

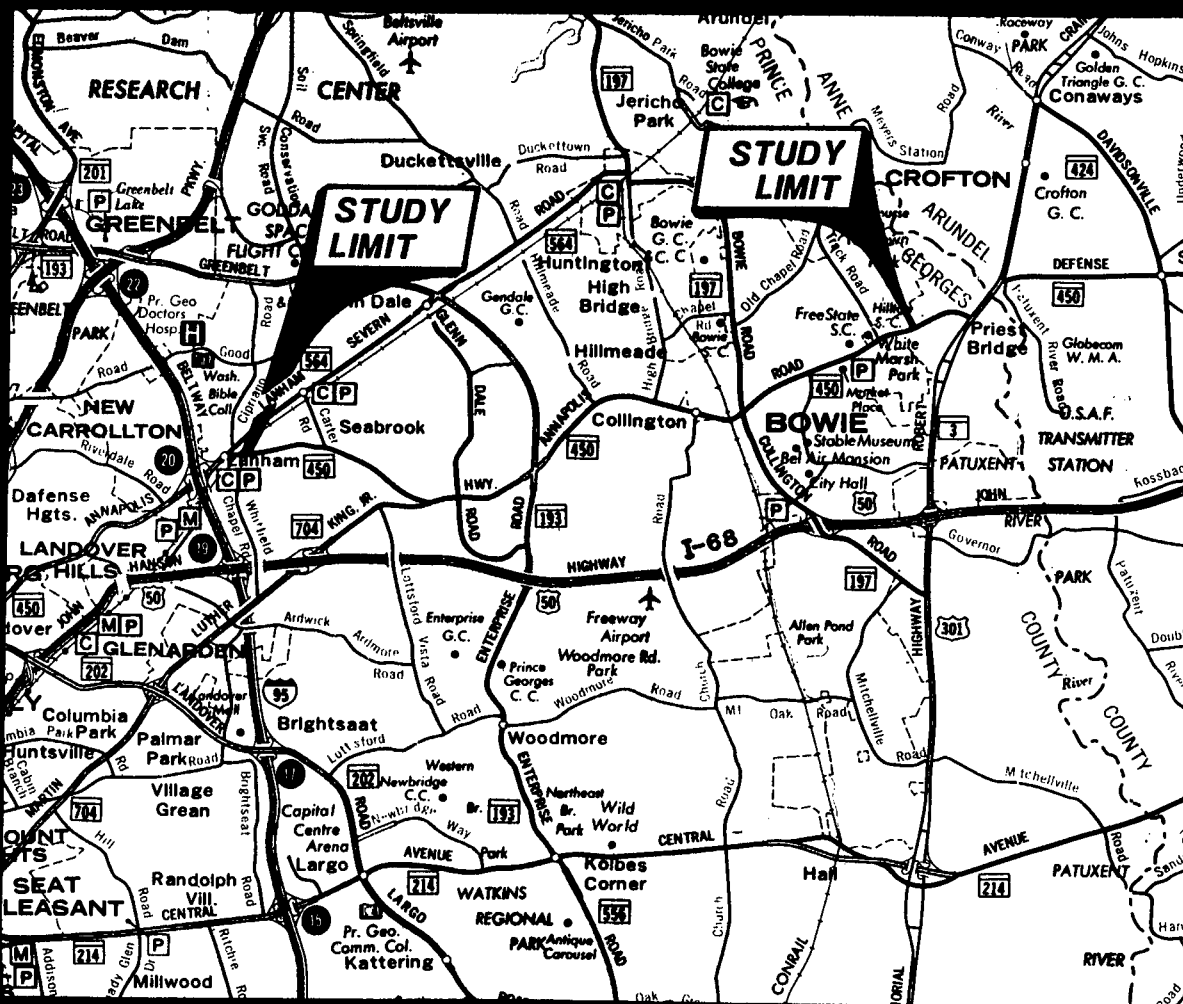
ENVIRONMENTAL ASSESSMENT

Section 4(f) Evaluation

For
CONTRACT NO. P 844-101-371

MARYLAND ROUTE 450

WHITFIELD CHAPEL ROAD
TO WEST OF MARYLAND ROUTE 3
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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Report Number: FHWA-MD-EA-88-04-D

Federal Highway Administration
Region III

Maryland Route 450
from Whitfield Chapel Road
to West of Maryland Route 3
Prince George's County

ADMINISTRATIVE ACTION

ENVIRONMENTAL ASSESSMENT
SECTION 4(f) EVALUATION

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

SUBMITTED PURSUANT TO: 42 U.S.C. 4332(2) (C) 16 U.S.C. 470(f), 23 CFR
771, 23 U.S.C. 28(a) and CEQ REGULATIONS (40 CFR 1500 et seq)

HAL KASSOFF
ADMINISTRATOR

12/15/88

Date

Neil J. Pedersen

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

12/23/88

Date

George K. Fick Jr.

Federal Highway Administration
Division Administrator

SUMMARY

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SUMMARY

1. Administrative Action

- () Environmental Impact Statement
- (X) Environmental Assessment
- () Finding of No Significant Impact
- (X) Section 4(f) Evaluation

2. Additional Information

Additional information concerning this project may be obtained by contacting:

Mr. Louis H. Ege, Jr.
Deputy Director
Project Development Division
Room 506
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202
PHONE: (301) 333-1130
HOURS: 8:15 am - 4:15 pm

Mr. Herman Rodrigo
Planning, Research,
Environment and Safety Engineer
Federal Highway Administration
The Rotunda - Suite 220
711 West 40th Street
Baltimore, Maryland 21211
PHONE: (301) 962-4010
HOURS: 7:30 am - 4:00 pm

3. Description of Proposed Action

The proposed project consists of the widening and improvement of Maryland Route 450 from Whitfield Chapel Road at Lanham to approximately 3000' west of Maryland Route 3 at the City of Bowie, a distance of approximately 8.5 miles. Included within the project scope is a 0.60 mile long portion of Maryland Route 704 in the vicinity of Maryland Route 450 and a 0.50 mile long portion of Maryland Route 197 in the vicinity of Relocated Maryland Route 450 in Bowie. The improved roadway would continue to serve the dual roles of carrying through traffic and providing access to adjacent properties while providing improved transportation system continuity, safety, travel efficiency and adequate capacity for the Maryland Route 450 corridor through the design year 2015.

4. Alternates Description

The No-Build Alternate and two Build Alternates for the improvement of Maryland Route 450 were selected for detailed studies. In addition, options for the improvement of Maryland Route 704 and Maryland Route 197 in the vicinity of their respective intersections with Maryland Route 450 were also evaluated. Since the Maryland Route 450 Build Alternates consist of a relocated alignment from Highbridge Road to Moylan/Trinity Drives, options for the disposition of existing Maryland Route 450 in this area were developed.

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a. No-Build Alternate

This alternate would provide no major improvements or construction to the existing roadway that would measurably affect the ability of the highway to accommodate increased traffic volumes predicted for the design year 2015. Normal maintenance, such as shoulder modifications, signing, resurfacing, and safety improvements would be completed as warranted but capacity would not be increased.

One such safety improvement which is being studied is the removal of the bridge over the abandoned W.B. & A. Railroad and reconstruction of the roadway on an improved grade to increase sight distance.

b. Maryland Route 450 Build Alternates

The Build Alternates for Maryland Route 450 consist, with minor exceptions, of typical section alternates basically along one horizontal and vertical alignment. (See Figure 11 for areas in which each typical section is proposed.) The horizontal alignment closely follows the existing roadway utilizing established right-of-way reservations and dedications wherever feasible. The proposed vertical alignment is a substantial improvement over the existing in order to meet the 50 mph design speed criteria. A multi-use trail is proposed parallel to the new alignment for the entire length of the project. Accommodation would be provided for a grade-separated trail crossing at Lottsford Branch.

Planned for construction in advance of and as a first stage to the State Highway Administration's ultimate improvement is the Prince George's County project from Maryland Route 193 to Moylan/Trinity Drives. The County, as an agent of the State Highway Administration, would construct beginning in FY 1991 a 4-lane divided highway (20 foot median) just south of the existing roadway between Maryland Route 193 and Highbridge Road and along a northern relocation alignment between Highbridge Road and Moylan/Trinity Drives. The State Highway Administration would construct a staged transitional improvement from Moylan/Trinity Drives to Stonybrook/Millstream Drives.

4-Lane Divided Alternate

The 4-Lane Divided Alternate is comprised of two different typical sections.

The 4-lane Divided Urban section is suggested for application to the urbanized portions of the project area: from Whitfield Chapel Road to east of Seabrook Road and from Moylan/Trinity Drives to Race Track Road. The section consists of two 28' wide roadways, curbed on both sides, separated by a 20' wide raised median.

The 4-lane Divided Rural section could best apply to the currently more rural portions of the project area: from east of Seabrook Road to Moylan/Trinity Drives and from east of Race Track Road to the eastern project limit, 3000'+ west of Maryland Route 3. This section consists of two 26' wide roadways with 10' wide paved outer shoulders and open section grading outside each roadway. A 20' wide raised median separates the roadways.

As stated above, Prince George's County would construct all improvements under the 4-lane Divided Alternate between Maryland Route 193 and Moylan/Trinity Drives.

6-Lane Divided Alternate

This alternate would ultimately provide the potential for expansion to an improvement consisting of three through lanes (plus auxiliary lanes) in each direction on Maryland Route 450 throughout the project area.

Based upon the corridor's mixture of currently urban and rural segments and varying capacity requirements for year 2015 traffic, a construction staging arrangement consisting of three different typical sections comprise the 6-Lane Divided Alternate. The typical sections and segments where they are most likely to apply are as follows:

- The 48' Median Urban typical section consists of two 26' wide roadways, with curbing and sidewalks/utility areas outside each roadway, and a 48' wide depressed median. Provision is made in the median for future fifth and sixth lanes. This typical section could be best applied from Whitfield Chapel Road to Seabrook Road, and from Moylan/Trinity Drives to Superior Lane.
- The 20' Median Rural typical section consists of two 26' wide roadways, separated by a 20' wide raised median. A 10' wide shoulder would be located outside each roadway where the provision for future fifth and sixth lanes is made. This section is identical to the 4-lane Divided Rural section. This typical section could be best applied from Seabrook Road to Maryland Route 704 and from east of Maryland Route 197 to Moylan/Trinity Drives.
- The 6-Lane Urban typical section consists of two 40' wide roadways, curbed on each side and separated by a raised 20' median. This section could be best applied from Maryland Route 704 to east of Maryland Route 197 and from Superior Lane to west of Maryland Route 3.

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Each of these three typical sections results in identical right-of-way and environmental impacts.

c. Build Options for Major Roadways Intersecting Maryland Route 450

Maryland Route 704 at Maryland Route 450

Maryland Route 704 is being studied for reconstruction as a 6-lane divided closed section roadway from Lottsford Vista Road to Maryland Route 450. Three options which tie-in to the 6-Lane improvement being constructed in conjunction with the Washington Business Park have been retained for detailed study.

Option A

Option A consists of the relocation of Maryland Route 704 to just west of Electric Terrace, along the master plan alignment, resulting in an at-grade intersection with Maryland Route 450 opposite Baltimore Lane. Double left turns would be provided for the westbound to southbound movement.

Option C

Option C consists of the reconstruction of the intersection just west of the existing location. Double left turns would be provided for the westbound to southbound movements of this at-grade configuration.

Option D

Option D would result in a relocation of the Maryland Route 704/450 intersection slightly southwest of its current location and reorientation so that the westbound Maryland Route 450 to southbound Maryland Route 704 movement would become a through movement of the intersection. Eastbound Maryland Route 450 would intersect Maryland Route 704 at a T-intersection so that a left turn would be required to continue east on Maryland Route 450. The intersection would remain at-grade.

Option D is preferred because of its better traffic operational characteristics.

Maryland Route 197

The following options are being considered for the improvement of Maryland Route 197 in the vicinity of Relocated Maryland Route 450:

Option 2 4-Lane Divided Section

This option consists of two 28-foot roadways with curbs and a 20' wide raised median.

Option 2A Existing Profile Option

With this option, the Maryland Route 197 profile would remain unchanged.

Option 2B Revised Profile Option

With this option, approximately 1500 feet of Maryland Route 197 north of Relocated Maryland Route 450 would be lowered (maximum cut: 3'+) to increase the sight distance at the existing crest.

Option 3 5-Lane Undivided Typical Section - Revised Profile

With this option, approximately 1500 feet of Maryland Route 197 north of Relocated Maryland Route 450 would be lowered (maximum cut: 3'+) to increase the sight distance at the existing crest.

Existing Maryland Route 450 from Highbridge Road to Moylan/Trinity Drives

Several options have been evaluated for the ultimate disposition of existing Maryland Route 450 following construction of the relocation.

West of Maryland Route 197, Existing Maryland Route 450 could:

- Be closed at the Conrail Railroad Bridge (Option W1)
- Remain open at the bridge with structural rehabilitation to provide service for restricted loadings (Option W2)
- Remain open across the Conrail Railroad by means of a reconstructed and relocated bridge which would provide service under the legal loading requirements of HS-20 or 36 tons (Option W3)

East of Maryland Route 197, Existing Maryland Route 450 could:

- Remain open connecting Existing Maryland Route 450 to Relocated Maryland Route 450 approximately 750' west of Moylan/Trinity Drives (Option E1)
- Remain open from Maryland Route 197 to Twin Cedar Lane and become closed east of Twin Cedar Lane resulting in no connection between Existing and Relocated Maryland Route 450. (Option E2)
- Be closed completely east of Maryland Route 197. A connecting roadway would be constructed between Twin Cedar Lane and Relocated Maryland Route 450. (Option E3)

- Be closed completely east of Maryland Route 197. A connecting roadway would be constructed between Twin Cedar Lane and Twisting Lane. (Option E4)

Additional options are possible from the combination of the above options east of Maryland Route 197.

5. Summary of Environmental Impacts

A summary of impacts for all alternates and options is shown in Table 1 on p. viii.

Eight to ten residential and business displacements would be required depending upon the chosen Build Alternate. Relocation assistance would be provided to those affected. Additional right-of-way is required throughout the corridor, although in many cases dedications and reservations for highway use are in place. One known minority community, Lincoln-Vista, would be affected by improvements at the Maryland Route 704/450 intersection and adjacent roadway improvements. No known elderly or handicapped individuals would be affected by the project.

Three historic sites in the study corridor, Buena Vista, Holy Trinity Church and Sacred Heart Chapel, are eligible for the National Register of Historic Places. No property would be required from any of these sites. In addition, the State Historic Preservation Officer has determined that these sites would not be adversely affected by the project. No significant archeological resources would be affected by either of the Build Alternates.

Minor strip right-of-way and/or construction easements would be required from the Archer Tract Neighborhood Park, Whitemarsh Park, and an unnamed recreation area across from Bowie High School (hereafter referred to as the Sussex Lane Recreational Area). The future City of Bowie Park west of the Conrail tracks (Parcel F) has been planned as two segments separated by the proposed relocation of Maryland Route 450 (ultimate six lane roadway). Consequently, no impacts or right-of-way acquisition are anticipated at this proposed facility. The provision of a separate multi-use trail throughout most of the project is included in each Build Alternate.

The improvement of Maryland Route 450 to a multi-lane facility is consistent with the Prince George's County General Plan, 1982; the Bowie-Collington and Vicinity Master Plan, 1970; and the Glenn Dale, Seabrook, Lanham and Vicinity Master Plan, 1977.

Construction would occur in the 100 year floodplain of Bald Hill, Lottsford, Folly, and Collington Branches (Class I waters) which cross under Maryland Route 450. Modification of the existing structures would be necessary at all crossings except for Collington Branch where a new structure would be required. No stream relocations are required.

Approximately five to eight acres of palustrine forested and emergent wetlands would be affected by the proposed action depending upon the alternate chosen. Sediment and erosion control measures and stormwater management practices, approved by the Maryland Department of the Environment, would be strictly enforced during construction to minimize water quality impacts.

No federally listed threatened or endangered plant or animal species are present in the study area. Impacts to natural habitat would be minimal due to the urbanized and developing nature of the corridor. Up to 6.4 acres of prime farmland soils and 4.6 acres of Additional Farmland of Statewide Importance would be impacted by the project.

The State and National Ambient Air Quality Standards for carbon monoxide would not be exceeded under any Build Alternate. These standards would be violated at one location under the No-Build Alternate.

The projected noise levels would approach or exceed the Federal Highway Administration's Noise Abatement Criteria (67 dBA) or exceed the ambient noise level by at least 10 dBA at five locations for the No-Build Alternate and 15 locations for both the 4-Lane and 6-Lane Alternates in the design year 2015.

TABLE 1
SUMMARY OF IMPACTS

	NO-BUILD	4 - LANE DIVIDED			6 - LANE DIVIDED			MARYLAND ROUTE 197			EXIST. MD. 450 OPTIONS		
		W/MD. 704	W/MD. 704	W/MD. 704	W/MD. 704	W/MD. 704	W/MD. 704	OPTIONS			HIGHBRIDGE ROAD TO MD. 197 ²		
		OPTION A	OPTION C	OPTION D	OPTION A	OPTION C	OPTION D	2A	2B	3	W1	W2	W3
<u>Socio-Economic Impacts</u>													
1. Residential Displacement	0	6	7	8	6	7	8	0	0	0	0	0	0
2. Minority Displacements	0	3	2	3	3	2	3	0	0	0	0	0	0
3. Business Displacement	0	2	2	2	2	2	2	0	0	0	0	0	0
4. Public Recreational Lands Affected- Number (Acres)	0	3(0.62)	3(0.62)	3(0.62)	3(1.06)	3(1.06)	3(1.06)	0	0	0	0	0	0
5. Historic Sites Affected (Adversely)	0	0	0	0	0	0	0	0	0	0	0	0	0
6. Archeological Sites Affected	0	0	0	0	0	0	0	0	0	0	0	0	0
7. Consistency with Land Use Plans	NO	YES	YES ³	YES ³	YES	YES ³	YES ³	YES	YES	YES	YES	YES	YES
<u>Natural Environment Impacts</u>													
1. Woodlands Affected (Acres)	0	24.0	24.1	24.2	24.0	24.1	24.2	0.4	1.2	0.6	0	0	0.8
2. Stream Crossings	0	4	4	4	4	4	4	0	0	0	0	0	1
3. Non-Tidal Wetlands Affected	0	7.47	5.43	6.99	8.17	6.58	7.54	0	0	0	0	0	0.50
4. 100-year Floodplains Affected (Acreage)	0	2.65	2.90	3.72	3.21	3.26	3.94	0	0	0	0	0	0.50
5. Prime Farmland Soils Affected (Acres)	0	11.0	11.0	11.0	10.6	10.6	10.6	0	0	0	0	0	0
6. Effect on Threatened or Endangered Species	0	0	0	0	0	0	0	0	0	0	0	0	0
7. Air Quality Sites Exceeding S/NAAQS (2015)	1	0	0	0	0	0	0	0	0	0	0	0	0
8. Noise Sensitive Areas Exceeding Federal Noise Abatement Criteria (2015)	5	15	15	15	15	15	15	0	0	0	0	0	0
<u>COSTS¹(1988 dollars in thousands)</u>													
1. Preliminary Engineering	0	3,400	3,400	3,500	4,900	4,900	5,100	96	142	82	0	9	81
2. Right-of-Way	0	7,500	7,700	8,300	10,400	10,700	11,300	0	42	24	0	0	207
3. Construction	0	42,900	43,000	44,500	61,000	61,200	63,000	1,195	1,769	1,024	0	91	1,004
4. Total	0	53,800	54,100	56,300	76,300	76,800	79,400	1,291	1,953	1,130	0	100	1,291

¹ Estimated costs include \$1.13 million for prel. eng., \$0.96 million for right-of-way and \$14.0 million for construction, totalling \$16.1 million for the portion of the project programmed for construction by Prince George's County.

² Any option for existing Maryland Route 450 from Maryland 197 to Moylan/Trinity drives would have minimal environmental impacts and costs.

³ The Glenn Dale, Seabrook, Lanham and Vicinity Master Plan of October 1970 indicates Option A as the ultimate Md. 450/704 Intersection location. Deviating somewhat from the Master Plan alignment are Option C, which is the existing Md. 704 alignment, and Option D, which is supported by M.N.C.P.P.C.

MARYLAND ROUTE 450 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
SUMMARY OF IMPACTS		
		PAGE NO. viii

FILE NO. I-17608.DWG

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

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

ENVIRONMENTAL ASSESSMENT FORM

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

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

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

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

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

Note: This environmental assessment has been prepared in accordance with the National Environmental Policy Act, U.S. Department of Transportation Order 5610.1c, and 23 CFR, Part 771. It also satisfies the requirements of the Maryland Environmental Policy Act.

I DESCRIPTION OF
PROPOSED ACTION

I. DESCRIPTION OF PROPOSED ACTION

A. Project Location

Maryland Route 450, an arterial highway, extends in a west-east direction from just northeast of Washington, D.C. to Annapolis in north central Prince George's County. (See Figure 1 on the following page)

The western terminus of the project is only 0.6 mile east of I-95 (Capital Beltway) which is the most important principal arterial highway on the east coast of the U.S. A major improvement of Maryland Route 450 from the Capital Beltway to Whitfield Chapel Road is in the final design phase with construction scheduled to begin during 1989.

B. Project Description

The project consists of providing an improved arterial highway for an 8.5 mile segment of Maryland Route 450 from Whitfield Chapel Road to approximately 3000' west of Maryland Route 3. Included within the project scope is a 0.6 mile long portion of Maryland Route 704 in the vicinity of Maryland Route 450 and a 0.5 mile long portion of Maryland Route 197 in the vicinity of the Maryland Route 450 Relocation. (See Figure 2 following the next page)

C. Description of Existing Environment

1. Social Environment

a. Population

i. County

The study area is situated in Prince George's County, Maryland; northeast of Washington, D.C. The county has a land area of 487 square miles, ranking sixth in the state, and is surrounded by five other counties and Washington, D.C. In all of Maryland, Prince George's County is surpassed only by Baltimore City in terms of total population and population density. The County is undergoing rapid commercial and residential development which is being sustained by a healthy county and regional economy as indicated by employment and income characteristics.

Data from the 1980 U.S. Census indicate that the population of the County increased 0.68% in the period from 1970 to 1980 (See Table 2). The population increase was significantly outpaced by the 16% increase in the number of households during the decade resulting in a drop in average household size from 3.34 to 2.89. During the preceding decade, an 85% population increase occurred. The small increase in the 1970's was due primarily to the moratorium placed on the construction of new housing during nearly half the decade.

Countywide, the Maryland-National Capital Park and Planning Commission's Research and Public Facilities Planning Division predicts a population increase of 16.17% between 1980 and 2000, which is slightly greater than the 15% increase projected for the State of Maryland.

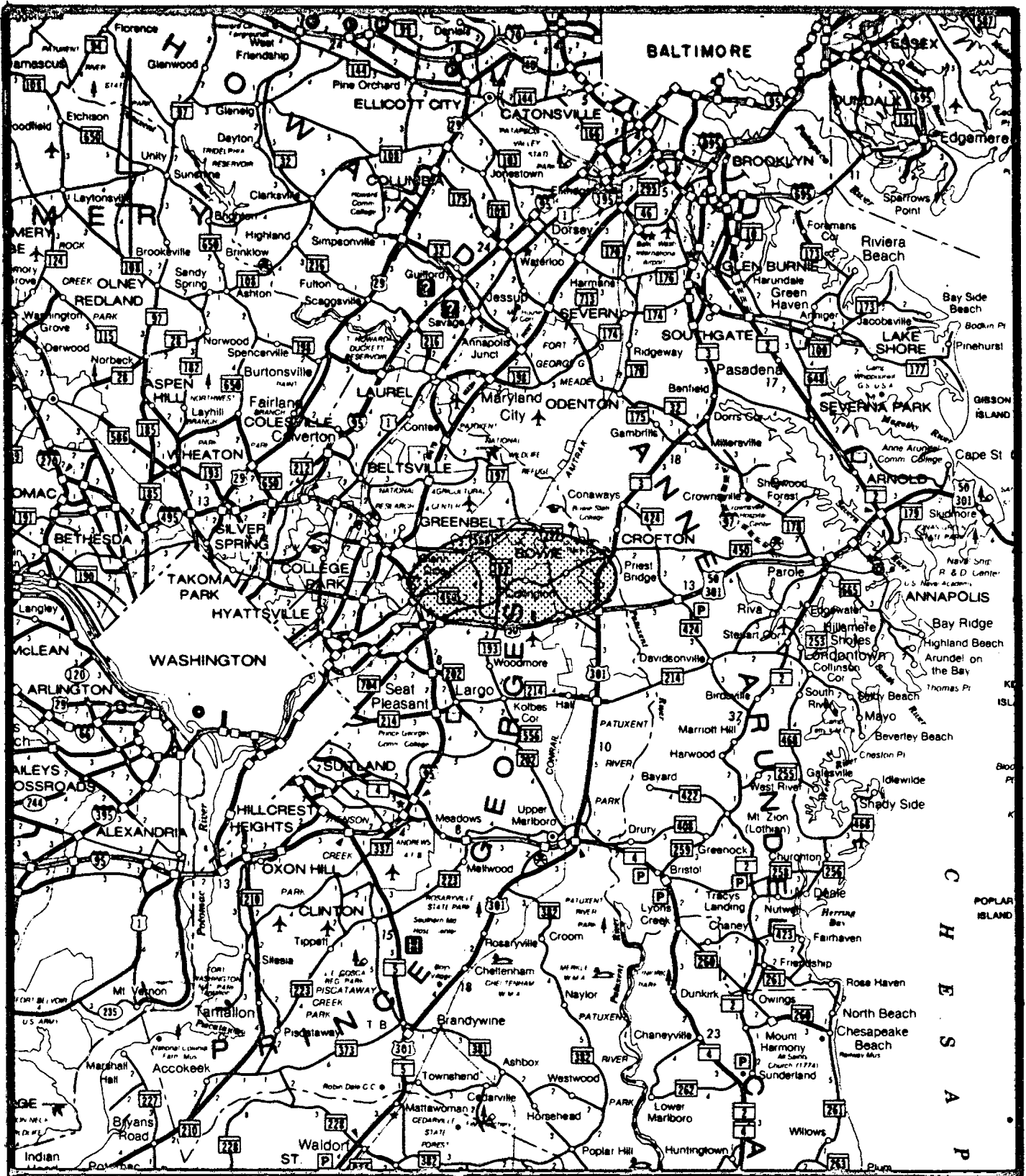
ii. Study Area

The study area lies in the north-central portion of Prince George's County, generally spanning the area between the Capital Beltway and Maryland Route 3. For the purposes of evaluating recent population characteristics and future trends, the study area is defined in terms of two criteria resulting in similar areas as shown in Figure 3 (on the following page). The first criterion for study area definition is Census Tracts as outlined by the U.S. Bureau of the Census. The second criterion is Planning Areas as defined by MNCPPC.

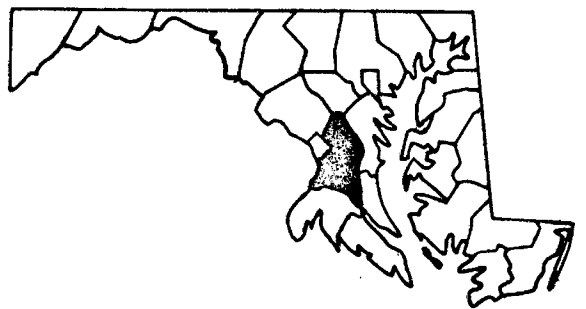
Census Tracts

The study area is composed of parts of 12 census tracts which combine to form a 36.7 square mile area bounded generally by the Capital Beltway to the west, the Amtrak Railroad, Fletcherstown Road and Horsepen Branch to the north, the Prince George's/ Anne Arundel County line to the east and U.S. Route 50 (Interstate Route 68) to the south. Between the Capital Beltway and Maryland Route 193, the study area extends south to Maryland Route 214 (Central Avenue) to include all of Census Tract 8035.04, a tract contiguous to the Maryland Route 450 corridor (See Figure 3). The 12 census tracts defining the study area consist of 8003.00, 8004.01, 8004.02, 8004.03, 8004.04, 8005.03, 8005.04, 8005.05, 8035.04*, 8036.06, 8036.07 and 8036.08. During the decade of the 1970's, each of these tracts experienced a net decline in population varying from one to 42 percent, resulting in a total net population decline for the study area of 11.7 percent. (See Table 2 on p. I-3) However, the study area is considered high growth in terms of residential and commercial development. To illustrate, nearly 70 active subdivision projects, in or near the Bowie area, and several other projects throughout the study area are either under construction or in the planning phase.

* For accurate population comparisons between 1970 and 1980, 1980 tract 8035.04 must be combined with 8035.05 and 8035.06 to comprise an area equivalent to 1970 tract 8035.01, which was divided after 1970.



KEY MAP



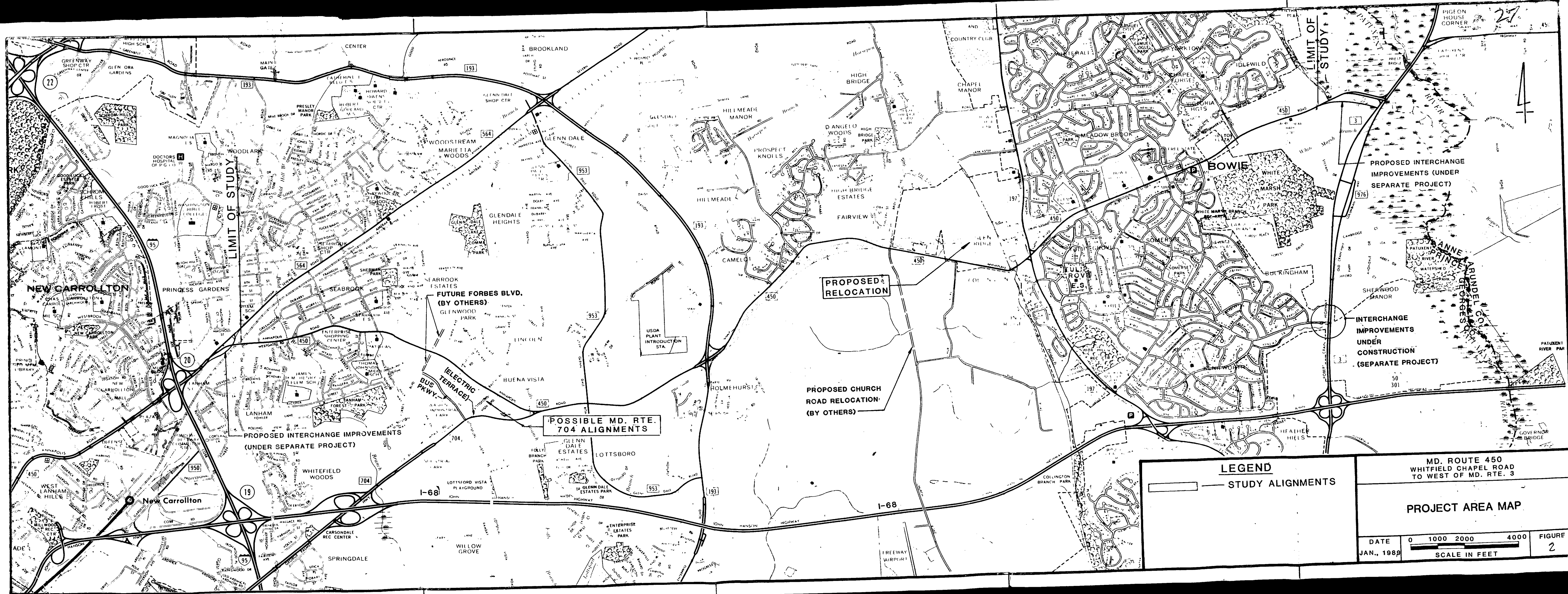
MD. ROUTE 450
WHITFIELD CHAPEL ROAD
TO WEST OF MD. RTE. 3

LOCATION MAP

DATE
JAN., 1988



FIGURE
1

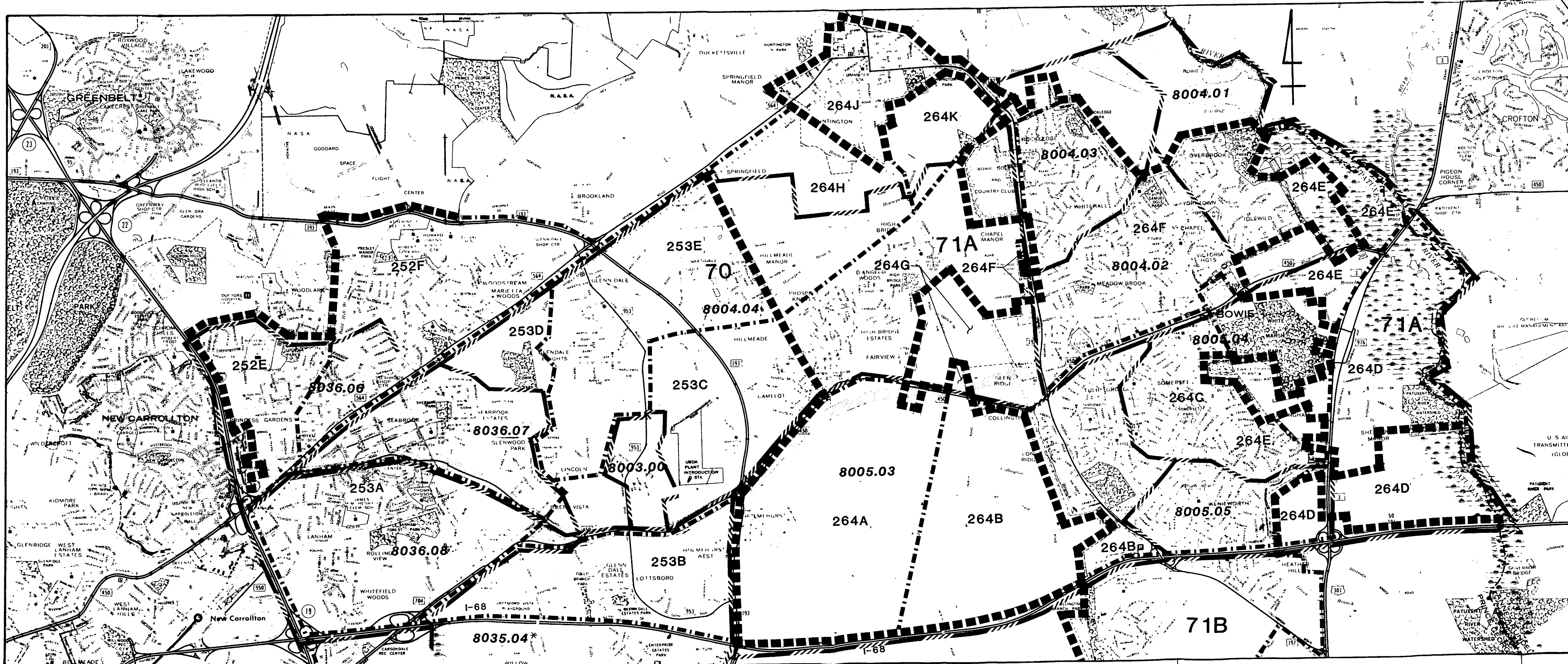


LEGEND
 — STUDY ALIGNMENTS

MD. ROUTE 450
 WHITFIELD CHAPEL ROAD
 TO WEST OF MD. RTE. 3

PROJECT AREA MAP

DATE	0	1000	2000	4000	FIGURE
JAN., 1989	SCALE IN FEET				2



- PLANNING AREA BOUNDARIES
- POLICY ANALYSIS ZONE (P.A.Z.) BOUNDARIES
- CENSUS TRACT BOUNDARIES
- 253D POLICY ANALYSIS ZONE (P.A.Z.)
- 71 PLANNING AREA
- 8036.06 CENSUS TRACTS
- ▬▬▬▬ STUDY ALIGNMENT

* NOTE: ALL OF CENSUS TRACT 8035.04 IS PART OF THE STUDY AREA AND IS BOUNDED BY MD. RTE. 193 TO THE EAST, MD. RTE. 214 TO THE SOUTH, AND I-95 AND BALD HILL BRANCH TO THE WEST.

MD. ROUTE 450
WHITFIELD CHAPEL ROAD
TO WEST OF MD. RTE. 3

CENSUS TRACT AND
PLANNING AREA MAP

DATE: JAN., 1989	SCALE 1" = 2500'	FIGURE 3
---------------------	---------------------	-------------

TABLE 2

POPULATION IN THE STUDY AREA BY CENSUS TRACTS

<u>CENSUS TRACTS</u>	<u>1970</u>	<u>1980</u>	<u>% CHANGE</u>
Prince George's County	660,567*	665,071	+0.7
8003.00	539	310	-42.5
8004.01	3,084	2,690	-12.8
8004.02	7,739	6,769	-12.5
8004.03	3,997	3,622	-9.4
8004.04	4,530	4,438	-2.0
8005.03	4,693	3,964	-15.5
8005.04	6,851	5,497	-19.8
8005.05	4,570	3,743	-18.1
8035.04**	3,037	2,450	-19.3
8036.06	5,446	5,078	-6.7
8036.07	2,516	2,486	-1.2
8036.08	5,597	5,416	-3.2
TOTAL CENSUS TRACTS	52,599	46,463	-11.7

NOTE: * Figure does not reflect corrections as shown in "Maryland Statistical Abstract 1986-87" with Total for 1970 as 661,719 for Prince George's County.

** 1980 Tract 8035.04 is part of 1970 tract 8035.01

Source: U.S. Bureau of the Census

Planning Areas

The MNCPPC Research and Public Facilities Planning Division uses subdivisions of the county called Planning Areas for the evaluation of socio-economic characteristics. Parts of planning areas 70, 71A and 71B are included in the study area of this project. The planning areas are further subdivided into Policy Analysis Zones (P.A.Z.'s). Seventeen P.A.Z.s comprise the study area which is bounded by U.S. Route 50 to the south, the Capital Beltway to the west, the Amtrak Railroad and Bowie City Limit to the north, and the Prince George's/ Anne Arundel County line (Patuxent River) to the east, an area of 29.5 square miles.

The 17 Policy Analysis Zones were used to predict population trends for the study area through the year 2010 as shown in Table 3 on p. I-5. The predicted population increase is 31.1% for the study area between 1986 and 2010. The predicted increase in dwelling units for the same period is 50.9%. These figures indicate a drop in average population per dwelling unit from 3.18 in 1986 to 2.76 in 2010.

b. Ethnic Characteristics

An analysis of 1980 census data indicates that 84.1 percent of the population in the 12 subject census tracts was white, 13.2 percent was black, 2.1 percent was of Oriental origin, 0.2 percent was American Indian, and 0.4 percent was classified as other. The largest proportion of minorities (48.5 percent) appears in Census Tract 8036.08. Another concentration of minority individuals has been identified in the study area in Census Tract 8036.07 where minorities comprise 42.3 percent of the tract population. This tract contains the Lincoln-Vista community which is contiguous to the project corridor. A minority community also exists just outside the study area on Whitfield Chapel Road, south of Maryland Route 450.

Census tract data for 1980 shows the following age breakdown for residents of the study area: 35 percent of the population is age 18 or under, 58 percent is age 19-59, 7 percent is age 60 or over. Census Tract 8036.06 has the largest percentage (14.8 percent) of age group 60 and older.

No concentrations of elderly or handicapped individuals have been indentified in the study area.

TABLE 3

POPULATION PREDICTION
BY POLICY ANALYSIS ZONES

D.U.'s = Dwelling Units
POP = Population

PAZ	1985		1986		1987		1990		1995		2010	
	D.U.'S	POP.	D.U.'S	POP.	D.U.'S	POP.	D.U.'S	POP.	D.U.'S	POP.	D.U.'S	POP.
252 E	965	3,050	1,114	3,726	1,155	3,816	1,156	3,750	1,156	3,675	1,421	4,111
252 F	3,119	8,678	3,149	8,748	3,160	8,698	3,160	8,525	3,160	8,338	3,664	9,025
253 A	1,711	5,129	1,711	5,117	1,712	5,071	1,171	4,983	1,838	5,238	2,135	5,612
253 B	334	1,056	374	1,180	444	1,387	728	2,227	1,025	3,070	1,025	2,810
253 C	304	1,226	316	1,262	319	1,262	320	1,244	405	1,478	877	2,669
253 D	775	2,449	775	2,444	775	2,421	755	2,371	777	2,327	930	2,549
253 E	599	1,901	604	1,913	608	1,907	826	2,527	826	2,474	1,325	3,517
264 A	72	229	73	232	74	232	99	304	399	1,204	1,049	2,894
264 B	57	181	59	187	109	342	400	1,244	550	1,673	796	2,209
264 C	3,573	11,903	3,624	12,050	3,712	12,224	3,712	11,981	3,721	11,741	4,146	11,986
264 D	106	338	107	340	107	337	109	337	111	336	135	401
264 E	62	197	62	194	63	198	178	565	222	693	457	1,296
264 F	3,727	12,452	3,727	12,428	3,742	12,360	3,742	12,115	3,742	11,873	3,742	10,874
264 G	622	1,981	676	2,149	748	2,359	980	3,036	1,163	3,531	1,315	3,654
264 H	101	321	128	406	162	509	260	800	774	2,336	1,351	3,594
264 J	276	920	277	921	280	922	294	949	298	943	340	985
264 K	16	51	16	51	17	53	266	837	326	1,002	634	1,777
	16,419	52,062	16,792	53,348	17,187	54,098	18,722	57,795	20,484	61,932	25,342	69,963

SOURCE: MNCPPC Research and Public Facilities Planning Division

I-5

(3)

c. Neighborhoods

The study area is comprised of both new and old residential developments and neighborhoods. The Glenn Dale, Seabrook and Lanham areas (Planning Area 70 - See Figure 3) arose in the late 1800's as settlements took place along the old Pennsylvania Railroad connecting Baltimore and Washington. Older neighborhoods in Planning Area 70 that are in the vicinity of the Maryland Route 450 corridor include Westgate Woods, Seabrook Estates, Glenwood Park and Lincoln-Vista. Recently constructed developments include Linwood, Holmehurst West and Camelot. Developments which are in the planning stages or under construction include Glenn Estates, Janes Dale, Queensbrooke, Glensford and Silverbrook.

Planning Area 71 extends from the vicinity of Maryland Route 193 easterly to the Prince George's County/Anne Arundel County line, consisting primarily of the City of Bowie. The Bowie community has grown from a population of just over 1,000 in 1960 to approximately 35,000 in 1970, a level which was approximately maintained through the 1970's. The more established neighborhoods in Bowie which border the project area include Tulip Grove, Glen Ridge, Meadowbrook, Somerset and Belair Town. Newer communities consist of Red Willow and Fairview. Several residential developments are in the planning stages including Westwood, Highbridge and Bowie Forest. Nearly all existing neighborhoods in the study area are composed of single family dwellings. Some townhomes will be included in the future developments.

d. Community Facility and Services

Contained in the study area are the following services and facilities (See Figure No. 4 on the following page):

Schools:

Elementary

Gaywood
Catherine T. Reed
James McHenry
St. Mathias *
Seabrook
Glenn Dale Special
Holy Trinity *
High Bridge
Magnolia
St. Pius X *
Tulip Grove
Kenilworth
Chapel Forge

Junior High

Robert Goddard
Thomas Johnson
Samuel Ogle

Senior High

DuVal
Bowie *

Churches:

St. Mathias Roman Catholic *
St. Pius X Roman Catholic *
St. Matthews United Methodist *
Community Presbyterian
Belair Church of Christ
Belair Baptist
Cornerstone Assembly of God *
Sacred Heart Roman Catholic *
Holy Trinity Episcopal *

Synagogue: Nevay Sholom*

* Adjacent to Maryland Route 450

Parks and Recreation Areas:

Whitfield Chapel Park
Lanham Forest Park
Gaywood Park
Sherman Park
Glenn Dale Lake Community Park
Folly Branch Park

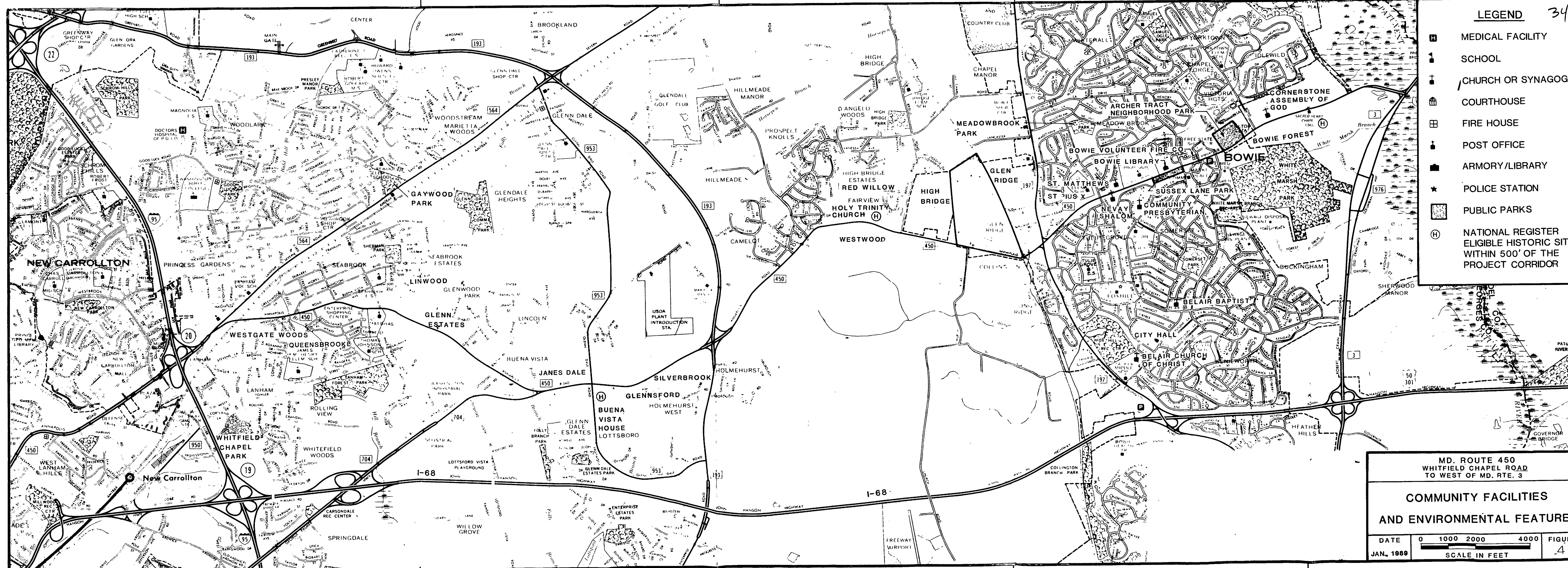
Glenn Dale Estates Park
High Bridge Park
Meadowbrook Park
Fox Hill Recreational Center










Somerset Park
Sussex Lane Park*
Archer Tract Neighborhood Park*
(future)
Whitemarsh Park*

Yorktown Community Park

Fire Fighting Companies:

Company No.48 West Lanham Hills
Glenn Dale Fire Association
Bowie Volunteer Fire Department*



-  MEDICAL FACILITY
-  SCHOOL
-  CHURCH OR SYNAGOGUE
-  COURTHOUSE
-  FIRE HOUSE
-  POST OFFICE
-  ARMORY/LIBRARY
-  POLICE STATION
-  PUBLIC PARKS
-  NATIONAL REGISTER ELIGIBLE HISTORIC SITES WITHIN 500' OF THE PROJECT CORRIDOR

MD. ROUTE 450
WHITFIELD CHAPEL ROAD
TO WEST OF MD. RTE. 3

**COMMUNITY FACILITIES
AND ENVIRONMENTAL FEATURES**

DATE	0 1000 2000 4000	FIGURE	
JAN, 1989	SCALE IN FEET	4	

Police protection is provided by Prince George's County with stations located on U.S. Route 301 at Maryland Route 197 and on U.S. Route 301 at Central Avenue and the Bowie Police Department with a station near City Hall in Bowie.

The Bowie Public Library is the only library in the study area. The new Carrollton library is just outside the study area.

The closest hospitals to the study area are the Doctors Hospital of Prince George's County located just east of the Capital Beltway east of New Carrollton, Prince George's County Hospital in Cheverly and Leland Memorial Hospital in Riverdale. The Glenn Dale Hospital, owned by the D.C. Government and located north of Maryland Route 450 on Glenn Dale Road, was a center for long-term illness treatment for residents of the District of Columbia and is no longer in use. Plans are underway for the development of the Glenn Dale Hospital site as a housing community.

The study area is well served by regional bus service. Metrorail service can be accessed just outside the study area in New Carrollton.

Most of the study area is served by public water and sewer.

2. Economic Environment

a. Employment Characteristics

In 1984, a higher percentage (18.1%) of the state's employment force held residence in Prince George's County than any other subdivision in Maryland. The 1984 unemployment rate was 3.8%, one of the lowest in the state. Per capita income for Prince George's County increased 17.1% between 1970 and 1980, after adjustment for inflation, to be ranked fourth in the state and 70th out of 3,137 counties throughout the United States. For the greater Washington, D.C. metropolitan region, the per capita income gain was nearly 23% after adjustment for inflation.

The 1979 median household income average for the subject census tracts was \$33,200. (Tract 8003, the Glenn Dale hospital tract, is not included.) The median income figure of \$39,764 for Census Tract 8035.04 was the highest among the group.

An analysis of 1980 census data reveals that a majority of the working population in the subject census tracts was employed in public administration, retail and wholesale trade and educational services (See Table 4 on p. I-10).

Of the working population in the subject census tracts, a majority commutes outside the study area to their place of employment. Forty percent of the working population work out of state in Washington, D.C. and Virginia, 14 percent work in Maryland outside Prince George's County and the remaining 46 percent work in the County. According to census data, the mean travel time of all workers in the study area to their place of employment is approximately 30 minutes, with an overwhelming majority driving alone.

b. Commercial and Industrial Facilities

Sections of the Maryland Route 450 corridor within the study area that are not in residential use are devoted to light industrial/office and commercial development. Businesses in the area west of Baltimore Street consist of small to medium sized shopping centers and offices contained in up to three story buildings and single family houses. A similar condition exists in the Bowie area where there are several medium sized shopping centers with service stations and restaurants along Maryland Route 450.

3. Land Use

a. Existing (See Figure 5 following p. I-10)

The land uses in the study area consist predominantly of residential, commercial, industrial and recreational uses with several portions of cultivated or open space. The Lanham and Seabrook communities in the western portion of the project area are highly developed with a mixture of residential, commercial and industrial facilities.

Further to the east, the Glenn Dale area and the western outskirts of Bowie are sparsely populated with single family homes which are either isolated or part of small developments. This portion contains the largest areas of wooded land and open space in the project area. The Fairwood Turf Farm occupies a large parcel of land east of Maryland Route 193.

The Bowie area, generally east of Highbridge Road, is characterized by medium density residential developments with a thorough mixture of schools, churches, commercial establishments and residential areas.

TABLE 4

EMPLOYMENT BY INDUSTRY (PERSONS AGE 16+)
(1980)

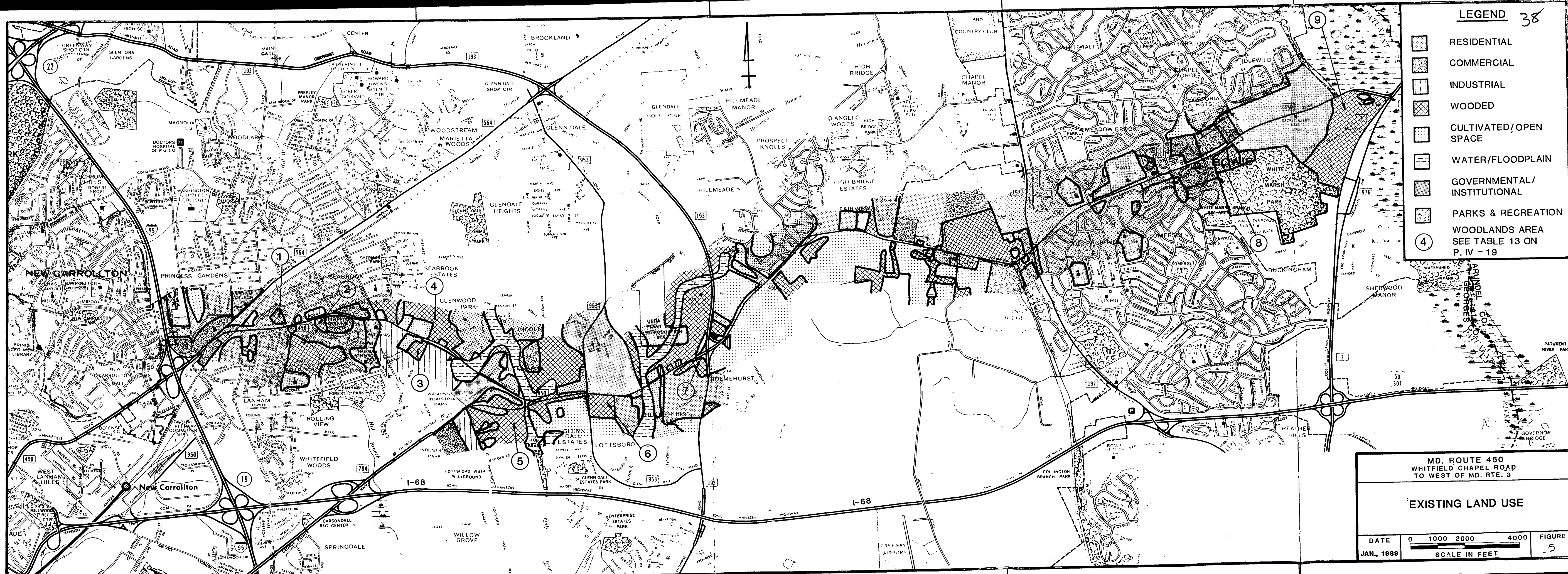
INDUSTRY	CENSUS TRACTS												TOTAL (%)
	03.00	04.01	04.02	04.03	04.04	05.03	05.04	05.05	35.04	36.06	36.07	36.08	
Agriculture Forestry, Fisheries, Mining	-	-	22	9	19	31	48	7	35	31	8	10	220 (0.9)
Construction	12	61	174	92	212	158	164	99	80	159	116	94	1,521 (6.5)
Manufacturing	-	108	264	184	158	141	201	142	58	173	96	297	1,822 (7.8)
Transportation	-	67	89	35	76	78	53	48	37	97	87	177	844 (3.6)
Communication, Public Utilities	-	34	92	29	57	31	75	35	42	111	102	130	738 (3.1)
Wholesale & Retail Trade	15	189	605	281	454	481	741	444	170	499	241	549	4,669 (19.9)
Finance, Insurance & Real Estate	-	101	152	79	75	96	168	89	57	113	69	249	1,248 (5.3)
Business & Repair Services	-	62	217	142	115	72	123	136	44	143	107	118	1,279 (5.5)
Personal Entertainment & Recreation Services	-	51	68	29	51	38	128	82	18	77	-	88	630 (2.7)
Health Services	34	57	153	62	112	161	163	109	119	137	79	132	1,318 (5.6)
Educational Services	-	141	306	215	249	168	197	129	160	336	93	262	2,256 (9.6)
Other Professional & Related Services	5	109	256	153	216	150	229	97	83	210	36	210	1,754 (7.5)
Public Administration	-	306	750	399	515	434	672	417	345	422	325	575	<u>5,160</u> (22.0)

NOTE: All census tracts are in the 8000 series.

