

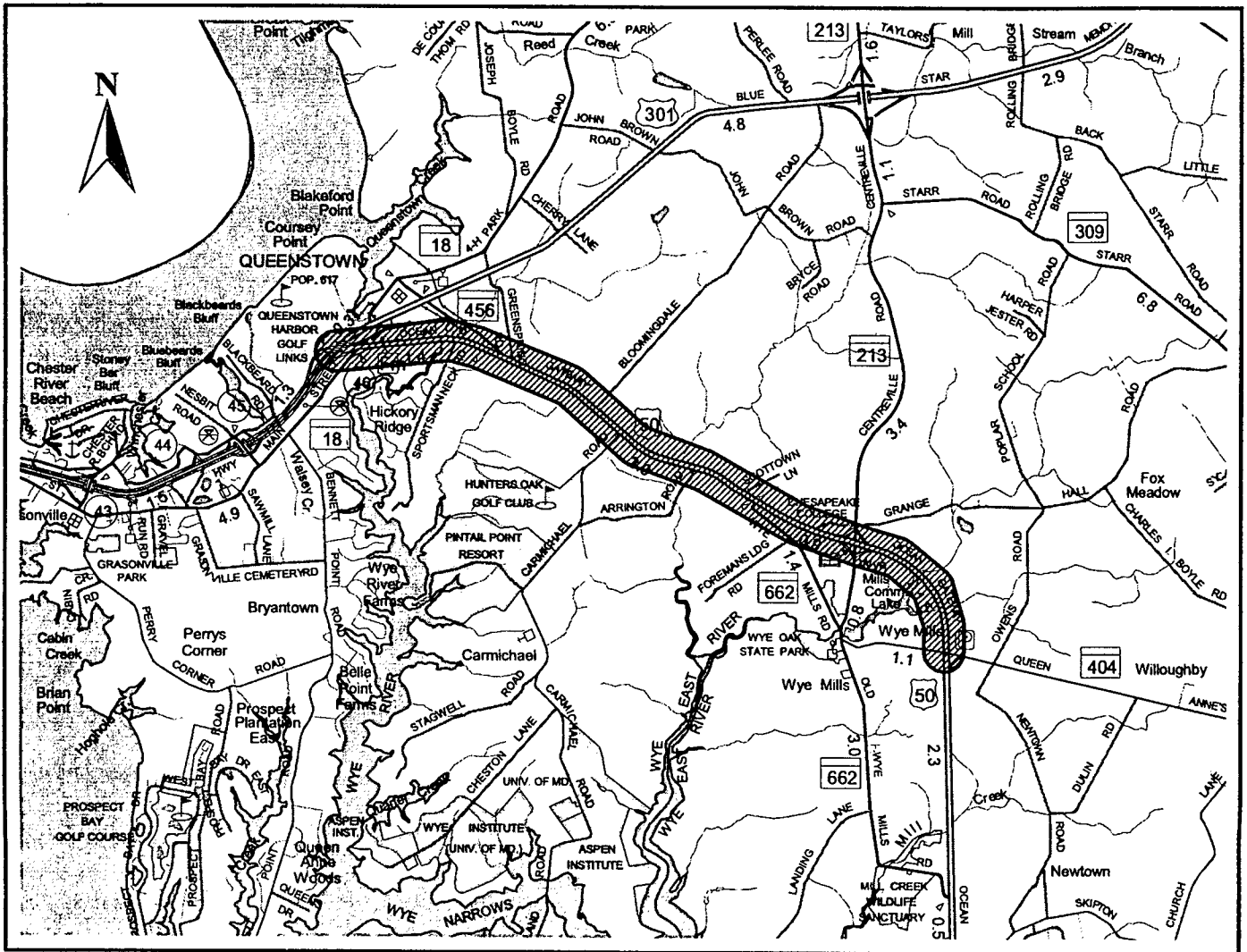
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT



Project No. QA236B21-B28

US 50 (Ocean Gateway)

From US 50/301 Split to MD 404
Queen Anne's and Talbot Counties, Maryland



prepared by:

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Federal Highway Administration

US 50 Improvement Project
US 50/US 301 Split to MD 404
Queen Anne's County and Talbot County, Maryland

ADMINISTRATIVE ACTION

SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

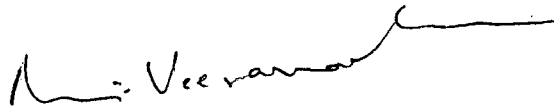
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DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

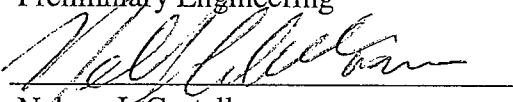
SUBMITTED PURSUANT TO : 49 U.S.C. 303 © AND 16 U.S.C. 470
And
CEQ REGULATIONS (40 CFR 1500 ET SEQ)

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4

SUMMARY

1. Administrative Action

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

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3. Introduction

A Project Planning study of improvements to US 50/301 and US 50 from west of Cox Creek to the intersection of MD 404 in Queen Anne's County and Talbot County, Maryland was conducted in the mid-1980's. An Environmental Assessment (EA) for the project was approved by the Federal Highway Administration (FHWA) on January 25, 1985 and a combined Location/Design Public Hearing was held on February 27, 1985 at Stevensville Middle School. A Finding of No Significant Impact (FONSI) was prepared and the FHWA granted Location Approval for the project on December 11, 1987. The FONSI discussed the project as 2 distinct segments. Segment 1 of the project began west of Cox Creek, and extended eastward along US 50 to the US 50/301 interchange. Segment 2 extends approximately 7.5 miles along US 50 from the US 50/301 interchange to MD 404. Most of the improvements proposed in Segment 1 of the project have since been completed and are open to the public. Segment 2 improvements are now in the design phase and have not yet been funded for construction.

As final design of Segment 2 progressed, new design elements in the form of new service roads and partial interchanges were proposed to address current traffic needs which include development which has occurred in the corridor since approval of the FONSI. Additional coordination has also been initiated with the environmental regulatory agencies and additional environmental studies have been conducted. The purpose of this supplemental EA is to document coordination, design modifications, environmental studies and to present an updated assessment of impacts based on the current design of the US 50 project.

4. Description of Proposed Action

The proposed project consists of the widening of US 50 from four lanes to six lanes from the US 50/301 interchange to MD 404. The purpose of the proposed improvements to US 50 is to relieve congestion and address safety concerns within the study corridor. For funding purposes, the proposed improvements in Segment 2 have been divided into 8 design/construction phases.

Similar to the FONSI Selected Alternate, the Current Design Alternate (CDA) proposes widening US 50 to 6 lanes (3 lanes in each direction) with 10-foot outside shoulders. Widening will occur both within the existing median and adjacent to the outside shoulder. The CDA would reconstruct the existing 4-foot inside shoulders and 22-foot grass median (30 feet from road edge to road edge) to provide 10-foot inside shoulders and a 10-foot grass median (the 30-foot distance from edge of road to edge of road is maintained). As proposed in the FONSI, US 50 eastbound will be relocated to the south through an existing agricultural field at MD 456 (Del Rhodes Avenue/Greenspring Road), to avoid impacts to St. Peters Episcopal Church, which is listed on the National Register of Historic Places. The existing eastbound roadway will become the westbound roadway and the new roadway will be constructed as the eastbound movement. A retaining wall is now proposed in front of the Sally Harris house to avoid relocation of mainline US 50 in the vicinity of this historic site. In addition to a MD 18 overpass of US 50 and grade separated interchanges at MD 213 and MD 404 that were included in the FONSI Selected Alternate, service roads and new partial interchange options at Sportsman Neck/Greenspring, and Carmichael Roads have been added to the project in an effort to further control access and improve safety throughout the corridor.

5. Summary of Environmental Impacts

A summary comparison of impacts associated with the FONSI Selected Alternate and the current design of Segment 2 of the US 50 project is presented in Table S-1. Impacts associated with the current design include a total of six (6) commercial displacements and 14 residential relocations. The residential relocations include as many as 11 minority or low income owned or occupied properties. The SHA will provide replacement housing in accordance with SHA Relocation Assistance Program.

The SHA-preferred option for improvements proposed in Phase 1 (Carmichael Road Overpass and associated service road option) of the project will require the use of 0.28 acre from Bloomingdale, which is listed on the National Register of Historic Places (NRHP) 10.78 acres from the Rhodes Farm, which was determined to be National Register eligible and will be in visual proximity to the Pippin Farm also determined to be National Register eligible. In March, 2004 the FHWA approved a Section 4(f) Evaluation which address impacts to these historic resources.

The current design will require the extension of water conveyance structures, or new structures, at sixteen (16) stream crossings associated with the Wye East River and its tributaries. The current design for Segment 2 of the US 50 project will impact approximately 14 acres of wetlands and a total of 5.1 acres of 100-year floodplain associated with the Wye River. The current design of Segment 2 will require the clearing of 29.1 acres of forest land and 148 acres of active agricultural land.

The U.S. Fish and Wildlife Service (USFWS) has indicated that the Delmarva Fox Squirrel (DFS), a federally listed endangered species is known to occur within Segment 2 of the project area and may be impacted by the current proposed alignment. Coordination with the USFWS regarding potential impacts to DFS habitat is ongoing. A Biological Assessment has been prepared and has been submitted along with this document for concurrent review by the FHWA and USFWS.

The projected noise levels for the design year (2020) indicate that the FHWA Noise Abatement Criteria (67dBA) is approached or exceeded at nine of the ten Noise Sensitive Areas (NSA) analyzed with the current alignment. These NSA are also projected to approach or exceed 67 dBA under No-Build conditions. Mitigation appears to be feasible and reasonable at three NSA and will be investigated further during final design.

**Table S-1
Summary of Environmental Impacts**

Resource	FONSI Reported Impacts							Current Design Impacts						
	Phase 1 Carmichael Rd	Phase 2 Sportsman Neck Rd	Phase 3 MD 404	Phase 4 MD 213	Phase 5 MD 18	Phase 6, 7 & 8 US 50 Mainline Widening	TOTALS	Phase 1 Carmichael Rd	Phase 2 Sportsman Neck Rd	Phase 3 MD 404	Phase 4 MD 213	Phase 5 MD 18	Phase 6, 7 & 8 US 50 Mainline Widening	TOTALS
Displacements														
Residential	NR ¹	NR	2	3	5	5	15	0	2	1	2	1	5	
Business	NR	NR	5	4	0	7	16	0	0					14
Minority/Low Income	NR	NR					9 ²	0	2	6	3	1	4	6
Prime Farmland (AC) Acres	NR	NR	28.7	24.5	1.7	47.8	102.7	12.3	4.9	29.5	20.9	5.2	75.2	11* 148.0
Wetlands (AC)	NR	NR	0.3	0.4	0.5	4.1	5.3	0	0.5	2.1	0.85	2.0	8.1	13.55
Floodplain (AC)	NR	NR	0	0	0	1.9	1.9	0	0.2	0.7	0	1.5	2.7	5.1
Woodland (AC)	NR	NR	1.0	0	1.0	17.0	19	0	3.0	1.2	0.7	2.8	21.4	29.1
Rare, Threatened, and Endangered Species (AC)	NR	NR	0	0	0	0	0 ³	0	17.8	1.5	0	3.1	69.1	91.5
Streams	NR	NR	1	0	0	5	6 ^a			2295		373	1967	4635
Cultural Resources														
Section 4(f) Resource	NR	NR	0	1	0	0	1	11.06 (AC)						
Noise (Sites that Exceed Criteria or increase ambient levels by 10 dBA or more)	NR	NR	0	1	2	3	6	0	3	0	3	2	5	3 13
Air Quality (Sites that Exceed 1 hr or 8 hr State National Ambient Air Quality Standards)	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*Includes 1 additional minority displacement in vicinity of Arrington Road and low income residents of 4 unit apartment complex.

¹NR-Not Reported in FONSI

²FONSI reported a total of 9 minority families impacted at MD 18 and Scottown Road but did not indicate the number impacted at each location.

³The FONSI concluded that no significant impacts were likely to occur to DFS habitat.

^aThe FONSI reported Stream impacts by number of stream crossings.

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I. PURPOSE AND NEED

A. Introduction

The US 50 project is located in the southwestern portion of Queen Anne's County and extends southward just past the Talbot County line (see Figure I-1). US 50 is the major east-west corridor connecting the Eastern Shore of Maryland to the major metropolitan areas in central Maryland and the District of Columbia. It also serves as the primary access route for recreational trips to the Atlantic Ocean resorts and other attractions on the Delmarva Peninsula. In addition to the regional through traffic, US 50 serves as the local connector to communities and businesses along the corridor. The study portion of US 50 is currently a 4-lane divided highway with partial access control. The eastbound and westbound roadways are separated by a grass median. Paved shoulders with open drainage and guard rails are located along the outside roadway. Access to and from US 50 is currently provided at three (3) signalized intersections (Outlet Center Drive, MD 213, and MD 404) and at eight (8) non-signalized access points.

B. Purpose

The purpose of the proposed improvements to US 50 is to relieve congestion and address safety operations within the study corridor. These problems are particularly evident during the periods of peak recreational traffic from May through September. During these months the large volume of resort-bound traffic impedes local traffic attempting to access US 50. Congestion caused by heavy traffic volumes is aggravated by the three signalized at-grade intersections, as well as non-signalized access points within this segment. The resulting conditions can compromise safety and cause critical delays in providing emergency services to the local communities. Widening of US 50 from four lanes to six lanes was selected to alleviate the congestion problems caused by traffic volumes. The grade separation of key intersections and construction of service roads is proposed to alleviate congestion and improve local access to businesses and residences. During the peak periods of traffic in the summer, traffic queues are common between the US 50/ 301 interchange and MD 404. These conditions cause a significant increase in travel time throughout the study area.

C. Project History

Proposals for the conversion of US 50/301 to a limited access highway first appeared in the 1975 Queen Anne's County Comprehensive Master Plan, updated 1993 for the fourth and fifth districts. That plan proposed the construction of a system of overpasses and interchanges to improve anticipated traffic delays for local traffic. In addition, the plan recommended the construction of a system of service roads to provide more direct access to local businesses and residences. The system was designed to reduce conflicts created by slower moving local traffic and through traffic along US 50.

The SHA initiated Project Planning studies for US 50/US 301 between Cox Creek and MD 404 in 1983. A Location/Design Public Hearing was held for the project in February, 1985. The FHWA approved a FONSI and granted Location Approval for the US 50 project in December 1987. The FONSI discussed the project as two distinct segments.

Segment 1 of the project began west of Cox Creek, and extended eastward along US 50 to the US 50/301 interchange. Segment 2 extends approximately 7.5 miles along US 50 from the US 50/301 interchange to MD 404. Construction of the improvements proposed in Segment 1 began in 1989 and have since been completed and opened to the public with the exception of a proposed grade separation at US 50/301/Shamrock Road Extended. Segment 2 improvements are currently in the design phase and have not yet been funded for construction.

Since approval of the FONSI, additional unanticipated development along Sportsman Neck and Carmichael Roads has occurred and has necessitated consideration of additional roadway improvements throughout the project corridor. Informational Public Workshops were held on March 31, 1999 and December 13, 1999 to update the public on the improvements previously approved in the FONSI. In addition, newly proposed design elements were presented to address current traffic needs resulting from development which has occurred in the corridor since approval of the FONSI in an effort to further control access and improve safety throughout the corridor.

D. Existing and Projected Traffic Conditions

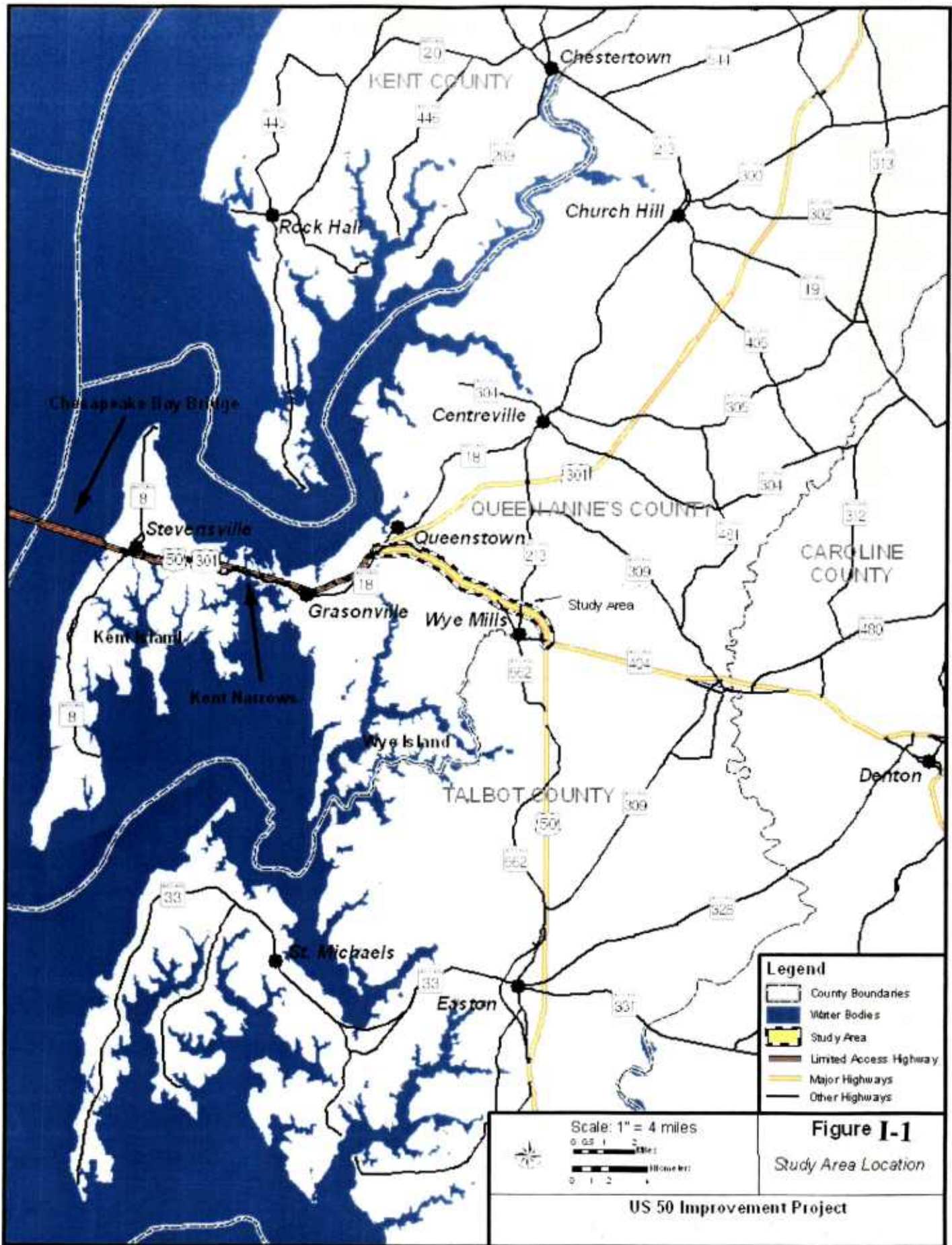
1. Traffic Trends

As documented in the FONSI, the 1985 Summer Average Daily Traffic (ADT) volume along the US 50 corridor (between the US 50/301 interchange and MD 404) ranged from 43,000 vehicles to 47,000 vehicles per day. Traffic volumes were projected to increase 55 percent by the design year, 2010. An updated traffic study was conducted for this segment of US 50 in the summer of 2000. The ADT for US 50 from the US 50/301 interchange to MD 404 ranged from 49,000 to 74,575 vehicles per day, with an average of 71,308 vehicles per day. Based upon this study, summer traffic volumes are projected to reach an average of 104,950 vehicles per day by the year 2020. This represents a 32 percent increase in volume.

2. Traffic Operations

Level of Service (LOS) is a measure of the congestion experienced by drivers, and ranges from "A" (free flow with little or no congestion) to "F" (failure with stop-and-go conditions). LOS is normally computed for the peak periods of a typical day, with LOS "D" (approaching unstable flow) or better generally considered acceptable for highways in urban areas. At LOS "E", volumes are near or at the capacity of the highway. LOS "F" represents conditions in which demand exceeds capacity and in which there are operational breakdowns with stop-and-go traffic and extremely long delays at signalized intersections.

The LOS analysis included in the FONSI for Segment 2 of the US 50 project indicated a LOS "D" for the MD 18, MD 213, and MD 404 intersections in Segment 2. The traffic analysis also projected that the signalized intersections would reach a summer recreational peak-hour LOS "F" by 2010 under the No-Build Alternate.



Legend

- County Boundaries
- Water Bodies
- Study Area
- Limited Access Highway
- Major Highways
- Other Highways

Scale: 1" = 4 miles

0 0.5 1 2 Miles

0 1 2 4 Kilometers

Figure I-1
Study Area Location

US 50 Improvement Project

In November 2000, an additional LOS and Capacity and Safety analysis was conducted at the US 50/MD 213 intersection. This analysis was conducted during weekday morning and evening peak periods and did not include recreational traffic. The analysis concluded that the intersection functioned at a LOS "A" during AM and PM peak periods. However, traffic using MD 213 experienced extensive delays due to the length of green signal time provided for US 50. The peak hour cycle length for traffic on MD 213 approaching US 50 can be as high as 275 seconds with an additional 20-25 seconds of clearance time associated with the "Red Signal Ahead" warning sign located approximately 1500 feet west of the intersection for eastbound US 50 traffic.

E. Safety

As stated in the FONSI, during the five-year period from 1979 to 1983, ten of the intersections within the study area (Segments 1 and 2) met the criteria for High Accident Intersections (HAI). In addition, eight (8) half-mile sections of US 50/301, all located between Cox Creek and the US 50/301 interchange (Segment 1), were identified as High Accident Sections (HAS). No High Accident Sections were identified in Segment 2 (US 50/301 interchange to MD 404) in the FONSI. However, two (2) of the HAI's were located in Segment 2; US 50 at MD 213 and MD 662 and US 50 at Greenspring Road. A separate study conducted between 1979 and 1983 reported an average accident rate of 119 accidents (with 10 fatalities) for every one hundred million vehicle miles of travel (acc/100MVM) for the entire US 50/301 project Area. This rate was determined to be higher than the statewide average rate of 65 acc/100MVM for all highways of similar design.

Segment two of the US 50 project experienced an accident rate of 48 accidents with 2 fatalities for every 100 million-vehicle miles of travel (100MVM) during the three-year period of 2000 to 2003. This rate was determined to be lower than the statewide average rate of 98 accident/100 MVM for highways of similar design.

II. ALTERNATES CONSIDERED

A. Introduction

US 50 currently consists of an open section 4-lane divided highway separated by a 22-foot grass median with partial access control. The typical section includes two lanes in both the eastbound and westbound directions with paved shoulders and guard rails. Access to U.S. 50 within the project corridor is provided at three signalized intersections (Outlet Center Drive, MD 213, and MD 404), and eight (8) non-signalized access points. The proposed project consists of the construction of grade separated interchanges and overpasses at major intersections, as well as widening of US 50 from four lanes to six lanes from the US 50/301 interchange to MD 404, a distance of approximately 7.5 miles.

B. FONSI Selected Alternate

The Finding of No Significant Impact (FONSI), approved on December 11, 1987, documented the selection of the following improvements:

Segment 1

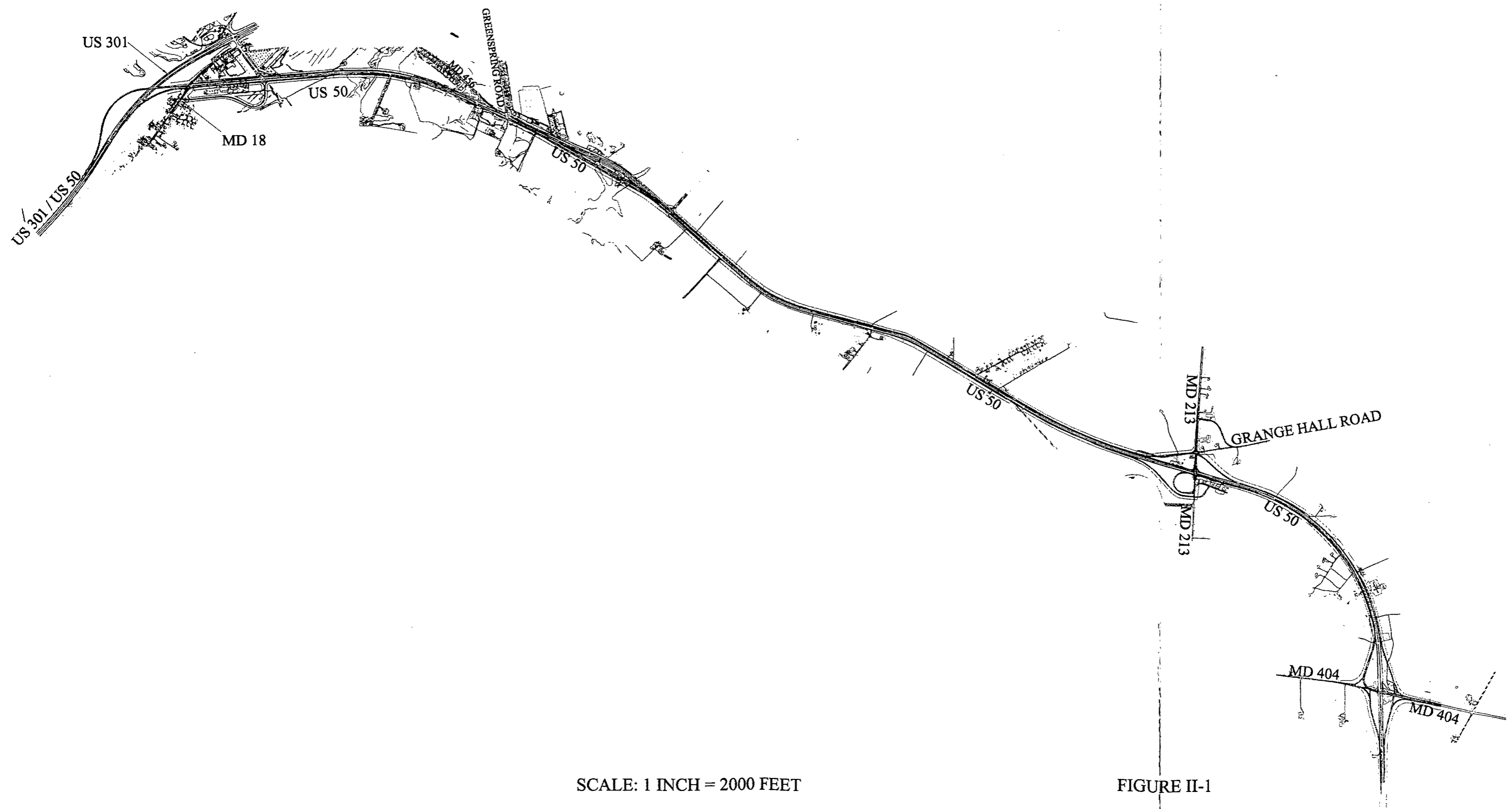
Segment 1 begins west of Cox Creek and extends approximately 7.3 miles to the US 50/301 interchange. The construction of Segment 1 began in 1989 and is now open to the public with the exception of a proposed grade separation at US 50/301/Shamrock Road Extended. In addition to widening mainline US 50/301 from 4 to 6 lanes, the FONSI proposed closing the following at-grade intersections and replacing them with grade separated bridges and service roads:

- U.S. 50/301 at Cox Neck/Castle Marina Road
- U.S. 50/301 at Shamrock Road Extended (**not completed to date**)
- U.S. 50/301 at Kent Island Narrows
- U.S. 50/301 at VFW Avenue
- U.S. 50/301 at Nesbit Road

Segment 2

Segment 2 extends along US 50 from the US 50/301 interchange to MD 404. The FONSI Selected Alternate for Segment 2 included the widening of the roadway from a 4-lane to a 6-lane divided highway. Relocation of the US 50 mainline was proposed in two locations to avoid impacts to the St. Peter's Church historic site (located between Greenspring Road and Bloomingdale Road) and the Sally Harris House historic site (located between Bloomingdale Road and Arrington Road). The FONSI Selected Alternate also included the construction of an overpass at MD 18 and interchanges at MD 213 and MD 404 (see figure II-1). The grade-separated improvements included in the FONSI Selected Alternate are described below:

FONSI SELELCTED ALTERNATE FOR SEGMENT 2



SCALE: 1 INCH = 2000 FEET

FIGURE II-1

US 50 at MD 18 (figure II-2)

The FONSI Selected Alternate proposed the construction of a bridge over US 50 at the existing intersection of US 50/MD 18. A retaining wall was proposed in the southeast quadrant to avoid impacts to existing businesses. Eastbound movements from the intersection would be accommodated via an extension of MD 18 to a new intersection with Kirkley Road. The FONSI Selected Alternate proposed the closure of the existing median crossover at Kirkley Road. Right in/right out access to the Chesapeake Village Shopping Center (located in the northeast quadrant of the US 50/MD 18 intersection) would be provided from westbound US 50. Access to/from eastbound US 50 would be via US 301 to the proposed MD 18 overpass.

US 50 at MD 213 (figure II-3)

At MD 213, the FONSI documented the selection of Option 3, which proposed the construction of an interchange to replace the at-grade signalized intersection. Access to and from MD 213 would be via outer-ramps in the northwest, northeast and southeast quadrant and a loop ramp. Grange Hall Road would be removed in the northwest quadrant and relocated to avoid conflict with the interchange ramp. A retaining wall was proposed in the southeast quadrant to minimize impacts to the existing residences and businesses. Median crossovers within the interchange area would be closed.

US 50 at MD 404 (figure II-4)

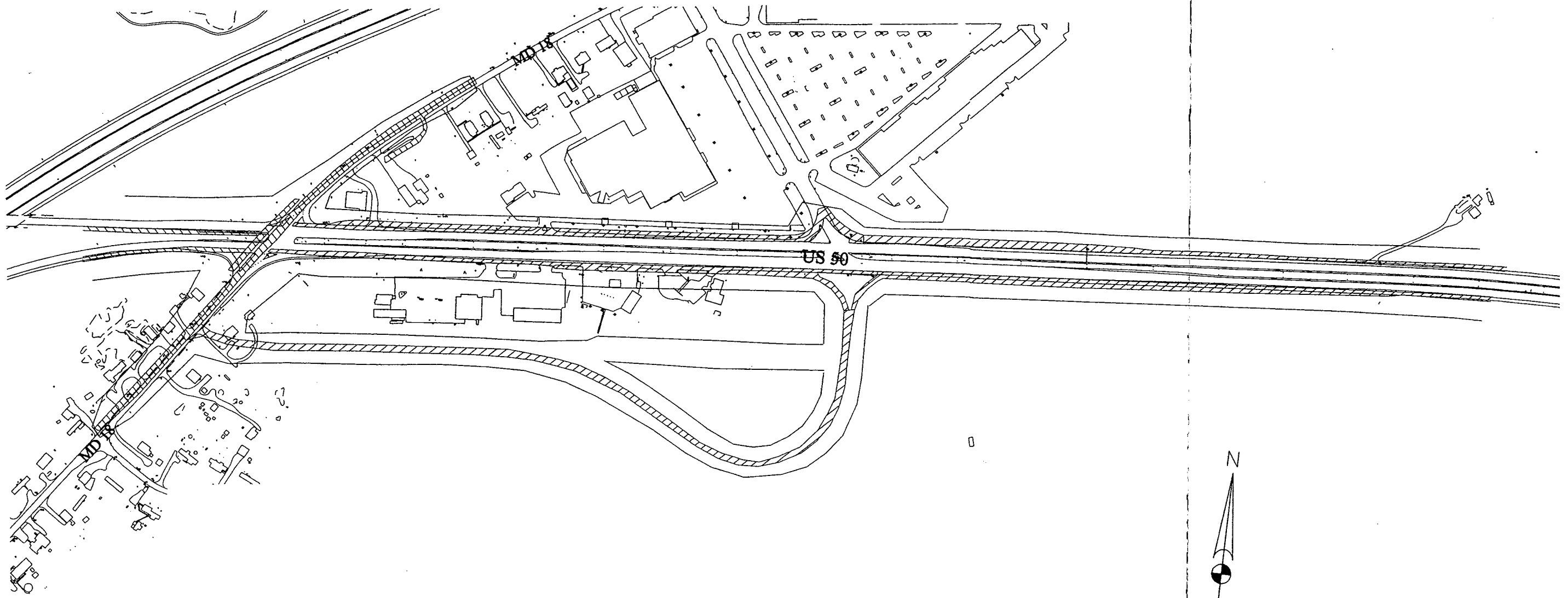
At MD 404, the FONSI documented the selection of Option 4, which proposed the construction of a diamond configuration interchange and bridge to replace the existing at-grade intersection. The ramp in the southwest quadrant would be adjusted to minimize right-of-way acquisition and avoid impacts to the Hassett Farm historic site. The ramp in the northwest quadrant would be aligned to provide a more direct connection for high volume movement from eastbound US 50 to eastbound MD 404. Median crossovers within the interchange area would be closed.

C. Current Design Alternate (Segment 2)

On March 31, 1999, an Informational Public Workshop was held to re-initiate public involvement activities and to present new overpass and service road options developed for Segment 2 of the project. The comments received at the March 1999 workshop indicated the need for a more comprehensive network of service roads and overpasses between the US 50/301 interchange and MD 404 due to additional traffic demand resulting from increasing volumes of resort traffic and residential development along Sportsman Neck and Carmichael Roads.

Another Public Workshop was held on December 13, 1999 to present the additional service road options developed at Sportsman Neck Road MD 456/Greenspring Road and Bloomingdale/Carmichael Roads in response to comments received at the March Workshop. Comments received at both of these workshops were instrumental in the development of the current design.

FONSI SELECTED ALTERNATE @ MD 18



100' 0 300'
SCALE: 1" = 300'

FIGURE II-2
US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS
SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT

FONSI SELECTED ALTERNATE @ MD 213

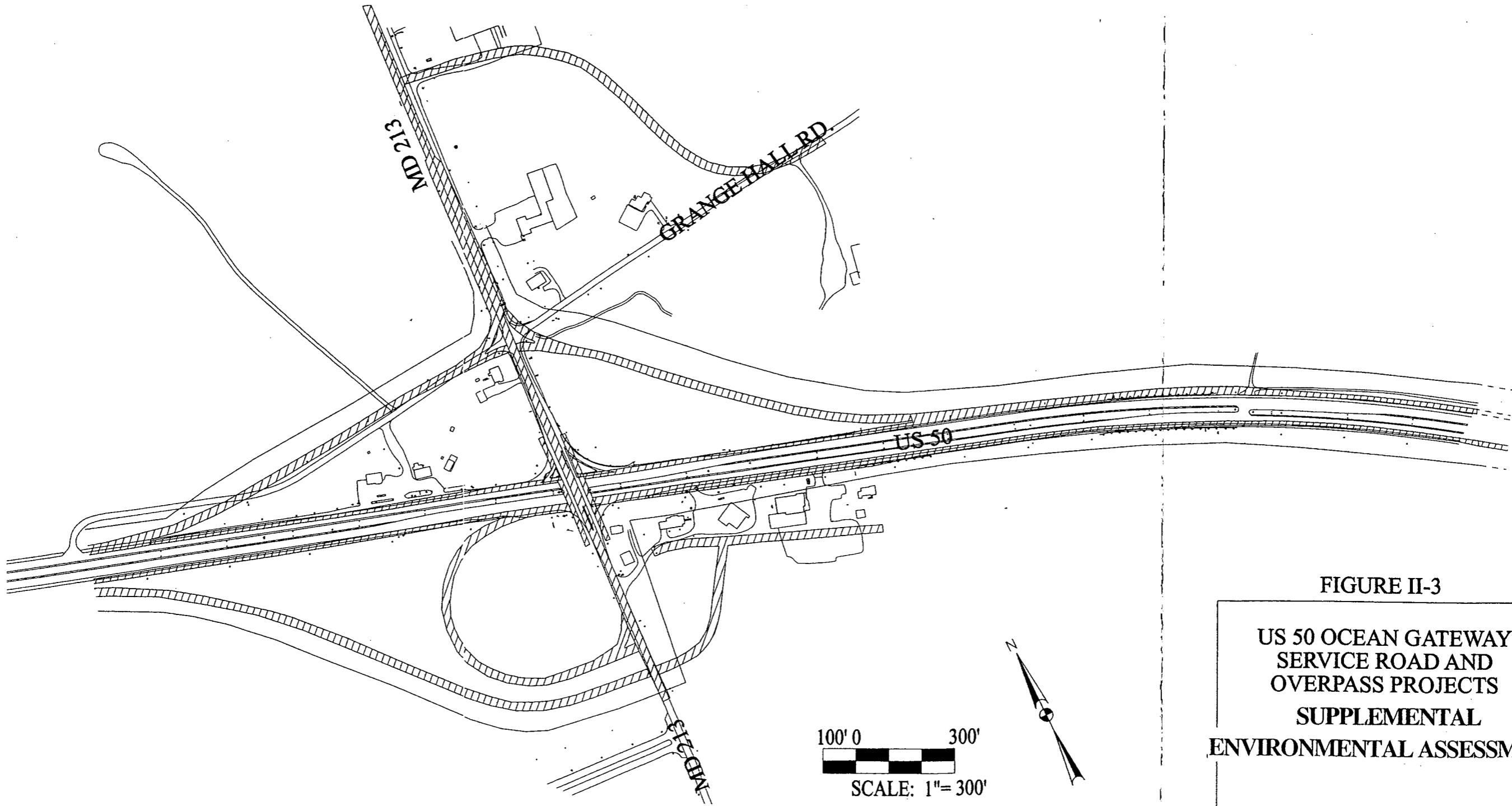
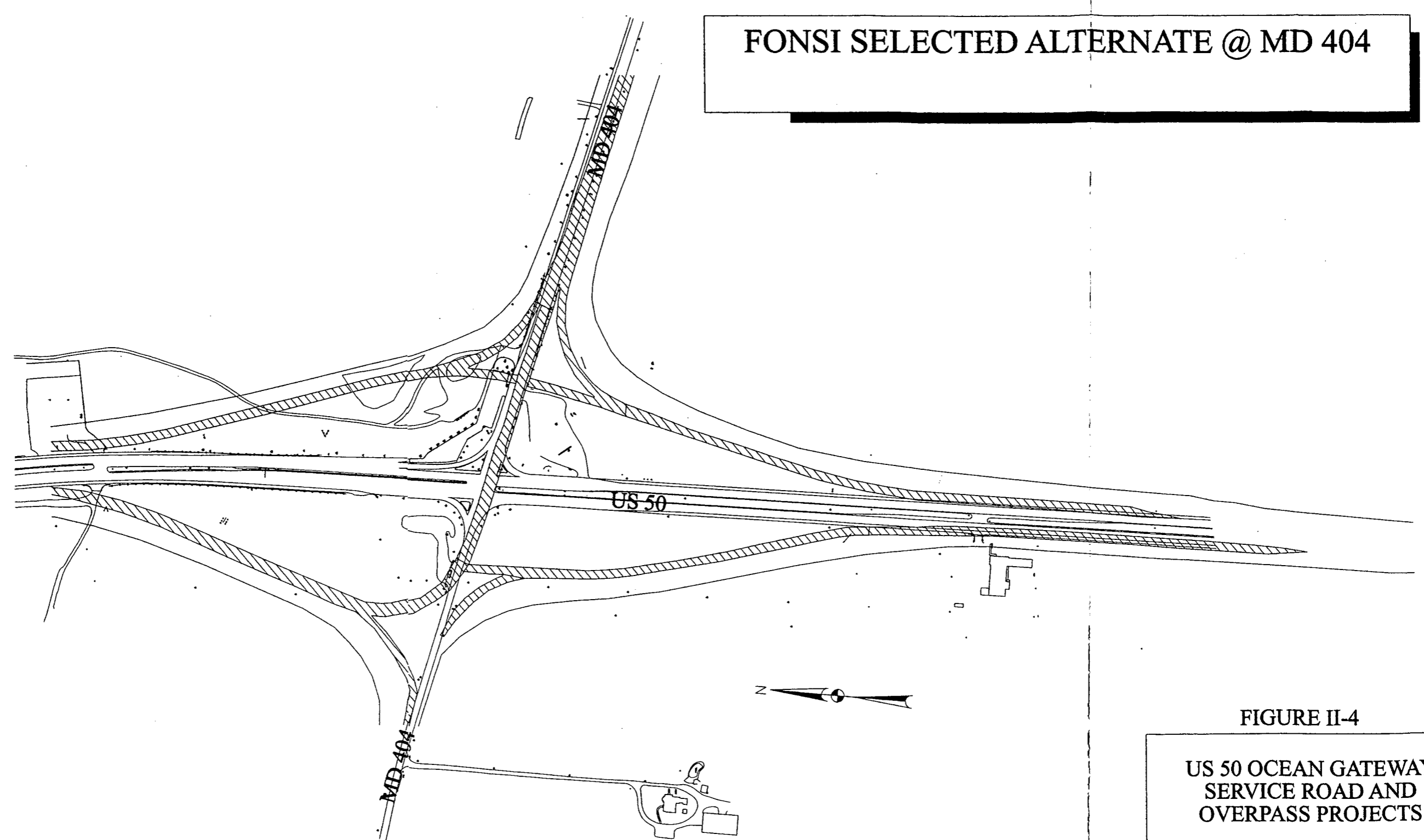


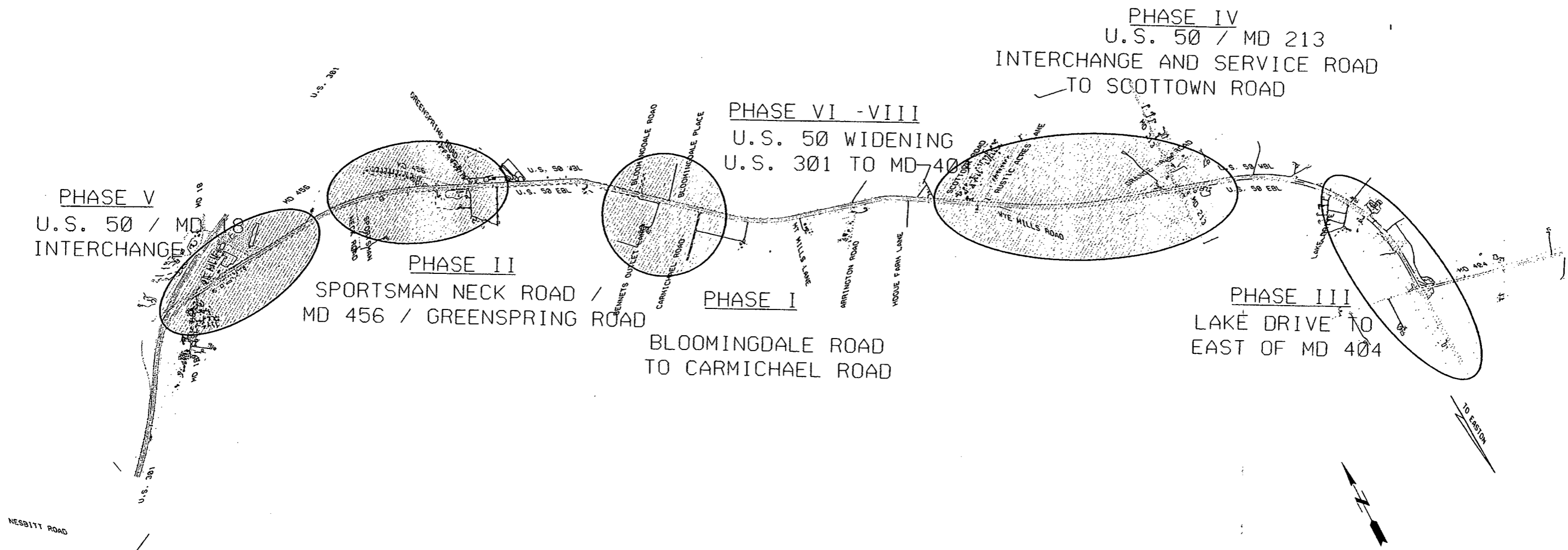
FIGURE II-3
US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS
SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT

FONSI SELECTED ALTERNATE @ MD 404



100' 0 300'
SCALE: 1"= 300'

FIGURE II-4
US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS
SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT



SEGMENT 2 DESIGN / CONSTRUCTION PHASES

0 1000 2000 4000 6000
 SCALE 1 inch = 2000 feet

FIGURE II-5
 US 50 OCEAN GATEWAY
 SERVICE ROAD AND
 OVERPASS PROJECTS

The Current Design Alternate (CDA) proposes widening US 50 to 6 lanes (3 lanes in each direction) with 10-foot outside shoulders, an overpass at MD 18, partial interchanges with associated service roads at MD 456/Greenspring Road and Carmichael Road, and interchanges at MD 213 and MD 404. Widening will occur both within the existing median and adjacent to the outside shoulder. Improvements proposed in the current design would reconstruct the existing 4-foot inside shoulders and 22-foot grass median to provide 10-foot inside and outside shoulders and a 10-foot grass median. The existing typical section, 30 feet from road edge to road edge is maintained. For funding purposes, the proposed improvements have been divided into 8 design/construction phases (see Figure II-5). These improvements proposed in each phase are further described below.

