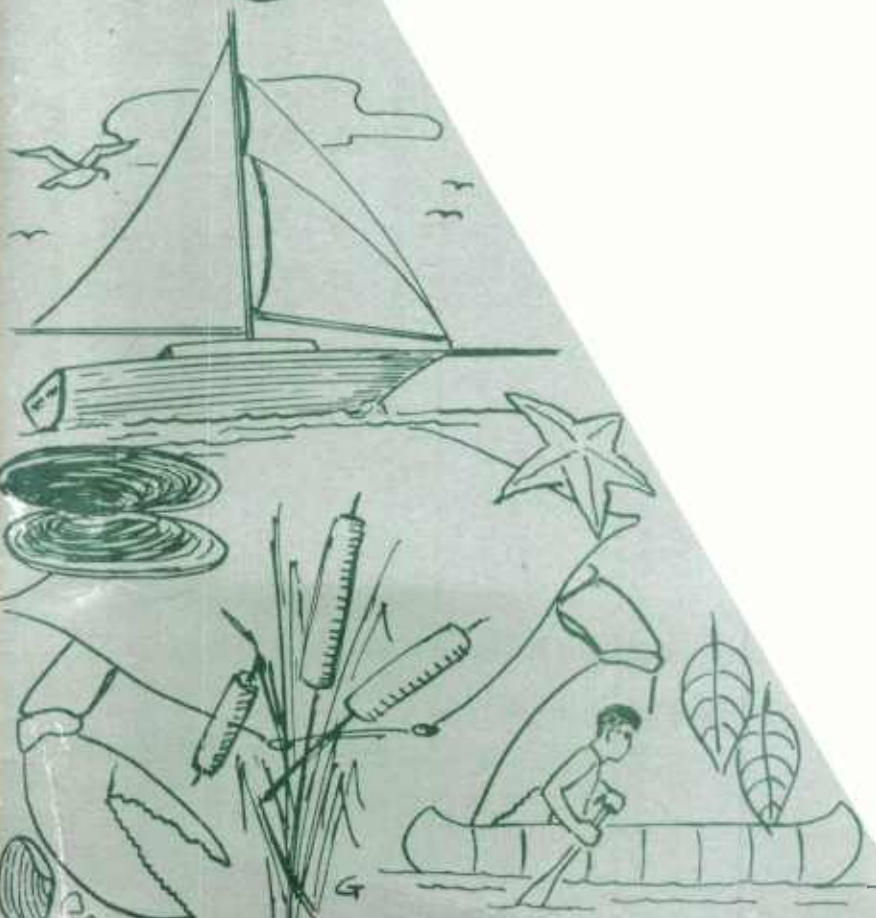


final negative declaration



FOR:

CONTRACT No. HO 314-017-770
HO 450-001,2-771
MARYLAND ROUTE 108
FROM WEST OF U.S. 29 TO
MARYLAND ROUTE 104
HOWARD COUNTY

prepared by
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
and
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

FEDERAL HIGHWAY ADMINISTRATION

REGION III

Maryland Route 108
West of U.S. 29 to
Maryland Route 104

ADMINISTRATIVE ACTION

FINAL
NEGATIVE DECLARATION


U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

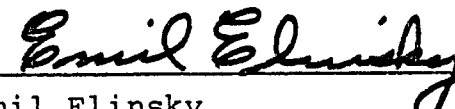
SUBMITTED PURSUANT TO 42 U.S.C. 4332 (2) (C), 23 U.S.C. 128 (a)

M. S. Caltrider
State Highway Administrator

6/19/80
DATE

by:  ^{for}
Hal Kassoff, Director
Office of Planning and
Preliminary Engineering

6/24/80
DATE

by: 
Emil Elinsky
Division Administrator
Federal Highway Administration

SUMMARY

1. Administrative Action Environmental Statement:

- () Draft
- (x) Final
- (x) Negative Declaration
- () Section 4 (f) Statement

2. For Further Information Concerning This Project Contact:

Mr. Eugene T. Camponeschi, Chief
 Bureau of Project Planning
 State Highway Administration
 300 West Preston Street
 Baltimore, Maryland 21201
 (301) 383-4267
 8:15 A.M. - 4:15 P.M.

Mr. Edward A. Terry, Jr.
 District Engineer
 Federal Highway Administration
 The Rotunda - Suite 220
 711 West 40th Street
 Baltimore, Maryland 21211
 (301) 962-4021
 7:45 A.M. - 4:15 P.M.

3. Description of Proposed Action:

The proposed action will involve improvements to Maryland Route 108 from Woodlawn Road, west of the Little Patuxent River to Maryland Route 104 (See Plate 4). The project is approximately 2.7 miles in length.

The improvements will consist of widening the existing road from two to five lanes east of Mellenbrook Road; dualization of the road west of Mellenbrook Road; and the elimination of the grade crossing with U.S. Route 29 by construction of a full cloverleaf and ramp type grade separation. Alternate 'A' as discussed in the Draft Negative Declaration has been selected for the roadway section. Alternate #2 has been selected for the proposed interchange of Maryland Route 108 and U.S. Route 29.

A connection from Old Annapolis Road to Maryland Route 108, Plan #3, will be constructed. An extension to Edgar Road will also be constructed to connect Columbia Hills with Maryland Route 108.

4. Summary of Environmental Impacts:

The selected interchange alternate will require the acquisition of one dwelling and six outbuildings. The selected roadway alternate will require the acquisition of the existing Mt. Pisgah AME Church. The relocation of Old Annapolis Road to accommodate the new interchange, under selected Plan #3, will not require acquisition of any dwellings. Adequate replacement housing is available in the vicinity.

No minority members, or communities, will be adversely impacted by the project.

Air quality concentration levels will be better due to the proposed action and will remain well within the State and Federal Air Quality Standards. Federal Design Noise Levels will be exceeded at five noise sensitive areas. Exception will be requested at four of these areas. Construction of a noise barrier would be feasible at the remaining area.

The impacts upon the natural environment are not significant. A short term decrease in the existing water quality may result from roadway culvert construction related siltation in outfall streams. However, a strict enforcement of the State Highway Administration sediment and erosion control practices would lessen the degree of short term impacts. There will be no wetland or significant floodplain impacts. There will be no stream relocations.

No existing historical or archaeological sites will be impacted by the project.

The only community facility to be adversely affected by the project is the privately owned Allview Golf Course located in the western quadrant of the Route 108/Route 29 intersection. Construction of the full cloverleaf would require the displacement of three holes of this privately owned and operated facility.

This relocation would be undertaken by the owner.

Along Howard High School, the improvements under the selected alternate would occur within the existing curb line and would not require any high school property.

A summary of project impacts is listed in Table 6 in Section IV.

5. Summary of Alternates Considered:

The major alternates considered consisted of the No-Build Alternate, four Build Alternates for the widening of Maryland Route 108, two Interchange Alternates for the Route 108/Route 29 intersection and four plans for a relocation of the Old Annapolis Road intersection with Maryland Route 108.

In addition to the selected alternate, the major alternates considered were:

No-Build Alternate, proposed continuation of the existing facility as a two lane roadway with an at-grade signalized intersection at U.S. Route 29. Maintenance and safety programs will be undertaken by the SHA only within the existing right-of-way. This alternate was not selected because the road is unsafe and incapable of meeting projected traffic demands. The road currently operates at a level of service D, approaching unstable flow and decreasing speeds.

Interchange Alternate 1, proposed a modified diamond interchange at Maryland Route 108 and U.S. Route 29. This alternate was dropped because the interchange could not effectively serve the anticipated traffic needs. Under this alternate, future turning traffic volumes will warrant two traffic signals on Maryland Route 108 within the interchange with some

resultant traffic backups in peak hours. In addition, this interchange would only operate at a Level of Service D on the northern side.

Alternate B proposed reconstruction of the highway to a four lane curbed urban section providing two travel lanes in each direction without a left turn lane. This alternate did not satisfy projected traffic demands as a separate left turn lane was not provided for the numerous intersections. This alternate was dropped from further study because traffic forecasts indicated it would reach capacity by 1985.

Alternate C proposed reconstruction of highway to a three lane highway with ten foot shoulders on each side providing one travel lane in each direction with continuous left turn center lane. This alternate was dropped from further study because traffic forecasts indicated it would reach capacity by 1985.

Old Annapolis Road, Plan 1, proposed the relocation approximately 1,050 feet west of the existing intersection. This plan requires two dwellings to be taken. The intersection with Maryland Route 108 is located at only the minimum distance from the nose of the interchange ramp that would be considered safe for traffic egress from the relocation. This plan was rejected because the intersection would operate at a minimum safety level and the location of the crossover on Rte. 108 relative to the ramp location would not meet minimum SHA standards.

Old Annapolis Road, Plan 2, proposed the relocation approximately 1,400 feet west of the existing intersection. Although Plan 2 is very similar to Plan 3, an additional two dwellings would be required. For this reason it was rejected from further study.

Old Annapolis Road, Plan 4, proposed the relocation approximately 800 feet west of the existing intersection. The plan was rejected because although this plan furnishes immediate access to the Allview Inn property, the intersection with Maryland Route 108 is closer to the U.S. Route 29 interchange ramp nose than would be safe for traffic egress from the relocation.

Of these alternates, two of the Build Alternates, B and C for the widening of Maryland Route 108, Interchange Alternate 1 and Plans 2 and 4 for the Old Annapolis Road connection with Maryland Route 108 were rejected earlier in the project planning activities.

Carried into further planning studies and presented in the Draft Negative Declaration were the No-Build Alternate and selected Alternate 'A', consisting of a five lane curbed street with two travel lanes in each direction and a continuous center left turn lane; and selected Alternate 2, a full cloverleaf interchange at Maryland Route 108 and U.S. Route 29.

Old Annapolis Road Connection Plans 1 and 3 were also studied further, with Plan 3 selected.

A four lane divided highway facility similar to the selected alternate 'A' was studied at the request of the Federal Highway Administration. The section consisted of two curbed travel lanes in each direction with a center median shielding left turn lanes at each crossover.

This alternate was rejected because the numerous intersections and cross-overs presented very difficult problems in maintaining traffic control. This design option will be considered during final design activities.

A separate alternate study was made of possible interim improvements consisting of widening only in key sections, reconstruction of certain inter-

sections, restriping and other minor road work. This alternate could not satisfy projected traffic forecasts for 1985 and was rejected.

Provisions for bikeway and a pedestrian bridge were studied in conjunction with each of the road improvement alternates.

These provisions however, were determined to be not cost effective based on both use potential and in comparison with a less costly but effective alternative of a pedestrian crosswalk and traffic signal at Phelps Luck Road just west of the school. A signal is already proposed for this intersection.

6. Environmental Assessment Form

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

ENVIRONMENTAL ASSESSMENT FORM

| | <u>Yes</u> | <u>No</u> | <u>Comments</u> |
|---|---------------|---------------|---|
| A. Land Use Considerations | | | |
| 1. Will the action be within the 100-year floodplain? | <u>X</u> | <u> </u> | <u>Pg. 38</u> |
| 2. Will the action require a permit for construction or alteration within the 50-year floodplain? | <u> </u> | <u>X</u> | <u>Upstream drainage area of stream crossed is less 400 Ac.</u> |
| 3. Will the action require a permit for dredging, filling, draining or alteration of a wetland? | <u> </u> | <u>X</u> | <u> </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> </u> | <u>X</u> | <u> </u> |
| 6. Will the action require a grading plan or a sediment control permit? | <u>X</u> | <u> </u> | <u>Pg. 38</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> </u> | <u>X</u> | <u>Three holes of the privately owned All-view Golf Course will be required. See Pg. ii</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 archaeological or historical site or structure? | _____ | <u>X</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> | Upstream drainage area of stream crossed is less <u>400 ac.</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>Pg. 38</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 subsurface water? | <u>X</u> | <u> </u> | <u>Pg. 38</u> |
| 22. If so, will the discharge affect ambient water quality parameters and/or require a discharge permit? | <u> </u> | <u>X</u> | <u> </u> |
| C. Air Use Considerations | | | |
| 23. Will the action result in any discharge into the air? | <u>X</u> | <u> </u> | <u>Pg. 21</u> |
| 24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor? | <u>X</u> | <u> </u> | <u>Pg. 21</u> |
| 25. Will the action generate additional noise which differs in character or level from present conditions? | <u>X</u> | <u> </u> | <u>Pg. 37</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>X</u> | <u> </u> | <u>Street lighting may be installed at interchange.</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> </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> |
| E. Socio-Economic | | | |
| 31. Will the action result in a preemption or division of properties or impair their economic use? | <u>X</u> | <u> </u> | <u>Pgs. 18, 19</u> |

| | <u>Yes</u> | <u>No</u> | <u>Comments</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>Pgs. 18, 19</u> |
| 33. Will the action alter land values? | <u> </u> | <u>X</u> | <u> </u> |
| 34. Will the action affect traffic flow and volume? | <u>X</u> | <u> </u> | <u>Pgs. 11, 12</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>Pg. 7</u> |
| 38. Will the action affect the employment opportunities for persons in the area? | <u> </u> | <u>X</u> | <u> </u> |
| 39. Will the action affect the ability of the area to attract new sources of tax revenue? | <u> </u> | <u>X</u> | <u> </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> |
| 41. Will the action affect the ability of the area to attract tourism? | <u> </u> | <u>X</u> | <u> </u> |
| F. Other Considerations | | | |
| 42. Could the action endanger the public health, safety or welfare? | <u> </u> | <u>X</u> | <u> </u> |

| | <u>Yes</u> | <u>No</u> | <u>Comments</u> |
|--|---------------|--------------|---|
| 43. Could the action be eliminated without deleterious effects to the public health, safety, welfare or the natural environment? | <u> </u> | <u> X </u> | <u>Pg. 15</u> |
| 44. Will the action be of statewide significance? | <u> </u> | <u> X </u> | <u> </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> </u> | <u> X </u> | <u> </u> |
| 46. Will the action require additional power generation or transmission capacity? | <u> </u> | <u> X </u> | <u> </u> |

G. Conclusion

| | | | |
|--|---------------|--------------|---|
| 47. This agency will develop a complete environmental effects report on the proposed action. | <u> </u> | <u> X </u> | <u> </u> |
|--|---------------|--------------|---|

14

MARYLAND ROUTE 108
FINAL NEGATIVE DECLARATION

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APPENDIX

- A. Summary of the Relocation Assistance Program of the State Highway Administration of Maryland

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I. Location and Description of Project

A. Location of Project

1. Study Area Description

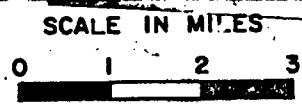
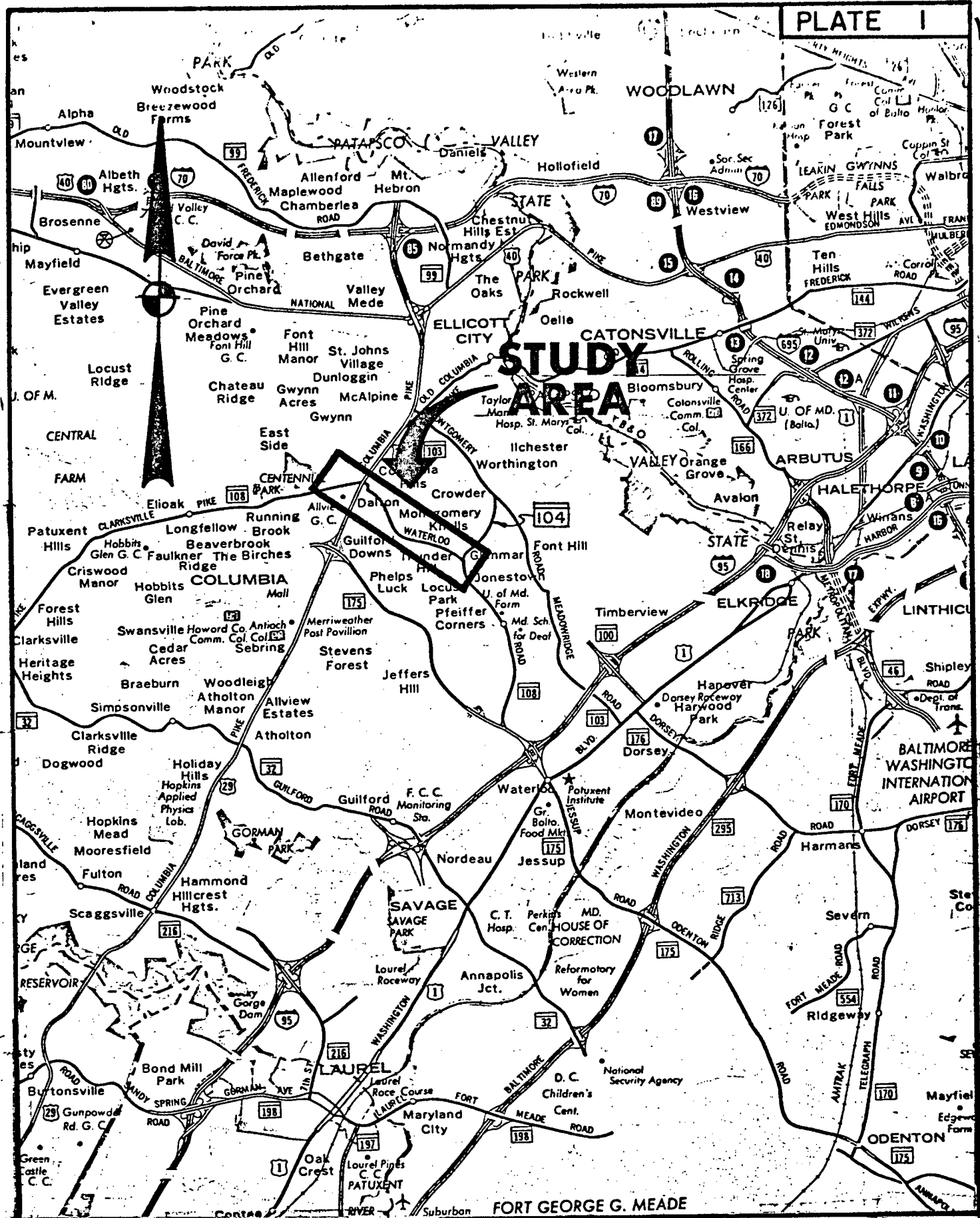
Beginning west of the Little Patuxent River, the project study area extends to Route 104 (formerly Route 175), a distance of approximately 2.7 miles and is shown on Plate 1. Lying along the northern edge of the new town of Columbia, the study area has undergone rapid development, both residential and commercial, during the last decade. This development has transformed the corridor from a rural community composed of agricultural land and woodland into a mixture of medium density residential areas, an industrial park, schools and recreational areas. This change is still taking place and total development of the area is within the foreseeable future.