23,459

I-10

37



- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- WOODED
- CULTIVATED/OPEN SPACE
- WATER/FLOODPLAIN
- GOVERNMENTAL/INSTITUTIONAL
- PARKS & RECREATION
- WOODLANDS AREA
SEE TABLE 13 ON P. IV - 19

MD. ROUTE 450
WHITFIELD CHAPEL ROAD
TO WEST OF MD. RTE. 3

EXISTING LAND USE

DATE	0 1000 2000 4000	FIGURE
JAN., 1989	SCALE IN FEET	-5-

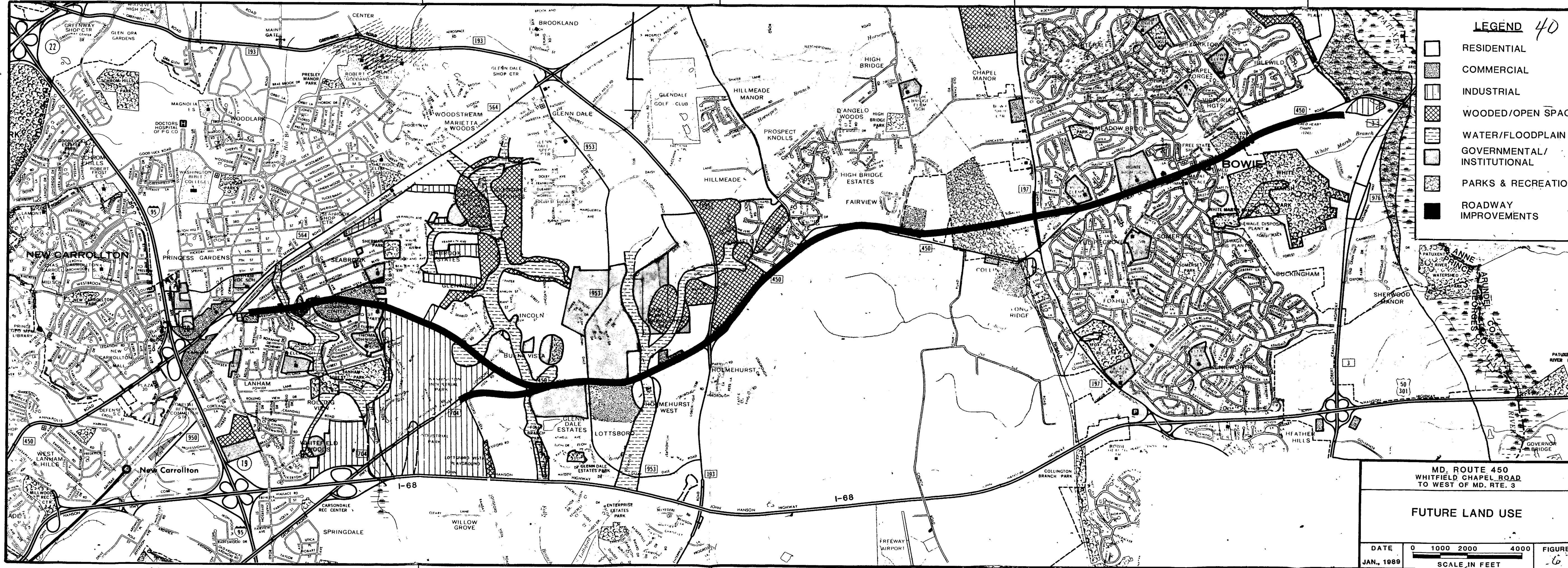
b. Future (See Figure 6 on the following page)

The two Master Plans governing the project area: Glenn Dale, Seabrook, Lanham and Vicinity and Bowie-Collington were adopted in 1977 and 1970, respectively, and show a general consistency with existing land use practices. West of Seabrook Road, ultimate development has basically been achieved with the exception of some additional schools, parks and residential development. From Seabrook Road to Maryland Route 193, several residential and commercial developments as well as schools and parks are planned along the project corridor.

The most significant residential development in the project corridor will take place between Maryland Route 193 and Maryland Route 197. Over 1000 residences are proposed as part of the Westwood subdivision; the adjacent Turf Farm and associated properties totalling approximately 1000 acres are zoned residential thereby having the potential for significant development. The proposed Highbridge Development, located northeast of the Maryland Route 450/Highbridge Road intersection will consist of 40,000 square feet of commercial space and 375 residences.

As with the Lanham-Seabrook area in the western portion of the project area, the central portion of Bowie, east of Maryland Route 197 along Maryland Route 450, has virtually achieved ultimate development. Several small residential developments, commercial expansions and a new town center concept are in the planning stages.

Of regional significance is the University of Maryland Science and Technology Center. This facility consists of approximately 6.4 million square feet which are either planned or under construction just outside the study area.



LEGEND 40

- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- WOODED/OOPEN SPACE
- WATER/FLOODPLAIN
- GOVERNMENTAL/ INSTITUTIONAL
- PARKS & RECREATION
- ROADWAY IMPROVEMENTS

MD. ROUTE 450
WHITFIELD CHAPEL ROAD
TO WEST OF MD. RTE. 3

FUTURE LAND USE

DATE	0 1000 2000 4000	FIGURE
JAN., 1989	SCALE IN FEET	-6-

4/1

4. Historic and Archeological Resources

a. Historic Sites

A historic sites survey of the project corridor was conducted and three sites were identified. The State Historic Preservation Officer, in his November 18, 1986 letter, (included in Section V - Comments and Coordination) identified Buena Vista, Holy Trinity Church and Rectory and Sacred Heart Chapel, as possibly eligible for the National Register of Historic Places. The location of these sites is shown on Figure 4.

Buena Vista (PG. 70-17) is a 19th century residence (built ca. 1845) significant as one of the few structures which remain of the vast Duvall estate that originally encompassed a large area on all corners of the MD Route 450 and Glenn Dale Road intersection. It is an excellent example of a small plantation house and one of the few intact examples remaining in Prince George's County.

Holy Trinity Church and Rectory (PG. 71 A-9) are significant architecturally, having been built in the early 19th century and are good examples of Federal architecture. Although the church has had numerous, mostly sympathetic additions since its construction in the 1830's, the rectory retains considerable architectural interest and its original appearance overall. This site is significant historically as well for it has constituted an important societal and religious center for almost three hundred years as the successor of the original Henderson Chapel.

Sacred Heart Chapel (PG. 71 A-19) was built in 1741 by Jesuit priests on the property known as White Marsh. During the 1780's, American Roman Catholic clergy met there and nominated John Carroll to be the first American bishop. In 1853 a fire destroyed all but the walls, sanctuary and sacristy of the chapel. The present reconstruction dates from 1856. It is the oldest Roman Catholic Church in Prince George's County.

There are five additional sites within the study area which are Maryland Inventory quality. These sites are the Gravel Pit Farm (PG 71A-21), Magruder-Brannon House (PG 70-30), and three unnamed frame dwellings.

b. Archeological Sites

Phase I archeological investigations were conducted for the MD 450 project corridor. Although two sites are within the proposed right of way for the alternates being studied, neither is on or eligible for the National Register of Historic Places, (See the letter from the State Historic Preservation Officer in the Comments and Coordination section of this document).

5. Natural Environment

a. Geology, Topography, and Soils

i. Geology and Topography

The study area is within the Atlantic Coastal Plain which is underlain by unconsolidated deposits of gravel, sand, silt and clay that range in age from Cretaceous to Recent (on the floodplains). The land is gently rolling and is drained southwestward from the study area through Western Branch to the Patuxent River.

All the major streams in the area are normally sluggish, and most are in broad valleys. Large accumulations of silt characterize these streams.

ii. Soils

The "Soil Survey of Prince George's County" published by the U.S. Department of Agriculture Soil Conservation Service provides the following information:

Eight Soil Associations occur in the study area. The Beltsville- Leonardtown-Chillum Association has moderately deep, well drained to poorly drained, gently sloping soils that have a compact subsoil. The soils of the Chritiana-Sunnyside-Beltsville Association are sandy and clayey and are moderately deep to deep, moderately well drained to well drained, and established over compact subsoil. The Collington-Adelphia-Monmouth Association has deep, nearly level to strongly sloping, well drained and moderately well drained soils of the uplands. The Bibb-Tidal Marsh Association has poorly drained soils that occur in the flood plains of the study area. They are subjected to occassional flooding. The Sassafras-Keyport-Elkton Association has nearly level to strongly sloping, well drained to poorly drained soils. The Sassafras-Croom Association has gently sloping to steep, well drained, gravelly soils, some with a compact subsoil. The Collington-Matapeake-Galestown Association has deep, well drained to excessively drained, nearly level to stongly sloping soils. The soils of the Westphalia-Evesboro-Sassafras Association are deep, well drained to excessively well drained, are moderately sloping to steep, and occur in uplands.

iii. Ecological Considerations

Ecologically, soils of the Adelpia Series are important in farming, but special problems arise in other uses. The native vegetation is hardwoods, mostly oaks with some yellow poplar, sweet gum, and maples. Pines also occur. These soils are good for woodland and open land wildlife. They are generally poor for wetland wildlife.

Soils of the Beltsville Series are important in farming, but they are difficult to manage. Special problems occur on these soils in residential areas, particularly related to drainage for septic systems. Fragipans (impermeable layers in the soil) occur in the study area. Soils of this series yield fair to good stands of hardwoods mixed with some Virginia pines. They produce good crops of open land and woodland wildlife but are poor for wetland wildlife production.

Soils of the Bibb Series occur along streams and are usually limited in usage by flooding and poor drainage. Most areas dominated by these soils are in woodlands consisting of maple, gum, oak, and other hardwoods that tolerate wetness. Although usually unsuited for farming because of seasonal flooding, these soils produce good crops of woodland wildlife. They are rated poor for wetland wildlife.

Soils of the Chillum Series are fairly extensive in the county and are fairly important for farming. The native vegetation is in upland hardwoods, mainly oak, but in some areas Virginia pine is common. These soils are rated fair for woodland and open land wildlife and are unsuited for wetland wildlife.

Christiana Series Soils are extensive in Prince George's County. These soils are more important in community development than for farming. The native vegetation is in upland hardwoods and Virginia pine. These soils are rated good for woodland and open land wildlife but are not suited for wetland wildlife.

Collington Series soils are among the most extensive in the County. They are highly important for farming and community development. The native vegetation is mixed upland hardwoods. These soils are rated good for woodland and open land wildlife and are unsuited for wetland wildlife.

Elkton Series soils are not abundant in Prince George's County. If artificially drained they are useful for many crops. These soils are difficult to work and manage even when drained. Native vegetation is mixed hardwoods that tolerate wetness. These soils are rated good for woodland wildlife, fair for open land wildlife, and good for wetland wildlife.

Keyport Series soils are fairly extensive in the County. They are useful for farming, although they tend to be cold and wet in the spring. Seasonal wetness and low permeability are problems related to development on these soils. Native vegetation consists of mixed upland hardwoods. These soils are rated good for woodland and upland wildlife and poor for wetland wildlife.

Matapeake Series soils are not extensive in the County. Their use for farming is limited by erosion hazard in sloping areas. Native vegetation is mixed upland hardwoods, mainly oaks. These soils are rated good for woodland and open land wildlife and are unsuited for wetland wildlife.

Matawan Series soils are useful for farming, limited only by erosion hazards in sloping areas. Native vegetation is mixed hardwoods and pines. These soils are rated good for woodland and open land wildlife and poor for wetland wildlife.

Mixed Alluvial Land is generally not suited to cultivated crops since it is poorly drained with varying fertility. Native vegetation is mixed hardwoods. These soils are rated good for woodland wildlife, fair to poor for open land wildlife, and poor for wetland wildlife.

Ochlockonee Series soils are not extensive in Prince George's County. These soils occur in widely scattered locations that produce good stands of mixed hardwoods. They are rated good for woodland wildlife and open land wildlife and are not suited for wetland wildlife.

Sassafras Series soils are extensive in the County and are important for farming and residential and industrial development. Native vegetation is mixed upland hardwoods and Virginia pine. These soils are rated good for woodland and open land wildlife and are unsuited for wetland wildlife.

Shrewsbury Series soils are fairly extensive in the County. If drained, they are suitable for farming. These soils are of limited use for development because of poor drainage. Native vegetation is mainly wetland hardwoods. These soils are rated good for woodland wildlife, fair for open land wildlife and good for wetland wildlife.

Silty and Clayey Land is generally not suited for cultivation due to high moisture retention. Native vegetation is mixed hardwoods. These soils are rated fair for woodland and open land wildlife and are unsuited for wetland wildlife.

Sunnyside Series soils are fairly extensive in the County. They are good for farming except for slope and erosion hazards. Native vegetation is chiefly oak and other hardwoods. These soils are rated good for woodland and open land wildlife and are unsuited for wetland wildlife.

iv. Prime, Unique, and Statewide Important Farmland Soils
(See Figure 7 on the following page)

According to the U.S. Department of Agriculture, Soil Conservation Service, prime and unique farmland soils and additional farmland soils of statewide significance occur in the study area. All of the land on which these soils are located is committed or planned for future residential and commercial development.

b. Water Resources

i. Surface Waters

Surface waters of the study area belong to the Western Branch/Patuxent River drainage basin. Four named streams occur in the study area: Bald Hill Branch, Folly Branch, Lottsford Branch, and Collington Branch.

All four streams in the study area show slight to moderate degradation. Bald Hill Branch in the vicinity of Maryland Route 450 is channelized within a concrete substrate and exhibits a greater degree of disturbance than the other streams.

It is estimated that at least 35% of the watershed of Bald Hill Branch in the study area is impervious. The appearance of Bald Hill Branch within the study area is typical of urbanized streams of moderate to severely degraded environmental quality: wide, shallow, relatively straight channels, little cover and poor bank stabilization.

Folly Branch is crossed in an area of extensive palustrine forested wetlands near Maryland Route 704.

Where the project crosses Lottsford Branch there is a palustrine forested wetland upstream of the alignment and a pasture downstream of the alignment.

The project alignment crosses Collington Branch at its headwaters where there is a large palustrine forested wetland. This wetland is of high quality and serves several functions which maintain water quality in Collington Branch.

Each of the above streams is categorized as Class I waters by the Department of Natural Resources (water contact recreation). In-stream construction is prohibited from March 15, to June 15 in class I waters. Additional protection is provided to streams with higher classifications (classes II, III, and IV).

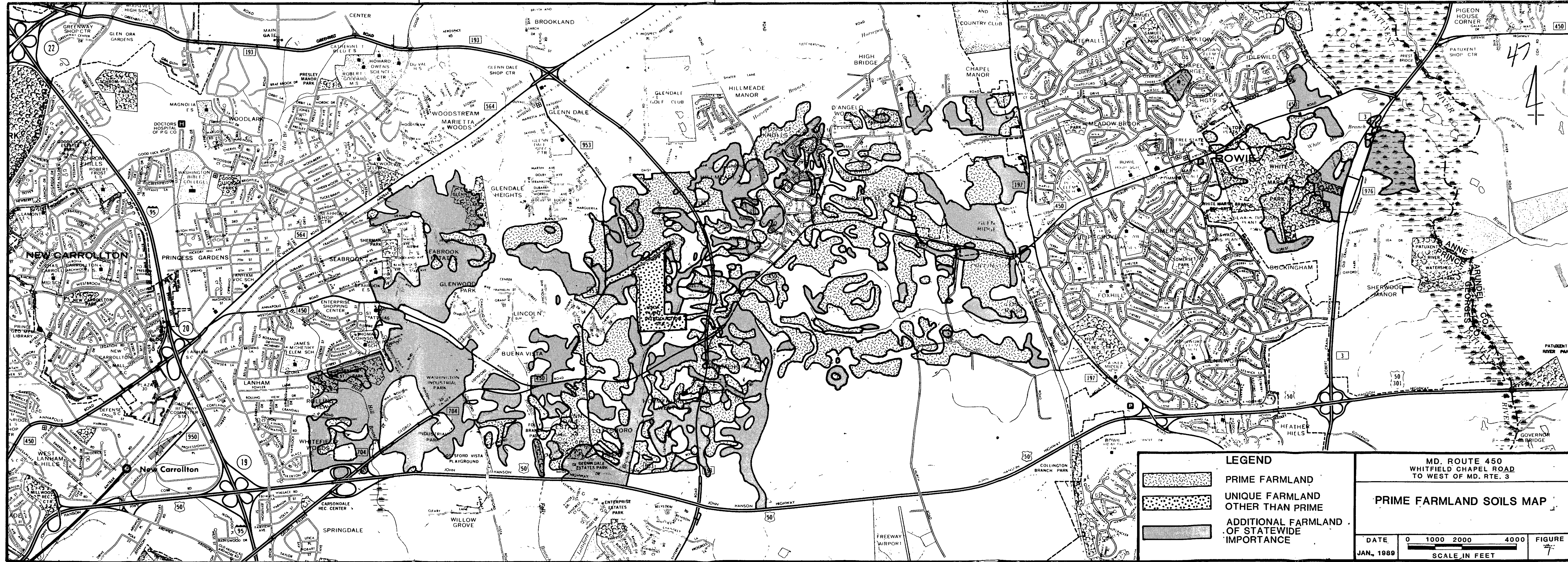
All of the above streams are subject to increased sediment load during periods of precipitation. The rate of sedimentation in these streams is expected to increase as development in the area continues to accelerate.

The following water quality rating scale was used to assess the status of the streams affected by this project.

WATER QUALITY RATING SCALE

<u>Rating</u>	<u>Fecal Coliforms</u> <u>(MPN/100ml)</u>	<u>Disolved Oxygen</u> <u>(mg/l)</u>	<u>pH</u>
Excellent	200	8	6.9 - 8.0
Good	200 - 1000	7 - 8	6.5 - 6.9
Fair	1000 - 5000	4 - 6	5.5-6.5; 8.0-9.5
Poor	5000	4	5.5, 9.5

Current (Spring, 1987) water quality in each stream is fair to excellent. Dissolved oxygen ranged from 4 to 8 mg/l. Fecal coliform bacteria ranged from 65 to 3100 MPN/100 ml. Stream water pH ranged from 6.2 to 8.0.



LEGEND

- PRIME FARMLAND
- UNIQUE FARMLAND OTHER THAN PRIME
- ADDITIONAL FARMLAND OF STATEWIDE IMPORTANCE

MD. ROUTE 450
WHITFIELD CHAPEL ROAD
TO WEST OF MD. RTE. 3

PRIME FARMLAND SOILS MAP

DATE	0 1000 2000 4000	FIGURE	
JAN, 1989	SCALE IN FEET		7

ii. Groundwater

Water bearing sands in the undifferentiated Patapsco and Raritan Formations are the most widely used aquifers in the Maryland Coastal Plain. These formations consist of irregularly stratified layers of variegated gravel, sand, silt and clay in varying proportions. Yields of private and public wells range from 100 to 2,160 gpm. The most productive well is in the Bowie area. Average well depth is 120 feet. Wells are not used to serve residences immediately adjacent to the project corridor.

These formations are a source of groundwater for the City of Bowie. Wells in the area yield water that tends to high concentrations of iron and is also excessively acidic.

iii. Floodplains

The 100 year floodplain associated with each of the major streams in the area is shown on Figures 10 through 30. These floodplains are based upon FEMA data.

c. Aesthetic Resources

Three parks exist in the study area. Whitmarsh Park is heavily used by the local populace for biking, jogging, hiking, bird-watching, etc. The park area near Bowie High School serves a passive recreational capacity. The Archer Tract Neighborhood Park has not been developed nor are there any immediate plans for the development of recreational facilities within the park.

Much of the area adjacent to streams is woodland and is used by naturalists and others for hiking, bird-watching, and natural history activities.

d. Ecology

i. Terrestrial Habitats

The following forest types (as defined by the Maryland Department of State Planning) occur in the study area:

Type 36 - Chestnut Oak. Associates include scarlet, white, black, and post oaks; pitch pine, black gum, and red maple. This association is a climax community.

Type 42 - Virginia pine. Associates include black oak, scarlet oak, white oak, chestnut oak, post oak, blackjack oak, black gum, and hickories. This association occupies dry sites and old fields. This pioneer community is usually succeeded by oaks.

Type 50 - White oak. Associates include black oak, yellow poplar, hickories. This is a climax community usually occurring on well drained, loamy soils.

Type 52 - Red Oak (predominant). Chief associates include white oak, scarlet oak, black oak, chestnut oak, and yellow poplar. This is a climax community occurring in well drained uplands.

Type 60 - Bottomland Hardwoods. Silver maple and American elm predominate. Silver maple is the indicator species. Chief associates include red maple, slippery elm, cottonwood, white and green ash. This forest type occurs on the silty soils of floodplains in the study area. This is a sub-climax type, usually succeeded by other hardwoods as the area drainage matures.

Type 77 - Red Gum - Yellow Poplar. Associates include red maple, white ash, and other moist site hardwoods. This forest type occupies moist sites exclusive of swampy areas. This forest type may be climax on less well drainage areas.

Old Fields occur in scattered locations within the study area. Old fields consist of once-cultivated or cleared land in varying stages of succession to forest. In the study area old fields are characterized by broomsedge, brome and panic grasses, goldenrod, Queen Ann's lace, bush honeysuckle, blackberries, and multiflora rose, often grading into Virginia pine, black locusts, or other pioneer associations.

ii. Aquatic Habitats

The project crosses Bald Hill Branch west of Washington Boulevard. This crossing is currently on a single 35' span structure. The project crosses Folly Branch at a single span (20' x 7' waterway opening) bridge on Maryland Route 450 and a two-span (double 12' x 7' waterway opening) bridge on Maryland route 704. Existing Maryland Route 450 crosses Lottsford Branch east of proposed Atwell Avenue at a single span (15' x 5' waterway opening) bridge. Collington Branch crosses the project alignment west of the Conrail tracks and crosses Existing Maryland Route 450 through a 4' x 4' concrete box culvert.

The parts of these watersheds within the study area fall within the Atlantic Coastal Plain. Drainage areas for the four streams associated with the project are as follows:

	Drainage Area (Square Miles) to crossing of MD 450	Drainage Area (Square Miles) to confluence with Patuxent River
Bald Hill Branch	2.15	5.7
Folly Branch	5.20	6.2
Lottsford Branch	1.28	9.3
Collington Branch	0.70	23.0

The percentage of urbanization of each watershed is as follows:

Bald Hill Branch	43%
Folly Branch	29%
Lottsford Branch	15%
Collington Branch	10%

Bald Hill Branch originates just north of Greenbelt Road within the Goddard Space Flight Center. For most of its 5.9 mile length the stream has a flat gradient with large areas of overbank ponding. The channel is improved for a distance of 1000 feet downstream of Good Luck Road and concrete lined from the Penn-Central Railroad crossing to approximately 250 feet downstream of Maryland Route 450. This stream is typical of urbanized streams which generally have wide, shallow, straight channels with little cover and poor bank stabilization. Siltation and sedimentation problems in streams of this type have contributed to moderate to severe environmental degradation resulting in lowered diversity of flora and fauna.

Folly Branch arises northeast of the intersection of Lanham-Severn and Greenbelt Roads. For most of its 5.3 mile length this stream has an extremely flat gradient with a wide, swampy and ill-defined channel. Federal Emergency Management Agency (FEMA) mapping indicates that Folly Branch overtops the existing roadway for the 100-year flood or greater.

Lottsford Branch arises northwest of Bell Station Road. for most of its 3.4 miles, this stream also has an extremely flat gradient. FEMA mapping indicates that Lottsford Branch overtops the existing roadway for the 100-year flood or greater.

Collington Branch originates in the immediate project vicinity, near the Maryland Road 197/Maryland Route 450 intersection. The stream is long (13 miles) and narrow with a flat gradient.

The peak 2-year discharges at Maryland Route 450 are as follows:

	<u>2-Year Q(cfs)</u>
Bald Hill Branch	333
Folly Branch	198
Lottsford Branch	125
Collington Branch	10

Note: Above data from "Technical Study, Western Branch of the Patuxent River" and "Technical Study, Collington Branch Watershed", Prince George's County Publications, 1981. Detailed hydrologic and hydraulic studies are being performed by the State Highway Administration for these stream crossings. The results of the hydrologic analysis are under review by the Water Resources Administration as of this writing. Results of the hydraulic studies are expected to be available by the time of the public hearing.

Pursuant to Executive Order 11990, Protection of Wetlands, wetlands areas potentially affected by the project have been identified. The areas were identified using the U.S. Fish and Wildlife Service system of Cowardin et al (1979) which is based on substrate material, flooding regime and vegetative life forms. Palustrine wetlands, the only type found in the study area, are non-tidal wetlands which are temporarily flooded and dominated by trees, shrubs, persistent emergent grasses, sedges, and mosses.

Table 5 on pages I-22 through I-24 describes wetland locations, types, dominant vegetation, soils, functional quality, impacted and approximate total acreage, and watershed. Figure 8, following p. I-24 illustrates wetland locations. The alternates mapping, figures 13-27 and 30-44 in Section III also shows the wetland locations.

iii. Wildlife

Herbivorous species in the study area include mice, voles, chipmunks, squirrels, woodchucks, muskrats, rabbits, quail, and a variety of songbirds.

Insectivorous species include shrews, moles, bats, and a variety of songbirds.

Carnivorous species include weasels, mink, foxes, hawks and owls.

Omnivorous species include opossums, skunks and raccoons.

TABLE 5

WETLANDS AFFECTED

<u>WETLAND NUMBER</u>	<u>LOCATION</u>	<u>CLASS</u>	<u>DOMINANT SPECIES</u>	<u>SOILS</u>	<u>FUNCTIONAL VALUE **</u>	<u>TOTAL ACREAGE</u>	<u>HYDROLOGY</u>
W1	West of Res. 9542	PEM5A PF01A	Cattails Gums	KpA KpB2	low	0.17	Folly Br. Tributary
W2	West of Balt. Lane	POWZh PEM5A PF01A PSS1C	Rushes Rushes Pin Oaks Alders	CdD2 CdC2	high	1.41	Folly Br. Tributary
W3	West of Lottsford Vista Road	PEM5A	Cattails	CfC	high	22.	Folly Br. Tributary
W4	W.B. & A. Railroad Bridge	PEM5A	Rushes	CdC2	low	0.1	Folly Br. Tributary
W5	Folly Branch	PF01E	Gums	Jo Mw CdC2	high	10.	Folly Br.
W5A	North of 704	PF01A	Gums	Jo CdC2	high	0.58	Folly Br.
W6	Lottsford Br.	FEM5A PSS1A	Rushes Swamp privet	Bo	high	5.	Lottsford Branch
W7D	NW of 193	PF01A	Gums	AdA	low	0.1	Collington Branch

Keys to Soils

AdA	Adelphia Fine Sandy Loam	Bo	-	Bibb Silt Loam
CdC2	Christiana Fine Sandy Loam	CdD2	-	Christiana Fine Sandy Loam
CfC	Christiana/Urban Land Complex	CmC2	-	Collington Fine Sandy Loam
CmC3	Collington Fine Sandy Loam	CmD2	-	Collington Fine Sandy Loam
Jo	Johnston Silt Loam	KpB2	-	Keyport Silt Loam
Mw	Mixed Alluvial Land	KpA	-	Keyport Silt Loam
SmA	Shrewsbury Fine Sandy Loam			

TABLE 5 (Cont)

WETLANDS AFFECTED

<u>WETLAND NUMBER</u>	<u>LOCATIONS</u>	<u>CLASS</u>	<u>DOMINANT SPECIES</u>	<u>SOILS</u>	<u>FUNCTIONAL VALUE ***</u>	<u>TOTAL ACREAGE</u>	<u>HYDROLOGY</u>
W7C	NW OF 193 on 193	PF01A	Gums	AdA	medium	1.	Collington Branch
W7B	North of Frank's Nursery	PF01A	Gums	CmC3	high	0.66	Collington Branch
W7A	Frank's Nursery	POWZh	Cattails	CmC3	medium	0.2	Collington Branch
W7	East of Frank's	PEM5A	Cattails	CmC3	low	0.02	Collington Branch
W8	East of Church Rd.	PF01A	Gums	SmA	high	2.68	Collington Branch
W9	Collington Br.	PF01A POWZh	R. birch	SmA Mw	high	5.	Collington Branch

- * PF01A = Palustrine, Forested, Broad Leaved Deciduous, Temporary
 PF01E = Palustrine, Forested, Broad Leaved Deciduous, Seasonally Saturated
 PSS1A = Palustrine, Forested, Broad Leaved Deciduous, Temporary
 PSS1C = Palustrine, Scrub-Shrub, Broad Leaved Deciduous, Seasonal
 PEM5A = Palustrine, Emergent, Narrow Leaved Persistent, Temporary
 POWZh = Palustrine, Open Water, Intermittently Exposed/Permanent, Impounded

** Functional values based on observable functions as defined on the Relative Wetland Quality Checklist on the following page.

CHECKLIST - RELATIVE WETLAND QUALITY BASED ON WETLAND FUNCTIONS

This evaluation is intended as a general working guide.

A. OCCURRENCE

<u>Wetland Number</u>	<u>Wetland Functions</u>
<u>3, 5, 5A, 7A, 9</u>	(1) Passive Recreation (High Potential for) and/or Natural Heritage Value ** (occurs often in Maryland wetlands)
<u>2, 3, 5, 5A, 6, 7A, 7B, 8, 9,</u>	(2) Quality Habitat for Wildlife or Fisheries
<u>1, 2, 3, 5, 5A, 6, 7, 7A, 7B, 7C, 7D, 8, 9</u>	(3) Sediment Trapping (short-term), High Potential for
<u>2, 3, 5, 5A, 6, 7A, 7B, 7C, 8, 9</u>	(4) Flood Desynchronization, High Potential for
<u>2, 3, 5, 5A, 6, 7A, 7B, 7C, 8, 9</u>	(5) Nutrient Retention (short-term), High Potential for
<u>2, 3, 5, 5A, 6, 7B, 8, 9</u>	(6) Food Chain Support (nutrient export), High Potential for
_____	(7) Dissipation of Erosive Forces (tidal or wave action), High Potential for
_____	(8) Active Recreation, High Potential for
_____	(9) Groundwater Discharge, High Potential for
<u>2, 5, 5A, 6, 7B, 7C, 8, 9</u>	(10) Nutrient Retention/Removal (long-term), High Potential for
<u>9</u>	(11) Sediment Trapping (long-term), High Potential for
_____	(12) Groundwater Recharge, High Potential for (few occurrences in Maryland wetlands)

B. VALUE

<u>Wetland Number</u>	<u>Rating</u>	<u>Value</u>
<u>2, 3, 5, 5A, 6, 7B, 8, 9</u>	Any combination of 3 functions including 2 and 6	High
<u>7A, 7C</u>	Any combination of 3 functions from the list, excluding 2 and/or 6	Medium
<u>1, 4, 7, 7D</u>	Less than 3 functions	Low

C. TYPE OF WETLANDS - Non-tidal

** Threatened or Endangered Species' habitat or Areas of State Critical Concern are wetlands of "high" value regardless of function, size or location.

55

Upland woodlands support a diverse fauna of deer mice, chipmunks, squirrels, flying squirrels, shrews, opossums, woodpeckers, blue jays, crows, vireos, towhees, tanagers, chickadees and many other songbirds.

Bottomlands including floodplains support furbearers such as muskrats, occasional mink, and raccoons, as well as rabbits, shrews, moles, bats, kingfishers, waterfowl and a great variety of songbirds.

Old fields support a varied faunal community. Rabbits, voles, skunks, red foxes, woodchucks, quail, many songbirds such as meadowlarks, bluebirds, robins, red-winged blackbirds, indigo buntings, etc. inhabit these areas.

iv. Threatened, Endangered, or Rare Species

Coordination with the U.S. Fish and Wildlife Service, the Maryland Department of Natural Resources and field surveys in the study area revealed no known populations of threatened, endangered or rare species in the study area (See correspondence in the Comments and Coordination section).

6. Existing Air Quality

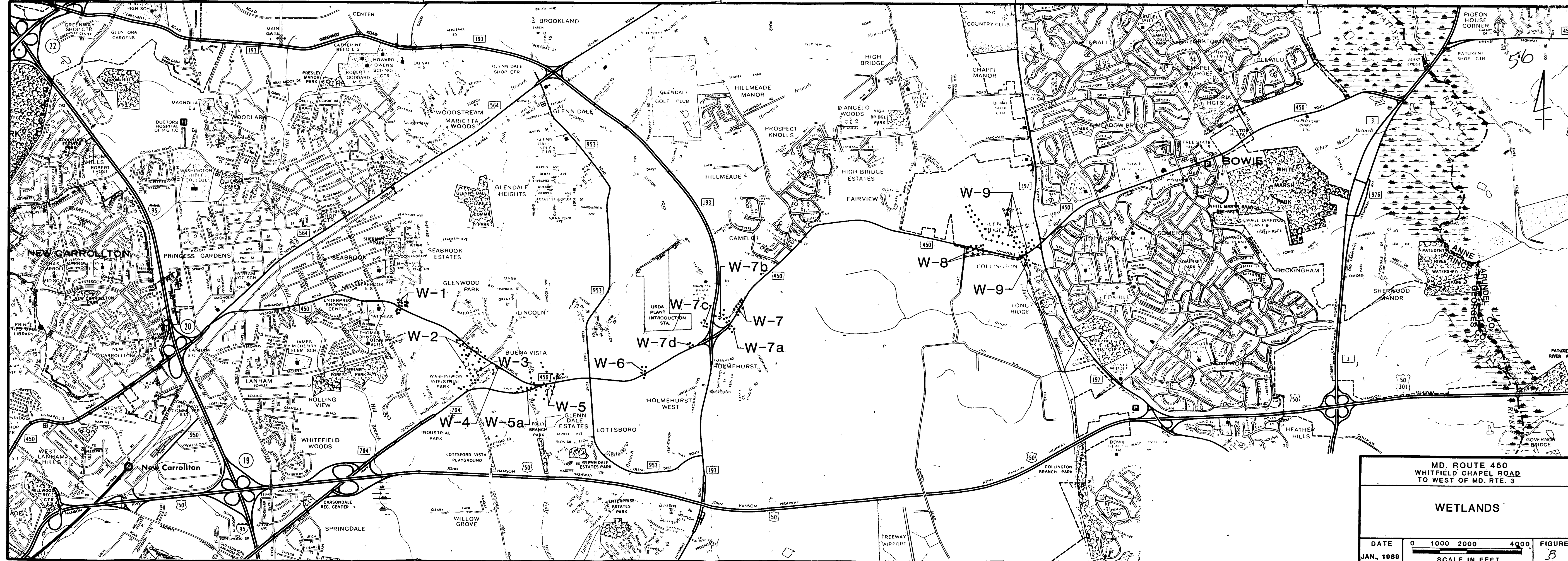
The Maryland Route 450 project is within the National Capital Intrastate Air Quality Control Region. The region does not meet the primary standards for carbon monoxide (CO) and is subject to transportation control measures such as the Vehicle Emissions Inspections Program.

A detailed microscale air quality analysis has been performed to determine the carbon monoxide (CO) impact of the proposed project and is described in Section IV.

7. Existing Noise Conditions

Thirty-five noise sensitive areas (NSAs) have been identified in the Maryland Route 450 study area. Descriptions of these noise sensitive areas are provided in Table 6 on p. I-28 and the location of each NSA is shown on Figure 9 following p. I-27 and on the Alternates Mapping on Figures 14-28 and 31-45 in Section III. A copy of the technical analysis report is available at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland 21202.

Highway traffic noise is usually measured in terms of the "A" weighted equivalent sound level, abbreviated as dBA. This scale has frequency range closest to that of the human ear. In order to give a sense of perspective, a quiet rural night would register about 25 dBA, a quiet suburban night would register about 60 dBA,



MD. ROUTE 450
WHITFIELD CHAPEL ROAD
TO WEST OF MD. RTE. 3

WETLANDS

DATE	0	1000	2000	4000	FIGURE
JAN., 1989	SCALE IN FEET				5

and a very noisy urban daytime about 80 dBA. Under typical field conditions, noise level changes of 2-3 dBA can barely be detected, with a 5 dBA change readily noticeable. A 10 dBA increase is judged by most people to be a doubling of sound loudness. (This information is presented in the "Fundamentals and Abatement of Highway Traffic Noise," by Bolt, Beranek & Newman, Inc., for FHWA, 1980.)

The FHWA has established, through 23 CFR 772, noise abatement criteria for various land uses. These criteria, along with the associated activity category, are presented in Table 7 on p. I-29. All noise sensitive areas in this study are characterized by Category B. NSA's 1, 2, 3, 8 and 28 are in land use Category E with an interior noise abatement criteria of 52 dBA.

The noise levels are expressed in terms of an Leq noise level on an hourly basis. The Leq noise level is the energy-averaged level for a given period of time.

All ambient and predicted levels in this report are Leq exterior levels. All churches in the study area are air conditioned and interior noise levels are not critical.

Measurement of ambient noise levels is intended to establish the basis for impact analysis. The ambient noise levels as recorded represent a generalized view of present noise levels. Variations with time of total traffic volume, truck traffic volume, speed, etc., may cause fluctuations in ambient noise levels of several decibels. However, for the purpose of impact assessment, these fluctuations are not sufficient to significantly affect the assessment.

It was determined for all the noise sensitive areas that the most typical noise conditions occur during the non-rush hour period (9:00 am - 4:00 pm). During this time the highest noise levels are experienced for the greatest length of time.

Calibration of the STAMINA 2.0/OPTIMA noise prediction model was performed utilizing simultaneous traffic data collected at noise monitoring sites along Maryland Route 450. Traffic counts taken during the 15-minute monitoring periods were adjusted to represent hourly traffic flows and were input into the computer model accordingly. The predicted Leq noise levels generated at the sites as a result of this calibration exercise differed from the actual ambient noise levels by 1-3 dBA. These fluctuations in noise levels can be attributed to extraneous noise sources pertinent to the modeled site (e.g., low aircraft flyovers) as well as the site's specific location, topographical features, and natural and man-made components (e.g., buildings, ground cover, etc.) and are within the range of normal modeling calibration (+ 3 dBA).

Measurements were made in September, 1987 for 15-minute periods at 35 noise sensitive areas, and ambient noise levels ranged from 51 dBA to 69 dBA. Monitoring was performed using an ANSI Type 2 integrating sound level meter model DB manufactured by Metrosonics, Inc.

The monitored ambient noise levels are included in Table 6 on p. I-28. The discussion in Section IV summarizes the results of the technical noise analysis.

TABLE 6

AIR SENSITIVE RECEPTORS, NOISE SENSITIVE AREAS AND AMBIENT NOISE LEVELS

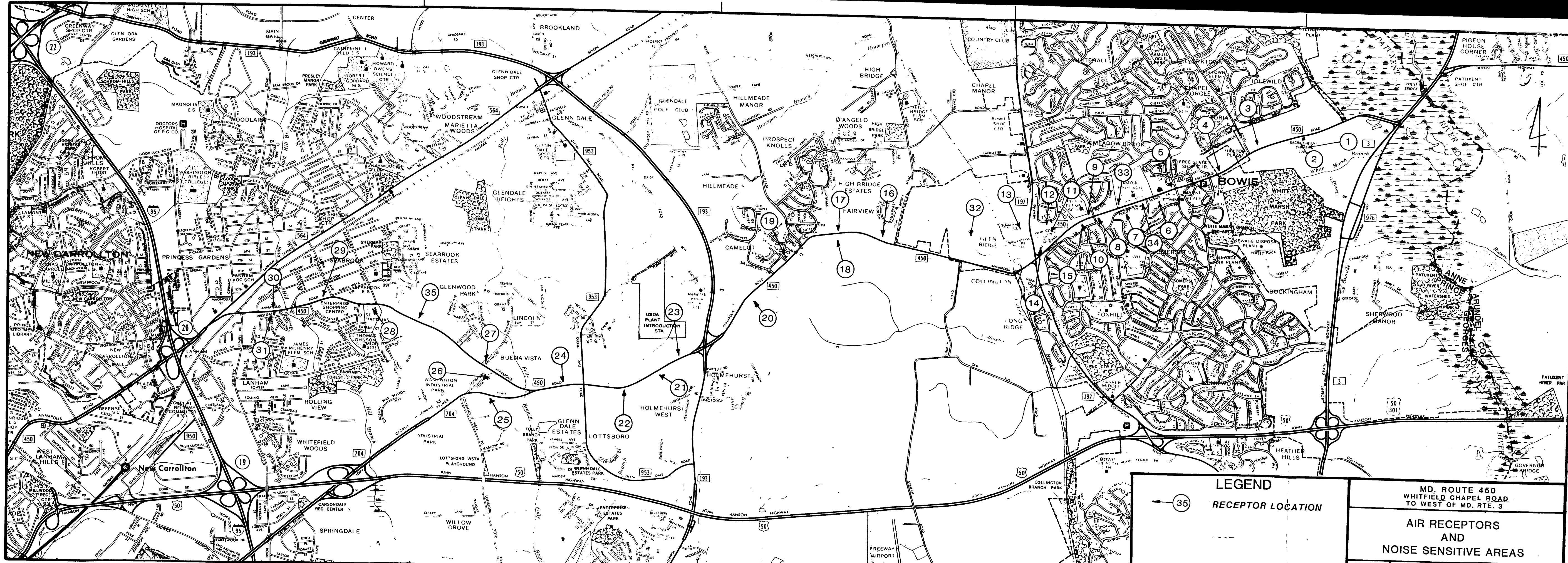
<u>RECEPTOR #</u>	<u>LOCATION</u>	<u>DISTANCE FROM THE CENTERLINE OF MD 450</u>	<u>DESCRIPTION</u>	<u>AMBIENT LEVEL</u>
1	Sacred Heart Church Rectory	500 R	Church	53
2	Sacred Heart Church	290 R	Church	59
3	Cornerstone Assembly of God	210 L	Church	59
4	MNCPPC Archer Tract Park	127 L	Park	60
5	15310 Millstream Drive	100 L	Residence	64
6	12411 Sussex Lane	280 R	Residence	60
7	12315 Tilbury Lane	175 R	Residence	58
8	Nevay Sholom Synagogue	200 R	Church	60
9	32200 Moylan Drive	100 L	Residence	63
10	3044 Twisting Lane	110 R	Residence	60
11	12007 Twin Cedar Lane	92 R	Residence	52
12	3336 Memphis Lane	97 L	Residence	51
13	11919 Galaxy Lane	106 L	Residence	52
14	3101 Twin Cedar Lane	---	Residence	62
15	3009 Twisting Lane	---	Residence	55
→ 16	6101 Gallery Street	173 L	Residence	61
17	Model at Red Willow	137 L	Residence	61
18	R/W at Westwood	117 R	Residence	57
19	12602 Sir Walter Drive	104 L	Residence	65
20	R/W at Fairwood Turf Farm	128 R	Business	63
21	1709 Annapolis Road	128 R	Residence	61
22	Vacation Boarding Kennels	164 R	Business	58
23	11900 Annapolis Road	108 L	Residence	68
24	10910 Annapolis Road	107 L	Residence	69
25	4620 M.L.K. Jr. Highway	795 R	Residence	65
26	4915 Lottsford Vista Road	100 R	Residence	57
27	5001 Baltimore Lane	120 L	Residence	65
28	St. Matthias Church	157 R	Church	58
29	9342 Annapolis Road	113 L	Residence	65
30	9220 Annapolis Road	84 L	Residence	70
31	5706 Westgate Road	97 R	Residence	62
32	R/W City of Bowie Parkland	165 L	Park	-
33	Bowie H.S. Tennis Courts	108 L	School	59
34	3134 Belair Drive	109 R	Residence	64
35	9626 Annapolis Road	71 L	Residence	66

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TABLE 7

NOISE ABATEMENT CRITERIA
(SPECIFIED IN 23CFR772)

<u>LAND USE CATEGORY</u>	<u>DESIGN NOISE LEVEL - Leq</u>	<u>DESCRIPTION OF LAND USE CATEGORY</u>
A	57dBA (exterior)	Tracts of land in which serenity and quiet are of extraordinary significance and preservation of those qualities is essential if the area is to continue its intended purpose. Such areas could include amphitheaters, particular parks, or open spaces which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B	67dBA (exterior)	Residences, motels, hotels, public meeting (exterior) rooms, schools, churches, libraries, hospitals, picnic areas, playgrounds, active sports areas, and parks.
C	72dBA (exterior)	Developed lands, properties or activities not included in categories A or B above.
D	None Prescribed	Land which is undeveloped on the date of public knowledge of the project, and on which no known future development is planned.
E	52dBA (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.



LEGEND
 RECEPTOR LOCATION

MD. ROUTE 450
 WHITFIELD CHAPEL ROAD
 TO WEST OF MD. RTE. 3

**AIR RECEPTORS
 AND
 NOISE SENSITIVE AREAS**

DATE: JAN, 1980

0 1000 2000 4000
 SCALE IN FEET

FIGURE 9

II NEED FOR THE PROJECT

II. NEED FOR THE PROJECT

A. Purpose

The purpose of this study is to evaluate feasible alternatives for the reconstruction of Maryland Route 450 from Whitfield Chapel Road at Lanham to west of Maryland Route 3 in the City of Bowie to improve capacity and safety. Options for the reconstruction of Maryland Routes 704 and 197 in the vicinity of their intersections with Maryland Route 450 are also being evaluated.

The improvements would provide transportation system continuity and adequate safety, travel efficiency and capacity for the Maryland Route 450 corridor through the design year 2015. The improved roadway would continue to serve the dual roles of carrying through traffic and providing access to adjacent properties. Turning traffic, a significant and continually increasing component of Maryland Route 450 traffic volumes due to expanding roadside residential and commercial development, would be accommodated by the proposed improvements.

Overall traffic volumes have recently begun to increase at a rate which is projected to accelerate due to widespread on-going development. In the Bowie area alone, approximately 70 subdivision projects are in the development stage. Decisions regarding the locations and densities of residential and commercial development in the project area have been based upon the construction of roadway improvements. As major improvements are completed at the Interstate Route 68 (U.S. Route 50)/Maryland Route 704 interchange and the Maryland Route 450/564 interchange, Maryland Routes 450 and 704, within the study limits, will serve an increasingly important role in linking central Prince George's County with the Capital Beltway. To the east, Maryland Route 450 will serve as an important connector to Maryland Route 3, which is planned to be upgraded to interstate standards.

The need for improvement of Maryland Route 450 arises from the projected growth in and near the study corridor and the existing roadway's substandard features with regard to pavement width, shoulder width, horizontal curvature and sight distance. Especially poor conditions exist at the Maryland Route 450 bridges over the abandoned W.B. & A. Railroad and the Conrail Railroad where severe horizontal and/or vertical alignment deficiencies contribute to operational problems. Although Maryland Route 450, as a whole, experienced accident rates from 1985 through 1987 which were only slightly higher than the statewide average for similar type highways, four highway segments and four intersections experienced accident rates which were significantly higher than the statewide average.

B. Project History

Maryland Route 450, also known as Annapolis Road and formerly known as Defense Highway, is a minor arterial highway on Maryland's Secondary Highway System and is classified as an urban principal arterial under Federal criteria. This roadway provided the primary connection between the State Capital and the Nation's Capital until superseded by present U.S. Route 50 during the 1950's.

The Maryland Route 450 project has been listed in all SHA Highway Needs Studies and Inventories since 1968, including the 1986 Needs Update. The project was programmed for project planning in 1974. Conceptual improvements from east of Whitfield Chapel Road to east of Maryland Route 704 were presented at a Public Informational Workshop in September, 1978. Studies were not completed and the project was removed from the Planning Program in 1982 due to budget limitations.

The project reappeared in the Development and Evaluation Program of the Maryland Department of Transportation's Consolidated Transportation Program (CTP) for Fiscal Years 1986-1991 and remains in the current (1988-1993) CTP. Also added to this Program was a study for replacement of Bridge No. 16015 over the abandoned W.B. & A. Railroad and Bridge No. 16016 over Folly Branch due to structural deterioration. These replacements were to have been performed as Special Projects. These studies were suspended in 1987 and made part of this Project Planning Study.

The current Project Planning Study for Maryland Route 450 from Whitfield Chapel Road to west of Maryland Route 3 began in late 1986. An Alternates Public Workshop was held in June, 1987 in Bowie. The project is not currently programmed for design, right-of-way acquisition or construction except for the portion from Maryland Route 193 to Moylan/Trinity Drives where Prince George's County has programmed funding for design and construction.

The project is consistent with all County master plans including the Prince George's County General Transportation Plan of 1982, the Bowie-Collington and Vicinity Master Plan of October 1970 and the Glenn Dale, Seabrook, Lanham and Vicinity Master Plan of 1977. The Glenn Dale, Seabrook, Lanham and Vicinity Master Plan endorses the improvement of Maryland Route 450 to a six-lane facility from Whitfield Chapel Road to Maryland Route 704 as part of its Stage I Development Sequence. Consistency with the Maryland-National Capital Park and Planning Commission's (MNCPPC) Countywide Trails Plan of 1975 and subsequent Equestrian Addendum of 1985 is being maintained wherever feasible throughout the project. Supporters of the project include the Prince George's County Executive and County Council and the MNCPPC, each of whom has placed the Maryland Route 450 project near the top of its transportation priority list.

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C. Existing Roadway

Existing Maryland Route 450 consists generally of an open section two lane roadway through much of the project area, as does Maryland Route 704. Turn lanes are introduced at several of the major intersections, near large commercial areas and at some business entrances. Four through lanes exist in the vicinity of the Maryland Route 193 intersection and from east of Stonybrook/Millstream Drives to east of Race Track Road where the roadway narrows to three lanes (two lanes eastbound) to Maryland Route 3. Maryland Route 450 is an undivided roadway with the exception of an approximate 1200' long portion in the vicinity of Maryland Route 193 where a variable width median has been recently constructed. Existing Maryland Route 197 is a 5-lane undivided urban section north of existing Maryland Route 450. South of the Md. 450 intersection, Md. 197 transitions from a 5-lane undivided section to a 3-lane roadway approximately 500' south of the intersection.

Existing right-of-way widths vary from 40' in portions of the western and central segments of the project area to as much as 150' in the Bowie area where right-of-way dedications have been platted in anticipation of future highway improvements. Similar dedications are in-place at various locations in the Lanham area.

The existing horizontal geometrics on Maryland Route 450 are satisfactory for the 25 mph to 45 mph posted speed limits on the roadway with the exception of two locations which do not meet American Association of State Highway and Transportation Officials (AASHTO) criteria for a 50 mph design speed: east of Hillmeade Road and at the Conrail Railroad Bridge where 6°30' and 13° curves exist, respectively. There are approximately eight additional locations on the 8.5 mile long project which approach the allowable limit for 50 mph design criteria, having a 4° 30' or greater degree of curvature. The existing shoulder widths, lateral clearances to utility poles and roadside safety grading are generally substandard throughout the project.

The existing vertical alignment on Maryland Route 450 fails to meet AASHTO minimum requirements for 40 mph at 27 locations, SHA acceptable criteria for 40 mph at 35 locations and SHA acceptable criteria for 50 mph at 42 locations. The most severely substandard conditions occur east of Morley road, east of Seabrook Road, at the W.B. & A. Railroad Bridge, west of Sir Lancelot Drive and east of Race Track Road where the alignment is not acceptable for 30 mph under either AASHTO or SHA criteria. The poor vertical alignment imposes conditions where driver sight distance may not be sufficient enough to allow adequate time to react to stopped or turning vehicles, pedestrian activity or other conditions requiring driver decision.

D. Traffic Conditions

Traffic flow throughout the Maryland Route 450 corridor is adversely affected by the mix of local and through trips. Additional side friction is caused by the high frequency of residential and

commercial access points throughout the project area, especially in the Lanham and Bowie areas. Under present conditions, there are significant queues and delays at major intersections during the hours of peak traffic.

Average Daily Traffic (ADT) figures are shown for 1986 and the design year 2015 on Figure 10 following p.II-5. Maryland Route 450 currently carries an ADT ranging from approximately 10,000 to 23,000 vehicles. Increases in ADT ranging from approximately 50 to 200 percent are projected for the period between 1986 and 2015. This rate corresponds to an annual growth rate ranging from 1.7 to 6.9%. These projections were made assuming construction of all currently planned highways in the region, including the upgrading of U.S. Route 50 to a 6-lane interstate highway (I-68).

The traffic projections developed for the Maryland Route 450 project are consistent with the overall trends in motor vehicle use throughout the state. For example, vehicle miles of travel in Maryland increased at a 5.2% annual rate between 1984 and 1987 as compared to an annual increase of 2.9% experienced between 1979 and 1984. Similarly, statewide motor vehicle registration increased at an annual rate of 6.0% between 1985 and 1987. In Prince George's County, motor vehicle registration increased over 95% between 1966 and 1986, an average annual increase of 4.8%. Prince George's County roads were utilized for approximately 5.7 billion vehicle miles of travel in 1987. This figure reflects a 21.8% increase in vehicle miles traveled in the County since 1980.

Quality of traffic flow along a highway is measured in terms of level of service (LOS). This measure is dependent upon highway geometry and traffic characteristics and ranges from LOS "A" (Best) to LOS "F" (Worst or Forced Flow). Alternates for the improvement of Maryland Route 450 have been developed with the intent of achieving LOS "D" or better for the year 2015 traffic volumes. LOS "D" is considered to be the minimum acceptable LOS in suburban areas. Table 8, on the following page, shows the results of traffic analyses for the various roadway and traffic volume conditions investigated. The levels-of-service for the 4-lane and 6-lane alternates with 2015 traffic are also shown on Figure 10 following p.II-5.

The current highway with 1986 traffic volumes generally provides satisfactory levels of service throughout most of the study corridor, as only two intersections operate worse than LOS "D". However, projections indicate that LOS "E", which reflects a facility operating approximately at capacity, would be reached at a majority of the project intersections by 1995. LOS "F" would be reached by the year 2015 at all but two intersections on the project.

Analysis of the Build Alternates indicates that 6-lanes would be required by the year 2015 from west of Maryland Route 704 to east of Maryland Route 197 and from east of Stonybrook/Millstream Drives to Maryland Route 3 to provide adequate levels of service.

