

ENVIRONMENTAL ASSESSMENT

FOR

CONTRACT NO. T-348-101-271

MD. RTE., 33 RELOCATED

AT ST. MICHAELS

FROM NORTH OF LINCOLN AVE. TO

NORTH OF YACHT CLUB ROAD



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

and
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Report Number: FHWA-MD-EA-84-08-D

Federal Highway Administration
Region III

Maryland Route 33 Relocated at St. Michael's, Maryland
From North of Lincoln Avenue to
North of Yacht Club Road
Talbot County, Maryland

ADMINISTRATIVE ACTION

ENVIRONMENTAL ASSESSMENT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
AND
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

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

Hal Kassoff
Administrator

12/5/84

DATE

Neil J. Pedersen

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

12/10/84

DATE

for

Fred J. Hempel
Federal Highway Administration
Division Federal Highway
Administrator

SUMMARY

SUMMARY

1. Administrative Action

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

2. Additional Information:

Additional information concerning this project may be obtained by contacting:

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

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

3. Description of Action

The proposed project is a relocation of existing Maryland Route 33 in Talbot County, Maryland. The study limits begin north of Lincoln Avenue prior to the corporate town limits of St. Michaels Maryland, and extend to the vicinity of Yacht Club/ Rolles Range Road, just beyond the northerly town limits. (See Figure I-2)

Three Build Alternates and the No-Build Alternate are being considered. The Build Alternates propose a two lane relocation of Maryland Route 33 along one of three alignments west of the town of St. Michaels. A fixed span bridge would be required for the crossing of San Domingo Creek.

The proposed action would provide for the separation of through and local traffic in order to relieve congested traffic conditions and improve access and safety conditions in St.

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Michaels. Maryland Route 33 (Talbot Street) is the main through street in St Michaels. The town of St. Michaels is a major tourist attraction.

This study was requested by the Talbot County Council and the Commissioners of St. Michaels and is consistent with the objectives outlined in the Comprehensive Development Plan for St. Michaels, published in 1980 and the Talbot County Comprehensive Plan, published in 1973.

4. Alternates Summary

Under Alternate 1, the No-Build Alternate, there would be no major improvements to existing Maryland Route 33 in St. Michaels, aside from normal maintenance and safety improvements.

All Build Alternates are similar in that they propose a two lane relocation of Maryland Route 33 diverging in a westerly direction from the existing roadway southeast of the corporate town limits. See the Alternates Mapping in Section III. The typical roadway section would consist of two 12 foot lanes with adjacent ten foot shoulders contained within an 84 foot minimum right-of-way. Left turn lanes would be provided at intersections with Trice Field Road, Railroad Avenue and Brooks Lane under all Build Alternates with additional intersections planned at Grace Street and West Chew Avenue under alternate 2 Modified.

The roadway would converge with existing Maryland Route 33 just north of the corporate town limits in the vicinity of Yacht Club Road which would be reconstructed to provide an intersection with Rolles Range Road.

Alternate 2 Modified would relocate Maryland Route 33 adjacent

to the western corporate limits of the town, on the west side of the Delmarva Power right-of-way. Just north of Railroad Avenue, Alternate 2 Modified crosses over the power line right-of-way to intersect Brooks Lane near the town limits. Relocation of a section of Brooks Lane would be required to maintain the continuity of this local street. The alignment would then follow roughly the town limits, curving northeastward to intersect Maryland Route 33 in the vicinity of Yacht Club Road/Rolles Range Road.

Alternates 4A and 4B would relocate Maryland Route 33 further west of the St. Michaels town limits. Both alternates would intersect a relocated Trice Field Road and cross San Domingo Creek on structure approximately 900 feet southwest of the creek headwaters. The lane and shoulder widths on the approximately 460 foot long structure would be consistent with that of the roadway and would be contained within a 47+ foot right-of-way. Past the northern touchdown point of the bridge, Alternates 4A and 4B diverge. Alternate 4A begins curving northeast after the northern touchdown point of the bridge, crossing the power line right-of-way at its intersection with Dodson Avenue. Alternate 4B is located farther west than 4A and 2 Modified, running roughly parallel to the Delmarva Power right-of-way until 4B curves northeast, crossing the power line right-of-way at its intersection with Brooks Lane. Both alternates then proceed in a northeasterly direction, to the vicinity of Rolles Range Road. Yacht Club Road would be relocated directly across from Rolles Range Road to create an intersection with Maryland Route 33.

5. Impacts

The most beneficial impact of the relocation of Maryland Route

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33 is the separation of through and local traffic during weekend recreational peak usage. This would improve traffic flow and relieve congestion on Maryland Route 33 creating safer conditions for both vehicular and pedestrian traffic. The community would derive an overall benefit from improved access to area businesses and tourist attractions.

Impacts associated with the relocation of Maryland Route 33 are similar for all Build Alternates proposed and are displayed numerically in table S-1.

All proposed Build Alternates would require residential relocations, some of which would affect residents of a minority community in the vicinity of Brooks Lane. Also, one business will be affected under Alternate 2 Modified. Relocation assistance will be provided to insure that decent, safe and sanitary housing is provided for those involved. (See Section VI)

There is a potential for visual impacts on the National Register historic sites Crooked Intentions, (4A and 4B), and the St. Michaels historic district (2 Modified). None of the proposed Build Alternates require property belonging to the historic site or district. Phase I archeological reconnaissance has identified one site in the study area which will require further study. Alternates 4A and 4B will impact this site.

All Build Alternates considered would require five stream crossings including one at San Domingo Creek, and alternates 2 Modified and 4A would encroach on the designated 100 year floodplain. Some woodland habitat, as well as non-tidal wetland areas would be affected by all alternates considered. In addition, Alternate 2 Modified would affect a small area (.25 acre) of tidal

wetland.

No violations of the State or National Ambient Air Quality Standards (S/NAAQS) for carbon monoxide are predicted to occur with either build alternate in the project completion year (1990) or design year (2010). FHWA Noise Abatement Criteria would be exceeded at five (5) sites under all the build alternates. No rare or endangered species are known to inhabit the study area.

This action is consistent with the St. Michaels Comprehensive Development Plan and the Talbot County Comprehensive Plan, and would not have any impact on any public parks, recreational or public facilities.

TABLE S-1
SUMMARY OF IMPACTS/COSTS
MARYLAND ROUTE 33 RELOCATED

	<u>No Build</u>	<u>Alt. 2 Modi.</u>	<u>Alt. 4A</u>	<u>Alt. 4B</u>
<u>Impacts</u>				
Prime Farmland	0	1 acre	.6 acre	.6 acre
Residential Displacements	0	5 families	2 families	2 families
Minority Displacements	0	3 families	2 families	2 families
Business Displacements	0	1 partial	0	0
Historic Sites Affected	0	0	0	0
Wetland Acreage Impacted:				
Tidal	0	.25 acre	0	0
Non-Tidal	0	2.4 acres	1.4 acres	.8 acre
Floodplain Encroachment	0	1.9 acres	.8 acre	0
Stream Crossings	0	5	5	5
Threatened or Endangered				
Species Affected	0	0	0	0
Habitat Loss (Woodland)	0	11.3 acres	13.6 acres	16.4 acres
Noise Level Impacts				
(Sites Exceeding Criteria)	4	5	5	5
Air Quality Impacts				
(Sites Exceeding Standards)	0	0	0	0
Consistent with Land Use Plans	No	Yes	Yes	Yes
<u>Costs (\$)</u>				
Total Preliminary Eng.	0	309,733	377,948	389,319
Total Right-of-way	0	818,720	767,760	754,600
Total Construction	0	2,615,709	4,642,540	4,782,218
TOTAL	<u>0</u>	<u>3,744,162</u>	<u>5,788,248</u>	<u>5,926,137</u>

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

The checklist identifies specific areas of the natural and social-economic 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.

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ENVIRONMENTAL ASSESSMENT FORM

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

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
12. Will the action affect the use of any natural or man-made features that are unique to the county, state, or nation?	_____	<u>X</u>	_____
13. Will the action affect the use of an archeological or historical site or structure?	<u>X</u>	_____	<u>Section IV-D</u>
B. Water Use Considerations			
14. Will the action require a permit for the change of the course, current, or cross-section of a stream or other body of water?	_____	<u>X</u>	_____
15. Will the action require the construction, alteration, or removal of a dam, reservoir, or waterway obstruction?	_____	<u>X</u>	_____
16. Will the action change the overland flow of storm water or reduce the absorption capacity of the ground?	<u>X</u>	_____	<u>Section IV-E-3</u>
17. Will the action require a permit for the drilling of a water well?	_____	<u>X</u>	_____
18. Will the action require a permit for water appropriation?	_____	<u>X</u>	_____
19. Will the action require a permit for the construction and operation of facilities for treatment or distribution of water?	_____	<u>X</u>	_____
20. Will the project require a permit for the construction and operation of facilities for sewage treatment and/or land disposal of liquid waste derivatives?	_____	<u>X</u>	_____

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
21. Will the action result in any discharge into surface or sub-surface water?	<u>X</u>	<u> </u>	<u>Section IV-E-3</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>Section IV-F</u>
24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	<u> </u>	<u>X</u>	<u> </u>
25. Will the action generate additional noise which differs in character or level from present conditions?	<u>X</u>	<u> </u>	<u>Section IV-G</u>
26. Will the action preclude future use of related air space?	<u> </u>	<u>X</u>	<u> </u>
27. Will the action generate any radiological, electrical, magnetic, or light influences?	<u> </u>	<u>X</u>	<u> </u>
D. Plants and Animals			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?	<u> </u>	<u>X</u>	<u> </u>
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?	<u> </u>	<u>X</u>	<u>Section IV-E-4</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

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
31. Will the action result in a pre-emption or division of properties or impair their economic use?	<u>X</u>	_____	<u>Section IV-A, B</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>Section IV-A, B</u>
33. Will the action alter land values?	_____	<u>X</u>	<u>Page 2</u>
34. Will the action affect traffic flow and volume?	<u>X</u>	_____	<u>Section I-C</u>
35. Will the action affect the production, extraction, harvest or potential use of a scarce or economically important resource?	_____	<u>X</u>	_____
36. Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?	_____	<u>X</u>	_____
37. Is the action in accord with federal, state, regional and local comprehensive or functional plans--including zoning?	<u>X</u>	_____	<u>Section II-B</u>
38. Will the action affect the employment opportunities for persons in the area?	_____	<u>X</u>	_____
39. Will the action affect the ability of the area to attract new sources of tax revenue?	_____	<u>X</u>	_____
40. Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?	_____	<u>X</u>	_____

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
41. Will the action affect the ability of the area to attract tourism?	<u>X</u>	<u> </u>	<u>Section II-A</u>
F. Other Considerations			
42. Could the action endanger the public health, safety or welfare?	<u> </u>	<u>X</u>	<u> </u>
43. Could the action be eliminated without deleterious affects to the public health, safety, welfare or the natural environment?	<u> </u>	<u>X</u>	<u>Section II-C, D</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>
47. This agency will develop a complete environmental effects report on the proposed action.	<u>X</u>	<u> </u>	<u> </u>

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**I. DESCRIPTION
OF PROPOSED ACTION**

I. DESCRIPTION OF PROPOSED ACTION

A. PROJECT LOCATION

The proposed project is located at St. Michaels, a Talbot County community on Maryland's eastern shore. (See Figure I-1) St. Michaels is situated on a peninsula in the western part of the county. It is bordered on the north by the Miles River and on the south by San Domingo Creek, a secondary tributary of the Choptank River. Maryland Route 33, generally oriented east to west, curves through St. Michaels in a north/south direction. The study area begins north of Lincoln Avenue, curves west, around St. Michaels and intersects Maryland Route 33 in the vicinity of Yacht Club Road, a distance of approximately two (2) miles. (See Figure I-2)

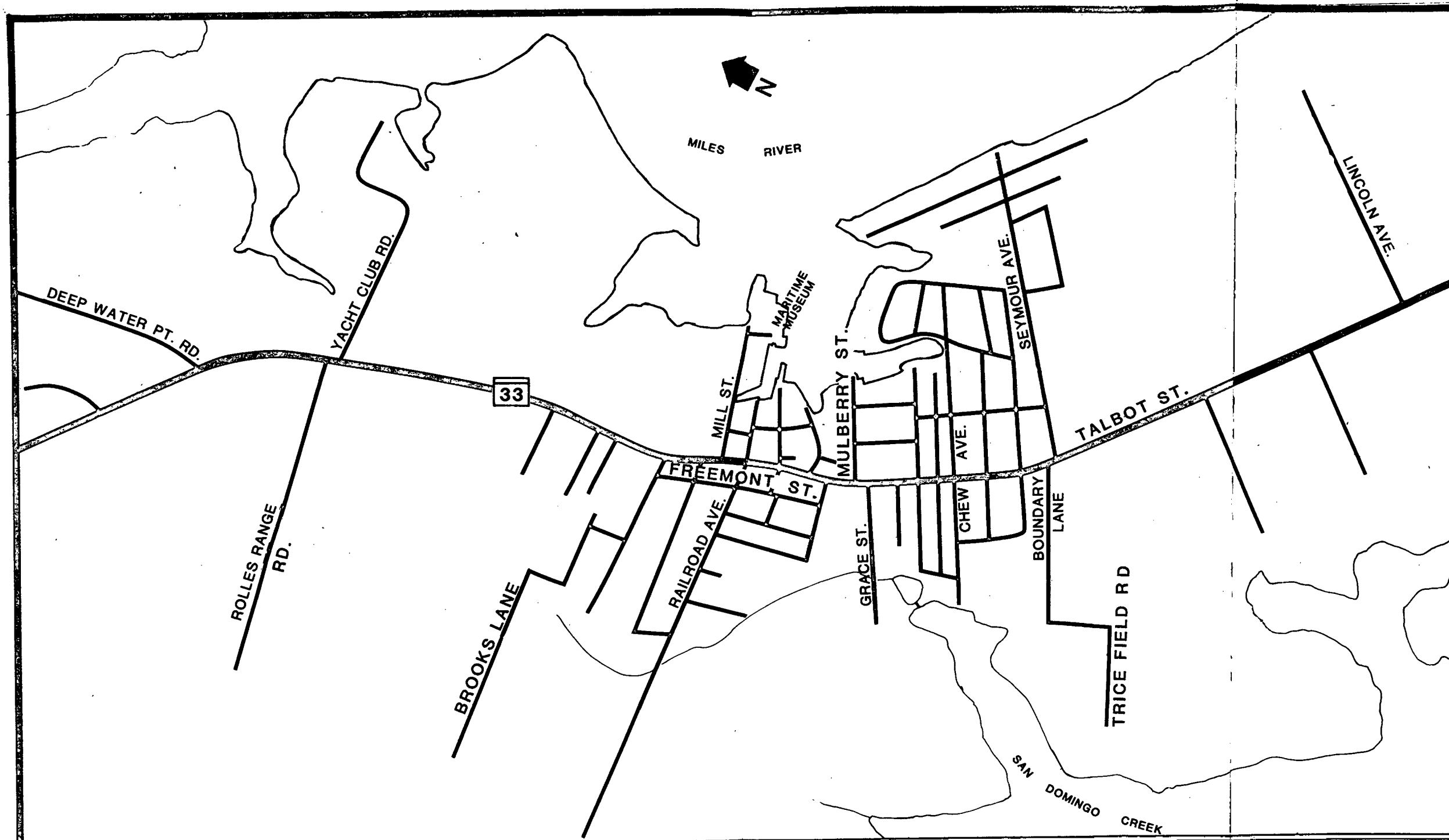


MD. 33 RELOCATED

PROJECT AREA

SCALE: 1" = 2'

FIGURE 1-1



MARYLAND ROUTE 33 - RELOCATED

STUDY AREA

NOT TO SCALE

FIGURE I-2

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B. DESCRIPTION OF EXISTING ENVIRONMENT

1. Existing Roadway

Existing Maryland Route 33 serves as the only through roadway connecting Easton with Tilghman Island. The existing road, classified as a minor arterial, has two, twelve foot lanes with shoulders, and no control of access.

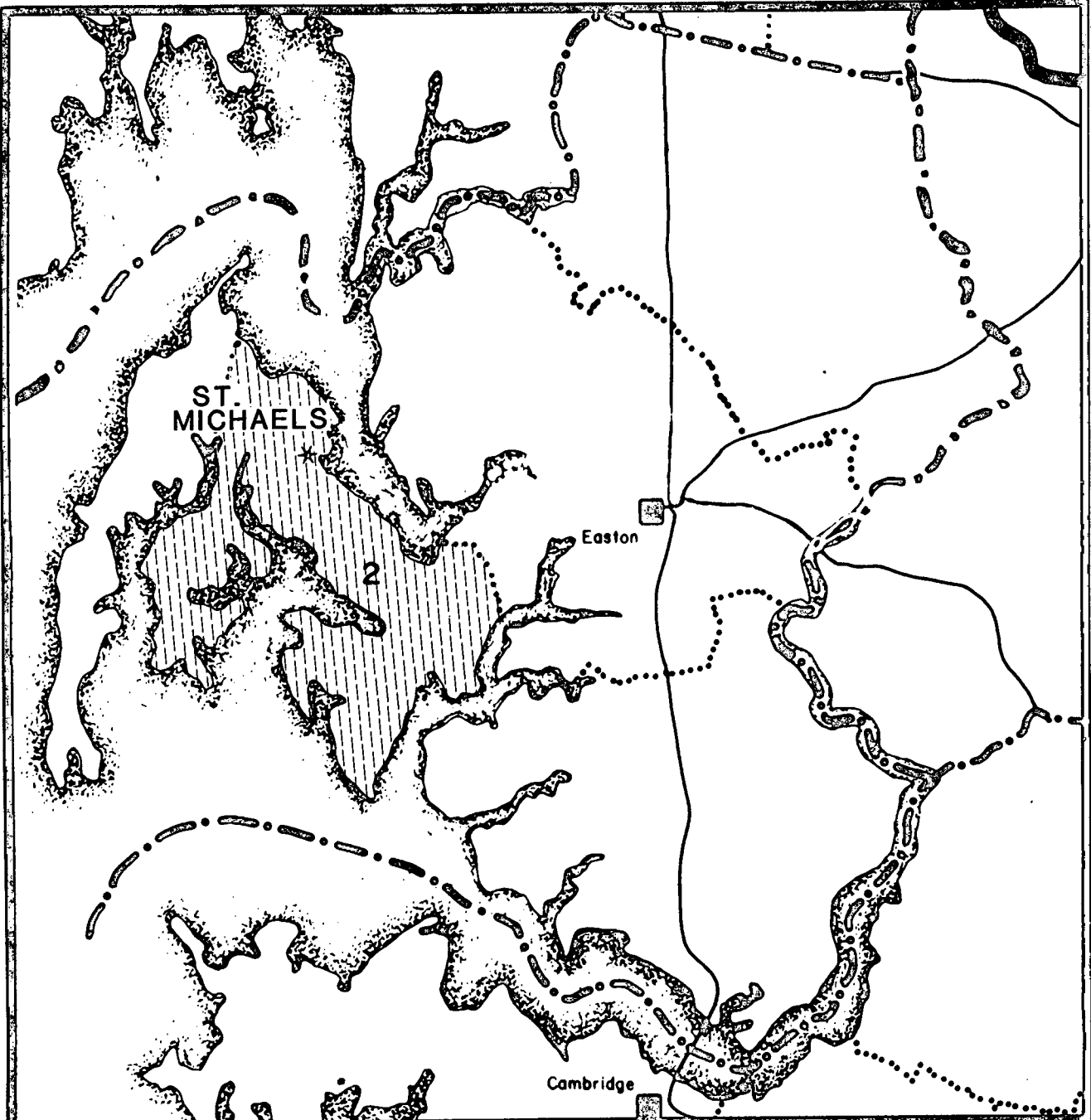
In St. Michaels, Maryland Route 33 becomes Talbot Street and serves as the only through street in the town. Talbot Street is narrow, averaging 30 feet in width, from curb to curb, with parking allowed throughout the town on one side of the street. Several blocks of the downtown business district permit parking on both sides of the road due to the limited amount of off street and side street parking available.