The existing roadway is essentially two lanes, one in each direction, ranging in width from 20 to 37.5 feet. There are curves with inadequate sight distances and areas with no shoulders.

2. Surrounding Terrain and Natural Features

a. Topography and Drainage

The local topography is made up of many small drainage areas, forming numerous small streams. At their uppermost reaches, most of these are intermittent, flowing during wet weather, but drying under drought conditions. The majority of the streams in the study area are part of the Patuxent drainage basin and flow into the Little Patuxent River. The Patuxent and its tributaries are included in the State Scenic River System. East and southeast of Jonestown, however, the streams feed the Patapsco River via Deep Run. The study area is outside the "Coastal Zone Management" area of primary focus.



This map is taken from "STATE OF MARYLAND STATE HIGHWAY SYSTEM AND CONNECTIONS 1978," Prepared by The Department of Transportation State Highway Administration.

NEGATIVE DECLARATION
MARYLAND STATE HIGHWAY ADMINISTRATION
REGIONAL
LOCATION MAP
MARYLAND ROUTE 108
LITTLE PATUXENT RIVER TO MD. ROUTE 104

Specific water quality data in the immediate project area is somewhat sparse. Recently, samples from Red Hill Branch were taken and analyzed as part of the feasibility study for an impoundment in that watershed. Data show that with the exception of coliform counts and nutrient levels, water quality is reasonably good. The levels of fecal coliform, an indicator species of bacteria originating in the intestinal tracks of warm-blooded animals, far exceed the standards set by the Maryland Water Resources Administration. Most likely, this contamination is due to faulty septic systems and/or runoff from livestock areas. The concentration levels of nitrogen and phosphorous, both of which are plant nutrients, are high.

The chemical characteristics of the groundwater varies considerably, since it is largely dependent upon the chemical composition of the rock formation through which it flows. Generally, this water is slightly acidic and of low-mineral content, but locally it may be hard, corrosive or high in iron. Except where these conditions are excessive, the groundwater is suitable for most domestic, farm and commercial uses.

There are no wetlands in the study area. The 100-year flood plain for the Little Patuxent River extends into the extreme western edge of the study area. However, it will not be significantly impacted by the proposed project as dual Md. 108 bridges over the river already exist and exist and no additional bridge construction is anticipated.

b. Vegetation and Wildlife

Undisturbed woodland occurs only in small scattered tracts within the study area and consists primarily of mixed upland hardwoods. Assorted red and white oaks dominate most of the woodland, white hickories, yellow poplar,

tupelo, walnut, locust, red maple and ash are present in lesser numbers. The understory varies with soil type, groundwater characteristics and sunlight penetration, but generally includes honeysuckle, spicebush, viburnums, dogwood and brambles.

In the developed sections, much of the native vegetation has been removed and replaced with grasses and ornamental shrubs and trees. Many large shade trees have been left, however, throughout the residential neighborhoods.

Old field communities are also present in the study area, but are not abundant. These represent the early plant succession stages in the transition from open fields to mature woodlands, and include such plants as sedges, assorted wildflowers, brambles, vines and scattered small trees.

There is no prime or unique farmland in the study area.

Of the agricultural land that remains in the corridor, most is presently maintained as pasture and is used primarily to graze horses. Grain crops, principally corn, are still grown in some fields, but on a much smaller scale than in other parts of the County. The only other agricultural enterprise in the study area is a nursery located in the Phelps Luck section. Its small size, however, prevents the growing of a great deal of stock.

Loss of habitat coupled with the increased human activity has created an overall decrease in wildlife populations. In addition to the general reduction in population densities, there has also been a decrease in diversity. Most adversely affected have been those species requiring large home ranges, specialized habitat or freedom from disturbance. Where marginal habitat still exists, many of the more tolerant and adaptable species have

22

thrived. Among the small mammals that have fared best are mice, moles, rabbits, squirrels, raccons and opossums.

Although most of the study area can no longer be expected to support species of birds requiring a great degree of seclusion, some varieties of song birds have held their own despite development pressures. Cardinals, mocking birds, robins, and catbirds have adapted reasonably well to the man-made environment. Several others, including starlings, English sparrows, house wrens and chipping sparrows have benefited from the more suburban character of the area. Like mammals, however, future populations in general will depend almost entirely upon the availability of suitable habitat.

On June 9, 1980 Mr. Andy Mosher, Area Officer, U.S. Fish and Wildlife stated that there are no Federal listed threatened or endangered species within the project area. The contact with Mr. Mosher was made by telephone.

3. Surrounding Neighborhood

a. Socio-Economic

Within the project corridor, the residences are primarily single-family detached units. Generally, the residential units immediately south of Maryland Route 108 and east U.S. Route 29 are a part of Columbia and fall into neighborhood designations such as Phelps Luck, Thunder Hill, Glenmont and Dalton. Glenmar is immediately east of the project area, near the intersection of Maryland Route 108 and 104. Columbia Hills is immediately north of the project area off U.S. Route 29 and is comprised of single-family units. Running Brook, a community in Columbia, is also a single-family development and is located immediately southwest of Maryland Route 108.

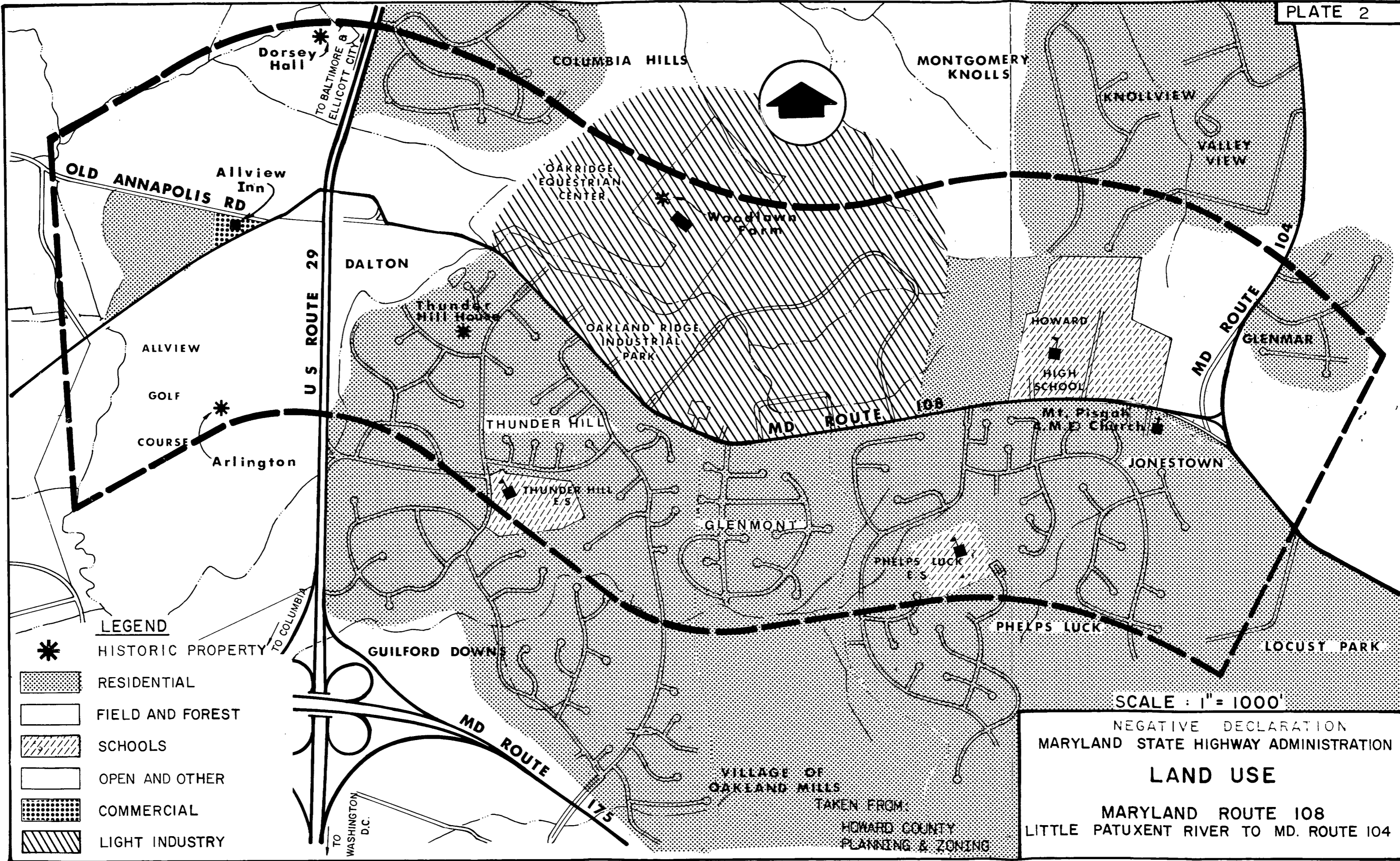
The projected 1980 population for the town of Columbia is over 58,000 with 36% of the population between 20 and 44 years of age and 30% between 5 and 19. The 1979 median income in the study area was nearly \$29,000.

The only known minority community in the study area is Jonestown, an ill defined area located proximate to the intersection of Maryland Route 108 and Maryland Route 104 and shown on Plate 2. Within the general area there are only single family residential units. The Mount Pisgah A.M.E. church, located on Maryland Route 108 just west of the intersection with Maryland Route 104 is attended by a minority congregation. It is estimated that minorities constitute 10 percent of the population in the study area. Exact figures are not currently available. The Howard County Planning and Zoning office indicated that additional information will not be available until after the documentation of the 1980 Census, probably late 1981.


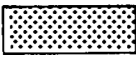

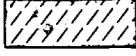
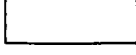


The most important employment area located within and/or adjacent to the project study area is the Oakland Ridge Industrial Center. Other major areas of employment near the study corridor include Columbia Mall, downtown Columbia, Guilford Industrial Park, Sieling Industrial Park and General Electric Appliance Park East.

b. Community Facilities and Services

The community facilities in the study area include Howard Senior High School; Thunder Hill Elementary School, located on Mellonbrook Road at Diamondback Drive; and Phelps Luck Elementary School, located on Old Stone Court. There are two churches located in the study area. Mount Pisgah A.M.E. Church is located on Maryland Route 108 in Jonestown, and the First Presbyterian Church is located on Maryland Route 108 near U.S. Route 29. A 200 thousand gallon water storage tower owned by the Howard County Department of Public Works is also located in Jonestown. In addition, the Allview Golf



LEGEND

-  HISTORIC PROPERTY
-  RESIDENTIAL
-  FIELD AND FOREST
-  SCHOOLS
-  OPEN AND OTHER
-  COMMERCIAL
-  LIGHT INDUSTRY

SCALE : 1" = 1000'

NEGATIVE DECLARATION
MARYLAND STATE HIGHWAY ADMINISTRATION

LAND USE

MARYLAND ROUTE 108
LITTLE PATUXENT RIVER TO MD. ROUTE 104

TAKEN FROM:
HOWARD COUNTY
PLANNING & ZONING

25

Course, a private facility, is located on the southwestern corner of Maryland 108 and U.S. Route 29. The study area is serviced by the Howard County Fire and Police Departments.

c. Historic and Archaeological Resources

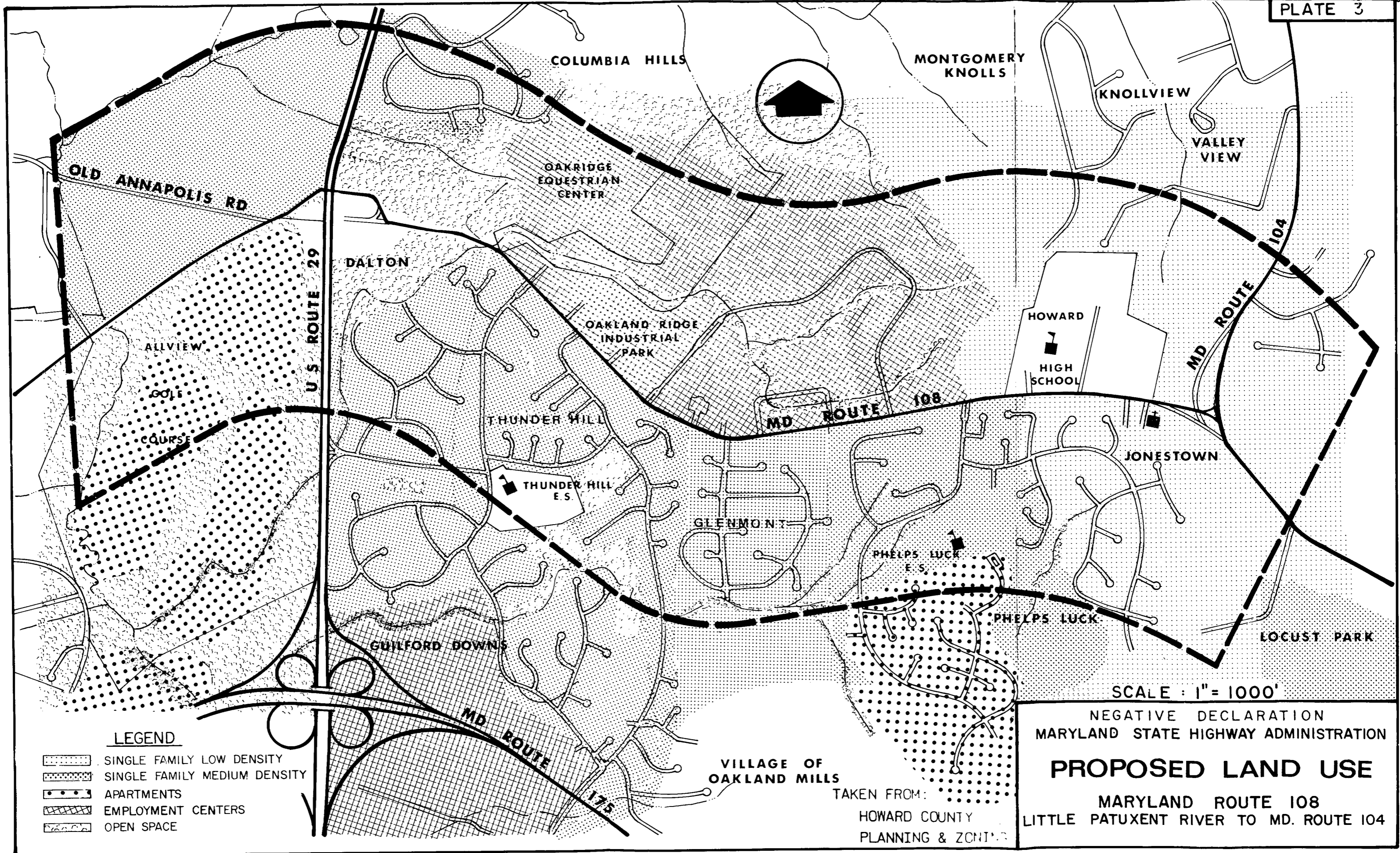
According to survey records at the Maryland Historical Trust, there are four historic properties in or near the study area: Woodlawn Farm; Thunder Hill; Dorsey Hall; and Arlington. The Maryland Historical Trust believes all of these sites to be eligible for the National Register, but they are all located far enough away from the project so as not to be affected by it. A letter from the Deputy State Historic Preservation Officer to this effect is contained in Section V.

An archaeological reconnaissance of the study area was performed to determine any probable impact of the proposed project on paleontological or archaeological resources. No significant archaeological sites were located. The selected alternate for Maryland Route 108 will not have any impact on significant archaeological sites. The archaeological report is available for review in the Bureau of Project Planning of the State Highway Administration. A detailed survey was not recommended.

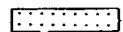



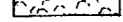
4. Land Use Planning

The pattern of existing land usage as determined by field reconnaissance is shown on Plate 2. Proposed land use is shown on Plate 3.

West of U.S. Route 29, the study area consists mostly of open space. The Allview Golf Course lies south of Maryland Route 108, while a large parcel of land known as Dorsey Hall lying to the north of Maryland Route 108 and



LEGEND

-  SINGLE FAMILY LOW DENSITY
-  SINGLE FAMILY MEDIUM DENSITY
-  APARTMENTS
-  EMPLOYMENT CENTERS
-  OPEN SPACE

SCALE : 1" = 1000'

NEGATIVE DECLARATION
MARYLAND STATE HIGHWAY ADMINISTRATION

PROPOSED LAND USE

MARYLAND ROUTE 108
LITTLE PATUXENT RIVER TO MD. ROUTE 104

TAKEN FROM:
HOWARD COUNTY
PLANNING & ZONING

Old Annapolis Road is currently being developed as a residential community. A commercial establishment, the Allview Inn, is situated between Maryland Route 108 and Old Annapolis Road at their intersection, west of the Route 108/U.S. Route 29 intersection. The new interchange will result in a change of access for the Allview Inn. Patrons coming from Route 108 will use the Old Annapolis Road connector in order to gain access to the Inn. Single-family residential units are located along Maryland Route 108 and Old Annapolis Road west of their intersection.

East of U.S. Route 29, the study area consists of mostly single family residential developments and light industry.

The northern side of Maryland Route 108 is dominated by the Oakland Ridge Industrial Park and light industry, while the southern side is primarily residential.

Near the intersection of Maryland Route 108 with Maryland Route 104, the study area becomes more open, with scattered homes and wooded area.

The proposed action is consistent with local zoning and with the State of Maryland General Development Plan, the Regional Planning Council and Howard County Master Plan.

B. Description of Project

1. Project History

Located in the new town of Columbia, the Route 108 corridor has recently been transformed from a rural community to a residential and commercial area. The rapid development of Columbia has generated increased traffic flows along Route 108, precipitating the need for its expansion. The

project study area begins west of the Patuxent River and runs to Route 104 (formerly Route 175), a distance of approximately 2.7 miles.