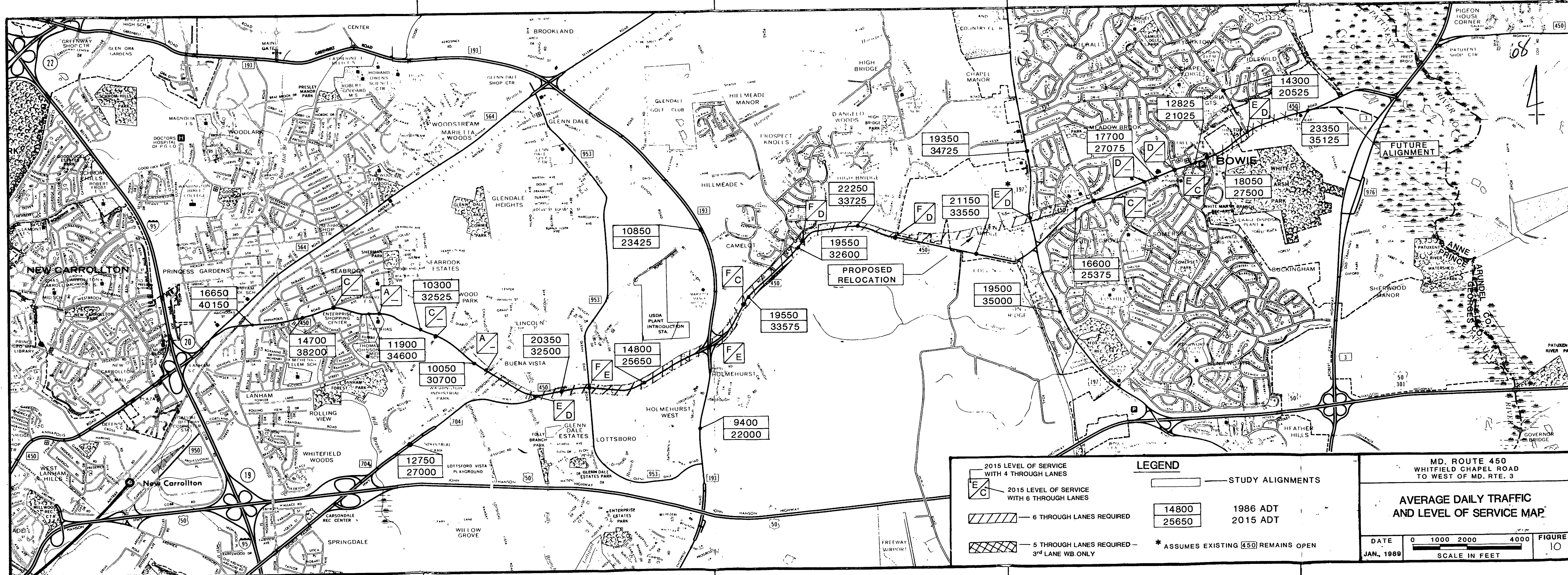
TABLE 8
SUMMARY OF INTERSECTION LEVELS OF SERVICE (LOS)

MARYLAND ROUTE 450 INTERSECTION	NO-BUILD		BUILD	
	1986	2015	4-LANE DIVIDED 2015	6-LANE DIVIDED 2015
Carter Avenue	A	F(1.05)	C	1
Seabrook Road	A	E(0.98)	A	1
Forbes Boulevard	N/A	N/A	C	1
Baltimore Street	A	E(0.96)	A	1
MD 704	E	F(1.79)	E(0.93)	D
MD 953 (Glenn Dale Road)	D	F(1.82)	F(1.19)	E(0.96)
MD 193	A	F(1.14)	F(1.15)	E(0.94)
Bell Station Road	C	F(1.85)	F(1.00)	C
Hillmeade Road	D/E	F(1.96)	F(1.12)	D
Highbridge Road	D	F(1.71)	F(1.05)	D
MD 197 ²	D	F(1.89)	E	D
Moylan/Trinity Drives	A	F(1.16)	C	1
Belair Drive	B	F(1.42)	D	1
Millstream/Stonybrook Dr.	B	F(1.40)	D	1
Superior Lane	D	F(1.36)	E(0.92)	C
Race Track Road	C	F(1.62)	E(0.93)	D

- Volume-to-Capacity ratios are given in parenthesis

Notes:

- 1 Lane configuration and LOS identical to 4-lane divided build alternate.
- 2 Level of Service E is projected for Option W2 or W3 with four through lanes from Highbridge Road to Moylan/Trinity Drives; LOS D is projected for Option W2 or W3 with six through lanes. LOS F is projected for Option W1 with 4-lanes and 6-lanes. No-Build levels of service are given for the existing Maryland Route 450/197 intersection location. Build levels of service are given at the relocated intersection location.



16650
40150

14700
38200

11900
34600

12750
27000

20350
32500

14800
25650

9400
22000

10850
23425

19550
32600

19550
33575

22250
33725

19500
35000

16600
25375

21150
33550

19350
34725

17700
27075

12825
21025

18050
27500

23350
35125

14300
20525

LEGEND

- 2015 LEVEL OF SERVICE WITH 4 THROUGH LANES
- 2015 LEVEL OF SERVICE WITH 6 THROUGH LANES
- 6 THROUGH LANES REQUIRED
- 5 THROUGH LANES REQUIRED - 3rd LANE WB. ONLY
- STUDY ALIGNMENTS
- 14800 1986 ADT
- 25650 2015 ADT
- * ASSUMES EXISTING 450 REMAINS OPEN

MD. ROUTE 450
WHITFIELD CHAPEL ROAD
TO WEST OF MD. RTE. 3

**AVERAGE DAILY TRAFFIC
AND LEVEL OF SERVICE MAP**

DATE: JAN., 1989

0 1000 2000 4000
SCALE IN FEET

FIGURE 10

E. Accident Statistics

Maryland Route 450, from 50' east of Whitfield Chapel Road to Maryland Route 3, experienced 595 reported accidents during the study period 1985 through 1987, resulting in an accident rate of 339 accidents per one hundred million vehicle miles (acc./100 mvm) of travel. This study period rate is slightly higher than the statewide average accident rate (334 acc./100 mvm) for similar design highways. The cost of the motoring and general public as a result of these accidents is approximately \$3.3 million/100 mvm of travel. These accidents are listed below by year and severity.

<u>Severity</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>Total</u>	<u>Rate Per 100 MVM</u>	<u>Statewide Rate</u>
Fatal Accidents	2	1	2	5	2.85	2.24
Injury Accidents	114	127	125	366	208.81	174.88
Prop. Dam. Acc.	74	81	69	224	127.80	157.45
Total Accidents	190	209	196	595	339.46	334.58

As traffic volumes increase on the existing roadway, increasing the likelihood of congestion and delays, it is projected that the number, severity and rate of accidents would increase. It is anticipated that the implementation of either a 4-lane or 6-lane divided highway would result in an accident rate of approximately 310 accidents/100 mvm of travel.

Of the five fatal accidents within the study limits, three were fixed object type collisions, one was a sideswipe collision and the other an opposite direction type collision. Two of the fixed object collisions occurred near the Maryland Route 193 intersection, with the third occurring near Maryland Route 197. The sideswipe and opposite direction fatalities occurred near the Seabrook Road intersection. One additional fatality occurred in 1988, near Bowie High School.

The accident rates by collision type within the study area in comparison to statewide average accident rates are shown in the following table:

<u>Collision Type</u>	<u>No. of Accidents</u>	<u>Rate</u>	<u>Statewide Average Rate</u>
Angle	101	57.62	54.53
Rear End	174	99.28*	85.34
Fixed Object	100	57.05*	45.43
Opposite Direction	49	27.96*	17.28
Sideswipe	45	25.67	21.10
Left turn	100	57.05*	33.53
Pedestrian	9	5.13	8.81
Parked	2	1.14	10.43
Other	15	8.56	50.47

* Significantly exceeds statewide average.

The four locations on Maryland Route 450 within the study limits meeting SHA criteria as High Accident Intersections are: Maryland Route 704 (Martin Luther King, Jr. Highway), Maryland Route 953 (Glenn Dale Road), Maryland Route 193 (Enterprise Road) and Maryland Route 197 (Laurel-Bowie Road). The four sections of highway within the study limits meeting SHA criteria as a High Accident Section:

- From 250' west of Md. 704 to 500' east of Glenn Dale Road;
- From 1700' west of Md. 193 to 1100' east of Bell Station Road;
- From 100' west of Highbridge Road to 50' east of Church Road; and
- From 200' east of Belair Drive to 350' east of Superior Lane.

In addressing the High Accident Sections and Intersections on Maryland Route 450, the alternates for the project propose the following improvements in the vicinity of the High Accident Locations:

1. The Maryland Route 450/704 intersection would be completely reconstructed under any option providing additional capacity and improved continuity for the major movements. The degree of curvature on mainline Maryland Route 450 as well as skew of the intersection would be improved.
2. Additional capacity would be provided at the Glenn Dale Road intersection. The existing substandard crest east of the intersection would be lowered 10'-12' to provide adequate sight distance for 50 mph design speed criteria.
3. East and west of the Maryland Route 450/193 intersection, capacity improvements will eliminate the lane reductions which now occur. Under the 6-lane Divided Alternate, the southbound approach to the intersection would be widened to accommodate double left turns.
4. The proposed relocation to be constructed by Prince George's County would create additional capacity and improved sight distance to help remedy the high accident conditions between Highbridge Road and Church Road and at the Maryland Route 197 intersection.
5. From east of Belair Drive to east of Superior Lane, additional through lanes, turn lanes at several intersecting roads and entrances, and vertical alignment improvements, proposed under each alternate, would improve safety as compared to the existing conditions.

For further analysis of collision data, the project area was subdivided into three segments as follows:

- Segment 1 - Whitfield Chapel to Md. 704
- Segment 2 - Md. 704 to Highbridge Road
- Segment 3 - Highbridge Road to Md. 3

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As compared to the statewide average accident rates for similar design highways, Segment 1 rates were slightly higher, Segment 2 rates were slightly lower and Segment 3 rates were significantly higher for the study period 1985 through 1987.

F. Associated Improvements

To the south of Maryland Route 450 is U.S. Route 50 (to be renamed Interstate Route 68), which is currently undergoing reconstruction as a 6-lane divided freeway built to interstate standards. I-68 and Maryland Route 450 together represent the primary corridors in central Prince George's County for east-west travel between Annapolis and Washington, D.C.

Currently in final design and planned to be advertised for construction in 1989 is the Maryland Route 450/564 Interchange Project (SHA Contract No. P-185-251-371). In addition to providing a grade separation at the Maryland Route 450/564 junction, this project proposes reconstruction of the bridge and approach roadways to the Maryland Route 450 bridge over the Amtrak Railroad resulting in a 4-lane divided section west of Whitfield Chapel Road. East of Whitfield Chapel Road, a 5-lane undivided typical section is proposed for approximately 500' before tapering to the existing 2-lane section on Maryland Route 450 just west of Morley Road.

Consideration is being given to a separate safety project to correct substandard sight distance at the WB&A Railroad Bridge.

As part of the Washington Business Park construction, southwest of the Maryland Route 450/704 intersection, Maryland Route 704 is planned for reconstruction as a 6-lane divided highway from Forbes Boulevard to Lottsford Vista Road. Forbes Boulevard is also to be extended from Business Parkway to Maryland Route 450.

At the eastern end of the study area is a project for the reconstruction of Maryland Route 3 to interstate standards including an interchange with a partial relocation of Maryland Route 450. This project remains in the Project Planning Phase.

III ALTERNATES CONSIDERED

III. ALTERNATES CONSIDERED

A. Alternates Dropped From Consideration

An Alternates Public Workshop was held on June 2, 1987, in Bowie, Maryland, at which the following Maryland Route 450 alternates were presented:

1. 4-lane divided - Narrow median (6-lane adaptable)
2. 5-lane undivided
3. 4-lane divided - Wide median (6-lane adaptable)

The 5-lane Undivided Alternate was dropped during the detailed studies stage because of the many advantages of the divided alternates in terms of safety and capacity without a significant increase in impacts as compared to the 5-Lane Undivided Alternate. In any event, a median would be required at the major intersections along Maryland Route 450, several of which require double left turns, to provide adequate capacity and channelization.

The following Alternates were presented at the Alternates Workshop for implementation by Prince George's County between Maryland Route 193 and Highbridge Road.

1. Widening of the existing roadway to four lanes along existing horizontal and vertical alignment.
2. Southern relocation of Maryland Route 450 as a four lane divided highway with 50 mph design speed.

Subsequent to the Alternates Workshop, an alignment just to the south of the existing roadway was developed in response to public input. This alignment has the following benefits over the widening alternate which was presented at the Workshop.

1. Enables the design objectives of removing substandard horizontal and vertical curvature to be accomplished with minimal impact to existing homes.
2. Minimizes costly utility relocations estimated to be over \$1 million for the widening alternate as opposed to approximately \$220,000 for this alignment.
3. Makes available significant segments of the existing roadway for use as a multi-purpose trail as desired by MNCPPC.
4. Allows for utilization of a greater portion of the existing road during construction, making travel through the construction work zone somewhat safer.

- 5. Moves the road further from the Holy Trinity Church Historic Site.
- 6. Allows for future expandability. The widening alternate would not be expandable since it would result in a 6-lane, or wider, undivided highway, an undesirable design practice.

The improvement of existing Maryland Route 450 between Highbridge Road and Moylan/Trinity Drives, except for rehabilitation or replacement of bridge no. 16017 over the Conrail Railroad, has been eliminated from further consideration as a viable alternate. This decision was based on:

- 1. Substantial right-of-way impacts and conflicts with existing businesses associated with widening along the existing road as compared to the dedications and reservations in place for the northern relocation. A wider corridor is available along relocation than along existing alignment.

The following presents a comparison of several impacts associated with improvement along the existing roadway and relocation to the north:

	<u>Existing Roadway Improvement</u>	<u>Northern Relocation</u>
a. Number of Residences for which strip R/W taking is required	16	0
b. Number of residential displacements (No. of additional residences for which proposed right-of-way would encroach within 25' of residence)	2 (3)	0 (0)
c. Number of businesses for which strip R/W taking is required	10	0
d. Parking spaces impacted	Approx. 45 total spaces at 5 locations	0
e. Right-of-Way required from the Proposed Parcel "F" Park	2.3 acres	0

Due to the limited availability of existing right-of-way east of Maryland Route 197, a retaining wall up to 6' in height and 1000' in length would be required to avoid grading impacts to Twisting Lane which provides access to the Tulip Grove subdivision.

The costs associated with utility relocations along the existing road were estimated to be \$1.5 million higher than along relocation due to the presence of a 24" water main, 12" gas main and primary electrical transmission lines along the existing road.

- 2. Approximately 1.81 acres of wetlands would be impacted along the existing roadway as compared to 0.69 acre along new alignment.

One wetland area classified as having high functional value, W-9, would be impacted with either alignment. However, the existing roadway alignment would impact 0.57 acre of a permanently ponded portion of W-9 not impacted by the relocation.

The existing roadway alignment would impact approximately 1.24 acres of W-8, another area classified as high quality.

- 3. Inconsistency between existing roadway improvement and the Bowie-Collington Master Plan alignment. The relocation alignment has been reserved for highway use since 1964.
- 4. Programming decisions by Prince George's County and concurrence by the City of Bowie. Subdivision and development approvals in the project area have been based upon the relocation being implemented.

Of the two alignments, improvement along relocation was determined to be a minimization of impacts. Noise barriers will be considered during final design for several areas along the relocation at which noise level projections exceed SHA or Federal criteria.

Another option, between Highbridge Road and Moylan/Trinity Drives, which was evaluated but dropped was the one-way couplet option. The one-way couplet would have consisted of improvement along existing roadway to carry eastbound traffic and construction of improvements along the relocation alignment to handle westbound traffic. Two or three lanes would be required in each direction to meet design year capacity requirements. This option was dropped primarily for the following two reasons:

- 1. A 40-residence portion of the Tulip Grove Subdivision would be located in the median of 4 to 6-lanes of arterial traffic.
- 2. Several north-south connectors would be required between the eastbound and westbound roadways to serve areas north of the relocation and south of the existing roadway.

Three options were presented at the Alternates Public Workshop for the alignment of Maryland Route 704 at Maryland Route 450. The options and their locations are as follows:

- Option A - Just west of Electric Terrace
- Option B - Between Electric Terrace and the existing Maryland Route 704 intersection location
- Option C - The existing Maryland Route 704 intersection location

Each alignment option was to be considered as both an at-grade intersection and grade separation interchange alternative. Alignment Option B for Maryland Route 704 has been dropped from further consideration because of its intrusion into the Buena Vista subdivision. All grade-separated interchange alternatives have been dropped from further consideration due to substantial right-of-way impacts and the availability of at-grade solutions which provide adequate capacity for the projected traffic volumes at less than half the cost of an interchange.

The Maryland Department of Transportation, in a study completed in October, 1988, has identified the Annapolis/Washington D.C. corridor as one of 7 significant commuting corridors where light rail transit may be feasible. This study presented an overall evaluation of how well light rail transit and other transportation alternatives would be able to meet the corridor's travel demand and characteristics including a preliminary estimate of costs associated with the transportation alternatives. A light-rail line along this corridor would connect the Addison Road Metro Station with Bowie at an estimated cost of \$175 million to \$275 million with 10,000 to 20,000 riders daily.

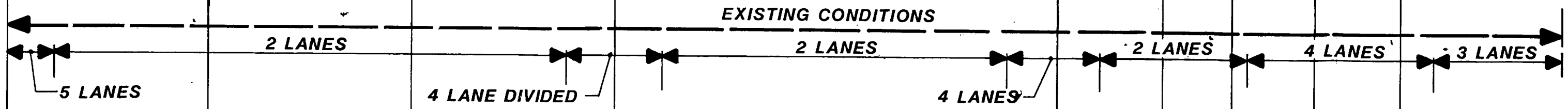
The Prince George's County Department of Public Works and Transportation is continually evaluating ways to improve public transportation services in the County. Among the services currently available are: Metrobus (approximately 50 stops in the project area), Metrorail, the Upper Marlboro Shuttle, Ride Finders, Call-A-Bus and the Senior Citizen Transportation service.

Because of the great variety of trips throughout the project study area, transit alternatives alone could not significantly contribute toward satisfying transportation requirements. The Build Alternates proposed in this Project Planning study are essential to and would be complemented by existing and planned transit alternatives as an inter-modal approach to solving the congestion problems of the area.

B. Alternates Retained For Detailed Studies

A description of the alternates evaluated for Maryland Route 450 and options studied for several intersecting roadways in the vicinity of Maryland Route 450 during the detailed studies stage follows. Refer to Figure 11 following this page for a graphical summary of the typical sections which make up each Maryland Route 450 alternate.

NO-BUILD
NO. OF LANES
(EXCLUDING
TURN LANES)



4 LANE DIVIDED ALTERNATE



6 LANE DIVIDED ALTERNATE



WHITFIELD CHAPEL ROAD

SEABROOK ROAD

MD RTE 704

MD RTE 193

MD RTE 197

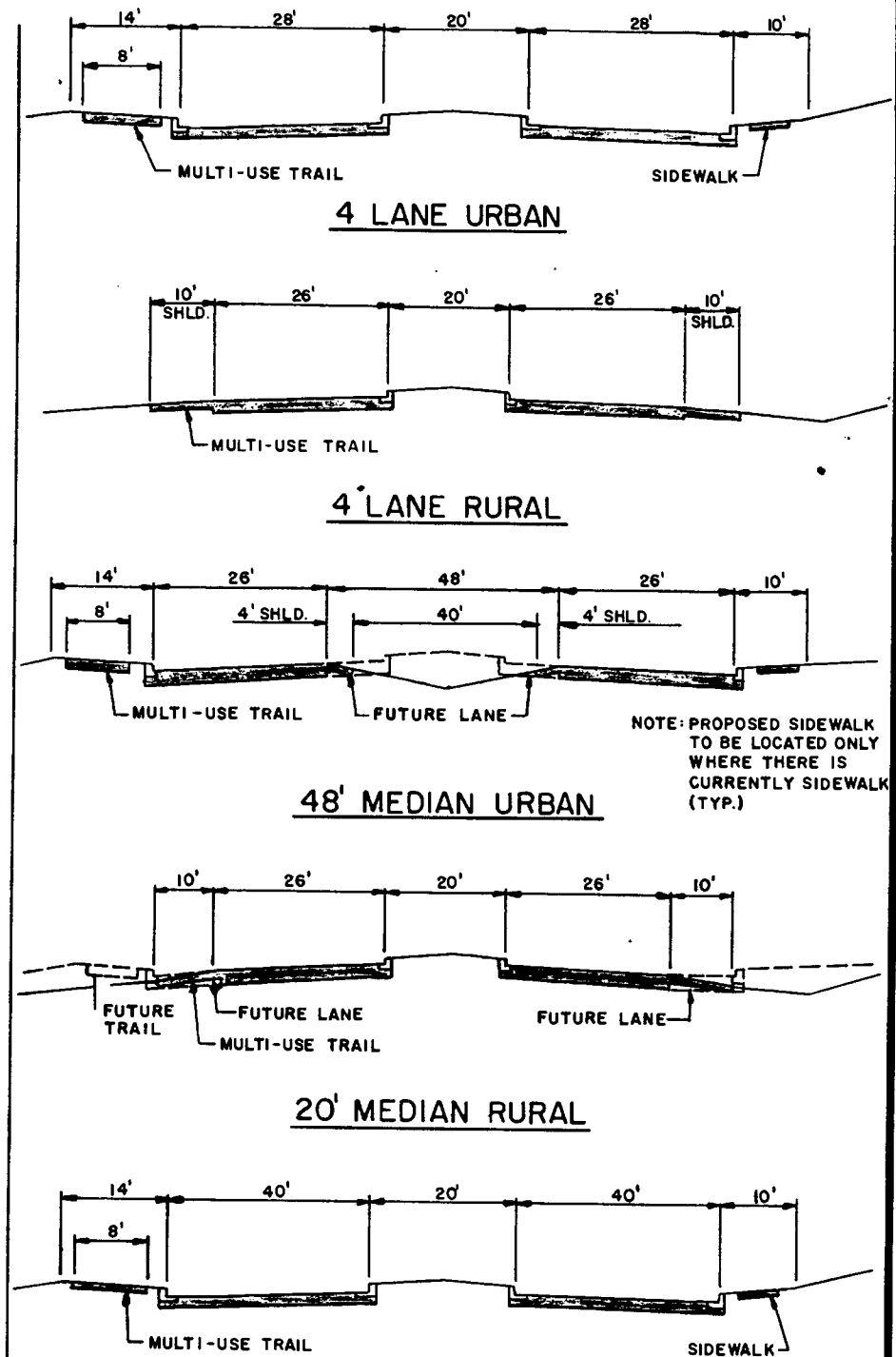
MOYLAN/TRINITY DRIVES

STONYBROOK /
MILLSTREAM DRIVES

SUPERIOR LANE

RACE TRACK ROAD

MD RTE 3



TYPICAL SECTIONS

NOTE: SEE FIGURES 13, 29 AND 30 FOR ADDITIONAL TYPICAL SECTION DETAIL.

MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

CONCEPTUAL LAYOUT OF ALTERNATES

DATE	NO SCALE	FIGURE
JAN., 1989		11

1. The No-Build Alternate

The No-Build Alternate would not include any significant improvement to Maryland Route 450 within the study area. This alternate would provide no major improvements or construction to the existing roadway that would measurably affect the ability of the highway to accommodate increased traffic volumes predicted for the design year 2015. Normal maintenance, such as shoulder modifications, signing, resurfacing, and safety improvements, would be completed as warranted but capacity would not be increased.

One such safety improvement which is being studied is the removal of the bridge over the abandoned W.B. & A. Railroad and reconstruction of the roadway on fill with an improved grade to increase sight distance.

2. Build Alternates

The Build Alternates for Maryland Route 450 consist, with minor exceptions, of typical section alternates only along one horizontal and vertical alignment. The horizontal alignment closely follows the existing roadway utilizing established right-of-way reservations and dedications wherever possible. The proposed vertical alignment represents a substantial improvement over the existing roadway in order to meet the 50 mph design speed criteria. Only a small portion of the existing roadway under each Build Alternate would be incorporated as part of the improved roadway. Minor differences occur in the alignment between the alternates to minimize impacts to adjacent development.

Planned for construction as a staged improvement regardless of the Build Alternate selected is the Prince George's County project from Maryland Route 193 to Moylan/Trinity Drives. The County, as an agent of the State Highway Administration, would construct beginning in FY 1990 a 4-lane divided highway (20 foot median) just south of the existing roadway between Maryland Route 193 and Highbridge Road and along a northern relocation between Highbridge Road and Moylan/Trinity Drives (in a corridor reserved for such purposes by the City of Bowie). Since several years may separate the completion of the County project and the construction of the ultimate Maryland Route 450 improvement, the State Highway Administration would construct a staged improvement from Moylan/Trinity Drives to Stonybrook/Millstream Drives. This improvement would transition from the 4-lane divided section which would be in place at Moylan/Trinity Drives to the existing 4-lane undivided section at Stonybrook/Millstream Drives. The typical section within the transition would be predominantly 4-lane undivided along existing line and grade to minimize costs.

The portion from Maryland Route 193 to Highbridge Road is proposed slightly south of the existing roadway to improve roadway geometrics, avoid impact to existing development on the north side of the road and possibly allow portions of the existing roadway to be used as a trail. Due to County budget shortfalls, negotiations have been initiated to develop a participation agreement for private developer commitment to funding and/or right-of-way dedication for this portion of the project.

The dedication of right of way by private developers will not commit SHA to the selection of a particular Build Alternative because any dedication not required for the alternative which is eventually selected will be revested to the developer. Furthermore, while only one alignment remains under consideration between MD 193 and Highbridge Road, due to the fact that all others have been rejected based on greater costs and environmental impacts (see pp III-1 and 2), the dedications do not preclude the consideration of minor shifts in the alignment of the reserved corridor, where necessary, for the purpose of further minimizing impacts. However, it is believed that the retained alignment between MD 193 and Highbridge Road represents a minimization of environmental impacts and is in accordance with the desires expressed at the Alternates Workshop.

The portion from Highbridge Road to Moylan/Trinity Drives is consistent with Prince George's County, Maryland National Capital Park and Planning Commission and the City of Bowie plans and is considered staged improvement that will provide adequate capacity and safety for immediate needs. Following the construction of the relocation, new Maryland Route 450 would become a state highway, and the existing road would be transferred to the County. The relocation intersects Maryland Route 197 (Laurel-Bowie Road) approximately 1100' north of the existing Maryland Route 450/197 intersection.

Also planned for inclusion with the County project are improvements along Maryland Route 197 from Gallant Fox Lane to approximately 400' north of Relocated Maryland Route 450. These improvements would consist of roadway widening to provide double left turns on the northbound and southbound Maryland Route 197 approaches to the Relocated Maryland Route 450 intersection while maintaining two through lanes in each direction. These improvements, which are shown on Figures 25 and 42, would be a first stage in the construction of Maryland Route 197 Alternates 2A, 2B or 3, which are shown on Figure 46.

In addition to the County's portion of the project, a portion of Maryland Route 450 in the vicinity of Maryland Route 953 (Glenn Dale Road) is also planned for accelerated construction to improve capacity as a staging of the ultimate improvement. Several

80

developers, proposing residential communities and commercial establishments, have combined funding resources with the State Highway Administration for the accelerated improvement of Maryland Route 450 from 1/4 mile west to 1/4 mile east of Glenn Dale Road. Construction is planned to begin in 1990 and would consist of a 4-lane divided highway on the ultimate location of Maryland Route 450.

In this segment, only one alignment, which is along the existing road, is under consideration for MD 450. This accelerated improvement would be compatible with either Build Alternate. It is being advanced in order to provide sufficient access to new developments, as required by the normal subdivision approval process (Adequate Public Facilities Ordinance). This improvement does not result in acquisition from the Buena Vista House historic site, nor does it result in the travel way being moved closer to existing residences. The environmental impacts and recommended mitigation measures for the accelerated improvement are discussed within the broader scope of the Build Alternates in Chapter IV.

For all Build Alternates, a longitudinal, multi-use trail is being considered along the north side of the roadway for the entire project. In closed sections, an eight foot wide trail would be located behind the north curb line. In open sections, the 10' wide outside shoulder would be used as the trail. (See the typical sections - Figures 13, 29 and 30).

The alternates mapping on Figures 14-28 and 31-46, in the Mapping Section illustrates the lane configurations at each major intersection for the two basic alternates -- 4-Lane and 6-Lane Divided. Auxiliary lanes on Maryland Route 450 and additional lanes on side road approaches to Maryland Route 450 have been proposed where appropriate to improve levels of service.

a. 4-Lane Divided Alternate (See Figures 13-28)

The 4-Lane Divided Alternate is comprised of two different typical sections of improvement. The 4-lane Divided Urban section is suggested for application to the urbanized portions of the project area: from Whitfield Chapel Road to approximately Seabrook Road and from Moylan/Trinity Drives to Race Track Road. The section consists of two 28' wide roadways, curbed on both sides, separated by a 20' wide raised median. A multi-use trail, generally on the north side of the road, would be provided. Sidewalk would be provided in areas where it currently is in place. Curbing is considered appropriate in these portions of the project area to channelize frequent residential and commercial entrances and intersecting streets. This typical section would not be expandable to provide additional lanes which might be needed as a result of unanticipated growth without disruption to sideroads and residential and commercial entrances.

41

The 4-lane Divided Rural typical section could best apply to the currently more rural portions of the project area: from east of Seabrook Road to Moylan/Trinity Drives and from east of Race Track Road to the project limit, 3000'+ west of Maryland Route 3. This section consists of two 26' wide roadways with 10' wide paved outer shoulders and open section grading outside each roadway. A 20' wide raised median separates the roadways. As discussed above, Prince George's County would implement the improvements between Maryland Route 193 and Moylan/Trinity Drives.

At the intersection of Maryland Routes 450 and 193, this alternate ties-in to the existing roadway approximately 200' east and west of the intersection. In the vicinity of the intersection, only resurfacing and the extension of acceleration and deceleration lanes would be required.

b. 6-Lane Divided Alternate (See Figures 29-45)

The 6-Lane Divided Alternate would ultimately provide the potential for expansion to an improvement consisting of three through lanes (plus auxilliary lanes) in each direction on Maryland Route 450 throughout the project area. This alternate is required to meet capacity requirements for most of the project area. However, portions of the project, based on current traffic projections, require only two through lanes (plus auxiliary lanes) in each direction to provide adequate levels-of-service to the design year 2015. Therefore, detailed studies for this project have been performed using a construction staging arrangement which would provide a combination of 6-lane and 4-lane (expandable to 6-lane) typical sections to meet design year traffic requirements. The three typical sections which comprise the 6-Lane Alternate are as follows:

The 48' Median Urban typical section consists of two 26' wide roadways with curbing outside each roadway and a 48' wide depressed median. The median includes a 4' wide paved shoulder adjacent to each roadway. Provision is made in the median for the future fifth and sixth lanes. All future widening would occur within the median, minimizing disruption to abutting properties.

The 20' Median Rural typical section consists of two 26' wide roadways separated by a 20' wide raised median. A 10' wide shoulder would be located outside each roadway where the provision for the future fifth and sixth lanes is made. This section is identical to the 4-lane Divided Rural section.

The 6-Lane Urban typical section consists of two 40' wide roadways, curbed on each side and separated by a raised 20' median.

Each of the three typical sections results in identical right-of-way and environmental impacts.

For the 48' Median Urban section and the 6-Lane Urban Section, a trail would be provided generally on the north side of the road. Sidewalk would be provided in areas where it is currently in place. For the 20' Median Rural typical section, the shoulder would accommodate the bike trail. Upon ultimate expansion of this section, the trail would be located behind the curbing.

Significant uncertainty is associated with traffic forecasts more than 25 years into the future, despite knowledge of current population data and zoning. Future unknowns such as zoning legislation, modes of transportation and regional economy all will have an impact on future traffic volumes. In addition to the uncertainty of traffic volume prediction, which determines lane requirements, there is the sensitivity of the lane requirements to traffic volume increases on the project. The major intersections in the project area requiring only four basic lanes on MD Route 450 to operate satisfactorily through the design year 2015 consist of: Carter Avenue, Seabrook Road, Forbes Boulevard, Baltimore Street, Moylan/Trinity Drives/ Belair Drive and Millstream/Stonybrook Drives. At most of these intersections, an increase in design hourly traffic volume of less than 20% beyond predicted 2015 values would result in an intersection level of service of E or F. Therefore, uncertainty and prudence dictate the need to provide for expansion to 6-lanes along the entire project.

A breakdown of the various project segments and the typical section that is suggested to be applied to each segment under the 6-Lane Divided Alternate is as follows: (See Figure 11 following page III-4).

<u>Segment</u>	<u>6-Lane Alternate Typical Section</u>
Whitfield Chapel Rd. - Seabrook Rd.	48' Median Urban*
Seabrook Rd to Maryland Route 704	20' Median Rural*
Maryland Route 704 to east of Maryland Route 197	6-Lane Urban
East of Maryland Route 197 to Moylan/Trinity Drives	20' Median Rural* (Provided under the Prince George's County Project)
Moylan/Trinity Drives to Superior Lane	48' Median Urban*
Superior Lane to West of Maryland Route 3	6-Lane Urban

* These typical sections would accommodate a 6-lane divided configuration with widening.

3. Build Options for Major Roadways Intersecting Maryland Route 450

a. Maryland Route 704 at Maryland Route 450

Maryland Route 704 is being studied for reconstruction as a 6-lane divided closed section (See typical section on Figure 29) roadway from Lottsford Vista Road to Maryland Route 450. South of Lottsford Vista Road, Maryland Route 704 is planned for reconstruction by others as a 6-lane divided closed section to Forbes Boulevard where a 6-lane section exists in conjunction with development of the Washington Business Park. Three options are being studied for the Maryland Route 704 intersection with Maryland Route 450 for both the 4-Lane and 6-Lane Alternates. The options are as follows:

i. Option A (See Figures 17 and 34 in the Mapping Section)

This option proposes relocation of Maryland Route 704 to just west Electric Terrace, intersecting Maryland Route 450 at-grade opposite Baltimore Lane. This option closely represents the master plan alignment, traversing the eastern portion of an SHA parcel previously intended for use for a highway maintenance facility. Double left turns would be provided from westbound Maryland Route 450 to southbound Maryland Route 704. Access to residences along Electric Terrace and existing Maryland Route 704 would be maintained by means of a connection between Electric Terrace and Reloc. Maryland Route 704 and a right-in, right-out connection to Maryland Route 450 at Electric Terrace.

ii. Option B

This option was dropped from detailed consideration due to its right-of-way impacts to the Buena Vista subdivision.

iii. Option C (See Figure 18 and 33 in the Mapping Section)

This option proposes reconstruction of Maryland Route 704 generally along existing alignment, resulting in a relocation of the Maryland Route 450 intersection approximately 600' west of the existing intersection to reduce wetland and floodplain impacts and to improve intersection geometrics. Access to residences along Electric Terrace would be maintained by means of a connecting road from Electric Terrace to Maryland Route 704 and by means of a right-in, right-out connection at the Maryland Route 450/Electric Terrace intersection. Double left turns would be provided from westbound Maryland Route 450 to southbound Maryland Route 704.

5/4

iv. Option D (Preferred - See Figure 19 and 36 in the Mapping Section)

This option proposes the slight northern relocation of Maryland Route 704 and reorientation of the Maryland 450/704 intersection to give preference as a through movement to the traffic from westbound Maryland 450 to southbound Maryland 704 and from northbound Maryland 704 to eastbound Maryland 450. Westbound Maryland Route 450 traffic would flow uninterrupted across the intersection by means of a one lane ramp. Eastbound Maryland Route 450 would go through the right angle intersection using double left turns. A connecting roadway would be constructed between Electric Terrace and Reloc. Maryland Route 704 along the established Pennsylvania Avenue right-of-way to provide access for Electric Terrace residents. The basis for this option is the accommodation of the heavy projected volume of traffic intending to travel from westbound Maryland Route 450 to Southbound Maryland Route 704 (1900 veh./hr in the a.m. peak) as compared to the volume of eastbound Maryland Route 450 traffic (965 veh./hr in the p.m. peak).

b. Maryland Route 197 - Options (See Figure 46 in the Mapping Section)

Three build options for the improvement of Maryland Route 197 in the vicinity of Relocated Maryland Route 450 have been studied in detail. The options were developed to address two issues in the vicinity of the Relocated Maryland Route 450/197 intersection:

1. The need for double left turns on the northbound and southbound MD 197 approaches to the relocated intersection to obtain acceptable levels of service.
2. A substandard existing profile condition approximately 900' north of Relocated MD 450 provides sight distance at the crest adequate for only approximately 38 mph. Residents of the Grady's Walk subdivision have two access points from MD 197. The southern entrance, just 300' north of the relocated intersection, will require closure following construction of the relocation. However, the northern entrance is positioned just south of the existing crest so that the lack of sight distance to the north presents a hazardous condition.

The options are as follows:

i. Option 2A - 4-Lane Divided Typical Section with Existing Profile

Under this option, Maryland Route 197 would be widened symmetrically from Existing Maryland Route 450 to

approximately 800' north of Relocated Maryland Route 450 to provide two through lanes in each direction with a 6' wide median and double left turns at the northbound and southbound approaches to Relocated MD 450.

A median opening may or may not be provided at Gallant Fox Lane depending upon the extent of future development within the Bowie Business Park and if Business Park owners construct a connecting road from Gallant Fox Lane to Existing Maryland Route 450 to relieve Gallant Fox Lane of left turning traffic. The northern entrance to the Bowie Business Park, serving Citizen's Bank and McDonald's, would become restricted to right-in, right-out.

ii. Option 2B - 4-Lane Divided Typical Section with Grade Revision

Under this option, similar improvements to those proposed under Option 2A would be constructed on Maryland Route 197 with a lowered profile (up to 3'), on a 900' long portion of the roadway just north of the Maryland Route 450 relocation. A vertical crest meeting SHA acceptable criteria for 50 mph would result from the grade reduction.

iii. Option 3 - Grade Revision North of Maryland Route 450 Relocation with 5-Lane Undivided Typical Section

Under this option, a grade reduction of as much as 3' would be constructed as with Option 2B. The roadway would be replaced using the 58' wide 5-lane undivided typical section which exists on Maryland Route 197 from Existing Maryland Route 450 to well north of the proposed relocation.

c. Existing Maryland Route 450: Highbridge Road to Moylan/Trinity Drives

As a result of the proposed Maryland 450 relocation by Prince George's County between Highbridge Road and Moylan/Trinity Drives, the disposition of Existing Maryland Route 450 at the Conrail Railroad Bridge and between Maryland Route 197 and Moylan/Trinity Drives must be determined. Several options at each location have been developed and are described as follows:

i. Highbridge Road to Maryland Route 197: The Conrail Railroad Bridge

Three options have been retained for the ultimate disposition of existing Maryland Route 450 between Highbridge Road and Maryland Route 197 as shown on Figures 25 and 42.

The three options for the existing Maryland Route 450 bridge over the Conrail Railroad are as follows:

Option W1 - Bridge Closure:

With closure of the Conrail Bridge (#16017) to vehicular traffic, cul-de-sacs would be constructed east and west of the railroad. Access to the businesses west of the railroad and to residences and the electrical sub-station east of the railroad would be maintained by means of existing Maryland Route 450. The bridge could be maintained for use by bicyclists and pedestrians.

Option W2 - Bridge Rehabilitation:

Under this option, structural rehabilitation would be performed. The work would include removing deteriorated portions of the substructure and replacing with pneumatically applied mortar, sealing the roadway joints and cleaning and epoxy-coating the superstructure. The geometrics and posted capacity of the bridge (15 tons) would not be improved with the rehabilitation.

Option W3 - Bridge Reconstruction:

Under this option, the existing bridge would be removed and a new bridge constructed slightly to the north. The roadway would be realigned on a 4 45' curve to correct the existing substandard geometrics (approximate 13 curve). The new bridge would accommodate HS-20 loadings (36 Tons).

The issues influencing the determination of ultimate existing road disposition west of Maryland Route 197 are the following:

- 1) Questionable structural condition and high accident status at or near the existing Conrail Railroad bridge.
- 2) Visibility of and access to approximately 20 businesses between Highbridge Road and the Conrail Railroad Bridge.
- 3) Planned development along this segment of Md. 450 and along Church Road.
- 4) The projection of failing intersection levels of service at the Relocated Maryland Route 450/197 intersection under the bridge closure option.
- 5) Cost
- 6) Wetlands

- ii. Maryland Route 197 to Moylan/Trinity Drives (See Figure 12 on the following page)

Four basic options remain under consideration for existing Maryland Route 450 between Maryland Route 197 and Moylan/Trinity Drives following construction of the Maryland Route 450 Relocation as shown on Figure 12. These options are as follows:

Option E1:

Existing Maryland Route 450 would remain open east of Maryland Route 197, intersecting the proposed relocation approximately 800' west of Moylan/Trinity Drives. Twin Cedar Lane residents would retain access similar to the existing conditions.

Option E2:

Existing Maryland Route 450 would not be connected to the relocation at any location east of Maryland Route 197. Access to Twin Cedar Lane would be maintained via existing Maryland Route 450 and Maryland Route 197.

Option E3:

Existing Maryland Route 450 would be closed from Twin Cedar Lane to Maryland Route 197; access to Twin Cedar Lane would be by means of a connection with Relocated Maryland Route 450.

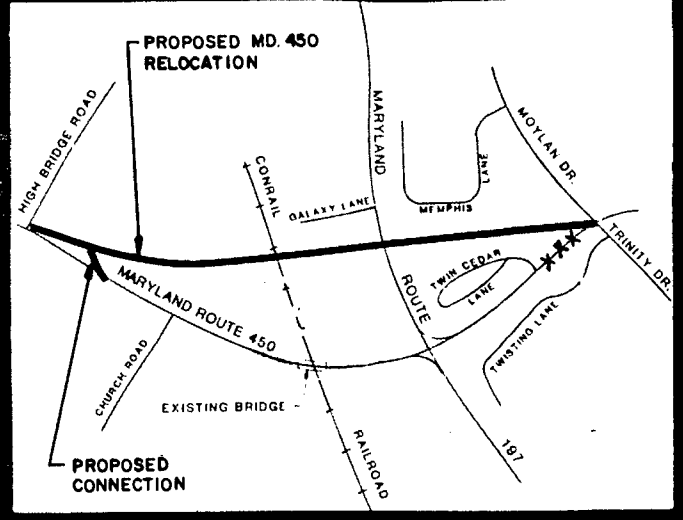
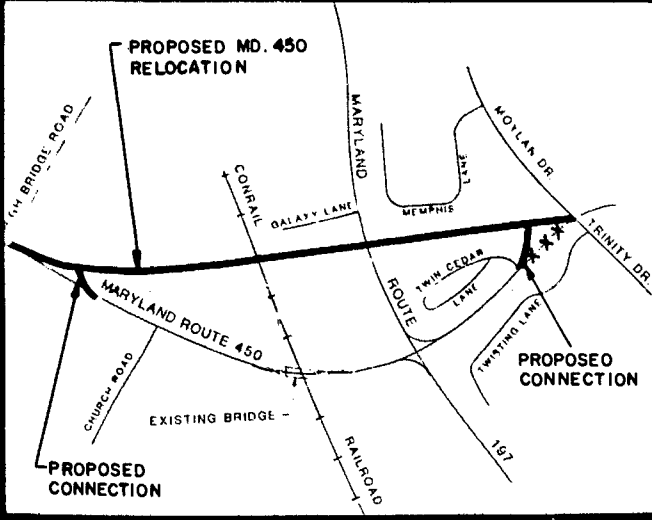
Option E4:

Existing Maryland Route 450 would be closed from Maryland Route 197 to Moylan/Trinity Drives. Twin Cedar Lane would be extended to intersect with Twisting Lane as proposed in the Tulip Grove subdivision's original master plan.

Several additional options may be derived from combinations of the four basic options.

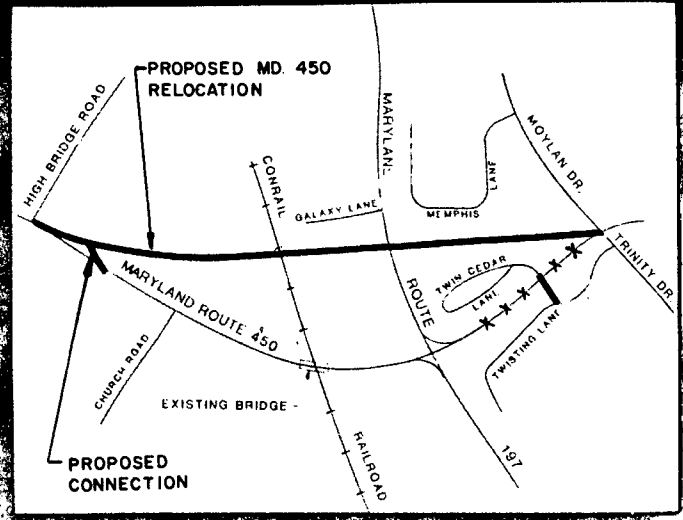
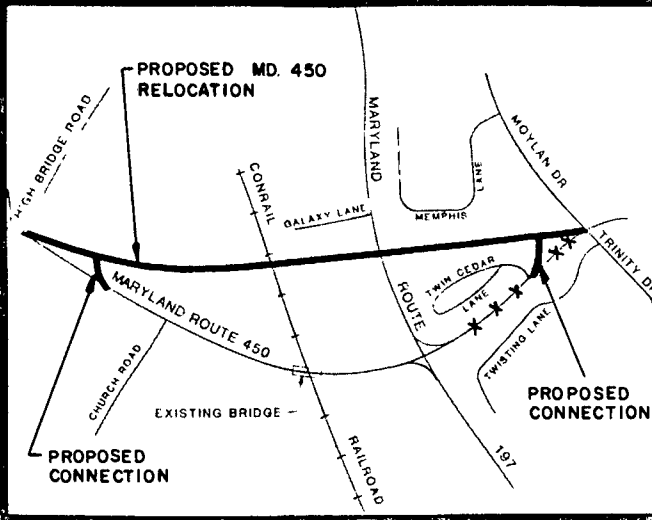
4. Multi-Use Trails

The provision of multi-use trails along the Maryland Route 450 corridor is being considered as part of all Build Alternates for the entire length of the project in conformance with the MNCPPC Countywide Trails Plan. Tie-ins to existing bike trail networks are being considered wherever possible.



E1: Existing MD Route 450 would remain open along its full length.

E2: Existing MD Route 450 would be closed east of Twin Cedar Lane, access to Twin Cedar Lane would be maintained from MD Route 197.



E3: Existing MD Route 450 would be closed from Twin Cedar Lane to MD Route 197, access to Twin Cedar Lane would be by means of a connection with Relocated MD Route 450.

E4: Existing MD Route 450 would be closed from MD Route 197 to Moylan/Trinity Drives, Twin Cedar lane would be extended to intersect with Twisting Lane.

LEGEND

XXX Locations where the existing road would be closed.

MARYLAND ROUTE 450		
WHITFIELD CHAPEL ROAD TO WEST OF MD RTE 3		
EXISTING MD RTE 450 OPTIONS		
DATE	NO SCALE	FIGURE
JAN., 1989		12

With closed (urban) typical sections under either Build Alternate, the multi-use trail would consist of an 8' wide paved area behind the north curb line within a 14' wide sidewalk/utility area. With open (rural) sections, the 10' wide shoulder would accommodate the trail. Between Superior Lane and Whitemarsh Park, a trail would also be located on the south side of the road.

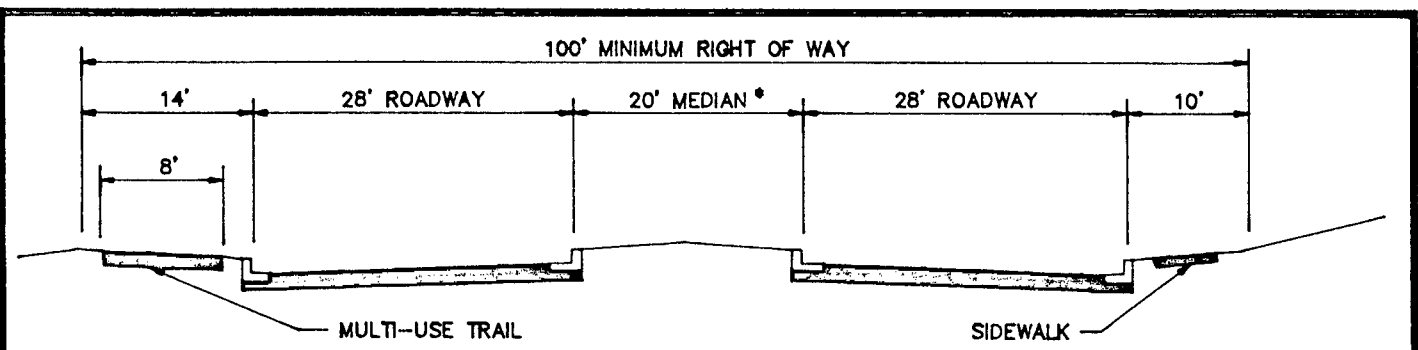
MNCPPC and Bowie have proposed the extension of trails throughout the project. If highway improvements are not made, the trail extensions are planned to cross at-grade with the existing roadway. Proposed Maryland Route 450 improvements would not interfere with the continuity of any proposed trail crossings since at-grade crossings would still be possible.

At the Lottsford Branch stream crossing, which is designated as a proposed Stream Valley Park, the profile would permit equestrian trails to pass beneath MD Route 450. However, provision of a structure to accommodate equestrian usage is dependent upon cost participation by the MNCPPC.

Coordination has been maintained with developers of the proposed Highbridge Subdivision and the City of Bowie to provide continuity between the SHA proposed Maryland Route 450 longitudinal trail system and proposed trail crossings of Route 450 to serve the Highbridge development, the proposed Parcel F park and Whitemarsh Park. A grade separated trail crossing of Maryland Route 450 is being considered for the project portion to be constructed by Prince George's County at a location 500' to 1500' west of the Conrail Railroad. A trail crossing would also be considered under the proposed Conrail bridge if funding participation bridge is provided for the additional span length required.

5. Bus Turnouts

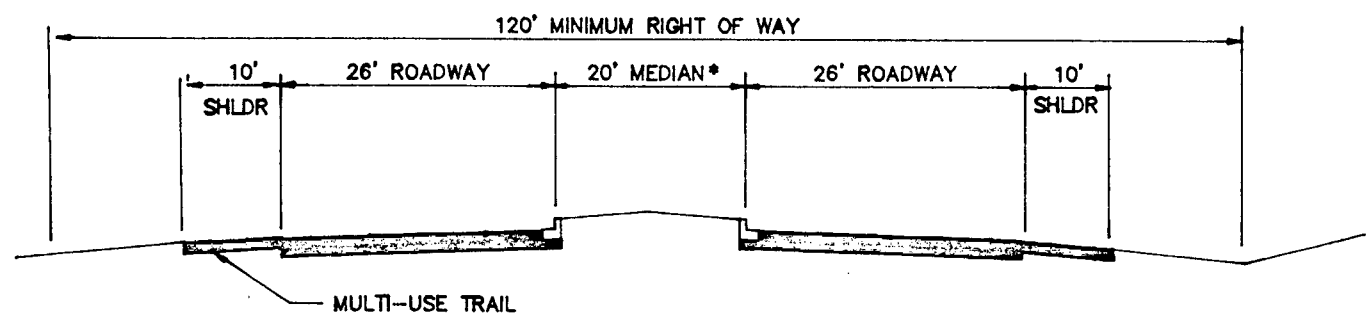
Due to the high frequency of Metrobus service on Maryland Route 450 (approximately 25 stops in each direction), several bus turnouts have been proposed with each alternate throughout the corridor, as shown on the alternates mapping. The turnouts are located on the far side of intersections where feasible.



4-LANE URBAN SECTION

WHITFIELD CHAPEL ROAD TO SEABROOK ROAD
MOYLAN/TRINITY DRIVES TO EAST OF RACE TRACK ROAD.

NOTE: PROPOSED SIDEWALK TO BE
LOCATED ONLY WHERE THERE
IS CURRENTLY SIDEWALK.



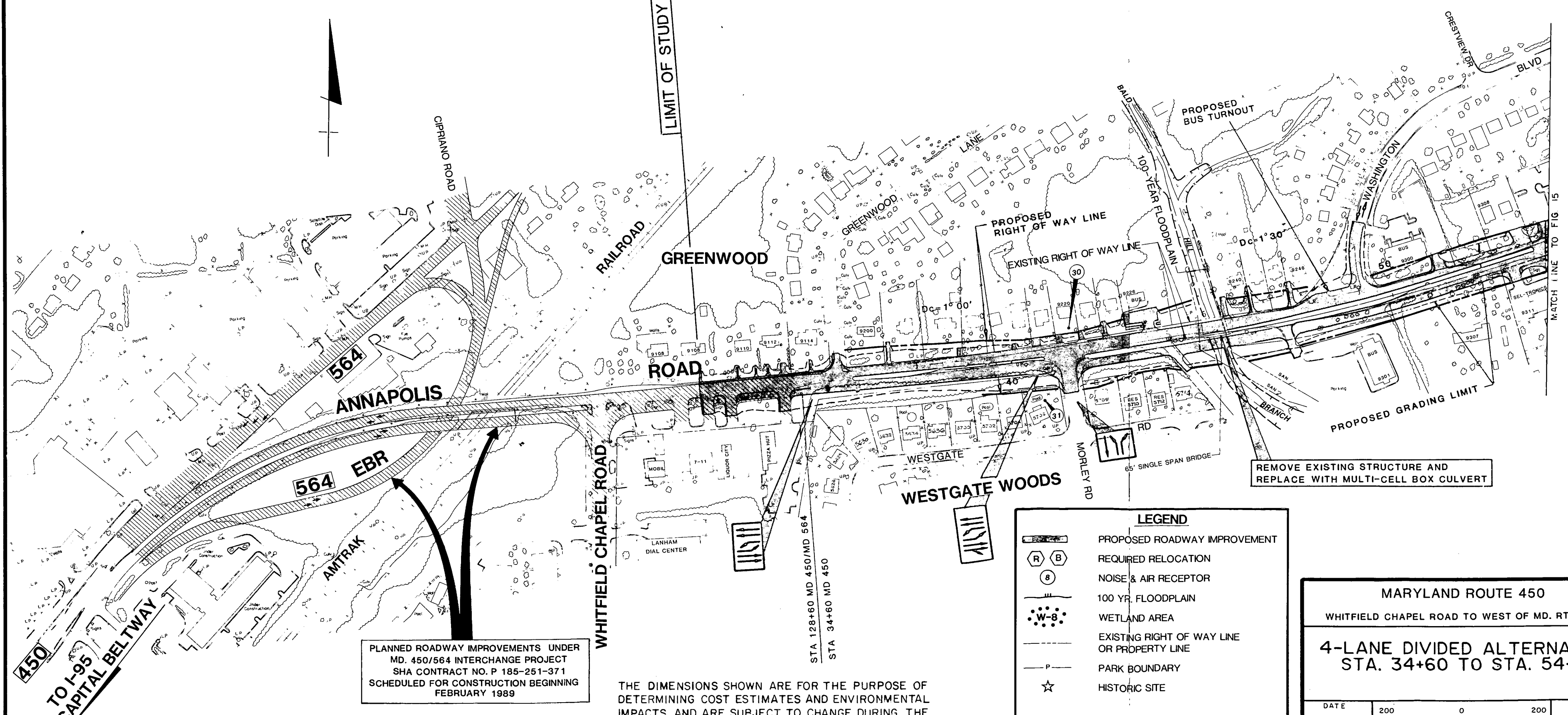
4-LANE RURAL SECTION

SEABROOK ROAD TO MOYLAN/TRINITY DRIVES
EAST OF RACE TRACK ROAD TO WEST OF MARYLAND ROUTE 3

* MEDIAN WIDTH INCREASES TO 30' TO
ACCOMMODATE DOUBLE LEFT TURNS AT
MARYLAND ROUTE 704 FOR OPTIONS A AND C
AND RACE TRACK RD.