Most side streets in St. Michaels are relatively narrow in width and intersect Talbot Street at 90° angles, with unsignalized intersections. These factors, coupled with limited sight distance due to parked cars on Talbot Street can create difficult traffic maneuvers that conflict with through traffic movements.


Functioning as the only through street in St. Michaels, this roadway must serve, not only local circulation needs, but must also accommodate longer distance trips for automobiles, as well as truck traffic.


2. Social Environment


St. Michael's population has experienced little change in the past few decades. It remained fairly stable from 1950 to 1970-varying between 1400-1500 people. By 1980 the town's population had declined to 1301. Election District 2, which includes St. Michaels (See Figure I-3), gained by 4.9% during that



LEGEND

TALBOT COUNTY 

ST. MICHAELS * 

ELECTION DISTRICT 2 

**MD. 33
RELOCATED**

ELECTION DISTRICTS

NOT TO SCALE FIGURE 1-3

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time, reflecting the growth of new housing adjacent to the town.

Table I-1 Population in Study Area

	1980	1970	Percent Change '70-'80
St. Michaels	1301	1456	-10.6
Election District 2	4639	4413	+4.9

Source: U.S. Census of Population and Housing, 1980

Although the numbers of people have changed little, there are some unmistakable changes occurring in the character of St. Michaels. The town is still considered rural; but it is emerging as an important center for tourism and as a retirement community.

During the summer it is a popular port-of-call for pleasure boat owners, as well as, for tourists who drive to town to explore the historic district and the marine oriented activities such as the Maritime Museum.

The importance of St. Michaels as a retirement community is reflected in the high percentage of older residents in the town and surrounding election district. The percentage of residents in St. Michaels age 60 and older increased 7.6% from 1970 to 1980. This is a significant increase compared to Talbot County and the State as a whole. Election District 2 also has experienced a rather high rate of increase of residents aged 60 and older.

Table I-2 Residents Age 60 and Over as a Percentage of Total Population

	1980	1970	Percent Increase '70-'80
St. Michaels	30.3	22.7	7.6
Election District 2	30.8	25.7	5.1
Talbot County	24.0	20.1	3.9
Maryland	13.7	11.3	1.4

Source: U.S. Census of Population and Housing, 1980

The racial composition of the town is 60% white, and 39% black. The black population is significantly higher in St. Michaels than in both Election District 2 and Talbot County as a whole.

Table I-3 Racial Composition in Study Area

	(Percent of Total Population)		
	Black	White	Other
St. Michaels	39.35	60.41	.2
Election District 2	17.87	82.06	.06
Talbot County	21.3	78.4	.3
Maryland	22.7	74.9	2.4

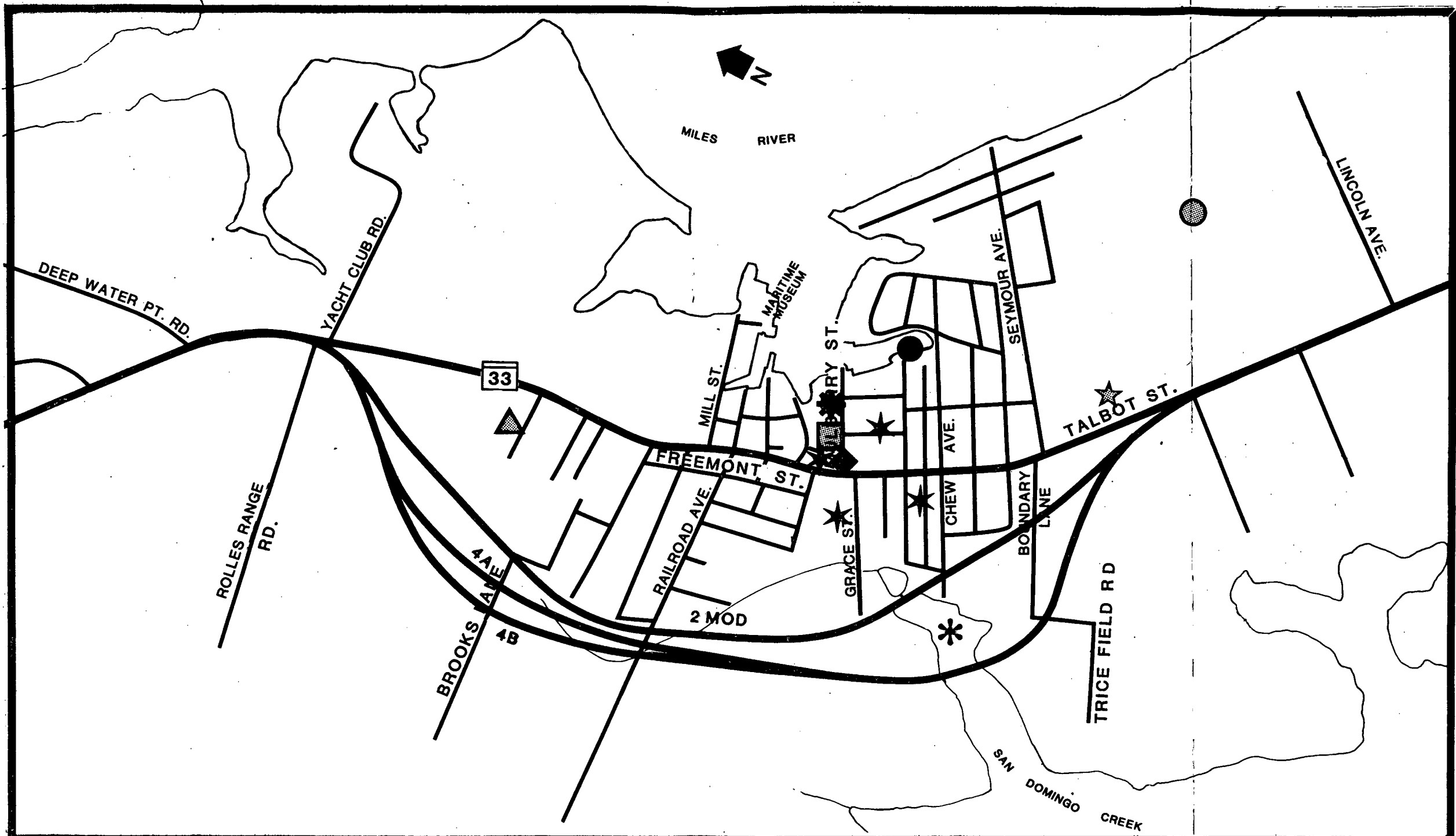
Source: U.S. Census of Population and Housing, 1980

There is a black community along Brooks Lane in the northwestern section of town and in the vicinity of the public housing unit at Freemont and Dodson Avenues. In addition, many black families are scattered throughout the town.

3. Community Facilities and Services (Figure I-4)

The town's community facilities include the St. Michaels Elementary, Junior and Senior High Schools, four churches, the volunteer fire department and ambulance service, post office, two museums, a county maintained ballfield and two (2) acre park, a boat dock and a town office building. The county also is planning an eleven acre park for the area just north of town and east of Maryland Route 33.

The town's sewage treatment plant is operated by the county and has a 500,000 GPD capacity. The public water supply comes from two wells. St. Michaels provides trash disposal and pick up for its residents.



LEGEND

- ★ CHURCH
- ★ ST. MICHAELS SCHOOL (Elem., Middle & High)
- ◆ POST OFFICE
- FIRE STATION
- * TOWN DOCK
- TOWN SLIPS & BOAT RAMP
- SEWAGE TREATMENT PLANT
- ▲ COUNTY BALLFIELD
- * CHURCH COVE PARK

MARYLAND ROUTE 33 - RELOCATED

COMMUNITY FACILITIES

NOT TO SCALE

FIGURE I-4

4. Economic Environment

The economy of St. Michaels has always been based on maritime activities in one way or another. In the 1700's and 1800's boat building was the key industry in town. By the early 1900's the seafood industry was the principal source of income for St. Michaels residents. Since about 1945 tourism has emerged as the mainstay of the town's economy. In addition to the attraction of the maritime museum, seafood restaurants and various specialty shops, the area has become a thriving real estate marketplace for retirement and vacation homes.

Although tourism is undoubtedly the backbone of the town's economy, it is seen as a mixed blessing by many long-term residents. It has changed the kind and number of local employment opportunities, as well as the nature of goods and services available to those who live in St. Michaels year-round. Overall, more jobs were available and more people were employed in 1980 than in 1970. However, since 1970 there has been a sharp decrease in full-time jobs, while seasonal and part-time jobs increased. Many of these job opportunities were not sufficient to support young families which moved away from St. Michaels to find work, according to the St. Michaels Comprehensive Plan.

The business community reflects these patterns of mixed benefits also. The overall number of businesses in St. Michaels has increased. From 1970 to 1979 the number of retail establishments increased by 27 stores; at the same time the service industry, which primarily serves local residents, declined by 13 shops. Thus, local residents often must travel further (in some cases outside St. Michaels) and pay more money for certain

goods and services that have been replaced by tourist-related establishments. Tourism is expected to continue expanding in St. Michaels.

5. Existing Land Use (See Figure I-5)

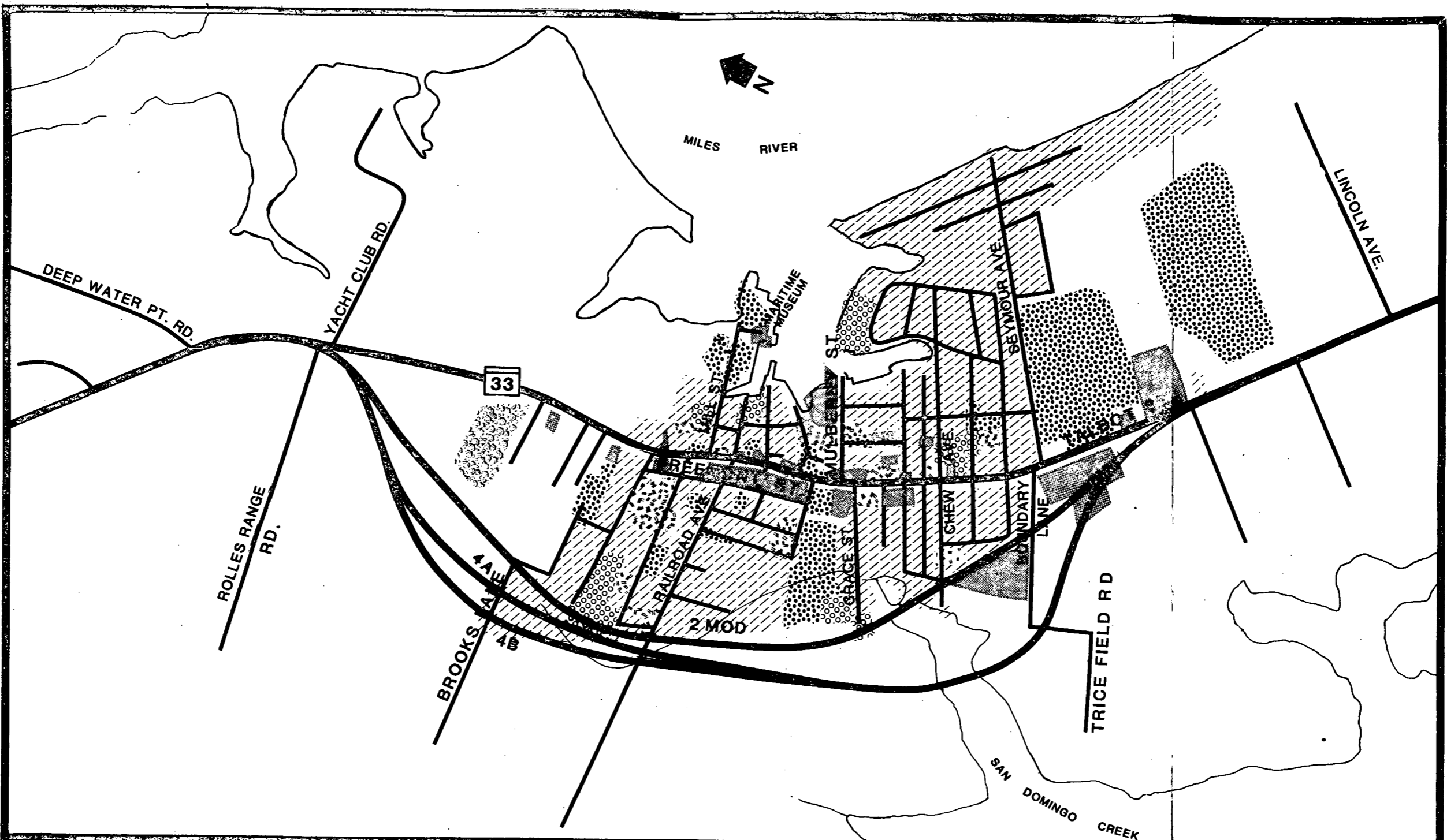
Commercial

The commercial core of the town is located along both sides of Talbot Street from one end of town to the other. Most of the shopping facilities used by local residents are found between Mill and Mulberry Streets. These include grocery, clothing and furniture stores, as well as services such as a laundry and pharmacy. Specialty shops and tourist-related businesses are also located along Talbot Street. A second commercial area is located around the St. Michaels harbor and consists of boatyards, marinas and seafood restaurants.

Commercial land use grew by 42.8% from 1970 to 1979. This represents the greatest increase of any land use in the town. Much of that growth was strip development along Talbot Street both north and south of the commercial core. The St. Michaels Planning Commission considers this strip development a problem because it reduces the compact nature of the commercial area and aggravates traffic control and parking problems.

Residential

Approximately 40% of the town's total area is in residential use which extends from the commercial strip along Talbot Street east and west to the town limits in most areas. Most of the area is comprised of single family dwellings, although a few multiple family dwellings are scattered about the town. A new 36 unit public housing project is located at Dodson and Freemont Streets.



<p>LEGEND</p> <p> LOW DENSITY RESIDENTIAL</p> <p> MEDIUM DENSITY RESIDENTIAL</p> <p> COMMERCIAL</p> <p> INDUSTRIAL</p> <p> PARKS & RECREATION</p> <p> PUBLIC & SEMI-PUBLIC</p> <p> OPEN SPACE & AGRICULTURAL</p>		<p>MARYLAND ROUTE 33 - RELOCATED</p>	
<p>EXISTING LAND USE</p>			
<p>NOT TO SCALE</p>		<p>FIGURE I-5</p>	

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Recent development southeast of town is characterized by single family homes on large lots, while new town houses are being built north of the town limits.

Industry

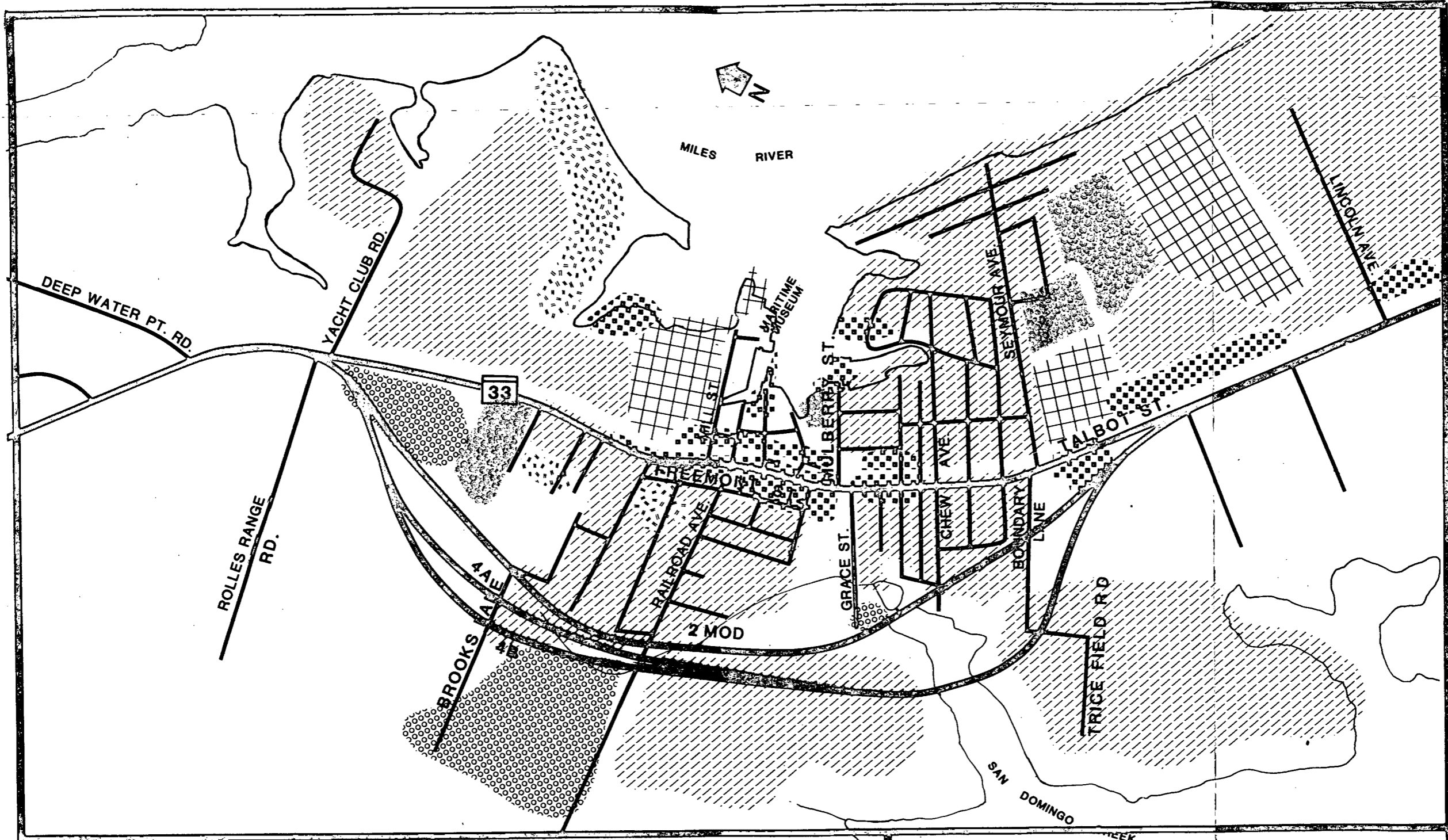
The St. Michaels Harbor is the center for local marine-oriented industry such as boat repair. Other industrial sites include a welding foundry located at Chew Avenue and Talbot Street, an electrical substation and heating oil company at the end of Grace Street, and a construction Company on Dodson Avenue.

6. Future Land Use (Figure I-6)





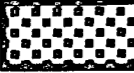


Land use patterns are not expected to change significantly in the St. Michaels area. The central commercial area and the maritime commercial area by the harbor will remain where they are for the most part. Some commercial expansion will be encouraged west of the central business area, and further strip development north and south along Maryland Route 33 will be strictly limited. In the harbor area the town anticipates a need for additional commercial use, such as hotel/conference facilities.