East of U.S. Route 29 to the west limits of the Howard High School, developers have reserved a 100 foot wide of right-of-way for improvements to the existing road. From the eastern edge of the high school to Maryland Route 104, the State Highway Administration owns a strip of right-of-way a minimum of 100 feet wide. All of the reserved right-of-way is approximately centered on the existing road. The land to the south of Maryland Route 108 is residential. It includes the existing subdivisions of Thunder Hill, Phelps Luck, Glenmont, the Village of Long Reach and the community of Jonestown. On the north side of the highway, the land is zoned Industrial and is restricted from east of U.S. Route 29 to the western limits of Howard High School. Along the limits of the Oakland Ridge Industrial Park, the existing road has been widened approximately 12 feet and concrete curbs installed. On the south side, the road has been widened 12 feet and curbed at the intersections of Mellenbrook Road, Thunder Hill Road and Phelps Luck Drive.

A public notice expressing the State's intent to begin project planning activities was published in local newspapers on January 30, 1975. Studies were initiated in September, 1976 combining the U.S. Route 29/Maryland Route 108 interchange (retrieved from the terminated Maryland Route 100 study) and in-house studies for improvements to Maryland Route 108 east of the interchange.

In October, 1977, a presentation was made to Howard County agencies for their use on advising the County Council, Executive, and Public Transportation

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Board. Recommendations to the above by the Howard County Division of Transportation Planning were in favor of Interchange Alternate 2 and Roadway Alternate A.

An Alternates Public Meeting was held on November 2, 1977 with approximately 90 citizens in attendance. There was generally a favorable reception toward improvement. Most seemed in favor of an interchange solution at U.S. Route 29, but some questioned the desirability of widening Maryland Route 108 east of U.S. Route 29.

Six project alternates, (three widening alternates, two interchange alternates and the No-Build Alternate), were presented. Of these, Alternates B and C and Interchange Alternate 1 were rejected from further study. See "5. Summary of Alternates Considered."

On February 7, 1978 the SHA approved staff recommendations to proceed to detailed study with the No-Build Alternate, Interchange Alternate 2, and Roadway Alternate A. In addition, four alternate alignment plans to connect Old Annapolis Road to Maryland Route 108 were recommended for study.

A Draft Negative Declaration was placed on display for review and comment on June 20, 1979.

A combined Location/Design Public Hearing was held November 5, 1979 with approximately 150 citizens in attendance. Twenty-nine citizens made formal presentations at the hearing and forty-seven pieces of mail were

received pertaining to the alternates presented at the hearing. There was general agreement for construction of a full cloverleaf interchange at U.S. Route 29 and Maryland Route 108 with a No-Build easterly on Maryland Route 108 from Mellenbrook to Maryland Route 104, particularly if a three lane improvement is not feasible.

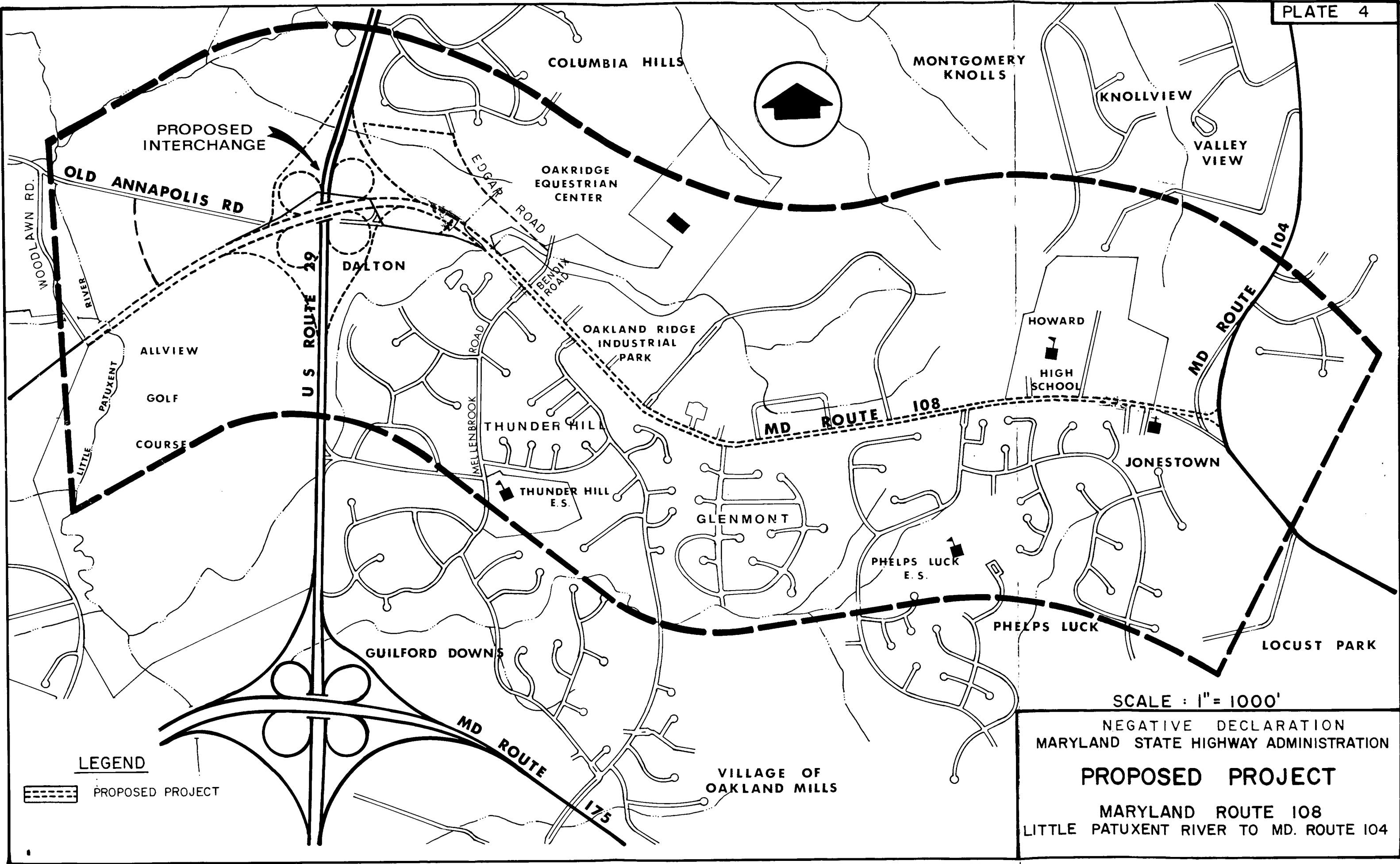
Comments on this project have suggested an alternate consisting of a four-lane divided facility with turning bays. Local access requirements as shown on Plates 5A through 6 throughout more than half the project would prohibit effective access control as provided by the divided highway.

2. Proposed Project

The purpose of this study was to consider improvements to Maryland Route 108 that will provide a safe and efficient transportation facility from the vicinity of U.S. Route 29 to Maryland Route 104.

The selected alternate is in accordance with the latest State Highway Administration design criteria. Engineering and safety practices recommended by the American Association of State Highway and Transportation Officials were incorporated into the design of this facility. The proposed overall facility is shown on Plate 4 with more detailed plans shown on Plates 5A, 5B, 5C and 6. A profile is shown on Plate 7.

The typical sections of the selected alternate are shown on Plate 8.

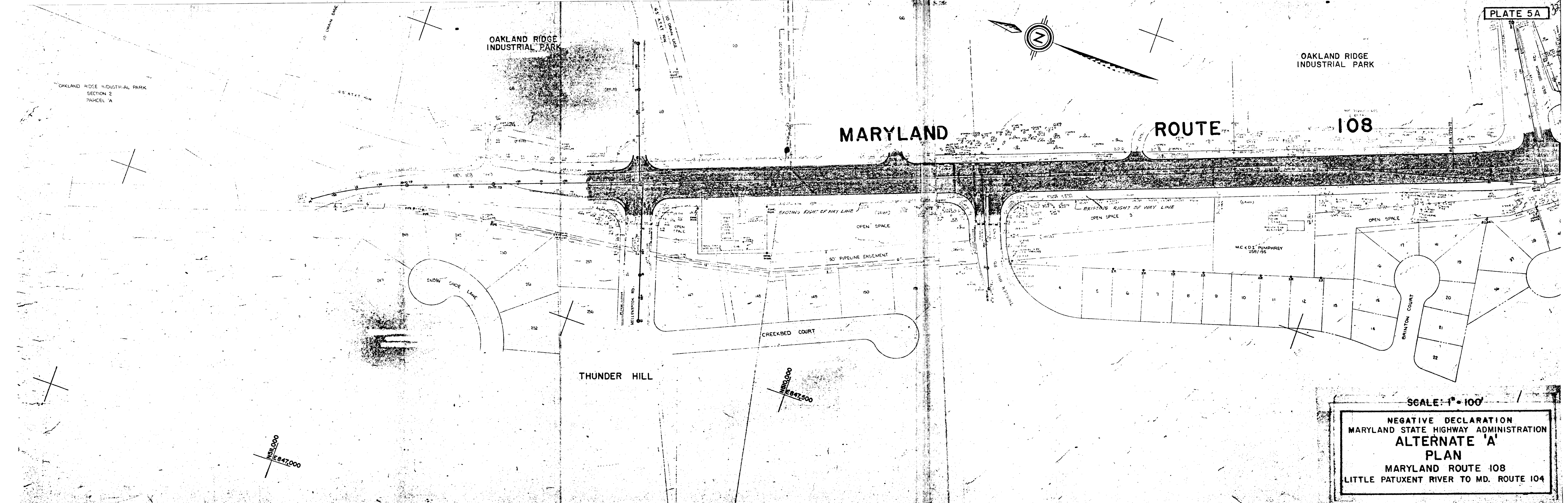


SCALE : 1" = 1000'

NEGATIVE DECLARATION
MARYLAND STATE HIGHWAY ADMINISTRATION

PROPOSED PROJECT

MARYLAND ROUTE 108
LITTLE PATUXENT RIVER TO MD. ROUTE 104



OAKLAND RIDGE INDUSTRIAL PARK
SECTION 2
PARCEL 'A'

OAKLAND RIDGE
INDUSTRIAL PARK

OAKLAND RIDGE
INDUSTRIAL PARK

MARYLAND

ROUTE

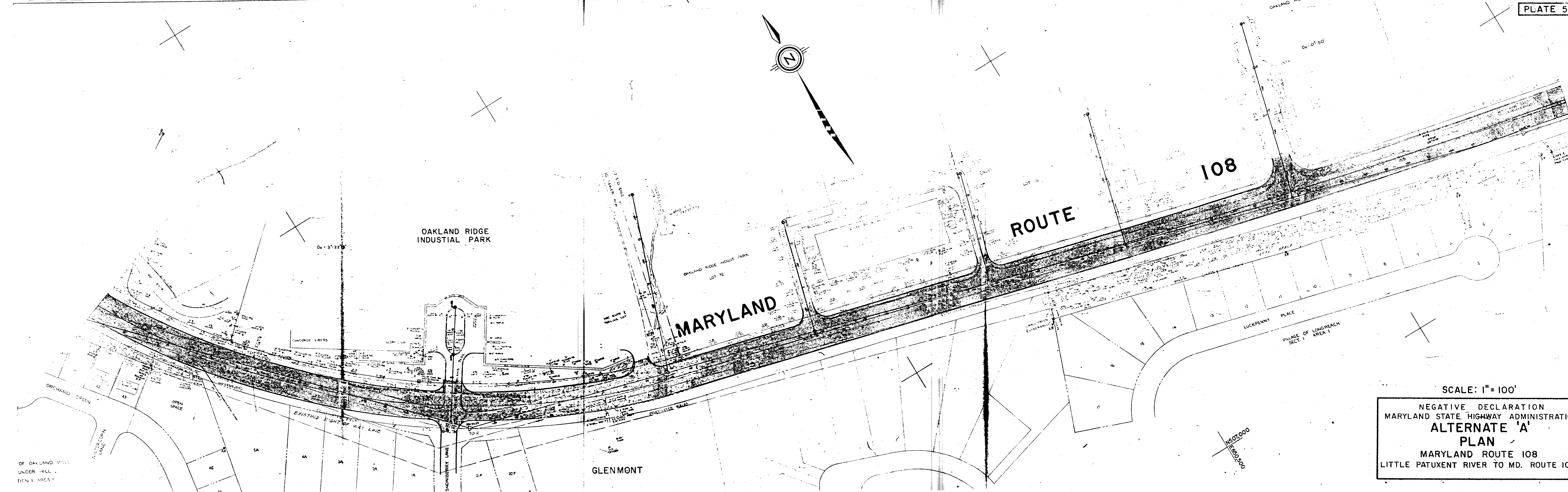
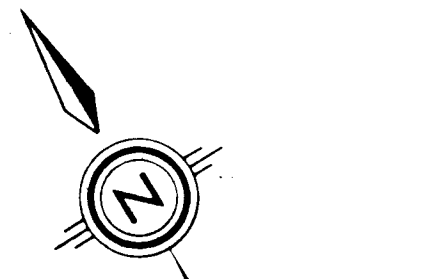
108

THUNDER HILL

SCALE: 1" = 100'
NEGATIVE DECLARATION
MARYLAND STATE HIGHWAY ADMINISTRATION
ALTERNATE 'A'
PLAN
MARYLAND ROUTE 108
LITTLE PATUXENT RIVER TO MD. ROUTE 104

N511,000
E6847,000

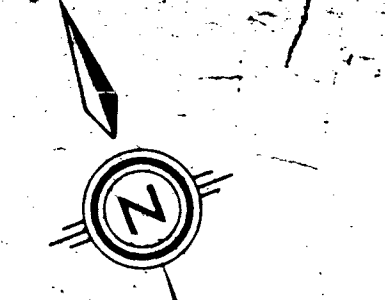
N1810,000
E6847,500



SCALE: 1" = 100'

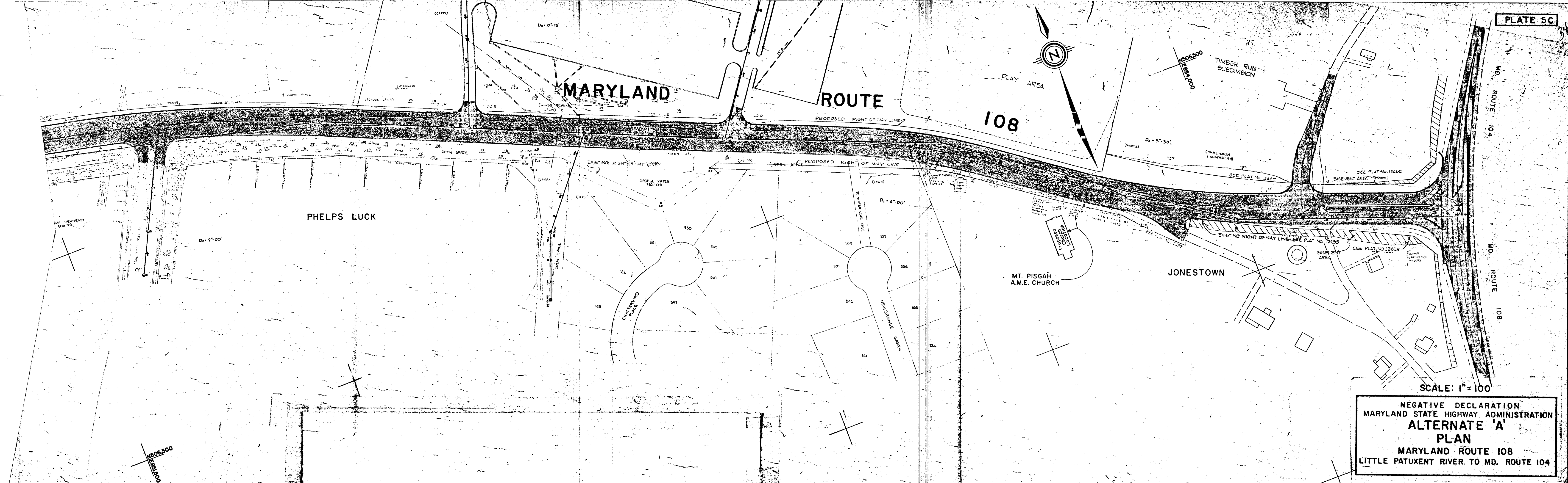
NEGATIVE DECLARATION
 MARYLAND STATE HIGHWAY ADMINISTRATION
ALTERNATE 'A'
PLAN
 MARYLAND ROUTE 108
 LITTLE PATUXENT RIVER TO MD. ROUTE 104

MARYLAND ROUTE 108



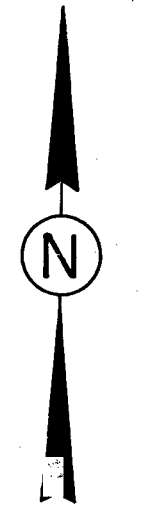
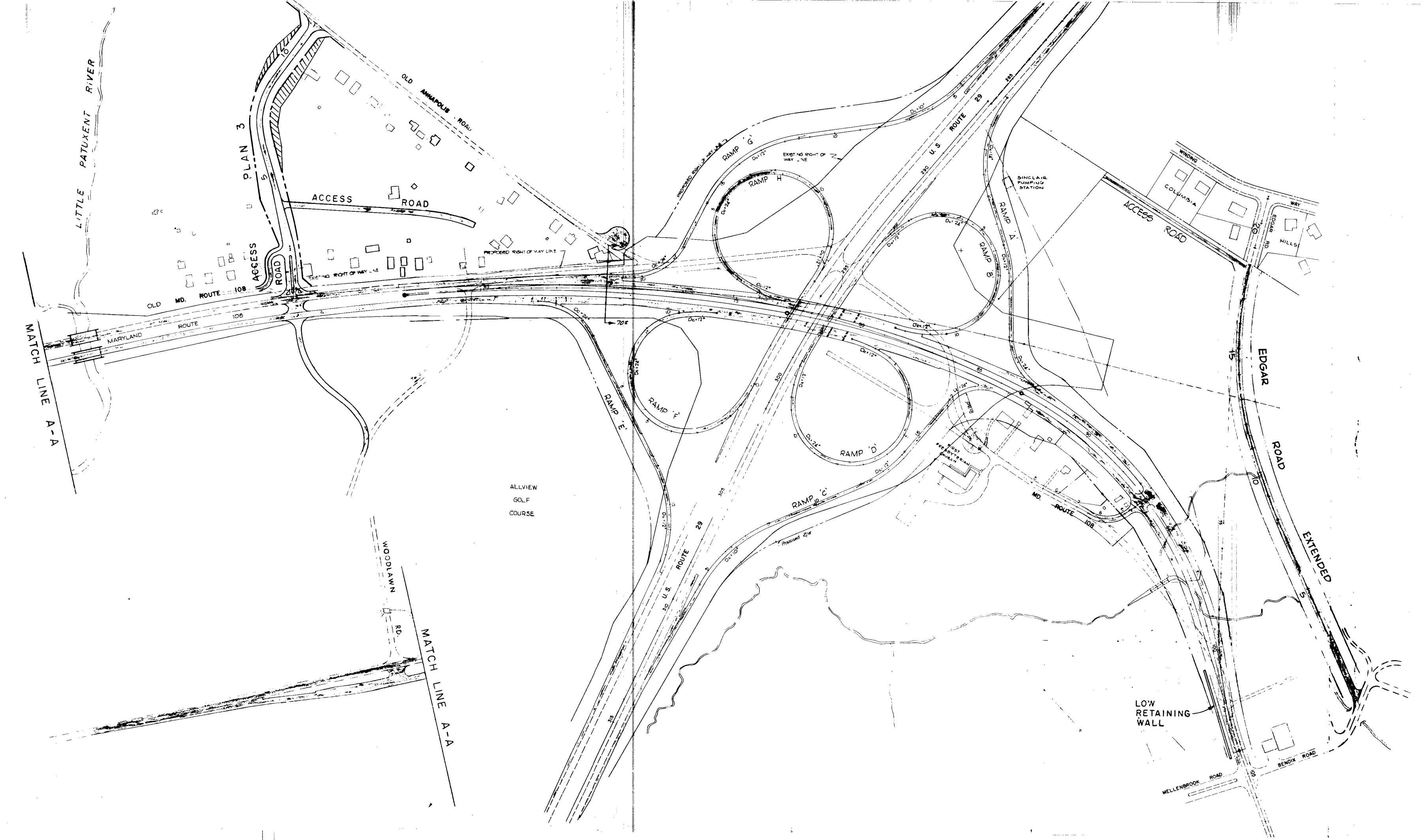
108