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

MD. ROUTE 450 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE. 3		
TYPICAL SECTIONS 4-LANE DIVIDED ALTERNATE		
DATE		FIGURE
JAN, 1989	NOT TO SCALE	13



PLANNED ROADWAY IMPROVEMENTS UNDER
 MD. 450/564 INTERCHANGE PROJECT
 SHA CONTRACT NO. P 185-251-371
 SCHEDULED FOR CONSTRUCTION BEGINNING
 FEBRUARY 1989

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

LEGEND	
	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE

REMOVE EXISTING STRUCTURE AND
 REPLACE WITH MULTI-CELL BOX CULVERT

MARYLAND ROUTE 450		
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
4-LANE DIVIDED ALTERNATE STA. 34+60 TO STA. 54+		
DATE JAN., 1989	 SCALE IN FEET	FIGURE 14

450
 TO I-95
 CAPITAL BELTWAY

564
 EBR

ANNAPOLIS

GREENWOOD

WESTGATE WOODS

AMTRAK

WHITFIELD CHAPEL ROAD

ROAD

LIMIT OF STUDY

564

MORLEY RD

65' SINGLE SPAN BRIDGE

PROPOSED GRADING LIMIT

PROPOSED RIGHT OF WAY LINE

EXISTING RIGHT OF WAY LINE

PROPOSED BUS TURNOUT

100-YEAR FLOODPLAIN

Dc-1° 30'

Dc-1° 00'

WASHINGTON

CRESTVIEW DR
BLVD

MATCH LINE TO FIG 15

STA 128+60 MD 450/MD 564

STA 34+60 MD 450

LANHAM DIAL CENTER

PIZZA HUT

LIQUOR CITY

WESTGATE

RES 3712

RES 3714

RES 3716

RES 3718

RES 3720

RES 3722

RES 3724

RES 3726

RES 3728

RES 3730

RES 3732

RES 3734

RES 3736

RES 3738

RES 3740

RES 3742

RES 3744

RES 3746

RES 3748

RES 3750

RES 3752

RES 3754

RES 3756

RES 3758

RES 3760

RES 3762

RES 3764

RES 3766

RES 3768

RES 3770

RES 3772

RES 3774

RES 3776

RES 3778

RES 3780

RES 3782

RES 3784

RES 3786

RES 3788

RES 3790

RES 3792

RES 3794

RES 3796

RES 3798

RES 3800

RES 3802

RES 3804

RES 3806

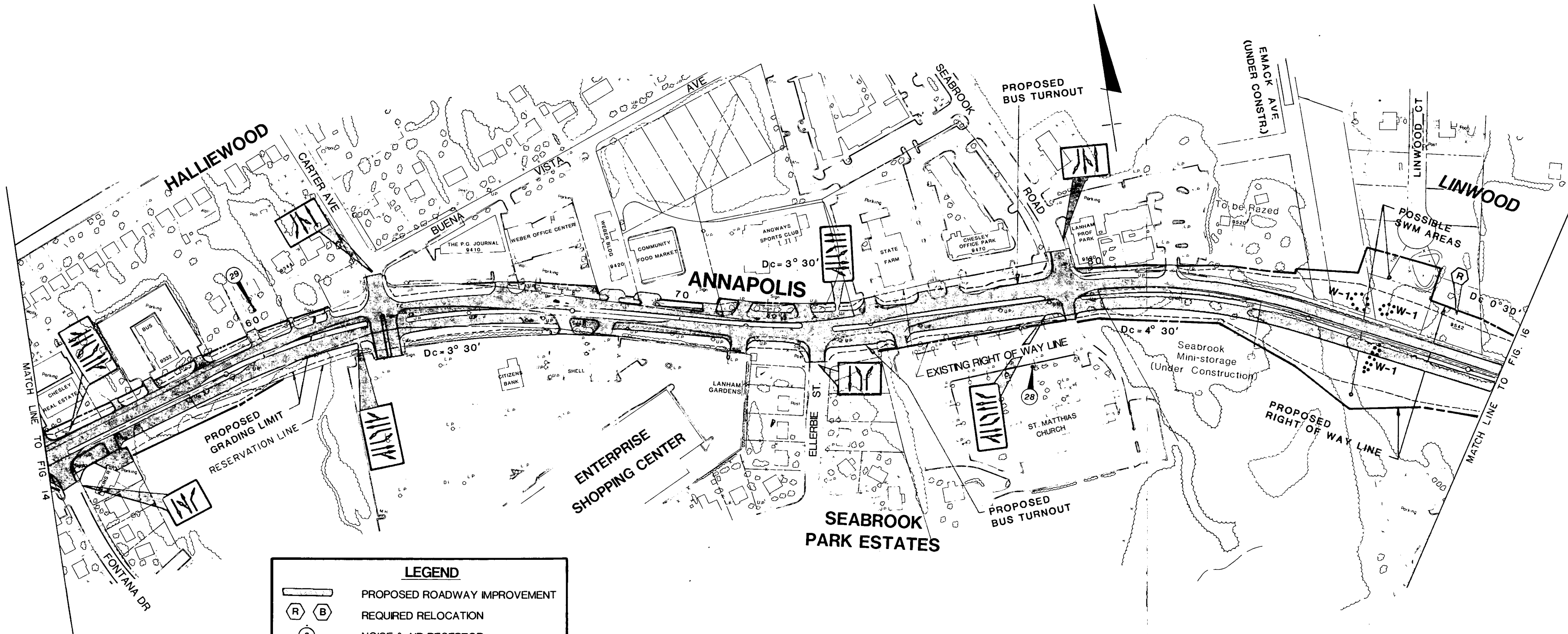
RES 3808

RES 3810

RES 3812

RES 3814

RES 3816



LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE

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

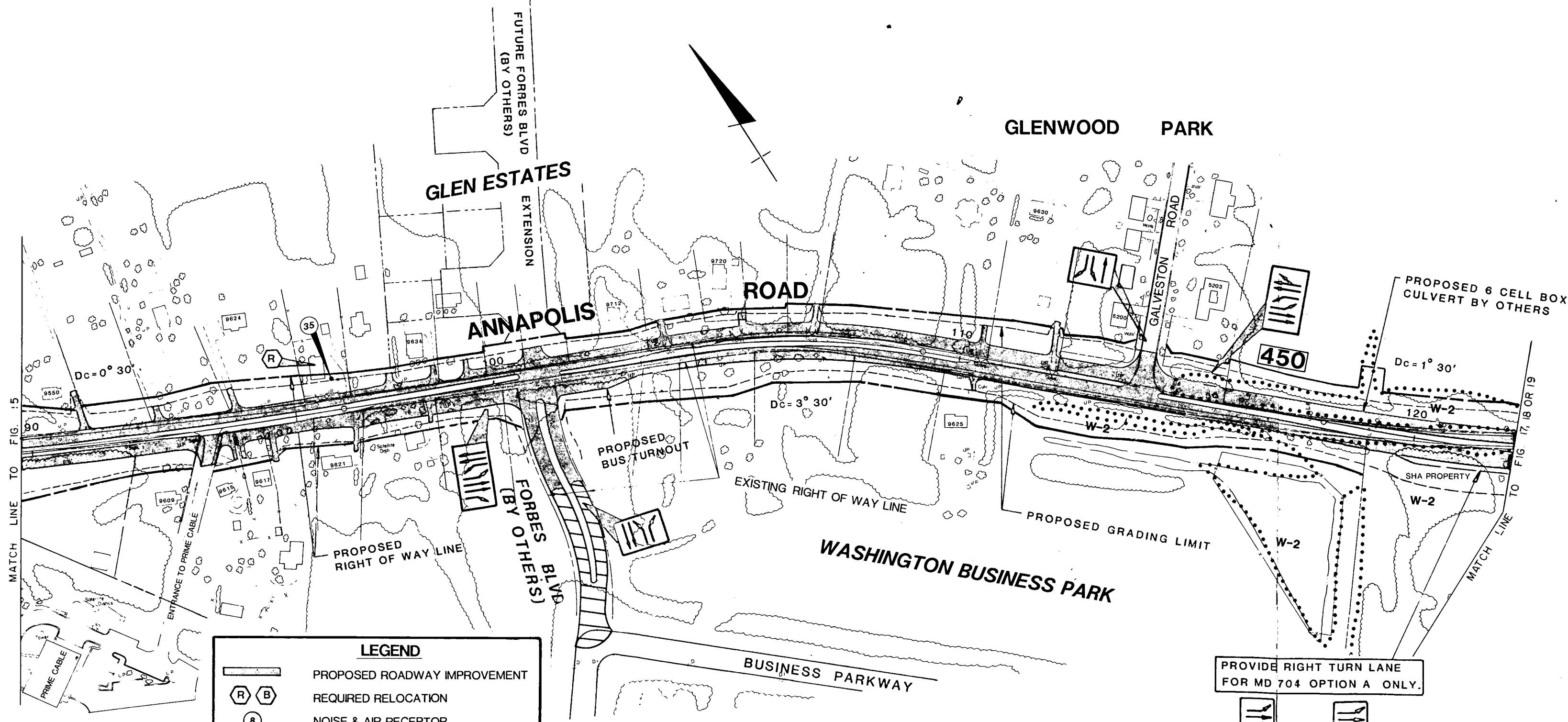
MARYLAND ROUTE 450
 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

**4-LANE DIVIDED ALTERNATE
 STA. 54+ TO STA. 89+**

DATE: JAN., 1989

SCALE IN FEET: 0, 200, 200

FIGURE: 15



LEGEND

	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE

PROVIDE RIGHT TURN LANE FOR MD 704 OPTION A ONLY.

MD 704 OPTION A

MD 704 OPTIONS C & D

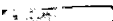







THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

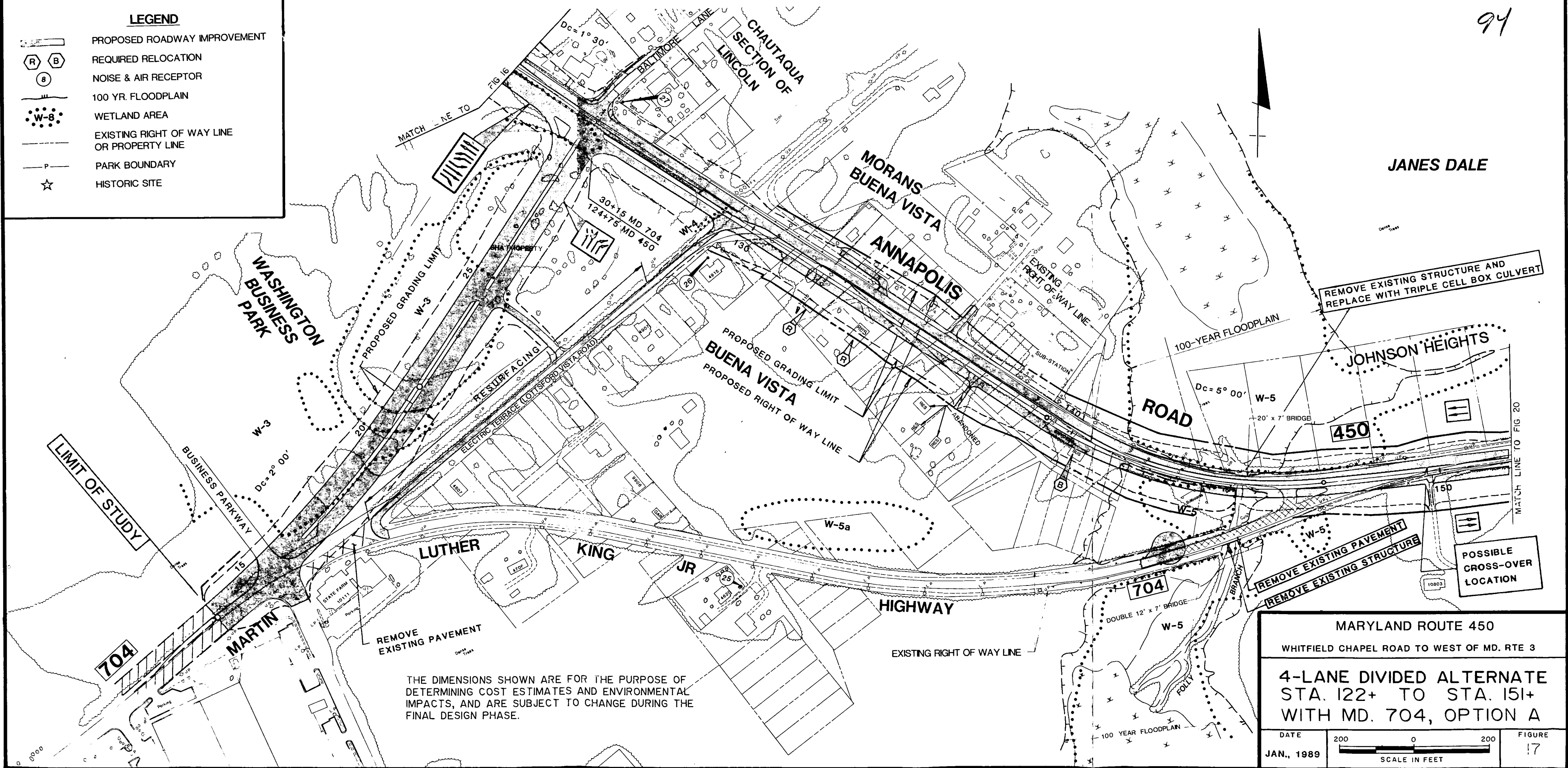
MARYLAND ROUTE 450
 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

4-LANE DIVIDED ALTERNATE
 STA. 89+ TO STA. 122+

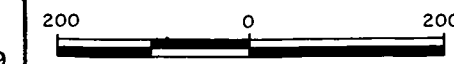
DATE JAN., 1989	200 0 200 SCALE IN FEET	FIGURE 16
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LEGEND

-  PROPOSED ROADWAY IMPROVEMENT
-  REQUIRED RELOCATION
-  NOISE & AIR RECEPTOR
-  100 YR. FLOODPLAIN
-  WETLAND AREA
-  EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
-  PARK BOUNDARY
-  HISTORIC SITE

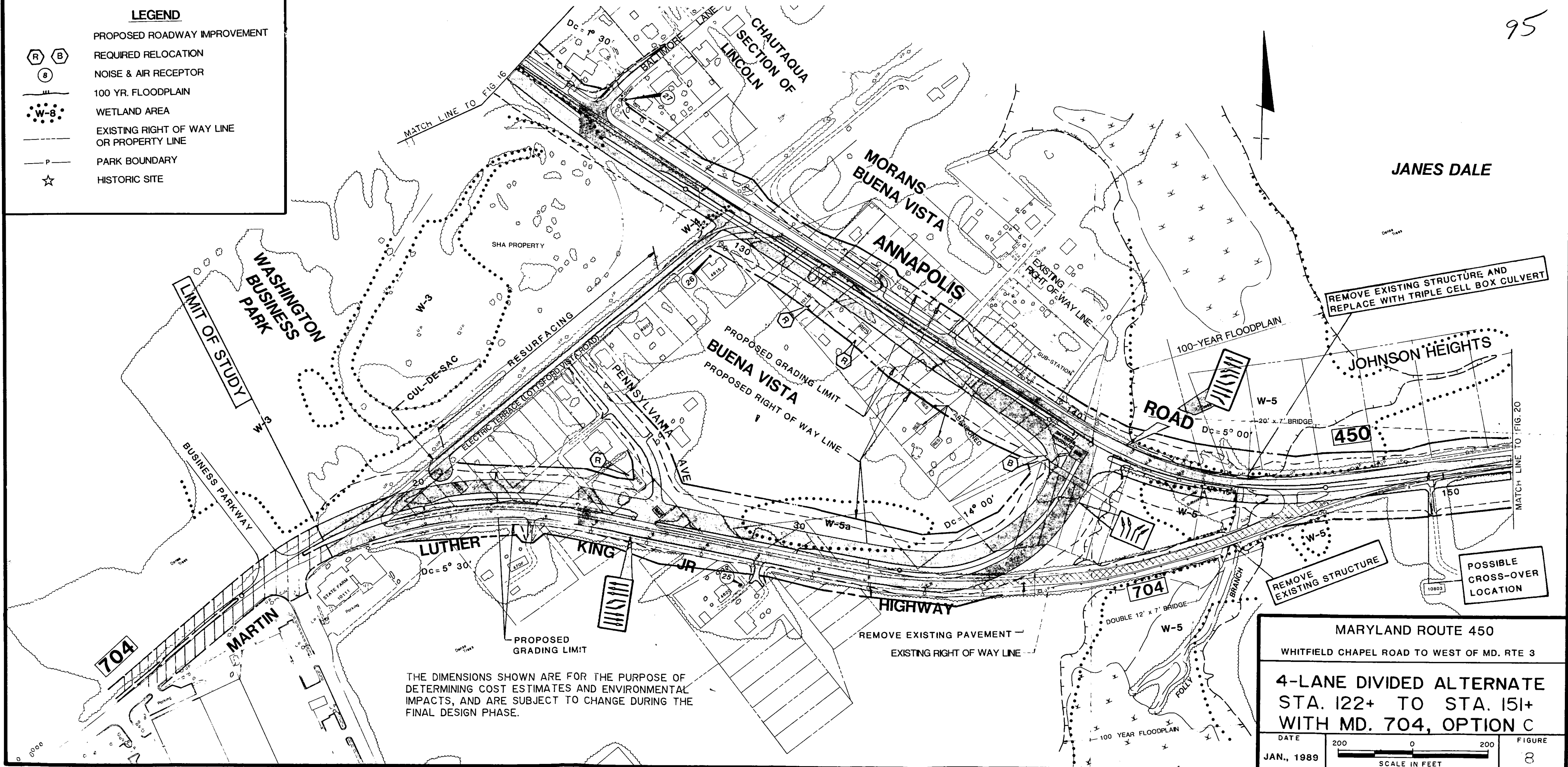


THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

MARYLAND ROUTE 450		
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
4-LANE DIVIDED ALTERNATE		
STA. 122+ TO STA. 151+		
WITH MD. 704, OPTION A		
DATE		FIGURE
JAN., 1989	SCALE IN FEET	17

LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE



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







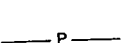

REMOVE EXISTING STRUCTURE AND REPLACE WITH TRIPLE CELL BOX CULVERT

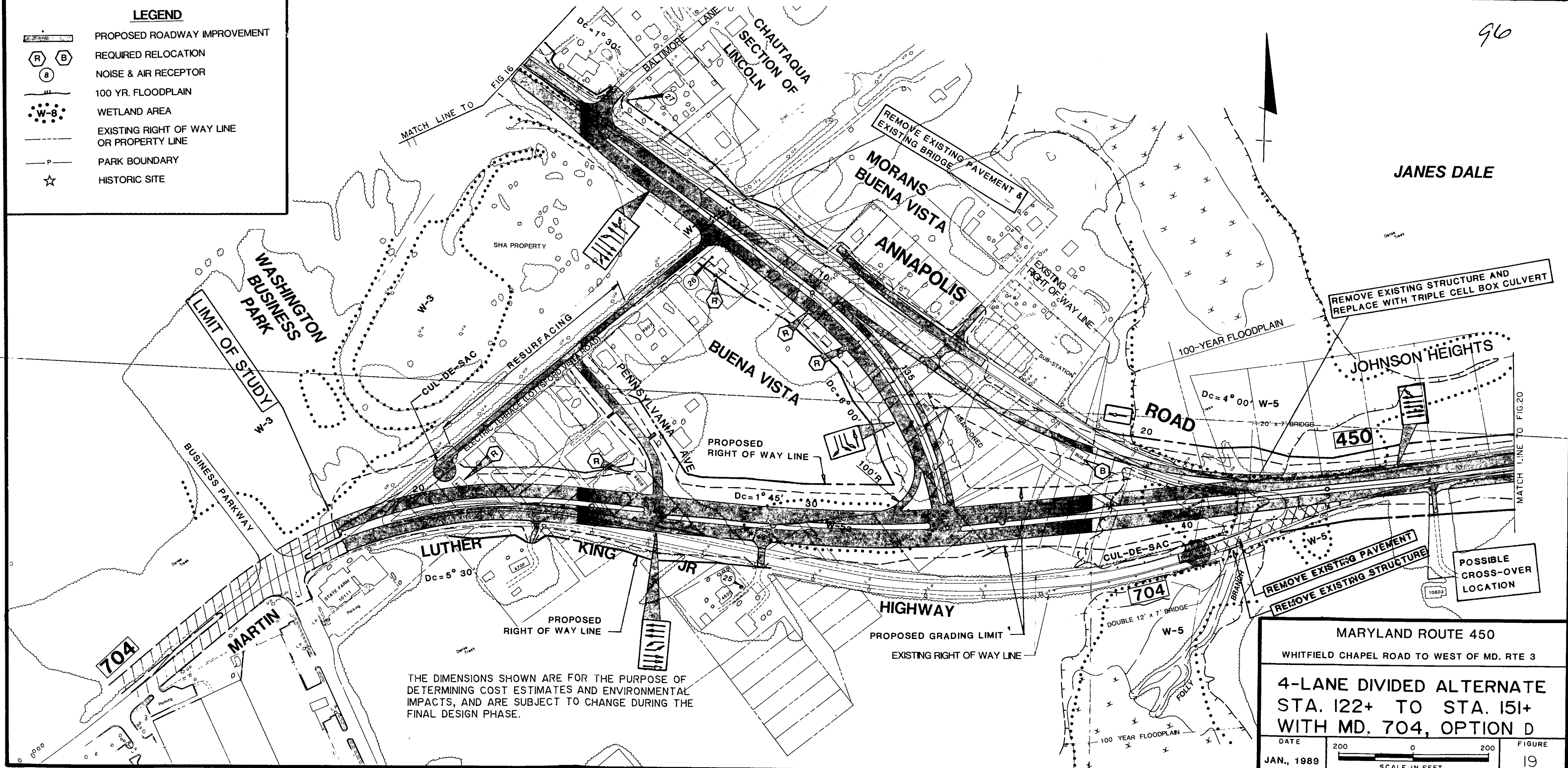
REMOVE EXISTING STRUCTURE

POSSIBLE CROSS-OVER LOCATION

MARYLAND ROUTE 450	
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3	
4-LANE DIVIDED ALTERNATE	
STA. 122+ TO STA. 151+	
WITH MD. 704, OPTION C	
DATE	FIGURE
JAN., 1989	8
<p>SCALE IN FEET</p>	

LEGEND

-  PROPOSED ROADWAY IMPROVEMENT
-  REQUIRED RELOCATION
-  NOISE & AIR RECEPTOR
-  100 YR. FLOODPLAIN
-  WETLAND AREA
-  EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
-  PARK BOUNDARY
-  HISTORIC SITE

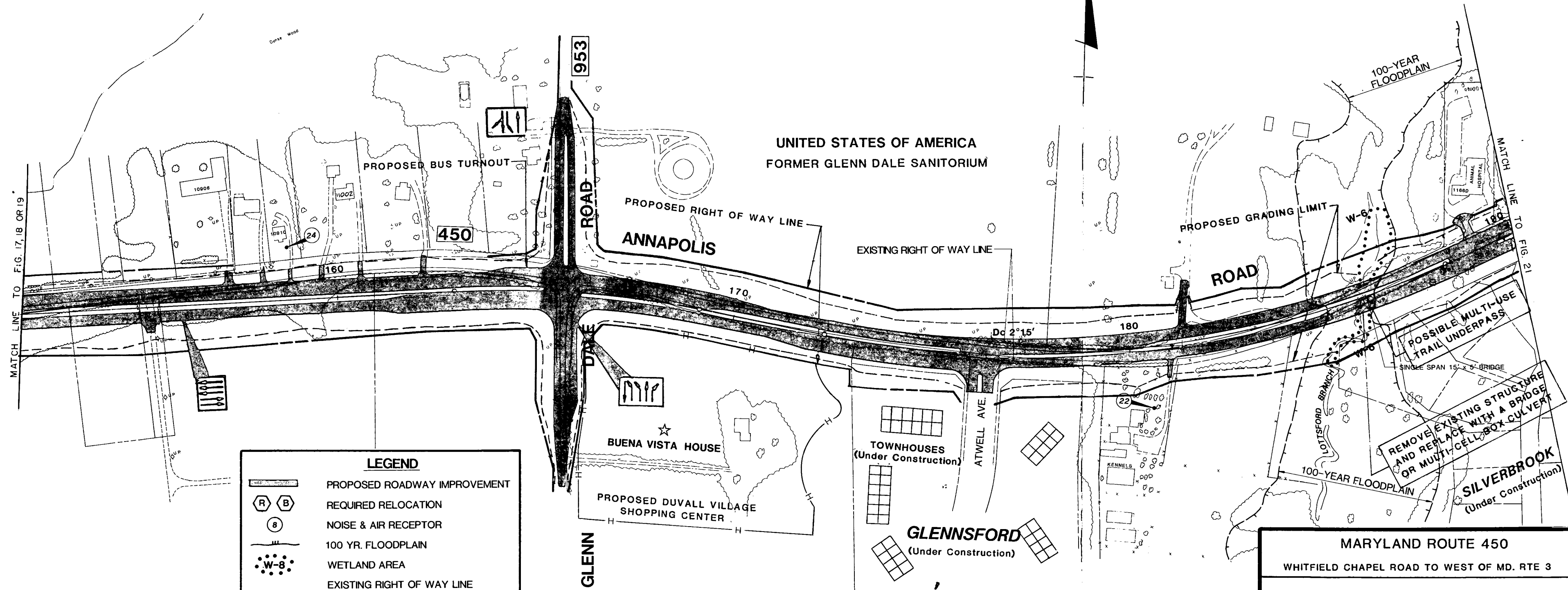


THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

MARYLAND ROUTE 450
 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3
 4-LANE DIVIDED ALTERNATE
 STA. 122+ TO STA. 151+
 WITH MD. 704, OPTION D

DATE	200	0	200	FIGURE
JAN., 1989	SCALE IN FEET			19

NOTE: 3 LANES WESTBOUND, WEST OF MD 953
 REFLECT MD 450 CONFIGURATION FOR
 MD 704 OPTION 'D' ONLY





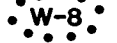
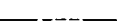




LEGEND	
	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE
	HISTORIC BOUNDARY

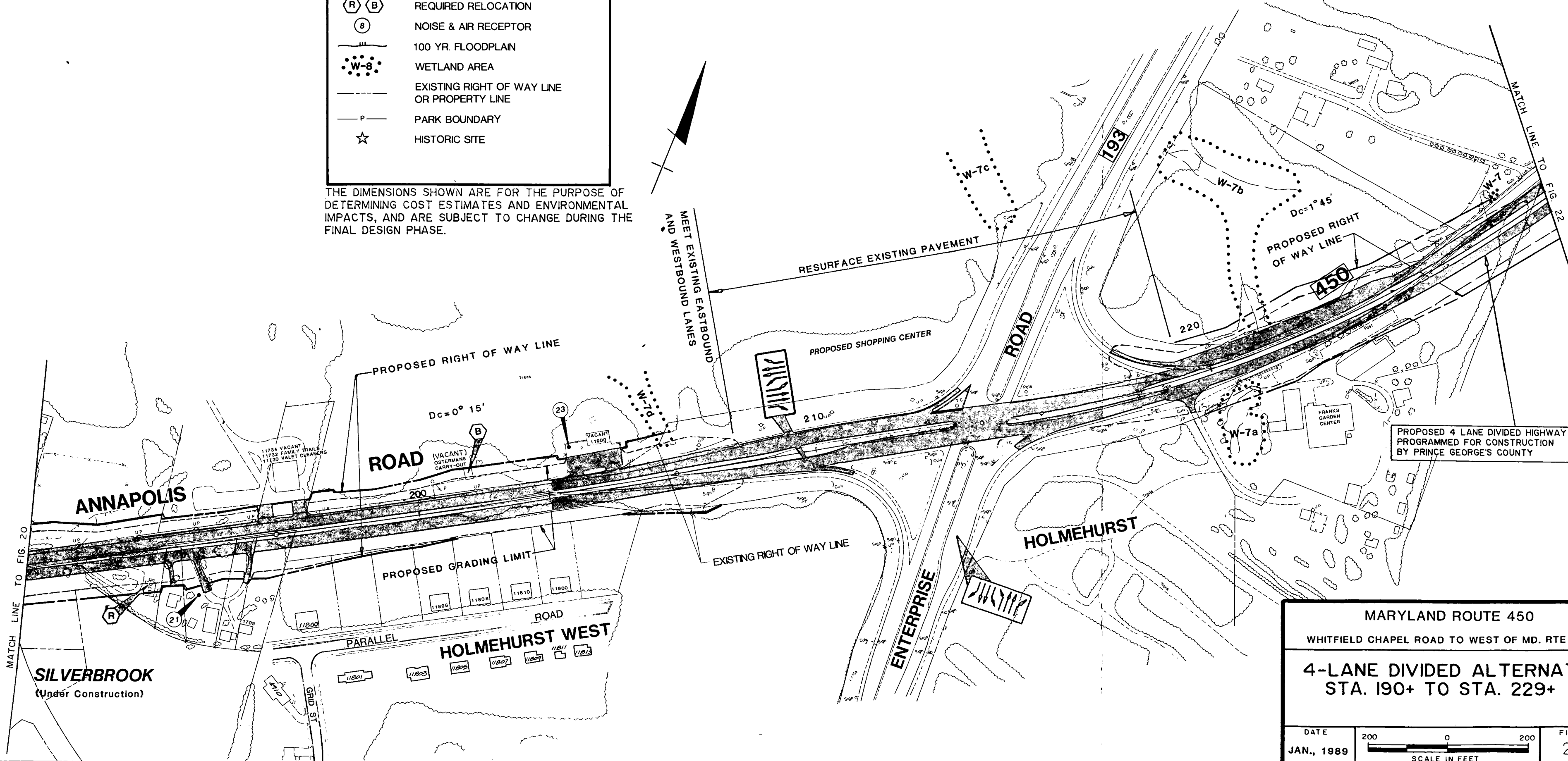
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

MARYLAND ROUTE 450		
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
4-LANE DIVIDED ALTERNATE STA. 151+ TO STA. 190+		
DATE	200 0 200	FIGURE
JAN., 1989	SCALE 1" = 100'	20

LEGEND

-  PROPOSED ROADWAY IMPROVEMENT
-  REQUIRED RELOCATION
-  NOISE & AIR RECEPTOR
-  100 YR. FLOODPLAIN
-  WETLAND AREA
-  EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
-  PARK BOUNDARY
-  HISTORIC SITE

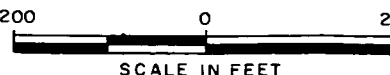
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

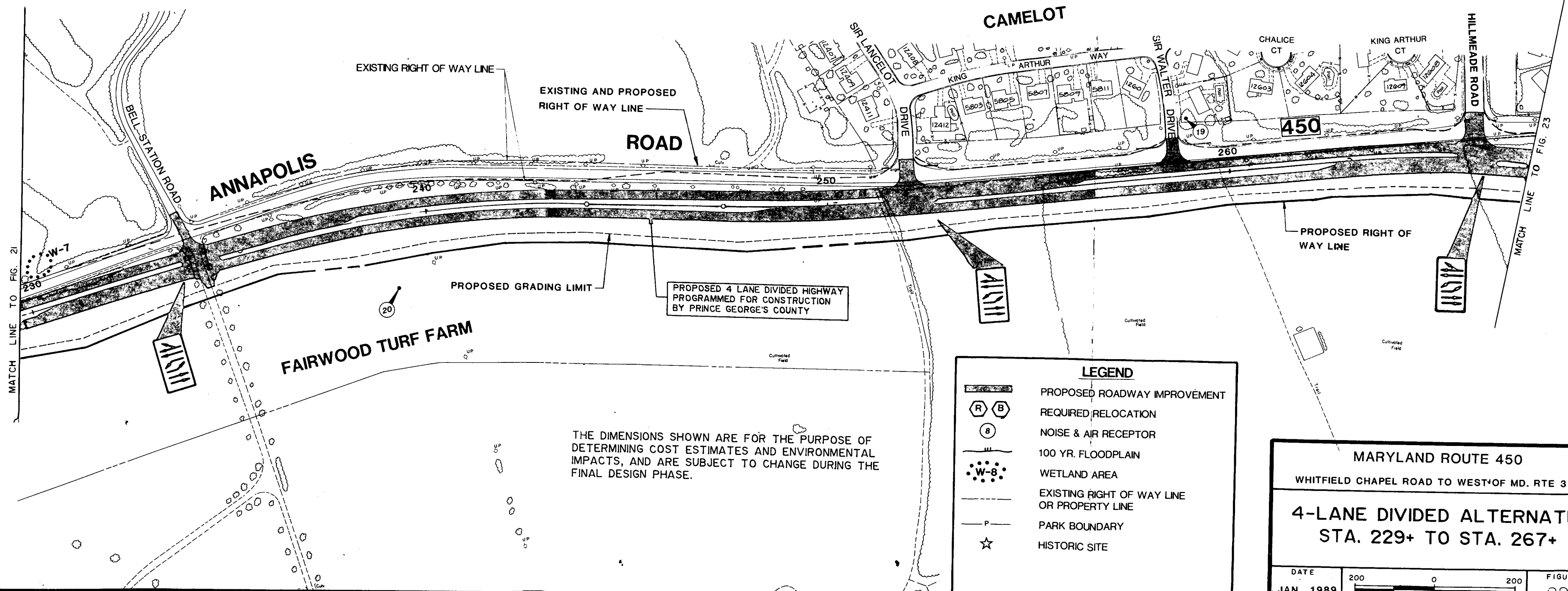
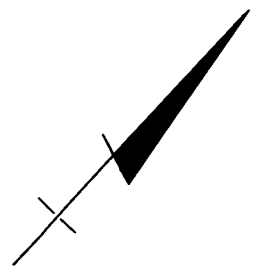


PROPOSED 4 LANE DIVIDED HIGHWAY PROGRAMMED FOR CONSTRUCTION BY PRINCE GEORGE'S COUNTY

MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

4-LANE DIVIDED ALTERNATE
STA. 190+ TO STA. 229+

DATE JAN., 1989	 <p>SCALE IN FEET</p>	FIGURE 21
--------------------	--	--------------



PROPOSED 4 LANE DIVIDED HIGHWAY
PROGRAMMED FOR CONSTRUCTION
BY PRINCE GEORGE'S COUNTY

LEGEND

	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE

MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

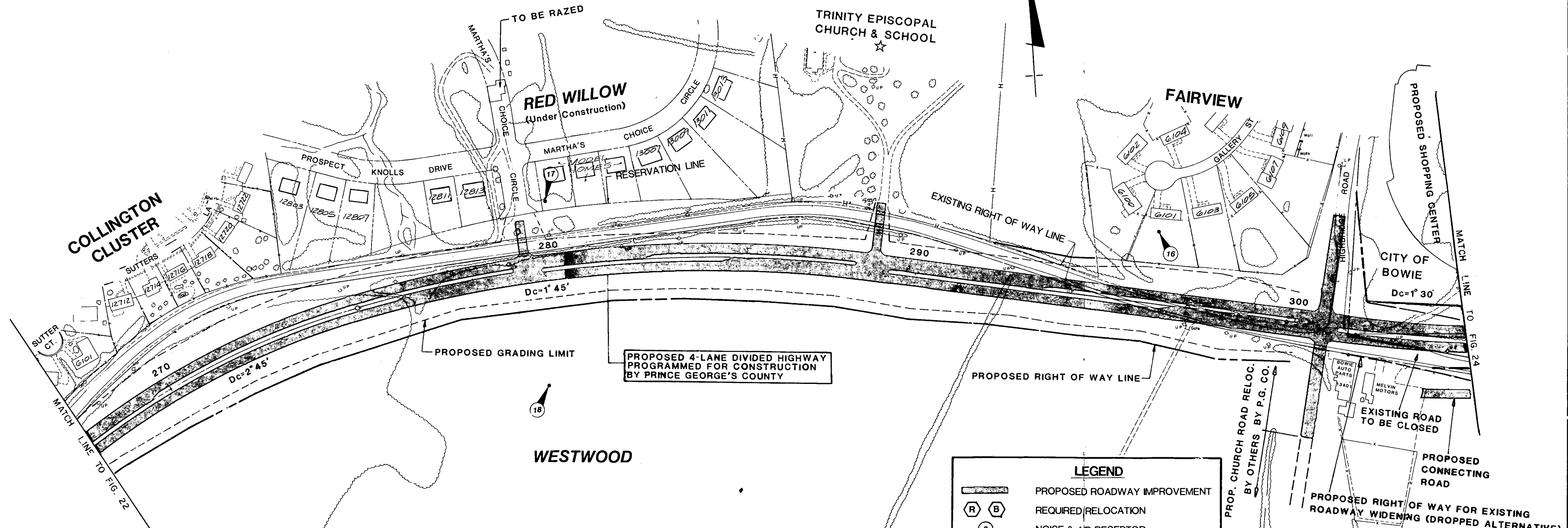
4-LANE DIVIDED ALTERNATE
STA. 229+ TO STA. 267+

DATE JAN., 1989	 SCALE IN FEET	FIGURE 22
--------------------	-------------------	--------------

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

MATCH LINE TO FIG. 21

MATCH LINE TO FIG. 23



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

LEGEND

	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE
	HISTORIC BOUNDARY

MARYLAND ROUTE 450
 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3





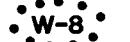


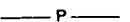
4-LANE DIVIDED ALTERNATE
 STA. 267+ TO STA. 122+

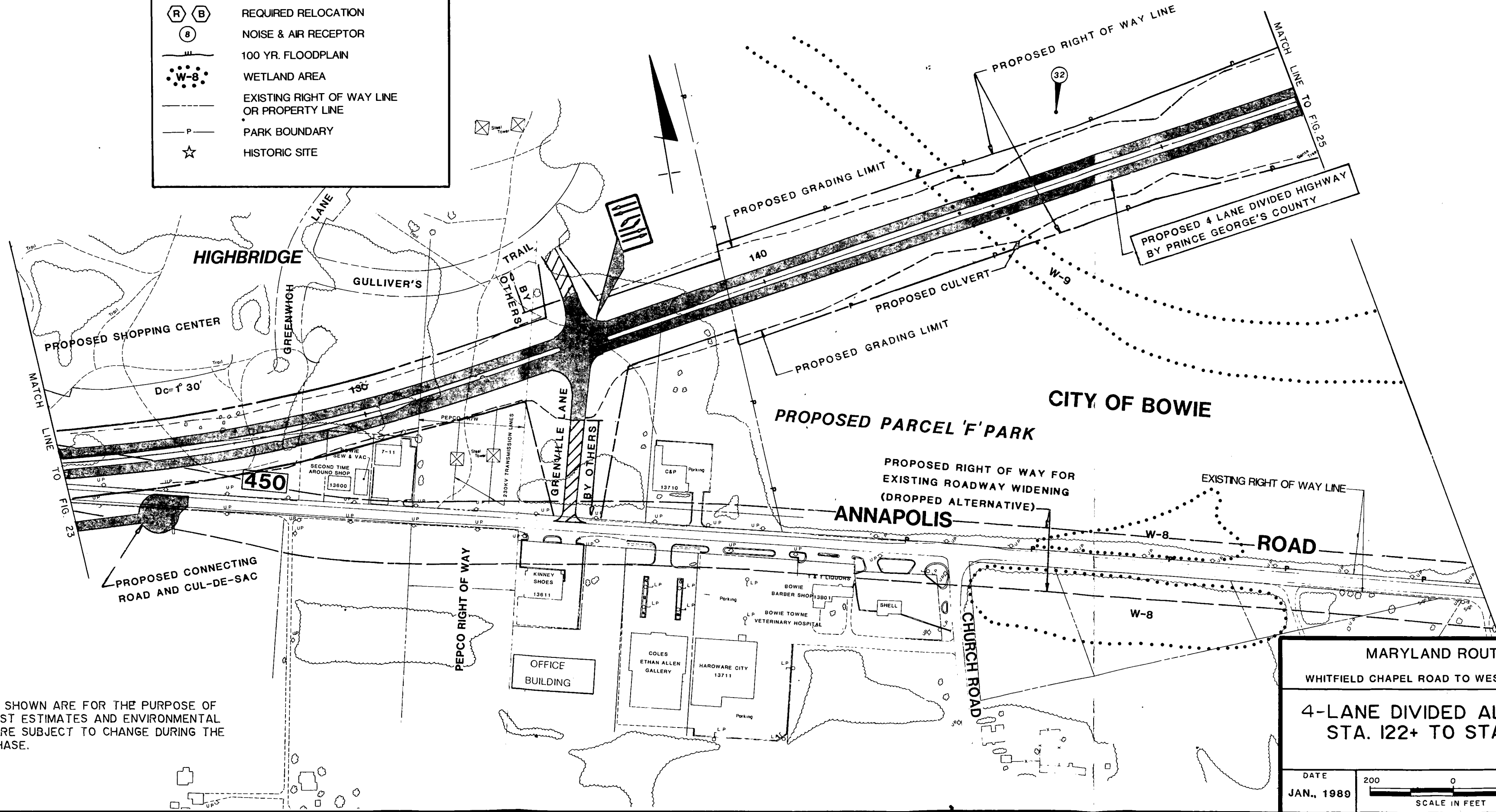
DATE: JAN., 1989

SCALE IN FEET: 0 to 200

FIGURE: 23

LEGEND

-  PROPOSED ROADWAY IMPROVEMENT
-  REQUIRED RELOCATION
-  NOISE & AIR RECEPTOR
-  100 YR. FLOODPLAIN
-  WETLAND AREA
-  EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
-  PARK BOUNDARY
-  HISTORIC SITE



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 450
 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

4-LANE DIVIDED ALTERNATE
 STA. 122+ TO STA. 153+

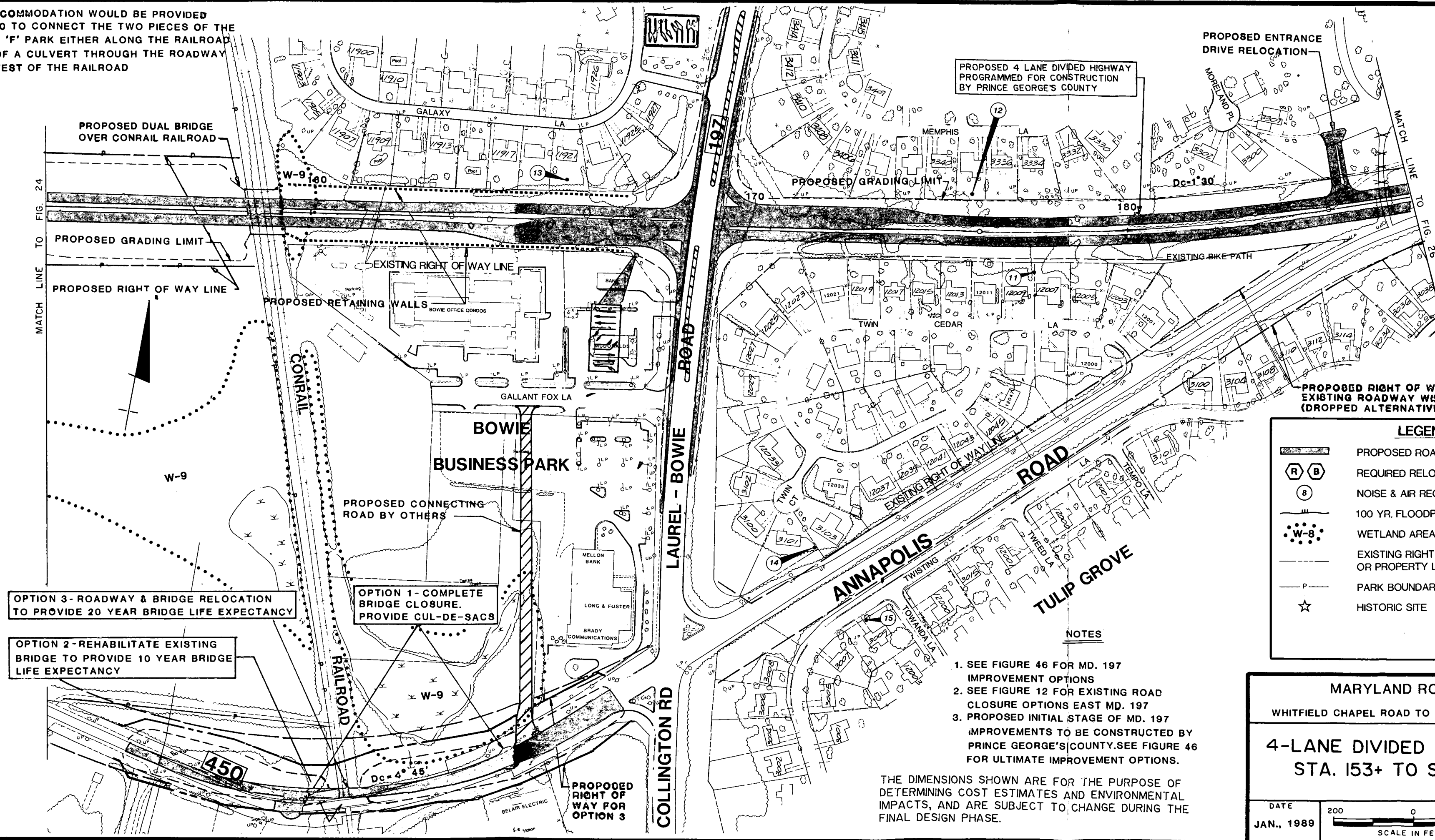
DATE: JAN., 1989

SCALE IN FEET: 0, 200, 200

FIGURE: 24

NOTE: TRAIL ACCOMMODATION WOULD BE PROVIDED ACROSS MD. 480 TO CONNECT THE TWO PIECES OF THE BOWIE PARCEL 'F' PARK EITHER ALONG THE RAILROAD OR BY MEANS OF A CULVERT THROUGH THE ROADWAY EMBANKMENT WEST OF THE RAILROAD

102



MATCH LINE TO FIG. 24

MATCH LINE TO FIG. 26

OPTION 3 - ROADWAY & BRIDGE RELOCATION TO PROVIDE 20 YEAR BRIDGE LIFE EXPECTANCY

OPTION 2 - REHABILITATE EXISTING BRIDGE TO PROVIDE 10 YEAR BRIDGE LIFE EXPECTANCY

OPTION 1 - COMPLETE BRIDGE CLOSURE. PROVIDE CUL-DE-SACS

PROPOSED RIGHT OF WAY FOR OPTION 3

LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE

- NOTES**
- SEE FIGURE 46 FOR MD. 197 IMPROVEMENT OPTIONS
 - SEE FIGURE 12 FOR EXISTING ROAD CLOSURE OPTIONS EAST MD. 197
 - PROPOSED INITIAL STAGE OF MD. 197 IMPROVEMENTS TO BE CONSTRUCTED BY PRINCE GEORGE'S COUNTY. SEE FIGURE 46 FOR ULTIMATE IMPROVEMENT OPTIONS.