D. Alternates/Options Dropped From Further Consideration

Subsequent to approval of the FONSI, SHA developed several modifications to address additional roadway improvements necessitated as a result additional unanticipated development occurring in the project area. Five options for new service road connections and overpasses in Segment 2 between Sportsman Neck Road and Carmichael Road were presented at two Public Informational Meetings held in 1999. On March 31, an Informational Public Workshop was held to re-initiate public involvement and present additional proposed alternates. Two new interchange options, at Greenspring Road and Bloomingdale Road were presented at the March meeting.

Bloomingdale Road - Full Diamond Interchange (figure II-6)

This Option proposed a full diamond interchange with Bloomingdale road elevated over US 50. Full access to eastbound and westbound US 50 would be provided via interchange ramps. Under this option, Carmichael Road would be closed at US 50 with access provided via a service road connection to Bloomingdale Road on the south side of US 50.

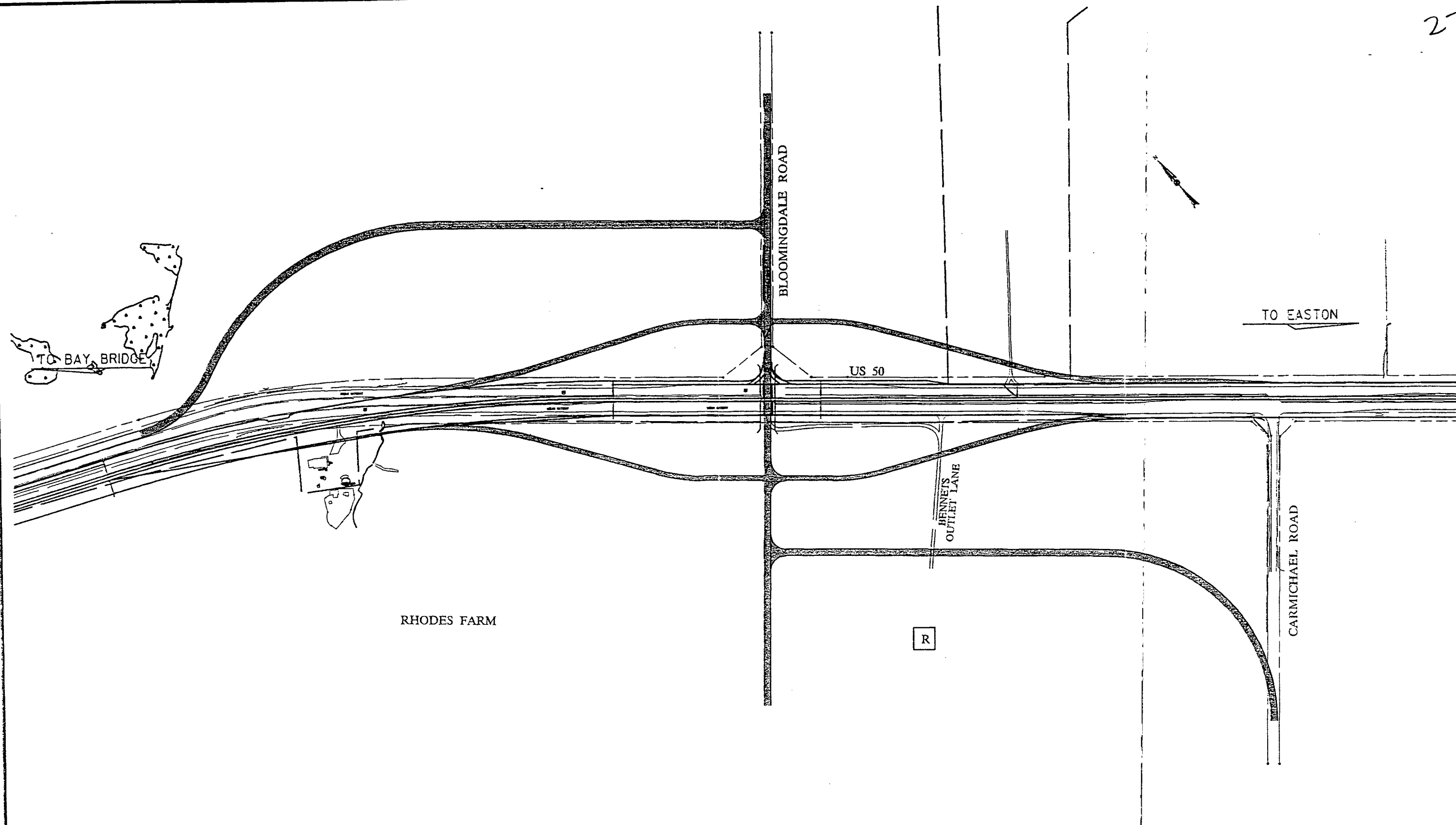
Greenspring Road


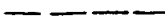
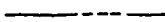
Four options for interchange configurations were presented at the March 31 meeting. Each option proposed the construction of Greenspring Road over US 50, the realignment of MD 456 to access the new overpass and a new service road connection on the south side of US 50.

Comments received at the March workshop indicated the need for a more comprehensive network of service roads and overpasses in order to address the safety and access concerns of local residents. In response to these comments SHA developed new service road options. These new service road options, described below, were presented at an Informational Public meeting on December 13, 1999.

Option 1 - Overpass at MD 456/Greenspring Road with Associated Service Roads (figure II-7)

This option proposed the construction an overpass in the vicinity of MD 456/Greenspring Road. This overpass would intersect with two service roads, one located north of US 50 connecting MD 456 with Greenspring Road, and the other located south of US 50 connects Sportsman Neck Road to Carmichael Road.

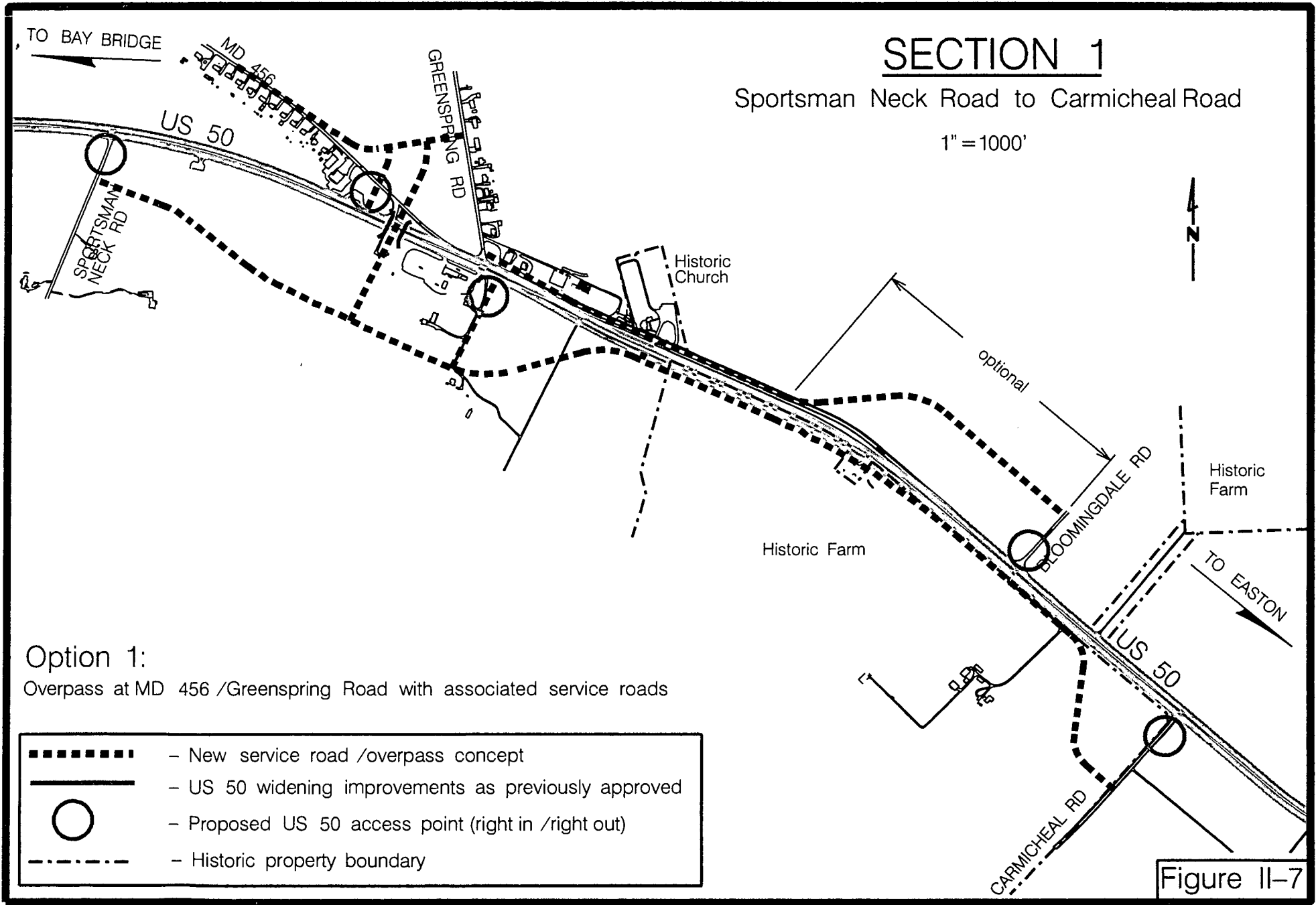


ROADWAY IMPROVEMENTS	
BUSINESS DISPLACEMENT	B
RESIDENTIAL DISPLACEMENT	R
HISTORIC SITE BOUNDARY	
WETLAND BOUNDARY	

**BLOOMINGDALE ROAD
FULL DIAMOND INTERCHANGE**

FIGURE II-6

SCALE: 1" = 300'



Right-in/right-out access along westbound US 50 was proposed at Bloomingdale Road, and along eastbound US 50 at Carmichael Road and just west of the proposed overpass, opposite Greenspring Road.

Construction of this option would have required a total of 29.9 acres if right-of-way, 5 acres of woodlands impact, 0.6 acre of wetlands impact, and 8 stream crossings. Approximately 10.8 acres would be required from within the historic boundary of the Rhodes Farm (NRE) for construction of the proposed service road connecting Sportsman Neck Road to Carmichael Road. This option was not carried forward due to the extensive right-of-way requirements within the historic boundary of the Rhodes Farm.

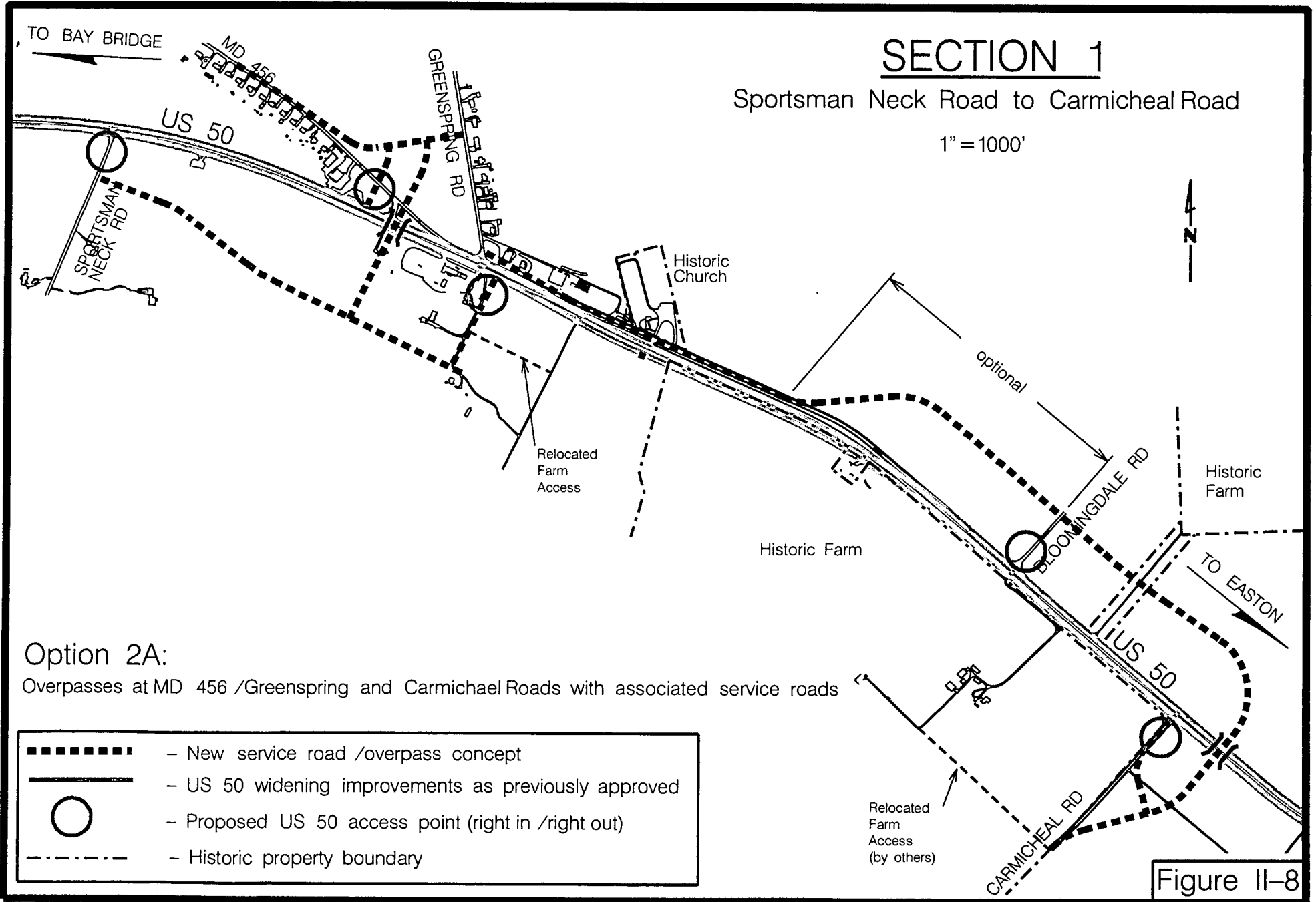
Option 2A-Overpasses at MD 456/Greenspring Road and Carmichael Road with Associated Service Roads (figure II-8)

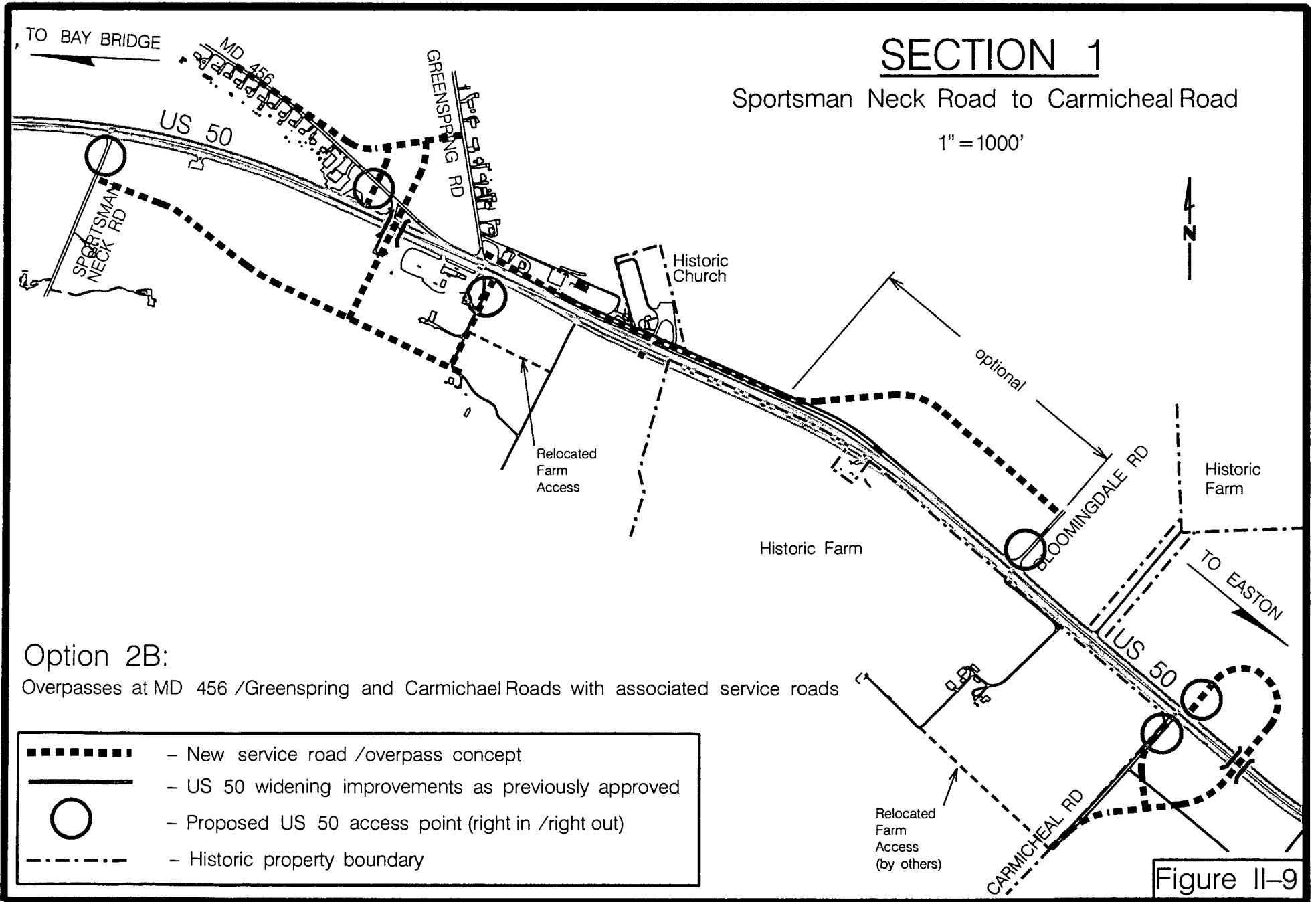
This option is similar to Option 1 in that it incorporates the same overpass at MD 456/Greenspring Road and access points to US 50. However, the proposed service road south of US 50 would only connect Sportsman Neck Road to the proposed overpass and existing driveways east of a former truck stop property and would not extend as far as Carmichael Road. This option would provide an additional overpass just east of the existing intersection of US 50 and Carmichael Road. Carmichael Road was proposed to be shifted approximately 400 feet east of its' existing location and bridged over US 50. The overpass was then proposed to tie into Bloomingdale Road across from the optional service road connection to Greenspring Road. Impacts associated with this option included 29.9 acres of right-of-way (includes 0.2 acre within Bloomingdale historic property), 0.6 acre wetlands, 4.9 acres of woodlands, and 7 stream crossings.

This option was dropped because of impacts to both Bloomingdale and Rhodes historic properties. The service road associated with this option is in much closer proximity to the historic structures associated with the Bloomingdale site and also traverses the driveway to the site at approximately the mid-point, segmenting the an alee of trees which lines the driveway. The driveway and associated alee of trees is a contributing element to, and within the historic boundary of the site.

Option 2B-Overpasses at MD 456/Greenspring Road and Carmichael Road with Associated Service Roads (figure II-9)

Option 2B is similar to proposed Option 2A, with one minor adjustment. With Option 2B, Carmichael Road was not proposed to extend and tie into Bloomingdale Road. Instead, after bridging over US 50, Carmichael Road was proposed to loop around and tie directly into westbound US 50, providing a right-in/right-out access with westbound US 50. Impacts associated with this option included 33.3 acres of right-of-way, 0.6 acre wetlands, 4.9 acres of woodlands, and 7 stream crossings.



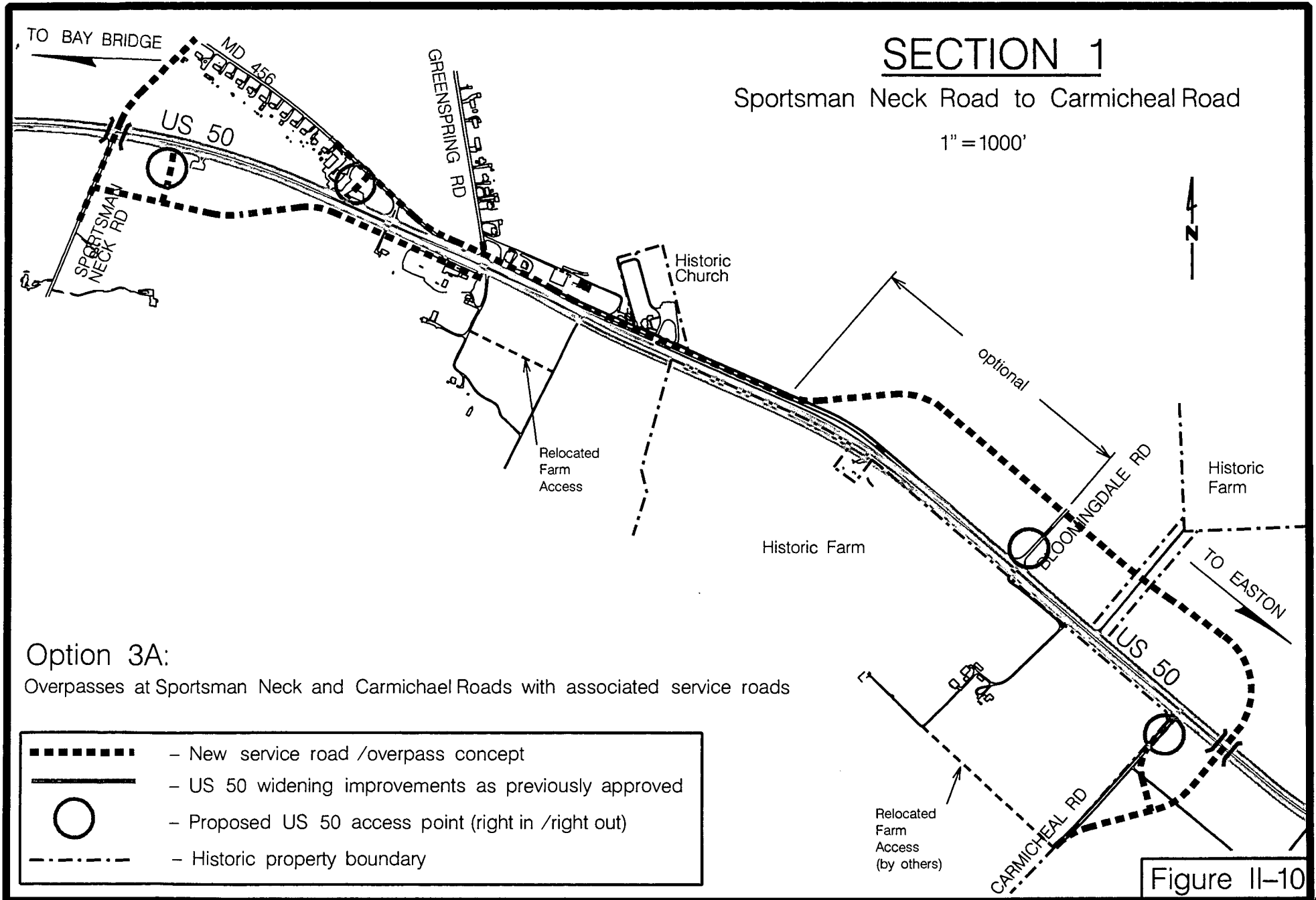


This option was dropped from further consideration for the following reasons:

- An additional lane, approximately 1730 feet long, would be required on mainline US 50 for access between the Carmichael Road overpass and the optional service road connection which intersects with Bloomingdale Road (AASHTO guidelines cite a minimum distance of 2300 feet for an acceleration/deceleration lane of this type). Slower moving local traffic would be forced to negotiate merge/diverge movements with faster moving through traffic along this relatively short stretch of US 50 which could compromise safety due to problems with driver expectancy.
- This option would necessitate closing the Bloomingdale driveway access onto US 50. The Bloomingdale property owners are strongly opposed to closing the main driveway access, as they contend that the tree-lined drive is essential to the commercial use of their property.
- The elimination of the section of 2-way service road between the Carmichael Road overpass and Bloomingdale Road would preclude traffic on the north side of US 50 from using the Carmichael Road overpass to access eastbound US 50. If the service road is eliminated, traffic from Bloomingdale Road to eastbound US 50 would be required to go approximately 3.3 miles westbound to the proposed overpass at Sportsman Neck Road to access eastbound US 50. A 2000 unit residential development proposed on the north side of US 50 west of Bloomingdale Road enhances the need to provide this movement.

Option 3A-Overpasses at Sportsman Neck Road and Carmichael Road with Associated Service Roads (figure II-10)

Option 3A is similar to Option 2A with the following exceptions. The location of the western-most overpass, for this option is proposed at Sportsman Neck Road rather than at MD 456/Greenspring Road. With this option, Sportsman Neck Road would be bridged over US 50 and extended to MD 456. The service road between Bloomingdale Road and Greenspring Road would be extended from Greenspring Road and tie in with existing MD 456. Right-in/right-out access would be provided between MD 456 and westbound US 50 from this proposed extension. South of US 50, a service road would be provided from Sportsman Neck Road to existing driveways east of the former truck stop property, to provide these properties with right in/right out access to eastbound US 50. However, this service road would not extend as far as Carmichael Road (as proposed with Option 2A) avoiding impacts to the historic Rhodes Farm property, except for the tie-in points for the Carmichael Road overpass, similar to other options. As with Option 2A, an overpass at Carmichael Road is proposed. A slightly shifted Carmichael Road would bridge over US 50, tying into Bloomingdale Road across from the optional service road connection to Greenspring Road. Right-in/right-out access would be maintained at Carmichael Road and Bloomingdale Road. This option was modified and retained as the preferred option.



Option 3B-Overpasses at Sportsman Neck Road and Carmichael Road with Associated Service Roads (figure II-11)

Option 3B is identical to Option 3A, with one minor adjustment. With Option 3B, Carmichael Road would not extend and tie into Bloomingdale Road. Instead, after bridging over US 50, Carmichael Road would loop around and tie directly into westbound US 50, providing a right-in/right-out access with westbound US 50, similar to Option 2B. This option was dropped due to the same safety-related concerns presented with Option 2B, a minor reduction of impacts to the Bloomingdale historic site, and no reduction of impacts to Rhodes Farm.

Option 3B Modified - Overpasses at Sportsman Neck Road and Carmichael Road with Associated Service Roads (figure II-12)

Option 3B Modified is identical to Option 3B, except that the Carmichael Road loop would tie into US 50 westbound on the east side of the Carmichael Road overpass to provide an increased distance (2300 feet) between the Carmichael Road access point and the access point at Bloomingdale Road. For safety reasons, this option along with options 2B and 3B, would require a fourth lane on US 50 westbound between the Carmichael Road tie-in and Bloomingdale Road, and would not provide the service road connection. This option was dropped from further consideration for the same reasons cited for Option 2B. In addition, Option 3B Modified would impact approximately 3 acres of forest (potential Delmarva fox squirrel habitat), 0.2 to 0.3 acres of wetlands and 500 linear feet of stream.

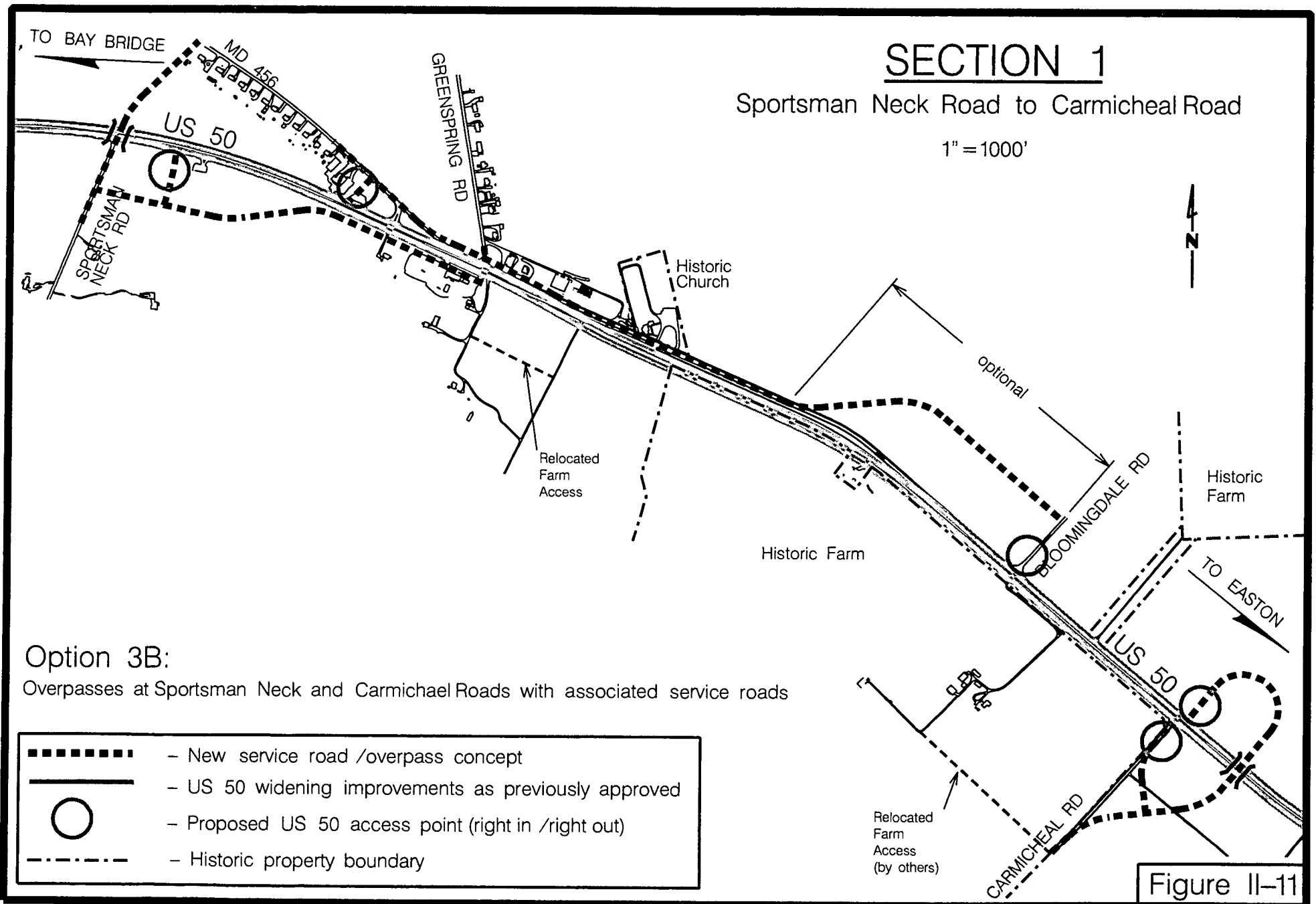
Service Road Connecting Scottown Road and Rustic Acres Lane (figure II-13)

An option proposing a service road connecting Scottown Road and Rustic Acres Lane to MD 213 was considered. The service road was proposed to be located adjacent to US 50 and would utilize a portion of Grange Hall Road. The Service Road would intersect MD 213 just north of the existing Grange Hall Road/MD 213 intersection. As proposed under Option 1, right-in/right-out access would be provided along westbound US 50. This option was dropped for a safer option which provides a service road connection west of US 50 from an extended Scottown Road and Rustic Acres Lane.

E. SHA Preferred Alternates/Options

Phase 1 - Carmichael Road - (figure III-9)

Phase 1 of the US 50 project proposes constructing an overpass just east of existing Carmichael Road that will connect to a new service road on the north side of US 50 between the proposed overpass and Bloomingdale Road. The median break at Carmichael Road will be eliminated and only right-in/right-out movements will be retained to and from eastbound US 50. The proposed service road will tie into Bloomingdale Road where right-in/right-out access to US 50 westbound will be provided. The service road typical section is two 11-foot lanes with 6-foot shoulders. The design for an overpass with service road at Carmichael Road was not presented as an option in the FONSI.



SECTION 1

Sportsman Neck Road to Carmicheal Road

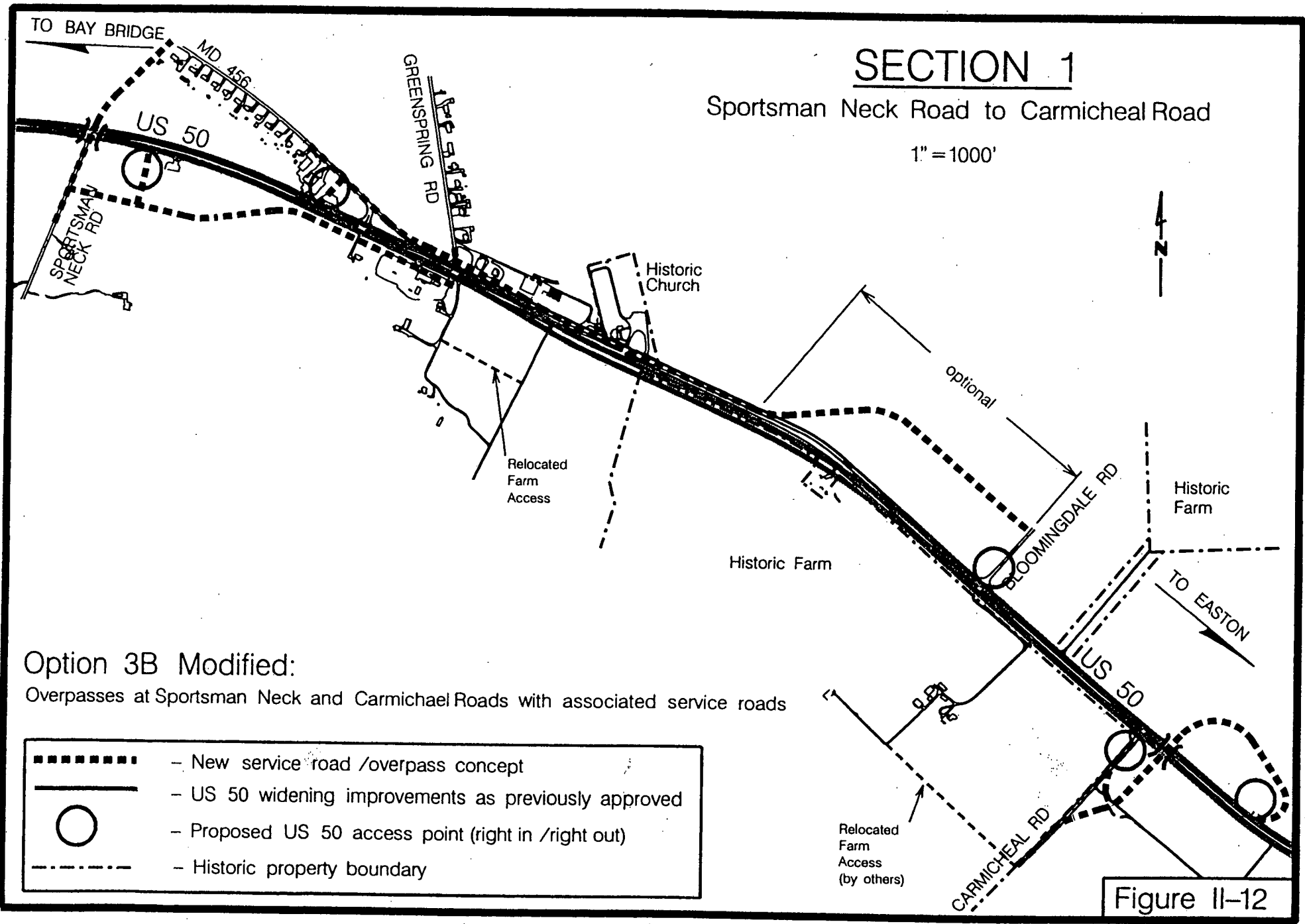
1" = 1000'

Option 3B:
Overpasses at Sportsman Neck and Carmichael Roads with associated service roads

- New service road /overpass concept
- US 50 widening improvements as previously approved
- Proposed US 50 access point (right in /right out)
- Historic property boundary

Figure II-11

35



SECTION 1

Sportsman Neck Road to Carmicheal Road

1" = 1000'

Option 3B Modified:

Overpasses at Sportsman Neck and Carmichael Roads with associated service roads

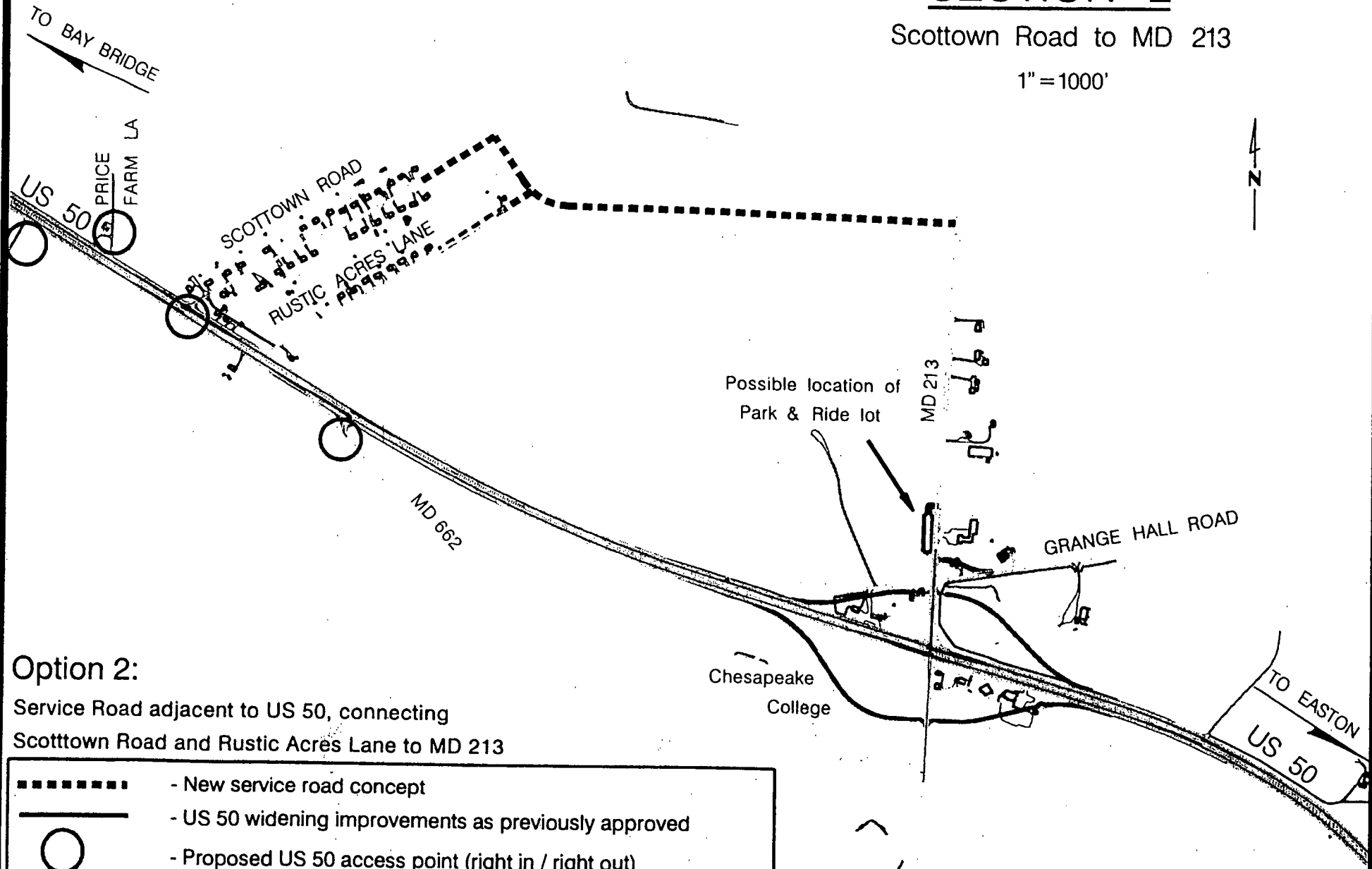
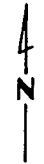
- | | |
|-----------|--|
| ----- | - New service road /overpass concept |
| ————— | - US 50 widening improvements as previously approved |
| ○ | - Proposed US 50 access point (right in /right out) |
| - - - - - | - Historic property boundary |

Figure II-12

SECTION 2

Scottown Road to MD 213

1" = 1000'



Option 2:

Service Road adjacent to US 50, connecting
Scottown Road and Rustic Acres Lane to MD 213




-  - New service road concept
-  - US 50 widening improvements as previously approved
-  - Proposed US 50 access point (right in / right out)

Figure II-13

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Therefore, all impacts associated with this design (with the exception of the mainline widening of US 50) represent an increase from the impacts presented in the FONSI. Semi-Final Review (SFR) plans for this phase have been developed and this phase is partially funded for right-of-way (ROW) acquisition.