MD. ROUTE 104
MD. ROUTE 108



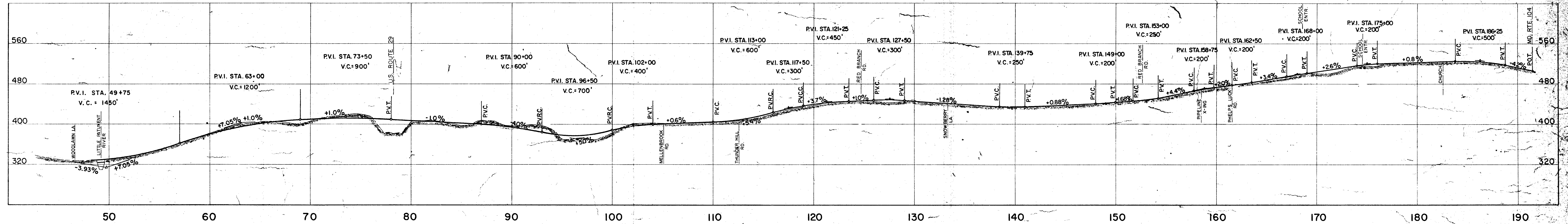
SCALE: 1" = 100'

NEGATIVE DECLARATION
MARYLAND STATE HIGHWAY ADMINISTRATION
ALTERNATE 'A'
PLAN
MARYLAND ROUTE 108
LITTLE PATUXENT RIVER TO MD. ROUTE 104



SCALE: 1"=300'

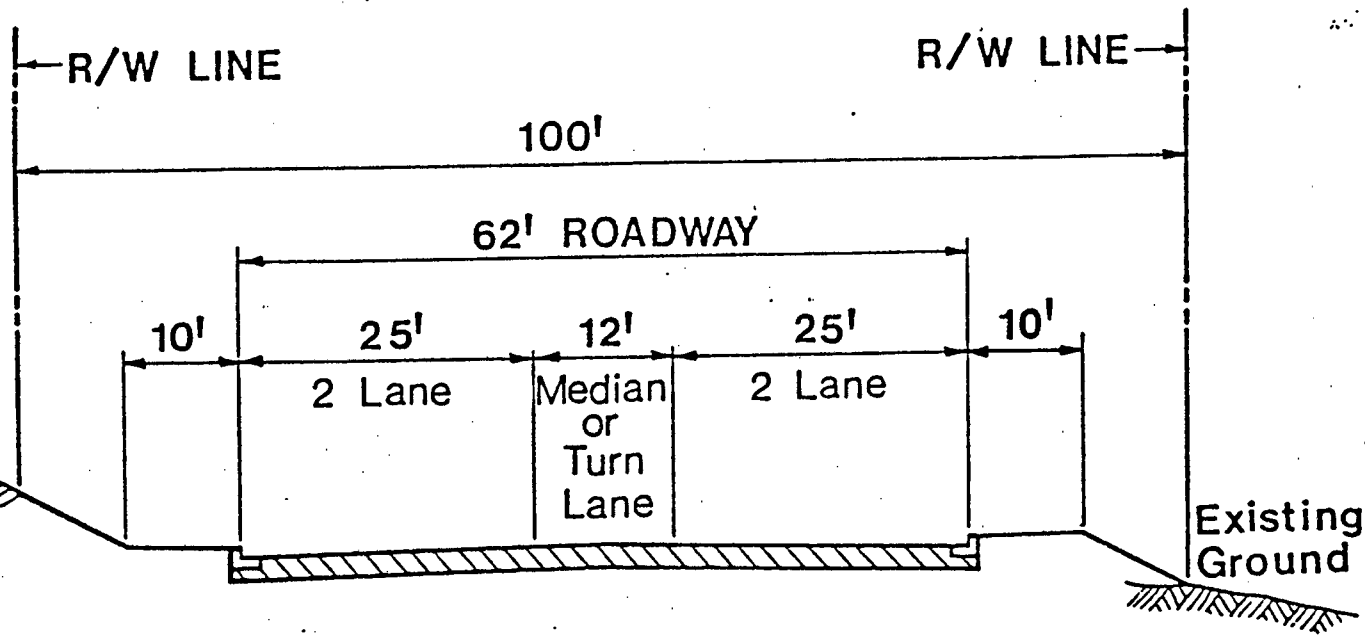
NEGATIVE DECLARATION
 MARYLAND STATE HIGHWAY ADMINISTRATION
ALTERNATE 2
 U.S. RTE. 29/MD. RTE. 108
 INTERCHANGE
 LITTLE PATUXENT RIVER TO MD. ROUTE 104



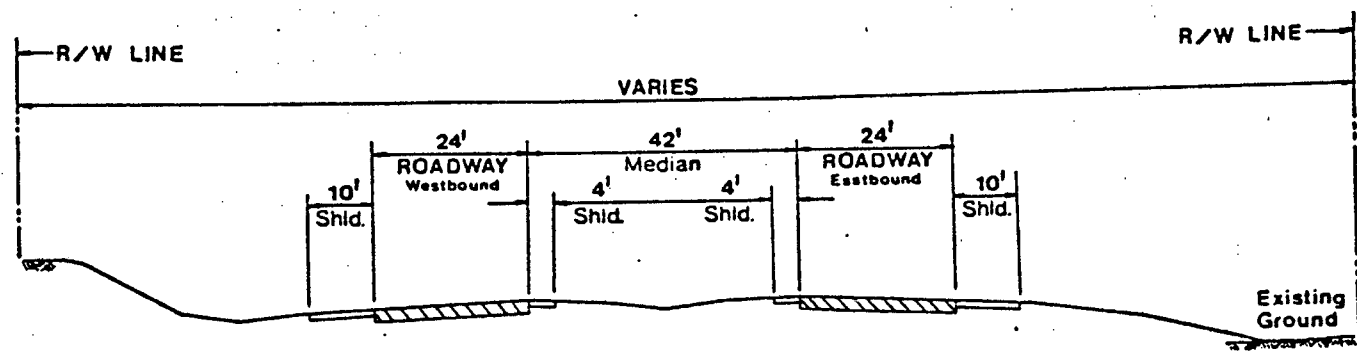
SCALE: HORIZ. 1" = 400'
 VERT. 1" = 80'

NEGATIVE DECLARATION
 MARYLAND STATE HIGHWAY ADMINISTRATION
ALTERNATE 'A'
PROFILE
 MARYLAND ROUTE 108
 LITTLE PATUXENT RIVER TO MD. ROUTE 104

37



TYPICAL SECTION-ALTERNATE (A)



TYPICAL SECTION - DUAL ROADWAY
THRU INTERCHANGE AREA

The dimensions shown are for the purpose of determining cost estimates and environmental impacts, and are subject to change during the final design phase.

3. Traffic Data

The State Highway Administration has provided all existing and proposed traffic data for the roadway network affected by the proposed project. This roadway network consists of Maryland Route 104, U.S. Route 29, Maryland Route 100 and Maryland Route 108 as well as several secondary roads found in the study corridor. See Plate 9.

All traffic data for this project are compatible with data used for other studies within this transportation network.

During the most heavily traveled hour, the total traffic on Maryland Route 108 is approximately 12 percent of the total traffic for the 24 hour period with more than half (56 percent) of that hourly traffic proceeding in the same direction.

Plate 10, the diurnal traffic curve, shows the percentage of the average total daily traffic occurring each hour of the 24 hour period.

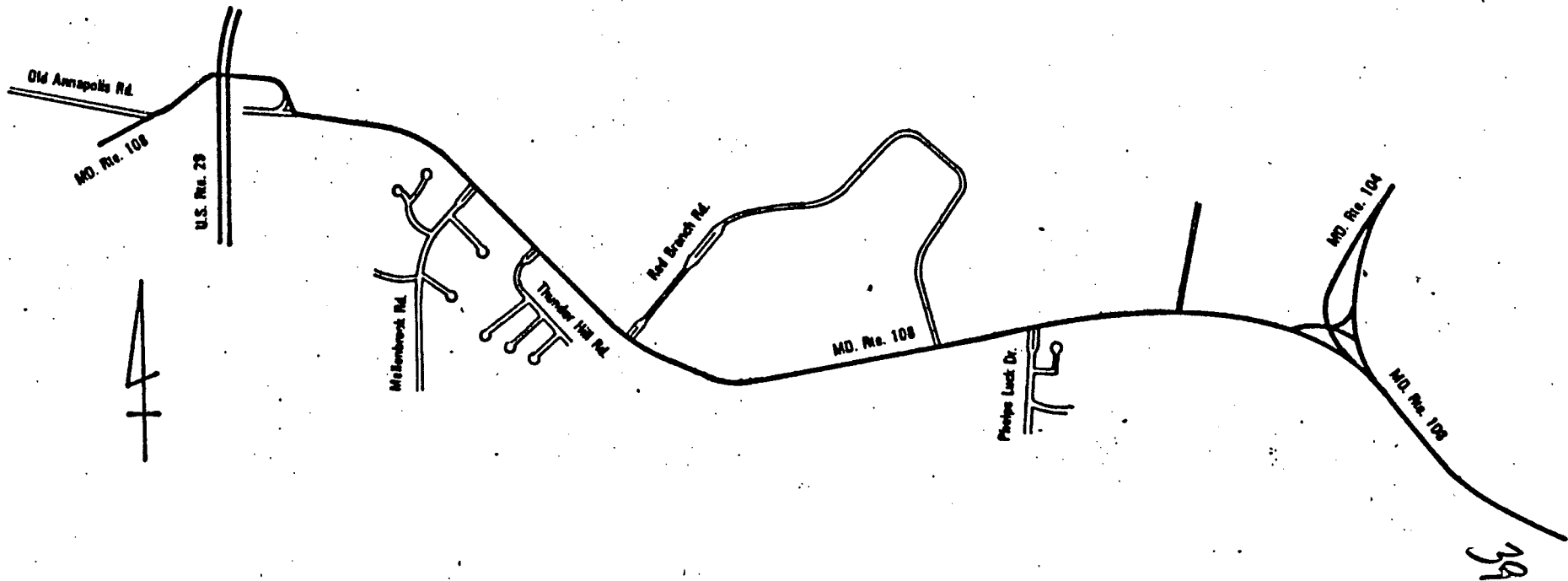
C. Description of Selected Alternate.

1. Selected Alternate

As shown in Plates 5A, 5B and 5C the selected alternate proposes reconstruction of Maryland Route 108 to a five lane curbed urban street section providing two travel lanes in each direction with a continuous left turn center lane. This type of design provides for the projected 2005 ADT Volumes and lessens the impediment to vehicular traffic flow and reduced capacity as presently encountered on the existing two lane roadway with numerous left

AVERAGE DAILY TRAFFIC NO BUILD AND SELECTED ALTERNATE MD. RTE. 108

| | | | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1977 | 8,600 | 11,650 | 14,025 | 14,025 | 13,250 | 12,950 | 12,375 | 10,450 | 9,800 |
| 1985 | 15,350 | 17,300 | 20,150 | 20,150 | 19,150 | 18,750 | 18,000 | 15,500 | 14,800 |
| 2005 | 26,950 | 32,975 | 35,900 | 35,900 | 34,075 | 33,425 | 32,525 | 27,925 | 26,550 |



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DIURNAL TRAFFIC CURVE

MD. RTE. 108

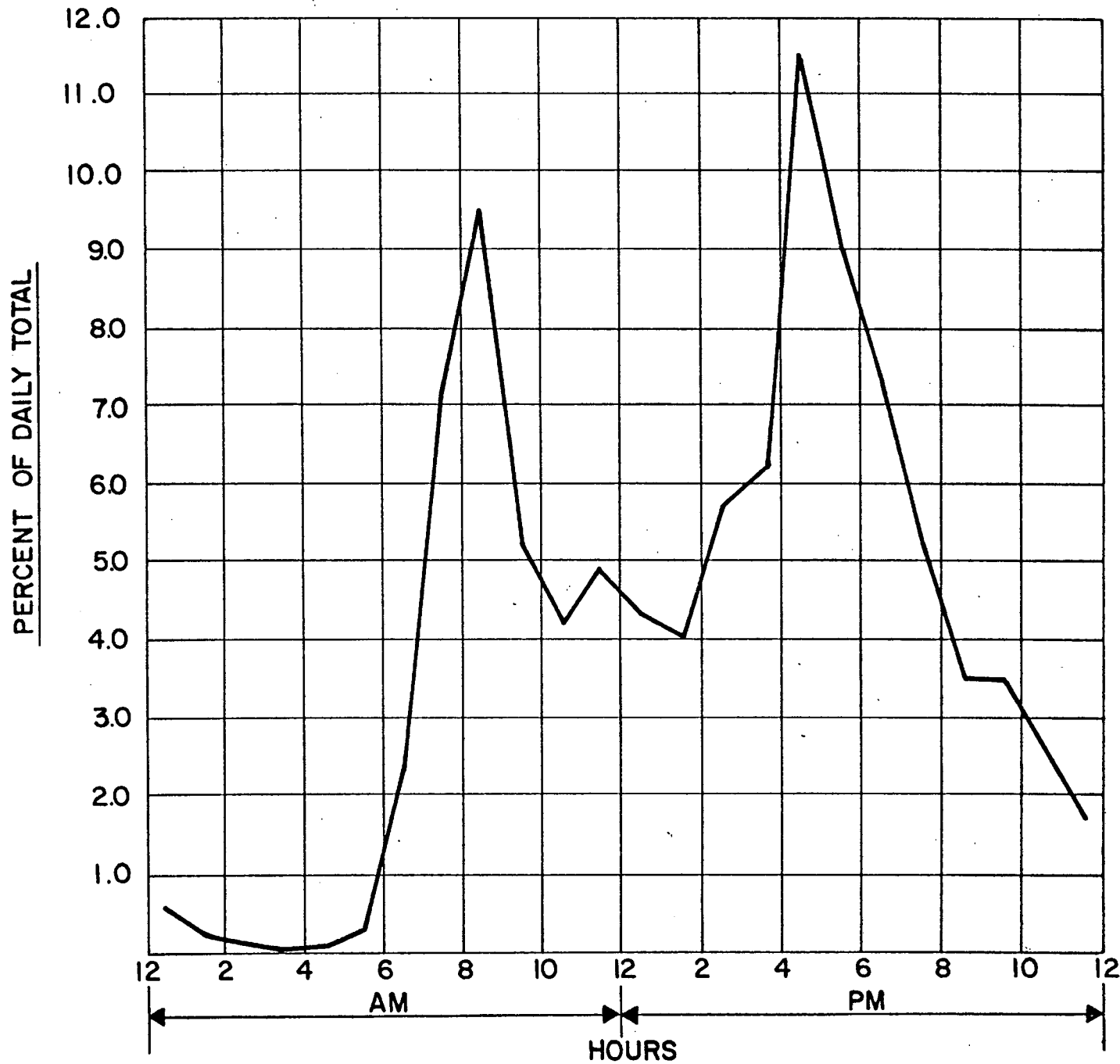


PLATE 10
40

turn vehicle movements.

It can be accommodated within the dedicated right-of-way as far east as the Howard Senior High School. Less than one acre will be needed from the south side of the highway in the vicinity of Jonestown. Access to the Jonestown area will not be hindered by this alternate.

The selected Alternate 'A' for Maryland Route 108 would connect to the approach roadway design for the U. S. Route 29/Maryland 108 interchange continuing west of Mellenbrook Road to the Little Patuxent River bridges as a dual lane median separated highway. The design would provide two twelve foot travel lanes in each direction with parallel ten foot shoulders on each side and with a forty-two foot center median.

The selected ^{Scheme 3} Plan 3 for Old Annapolis Road proposes the intersection of Old Annapolis Road and Maryland Route 108 relocation approximately 1400 feet west of existing intersection and avoids any displacement of residences.

The selected interchange Alternate 2 (Plate 6) consists of a full cloverleaf and ramp type grade separated highway interchange with full free flow merging traffic movement for all four quadrants. This type of design relieves the present impacted traffic intersection by allowing full free flow traffic movement through the interchange.

The close proximity of Sybert Drive (approximately 2,000 feet north of the existing intersection) to the ramp merge terminals on U.S. Route 29 along with the increased operating speeds through the Route 29/Route 108 interchange have caused concern for traffic safety in the vicinity of Sybert

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Drive connection across the north and southbound lanes of U.S. Route 29.

In response to this need for a safe means of vehicular access, Edgar Road will be extended to connect with the improved Maryland Route 108 providing a safe alternative vehicular access to the residents of the Columbia Hills Community.