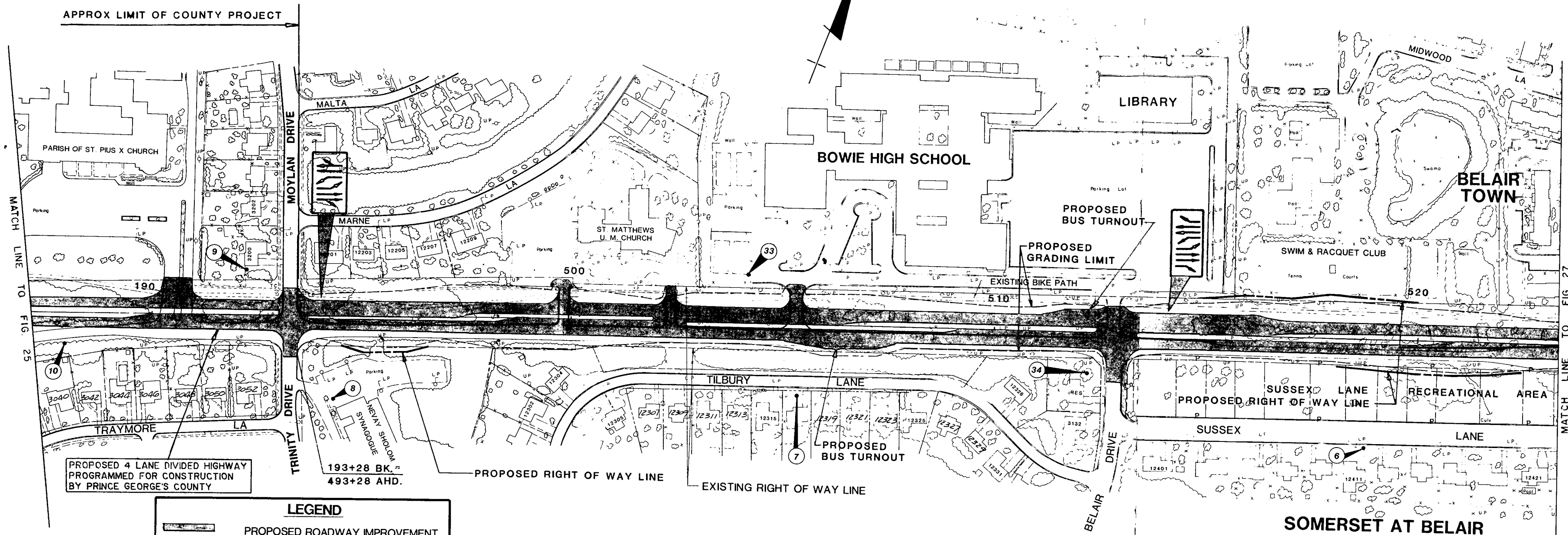
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

4-LANE DIVIDED ALTERNATE
STA. 153+ TO STA. 187+

DATE JAN., 1989	<p>SCALE IN FEET</p>	FIGURE 25
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APPROX LIMIT OF COUNTY PROJECT

MATCH LINE TO FIG. 25

MATCH LINE TO FIG. 27

PROPOSED 4 LANE DIVIDED HIGHWAY PROGRAMMED FOR CONSTRUCTION BY PRINCE GEORGE'S COUNTY

LEGEND

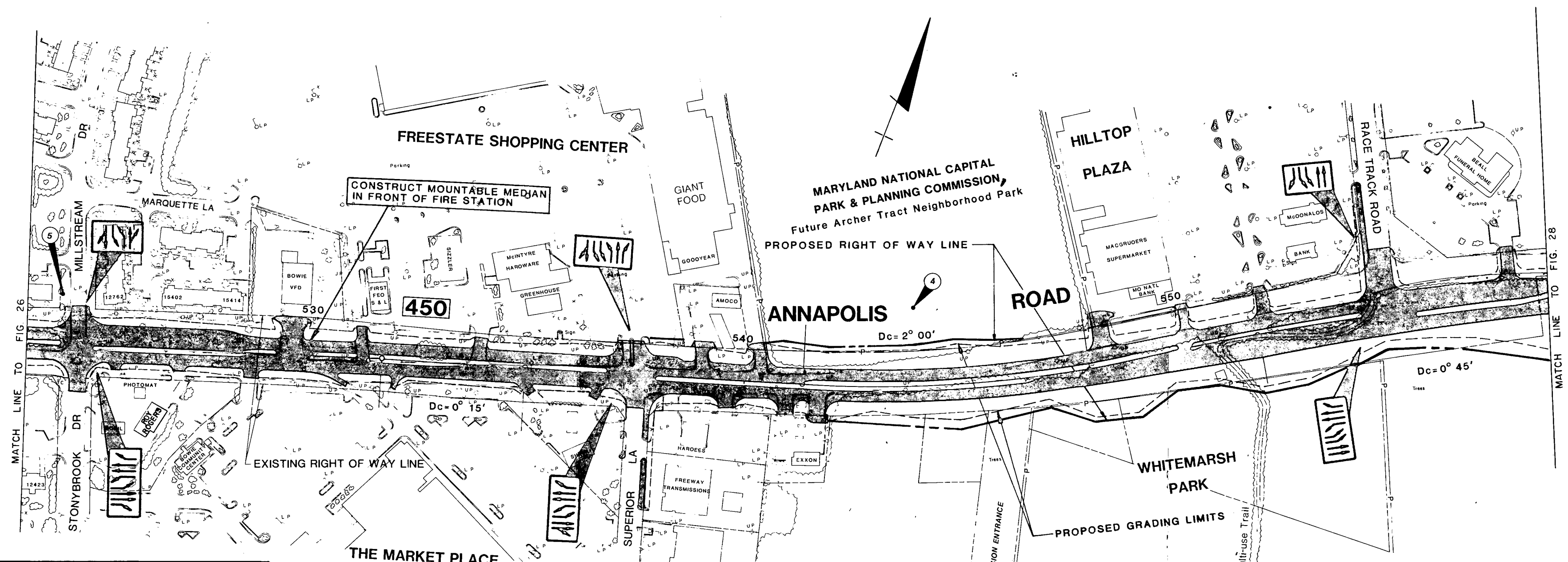
- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE

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 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

4-LANE DIVIDED ALTERNATE
STA. 187+ TO STA. 523+

DATE JAN., 1989	<p>SCALE IN FEET</p>	FIGURE 26
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LEGEND

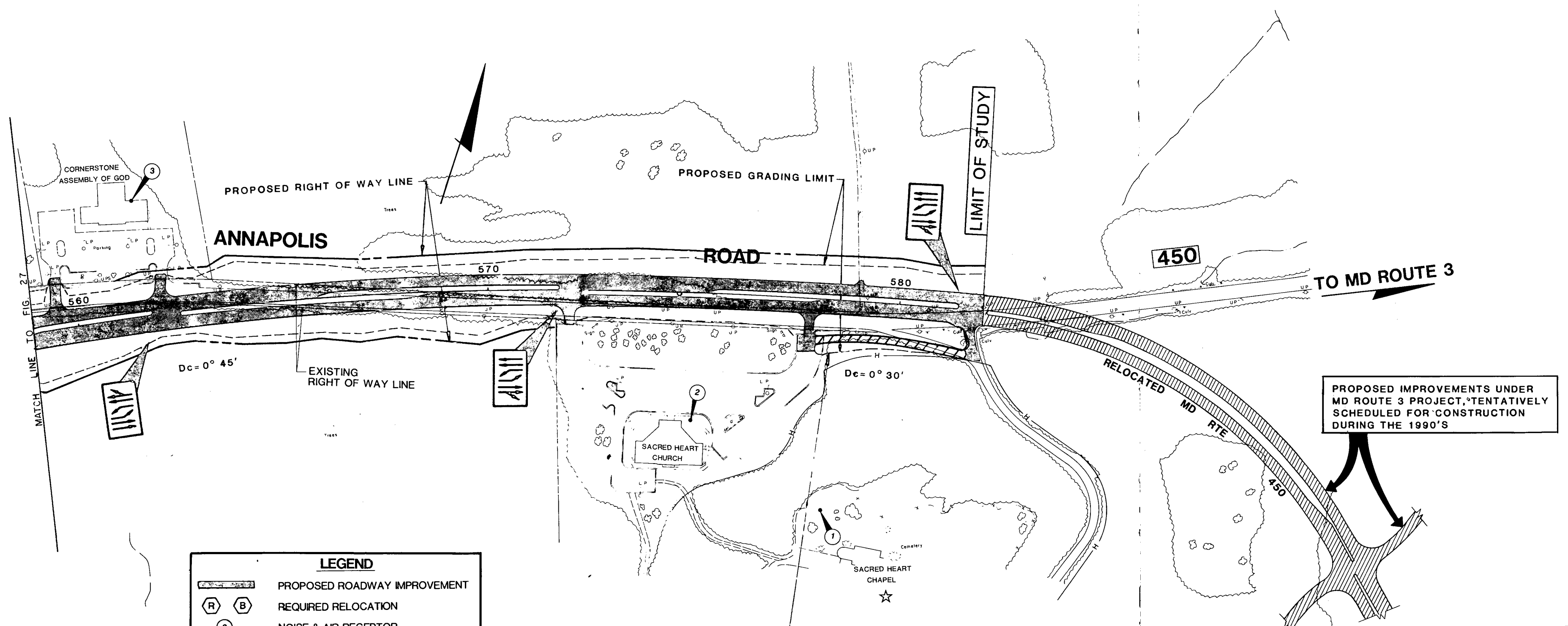
- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE

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 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

4-LANE DIVIDED ALTERNATE
STA. 523+ TO STA. 558+

DATE JAN., 1989	<p>SCALE IN FEET</p>	FIGURE 27
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LEGEND

	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE
	HISTORIC BOUNDARY

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

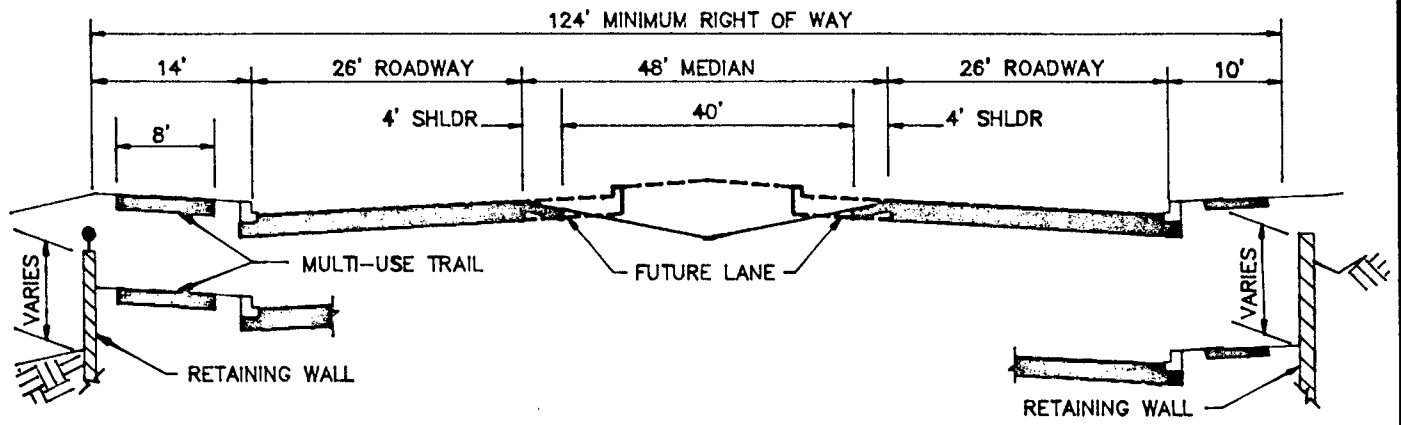
POSSIBLE FRONTAGE ROAD BY OTHERS TO PROVIDE ACCESS BETWEEN THE CHAPEL ENTRANCE DRIVE AND THE EAST CHAPEL ENTRANCE

PROPOSED IMPROVEMENTS UNDER MD ROUTE 3 PROJECT, TENTATIVELY SCHEDULED FOR CONSTRUCTION DURING THE 1990'S

MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

4-LANE DIVIDED ALTERNATE
STA. 558+ TO STA. 582+

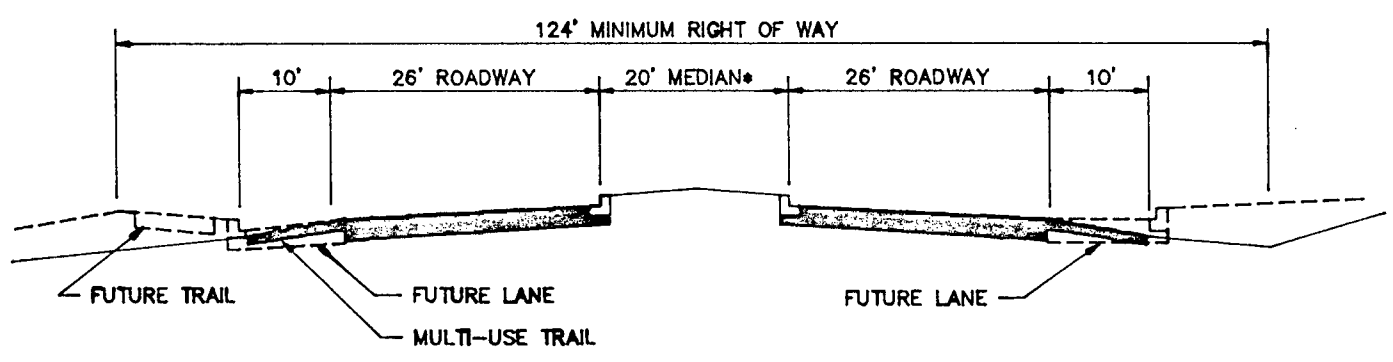
DATE JAN., 1989	<p>SCALE IN FEET</p>	FIGURE 28
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48' MEDIAN URBAN SECTION

WHITFIELD CHAPEL ROAD TO SEABROOK ROAD
 MOYLAN/TRINITY DRIVES TO SUPERIOR LANE.

NOTE: PROPOSED SIDEWALK TO BE
 LOCATED ONLY WHERE THERE
 IS CURRENTLY SIDEWALK.



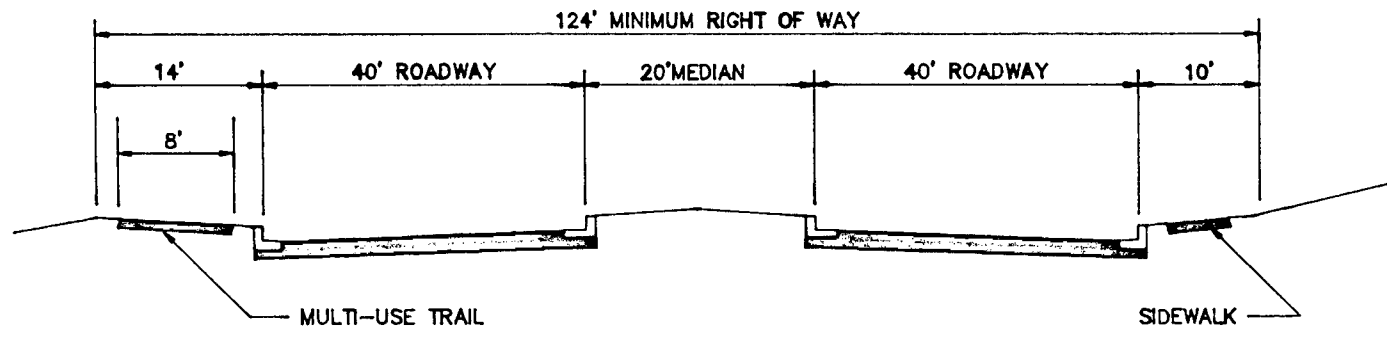
20' MEDIAN RURAL SECTION

SEABROOK ROAD TO MARYLAND ROUTE 704.

* MEDIAN WIDTH INCREASES TO 30' TO
 ACCOMMODATE DOUBLE LEFT TURNS AT
 MARYLAND ROUTE 704 FOR OPTIONS A AND C.

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

MD. ROUTE 450 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE. 3		
TYPICAL SECTIONS 6-LANE DIVIDED ALTERNATE		
DATE	FIGURE	
JAN, 1989	NOT TO SCALE	29



6-LANE URBAN SECTION

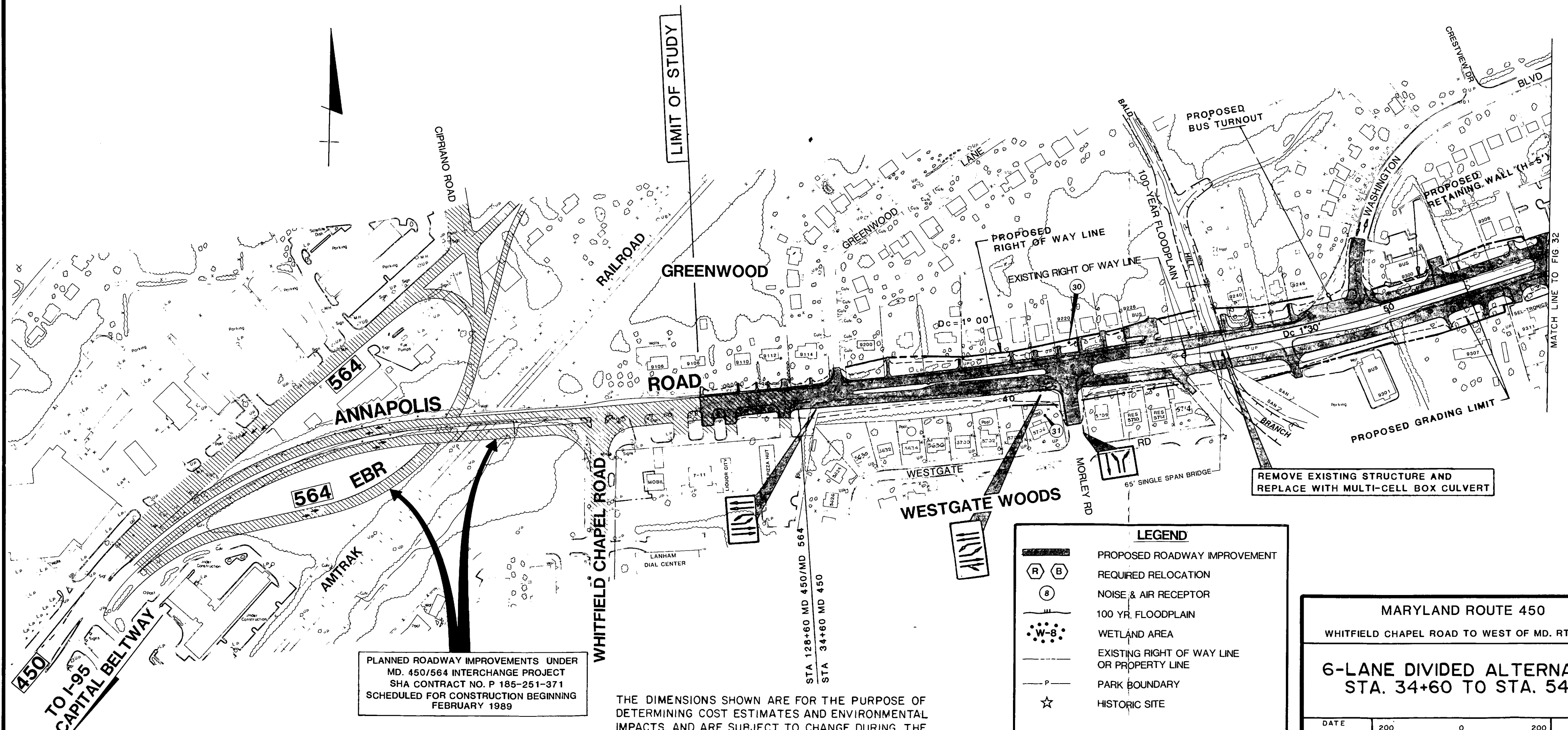
MARYLAND ROUTE 704
 WEST OF MARYLAND ROUTE 704
 TO EAST OF MARYLAND ROUTE 197
 SUPERIOR LANE TO WEST OF MARYLAND ROUTE 3.

NOTE: PROPOSED SIDEWALK TO BE LOCATED ONLY WHERE THERE IS CURRENTLY SIDEWALK.

* MEDIAN WIDTH INCREASES TO 30' TO ACCOMMODATE DOUBLE LEFT TURNS AT MARYLAND ROUTE 704 FOR OPTIONS A AND C, AT MARYLAND ROUTE 197 AND AT RACE TRACK ROAD.

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

MD. ROUTE 450 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE. 3		
TYPICAL SECTIONS 6-LANE DIVIDED ALTERNATE		
DATE		FIGURE
JAN, 1989	NOT TO SCALE	30



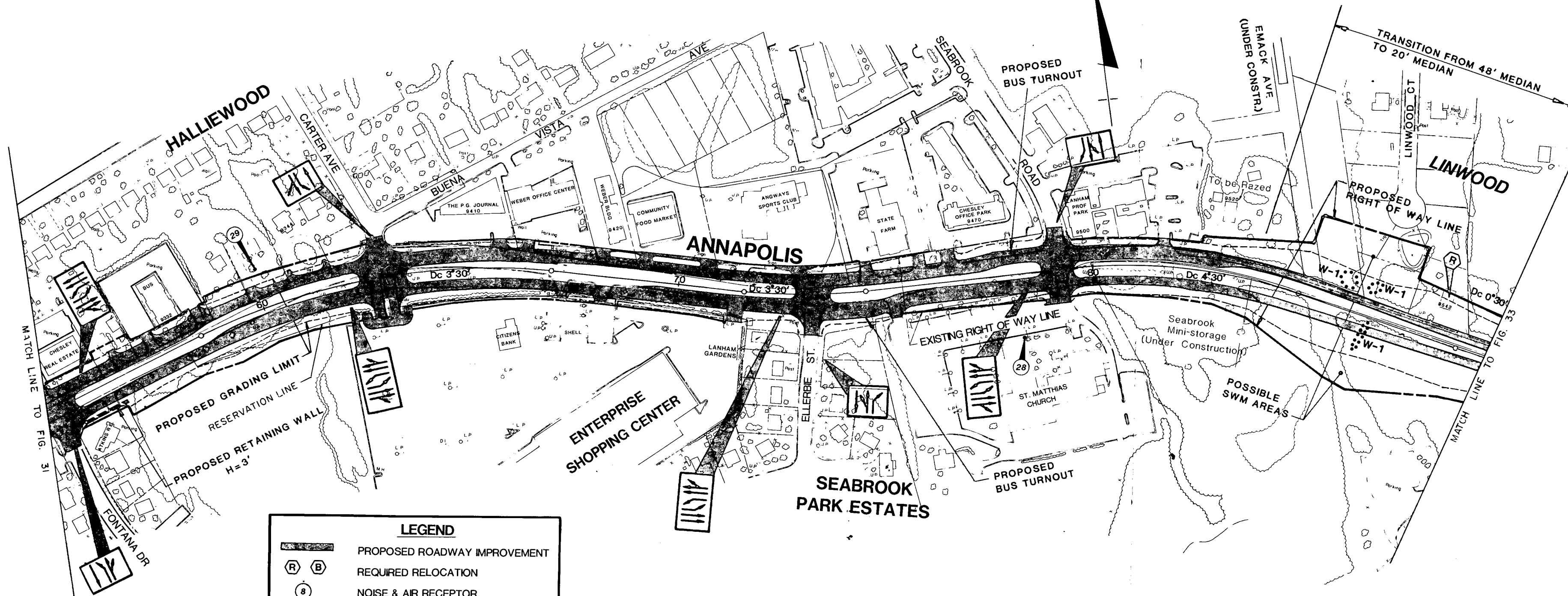
PLANNED ROADWAY IMPROVEMENTS UNDER
 MD. 450/564 INTERCHANGE PROJECT
 SHA CONTRACT NO. P 185-251-371
 SCHEDULED FOR CONSTRUCTION BEGINNING
 FEBRUARY 1989

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

LEGEND	
	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE

MARYLAND ROUTE 450
 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3
 6-LANE DIVIDED ALTERNATE
 STA. 34+60 TO STA. 54+

DATE	200 0 200	FIGURE
JAN., 1989	SCALE IN FEET	31



LEGEND

	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE

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

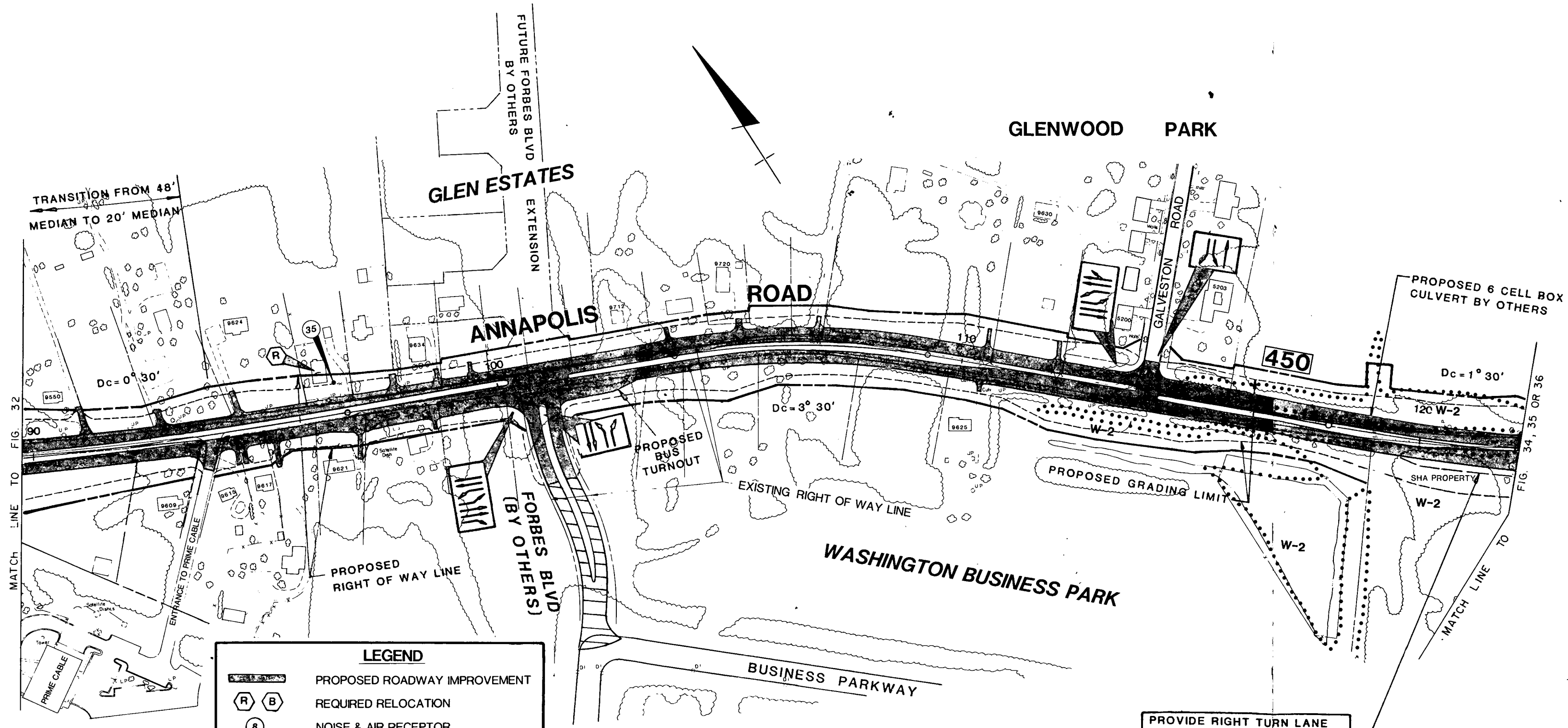
MARYLAND ROUTE 450
 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

**6-LANE DIVIDED ALTERNATE
 STA. 54+ TO STA. 89+**

DATE: JAN., 1989

SCALE IN FEET: 0 to 200

FIGURE: 32



LEGEND

	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE

PROVIDE RIGHT TURN LANE FOR MD 704 OPTION A ONLY.

MD 704 OPTION A

MD 704 OPTIONS C & D





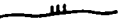
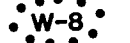



THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

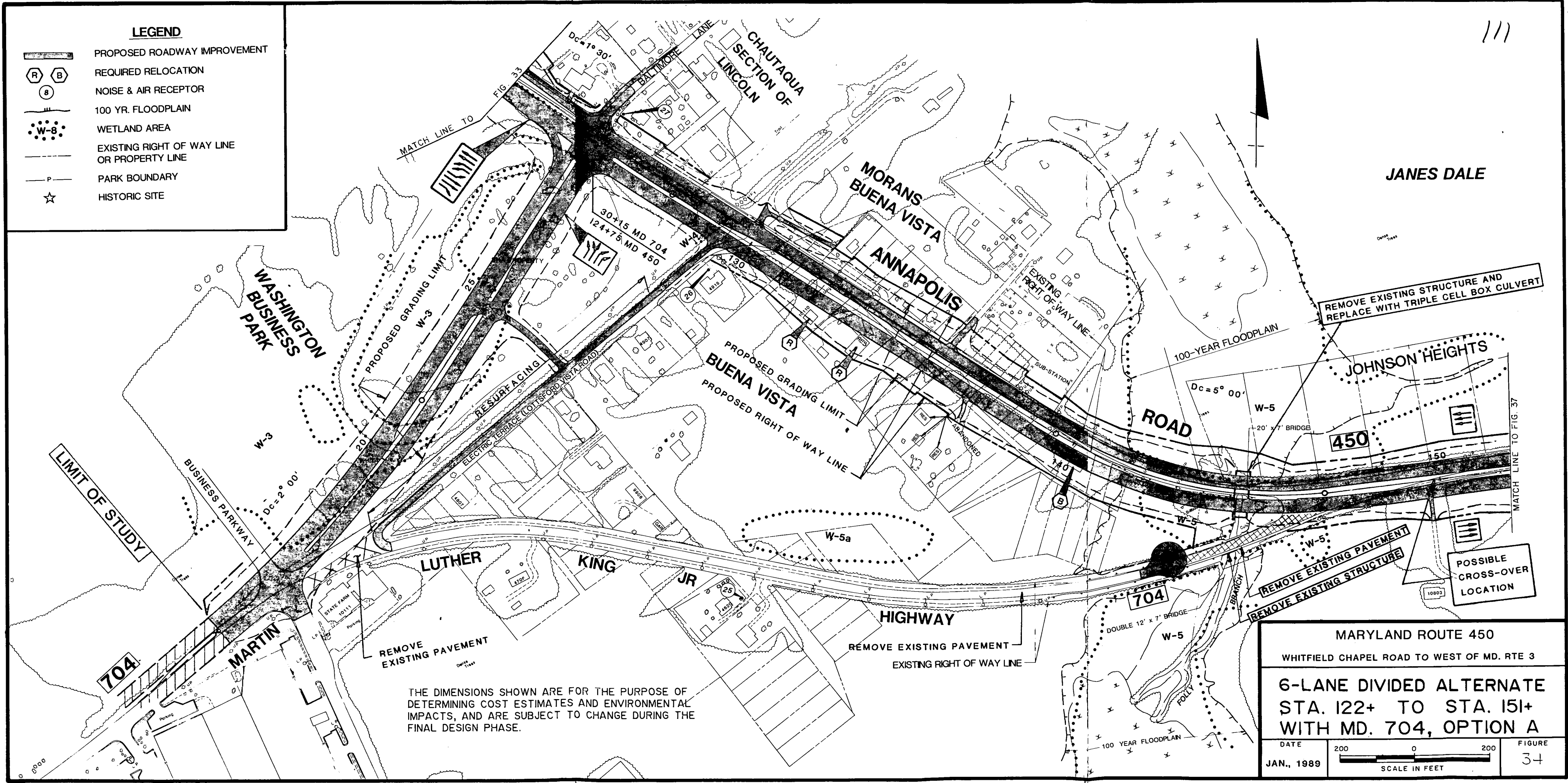
MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

6-LANE DIVIDED ALTERNATE
STA. 89+ TO STA. 122+

DATE	SCALE IN FEET	FIGURE
JAN., 1989		33

LEGEND

-  PROPOSED ROADWAY IMPROVEMENT
-   REQUIRED RELOCATION
-  NOISE & AIR RECEPTOR
-  100 YR. FLOODPLAIN
-  WETLAND AREA
-  EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
-  PARK BOUNDARY
-  HISTORIC SITE



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




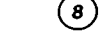

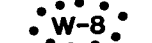
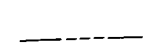


REMOVE EXISTING STRUCTURE AND REPLACE WITH TRIPLE CELL BOX CULVERT

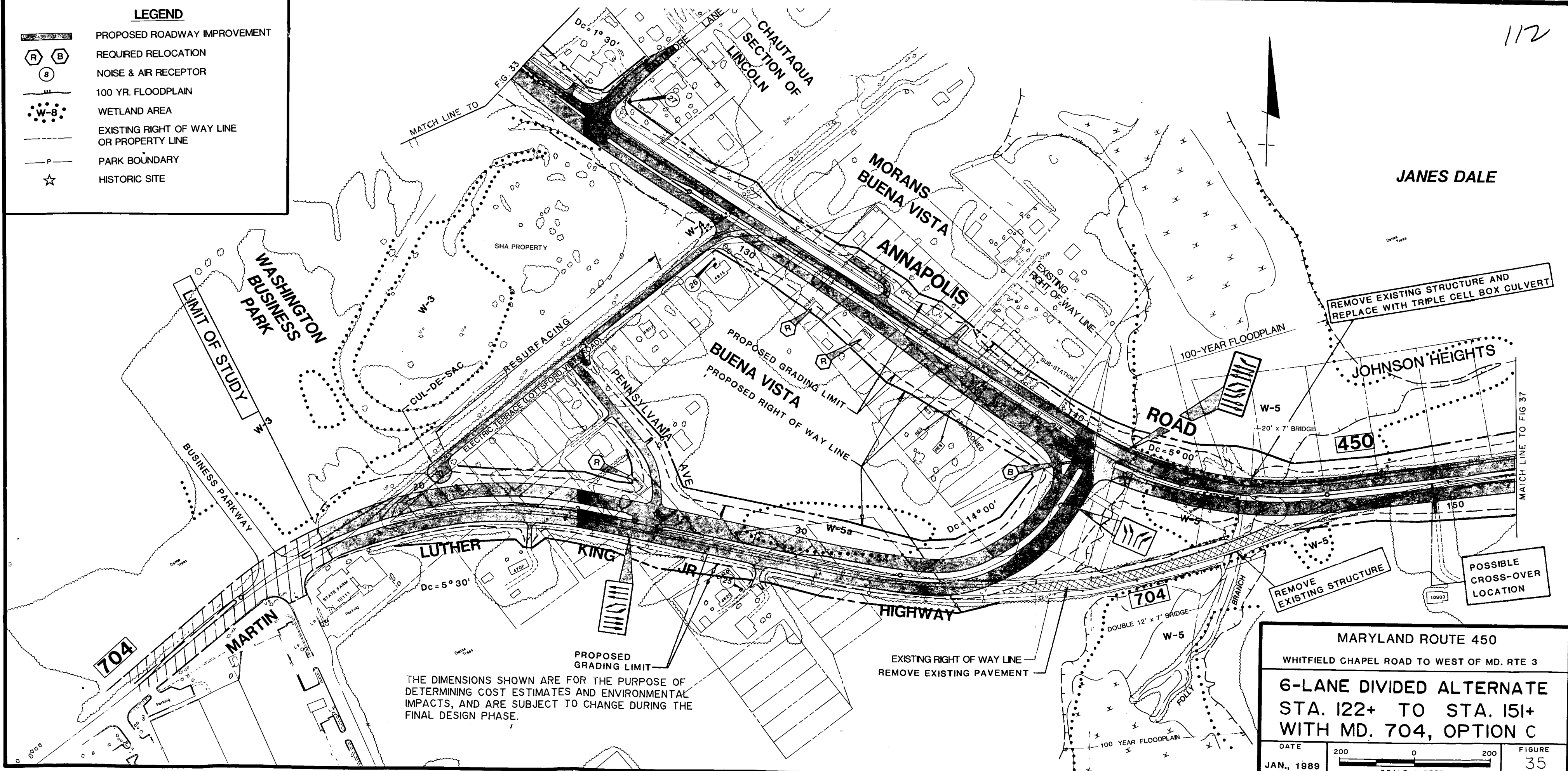
REMOVE EXISTING PAVEMENT
REMOVE EXISTING STRUCTURE

POSSIBLE CROSS-OVER LOCATION

MARYLAND ROUTE 450		
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
6-LANE DIVIDED ALTERNATE		
STA. 122+ TO STA. 151+		
WITH MD. 704, OPTION A		
DATE	200 0 200	FIGURE
JAN., 1989	SCALE IN FEET	34

LEGEND

-  PROPOSED ROADWAY IMPROVEMENT
-   REQUIRED RELOCATION
-  NOISE & AIR RECEPTOR
-  100 YR. FLOODPLAIN
-  WETLAND AREA
-  EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
-  PARK BOUNDARY
-  HISTORIC SITE



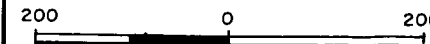
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

EXISTING RIGHT OF WAY LINE
REMOVE EXISTING PAVEMENT





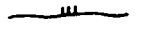
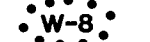
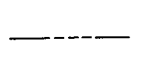
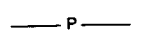

REMOVE EXISTING STRUCTURE AND REPLACE WITH TRIPLE CELL BOX CULVERT

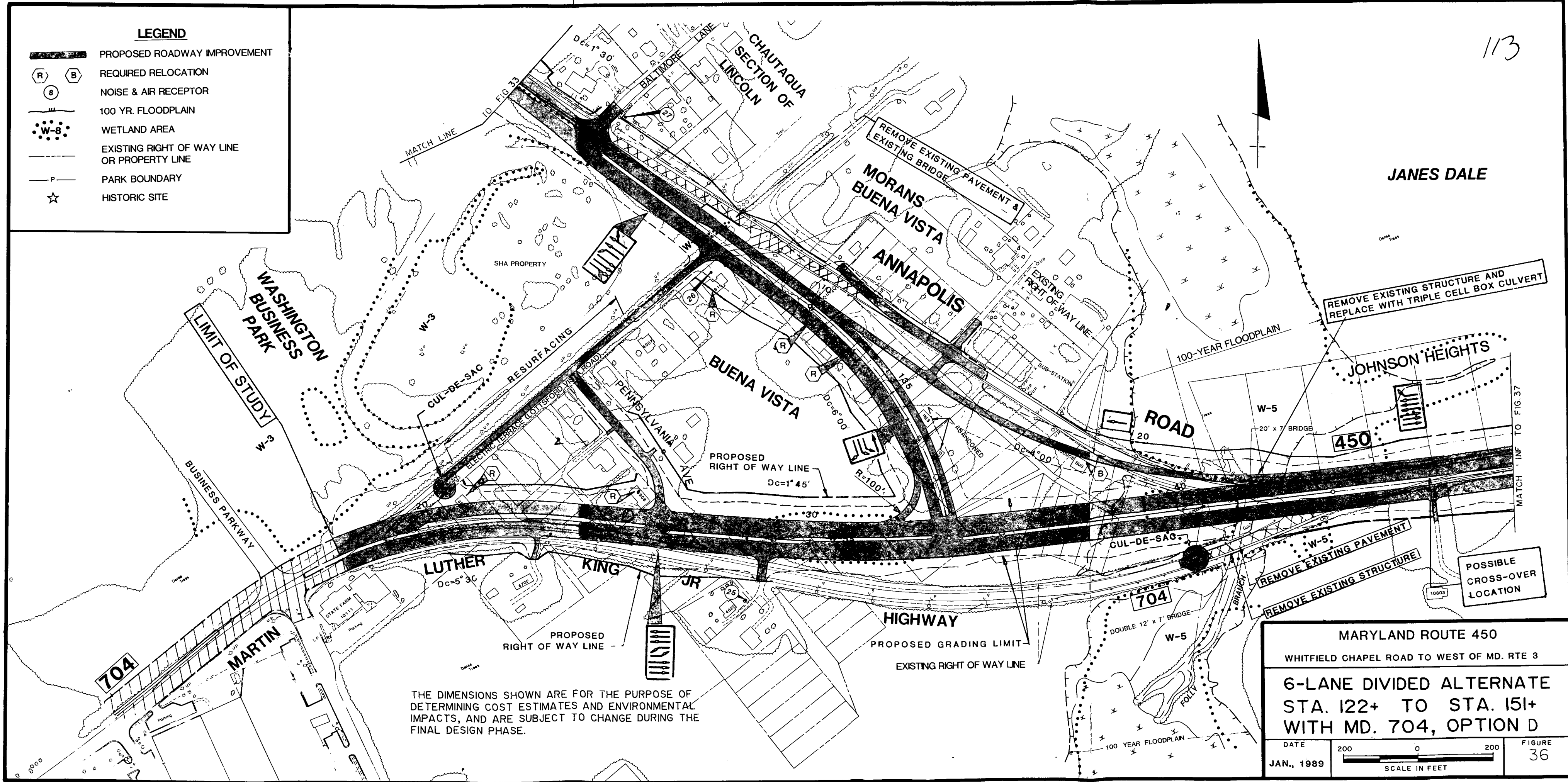
REMOVE EXISTING STRUCTURE

POSSIBLE CROSS-OVER LOCATION

MARYLAND ROUTE 450		
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
6-LANE DIVIDED ALTERNATE		
STA. 122+ TO STA. 151+		
WITH MD. 704, OPTION C		
DATE		FIGURE
JAN., 1989	SCALE IN FEET	35

LEGEND

-  PROPOSED ROADWAY IMPROVEMENT
-   REQUIRED RELOCATION
-  NOISE & AIR RECEPTOR
-  100 YR. FLOODPLAIN
-  WETLAND AREA
-  EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
-  PARK BOUNDARY
-  HISTORIC SITE

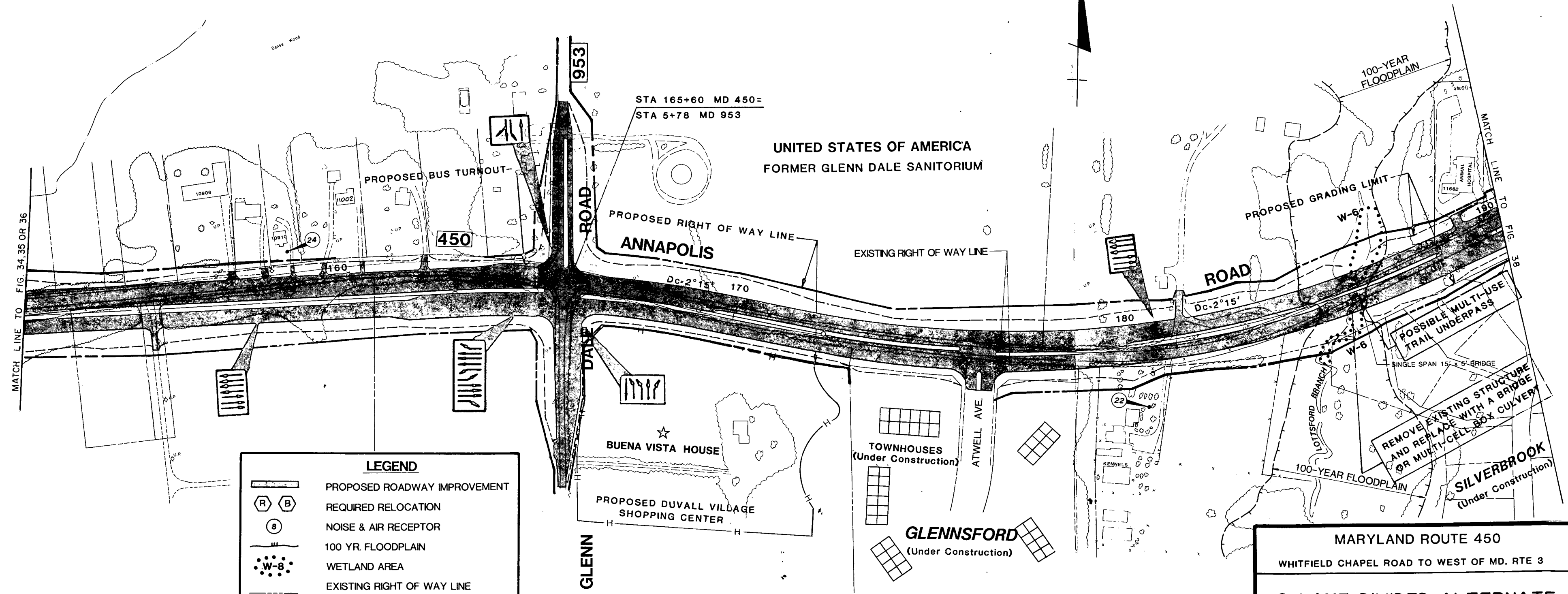


THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

MARYLAND ROUTE 450		
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
6-LANE DIVIDED ALTERNATE		
STA. 122+ TO STA. 151+		
WITH MD. 704, OPTION D		
DATE	200 0 200	FIGURE
JAN., 1989	SCALE IN FEET	36

NOTE: 4 LANES WESTBOUND, WEST OF MD 953, REFLECT MD 450 CONFIGURATION FOR MD 704 OPTION D ONLY.

114





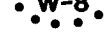
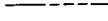




LEGEND	
	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE
	HISTORIC BOUNDARY

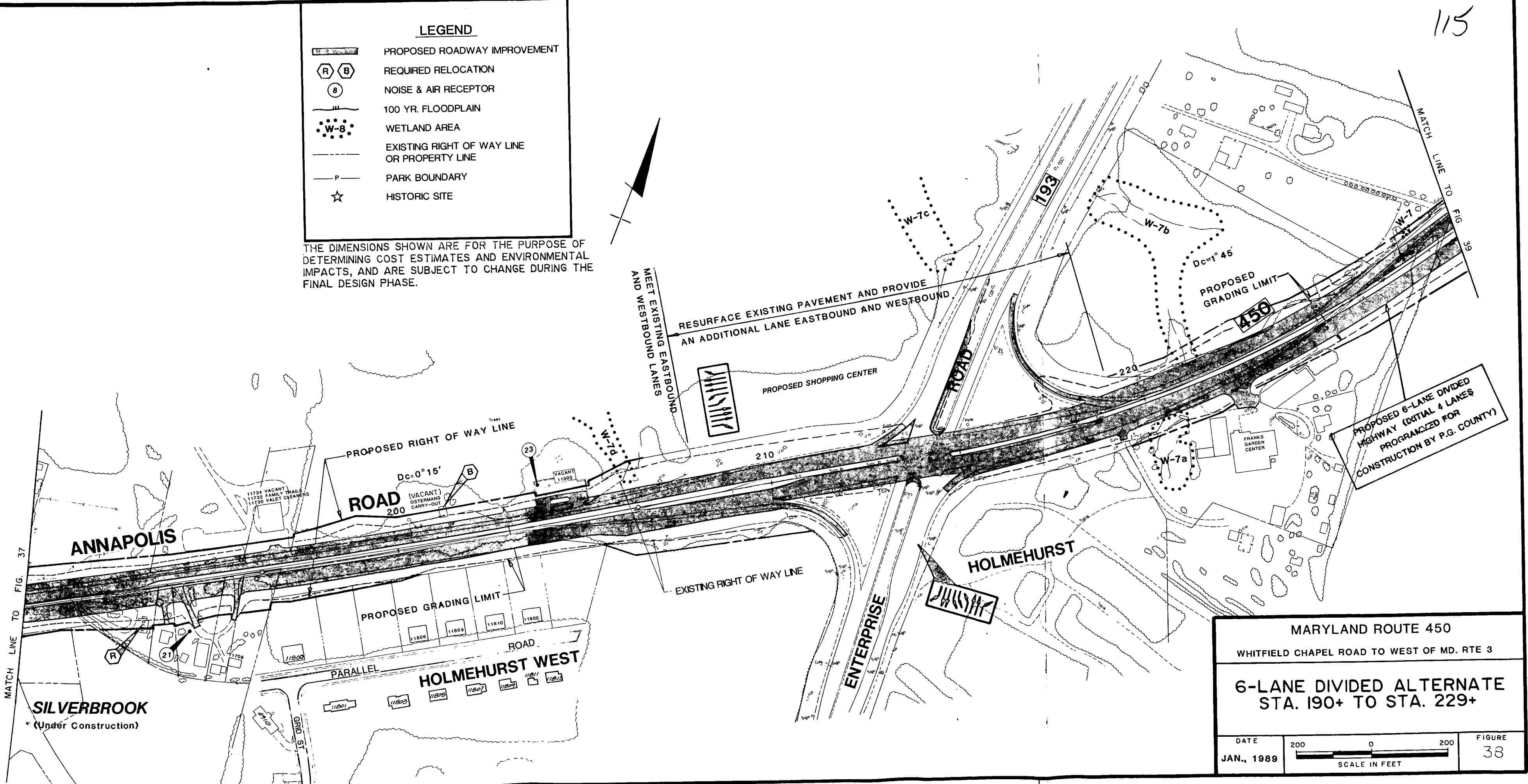
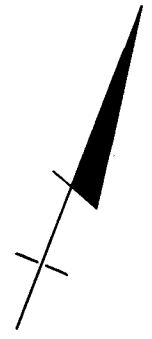
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

MARYLAND ROUTE 450		
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
6-LANE DIVIDED ALTERNATE		
STA. 151+ TO STA. 190+		
DATE	SCALE IN FEET	FIGURE
JAN., 1989.		37

LEGEND

-  PROPOSED ROADWAY IMPROVEMENT
-  REQUIRED RELOCATION
-  NOISE & AIR RECEPTOR
-  100 YR. FLOODPLAIN
-  WETLAND AREA
-  EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
-  PARK BOUNDARY
-  HISTORIC SITE

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



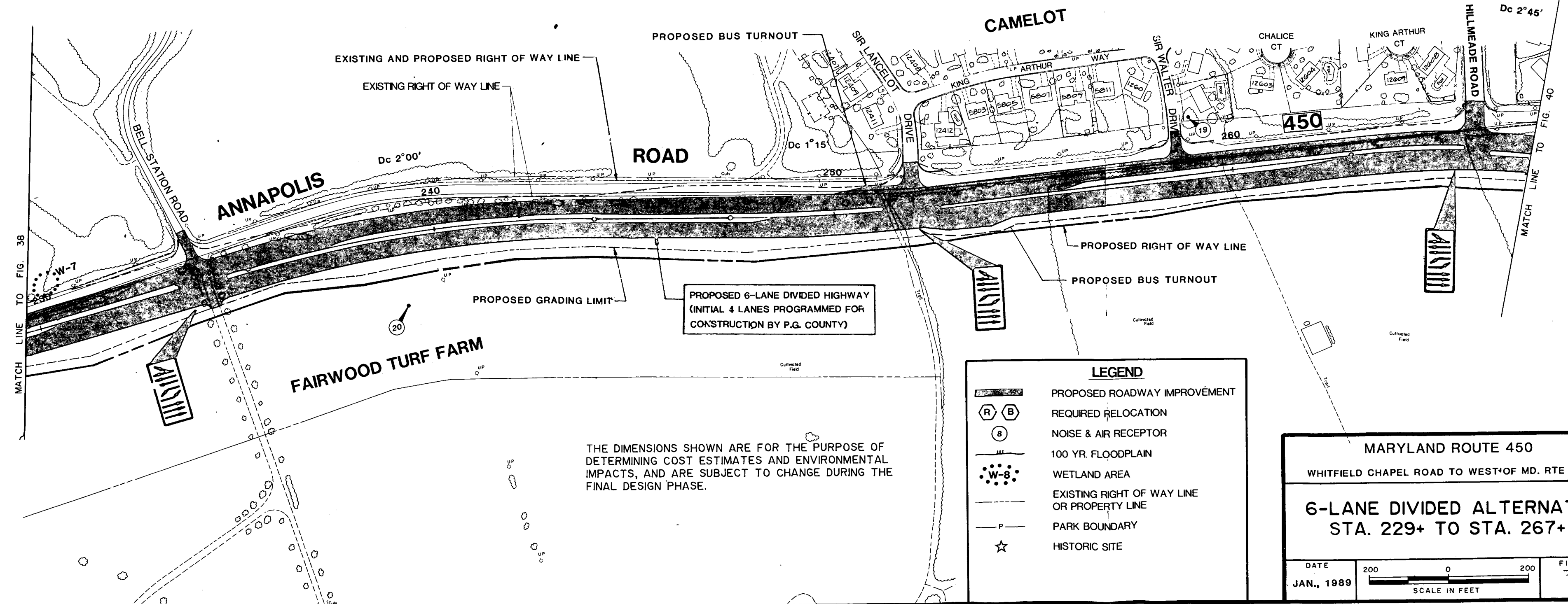
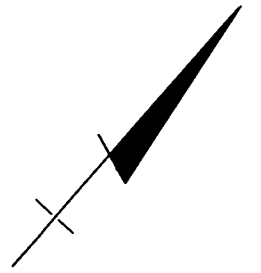
MARYLAND ROUTE 450
 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

6-LANE DIVIDED ALTERNATE
 STA. 190+ TO STA. 229+

DATE: JAN., 1989

SCALE IN FEET: 0 to 200

FIGURE: 38



ROAD

CAMELOT

ANNAPOLIS

FAIRWOOD TURF FARM

HILLMEADE ROAD

PROPOSED 6-LANE DIVIDED HIGHWAY
(INITIAL 4 LANES PROGRAMMED FOR
CONSTRUCTION BY P.G. COUNTY)

LEGEND

	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE

MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

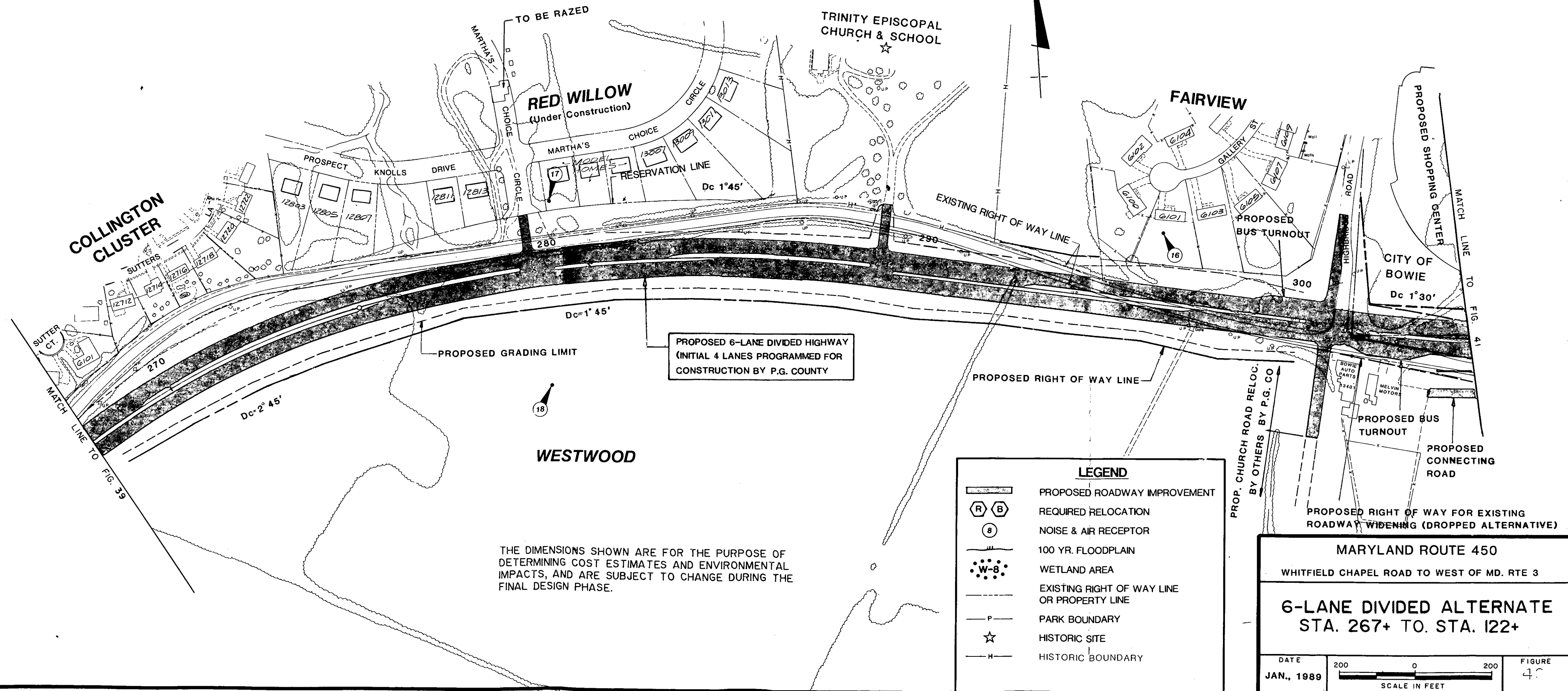
6-LANE DIVIDED ALTERNATE
STA. 229+ TO STA. 267+

DATE: JAN., 1989

SCALE IN FEET: 0 to 200

FIGURE: 39

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



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

LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE
- HISTORIC BOUNDARY

MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

6-LANE DIVIDED ALTERNATE
STA. 267+ TO STA. 122+

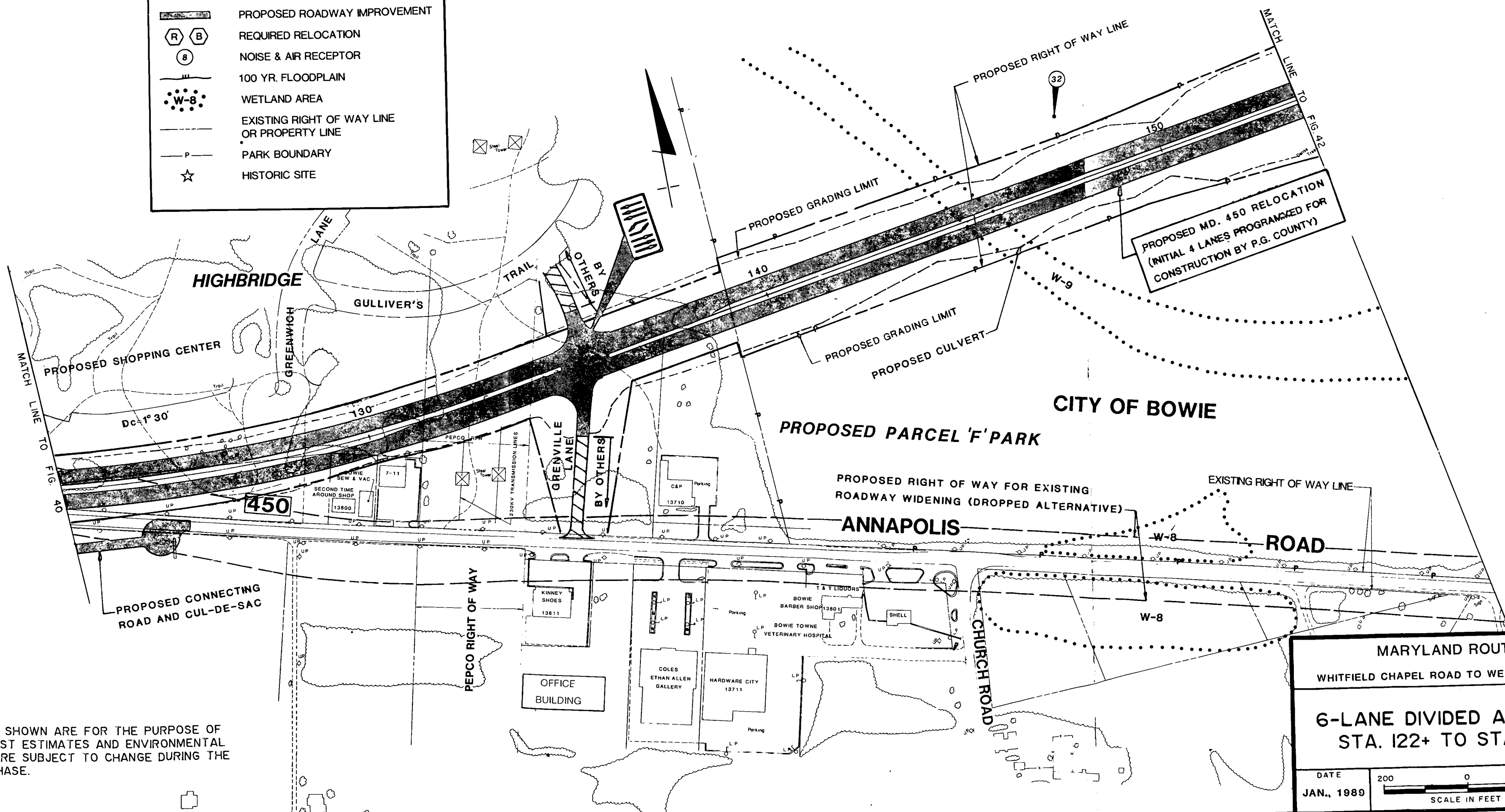
DATE: JAN., 1989

200 0 200
SCALE IN FEET

FIGURE 4

LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE



PROPOSED MD. 450 RELOCATION
(INITIAL 4 LANES PROGRAMMED FOR
CONSTRUCTION BY P.G. COUNTY)

PROPOSED PARCEL 'F' PARK

ANNAPOLIS

ROAD

MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

**6-LANE DIVIDED ALTERNATE
STA. 122+ TO STA. 153+**

DATE
JAN., 1989

SCALE IN FEET
200 0 200

FIGURE
41

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

NOTE: TRAIL ACCOMMODATION WOULD BE PROVIDED ACROSS MD. 450 TO CONNECT THE TWO PIECES OF THE BOWIE PARCEL 'F' PARK EITHER ALONG THE RAILROAD OR BY MEANS OF A CULVERT THROUGH THE ROADWAY EMBANKMENT WEST OF THE RAILROAD

PROPOSED DUAL BRIDGE OVER CONRAIL RAILROAD

PROPOSED GRADING LIMITS

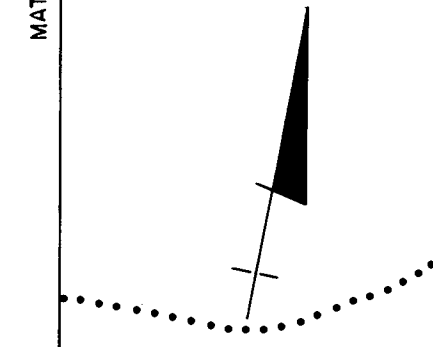
PROPOSED RIGHT OF WAY LINE

MATCH LINE TO FIG. 41

MATCH LINE TO FIG. 43

PROPOSED MD. 450 RELOCATION (INITIAL 4 LANES PROGRAMMED FOR CONSTRUCTION BY P.G. COUNTY)

PROPOSED ENTRANCE DRIVE RELOCATION



OPTION 3 ROADWAY & BRIDGE RELOCATION TO PROVIDE 20 YEAR BRIDGE LIFE EXPECTANCY

OPTION 2 REHABILITATE EXISTING BRIDGE TO PROVIDE 10 YEAR BRIDGE LIFE EXPECTANCY

OPTION 1 COMPLETE BRIDGE CLOSURE. PROVIDE CUL-DE-SACS

PROPOSED RIGHT OF WAY FOR EXISTING ROADWAY WIDENING (DROPPED ALTERNATIVE)

PROPOSED RIGHT OF WAY FOR OPTION 3

PROPOSED RIGHT OF WAY FOR EXISTING ROADWAY WIDENING (DROPPED ALTERNATIVE)

LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE

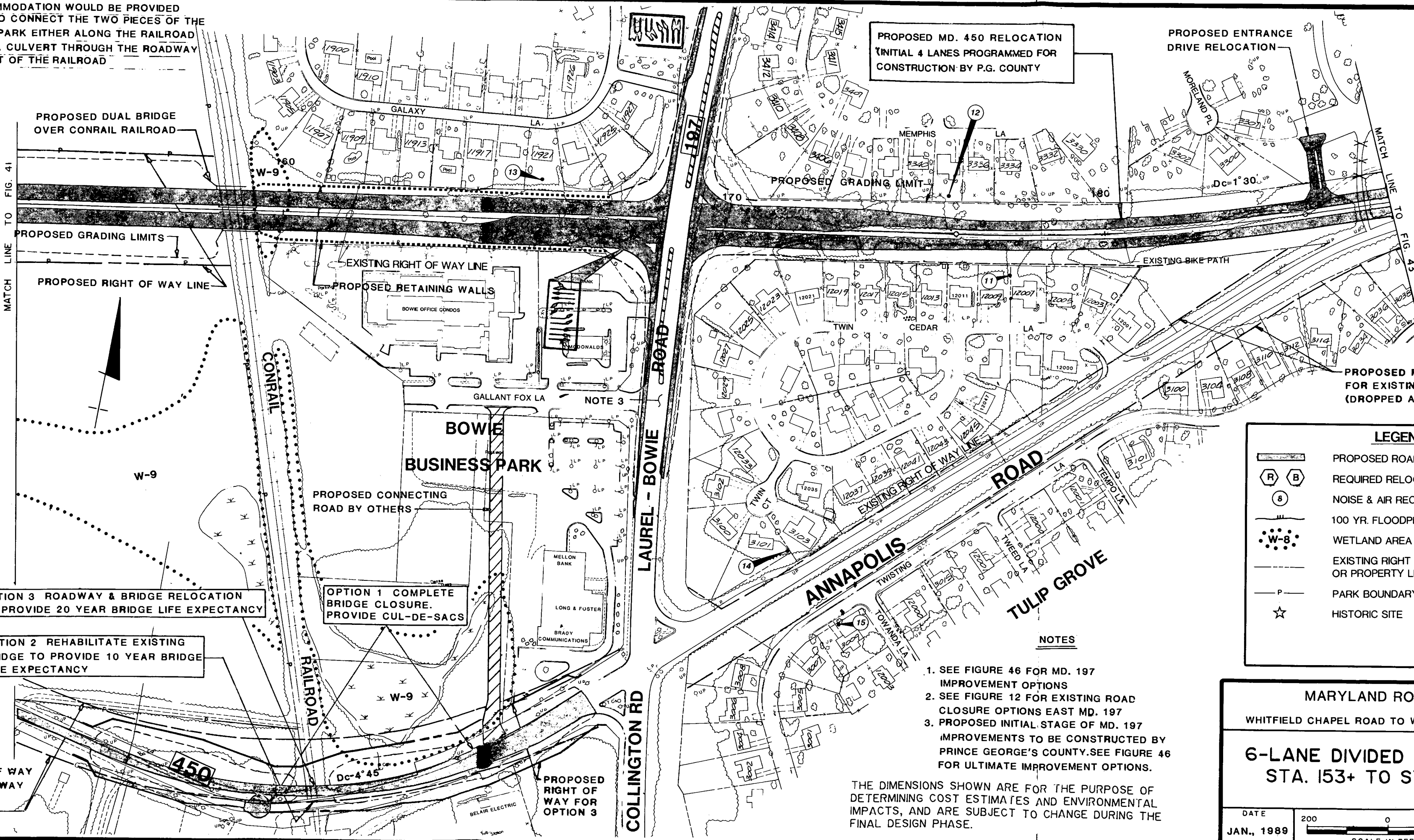
- NOTES**
1. SEE FIGURE 46 FOR MD. 197 IMPROVEMENT OPTIONS
 2. SEE FIGURE 12 FOR EXISTING ROAD CLOSURE OPTIONS EAST MD. 197
 3. PROPOSED INITIAL STAGE OF MD. 197 IMPROVEMENTS TO BE CONSTRUCTED BY PRINCE GEORGE'S COUNTY. SEE FIGURE 46 FOR ULTIMATE IMPROVEMENT OPTIONS.