Several new low density housing developments are expected to be built adjacent to the town to the north and west. Smaller areas of medium density homes are planned for the area just north of town.

Several proposed light industrial sites are located outside the town limits on the south and west sides. The sites on the west do not presently have access to the local transportation network except through town.



LEGEND

	LOW DENSITY RESIDENTIAL		INDUSTRIAL
	MEDIUM DENSITY RESIDENTIAL		PARKS & RECREATION
	COMMERCIAL		PUBLIC & SEMI-PUBLIC
			OPEN SPACE & AGRICULTURAL

MARYLAND ROUTE 33 - RELOCATED

FUTURE LAND USE

NOT TO SCALE

FIGURE I-6

7. Historic Sites and Archeological Sites

A historic site reconnaissance of the project area was completed, with the following results:

	<u>Level of Significance</u>
1) Crooked Intention	National Register
2) St. Michaels Historic District	National Register eligible

The Maryland Historical Trust stated that the St. Michaels Historic district is eligible for the National Register in its July 17, 1984 letter. (Section V, Comments) This district and Crooked Intention are the only sites which meet the criteria for inclusion in the National Register. (See Alternates Mapping)

Crooked Intentions

Located on the north bank of San Domingo Creek and one-half mile west of Saint Michael's is Crooked Intention, an early eighteenth century dwelling.

Crooked Intention is an excellent example of an early eighteenth century tidewater Maryland dwelling. Basically unaltered, it retains a great deal of its original woodwork.

St. Michaels Historic District

St. Michaels was significant as a major shipping and boatbuilding center in the 18th century. Although there are significant 18th century houses, such as the Tarr, Bruff, Bruff-Mansfield and Crepe Myrtle houses, 19th century buildings predominate. The heaviest concentration of the more distinctive examples is located within the historic district, the boundaries of which were developed by the citizens in 1974. A determination of eligibility will be sought prior to Location/Design Approval.

The Maryland Geological Survey, in the November 16, 1984 letter, (See Section V), has determined that two archeological sites, a 20th century site and an aboriginal site, are located within the study area.

8. Natural Environment

a. Topography/Physiography

The entire area lies within the Eastern Shore Coastal Plain Physiographic Province with elevations ranging from sea level to approximately 20 feet above sea level. The terrain of the study area is characteristic of the generally flat or gently rolling topographic relief typical of the eastern shore. Generally, existing slopes are within a range of 0% to 5%.

b. Geology

The Coastal Plain Province consists of unconsolidated sands, silts, and clays mixed with and then changing to unconsolidated layers of sedimentary rocks. These strata overlie a crystalline basement complex.

Lowland deposits, occurring throughout the study area, consist of medium to coarse grained sand and gravel and varicolored silts and clays.

Mineral resources in the study area include sand, clay, and greensand (a soil conditioner). No mining activity is in progress within the study area.

Groundwater supplies in the study area originate primarily from the Aquia formation, the most productive of four aquifers which underlie the study area at varying depths. The major water bearing sand and gravel of the Aquia formation lies from 300 to 500 feet deep, generally increasing in depth from west to east. The

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Aquia formations widely used for wells in the coastal plain because it is a relatively large aquifer which yields a generally good grade of water.

c. Soils

The soils in the study area belong to two major soil associations:

Keyport-Mattapex Association - Consists of level to gently sloping, moderately well drained soils that have a subsoil of silty clay loam or silt loam.

Elkton-Othello-Barclay Association - Contains level and nearly level, poorly drained and somewhat poorly drained soils that have a subsoil of silty clay to silt loam.

Prime Farmland Soils - A small portion of the study area has been classified by the U.S. Department of Agriculture, Soil Conservation Service as Prime Farmland Soils. There is no indication of any unique farmland in the study area.

d. Surface Water

The peninsula on which St. Michael's is located is indented by many small bays and inlets and traversed by a few streams or rivers. Some of the more significant estuaries include the Miles River located east of St. Michaels, and Broad Creek and San Domingo Creek which are west and southwest of the town.

The Maryland Department of Natural Resources (DNR), Water Resources Administration has classified all surface waters of the state into four categories, according to desired use. These categories are:

Class I - Water Contact Recreation for Fish, other
Aquatic Life and Wildlife

Class II - Shellfish Harvesting

Class III - Natural Trout Waters

Class IV - Recreational Trout Waters

All waters of the State are Class I, with additional protection provided by higher classifications. All waters in the study area are designated as Class II with the exception of St. Michaels Harbor, east of town, which is designated Class I.

e. Floodplains

100 year floodplains within the study area, shown on the alternates mapping are based on U.S. Department of Housing and Urban Development (HUD) floodplain mapping for the area. This mapping shows extensive floodplains covering a large portion of the study area.

f. Ecology

1.) Terrestrial

The Maryland Route 33 study area consists of the following terrestrial habitat types:

Willow Oak-Loblolly Pine Association - This association is characterized by the presence of loblolly pine and willow oak. Other common species include red maple, sweet gum, black gum, American holly, white oak and sassafrass. Major shrubs include greenbriers and Virginia creeper. Most woodland or forested areas in the study area belong to this association, which is found extensively throughout the coastal plain.

Cultivated Field - Approximately 20% of the town of St. Michaels is currently undeveloped. Areas under cultivation are located at the north and south ends of town and also beyond the western town limit adjacent to the power line right-of-way.

Old Field - is a younger successional stage of forest

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communities. The flora of these areas are varied, but typically consist of numerous grasses, asters, golden rods, sumac, various shrubs and saplings. This habitat is distributed throughout the study area.

2.) Aquatic Habitat

Wetlands are essential components of the freshwater ecosystem in the study area, providing valuable habitat for numerous plant and animal species. Wetland vegetation provides flood protection, silt retention, control of some types of water pollution, erosion protection, and is an important source of food for aquatic life.

Wetlands in the study area have been identified by field inspections and the U.S. Department of Interior, National Wetland Inventory (Draft, June, 1983).

Tidal wetlands are primarily concentrated in the area directly adjacent to the upper portion of San Domingo Creek, while non-tidal wetlands are located in several areas throughout the study area. The predominant wetland types, as classified by the U.S. Fish and Wildlife Service, are briefly described below. Wetlands in the study area are identified in the alternates mapping.

Estuarine Intertidal Emergent Wetland - characterized by erect, rooted hydrophytes excluding mosses and lichens. Common vegetation includes saltmarsh cordgrass, slat meadow cordgrass, big cordgrass, madlerush, narrow-leaved cattail, and southern wild rice.

Paulstrine Forested (broad-leaved deciduous) - characterized by woody vegetation 6 meters tall or taller dominants include red maple, American elm (*Ulmus americana*), and ashes (*Fraxinus* spp.) also (needle-leaved evergreen) loblolly pine (*Pinus taeda*) and pond

pine (*Pinus serotina*).

Palustrine Emergent - characterized by erect, rooted, herbaceous hydrophytes including cattails (*Typha* spp.), bulrushes (*Scirpus*, spp.), sedges (*Carex* spp.), reed (*Phragmites communis*), and a variety of narrow-leaved persistent emergents; may also contain nonpersistent emergents such as arrow arum (*Peltandra virginica*) and arrowheads (*Sagittaria* spp.).

Palustrine Scrub-Shrub (broad-leaved deciduous) - areas dominated by woody vegetation less than 6 meters tall; including true shrubs, young trees, and environmentally small or stunted trees; typical dominants are alders (*Alnus*, spp.) willows (*Salix* spp.), buttonbush (*Cephalanthus* spp.), and young trees such as red maple (*Acer rubrum*).

g. Endangered Species

Correspondence with the U.S. Fish and Wildlife Service and Maryland Department of Natural Resources - Wildlife Administration, indicates that there are no known populations of threatened or endangered species in the study area. See the letter dated 12/7/83 in the Section V.

9. Air Quality

The Maryland Route 33 Relocated project is within the Eastern Shore Intrastate Air Quality Control Region. The Maryland State Implementation Plan does not require any transportation control measures for this region. The U.S. Environmental Protection Agency has classified the area for carbon monoxide as: "Cannot be classified or better than national standards".

A detailed microscale air quality analysis has been performed to determine the CO impact of the proposed project which is

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described in further detail in Section IV.

10. Existing Noise Conditions

Nine (9) noise sensitive areas (NSA) have been identified in the Maryland Route 33 study area. Descriptions of the noise sensitive areas are provided in Table I-4. The location of the NSA's are shown on the alternates mapping in Section III. A copy of the technical Analysis report is available at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland, 21202.

Highway traffic noise is usually measured on the "A" weighted decibel scale "dBA", which is the scale that has a frequency range closest to that of the human ear. In order to give a sense of perspective, a quiet rural night would register about 25 dBA, a quiet suburban night would register about 60 dBA, and a very noisy urban daytime about 80 dBA. Under typical field conditions, noise level changes of a 2-3 dBA can barely be detected, with a 5 dBA change readily noticeable. A 10 dBA increase is judged by most people as a doubling of sound loudness. (This information is presented in the "Fundamentals and Abatement of Highway Traffic Noise" by Bolt, Beranek & Newman, Inc. for FHWA, 1980).

The Federal Highway Administration has established, through Federal-Aid Highway Program Manual (FHPM) 7-7-3, noise abatement criteria for various land uses. (See Table I-5)

These levels are expressed in terms of an L10 noise level which describes a noise level that is exceeded for 10% of a given time period. All ambient and predicted levels in this report are L10 exterior noise levels unless otherwise noted.

Measurement of ambient noise levels is intended to establish

the basis for impact analysis. The ambient noise levels as recorded represent a generalized view of present noise levels. Variations with time of total traffic volume, truck traffic volume, speed, etc., may cause fluctuations in ambient noise levels of several decibels. However, for the purposes of impact assessment, these fluctuations are not sufficient to significantly affect the assessment. Ambient noise levels were measured at noise sensitive areas in the Maryland Route 33 study area during two (2) different periods of the "typical" day based on the diurnal traffic curve:

- 1) non-rush hour (7:00 a.m.-4:00 p.m.) and
- 2) evening rush hour (4:00 p.m.-6:00 p.m.).

This was done to establish and quantify diurnal variations in noise levels resulting from changes in traffic volumes or vehicle mix. It was determined for all of the noise sensitive areas, the most typical noise conditions occur during the non-rush hour period (7:00 a.m.-4:00 p.m.). During this time, the highest noise levels are experienced for the greatest length of time.

The results of the ambient measurements are included in Table IV-4, along with the predicted noise levels; also see the alternates mapping for NSA receptor locations.

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TABLE I-4
NOISE SENSITIVE AREAS
MARYLAND ROUTE 33
ST. MICHAELS BYPASS

<u>Noise Sensitive Area</u>	<u>Activity Category</u>	<u>Description</u>
1	B	One (1), two-story single family townhouse unit on Plummer Drive. This building is not air conditioned.
2	B	One (1), two-story single family frame residence on West Chew Street. This building is not air conditioned.
3	B	One (1), two-story single family frame residence on Talbot Street. This building is not air conditioned.
4	B	One (1), one-story single family brick residence on Railroad Ave. This building is not air conditioned.
5	B	One (1), two-story single family frame residence on Talbot Street. This building is not air conditioned.
6	B	One (1), one-story single family frame residence on Brooks Lane. This building is not air conditioned.
7	B	Baseball Field on Talbot Street. This is an edge of right-of-way receptor.
8	B	One (1), two-story single family frame residence on Maryland Route 33. This building is not air conditioned.
9	B	One (1), two-story single family residence on Canton Farm Road. This building is not air conditioned.

TABLE I-5
NOISE ABATEMENT CRITERIA AND LAND USE RELATIONSHIPS
SPECIFIED IN FHPM 7-7-3

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

II. NEED FOR THE PROJECT

II. NEED FOR THE PROJECT

A. PURPOSE

The primary purpose of this project is to develop an alternate route around St. Michaels which would provide relief of present and predicted capacity and safety problems. Associated benefits of this action would be improved access to tourist attractions and retail services for vehicular, as well as pedestrian traffic, while reducing travel time through the study area. Relieving congestion in the town will aid fire companies and ambulance services, reducing critical delays in obtaining emergency services.

Maryland Route 33, Talbot Street in St. Michaels is the only through street in town and the only continuous roadway between Easton and the developing peninsular communities in western Talbot County. It is not only critical for local circulation within the town, but must also accommodate long distance traffic, generally seasonal tourist traffic, and also serves as the only route for commercial trucking. The majority of the town's commercial properties are located on Maryland Route 33 and generate traffic in the downtown area. Delivery trucks servicing these businesses must unload at the front entrances due to lack of off-street access, aggravating the congestion on Talbot Street.

Factors contributing to congestion in the town are primarily physical in nature. Talbot Street is narrow, averaging only 30 feet from curb to curb. The posted speed limit is 50 mph on Maryland Route 33, outside of St. Michaels, and 25 mph in the town. Parking in town is in short supply with little off-street parking available.

Compounding these problems during the summer months, and more recently on weekends throughout the year, is the influx of tourist traffic. In addition, the town also attracts a high percentage of bicycle traffic. The Easton-Oxford-St. Michaels route is one of the most popular designated bike routes in the State. Merging bicycle and automobile traffic creates a safety hazard and constricts the flow of traffic in St. Michaels.

Constructing the proposed project would provide for separation of through and local traffic and would improve congested traffic conditions which presently exist in town.

If the project is not implemented and no other improvements are made, congested traffic conditions will continue to worsen in St. Michaels. New residential and commercial development generating increased traffic will increase the potential for accidents. Traffic congestion will also negatively affect retail trade as access to commercial and tourist facilities becomes increasingly inconvenient.

B. PROJECT HISTORY

The project is supported by the Comprehensive Development Plan for St. Michaels, Maryland (1981). Calling for an alternate route around St. Michaels, the Plan recommends a two-lane street with limited access.

The Comprehensive Plan, Talbot County, Maryland (1974) recommends that road improvements in the St. Michaels area solve the transportation needs of the town itself rather than provide increased accessibility to areas west of St. Michaels. Recognized as a local improvement, the County elected officials have endorsed

the St. Michaels project as Talbot County's top priority State secondary highway project.

The proposal to construct a bypass of St. Michaels has been included in subsequent editions of the Twenty Year Highway Needs Study prepared by the State Highway Administration since 1968. Early plans envisioned the bypass as a four-lane dual highway that would be part of an ultimate dualization of Maryland Route 33 from west of St. Michaels to Easton.

This proposal was first programmed in the FY 1970-1974 Highway Improvement Program. Project planning activities were undertaken leading to an initial public informational meeting held on July 23, 1973. Subsequently, the County expressed concerns over the effects that the new roadway could have on future development. Fearing that increased accessibility would foster uncontrolled development in the Bay Hundered and Tilghman areas west of St. Michaels, County officials took a more cautious view of the improvement. The St. Michaels Bypass was later deleted from the State's 1975-1979 Highway Improvement Program.

In November of 1979, the President of the Commissioners of St. Michaels requested the County Council of Talbot County to request a study by the State Highway Administration to determine the feasibility of an alternate route around St. Michaels. In January of 1980, the Talbot County Council requested that the Maryland Department of Transportation include a project to be called the St. Michaels Parkway (Bypass), in the County's highway improvement program and Consolidated Transportation Program.

In October 1980, the President of the County Council of Talbot

County in a letter to the Secretary of the Department of Transportation, stated "We respectfully request that the procedure to initiate a project to construct this road (the St. Michael's Parkway) be expedited."

In February of 1983, the President of the Citizen's Association of St. Michaels, in a letter to the Talbot County Council, stated "We believe that construction of the West Side Drive (St. Michael's Parkway) is essential to the safety and welfare of the citizens and visitors in this area, and also essential for the responsible development of St. Michaels and the western portion of Talbot County."

The proposal is the County's number one priority for the State Highway Administration's Secondary System.

In response to the elected officials' request, Maryland Route 33 Relocated was included in the FY 1983-1988 Consolidated Transportation Program for development and evaluation. The project is presently included in the Draft FY 1984-1989 Program.

C. TRAFFIC CONDITIONS

The growing popularity of this historic eastern shore community has resulted in increasing traffic demands on St. Michael's limited roadway network. This roadway represents the only connecting link between Easton, Maryland, where it intersects with U.S. Route 50, and the developing communities in the peninsula part of western Talbot County.

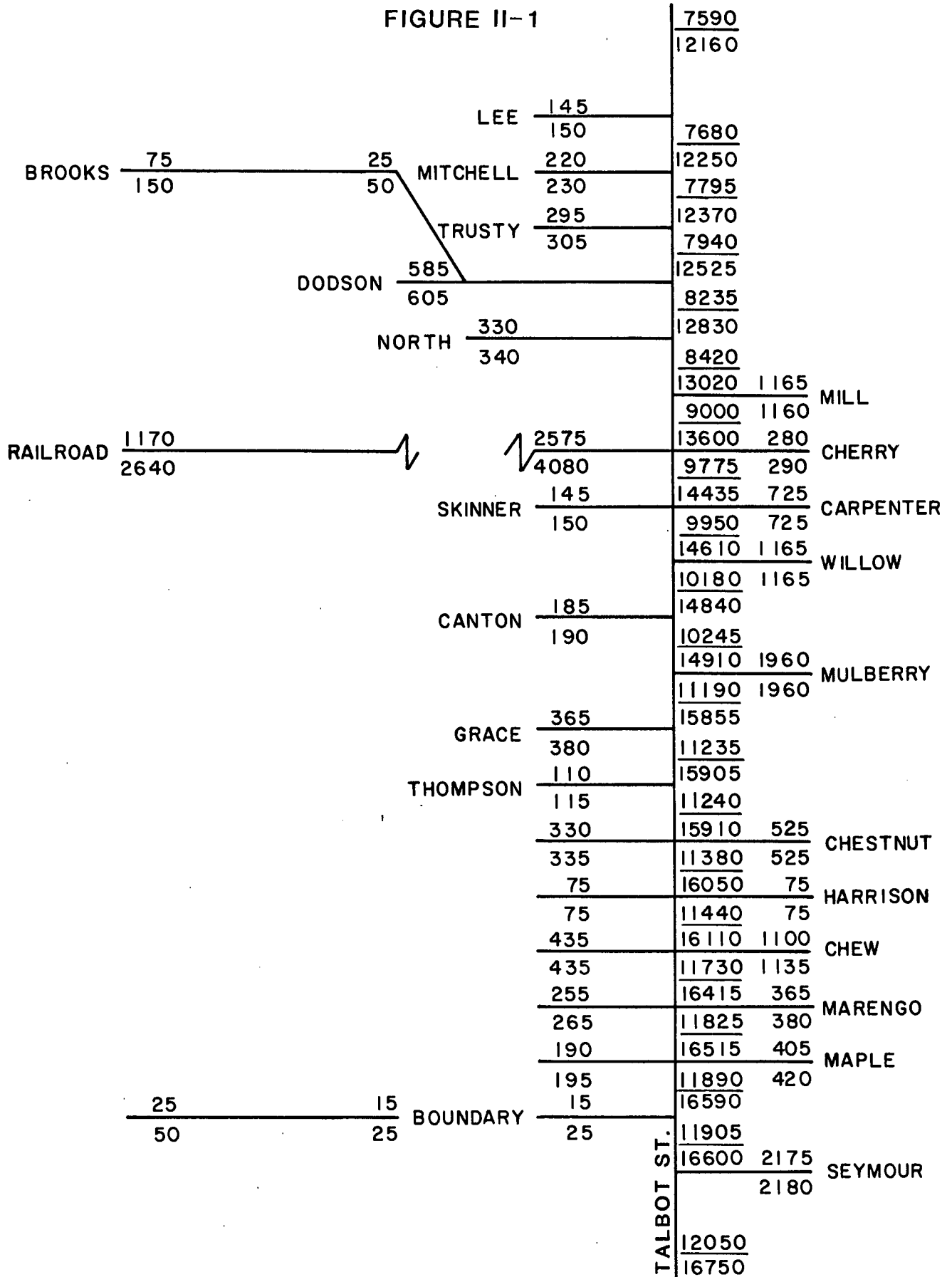
Summer peak traffic on Maryland Route 33 in the vicinity of St. Michaels is approximately 10,000 vehicles per day, with an estimated increase of 60% or approximately 16,750 vehicles per day