The Maryland 108 dual lane roadway design from just west of the Little Patuxent River bridges to west of Mellenbrook Road is essential to the effective operation of any interchange design as may be implemented at U.S. 29/Maryland 108.

The construction of the selected Alternate A for Maryland Route 108 from west of Mellenbrook Road to Maryland Route 104 will assure that the roadway facility is adequate to accommodate the traffic volume upon completion of the construction of the facility.

2. No-Build/Alternate

This alternate is characterized as the continuation of this facility as the present essentially two lane roadway with an at-grade signalized intersection at U.S. Route 29. Sections of this road and its poor sight distance, undesirable curves, and little or no shoulder area would remain, while both maintenance and safety improvement programs would be undertaken by the State Highway Administration. Any improvements made would be restricted to the existing right-of-way.

This alternative has the least effect on the natural environment as it disturbs no homes, businesses or property. It will not, however, alleviate the restrictions to traffic flow caused by traffic build-up at U.S. Route 29 and from intermittent left turning movements.

D. Engineering Factors and Costs

The roadway has been designed to safely accommodate a proposed posted speed of 40 m.p.h. For all design and construction, the standards referred to and recommended in the AASHTO (American Association of State Highway and Transportation Officials) publication, Federal Highway Administration's memoranda relative to highway safety and State Highway Administration criteria were used.

The construction of the selected alternate is estimated to cost \$11.4 million. These construction costs include clearing and grubbing, earthwork and grading, drainage and related structures, roadway base and surface, roadside development, and major and miscellaneous structures.

Right-of-way costs for the build alternate are approximately \$2.2 million. These costs include cost of land, cost of improvements, relocation assistance costs and contingencies.

Costs for project engineering are estimated to be \$0.7 million.

Total cost is estimated to be \$14.3 million. This figure includes overhead and administrative costs.

| Summary of Costs | |
|---------------------|---------------|
| Construction | \$ 11,400,000 |
| R.O.W. | \$ 2,200,000 |
| Project Engineering | \$ 700,000 |
| Total | \$ 14,300,000 |

II. Need

A. Need for the Proposed Action

The Route 108 corridor has experienced dramatic development in the past fifteen years, both industrial and residential, and this trend is expected to continue in the future. The existing roadway is not capable of adequately and safely handling the increased traffic demand associated with this growth, and is currently operating near capacity at a level of Service 'D'.

Existing horizontal and vertical alignment for the entire road segment between U.S. Route 29 and Maryland Route 104 are substandard. From the eastern limits of Howard High School to the intersection with Route 104, the roadway of Route 108 is 20 feet wide with no shoulder and no room for a disabled vehicle to pull off the roadway. Near the Oakland Ridge Industrial Park there are curves with inadequate sight distance making it hazardous to both driver and any pedestrian or bicyclist attempting to negotiate along the edge of the road.

The Maryland 108/U.S. 29 intersection has been identified as a high accident intersection by the State Highway Administration, Bureau of Accident Statistics. In 1977, the most recent year studied, there were 22 accidents at this intersection, which was the second highest number of accidents at any State maintained intersection in Howard County.

In addition, the Maryland 108/U.S. 29 intersection is extremely congested during peak periods, operating at a level of Service 'D'. Long delays, particularly on U.S. 29, are very common. This congestion is undoubtedly a major factor contributing to the accident experience.

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Construction of the proposed interchange should greatly reduce delays on both roads. It should also significantly reduce accidents and virtually eliminate the more severe types, such as opposite direction, angle, and left turn accidents.

B. Project Planning

Based on the need for the proposed action expressed in the preceding section, an improvement to the U.S. Route 29/Maryland Route 108 interchange has been included since 1968 in the critical portion of five approved Needs Studies and is in the 1979-1998 copy. The proposed improvements have appeared in the Five Year Highway Program since 1974. They are also included in the 1979-1984 Howard County portion of the Maryland Department of Transportation Program.

Maryland Route 108, from U.S. Route 29 to Maryland Route 104, appeared in the General Plan of Highways for Howard County as a minor arterial highway.

In 1977, a comprehensive transportation planning analysis of the proposed Maryland Route 100 travel corridor between northern Anne Arundel and eastern Howard Counties was initiated by the Maryland Department of Transportation.

A primary goal of this analysis was to identify a financially realistic highway network providing an adequate level of service over the next twenty years.

The financial restraints of the Maryland Department of Transportation will preclude the implementation of all of the proposed highway plans in the corridor, which call for the construction of the Patuxent Freeway and capacity improvements to several other major east-west routes such as Maryland Route 175,

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I-195, and Md. 108. All of these facilities are currently in project planning.

This study has found that a MD 108 connector together with selected existing arterial upgrading if implemented (which appear necessary whether or not MD 100 is constructed) would be a feasible and cost effective highway system which would adequately handle twenty year travel demand. However, MD 100 between MD 104 and U.S. 29 should be retained on the Howard County Master Plan and other "end state" planning documents in order to hold open future options for eventually extending a continuous controlled access facility from I-95 to U.S. 29.

Howard County will not take a position regarding this study recommendation until they have completed evaluation of their own transportation plan.

Howard County has, however, recognized the need for the proposed action and has given the U.S. Rte. 29 interchange a high priority.

III. Basis for Negative Declaration

The widening of Maryland 108, along with its interchange with Route 29 has been determined to be a major action without significant impact upon the human environment. The recommendation to prepare a Negative Declaration is based on the following information.

The project will increase the capacity of the existing facility, however, the project is consistent with the Comprehensive Plans for the area. There will be no effect on rare or endangered species, unique habitat, prime or unique agricultural lands, wetlands, flood plains, stream crossings or relocations.

A preliminary archaeological survey has been completed for the project, and no significant sites were identified. A detailed survey was not recommended. The Maryland Historic Trust conducted a survey of the project area and determined that no historic sites would be affected by the project.

There will be one relocation involved in the project. However, no problems are anticipated in finding replacement housing. A more detailed discussion of the relocation involved is contained in Section IV of this report under "Relocation".

None of the communities in the study area will be isolated or experience a barrier effect due to the proposed project.

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IV. Social, Economic and Environmental Factors

A. Social and Economic

1. Socio-Economic Impacts

The proposed action will not have adverse effects on either the social or economic atmosphere of the community in the study area. Driver to and from the area will be improved.

2. Relocation

The majority of the proposed improvement to Maryland 108 from Station 104 just east of the proposed U.S. Route 29 to Maryland 104 is within the existing right-of-way, however, the existing Mt. Pisgah A.M.E. Church (see page 20) and an abandoned residence at Station 182R will require acquisition. The proposed interchange will require the acquisition of one dwelling at Sta. 88R and six outbuildings. None of the dwellings are occupied by minority group members. They appear to be occupied by lower income family units. The price range for each dwelling including outbuildings is estimated to be between \$30,000 and \$40,000.

The selected Plan 3 tie-in between Maryland Route 108 and Old Annapolis Road will not require acquisition of any dwellings.

Of the dwellings that would be acquired, substantial, affordable housing is available along the Maryland 108 corridor from Route 104 to Clarksville. Relocation should be accomplished within a 6 to 12 month period.

The State Highway Administration may determine that "housing of last resort" provisions apply in the event comparable replacement housing is not available or is beyond the occupants financial means. Under these provisions the SHA can acquire housing by purchase or lease for the displaced occupants.

Relocation assistance and adequate compensation for lost property will be provided in all cases. A summary of the relocation assistance program of the Maryland State Highway Administration is found in the Appendix.

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

3. Impact on Community Facilities and Services

Improved traffic flows through the study area due to the project will aid response time for emergency services such as fire, police and ambulance. The proposed project will also improve access to the schools in the area. Fire and ambulance service is from the District 6 station located south of the project on Tamar Drive near Md. Rte. 175. Police service is from the main station in Ellicott City, North of the project area.

The existing Mount Pisgah A.M.E. Church will be taken by the project. However, the congregation is planning to use a new facility now under construction and to raze the existing church. The shift to the new facility was planned long before the project's impact became apparent. The location of both the new and the old facilities is shown on Plate 5C.

The only community facility to be adversely affected by the project is the privately owned Allview Golf Course located in the western quadrant of the Route 108/Route 29 intersection. Construction of the full cloverleaf would require the displacement of three holes of this privately owned and operated facility. This relocation would be undertaken by the owner.

4. Impact on Historic and Archaeological Resources

No significant archaeological or historic sites were identified during the archaeological and historic reconnaissance. The selected alternative developed for Maryland Route 108 will have no impact on any archaeological historic sites.

B. Impact on Air Quality

The background air quality data required for this report are the one-hour and the eight-hour carbon monoxide concentrations. The background concentrations refer to the base level of carbon monoxide that exists in the ambient air throughout the study area. By adding the results from the computer modeling of the proposed roadway to the background concentrations, the total carbon monoxide concentrations for specific sections of the study area can be calculated. These total carbon monoxide concentrations then, reflect the pollutant contributions from all sources.

The background carbon monoxide data for this project are based on monitoring conducted at the Clifton T. Perkins Hospital Center, Jessup, Maryland from December, 1974 through March, 1975 utilizing a Bendix NDIR instrument. The monitoring site is located approximately seven miles southeast of the project area. Both locations may be classified as suburban residential as defined in the Aeros Manual of Codes, SAROAD Specific Codes, U.S. Environmental Protection Agency, January, 1976.

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These concentrations were then adjusted to 1985 (ETC) and 2005 (ETC+20) levels using the "rollback" technique. The resulting maximum one-hour and eight-hour carbon monoxide concentrations are as follows:

| | <u>1985</u> | <u>2005</u> |
|----------------|-------------|-------------|
| 1 hour maximum | 2.10 | 1.58 |
| 8 hour maximum | 1.66 | 1.23 |

These concentrations are expressed in parts per million and will be used in this report.

The following alternates were considered:

a) No-Build - This alternate assumes that the existing roadway characteristics will remain through the year 2005. Traffic projections for this alternate were obtained from the Maryland State Highway Administration. The traffic volumes are presented as predicted Average Daily Traffic for the years 1985 (ETC) and 2005 (ETC+20) and are shown on Plate 9. Trucks constitute 7 percent of the design hour volume. The design hour speeds for this project for both 1985 and 2005 were derived from charts in the Highway Capacity Manual, 1965 by the Highway Research Board and in A Policy on Design of Urban Highways and Arterial Streets by the American Association of State and Highway and Transportation Officials. The 1985 No-Build design speed is 32 mph, while the 2005 No-Build design hour speed is 30 mph. The Build speeds are 40 mph for both 1985 and 2005.

b) Selected Alternate - The traffic projections for the selected alternate were also obtained from the Maryland State Highway Administration. These traffic volumes are shown as predicted Average Daily Traffic (ADT) for the year 1985 (ETC) and 2005 (ETC+20) on Plate No. 9. These volumes represent primarily local traffic, with trucks constituting 7 percent of the daily volumes.

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The diurnal curve illustrated in Plate No. 10 was used to select the traffic volumes utilized in the one-hour and eight-hour analysis.

The emission factors which have been used in the preparation of this analysis were derived from the Environmental Protection Agency's "Mobile I: Mobile Source Emissions Model", issued in August, 1978.

Emission factors were generated assuming a temperature of 35 degrees F., a vehicle mix of 93 percent light-duty vehicles, 1.6 percent light-duty trucks #1, 1.6 percent light-duty trucks #2, 1.2 percent heavy-duty gasoline trucks and 2.6 percent heavy-duty diesel trucks with 20.6% cold start, 27.0% hot start and 20.6% hot stabilized portions.

Twenty-eight sites were selected as sensitive receptors. The description and predicted concentrations for these receptors are found in Tables 2 and 3. The location of these receptors is shown on Plate 11.

A review of Tables 2 and 3 indicates that for all conditions there will be no violation of the national primary one-hour carbon monoxide standard of 35 ppm or the eight-hour standard of 9 ppm. Table 1 lists the Ambient Air Quality Standards in effect.

At the majority of sites, the No-Build Alternate would have the highest total one-hour and eight-hour carbon monoxide concentrations, due to relatively lower average running speeds.

TABLE 1

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A. AMBIENT AIR QUALITY STANDARDS*

| | <u>Federal</u> | | <u>State</u> | |
|--|-------------------|---------------------|-------------------|---------------------|
| | <u>Primary</u> | <u>Secondary</u> | <u>Serious</u> | <u>More Adverse</u> |
| <u>Sulfur Oxides</u> | | | | |
| Annual Arithmetic Mean (ppm) | 0.03 | | 0.03 | 0.02 |
| 24-Hour Maximum ^b (ppm) | 0.10 | | 0.10 | |
| 3-Hour Maximum ^b (ppm) | | 0.50 | | |
| 1-Hour Maximum ^c (ppm) | | | 0.35 | |
| <u>Particulate Matter</u> | | | | |
| <u>Suspended</u> | | | | |
| Annual Arithmetic Mean (ton/mi ³) | 0.35 ^a | 0.28 ^{a,e} | 0.35 | 0.30 |
| 24-Hour Maximum (ton/mi ³) | 1.20 | 0.69 | 0.74 | 0.48 |
| <u>Settleable</u> | | | | |
| Annual Arithmetic Average (ton/mi ² /mo.) | | | 14.29 | 10 |
| Monthly Maximum (ton/mi ² /mo.) | | | 28.57 | 20 |
| <u>Carbon Monoxide</u> | | | | |
| 8-Hour Maximum ^b (ppm) | 9 | | 9 ^d | |
| 1-Hour Maximum ^b (ppm) | 35 | | 35 | |
| <u>Hydrocarbons</u> | | | | |
| 3-Hour (6-9 a.m.) Maximum ^b (ppm-carbon) | 0.24 ^e | | 0.24 ^e | |
| <u>Nitrogen Dioxide</u> | | | | |
| Annual Arithmetic Mean (ppm) | 0.05 | | 0.05 | |
| <u>Photochemical Oxidants</u> | | | | |
| 1-Hour Maximum ^b (ppm-Ozone) | 0.08 | | 0.08 | |
| <u>Flourides</u> | | | | |
| Monthly Maximum (ug/100 cm ² /mo.) | | | 5 | |

NOTES:

- a - annual geometric mean
- b - not to be exceeded more than once per year
- c - not to be exceeded more than once per month
- d - applies in areas representing generalized atmospheric levels; 20 ppm applies in any other place where members of the public congregate
- e - guideline

*English unit standards derived from Table 4, "Ambient Air Quality Standards" Maryland Code, Title 10.18.01.04.

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TABLE 2

SENSITIVE RECEPTORS - PEAK HOUR CARBON MONOXIDE (ppm)

| RECEPTOR NUMBER* | SENSITIVE RECEPTOR | 1985 | | 2005 | |
|---------------------|------------------------------------|----------|-------------------|----------|-------------------|
| | | NO-BUILD | SELECT. ALTER. | NO-BUILD | SELECT. ALTER. |
| 1 | First Mennonite Church of Columbia | 4.7 | 4.2 | 4.3 | 3.8 |
| 2 | Allview Inn | 4.6 | 5.5 | 4.2 | 5.2 |
| 3 | Allview Golf Course | 2.8 | 6.8 | 2.3 | 6.5 |
| 4 | Columbia Hills Residential Area #1 | 2.8 | 5.9 | 2.3 | 5.6 |
| 5 | Columbia Hills Residential Area #2 | 2.7 | 5.2 | 2.2 | 4.9 |
| 6 | First Presbyterian Church | 4.7 | 6.9 | 4.3 | 6.6 |
| 7 | Dalton Residential Area #1 | 2.8 | 3.6 | 2.3 | 3.2 |
| 8 | Dalton Residential Area #2 | 4.1 | 4.2 | 3.8 | 3.8 |
| 9 | Dalton Residential Area #3 | 4.6 | 4.7 | 4.2 | 4.3 |
| 10 | Oakland Ridge Industrial Park #1 | 4.7 | 4.9 | 4.3 | 4.5 |
| 11 | Oakland Ridge Industrial Park #2 | 5.1 | 4.5 | 4.9 | 4.1 |
| 12 | Thunder Hill Residential Area #1 | 4.8 | 4.2 | 4.4 | 4.7 |
| 13 | Thunder Hill Residential Area #2 | 5.1 | 4.6 | 4.9 | 4.1 |
| 14 | Thunder Hill Residential Area #3 | 5.2 | 4.5 | 4.8 | 4.0 |
| 15 | Oakland Ridge Industrial Park #3 | 4.8 | 4.2 | 4.4 | 4.7 |
| 16 | Oakland Ridge Industrial Park #4 | 5.0 | 4.5 | 4.9 | 4.1 |
| 17 | Phelps Luck Residential Area #1 | 4.8 | 4.3 | 4.5 | 3.8 |
| 18 | Phelps Luck Residential Area #2 | 4.7 | 4.3 | 4.4 | 4.0 |
| 19 | Phelps Luck Residential Area #3 | 4.7 | 4.6 | 4.7 | 4.2 |
| 20 | Phelps Luck Residential Area #4 | 4.5 | 4.3 | 4.4 | 4.0 |
| 21 | Howard High School #1 | 3.5 | 3.3 | 3.2 | 2.9 |
| 22 | Howard High School #2 | 4.8 | 4.3 | 4.4 | 4.0 |
| 23 | Phelps Luck Residential Area #5 | 4.7 | 4.3 | 4.4 | 4.0 |
| 24 | Howard High School #3 | 4.6 | 4.3 | 4.4 | 4.0 |
| 25 | Mt. Pisgah A.M.E. Church | 5.3 | 4.6 | 5.1 | 4.4 |
| 26 | Jonestown | 5.1 | 4.6 | 4.8 | 4.2 |
| 27 | Phelps Luck Elementary School | 2.8 | 2.7 | 2.4 | 2.3 |
| 28 | Thunder Hill Elementary School | 2.8 | 2.7 | 2.4 | 2.3 |

The one-hour Federal Standard for Carbon Monoxide is 35 ppm.

*Numbers refer to sensitive receptor locations shown on Plate 11.