Phase 2 - Sportsman Neck Road - (figure III-7)

Phase 2 of the US 50 project proposes an overpass to carry Sportsman Neck Road over US 50. This new structure will link the proposed service road (from Sportsman Neck Road to residences along the south side of US 50) and Sportsman Neck Road to MD 456 on the north side. The typical section includes two 11-foot lanes with 6-foot shoulders. The southern service road, which provides access to US 50 (via Sportsman Neck Road) for three farms, will have a reduced typical section as appropriate to meet County requirements for a two lane farm access road. The structure and service roads will eliminate the existing at-grade crossings of US 50 at Sportsman Neck Road, MD 456 and Greenspring Road. The existing Sportsman Neck Road intersection will be retained for right-in/right-out movements onto US 50 eastbound, and the flashing beacon and left turn from Sportsman Neck Road to westbound US 50 will be removed.

PI plans for Phase 2 have been developed and this phase is partially funded for ROW acquisition. The proposed improvements to MD 456 and Greenspring Road, as presented in the PI plans, differ from what was presented in the FONSI. The FONSI proposed a connector road between Greenspring Road and MD 456 to eliminate only one at-grade crossing (at Greenspring Road), but maintained the at-grade crossings at MD 456 and at Sportsman Neck Road. The proposed Sportsman Neck Road overpass and associated service roads were not presented as an option in the FONSI.

Phase 3 - MD 404 - (figure III-14)

Phase 3 of the US 50 project proposes constructing a diamond interchange at the intersection of US 50 and MD 404, with MD 404 elevated over US 50. The typical section for the bridge includes three 12-foot lanes with 10-foot shoulders. A service road will be constructed between Lake Drive and MD 404 to eliminate the existing at-grade connection at Lake Drive (a new design element added since the FONSI). The typical section for the service road is two 11-foot lanes with 6-foot shoulders.

Phase 4 - MD 213 - (figure III-12)

Phase 4 of the US 50 project proposes constructing a diamond interchange at the intersection of US 50 and MD 213, with MD 213 elevated over US 50. The typical section for the bridge is two 12-foot lanes with 8-foot shoulders. A new design element included since the FONSI proposes a service road from MD 213 connecting to Scotttown Road via Rustic Acre Lane (see figure III-8), and Grange Hall Road (figure III-9), eliminating the existing median crossovers on US 50 at Scotttown Road and Grange Hall Road, with access provided via the MD 213 interchange. Scotttown Road will also be repaved as part of this improvement. The typical section for the service road is two 11-foot lanes with 6-foot shoulders.

Phase 5 - MD 18 - (figure III-6)

Phase 5 of the US 50 project proposes constructing an overpass at the intersection of US 50 and MD 18, with MD 18 elevated over US 50. The typical section for the bridge consists of two 11-foot lanes with 4-foot shoulders. Consistent with the FONSI Selected Alternate, a service road is included from MD 18 connecting to US 50 across from the existing outlet shopping center entrance. The typical section for the service road is two 11-foot lanes with 4-foot shoulders. Final Review for Phase 5 was completed in 1996 in response to a commercial development proposed opposite the existing Chesapeake Outlet Center. The development proposal was subsequently shelved; therefore, updated plans will likely be developed for this phase.

Phase 6 - US 50 Mainline Widening; U.S. 50/U.S. 301 Interchange to Bloomingdale Road – (figures III-5 through III-9)

Phase 6 of the US 50 project proposes widening US 50 from west of the US 50/301 interchange to Bloomingdale Road from an existing four-lane divided open section highway to a six-lane divided open section, limited access highway. The typical section includes six 12-foot lanes with 10-foot outside and inside shoulders. US 50 will be shifted to the south in the vicinity of the St. Peter's Church to avoid impacts to this National Register listed historic site.

Phase 7 - US 50 Mainline Widening; Bloomingdale Road to MD 213 – (figures III-9 through III-12)

Phase 7 of the US 50 project proposes widening US 50 from Bloomingdale Road to MD 213 from a four-lane divided open section highway to a six lane divided open section, limited access highway. The typical section includes six 12-foot lanes with 10-foot outside and inside shoulders. Instead of the alignment shift proposed at the Sally Harris House historic site (located between Bloomingdale Road and Arrington Road), a retaining wall will be designed which will avoid any permanent right-of-way impact to the site.

Phase 8 - US 50 Mainline Widening; MD 213 to MD 404 – (figures III-12 through III-14)

Phase 8 of the US 50 project proposes widening US 50 from MD 213 to MD 404 from a four lane divided open section highway to a six lane divided open section, limited access highway. The typical section includes six 12-foot lanes with 10-foot outside and inside shoulders.

III. EXISTING ENVIRONMENT/IMPACTS

A. Land use & Socio-economic Environment

The Current Design Alternate (CDA) will not impact any park or recreation areas. Other than the acquisition of right-of-way from a grassy area in front of Chesapeake Community College, no impacts to community facilities or services are anticipated. The CDA should improve response times for emergency vehicles in the project area.

Land Use

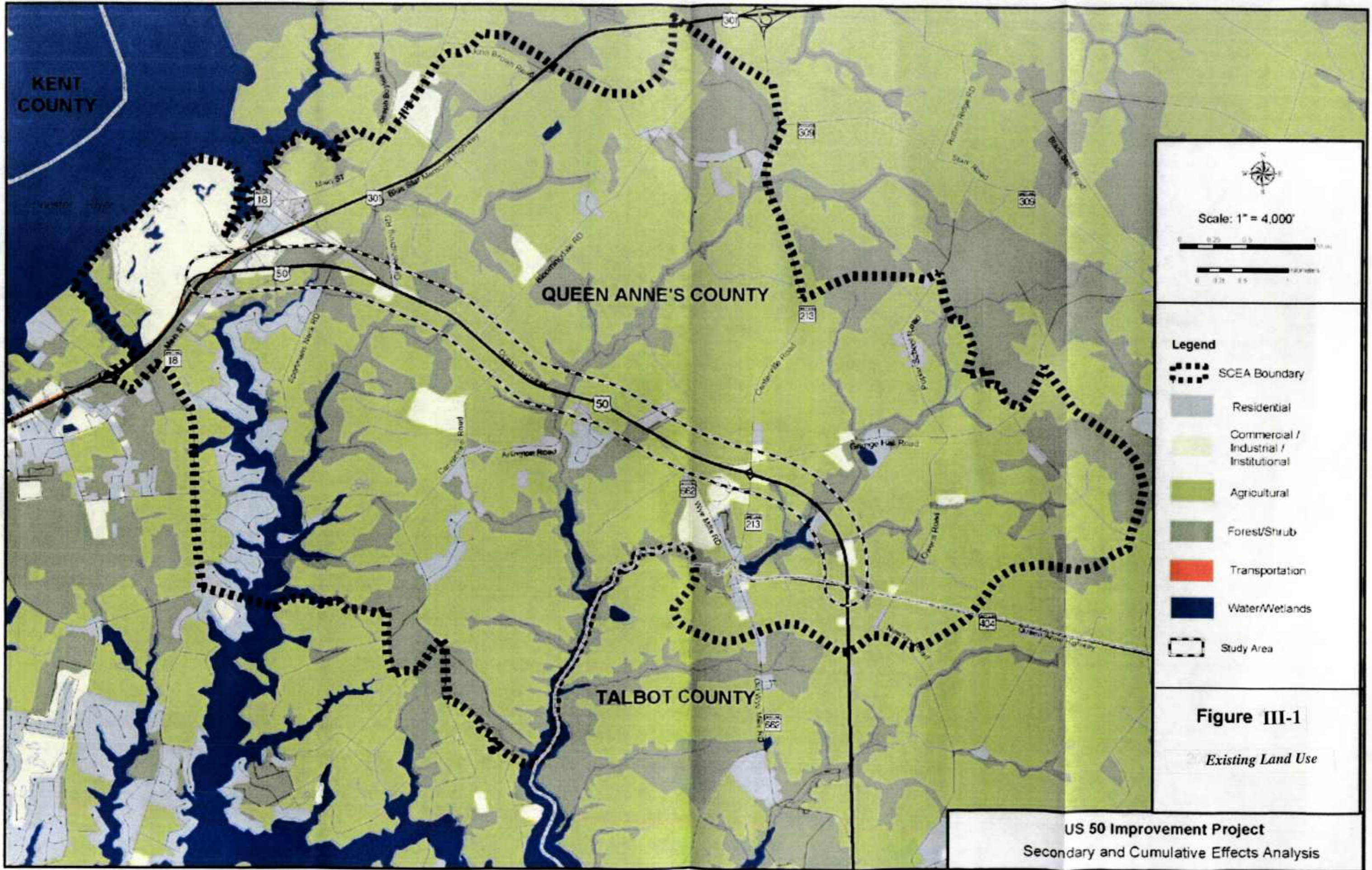
a. Existing Land Use

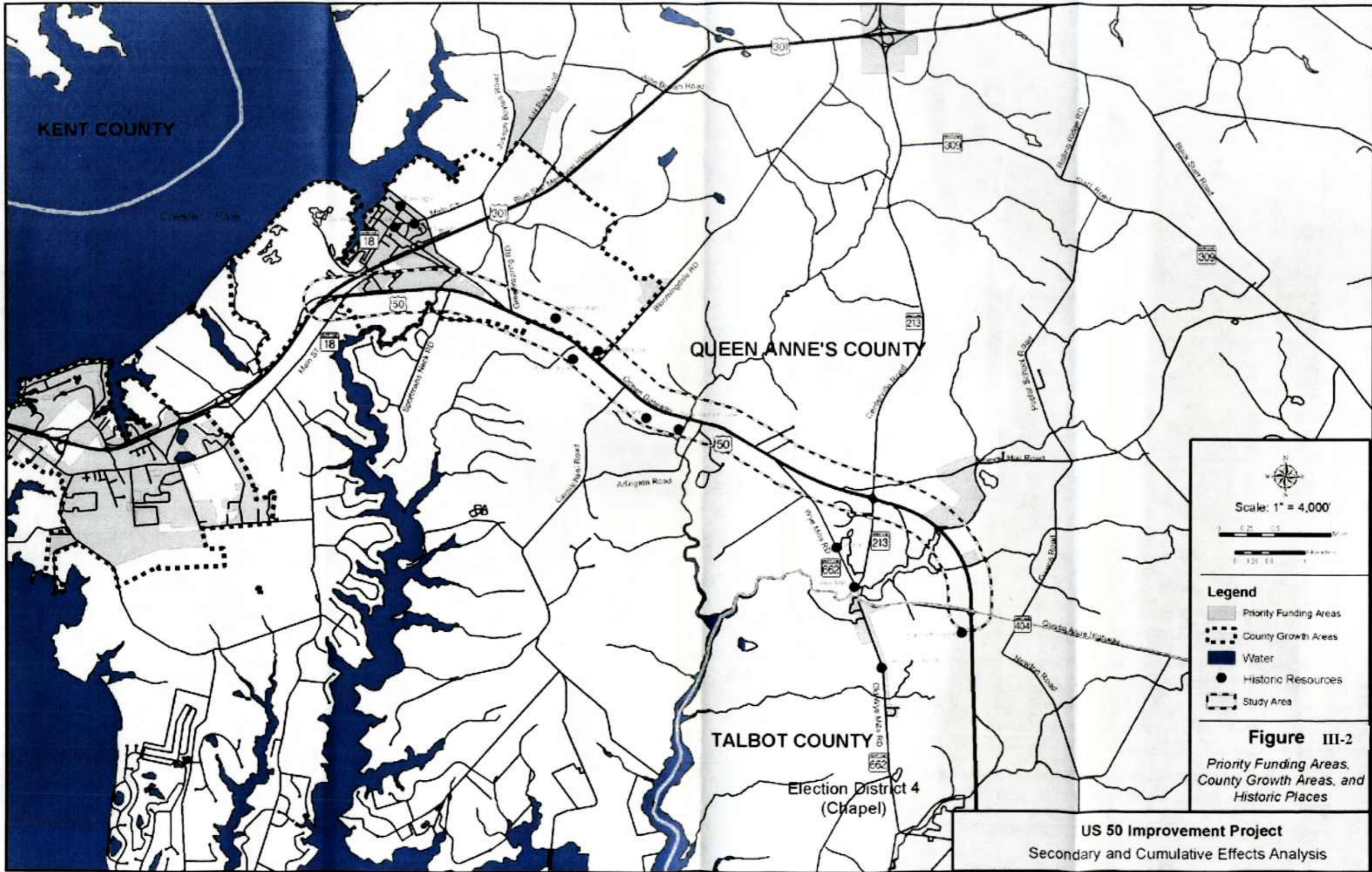
Queen Anne’s County is predominately rural, consisting of 62.9% agricultural land and 27.0% forest and shrub land. Much of the urban and built-up areas occur within the six County-designated growth areas: Stevensville, Chester, Kent Narrows, Queenstown, Centreville and Grasonville. These areas have had the most pronounced growth in recent years compared to the rest of the county; nearly half of the residential growth has occurred on Kent Island alone, which includes the Stevensville, Chester, and half of the Kent Narrows growth areas (see figure III-1). The northern portions of the County remain substantially rural in nature. According to the Queen Anne’s County Comprehensive Plan, there are approximately 6,400 acres of undeveloped land zoned for residential or non-residential uses.

Existing land use in the project area is comprised of agricultural properties and open space, with rural residential properties and commercial development concentrated at major intersections. The intensity of development generally decreases eastward along the corridor. A portion of the Queenstown Growth Area, which is zoned for residential/commercial use, lies within the northern portion of the study area. From the US 50/301 interchange to Outlet Drive; land use primarily consists of commercial development. Aside from the Chesapeake Community College, land use along the remainder of the US 50 corridor consists of agricultural zoned properties and open space. The majority of the agricultural land within the study area is utilized for production of corn, soybeans, and hay.

b. Future Land Use

Future land use along the US 50 corridor is primarily influenced by the recommendations of the Queen Anne’s County Comprehensive Plan 2002. The plan recommends that future development be concentrated in designated growth areas and anticipates that approximately 80-90% of development within the next ten years will occur within designated growth areas. There is limited potential for development outside of the County Growth Areas/Priority Funding Areas due to projected availability (or lack of) public utilities, specifically public sewer service (see figure III-2).





There are two major development projects currently planned within the study portion of the US 50 corridor. These include:

- John Wesley UM Church located at Arrington Road and Carmichael Road; a 3,476 square foot (SF) addition to the church is proposed.
- Greenspring Estates located between US 50/301, Bloomingdale Road and Greenspring Road; 1,400 single detached family units and 600 condominium units are proposed.

These projects are in various stages of review and their estimated construction date is unknown. None of these projects are dependent upon the completion of the proposed US 50 improvements. This list does not include small subdivision proposals to be created on smaller than 5 acre parcels.

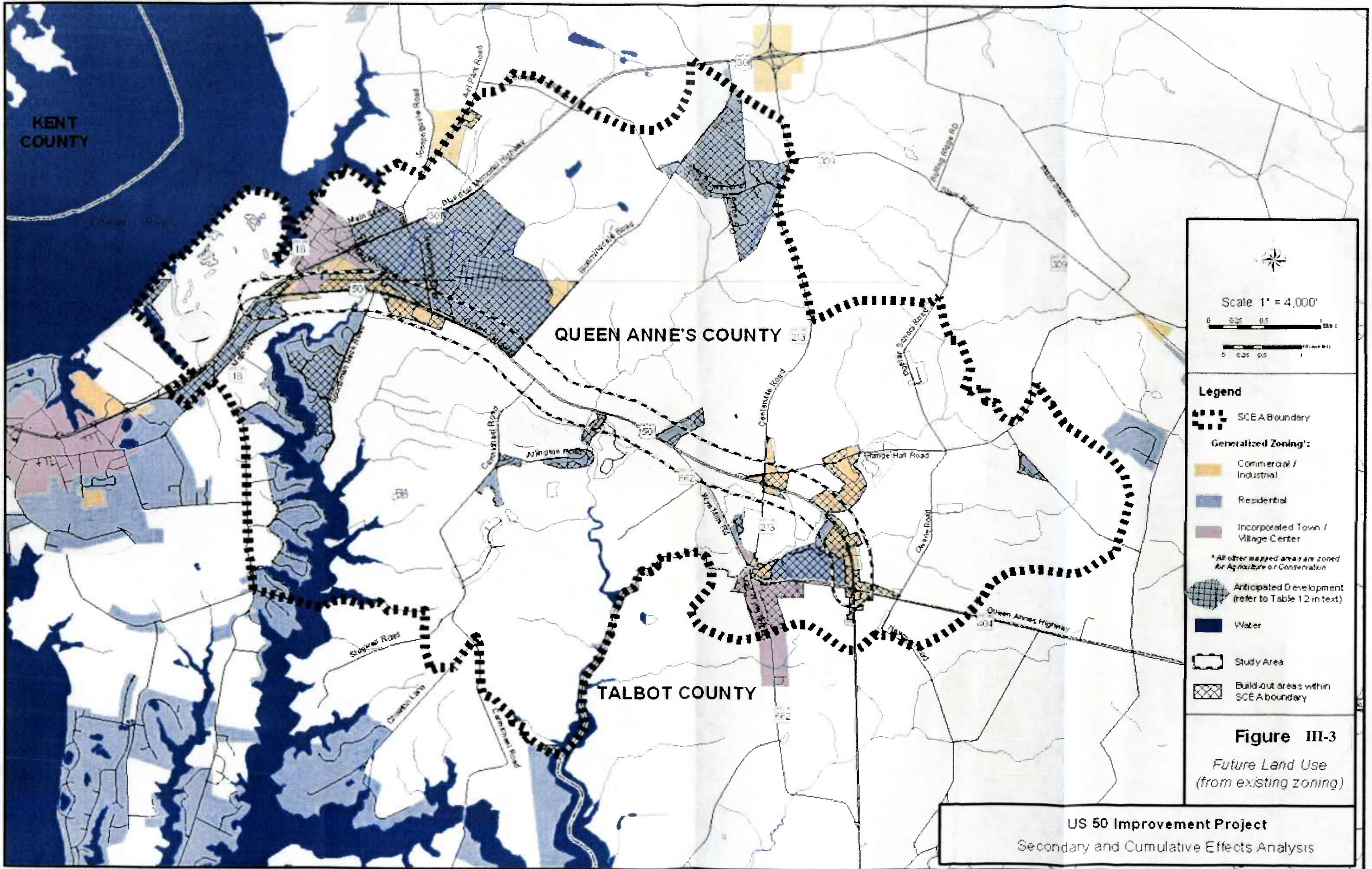
c. Smart Growth Assessment

The Maryland Smart Growth Areas Act went into effect in October 1997. The intent of this legislation is to direct state funding for growth-related projects to areas designated by local jurisdictions as Priority Funding Areas (PFAs). PFAs are existing communities and other locally designated areas as determined by local jurisdictions in accordance with “smart growth” guidelines. The Smart Growth Areas Act is intended to direct development to existing towns, neighborhoods, and business areas by directing State infrastructure improvements to those places.

The 2002 Queen Anne’s County Comprehensive Plan designates several “growth areas” within the county that are identified for future residential and commercial development. The US 50 project includes a small portion of the Queenstown growth area, zoned for residential/commercial use in the northern portion of the study area, and a small PFA located northeast of Wye Mills. Most of the land within the project area is zoned for agricultural purposes and lies outside of a county-approved PFA (See Figure III-3). However, this project received Location Approval in December 1987, prior to approval of the Smart Growth Act, and as such is grandfathered under the provisions of the Act.

Socio-economic impacts

Queen Anne’s County has experienced a growth rate of 45 percent in population and housing from 1970 to the year 2000. The Queenstown area which is located within the project area experienced the highest population growth rate, approximately 10.6% since 1970. According to county projections, the total population growth rate in Queen Anne’s County is expected to increase an additional 19.6% by the year 2010 and an additional 15.1% between 2010 and 2020. This rate is approximately double that of other upper Eastern Shore Counties (Caroline, Cecil, Kent, and Talbot).



a. Communities and Neighborhoods

One incorporated town, Queenstown is located along US 50 north and west of its intersection with MD 18 and interchange with US 301. The highest concentration of residences within the study area is located within this community. Other communities in the project vicinity include the following:

- Scottown Community; a minority community consisting of approximately forty one (41) single family residences located along westbound US 50 west of MD 213. The residences are located along Scottown Road and Rustic Acres Road, extending northward from US 50.
- The Sportsman Neck Road Community, a residential community of approximately 150 single family residences located along eastbound US 50 east of the US 50/MD 18 intersection.
- Lake Drive community, a small community of approximately eight single family residences located west of MD 404.

b. Description of Displacements and Relocations

The FONSI approved in 1987 indicated that the Selected Alternate for Segment 2 would require a total of 15 residential relocations. Since that time the SHA has completed 12 residential relocations within the study limits. Included in this number are seven (7) properties identified as residential displacements associated with the FONSI Selected Alternate. The remaining five (5) were acquired through an access management program along the US 50 corridor implemented by SHA through Queen Anne's County's land use and development code; and includes two properties that would have been impacted by the CDA. A total of 15 additional residential relocations (the remaining 8 from the FSA and 7 impacted by the CDA) are anticipated with the CDA (see Table III-1). The increase in residential relocations associated with the current design can be attributed to the additional interchanges and service roads options, not included in the FONSI design.

The CDA is not anticipated to disrupt the integrity or cohesion of any community or neighborhood, nor affect a community's social fabric or patterns of interaction. No portions of neighborhoods or communities would be isolated or physically cut off from the rest of its group. The CDA was developed to address access for local residences, and provide improved access for emergency vehicles in response to comments received from the community.

c. Relocation Process

Relocation of any individuals, families, or businesses displaced by this project would be accomplished in accordance with the Uniform Relocation Assistance and Land Acquisition Policies of 1970 as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987, and would be executed in a timely and humane fashion. In the event comparable

replacement housing is not available for displaced persons or available replacement housing is beyond their financial means, replacement "housing of last resort" will be utilized to accomplish the relocation. A *Summary of the Relocation Assistance Program of the State of Maryland* is included in the Appendix of this document.

d. Title VI Statement

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

Table III-1

Current Displacements and Relocations

Phase	Residential Relocations/Commercial Displacements Remaining		
	Commercial Displacements	Residential Relocations	Minority or Low Income Relocations
Phase 1	0	0	0
Phase 2	2	1	0
Phase 3	0	1	0
Phase 4	2	4	4 (one apartment building; Low Income)
Phase 5	1	4	4 (Minority)
Phase 6	1	2	0
Phase 7	0	2	2
Phase 8	0	1	0
TOTAL	6	15	10

e. Environmental Justice

Executive Order 12898: *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations* issued on February 11, 1994, requires federal agencies to "identify and address as appropriate, disproportionately high and adverse human health or environmental effect of its programs, policies, and activities on minority populations and low-income populations. Minority is defined as "individuals who are members of the following population groups: American Indian or Alaskan Native, Asian or Pacific Islander, Black, not of

Hispanic origin, or Hispanic.” Also, low income populations should be identified as the median income below the Department of Health and Human Services poverty guidelines. These populations are to be provided access to public information and opportunity to participate in matters relating to the environment.

To identify minority and low income populations, a census tract analysis was conducted. The 2000 census data indicates that the majority of the population in the project area (89%) is white, with minorities accounting for 11.1% of the total population. These include 10.5% African Americans 0.2 % American Indian and Alaska Native and 0.3% other races. The percentage of minority population in the study area is similar to that of Queen Anne’s county (approximately 11%), while the total minority population in Maryland is 29%. A total of 259 persons (3%), within the project area are at or below the U.S. Department of Health and Human Services poverty threshold for a four person household, last updated in the year 2003. This is a lower percentage than those of Queen Anne’s County (6.3%) and the State of Maryland (8.5%) for a four person household.

Based upon field investigations conducted by the SHA District 2 right-of-way office, and coordination with the Queen Anne’s county Office of Housing and Community Development, two minority communities were identified within the US 50 project limits. One is located in the vicinity of the Scottown Road intersection with westbound US 50, west of MD 213, and the other is located along MD 18, just west of the intersection of eastbound US 50. The MD 18 community has also been identified as a low-income community.

The CDA will displace one (1) residence in the Scottown Road community, a reduction of three (3) relocations as compared to the FONSI Selected Alternate. The CDA will also require five (5) minority-owned residential displacements in the MD 18 community, which is the same number estimated for the FONSI Selected Alternate. To date, one of the residents in the MD 18 community has been relocated. In addition, one (1) individual minority displacement has been identified along US 50 in the vicinity of the Arrington Road intersection, as well as low income residents of a 4-unit apartment building north of the MD 213 interchange, which is displaced by the CDA. The 4-unit apartment building and the minority residence at Arrington Road were not identified as displacements in the FONSI. The SHA will likely have to provide Housing of Last Resort for the residential displacements in the MD 18 community and the occupants of the apartment building north of MD 213, which are suspected to be students attending Chesapeake Community College. Suitable and affordable replacement housing for displaced persons is expected to be available within or near the affected communities.

Subsequent to the December, 1999 Public Informational Meeting, SHA representatives held several meetings with members of the Scottown Road community. On September 30, 2002, a meeting was held at Chesapeake Community College to discuss minimizing displacements and the location of a proposed service road providing access to eastbound US 50 for the Scottown Road Community. Other topics discussed included: emergency access; the location of a median crossover; a request for assistance in identifying an unmarked cemetery located on Rustic Acres Lane; and a request by the community to pave Scottown Road as part of the SHA selected option. SHA also held discussions with individual property owners to address their concerns about right-of-way impacts.

As a result of the meeting, the alignment for the service road connecting to MD 213 was redesigned to avoid 3 of 4 residential relocations (see figure III-11). The fourth resident requested relocation. The SHA Right-of-Way Chief for District 2 also conducted further coordination with the property owner to identify the specific location of the cemetery. On December 18, 2002, an SHA archeologist along with other team members met with the property owner on whose land the cemetery is located. The area was marked by SHA using wooden stakes. On January 3, 2003, SHA personnel returned to the cemetery site, cleaned and mapped the area. The SHA also held an additional meeting with the property owner to discuss the location of wells and septic system on the property in order to avoid impact to the area with the proposed widening phase of the project.

A request was also made to the SHA for advanced acquisition of one minority-owned residence in the MD 18 community due to medical hardship. SHA held several meetings with the resident and coordinated with their attorney in order to facilitate the purchase of the property. The purchase of the property has been completed and the resident has relocated. The SHA is also currently working with two other minority property owners who do not wish to be relocated. It is anticipated that access and design modifications will allow them to retain their properties.

The MD 18 community consists of approximately thirty (30) single family residences located on either side of MD 18 in the vicinity of the intersection with eastbound US 50. The proposed overpass at MD 18 will not divide the community. The service road will provide improved access for residents in the community. In addition, SHA's goal is to minimize impacts to the community by shifting the alignment to avoid displacing two residences. With acquisition of the one minority-owned residence along with the proposed design modifications, the total number of additional residences being displaced may be reduced to two. The alignment modification will be investigated during final design for phase 5 of the project.

The SHA has maintained ongoing efforts to involve minority and low-income populations in the planning and design of the project and has worked with these populations to avoid and minimize impacts. Based on the information presented above, there is no evidence that the project will have disproportionately high and adverse effects on minority or low-income populations.

f. Effect on Regional and Local Business

Commercial development within the project area is concentrated at major intersections. Major employers within the project area include Chesapeake College, business enterprises in Queenstown and at the Chesapeake Outlet Center, and family farms found throughout the study area.

The FONSI indicated that improvements selected for Segment 2 would require a total of 16 business displacements, four (4) of which were seasonal businesses. To date, the SHA has acquired 14 of the sixteen business displacements identified in the FONSI. SHA has also purchased 16 additional businesses along the US 50 corridor as part of an access management strategy implemented by the SHA through the county development process. Six additional businesses still need to be acquired in preparation for Segment 2 improvements to US 50. This number includes the remaining 2 displacements identified in the FONSI.

Suitable replacement sites for impacted businesses may not be available in the immediate vicinity of the impacted business; however, replacement sites are expected to be available within the study corridor. SHA's policy for impacts to commercial properties is to provide moving and establishment costs, but SHA does not conduct the search for replacement sites for businesses.

By limiting access points to US 50, the proposed improvements will require some additional travel time to businesses, services, and other destinations within the study area. However, much of the impact of the CDA on study area employment will be beneficial. Converting US 50 to a limited access highway will improve its function not only for regional travel, but as a local connector as well, by providing quicker, safer access between businesses and communities along the corridor, especially during peak seasonal travel times. The increased mobility of goods and services should also allow for more efficient business operations and the inconveniences created by the restriction of access points will be largely outweighed by the provision of safe crossings at overpasses and interchanges.

Service roads proposed as part of the CDA will provide safer, if somewhat less direct access to businesses and services along US 50 by area residents. The service roads would be maintained by Queen Anne's County. Because the proposed improvement would include access controls, there would be reduced opportunity for strip development to spring up along the US 50 alignment where the majority of the land along US 50 is currently zoned for agricultural use. As such, the proposed improvements to US 50 will make designated growth areas within the project area a more attractive business environment and will help minimize impacts to local communities.

B. Cultural Resources

A Phase Ib archeological survey was conducted within the project corridor. No significant archeological resources were recorded within the project area. The Maryland Historical Trust (MHT) determined that the improvements proposed for Segment 2 in the FONSI and the Current Design would have no effect on significant archeological sites.

1. Historic Standing Structures

The National Historic Preservation Act (NHPA) of 1966, as amended, the National Environmental Policy Act (NEPA) of 1969, and other applicable federal, state and local legislation govern the identification, analysis and treatment of cultural (historic) resources. The lead federal agency (in this case FHWA), is required to take into account, during the planning process, the effect of its proposed project on historic properties which are listed on, or eligible for, the National Register of Historic Places (NRHP) prior to the issuance of a permit or license, or before the approval of any funds.

The project's effects on cultural resources were assessed in accordance with Section 106 of the National Historic Preservation Act and the implementing regulations developed by the Advisory Council on Historic Preservation (36CFR800.5). The regulations stipulate that a project will have an effect on resources when "the undertaking may alter characteristics of the property that may qualify the property for inclusion on the NRHP.

For the purpose of determining effect, alteration to features of property’s location, setting, or use may be relevant depending on a property’s significant characteristics and should be considered” [36CFR800.9(a)]. “An undertaking may diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association” [36CFR800.9(b)].

The FONSI documented the presence of six historic standing structures in Segment 2 of the US 50 project area. In consultation with MHT it was determined that the FONSI Selected Alternate would have either no effect or no adverse effect on the following resources:

- Thorpe Nesbitt House (QA-118) No Effect
- St. Peters Church (QA-209) No Effect
- Bloomingdale (QA-4) No Effect
- Sally Harris Mill House (QA-122) No Effect
- Hiram Hammond House (QA-126) No Adverse Effect (destroyed by fire)
- M.E. Rhodes or Hassett Farm (T-71) No Adverse Effect with Provisions

The Maryland Historical Trust (MHT) concurred with the No Adverse Effect determination for the M.E. Rhodes/Hassett Farm (T-71) with the provision of landscaping. Specifically, the MHT required that SHA provide adequate landscaping between the new roads and the house. The landscaping must be acceptable to the owners of the Hassett Farm and MHT.

2. Effects of the CDA on Historical Standing Structures

The project’s effects on cultural resources were re-investigated beginning in summer of 1998. One resource documented in the original Section 4(f) Evaluation, the Hiram Hammond House, has since been destroyed by fire. The investigation also resulted in a change in the boundary of the Bloomingdale (NR-98, QA4) historic site and the identification of two additional sites that were determined to be now eligible for the NRHP: the Rhodes Farm (QA-502) located on the south side of US 50 between Bloomingdale Road and Carmichael Road, and the Pippin Farm (QA-503) also located on the south side of US 50 between Carmichael Road and Mount Mills road (see figure III-4).

The SHA-preferred option for improvements proposed in Phase 1 (Carmichael Road Overpass and associated service road option) of the CDA will require the use of 0.28 acre from Bloomingdale and 10.78 acres from the Rhodes Farm, and will be in visual proximity to the Pippin Farm. On October 28, 1998, the SHPO concurred in the finding that the project will have an adverse effect on Bloomingdale, the Rhodes Farm and the Pippin Farm. The MHT also concurred with the previous determination of no adverse impact for the M.E. Rhodes/Hassett Farm (T-71) conditioned upon landscaping. A Memorandum of Agreement (MOA) regarding the adverse effects of the project on significant cultural resources was signed by the Maryland Historical Trust on October 6, 2003. The MOA proposes a landscaping plan to mitigate adverse visual impacts associated with the project and includes new plantings which are proposed to fill in the gaps in the alee of trees along the Bloomingdale entrance.

HISTORIC SITES

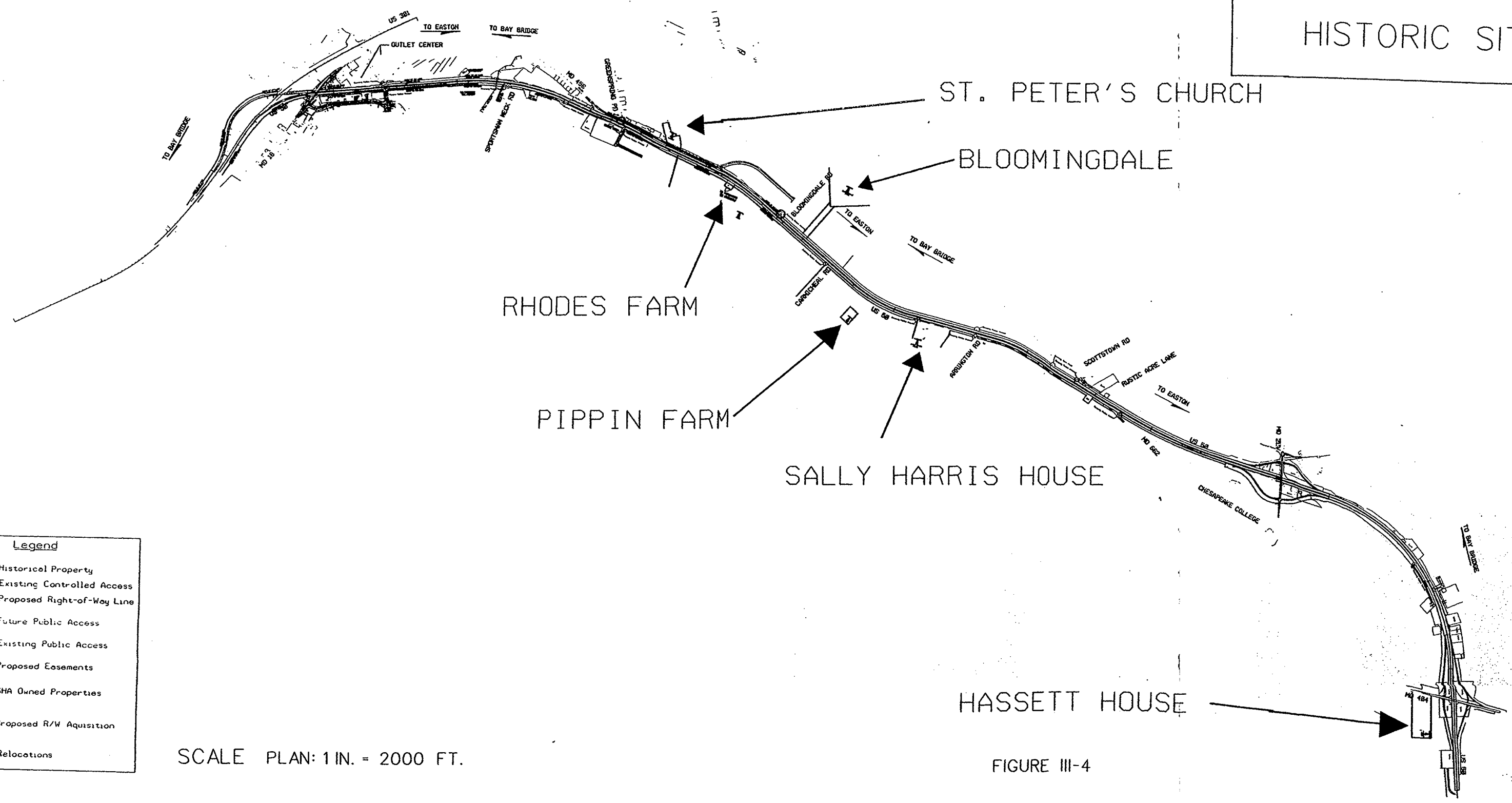


FIGURE III-4

A Section 4(f) Evaluation was also prepared to address impacts to Bloomingdale and the Rhodes Farm. The final Section 4(f) Evaluation was approved by the FHWA on March 12, 2004 (see appendix). To reduce right-of-way requirements and minimize impacts to Bloomingdale, a decorative, brick formliner concrete barrier approximately 42 inches high, 24 inches wide, and 860 feet in length is proposed between the service road proposed in front of the site and westbound US 50. It is anticipated that the barrier would have a surface resembling brick to provide a more context sensitive aesthetic to the wall, consistent with the brick pillars at the entrance to Bloomingdale.