MD. 33 RELOCATED

AVERAGE DAILY TRAFFIC

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FIGURE II-1

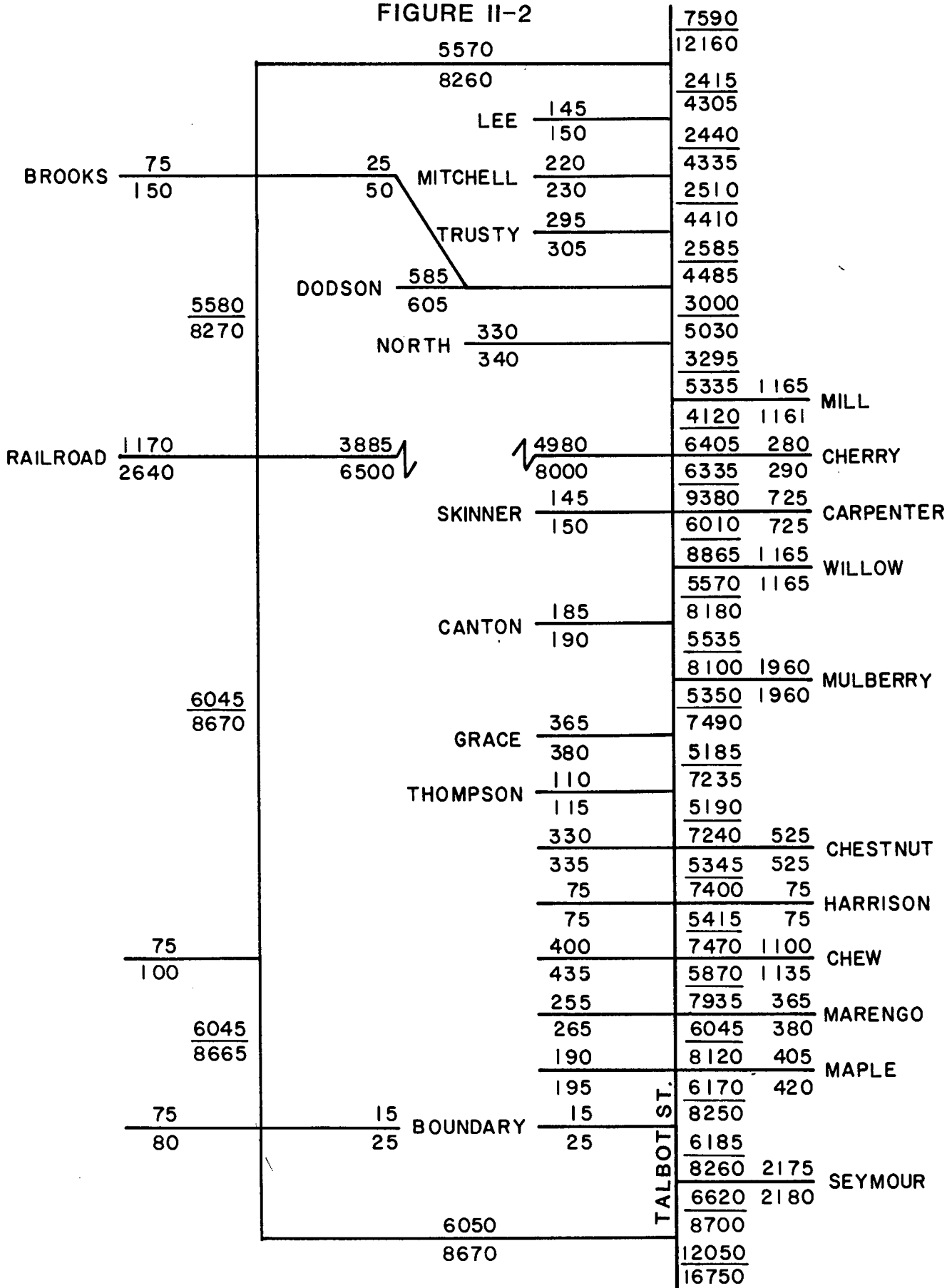


NO BUILD 1990 ADT
 2010 ADT

MD. 33 RELOCATED

AVERAGE DAILY TRAFFIC

FIGURE II-2



in the design year 2010. Although the existing road functions adequately during summer off peak hours and in winter, the roadway operates at an unstable flow during peak recreational periods occurring on weekends from spring through fall. This poor operation is associated with on-street parking, insufficient parking facilities and on-street deliveries in the St. Michaels commercial district.

Quality of traffic flow along a highway is measured in terms of level of service (LOS). This measure is dependent upon highway geometry and traffic characteristics and ranges from LOS "A" (Best), to LOS "C" (Minimum Desirable), to LOS "E" (Capacity), and LOS "F" (Worst of Forced Flow). An analysis of traffic operations on Talbot Street is summarized in the table below. This analysis was performed using the existing geometrics and parking conditions for weekend traffic.

<u>Year/Condition</u>	<u>1984 Existing</u>	<u>2010 No-Build</u>	<u>2010 Build</u>
LOS	C/D	D/E	C/D

The lower level of service applies to the traffic between Carpenter and Cherry Street/Railroad Avenue headed towards Tilghman Island. Relocated Maryland Route 33 will operate at levels of service C under all Build Alternates proposed. Figure II-1 shows the average daily traffic volumes for summer weekends (worst case) along roadways within the study area. These traffic volumes result in delays to motorists during summer recreational peak travel periods, and cause potentially hazardous operational traffic conditions.

D. SAFETY CONDITIONS

Maryland Route 33, from Lincoln Avenue to Yacht Club Road, in St. Michael's, has experienced 38 reported accidents in the

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four-year period from 1980 through 1983, resulting in an accident rate of 231 accidents per one hundred million vehicle miles of travel (acc/100MVM). This rate is slightly higher than the statewide average rate of 209 acc/100MVM for all similar design highways now under state maintenance. The corresponding cost to the motoring and general public as a result of these accidents is approximately \$881,000/100MVM.

There were no fatal accidents during the study period, and the injury accident experience is below the statewide average rate. Property damage-only accidents, however, are occurring at a higher than average rate. The rates for the collision types which exceed the respective statewide average rates for this type highway are as follows:

<u>Collision Type</u>	<u>Rate/100 MVM</u>	<u>Statewide Rate/100 MVM</u>
Rear End	72.82	28.58
Sideswipe	30.34	10.82
Parked	30.34	6.40

The present accident pattern suggests a problem caused by traffic congestion and parking maneuvers. These patterns would be expected due to the existing narrow roadway, the parking allowed on both sides of the street, and the traffic mix between the local traffic and the through traffic desiring to travel between U.S. 50 to the west and points to the east of St. Michael's. Although the four-year average accident rate is only slightly higher than normal, it has shown a significant increase for each of the latest three years.

Under a "no-build" alternate, with no major improvements made on the existing facilities, the present accident rate would continue this upward trend, due to the increase in traffic volumes that has been projected for the study area. The anticipated accident rate is expected to remain higher than the statewide average rate, and the rear end, sideswipe, and parked collision types which are already occurring at higher than normal rates would continue to be a problem in the future. The accident costs as a result of this anticipated increase would be approximately \$2.1 million/100MVM.

All of the build alternates propose a two-lane highway with partial control of access, relocating Maryland Route 33 around St. Michaels. These bypass alternates would divert approximately 60% of the through traffic from the local streets onto a new facility designed with higher safety standards not present on the existing facility. The new facility would be expected to experience an accident rate of approximately 144 acc/100MVM.

The diversion of this traffic from the town of St. Michaels would reduce the conflicts caused by the movements of the local business and commuter traffic versus the desires of the through traffic. This would also reduce congestion now present at peak times, and lower the incidence of the collision types which are prevalent on the existing route: the rear end, sideswipe, and parked collisions. The total accident rate would also be lower than the present accident rate.

The construction of a bypass, in conjunction with the present roadway, would result in a corridor accident rate of 180 acc/100MVM, based on the projected traffic for the study network.

The accident costs associated with the accidents on these two highways would be approximately \$1.1 million/100MVM, an anticipated savings to the motorist of \$1.0 million/100MVM over the "no-build" alternate.

The accident costs as indicated include present worth of future earnings of those persons killed and permanently disabled, as well as monetary losses resulting from injury and property damage accidents. The unit costs utilized in the above computations were based upon actual cost values obtained from the National Highway Traffic Safety Administration, and have been updated to 1983 prices.

III. ALTERNATES CONSIDERED

III. ALTERNATES CONSIDERED

A. Alternates Presented at the Alternates Public Meeting

Three (3) build alternates (Alternates 2, 3 and 4) with two (2) options for alignment shifts (options A & B) along with the no-build alternate (Alternate 1) were presented at the Alternates Public Meeting, held on January 19, 1984.

Alternate 2 proposed an alignment which generally parallels the western Corporate Limits of St. Michaels. Alternate 3 utilized the Delmarva Power Line Easement to decrease impacts to adjacent private properties. North of Grace Street these two alignments become common and continue to parallel the town limits until it converged with existing Maryland Route 33 north of Deep Water Point Road. As a result of comments presented at the Alternates Meeting and high utility relocation costs associated with Alternate 3, Alternates 2 and 3 were combined and retained as Alternate 2 Modified for further study.

Alternate 4 alignment was located farthest west of any alternates presented at the meeting. This alignment would require a bridge structure over San Domingo Creek and would become common with Alternates 2 and 3 north of Railroad Avenue.

Options A and B were compatible with any of the build alternates presented. The options were investigated to minimize impacts to residences on Brooks Lane. As a result of comments received at the public meeting, the options were combined with Alternate 4 and were retained as Alternate 4A and Alternate 4B for further study.

ALTERNATES RETAINED FOR FURTHER STUDY

B. Alternate 2 Modified (Figures III-1A thru III-1C)

Alternate 2 Modified proposes the relocation of Maryland Route

33 to the west of existing Maryland Route 33.

Alternate 2 Modified begins on existing Maryland Route 33 near the southern Corporate Limits of St. Michaels north of Lincoln Avenue. By a curve to the left, it diverges from Maryland Route 33 in a westerly direction. The proposed roadway typical section consists of two, twelve foot lanes with ten foot shoulders within a minimum 84 feet of right-of-way. Additional right-of-way will be required in certain areas for stormwater management. A new connection with existing Maryland Route 33 is proposed approximately 700 feet north of the Diverge Point. Alternate 2 Modified then crosses under the Delmarva Power and Light Transmission Line. By a curve to the right the alternate takes a northwesterly direction with the proposed eastern right-of-way line gradually overlapping out the Delmarva Transmission line easement. Alternate 2 Modified then intersects Trice Field Road at-grade.

Continuing northwesterly, it crosses West Chew Avenue where an at-grade "T" intersection is proposed only to the west in order to allow access to the public pier from the new roadway. No access is proposed east of the proposed roadway from West Chew Avenue, leaving West Chew Avenue as a no-thru facility. The alternate crosses San Domingo Creek at its headwater where a hydraulic structure is proposed.

Continuing northwesterly, it crosses Grace Street at-grade. Immediately north of Grace Street and by a curve to the right, Alternate 2 Modified takes a more northerly direction and generally parallels the Delmarva Transmission Line. The alternate then crosses Railroad Avenue with an at-grade intersection. Immediately

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north of Railroad Avenue, it curves to the right in a northeasterly direction crossing again under the Delmarva Transmission Line near Dodson Avenue. Dodson Avenue would not be connected to the new roadway.

By a straight line just north of Dodson Avenue, the alternate intersects Brooks Lane at-grade. A relocation of approximately 600 feet is proposed for Brooks Lane in order to provide a suitable intersection. Approximately 450 feet north of Brooks Lane Relocated Maryland Route 33 curves to the right, avoiding a recreational area (ballfield). It then continues, with a new connector road to existing Maryland Route 33 located approximately 1,000 feet south of Yacht Club Road. By a curve to the left and in a northerly direction it ties back into existing Maryland Route 33 in the vicinity of Rolles Range Road and Yacht Club Road. Approximately 550 feet of Yacht Club Road would be relocated approximately 130 feet northward and opposite the intersection of Rolles Range Road. Continuing a curve to the left, Alternate 2 Modified completes a transition into the existing Maryland Route 33 alignment in the vicinity of Deep Water Point Road. Left turn storage lanes would be provided on Relocated Maryland Route 33 at all proposed intersections so as not to impede thru traffic and to provide safe storage for left turning vehicles.

C. Alternate 4A (Figures III-2A thru III-2C)

Alternate 4A proposes the relocation of Maryland Route 33 further to the west of existing Maryland Route 33 than Alternate 2 Modified.

Alternate 4A also begins its relocation from existing Route 33

near the southern Corporate Limits of St. Michaels. By a curve to the left, Alternate 4A diverges from the existing Route 33 in a more westerly direction with a new connector road with existing Route 33 approximately 700 feet north of the diverge point. Continuing with a curve to the left, Alternate 4A crosses under the Delmarva Power and Light Transmission Line.

After crossing the Transmission line, Alternate 4A then bears west for approximately 550 feet and then curves to the right crossing Trice Field Road where an at-grade intersection is proposed. Approximately 800 feet of Trice Field Road would be relocated in order to provided an acceptable design for the intersection. Approximately 500 feet west of the proposed intersection of Trice Field Road, the roadway crosses San Domingo Creek on structure. The bridge would be located approximately 900 feet southwest of the Creek headquarters. The proposed bridge would lie approximately 460 feet long and 44 feet in width, with two lanes and ten foot shoulders. The proposed vertical underclearance over the creek is 25 feet above mean high water.

Two weekend boat surveys conducted by the State Highway Administration in July and August 1984 indicated no boat traffic utilizing the upper portion of San Domingo Creek was more than 15 feet in height above the surface. The proposed vertical underclearance of 25 feet above mean high water would accommodate all boating activities observed. Coordination with the U.S. Coast Guard during the design phase will determine the final clearance requirements.

After crossing San Domingo Creek, the roadway continues

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northwesterly for approximately 700 feet, and then takes a more northerly direction. Continuing northerly, Alternate 4A crosses Railroad Avenue where an at-grade intersection is proposed. Approximately 870 feet north of Railroad Avenue, it curves to the right in a northeasterly direction crossing under the Del Marva Transmission Line. Continuing by a curve to the right, the alternate crosses Brooks Lane, where an at-grade intersection is proposed. Approximately 530 feet north of Brooks Lane Alternate 4A continues with a curve to the right. A new connector road with existing Route 33 would be located approximately 1,000 feet south of Yacht Club Road.

Continuing and by a curve to the left, Alternate 4A parallels existing Maryland Route 33 and takes a more northerly direction. Approximately 130 feet north of Yacht Club Road an at-grade intersection is proposed with Rolles Range Road and relocated Yacht Club Road. This Yacht Club Road relocation would be approximately 550 feet long and would be required to provide an acceptable design for the intersection. The alternate would complete a transition into the existing Maryland Route 33 alignment near Deep Water Point Road. Left turn storage lanes on relocated Maryland Route 33 would be provided at all proposed intersections.

D. Alternate 4B (Figures III-3A thru III-3C)

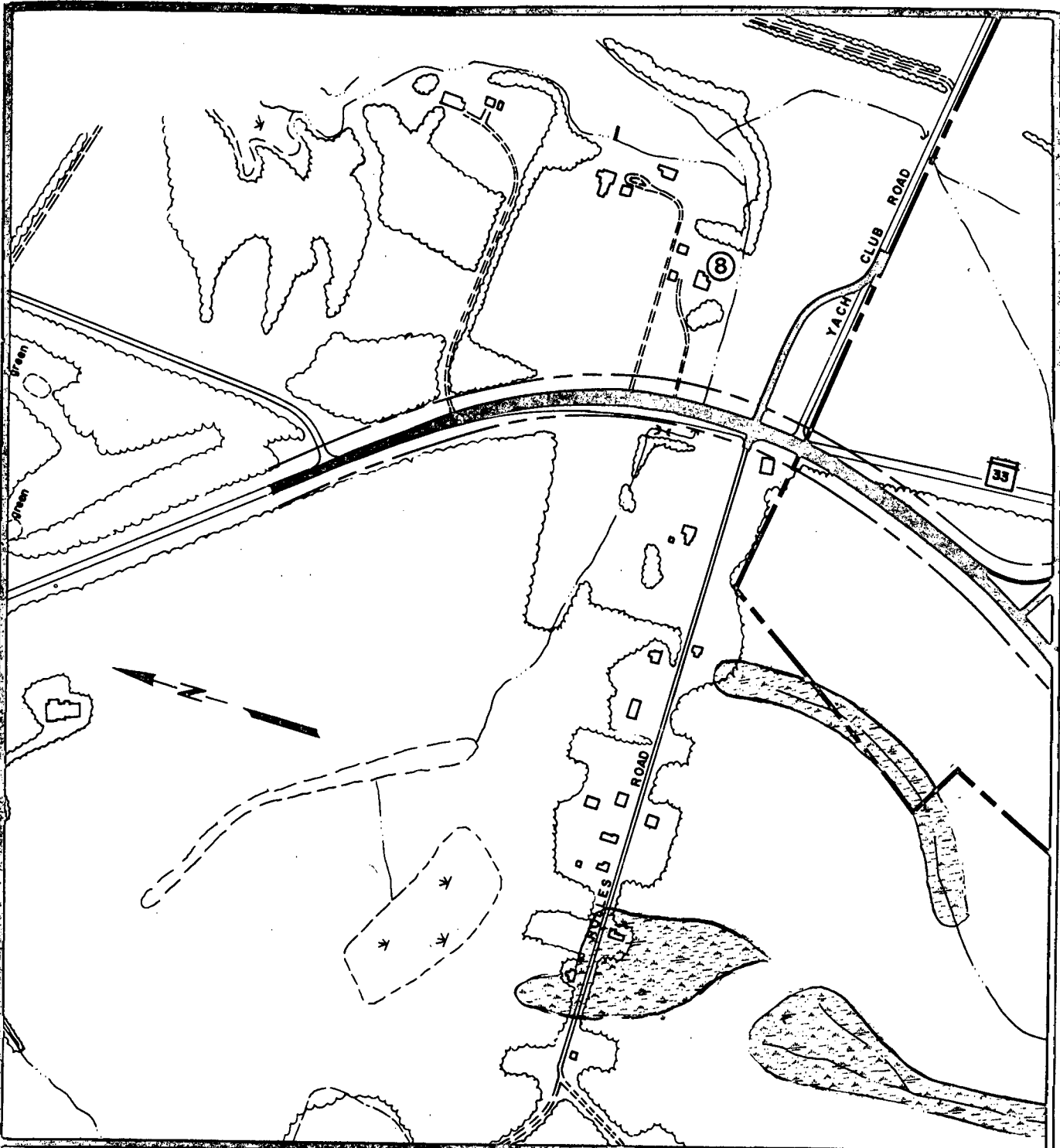
Alternate 4B has a common alignment with Alternate 4A from its beginning at the southern Corporate Limits of St. Michaels to the north side of San Domingo Creek. At that point Alternate 4B diverges to the west and crosses Railroad Avenue where an at-grade intersection is proposed. Approximately 750 feet north of Railroad Avenue the alignment begins a curve to the right crossing the Delmarva Transmission Power Line at Brooks Lane, where an at-grade

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intersection is proposed. It continues by a curve to the right to approximately 700 feet north of Brooks Lane where it becomes straight and gradually becomes common with the alignment of Alternate 4A near the proposed connector road with existing Maryland Route 33.