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TABLE 3

SENSITIVE RECEPTORS - HIGHEST 8-HOUR CARBON MONOXIDE (ppm)

| RECEPTOR NUMBER* | SENSITIVE RECEPTOR | 1985 | | 2005 | |
|---------------------|------------------------------------|----------|-------------------|----------|-------------------|
| | | NO-BUILD | SELECT. ALTER. | NO-BUILD | SELECT. ALTER. |
| 1 | First Mennonite Church of Columbia | 3.2 | 2.8 | 2.8 | 2.5 |
| 2 | Allview Inn | 3.1 | 3.7 | 2.8 | 3.4 |
| 3 | Allview Golf Course | 2.1 | 4.5 | 1.7 | 4.2 |
| 4 | Columbia Hills Residential Area #1 | 2.1 | 4.0 | 1.7 | 3.7 |
| 5 | Columbia Hills Residential Area #2 | 2.0 | 3.5 | 1.6 | 3.2 |
| 6 | First Presbyterian Church | 3.2 | 4.6 | 2.8 | 4.3 |
| 7 | Dalton Residential Area #1 | 2.0 | 2.4 | 1.6 | 2.1 |
| 8 | Dalton Residential Area #2 | 2.9 | 2.9 | 2.5 | 2.5 |
| 9 | Dalton Residential Area #3 | 3.1 | 3.2 | 2.8 | 2.8 |
| 10 | Oakland Ridge Industrial Park #1 | 3.1 | 3.3 | 2.8 | 2.9 |
| 11 | Oakland Ridge Industrial Park #2 | 3.3 | 3.0 | 2.9 | 2.6 |
| 12 | Thunder Hill Residential Area #1 | 3.2 | 2.9 | 2.8 | 2.5 |
| 13 | Thunder Hill Residential Area #2 | 3.5 | 3.1 | 3.2 | 2.7 |
| 14 | Thunder Hill Residential Area #3 | 3.5 | 3.1 | 3.2 | 2.7 |
| 15 | Oakland Ridge Industrial Park #3 | 3.2 | 2.9 | 2.8 | 2.5 |
| 16 | Oakland Ridge Industrial Park #4 | 3.3 | 3.0 | 2.9 | 2.6 |
| 17 | Phelps Luck Residential Area #1 | 3.2 | 2.9 | 2.9 | 2.5 |
| 18 | Phelps Luck Residential Area #2 | 3.2 | 3.0 | 2.9 | 2.6 |
| 10 | Phelps Luck Residential Area #3 | 3.3 | 3.1 | 3.0 | 2.7 |
| 20 | Phelps Luck Residential Area #4 | 3.2 | 3.0 | 2.9 | 2.6 |
| 21 | Howard High School #1 | 2.5 | 2.3 | 2.1 | 1.9 |
| 22 | Howard High School #2 | 3.2 | 3.0 | 2.9 | 2.6 |
| 23 | Phelps Luck Residential Area #5 | 3.2 | 3.0 | 2.9 | 2.6 |
| 24 | Howard High School #3 | 3.1 | 2.9 | 2.8 | 2.5 |
| 25 | Mt. Pisgah A.M.E. Church | 3.6 | 3.1 | 3.3 | 2.7 |
| 26 | Jonestown | 3.4 | 3.1 | 3.1 | 2.7 |
| 27 | Phelps Luck Elementary School | 2.1 | 2.0 | 1.7 | 1.6 |
| 28 | Thunder Hill Elementary School | 2.1 | 2.0 | 1.7 | 1.6 |

The eight-hour Federal Standard for Carbon Monoxide is 9 ppm.

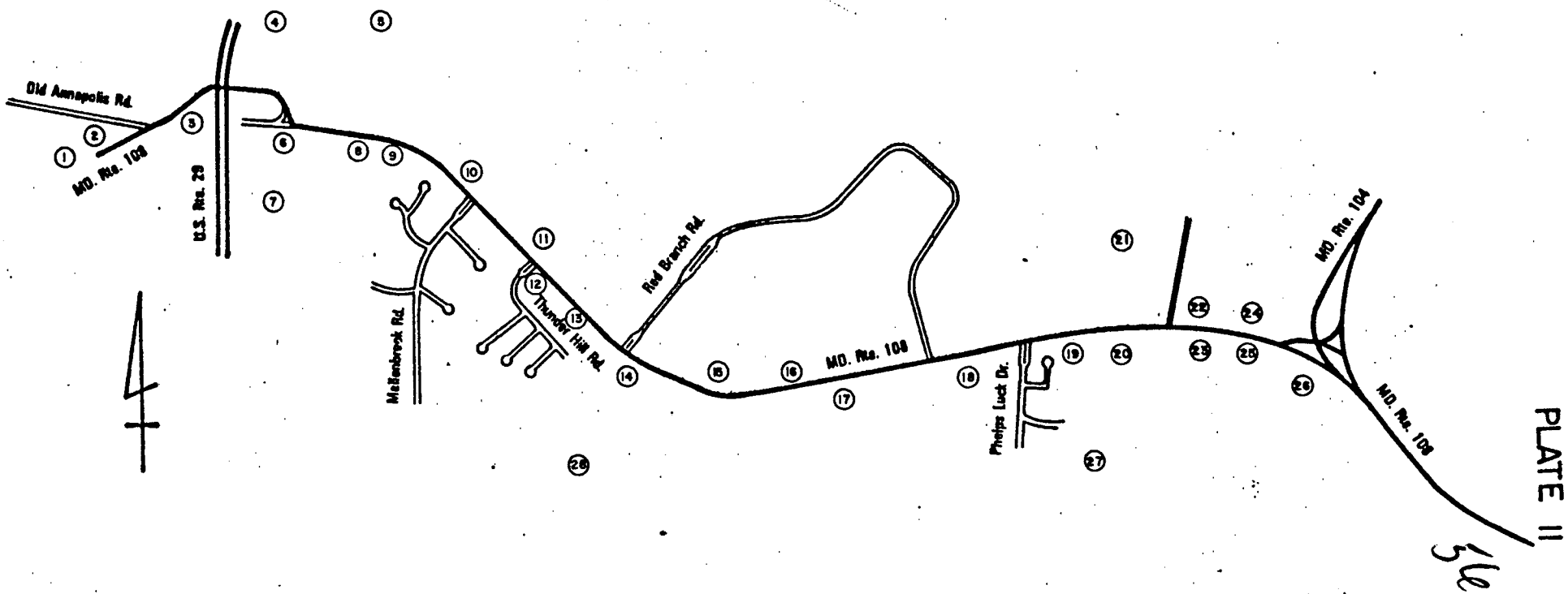
*Numbers refer to sensitive receptor locations shown on Plate 11.

SENSITIVE RECEPTORS

MD. RTE 108

1. First Mennonite Church of Columbia
2. Allview Inn
3. Allview Golf Course
4. Columbia Hills Residential Area #1
5. Columbia Hills Residential Area #2
6. First Presbyterian Church
7. Dalton Residential Area #1
8. Dalton Residential Area #2
9. Dalton Residential Area #3
10. Oakland Ridge Industrial Park #1
11. Oakland Ridge Industrial Park #2
12. Thunder Hill Residential Area #1
13. Thunder Hill Residential Area #2
14. Thunder Hill Residential Area #3

15. Oakland Ridge Industrial Park #3
16. Oakland Ridge Industrial Park #4
17. Phelps Luck Residential Area #1
18. Phelps Luck Residential Area #2
19. Phelps Luck Residential Area #3
20. Phelps Luck Residential Area #4
21. Howard High School #1
22. Howard High School #2
23. Phelps Luck Residential Area #5
24. Howard High School #3
25. Mt. Pisgah Baptist Church
26. Jonestown
27. Phelps Luck Elementary School
28. Thunder Hill Elementary School



The technical air analysis was submitted to the Maryland Bureau of Air Quality and Noise Control, as well as to the Environmental Protection Agency. They concurred with the procedures used and that CO levels would be below the National Ambient Air Quality Standards. Letters to this effect are contained in Section V.

The air quality consistency of this project on a regional level is assumed in the following ways:

A. The National Memorandum of Understanding between U.S. Department of Transportation and Environmental Protection Agency dated June 14, 1978 formally integrates the transportation and air quality planning processes for transportation projects receiving federal aid highway funds. This Agreement recognizes that the "reduction of air pollution is an important national goal, and must be among the highest priorities of the transportation planning process in areas not meeting primary Air Quality Standards." This process provides for extensive input from the public, local and State transportation, and air quality agencies. In addition, the procedures call for the joint administration of the air quality aspects of the urban transportation planning process between U.S. Department of Transportation and Environmental Protection Agency. This includes joint review of the following documents and activities to ensure that air quality considerations are adequately addressed:

1. The Transportation Plan for the urban area,
2. The Transportation Improvement Program which identifies projects for implementation,
3. The State Implementation Plan, Transportation Control Plan for addressing attainment with Air Quality Standards.

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4. The review process which "certifies" that adequate transportation and air quality planning is being conducted in the urbanized areas.

B. Through the urban transportation planning requirement of Title 23, United States Code, Section 134, as implemented by the RPC forum, the same state and local agencies responsible for planning transportation projects in the urbanized area are also responsible--from a transportation control plan perspective--for assuring attainment of Air Quality Standards.

C. Maryland Route 108 is included in the regional transportation plan and Transportation Improvement Program for the urbanized area and is programmed for federal-aid highway funding. Thus it is subjected to this federal review and project development process. Therefore, the regional consistency of this project is addressed prior to undertaking the final project planning studies presented in this environmental document.

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

Based on the analysis of microscale, regional and construction air quality and coordination with the U.S. Environmental Protection Agency and the Maryland Bureau of Air Quality, we find the project consistent with the State Implementation Plan.

The analysis performed did not assume an inspection/maintenance program for all in-use vehicles. It is reasonable to forecast that if the air analysis was redone utilizing the inspection/maintenance program the air quality levels would be less than shown in the preceding tables. The Inspection/Maintenance

program will become state law in July 1982. It will be voluntary in July 1981.

C. Noise Impact

Analysis of potential noise impacts from the proposed project has been performed by the State Highway Administration utilizing methodology contained in Federal Aid Highway Program Manual, Volume 7, Chapter 7, Section 3, Table 4 presents the Federal design noise level criteria used in this analysis.

Twenty-five noise sensitive areas have been identified in the study area. Each of these areas is briefly described below. The activity category which applies to each is shown in parenthesis. The location of each of these areas relative to Maryland Route 108 is shown on Plate 12.

| <u>Noise Sensitive Areas</u> | <u>Description</u> |
|------------------------------|--|
| 1 (B) | Four single family residences north of Maryland Route 108 east of the Patuxent River. |
| 2 (B) | Two single family residences east of NSA 1 and the First Mennonite Church of Columbia. The church is equipped with central air-conditioning. |
| 3 (B) | A single family residence east of NSA 2 |
| 4 (B) | Two single family residences east of NSA 3 |
| 5 (B) | Three single family residences west of Old Annapolis Road. |
| 6 (B) | Two single family residences on Old Annapolis Road south of NSA 5. |
| 7 (B) | One single family residence on Old Annapolis Road south of NSA 6. |
| 8 (B) | One single family residence on Old Annapolis Road south of NSA 7. |

TABLE 4
Design Noise Level/Activity Relationship
(from FHPM 7.7.3)

| Design Noise Levels - dBA | | Description of Activity Category |
|---------------------------|---------------------|---|
| Leq (h) ¹ | L10(h) ² | |
| 57 A. (Exterior) | 60 (Exterior) | Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheatres, particular parks or portions of parks, open spaces, or historic districts which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. |
| 67 B. (Exterior) | 70 (Exterior) | Picnic areas, recreation areas, playgrounds, active sports areas, and parks which are not included in Category A and residences, motels, hotels, public meeting rooms, schools, churches, libraries, and hospitals. |
| 72 C. (Exterior) | 75 (Exterior) | Developed lands, properties or activities not included in Categories A or B above. |
| --- | --- | For requirements on undeveloped lands see paragraphs 11a and c. ³ |
| 52 (Interior) | 55 (Interior) | Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums. |

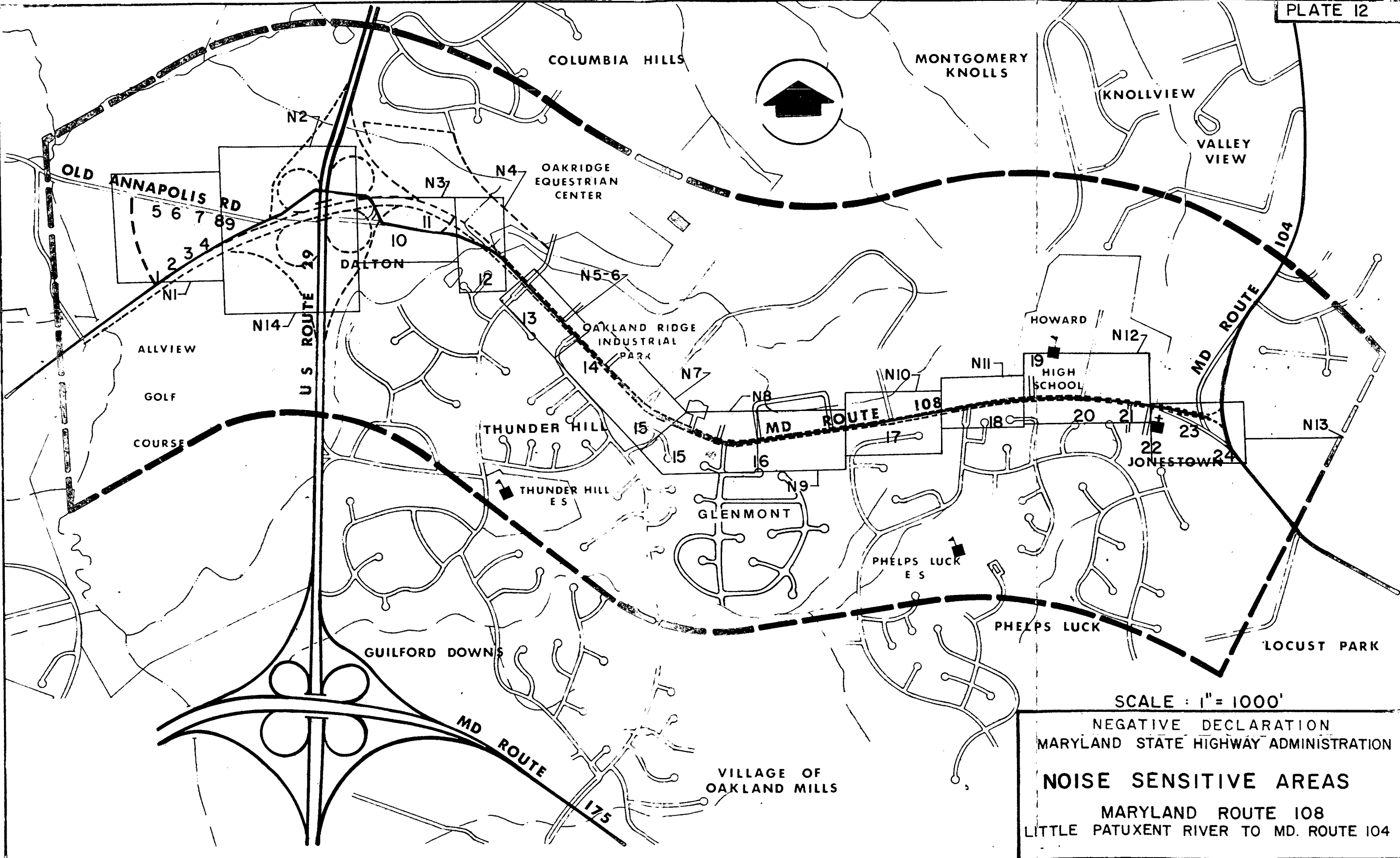
¹Leq(h) - The equivalent steady state sound level which would contain the same acoustic energy as the time-varying sound level for a period of one hour.

²L₁₀(h) - The sound level that is exceeded 10 percent of a one hour period.

³FHPM 7.7.3, Section II

NOISE ABATEMENT MEASURES FOR LANDS WHICH ARE UNDEVELOPED ON THE DATE OF PUBLIC KNOWLEDGE OF THE PROPOSED HIGHWAY PROJECT.

- a. Noise abatement measures are not required for lands which are undeveloped on the date of public knowledge of the proposed highway project (except as provided in paragraph 11b).
- b. For lands which are undeveloped on the date of public knowledge or the highway project, the highway agency should treat the activity or land use as developed land in the following situations:
 - (1) the development was planned, designed, and programmed before the highway studies and there is firm evidence that the development has been only temporarily delayed, or
 - (2) the development is planned, designed, and programmed during the highway project planning and design; there is a very high probability of the development being constructed; and the developer has considered the noise impacts to the extent reasonable and practicable.
- c. A highway agency may request Federal-aid participation in the cost of providing noise abatement measures for undeveloped lands along Type IA and IB projects when the noise analysis demonstrates a need in the following situations:
 - (1) development occurs between the date of public knowledge of the proposed highway project and the actual construction of the project, or
 - (2) the probability of development occurring within a few years is very high and a strong case can be made in favor of providing noise abatement measures as part of the highway project based on consideration of need, expected long term benefits to the public interest, and the difficulty and increased cost of later incorporating abatement measures into either the highway or the development.



SCALE : 1" = 1000'

NEGATIVE DECLARATION
MARYLAND STATE HIGHWAY ADMINISTRATION

NOISE SENSITIVE AREAS

MARYLAND ROUTE 108
LITTLE PATUXENT RIVER TO MD. ROUTE 104

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Noise Sensitive
Areas

Description

- 9 (B&C) A single family residence and a commercial building, Allview Liquors, north of the intersection of existing Maryland Route 108 and Old Annapolis Road.
- 10 (B) The First United Presbyterian Church of Howard County. The church is not air conditioned. No exterior uses exist at this area.
- 11 (B) One single family residence on the east side of Maryland Route 108 south of NSA 10.
- 12 (B) Five single family residences on Snow Shoe Lane in the Village of Oakland Mills.
- 13 (B) Six single family residences along Creekbed Court in the Thunder Hill Section of the Village of Oakland Mills.
- 14 (C) Commercial real estate company on the west side of Maryland Route 108 south of Thunder Hill Road.
- 15 (B) Fourteen single family residences on the west side of Maryland Route 108 south of NSA 14, four are located in Brinton Court, six on Orchard Green Court and four in Section I of Glenmont. A 5-foot to 8-foot earth berm exists between Maryland Route 108 and the residence.
- 16 (B) Two, two story single family residences on Summer Hollow Road and approximately twelve undeveloped lots in Glenmont, Section II.