This barrier will also provide a visual buffer between the end of the Bloomingdale driveway and US 50. In addition, the two existing brick pillars near the Bloomingdale access, which are not contributing elements to the site, are proposed to be set back and replaced or reconstructed near the Bloomingdale driveway access at the service road.

C. Natural Environment

The difference in natural environmental impacts associated with the CDA, when compared with the impacts of the FONSI design, is generally attributed to either new design elements (the inclusion of service roads and/or partial interchanges at Carmichael and Sportsman Neck Road), changes in assessment methodology, and/or changes in limits of disturbance associated with more refined engineering detail.

1. Soils

The CDA would result in disturbance of soils, including erosion and increased runoff, due to construction activities and loss of vegetation in the area. Impacts to active agricultural lands are anticipated to be approximately 89 acres. Urban land soils (disturbed) would become more common in the study area, due to an increase in pavement and impervious surfaces. Prime farmland soils impacts were presented in the FONSI for Segment 2 of the US 50 project, but were not broken down further to present impacts attributable to each interchange area or design contract. The FONSI reported that a total of 102.7 acres of prime farmland soils would be converted for the improvements associated with Segment 2 of the US 50 project. The CDA would impact approximately 133.50 acres of prime farmland soils. The increase in impacts is due to the inclusion of service roads and overpasses associated with the CDA.

Measures to protect soils from erosion would be implemented in accordance with an approved Erosion and Sediment Control Plan prepared in accordance with the *Maryland Standards and Specifications for Soil Erosion and Sediment Control*. Control measures would include: utilizing vegetation to stabilize sediment, minimizing the amount of time and the area of a surface exposed to erosion; and utilizing appropriately sized sediment traps and sediment basins. Additional protection of surface water quality from impacts due to soil erosion on highway construction projects in Maryland results from the designation of construction contractors as co-permittees on the National Pollution Discharge Elimination System (NPDES) Permit that is issued under Maryland's General Permit for construction activities, and implementation of a regular inspection program for construction site sediment control devices that include penalties for inadequate maintenance.

2. Surface Waters/Streams

The study portion of the US 50 corridor is drained by tributaries of the Wye River and Chester River. The Wye River and its tributaries are classified as Use I Waters (Water Contact Recreation and Protection of Aquatic Life). In-stream construction in Use I Waters is prohibited from March 1 through June 15, inclusive, during any year. All estuarine portions of the Chester River and its tributaries are designated as Use II Waters (shellfish harvesting waters). None of the Chester River tributaries are considered estuarine within the project area.

One new stream crossing was identified in the FONSI within Segment 2 of the US 50 project. This stream crossing is associated with wetland S-12 and is located in the vicinity of improvements proposed at the intersection of US 50 and MD 18. The FONSI also identified 4 existing stream crossings associated with the Wye River and Wye East Rivers that would have required extending the existing conveyance structures. The FONSI did not provide an estimate of the area (square feet/acres) or linear footage of stream impacts.

The CDA will require the extension of water conveyance structures, or new structures, at sixteen (16) stream crossings associated with the Wye East River and its tributaries. Table III-2 summarizes the stream crossings, giving length of impacts and anticipated structure type.

The major stream crossings that are associated with the CDA were documented in the FONSI. The additional crossings were either required as a result of new design elements or are minor or intermittent streams that were not identified in the FONSI. The type and size of stream crossings may be refined during final design. Additional discussion of the crossing types is located below in the wetlands discussion.

The long-term effects on water quality resulting from the proposed improvements would be related to the increase in impervious area; changes to stream channel dimensions, pattern and profile that would accompany culvert and bridge construction (thereby changing natural sediment and biological function); loss of stream bottom habitat due to culvert construction; and pollutant runoff from the roadway. A Waterway Construction Permit would be required from MDE for each stream crossing.

In order to address impacts associated with runoff from the additional impervious area of the Current Design Alternate, stormwater management quality and quantity control measures will be provided in accordance with MDE's *Stormwater Management Guidelines for State and Federal Projects*. Implementation of these quantity and quality controls will minimize the adverse effect of highway pollutants on groundwater.

3. Floodplains

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) were used to identify designated 100-year floodplains within the US 50 corridor. There are four (4) 100-year Floodplains within the corridor, associated with the Wye River and an unnamed tributary, the Wye East River, and Community Lake.

The FONSI identified encroachments on floodplains associated with Segment 2 in the vicinity of existing steam crossings on US 50. None of the proposed encroachments on the Wye River floodplain would significantly affect upstream water surface elevations or storage capacity. The FONSI reported 1.9 acres of anticipated encroachment on the 100-year floodplain.

A total of 5.1 acres of 100-year floodplain will be impacted by the CDA. The difference in impacts when compared with the impacts of the FONSI design is attributed to new design elements (particularly at Sportsman Neck Road) and/or changes in limits of disturbance associated with more refined engineering detail.

No significant long-term impacts to the 100-year floodplain are expected to occur, because the final design of the CDA will be based on detailed hydrologic/hydraulic studies to verify FEMA 100-year floodplain elevations and determine appropriate culvert sizes. Stormwater management will be provided and the hydraulic structure will be designed to accommodate the 100-year flood without causing substantial impacts. The use of standard hydraulic design techniques for all waterway openings which limit upstream flood level increases and approximately existing downstream flow rates will be utilized where feasible. By incorporating these results into the final design plans, long-term floodplain impacts would be avoided and existing floodplain functions could be maintained.

4. Wetlands

Wetlands within the US 50 corridor are associated with perennial and intermittent streams. The NWI classifies the wetlands in the US 50 corridor as palustrine forested (PFO), palustrine emergent (PEM), palustrine open water (POW) and estuarine emergent (E2EM) wetlands. The wetland delineation conducted for the FONSI identified eleven (11) wetlands within the Segment 2 project area. The FONSI documented that the Selected Alternate would impact a total of 5.0 acres of non-tidal wetlands and 0.3 acre of tidal wetlands.

The SHA conducted a re-delineation of wetlands of Segment 2 of the study area to identify wetlands and Waters of the U.S. beginning in September 1996 and periodically updated since. On July 23, 2003 a Jurisdictional Determination was completed by the US Army Corps of Engineers (COE). This re-delineation was necessary because of changes in the design of the project, and procedural changes in the way wetlands are identified and delineated that have occurred since the original delineation was conducted. The CDA for Segment 2 of the US 50 project will impact approximately 14 acres of wetlands; (see figures III-5 through III-14) an increase of approximately 9 acres over the impacts reported in the FONSI. The increase in wetland impacts associated with the current design can be attributed to differences in the current wetland delineation methodology, as well as impacts associated with some of the interchange and service road options that are incorporated into the CDA. The extent of wetland impacts associated with the proposed Segment 2 improvements are also presented in Table III-3.

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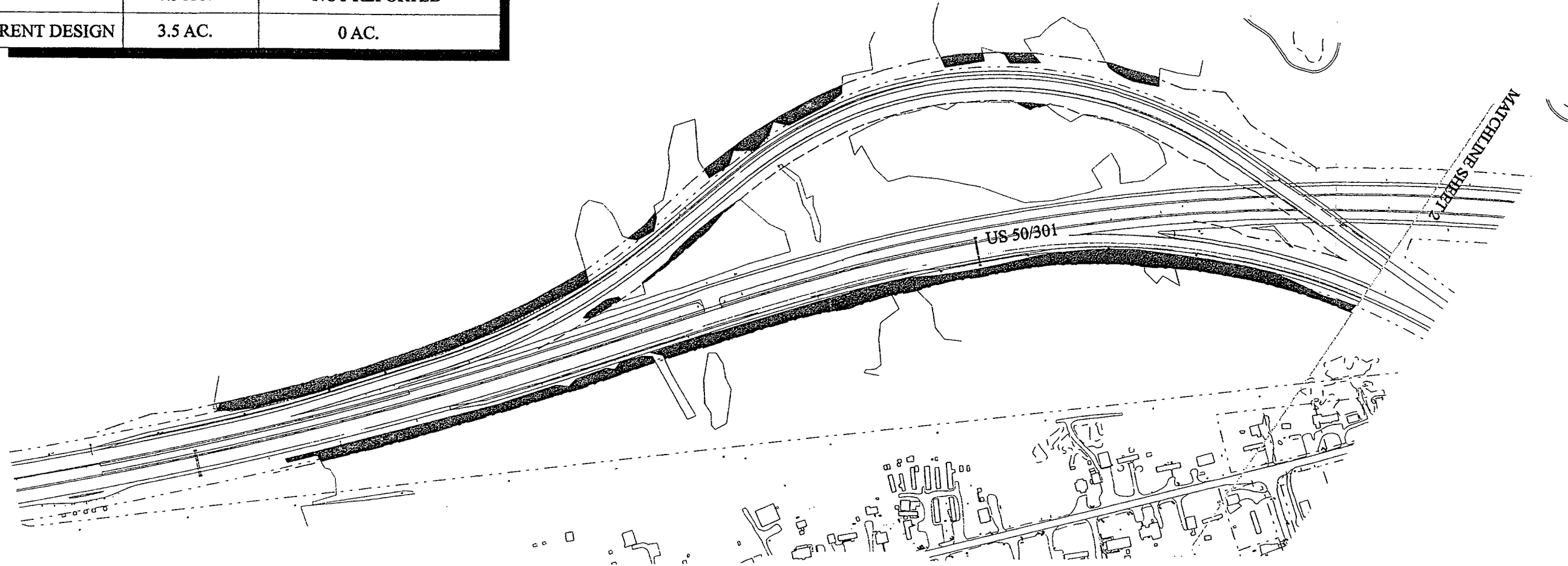
Table III-2

SUMMARY OF STREAM IMPACTS

Documented in		Phase	Wetland Reference		Impact Linear Feet	Location	Notes
FONSI	Current Design		FONSI	Current Design			
	X	6		WUS N30	98	US 301-1,100 ft north of US 301/US 50 interchange	Pipe extension
X	X	5	S-19	WUS 07	373	100 ft east of MD 18	Fill
	X	6		WTLD N20 & S14	525	US 50-4,200 ft west of Greenspring Road	Fill
X	X	6	S-21B	Tidal WUS WYE RIVER WTLD S14 & WTLD W3A	138	US 50-3,500 ft west of Greenspring Road	Bridge extension: Two span concrete slab with 2-13' spans. Widening to both sides.
	X	6		WTLD S20 & WTLD S21	275	US 50-450 ft west of Bloomingdale Road	Pipe Extension:
X	X	7	S-23	WTLD S23	42	US 50-750 ft east of Arrington Road	Bridge extension: Two span concrete slab with 18' spans.
	X	7		WTLD S24	118	US 50-100 ft east of Scottown Road	Pipe extension
	X	7		WTLD S26	90	US 50-900 ft east of Scottown Road	Pipe Extension
	X	7		WUS 27	129	US 50-3,100 ft east of Scottown Road	Pipe extension
	X	8		WTLD N9	289	US 50-850 ft east of MD 213	Pipe extension
	X	8		WTLD S29	91	US 50-900 ft east of MD 213	Pipe extension
X	X	8	S-25	WTLD N8 & S30	147	US 50-650 ft west of Lake Drive	Culvert extension: 13'X 8' double culvert.
X	X	8	S-26	WTLD 7N & S28	258	US 50-1,500 ft east of Lake Drive	Culvert extension: 12'X 26' single culvert; new structure carrying EB service road to MD 404.
	X	3		WTLD 4N & S31	923	US 50-1,000 ft west of MD 404	Pipe Extension: 72' pipe.
	X	3		WTLD 34A	1238	MD 404-650 ft south of US 50	Fill
	X	3		WTLD 1N	134	MD 404-550 ft north of US 50	Fill

W.U.S., WETLANDS, FLOODPLAINS IMPACTS

IMPACTS		
	WETLANDS	100-YR FLOODPLAIN
FONSI REPORTED	0.5 AC.	NOT REPORTED
CURRENT DESIGN	3.5 AC.	0 AC.



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	WETLAND IMPACT
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

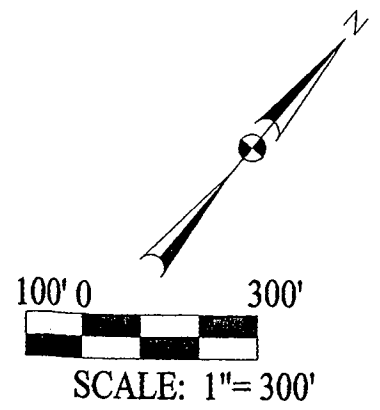
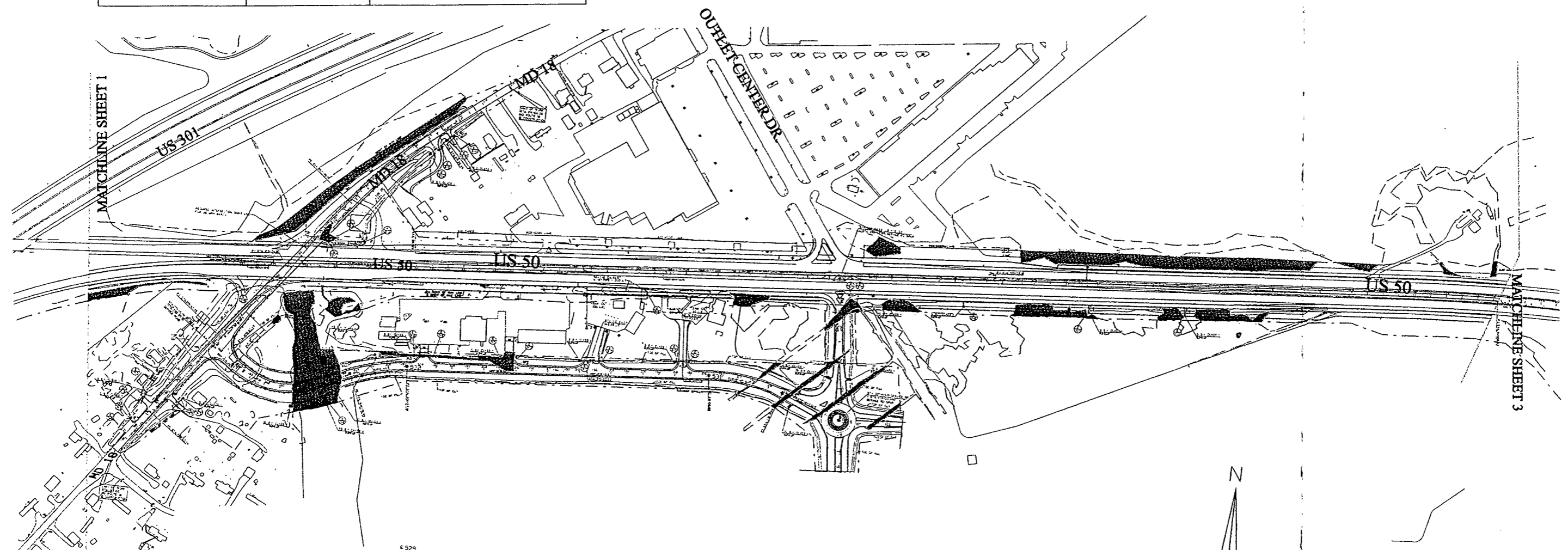


FIGURE III-5
**US 50 OCEAN GATEWAY
 SERVICE ROAD AND
 OVERPASS PROJECTS**
 SUPPLEMENTAL
 ENVIRONMENTAL ASSESSMENT
 SHEET 1 OF 10

IMPACTS		
	WETLANDS	100-YR FLOODPLAIN
FONSI REPORTED	1.7 AC.	NOT REPORTED
CURRENT DESIGN	3.93 AC.	1.5 AC.

W.U.S., WETLANDS, FLOODPLAINS IMPACTS



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	WETLAND IMPACT
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

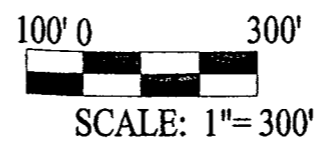
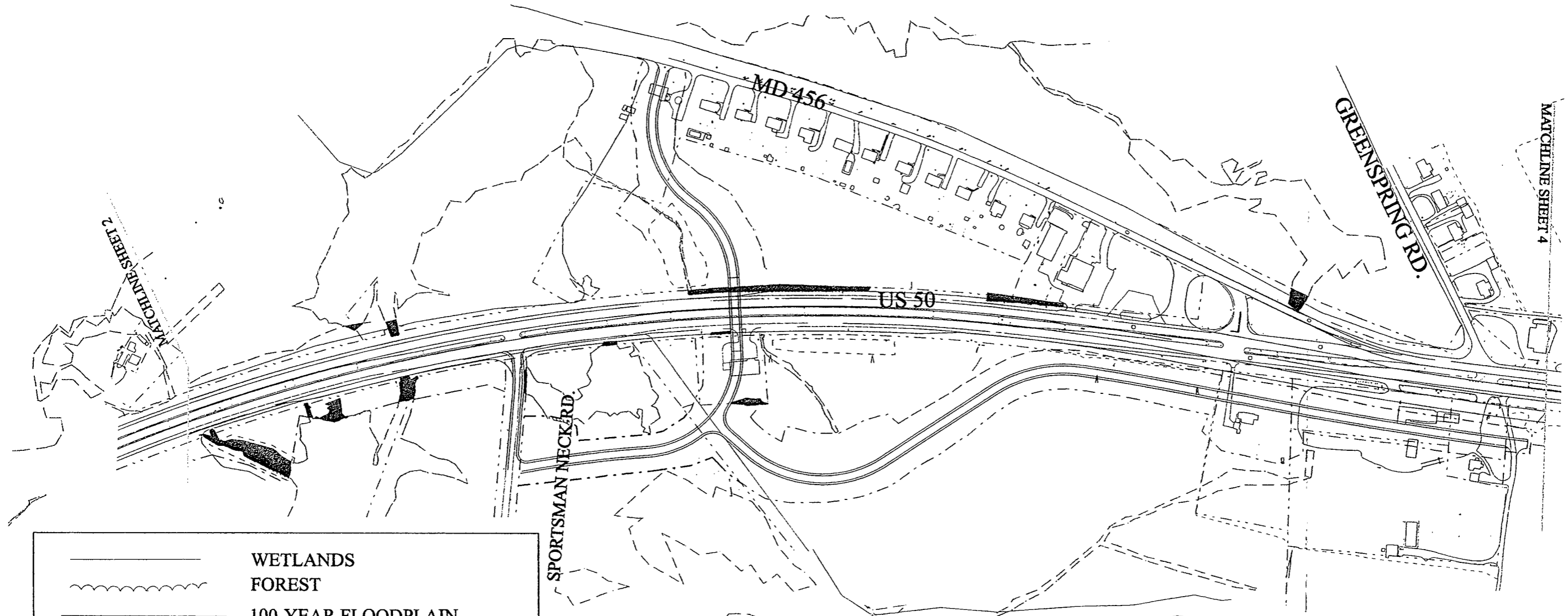


FIGURE III-6
US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS

SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT
SHEET 2 OF 10

IMPACTS		
	WETLANDS	100-YR FLOODPLAIN
FONSI REPORTED	0.5 AC.	NOT REPORTED
CURRENT DESIGN	0.96 AC.	0.6 AC.

W.U.S., WETLANDS, FLOODPLAINS IMPACTS



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	WETLAND IMPACT
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

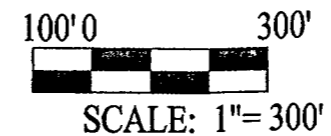
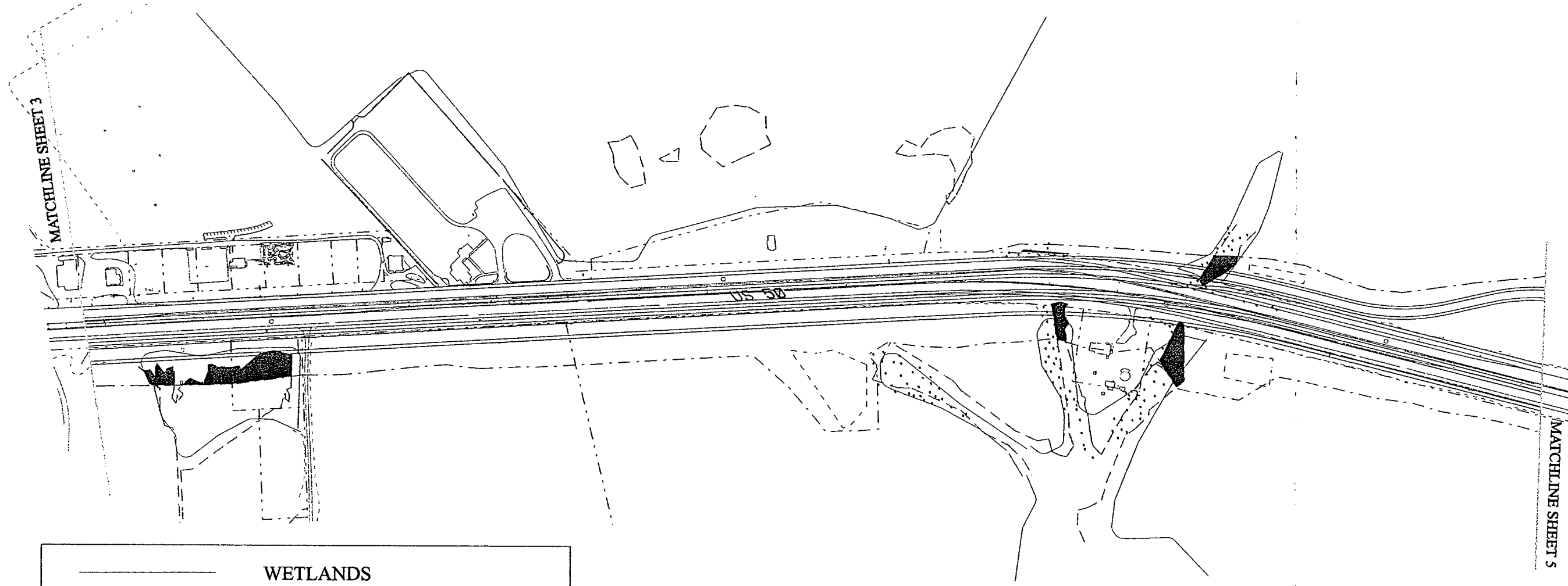


FIGURE III-7
US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS

SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT
SHEET 3 OF 10

IMPACTS		
	WETLANDS	100-YR FLOODPLAIN
FONSI REPORTED	0.7 AC.	NOT REPORTED
CURRENT DESIGN	0.90 AC.	0.95 AC.

W.U.S., WETLANDS, FLOODPLAINS IMPACTS



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	WETLAND IMPACT
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

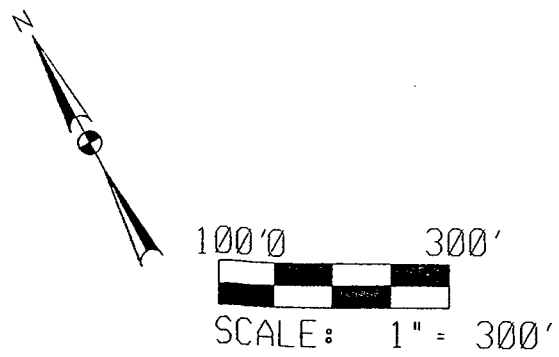
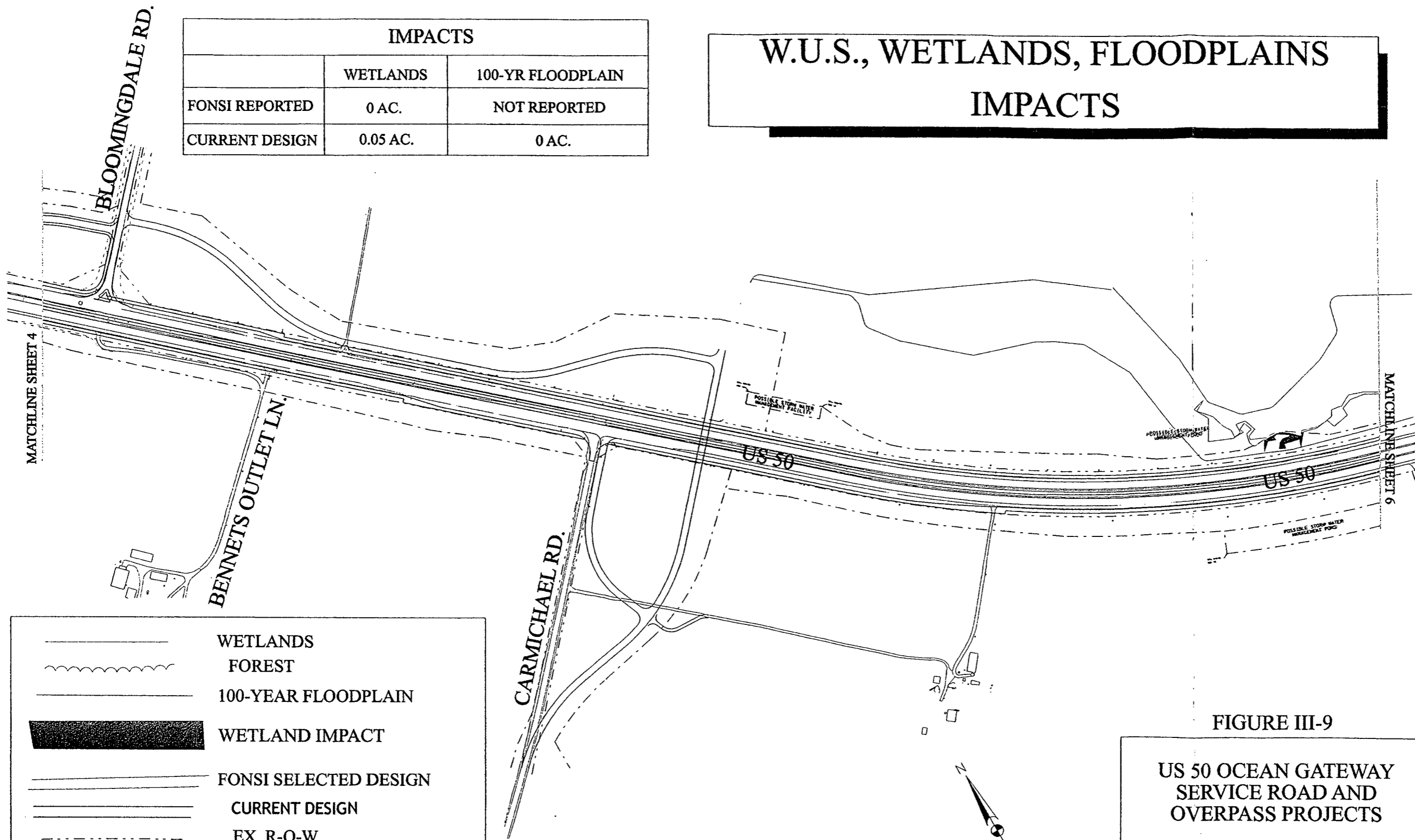


FIGURE III-8
US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS
SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT
SHEET 4 OF 10

W.U.S., WETLANDS, FLOODPLAINS IMPACTS

IMPACTS		
	WETLANDS	100-YR FLOODPLAIN
FONSI REPORTED	0 AC.	NOT REPORTED
CURRENT DESIGN	0.05 AC.	0 AC.



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	WETLAND IMPACT
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

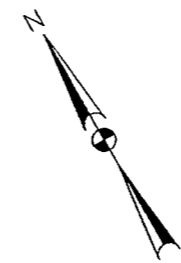
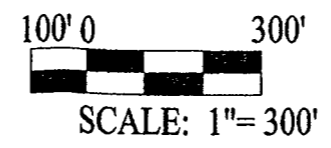


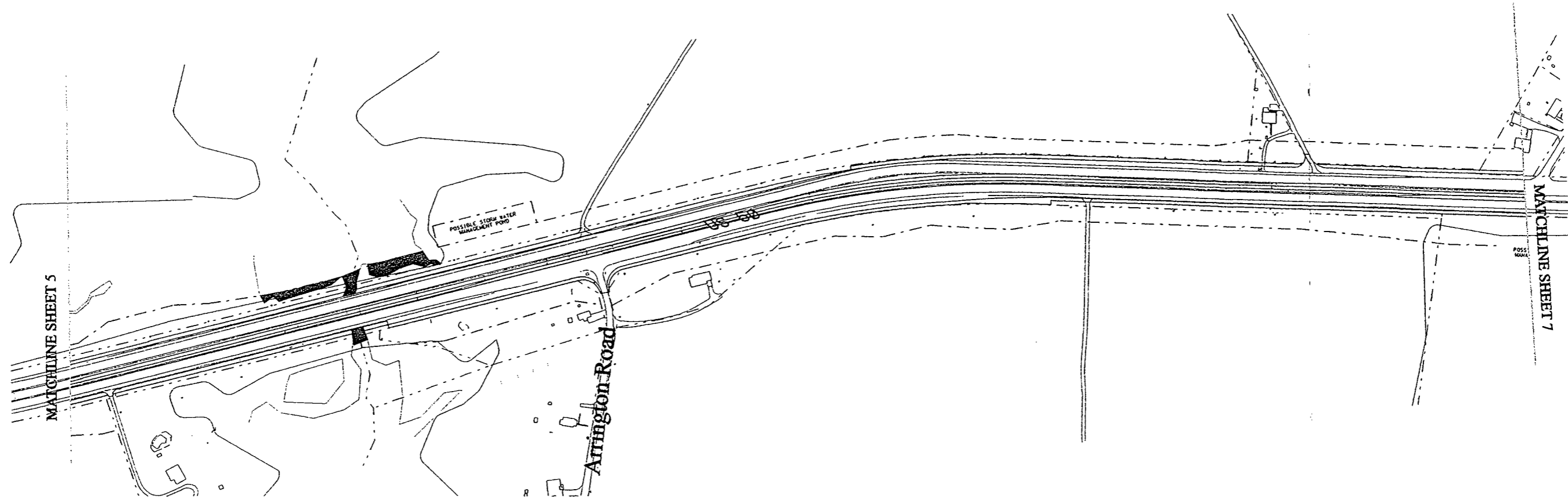
FIGURE III-9

US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS

SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT
SHEET 5 OF 10

IMPACTS		
	WETLANDS	100-YR FLOODPLAIN
FONSI REPORTED	0.20 AC.	NOT REPORTED
CURRENT DESIGN	0.35 AC.	0.10 AC.

W.U.S., WETLANDS, FLOODPLAINS IMPACTS



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	WETLAND IMPACT
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

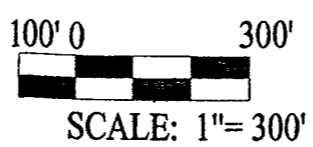
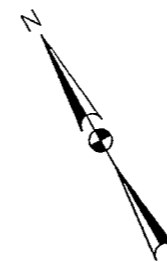
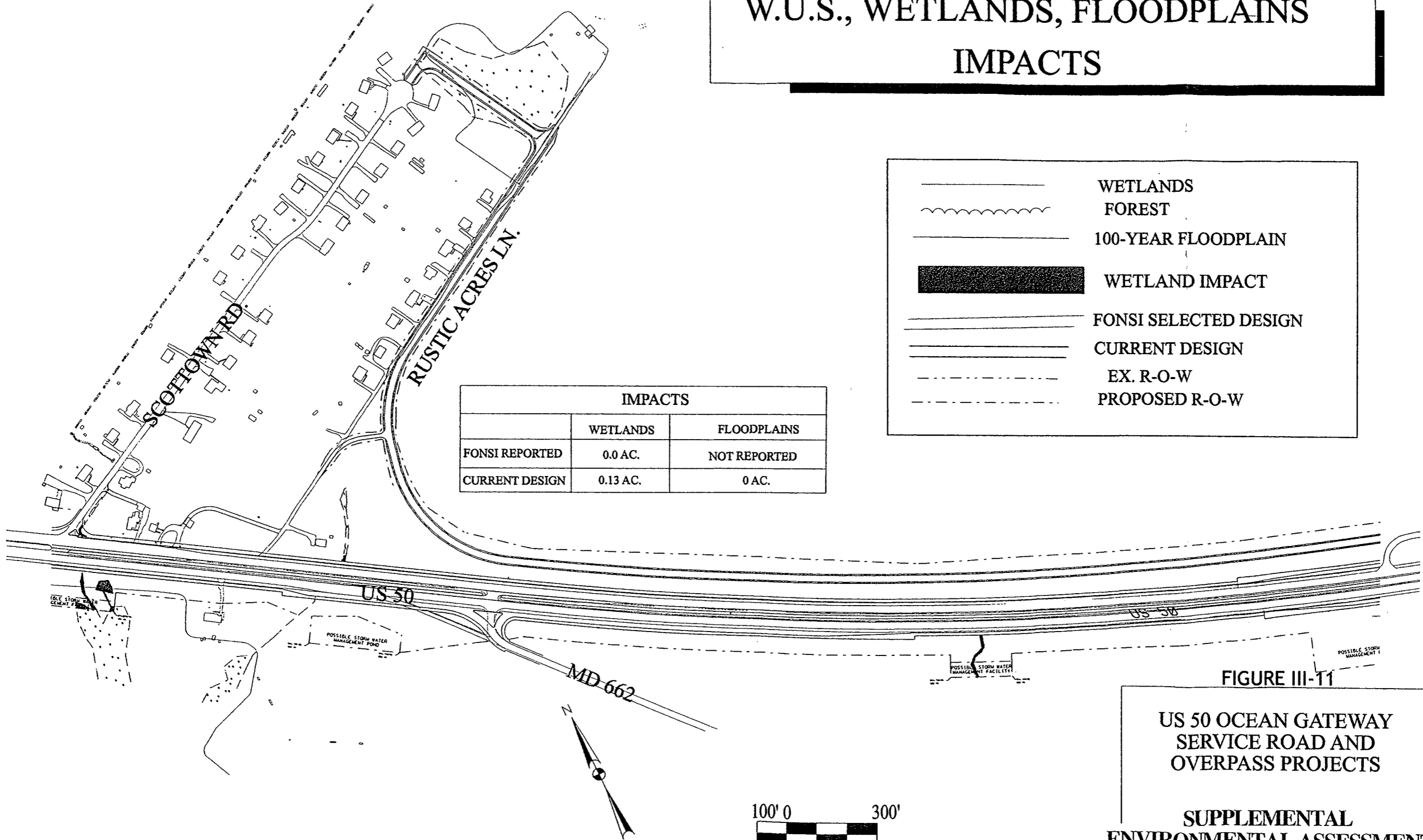


FIGURE III-10

**US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS
SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT**

SHEET 6 OF 10

W.U.S., WETLANDS, FLOODPLAINS IMPACTS



IMPACTS		
	WETLANDS	FLOODPLAINS
FONSI REPORTED	0.0 AC.	NOT REPORTED
CURRENT DESIGN	0.13 AC.	0 AC.

	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	WETLAND IMPACT
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

FIGURE III-T1

**US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS**

**SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT**

SHEET 7 OF 10

100' 0 300'
SCALE: 1"= 300'



IMPACTS		
	WETLANDS	FLOODPLAINS
FONSI REPORTED	0.4 AC.	NOT REPORTED
CURRENT DESIGN	0.85 AC.	0 AC.

W.U.S., WETLANDS, FLOODPLAINS IMPACTS

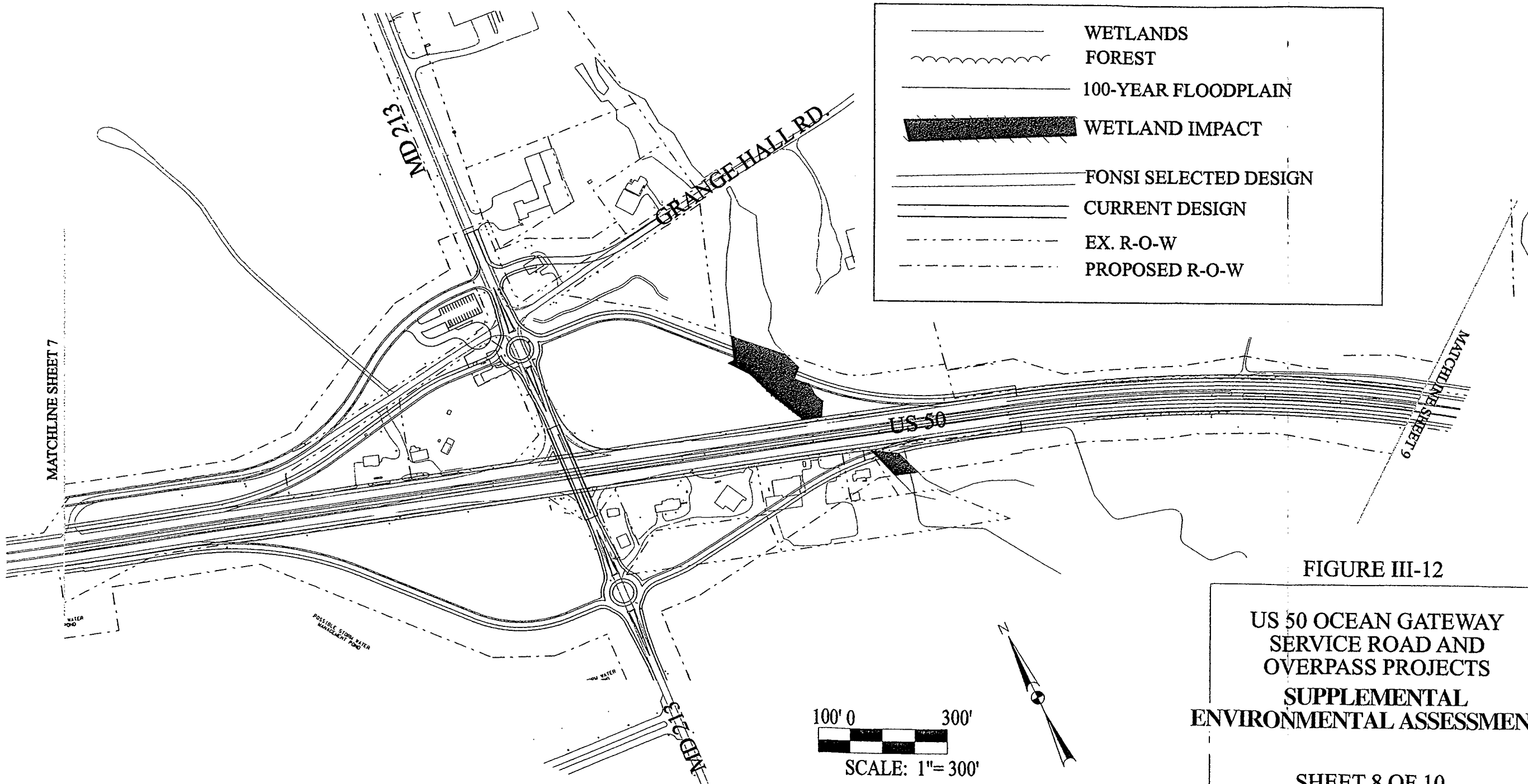


FIGURE III-12

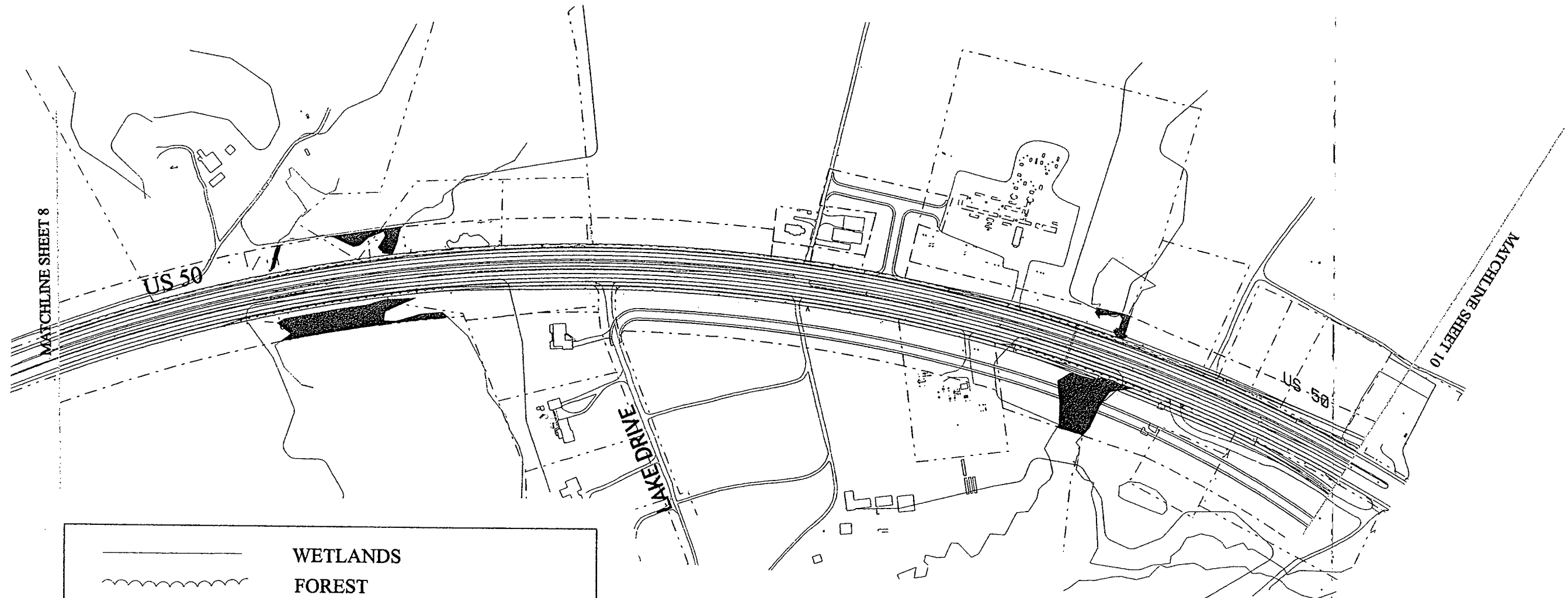
**US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS
SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT**

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65

IMPACTS		
	WETLANDS	100-YR FLOODPLAIN
FONSI REPORTED	0.7 AC.	NOT REPORTED
CURRENT DESIGN	1.2 AC.	1.25 AC.