E. No-Build Alternate

Under this alternate, there would be no major improvements to the existing roadway aside from normal maintenance and safety improvements. A steady increase in through and recreational peak traffic, as projected, would result in increased traffic back-ups, and associated delays for longer periods of time. Additionally, local traffic would experience greater difficulties in attempting to enter or to cross Maryland Route 33 during peak flow hours, resulting in greater congestion of the local road systems.



LEGEND

AIR and NOISE RECEPTORS ⑩

NON-TIDAL WETLANDS 

ROADWAY 

RIGHT OF WAY 

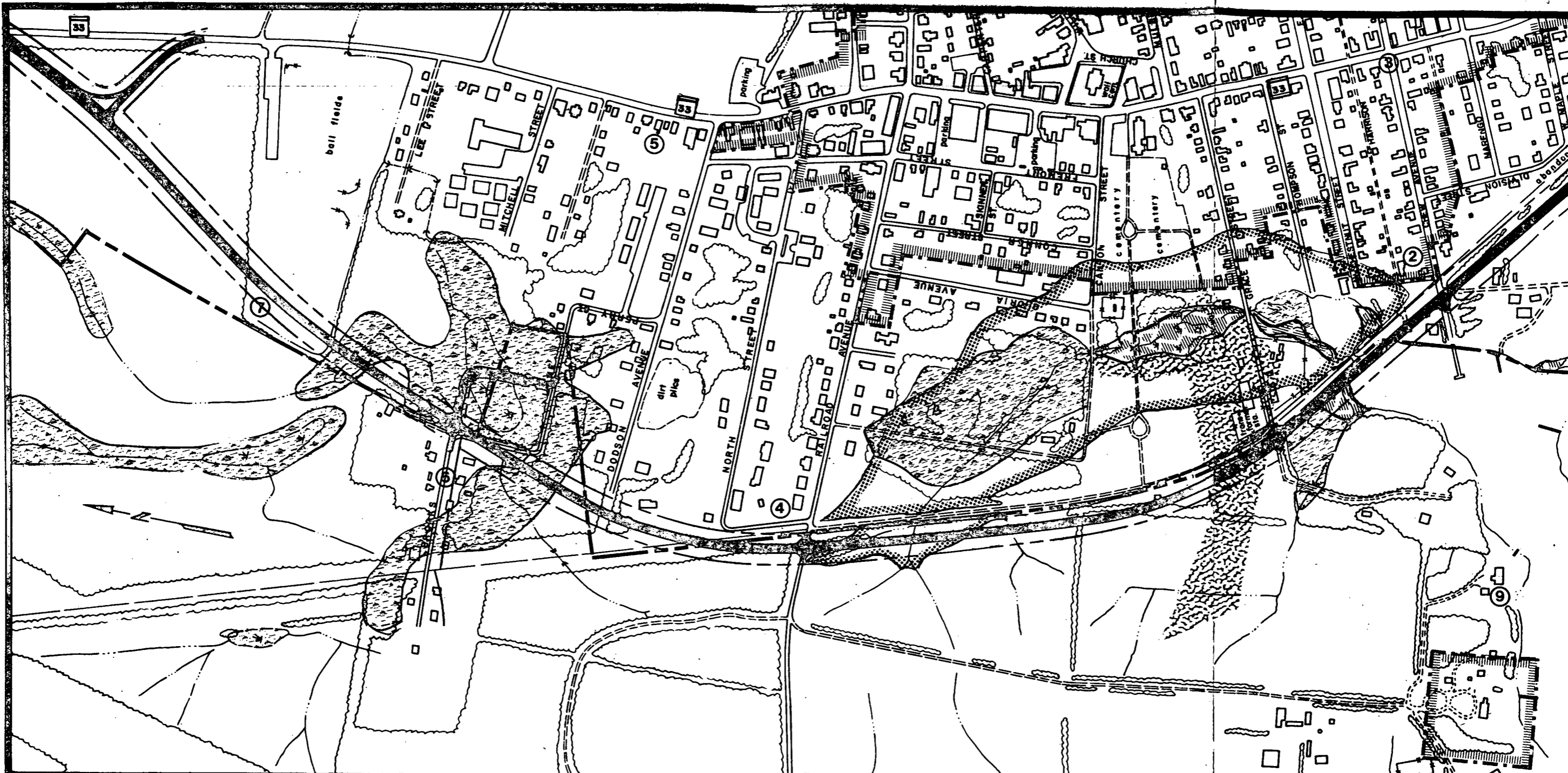
TOWN LIMITS 

MARYLAND ROUTE 33 RELOC

ALTERNATE 2 MODIFIED

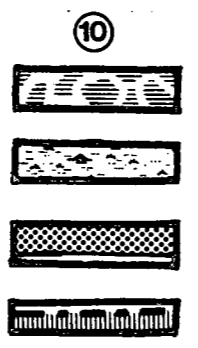
SCALE 0  400

FIG. III-1A

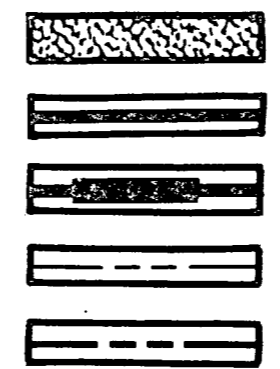


LEGEND

- AIR and NOISE RECEPTORS**
- TIDAL WETLANDS**
- NON-TIDAL WETLANDS**
- 100 YEAR FLOODPLAIN**
- HISTORIC BOUNDARY**



- PRIME FARMLAND SOILS**
- ROADWAY**
- STRUCTURE**
- RIGHT OF WAY**
- TOWN LIMITS**

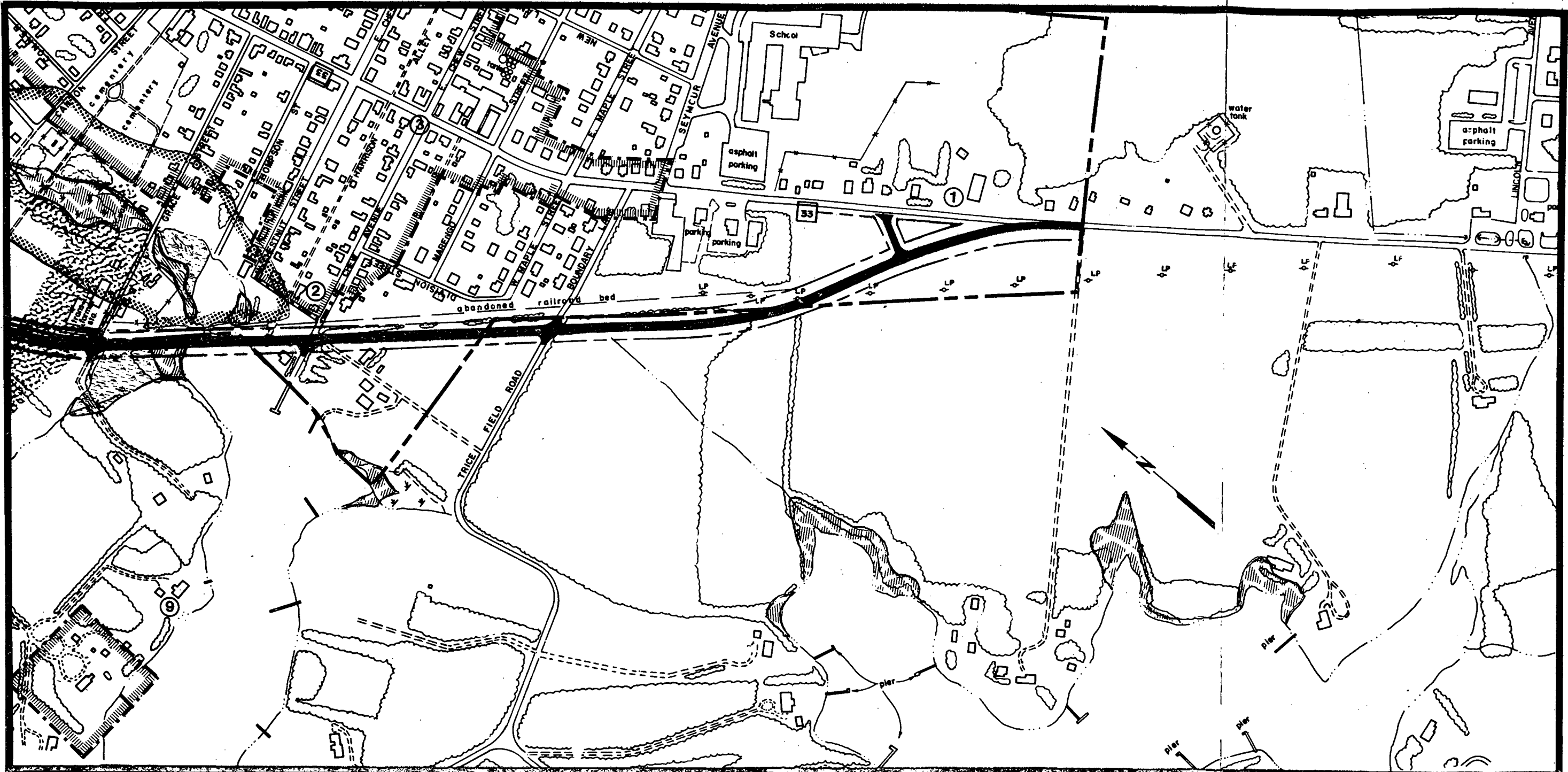


MARYLAND ROUTE 33- RELOCATED

ALTERNATE 2 MODIFIED

SCALE 0 400

FIGURE III-1B



LEGEND

AIR and NOISE RECEPTORS



TIDAL WETLANDS



NON-TIDAL WETLANDS



100 YEAR FLOODPLAIN



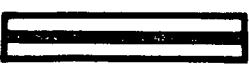
HISTORIC BOUNDARY



PRIME FARMLAND SOILS



ROADWAY



STRUCTURE



RIGHT OF WAY



TOWN LIMITS



MARYLAND ROUTE 33- RELOCATED

ALTERNATE 2 MODIFIED

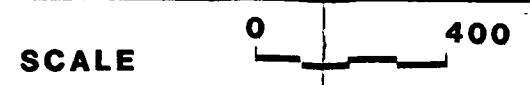
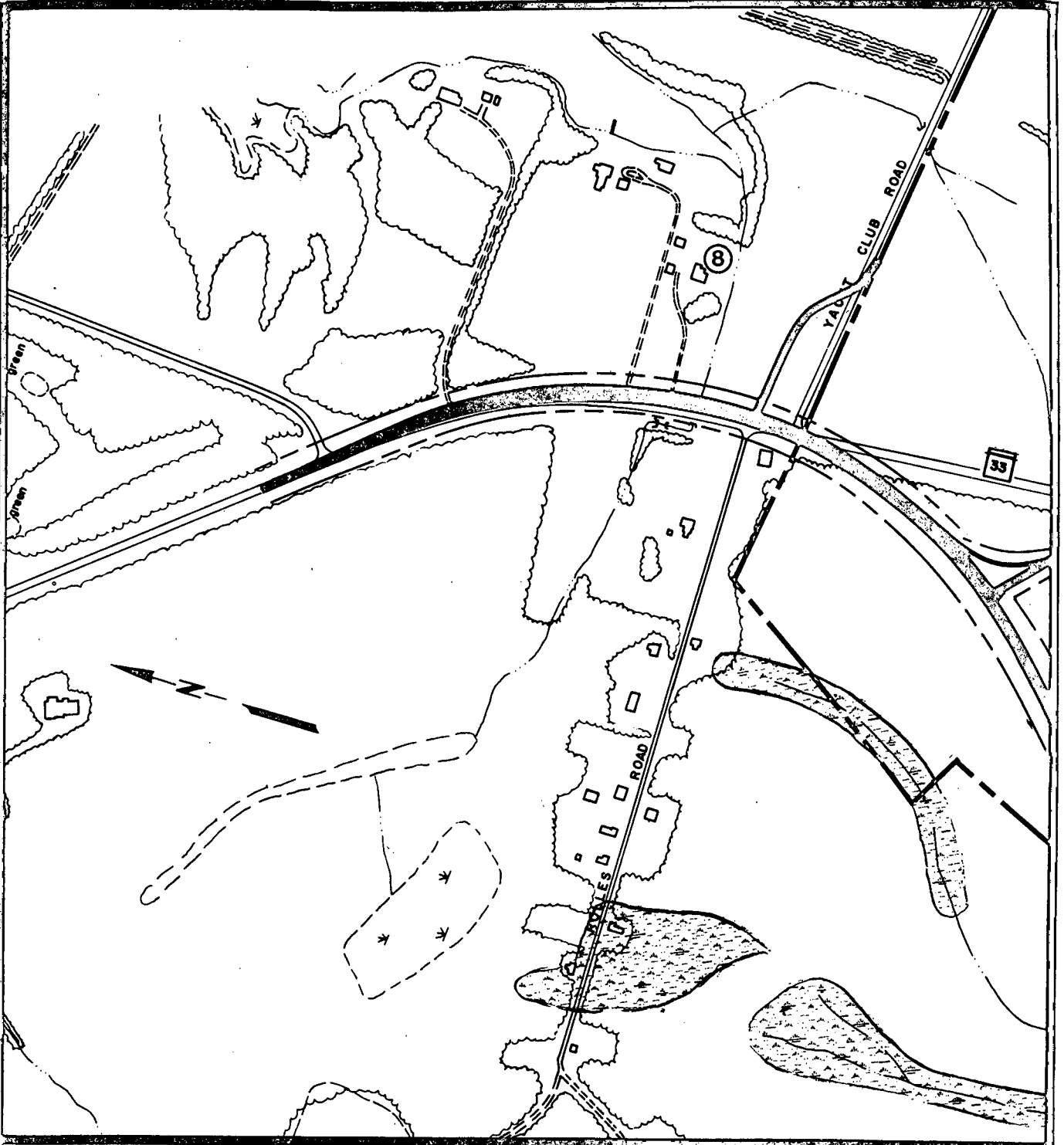


FIGURE III - 1C



LEGEND

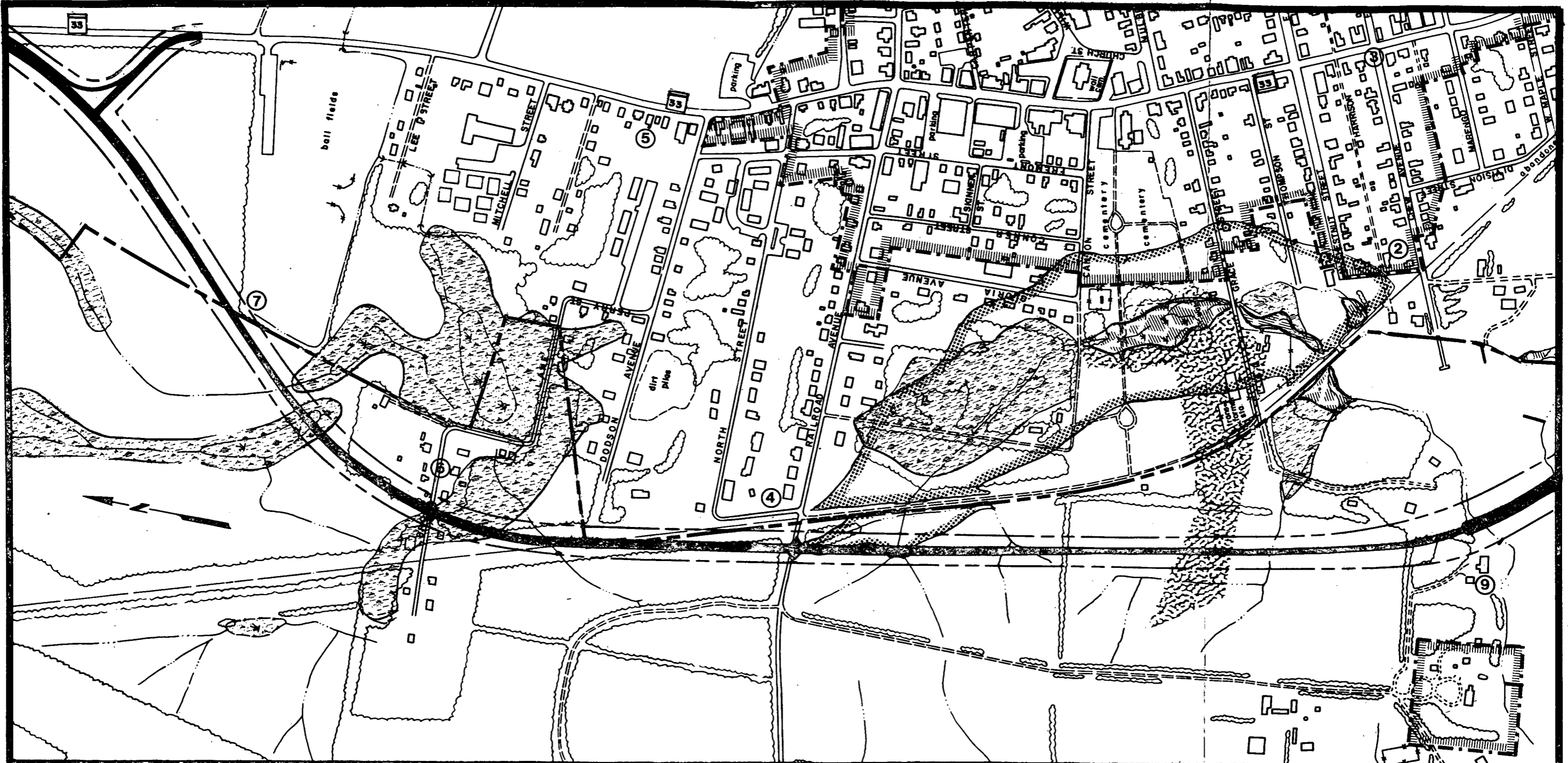
- AIR and NOISE RECEPTORS** (10)
- NON-TIDAL WETLANDS** [Hatched pattern]
- ROADWAY** [Double solid line]
- RIGHT OF WAY** [Dashed line]
- TOWN LIMITS** [Dash-dot line]