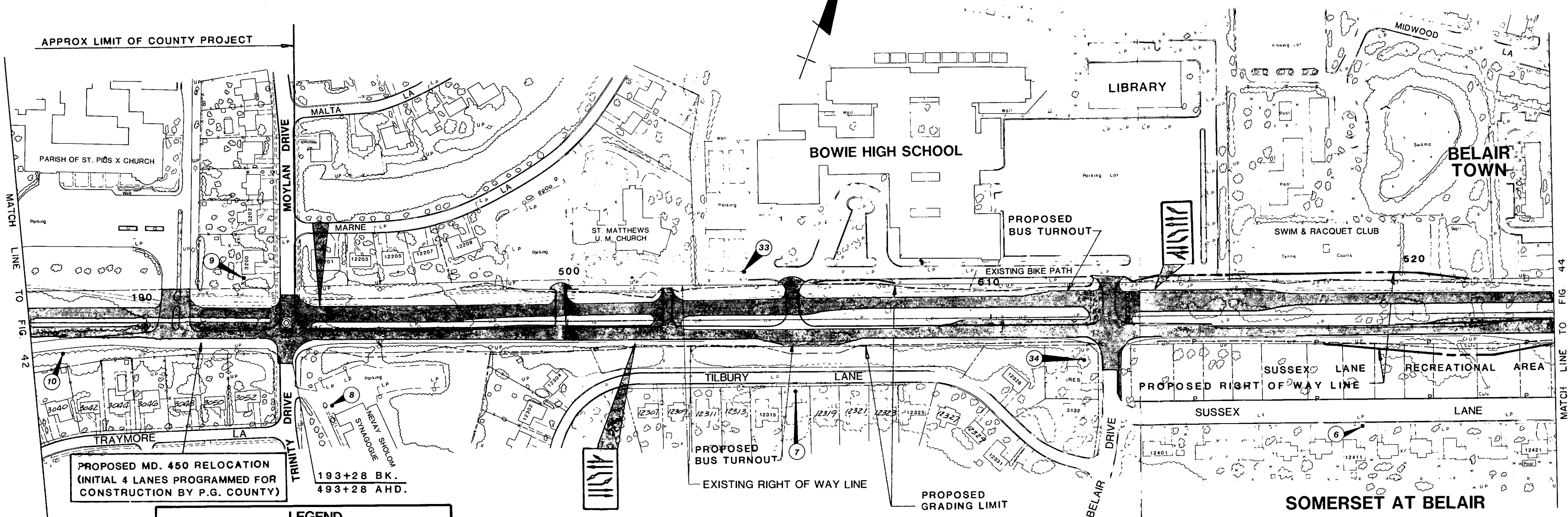
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

6-LANE DIVIDED ALTERNATE
STA. 153+ TO STA. 187+

DATE JAN., 1989	<p>SCALE IN FEET</p>	FIGURE 42
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PROPOSED MD. 450 RELOCATION
(INITIAL 4 LANES PROGRAMMED FOR
CONSTRUCTION BY P.G. COUNTY)

LEGEND

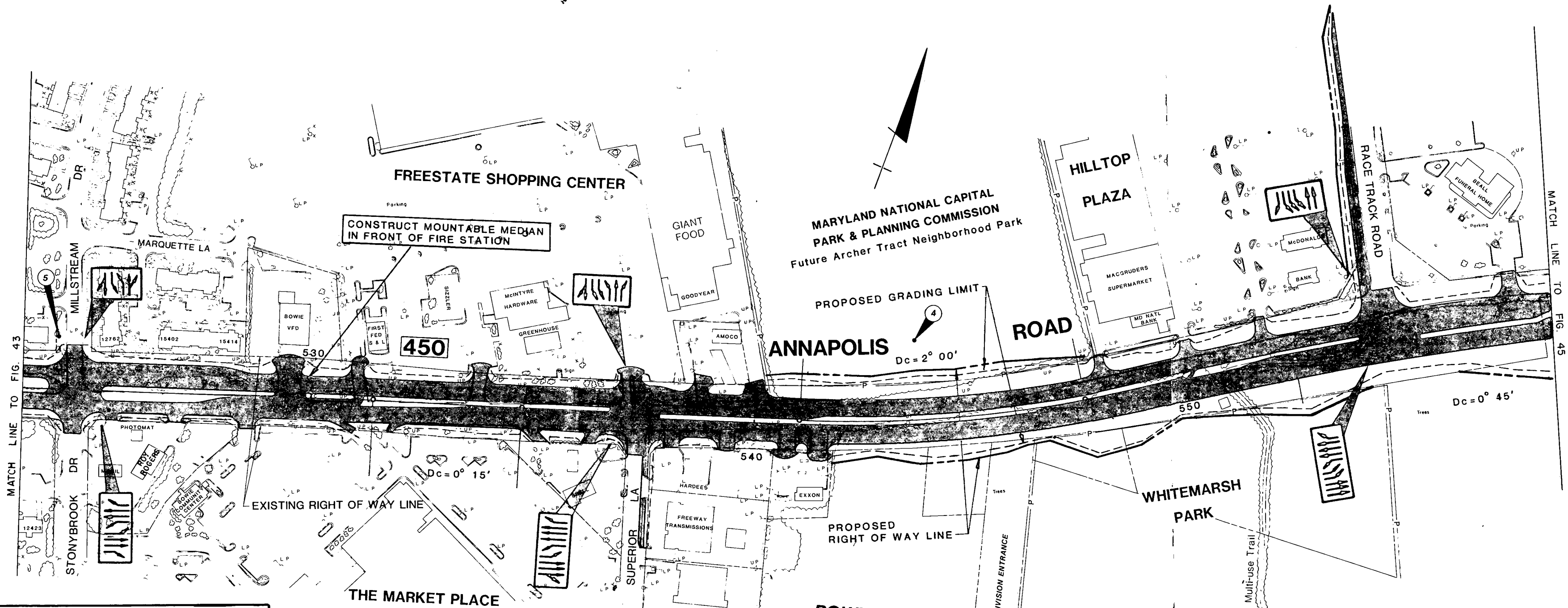
- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE

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 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

6-LANE DIVIDED ALTERNATE
STA. 187+ TO STA. 523+

DATE JAN., 1989	<p>SCALE IN FEET</p>	FIGURE 43
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LEGEND

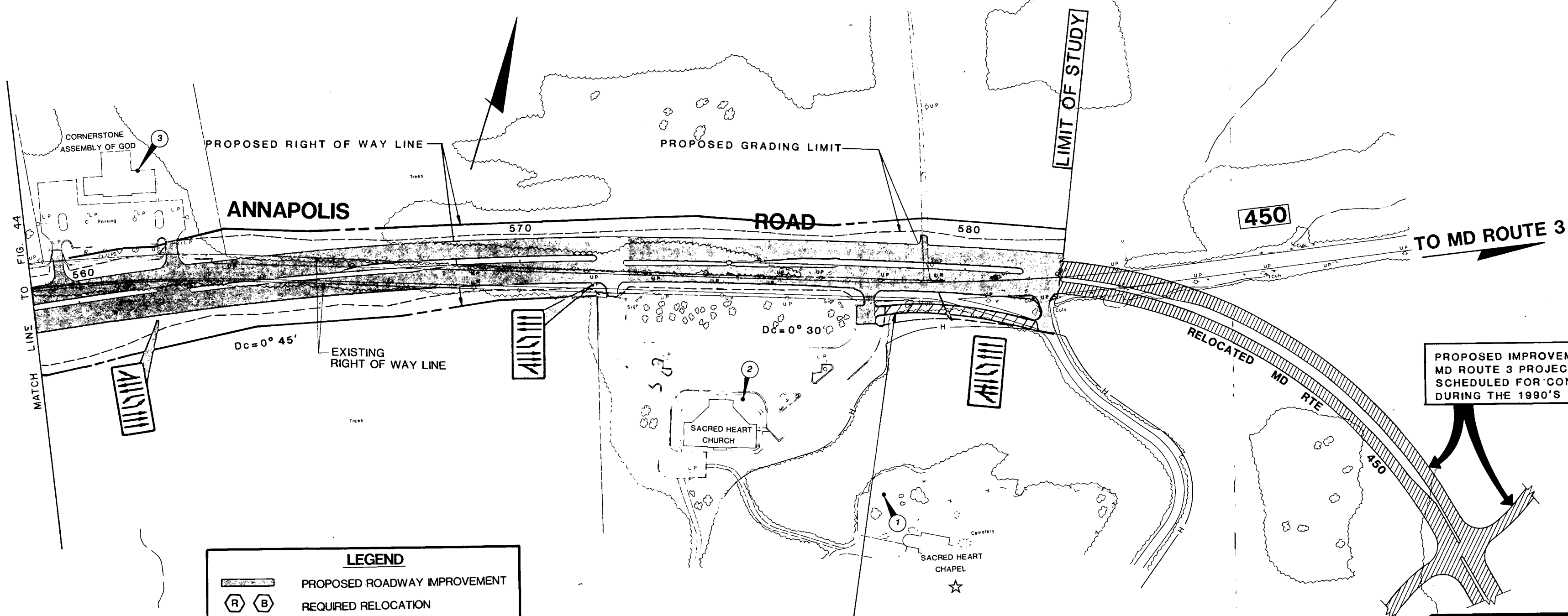
- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- W-8 WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE

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 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

6-LANE DIVIDED ALTERNATE
STA. 523+ TO STA. 558+

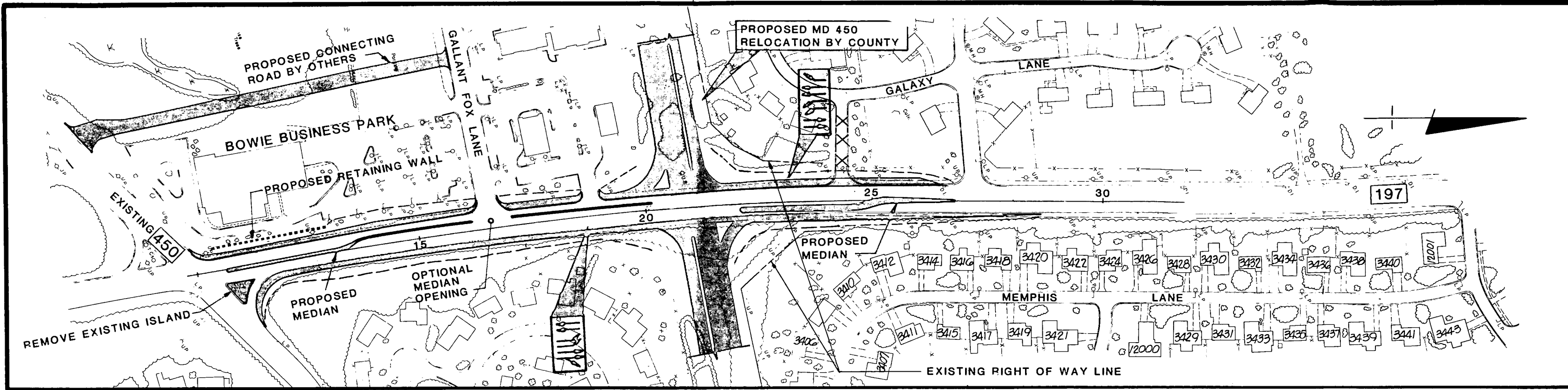
DATE JAN., 1989	<p>SCALE IN FEET</p>	FIGURE 44
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LEGEND	
	PROPOSED ROADWAY IMPROVEMENT
	REQUIRED RELOCATION
	NOISE & AIR RECEPTOR
	100 YR. FLOODPLAIN
	WETLAND AREA
	EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
	PARK BOUNDARY
	HISTORIC SITE
	HISTORIC BOUNDARY

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

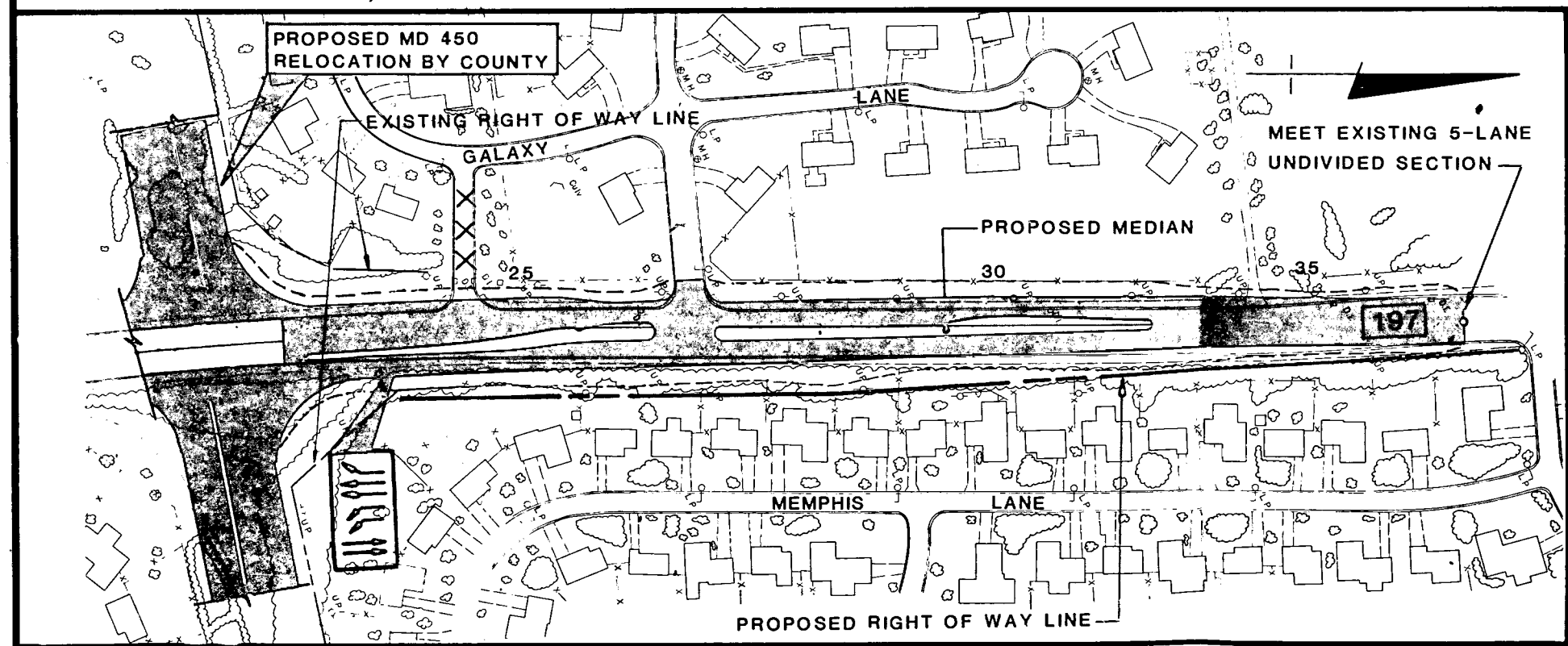
MARYLAND ROUTE 450		
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
6-LANE DIVIDED ALTERNATE, STA. 558+ TO STA. 582+		
DATE JAN., 1989	 SCALE IN FEET	FIGURE 45



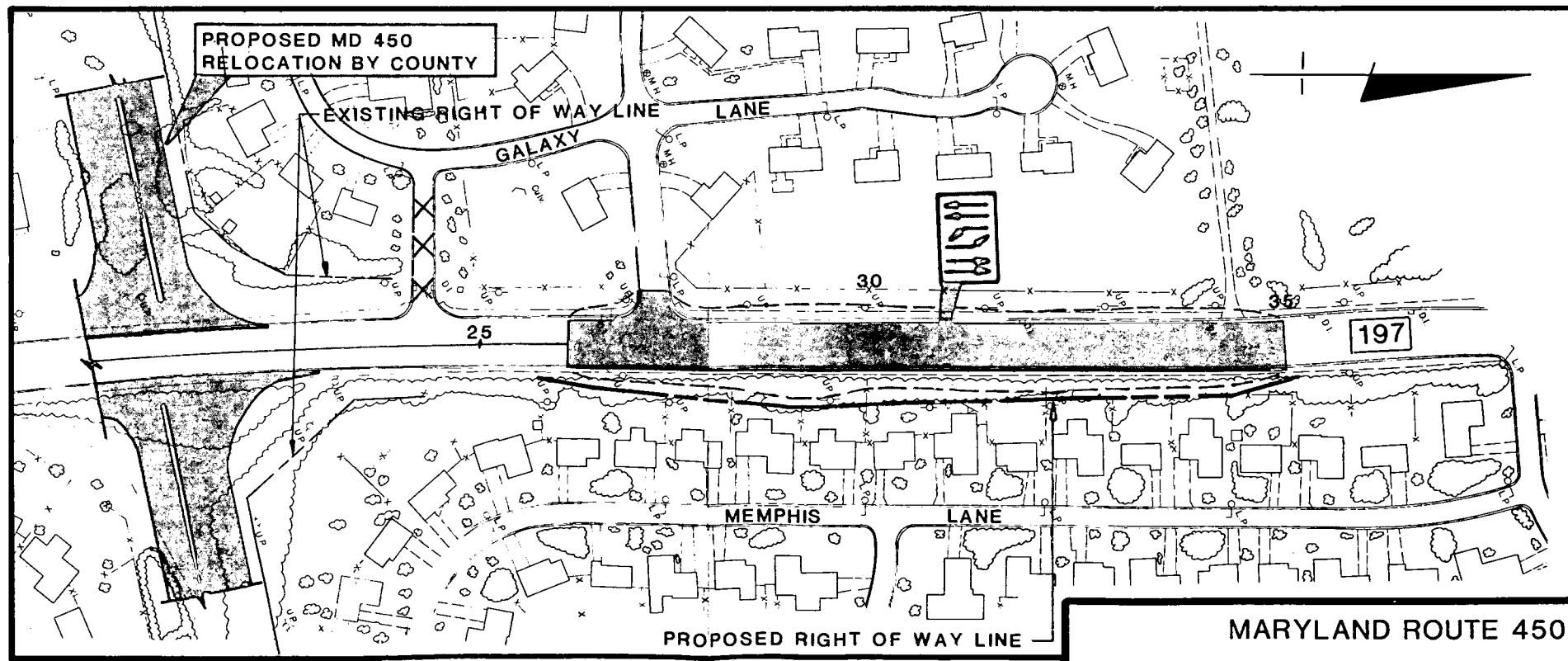
LEGEND

- PROPOSED ROADWAY IMPROVEMENT
- REQUIRED RELOCATION
- NOISE & AIR RECEPTOR
- 100 YR. FLOODPLAIN
- WETLAND AREA
- EXISTING RIGHT OF WAY LINE OR PROPERTY LINE
- PARK BOUNDARY
- HISTORIC SITE
- TEMPORARY ENTRANCE TO BE CLOSED

OPTION 2A - 4 LANE DIVIDED WITH EXISTING PROFILE



OPTION 2B - 4 LANE DIVIDED WITH REVISED PROFILE



OPTION 3 - 5 LANE UNDIVIDED WITH REVISED PROFILE

SEE FIGURES 25 AND 42 FOR MARYLAND ROUTE 450 ALTERNATES IN THE VICINITY OF MD. RTE. 197

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 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

MD. ROUTE 197 OPTIONS

DATE	200 0 200	FIGURE
JAN., 1989	SCALE IN FEET	46

IV ENVIRONMENTAL IMPACTS

IV. ENVIRONMENTAL IMPACTS

A. Social

1. Displacements and Relocations

An analysis of the possible displacements caused by the proposed alternates and options has been made by the State Highway Administration and is based on preliminary relocation and right-of-way studies. The preliminary right-of-way and relocation reports are available for review at the District 3 office of the Office of Real Estate, State Highway Administration, 9300 Kenilworth Ave., Greenbelt, Md. 20770.

A summary of the displacements required for the proposed project is as follows:

TABLE 9

RESIDENTIAL AND BUSINESS DISPLACEMENTS

<u>Alternate</u>	<u>Residential Displacements</u>	<u>Business Displacements</u>	<u>Total Displacements</u>
No Build	0	0	0
4-Lane Divided:			
with Option A	6	2*	8
with Option C	7	2*	9
with Option D	8	2*	10
6-Lane Divided:			
with Option A	6	2*	8
with Option C	7	2*	9
with Option D	8	2*	10

* Vacant

The number of displacements required is independent of the options chosen for Maryland Route 197 or for the disposition of existing Maryland Route 450 from Highbridge Road to Moylan/Trinity Drives since no displacements are required in these areas. All proposed relocations are between Seabrook Road and Maryland Route 193 with the majority of these impacts in the vicinity of the Maryland Route 450/704 intersection. Two vacant commercial structures are also impacted by the proposed improvements. The five residential impacts which are common to either alternate consist of three owner-occupied and two minority tenant-occupied residences. The remaining residential displacements are dependent only upon the Maryland Route 704 Option selected. These displacements are described as follows:

Option A

The remaining residence required under this option is minority tenant-occupied.

Option C

The remaining two residences required under this option are owner-occupied. One additional abandoned residence is also required.

Option D

Of the remaining three residences required under this option, one is minority tenant occupied and two are owner-occupied. Three additional abandoned residential structures are also required.

The area affected by the alternates is a mixture of small businesses, office buildings, commercial areas and residences. Income levels of affected families are in the low range.

Relocation of the individuals and families displaced by the proposed project would be accomplished in accordance with the "Uniform Relocation Assistance and Land Acquisition Policies Act of 1970" (See Appendix B). The relocations would be satisfactorily completed within a 6 to 12 month period, and in a timely, orderly and humane manner. The required acquisitions can be accomplished with minimal impact to the economic well being of the project area and those directly affected.

A survey of the local real estate rental and sales market indicates that there is sufficient comparable replacement housing for the dislocated families, but not at prices that they can afford. Therefore, "Housing As A Last Resort" would be utilized to provide decent, safe and sanitary replacement housing for all the affected families. There should not be any major difficulties in relocating the affected families. Enough housing appears to be available in the area so there would be no adverse impact on neighborhoods into which the affected families would move. No significant change in population density or distribution is anticipated. No other federal, state or local projects are foreseen which would affect the supply and availability of needed replacement housing.

None of the displacees are handicapped individuals. Impacts are projected for the Lincoln-Vista subdivision which contains a concentration of minority residents and tenant occupants.

Title VI Statement

It is the policy of the Maryland State Highway Administration to ensure compliance with the provisions of Title VI of the Civil Rights Act of 1964, and related civil rights laws and regulations which prohibit discrimination on the grounds of race, color, sex, national origin, age, religion, physical or mental handicap in all State Highway Administration program projects funded in whole or in part by the Federal Highway Administration. The State Highway Administration will not discriminate in highway planning, highway design, highway construction, the acquisition of right-of-way, or the provision of relocation advisory assistance. This policy has been incorporated into all levels of the highway planning process in order that proper consideration may be given to the social, economic, and environmental effects of all highway projects. Alleged discriminatory actions should be addressed to the Equal Opportunity Section of the Maryland State Highway Administration for investigation.

In addition to the required displacements, strip taking of right-of-way generally adjacent to existing rights-of-way would be required. The right-of-way impacts are summarized as follows:

TABLE 10

RIGHT-OF-WAY IMPACTS

<u>Alternate</u>	<u>Md. Rte. 704 Option A</u>	<u>Md. Rte. 704 Option C</u>	<u>Md. Rte. 704 Option D</u>
No-Build	0	0	0
4-Lane Divided	75.1 ac.	80.9 ac.	88.0 ac.
6-Lane Divided	85.5 ac.	88.3 ac.	95.4 ac.

The above acreages include 34.3 acres between Maryland Route 193 and the Conrail Railroad and assume no dedication of any right-of-way from adjacent proposed developments. Proposed right-of-way requirements between Maryland Route 193 and Highbridge Road (13.6 ac) are generally south of the existing road.

Negotiations have been initiated between the State Highway Administration, Prince George's County, M.N.C.P.P.C. and area developers to obtain partial or complete dedication of land required for the ultimate roadway improvements in this area. East of Highbridge Road, the corridor, which includes the Highbridge development, has been reserved.

Maryland Route 197, Option 2A would not require right-of-way; Option 2B would require 0.63 acre of right-of-way; and Option 3 would require 0.35 acre.

Option 3 for the reconstruction of the bridge over the Conrail Railroad would require approximately 3.05 acres of right-of-way. The other two existing bridge options would not require right-of-way acquisition.

East of Maryland Route 197, only minor amounts of right-of-way (0.5 ac.) may be required under Options 1, 3 and 4 for the disposition of existing Maryland Route 450 to provide a connection between Existing and Relocated MD 450 or to connect Twin Cedar Lane to Twisting Lane.

2. Public Parks and Recreational Areas

No property would be required from parkland to construct either Maryland Route 450 Build Alternate across the proposed MNCPPC Stream Valley Parks at Folly and Lottsford Branches. Currently, the proposed parks are on master plans. At Lottsford Branch, MNCPPC has received land dedication for the proposed stream valley park from the owners of the Silverbrook subdivision. Along with this dedication, adequate reservation was set aside for the ultimate Maryland Route 450 improvements near the stream crossing. As the land adjacent to the proposed Folly Branch Stream Valley Park becomes developed, MNCPPC will obtain dedications for park purposes. The State Highway Administration will maintain coordination with MNCPPC to obtain reservations for highway purposes at the proposed park crossing.

Strip right-of-way and/or construction easements (less than one acre total) would be required for either Build Alternate from the future Archer Tract Neighborhood Park, Whitemarsh Park, and the unnamed recreational area across from Bowie High School, referred to herein as the Sussex Lane Recreational Area. See Chapter V: Section 4(f) Evaluation.

Noise level impacts at the parks and recreational area are projected to be as follows:

Noise Levels (dBA)

Location	Ambient	No-Build	4-Lane Build	6-Lane Build
		2015	2015	2015
Sussex Lane Rec. Area	60	59	60	60
Archer Tract Park	60	61	65	65
Whitemarsh Park	60	61	65	65

The existing bicycle path along MD Route 450 in Bowie would be eliminated under either Build Alternate. This trail, located entirely within SHA right-of-way, between Stonybrook Drive and Maryland Route 197, was completed in June, 1974 as a Maryland Department of Transportation Demonstration Transportation Project. It is an integral part of the transportation facilities in the corridor, providing access to recreation centers, the City Office Complex, schools and fringe parking areas. However, provision of a multi-use trail is included on the north side of proposed MD Route 450 for both Build Alternates. The trail would consist, in closed section areas, of an 8' width of paved area within a 14' wide utility area behind the curb. Where open section is proposed, the 10' wide shoulder would accommodate the trail. Connections would be provided between the existing trail network, within Whitemarsh Park and along Maryland Route 197, and the proposed trail.

The future MNCPPC Stream Valley Park along Bald Hill Branch terminates at the south right-of-way line for proposed Maryland Route 450 and would therefore not be impacted.

Consideration is being given to maintaining continuity of a proposed multi-use trail under Maryland Route 450 along the future Lottsford Branch Stream Valley Park in conformance with M.N.C.P.P.C. Master Plans. The proposed profile for Maryland Route 450 is compatible with trail underclearance requirements. No property would be required from parkland to construct such an underpass. The provision of a structure suitable for a multi-purpose recreational trail is dependent upon participation by the MNCPPC.

Trail underpass feasibility was also investigated at Folly Branch but was dropped from further consideration due to the excessive costs involved (\$2+ million). An at-grade multi-use trail crossing of Maryland Route 450 at Folly Branch was also investigated. Due to the high traffic volumes projected at the Md. 450/704 intersection, an at-grade trail crossing at this location was considered infeasible. A trail overpass of Maryland Route 450 would have approximately the same cost as an underpass along Folly Branch. For this reason and due to the adverse visual impact that an overpass would have, this alternate was considered infeasible. MNCPPC and SHA are exploring the possibility of a trail along crossing of Md. 450 at Lottsford Branch, linking to the proposed longitudinal trail system. From the junction of the Lottsford Branch trail with Maryland Route 450, the proposed trail could either continue north along the stream or, using the Md. 450 longitudinal trail, continue north along the old W.B. & A. Railroad right-of-way which is being studied as a possible multi-use trail location.

The future City of Bowie Park west of the Conrail Railroad (Parcel F) was planned as two segments separated by the proposed relocation of Maryland Route 450 (ultimate six lane roadway). Consequently, no impacts to this proposed facility are anticipated. Coordination is on going with the City of Bowie to

provide access between the two segments. However, access between the two segments may be difficult to provide economically due to the high fill which is proposed just west of the proposed Conrail Railroad bridge and the absence of a signalized intersection in the vicinity of the intended Md. 450 crossing. Alternatives being evaluated to provide a crossing of Relocated Maryland Route 450 to connect the two areas composing the Parcel F park include:

- a. Providing additional span length for the proposed railroad bridge to accommodate a trail, possibly for use by maintenance vehicles, which would run parallel to the railroad tracks under the structure.
- b. Providing culvert structure through the roadway embankment. This type of structure may present a safety hazard due to the potential for criminal activity that could result from a tunnel-like structure of this length (120'-150').

At the St. Pius X Church, the Maryland Route 450 relocation will abut a children's playground. Protective barriers and/or fencing will be considered in the final design stage.

3. Access to Services and Facilities

The No-Build Alternate would not alleviate the existing or projected traffic congestion or safety problems in the study area. Projected traffic volumes are expected to exceed capacity for the entire project area by the design year 2015. Consequently, access to area services and community facilities would become increasingly difficult for area residents as traffic volumes increase. Travel time and costs, as well as distances traveled, would increase as motorists experience delays or seek alternative routes to avoid congestion.

Both Build Alternates would increase capacity which, in turn, would provide relief from congestion and improve traffic service. Safety and access to facilities and services also would improve throughout the corridor. Travel time would be shortened as fewer delays were experienced, especially during peak hour periods.

The response times for emergency services would improve under the Build Alternates because of a reduction in congestion and associated delays on Maryland Route 450. A traversable median, for emergency vehicles only, would be constructed in front of the Bowie Volunteer Fire Department, located between Millstream Drive and Superior Lane with either of the Build Alternates. The Build Alternates would improve access to and use of parks and recreational areas in the corridor.

The development of the alternates has included an investigation of proposed cross-over locations and spacing for the entire project since a median would be constructed under either Build Alternate. Minimum cross-over spacings of 750' in the urban areas and 1500' in the rural areas have been used as criteria in the preliminary establishment of cross-over locations, in conformance with SHA guidelines for arterial highways. Due to the high frequency of side roads, commercial entrances and residential driveways, every access point cannot be provided with cross-over accommodation while maintaining a safe spacing distance. Therefore, some circuitry of travel and U-turning will be necessary. Based on the currently proposed cross-over locations, vehicles may be required to duplicate as much as 0.40 mile of their travel route to access residential driveways, commercial entrances and minor cross-roads.

Access to several churches would be modified by the Build Alternates due to the introduction of a median. St. Mathias Church would be allowed left turn access at its east entrance only, opposite Seabrook Road. The west entrance would become right-in, right-out. At St. Pius X Church, the west entrance, where left turn access would be provided, would require relocation approximately 150' to the west to obtain adequate distance from Moylan/Trinity Drives. The existing east entrance would become right-in, right-out. St. Matthews Church would have left turn access at its existing east entrance. The west entrance would become right-in, right-out. Similarly, the Cornerstone Assembly of God would use its east entrance for left turn access and its west entrance as right-in, right-out. The Sacred Heart Church would use its west entrance for left turn access and its east entrance for right-in, right-out. The Chapel Entrance would have a median opening for left turn access.

4. Disruption of Neighborhoods and Communities

Due to the development of neighborhoods on each side of Maryland Route 450, the proposed Build Alternates would not disrupt the integrity of existing neighborhoods, nor cause any changes in patterns of social interaction and behavior. Each Build Alternate would have impacts on a majority of the neighborhoods in the project corridor because strip right-of-way and some residential displacement would be required as shown on Tables 9 and 10 on p. IV-1 and IV-3. These impacts would have a minimal effect on the communities along the project. The displacements are not grouped together in one neighborhood except for one instance, Lincoln-Vista, where three adjacent residences within the neighborhood require displacement. However, two of these residences are vacant. The largest amounts of right-of-way are required west of Maryland Route 193 where existing right-of-way widths are in the range of 40 to 80 feet. Nearly the entire portion of the project east of Moylan/Trinity Drives can be

accommodated within existing right-of-way setbacks which are approximately 120' in width, accommodating all but minor amounts of proposed construction for either Build Alternate.

Disruption and division of existing communities along Maryland Route 450 would be minimal since all improvements are proposed along the existing roadway or reservations. All communities are contained on one side of the roadway or the other with the exception of Lincoln-Vista. This minority subdivision contains housing on the south side of Route 450, where several residential displacements are anticipated, and on the north side as well.

The proposed roadway improvements should not significantly affect patterns of social interaction. Pedestrian mobility across MD Route 450 may become more difficult as traffic volumes increase, especially at unsignalized intersections; however, a divided highway would provide a median strip as refuge for pedestrians. Pedestrian mobility in the vicinity of the Nevey Sholom Synagogue and St. Pius X church would be accommodated at signalized intersections.

B. Economic

The proposed improvements to Maryland Route 450 would relieve traffic congestion and conflicts allowing improved access to businesses and services throughout the project, particularly to the two commercial areas which are served primarily by Maryland Route 450: Lanham and Seabrook in the western portion of the project and Bowie in the eastern portion of the project. This relief would improve travel time and traffic service. It would also allow improved access for through traffic transporting goods and services destined for the Capital Beltway, Maryland Route 3 and other neighboring corridors. Access to workplaces in and around the project area would also be improved.

As previously stated, two businesses have ceased operations and will be acquired under both Build Alternates. These businesses had ceased operations prior to initiation of this Project Planning Study.

Throughout the project, some economic readjustments are likely to result at the various shopping centers, restaurants, gas stations, and other commercial establishments under either Build Alternate. The gas stations in the project area may experience the most significant impact of any business along Maryland Route 450 due to loss of patronage. The stations that

would not be provided a direct median cross-over, which is a majority of the seven stations along the project, would experience a loss in patronage if traffic seeks services outside the study area rather than making U-turns to access study area stations. However, the additional capacity provided with either Build Alternate would improve accessibility to the sites and provide an attraction for potential customers.

The possible redistribution of patronage at business establishments is recognized as an impact with the construction of a divided highway. However, some economic impacts are a trade-off for the safety and capacity gained with a divided highway.

The regional economy would be impacted somewhat by the future of Maryland Route 450 from the standpoint that travel efficiency would gradually deteriorate under the No-Build Alternate and improve under the Build alternates, correspondingly influencing the exchange of goods and services to the business interests in the area. The Build Alternates would have no adverse effect on the regional economy.

The improvements to Maryland Route 450 would help accommodate the continuing development which is planned for Lanham, Seabrook, Glenn Dale, Collington and the City of Bowie. The widening would provide an adequate facility to allow commercial and residential expansion, which in turn would have a positive impact on the County's tax base and revenues.

A short term reduction in the tax base might occur with the construction of a Build Alternate due to the acquisition of private property and residential and business relocations. This reduction would, however, be quickly compensated for by a broadened tax base.

Some business establishments throughout the project area would require the relocation of roadside signing and/or elimination of some parking to accommodate the Build Alternates. A summary of the parking impacts involved with each alternate in comparison with remaining parking spaces for each facility and spaces required by zoning is found in Table 11 on the following page.

Following implementation, either Build Alternate would introduce slightly different access patterns and/or reduction in visibility at several commercial establishments throughout the project due to the configuration of entrances and intersecting

TABLE 11

PARKING IMPACTS

<u>Establishment</u>	<u>Approx Building Area</u>	<u>Parking Spaces Required By Zoning</u>	<u>Parking Spaces Available</u>	<u>Spaces to be Eliminated Under</u>		<u>Spaces Remaining</u>	
				<u>4-Lane Alt.</u>	<u>6-Lane Alt.</u>	<u>4-Lane Alt.</u>	<u>6 Lane Alt.</u>
9226 Annap.Rd Beltway Homes	2370 SF	10	18	8	8	10	10
9315 Annap.Rd Atkins Real Estate	1925 SF	8	19	0/6*	0/9*	19/13*	19/10*
Weber Building	16,700 SF	67	50	0	8	50	42
Enterprise Shopping Center	93,700 SF	375	562	0	5	562	557***
Enterprise Gardens (Garden Shop) **	1,000 SF	7	11	0	0	11	11
Community Food Market	10,000 SF	67	61	4	18	57	43***
St. Mathias Church	31,000 SF	-----	135	0	23	135	112***

* With Retaining Wall/Without Retaining Wall

** Approximately 3500 SF of open-air retail space would be eliminated under the 4-Lane Alt as opposed to 6300 SF under the 6-Lane Alternate.

*** Possible space on the property for the replacement of eliminated parking spaces appears available.

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TABLE 11

PARKING IMPACTS

<u>Establishment</u>	<u>Approx Building Area</u>	<u>Parking Spaces Required By Zoning</u>	<u>Parking Spaces Available</u>	<u>Spaces to be Eliminated Under</u>		<u>Spaces Remaining</u>	
				<u>4-Lane Alt.</u>	<u>6-Lane Alt.</u>	<u>4-Lane Alt.</u>	<u>6 Lane Alt.</u>
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streets. The changes in access may have a detrimental economic impact on the commercial areas in question. These areas, the option(s) under consideration at each location and the resulting impacts are described as follows:

1. Businesses Along Existing Maryland Route 450 between Highbridge Road and the Conrail Railroad.

Following the construction of Relocated Maryland Route 450 between Highbridge Road and Moylan/Trinity Drives, either all or a large majority of through traffic on Maryland 450 would use the Relocation depending upon the final disposition of the existing road. Therefore, approximately 20 businesses along the existing roadway will experience a reduction in visibility due to the traffic diversion. The extent of traffic diversion and resulting loss of visibility is dependent upon which of the three options at the Conrail Bridge, W1, W2 or W3, is chosen for the ultimate disposition of Maryland Route 450 (See Section III. B.4. - Existing Maryland Route 450: Highbridge Road to Moylan/Trinity Drives). Regardless of the option, a roadway located approximately 1500' east of Highbridge Road would be constructed connecting the existing road and the relocation.

Included among the businesses in this area are several convenience stores, a gas station, a veterinary hospital, shoe, hardware, liquor and furniture stores and a barbershop. The convenience stores and gas station are dependent almost entirely on drive-by traffic for business. The other stores and shops are dependent to a lesser degree on drive-by traffic and would not experience a significant impact on patronage since adequate access would be provided.

The existing ADT on Maryland Route 450 in this area is approximately 21,000 vehicles. Of the 33,500 vehicle ADT projected for the year 2015, 20%, or 6,700 through vehicles per day, would continue to use the existing roadway under options W2 or W3. Therefore, if the bridge were to remain open the businesses would benefit from approximately 32% of the through traffic exposure they experience today. Under option W1, all through traffic on Maryland Route 450 would use the relocation.

2. Bowie Business Park - Gallant Fox Lane

The Bowie Business Park is located in the northwest quadrant of the existing Maryland Route 450/197 intersection, just south of the proposed alignment of relocated Maryland Route 450. Presently consisting of a drive-in bank, a McDonald's restaurant and approximately 92,000 SF of general office space, the business park maintains all access from two locations on Maryland Route 197. The northernmost entrance is located 900'+ north of existing Maryland Route 450, serving primarily McDonald's and the bank. The southern entrance, Gallant Fox Lane, is located 650'+ north of existing Maryland Route 450 and is the primary access point for the site.

Following construction of the relocation, the northern entrance will need to be restricted to right-in, right-out movements only, due to the entrance's close proximity to the relocated intersection. Therefore, all traffic desiring to make left turns into or out of the site will be required to use Gallant Fox Lane, driving the Maryland Route 197/Gallant Fox Lane intersection towards capacity as an unsignalized intersection. Due to the close proximity of Gallant Fox Lane to Existing Maryland Route 450 to the south and the proposed relocation to the north along Maryland Route 197, a traffic signal at Gallant Fox Lane does not appear to be feasible.

The options available in the vicinity of the Maryland Route 197/Gallant Fox Lane intersection are as follows:

a. No-Build

Maryland Route 197 would remain a 5-lane undivided roadway. The Relocated Maryland Route 450/197 intersection would fail by approximately the year 2000 and the queues for through and left turning peak hour traffic approaching the intersection from the south would extend beyond Gallant Fox Lane resulting in operational problems.

b. Maryland Route 197 Option 2A - 4-Lane Divided Typical Section with a median opening at Gallant Fox Lane (See Section III. B. 4.b. and Figure 43 in Section III).

Due to the projection of the queues on northbound Maryland Route 197 extending beyond the Gallant Fox Lane intersection, operational problems are expected for left turning traffic into and out of the site.

c. Maryland Route 197 Option 2A - 4-Lane Divided Typical Section without a median opening at Gallant Fox Lane

This option would likely be implemented in conjunction with Option (d) described below since, without Option (d) left turning traffic into the site from the south and out of the site to the north would be required to make U-turns at intersections along Maryland Route 197, a roadway having inadequate width for U-turn execution.

d. North-South Connecting Road between Gallant Fox Lane and Existing Maryland Route 450 by others (See Figure 42 or 46 in Section III)

This option, which would be constructed by owners of the Bowie Business Park, would provide a means by which traffic could enter the site from the south and exit to the north at a location other than the Maryland Route 197/Gallant Fox Lane

intersection. A two-way roadway, parallel to and approximately 350' west of Maryland Route 197 would be constructed as a connection between Gallant Fox Lane and Existing Maryland Route 450.

Depending upon the option chosen for providing access to the Bowie Business Park, a reduction in available capacity at access points to the site may be experienced. This reduction in access capacity may preclude any additional future development of the site and result in time losses for goods, services and employees accessing the site.

C. Land Use

The No-Build Alternate is not consistent with future plans for the corridor. The Build Alternates are consistent with land use plans, as listed in Section II.B. - Project History, and would help accommodate planned commercial, industrial and residential growth and future travel demand. The Build Alternates are also in conformance with several development projects which are either under design or have begun construction. The proposed Seabrook Mini-Storage, Duvall Village Shopping Center, Glensford, Silverbrook and Bowie Forest developments have been designed to be in conformance with an ultimate 6-lane roadway.

The State Highway Administration is currently negotiating an agreement with several developers who are proposing subdivisions in the vicinity of the Maryland Route 450/Md. 953 (Glenn Dale Road) intersection. This agreement describes how engineering and construction costs would be shared between the State Highway Administration and the group of developers for an accelerated 4-lane divided improvement of Maryland Route 450, one-quarter mile west and east of Glenn Dale Road. This improvement would be built to ultimate line and grade and be compatible with either Build Alternate.

D. Historic and Archeological

1. Historical Sites

No property will be acquired from Buena Vista, the Sacred Heart Chapel, or Holy Trinity Church and Rectory. In the last two instances, the roadway will be moved away from the site and widened. In addition, the buildings are set back a considerable distance from the road, and Sacred Heart Chapel is situated on a hill. At Buena Vista, the roadway will be closer, nonetheless, in all three instances, the structures are buffered from the roadways by extensive vegetation and woods.

The proposed grade of Maryland Route 450 approximates that of the present roadway near Holy Trinity Church and Sacred Heart Chapel. Near Buena Vista, the proposed grade is up to 12' lower than existing. However, all grading to accommodate the revised roadway profile will remain outside the historic boundary. Thus, Buena Vista and Holy Trinity Church will not be adversely affected, and Sacred Heart Church will not be affected by the proposed project. This is documented by the letter from the State Historic Preservation Officer in the Comments and Coordination Section of this document.

2. Archeological Sites

The only site thought to be eligible for inclusion in the National Register of Historic Places is Simpson Site A (18 PR 376). It is located outside the area of impact and will not be affected by the proposed project.

E. Natural Environment

1. Prime Farmland Soils (See Figure 7 following page I-16)

Coordination with the Soil Conservation Service has been conducted as required by the Farmland Protection Policy Act (See Farmland Impact Rating Form in Comments and Coordination Section). Based on information provided by the Soil Conservation Service, the proposed 4-Lane Divided Alternate would affect 6.4 acres of Prime and Unique Farmland Soils and 4.6 acres of Statewide and Local Important Farmland Soils. The 6-Lane Divided Alternate would affect 6.2 acres of Prime and Unique Farmland Soils and 4.4 acres of Statewide and Local Important Farmland Soils.

The amount of farmland in Prince George's County that would be converted for construction of Maryland Route 450 is estimated to be approximately 0.001% of the total farmland currently in use. Areas in the Md. 450 corridor shown as farmland are planned for development in future land use plans and the project will warrant only a minimal level of consideration for the protection of farmlands.

2. Floodplains

Both Build Alternates under consideration would cross the floodplains of Bald Hill Branch, Folly Branch, Lottsford Branch and Collington Branch. Table No. 12 indicates the acreages of 100-year floodplain within the rights-of-way of the alternates:

TABLE 12

FLOODPLAIN IMPACTS (ACRES)

<u>Alternate</u>	<u>Bald Hill Branch</u>	<u>Folly Branch</u>	<u>Lottsford Branch</u>	<u>Collington Branch</u>
No-Build	0	0	0	0
4-Lane Divided				
- w/Option A	0.18	1.23	0.84	0.40
- w/Option C	0.18	1.48	0.84	0.40
- w/Option D	0.18	2.30	0.84	0.40
6-Lane Divided				
- w/Option A	0.18	1.57	1.06	0.40
- w/Option C	0.18	1.62	1.06	0.40
- w/Option D	0.18	2.30	1.06	0.40

Note: Additional floodplain impact of approximately 0.50 acre would occur under Option W3 for Existing Md. 450 at the Conrail Railroad Bridge.

The acreages shown in Table 12 equate to the approximate areas of floodplain where fill would be placed at the stream crossings, based on preliminary structure design, plus additional area for drainage outside the fill slopes. Final determinations on structure design will be made during the design phase of this project.

Placement of fill material within the 100-year floodplain will require a Section 404 permit from the Army Corps of Engineers. Prince George's County would be responsible for any section 404 permit requirements between Maryland Route 193 and Moylan/Trinity Drives.

In accordance with Executive Order 11988 and F.H.P.M. 6-7-3-2, each floodplain encroachment was evaluated to determine

its significance. A significant encroachment would involve one of the following:

- a significant potential for interruption or termination of a transportation facility needed for emergency vehicles or which provides a community's only evacuation route;
- a significant risk; or
- a significant adverse impact on natural and beneficial floodplain values.

None of the proposed floodplain encroachments would significantly affect upstream water-surface elevations or storage capacity.

Hydraulic design for all waterway openings would incorporate structures to limit upstream flood level increases and approximate existing downstream flow rates. Use of state-of-the-art sediment and erosion control techniques and stormwater management controls will ensure that none of the encroachments would result in risks or impacts to the beneficial floodplain values or provide direct or indirect support to further development within the floodplain. Therefore, all floodplain encroachments were determined to be non-significant.

3. Surface Water

New single cell or multi-cell box culverts or bridges will replace the existing single span bridges at Bald Hill Branch, Folly Branch and Lottsford Branch for either Build Alternate. Methods of reducing the impact of stream bottom loss, such as bottomless culverts and depressed culvert cells to reestablish a productive substrate, would be investigated during the final design phase.

Since streams in the project are designated as Class I by the Department of Natural Resources, all in-stream construction may be prohibited from March 1st to June 15th, inclusive. A Waterway Construction Permit would be required from the Department of Natural Resources if a Build Alternate is selected. No stream relocations would be required.

The increase of impervious surface area resulting from the proposed improvements would produce a proportionate increase in the amount of roadway runoff carrying vehicle generated pollutants (i.e., oil, coolants, brake lining, rubber, etc.).

Stormwater runoff would be managed under the Department of Natural Resources (DNR) Stormwater Management Regulations. These regulations would require stormwater management practices in the following order of preference:

- on-site infiltration;
- flow attenuation by open vegetated swales and natural depressions;
- stormwater retention structures; and
- stormwater detention structures.

It has been demonstrated that these measures can significantly reduce pollutant loads and control runoff.

To minimize water quality impacts, final design for the proposed improvements would include plans for grading, sediment and erosion control, and stormwater management, in accordance with State and Federal laws and regulations. They would require review and approval by the Maryland DNR, Water Resources Administration and the Department of the Environment. Sediment and erosion control measures would be designed and implemented in accordance with the "1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control" and the "Erosion and Sediment Control Plan" of 1984 prepared by the State Highway Administration. Typical temporary sediment control measures which are installed in a project of this type include: straw bale structures, slope silt fence, sediment traps, rip-rap linings, fiberglass erosion stops, dikes and swales, soil stabilization matting and stabilized construction entrances.