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Noise Sensitive Area

Description

- 17 (B) Thirteen single family residences south of Maryland Route 108 on Luckpenny Place. A berm separates this area from the existing highway.
- 18 (B) Twelve single family residences in the community of Phelps Luck, located south of Maryland Route 108. These residences are located on Flight Feather Court, Red Lake Court, Stormdrift Court and Chatterbird Place. A berm exists between these residences and the existing highway.
- 19 (B) Howard High School located north of Maryland Route 108. The school building is set back 400'+ from the existing highway. The only sensitive area located near the highway is a playfield complex east of the school.
- 20 (B) Residential area east of area 18.
- 21 (B) The Mount Pisgah A.M.E. Church south of Maryland Route 108 opposite the playfield area of Howard High School. The church is of brick construction and is not air conditioned. This area also includes a one story frame residence. The existing church is to be demolished. A new church is planned located further back from Maryland Route 108 as shown on Plate 5C.
- 22 (B) The single family frame residences south of Maryland Route 108 east of NSA-21.
- 23 (B) One single family frame residence east of NSA 22.
- 24 (B) One single family frame residence south of NSA 23.

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Noise Sensitive Area

Description

25 (B)

The Allview Golf Course situated south of Maryland Route 108 and west of U.S. Route 29 will be affected by the construction of the proposed interchange. The golf course is privately owned.

A measurement survey was conducted to characterize existing noise levels at sensitive receptors within the study area. Table 5 lists the noise levels measured. All levels represent L_{10} values, that level which is exceeded for ten percent of the measurement period. Peak and off-peak L_{10} noise levels were investigated and it was found that peak period levels were lower due to a decrease in truck traffic. Therefore, off peak levels are used in this analysis as representative of worst case conditions.

Two areas presently experience L_{10} noise levels equal to the Federal Design Noise Level of 70 dBA. These areas are the Mount Pisgah Church (21) and one residence (24) located south of the intersection of Maryland Route 108 and 104.

Ambient levels range from 53 to 70 dBA with the majority of the noise sensitive areas experiencing L_{10} noise levels in the fifty to mid-sixties range. These levels are low for this type of corridor due to a lack of heavy truck traffic. This absence of the main contributor to high noise levels will continue in the future.

Predicted design year (2005) L_{10} noise levels at sensitive receptor sites are also presented in Table 5. Two design year predictions were made at sites 15 and 19. NSA 15 is partially protected by an earth berm. A portion of the area would experience design noise levels being exceeded. At

△ - 1978

▲ - 2005

PROJECT NOISE LEVELS

TABLE 5

| NSA | DESCRIPTION | △ AMBIENT L ₁₀ | | ▲ DESIGN L ₁₀ | | | | |
|-----|-------------------------------|---------------------------|------------------|--------------------------|--------------|--|--|--|
| | | TIME | L ₁₀ | NO-BUILD | SELECT. ALT. | | | |
| 1 | RESIDENTIAL | 10:30 A.M. | 64 dBA | 66 dBA | 67 dBA | | | |
| 2 | RESIDENTIAL AND CHURCH USE | 10:30 A.M. | 64 dBA | 65 dBA | 68 dBA | | | |
| 3 | RESIDENTIAL | 10:15 A.M. 10:45 A.M. | 66 dBA 66 dBA | 71 dBA* | 71 dBA* | | | |
| 4 | RESIDENTIAL | 10:30 A.M. | 64 dBA | 61 dBA | 71 dBA* | | | |
| 5 | RESIDENTIAL | 9:50 A.M. | 53 dBA | 53 dBA | 61 dBA | | | |
| 6 | RESIDENTIAL | 9:50 A.M. | 53 dBA | 60 dBA | 66 dBA | | | |
| 7 | RESIDENTIAL | 9:50 A.M. | 53 dBA | 56 dBA | 63 dBA | | | |
| 8 | RESIDENTIAL | 9:50 A.M. | 53 dBA | 62 dBA | 67 dBA | | | |
| 9 | RESIDENTIAL | 11:05 A.M. | 63 dBA | 71 dBA* | 70 dBA | | | |
| 10 | RELIGIOUS | 10:30 A.M. | 62 dBA | 65 dBA | 65 dBA | | | |
| 11 | RELIGIOUS | 10:30 A.M. | 62 dBA | 65 dBA | 68 dBA | | | |
| 12 | RELIGIOUS | 10:45 A.M. | 56 dBA | 56 dBA | 62 dBA | | | |
| 13 | RELIGIOUS | 11:15 A.M. | 57 dBA | 58 dBA | 64 dBA | | | |
| 14 | COMMERCIAL | 2:20 P.M. | 63 dBA | 66 dBA | 72 dBA | | | |

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△ - 1978

▲ - 2005

PROJECT NOISE LEVELS TABLE (Continued)

| NSA | DESCRIPTION | ▲ AMBIENT L ₁₀ | | ▲ DESIGN L ₁₀ | | | | |
|-----|---------------------------|---------------------------|----------------------|--------------------------|-----------------------|----|--|--|
| | | TIME | L ₁₀ | NO-BUILD | SELECT ALT. | | | |
| 15 | RESIDENTIAL | 2:00 P.M. | 53 dBA ⁵⁷ | 58 dBA ⁵⁵ | 62 dBA ⁵⁹ | 69 | | |
| | | 3:15 P.M. | 60 dBA ⁵⁷ | 62 dBA ⁵⁹ | 71 dBA ^{*68} | 69 | | |
| 16 | RESIDENTIAL | 3:15 | 60 dBA | 62 dBA | 69 dBA | | | |
| | | P.M. | | | | | | |
| 17 | RESIDENTIAL | 2:05 | 56 dBA | 53 dBA | 60 dBA | | | |
| | | P.M. | | | | | | |
| 18 | RESIDENTIAL | 11:10 | 55 dBA | 54 dBA | 61 dBA | | | |
| | | A.M. | | | | | | |
| 19 | HOWARD HIGH SCHOOL | 10:15 A.M. | 55 dBA | 59 dBA | 65 dBA | | | |
| | | 10:45 A.M. | 64 dBA | 65 dBA | 71 dBA* | | | |
| 20 | RESIDENTIAL | 10:40 | 53 dBA | 60 dBA | 66 dBA | | | |
| | | A.M. | | | | | | |
| 21 | RELIGIOUS/ RESIDENTIAL | 11:15 | 70 dBA | 70 dBA | 69 dBA* | | | |
| | | A.M. | | | | | | |
| 22 | RESIDENTIAL | 9:45 | 55 dBA | 58 dBA | 64 dBA | | | |
| | | A.M. | | | | | | |
| 23 | RESIDENTIAL | 10:10 | 60 dBA | 67 dBA | 70 dBA | | | |
| | | A.M. | | | | | | |
| 24 | RESIDENTIAL | 11:30 | 70 dBA | 71 dBA* | 71 dBA* | | | |
| | | A.M. | | | | | | |
| 25 | GOLF COURSE | | 63 dBA | 63 dBA | 65 dBA | | | |

* DESIGN NOISE LEVEL EXCEEDED

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le7

NSA 19, Howard High School, predictions were made at the school building and the portion of the playfield complex adjoining Maryland Route 108.

Determination of environmental noise impact is based on the relationship between the predicted noise levels, established design noise criteria and ambient noise levels in the study area. The applicable design noise criteria is the Federal Highway Administration's design noise level/activity relationship (See Table 4) published in FHPM 7.7.3.

Impact assessment is also based upon the change in L10 noise level over existing levels. The Maryland State Highway Administration uses the following assessment categories to make this assessment.

| <u>Change in Ambient</u> | <u>Impact</u> |
|--------------------------|---------------|
| Decrease | Positive |
| +0 - 5 dBA | Negligible |
| +6 - 10 dBA | Minor |
| +11 - 15 dBA | Significant |
| Over 15 dBA | Severe |

Increase in ambient levels by the design year would range from 3-15 dBA. The larger increases occur in the section of the project west of U.S. Route 29. The overall impact based upon projected increases in the ambient levels is minor.

Design Noise Levels are exceeded at five noise sensitive areas with the selected alternate.

Areas Exceeding Design Noise Levels

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Noise sensitive areas 3 and 4 will be impacted by the selected alternate. Access to Maryland Route 108 from this area will remain after completion of the highway improvements. An effective noise barrier cannot be constructed due to this access point. However, if truck traffic increases on Maryland Route 108, the S.H.A. would consider limiting truck speeds or not permitting heavy trucks during hours considered most sensitive to noise. Partial mitigation, such as landscaping will be evaluated as to its feasibility and effectiveness during the design of the project.

Noise sensitive area 15 consists of fourteen single family residences, five of which will experience a design noise level impact. It is feasible to construct a noise barrier to reduce the L_{10} design noise levels by 5-7 dBA.

Initial studies indicate a wooden barrier would be most compatible with the surrounding area. Barrier length would be approximately 550 feet and height 6 to 8 feet. Estimated cost of a barrier is \$45,000. Final decision on construction of a barrier will be made after coordination with local residents and representatives of the City of Columbia.

The design noise level will be exceeded at noise sensitive area 19, Howard High School. It will occur on that portion of the property adjacent to the highway utilized for playfields. The majority of usage of these fields occurs during school hours. A prediction of the L_{10} level anticipated during the period of 8:30 am and 3:00 pm was made. The maximum L_{10} level anticipated during this period is 68 dBA. This level is below the Federal design noise level for such a use area and no adverse impact will occur during school hours. No noise control measures are planned adjacent to this area of the Howard High School complex based upon this determination.

Noise sensitive area 24 is a single family residence in the community of Jonestown. Present noise levels are controlled by traffic noise levels from Maryland Route 104. Noise from Maryland Route 104 will continue

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as the predominant noise source into the future. This is evident when comparing the selected alternate and the No-Build design noise levels which are the same. Noise control measures are not planned based on a determination of no adverse impact from the selected alternate.

D. Impact on Water Quality

The increase in paved surface area associated with the proposed project would result in additional storm water runoff which would be controlled by the use of Storm Water Management Facilities. The reduction in permeable ground surface area would cause a corresponding decrease in groundwater recharge. A short term decrease in the existing water quality may result from siltation related to construction of box culverts over a tributary to the Little Patuxent River. However, a strict enforcement of the State Highway Administration sediment and erosion control practices would lessen the degree of short term impacts.

Some contaminants, mainly deicing compounds, would be carried from the roadway by storm water runoff. The impact upon local surface waters would most likely be negligible.

Although the 100 year flood plain of the Little Patuxent River extends to the western most edge of the study area, the selected alternate will not have a significant encroachment on the flood plain resulting in any risks or impacts to the beneficial flood plain values or provide direct or indirect support to further development within the flood plain.

E. Impact on Wildlife and Vegetation

As described in Section I of this report, very little undisturbed wildlife or natural vegetation occurs in the study area due to commercial and residential development. The primary natural impact consists of clearing

several trees and some grassy area at the interchange of Route 108 and U.S. 29. Two trees, a black oak and white ash, adjacent to Maryland Route 108 near the Mt. Pisgah Church which have elicited concern from the local residents may be removed. Although both trees are large and old specimens, the Department of Natural Resources has not identified either tree to be a champion or unique tree in the area. The oak tree has been extensively pruned to avoid interference with telephone transmission lines. The oak's proximity to the edge of the road constitutes a safety hazard and it would probably have to be removed, under even the No-Build Alternate. The white ash will be saved if possible, but tree surgery would be needed as it is diseased.

No species of endangered, threatened or rare plants or wildlife are known to exist in the surrounding area.

TABLE 6

SUMMARY OF ALTERNATES

| Alternate | Length | Affected Properties | | | | right of way acreage | | cost est./\$1,000 | | |
|--|---------|---------------------|-------|--------|----------|----------------------|-------|-------------------|--------|-------|
| | | Res. | Comm. | Public | Historic | Res. | Comm. | R/W | Const. | Total |
| No-Build | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Interchange Selected Alternate | 1.10 ** | 1 | 0 | 0 | 0 | 16 | 2 | 1,604 | 8,200 | 9,804 |
| Roadway Selected Alternate | 1.60 | 1 | 0 | 1 * | 0 | 1 | 0 | 156 | 3,374 | 3,530 |
| Annapolis Rd. Selected Alternate | .35 | 0 | 0 | 0 | 0 | 4.5 | - | 411 | 516 | 927 |
| Annapolis Rd. Alternate 1 | .21 | 3 | 0 | 0 | 0 | 2.0 | 0 | 601 | 429 | 1,030 |

* - Existing Mt. Pisgah A.M.E. Church. A new church is currently under construction.

** - Includes R/W and costs associated with the extension of Edgar Road from Columbia Hills

- All costs are to base month of May 1980.

- Construction costs include Project Engineering

V. Comments and Coordination

A. Summary of Alternates Public Meeting

72

An Alternates Public Meeting was held on Wednesday, November 2, 1977 at the Howard Senior High School with approximately 90 citizens in attendance. Ten people spoke with comments or questions about the study or other highway concerns, interspersed with additional comments from the audience. Individual citizens and representatives from several community associations participated.

There was generally a favorable reception toward improvement. Most seemed in favor of an interchange solution at U.S. Route 29, but some questioned the desirability of widening Maryland 108 east of U.S. Route 29. Comments and questions favored bikeways and separate pedestrian accesses. Also questioned was the status of Maryland Route 100 and the interrelationship of Route 108 improvements with other highways in the Columbia area. District Engineer Carl Raith responded that we were studying a bikeway adjacent to the highway and a pedestrian/biker grade separation at Howard High. He explained that while the State Highway Administration has terminated studies of Maryland Route 100, the Maryland Department of Transportation was conducting a corridor investigation in coordination with Howard County and the Regional Planning Council. It was explained that traffic forecasts developed for Maryland Route 108 were based on the system of highways in the area and assumed the programmed improvement of parallel facilities.

B. Summary of Design/Location Public Hearing

A combined Location/Design Public Hearing was held November 5, 1979, with approximately 150 citizens in attendance. Twenty-nine citizens made formal presentations at the hearing and forty-seven pieces of mail were received pertaining to the alternates presented at the hearing. There was general agreement for construction of a full cloverleaf interchange at U.S. Route 29 and Maryland Route 108 with a No-Build easterly on Maryland Route 108 from Mellenbrook to Maryland Route 104, particularly if a three lane improvement is not feasible.

Because so many citizens had similar comments we have summarized by paraphrasing the questions and statements. Many comments were of a very localized and detailed nature and will be addressed in the design engineering phases of the project.

Comment Number

Comment

1

Application of the traffic methodologies used in developing traffic projections is in error.

Response

The State Highway Administration has properly used present traffic projection methodologies. As with any forecasting the projections must be constantly reassessed as new data becomes available. The affect on traffic projections for this project of economic policy changes, high interest rates, energy costs, regional transit, and many other influences have been and will continue to be studied.

74

Comment Number

Response

1 (cont.)

If a subsequent review of traffic projections is determined to be warranted, the project scope would be altered if necessary to reflect any new conclusions.

Comment

2

Future Maryland Route 108 will be used as a connector link in the Route 100, Route 103 and Route 175 east-west highway network.

Response

Maryland Route 108 is an existing corridor for east/west traffic in Howard County and much of the existing and projected traffic has its origin or destination in and around the study area. The reason for proposing the widening of Maryland Route 108 is not to provide a major corridor through the county, but rather to provide an adequate highway facility for the existing development and for future development that will occur under the adopted land use and zoning for Howard County.

Maryland Route 100 connector is discussed at length on page 16 of this document.

Comment

3

A comprehensive study of this road and the entire Howard County road network must be made.

Response

See response #2.

Comment Number

Comment

4

Resolution of Route 100 status must be made prior to the Route 108 recommendation.

Response

See response #2.

Comment

5

Even if projections are right the problem is of only 30 minutes duration and should be solved by industry staggering working hours.

Response

The establishment of staggered working hours for the private sector or local government is not a prerogative of the SHA nor is it an effective method of solving local traffic congestion. The SHA will support any program established along those lines however increasing traffic from new residential and commercial developments will negate any immediate benefit.

Comment

6

Projections do not take the energy shortage into consideration, i.e., carpools, less usage of vehicles, etc.

Response

See response #1.

Comment

7

Data from trucking agencies do not support projected need.

76

Comment Number

Response

7 (cont.)

See response #1. Available economic data project very little increase in truck traffic but the land use patterns encourage personal use vehicles which are expected to provide the major increase in traffic generation for this project.

Comment

8

The five lane alternate presented is in effect an 'overkill' solution to a problem of less severity.

Response

Traffic projection for the 5-lane alternate shows that by the year 2005, with proper signal coordination, the traffic operation will be approaching capacity E.

Traffic projections for the 3-lane or 4-lane build alternates indicate that they will have reached capacity by the year 1985. At this level of service traffic flows are unstable with low operating speeds, no room to maneuver and some momentary stoppages.

Comment

9

Edgar Road extension should tie in with Bendix Road to take advantage of the traffic light at Mellenbrook Road.

Response

Edgar Road extension has been relocated to tie into Bendix Road opposite Mellenbrook Road. This location will provide safer entry onto Route 108. This intersection is already targeted for signalization.

77

Comment Number

Comment

10

Where presently shown in the DND the Edgar Road extension does not have sufficient weaving distance from the west to northbound ramp at the interchange without the westbound Route 108 turning lane.

Response

See response #9.

Comment

11

Acceleration and deceleration lanes are needed at Edgar Road where shown in the DND along Route 108.

Response

See response #9

Comment

12

If not relocated at Bendix Road, then the Bendix Road intersection should have a traffic signal.

Response

See response #9.

Comment

13

Design of road will remove some existing berms creating new pockets of noise violations.

Response

Earth berms will be retained. Some may have to be shifted slightly due to construction.

78

Comment Number

Comment

14

Even with higher speeds on the road traffic signals will stop and concentrate larger volumes of traffic, raising the level of air pollution, when compared to the existing two lanes with the same traffic.

Response

With the same traffic the 5-lane alternate will permit a greater number of vehicles per signal cycle to clear the intersection than with fewer lanes.

The traffic is identical and the level of pollution will build up in relation to the traffic backup. This will be of greater significance to air quality degregation than that emitting from the much shorter multiple lane queue at a signalized intersection.

Comment

15

Anticipate additional vibration problems and increased water runoff problems.

Response

There may be some minor increase in vibrational problems wherever the pavement is closer to a property than presently existing. Mitigating measures for this problem are seldom cost-effective. However, strict traffic enforcement of weight limits and posted speed limits will minimize impacts from truck vibrations.

Comment Number

Comment

16

Regardless of Build or No-Build, Route 108 needs both sidewalks and traffic signals to insure safety for school children and other pedestrians. A pedestrian bridge should be constructed at the high school.