MARYLAND ROUTE 33 RELOC

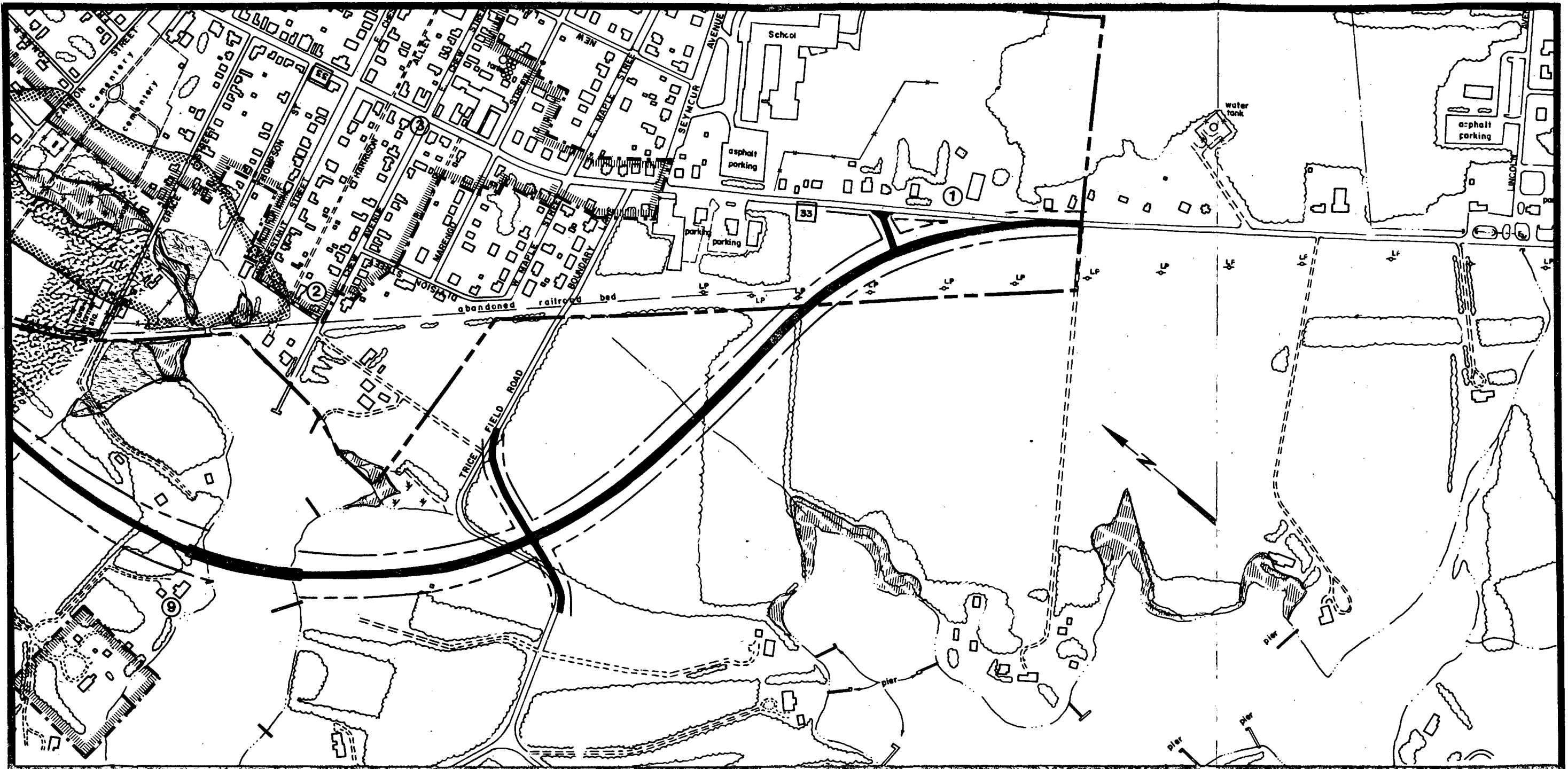
ALTERNATE 4-A



FIG.III-2A



LEGEND		MARYLAND ROUTE 33- RELOCATED	
AIR and NOISE RECEPTORS		PRIME FARMLAND SOILS	
TIDAL WETLANDS		ROADWAY	
NON-TIDAL WETLANDS		STRUCTURE	
100 YEAR FLOODPLAIN		RIGHT OF WAY	
HISTORIC BOUNDARY		TOWN LIMITS	
		ALTERNATE 4-A	
		SCALE	
		FIGURE III-2B	



LEGEND

AIR and NOISE RECEPTORS



TIDAL WETLANDS



NON-TIDAL WETLANDS



100 YEAR FLOODPLAIN



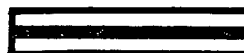
HISTORIC BOUNDARY



PRIME FARMLAND SOILS



ROADWAY



STRUCTURE



RIGHT OF WAY



TOWN LIMITS



MARYLAND ROUTE 33- RELOCATED

ALTERNATE 4-A

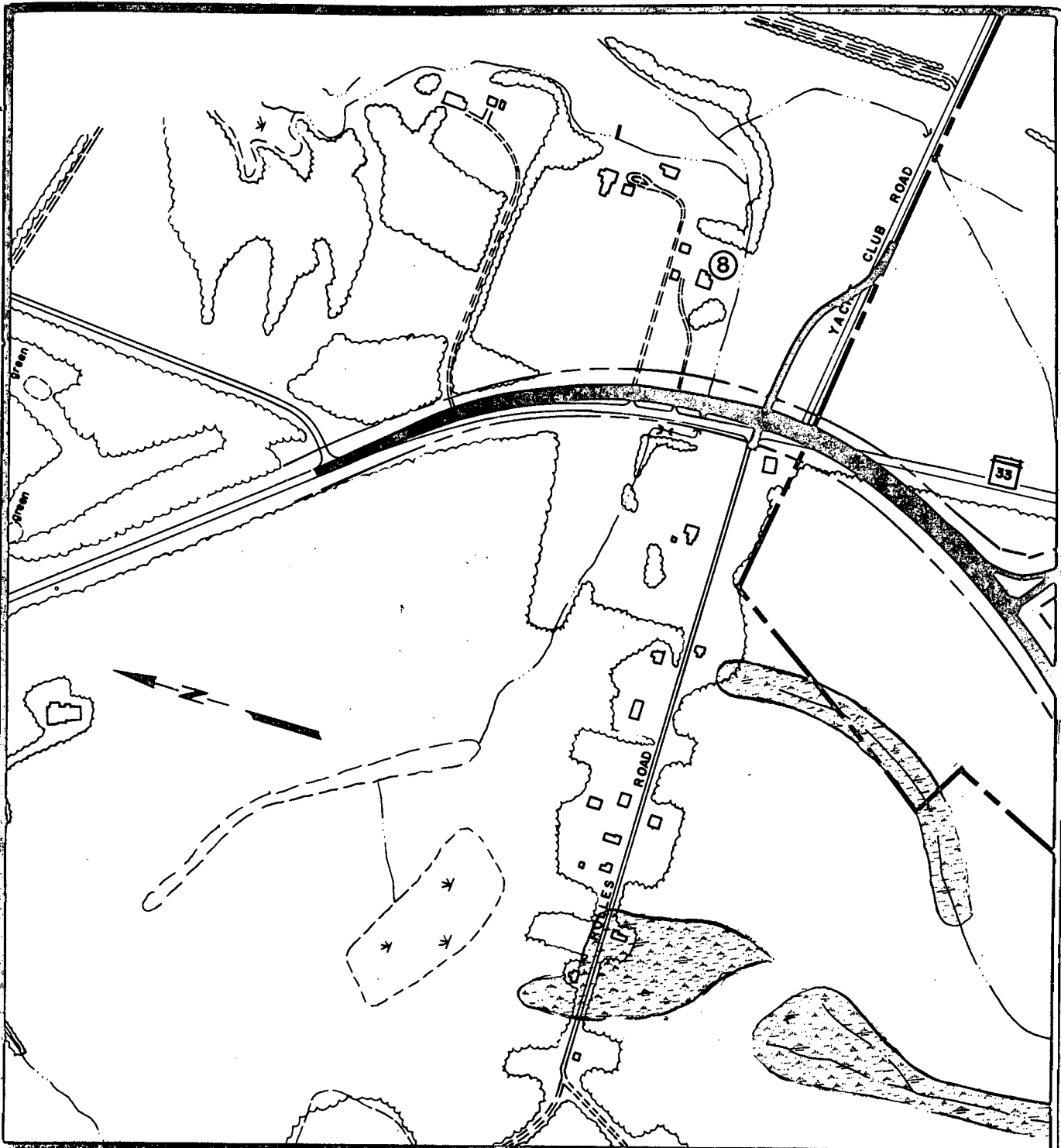
SCALE



FIGURE III-2C



LEGEND		MARYLAND ROUTE 33- RELOCATED	
AIR and NOISE RECEPTORS	⑩	PRIME FARMLAND SOILS	
TIDAL WETLANDS		ROADWAY	
NON-TIDAL WETLANDS		STRUCTURE	
100 YEAR FLOODPLAIN		RIGHT OF WAY	
HISTORIC BOUNDARY		TOWN LIMITS	
		ALTERNATE 4-B	
		SCALE	0 400
		FIGURE III-3B	



LEGEND

AIR and NOISE RECEPTORS (10)

NON-TIDAL WETLANDS [stippled box]

ROADWAY [thick black line]

RIGHT OF WAY [dashed line]

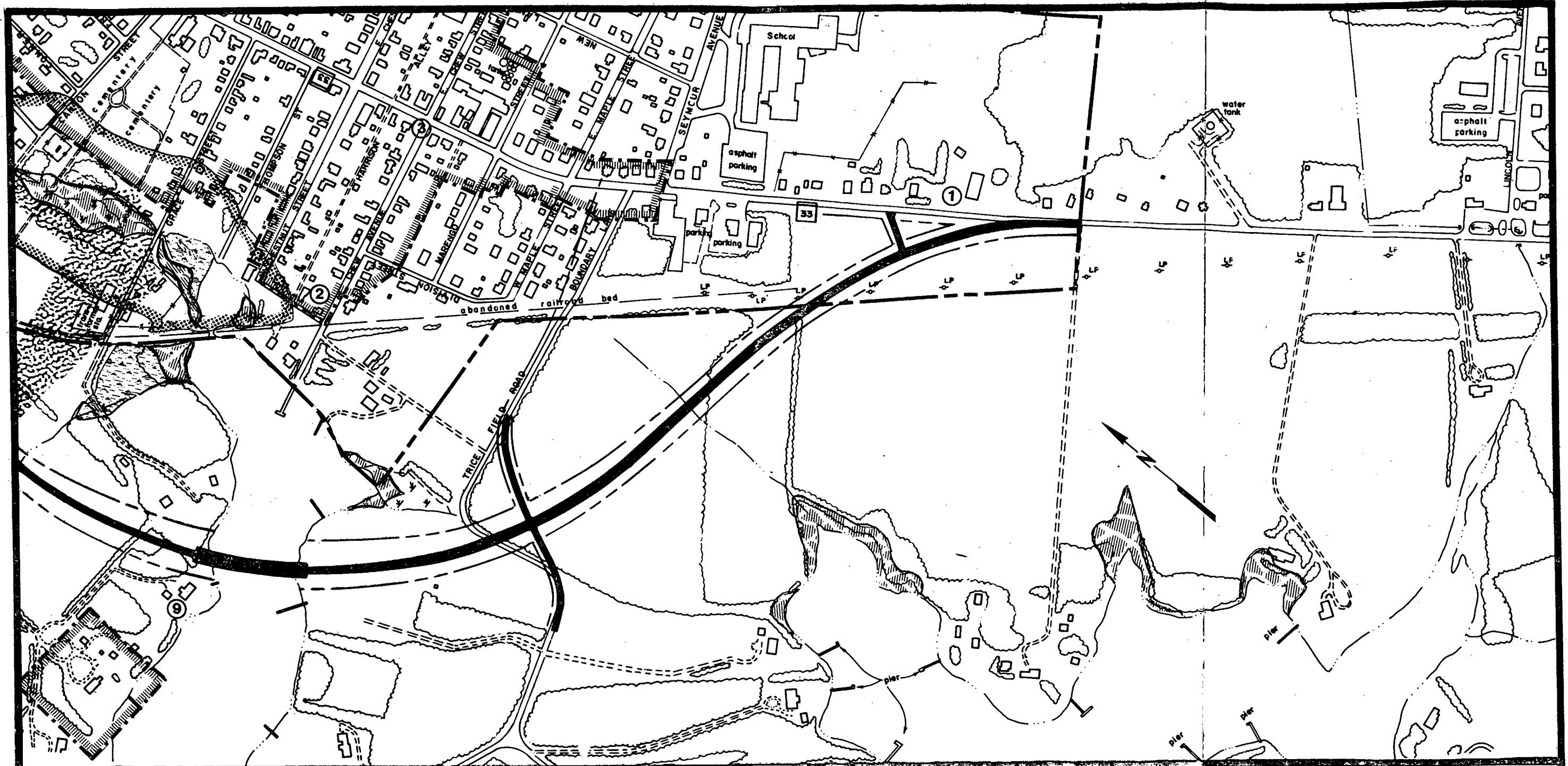
TOWN LIMITS [dash-dot line]

MARYLAND ROUTE 33 RELOC

ALTERNATE 4-B

SCALE 0 400

FIG. III-3A



LEGEND

AIR and NOISE RECEPTORS



TIDAL WETLANDS



NON-TIDAL WETLANDS



100 YEAR FLOODPLAIN



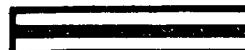
HISTORIC BOUNDARY



PRIME FARMLAND SOILS



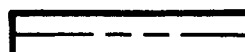
ROADWAY



STRUCTURE



RIGHT OF WAY



TOWN LIMITS



MARYLAND ROUTE 33- RELOCATED

ALTERNATE 4-B

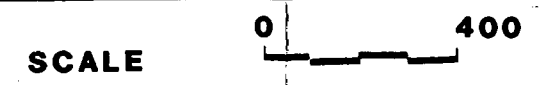
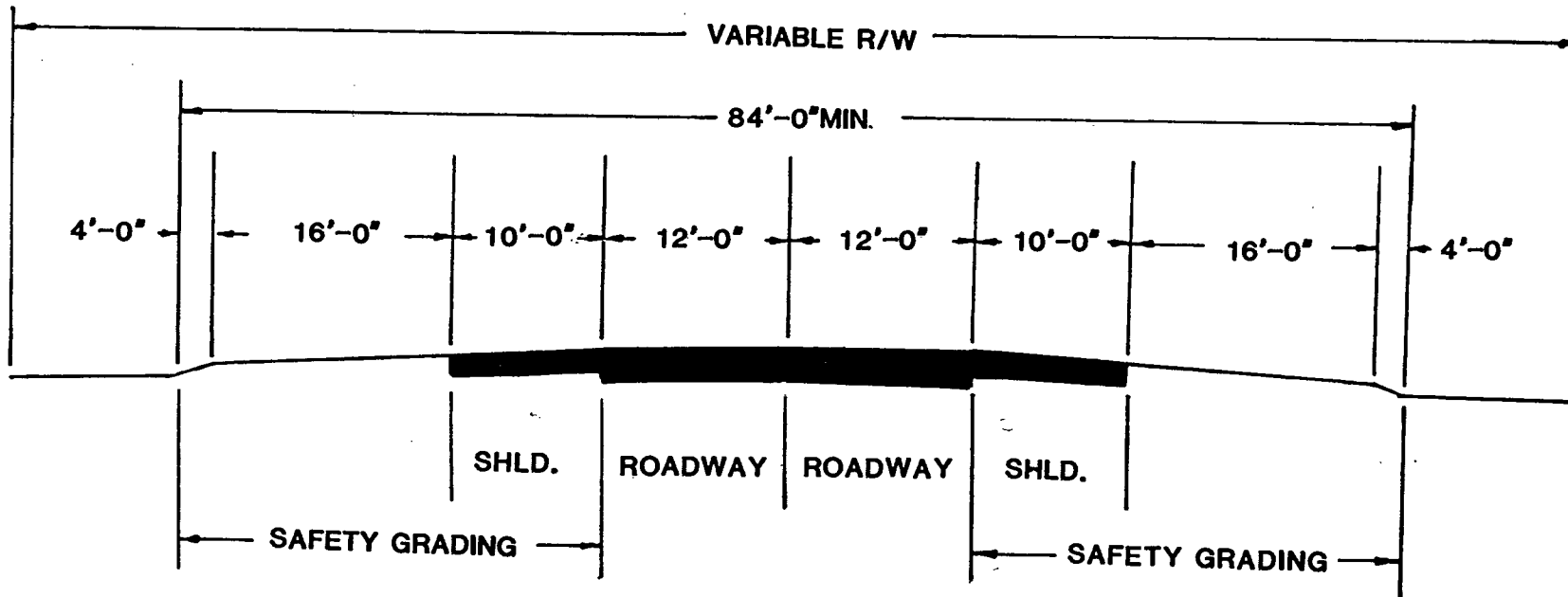


FIGURE III-3C

TYPICAL SECTION ROADWAY

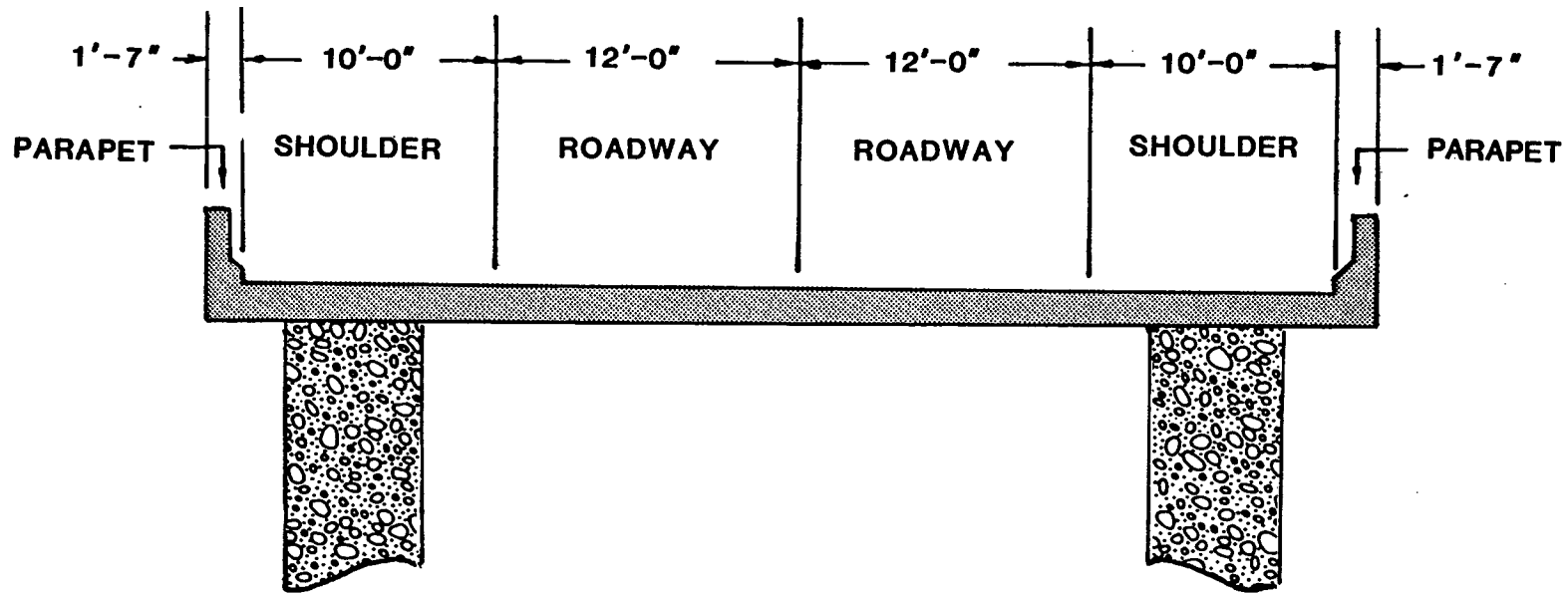


NOT TO SCALE

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

NOTE: STORM WATER MANAGEMENT INCLUDED IN VARIABLE R/W

TYPICAL SECTION BRIDGE SAN DOMINGO CREEK



NOT TO SCALE

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

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IV. ENVIRONMENTAL IMPACTS

IV. ENVIRONMENTAL IMPACTS

A. Social Impacts of Build Alternates

1. Community Impacts

All three build alternates pass through the minority community on Brooks Lane. The new roadway could be perceived as a barrier despite the fact that access would still be provided to the rest of the community via an intersection. Residents of a small part of the community located at the east end of Brooks Lane would be separated from the rest of their neighbors since either of the build alternates divide that portion of the road.