4. Groundwater

Potential groundwater effects may result from cut and fill operations causing some changes in groundwater level and flow. Increased impervious surface areas from highway construction will decrease the total area available for groundwater recharge. Leaching from exposed cuts and contamination from de-icing compounds, solvents and herbicides associated with highways can cause changes in groundwater quality. However, due to the large reserves of groundwater contained in the study area aquifers and the relatively small cut and fills required, the proposed project will not have an adverse effect upon the groundwater of the study area.

5. Habitat

Both terrestrial and aquatic habitats would be affected by the proposed action. A comparison of the amounts of woodland and wetland habitats required for right-of-way is shown in Table 1 in the Summary.

a. Terrestrial

Adverse effects on wildlife attributable to the project alignment would be minimal since most of the route follows an existing, predominantly urban roadway.

The project would have no adverse effects on threatened, endangered, or rare species.

Approximately 25 acres of woodlands and 2 acres of old fields occur within the project right of way. Table 1 lists the acreages of woodlands affected for each alternate.

Table 13 summarizes locations, classifications, dominant species and impacted acreages of contiguous woodlands of one acre or more. Locations are illustrated on Figure 5, following p. I-10. Mitigation of terrestrial habitat losses will be consistent with current reforestation legislation and procedures.

Given the number of habitats in the region that exist outside the project corridor, it is unlikely that vegetative diversity will be measurably diminished. It is more likely that a shift in the relative abundance of those species that are already present will take place.

Ground cover, shrub, and tree species common to managed rights-of-way can be expected to replace many existing plants in the project corridor. Vegetation lost will be partially replaced through landscaping of the rights-of-way.

Recent legislation requires that the cutting or clearing of trees be minimized on State construction projects. All impacted forest land areas of one acre or greater must be replaced on an acre for acre basis. The first priority for replacement would be within the limits of the project. If the required area is not available within the limits of the project, other lands owned by the State Highway Administration that may be suitable and available for reforestation and afforestation would be identified by the Bureau of Landscape Architecture during the final design phase.

Based on a preliminary analysis, it appears that the only State-owned land within the project limits which would be available for reforestation is the 23 acre parcel at the southwest quadrant of the Maryland Route 450/Electric Terrace intersection and the existing right-of-way area equaling approximately 7.0 acres between Maryland Route 193 and Highbridge Road which would remain following the slight southern relocation planned for this area.

TABLE 13

WOODLAND IMPACTS

<u>Woodland Number*</u>	<u>Location</u>	<u>Classification**</u>	<u>Dominant Species</u>	<u>Impacted Acreage</u>
1	W of Morley Rd.	Type 36	Oaks Gums	1.09
2	E of Fontana Dr.	Type 42	Va. Pines Locusts	1.00
3	Prime Cable Co.	Type 42	Va. Pines Oaks Gums	3.18
4	Forbes Blvd.	Type 42	Va. Pines Oaks	1.64
5	MD 450/704	Type 60	Maples	1.53 (Opt. A)
			Gums	1.67 (Opt. C)
		Type 52	Poplars Oaks	1.73 (Opt. D)
6	E of Glenn Dale	Type 77	Oaks Poplars Maples	3.48
7	W of MD 193	Type 77	Poplars	2.31
8	Whitemarsh Park Vicinity	Type 50	Oaks Poplars	7.39
9	N of Sacred Heart	Type 42	Va. Pine Locust Birch	2.38

* See Figure 5 following p. I-10 for Woodland locations

** Refer to Section I.C.5.d. on p I-18 for descriptions of classifications

b. Threatened, Endangered, or Rare Species

No federally listed threatened or endangered plant or animal species are present in the study area.

c. Aquatic

Pursuant to Executive Order 11990, Protection of Wetlands, wetland areas potentially affected by the project have been identified. Based on these investigations, it has been determined that both Build Alternates would result in wetland impacts.

Table 14 below summarizes the acreages from each wetland location which would fall within the proposed right-of-way for each alternate considered. For descriptions of the wetland areas, refer to Table 5 on pages I-22 and I-23 and minutes of the wetlands Field Review in Section VI: Comments and Coordination. The wetlands locations are shown on the Wetland Exhibit (Figure 8) and on the alternates mapping in Section III.

TABLE 14

WETLAND IMPACTS BY LOCATION

Wetland Number	No-Build	Impacted Acreage	
		4-Lane Divided	6-Lane Divided
W1	0	0.06	0.06
W2	0	3.42 Op. A	3.47 Op. A
		2.53 Op. C	2.53 Op. C
		2.53 Op. D	2.53 Op. D
W3	0	1.54 Op. A	1.54 Op. A
		----- Op. C	----- Op. C
		----- Op. D	----- Op. D
W4	0	.016	.016
W5	0	1.21 Op. A	1.48 Op. A
		1.37 Op. C	1.52 Op. C
		1.73 Op. D	1.73 Op. D
W5a	0	----- Op. A	-----Op. A
		0.51 Op. C	0.85 Op. C
		1.25 Op. D	1.25 Op. D
W6	0	0.18	0.25
W7	0	0.33	0.33
W7a	0	0.09	0.09
W7b	0	0.09	0.09
W7d	0	0.05	0.05
W9	0	0.69*	0.69*

* An Additional 0.50 acre would be impacted under Option W3

TABLE 15

WETLAND IMPACTS BY ALTERNATE

<u>Alternate</u>	<u>Impacted Acreage Within Right-of-Way</u>		
	<u>with Option A</u>	<u>with Option C</u>	<u>with Option D</u>
No-Build	0	0	0
4-Lane Divided	7.47	5.43	6.99
6-Lane Divided	8.17	6.58	7.54

NOTE: The above acreages would be increased by 0.50 acre if Option W3 is implemented.

The following paragraphs contain a wetland avoidance discussion. Since the 4-Lane Divided and 6-Lane Divided Alternates follow the same alignment and impact nearly the same amount of wetland area, the avoidance discussion has been combined for the two alternates.

Wetlands Affected by the 4-Lane Divided and 6-Lane Divided Alternates

Wetland Number 1 (W1) is located on each side of Maryland Route 450 approximately 700' east of Seabrook Road. The 0.06 acre area of W1 would be eliminated by either Build Alternate. A shift to the north to avoid W1 would require displacement of the Lanham Professional Park, 4 residences under construction in the Linwood subdivision and Md. Route 450 residence 9550. A series of short curves would be required to minimize impacts to this level. A shift to the south would require elimination of approximately one-half of the parking at St. Mathias Church and acquisition of the Seabrook Mini-Storage facility.

Wetland Number 2 (W2) is located on each side of Maryland Route 450 near Galveston Road. All three build options for Maryland Route 704 impact W2; however, Option A impacts are more substantial (3.42 ac) than Option C or D impacts (2.53 ac.). W2 could not be avoided under Option A. Under Options C and D, a mainline shift approximately 300' to the north would be required at Galveston Road would be to

avoid W2. This shift would displace at least five residences along Baltimore Lane. A southerly shift of approximately 650' would be required to avoid W2 resulting in an increase in impacts to W3.

Wetland Number 3 (W3) is located south of Maryland Route 450, west of Electric Terrace. W3 could not be avoided under Option A. W3 would not be impacted by Options C or D.

Wetland Number 4 (W4) is located under the Maryland Route 450 bridge which crosses the abandoned W.B. & A. Railroad alignment. Impacts at W4 are independent of the Maryland Route 704 option chosen. An alignment shift approximately 200' to the north would be required to avoid W4 resulting in three residential displacements along Baltimore Lane, one east of Baltimore Lane and one east of the abandoned W.B. & A. railroad. An alignment shift to the south to avoid W4 impacts would increase impacts to W3.

Wetland Number 5 (W5) closely follows the 100-year floodplain boundary of Folly Branch which crosses Maryland Route 450 approximately 1500' east of Electric Terrace. Since the wetland occurs as a strip perpendicular to the road, a mainline alignment shift would not reduce impacts. Maryland Route 704 Option A would result in the least impacts to W5 of the three options considered, followed by Option C and Option D. Option A and Option C impacts are caused by the mainline, Option C impacts being slightly worse due to its double left turn requirement. Only a reduction in typical section could reduce W5 impacts. A shift in the Option D alignment would not reduce impacts to W5 since the alignment crosses at a right angle to the wetland.

Wetland Number 5a (W5a) is located just north of Maryland Route 704, approximately 1200' west of the existing Maryland Route 450/704 intersection. Only Maryland Route 704 Options C and D would affect this wetland. The proposed Option C alignment

would require a shift in the intersection location approximately 700' to the west to avoid 5a which would require one additional residential displacement. The alignment resulting from such a shift would be similar to Option B which was dropped from consideration due to its intrusion through the center of the Lincoln-Vista Subdivision. A southerly shift to the Option C alignment to avoid W5a would result in two additional residential displacements and require increasing the Maryland Route 704 degree of curvature which, as proposed, would approach minimum design criteria.

Option D is the preferred Maryland Route 704 option of the three under consideration due to the superiority with regard to traffic operations that it provides. A shift in the alignment to the south to avoid W5a would result in one additional residential displacement, the use of three short horizontal curves in a high volume portion of the roadway approaching an intersection and an increase in the degree of curvature at the State Farm building. An alignment shift of approximately 200' to the north would be required to avoid W5a. Similar to a northerly shift to Option C, this alignment would result in two additional residential displacements and intrusion through the center of the Lincoln-Vista Subdivision.

Wetland Number 6 (W6) is located along Lottsford Branch which is directly between Maryland Route 953 (Glenn Dale Road) and Maryland Route 193. Since the wetland, following the floodplain of the stream, crosses at a right angle to the roadway alignment, a shift would not reduce impacts to W6.

Wetland Number 7 (W7a) is comprised of three separate pieces adjacent to the existing roadway approximately 1500' east of Maryland Route 193. An alignment shift approximately 150' to the south would be required to avoid W7 resulting in the elimination of much of the parking and open-air retail space at the Frank's Garden

Center and an increase to the impacts to W7a. A northerly shift in the alignment to avoid W7 would increase impacts to W7b and result in a severely skewed intersection at Maryland Route 193.

Wetland Number 7b (W7b) is located in the northeast quadrant of the Maryland Route 450/193 intersection. A southerly shift to avoid W7b would increase impacts to W7a and to Frank's Garden Center. The alignment in this area closely splits the distance between the boundaries of W7a and W7b. Since W7b extends to approximately 500' north of Maryland Route 450, a northern alignment shift to avoid W7b would not be feasible.

Wetland Number 7d (W7d) is located on the north side of Maryland Route 450, approximately 800' west of Maryland Route 193. An alignment shift to the south to avoid this wetland would increase the right-of-way required from lots with recently constructed residences along Parallel Road, introduce a combination of short reversing curves approaching the Maryland Route 193 intersection and worsen the skew angle of this high volume intersection.

Wetland Number 9 (W9) is composed of three separate areas. The first runs along the Collington Branch floodplain crossing nearly perpendicular to the Relocated Maryland Route 450 alignment approximately 1200' west of the Conrail Railroad. Since this portion of W9 extends a substantial distance to the north and south of the alignment, an alignment shift would not reduce impacts at this location.

The second portion of W9 is located just east of Conrail Railroad at the proposed centerline of Relocated Maryland Route 450. A northerly shift would result in multiple residential displacement along Galaxy Lane. A southerly shift would cause displacement of the Bowie Office Condos and a bank.

The third portion of W9 is located just north of Existing Maryland Route 450 and east of the Conrail Railroad. This portion of W9 is impacted only by Conrail Railroad Bridge Option W3. This option requires a slight northerly shift to the existing roadway to achieve its purpose of improving the horizontal and vertical geometrics at the bridge which are currently satisfactory for approximately 30 mph. A southerly shift could not meet the design objective without impacting the Belair Electric substation, requiring complete reconstruction of the Maryland Route 197 intersection and a residential displacement along Twisting Lane.

As stated in Section III.A., the proposed relocated Maryland Route 450 alignment would result in less wetland impact than would improvement along the existing roadway.

An Army Corps of Engineers Permit would be required for the Build Alternates associated with this project. A mitigation plan would be developed during the final design phase of the project.

F. Traffic Noise Levels and Traffic Noise Impacts

1. Analysis of Impacts of Alternates

The method used to predict the future traffic noise levels from the proposed Md. Route 450 improvements was developed by the Federal Highway Administration (FHWA) of the U.S. Department of Transportation. The FHWA Highway Traffic Noise Prediction Model (FHWA Model) incorporates data pertaining to normal traffic volume increases over time, utilizes an experimentally and statistically determined reference sound level for three classes of vehicles (auto, medium duty trucks and heavy duty trucks), and applies a series of adjustments to each reference level to arrive at the predicted sound level. The adjustments include: 1) traffic flow corrections, taking into account the number of vehicles, average vehicle speed and a specified time period of consideration; 2) distance adjustment comparing a reference distance and actual distance between receiver and roadway, including roadway width and number of traffic lanes; and 3) adjustments for various types of physical barriers that would reduce noise transmission from source (roadway) to receiver.

The prediction calculations were performed utilizing a computer program adaptation of the FHWA Model, STAMINA 2.0/OPTIMA.

The determination of environmental noise impacts is based on the relationship between the predicted traffic noise levels, the established noise abatement criteria, and the ambient noise levels in the project area. The applicable standard is the Federal Highway Administration's noise abatement criteria/activity relationship (see Table 7 in Section I) published in 23 CFR, 771. Noise Sensitive Areas (NSA's) for this project are described in Table 6 in Section I and shown on the alternates mapping in Section III.

The evaluation was completed in accordance with the State Highway Administration's Type I noise program. The Type I program provides evaluation of noise mitigation for major construction or reconstruction highway projects. The activity category utilized for the project analysis is Category B which includes the sensitive land use activities throughout the corridor, i.e., residences, schools, parks, etc.

The factors which will be considered when determining whether mitigation will be required and whether the mitigation will be considered reasonable and feasible will be:

- Whether Federal Highway Administration Noise Abatement Criteria are approached or exceeded - 67 dBA for residential areas
- Whether a substantial (10 dBA or more) increase over ambient levels would occur
- Whether a substantial noise increase would result from the highway project - minimum of 5-dBA increase - of Build over No-Build levels in the design year of the project
- Whether a feasible method is available to reduce the noise
- Whether the noise mitigation is cost effective for those receptors that are impacted - upper limit of approximately \$40,000 per residence
- Whether the mitigation is acceptable to affected property owners

- Whether the impacted receptors were built before the road

Where mitigation is studied, an effective barrier should extend in both directions to four times the distance between receiver and roadway (source). In addition, an effective barrier should provide a 7 to 10 dBA reduction in the noise level as a primary design goal. A residence is considered benefitted when it exceeds one or more of the Federal Noise Abatement Criteria and gains a minimum 5 dBA noise reduction with mitigation. For the purpose of comparison, a total cost of \$27 per square foot of barrier is assumed. This figure is based upon current costs experienced by Maryland State Highway Administration, and includes the costs of panels, footings, drainage, landscaping and SHA overhead. All barriers were analyzed with openings for driveways, sidewalks, etc. where these occur.

a. No-Build Alternate

Thirty-five Noise Sensitive Areas (NSA) are associated with the No-Build Alternate. Traffic noise levels at Noise Sensitive Areas (NSA) 5, 24, 30, 33 and 34 would approach or exceed the noise abatement criterion of 67 dBA. Projected traffic noise levels at NSA 6, 14, 21, 22, 23, 24, 25, 26, 27, 29, 30 and 35 are shown 1-3 dBA less than the ambient. This is primarily due to model calibration to remove extraneous non-traffic noise and, in accordance with State Highway Administration guidelines, a difference of 3 dBA is not considered significant. Noise barriers are not considered for the No-Build.

b. 4-Lane Alternate

Thirty-five Noise Sensitive Areas are associated with the 4-lane alternate. NSA 9, 12, 13, 23, 24, 25 (Opt. C), 27 (Opt. A,C,D), 28, 29, 30, 31, 34 and 35 would approach or exceed the 67 dBA criteria. NSA 11, 12 and 13 exceed the ambient levels by 10 dBA or more. Therefore, abatement was considered for these NSA's. Table 16 in this section contains a summary of barrier dimensions, effectiveness, cost, number of residences benefitted and cost per residence.

The following is a discussion regarding mitigation measures at these fourteen sites:

NSA 9 - ³200 Moylan Drive - Residence

NSA 9 has a projected 2015 traffic noise level of 66 dBA (3 dBA above projected No-Build). To reduce noise level by 9 dBA, a barrier with a total length of 200 feet and an average height of 17 feet would be required at an estimated

cost of \$91,800. Only one residence is benefitted. This barrier is not considered reasonable.

NSA 11 - 12007 Twin Cedar Lane - Residence

NSA 11 has a projected 2015 traffic noise level of 64 dBA (12 dBA above projected No-Build). To reduce noise level by 9 dBA, a barrier with a total length of 1170 feet and an average height of 15 feet would be required at an estimated cost of \$473,850 or \$43,077 per residence for the eleven residences benefitted. This barrier will be considered in final design.

NSA 12 - 3336 Memphis Lane - Residence

NSA 12 has a projected 2015 traffic noise level of 66 dBA (15 dBA above projected No-Build). To reduce noise level by 9 dBA, a barrier with a total length of 1665 feet and an average height of 11 feet would be required at an estimated cost of \$494,305 or \$35,322 per residence for the fourteen residences benefitted. This barrier will be considered in final design.

NSA 13 - 11919 Galaxy Lane - Residence

NSA 13 has a projected 2015 traffic noise level of 68 dBA (16 dBA over projected No-Build). To reduce noise level by 9 dBA, a barrier with a total length of 655 feet and an average height of 21 feet would be required at an estimated cost of \$371,385 or \$123,795 per residence for the three residences benefitted. This barrier is not considered reasonable.

NSA 23 - ¹¹⁹⁰⁰~~11900~~ Annapolis Road

NSA 23 has a projected 2015 traffic noise level of 70 dBA (5 dBA over projected No-Build). This is the location of a vacant business and therefore was not mitigated.

NSA 24 - 10910 Annapolis Road - Residence

NSA 24 has a projected 2015 traffic noise level of 66 dBA (1 dBA below projected No-Build). To reduce noise level by 10 dBA, a barrier with a total length of 1065 feet and an average height of 16 feet would be required at an estimated cost of \$460,080 or \$230,040 per residence for the two residences benefitted. This barrier is not considered reasonable.

NSA 25 - 4620 M.L.K. Jr. Highway - Residence

NSA 25 (option C) has a projected 2015 traffic noise level of 67 dBA (2 dBA over projected No-Build). To reduce

noise level by 8 dBA, a barrier with a total length of 410 feet and an average height of 21 feet would be required at an estimated cost of \$232,470, or \$116,235 per residence for the two residences benefitted. This barrier is not considered reasonable.

NSA 27 - 5001 Baltimore Lane - Residence

NSA 27 (options A and D) has a projected 2015 traffic noise level of 68 dBA (4 dBA over projected No-Build). To reduce noise level by 10 dBA, a barrier with a total length of 700 feet and an average height of 14 feet would be required at an estimated cost of \$264,600, or \$88,200 per residence for the three residences benefitted. For option C, NSA 27 has a projected 2015 traffic noise level of 67 dBA (3 dBA over projected No-Build). To reduce noise level by 9 dBA, a barrier with a total length of 330 feet with an average height of 15 feet would be required at an estimated cost of \$133,650 for the one residence benefitted. This barrier is not considered reasonable.

NSA 28 - St. Mathias Church - Church

NSA 28 has a projected 2015 traffic noise level of 66 dBA (7 dBA over projected No-Build). To reduce the noise level by 8 dBA, a barrier with a total length of 1135 feet and an average height of 19 feet would be required at an estimated cost of \$582,255. Because churches are considered the equivalent of 5 residences, the cost per residence would be \$116,451. This barrier is not considered reasonable.

NSA 29 - 9342 Annapolis Road - Residence

NSA 29 has a projected 2015 traffic noise level of 67 dBA (4 dBA over projected No-Build). To reduce noise level by 5 dBA, a barrier with a total length of 385 feet and an average height of 21 feet would be required an estimated cost of \$218,295, or \$72,765 per residence for the three residences benefitted. This barrier is not considered reasonable.

NSA 30 - 9220 Annapolis Road - Residence

NSA 30 has a projected 2015 traffic noise level of 70 dBA (3 dBA over projected No-Build). To reduce noise level by 5 dBA, a barrier with a total length of 610 feet and an average height of 21 feet would be required at an estimated cost of \$345,870 or \$43,234 per residence for the eight residences benefitted. This barrier is not considered reasonable since the primary design goal of the barrier, to achieve a 7 to 10 dBA noise level reduction, is not attainable.

NSA 31 - 5706 Westgate Road - Residence

NSA 31 has a projected 2015 traffic noise level of 68 dBA (7 dBA over projected No-Build). To reduce noise level by 9 dBA, a barrier with a total length of 1255 feet and an average height of 15 feet would be required at an estimated cost of \$508,275, or \$42,356 per residence for the twelve residences benefitted. This barrier will be considered in final design.

NSA 34 - 3134 Belair Drive - Residence

NSA 34 has a projected 2015 traffic noise level of 66 dBA (the same as projected No-Build). To reduce noise level by 10 dBA, a barrier with a total length of 535 feet and an average height of 13 feet would be required at an estimated cost of \$187,785, or \$62,595 per residence for the three residences benefitted. This barrier is not considered reasonable.

NSA 35 - 9626 Annapolis Road - Residence

NSA 35 has a projected 2015 traffic noise level of 70 dBA (5 dBA over projected No-Build). To reduce noise level by 10 dBA, a barrier with a total length of 960 feet with an average height of 20 feet would be required at an estimated cost of \$518,400, or \$172,800 per residence for the three residences benefitted. This barrier is not considered reasonable.

c. Six-Lane Alternate

Thirty-five Noise Sensitive Areas are associated with the 6-Lane Alternate. Traffic noise levels at NSA 9, 12, 13, 23, 24, 25 (Opt. C), 27 (Opt. A,C,D), 28, 29, 30, 31, 34 and 35 approach or exceed the 67 dBA criteria. The traffic noise level at NSA 11 is greater than 10 dBA over ambient level and NSA 12 and 13 exceed both criteria.

The following is a discussion of mitigation measures at these fifteen sites:

NSA 9 - ²200 Moylan Drive - Residence

NSA 9 have a projected 2015 traffic noise level of 66 dBA (3 dBA above projected No-Build). To reduce noise level by 9 dBA, a barrier with a total length of 200 feet and an average height of 17 feet would be required at an estimated cost of \$91,800. Only one residence is benefitted. This barrier is not considered reasonable.

TABLE 16

MARYLAND ROUTE 450 - SUMMARY OF NOISE IMPACT ANALYSIS - 4-LANE DIVIDED ALTERNATE

NSA #	NUMBER OF RESIDENCES BENEFITTED	AMBIENT NOISE LEVEL	NO-BUILD NOISE LEVEL (2015)	BUILD NOISE LEVEL (2015)	BUILD 2015 NOISE LEVEL W/BARRIER	BARRIER LENGTH	AVERAGE BARRIER HEIGHT	TOTAL COST (\$27/SF)	COST PER RESIDENCE
1		53	58	54					
2		59	62	59					
3		59	61	62					
4		60	61	65					
5		64	68*	63					
6		60	59	60					
7		58	63	63					
8		60	61	61					
9	1	63	63	66	57	200	17	\$91,800	\$91,800
10		60	61	65					
11	11	52	52	64	55	1170	15	\$473,850	\$43,077
12	14	51	51	66	57	1665	11	\$494,505	\$35,322
13	3	52	52	68	59	655	21	\$371,385	\$123,795
14		62	58	59					
15		55	56	57					
16		61	62	63					
17		61	63	64					
18		57	62	62					
19		65	65	65					
20		63	64	64					
21		61	58	65					
22		58	53	62					
23		68	65	70**					
24	2	69	67*	66	56	1065	16	\$460,080	\$230,040
25A		65	64	48					
25C	2	65	64	67	59	410	21	\$232,470	\$116,235
25D		65	64	64					
26A		57	56	60					
26C		57	56	59					
26D		57	56	60					
27A	3	65	64	68	58	700	14	\$264,600	\$88,200
27C	1	65	64	67	58	330	15	\$133,650	\$133,650
27D	3	65	64	68	58	700	14	\$264,600	\$88,200
28	5	58	59	66	58	1135	19	\$582,255	\$116,451
29	3	65	63	67	62	385	21	\$218,295	\$72,765 ***
30	8	70	67*	70	65	610	21	\$345,870	\$43,234 ***
31	12	61	61	68	59	1255	15	\$508,275	\$42,356
32		--	65	64					
33		59	67*	65					
34	3	64	66*	66	56	535	13	\$187,785	\$62,595
35	3	66	65	70	60	960	20	\$518,400	\$172,800

* NO BUILD 2015 NOISE LEVEL IS APPROACHING OR EXCEEDING FEDERAL CRITERIA

** VACANT BUSINESS - NOT MITIGATED

*** BARRIER NOT EFFECTIVE DUE TO REQUIRED OPENINGS - ONLY 5 dBA DECREASE ATTAINABLE

NOTE: BENEFITTED RESIDENCE:

1. EXCEED FEDERAL NOISE ABATEMENT CRITERION
2. GAIN 5 dBA NOISE REDUCTION

NSA 11 - 12007 Twin Cedar Lane - Residence

NSA 11 has a projected 2015 traffic noise level of 64 dBA (12 dBA above projected No-Build). To reduce the noise level by 9 dBA, a barrier with a total length of 1170 feet and an average height of 15 feet is required at an estimated cost of \$473,850 or \$43,077 per residence for the eleven residences benefitted. This barrier will be considered in final design.

NSA 12 - 3336 Memphis Lane - Residence

NSA 12 has a projected 2015 traffic noise level of 66 dBA (15 dBA over projected No-Build). To reduce the noise level by 9 dBA, a barrier with a total length of 1665 feet and an average height of 11 feet would be required at an estimated cost of \$494,505 or \$35,322 per residence for the fourteen residences benefitted. This barrier will be considered in final design.

NSA 13 -- 11919 Galaxy Lane - Residence

NSA 13 has a projected 2015 traffic noise level of 69 dBA (17 dBA over projected No-Build). To reduce noise level by 10 dBA, a barrier with a total length of 655 feet and an average height of 21 feet would be required at an estimated cost of \$371,385 or \$92,846 per residence for the four residences benefitted. This barrier is not considered reasonable.

NSA 23 - 11900 Annapolis Road - Residence

NSA 23 has a projected 2015 traffic noise level of 70 dBA (5 dBA over No-Build). This is the location of a vacant business and therefore was not mitigated.

NSA 24 - 10910 Annapolis Road - Residence

NSA 24 has a projected 2015 traffic noise level of 66 dBA (1 dBA below projected No-Build). To reduce the noise level by 10 dBA, a barrier with a total length of 1065 feet and an average height of 16 feet is required at an estimated cost of \$460,080 or \$230,040 per residence for the two residences benefitted. This barrier is not considered reasonable.

NSA 25 - 4620 M.L.K. Jr. Highway - Residence

NSA 25 (option C) has a projected 2015 traffic noise level of 67 dBA (3 dBA over projected No-Build). To reduce the noise level by 8 dBA, a barrier with a total length of 410 feet and an average height of 21 feet would be required at an estimated cost of \$232,470, or \$116,235 per residence for the two residences benefitted. This is not considered reasonable.

NSA 27 - 5001 Baltimore Lane - Residence

NSA 27 (options A and D) has a projected 2015 traffic noise level of 68 dBA (4 dBA over projected No-Build). To reduce noise level by 10 dBA, a barrier with a total length of 700 feet and an average height of 14 feet would be required at an estimated cost of \$264,600 or \$88,200 per residence for the three residences benefitted. For option C, NSA 27 has a projected 2015 traffic noise level of 67 dBA (3 dBA over project No-Build). To reduce noise level by 9 dBA, a barrier with a total length of 330 feet and an average height of 15 feet would be required, at an estimated cost of \$133,650. Only one residence is benefitted. This barrier is not considered reasonable.

NSA 28 - St. Mathias Church - Church

NSA 28 has a projected 2015 noise traffic level of 66 dBA (7 dBA over projected No-Build). To reduce the noise level by 9 dBA, a barrier with a total length of 1135 feet and an average height of 19 feet would be required at an estimated cost of \$582,255. Because churches are considered the equivalent of five residences, the cost per residence would be \$116,451. This barrier is not considered reasonable.

NSA 29 - 9342 Annapolis Road - Residence

NSA 29 has a projected 2015 traffic noise level of 66 dBA (3 dBA over No-Build). To reduce the noise level by 4 dBA, a barrier with a total length of 385 feet and an average height of 21 feet is required at an estimated cost of \$218,295. Only one residence is benefitted. This barrier is not considered reasonable.

NSA 30 - 9220 Annapolis Road - Residence

NSA 30 has a projected 2015 traffic noise level of 71 dBA (4 dBA over than projected No-Build). To reduce noise level by 4 dBA, a barrier with a total length of 610 feet and an average height of 21 feet would be required at an estimated cost of \$345,870. Because of required openings, no residences are benefitted by this barrier. This barrier is not considered reasonable.

NSA 31 - 5706 Westgate Road - Residence

NSA 31 has a projected 2015 traffic noise level of 69 dBA (8 dBA over projected No-Build). To reduce noise level by 10 dBA, a barrier with a total length of 1255 feet and an average height of 15 feet would be required at an estimated cost of \$508,275 or \$46,207 per residence for the eleven residences benefitted. This barrier will be considered in final design.

NSA 34 - 3134 Belair Drive - Residence

NSA 34 has a projected 2015 traffic noise level of 66 dBA (the same as projected No-Build). To reduce noise level by 10 dBA, a barrier with a total length of 535 feet and an average height of 13 feet would be required at an estimated cost of \$187,785, or \$62,595 per residence for the three residences benefitted. This barrier is not considered reasonable.

NSA 35 - 9626 Annapolis Road - Residence

NSA 35 has a projected 2015 traffic noise level of 71 dBA (6 dBA over projected no-build). To reduce noise level by 10 dBA, a barrier with a total length of 960 feet and an average height of 17 feet would be required at an estimated cost of \$440,640 or \$146,880 per residence for the three residences benefitted. This barrier is not considered reasonable.

d. Other Mitigation Measures

1. Traffic Management Measures (e.g. traffic control devices and signing for prohibition of certain vehicles (heavy trucks), time use restrictions for certain types of vehicles, modified speed limits and exclusion lane designations).

It is not possible to prohibit heavy trucks from this type of facility, due to the extent of existing and proposed commercial and industrial activity in and around the Md. 450 corridor.

2. Alterations of Horizontal and Vertical Alignment.

This also is not a reasonable alternate because the project generally consists of widening and reconstructing the existing facility essentially along the existing alignments. Existing and planned development in this corridor would preclude a significant deviation of the proposed improvements.

3. Aquisition of Real Property or Property Rights to Establish Buffer Zones or Install Earth Berms.

Existing residential development immediately adjacent to the roadway makes it infeasible to acquire significant amounts of property for buffer areas.

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TABLE 17

MARYLAND ROUTE 450 - SUMMARY OF NOISE IMPACT ANALYSIS - 6-LANE DIVIDED ALTERNATE

NSA #	NUMBER OF RESIDENCES BENEFITTED	AMBIENT NOISE LEVEL	NO-BUILD NOISE LEVEL (2015)	BUILD NOISE LEVEL (2015)	BUILD 2015 NOISE LEVEL W/BARRIER	BARRIER LENGTH	AVERAGE BARRIER HEIGHT	TOTAL COST (\$27/SF)	COST PER RESIDENCE
1		53	58	54					
2		59	62	60					
3		59	61	62					
4		60	61	58					
5		64	68*	63					
6		60	59	60					
7		58	63	63					
8		60	61	62					
9	1	63	63	66	57	200	17	\$91,800	\$91,800
10		60	60	65					
11	11	52	52	64	55	1170	15	\$473,850	\$43,077
12	14	51	51	66	57	1665	11	\$494,505	\$35,322
13	4	52	52	69	59	655	21	\$371,385	\$92,846
14		62	58	59					
15		55	56	57					
16		61	62	63					
17		61	63	64					
18		57	62	62					
19		65	65	65					
20		63	64	64					
21		61	58	65					
22		58	53	62					
23		68	65	70***					
24	2	69	67*	66	56	1065	16	\$460,080	\$230,040
25A		65	64	48					
25C	2	65	64	67	59	410	21	\$232,470	\$116,235
25D		65	64	64					
26A		57	56	60					
26C		57	56	59					
26D		57	56	61					
27A	3	65	64	68	58	700	14	\$264,600	\$88,200
27C	1	65	64	67	58	330	15	\$133,650	\$133,650
27D	3	65	64	68	58	700	14	\$264,600	\$88,200
28	5	58	59	66	57	1135	19	\$582,255	\$116,451
29	1	65	63	66	62	385	21	\$218,295	\$218,295 ***
30	0	70	67*	71	67	610	21	\$345,870	NO RESIDENCE: ***
31	11	62	61	69	59	1255	15	\$508,275	\$46,207
32		--	65	65					
33		59	67*	65					
34	3	64	66*	66	56	535	13	\$187,785	\$62,595
35	3	66	65	71	61	960	17	\$440,640	\$146,880

* NO BUILD 2015 NOISE LEVEL IS APPROACHING OR EXCEEDING THE FEDERAL CRITERIA

** VACANT BUSINESS - NOT MITIGATED

*** BARRIER NOT EFFECTIVE DUE TO REQUIRED OPENINGS - ONLY 4 dBA DECREASE ATTAINABLE

NOTE : BENEFITTED RESIDENCE :

1. EXCEED FEDERAL NOISE ABATEMENT CRITERION
2. GAIN 5 dBA NOISE REDUCTION

4. Earth Berm Feasibility has been investigated. Due to limited available right-of-way in the areas where mitigation was analyzed, earth berms could not be constructed to the necessary heights to achieve mitigation criteria without substantial right-of-way impacts, loss of vegetation and residential displacements.

Where barriers are not reasonable, landscaping and vegetative screening will be incorporated into the plans for the project to screen residential areas from the roadway to the extent reasonable.

2. Construction Impacts

As with any major construction project, areas around the construction site are likely to experience varied periods and degrees of noise impact. This type of project would probably employ the following pieces of equipment which would likely be sources of construction noise:

- Bulldozers and Earth Movers
- Graders
- Front End Loaders
- Dump and other Diesel Trucks
- Compressors

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

Maintenance of construction equipment will be regular and thorough to minimize noise emissions because of inefficiently tuned engines, poorly lubricated moving parts, ineffective muffling systems, etc.

Temporary fencing will be considered in residential areas, where feasible, to screen construction activities.

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G. Air Quality

1. Analysis Objectives, Methodology, and Results

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

A microscale CO pollution diffusion analysis was conducted using the third generation California Line Source Dispersion Model, CALINE 3. This microscale analysis consisted of projections of 1-hour and 8-hour CO concentrations at sensitive receptor sites under worst case meteorological conditions for the No-Build and Build Alternates for the design year (2015) and the estimated year of completion (1995).

a. Analysis Inputs

A summary of analysis inputs is given below. More detailed information concerning these inputs is contained in the MD Route 450 Air Quality Analysis which is available for review at the Maryland State Highway Administration, 707 North Calvert Street, Baltimore, Maryland 21202.

Background CO Concentrations

In order to calculate the total concentrations of CO which occur at a particular receptor site during worst case meteorological conditions, the background CO concentrations are considered in addition to the levels directly attributable to the facility under consideration. The background concentrations were derived from the application of rollback methodology to background grid system CO concentrations calculated by the Metropolitan Washington Council of Governments as part of their air quality planning efforts.

The resulting background concentrations are as follows:

	CO, ppm	
	1 Hr.	8 Hr.
1995	5.3	4.0
2015	5.3	4.0

Traffic Data, Emission Factors, and Speeds

The appropriate traffic data were utilized as supplied by the Bureau of Highway Statistics of the Maryland State Highway Administration in December, 1987.

The composite emission factors used in the analysis were derived from the Environmental Protection Agency (EPA) Mobile Source Emission Factors and were calculated using the EPA MOBILE 3 computer program. An ambient air temperature of 20 F was assumed in calculating the emission factors for the 1-hour, and 35 F for the 8-hour analysis. Credit for a vehicle inspection maintenance (I/M) emission control program was included in the emission factor calculations.

Average vehicle operating speeds used in calculating emissions factors were based on the capacity of each roadway link considered, the applicable speed limit and external influences on speed through the link from immediately adjacent links. Average operating speeds ranged from 23 mph to 50 mph depending upon the roadway portion and alternate under consideration.

Meteorological Data

Worst case meteorological conditions of 1 meter/second for wind speed and atmospheric stability Class F were assumed for the 1-hour calculations. For the 8-hour analysis, a combination of 1 meter/second and 2 meters/second and Class D and F stability classes was utilized as appropriate. In addition worst-case temperatures of 20 F and 35 F, respectively, were assumed.

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

b. Sensitive Receptors

Site selections of sensitive receptors were made on the basis of proximity to the roadway, type of adjacent land use and changes in traffic patterns on the roadway network. Thirty-five receptor sites were chosen for this analysis. The receptor site locations were verified during study area visits by the analysis team. The receptor sites are shown on Figures 11 through 25 and listed in Table 8.

c. Results of Microscale Analysis

The results of the calculations of CO concentrations at each of the sensitive receptor sites for the No-Build and Build Alternates are shown in Tables 17 and 18. The values shown consist of predicted CO concentration attributable to traffic on various roadway links plus projected background levels. A comparison of the values in Table 8 with the S/NAAQS shows that no violations will occur for either Build Alternate in 1995 or 2015 for the 1-hour or 8-hour concentrations of CO. The projected CO concentrations vary between alternates depending on receptor locations as a function of the roadway locations and traffic patterns associated with each alternate.

The No-build Alternate results in the highest CO concentrations in 1995 and 2015 and exceeds the S/NAAQS at Receptor 29 in 2015 (8-hour concentrations).

2. Construction Impacts

The construction phase of the Build Alternates has the potential of impacting the ambient air quality through such means as fugitive dust from grading operations and materials handling. The State Highway Administration has addressed this possibility by establishing Standard Specifications for Construction and Materials, which specifies procedures to be followed by contractors involved in State work.

The Maryland Air Management Administration was consulted to determine the adequacy of the Specifications in terms of satisfying the requirements of the Regulations Governing the Control of Air Pollution in the State of Maryland. The Maryland Air Management Administration found that the Specifications are consistent with the requirements of these regulations. Therefore, during the construction period, all appropriate measures (Code of Maryland Regulations 10.18.06.03D) will be taken to minimize the impact on the air quality of the area.

3. Conformity with Regional Air Quality Planning

This project is located in Prince George's County. Prince George's County is in Area IV as designated by the Code of Maryland Regulations (COMAR) and is an Air Quality Non-Attainment area which 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.

4. Agency Coordination

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

TABLE 18

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MARYLAND ROUTE 450
CO CONCENTRATIONS AT EACH SITE (PPM)
(INCLUDES BACKGROUND)

1995

Receptor	1-Hour			8-Hour		
	No-Build	4-Lane	6-Lane	No-Build	4-Lane	6-Lane
1	7.4	6.5	6.5	4.7	4.3	4.3
2	8.1	6.5	6.0	5.0	4.3	4.4
3	9.3	7.0	6.9	5.6	4.5	4.6
4	9.7	7.5	7.4	5.6	4.5	4.6
5	10.6	8.2	7.6	5.8	4.7	4.7
6	7.7	-	7.8	4.5	-	4.5
7	8.2	-	8.3	4.7	-	4.7
8	7.5	-	7.6	4.5	-	4.5
9	8.1	-	7.8	4.6	-	4.7
10	8.8	-	9.0	4.8	-	4.8
11	10.4	-	10.6	5.4	-	5.4
12	10.5	-	10.6	5.4	-	5.8
13	9.5	-	9.7	5.2	-	5.4
14	6.7	-	6.7	4.5	-	4.6
15	6.6	-	6.6	4.5	-	4.5
16	7.9	-	7.1	4.6	-	4.4
17	8.3	-	8.2	4.7	-	4.6
18	6.6	-	6.4	4.3	-	4.3
19	7.4	-	8.1	4.4	-	4.6
20	8.4	-	8.7	4.8	-	4.9
21	10.5	8.0	8.0	5.6	4.7	4.7
22	9.0	7.6	7.6	5.0	4.6	4.6
23	9.5	8.3	8.3	5.3	4.7	4.7
24	13.1	7.1	7.1	6.4	4.5	4.6
25A	10.2	6.6	6.6	5.5	4.2	4.3
25C	10.2	8.5	8.5	5.5	4.8	4.9
26A	11.1	8.4	8.4	5.7	4.7	4.7
26C	11.1	7.9	7.9	5.7	4.6	4.6
27A	12.9	10.9	10.9	6.5	5.1	5.1
27C	12.9	8.7	8.6	6.5	4.8	4.7
28	10.6	6.7	6.8	5.6	4.5	4.6
29	17.0	8.3	8.1	7.6	4.8	4.8
30	14.4	7.6	7.4	6.9	4.8	4.8
31	11.2	7.3	7.6	6.0	4.7	4.6
32	8.6	-	8.7	4.5	4.9	5.0
33	8.1	-	7.6	4.6	-	4.7
34	9.1	-	9.5	4.8	-	4.9
35	15.1	10.0	10.0	7.1	5.1	5.1

NOTE: 25A, 26A, 27A are concentrations for Option A at Receptors 25, 26 & 27.
25C, 26C, 27C are concentrations for Option C at Receptors 25, 26 & 27.
Option D values are the same as Option C Values

* Including Background
Concentrations:

	1-Hour	8-Hour
1995	5.3	4.0
2015	5.3	4.0

S/NAAQS: 1-Hour = 35 PPM
8-Hour = 9PPM

TABLE 19

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MARYLAND ROUTE 450
CO CONCENTRATION AT EACH SITE
(INCLUDES BACKGROUND)

2015

Receptor	1-Hour			8-Hour		
	No-Build	4-Lane	6-Lane	No-Build	4-Lane	6-Lane
1	8.3	7.2	7.0	5.1	4.4	4.3
2	9.6	6.9	7.0	5.6	4.5	4.5
3	11.6	8.0	7.7	6.3	4.9	4.7
4	11.8	8.6	8.5	6.5	4.7	4.8
5	9.8	9.8	8.9	6.8	5.0	4.9
6	8.6	-	8.7	4.7	-	4.6
7	10.2	-	10.3	5.0	-	4.9
8	9.1	-	9.4	4.8	-	4.7
9	9.8	-	9.6	5.0	-	4.9
10	11.2	-	11.4	5.3	-	5.0
11	12.7	-	13.0	5.9	-	5.6
12	12.7	-	12.9	5.9	-	6.0
13	11.4	-	11.6	1.7	-	5.7
14	7.4	-	7.4	4.8	-	4.7
15	7.1	-	7.1	4.6	-	4.6
16	8.1	-	7.3	4.7	-	4.6
17	8.5	-	8.2	4.8	-	4.8
18	6.6	-	6.4	4.3	-	4.4
19	7.6	-	8.2	4.5	-	4.8
20	8.5	-	9.0	4.9	-	4.9
21	12.9	9.2	8.4	6.2	4.9	4.8
22	10.8	8.5	7.8	5.5	4.7	4.7
23	11.4	9.8	8.5	5.9	4.9	4.9
24	16.5	8.3	7.2	7.4	4.6	4.6
25A	12.7	7.3	6.6	6.2	4.4	4.3
25C	12.7	10.2	9.5	6.2	5.3	5.2
26A	13.7	10.2	8.7	2.5	4.9	4.9
26C	13.7	9.3	8.2	2.5	4.8	4.8
27A	16.2	13.5	11.0	7.6	5.6	5.6
27C	16.2	10.3	9.0	7.6	5.1	5.1
28	12.8	7.5	7.0	6.4	4.7	4.9
29	22.4	9.7	8.4	9.4	5.2	5.2
30	18.6	8.7	7.5	8.3	5.1	5.2
31	13.9	8.3	7.8	6.9	5.1	4.9
32	9.6	-	9.1	5.2	-	5.2
33	10.8	-	11.3	4.9	-	4.8
34	10.2	-	10.2	5.2	-	5.1
35	19.5	12.2	10.5	8.5	5.6	5.7

NOTE: 25A, 26A, 27A are concentrations for Option A at Receptors 25, 26 & 27.
25C, 26C, 27C are concentrations for Option C at Receptors 25, 26 & 27.
Option D values are the same as Option C Values

*Including Background

S/NAAQS: 1-Hour = 35 PPM
8-Hour = 9 PPM

Concentrations:	1-Hour	8-Hour
1995	5.3	4.0
2015	5.3	4.0

V SECTION 4(f) EVALUATION

V. SECTION 4(f) EVALUATION

A. Introduction

Section 4(f) of the U.S. Department of Transportation Act (now Section 303C of Title 49 U.S.C.) states that utilizing land from a significant publicly owned public park, recreation area, wildlife refuge, or any significant historic site for a federally funded transportation project is permissible only if there is no feasible and prudent alternative and if all possible planning to minimize harm is included as part of the project.

B. Description of Proposed Action

The project consists of providing an improved arterial dual highway for an 8.5 mile segment of Maryland Route 450 from Whitfield Chapel Road to approximately 3000' west of Maryland Route 3. Included within the project scope is a 0.6 mile long portion of Maryland Route 704 in the vicinity of Maryland Route 450 and a 0.5 mile long portion of Maryland Route 197 in the vicinity of the Maryland Route 450 Relocation. (See Figure 2 following p. I-1). Three alternates: No-Build, 4-Lane Divided and 6-Lane Divided are being considered. (See Section II for detailed descriptions of the alternates).

The No-Build Alternate would not require the acquisition of property from any Section 4(f) resource.

Both Build Alternates would require acquisition of property from three Section 4(f) resources within the City of Bowie: an unnamed recreational area just north of Sussex Lane, the future Archer Tract Neighborhood Park and Whitemarsh Park.

All analyses of park involvement with the project were made assuming a multi-use trail (within a 14' wide curb backing) on the north side of the road along the entire 750' Archer Tract Neighborhood Park frontage and along approximately 500' of the overall 800' Whitemarsh Park frontage. The normal backing width without multi-use trail is 10'.

C. Description of Section 4(f) Resources (See Figure 47 following this page)

1. Sussex Lane Recreational Area

Sussex Lane Recreational Area is the designation used herein for the area on the south side of MD Route 450, opposite Bowie High School. It is owned by the City of Bowie. Bounded by Maryland Route 450, Stonybrook Lane, Sussex Lane and Belair Drive, the area encompasses 3.35 acres. It consists of 13 contiguous parcels which were deeded to the City by Levitt and Sons, Inc. The park serves as open space for passive recreational use and as a buffer zone between Maryland Route 450 and Section One of the "Somerset at Belair" subdivision. Park benches are scattered throughout the site which is well maintained as a greensward. No active recreational facilities are planned for this area.

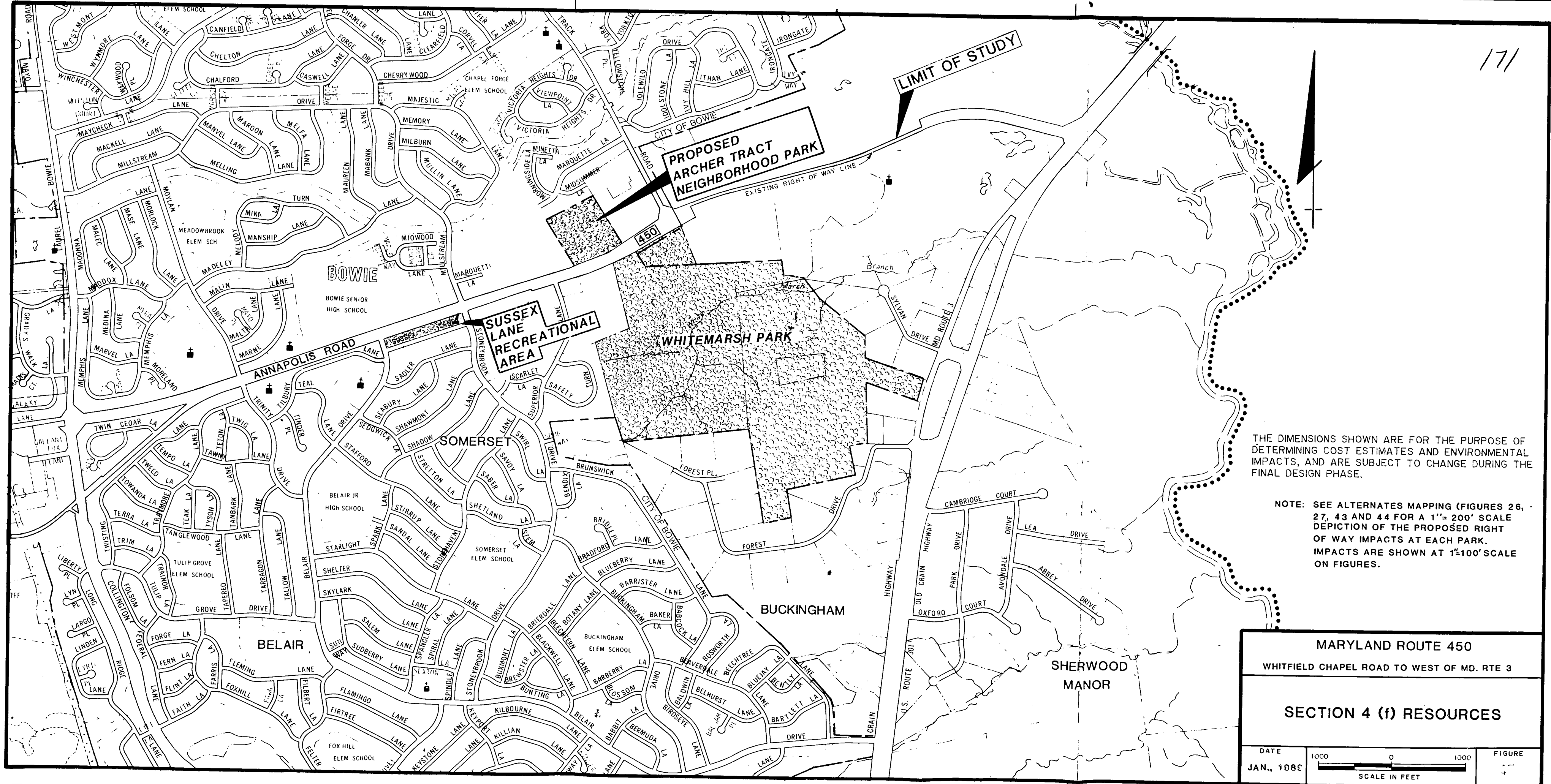
2. Proposed Archer Tract Neighborhood Park

The proposed Archer Tract Neighborhood Park, located on the north side of Maryland Route 450 between Freestate and Hilltop Shopping Centers, in Bowie, is owned by The Maryland - National Capital Park and Planning Commission (MNCPPC). The proposed park property was funded with State Program Open Space and Advance Land Acquisition funds. Encompassing 13.12 acres, the area is heavily wooded on steep terrain. The park is not currently used nor are there any plans for its development as an active recreational facility in the immediate future.

3. Whitemarsh Park

The Whitemarsh Park, spanning a 210 acre area, is owned by the City of Bowie. The park is located south of Maryland Route 450 within an area surrounded by several residential subdivisions west of Maryland Route 3, north of Forest Drive and east of Brunswick and Superior Lanes. The Archer South property, which is the portion of Whitemarsh Park that abuts the southern side of Maryland Route 450, was purchased in 1973 with Program Open Space funds. No Federal Land and Water Conservation funds were used for this purchase.

Facilities are provided within the park for such active recreational activities as biking, jogging, hiking, birding, etc. White Marsh Branch and several tributaries thereof are located within the park. These streams combined with surrounding wooded areas provide favorable conditions for naturalist activities. Immediately adjacent to Maryland Route 450, the area to be impacted by the proposed project is heavily wooded and steeply sloped and includes a bicycle trail which connects from Maryland Route 450 to the central portions of Whitemarsh Park.



LIMIT OF STUDY

PROPOSED ARCHER TRACT NEIGHBORHOOD PARK

SUSSEX LANE RECREATIONAL AREA

WHITEMARSH PARK

ANNAPOLIS ROAD

450

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

NOTE: SEE ALTERNATES MAPPING (FIGURES 26, 27, 43 AND 44 FOR A 1" = 200' SCALE DEPICTION OF THE PROPOSED RIGHT OF WAY IMPACTS AT EACH PARK. IMPACTS ARE SHOWN AT 1" = 100' SCALE ON FIGURES.

MARYLAND ROUTE 450		
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
SECTION 4 (f) RESOURCES		
DATE	1000 0 1000	FIGURE
JAN., 1988	SCALE IN FEET	4

D. Description of Impacts

A summary of the right-of-way required at each Section 4(f) resource under each alternate is given below in Table 20.

TABLE 20

PARKLAND IMPACTS

<u>Property</u>	<u>4-Lane</u>		<u>Range of</u>	<u>6-Lane</u>	
	<u>No-Build</u>	<u>Divided</u>	<u>Impacted Width</u>	<u>Divided</u>	<u>Range of Impacted Width</u>
Sussex Lane Rec.Area	0	0.06 Ac.	0'-15'	0.20 Ac.	0'-28'
Proposed Archer Tract Neighborhood Park	0	0.18 Ac.	0'-23'	0.39 Ac.	5'-32'
Whitemarsh Park	0	0.38 Ac.	0'-50'	0.47 Ac.	0'-60'

Note: See Figures 48-51 which show park impacts on 1"=100' scale plans. These plans show the range of cut and fill depths and grading slope ratios throughout each park for each alternate.

The above acreages equate to the amount of strip right-of-way required from each site under the two Build Alternates to accommodate fill or cut slope grading using standard SHA slope criteria. No portion of any park requires use for actual paving or curb backing for either alternate.

Standard slope criteria, as outlined in the SHA "Highway Development Manual", dictates the horizontal to vertical grading slope ratios to be used with various heights of fill and depths of cut as follows:

<u>Slope Ratio</u>	<u>Height of Fill</u>	<u>Depth of Cut</u>
4:1	0-10'	0-5'
3:1	10'-20'	5-10'
2:1	>20'	>10'

Proposed grading slopes may be revised during final design based upon soils information, drainage considerations, etc.