W.U.S., WETLANDS, FLOODPLAINS IMPACTS



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	WETLAND IMPACT
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

FIGURE III-13

US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS
SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT
SHEET 9 OF 10

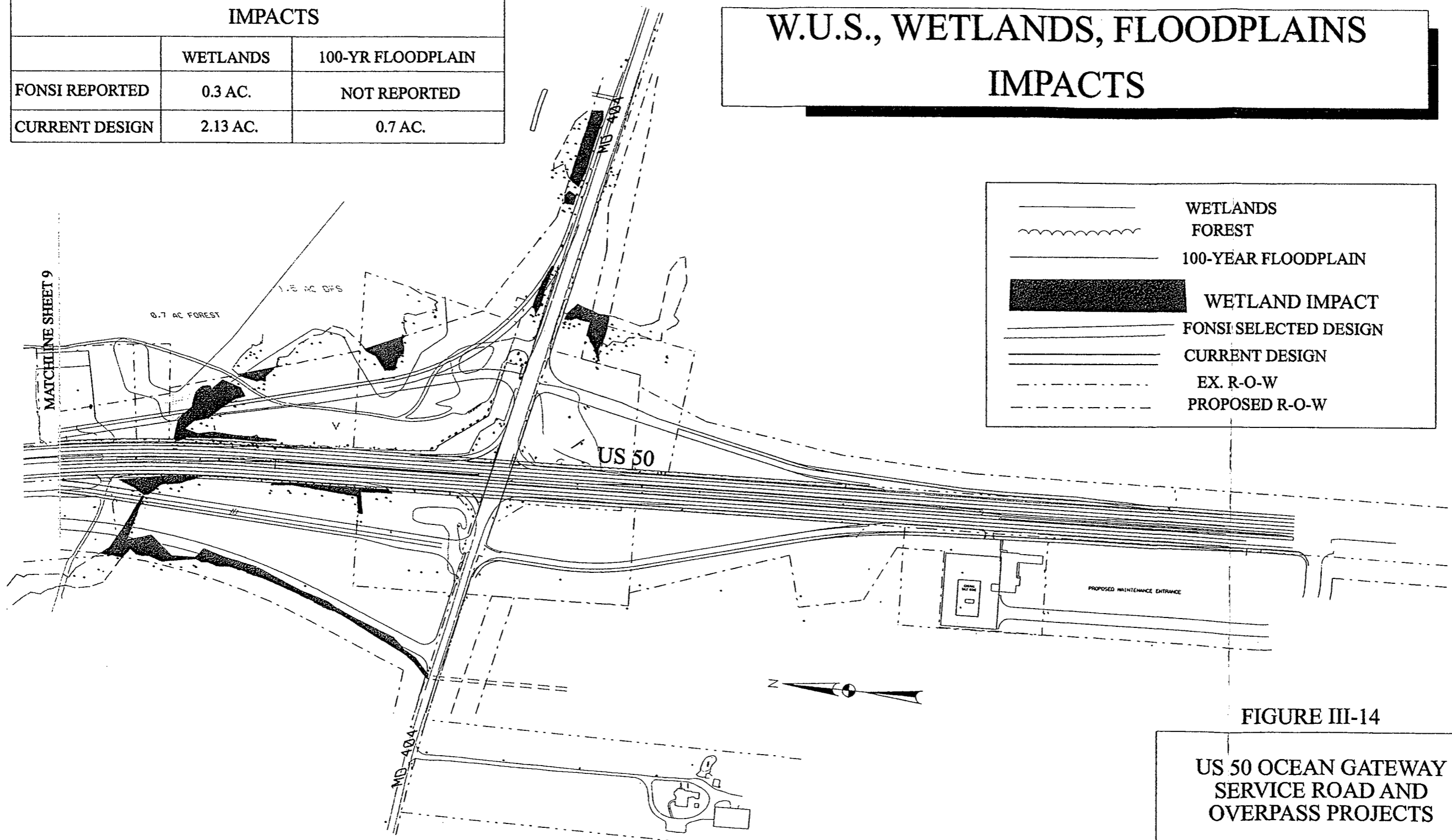
100' 0 300'

SCALE: 1" = 300'

66

IMPACTS		
	WETLANDS	100-YR FLOODPLAIN
FONSI REPORTED	0.3 AC.	NOT REPORTED
CURRENT DESIGN	2.13 AC.	0.7 AC.

W.U.S., WETLANDS, FLOODPLAINS IMPACTS



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	WETLAND IMPACT
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

FIGURE III-14

US 50 OCEAN GATEWAY
SERVICE ROAD AND
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SHEET 10 OF 10

100' 0 300'

SCALE: 1" = 300'

The SHA investigated minimization of wetland impacts where feasible. Through coordination with the resource and permitting agencies, it was determined that unavoidable impacts to scrub shrub and forested wetlands will be mitigated at a 2:1 ratio and impacts to emergent wetlands will be mitigated at a 1:1 ratio. A wetland mitigation site search is currently underway. SHA has identified several suitable sites and is currently evaluating these sites in coordination with the resource agencies.

**TABLE III-3
SUMMARY OF WETLAND IMPACTS**

Phase	Impact to Wetlands		
	FONSI	Current Design	Changes in Impact
Phase 1	0 AC	0 AC	0 AC
Phase 2	0 AC	0.08 AC	Increase of 0.08 AC
Phase 3	0.3AC	1.95 AC	Increase of 1.65 AC
Phase 4	0.4 AC	0.85 AC	Increase of 0.45 AC
Phase 5	0.5 AC	2.3 AC	Increase of 1.80 AC
Phase 6, 7 & 8	3.8 AC	8.81 AC	Increase of 5.01 AC
TOTAL	5.0	13.99 AC	Total Increase of 8.99 AC

5. Forest Cover

According to the Vegetation Map of Maryland, the predominant forest association within the US 50 corridor consists of the Basket Oak-Loblolly Pine Association. Within the immediate riparian areas of the upper Wye East River, the predominant forest association is the River Birch-Sycamore Association.

The FONSI documented approximately 19 acres of woodland impacts associated with the improvements selected in Segment 2. The FONSI stated that the project will not significantly impact terrestrial habitat or wildlife populations as the location of the majority of impacts occur directly adjacent to US 50 or in the vicinity of existing intersections.

The CDA will require the clearing of 29.1 acres of forest land in Segment 2, which is comparable to the forest impacts associated with the FONSI design when the impacts associated with the new design elements are included. This comparison indicates that the amount and extent of forest land within the project corridor has remained essentially unchanged, with increases based on additional service road and interchange options currently proposed.

The Maryland Reforestation Law (Section 5-103) requires that forest impacts be replaced at a 1:1 ratio on public property within the project area or on nearby state lands. A site search is currently underway for reforestation sites within the vicinity of the project. Mitigation for 29.1 acres of forest land will occur on a 1:1 replacement rate on-site within one year of construction. Payment into the Maryland Reforestation Fund will substitute mitigation that cannot be fulfilled within the project area.

6. Rare, Threatened and Endangered (R/T/E) Species

The FONSI documented the known occurrence of the Delmarva fox squirrel (DFS), a federally listed endangered species, within Segment 2 of the US 50 project area. A Biological Assessment (BA) was prepared to assess the impacts of the build alternates presented in the original Environmental Assessment. The US Fish and Wildlife Service (USFWS) and the Maryland Department of Natural Resources (DNR) concurred with the finding that, due to the locations of the proposed improvements (in the vicinity of existing roadways and intersections), no significant impacts to the DFS were likely to occur.

Re-coordination with the DNR's Wildlife and Heritage Division in November 1996 indicated that the DFS is still known to occur within the project area. As part of the DNR review, a set of protection guidelines was presented in a November, 1997 DNR coordination letter (see section IV). Information regarding the project's potential impact on the DFS and their habitat, as well as proposed mitigation measures, is summarized below. Details regarding the identification, impacts and mitigation for impacts to the DFS habitat are included in an updated BA prepared for the USFWS.

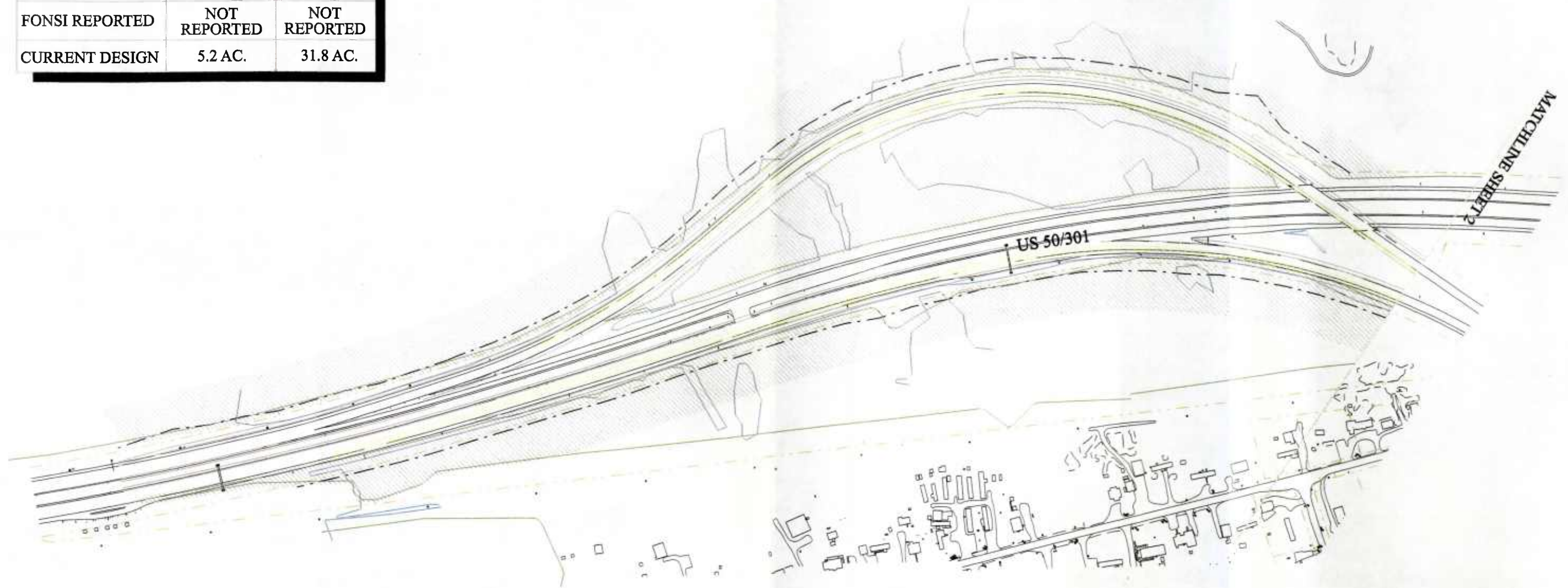
Section 7(a)(2) of the Endangered Species Act requires that federal agencies (in this case FHWA) consult with the USFWS to ensure that actions they fund, authorize, permit or otherwise carry out will not jeopardize the continued existence of any listed species or adversely modify designated critical habitats. To ensure that this does not occur, research on the location, movements and habitat requirements of the DFS population was conducted. After numerous coordination meetings between representatives of SHA, DNR and the USFWS, a strategy was established to determine the extent of impact to DFS habitat and mitigation requirements. The SHA has prepared an updated BA to document the potential effects of the project on the Delmarva Fox Squirrel.

On October 30, 2002, representatives from SHA, FHWA, USFWS and the COE conducted a field review to identify DFS habitat. The USFWS presented guidance for the determination of DFS impacts. They indicated that all DFS habitat within 150-feet of the edge of road would be considered impacted by the project, whether the forest is cleared or not. The USFWS also established the mitigation goals for the project. All DFS habitat that is cleared will be replaced on a 3:1 ratio.

DFS habitat that is within the 150-foot buffer, but is not cleared, will be mitigated at a 2.5:1 ratio. Two areas of questionable habitat were identified on the north side of US 50. One area occurs within Phase 2 of the current project, while the other is located within Phase 6. Subsequent to the field review, additional areas of direct and indirect impacts associated with the remaining phases (3, 4, 5, 6, 7 and 8) were identified within the project corridor. SHA initiated DFS trapping at two impact areas associated with Phase 2 in the spring of 2003. During the spring trapping season no Delmarva Fox Squirrels were found. In accordance with USFWS trapping protocol, a second round of trapping on these same areas was conducted during the fall of 2003. The results of the fall trapping did not indicate the presence of DFS. The USFWS indicated that the trapping results are valid for a period of 3 years. Trapping within each individual phase will be conducted when design funds are allocated for that phase.

FOREST AND DELMARVA FOX SQUIRREL HABITAT IMPACTS

IMPACTS		
	FOREST	R.T.E.
FONSI REPORTED	NOT REPORTED	NOT REPORTED
CURRENT DESIGN	5.2 AC.	31.8 AC.



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	150-FOOT DELMARVA FOX SQUIRREL BUFFER
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

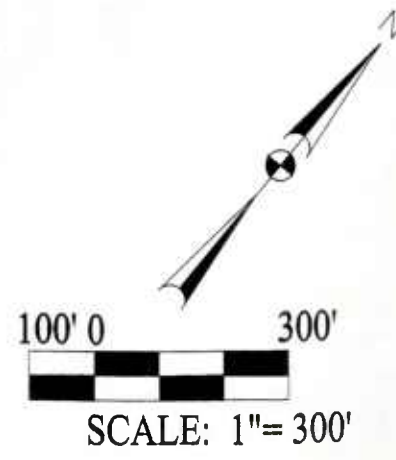


FIGURE III-15

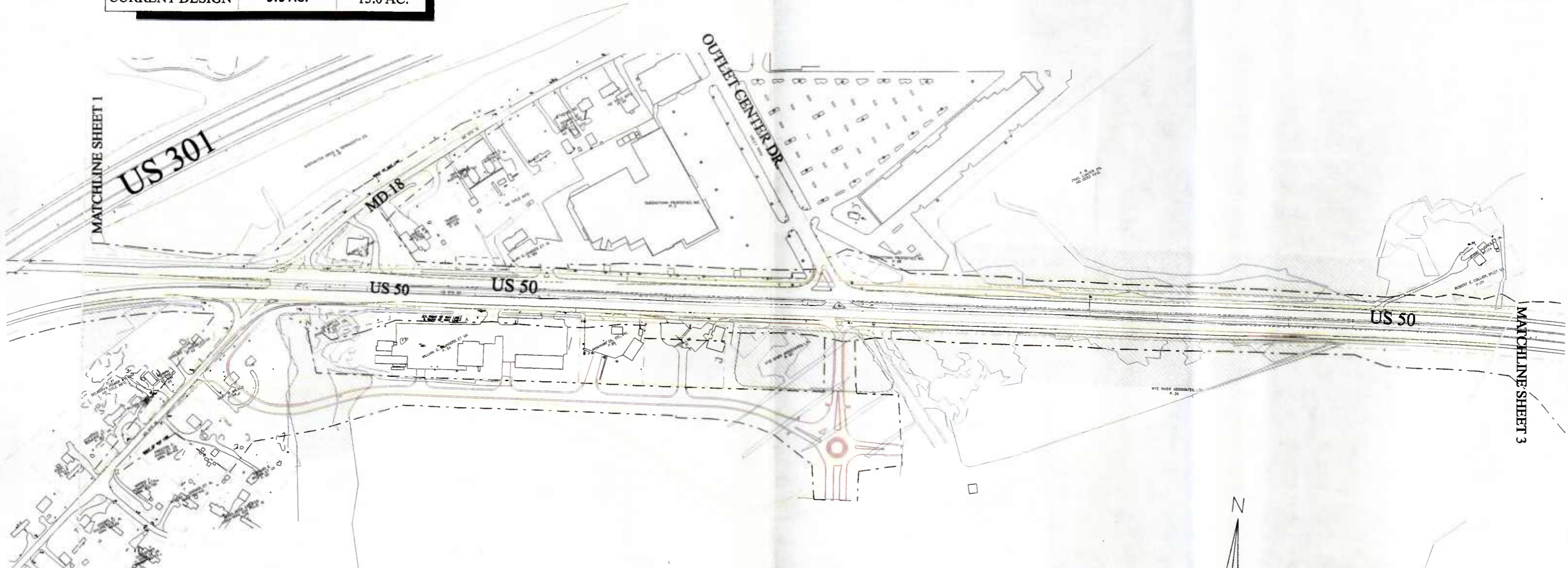
**US 50 OCEAN GATEWAY
SERVICE ROAD AND
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**SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT**

SHEET 1 OF 10

FOREST AND DELMARVA FOX SQUIRREL HABITAT IMPACTS

IMPACTS		
	FOREST	R.T.E.
FONSI REPORTED	NOT REPORTED	NOT REPORTED
CURRENT DESIGN	5.5 AC.	15.0 AC.



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	150-FOOT DELMARVA FOX SQUIRREL BUFFER
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

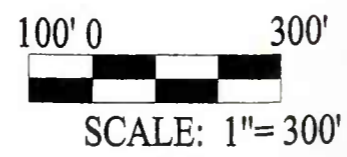
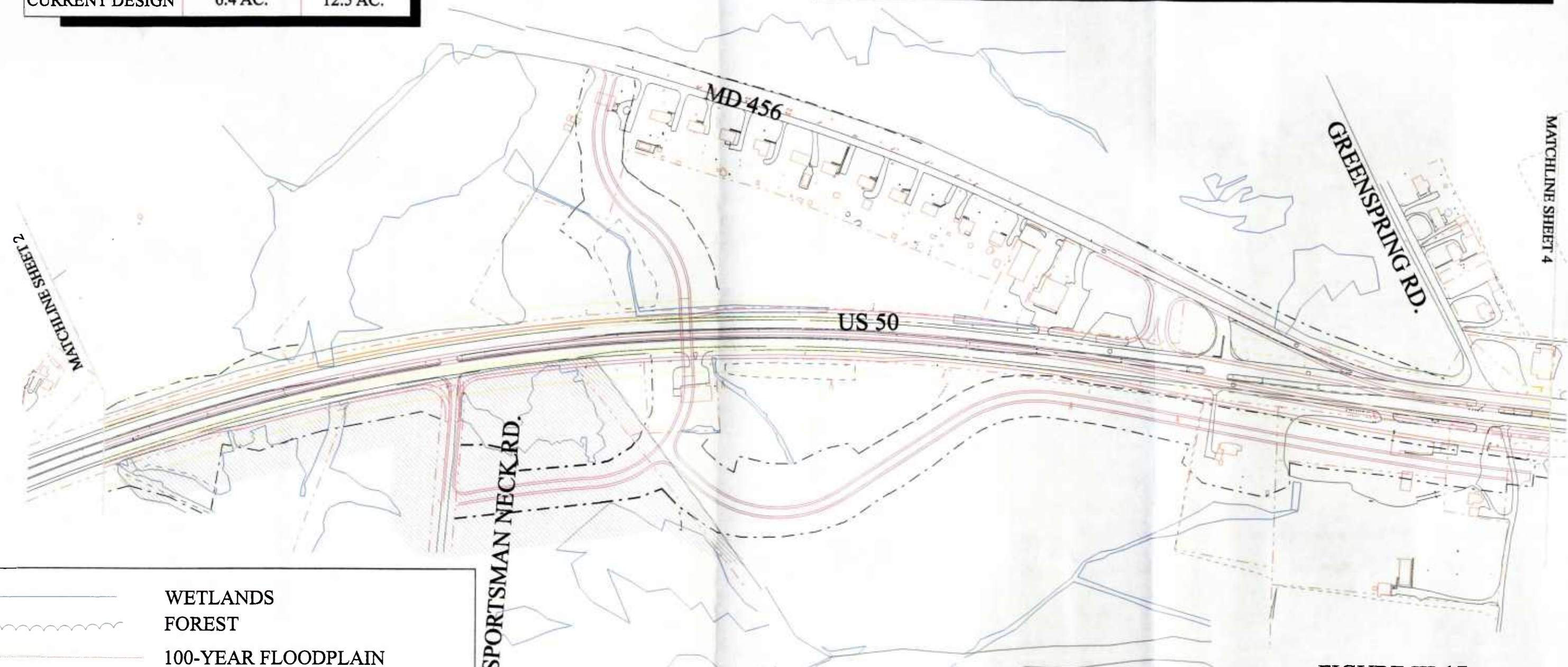


FIGURE III-16
 US 50 OCEAN GATEWAY
 SERVICE ROAD AND
 OVERPASS PROJECTS
 SUPPLEMENTAL
 ENVIRONMENTAL ASSESSMENT
 SHEET 2 OF 10

IMPACTS		
	FOREST	R.T.E.
FONSI REPORTED	NOT REPORTED	NOT REPORTED
CURRENT DESIGN	6.4 AC.	12.5 AC.

FOREST AND DELMARVA FOX SQUIRREL HABITAT IMPACTS



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	150-FOOT DELMARVA FOX SQUIRREL BUFFER
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

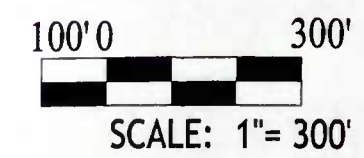
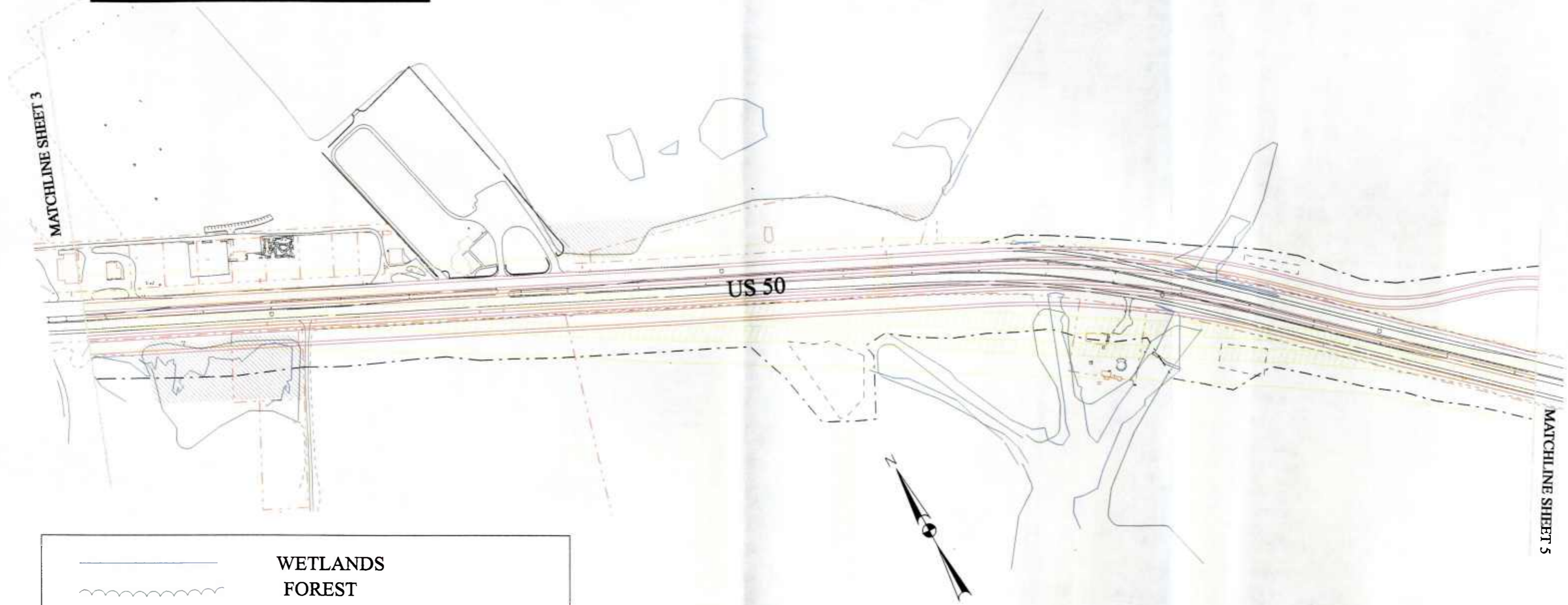


FIGURE III-17
US 50 OCEAN GATEWAY SERVICE ROAD AND OVERPASS PROJECTS
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

IMPACTS		
	FOREST	R.T.E.
FONSI REPORTED	NOT REPORTED	NOT REPORTED
CURRENT DESIGN	2.0 AC.	2.8 AC.

FOREST AND DELMARVA FOX SQUIRREL HABITAT IMPACTS



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	150-FOOT DELMARVA FOX SQUIRREL BUFFER
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

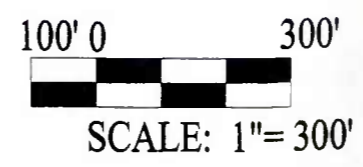
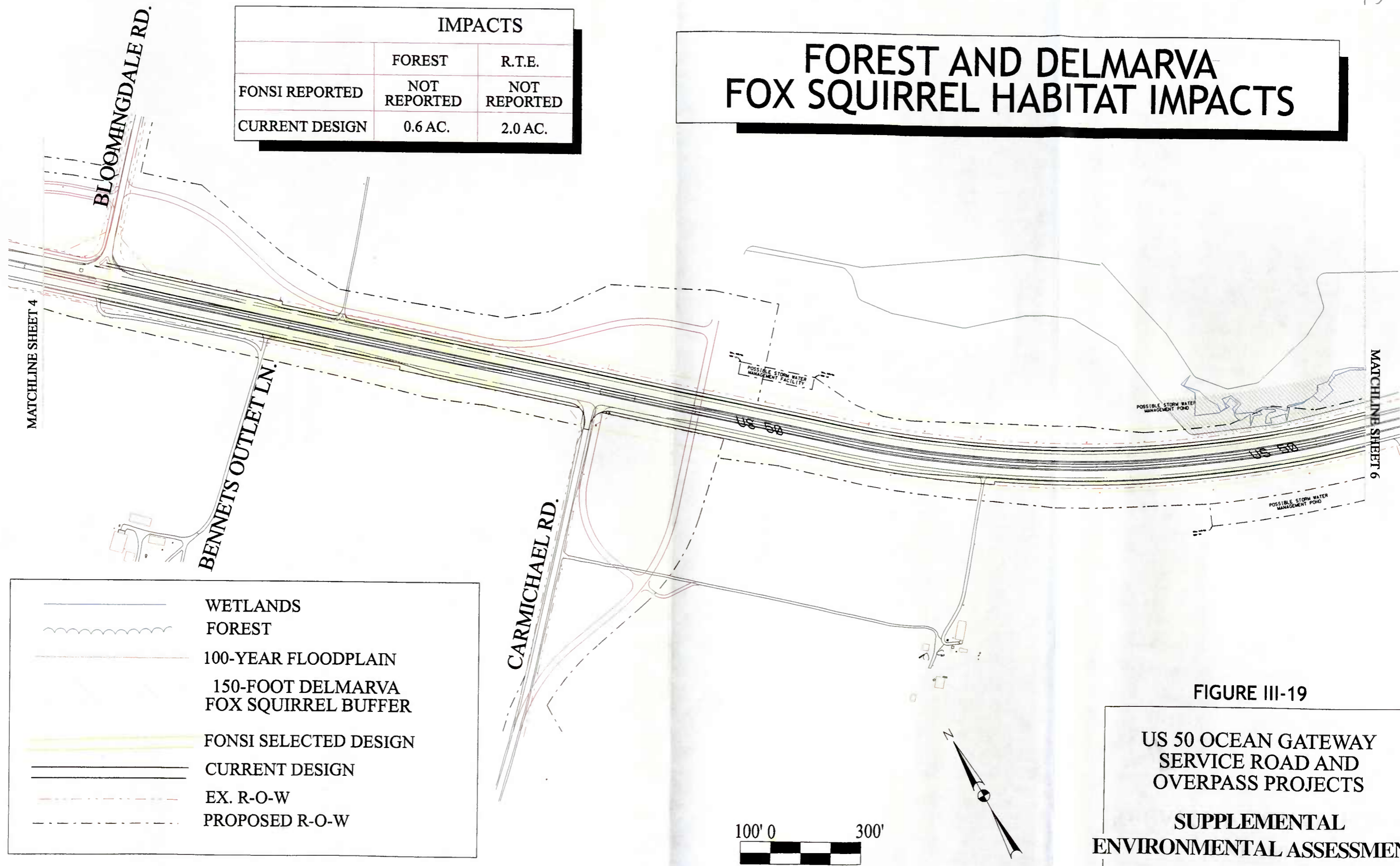


FIGURE III-18
US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS
SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT

FOREST AND DELMARVA FOX SQUIRREL HABITAT IMPACTS

IMPACTS		
	FOREST	R.T.E.
FONSI REPORTED	NOT REPORTED	NOT REPORTED
CURRENT DESIGN	0.6 AC.	2.0 AC.

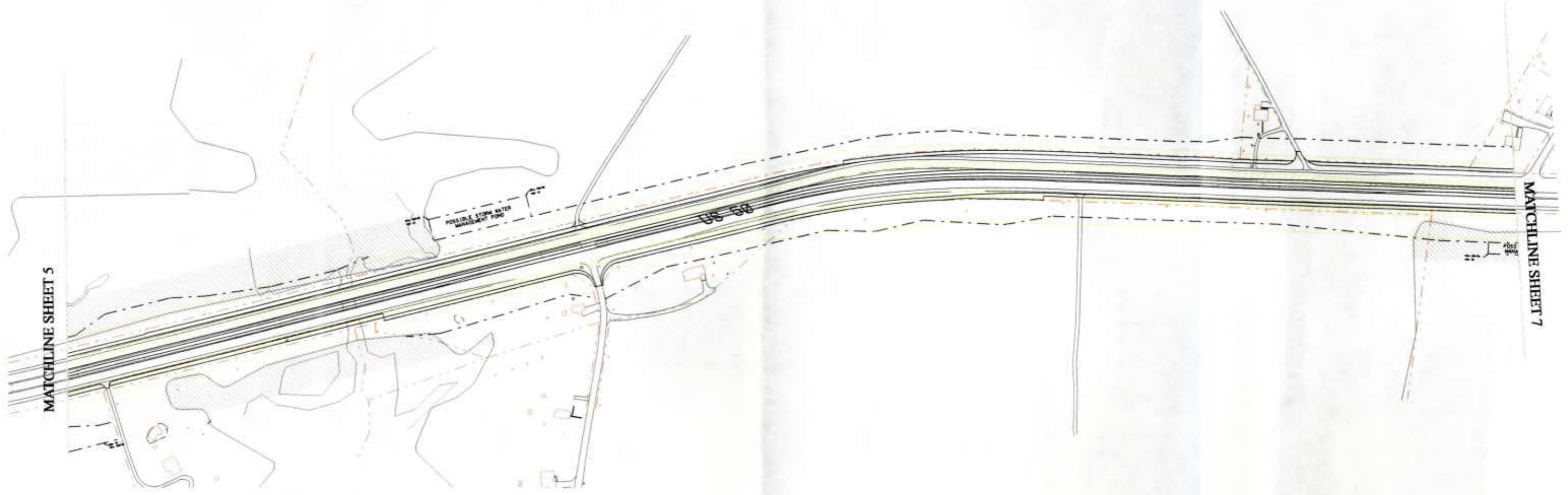


	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	150-FOOT DELMARVA FOX SQUIRREL BUFFER
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

FIGURE III-19
**US 50 OCEAN GATEWAY
 SERVICE ROAD AND
 OVERPASS PROJECTS**
**SUPPLEMENTAL
 ENVIRONMENTAL ASSESSMENT**
SHEET 5 OF 10

IMPACTS		
	FOREST	R.T.E.
FONSI REPORTED	NOT REPORTED	NOT REPORTED
CURRENT DESIGN	1.5 AC.	6.05 AC.

FOREST AND DELMARVA FOX SQUIRREL HABITAT IMPACTS



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	150-FOOT DELMARVA FOX SQUIRREL BUFFER
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

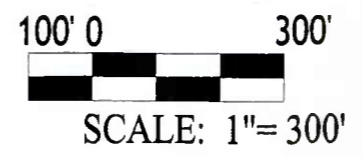


FIGURE III-20
 US 50 OCEAN GATEWAY
 SERVICE ROAD AND
 OVERPASS PROJECTS
 SUPPLEMENTAL
 ENVIRONMENTAL ASSESSMENT
 SHEET 6 OF 10

FOREST AND DELMARVA FOX SQUIRREL HABITAT IMPACTS

IMPACTS		
	FOREST	R.T.E.
FONSI REPORTED	NOT REPORTED	NOT REPORTED
CURRENT DESIGN	1.3 AC.	1.15 AC.

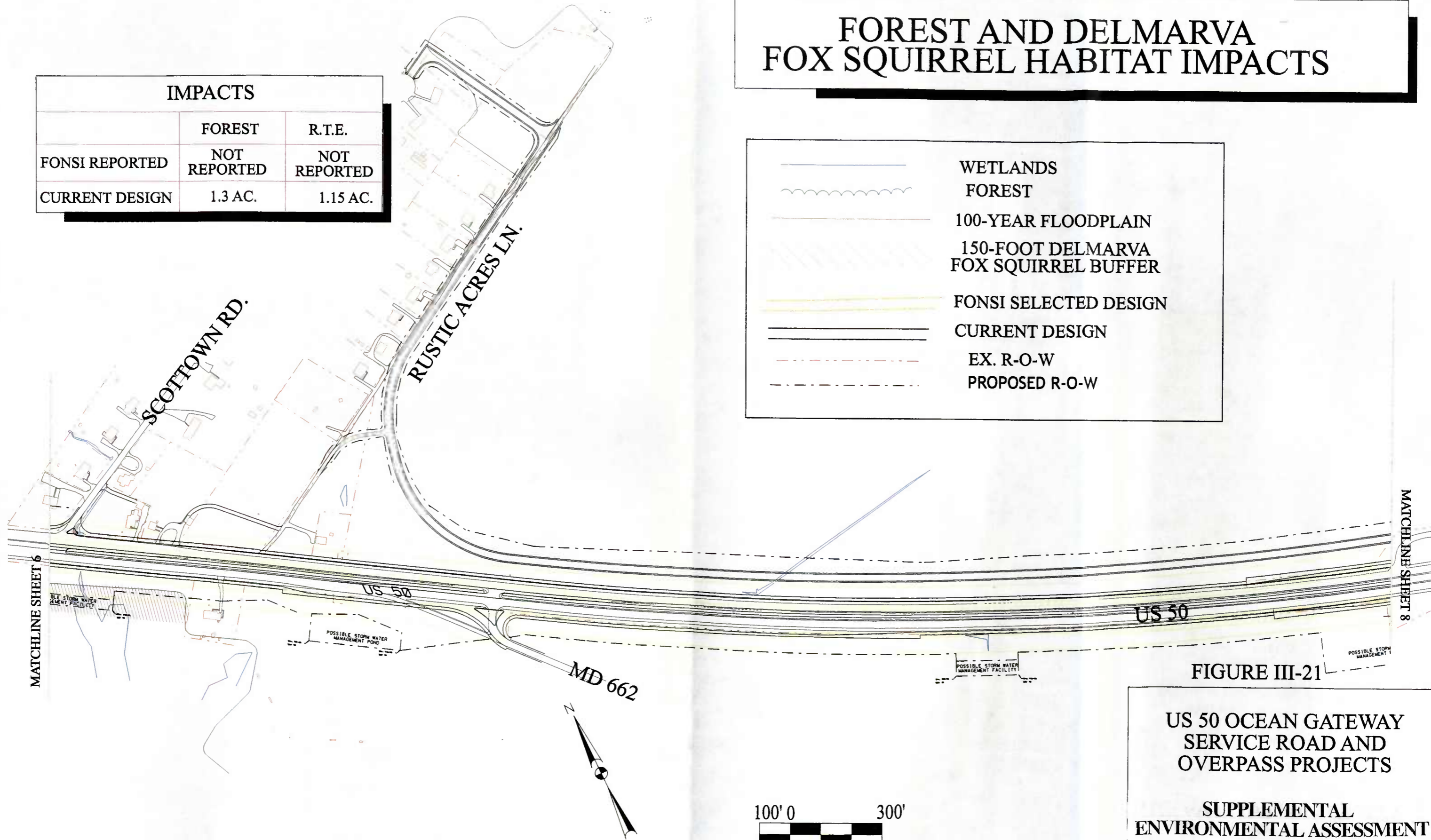
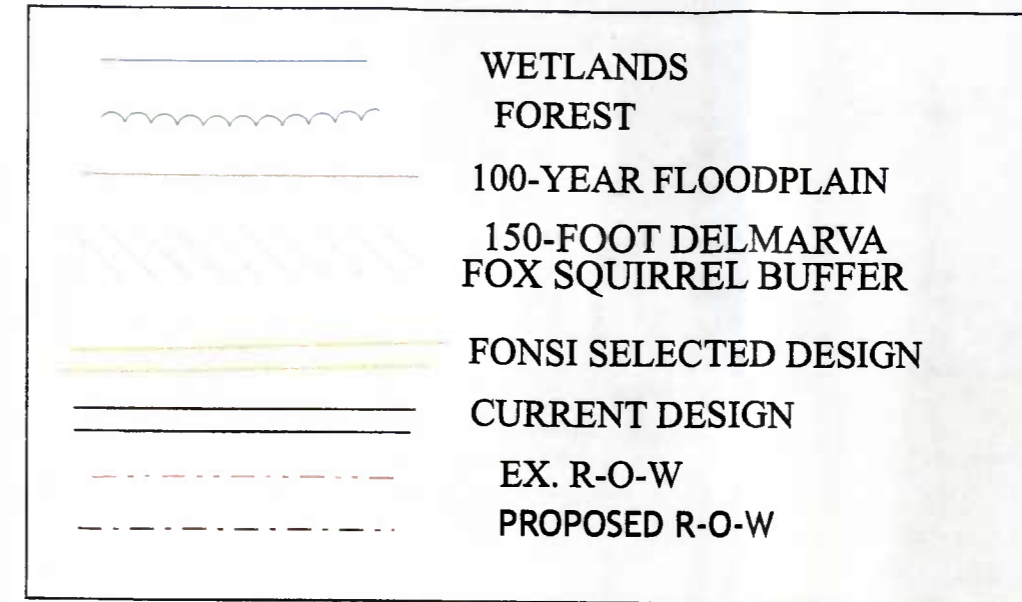


FIGURE III-21









US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS

SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT

SHEET 7 OF 10

IMPACTS		
	FOREST	R.T.E.
FONSI REPORTED	NOT REPORTED	NOT REPORTED
CURRENT DESIGN	0.0 AC.	0.0 AC.