Due to the relatively low traffic volumes expected on the new roadway, the actual inconvenience to local residents should not be significant. Nevertheless, the new road would bring additional traffic into this area which now has minimal vehicular traffic and considerable pedestrian traffic. This would result in additional danger especially to children playing in the area. Provisions for pedestrian safety (walkways, fencing, etc.) will be considered in the design phase.

Positive impacts would accrue to the St. Michaels community as a whole because reduced traffic congestion along Talbot Street would help the town retain its relatively quiet character even during the peak tourist season. Access to community facilities and services would improve for both vehicular and pedestrian traffic with all the Build Alternates.

2. Relocations

Alternate 2 Modified would require the relocation of five families. Three of these are minority families consisting of a total of ten persons. Although comparable housing is available

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within the study area, it is anticipated that due to the financial level of those minority families on Brooks Lane that rehousing difficulties will arise. However, through the implementation of the "housing of last resort" plan these families will be provided with decent, safe and sanitary replacement housing within their financial means. One business would have part of its operation relocated, although it would probably be able to re-establish the operation on its remaining property.

Alternate 4A would require the relocation of two minority families consisting of six persons. Both these relocations would require implementation of the "housing of last resort".

Alternate 4B would require the relocation of two minority families consisting of six persons. "Housing of the last resort" will also be required in relocating these two families.

Relocation of any families and individuals displaced by the proposed project would require a lead time of between 12 and 16 months. This relocation would be accomplished in accordance with the uniform relocation assistance and land acquisition policies of 1970 (P.L. 91-466). A summary of the relocation assistance program of the State of Maryland is given in Appendix VI.

B. Summary of Equal Opportunity Program of Maryland State Highway Administration

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

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

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

C. Economic and Land Use Impacts of Build Alternates

Diverting through traffic away from Talbot Street in St. Michaels would help the town maintain tourism as a major source of local revenue and income. Removing the through traffic will help St. Michaels stay attractive to tourists and allow local residents better access to businesses.

There is a potential loss of customers when through traffic chooses to use the bypass rather than drive through town on Talbot Street. However, since St. Michaels is the primary center for goods and services in the area, people will still travel to St. Michaels for their usual shopping. Those who will use the bypass are those who do not have the need to stop in St. Michaels.

A review of bypass impacts to similar small towns-(1) indicates that bypasses tend to have positive impacts on the business communities if accessibility and attractiveness of the central business district is improved. The Relocated Maryland Route 33 should do both.

Since there will be no access to the bypass along state owned right-of-way, there will be no opportunity for strip commercial development to spring up drawing customers away from the businesses located in St. Michaels commercial core. It is the county's and city's responsibility to prohibit strip development as recommended by the St. Michaels Comprehensive Plan.

(1) How Transportation Policies Can Help the CBD's of Small Towns and Cities, Henry Bain, Transportation Research Board, 1982

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D. Social, Economic and Land Use Impacts of the No-Build Alternate

Under the No-Build Alternate the minority community on Brooks Lane would not be impacted, nor would any relocations be necessary.

The No-Build Alternate would not relieve the traffic congestion along Talbot Street. If tourism continues to expand as expected in the St. Michaels area, and if residential development continues outside St. Michaels in Election District 2 as planned, the traffic problems will only worsen, especially during the summer.

Access to community facilities and services would be disrupted, and the town's integrity, as a small rural community, would be threatened.

There will be a point at which the nuisance to tourists will outweigh the attractions of the town, and the town may lose a substantial source of its income with no other likely source to take its place.

E. Historic/Archeological Impacts

The State Historic Preservation Officer, in his October 15, 1984 and March 23, 1984 letters (See Section V), has indicated that Alternates 4A and 4B have the potential for adverse visual effect on the Crooked Intentions National Register Historic Site. Should either of these alternates be selected, mitigation of this effect will be coordinated with the Maryland Historical Trust, State Historic Preservation Officer.

Mitigation measures will be investigated which would lessen the visual intrusion of Alternates 4A and 4B on the historic site. Landscaping plans which would shield the site will be coordinated with the State Historic Preservation Officer.

It was also determined that Alternate 2 Modified would have no adverse effect on the St. Michaels Historic District conditional on the State Highway Administration providing landscaping and screening within the right-of-way to mitigate visual impacts of the roadway. There will be no property required from either the historic site or district.

As a result of Phase I archeological reconnaissance of the study area, conducted by the Maryland Geological Survey, two archeological sites were located. (See Letter dated 11/16/84).

The 20th century site, impacted by all Build Alternates, was determined not to be archeologically significant and warranted no further involvement.

The prehistoric site, impacted by the Build Alternates 4A and 4B, would require the completion of an intensive archeological survey.

Should Alternates 4A or 4B be selected for construction, the archeological reconnaissance of this site will be coordinated with the Maryland Geological Survey during the design phases.

F. Natural Environmental Impacts

1. Prime Farmland Soils (See Alternates Mapping)

All proposed build alternates would affect Prime Farmland Soils. Approximate amounts of Prime Farmland Soils required for right-of-way are shown below:

Alternate 2 Modified	1 acre
Alternate 4A	.6 acre
Alternate 4B	.6 acre

Alternate 4A and 4B would require the Prime Farmland Soils located west of town in one of several large fields presently under cultivation. According to the Comprehensive Development Plan for St. Michaels, future land used plans for this area indicate that it will be zoned for Low Density Residential Housing. (See Figure I-6)

The Prime Farmland Soils required for Alternate 2 Modified lie in the vicinity of the Delmarva Power right-of-way northwest of the Grace Street intersection and are not cultivated. Future land use for this area indicates some limited industrial development, surrounded by open space.

None of the prime farmland soils affected are planned for future agricultural use according to land use plans.

There is no indication that any unique farmland soils are present within the study area.

This project is being coordinated with the Soil Conservation Service in accordance with the National Farmland Protection Act.

2. Floodplains

Alternate 4B will not encroach on any 100 year floodplains as defined by FEMA. (See Figure III-3B) Alternates 2 Modified and 4A would encroach on the 100 year floodplain associated with San Domingo Creek. Less than .2 acre of fill would be required in the

vicinity of San Domingo Creek crossing, for Alternate 2 Modified. Approximately 1.7 acres of additional fill would be required in the vicinity of Railroad Avenue and the Delmarva Power Line right-of-way.

Alternate 4A would require approximately .8 acre of fill within the floodplain in the area just south of Railroad Avenue. In accordance with the requirements of FHPM 6-7-3-2, each encroachment was evaluated to determine its significance. A significant encroachment would involve one of the following:

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

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

The use of standard hydraulic design techniques for all waterway openings would incorporate structures to limit upstream flood level increases and approximate existing downstream flow rates. No significant floodplain impacts are expected to occur as a result of any of the proposed Build Alternates.

Use of state-of-the-art sediment and erosion control techniques and stormwater management controls will ensure that none of the encroachments would result in risks or impacts to the beneficial floodplain values or provide direct or indirect support to further development within the floodplain. Therefore, all

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floodplain encroachments were determined to be non-significant. In accordance with FHPM 6-7-3-2 a floodplain finding will not be required.

3. Surface Water

All proposed Build Alternates for the relocation of Maryland Route 33 would require the crossing of San Domingo Creek and several of its unnamed tributaries. These unnamed tributaries provide runoff drainage and tend to be concentrated in two areas of exceptionally flat topography.

A wooded wetland in the vicinity of Brooks Lane is one of the lowest points of elevation in the study area and is traversed by a series of these draininage swales. Agricultural fields west of the Delmarva Power right-of-way on the north shore of San Domingo Creek are also drained by several criss-crossing ditches. Another single tributary which is crossed by all Build Alternates drains the area between San Domingo Creek and an inlet to the south.

The increase of impervious surfaces resulting from the proposed improvements would produce a proportionate increase in the amount of roadway runoff carrying vehicle generated pollutants (i.e., oil, coolants, brake linings, rubber, etc.). Stormwater runoff would be managed under the Department of Natural Resources' Stormwater Management Regulations. These regulations will require stormwater management practices in the following order of preference:

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

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

This project was reviewed at the State Highway Administration Quarterly Inter-Agency Review meeting on October 18, 1984.

Representatives from the Maryland Department of Natural Resources-Water Resources Administration and the U.S. Fish and Wildlife Service were in attendance. It was agreed that final design for the proposed improvements will include plans for grading, sediment and erosion control, and stormwater management, in accordance with State and Federal laws and regulations. They will require review and approval by the Maryland Department of Natural Resources-Water Resources Administration (WRA) and the Department of Health and Mental Hygiene-Office of Environmental Programs (OEP). A waterway construction permit will be required from the Department of Natural Resources, as well as an Army Corps of Engineers 404 Permit.

This project proposes construction within the Chesapeake Bay Critical Area and will be reviewed by Coastal Zone Management of the Department of Natural Resources to ensure consistency with the goals and objectives of the program.

4. Habitat

Both terrestrial and Aquatic habitats would be affected by the proposed action. The alternates under consideration would require the following amounts of woodland and wetland habitat for right-of-way:

	<u>Wooded</u>	<u>Wetlands</u> <u>(non-tidal)</u>	<u>(tidal)</u>
Alternate 2 Modified	11.3 acre	2.4 acre	.25 acre
Alternate 4A	13.6 acre	1.4 acre	0
Alternate 4B	16.4 acre	.8 acre	0

Species such as deer, rabbit, squirrel, racoon, dove, waterfowl, reptiles, amphibians, and fish are representative of the wildlife populations in the study area. Coordination with DNR, Wildlife Administration, and U.S. Fish and Wildlife Service indicates that there are no known populations of threatened or endangered plant or animal species in the study area. (See correspondence from these agencies in Section V).

The loss of habitat would be accompanied by a proportional loss in animal populations inhabiting the study area. Under Alternate 2 Modified, approximately .9 acre of a privately owned wildlife sanctuary on the northwest side of the San Domingo Creek Crossing would be acquired for right-of-way.

Potential impacts resulting in construction of the proposed roadway include sedimentation, pollution by roadway runoff, and loss of vegetative cover. Construction of a bridge across the creek, as is proposed under Alternates 4A and 4B, would result in increased siltation and turbidity which may adversely affect aquatic life.

Sediment and erosion control plans will help minimize the adverse effects of construction activities, and proper stormwater management will reduce the amount of roadway pollutants which enter San Domingo Creek and its tributaries. These control measures should reduce the potential adverse impacts to aquatic life.

San Domingo Creek is designated Class II or shellfish harvesting waters by the Maryland Department of Health and Mental Hygiene (DHMH). Coordination with the Department of Natural Resources indicates that time of year restrictions may be required to help mitigate any adverse effects associated with bridge construction.

Alternate 2 Modified would require filling of approximately 1/4 acre of tidal marsh and a small adjacent area of non-tidal wooded wetland on the northwest shore to cross San Domingo Creek. No impacts to tidal wetlands would occur under Alternate 4A or 4B. None of the non-tidal wetlands required for construction of any build alternates lies within a designated 100 year floodplain.

A comparison of tidal and non-tidal wetland acreage required for right-of-way purposes is shown on table S-1.

Due to the nature of the study area, avoidance of wetland areas impacted was not feasible. Lack of adequate drainage has resulted in non-tidal wetlands emerging in several depressed areas west of St. Michaels. Avoidance of all non-tidal wetlands in this area would have resulted in either substandard design specifications or an extended alignment which would not be cost effective.

Efforts were made to minimize the amount of tidal wetlands required under Alternate 2 Modified. Complete avoidance was not possible due to physical constraints along the alignment. Locating Alternate 2 Modified further east would still have resulted in wetland impacts in addition to encroachment on the St. Michaels Historic District. It would have required relocation of the power substation at Grace Street which would not be cost-effective.

Suitable replacement sites for tidal and non-tidal wetlands will be coordinated with the Department of Natural Resources and selected during the design phase.

G. Air Quality Impacts

1. Analysis Objectives, Methodology, and Results

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

A microscale CO pollution diffusion analysis was conducted using the third generation California Line Source Dispersion Model, CALINE 3. This microscale analysis consisted of projections of one hour and eight hour CO concentrations at sensitive receptor sites under worst case meteorological conditions for the No-Build and the Build Alternates 2 Modified and Alternate 4A for the design year (2010) and the estimated year of completion (1990). Alternate 4B was not analyzed because Alternate 4A results in higher CO concentrations for relevant receptors.

a. Analysis Inputs

A summary of analysis inputs is given below. More detailed information concerning these inputs is contained in the Maryland Route 33 Relocated Air Quality Analysis which is available for review at the Maryland State Highway Administration, 707 North Calvert Street, Baltimore, Maryland 21202.

Background CO Concentrations

In order to calculate the total concentration of CO which occurs at a particular receptor site during worst case meteorological conditions, the background CO concentrations are

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considered in addition to the levels directly attributable to the facility under consideration. The background concentration resulting from area-wide emissions from both mobile and stationary sources was assumed to be the following:

	CO, PPM	
	1 hour	8 hour
1990	2.0	1.0
2010	2.0	1.0

Traffic Data, Emission Factors, and Speeds

The appropriate traffic data was utilized as supplied by the Bureau of Highway Statistics (August, 1984) of the Maryland State Highway Administration.

The composite emission factors used in the analysis were derived from the Environmental Protection Agency (EPA) Compilation of Air Pollutant Emission Factors: Highway Mobile Sources, and the Modification to MOBILE 2 Which were used by EPA to Respond to Congressional Inquires on the Clean Air Act, and were calculated using the EPA MOBILE 2.5 computer program. An ambient air temperature of 20° F was assumed in calculating the emission factors for both the 1 hour and 8 hour analysis in order to approximate worst case results for each analysis case.

Average vehicle operating speeds used in calculating emission factors were based on the capacity of each roadway link considered, the applicable speed limit, and external influences on speed through the link from immediately adjacent links. Average operating speeds ranged from 15 mph to 50 mph depending upon the roadways and alternate under consideration.

Meteorological Data

Worst-case meteorological conditions of 1 meter/second for

TABLE IV-1
Air Receptor Sites
Maryland Route 33 Relocated

<u>Site No.</u>	<u>Description/Location</u>
1	Residence, two story townhouse Willeyville Apartments Plummer Drive
2	Residence, two story frame West Chew Street
3	Residence, two story frame Talbot Street
4	Residence, one story brick Railroad Avenue
5	Residence, two story frame Talbot Street
6	Residence, one story frame Brooks Lane
7	Baseball Field, Talbot Street Edge-of-Right-of-Way Site
8	Residence, two story frame Talbot Street
9	Residence, two story frame Canton Farm Road

TABLE IV-2
CO CONCENTRATIONS* AT EACH RECEPTOR SITE, PPM

RECEPTORS	NO-BUILD				ALTERNATE 2 MODIFIED				ALTERNATE 4A			
	1990		2010		1990		2010		1990		2010	
	1 HR	8 HR	1 HR	8 HR	1 HR	8 HR	1 HR	8 HR	1 HR	8 HR	1 HR	8 HR
1	3.6	2.2	3.5	2.2	3.5	2.2	3.4	2.1	3.5	2.2	3.4	2.1
2	NA	NA	NA	NA	2.5	1.4	2.5	1.4	2.5	1.3	2.5	1.4
3	4.5	2.9	4.5	2.9	4.1	2.4	3.5	2.2	4.1	2.4	3.5	2.2
4	NA	NA	NA	NA	2.6	1.5	2.6	1.5	2.6	1.5	2.5	1.5
5	4.4	3.0	4.6	3.1	3.1	1.8	3.2	1.9	3.1	1.8	3.2	1.9
6	NA	NA	NA	NA	2.5	1.5	2.6	1.5	2.4	1.2	2.3	1.3
7	2.5	1.4	2.4	1.4	2.7	1.6	2.7	1.7	2.5	1.4	2.5	1.5
8	2.6	1.3	2.6	1.4	2.7	1.7	2.7	1.7	2.5	1.5	2.6	1.5
9	NA	NA	NA	NA	2.3	1.2	2.3	1.2	2.8	1.8	2.8	1.8

NA = Not Applicable

* Including Background Concentrations

The S/NAAQS for CO: 1 HR maximum = 35 PPM
8 HR maximum = 9 PPM

IV-15

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A No-Build network of receptors along existing Maryland Route 33 (Talbot Street) consisting of Receptors 1, 3, 5, 7, and 8 were analyzed for the No-Build Alternate. All receptors were applicable for the analysis of the Build Alternate.

The analysis considered two (2) Build Alternates, Alternate 2 Modified and Alternate 4A. Alternate 4A was analyzed because its alignment is closer to relevant receptors (Receptors 4 and 6) than Alternate 4B and results in the highest CO concentrations for these receptors.

A comparison of values in Table IV-2 reveals that for most applicable receptors the No-Build Alternate results in slightly higher CO concentrations while the Build Alternates result in similar concentrations. The CO concentrations remain well below the S/NAAQS for all alternates analyzed.

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

2. Construction Impacts

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

The Maryland Bureau of Air Quality Control was consulted to determine the adequacy of the Specifications in terms of satisfying

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

3. Conformity with Regional Air Quality Planning

The project is in an area where the State Implementation Plan does not contain any transportation control measures. Therefore, with the exception of the construction procedures, the conformity requirements of 23 CFR T10 do not apply to this project.

4. Agency Coordination

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

H. Noise Impacts

The method used to predict the future noise levels from proposed Relocated Maryland Route 33 interchange was developed by the Federal Highway Administration of the U.S. Department of Transportation. The FHWA Highway Traffic Noise Prediction Model (FHWA Model) incorporates data pertaining to normal traffic volume increases over time, utilizes an experimentally and statistically determined reference sound level for three (3) classes of vehicles (auto, medium duty trucks, and heavy duty trucks) and applies a series of adjustments to each reference level to arrive at the predicted sound level. The adjustments include: 1) traffic flow corrections, taking into account the number of vehicles, average vehicles speed, and specifies a time period of consideration; 2) distance adjustment comparing a reference distance and actual distance between receiver and roadway, including roadway width and number of traffic lanes; and 3) adjustment for various types of physical barriers that would reduce noise transmission from source (roadway) to receiver.

The prediction calculations (Table IV-3) were performed utilizing a computer program adaptation of the FHWA Model, STAMINA 2.0/Optima.

The determination of environmental noise impacts is based on the relationship between the predicted noise levels, the established noise abatement criteria, and the ambient noise levels in the project area. The applicable standard is the Federal Highway Administration's noise abatement criteria/activity relationship (See Table I-5) published in FHPM 7.7.3.

