to pier.

Intersecting Roads - Distance required by AASHTO, State and County Standards.

Vertical Clearance -

- Freeway and Ramps - 16' - 9" minimum - overpass
- Intersecting State Road - 16' - 9" minimum - overpass
- Intersecting County Roads - 15' - 0" minimum - underpass

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Maintenance of Traffic and Utility Services

Vehicular and pedestrian traffic will be maintained at all times during the construction of temporary roadways, or use of existing roads to detour traffic around a construction site, or by utilizing existing roads, where a widening or relocation is proposed.

Interruptions to utility services during the construction period will be kept to minimum, by exercising care and protection for facilities not directly affected by the project, and by the construction of utility relocations where necessary.

Note:

Dimensions of all roadways, shoulders, medians, safety grading widths, etc. indicated herein are for the purpose of determining cost estimates and environmental impacts, and are subject to change during the final design phase.

APPENDIX E
GLOSSARY OF TERMS

Access Control - Full control of access involves complete restriction of access to a through highway except at interchanges. This is accomplished by prohibiting at-grade crossings or private driveway connections. Partial control of access means that preference is given to the thru road to the degree that, in addition to access connections with selected public roads, there may be some crossings at grade and some driveway connections.

Alluvial - Deposited by running water.

Ambient - Surrounding environmental state; as in air temperature, noise, etc.

Aquifer - A permeable, underground geological formation through which ground-water flows.

Average Daily Traffic (ADT) - The total number of vehicles passing a given point in both directions during an average day (total number of vehicles divided by the number of days in the sample period).

Backwater - The accumulation of stormwater resulting from and held back by an obstruction.

Benthic Invertebrates - Aquatic organisms which lack spines or internal skeletons and that live at the bottom of a body of water.

Bifurcate - A condition where the two roadways of a divided highway have different vertical or horizontal alignments.

Canopy - Trees or large shrubs with an umbrella-like structure.

Closed Section - A typical highway cross section which provides curbs on both outside edges; usually used for stormwater drainage instead of open ditches.

Collector-Distributor Road - An auxiliary one-way roadway separated laterally but generally parallel to and connecting with the freeway. The purpose of a C-D road is to eliminate weaving on the freeway by providing a secondary access roadway apart from the thru freeway.

Design Hour - The peak traffic hour.

Directional Split - The average percentage of vehicles traveling in a particular direction on a two-way roadway.

Diurnal - Daily cycle of traffic volumes by hour.

Ecology - The study of the interrelationship between organisms and their environment.

Evapotranspiration - Transfer of water from the earth's surface to the atmosphere by evaporation from lakes, streams, and soil surfaces and by transpiration from plants.

Fauna - Animals

Flora - Plants

Freeway - A divided highway for thru traffic with full control of access.

Frontage Road - A local roadway located on the side of a freeway for service to abutting property and adjacent areas and for control of access.

Glauconite - A type of clay material.

Habitat - The environment in which plants and animals live.

Headwater - Depth of water at a drainage structure which produces the energy to convey the discharge through the structure.

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Herbaceous - A plant with little or no woody tissue.

High Occupancy Vehicle - A carpool, vanpool or transit bus.

Igneous - Rocks that have been formed from a molten mass.

Leachate - The removal of soluble material from rocks by the percolating action of water.

Loam - A soil mixture comprised for silt, sand, clay and humus.

Metamorphic - Rocks formed from existing solid rocks by extreme changes in temperature, pressure and shearing stress.

Natural Climax - A community of organisms that has reached equilibrium with the environment and forms the final stage in the natural succession.

Open Section - A typical highway cross section which provides drainage via open channels located on both outside edges.

Particulates - Fine solid particles which remain suspended in gases and emissions.

Platoon - A group of vehicles which travel together on a highway due to signal timing and speed restrictions.

Queue - A waiting line of vehicles, usually stopped at a signal.

Reversible Lanes - Roadways that have been reserved for reverse flow; usually used on facilities where heavy commuter usage creates unbalanced directional splits during the morning and evening peak traffic periods.

Service Road - A roadway auxiliary to a freeway which serves the same function as a frontage road but that can be oriented radially from the freeway.

Tailwater - The depth of water at the outlet end of a drainage structure.

Turbidity - Cloudy or hazy appearance of water caused by suspended solids or colloidal liquids.

Understory - The lower layer of trees in a woodland area.

Weir Flow - The regulated flow of water over a dam or obstruction.

Wetland - An area covered permanently or periodically by water. These areas usually provide habitat for either submerged or emergent aquatic plants.

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X. INDEX

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X. INDEX

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