FOREST AND DELMARVA FOX SQUIRREL HABITAT IMPACTS

	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	150-FOOT DELMARVA FOX SQUIRREL BUFFER
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

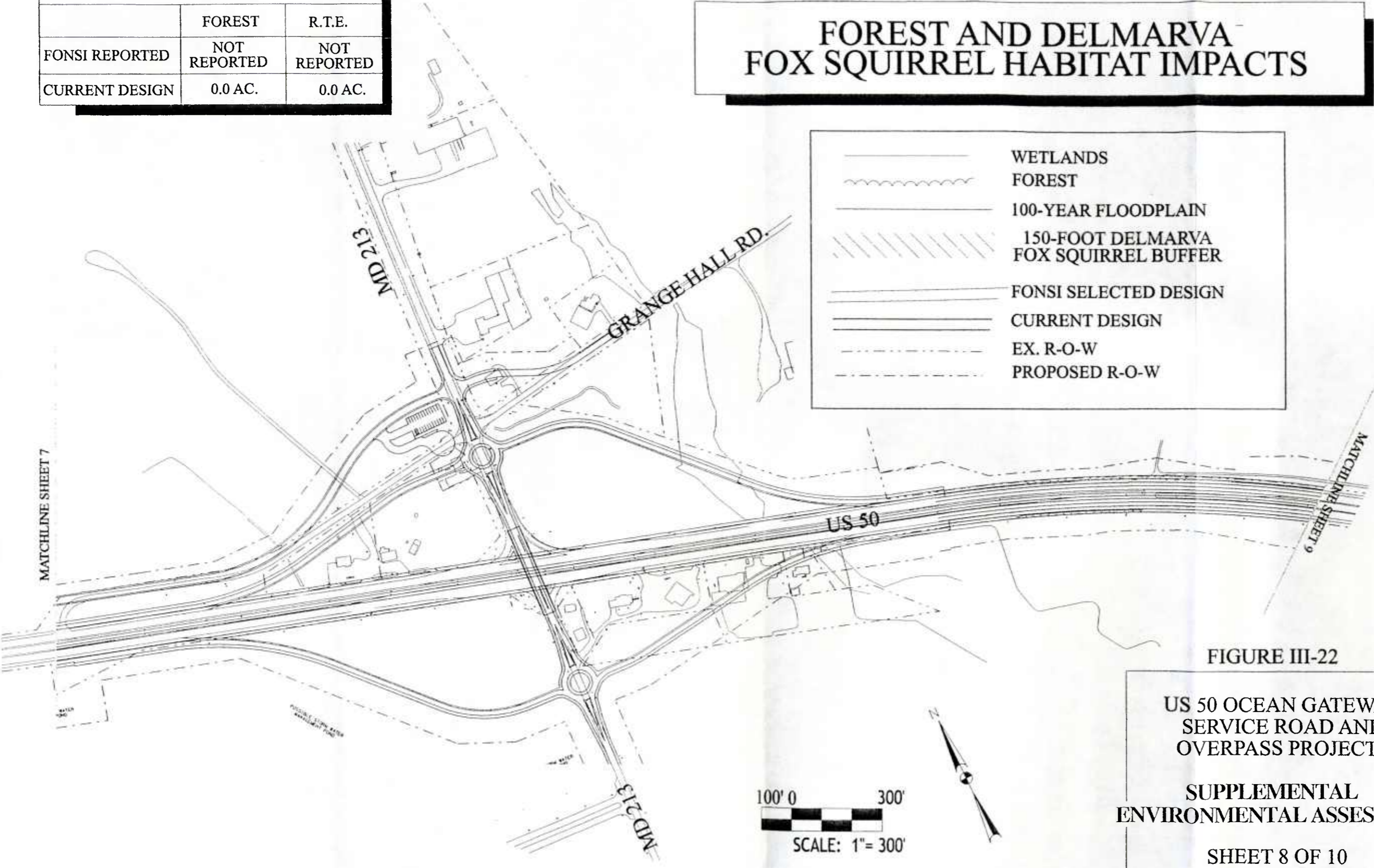


FIGURE III-22

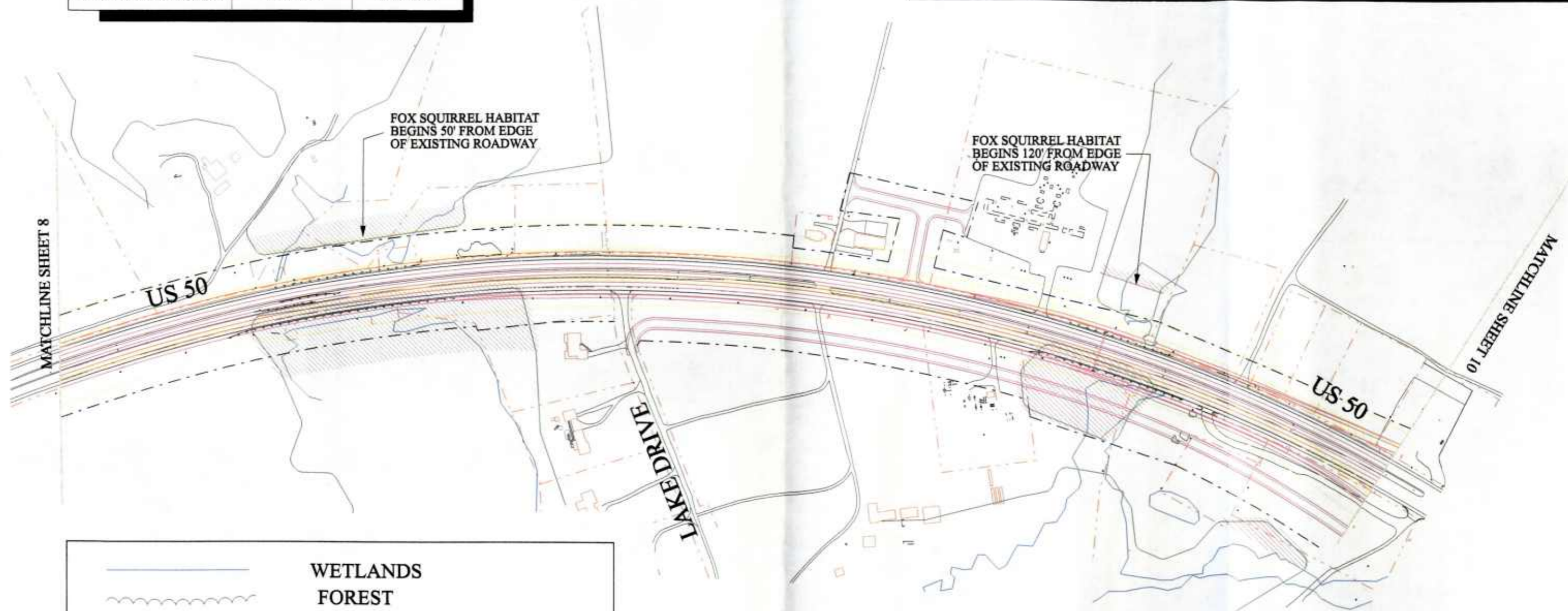
**US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS**

**SUPPLEMENTAL
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 SHEET 8 OF 10

IMPACTS		
	FOREST	R.T.E.
FONSI REPORTED	NOT REPORTED	NOT REPORTED
CURRENT DESIGN	4.4 AC.	6.1 AC.

FOREST AND DELMARVA FOX SQUIRREL HABITAT IMPACTS



	WETLANDS
	FOREST
	100-YEAR FLOODPLAIN
	150-FOOT DELMARVA FOX SQUIRREL BUFFER
	FONSI SELECTED DESIGN
	CURRENT DESIGN
	EX. R-O-W
	PROPOSED R-O-W

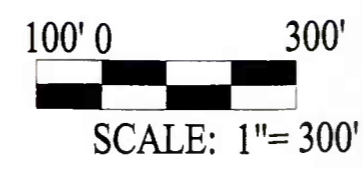


FIGURE III-23
 US 50 OCEAN GATEWAY
 SERVICE ROAD AND
 OVERPASS PROJECTS
 SUPPLEMENTAL
 ENVIRONMENTAL ASSESSMENT
 SHEET 9 OF 10

IMPACTS		
	FOREST	R.T.E.
FONSI REPORTED	NOT REPORTED	NOT REPORTED
CURRENT DESIGN	1.2 AC.	1.5 AC.

FOREST AND DELMARVA FOX SQUIRREL HABITAT IMPACTS

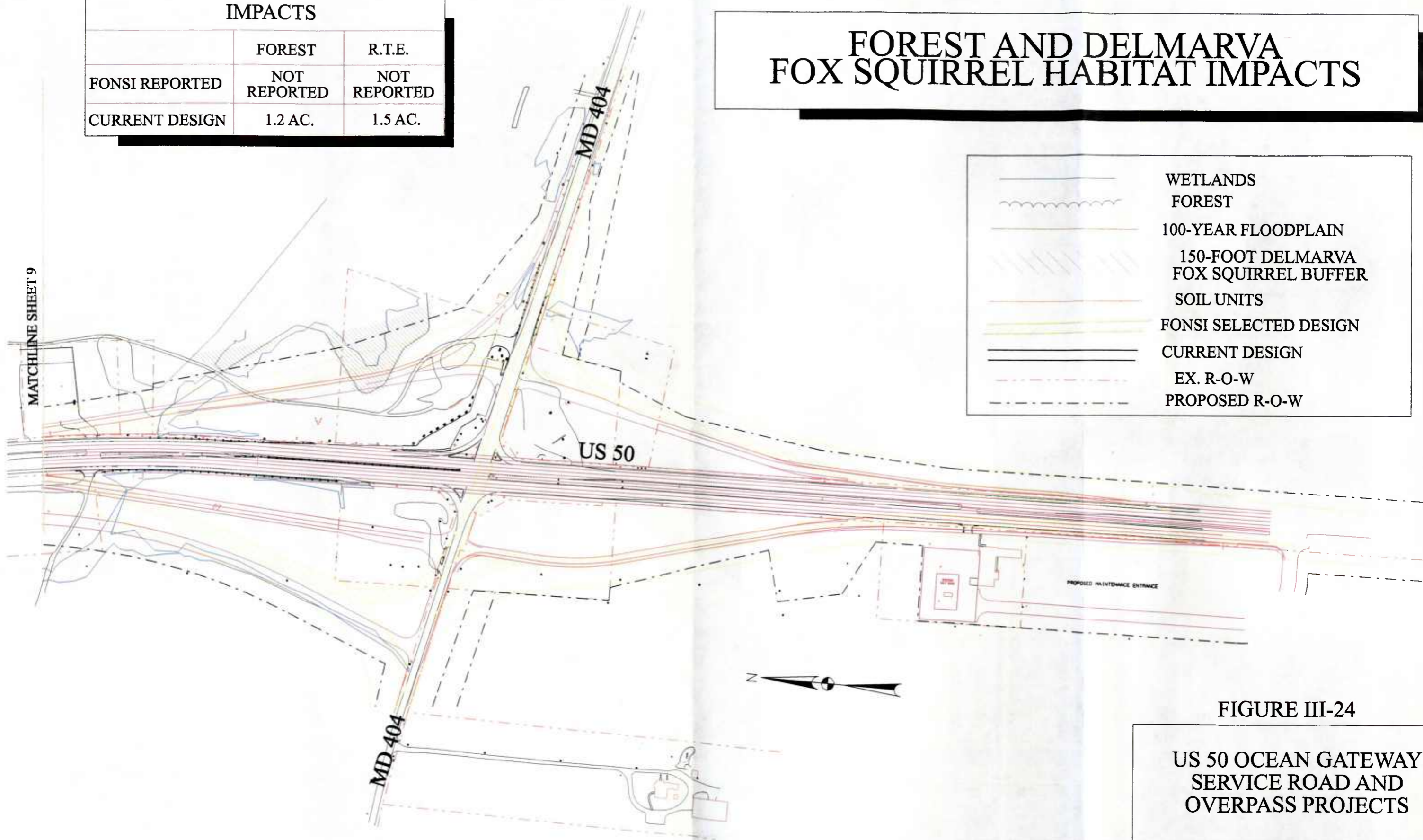


FIGURE III-24

US 50 OCEAN GATEWAY
SERVICE ROAD AND
OVERPASS PROJECTS

SUPPLEMENTAL
ENVIRONMENTAL ASSESSMENT

SHEET 10 OF 10

100' 0" 300'
SCALE: 1"= 300'

Using the parameters discussed above, it was determined that approximately 14.9 acres of direct impacts and 54.8 acres of indirect impacts to DFS habitat would result from construction of the CDA proposed in Segment 2. Figures III-15 through III-24 show the location and extent of the DFS habitat impacted by the proposed improvements. Per the above mitigation guidelines, the required mitigation will likely be the establishment of approximately 181.7 acres of forest land.

Details of the research conducted, design modifications to minimize impacts, and potential mitigation strategies that have been examined and other recommendations made in the BA will be submitted to the USFWS, which will render a Biological Opinion within 135 days of submission.

D. Noise Impacts

1. Introduction

A total of 17 receptor sites within 10 Noise Sensitive Areas (NSAs) were identified within the current project area as indicated in Table III-4 and shown on figures III-5 through III-10. The receptors were selected to represent worst case conditions regarding how residences could be impacted by traffic noise. An evaluation of noise conditions was completed in accordance with SHA's *Sound Barrier Policy*, dated May, 1998. A detailed Noise Analysis Technical Report was completed. The Technical Report is available at the Resource Center, room C-603, State Highway Administration, 707 North Calvert Street, Baltimore, MD 21202. A summary of impacts and mitigation measures is presented in this section.

2. Impact Assessment and Abatement Consideration

The determination of traffic noise impacts is based on the relationship between the ambient noise levels, the predicted peak hour traffic noise levels, and the established noise abatement criteria in the project area. For this study, the applicable criteria are defined in *23 CFR, Part 772* and subsequent memoranda. Mitigation measures were investigated where the peak hour noise levels approached or exceeded the 67 dBA federal Noise Abatement Criterion for residential areas. Based on the SHA *Sound Barrier Policy*, 66 dBA is considered as approaching the criteria. Additionally, SHA policy requires mitigation measures to be considered where build levels are at least 57 dBA and exceed the present ambient levels by 10 dBA or more.

The SHA *Sound Barrier Policy* cites the following feasibility and reasonableness criteria which must be met in order for an impacted receptor to be considered eligible for construction of a barrier.

Reasonableness Criteria

- At least 75% or more of impacted and benefited residents must approve of the proposed noise abatement.
- Existing noise levels must increase by at least 10 dBA, and must exceed 56 dBA.
- A 3 dBA or greater change in design year noise levels over design year no-build noise levels is expected to result from the proposed action, OR the cumulative effects of highway improvements on the design-year build noise levels at receptors that existed when prior improvements were made is equal to or greater than 3 dBA.
- Build levels are equal to or greater than 72 dBA AND there is an expected increase in noise levels between no-build and build alternates.

- Noise barriers cannot have significant negative visual impact at impacted receptors (such as a high barrier adjacent to residences).
- Total cost of noise abatement is equal to or less than \$50,000 per benefited residence. A barrier will also be considered reasonable if the cost per residence benefited for the NSA is less than \$100,000 per residence AND the cost per residence is less than \$50,000 per residence when considering the entire project.
- Noise barriers will not have significant adverse impacts on Section 4(f) resources. There are no special section 4(f) circumstances (historical/cultural resources) at impacted receptor.

Feasibility Criteria

- Receptors with the highest noise levels (first row receivers) will receive a reduction of 7 - 10 decibels. Other impacted receptors should receive at least a 3 decibel reduction.
- Placement of sound barrier will not restrict pedestrian or vehicular access.
- Placement of sound barrier will not cause a safety or maintenance problems.
- Construction of a barrier will not result in significant utility or drainage impacts. Barrier can constructed considering given topography.
- There are no non-highway noise sources that would reduce or limit barrier effectiveness.

The FONSI documented a total of (8) Noise Sensitive Areas (NSA 18 -25) within Segment 2 of the US 50 project area. Three NSAs (18, 20, and 25) did not warrant consideration of noise abatement measures. The reasonableness and feasibility of providing abatement measures to mitigate noise impacts was reviewed for each remaining impacted receptor. At NSA 19 and 21-24 the noise abatement criteria was exceeded for both build and no-build conditions. However, it was determined that a barrier would not be physically effective at any of these locations due to segmentation needed for access. In summary, further consideration of noise abatement measures were not recommended in the FONSI at any of the impacted receptors along US 50 within Segment 2.

Re-analysis of noise conditions in the study area was completed in September, 2002 for the CDA for Segment 2 of the US 50 project. A Noise Analysis Report was completed on October 10, 2003. A total of 10 Noise Sensitive Areas (NSA) were identified and 17 receptor sites were used to best represent the existing and future noise environment within the study area. The Build and No-Build alternates were analyzed for the build year 2020 conditions to determine the proposed project's noise impact and the feasibility of noise abatement to mitigate for noise impacts.

Feasibility/Reasonableness Checklists are included in the Noise Analysis Technical Report. In general, the build traffic noise levels are slightly (not perceptively) greater than the No-Build noise levels (see Table III-4). The CDA was found to have slightly higher noise levels due to the higher traffic capacity of the roadway.

For the CDA, noise criteria were approached or exceeded at NSA A, B, C, D, E, F, G, H, and I. Mitigation measures were not considered for NSA A, and F because the projected 2020 noise levels are less than that of the no-build, there is not a 3 dBA increase in build noise levels over no-build noise levels.

Noise abatement was investigated for at NSA B, C, D, E, G, H and I. Right-of-way constraints preclude the construction of earth berms for noise abatement. Therefore, sound barrier walls were evaluated for each impacted area based on SHA's feasibility and reasonableness criteria as defined in the *SHA Sound Barrier Policy (May 11, 1998)*. A complete list of noise levels for all receptors is presented in Table III-4, found at the end of this section. A final decision on abatement measures will be made upon completion of the project design and public involvement process.

To protect the residences of NSAs B, C, D, E, G, H, and I seven (7) barriers were investigated for the CDA as described below. See Table III- 4 for the predicted sound results for the analyzed receptors and benefited residences due to the barriers:

Noise Sensitive Area B

NSA B consists of a police station (R-03) located approximately 170 feet from the edge of the US 50 westbound shoulder, between Outlet Center Drive and Sportsman Neck Road. To protect the impacted receptor at NSA B, a barrier was investigated adjacent to US 50 between Outlet Center Drive and Sportsman Neck Road. The barrier can achieve an insertion loss of 7 to 10 dBA at the impacted receptor; however, it does not meet current criteria for further consideration since the cost per benefited residence of \$338,300 is greater than \$50,000/residence.

Noise Sensitive Area C

NSA C (R-4 and R-5) consists of twelve (12) single-family residences located approximately 250 feet to 650 feet from the edge of the US 50 westbound shoulder, south of MD 456. The residences begin at the intersection of MD 456 and US 50 and extend westward along MD 456. To protect the ten (10) impacted residences of NSA C, a barrier was investigated that runs from Sportman Neck Road eastward to MD 456. A barrier 17 feet high and 1,914 feet in length would be needed which can achieve insertion losses of 7 to 10 dBA at R-5, the most impacted residence. Individually, NSA C does not meet current criteria for further consideration, since the cost per benefited residence of \$53,300 is greater than \$50,000/residence. However, this NSA is eligible for further consideration through grouped cost averaging (see Grouped Analysis discussion on page III-19).

Noise Sensitive Area D

NSA D (R-6) consists of eight (8) single-family residences located on the westbound side of US 50, ranging from approximately 200 feet to 1000 feet from the edge of the US 50 westbound shoulder. The residences are located along the eastside of Greenspring Road, beginning at the intersection of Greenspring Road and US 50 and extending northward along Greenspring Road. To protect the one (1) impacted residence of NSA D, a barrier was investigated that runs along US 50 starting at Greenspring Road and extending eastward.

Build noise levels are greater than 72 dBA and there is an increase in noise levels between No-Build and Build Alternates. A barrier 18 feet high and 401 feet long would be needed in order to achieve an insertion loss of 7 to 10 dBA at the impacted residence. However, this impacted residence does not meet current criteria for further consideration since the cost per benefited residence of \$119,500 is greater than \$50,000/benefited residence.

Noise Sensitive Area E

NSA E (R-7) consists of one church (St. Peter's Church) located adjacent to the westbound shoulder of US 50 between Greenspring Road and Bloomingdale Road. To protect this impacted NSA, a barrier was investigated that runs along US 50 in front of the church. The projected build noise levels at this site are greater than 72 dBA; however, there is a decrease in noise levels between No-Build and Build Alternates. SHA's noise policy (Reasonableness criteria No.3) states that in order for abatement to be considered reasonable: "A 3 dBA or greater change in design year noise levels over design year no-build noise levels is expected to result from the proposed action, OR the cumulative effects of highway improvements on the design-year build noise levels at receptors that existed when prior improvements were made is equal to or greater than 3 dBA". Since build noise levels decrease as compared to no-build conditions at this NSA, abatement is not considered reasonable for this site.

Noise Sensitive Area G

NSA G (R-09, R-10, R-11) consists of approximately 14 single-family residences along eastbound US 50, approximately 750 feet from the edge of the US 50 eastbound shoulder. The residences are located between Arrington Road and Scottown Road, and include a new housing development along Wye Mills Road that extends eastward from Arrington Road and parallels US 50. To protect the three (3) impacted residences of NSA G, two barriers averaging 14 feet in height were investigated for the CDA. The first barrier runs along US 50, beginning at Arrington Road and extending westward and would benefit one (1) residence. The second barrier runs along US 50, beginning at Arrington Road and extends eastward and would benefit two (2) residences (one impacted the other benefited but not impacted). Both barriers would provide a 10 dBA reduction for the closest residences. Individually, the combined barriers do not meet current criteria for further consideration, since the cost per benefited residence of \$60,500 is greater than \$50,000/residence. However, as noted in the grouped analysis discussion, NSA G is eligible for further consideration through grouped cost averaging.

Noise Sensitive Area H

NSA H (R-12, R-13, R-14, R-15) consists of forty-one (41) single-family residences located along westbound US 50, ranging from approximately 50 feet to 1750 feet from the edge of the US 50 westbound shoulder. The residences are along Scottown Road and Rustic Acres Road, from both roads' intersections with US 50 and extending northward. To protect the thirteen (13) impacted residences of NSA H, two barriers were investigated for the CDA.

The first barrier runs along US 50, beginning at Scottown Road and extends 308 feet westward. The barrier would be 19 feet high and would benefit five (5) residences. The second barrier runs along US 50, beginning at Scottown Road and extends 443 feet eastward. This barrier would be 13 feet high and would benefit eight (8) residences. The barriers meet current noise policy criteria for further analysis. The cost per residence of \$39,900 is less than \$50,000 and a majority of impacted receptors receive a 7 to 10 dBA noise reduction.

Although two houses within NSA H were recently destroyed by fire (one of which would have been displaced by the SHA preferred Alternate), the NSA still meets criteria for further consideration of noise barriers.

Noise Sensitive Area I

NSA I (R-16) consists of two (2) single-family residences located along adjacent to westbound US 50. The residences are located between MD 213 and MD 404. Although future noise levels at this NSA exceed 72 dBA, there is no increase between the projected 2020 build and no-build noise levels; therefore, abatement is not considered reasonable.

Grouped Analysis

NSAs C, G, and H contain proposed barriers for the CDA that cost less than \$100,000 per benefited residence, and are eligible for further consideration through grouped cost averaging. The average cost per benefited residence within these three NSA's resulted in a cost of approximately \$47,400 per benefited residence. The barriers can achieve insertion losses of 7-10 dBA at the most severely impacted receptor locations, and at least 3 dBA at the remaining benefited receptors located further from US 50 on Scottown Road. Thus, further investigation of sound barriers at these locations is warranted. A final decision on noise abatement measures will be made upon completion of project design and the public involvement process and prior to advertisement of those phases.

3. Construction Noise

Land uses that would be sensitive to vehicular noise would also be sensitive to construction noise. Although highway construction is a short-term phenomenon, it can cause significant noise impacts. Additionally, it is likely that some construction may occur at night to avoid severe traffic impacts. The extent and severity of noise impacts would depend upon the phase of construction and the noise characteristics of the construction equipment in use. Construction noise would have direct impact on receptors located close to the construction site and would have an indirect impact on receptors located near roadways whose traffic flow characteristics are altered due to rerouting from the construction site.

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 construction equipment that would likely be sources of construction noise:

- Bulldozers and earthmovers
- Graders
- Front End Loaders
- Dumps and other diesel trucks
- Compressors

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/exhaust systems.

Table III-4
Noise Sensitive Areas and Receptor Locations

NSA	Phase	Receptor	Address	Ambient 2003	No Build	Build
					Predicted with 2020 Traffic	Predicted with 2020 Traffic
A	5	R-1	6311 Main St (MD 18)	59	66	66
	5	R-2	6322 Main Street (MD 18)	64	70	67
B	2	R-3	4801 Ocean Gateway (US 50)	67	71	73
C	2	R-4	842 Rhodes Ave (MD 456)	63	65	67
	2	R-5	866 Del Rhodes Ave (MD 456)	65	71	72
D	2	R-6	441 Greenspring Road	65	72	73
E	4	R-7	St. Peter's Church	72	77	76
F	6	R-8	Sally Harris Mill House	59	67	69
G	6	R-9	101 Arrington Road	70	77	78
	6	R-10	125 Wye Knot Road	61	64	65
	6	R-11	114 Hogue Farm Lane	53	61	61
	6	R-12	101 Scottown Road	73	78	79
H	6	R-13	100 Scottown Road	72	78	N/A
	6	R-14	104 Scottown Road	62	69	72
	6	R-15	113 Scottown Road	61	67	68
	6	R-16	6925 Ocean Gateway (US 50)	70	76	76
J	3	R-17	29067 Queen Anne's Highway	59	64	64

E. Air Quality

1. Objectives and type of Analysis

The Air analysis was prepared in accordance with the U.S. Environmental Protection Agency (EPA), FHWA, and SHA guidelines. Carbon monoxide (CO) impacts are analyzed as the accepted indicator of vehicle-generated air pollution. The EPA CAL3QHC dispersion model is used to predict CO concentrations for air quality sensitive receptors for both the build year (2010) and design year (2020). The detailed analyses predict air quality impacts from CO vehicular emissions for both the No-Build and Build Alternates at each receptor location. Model 1-hour and 8-hour average CO concentrations are added to background CO concentrations for comparison to the State and National Ambient Air Quality Standards (S/NAAQS).

2. Construction Impacts

The construction phase of the proposed project has the potential to impact the local ambient air quality by generating fugitive dust through activities such as demolition and materials handling. The SHA has addressed this possibility by establishing “Standard Specifications for Construction and Materials” which specifies procedures to be followed by contractors involved in site work.

3. Receptor Site Locations

An air quality analysis presented in the FONSI indicated that the proposed improvements to US 50 would not result in a violation of the 1-hour or 8-hour National Ambient Air Quality Standards (NAAQS) concentrations of 35 PPM and 9 PPM respectively.

A reanalysis of air quality was conducted as part of the reevaluation for the current design and was previously submitted to FHWA in May, 2002. The detailed analyses conducted for this study included predictions of CO concentrations at seventeen (17) air quality receptors and three signalized intersections (see Table III-5). The sites for the CO dispersion modeling were selected to represent “worst case” air quality sensitive locations within the study area. The receptor sites chosen were residences, places of worship or historic sites. In addition, fifty-five (55) to sixty (60) air quality receptors were used to analyze three (3) signalized intersections in the study area. At these intersections, receptors were placed at the edge of right-of-way along roadways where queue lengths form. The CO concentration listed for the intersections from the receptors used to analyze the intersection.

4. Results of Microscale Analysis

A summary of the CO concentrations is shown in Table III-6. The air quality analysis indicates that carbon monoxide (CO) impacts resulting from the implementation of the current design would not result in a violation of the 1-hour or the 8-hour State and National Ambient Air Quality Standards (S/NAAQS) in the analysis years 2010 or 2020.

5. Conformity with Regional Air Quality Planning

The project is located in Queen Anne's and Talbot Counties, which are not designated as non-attainment for carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb) or particulate matter (PM₁₀). Queen Anne's County is designated as a marginal non-attainment area for ozone (O₃), but Talbot County is not designated as non-attainment for O₃. Since the project is located in an ozone non-attainment area, conformity to the State Implementation Plans (SIP's) is determined through a regional air quality analysis performed on the Transportation Improvement Plan (TIP) and transportation plan. This project conforms to the SIP as it originates from a conforming TIP and transportation plan.

**TABLE III-5
AIR QUALITY RECEPTOR LOCATIONS**

RECEPTOR	ADDRESS/LOCATION	DESCRIPTION
R-1	6311 Main St (MD 18)	White Two Story Frame Residence
R-2	6322 Main Street (MD 18)	White Frame Residence
R-3	4801 Ocean Gateway (US 50)	Gray Frame Residence
R-4	842 Rhodes Ave (MD 456)	Yellow Frame Residence
R-5	866 Del Rhodes Ave (MD 456)	Blue Frame Residence
R-6	441 Greenspring Road	White Frame Residence
R-7	St. Peter's Church	Brick Church
R-8	Sally Harris Mill House	Historic Site
R-9	101 Arrington Road	Brick Residence
R-10	125 Wye Knot Road	White Framd Residence
R-11	114 Hogue Farm Lane	Grey Two Story Frame Residence
R-12	101 Scottown Road	White Frame Residence
R-13	100 Scottown Road	White Frame Residence
R-14	104 Scottown Road	Yellow Frame Residence
R-15	113 Scottown Road	Grey Frame Residence
R-16	6925 Ocean Gateway (US 50)	White Frame Residence
R-17	29067 Queen Anne's Highway	White Two Story Frame Residence
INT-A	US 50/Outlet Center Drive	Matrix of 15-20 Receptors
INT-B	US 50/MD 213 Intersection	Matrix of 20 Receptors
INT-C	US 50/MD 404 Intersection	Matrix of 20 Receptors

TABLE III-6
1 HOUR CARBON MONOXIDE CONCENTRATIONS
PARTS PER MILLION (PPM)

	2010				2020			
	No-Build		Build		No-Build		Build	
	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour	1-Hour	8-Hour
R-1	3.3	2.1	3.4	2.1	3.3	2.2	3.6	2.3
R-2	3.6	2.1	3.5	2.2	3.8	2.2	3.5	2.3
R-3	4.6	2.7	4.7	2.6	5.2	2.9	5.1	2.8
R-4	3.5	2.2	3.9	2.3	3.7	2.3	4.1	2.4
R-5	4.3	2.5	4.3	2.5	4.6	2.6	4.7	2.7
R-6	3.9	2.2	3.9	2.3	4.2	2.4	4.2	2.4
R-7	5.1	2.9	4.2	2.5	5.6	3.2	4.5	2.6
R-8	3.3	2.1	3.3	2.1	3.4	2.2	3.4	2.2
R-9	4.3	2.7	4.3	2.7	4.6	2.8	4.7	2.8
R-10	3.1	2.1	3.1	2.1	3.2	2.1	3.2	2.1
R-11	3.0	1.8	3.0	1.8	3.0	1.9	3.0	1.9
R-12	4.7	2.8	4.8	2.9	5.5	3.1	5.2	3.1
R-13	5.0	2.9	5.1	2.9	5.4	3.1	5.5	3.2
R-14	4.0	2.4	4.1	2.4	4.3	2.5	4.3	2.5
R-15	3.6	2.1	3.6	2.1	3.6	2.2	3.6	2.2
R-16	5.2	3.1	4.6	2.8	6.0	3.3	5.1	2.9
R-17	2.9	2.0	2.5	1.8	3.2	2.0	2.6	1.8
INT-A	6.4	3.6	5.9	3.3	7.1	3.7	6.5	3.6
INT-B	7.2	3.9	4.6	2.7	7.7	4.2	4.8	2.9
INT-C	10.4	6.1	4.5	2.5	12.0	6.5	5.0	2.8

F. Secondary and Cumulative Effects Analysis

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations (*40 CFR 1508.25 (c)*), the following analysis examines the secondary and cumulative effects on the environment which may result from this project. The CEQ regulations and guidelines entitled *Considering Cumulative Effects Under the National Environmental Policy Act* define secondary and cumulative effects as follows:

Secondary (Indirect) Effects: "Effects which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems" (*40CFR 1508.8(b)*).

Cumulative Impacts: “Impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7).

A Secondary and Cumulative Effects Analysis (SCEA) was prepared for the Current Design Alternate (CDA) and submitted to the FHWA in December, 2003. Following is a summary of the (SCEA) analysis.

1. Scoping and Analysis Methodology for the SCEA

SCEA Scoping involves identifying environmental resources in the project area and SCEA issues to be considered, such as data availability, geographic boundaries and time frames for analysis. The list of resources considered in this SCEA includes the following resources which would be directly impacted by the CDA: community resources (cohesion, linkages, and services), agricultural resources, employment opportunities, cultural resources (historic and archeological sites), surface water, wetlands/aquatic habitat, 100-year floodplains, federally-listed rare, threatened, and endangered (RTE) species (Delmarva Fox Squirrel), and terrestrial habitat.

The SCEA geographic boundary used to evaluate impacts to socio-economic and natural environment resources is shown on figure III-1. The SCEA boundary was determined by overlaying a combination of socio-economic and natural resource sub-boundaries and includes portions of the census tracts, growth areas, watersheds, agricultural areas, water/sewer service areas, and the area of traffic influence. A summary of each sub-boundary considered is presented below.

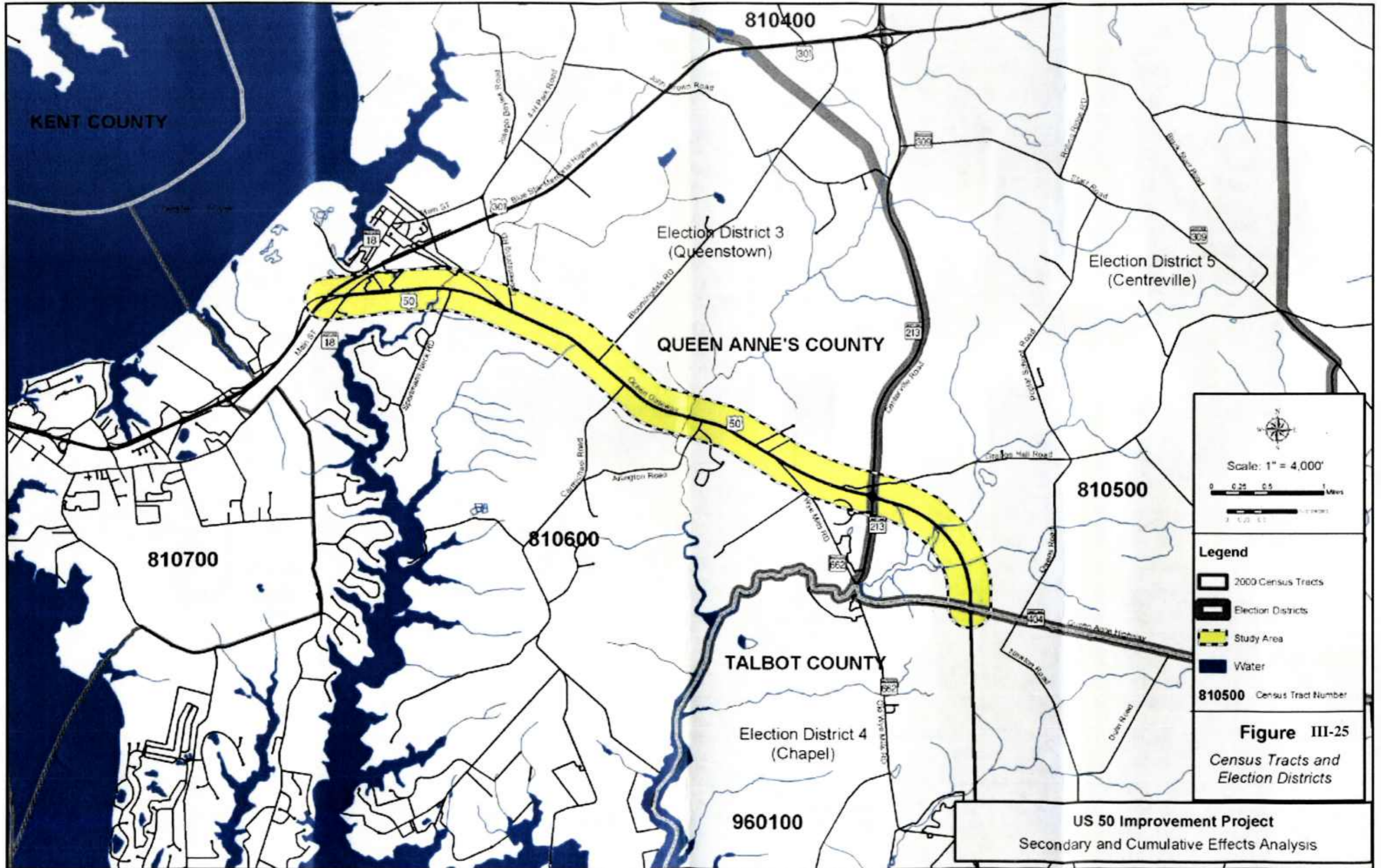
a. Election Districts and Census Tracts

Three census tracts from the 2000 US Census lie within the direct effects project area. These include two tracts (810500 and 810600) in Queen Anne’s County and one (960100) in Talbot County. Census tracts in Queen Anne’s and Talbot Counties were not delineated by the US Department of Commerce until 1990. Thus, for population trends and analyses prior to 1990, census “minor civil divisions” – also known as “election districts” – were used for data comparison, because their boundaries have not changed since before 1910. The election districts that include all of the project area are Election District 3 (Centreville) and Election District 5 (Queenstown) in Queen Anne’s County, and Election District 4 (Chapel) in Talbot County.

b. County Growth Areas / Priority Funding Areas

The 2002 Queen Anne’s County Comprehensive Plan designates several “growth areas” within the county that are identified for future residential and commercial development. Most of the project area lies within land zoned for agricultural purposes, however, the Queenstown Growth Area, which is zoned for residential/commercial use, lies partially within the northern portion of the study area.

The Queenstown Growth Area boundaries were used as part of overall SCEA boundary to represent community resources in the project area. County-designated Growth Areas are shown on Figure III-2.



Scale: 1" = 4,000'

0 0.25 0.5 1 Miles

0 1.0 2.0 3.0 Kilometers

Legend

- 2000 Census Tracts
- Election Districts
- Study Area
- Water

810500 Census Tract Number

Figure III-25
Census Tracts and Election Districts

US 50 Improvement Project
 Secondary and Cumulative Effects Analysis

c. Watersheds

Streams located within the study area flow into the Wye East River, the Wye River, or the Chester River. These waters all eventually drain to the Chesapeake Bay. In general, the southern portion of the study area is located within the Wye East River watershed; the central portion is located within the Wye River watershed; and the extreme northern portion is located within the Chester River watershed. Watershed boundaries were used to represent natural environmental resources affected by the project.

d. Agricultural Land Use

Agricultural lands are the dominant land use in the project area, and will be directly affected by the US 50 Improvement project. The limits of agricultural land use were used as a SCEA sub-boundary to represent the impacts to farm resources. In addition, the Maryland Agriculture Land Preservation Foundation has purchased agricultural land preservation easements to permanently protect the land from urban development within the SCEA boundary. The Agriculture lands form the southwest and eastern portions of the overall SCEA boundary. Figure III-26 shows existing agricultural land use and the current agriculture land preservation easements within the project area.

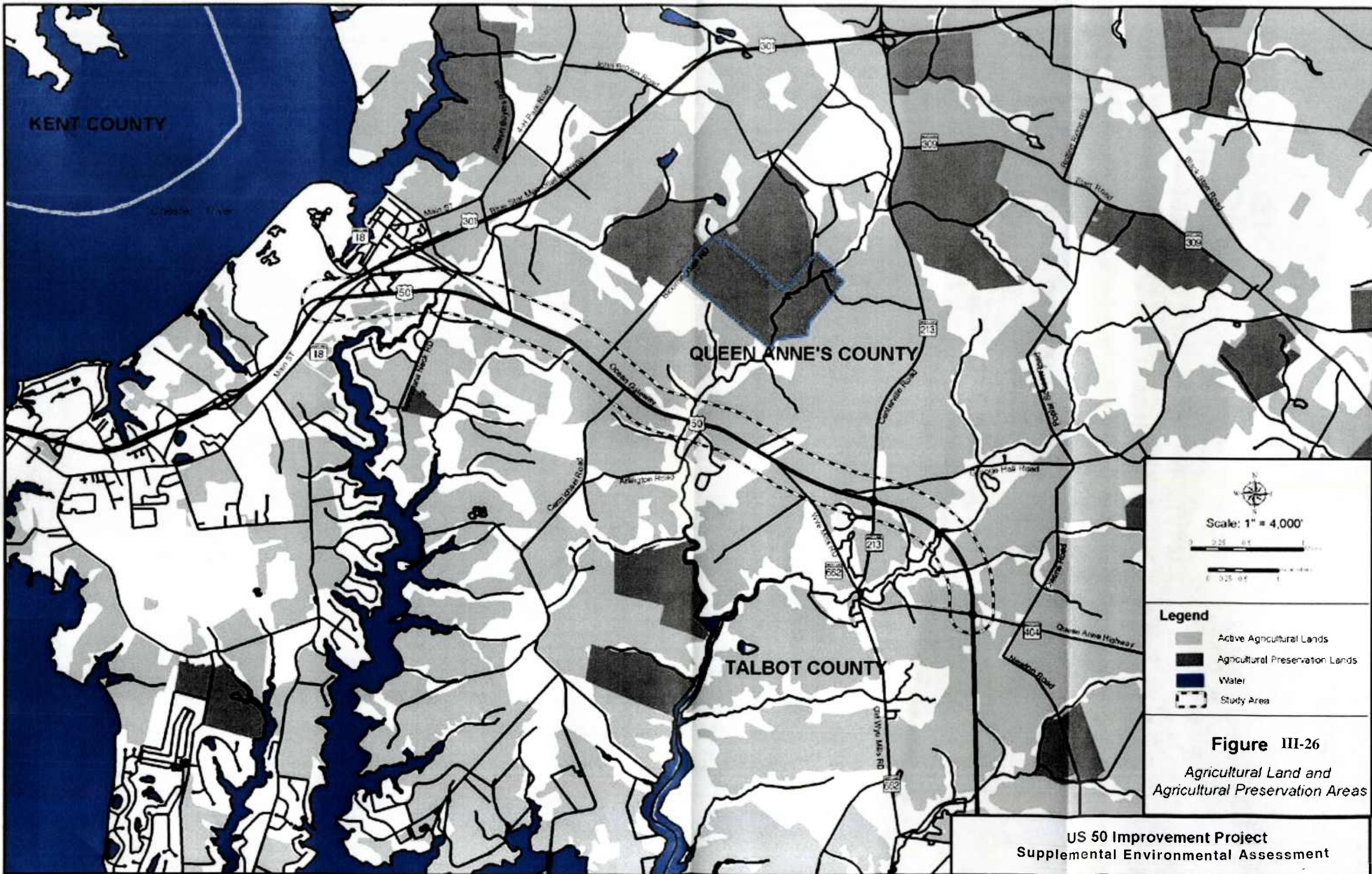
e. Public Water and Sewer Boundaries

Water and sewer service is proposed for the northern portion of the study area by the year 2012. The boundaries for public water and sewer coverage were considered for use as a SCEA sub-boundary to represent potential socioeconomic impacts, however, because most of the current water and sewer coverage have boundaries similar to the Queenstown growth area; these boundaries were not incorporated into the overall SCEA boundary. The extent of public water and sewer was used during the analysis to aid with estimating future land use.

f. Traffic Analysis Zones and Area of Traffic Influence

Since no operating models exist to generate Traffic Analysis Zones (TAZs) along the eastern shore, the 2000 U.S. Census was used to develop TAZs for Queen Anne's County. The Census TAZs encompass relatively large geographical areas compared to TAZs in more populous regions of the state: thus, the direct effects area lies within two TAZs that encompass the entire county north to south and from Grasonville to Church Hill east to west. The large size of the Queen Anne's County TAZs, coupled with the lack of TAZs in Talbot County, made the use of TAZs (or an Area of Traffic Influence) impractical as a boundary for this SCEA.