When design year L10 noise levels are projected to exceed

the abatement criteria (Table I-5) or increases ambient conditions by more than 10 dBA, noise abatement measures (in general, noise barriers) are considered to minimize impacts. Consideration is based on the size of the impacted area (number of structures, spacial distribution of structures, etc.), the predominant activities carried on within the area, the visual impact of the control measure, practicality of construction, and economic feasibility.

Economic assessment is based on the following assumptions. An effective barrier should, in general, extend in both directions to four (4) times the distance between receiver and roadway (source). In addition, an effective barrier should provide a 10 dBA reduction in the noise level, as a preliminary design goal. For the purpose of comparison, a total cost of \$25 per square foot is assumed to estimate total barrier cost.

1. No-Build Alternate

A total of eight (8) noise sensitive areas are associated with this alternate. The L10 noise levels would increase 1-28 dBA over present levels with noise sensitive area 2 experiencing the highest increase over ambient levels (28 dBA). NSA's 1-3, and 4 will exceed the noise abatement criteria of 70 dBA and NSA's 2-5 and 8 will have projected increases over ambient levels by 10 dBA or more. Noise mitigation measures are not recommended for this alternate.

2. Build Alternate 2 Modified

A total of eight (8) noise sensitive areas are associated with this alternate. The L10 noise levels would increase 1-30 dBA over present levels. The noise abatement criteria would be

TABLE IV-3

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PROJECT NOISE LEVELS					
RELOCATED MARYLAND ROUTE 33, ST. MICHAELS					
NSA	DESCRIPTION	AMBIENT L ₁₀	DESIGN YEAR (2010) L ₁₀		
			No Build	Build 4A	Build 2 Modified
1	Res	64	71	72	72
2	"	45	73	75	75
3	"	64	75	76	76
* 4	"	45	65	72	70
5	"	64	75	75	75
6	"	45	NA	68	68
7	Recreational	48	52	66	72
8	Res	48	59	62	62
9	"	45	NA	69	NA

* The proposed Alternate 4A alignment for this NSA is on a straight roadway section, thus creating a higher projected level, even though it is slightly farther from the site.

exceeded at noise sensitive areas 1-3, 5, and 7. In addition, NSA's 2-8 will have projected increases over ambient levels by 10 dBA or more. Alternate 2 Modified represents worst case noise conditions of all the proposed Build Alternates. The alternates studied in this analysis represent worst case noise conditions. The following is a discussion regarding the feasibility of noise abatement for these eight sites:

NSA 1

This noise sensitive area will have a projected 2010 noise level 2 dBA over the noise abatement criteria. A barrier at this location would have to be segmented for driveway access to the townhouses and small businesses. A barrier length of 480' at a height of 12' would only reduce the projected noise levels by 0-1 dBA. With a cost of \$144,000 (\$144,000/Residence) for one end of group townhouse, this barrier would not be cost effective or physically effective.

NSA 2

Noise sensitive area 2 will have a projected 2010 increase of 30 dBA over the ambient level and will exceed the noise abatement criteria by 5 dBA. A barrier 720' in length by +12' in height at a cost of \$216,000 (\$72,000/Residence), would reduce levels 8-10 dBA at these three residences. However, this would not be a cost-effective mitigation measure and is not recommended.

NSA 3

This noise sensitive area will have a projected 2010 increase of 12 dBA over the ambient level and will exceed the noise abatement criteria by 6 dBA. A barrier 240' in length by 10' in height at a cost of \$60,000 would not provide any reduction in the projected noise level. This barrier would not be physically

feasible due to close cross-street intersections along existing Maryland Route 33, making it segmented. In addition, existing Maryland Route 33 is the only contributor to the noise level at this location, not the proposed bypass. A barrier is not recommended.

NSA 4

NSA 4 will have a projected 2010 increase of 25 dBA over the ambient level. A barrier at this location would have to be segmented at the proposed at-grade intersection of Railroad Avenue and Relocated Maryland Route 33, making it physically ineffective. A barrier 1120' in length by 12' in height at a cost of \$336,000 (\$112,000/Residence) would only reduce projected noise levels 1-2 dBA.

NSA 5

Noise sensitive area 5 will have a projected 2010 increase of 11 dBA over the ambient level and will exceed the noise abatement criteria by 5 dBA. A barrier at this location would not be physically feasible due to the close cross street intersections along existing Maryland Route 33, making it segmented. A barrier 700' in length by 12' in height at a cost of \$192,500 would not provide any reduction in the projected noise levels. In addition, proposed Relocated Maryland Route 33 would not contribute to the noise levels along this section of existing Maryland Route 33. A barrier is not recommended.

NSA 6

NSA 6 will have a projected 2010 increase of 23 dBA over the ambient level. A barrier at this location would have to be segmented at the proposed intersection of Brooks Lane and Relocated

Maryland Route 33, making it physically ineffective. A barrier 1120' in length by 12' in height at a cost of \$336,000 (\$84,000/Residence) would only reduce the project noise levels 0-1 dBA for these four residences. A barrier is not recommended.

NSA 7

This noise sensitive area will have a projected 2010 increase of 24 dBA over the ambient level and will exceed the noise abatement criteria by 2 dBA. This portion of the recreational area is not being used for any outdoor sports activities. The area used most frequently for recreational activities is located +500' east of this location adjacent to existing Maryland Route 33. A barrier 500' in length by 12' in height at a cost of \$150,000 would reduce projected noise levels 8-10 dBA at this edge of right-of-way receptor. A barrier is not recommended.

NSA 8

NSA 8 will have a projected 2010 increase of 14 dBA over the ambient level. This noise sensitive area is located too far (+400') from the proposed roadway to receive adequate attenuation from a noise barrier. A barrier 2400' in length by 14' in height at a cost of \$840,000 would not provide any reduction in the projected noise level at this residence. This barrier would not be cost-effective or physically effective and is not recommended.

3. Build Alternate 4A

A total of nine (9) noise sensitive areas are associated with this alternate. The L₁₀ noise levels would increase 1-30 dBA over present levels. The noise abatement criteria would be exceeded at noise sensitive areas 1-5. In addition, NSA's 2-9 will have projected increases over ambient levels by 10 dBA or more.

The following is a discussion regarding the feasibility of noise abatement for these nine sites:

NSA's 1-3

The feasibility of abatement discussion for Alternate 2 Modified can be applied here.

NSA 4

NSA 4 will have a projected 2010 increase of 27 dBA over the ambient level and will exceed the noise abatement criteria by 2 dBA. The feasibility of abatement discussion for Alternate 2 Modified can be applied here.

NSA's 5-6

The feasibility of abatement discussion for Alternate 2 Modified can be applied here.

NSA 7

Noise sensitive area 7 will have a projected 2010 increase of 18 dBA over the ambient level. A barrier 1600' in length by 12' in height at a cost of \$480,000 would reduce the projected noise level 9-10 dBA. The feasibility of abatement discussion for Alternate 2 Modified can be applied here.

NSA 8

The feasibility of abatement discussion for Alternate 2 Modified can be applied here.

NSA 9

Noise sensitive area 9 will have a projected 2010 increase of 24 dBA over the ambient level. A barrier 800' in length by 14' in height at a cost of \$280,000 would reduce the projected noise level by 9-10 dBA. However, this would not be a cost effective mitigation measure at \$280,000/Residence. This barrier is not recommended.

While noise mitigation is not feasible at these sites, the use of landscaping and plantings may be feasible and will be studied in future detail during the design phase of the project.

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

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

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

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

A copy of the technical noise report will be sent to the local planning agencies.

V. COMMENTS AND COORDINATION

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VI. COMMENTS AND COORDINATION

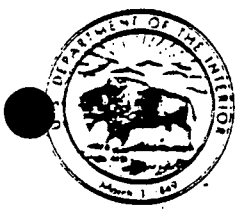
A. Coordination

In addition to correspondence with appropriate resource agencies, this project has been coordinated with representatives of the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, the Environmental Protection Agency and the Maryland Department of Natural Resources - Water Resources Administration (DNR-WRA) at the State Highway Administration Quarterly Interagency Review meeting October 18, 1984.

Meetings were held with the St. Michael's Town Commissioners and the Talbot County Council on July 19, 1983 and December 12, 1983. The purpose of these meetings was to identify the project scope, local concerns and present preliminary study alternates.

An Alternates Public Meeting was held at the St. Michaels Volunteer Fire Hall on January 19, 1984 to present preliminary study alternates for public comment. The comments received as a result of this meeting were considered in developing the alternates for detailed study.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

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

December 21, 1983

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

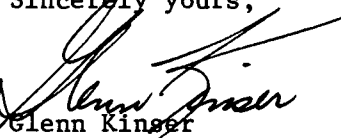
Dear Mr. Ege:

This responds to your November 28, 1983, request for information on the presence of Federally listed endangered or threatened species within the impact area of the proposed Maryland Route 33 St. Michaels Bypass, Talbot County, Maryland.

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

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

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

Sincerely yours,

Glenn Kinser
Supervisor
Annapolis Field Office

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Torrey C. Brown, M.D.

SECRETARY
LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

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

FRED L. ESKEW
ASSISTANT SECRETARY
FOR CAPITAL PROGRAMS

December 6, 1983

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

RE: Contract No. T 348-101-271
Maryland Route 33
St. Michael's Bypass

Dear Mr. Schneider:

Review of the Natural Heritage Program data base indicates that no rare species, unique natural features or areas have been reported from the vicinity of the St. Michael's Bypass, as delineated in your letter of November 28, 1983. Please do not hesitate to contact us again should you require additional information, or if the scope of this project should be changed.

Sincerely,

Arnold Norden

Arnold Norden
Maryland Natural Heritage
Program

AN:ljs

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DEPARTMENT OF NATURAL RESOURCES
Maryland Forest, Park & Wildlife Service

TORREY C. BROWN, M.D.
SECRETARY

TAWES OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401

DONALD E. MacLAUHLAN
DIRECTOR

December 7, 1983

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

Dear Mr. Ege:

There are no known populations of listed threatened or endangered species within the area of project influence for the proposed MD Rt. 33 St. Michael's Bypass, as described to me in your letter of November 28, 1983.

Sincerely,

Gary J. Taylor
Nongame & Endangered
Species Program Manager

GJT:ba
cc: Carlo Brunori

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Maryland Historical Trust

March 23, 1984

Mr. Louis H. Ege, Jr., Chief
Environmental Management
State Highway Administration
Department of Transportation
707 N. Calvert Street, Room 310
Baltimore, Maryland 21203

RE: Md. Rt. 33, St. Michaels

Dear Mr. Ege:

Our office has reviewed SHA's proposed alternates for Maryland Route 33 Relocated and the proposed National Register-eligible historic district and additional sites within a St. Michaels Multiple Resource District. We believe that Alternate 4 has potential for adverse effect on Crooked Intention which is listed in the National Register. We also believe that the eligible district area should be substantially increased and that it would include properties on W. Chew Avenue to about Tilden Street. Thus, proposed alternates which would use the Delmarva Power Line easement near W. Chew Avenue may have an effect on potentially eligible properties.

Sincerely,

J. Rodney Little
Director/State Historic
Preservation Officer

JRL:GJA:mms

cc: Ms. Amy Schlagel
Mrs. Coleman du Pont
Mr. Robert Shannahan
Mr. George J. Andreve



Maryland Historical Trust

July 17, 1984

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

RE: Maryland Rt. 33
St. Michaels

Dear Mr. Ege:

Thank you for your letter of May 16, 1984, regarding the identification of historic resources in St. Michaels which may be affected by proposed improvements to Maryland Route 33. After several of my staff have studied the area, we believe that the St. Michaels Historic District, shown in red on the attached map, would be eligible for the National Register. The red boundary differs slightly from yours, and we hope SHA will agree with this new boundary. Our office believes that Perry Cabin and the Tenant Cabins are not eligible for the Register.

Please call George Andreve if you have any questions or comments.

Sincerely,

J. Rodney Little
Director
State Historic Preservation Officer

Enclosure

JRL/GJA/bjs

cc: Mrs. Coleman duPont
Mrs. R. Flanigan Shannahan

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Maryland Historical Trust

October 15, 1984

Mr. Louis Ege, Jr., Chief
Environmental Management
State Highway Administration
PO Box 717
707 North Calvert St.
Baltimore, Maryland 21203-0717

RE: MD Rt. 33
St. Michaels Bypass
Control No. T 348-101-271

Dear Mr. Ege:

Thank you for your letter of October 2, 1984, to J. Rodney Little regarding determinations of effect for proposed alternates for the St. Michaels Bypass. Our office concurs your opinion of the following:

1. Alternate 2 would have no adverse effect provided that the effects of the road on the historic district are mitigated as you propose or otherwise and that the mitigation measures are reviewed and receive concurrence by our office;
2. Alternates 4, 4A and 4B have a potential for adverse effect on historic properties.

Sincerely,

George J. Andreve
Environmental Review Administrator

GJA/hec

cc: Ms. Amy Schlagel
Dr. E. Burnell Duffee, Jr.
Mr. Robert Shannahan
Mrs. R. Flanagan Shannahan
Joe Kresslein
Frank DeSantis

104 OCT 16 AM 10 37



TORREY C. BROWN, M.D.
SECRETARY

LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

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

KENNETH N. WEAVER
DIRECTOR
MARYLAND GEOLOGICAL SURVEY

EMERY T. CLEAVES
DEPUTY DIRECTOR

Division of Archeology

9 November 1983

Mr. William F. Schneider, Jr., Chief
Bureau of Project Planning
State Highway Administration
707 North Calvert Street - 3rd Floor
Baltimore, Maryland 21202

RE: MD 33 - St. Michael's

Dear Mr. Schneider:

As per Rita Suffness' 4 November 1983 request, we are providing a preliminary assessment of archeological potential for the subject project.

With respect to the project area as defined on the attached map, there are no known archeological sites. One previous survey in the study area, M/DOT Transect 5-002, located only roadside bottle glass. Potential for prehistoric sites is greatest in the southern part of the study area (near branches of San Domingo Creek) and northwest of Navy Point. Examination of historic maps indicates that all structures shown on the 1877 atlas are either extant or represented by replacement structures. Historic archeological potential is primarily limited to these known historic buildings. Overall potential is depicted on the attached map.

With respect to the primary alignment (shown shaded in yellow), prehistoric archeological potential is greatest at the crossing of the embayed branch of San Domingo Creek. Aside from standing structures, the only historic resource indicated near the primary alignment is a brick yard shown in 1877; archeological significance is not anticipated. In general, the potential of the primary alignment is moderate. While railroad and powerline construction has occurred along much of the alignment, the disturbance is confined to a fairly narrow corridor, and sites, or parts of sites, may survive.

Sincerely yours,

Dennis C. Curry
Archeologist

DCC:lw

cc: Rita Suffness

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TORREY C. BROWN, M.D.
SECRETARY

JOHN R. GRIFFIN
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
MARYLAND GEOLOGICAL SURVEY

THE ROTUNDA
711 W. 40TH STREET, SUITE 440
BALTIMORE, MARYLAND 21211

KENNETH N. WEAVER
DIRECTOR
MARYLAND GEOLOGICAL SURVEY

EMERY T. CLEAVES
DEPUTY DIRECTOR

Division of Archeology
338-7236

16 November 1984

1984 NOV 19 PM 12 05

Mr. Louis H. Ege
Acting Chief
Bureau of Project Planning
State Highway Administration
707 N. Calvert Street
Baltimore, Maryland 21203-0717

RE: MD 33-St. Michaels Bypass

Dear Mr. Ege:

On 9 November 1984, Spencer Geasey and I conducted an archeological reconnaissance of three alternate alignments of the subject project. Two archeological sites were located (see attached map).

The **20th century site** consists of debris observed in a recently bulldozed area west of the old Baltimore and Eastern Railroad alignment. Material observed included brick, glass, plastic, ceramics, bone, and metal, and represented both household- and railroad(?) -related artifacts. Within the site area was an area of darkly stained soil, probably indicating the location of at least one structure. No structures are shown at this location on either the 1877 Talbot County atlas or the 1902 USGS 15' quadrangle. Based on the artifacts and the map data, the site most likely post-dates 1902 and is not archeologically significant. Therefore, although all three alternates would subject the site to some degree of impact, no further archeological involvement is warranted.

The **aboriginal site** is poorly substantiated and ill-defined. Based on topographical setting and the proximity to an embayed branch of San Domingo Creek, the area where Alternates 4A and 4B cross the north bank of the creek was thought to possess moderate to high potential for prehistoric sites. Upon visiting the area, we found a line of houses parallel to the creek bank, set several hundred feet north of the creek. The area between the houses and the creek was in lawn, and we were unable to get permission to dig test pits. In lieu of shovel test pits, we searched the few exposed surface areas available

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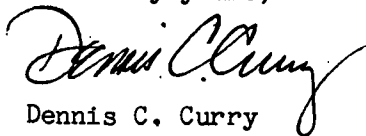
(mostly small flower gardens). Two quartz flakes, one possibly worked piece of quartz, and a possible fire-cracked rock were found in this manner. In addition, the creek bank was examined where exposure permitted; while no artifacts were observed, some half dozen oyster shells were noted in the bank profile at a depth of roughly ten inches. Additional Phase I study would be necessary to establish the presence/extent of this site.

No sites were noted in the remainder of the project area, despite occasional excellent surface visibility and/or seemingly high archeological potential.

In sum, all three alternates would subject the 20th century site to impact. However, the site is not deemed significant and no further archeological study is warranted. Both Alternates 4A and 4B traverse the area of aboriginal activity. If either of these alternates is selected for construction, additional Phase I study (shovel test pitting to determine presence/extent of material in the right-of-way and the need for Phase II study) will be required. From an archeological perspective, Alternate 2 is the most desirable option. Not only does most of its length correspond to a previously disturbed railroad bed, but, of the three alternates, it would have the least effect on the 20th century site noted above.

A detailed archeological report on this project is in preparation. In the meantime, if I can be of additional service, please let me know.

Sincerely yours,



Dennis C. Curry
Archeologist

DCC:lw

cc: Cynthia Simpson
Rita Suffness

Attachment

VI. APPENDICES

111

Attachment for Environmental
Impact Documents
Revised February 18, 1981
Bureau of Relocation Assistance

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

All State Highway Administration projects must comply with the provisions of the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" (Public Law 91-646) and/or the Annotated Code of Maryland, Real Property, Title 12, Subtitle 2, Sections 12-201 thru 12-212. The Maryland Department of Transportation, State Highway Administration, Bureau of Relocation Assistance, administers the Relocation Assistance Program in the State of Maryland.

The provisions of the Federal and State Law require the State Highway Administration to provide payments and services to persons displaced by a public project. The payments that are provided include replacement housing payments and/or moving costs. The maximum limits of the replacement housing payments are \$15,000 for owner-occupants and \$4,000 for tenant-occupants. In addition, but within the above limits, certain payments may be made for increased mortgage interest costs and/or incidental expenses. In order to receive these payments, the displaced person must occupy decent, safe and sanitary replacement housing. In addition to the replacement housing payments described above, there are also 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 difference between the cost of replacement and the amount that could be realized from the sale of the personal property.

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

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

The owner of a displaced business may be reimbursed for the actual reasonable expenses in searching for a replacement business up to \$500. All expenses must be supported by receipted bills. Time spent in the actual search may be reimbursed on an hourly basis, but such rate may not exceed \$10 per hour.

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

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

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

For displaced farms and non-profit organizations, actual reasonable moving 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.

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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.