Response

The determination of traffic signals and sidewalks for the roadway portion of this project will be considered as a part of the overall traffic safety program for the County. Signals are already in the planning stages.

It is the intent that existing bikeways will remain with modifications or adjustments only where required by new construction.

Due to the uncontrolled access nature of Route 108 and the proximity of the Phelps Luck Road intersection, which will be signalized prior to Route 108 improvements, the pedestrian/bicycle overpass at Howard High School cannot be cost justified.

Comment

17

The Congregational Church along Route 108 requires safe access for not only the pedestrians but also vehicles entering and leaving the existing Route 108 onto the proposed dual section.

Comment Number

Response

17(cont.)

At the connector road between existing Route 108 and the new dual alignment a crossover in the median with a shielded turning lane will permit safe vehicular access from westbound Route 108.

Vehicles exiting from the connector road to go westbound will be shielded by the median as shown on Plate 6 of this document.

Comment

18

Columbia dedicated open space is recreation land. The bikeways justify this distinction and therefore the open space should not be used for road purposes without a complete 4(f) study.

Response

While there are covenants relating to dedicated open space areas restricting development, the SHA would not be subject to these restrictions.

The SHA, would, however, have the same financial commitment for open space areas as with any other property procured for highway R.O.W. proposed. Bike paths would remain with modifications or adjustments only where impacted by construction.

Comment

19

Additional landscaping is needed not less.

Response

Landscaping is now included in SHA highway contracts.

Comment Number

Response

19

Consideration of additional landscape requirements will be performed during final engineering plan development.

An effort will be made to have the proposed facility blend into the existing environment and cause the least visual impact.

Comment

20

Plan #1 serves best the denied access properties off Route 108 by using the short service access road.

Response

Old Annapolis Road Plan #1 does serve the local residence well but it is located at only the minimum distance away from the U.S. 29/Md. 108 south to west ramp exit to safely function. This design would result in occasional congestion at peak hours even with a third, free flowing, right turn lane on Maryland Route 108.

Right-of-way costs for Plan #1 will be higher because of the greater impact on residences than under the selected Plan #3 although the longer lengths of connector and service roads will result in higher construction cost for Plan #3.

Overall cost for Plan #1 is higher than for Plan #3.

42

Comment Number

Comment

21

A split ramp to allow traffic flow directly to Old Annapolis Road from southbound U.S. 29 was recommended.

Response

Experience elsewhere with split ramps have not been satisfactory. The present policy of the SHA does not permit the use of this design.

Comment

22

Plan 3 has the least impact on the community and also serves desired access properties off Route 108.

Response

Old Annapolis Road Plan #3 is the selected plan. The new site of the Harvester Baptist Church will be impacted, however, the remaining property not within the Little Patuxent River flood plain appears sufficient to construct the facilities contemplated.

Comment

23

Previous indication of support by the affected residents was invalid and a proper poll should be conducted to ascertain majority opinion.

Response

From the public meetings and correspondence received relative to this project it is apparent that the majority of those citizens living adjacent to the facility are not in favor of the highway widening.

Comment Number

Response

23 (cont.)

It is also apparent that there is widespread support for the construction of the interchange.

Comment

24

Recommendation that the State stop all planning work on Maryland 108 and Maryland 175.

Response

The SHA has an obligation to all citizens of the State of Maryland to provide a highway transportation system adequate for anticipated needs.

It does not serve that purpose by halting project planning activities. The need for this improvement project is not conditioned on the impact of any other studies now underway.

Comment

25

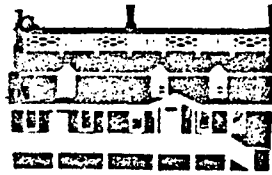
What is timing of property acquisition for this project by the SHA.

Response

Right-of-way procurement for this project would not be prior to 1982.

C. Coordination

Letters indicating coordination with Federal and State Agencies follow.



Maryland Historical Trust

March 17, 1978

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

Dear Mr. Camponeschi:

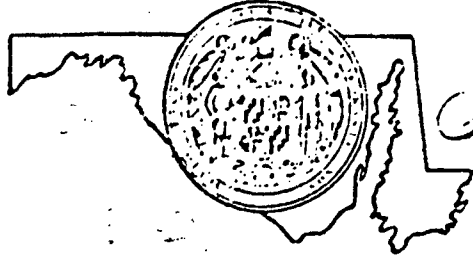
In response to your letter of 9 March, 1978, concerning project HO452-001-771, Maryland Route 108 west of U.S. 29 to Maryland Route 175, this is to confirm that there is no effect on historical properties and no 4(f) involvement with the Arlington House located on the Allview Golf Course.

Sincerely,

Nancy A. Miller
Historian/Deputy State
Historic Preservation Officer

cc: B. Deale
N. Miller
M. Ballard

cc: CAMPTON - 3/23/78
NAM:do

45
State of  Maryland

DEPARTMENT OF HEALTH AND MENTAL HYGIENE
ENVIRONMENTAL HEALTH ADMINISTRATION

P.O. BOX 13387

201 WEST PRESTON STREET
BALTIMORE, MARYLAND 21203
PHONE • 301-383-3245

NEIL SOLOMON, M.D., PH.D.
SECRETARY

DONALD H. NOREN
DIRECTOR

January 22, 1979

Mr. Andy Brooks
Bureau of Landscape Architecture
2323 West Joppa Road
Brooklandville, Maryland 21022

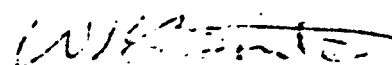
Dear Andy,

RE: Air Quality Analysis, Maryland Rte.
108

We have reviewed the Air Quality Analysis prepared for the above subject project and have found that it is consistent with the Programs' plans and objectives.

Thank you for the opportunity to review this analysis.

Sincerely yours,



William K. Bonta, Chief
Division of Program Planning & Analysis
Air Quality Programs

WKB:bac



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION III

6TH AND WALNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

JAN 29 1979

Mr. Charles R. Anderson, Chief
Bureau of Landscape Architecture
Maryland St. Highway Administration
2323 W. Joppa Road
Brooklandville, MD 21022

Re: Air Analysis, MD Route 108, from Little Patuxent River
to MD Route 104

Dear Mr. Anderson:

We have reviewed the above referenced air quality analysis.
Based upon this review, we have no objection to the proposed
project from an air quality standpoint.

If you have any questions, or if we can be of any further
assistance, you may wish to contact Mr. William J. Hoffman of
my staff at 215-597-2650. We would be interested in reviewing
any additional environmental documents prepared for the project.

Sincerely,

John R. Pomponio
John R. Pomponio, Chief
EIS & Wetlands Review Section

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



DEPUTY DIRECTOR

EMERY T. CLEAVES

 TELEPHONE:
 301 239-0771
 41

MARYLAND GEOLOGICAL SURVEY

THE JOHNS HOPKINS UNIVERSITY
 MERRYMAN HALL
 BALTIMORE, MARYLAND 21218

Division of Archeology
 6 June 1980

Mr. Eugene T. Camponeschi
 Chief, Bureau of Project Planning
 State Highway Administration
 P. O. Box 717
 Baltimore, Maryland 21203

Re: Maryland Route 108
 (Centennial Lane to MD 175)
 Howard County

Dear Mr. Camponeschi:

In response to Mr. Krolak's 4 June 1980 telephone request, I have reviewed the archeological involvement for the subject project. Gardner, in his 1976 archeological survey report for this project, recounts finding only one prehistoric artifact in the study corridor (see attached map). Subsequent archeological surveys by Curry (for the eastern half of the project) and McNamara (in Centennial Park) have also failed to locate any significant archeological remains.

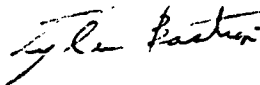
Examination of historic maps indicates relatively low historic potential in the impact area, especially in light of recent development. Gardner discusses three historic features, two of which are located outside of his survey tract. The millrace, which cross-cuts the Maryland Route 108 project at the Little Patuxent River Bridge, has already been disturbed in the impact area.

In sum, the archeological work conducted to date appears sufficient to determine that no significant archeological remains will be impacted

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by the proposed construction. The two historic structures mentioned by Gardner and located outside of the project area should be avoided.

If I may be of further assistance on this matter, please contact me.

Sincerely,



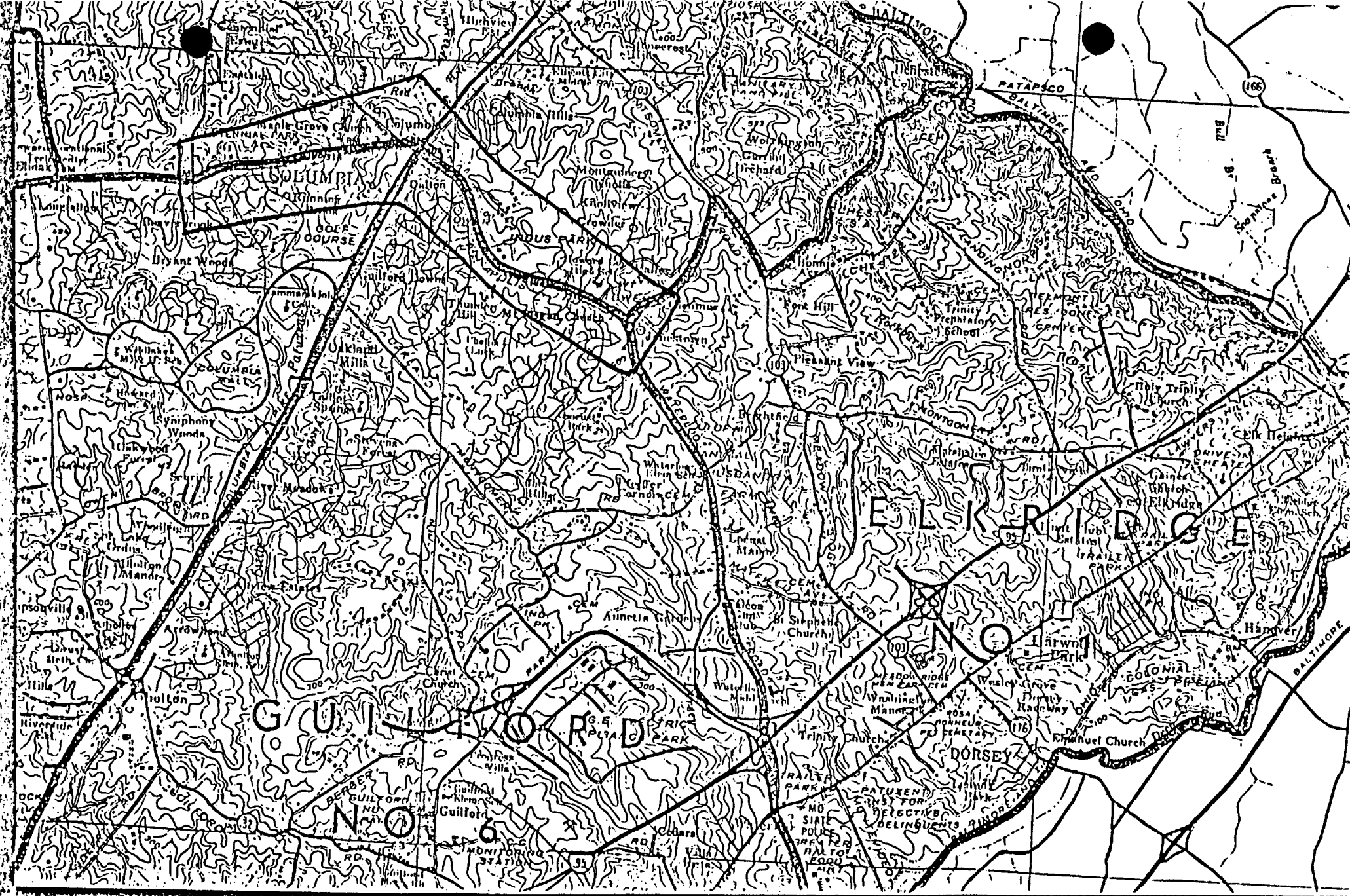
Tyler Bastian
State Archeologist

cc: J. Rodney Little
Richard S. Krolak

TB:DCC:pdt

Encl.

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APPENDIX A

"SUMMARY OF THE RELOCATION ASSISTANCE PROGRAM OF THE
STATE HIGHWAY ADMINISTRATION OF MARYLAND"

"SUMMARY OF THE RELOCATION ASSISTANCE PROGRAM OF THE
STATE HIGHWAY ADMINISTRATION OF MARYLAND"

All State Highway Administration projects must comply with the provisions of the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" (Public Law 91-646) and/or the Annotated Code of Maryland, Article 21, Sections 12-201 thru 12-209. The Maryland Department of Transportation, State Highway Administration, Bureau of Relocation Assistance, administers the Relocation Assistance Program in the State of Maryland.

The provisions of the Federal and State Law require the State Highway Administration to provide payments and services to persons displaced by a public project. The payments that are provided include replacement housing payments and/or moving costs. The maximum limits of the replacement housing payments are \$15,000 for owner-occupants and \$4,000 for tenant-occupants. In addition, but within the above limits, certain payments may be made for increased mortgage interest costs and/or incidental expenses. In order to receive these payments, the displaced person must occupy decent, safe and sanitary replacement housing. In addition to the replacement housing payments described above, there are also 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 moving expenses are limited to a 50 mile radius. In both cases, the expenses must be supported by receipted bills. An inventory of the items to be moved must be prepared, and estimates of the cost may be obtained. The Owner may be paid an amount equal to the low bid or estimate. In some circumstances, the State may negotiate an amount not to exceed the lower of the two bids. The allowable expenses of a self-move may include amounts paid for equipment hired, the cost of using the business's vehicles or equipment, wages paid to persons who physically participate in the move, and the cost of the actual supervision of the move.

When personal property of a displaced business is of low value and high bulk, and the estimated cost of moving would be disproportionate in relation to the value, the State may negotiate for an amount not to exceed the dif-

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ference between the cost of replacement and the amount that could be realized from the sale of the personal property.

In addition to the actual moving expenses mentioned above, the displaced business is entitled to receive a payment for the actual direct losses of tangible personal property that the business is entitled to relocate but elects not to move. These payments may only be made after an effort by the Owner to sell the personal property involved. The costs of the sale are also reimbursable moving expenses. If the business is to be re-established, and personal property is not moved but is replaced at the new location, the payment would be the lesser of the replacement costs minus the net proceeds of the sale or the estimated cost of moving the item. If the business is being discontinued or the item is not to be replaced in the re-established business, the payment will be the lesser of the difference between the value of the item for continued use in place and the net proceeds of the sale or the estimated cost of moving the item.

If no offer is received for the personal property and the property is abandoned, the owner is entitled to receive the lesser of the value for continued use of the item in place or the estimated cost of moving the item and the reasonable expenses of the sale. When personal property is abandoned without an effort by the owner to dispose of the property by sale, the owner will not be entitled to moving expenses, or losses for the item involved.

The owner of a displaced business may be reimbursed for the actual reasonable expenses in searching for a replacement business up to \$500.

All expenses must be supported by receipted bills. Time spent in the actual search may be reimbursed on an hourly basis, but such rate may not exceed \$10 per hour.

In lieu of the payments described above, the State may determine that the owner of a displaced business is eligible to receive a payment equal to the average annual net earnings of the business. Such payment shall not be less than \$2,500 nor more than \$10,000. In order to be entitled to this payment, the State must determine that the business cannot be relocated without a substantial loss of its existing patronage, the business is not part of a commercial enterprise having at least one other establishment in the same or similar business that is not being acquired, and the business contributes materially to the income of a displaced owner.

Considerations in the State's determination of loss of existing patronage are the type of business conducted by the displaced business and the nature of the clientele. The relative importance of the present and proposed locations to the displaced business, and the availability of suitable replacement sites are also factors.

In order to determine the amount of the "in lieu of" moving expenses payment, the average annual net earnings of the business is considered to be one-half of the net earnings before taxes, during the two taxable years

immediately preceding the taxable year in which the business is relocated. If the two taxable years are not representative, the State, with approval of the Federal Highway Administration, may use another two-year period that would be more representative. Average annual net earnings include any compensation paid by the business to the owner, his spouse, or his dependents during the period. Should a business be in operation less than two years, but for twelve consecutive months during the two taxable years prior to the taxable year in which it is required to relocate, the owner of the business is eligible to receive the "in lieu of" payment. In all cases, the owner of the business must provide information to support its net earnings, such as income tax returns, for the tax years in questions.

For displaced farms and non-profit organizations, actual reasonable moving costs generally up to 50 miles, actual direct losses of tangible personal property, and searching costs are paid. The "in lieu of" actual moving cost payments provide that the State may determine that a displaced farm may be paid a minimum of \$2,500 to a maximum of \$10,000 based upon the net income of the farm, provided that the farm has been discontinued or relocated. In some cases, payments "in lieu of" actual moving costs may be made to farm operations that are affected by a partial acquisition. A non-profit organization is eligible to receive "in lieu of" actual moving cost payments, in the amount of \$2,500.

A more detailed explanation of the benefits and payments available to displaced persons, businesses, farms, and non-profit organizations is available in Relocation Brochures that will be distributed at the public hearings for this project and will also be given to displaced persons individually in the future.

In the event comparable replacement housing is not available to rehouse persons displaced by public projects or that available replacement housing is beyond their financial means, replacement "housing as a last resort" will be utilized to accomplish the rehousing. Detailed studies will be completed by the State Highway Administration and approved by the Federal Highway Administration before "housing as a last resort" could be utilized. "housing as a last resort" could be provided to displaced persons in several different ways although not limited to the following:

1. An improved property can be purchased or leased.
2. Dwelling units can be rehabilitated and purchased or leased.
3. New dwelling units can be constructed.
4. State acquired dwellings can be relocated, rehabilitated, and purchased or leased.

Any of these methods could be utilized by the State Highway Administration and such housing would be made available to displaced persons. In addition to the above procedure, individual replacement housing payments can be increased beyond the statutory limits in order to allow a displaced person to purchase or rent a dwelling unit that is within his financial means.

The "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" requires that the State Highway Administration shall not proceed with any phase of any project which will cause the relocation of any person, or proceed with any construction project until it has furnished satisfactory assurances that the above payments will be provided and that all displaced persons will be satisfactorily relocated to comparable decent, safe and sanitary housing within their financial means or that such housing is in place and has been made available to the displaced person.