A period of 50 years, from 1970 to 2020, was selected to represent the SCEA time frame. Most of US 50 was originally designed in the 1920's and 1930's as one of the nation's major east-west highways, with termini in Ocean City, Maryland and Sacramento, California. With the construction of the original span of the William Preston Lane, Jr. Memorial (Bay) Bridge in 1952, the Eastern Shore and Western Shore sections of US 50 in Maryland were connected. This allowed an easy route from the cities of Washington D.C., Baltimore, and Annapolis on the Western Shore to the Atlantic beaches of Eastern Shore Maryland and Delaware to the east.



Legend

- Active Agricultural Lands
- Agricultural Preservation Lands
- Water
- Study Area

Figure III-26
*Agricultural Land and
 Agricultural Preservation Areas*

**US 50 Improvement Project
 Supplemental Environmental Assessment**

In 1973, a second span of the Bay Bridge opened to provide higher capacity. In the late 1980's and early 1990's, US 50 was upgraded to a six-lane, limited access highway between the Bay Bridge and the US 50/US 301 split near Queenstown.

The past time frame was determined by examining population trends and at historical events in the project area. In 1973, the second span of the Bay Bridge was opened to provide higher capacity to accommodate the increase of the population growth rate in Queen Anne's County and summer recreational travel. The future time frame was determined primarily by the project's design year and county population projections, both of which extend through 2020.

A combination of methodologies is used to assess secondary and cumulative effects to each SCEA resource considered. Quantified data are used if readily available but for the most part, the SCEA is presented qualitatively.

2. Land Use Summary

Queen Anne's County is predominately rural, consisting of 62.9% agricultural land and 27.0% forest and shrub land. Much of the urban and built-up areas occur within the six County-designated growth areas: Stevensville, Chester, Kent Narrows, Queenstown, Centreville and Grasonville. These areas have had the most pronounced growth (primarily residential) in recent years (1990 through 2000) compared to the rest of the county. The Queen Anne's County Comprehensive plan provided growth information for the designated growth areas by Election Districts (figure III-25). The Queenstown growth area, which includes Grasonville, experienced a growth rate of 18.3%. The Centerville growth area experienced a growth rate of 10.6%. Queen Anne's County experienced a total growth rate of 19%. According to the Queen Anne's County Comprehensive Plan, there are approximately 6,400 acres of undeveloped land zoned for residential or non-residential uses. The northern portions of the County remain substantially rural in nature. It is anticipated that approximately 80-90% of development within the next ten years will occur within designated growth areas

Talbot County is a rural county located south of Queen Anne's County. Farmland and forest land comprise 60.3% and 24.3% of Talbot County's land area, respectively. In general, residential and commercial uses are concentrated in the incorporated towns of Easton, St. Michael, Oxford, Trappe and Queen Anne. Traditionally, approximately 40 percent of all County development has been concentrated within these five incorporated towns, none of which are within the SCEA boundary for the US 50 project. Additional residential and commercial areas are found in numerous small, unincorporated villages throughout the County.

The majority of the residential development in the unincorporated areas of the County is lower density, single-family detached housing located in subdivisions adjacent to incorporated towns, waterfront, or scattered locations along rural roadways.

Within the SCEA boundary land use characteristics are similar to those in the rest of Queen Anne's and Talbot Counties, but with an even greater proportion of farmland (figure III-1). Forest and scrublands are located primarily along river and stream corridors. Residential, commercial, industrial, and institutional areas are found scattered along some roadways and concentrated in Queenstown and Wye Mills. Two large facilities – the Queenstown Harbor Golf Links and Chesapeake College – are located adjacent to US 50. These facilities form a large portion of the developed land within the SCEA boundary outside of Queenstown and Wye Mills.

Past Land Use Conditions

Based on historical aerial photographs, land use within the SCEA boundary prior to 1990 was dominated by agricultural land. In 1970, residences were concentrated in the towns of Queenstown and Wye Mills, and spread out along several secondary roads, including MD 662, MD 18, Del Rhodes Avenue, Sportsman's Neck Road, Greenspring Road, Arrington Road, Carmichael Road, Scottown Road, Rustic Acres Lane, and John Brown Road. Commercial properties were found in Queenstown and on several isolated properties along US 50, US 301, Grange Hall Road, MD 213, Bloomingdale Road, and MD 18. Farms surrounded all residential communities in the SCEA boundary. Forests generally followed poorly drained soils adjacent to streams where farming is impractical.

By 1980, residential areas had expanded along John Brown Road, Arrington Road, Carmichael Road, and MD 662. The largest increase in residential land use occurred on the western edge of the study area between the Wye River and Bennett Point Road. Chesapeake College had been built by 1980, and commercial land use had expanded along US 50 near MD 404. Otherwise, the study area consisted of agricultural land uses.

Study area land use in 1990 was very similar to the land use in 1970. Agricultural land uses had decreased approximately 3% (from 156,061 to 152,762 acres). The major changes from 1970 included continued expansion of residential areas along the Wye River and Chesapeake College.

Present Land Use Conditions

Agriculture and forest are the two most common land uses in the SCEA boundary. Since 1990, 852 acres of forested and 706 acres of agricultural land has been converted to residential and commercial uses. The majority of this land conversion was located within Queen Anne's County. Commercial and institutional land uses have expanded at Chesapeake College, Queenstown Harbor, Chesapeake Outlet Center, and along Bloomingdale Road. New commercial areas have been developed along Carmichael Road and Grange Hall Road. Existing residential areas have expanded along Bennett Point Road and southwest of Queenstown. Finally, new residential areas have developed along Grange Hall Road, Charles Boyle Road, Poplar School Road, Wye Knot Court, Overlook Drive, John Brown Road, Chestnut Meadow Road, Hickory Ridge Drive, and near the Wye Mills Community Lake.

Currently, there are two development projects (see below) located within the SCEA boundary that are under review for residential or commercial development. The projects are in various stages of county review, and their estimated construction date is unknown.

Anticipated Development within the SCEA Boundary

1. John Wesley UM Church located on Arrington Road; a 3,476 SF addition to Church is proposed
2. Greenspring Estates located between US 301 and US 50, Bloomingdale Road and Greenspring Road; 1,400 residential units, including single family and townhouses is proposed.

Future Land Use Conditions

Land Use within the SCEA boundary will be primarily influenced by the recommendations of existing land use plans. The Queen Anne’s County Comprehensive Plan (2002) and the Talbot County Comprehensive Plan (2003) both provide recommendations for future land use development patterns. Based on these plans, the land use within the SCEA boundary is expected to become somewhat more urban and built-out by the year 2020, particularly in the areas designated for growth surrounding Queenstown, Wye Mills, and the eastern edge of Grasonville. However, the Plans also recommend preserving most of the rural landscapes within the SCEA boundary. If the recommendations presented in the comprehensive plans are carried forward, the growth areas will be built-out by 2020. Based on projections included in the Queen Anne’s County Comprehensive plan, the proposed land use in other areas within the SCEA boundary are projected to remain constant since all proposed development will be located within designated growth areas.

3. Population and Labor Force

Population within Queen Anne’s and Talbot Counties have substantially increased since 1970, from 18,422 (1970) to 40,563 (2000) in Queen Anne’s County; and from 23,682 (1970) to 33,812 (2000) in Talbot County. Nearly half (47.3%) of the population growth occurred on Kent Island which includes Stevensville, Chester and half of the Kent Narrows growth areas. The

Queenstown area in Queen Anne’s County, which is located within the SCEA boundary, experienced a 10.6% increase in population growth since 1970. According to county projections, the rate increases are expected to continue through the year 2020 within the designated growth areas. Table III-7 below details past and projected population growth rates in the two counties since 1970.

Table III - 7

Rate of Population Change 1970-2030

Year	Queen Anne's County Population	Rate of Population Change	Talbot County Population	Rate of Population Change
1970	18,422	11.2%	23,682	9.8%
1980	25,508	38.5%	25,604	8.1%
1990	33,953	33.1%	30,549	19.3%
2000	40,563	19.5%	33,812	9.6%
2010	48,500	19.6%	35,800	5.9%
2020	55,800	15.1%	37,525	4.8%
2030	59,800	7.2%	38,950	3.8%

It is anticipated that the labor force in Queen Anne's County, which includes all persons over the age of 16, will continue to grow through the year 2030, although the rate of labor force growth is expected to slow down after 2020, the design year (see table III-8). The labor force in Talbot County is expected to level off between 2010 and 2020, and begin to decrease through 2030. The labor force participation rate is expected to decrease from their current levels in both counties due to an increase in the number of retired persons.

Table III-8

Labor Force and Labor Force Participation Rate, 1970-2030

Year	Queen Anne's County Labor Force	Labor Force Participation Rate	Talbot County Labor Force	Labor Force Participation Rate
1970	7,820	60.5%	10,160	58.8%
1980	12,020	61.5%	12,760	62.2%
1990	18,200	69.1%	16,220	65.7%
2000	21,850	69.5%	16,790	61.7%
2010	26,660	69.2%	18,240	61.1%
2020	29,550	66.3%	18,280	58.1%
2030	30,210	62.9%	17,930	54.7%

4. Secondary Effects of the Current Design Alternate (CDA)

Private Development

Currently, there are no planned development projects that are dependent upon the US 50 improvements, proposed as part of the CDA, for completion. Most of the land within the SCEA boundary is currently zoned for agricultural or other rural uses. There is limited potential for development outside of the County Growth Areas/Priority Funding Areas due to the Queen Anne's County Interim Adequate Public Facilities Ordinances adopted in March 2001.

The Greenspring Estates residential development was expected to be submitted to be submitted to Queen Anne's County but was later abandoned by the developer. However, Queen Anne's County officials recently indicated that another private developer may resubmit the project in the future.

Transportation Projects

The service roads and overpasses proposed with the US 50 project are a part of SHA's access control program which was initiated to eliminate as many access points and driveways along the US 50 corridor as possible. It has not been determined at this time if the service roads will become county maintained. However, should the service roads become county maintained, SHA coordinates and provides input on every development plan submitted to the county. SHA's policy requires developers to perform traffic impact analyses to determine the impact of proposed developments on the roadway system and surroundings.

Queen Anne's County also has in place an Adequate Public Facility Ordinance adopted in March, 2001 that requires applicants for residential and commercial developments to perform an Adequate Public Facility Study (APFS) of all essential public facilities (including schools, roads, wastewater, water systems) likely to be impacted by a proposed development. Developers are also required to include the impact of the proposed development on essential public facilities and whether the public facilities will continue to provide adequate service to the residents of Queen Anne's County after the proposed development is completed. Through close coordination, SHA and the county make a determination of the location of a developer's access onto a service road. In addition, Title 18, Queen Anne's County Land Use and Development Code was Adopted in January, 2004. This code was enacted to implement the 2002 Comprehensive plan while protecting the use (and intensity of such use) of land, buildings and surrounding open space.

The addition of a service road proposed in Phase 1; Carmichael Road with service connection to Bloomingdale Road; is not expected to change any development potential that currently exists since the service road proposes access to existing county roads in the area which in turn provides access to existing farms in the project vicinity.

The service road proposed in Phase 2; (Sportsman Neck Road) is not expected to promote or enhance development potential since this service road is proposed to serve three existing farms. The majority of development in this area is located along and has access to Sportsman Neck Road, a county facility. In addition larger parcels in the vicinity of this proposed overpass, have been previously subdivided and also have access to Sportsman Neck Road.

The service road proposed in Phase 3; (MD 404 with service road connection to Lake Drive) is not expected to promote or enhance development potential. Existing properties currently access Lake Drive, US 50 or MD 404. The addition of a service road is not expected to change the development potential that currently exists. Existing undeveloped land within this project phase are located within undevelopable areas (floodplains). Existing county and state regulations would preclude development from occurring within flood zone and buffer areas.

The service road proposed in Phase 4; (MD 213 with service road connection from Scottown Road to Grange Hall Road) is not expected to promote or enhance development potential in this area. Existing properties currently access Scottown Road and Rustic Acre Lane US 50 or MD 213. The addition of a service road is not expected to change the development potential that currently exists. The largest parcel of existing undeveloped land within this project phase currently has access to Scottown Road, Grange Hall Road and Centerville Road.

The service road and overpass proposed in Phase 5; (MD 18 with a service road connection from MD 18 to US 50) is not expected to promote or enhance additional development potential in this area. Existing commercial properties located along westbound US 50 currently access US 50 via right-in right-out access at Outlet Center Drive. Eastbound US 50 traffic currently accesses Outlet Center Drive via a traffic signal which stops westbound traffic while allowing eastbound traffic to make a left turn. The proposed improvement will remove the current traffic signal eliminating the left turn movement. The addition of a service road along eastbound US 50 is not expected to change the development potential that currently exists. The service road will provide access to the existing properties along eastbound US 50. Residents and businesses will access US 50 via the service road connection to MD 18 and one additional right-in right-out access point across from Outlet Center Drive.

Phases 6 through 8 (mainline widening of US 50 from US 50/US 301 Split to MD 404) is not anticipated to promote or enhance additional development along the study corridor. US 50 will be a "limited access highway" limited to access by public roadways only. No private roadways or driveways are generally permitted access onto a limited access highway.

Impacts to resources resulting from the potential future development of areas adjacent to and nearby proposed service roads will occur independently of the planned widening improvements to US 50 and will be effectively regulated by applicable State, Local and Federal laws for avoidance, minimization and/or mitigation.

The 2002-2003 Maryland Consolidated Transportation Program (CTP) indicates that, besides the proposed US 50 improvements, the only other proposed major transportation project within the SCEA boundary is the MD 404 dualization project, which includes widening and upgrades of existing MD 404 from US 50 to the Denton Bypass. This project is not dependent on the US 50 project for completion, and therefore its associated impacts are considered as potential cumulative, rather than secondary effects of the US 50 project.

Conclusion

Because there are no reasonably foreseeable public or private development projects that are dependent upon improvements to US 50 for completion, and because direct residential and commercial access to US 50 will be prohibited, there will be no secondary effects of the US 50 project to community, cultural, and natural resources.

5. Cumulative Effects of the Current Design Alternative (CDA)

Socio-economic Resources

Cumulative effects to community resources will be primarily beneficial. Projects in the SCEA boundary (see figure III-26) including the proposed widening of MD 404 from US 50 to the Denton Bypass, as well as residential and commercial development will, together with the US 50 project, serve to increase the availability of community resources and access to community services. With roadway improvements and an increase in residential and commercial development, more community resources and services will be needed. As the number of community resources and services rise, availability increases. Cumulative effects of the project will not have a negative impact on the network of community linkages or disrupt community cohesion.

By converting US 50 to a limited access facility, the US 50 project will cause some separation of residents from businesses, services, and other destinations along the existing roadway by limiting access points to US 50. However, the inconveniences created by the restriction of access points will be largely outweighed by the provision of safe crossings at overpasses and interchanges. This will serve as a beneficial community impact, improving upon unsafe crossing conditions that especially exist during peak seasonal travel times. In addition, the upgrades to US 50 will provide a safer, faster route within the SCEA boundary to regional services. Service roads proposed as part of the US 50 project will allow access for US 50 traffic to businesses and services without the need to access local roadways, and will allow access to local businesses along US 50 by area residents. This will also help minimize impacts to local communities.

The additional residential relocations and business displacements as a result of the new service roads and overpasses proposed in segment 2 of the US 50 project will result in some disruption to the existing business and community environment. Residential relocations may result in potential adverse short-term effects to residents, however through SHA's relocation process various planning activities are performed in advance of actual acquisition and relocation assistance activities to assure that comparable housing is available for all impacted residents before a final decision is made. Suitable and affordable replacement housing for displaced persons is expected to be available within or near the affected communities. Suitable replacement sites for impacted businesses may not be available in the immediate vicinity of the impacted business; however, replacement sites are expected to be available within the study corridor.

The effects of additional business displacements associated with SHA's access management program may also result in temporary disruption to the community business environment. However, the quality of life for local residents is expected to improve because of reduced congestion and improved traffic capacity and safety for local traffic. The access control measures incorporated into the current design of the US 50 project are anticipated to fulfill the SHA's access management program in the US 50 corridor. Since the 2002 Queen Anne's County Comprehensive Plan designates specific "growth areas" within the county that are identified for future residential and commercial development, most of the displaced businesses may be directed to relocate in areas zoned for residential/commercial use, which may require local residents to travel further to access some commercial resources. The Queenstown Growth Area, one of the County's designated growth areas, is located partially within the northern portion of the project area.

Approximately 64.0% of land within the SCEA boundary is devoted to agriculture. Since 1973, the acreage of agriculture land has been decreasing due to urban development; however, agriculture remains the dominant industry through better technology in both study area counties. Planning documents for both counties demonstrate their commitment to agricultural preservation by focusing development in designated growth areas.

It is anticipated that the proposed US 50 improvements will directly affect 89 acres of agricultural land located within 1,000 feet of each side of US 50 from US 301 to MD 404. Due to the fact that the US 50 project area is surrounded by farmland on both sides of the highway, impacts to agricultural land cannot be avoided. Impacts have been minimized by maintaining the existing alignment of US 50 to the extent possible.

There may be cumulative impacts to agricultural resources as a result of public and private development. However, additional residential and commercial development would be restricted to areas designated for growth by county planning regulations' minimizing the impact on areas designated for agricultural preservation.

Cumulative effects of the US 50 project on employment will be beneficial. Converting US 50 to a limited access facility will allow quicker, safer access for employees moving to and from business centers. Proposed development of designated commercial areas will create jobs for study area residents; residential development and proposed highway construction on US 50 and US 404 will create short-term construction jobs as well as improve local mobility for commuters.

Cultural Resources

Based on previous and current coordination with the Maryland Historical Trust (MHT), sites within the SCEA boundary that are eligible for the National Register of Historic Places include: Bloomingdale, Bowingly, Colonial Courthouse, Hassett House (also known as the Rhodes Hassett House), Pippen Farm, ME Rhodes Farm, Sally Harris House, St. Luke's Episcopal Church, St. Peter's Catholic Church, and Wilton property (figure III-2). Archaeological sites 18 QU 63 and 18 QU 64 are also within the study area.

The potential contribution of the US 50 project to cumulative effects on cultural resources is considered to be minimal. Three historical resources will be adversely affected by the US 50 improvement project. These sites include Bloomingdale, Rhodes Farm, and Pippen Farm.

It is anticipated that 0.28 acre of right-of-way will be required from the historic Bloomingdale property and 10.78 acres from the Rhodes Farm. Although no direct acquisition of property from the Phippen Farm is required, the SHPO has determined that the proposed Carmichael Road overpass will have an adverse effect on the site due to the proximity of the proposed improvements. A memorandum of agreement (MOA) has been developed and coordinated with the Maryland Historical Trust (MHT) regarding mitigation measures designed to minimize the impact on these resources. The MHT also determined that the proposed project will have no direct effect on any archaeological sites, provided that the right-of-way is fenced during all phases of construction.

Minimal cumulative effects to other cultural resources within the SCEA boundary caused by development unrelated to the US 50 improvements are possible. As the population within the SCEA boundary increases and development pressure rises, there is an associated risk of additional cumulative impacts to cultural resources, primarily within growth areas. Historic resources located outside of growth areas are not as likely to be affected by cumulative effects.

Natural Resources

Surface Water

Water resources in the study area flow into the Wye East River, the Wye River, or the Chester River. These waters all eventually drain to the Chesapeake Bay. Two Maryland Department of the Environment "eight-digit" sub-watersheds are found within the SCEA boundary - the Wye River (0213-0503) and Lower Chester River watershed (0213-0505). Almost the entire SCEA boundary flows into the Wye River -watershed with only the extreme northwest portion draining into the Lower Chester River watershed. There are also numerous, smaller, unnamed tributaries that drain the study area.

US 50 improvements will require structure extensions and associated impacts at six locations along US 50; four of these are associated with the Wye East River and two with the Wye River. The increase in impervious surface caused by adding an additional through-lane in each direction on US 50, as well as the construction of overpasses and partial interchanges will be minimal, however, it would produce a proportionate increase in the amount of runoff carrying vehicle generated pollutants (e.g., oil, coolants, brake fluids, and rubber) which could potentially enter surface water resources. To minimize effects to surface water quality, the final design for the proposed improvements will include plans for grading and sediment/erosion control, in accordance with state and federal laws and regulations. Stormwater runoff will be managed under current Maryland Stormwater Management Guidelines (MDE 2001), and the project will be designed in accordance with MDE stormwater regulations and stormwater Best Management Practices (BMP).

Cumulative effects to watersheds within the SCEA boundary include planned improvements to MD 404 and future residential and commercial developments (John Wesley UM Church, Greenspring Estates) within the SCEA boundary.

The planned roadway improvements and future development areas will increase the amount of impervious surfaces, thus, causing increased stormwater runoff into surface waters within the study area. Approximately 33% of the Wye and Lower Chester River watersheds are comprised of the planned growth areas within the SCEA boundary. Permits requiring avoidance, minimization, and/or mitigation would help offset most stream losses caused by cumulative effects. Future urban development would have minimal impact on surface waterways given State and Federal permit requirements that help protect Waters of the US and wetlands.

Floodplains

Within the SCEA boundary, there are 100-year floodplains associated with the Wye River, Wye East River and associated tributaries near US 50. The US 50 improvements will require structure extensions near four crossings of the Wye River East or its tributaries and their associated 100-year floodplains. Additionally, roadway widening near Sportsman Neck Road and northwest of Bloomingdale Road will impact the 100-year floodplain associated with tributaries to the Wye River. In total, approximately 5.1 acres of floodplain impacts are anticipated. None of the proposed encroachments on the Wye River or Wye East River floodplains would significantly affect upstream water surface elevations or storage capacity. Permits requiring avoidance and/or minimization would help offset most floodplain losses caused by cumulative effects. All other future urban development would have minimal direct impact to 100-year floodplains due to regulation by State and Federal laws and review by the US Army Corps of Engineers, FEMA, and MDE.

Wetlands (Aquatic Habitat)

Two subwatersheds located within the US 50 SCEA boundary experienced minor gains in wetland acreage between 1991 and 2000. The Wye River watershed area experienced a net gain of 4.50 acres; the Lower Chester River watershed experienced a net gain of 4.32 acres. Many of these wetlands are located within areas that have experienced changes from non-urban land uses to urban in the last decade.

There are 325 acres of NWI wetlands located within county growth areas, and it is likely that most of these wetlands were preserved or their potential loss was compensated given their regulation under Section 404 of the Clean Water Act. Any changes would have been accounted for by MDE and incorporated into total wetland acreage changes for their respective watershed.

It is anticipated that the US 50 Improvement Project will directly affect approximately 14 acres of delineated wetlands during the 8 phases of the project. Other cumulative effects to wetlands include planned or other future developments: John Wesley UM Church and Greenspring Estates, located within the SCEA boundary. Any wetland impacts that would occur as a result of public or private development would require review by the US Army Corps of Engineers and the Maryland Department of the Environment. Permits requiring avoidance, minimization, and/or mitigation would help offset most wetland losses caused by cumulative effects. Because of the level of regulation protecting wetlands, and trends indicating an increase in wetland acreage despite additional development, it is anticipated that the proposed improvements to US 50 and any additional cumulative development would have minimal cumulative effect on wetlands.

Terrestrial Habitat

Forest and shrub habitat comprises approximately 23.1% of the SCEA boundary and is the second-most abundant land cover type in the study area. Based on land use/land cover analysis between 1973 and 2000, forest habitat throughout Talbot and Queen Anne’s Counties has experienced a 12 % decrease as urban land use has expanded.

The US 50 Improvement project will directly affect 29.1 acres of woodland, including areas located along US 50, proposed interchanges and overpasses. Effects of forest habitat caused directly by the widening of US 50 would be regulated under the Maryland Reforestation Law. The Maryland Reforestation Law regulates disturbances to forest land during highway construction projects. Under this law, any highway project that impacts at least 1 acre of forest requires 1:1 mitigation ratio, if the highway project uses state funds.

The Maryland Forest Conservation Act of 1991 (FCA) regulates forest impacts for most other projects, including private and public development projects. The FCA requires the preparation of a forest conservation plan for most impacts to forests that total more than 40,000 square feet. Unlike the Maryland Reforestation Law, the FCA does not require 1:1 mitigation for all affected forests. Rather, the FCA protects “high priority” forests, and sets forth reforestation and afforestation threshold percentages for any land undergoing development.

Cumulative impacts to terrestrial habitat resources in the SCEA boundary are anticipated as a result of public (including the proposed widening and upgrades of US 50 and private development. The proposed Greenspring Estates development located north of US 50 between Greenspring Road and Bloomingdale Road, will primarily impact an area identified by the USFWS as habitat that is potentially suitable for Delmarva Fox Squirrel (DFS). However, this area was trapped in the spring and fall of 2003 and results did not indicate the presence of DFS. The proposed 3,476 SF addition to the John Wesley UM Church is not located within an area identified as DFS habitat.

Given current Maryland Smart Growth policies and Queen Anne’s and Talbot County’s zoning regulations, impacts to terrestrial habitat would primarily occur on those areas designated by the counties for urban development. Any loss of terrestrial habitat outside of these areas will be minimal. All cumulative impacts to forest habitat will be regulated under the Maryland Forest Conservation Act or the Maryland Reforestation Law.

Re-coordination with the DNR Wildlife and Heritage Division in November 1996 indicated that the Delmarva fox squirrel (DFS), a state and federally listed endangered species, is known to occur on or in the immediate vicinity of the project. It was determined that all fox squirrel habitat within 150-feet of the edge of road would be considered impacted by the project, whether the forest is cleared or not. The USFWS also established the mitigation goals for the project. All fox squirrel habitat that is cleared will be replaced on a 3:1 basis, fox squirrel habitat that is within the 150-foot buffer, but is not cleared, will be mitigated at a 2.5:1 ratio. The proposed improvements to US 50 would contribute to cumulative effects, although mitigation of these impacts would result in a net increase of potential DFS habitat. Any future impacts to rare, threatened, or endangered species would be regulated through local, state and federal permitting processes by MDE, U.S.FWS and DNR.

G. Conclusion

Queen Anne's County is expected to experience major residential and commercial growth around and in the Town of Queenstown. Talbot County is expected to experience minor residential and commercial growth in the northern section of the county. Because these development areas are within designated growth areas, they are reasonably foreseeable, regardless of the improvements associated with this project. The proposed improvements to US 50 are consistent with objectives outlined in the Queen Anne's Comprehensive Plan (2002) and Talbot County Comprehensive Plan (2003). All currently planned development will occur independently of the US 50 improvements.

Cumulative impacts are anticipated to several of the resources outlined above, including historic structures, surface water, wetlands, terrestrial habitat, and agricultural resources. However, the contribution of the proposed US 50 improvements to cumulative effects on these resources will be minimal and will be regulated by applicable State, Local and Federal laws for avoidance, minimization and/or mitigation. Cumulative effects to community resources and population and employment will be primarily beneficial.

It is therefore concluded that proposed improvements to US 50 will have no significant secondary or cumulative effects on socio-economic, cultural, or natural environmental resources. Potential impacts to resources resulting from reasonably foreseeable future development of adjacent and nearby areas will occur independently of the planned widening improvements to US 50 and will be effectively regulated by applicable State, Local and Federal laws requiring avoidance, minimization and/or mitigation.

104



Maryland Department of Transportation
State Highway Administration

*2002 47 SHA
ER/CAR*

105

Parris N. Glendening
Governor
John D. Porcari
Secretary
Parker F. Williams
Administrator

July 17, 2002

Re: Project No. QA508B23
US 50: from US 301 to MD 404
Phase I: Bloomingdale Road
to 400 Feet East of Carmichael Road
Queen Anne's County, Maryland

Mr. J. Rodney Little
State Historic Preservation Officer
Maryland Historical Trust
100 Community Place
Crownsville MD 21032-2023

Dear Mr. Little:

Introduction and Project Description

On September 21, 1998 we notified you of our determination that the US 50: US 301 to MD 404 project would have an adverse effect on historic properties. The project will now be completed in a series of up to eight construction phases. The purpose of this letter is to update you on the current alignment for Construction Phase I, from Bloomingdale Road to 400 feet east of Carmichael Road, and to inform you of our finding that the project, as modified, would have an adverse effect on historic properties.

The first phase of the project includes an overpass at Carmichael Road, a new element that replaces the previously proposed Bloomingdale Road interchange. An overpass is to be constructed just east of existing Carmichael Road, connecting to a new service road north of and parallel to US 50. The median break will be eliminated on US 50 and right-in/right-out movements will be allowed at Carmichael Road. The service road will extend from the Carmichael Road overpass and will tie into Bloomingdale Road. The typical section provides two 11-foot lanes with 6-foot shoulders. The service road would require strip right-of-way acquisition along the frontage of the Bloomingdale entrance drive totaling 0.25 acre from the historic property. The proposed limit of disturbance extends about 54 feet north of the existing right-of-way line at the allée of trees along the Bloomingdale entrance, and would require removing two 20th century brick pillars on either side of the drive, as well as the three southernmost trees. The proposed edge of paving extends about 26 feet beyond the existing right-of-way.

Existing Carmichael Road is to be shifted to the east to minimize impacts to the Rhodes Farm. However, at the tie-in to existing Carmichael Road and the adjacent drainage ditch approximately 1100 feet south of US 50, we will have 0.18 acre of impacts to this farm. Plans are included as Attachment 1.

Funding: Federal

Identification of Area of Potential Effect

The proposed interchange is within the original Area of Potential Effects (APE).

*2pc BC 8/27/02
consultation needed
planning projects*

My telephone number is _____

Maryland Relay Service for Impaired Hearing or Speech
1-800-735-2258 Statewide Toll Free

Mailing Address: P.O. Box 717 • Baltimore, MD 21203-0717
Street Address: 707 North Calvert Street • Baltimore, Maryland 21202

*PK
2/1/02*

Mr. J. Rodney Little
US 50: from US 301 to MD 404

Identification Methods and Results

Potentially significant architectural and archeological resources were both researched as part of the historic investigation for Phase I of the proposed US 50 project.

Architecture: The only historic properties listed on or eligible for inclusion in the National Register of Historic Places (NRHP) within the APE of the current project are Bloomingdale (QA-4), Rhodes Farm (QA-502) and the Pippin Farm (QA-503), as shown on Attachments 2 and 3, the SHA Wye Mills quadrangle.

Bloomingdale (QA-4)--The Phase I project involves constructing an overpass just east of Carmichael Road that will connect to a new service road on the north side of US 50, tying into Bloomingdale Road. The median break will be eliminated on US 50 to allow right-in and right-out turns at Bloomingdale Road. The service road will require closing access from Bloomingdale onto US 50, and relocating access to the proposed service road. Secondary access on Bloomingdale Road will also be retained. A decorative barrier will be installed between the service road and westbound US 50. The two brick pillars, which are not contributing elements to the site, will be set back and replaced or reconstructed. The service road will require the acquisition of 0.25 acre from the historic property (8.69 acres from the overall tax parcel), resulting in an adverse impact. As the overpass would be built on a structure and would be visible from the historic site, the project would also introduce elements affecting those characteristics qualifying Bloomingdale for listing in the NRHP.

Rhodes Farm (QA-502)--Existing Carmichael Road is to be shifted to the east to minimize impacts to the Rhodes Farm. However, the alignment must tie into existing Carmichael Road approximately 1100 feet south of US 50, where we will have 0.18 acre of acquisition from the boundary of the Rhodes Farm, resulting in an adverse impact. As the overpass would be built on a structure and would be visible from the historic site, the project would also introduce elements affecting those characteristics qualifying Rhodes Farm for listing in the NRHP.

Pippin Farm (QA-503)--This frame dwelling is located at the end of a long driveway, approximately 600 feet south of US 50 and is buffered from the roadway by vegetation and an expanse of farmland. The nominated property encompasses ca. six acres. This alternate would not require any property from the site. However, in that the roadway would be relocated closer to the historic structure, and would be visible, as the overpass would be built on a structure, we have determined that the Pippin Farm would incur an adverse impact, as it would introduce elements affecting those characteristics qualifying the resource for listing in the NRHP.

Archeology: SHA archeologist Richard Ervin re-assessed the archeological potential of the US 50 project based on revised plans, including a new concept for an overpass at Carmichael Road. The assessment, provided below, was based on examination of previous archeological studies, historic maps and references, topographic maps, soil maps, and the site files. The project was previously examined by Fiedel (1999; SHA Archeological Report 180), and no significant archeological resources were identified.

The re-assessment for the Sportsman Neck overpass (Phase II of construction), which recommends supplemental archeological survey, is also provided for your information.

Mr. J. Rodney Little
US 50: from US 301 to MD 404
Page Three

No archeological sites have previously been recorded near the proposed Carmichael Road overpass, and no structures are shown on the 1877 Atlas. At no point is the proposed overpass closer than 150 m to an unnamed stream headwater, with distances of several hundred meters being more common. It is about 1 km from Alice's Branch, the nearest larger stream. Impacts will occur along Bloomingdale (NR-98) and the Rhodes Farm (QA-502), but significant archeological resources are unlikely to be present along the frontage of the properties, where impacts will occur. Based on the negative results of Fiedel's (1999) survey, and the overpass's distance from the surface water, no further work is warranted for construction Phase I.

The Sportsman Neck overpass is in an area overlooking the tidal headwaters of the Wye River. No archeological sites have previously been recorded there, and the 1877 atlas depicts one structure east of Sportsman Neck Road ('C. I. B. Mitchell'), which may have been destroyed when US 50 was built. Matthews' (1966) soil survey maps show that Sportsman Neck Road formerly extended north of US 50, along the proposed overpass alignment. The project area lies on the east bank of the Wye River, and will impact areas of well-drained Matapeake soils. Undisturbed parts of this area are considered likely to contain significant archeological resources.

Supplemental Phase I archeological survey will be undertaken at the Sportsman Neck overpass, and the results will be coordinated with the Trust when available. No further investigations are warranted at the Carmichael Road overpass, as part of Phase I of Construction.

Proposed Mitigation

Because the project will have an adverse impact to Bloomingdale, Rhodes Farm, and Pippin Farm, we have considered avoidance, minimization, and mitigation options. Avoidance is not feasible, as the proposed alignment has been established to minimize impacts to the Rhodes Farm. The proposed service road was placed to the north of US 50 to avoid impacts to Rhodes Farm, and Carmichael Road was relocated to the east of its existing alignment for the same reason. Any changes to reduce impacts to Bloomingdale and Pippin Farm would incur greater impacts on the Rhodes Farm. Only minor right-of-way acquisition (0.18 acre) will be needed at Rhodes Farm to tie into the existing road and drainage ditch. We will continue to explore design options to further reduce this impact.

The service road would impact the southern 54 feet of the allée of trees at Bloomingdale, and would take three trees and the non-historic entry pillars at the entrance. These impacts have already been minimized by our proposal to place a brick-covered concrete barrier between US 50 and the service road, which reduces right-of-way requirements. We will continue to explore design options to further reduce impacts to Bloomingdale. As mitigation, we propose in-kind replacement of the entry pillars at the new entrance, and new plantings to fill gaps in the allée of trees along the drive. To mitigate adverse visual impacts to all three properties, we propose to coordinate a landscape plan for the overpass that would soften its view and blend the structure into the existing landscape, perhaps by planting vegetation similar to that in nearby forested areas.

In the near future, we will consult with interested parties, including the affected property owners, in order to draft a Memorandum of Agreement stipulating our actions to mitigate the project impacts. Attachment 4 provides copies of Historic Site forms for property owners Ms. Mary Pippin and Mr. J. Thomas Rhodes. By copy of this letter, we welcome any preliminary comments or suggestions that the three landowners, the Planning Commission for Queen Anne's County, or the Maryland Historical Trust may have on our proposed mitigation plan.

Mr. J. Rodney Little
US 50: from US 301 to MD 404
Page Four

Review Request

We request your concurrence by August 19, 2002 with our determination that the Phase I project on US 50 from Bloomingdale Road to 400 feet east of Carmichael Road, would have an adverse effect on historic properties, as summarized in Attachment 5 (Eligibility and Effect Table). We also seek your concurrence with our assessments of further work. By carbon copy, we invite the Planning Commission for Queen Anne's County to provide comments and participate in the Section 106 process. Pursuant to the implementing regulations found at 36 CFR Part 800, SHA seeks its assistance in identifying historic preservation issues related to this project (see 36 CFR 800.2 (c) (4) and (6), and 800.3 (f) for information regarding participation of consulting parties, and 800.4 and 800.5 regarding identification of historic properties and assessment of effects). For additional information regarding the Section 106 regulations, see the Advisory Council on Historic Preservation's website, www.achp.gov, or contact the Maryland State Highway Administration or the Maryland Historical Trust. The SHA Project Planning Division may be reached at 1-866-527-0502. If no response is received by August 19, we will assume that these offices decline to participate. Please contact Ms. Rita Suffness at 410-545-8561 or rsuffness@sha.state.md.us with questions regarding standing structures for this project. Richard Ervin may be reached at 410-545-2878 or rervin@sha.state.md.us with concerns regarding archeology.

Very truly yours,

Cynthia D. Simpson
Deputy Director
Office of Planning and
Preliminary Engineering

by: B. M. Grey
Bruce M. Grey
Deputy Division Chief
Project Planning Division

- Attachments: 1) Project Plans
2) SHA Wye Mills Quad with Inventoried Resources
3) SHA Wye Mills Quad with APE indicated
4) Copies of Historic Site Summary Forms (to landowners)
5) Eligibility and Effect Table

- cc: Mr. Stephen Ches, SHA-OHD
Mr. Richard Ervin, SHA-PPD (w/Attachments 1-3,5)
Mr. James Foor, Queen Anne's County Planning Commission (w/Attachments 1-3,5)
Mr. Joseph Kresslein, SHA-PPD
Ms. Mary Pippin, Pippin Farm (w/Attachments)
Mr. J. Thomas Rhodes, Rhodes Farm (w/Attachments)
~~Ms. Shannon Rousey, SHA-PPD~~ (w/Attachments 1-3,5)
Ms. Cynthia D. Simpson, SHA-PPD
Mr. Donald H. Sparklin, SHA-PPD
Ms. Rita Suffness, SHA-PPD (w/Attachments 1-3,5)
Ms. Betty Lee Taylor, Bloomingdale (w/Attachments)

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Mr. J. Rodney Little
US 50: from US 301 to MD 404
Page Five

Concurrence with the MD State Highway Administration's
Determination(s) of Eligibility and/or Effects

Project Number: QA508B23 MHT Log No. 200202847
Project Name: US 50 Phase I: Bloomingdale Rd to 400 Feet East of Carmichael Road
County: Queen Anne's
Letter Date: July 17, 2002

The Maryland Historical Trust has reviewed the documentation attached to the referenced letter and concurs with the MD State Highway Administration's determinations as follows:

Eligibility:
 Concur
 Do Not Concur

Effect (as noted in the Effect Table [Attachment 5]):
 No Properties Affected
 No Adverse Effect
 Conditioned upon the following action(s) (see comments below)
 Adverse Effect

Agreement with FHWA's Section 4(f) criteria of temporary use:
 Agree

Comments:
FURTHER CONSULTATION NEEDED AS PLANNING PROCEEDS.