The grading requirements at the Sussex Lane Recreational Area result in the extension of a small culvert, the removal of several trees and the regrading of some grassed area. Within the Archer Tract and Whitemarsh Park areas requiring acquisition, impacts consist of slope grading (both cut and fill) necessitating removal of dense growths of trees. No active recreational facilities would be impacted at either the

recreational area or park areas except for the bike trail in Whitemarsh Park which requires removal to the grading limit for either Build Alternate. The portion of this trail that would be impacted is within the park area which would otherwise be impacted by the Build Alternates, documented in Table 20. This trail portion would be replaced under either Build Alternate.

Based on the estimated impacts and the current uses of the portions of the Section 4(f) Resources being impacted, neither Build Alternate would significantly affect the function of the Section 4(f) Resources, nor is there considered to be any material difference in recreation impacts between the two alternates since, in all the affected parks, the actual recreation activities take place some distance from the area of construction. (The only exception is the existing bike trail in White Marsh Park, but this is affected equally under both alternates).

E. Avoidance Alternatives

1. Sussex Lane Recreational Area

a. 4-Lane Divided Alternate

The use of 2:1 side slopes would eliminate the need to acquire 0.06 Acre of park property from this site for this alternate. However, this may prove unsightly, difficult to maintain and of little benefit to the recreational area.

b. 6-Lane Divided Alternate

i. Alignment Shift

An alignment shift to avoid impacts (0.20 acre) to the Sussex Lane Recreational Area would result in the following:

- A relocation of the centerline a maximum of 25' to the north using a series of curves that disrupt a long tangent which would otherwise be approximately 5600' in length. Since this portion of roadway is on a flat grade, such an alignment would present a poor appearance to the driver.
- Right-of-way acquisition from three groups of townhomes (one group to within 10'+ of buildings) on the north side of the road, which are not impacted by the unshifted alignment and additional right-of-way impacts at the swim and racquet club. Noise levels would increase at these locations.

Therefore an alignment shift would not be prudent.

BELAIR TOWN

MARQUETTE LA

MILLSTREAM

CONSTRUCT MOUNTABLE MEDIAN IN FRONT OF FIRE STATION.

PROPOSED BIKE PATH

SWIM & RACQUET CLUB

EXISTING RIGHT OF WAY LINE

EXISTING BIKE PATH

515

520

525

530

F(3') F(5') F(6') F(4') F(1')

F(1')

SIDE SLOPE RATIO=4:1

PROPOSED RIGHT OF WAY LINE

PROPOSED CULVERT EXTENSION

SUSSEX LANE RECREATIONAL AREA

EXISTING RIGHT OF WAY LINE

SUSSEX

LA

BELAIR DR

STONYBROOK DR

PC

MARYLAND ROUTE 450
WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3

SUSSEX LANE RECREATIONAL AREA
4-LANE DIVIDED IMPACTS

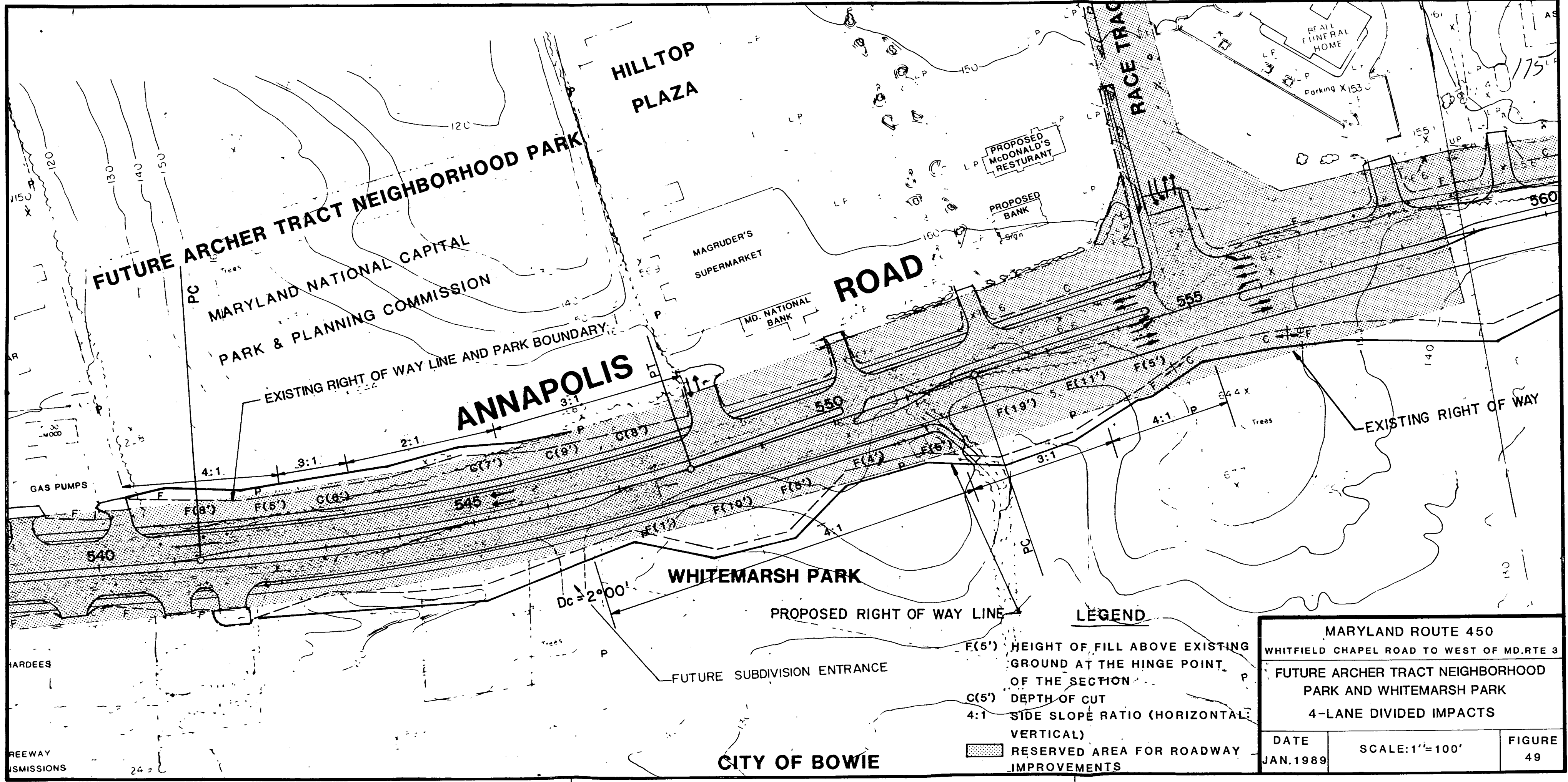
DATE
JAN.1989

SCALE: 1"=100'

FIGURE
48

NOTE: F(5') INDICATES THE HEIGHT OF FILL
ABOVE EXISTING GROUND AT THE
HINGE POINT OF THE SECTION.

SOMERSET AT BELAIR

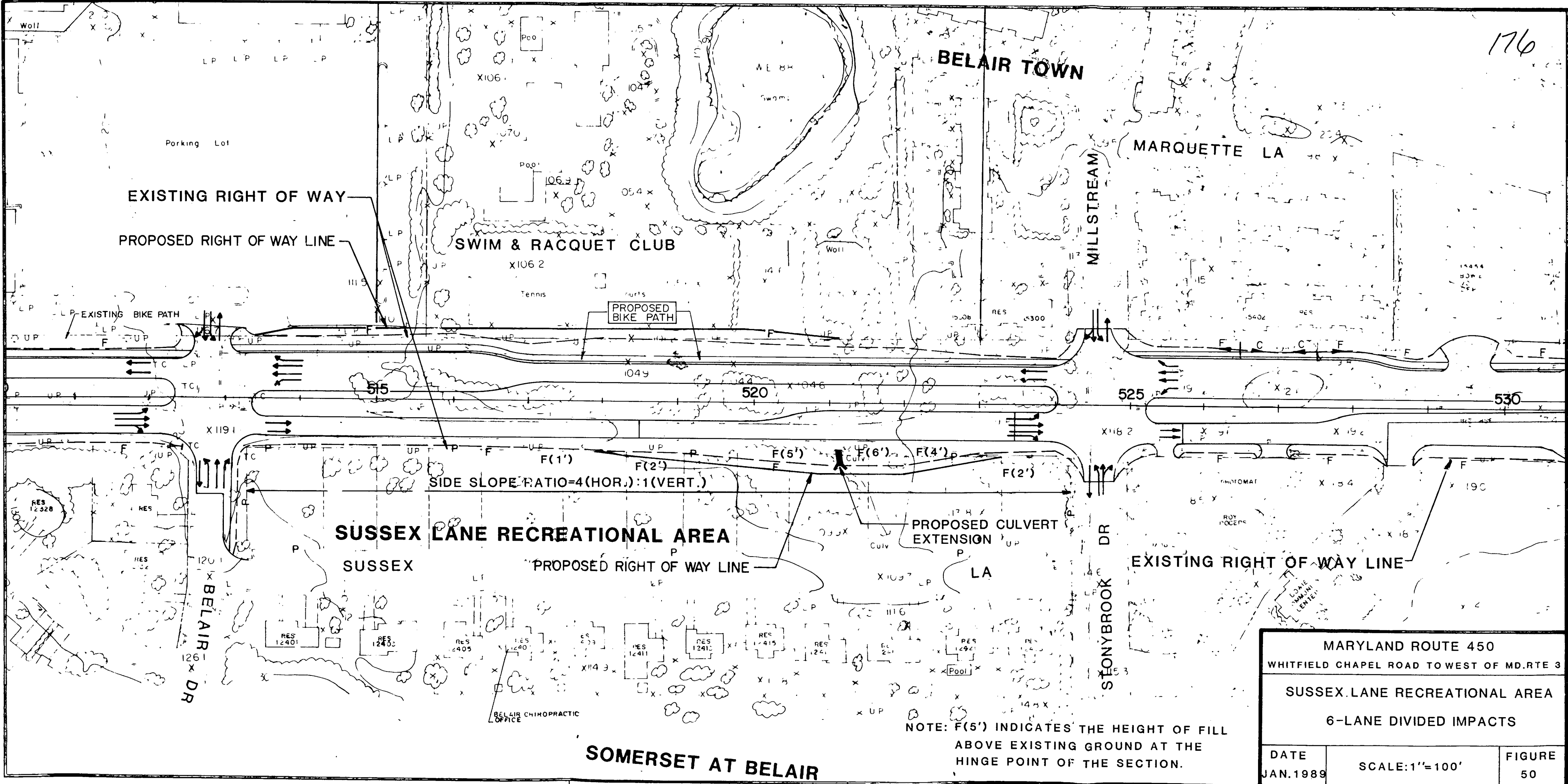


LEGEND

- F(5') HEIGHT OF FILL ABOVE EXISTING GROUND AT THE HINGE POINT OF THE SECTION
- C(5') DEPTH OF CUT
- 4:1 SIDE SLOPE RATIO (HORIZONTAL: VERTICAL)
- [Hatched Box] RESERVED AREA FOR ROADWAY IMPROVEMENTS

MARYLAND ROUTE 450 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3 FUTURE ARCHER TRACT NEIGHBORHOOD PARK AND WHITEMARSH PARK 4-LANE DIVIDED IMPACTS		
DATE	SCALE: 1"=100'	FIGURE
JAN. 1989		49

CITY OF BOWIE



EXISTING RIGHT OF WAY

PROPOSED RIGHT OF WAY LINE

SWIM & RACQUET CLUB

BELAIR TOWN

MARQUETTE LA

MILLSTREAM

EXISTING BIKE PATH

PROPOSED BIKE PATH

SIDE SLOPE RATIO=4(HOR.):1(VERT.)

SUSSEX LANE RECREATIONAL AREA

PROPOSED CULVERT EXTENSION

EXISTING RIGHT OF WAY LINE

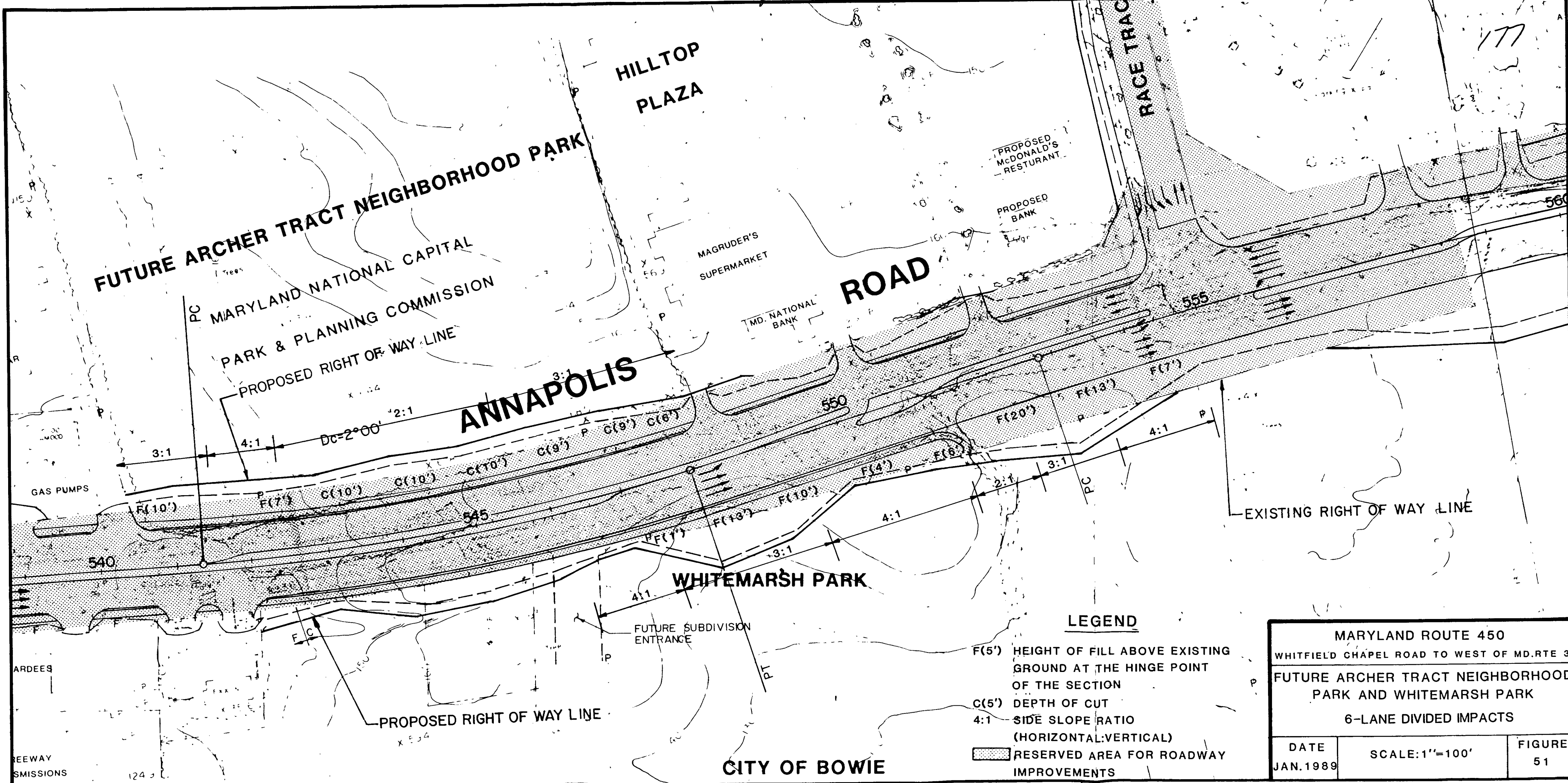
PROPOSED RIGHT OF WAY LINE

SOMERSET AT BELAIR

NOTE: F(5') INDICATES THE HEIGHT OF FILL ABOVE EXISTING GROUND AT THE HINGE POINT OF THE SECTION.

MARYLAND ROUTE 450 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3		
SUSSEX LANE RECREATIONAL AREA 6-LANE DIVIDED IMPACTS		
DATE JAN. 1989	SCALE: 1"=100'	FIGURE 50

177



LEGEND

- F(5') HEIGHT OF FILL ABOVE EXISTING GROUND AT THE HINGE POINT OF THE SECTION
- C(5') DEPTH OF CUT
- 4:1 SIDE SLOPE RATIO (HORIZONTAL:VERTICAL)
- RESERVED AREA FOR ROADWAY IMPROVEMENTS

MARYLAND ROUTE 450 WHITFIELD CHAPEL ROAD TO WEST OF MD. RTE 3 FUTURE ARCHER TRACT NEIGHBORHOOD PARK AND WHITEMARSH PARK 6-LANE DIVIDED IMPACTS		
DATE JAN. 1989	SCALE: 1"=100'	FIGURE 51

REEWAY
SMISSIONS

124 J

CITY OF BOWIE

ii. Retaining Walls

A retaining wall with a maximum height of 5.5' and length of 400' would eliminate the need to acquire recreational area property for this alternate at a cost of approximately \$146,000. Such an expenditure to protect only 0.20 Ac. of land would not be prudent and would detract from park appearance and pedestrian accessibility.

iii. No Build or Partial No-Build Alternate

In conjunction with the proposed advance construction by Prince George's County of the dualization of Maryland Route 450 as a 4-lane divided highway from Maryland Route 193 to Moylan/Trinity Drives, the State Highway Administration is planning an interim improvement to widen Maryland Route 450 from Moylan/Trinity Drives to Stonybrook/Millstream Drives to 4-lanes. The project would transition from the 4-lane divided improvement which will be in place at Moylan/Trinity Drives to the existing 4-lane undivided section at Stonybrook/ Millstream Drives. The widening would result in no impacts to the Sussex Lane Recreational Area since all widening would be to the north side of the existing roadway.

The implementation of the interim improvement as the ultimate solution between Moylan/Trinity and Stonybrook/Millstream Drives (Partial No-Build) to avoid recreational area impacts would disrupt typical section continuity with the Build Alternate proposed improvements to the east and west, would not provide auxiliary left turn lanes at the Bowie High School Entrance Drive and Belair Drive intersections. This alternate would also not provide the safety afforded by divided roadway. With these considerations in addition to the High Accident Status of this portion of the project, the Partial No-Build Alternate is not considered prudent as a long term solution.

2. Proposed Archer Tract Neighborhood Park

a. 4-Lane Alternate (0.18 acre)

i. Alignment Shift

The Archer Tract and Whitemarsh Parks are on opposite sides of Maryland Route 450 across from each other. Therefore, an alignment shift away from the

Proposed Archer Tract Neighborhood Park would directly increase impact to Whitemarsh Park and vice versa.

ii. Retaining Walls

The following two retaining wall arrangements would result in park avoidance for this alternate:

- Standard SHA side slope criteria; max. wall Ht. = 5'; wall length = 600'; Approx cost = \$148,800
- 2:1 side slopes; max. wall ht. = 2'; wall length = 200'; cost = \$34,700

Due to the high cost as compared to the amount of land protected by the retaining walls, they are not considered prudent.

iii. No-Build or Partial No-Build Alternate

The existing roadway between Superior Lane and east of Race Track Road is 4-lanes undivided, with turn lanes provided at the Superior Lane and Race Track Road intersections. If a No-Build or Partial No-Build (i.e. no widening of Maryland Route 450 in the vicinity of Archer Tract and Whitemarsh Parks) Alternate were adopted, LOS F would result by the year 2015 in the vicinity of the Race Track Road intersection. The increasing congestion would increase delays and would most likely increase the frequency of accidents in the Bowie area on a portion of Maryland Route 450 currently experiencing accident rates significantly higher than the statewide average. In addition, the Hilltop Plaza shopping center, which is planned for expansion, would experience worsening accessibility as traffic volumes increase. Therefore, these options are not considered prudent.

b. 6-Lane Divided Alternate (0.39 acre)

i. Alignment Shift

As discussed under the 4-Lane Alternate, an alignment shift would not result in avoidance of the Archer Tract Neighborhood Park without additional impacts to Whitemarsh Park.

ii. Retaining Walls

The following two retaining wall arrangements would result in park avoidance for this alternate:

- Standard SHA, side slope criteria; max. wall ht. = 9'; wall length = 800'; Approx. cost = \$354,000
- 2:1 side slopes; max. wall ht. = 9'; wall length = 650'; cost = \$276,000

Following notification of the avoidance options, M.N.C.P.P.C. directed that:

1. The Department would prefer the use of slopes with a grade of approximately 2:1, rather than retaining walls.
2. The property impacted be transferred to SHA and replaced on an acre per acre basis.

(See letter in Comments and Coordination Section)

iii. No-Build or Partial No-Build Alternate

As discussed under the 4-Lane Alternate, the No-Build and Partial No-Build Alternates are not considered prudent.

3. Whitemarsh Park

a. 4-Lane Alternate (0.38 acre)

i. Alignment Shift

As discussed in paragraph E.2.a.i.on p. V-5, an alignment shift could not avoid Whitemarsh Park without direct impacts to Archer Tract Park.

ii. Retaining Walls

The following two retaining wall arrangements would result in park avoidance for this alternate:

- Standard SHA side slope criteria; max. wall ht. = 8'; wall length = 600'; Approx cost = \$247,500
- 2:1 side slopes; max. wall ht. = 5'; wall length = 400'; cost = \$82,400

iii. No-Build or Partial No-Build Alternate

As discussed in paragraph E.2.a.iii. on p. V-5, the No-Build and Partial No-Build Alternates are not considered prudent.

b. 6-Lane Divided Alternate

i. Alignment Shift

As discussed in paragraph E.2.a.i. on p. V-5, an alignment shift could not result in complete avoidance of Whitemarsh Park without direct impacts to Archer Tract Park.

ii. Retaining Walls

The following two retaining wall arrangements would result in park avoidance for this alternate:

- Standard SHA side slope criteria; max. wall ht. = 12'; wall length = 700'; Approx. cost = \$355,000
- 2:1 side slopes; max. wall ht. = 10'; wall length = 600'; cost = \$230,000

iii. No-Build or Partial No-Build Alternate

As discussed in paragraph E.2.a.iii. on p. V-5, the No-Build and Partial No-Build Alternates are not considered prudent.

F. Mitigation Measures

Mitigation measures, consisting of the steepening of side slopes to 2:1 at each park location, have been considered for each alternate.

A summary of the results is provided below in Table 20.

TABLE 21

PARKLAND IMPACTS WITH 2:1 SIDE SLOPES

<u>Property</u>	<u>Alternate 4-Lane Divided</u>	<u>% Reduction of Impacts</u>	<u>6-Lane Alternate Divided</u>	<u>%Reduction of Impacts</u>
Sussex Lane	----	100%	0.11 Ac.	45%
Proposed Archer Tract Neighborhood Park	0.052 Ac.	71%	0.31 Ac.	21%
Whitemarsh Park	0.080 Ac.	79%	0.21 Ac.	55%

Note: 2:1 slopes will be considered based upon park owner desires.

Parkland impacts could be further reduced by narrowing one or more of the typical section components. For each 2' of median width reduction, 1' of roadway width reduction or 1' of curb backing reduction, a 1' width reduction would occur to the impacted park area. A final determination of typical section width will be made by the State Highway Administration or Federal Highway Administration.

Regardless of the alternate selected, mitigation, possibly including landscaping plans will be developed for the impacted portions of the three Section 4(f) resources during final design and coordinated with MNCPPC and the City of Bowie.

The State Highway Administration is coordinating with the City of Bowie, MNCPPC and the Department of Natural Resources regarding the replacement of land in Whitemarsh and future Archer Tract Neighborhood Parks that was purchased with Program Open Space funds.

G. Coordination

Coordination with various federal, state and local agencies has been maintained regarding proposed parkland impacts. In the fall of 1987, information was obtained from M.N.C.P.P.C. and the City of Bowie, owners of the impacted park areas, regarding funding sources used to purchase the properties, existing active recreational facilities within the sites and proposed land uses. Following determination of park impacts as a result of detailed engineering studies, a meeting was held on February 17, 1988 with M.N.C.P.P.C., the City of Bowie and the Department of

Natural Resources to review park impacts. In June, 1988, the results of a study investigating park avoidance and mitigation alternatives were provided to the park owners. In July, 1988, M.N.C.P.P.C. stated their preferences regarding mitigation of the Future Archer Tract Neighborhood Park. At the time of publication of this document, the City of Bowie had not made recommendations regarding Sussex Lane Recreational Area or Whitemarsh Park.

VI COMMENTS & COORDINATION

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MARYLAND
HISTORICAL



TRUST

PROJECT
DEVELOPMENT
DIVISION

MAY 11 8 15 AM '88

William Donald Schaefer
Governor

Jacqueline H. Rogers
Secretary, DHCD

May 11, 1988

Ms. Cynthia Simpson, Chief
Environmental Management
Maryland Department of Transportation
State Highway Administration
P.O. Box 717
707 North Calvert Street
Baltimore, Maryland 21203-0717

RE: Contract No. P 844-101-371
Maryland Route 450 from east
of Whitfield Chapel Road to
Maryland Route 3
PDMS No. 163300

Dear Ms. Simpson:

Concerning the subject project, our office concurs with the boundary for Holy Trinity School proposed by SHA on 8/19/87, and the one proposed for Sacred Heart Church on 3/10/87, as shown on the enclosed maps.

In terms of the Buena Vista site, our office would like to solicit your opinion concerning the boundary shown (in red) on the attached map.

We thank you for the cooperation you have shown on this project, and look forward to its completion. If you have any questions, feel free to contact me at 974-4450.

Sincerely,

Al H. Luckenbach
Assistant Administrator
Office of Preservation Services

AHL/lm

Enclosures

cc: Rita Suffness
Paul Wettlaufer
Sara Walton
Shirley Baltz

Department of Housing and Community Development
Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301) 974-4450, 757-9000
Temporary Address: Arnold Village Professional Center, 1517 Ritchie Highway, Arnold, Maryland 21012



Maryland Historical Trust

November 18, 1986

Ms. Cynthia Simpson, Chief
Environmental Management
Maryland Dept. of Transportation
State Highway Administration
P. O. Box 717
707 North Calvert Street
Baltimore, Maryland 21203-0717

RE: Contract No. 844-101-371
Maryland Route 450 from east
of Whitefield Chapel Road to
Maryland Route 3
P.D.M.S. No. 163300

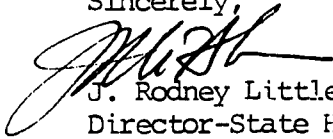
Dear Ms. Simpson:

Thank you for your letter of October 29, 1986 concerning the above-referenced project. Our office concurs with your determinations of eligibility for the following structures:

- | | |
|---|------|
| 1. Gravel Pit Farm (PG71A-21) | MI |
| 3. Frame Dwelling | MI |
| 4. Holy Trinity Church and Rectory
(PG71A-9) | PNRE |
| 5. Magruder-Brannon House (PG70-30) | MI |
| 6. Buena Vista (PG70-17) | PNRE |
| 7. Tenant House | MI |
| 8. Frame Dwelling | MI |

We disagree, however, with your assessment of the Sacred Heart Chapel (PG71A-19). Parts of this structure date to 1741, and the later additions (Nave 1856, Tower 1876, Interior 1916) seem an acceptable part of the building's evolution. As one of the earliest Catholic parishes in the English Colonies, we consider this structure potentially eligible for the National Register. Please inform us of your opinion.

If you have any questions or comments, feel free to contact Al Luckenbach at 757-9000.

Sincerely,

J. Rodney Little
Director-State Historic
Preservation Officer

JRL/AHL/mmc
cc: Ms. Rita Suffness
Mrs. Sara Walton Mr. W. Dickerson Charlton

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TORREY C. BROWN, M.D.
SECRETARY

JOHN R. GRIFFIN
DEPUTY SECRETARY

KENNETH N. WEAVER
DIRECTOR
MARYLAND GEOLOGICAL SURVEY
EMERY T. CLEAVES
DEPUTY DIRECTOR

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
MARYLAND GEOLOGICAL SURVEY

2300 ST. PAUL STREET
BALTIMORE, MARYLAND 21218

Division of Archeology
(301) 554-5530

24 February 1987

FILED
FEB 25 9 30 AM '87
PROJECT DEVELOPMENT DIVISION

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

RE: Maryland 450, Prince Georges
County

Dear Mr. Ege:

I have reviewed the above-referenced project with regard to archeological resources. Several sites have been recorded near the proposed project area (see attached map):

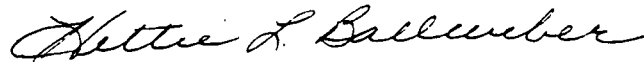
<u>Site Number</u>	<u>Site Type</u>
18PR201	prehistoric/historic
18PR179	prehistoric
18PR191	prehistoric

Based on the information available from the Archeological Site Survey forms in the Division files, it is uncertain if these sites are eligible for the National Register. It appears that 18PR179 will be the only site that may be impacted by the proposed construction.

Several surveys have been conducted along Maryland 450 (Curry, File Report 133) which have yielded negative results. For the remaining area, with the exception of small knolls overlooking White Marsh Creek, the potential for prehistoric and historic archeological sites is expected to be only moderate at best because of disturbances from development and gravel quarrying activities that have taken place along the Route 450 corridor.

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

Sincerely,



Hettie L. Ballweber
Archeologist

HLB:lw

cc: Rita Suffness
Cynthia D. Simpson
Joseph Hopkins

Attachment

MARYLAND
HISTORICAL



TRUST

189
PROJECT
DEVELOPMENT
DIVISION
William Donald Schaefer
Governor

AUG 29 9 48 AM '88
Jacqueline H. Rogers
Secretary
HCD

July 29, 1988

Mr. Louis H. Ege, Jr.
Deputy Director
Bureau of Project Planning
State Highway Administration
Maryland Department of Transportation
P.O. Box 717
707 North Calvert Street
Baltimore, Maryland 21203-0717

Re: Contract No. P 844-101-371
MD 450 Whitfield Chapel Road to West of MD 3
PDMS No. 163300
Prince George's County, Maryland

Dear Mr. Ege:

Based upon the results of the Phase I archeological reconnaissance conducted of the project area, we concur that the above-referenced project will have no effect upon significant archeological resources. Therefore, no additional archeological investigations are warranted for this particular project.

Sincerely,

Richard B. Hughes
Chief Administrator
Archeological Programs
Office of Management and Planning

RBH/ERE/lm

cc: Ms. Rita Suffness
Mr. Tyler Bastian
Mrs. Sara Walton
Ms. Shirley Baltz

Maryland

Department of Housing and Community Development
Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301) 974-4450, 757-9000
Temporary Address: Arnold Village Professional Center, 1517 Ritchie Highway, Arnold, Maryland 21012

190



THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

6600 Kenilworth Avenue • Riverdale, Maryland 20737-0707

October 27, 1987

PROJECT DEVELOPMENT DIVISION
OCT 30 9 25 AM '87

Mr. Louis H. Ege, Jr.
Deputy Director, Project Development Division
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203-0717

Dear Mr. Ege:

RE: Contract No. 844-101-371
MD Rt. 450
Whitfield Chapel Road to West of MD Rt. 3
PDMS No. 163300

Please find attached a map which outlines existing and proposed acreage and future trail construction. The only Commission property currently owned within the study area is the Archer Tract Neighborhood Park. This property was funded with State Program Open Space and Advance Land Acquisition funds. The Commission plans to eventually acquire property along both Folly and Lottsford Branches and construct hiker/biker trails on both creeks north and south of Rt. 450. The Commission is interested in discussing the feasibility of routing the trails under Rt. 450. In addition, the Commission will be receiving title to property along Bald Hill Creek immediately south of Rt. 450 through the subdivision of the Toole-Benedict properties.

Please accept our apologies for the extreme delay in our response. Additional requests for information on this project may be addressed to the area park planner, Charles Montrie at 699-2520.

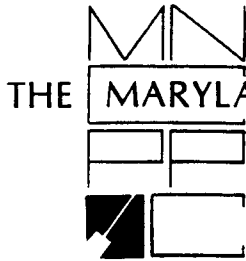
Sincerely,

Robert M. Arciprete
Chief, Planning, Design and
Research Division

Enclosure

RMA:CJM:fab

191



THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

6600 Kenilworth Avenue • Riverdale, Maryland 20737-0707

July 22, 1988

Mr. Louis H. Ege, Jr., Deputy Director
Project Development Division
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203-0717

Re: Contract #P 844-101-371
MD Route 450
Whitfield Chapel Rd. to West
of Maryland Route 3
PDMS No. 163300

Dear Mr. Ege:

The Maryland National Capital Park and Planning Commission, Department of Parks and Recreation has reviewed the information you provided with respect to the options concerning the Archer Tract Park and makes the following recommendations:

1. The Department would prefer the use of slopes with a grade of approximately 2:1; rather than retaining walls.
2. The property impacted be transferred to SHA and replaced on an acre per acre basis.

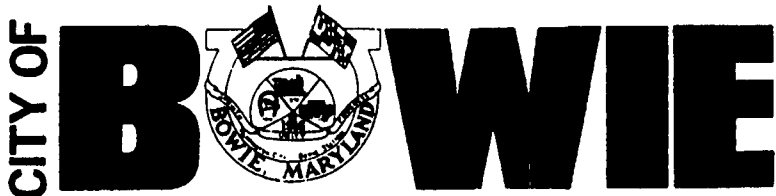
Sincerely,

Robert M. Arciprete
Chief, Park Planning and
Development Division

RMA/jk

PROJECT DEVELOPMENT DIVISION
JUL 27 11 43 AM '88

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CITY HALL • BOWIE, MARYLAND 20715 • 262-6200 • TDD 262-5013

August 24, 1987

Mr. Don Sparklin
SHA - Environmental Management, Room 304
707 N. Calvert
Baltimore, Maryland 21202

Dear Mr. Sparklin:

As per your request, attached is a package of information regarding the proposed improvements to Maryland Route 450. The package consists of the following:

- Attachment 1: Portions of the City staff analysis of the Route 450 improvements that deal with Parcel F and with bike trails.
- Attachment 2: Portion of the Countywide Trails Plan that deals with the Route 450 area.
- Attachment 3: Topographic map of Parcel F.
- Attachment 4: Portion of the Bowie Recreation Inventory and Needs Assessment that deals with Parcel F, with biking/running and horse-riding, and with the City's general recreation policies.
- Attachment 5: Tax map for Parcel F.
- Attachment 6: Map of the City's boundaries.
- Attachment 7: Bowie Area Development Sites and Highway Projects Outline.

We are researching the types of funds used to acquire the City properties along Route 450 which you inquired about. The Model Homes property between Route 450 and Sussex Lane was deeded to the City in 1968 by the Levitt company. We have not yet determined whether Program Open Space or Land Conservation funds were used to acquire Whitmarsh Park and Parcel F.

Please call Joe Nasr of the Planning Department at (301) 262-6200 if you have further questions.

Sincerely,

James M. Cronk
Director of Planning &
Economic Development

JMC:JLN:wca

MAYOR
RICHARD J. LOGUE

**MAYOR
PRO TEM**
MICHAEL F. DIMARIO

COUNCIL
JACK D. JENKINS • EUGENE F. KILEY • RICHARD D. PADGETT
WALTER G. PLANET • GEORGE F. ROBINSON

CITY MANAGER
G. CHARLES MOORE

193



William Donald Schaefer
Governor

Jacqueline H. Rogers
Secretary, DHCD

December 13, 1988

PROJECT
DEVELOPMENT
DIVISION
Dec 15 9 32 AM '88

Ms. Cynthia D. Simpson, Chief
Environmental Management
Maryland Department of Transportation
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203-0717

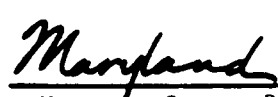
Re: Contract No. P844-101-371
MD 450 from east of
Whitfield Chapel Road
to west of MD 3
PDMS No. 163300

Dear Ms. Simpson:

Thank you for your letter of November 1, 1988 in which you clarify certain portions of your previous letter dated August 9, 1988.

This office concurs with your determinations of effect as follows:

Name	Interim Improvements	4 Lane Divided	6 Lane Initial Construction	6 Lane Widened Section
Buena Vista	No Effect*	No Effect	N/A	No Adverse Effect
Holy Trinity Church	No Effect*	No Effect	N/A	No Adverse Effect
Sacred Heart	N/A	No Effect	No Effect	N/A



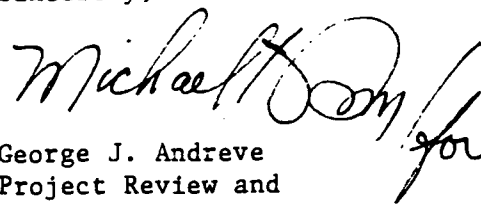
Department of Housing and Community Development
Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301) 974-5000

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Ms. Cynthia D. Simpson
December 13, 1988
Page 2

Should you have any questions, please call Michael Day at 974-5000.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael Day for".

George J. Andreve
Project Review and
Compliance Administrator
Office of Preservation Services

GJA:MKD:dlt

cc: Ms. Rita Suffness
Ms. Shirley Baltz

195

SP 22 1 1987
DEVELOPMENT
FRONT OFFICE

CITY OF BOWIE

CITY HALL • BOWIE, MARYLAND 20715 • 262-6200 • TDD 262-5013

September 23, 1987

Mr. Don Sparklin
SHA - Environmental Management, Room 304
707 N. Calvert Street
Baltimore, Maryland 21202

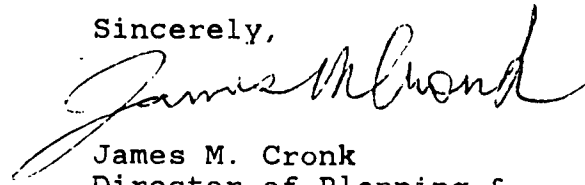
Re: Maryland Route 450 improvements

Dear Mr. Sparklin:

As per your request, City Staff investigated the source of funds used to acquire Whitemarsh Park and Parcel F. The Archer South property, which is the portion of Whitemarsh Park that abuts the southern side of Route 450, was purchased in 1973 with Program Open Space funds. There was no indication that any federal Land Conservation funds were used for this purchase. Parcel F was acquired by the City of Bowie from 1982 to 1984, using City funds. There was no indication that Program Open Space or Land Conservation funds were used for this purchase.

I hope that this information answers your questions. Please call Joe Nasr at (301) 262-6200 if you need further information.

Sincerely,



James M. Cronk
Director of Planning &
Economic Development

JMC:JLN:wca

MAYOR
RICHARD J. LOGUE

**MAYOR
PRO TEM**
MICHAEL F. DIMARIO

COUNCIL
JACK D. JENKINS • EUGENE F. KILEY • RICHARD D. PADGETT
WALTER G. PLANET • GEORGE F. ROBINSON

CITY MANAGER
G. CHARLES MOORE



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United States Department of the Interior

FISH AND WILDLIFE SERVICE
DIVISION OF ECOLOGICAL SERVICES
1825B VIRGINIA STREET
ANNAPOLIS, MARYLAND 21401

February 18, 1987

Mr. Roy Pool
Environmental Services, Inc.
9 St. Mary's Road
Pylesville, Maryland 21132

Dear Mr. Pool:

This responds to your January 21, 1987, request for information on the presence of Federally listed endangered or threatened species within the area of the proposed improvements to MD Route 450, from MD Route 3 to the Capital Beltway, Prince Georges County, Maryland.

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

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

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

Sincerely yours,

Glenn Kinser
Supervisor
Annapolis Field Office

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Department of Natural Resources
MARYLAND FOREST, PARK & WILDLIFE SERVICE

TORREY C. BROWN, M.D.
SECRETARY

Tawes Office Building
Annapolis, Maryland 21401

DONALD E. MACLAUCHLAN
DIRECTOR

March 17, 1987

Roy Pool
Environmental Services, Inc.
9 St. Mary's Road
Pylesville, Maryland 21132

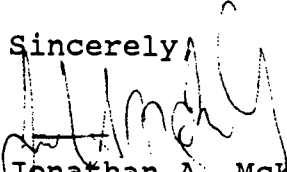
Subject: Maryland Rt. 450 Proposed Realignment, P.G. County

Dear Mr. Pool:

The Maryland Natural Heritage Program has no record of any rare species or unique habitat at or in the vicinity of this project site. However, in the absence of a recent site review, we cannot show that such species or habitats are not present.

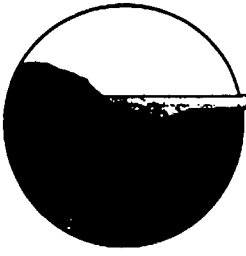
Species and habitats of special concern to the state are listed and discussed in the following 1984 Department of Natural Resources publication: Threatened and Endangered Plants and Animals of Maryland, available through this office. A site evaluation should include a consideration of these species and their habitats.

Sincerely,


Jonathan A. McKnight
Maryland Natural Heritage Program

JAM:nlt

198



Maryland Department of Natural Resources

Tidewater Administration
Tawes State Office Building
580 Taylor Avenue
Annapolis, Maryland 21401

William Donald Schaefer
Governor

Torrey C. Brown, M.D.
Secretary

October 23, 1987

NOV 13 3 02 PM '87
PROJECT DEVELOPMENT DIVISION

MEMORANDUM

TO: Cynthia D. Simpson, Chief
Environmental Management
Department of Transportation

FROM: W.P. Jensen, Director
Fisheries Division

SUBJECT: Contract No. P-844-101-371 Maryland Route 450 west of Whitfield Chapel Road to Maryland Route 3 Prince George's County. Wetlands Field Review Comments

Fisheries Division was unable to attend the September 15, 1987, agency field review. We would appreciate a copy of the wetlands summary table and mapping. These were not included in the notification letter.

At this stage of project planning, Fisheries Division recommends bridges at all stream crossing. Fisheries Division advocates early coordination during the final design of the various waterway crossings.

These comments were prepared by Jeff Mosley and represent this Division's views.

Collington Branch, Lottsford Branch and Folly Branch are Class I streams, protected for water contact and growth and propagation of fish, other aquatic life and wildlife. Enclosed for your information are two documents of survey results of the finfish species that inhabit these streams.

Based on present information, a March 1 through June 15 restriction on all instream construction will be recommended by our office to protect finfish resources.

WPJ:KJM:cp

LITERATURE CITED:

Prince George's County Stormwater Management Technical Group, 1981. Technical Study Western Branch of the Patuxent River. The Environmental Planning Division, Maryland National Capital Park and Planning Commission. County Administration Building, Upper Marlboro, Maryland 20772

Telephone: (301) 974-3061
DNR TTY for Deaf: 301-974-3683



Maryland Department of Transportation
State Highway Administration

Richard H. Trainor
Secretary
Hal Kassoff
Administrator

September 30, 1987

MEMORANDUM

TO: Mr. Louis H. Ege, Jr.
Deputy Director
Project Development Division

FROM: Cynthia D. Simpson, Chief *BMB/fa*
Environmental Management

SUBJECT: Contract No. P 844-101-371
Maryland Route 450 west of
Whitfield Chapel Road to
Maryland Route 3
PDMS No. 163033
Wetland Field Review

On September 15, 1987, a wetland field review with the U.S. Army Corps of Engineers and other agencies was held for the subject project, currently in Stage 2 of Project Planning. The following people were in attendance:

- | | |
|-------------------|------------------------------------|
| Mary Dircks | U.S. Army Corps of Engineers |
| Bob Zepp | U.S. Fish and Wildlife Service |
| Peter Knight | U.S. Fish and Wildlife Service |
| Claudia Jones | U.S. Fish and Wildlife Service |
| Michelle Huffman | DNR/Water Resources Administration |
| Donald Sparklin | SHA/Environmental Management |
| Mark Lotz | The Wilson T. Ballard Company |
| ✓ Howard Erickson | Environmental Services, Inc. |
| Roy Pool | Environmental Services, Inc. |

The following people were invited but did not attend:

- | | |
|------------------|---------------------------------|
| Jeff Alper | Environmental Protection Agency |
| Michael Slattery | DNR/Non-tidal Wetlands |
| Nick Carter | DNR/Fisheries Division |

Prior to this review, approximately 16 wetland areas (the majority of which are non-tidal palustrine, forested and emergent) were identified and flagged in the project corridor. Half of these wetlands are high quality wildlife habitat and nutrient traps, and provide sediment and soil erosion control and flood dissipation. The remainder have both low and medium functional values. Most of these wetlands are associated with streams and their tributaries crossing

My telephone number is (301) 333-1177

Mr. Louis H. Ege, Jr.
September 30, 1987
Page Two

Maryland Route 450 and hydric soils are present in many cases. Dominant vegetation generally consists of cattails, sweetgums, rushes, and river birch. Impacts to wetlands were calculated based on worst case right-of-way requirements (six-lane widening), although these requirements would hold true if either a four or five lane typical section alternate is selected. A preliminary analysis indicates that nearly 3.5 acres of wetlands could be affected by the proposed project. Impacted areas were defined based on preliminary engineering. Additional refinements during the final design phase may result in more or less impacts.

The purpose of the review was to determine if the U.S. Army Corps of Engineers will take jurisdiction over wetlands, review wetland types and boundaries, and obtain agency comments.

The U.S. Army Corps of Engineers will take jurisdiction over all wetlands identified in the project corridor, except sites W-2a (filled by developers) and W-10. The U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service agreed with the wetland types and boundaries that were developed.

Site W-9 (two sections) will be impacted by future sewer line construction and Prince George's County's advanced construction of relocated Maryland Route 450 prior to the State Highway Administration's roadwork. The U.S. Army Corps of Engineers stated that permits would be needed for the two County projects and the State Highway Administration would only address those impacts occurring in any remaining wetlands in this area. Site W-8 is not affected by the proposed alternates.

Interchanges or new at-grade intersection configurations are being studied at Maryland Route 450/Electric Terrace/Maryland Route 704.

Both the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service prefer Option A (interchange or at-grade intersection configurations at Maryland Route 450/Electric Terrace) over Option C (at-grade intersection at Maryland Routes 450/704) due to substantially less wetland impacts. Option B and Option C (interchange alternative) have been dropped from further consideration.

The U.S. Fish and Wildlife Service also inquired about stormwater management facility locations and stated that such facilities should not be placed in wetlands. The State Highway Administration responded that locations will be developed in final design and the design bureaus will be advised of agency concerns.

No other comments were received.

CDS:tlh

cc: Attendees
Mr. Ed Stein
Mr. Paul Wettlaufer
Mr. Donald Honeywell
Mr. Ed Jankiewicz

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)	Date Of Land Evaluation Request 1/14/88
Name Of Project Maryland Route 450: Whitfield Chapel Rd. to West of Maryland Route 3	Federal Agency Involved
Proposed Land Use Improved Arterial Highway	County And State Prince George's County, Maryland

PART II (To be completed by SCS)		Date Request Received By SCS January 20, 1988	
Does the site contain prime, unique, statewide or local important farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form).</i>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Acres Irrigated None
		Average Farm Size 98	
Major Crop(s) Corn, Soybeans, Tobacco, Small Grain	Farmable Land In Govt. Jurisdiction Acres: 145,621 % 46.7	Amount Of Farmland As Defined in FPPA Acres: 111,985 % 35.9	
Name Of Land Evaluation System Used P.G. Co., Land Evaluation System	Name Of Local Site Assessment System Use FPPA System	Date Land Evaluation Returned By SCS January 29, 1988	

PART III (To be completed by Federal Agency)	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	98.6	87.6	106.0	
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	98.6	87.6	106.0	

PART IV (To be completed by SCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	6.4	5.3	6.2	
B. Total Acres Statewide And Local Important Farmland	4.6	2.9	4.4	
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	.001	.001	.001	
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	67	46.2	54.8	

PART V (To be completed by SCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)	57	68	60	
---	----	----	----	--

PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))	Maximum Points				
1. Area In Nonurban Use	15	7		7	
2. Perimeter In Nonurban Use	10	4		4	
3. Percent Of Site Being Farmed	20	0		0	
4. Protection Provided By State And Local Government	20	0		0	
5. Distance From Urban Builtup Area	0	0		0	
6. Distance To Urban Support Services	0	0		0	
7. Size Of Present Farm Unit Compared To Average	10	3		3	
8. Creation Of Nonfarmable Farmland	25	0		0	
9. Availability Of Farm Support Services	5	5		5	
10. On-Farm Investments	10	8		8	
11. Effects Of Conversion On Farm Support Services	25	0		0	
12. Compatibility With Existing Agricultural Use	10	1		2	
TOTAL SITE ASSESSMENT POINTS	160	28		29	

PART VII (To be completed by Federal Agency)				
Relative Value Of Farmland (From Part V)	100	57		60
Total Site Assessment (From Part VI above or a local site assessment)	160	28		29
TOTAL POINTS (Total of above 2 lines)	260	85		89

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>
----------------	-------------------	---

Reason For Selection:

Note: "Site A" is the 4-Lane Divided Alternate
 "Site B" is the 5-Lane Undivided Alternate which has been dropped from consideration
 "Site C" is the 6-Lane Divided Alternate

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PROJECT DEVELOPMENT DIVISION

SEP 16 9 43 AM '88

William Donald Schafer
Governor

Jacqueline H. Rogers
Secretary, DHCD

September 13, 1988

Ms. Cynthia D. Simpson, Chief
Environmental Management
Maryland Department of Transportation
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203-0717

Re: Contract No. P 844-101-371
MD 450 from East of Whitfield
Chapel Road to West of Road
Route 3
PDMS No. 103033

Dear Ms. Simpson:

Thank you for your letter of August 3, 1988 concerning Buena Vista. This office concurs with the currently proposed boundaries.

Should you have any questions, please contact Michael Day at 974-5000.

Sincerely,

George J. Andreve
Project Review and
Compliance Administrator
Office of Preservation Services

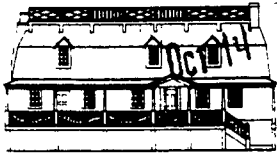
GJA: MKD: lcb

cc: Ms. Rita Suffness
Mrs. Sara Walton
Ms. Shirley Baltz



Department of Housing and Community Development
Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301) 974-5000

PROJECT
MARYLAND DEVELOPMENT
HISTORIC DIVISION



TRUST

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203
William Donald Schaefer
Governor

Jacqueline H. Rogers
Secretary, DHCD

October 7, 1988

Mr. Louis H. Ege, Jr.
Deputy Director
Bureau of Project Planning
State Highway Administration
Maryland Department of Transportation
P.O. Box 717
707 North Calvert Street
Baltimore, Maryland 21203-0717

Re: Contract No. P 844-101-371
MD 450 Whitfield Chapel Road to
West of MD 3
PDMS No. 163300
Prince George's County, Maryland

Dear Mr. Ege:

Thank you for sending us a copy of the report of the Phase I archeological survey conducted of the above-referenced project. The report was prepared by Berger Burkavage, Inc. and is dated June 1988. This office received its review copy from the State Highway Administration on August 15, 1988.

The report presents concise documentation of the goals, methodology, results and recommendations of the survey. The level of research and the resulting report are consistent with the "Guidelines for Archeological Investigations in Maryland" (McNamara, 1981) and the Secretary of the Interior's "Standards and Guidelines" (1983). We do, however, suggest that the following be added to the final report as appendices:

1. the Maryland Inventory forms for the 3 sites identified
2. the vitae, or brief summary of qualifications, of the principal project personnel

Maryland

Department of Housing and Community Development
Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301) 974-5000

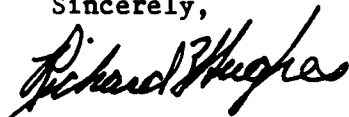
Mr. Louis H. Ege, Jr.
October 7, 1988
Page 2

The survey identified and recorded two prehistoric and one historic archeological site. One prehistoric site, Simpson Site A (18 PR 376) is located approximately 200 feet outside of the proposed right-of-way. We recommend avoidance of this site by all construction activities and equipment. The second prehistoric site, Simpson Site B (18 PR 360) contains a low density of cultural materials. It is not likely that Site 18 PR 360 would yield any additional information beyond that already collected during the Phase I survey and, therefore, this office concurs that this site is not potentially eligible for the National Register. The historic site identified, Duvall's Store (18 PR 378) was found to contain a mixture of historic and modern artifacts. This office concurs that Site 18 PR 378 lacks physical integrity and therefore is not potentially eligible for the National Register.

Based upon the results of the Phase I survey, we concur that the proposed project will have no effect upon significant archeological resources. No additional archeological investigations are warranted for this particular project.

Thank you for providing us the opportunity to comment.

Sincerely,



Richard B. Hughes
Chief Administrator,
Archeological Programs
Office of Management and Planning

RBH/ERE/meh

- cc: Mr. Tyler Bastian
- Ms. Rita Suffness
- Dr. Gary D. Shaffer
- Ms. Shirley Baltz

MARYLAND ROUTE 450
PUBLIC INVOLVEMENT

Alternates Public Workshop	June 2, 1987
Bowie City Council Meeting	July 20, 1987
Field Meeting @ Cornerstone Assembly of God	October 6, 1987
Field Meeting with business owners	October 7, 1987
Bowie Chamber of Commerce	November 4, 1987
Community Mtg.-Thomas Johnson Middle School	May 3, 1988
Community Meeting at St. Pius X Church	May 17, 1988
Community Meeting at St. Pius X Church	May 19, 1988
Bowie City Council Workshop	December 5, 1988

VII APPENDICES

VII. APPENDICES

A. APPENDIX A

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APPENDIX B

"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 amendments as published in CFR Vol. 51, No. 39 on February 27, 1986) 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. Certain payments may also be made for increased mortgage interest costs and/or incidental expenses, provided that the total of all housing benefits does not exceed the above mentioned limits. 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 moving cost payments to persons, businesses, farms and 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 expenses are limited to a 50 mile radius. The expenses claimed for actual cost commercial moves must be supported by receipted bills. An inventory of the items to be moved must be prepared in all cases. In self-moves, the State will negotiate an amount for payment, not to exceed the lowest acceptable bid obtained. The allowable expenses of a self-move may include amounts paid for equipment hired, the cost of using the business' own vehicles or equipment, wages paid to

persons who physically participate in the move, the cost of actual supervision of the move, replacement insurance for the personal property moved, costs of licenses or permits required, and other related expenses.

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 payment 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 reestablished, and the personal property is not moved but is replaced at the new location, the payment would be the lesser of the replacement cost minus the net proceeds of sale (or trade-in value) or the estimated cost of moving the item. If the business is being discontinued or the item is not to be replaced in the reestablished 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 estimate cost of moving the item. When personal property is abandoned without an effort by the owner to dispose of the property for sale, unless permitted by the State, 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 \$1,000. All expenses must be supported by receipted bills. Time spent in the actual search may be reimbursed on an hourly basis, within the maximum limit.

In lieu of the payments described above, the business may elect 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 no 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 during the two taxable years prior to displacement.

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 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, the owner of the business may still be 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, the actual reasonable moving costs generally up to 50 miles, actual direct losses to tangible personal property, and searching costs are paid. The "in lieu of" actual moving costs payments provide that the State may determine that a displaced farm may be paid from 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 this project and will also be given to displaced persons individually in the future along with required preliminary notice of possible displacement.

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 must be completed by the State Highway Administration before "housing as a last resort" can be utilized.

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 persons, 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.