By: *JML* MD State Historic Preservation Office/
Maryland Historical Trust Date 10-4-02

Return by U.S. Mail or Facsimile to:
Mr. Bruce M. Grey, Deputy Division Chief, Project Planning Division,
MD State Highway Administration, P.O. Box 717, Baltimore, MD 21203-0717
Telephone: 410-545-8540 and Facsimile: 410-209-5004



Robert L. Ehrlich, Jr.
Governor
Michael S. Steele
Lt. Governor
Victor L. Hoskins
Secretary
Shawn S. Karimian
Deputy Secretary

October 6, 2003

Mr. Bruce M. Grey
Deputy Division Chief
Project Planning Division
State Highway Administration
707 North Calvert Street
P.O. Box 717
Baltimore, MD 21202-0717

RE: Project No. QA508B23
US 50: US 50/301 Split to MD 404
Queen Anne's County, Maryland

Dear Mr. Grey:

Thank you for providing the Maryland Historical Trust (Trust) the opportunity to comment on the Memorandum of Agreement (MOA) for the above referenced project. We are enclosing a signed original copy of the MOA.

At your convenience, please forward a copy of the fully executed MOA to the Trust for our files. If you have questions or require additional information, please contact me at 410-514-7637/tamburrino@dhcd.state.md.us or Beth Cole at 410-514-7631/cole@dhcd.state.md.us.

Sincerely,

Tim Tamburrino
Preservation Officer
Project Review and Compliance

EJC/TJT
200300519

cc: Mr. Don Sparklin (SHA)
Ms. Mary F. Barse (SHA)

IV-6



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**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL HIGHWAY ADMINISTRATION,
THE MARYLAND STATE HISTORIC PRESERVATION OFFICER,
AND THE MARYLAND STATE HIGHWAY ADMINISTRATION,
PURSUANT TO 36 CFR § 800.6(b)
REGARDING US 50
FROM THE US 50/301 SPLIT TO MD 404**

WHEREAS, the Federal Highway Administration (FHWA) proposes to assist the Maryland State Highway Administration (SHA) with the re-construction of US 50 from the US 50/301 split to MD 404 (Undertaking); and,

WHEREAS, after detailed study of various alternates, and to avoid and minimize certain project impacts, the SHA has selected Alternate 2 for construction; and,

WHEREAS, the FHWA has determined that the Undertaking will have an adverse effect on the following properties listed on or eligible for the National Register of Historic Places (National Register): Bloomingdale (NR-98, QA-4), the Rhodes Farm (QA-502), and the Pippin Farm (QA-503); and,

WHEREAS, the FHWA has consulted with the Maryland State Historic Preservation Officer (MD SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 USC § 470f); and,

WHEREAS, the FHWA has notified the Advisory Council on Historic Preservation (Council) and it has declined to participate in the consultation; and,

WHEREAS, the Maryland SHA has participated in consultation, has responsibilities for implementing stipulations under this Memorandum of Agreement (MOA), and has been invited to be a signatory to this MOA;

NOW, THEREFORE, FHWA, SHA and the MD SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account its effect on historic properties.

STIPULATIONS

The FHWA and SHA will ensure that the following measures are carried out:

I. Mitigation Measures at Bloomingdale (QA-4).

A) Design Features:

- 1) SHA shall minimize removal of existing vegetation along the frontage of the historic site boundary of Bloomingdale to minimize the visual intrusion of the roadway.
- 2) SHA shall reconstruct the brick pillars at the entrance to the property.
- 3) In consultation with the property owner, SHA shall identify areas along the entrance road to the property where replacement trees of comparable type but not size could be planted to supplement those currently in place.

- 4) In conjunction with the design of the Carmichael Road overpass, SHA shall design and implement a landscape plan for the frontage of the historic property along US 50 in order to lessen visual intrusion of roadway features.
- B) **Plans:** At Final Design, SHA shall submit plans and material specifications for the design of the roadway and overpass, retaining wall, replacement of the brick pillars, re-planting of the entrance road (allée), and landscaping for a 30 day review and approval of the MD SHPO.

II. Mitigation Measures at Rhodes Farm (QA-502).

- A) **Design Features:**
- 1) SHA shall minimize removal of existing vegetation along the frontage of the historic site boundary of the Rhodes Farm to minimize the visual intrusion of the roadway.
 - 2) In conjunction with the design of the Carmichael Road overpass, SHA shall design and implement a landscape plan for the frontage of the historic property along US 50 in order to lessen visual intrusion of roadway features.
- B) **Plans:** SHA shall submit plans and material specifications for the design of the roadway, overpass, and landscaping for a 30 day review and approval of the MD SHPO.

III. Mitigation Measures at Pippin Farm (QA-503).

- A) **Design Features:** In conjunction with the design of the Carmichael Road overpass, SHA shall design and implement a landscape plan for the SHA right-of-way along US 50 and Carmichael Road in order to lessen visual intrusion of roadway features.
- B) **Plans:** SHA shall submit plans and material specifications for the design of the roadway, overpass, and landscaping for a 30 day review and approval of the MD SHPO.

IV. Identification, Evaluation, and Treatment of Historic Properties

- A) **Identification and Evaluation:** Prior to the selection of sites for wetland or other environmental mitigation, or other ancillary construction activities that are outside the project's defined APE, SHA shall consult with the MD SHPO to determine the effect on historic properties. If warranted, SHA shall undertake a survey adequate to identify and evaluate for National Register eligibility any historic properties that may be affected by these activities. In consultation with the MD SHPO, SHA shall apply the National Register criteria to each potentially significant property identified in the survey(s). For each National Register eligible property, SHA, in consultation with the MD SHPO, shall then apply the Criteria of Adverse Effect as stipulated in 36 CFR § 800.5. All work shall be accomplished in accordance with the performance standards outlined in Stipulation VIII below.
- B) **Treatment:** If the effect is not adverse, SHA shall obtain the MD SHPO's concurrence, and the action may proceed. If an adverse effect to historic properties is found, SHA shall consult with the MD SHPO to seek ways to avoid

or reduce the impacts on historic properties by relocating or modifying the proposed action. If avoidance of adverse impacts proves unfeasible or impractical, SHA and the MD SHPO shall consult to develop and implement a treatment plan. All work shall be accomplished in accordance with the performance standards outlined in Stipulation VIII below.

V. Identification, Evaluation, and Treatment of Archeological Resources.

All work shall be accomplished in accordance with performance standards outlined in Stipulation VIII below.

- A) **Identification:** In consultation with the MD SHPO, SHA shall assess the archeological potential of, and if warranted, complete and report archeological identification efforts in those parts of the Area of Potential Effect (APE) subject to ground disturbance for which surveys have not been completed. Such areas include design changes, proposed wetland or other mitigation sites, stormwater management areas, or any other modifications to project design that impact areas not previously considered for archeological resources. The purpose of this work is to identify archeological resources potentially eligible for inclusion in the National Register.
- B) **Evaluation:** In consultation with the MD SHPO, SHA shall evaluate the National Register eligibility of any potentially significant sites recorded by additional identification efforts that might be impacted by changes to the project's design or other ancillary activities. Evaluations shall be done in accordance with 36 CFR § 800.4(c), and using the criteria outlined in Bulletin 15, *Guidelines for Applying the National Register Criteria for Evaluation*, published by the National Park Service.
- C) **Treatment:** If archeological evaluation identifies properties eligible for inclusion in the National Register, SHA shall develop a plan for their avoidance, protection, recovery or destruction without recovery, and public education/interpretation in consultation with the MD SHPO. SHA shall submit the treatment plan to the MD SHPO for a 30 day review period. Unless the MD SHPO objects within 30 days of receipt of the plan, SHA shall ensure that archeological fieldwork required by the treatment plan is completed prior to project ground disturbing activities within or immediately adjacent to the site area(s).

Should data recovery investigations be warranted, the SHA shall ensure that the data recovery plan developed in consultation with the MD SHPO is consistent with the performance standards outlined in Stipulation VIII, and shall specify, at a minimum:

- 1) the property, properties, or portions of properties where data recovery is to be carried out, and any property that will be destroyed without data recovery;
- 2) research questions to be addressed through data recovery, with an explanation of their relevance and importance; the research methods to be used, with an explanation of their relevance to the research questions; and, the methods to be used in analysis, data management, and data dissemination, including a schedule;
- 3) proposed disposition of recovered materials and records;

- 4) proposed methods for involving the interested public in the data recovery, and for disseminating the results of the work to the interested public; and, a proposed schedule for the submission of progress reports to the MD SHPO.

SHA shall afford the MD SHPO an opportunity to meet on-site to evaluate the success of the fieldwork phase of any data recovery program. SHA shall submit a management summary to the MD SHPO documenting the completion of fieldwork for 15 day review. Upon receipt of written concurrence from the MD SHPO, SHA may proceed with construction within the site area concurrently with completion of the remaining laboratory, analyses, and reporting phases of the data recovery work.

- D) **Reporting:** SHA shall document the results of archeological survey, evaluation, and mitigation in archeological reports responsive to contemporary professional standards, and in accordance with the performance standards outlined in Stipulation VIII. SHA shall provide the MD SHPO with an opportunity to provide review and comment on all draft reports, and all comments shall be addressed by final reports. SHA shall ensure that all final archeological reports resulting from actions pursuant to this agreement will be provided to the MD SHPO and other repositories as appropriate.

VI. Unanticipated Discoveries of Archeological Resources

In the event that unanticipated archeological resources are discovered during ground disturbing activities, SHA shall halt work involving subsurface disturbance in the area of the resource and in the surrounding area where further subsurface remains can reasonably be expected to occur. SHA shall immediately notify the MD SHPO of the discovery. SHA and the MD SHPO, or an archeologist approved by them, shall immediately inspect the work site and determine the area and nature of the affected archeological resource. Construction work may then continue outside the archeological resource as defined by SHA and the MD SHPO.

Within 48 hours of the original notification of discovery, SHA shall consult with the MD SHPO to determine the National Register eligibility of the resource. If the resource is determined eligible for the National Register, SHA shall provide at the same time a plan for its avoidance, protection, and recovery, or destruction without recovery. The plan shall be submitted for the approval of the MD SHPO prior to implementation, in accordance with 36 CFR § 800.13 (b)(3).

Work in the affected area shall not proceed until either:

- Appropriate data recovery or other recommended mitigation measures are developed and implemented, or
- The determination is made that the located remains are ineligible for inclusion in the National Register.

Any disputes over the evaluation or treatment of previously unidentified archeological resources will be resolved using the process outlined in Stipulation VIII.D of this Agreement.

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VII. Treatment of Human Remains

In the event that human remains, burials, or funerary objects are discovered during archeological investigations, SHA shall immediately notify the MD SHPO of the discovery. Disturbance to the site shall be kept to the minimum necessary to determine the presence or absence of human remains, burials, and associated funerary objects, the horizontal extent of identified remains or objects, and if feasible without extensive disturbance, the time period and ethnicity of the identified remains. SHA, in consultation with the MD SHPO (and other interested parties, as appropriate), shall develop a plan for the treatment of the remains.

In the event that human remains, burials, or funerary objects are discovered during construction, SHA shall immediately halt subsurface construction disturbance in the area of the discovery and in the surrounding area where additional remains can reasonably be expected to occur. SHA shall immediately notify the MD SHPO of the discovery.

SHA and the MD SHPO, or an archeologist approved by them, shall immediately inspect the work site. Disturbance shall be kept to the minimum necessary to determine the presence or absence of human remains, burials, and associated funerary objects, the horizontal extent of identified remains or objects, and if feasible without extensive disturbance, the time period and ethnicity of the identified remains. The SHA and the MD SHPO shall delineate the area of human remains that will be off-limits to construction until resolution of a treatment plan. Within 48 hours of the original notification of discovery, SHA, in consultation with the MD SHPO (and other interested parties, as appropriate), shall develop a plan for the treatment of the remains.

If feasible, preservation in place is the preferred option for treatment of human remains. The appropriate treatment of those remains shall be implemented in accordance with Maryland State burial law (Title 10 Subtitle 4 (§10-401 through §10-404) Annotated Code of Maryland). The treatment plan shall be submitted for the approval of the MD SHPO prior to implementation, in accordance with 36 CFR § 800.13 (b)(3). Work in the affected area shall not proceed until development and implementation of appropriate treatment plan or other recommended mitigation measures.

VIII. Administration

- A) **Professional Qualifications:** SHA shall ensure that all archeological work carried out pursuant to this agreement is conducted by or under the direct supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-9 and 36 CFR Part 61) for Archeologists. All architectural work shall be carried out by or under the direct supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualification Standards (48 FR 44738-9 and 36 CFR Part 61) for Architectural History.
- B) **Standards and Guidelines:** All cultural resource work carried out pursuant to this agreement shall be done in accordance with the principles and standards contained in:
- Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716-44742);
 - Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites (ACHP 1999);
 - Consulting About Archeology Under Section 106 (ACHP 1990);

- Standards and Guidelines for Archeological Investigations in Maryland (Shaffer and Cole 1994);
- Standards and Guidelines for Architectural and Historical Investigations in Maryland (Maryland Historical Trust 2000).

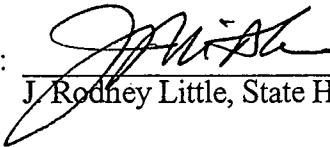
- C) **Curation:** SHA shall ensure that all materials and records (including recovered artifacts, documentation, maps, and photographs) generated by the project for which clear title can be obtained shall be submitted to the MD SHPO for curation in accordance with the Memorandum of Understanding for Curatorial Services between the SHA and the Maryland Historical Trust (as amended 2001).
- D) **Dispute Resolution:** Should the MD SHPO object within 30 days to any documents submitted for review or actions proposed pursuant to this agreement, the FHWA shall consult with the objecting party to resolve the objection. If the FHWA determines that the objection cannot be resolved, the FHWA shall request the comments of the Council pursuant to 36 CFR § 800.7. Any Council comment provided in response to such a request will be taken into account by the FHWA with reference only to the subject of the dispute; the FHWA's responsibility to carry out all actions under this agreement that are not subjects of the dispute will remain unchanged.
- E) **Amendment:** If one of the signatories believes that the terms of the MOA cannot be carried out, or that an amendment to the terms must be made, that signatory shall immediately consult with the other signatories to develop amendments. If an amendment cannot be agreed upon, the dispute resolution process set forth in Stipulation VIII.D. shall be followed.
- F) **Termination:** Any signatory to this Agreement may terminate the Agreement by providing 30 days written notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that would avoid termination. Termination of this Agreement would require compliance with 36 CFR 800. This Agreement may be terminated by the execution of a subsequent agreement that explicitly terminates or supercedes its terms.
- G) **Duration:** This MOA shall be null and void if its terms are not carried out within 7 (seven) years from the date of its execution. Should all parties deem an extension to this MOA necessary, such extension shall be treated as an Amendment under Stipulation VIII.E above.

Execution of this MOA by FHWA, SHA and the MD SHPO, its subsequent submission to the Council and implementation of its terms, evidence that FHWA and SHA have afforded the signatories an opportunity to comment on the project and its effects on historic properties, and that FHWA and SHA have taken into account the effects of the undertaking on historic properties.

FEDERAL HIGHWAY ADMINISTRATION

By: _____ Date: _____
Nelson J. Castellanos, Division Administrator

MARYLAND STATE HISTORIC PRESERVATION OFFICER

By:  _____ Date: 10-6-03
J. Rodney Little, State Historic Preservation Officer

MARYLAND STATE HIGHWAY ADMINISTRATION

By: _____ Date: _____
Neil J. Pedersen, Administrator



TALBOT COUNTY HISTORIC PRESERVATION COMMISSION

COURT HOUSE
11 N. WASHINGTON STREET
EASTON, MARYLAND 21601
Phone 410-770-8030
Fax 410-770-8013

12 March 2003

To: Bruce M. Grey
Deputy Division Chief
Project Planning Division
Maryland Department of Transportation
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

Ref: Project No. QA508B23
US 50: US 50/301 Split to MD 404
Queen Anne's County, MD, USGS Queenstown & Wye Mills Quadrangles
Draft Memorandum of Agreement

Dear Mr. Grey:

The Talbot County Historic District Commission is in receipt of your letter of 11 February 2003 to Mr. J. Rodney Little, State Historic Preservation Officer regarding the Draft Memorandum of Agreement (MOA) for the above referenced project.

It is our Commission's understanding that eight properties listed in or eligible for the National Register of Historic places are within the Area of potential Effect (APE) as delineated on the project plans attached to your 11 February 2003 letter. Of the eight historic properties identified, only one, the Hasset House / M.E. Rhodes Property (T-71) is located in Talbot County and within the APE. Further, it is our understanding that Alternate 2 will have no adverse effect on the Hasset / M.E. Rhodes property. Further, the Maryland Historical Trust has concurred with the SHA's Determination of Effect.

Our Commission has reviewed the Draft MOA and finds the Draft MOA acceptable for historic resources located in Talbot County. In addition our Commission finds the process outlined in the Draft MOA for supplemental identification, evaluation, treatment and late discovery acceptable.

Should you have any questions concerning our concurrence, please feel contact me through the Talbot County Office of Planning and Zoning at the address and phone listed above.

Sincerely:

Mark A. Bower, Chairman



U.S. Department
of Transportation
Federal Highway
Administration

Maryland Division
The Rotunda
711 West 40th Street, Suite 220
Baltimore, Maryland 21211

January 15, 2004

Mr. Neil Pedersen
State Highway Administrator
Maryland State Highway Administration
707 N. Calvert Street
Baltimore, Maryland 21202

JAN16'04 AM10:37 OPPE

Dear Mr. Pedersen:

Re: US 50: US 301 Split to MD 404, Queen Anne's County, Maryland
Environmental Reevaluation

This letter is in response to your December 3, 2003 request for our approval of the FONSI reevaluation for the US 50 from the US 301 Split to MD 404 project. Since the FONSI was approved in 1987, there have been several major design modifications to the Selected Alternate as a result of public comments. These modifications include the addition of service roads and interchange options.

After reviewing the reevaluation, the environmental impacts of the current design have increased over the impacts caused by the Selected Alternate and in some cases, significantly. Due to boundary changes and the addition of service roads and interchange options, the project now has an adverse effect on several cultural resources in the project area, which has necessitated the need for a Section 4(f) Evaluation. Also, the project will be impacting approximately 92 acres of Delmarva Fox Squirrel habitat and although the current trapping results concluded that no fox squirrels were found, we still need to complete a Biological Assessment to determine the significance of our impacts. In addition to the above environmental consequences of the current design, wetland, forest, and floodplain impacts have also increased, in some cases the impacts have doubled since the FONSI Selected Alternate. The current design also displaces additional low-income and minority residents. Although the FONSI addressed the impact of displacing some minority and low-income residents, the policies protecting these residents have changed since approval of the 1987 FONSI and therefore, should be readdressed to determine the significance of this impact.

Therefore, we are unable to approve the reevaluation at this time and recommend a supplemental Environmental Assessment be prepared to determine the significance of

the above changes. We look forward to working with SHA to resolve the above issues and to complete the supplemental documentation. Should you have any questions, please contact Ms. Caryn Brookman of my staff at 410-779-7146.

Sincerely yours,



Nelson Castellanos
Division Administrator

cc:

- Ms. Caryn Brookman, FHWA
- Mr. Steve Ches, SHA
- Ms. Patricia Greene, SHA
- Ms. Deirdre Johnson, FHWA
- Mr. Joseph Kresslein, SHA
- Mr. Ivan Marrero, FHWA
- Ms. Cynthia Simpson, SHA
- Mr. Doug Simmons, SHA



October 28, 1998

Maryland Department of Housing and Community Development

Division of Historical and Cultural Programs

100 Community Place
Crownsville, Maryland 21032

410-514-7600

1-800-756-0119

Fax: 410-987-4071

Maryland Relay for the Deaf:

1-800-735-2258

<http://www.dhcd.state.md.us>

Parris N. Glendening
Governor

Patricia J. Payne
Secretary

Raymond A. Skinner
Deputy Secretary

Ms. Cynthia D. Simpson
Deputy Division Chief
Project Planning Division
State Highway Administration
707 North Calvert Street
P.O. Box 717
Baltimore, Maryland 21203-0717

RE: Project No. QA508B21
US 50: from west of the US50/301 Split to MD 404
Queen Anne's and Talbot Counties, Maryland

Cynthia
Dear Ms. Simpson:

Thank you for your recent letter, dated 21 September 1998 and received by the Trust on 23 September 1998, regarding the above-referenced project. Your correspondence reinitiated Section 106 consultation for the proposed undertaking, due to changes in the project scope and the length of time which has transpired since the project's original Section 106 review. Our comments and concurrence with SHA's identification and evaluation of historic properties and assessment of effects are presented below and in the attachments to this letter.

IDENTIFICATION AND EVALUATION

Archeology: We have reviewed a copy of the following draft archeological report, prepared by John Milner Associates, Inc.: *Phase IB Archeological Survey, US 50 from MD 18 to MD 404, Queen Anne's County, Maryland* (Fiedel 1998). The report provides concise documentation of the survey's goals, methods, results, and recommendations. The draft meets the reporting requirements of the *Standards and Guidelines for Archeological Investigations in Maryland* (Shaffer and Cole 1994).

The survey identified one archeological site, 18QU291, within the project area. The site appears to represent the archeological component of the historic structure identified as the Ryans Farm (QA-500), although neither the draft report nor SHA's correspondence associates the above and below ground resources with each other. The farmhouse was constructed in ca. 1862 and reportedly moved to its current location at an unknown date. Shovel testing uncovered a light scatter of historic artifacts dating from the 19th and 20th c. from a disturbed fill deposit which was likely related to a gravel paved driveway/parking area between the house and garage. Testing did not identify any intact features or cultural deposits. We agree with SHA that 18QU291 does not meet the criteria for eligibility in the National Register of Historic Places due to its lack of information potential and integrity. No further consideration of this site is warranted.



Ms. Cynthia D. Simpson
September 28, 1998
Page 2

We have a few minor comments on the draft itself. We ask SHA to have the consultant address the issues listed in Attachment 1, in addition to SHA's remarks, in the preparation of the final report. We look forward to receiving two copies of the final report, when available.

Architecture: We have reviewed the information provided by SHA, including letters written by Trust staff members in 1979 and 1985, and the new forms provided by SHA for previously unsurveyed properties in the Queen Anne's and Talbot Counties area of U.S. 50. Five properties were included in the previous Section 106 consultation for this general project area, and were then determined to be eligible for the National Register. Hammond Farm has been demolished and thus has not been reconsidered. Because the other properties were determined **eligible** for the National Register, that determination is still in effect for the remaining historic properties. SHA has requested an increase for the eligible property boundary for Bloomingdale, and we concur with that increase, since the allée of trees is the historic entrance to the property. However, we would request that SHA submit the new documentation as an addendum to the inventory form, since a new nomination would need to be generated in order to formally change Bloomingdale's National Register boundary. The addendum should be submitted on acid free bond paper.

Of the eight remaining properties which were newly surveyed, the Trust concurs with SHA's eligibility determinations that two properties Rhodes Farm, QA-502; and Phippen Farm, QA-503, **are eligible** for inclusion in the National Register of Historic Places. However, the remaining six properties are **not eligible**. See the attached Determination of Eligibility chart (Attachment 2) for further comments. The forms which SHA has provided are acceptable and have been forwarded to the Trust's library for accessioning.

ASSESSMENT OF EFFECTS

Based on the documentation submitted by SHA, we concur that construction of the undertaking as currently proposed will have an *adverse effect* on historic properties. As you will note in the attached chart however, the Trust disagrees with SHA's assessment of the impact on the Sally Harris House (QA-122). In 1979, the Trust determined that the then-current tax parcel for the property would be the National Register boundary. Based on the information provided in your letter (see Attachment 22), it appears that the boundary extends along the driveway and U.S. 50. The addition of an 800 (eight hundred) foot wall with an after height of 6 (six) feet will severely alter the setting of this historic property and its traditional entrance, particularly if a large portion of the present landscape

Ms. Cynthia D. Simpson
September 28, 1998
Page 3

screen is removed. It is the Trust's view that this impact will cause no adverse effects, providing that the following condition is met:

A landscaping plan will be developed to return some landscaping screen to the site.

We look forward to working with SHA and FHWA staff to develop a Memorandum of Agreement which will address ways to mitigate the impacts of this project on historic properties.

We appreciate the thorough documentation which SHA compiled and presented to support its Section 106 coordination for this project. However, we note that closer attention to the integration of architectural and archeological documentation would have enhanced the submittal. SHA's *Hybrid Eligibility/Effect Table* (Attachment 17 to your correspondence) should have included the archeological site (18QU961) identified and evaluated for this project with the entry for Ryans House (QA-500). The archeological report should have incorporated the results of the architectural survey, particularly where those results involve overlapping resources.

If you have questions or require additional information, please call Ms. Anne Bruder (for structures) at (410) 514-7636 or Ms. Beth Cole (for archeology) at (410) 514-7631. Thank you for your cooperation and assistance.

Sincerely,



J. Rodney Little
Director/State Historic
Preservation Officer

JRL/EJC/AEB
9802889

- cc: Mr. Bruce Grey
- Dr. Charles Hall
- Ms. Rita Suffness
- Ms. Pam Stephenson

Ms. Cynthia D. Simpson
September 28, 1998
Page 4

**ATTACHMENT 1
MHT COMMENTS ON DRAFT REPORT
PHASE I ARCHEOLOGICAL SURVEY**

1. The Results section must provide a more detailed description and interpretation of identified site 18QU961. Greater discussion of recovered artifacts is needed.
2. As noted in the letter above, the report should incorporate the architectural survey results for site 18QU961, as well as any other overlapping resources in the project area.
3. The evaluation of National Register eligibility for 18QU961 should reference the National Register criteria for evaluation (36CFR60.4).
4. The artifact inventory (Appendix I) must include the pertinent site inventory number, "x" number designation, and lot numbers for the artifacts listed.

**ATTACHMENT 2: DETERMINATION OF ELIGIBILITY AND EFFECT
CHART FOR U.S. 50 EXPANSION**

MHT INVENTORY NUMBER	PROPERTY NAME	SHA DETERMINATION OF ELIGIBILITY	MHT DETERMINATION OF ELIGIBILITY	COMMENTS
QA-4	Bloomingtondale	Listed	Listed	We concur with the additional boundary to include the allée of trees extending from US 50 to the House along the driveway. We also concur that the present plans will cause adverse impacts to this historic property.
QA-122	Sally Harris House	Eligible	Concur -- eligible	The retaining wall will cause No Adverse Impact on the historic property. SHA should provide a DOE form for this property.
QA-126	Hiram Hammond House	Not Eligible -- demolished	Concur -- not eligible	Can SHA state when the property was demolished? A DOE form would be helpful.
QA-208	Chesapeake College	Not Eligible	Concur -- not eligible	However, SHA should prepare a DOE form for this property.
QA-209	St. Peters Church	Eligible	Concur -- eligible	This property should also have a DOE form prepared for it. We concur with the No Adverse Impact determination.
QA-440	Sally Harris Mill Site	Eligible	Eligible	We do not have any information on this site. SHA should provide a DOE form.
QA-498	Arrington Road House	Not Eligible	Concur -- not eligible	
QA-499	Miller Farm	Not Eligible	Concur -- not eligible	
QA-500	Ryans Housc	Not Eligible	Concur -- not eligible	
QA-501	Mills Farm	Not Eligible	Concur -- not eligible	
QA-502	Rhodes Farm	Eligible	Concur -- eligible	This property is eligible under Criterion C as an example of rural architecture, and the Rhodes Farm is also eligible under Criterion A as an example of nineteenth century farm practices. We concur with the Adverse Impact determination.
QA-503	Pippen Farm	Eligible	Concur -- eligible	This property is eligible under Criterion C as an example of nineteenth century rural architecture. We concur with the No Adverse Impact Determination.
QA-504	James Hynson House	Not Eligible	Concur -- not eligible	
QA-506	John Littig House	Not Eligible	Concur -- not eligible	
T-71	Hassett Housc	Eligible	Concur -- eligible	We concur with the previous determination of no adverse impact conditioned upon landscaping.

EV-21



U.S. Department
of Transportation
**Federal Highway
Administration**

Maryland Division
The Rotunda
711 West 40th Street, Suite 220
Baltimore, Maryland 21211

January 24, 2003

Mr. John P. Wolfen
Field Supervisor
US Fish and Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401

Dear Mr. Wolfen:

Re: US 50: US 301 Split to MD 404 and MD 404: US 50 to East of
Denton Bypass Projects Delmarva Fox Squirrel Issue

This letter concerns two Maryland State Highway Administration (SHA) roadway projects located on the Eastern Shore of Maryland, which may have impact to Delmarva Fox Squirrel habitat. The first project follows US 50 from the US 50/US 301 split to MD 404 and consists of roadway widening and intersection improvements including overpasses and interchanges. The second project follows MD 404 from US 50 to east of the Denton Bypass with improvements consisting of dualization of the roadway and intersection improvements. The US 50 and MD 404 projects received Location Approval from the Federal Highway Administration after separate Findings of No Significant Impacts were completed in 1987 and 1991, respectively. Currently, both projects are in design and, as a result, a reevaluation of the environmental impacts is being completed.

For the past several years, the FHWA and the SHA have been in informal consultation with USFWS due to the potential of both projects to impact Delmarva Fox Squirrel habitat. Recently, staff from FHWA, SHA and USFWS completed a field review along US 50 and MD 404 to determine areas of suitable habitat. The field review concluded with a determination by your staff that most of the large forested parcels were to be considered suitable Delmarva Fox Squirrel habitat. However, several outstanding questions still remain and need to be addressed promptly in order to move these projects forward. The specific questions are as follows:

- If SHA completes trapping, following the established protocol, and negative results are found, would that area still be considered habitat and therefore require mitigation if impacted?
- If SHA completes trapping, how long with the results remain valid?
- Are only *known* DFS sites considered suitable for mitigation? In other words, would SHA have to trap sites with habitat suitable for supporting DFS but not documented as having DFS presence in order to use the site as mitigation?

We appreciate the help your staff has provided us thus far; however, resolution of these issues is imperative for us to be able to move forward into formal consultation and complete the necessary environmental documentation. The first segment of the US 50 project is to be advertised for construction in 2004. However, we need to complete Section 7 consultation and receive a wetland permit prior to this advertisement. We would also like to take advantage of the upcoming spring season to begin trapping. In light of the contractual complexities associated with engaging the services of a certified trapper, we would appreciate a formal response to the above questions within 30 days of receipt of this letter.

As always, we are committed to working with your staff to minimize our impacts on the Delmarva Fox Squirrel to the greatest extent possible. Should you have any questions, please contact Ms. Caryn Brookman of my staff at 410-962-4342 Extension 130.

Sincerely yours,



for Nelson J. Castellanos
Division Administrator

cc:

- Mr. Charles Adams, SHA
- Ms. Caryn Brookman, FHWA
- Mr. Bill Buettner, SHA
- Ms. Allison Cauthorn, SHA
- Ms. Pat Greene, SHA
- Ms. Cherry Keller, USFWS
- Mr. Joseph Kresslein, SHA
- Mr. Andy Moser, USFWS
- Mr. Neil Pedersen, SHA
- Ms. Mary Ratnaswamy, USFWS
- Mr. Bill Schultz, USFWS
- Mr. Douglas Simmons, SHA
- Ms. Cynthia D. Simpson, SHA

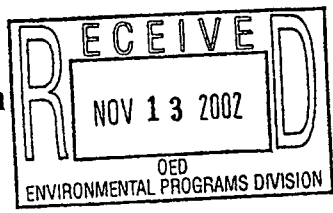
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128



US Department of Transportation
Federal Highway Administration
Maryland Division



Transmittal

To: SHA-Bill Buettner, Rob Shreeve, Joe Kresslein, Shannon Rousey
Steve Ches, Brian Post
USFWS- Cherry Keller, Bill Schultz, Andy Moser
ACOE- Steve Elinsky, Ray Livermore
Coastal Resources-David Smith

From: Caryn Brookman, FHWA-Maryland Division

Date: November 8, 2002

Re: Meeting Minutes from US 50/MD 404 Field Reviews
of Delmarva Fox Squirrel Habitat, October 30, 2002

QA 236 BZZ

Field Review Attendees:

SHA:	FWS:
Bill Buettner	Cherry Keller
Rob Shreeve	Andy Moser
Joe Kresslein	Bill Schultz
Shannon Rousey	COE:
FHWA:	Steve Elinsky
Caryn Brookman	Ray Livermore
Deirdre Johnson	Coastal Resources:
Dan Johnson	David Smith

- Purpose of the field review was to get verification from USFWS on Delmarva Fox Squirrel habitat along the US 50 and MD 404 corridors.
- Questions were raised by SHA regarding the 150' assessment area and whether this area begins beyond the construction Limit of Disturbance (LOD) or at the edge of new roadway. FWS verified that the 150' begins from the edge of new roadway.
- Discussion ensued about the mitigation ratio for previously degraded habitat being the same as the newly degraded habitat (2.5:1). SHA made the argument that 2.5:1 is too high for habitat that is already degraded due to its proximity to US 50. USFWS agreed to look into this issue but stated that the effects of the original construction of US 50 on DFS were never taken into consideration and therefore, they should be mitigated for now.

-Another question raised during the field review concerned the definition of DFS habitat and how it is defined. FWS stated that the model uses several parameters including type of vegetation. Also, a particular habitat area may not be considered "occupied" due to less suitable vegetation (may also be slightly isolated by farm fields); however, could be used as a travel corridor or as a refuge area for the squirrels. FWS agreed these parcels would be considered habitat.

Field verification of habitat areas:

US 50 Corridor:

-The sites visited are depicted on the enclosed mapping. SHA had requested that USFWS give their professional opinion on whether the site in question is suitable or not as DFS habitat. If the site is listed as "in" then it is suitable, "out" signifies not suitable as habitat. USFWS field verified the sites in question at this field review. Not every site is listed below; those sites not listed were agreed upon beforehand as either being suitable or not and are included on the mapping.

Results of field review:

Page 1, Site 1 -DFS - IN

Page 2, Site 2-DFS-OUT

Site 3-DFS-IN

Site 4-DFS-IN (Cherry noted that these woods serve as a corridor between the north and south sides of US 50)

Page 3, Site 5 (USFWS suggested transects be done for the parcel on the south side of US 50, just east of Greenspring Drive to determine habitat suitability. Based on the understory and diameter it met USFWS's minimum requirements for suitability)

Site 6- DFS-IN

Site 7- DFS (Transect needed to verify habitat suitability)

Site 8- SHA will wait for Fall trapping results.

Page 4, Site 9- A few questionable parcels with young regrowth and dense shrubby vegetation near US 50 were noted in the field. Flags were not tied at the field review; the line between the young and old growth was very noticeable. SHA will flag and survey. It was determined that there was no need for USFWS to come back during the flagging.

Site 10- DFS-OUT

Site 11A-DFS-IN (The outer limit of DFS habitat was flagged)

Site 11B-DFS-OUT

Page 5, Site 12-DFS-IN

Page 6, Site 13-DFS-OUT (The parcel behind the Scottstown Community on the north side of US 50 was determined to be too small, disturbed and isolated to be habitat)

Site 14-DFS-IN (Habitat is south of where 6 flags were placed in between old and young growth)

Page 7, Site 15-DFS-OUT (Habitat out along road, boundary is flagged)

US 50/MD 404 Field Review Minutes
Page 3

Next Steps for US 50 Project:

- Complete transect where needed; delineate flagged areas and survey
- Complete Biological Assessment

MD 404 Corridor:

MD 404 was also visited and a preliminary assessment of habitat areas made through a "windshield survey". Mapping is enclosed for the MD 404 area. The sites still need to be field verified by SHA and USFWS. The results of the preliminary assessment are as follows:

Page 2, Site 1 DFS- OUT (Too small of a stand)

Site 2 & 3- To be verified

Page 3, Site 4-DFS-LIKELY, to be verified

Page 4, Site 5-DFS- All 3 areas are likely to be DFS habitat, to be verified.

Page 5, Site 6-Tuckahoe State Park -DFS-IN

Page 6, Site 7-DFS-OUT (Too young)

-The remaining sites outlined were considered to be very likely to contain DFS habitat.
SHA's coordination with USFWS will continue on the MD 404 portion.

If you have any questions on these minutes, please contact Caryn at 410-962-4342 Extension 130 or Caryn.Brookman@fhwa.dot.gov. Thank you!



Maryland Department of Natural Resources
ENVIRONMENTAL REVIEW
Tawes State Office Building
Annapolis, Maryland 21401

John R. Griffin
Secretary

Carolyn D. Davis
Deputy Secretary

March 18, 1997

Glendening
Governor

Joseph R. Kresslein
Project Planning Division
Maryland Department of Transportation
State Highway Administration
P.O. Box 717
Baltimore, Maryland 21203-0717

Dear Mr. Kresslein:

This letter is in response to your letter of request, dated October 24, 1996 for information on the presence of finfish species in the vicinity of the Maryland Department of Transportation's proposed Overpass and Service Road (Project No. QA508B23) at US 50 and MD 18 in Queen Anne's County.

The Wye River and all tributaries (Chester River Drainage Area) in the vicinity of the subject proposed project are Use I streams. Generally, no instream work is permitted in Use I streams during the period of March 1 through June 15, inclusive, during any year.

Our Fisheries Service has documented spawning activities of the following anadromous fish species in the Wye River and tributaries: 1/ Yellow perch (*Perca flavescens*); and 2/ White perch (*Morone americana*). In addition to anadromous fish species, these streams support many resident fish species. Table I (attached) lists fish species documented by our Maryland Biological Stream Survey program in 1995 for the Chester River Drainage Basin. Many of these species could potentially be found near your project site. These species should be protected by the Use I instream work prohibition period, sediment and erosion control methods, and other Best Management Practices typically used for protection of stream resources.

If you have any questions concerning these comments, you may contact me at (410) 974-2788.

Sincerely,

Ray C. Dintaman, Jr.
Ray C. Dintaman, Jr., Director
Environmental Review Unit

RCD
Attachment

I U - 27



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401

December 15, 2000

Mr. Parker F. Williams
Administrator
State Highway Administration
P.O. Box 717
707 North Calvert Street
Baltimore, MD 21202

Attn: Cynthia D. Simpson

Re: U.S. 50, Service Road and Overpass
improvements, between Sportsman Neck
Road and Route 404, Queen Anne's County,
MD

Dear Mr. Williams:

During the last several months we have been in informal consultation with representatives of the State Highway Administration concerning potential impacts of the referenced project on the Federally endangered Delmarva fox squirrel (*Sciurus niger cinereus*). Discussions have been concentrated on Section 1 of the project, extending from Sportsman Neck Road east to Carmichael Road. We understand that SHA has selected option 2A (essentially as shown in SHA's brochure for the December 13, 1999, informational public meeting) for Section 1 of the project.

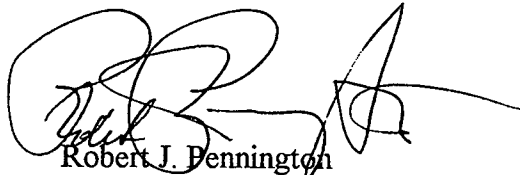
In our discussions with SHA and our May 25, 2000, fax transmittal to Ms. Patricia Greene of your Project Planning Division we have indicated that formal Endangered Species Act Section 7 consultation between the Federal Highway Administration and the Service will be required prior to project finalization. The entire referenced project is within the area with a known population of Delmarva fox squirrels (DFS). We have indicated that SHA will need to provide 3 acres of DFS conservation land for every acre of DFS habitat destroyed by the project and 2.5 acres of conservation land for every acre degraded by the project. Although SHA has apparently selected an option, the Service thinks the impacts caused by this option could be reduced with some changes that would not significantly affect the project.

We emphasize the need to minimize project impacts on the fox squirrel by selecting designs involving the least possible amount of forest clearing, keeping access roads as close as possible to

existing U.S. 50, and aquisition of conservation lands specifically for DFS. In this regard, we are particularly concerned about the access road extending east from Sportsman Neck Road because it would cut a swath through woods documented to support DFS and contiguous with a legally designated mitigation area for DFS. It is imperative that this section of the access road be placed as close to Route 50 as possible, to minimize effects on DFS. This issue, as well as the others noted above, was discussed with Stephen Ches, Susan Jacobs, Emily Burton, and Patricia Greene of your staff during our meeting on July 14, 2000. I believe we should schedule a meeting concerning this issue as soon as possible. I can be reached at 410-573-4530

We appreciate the efforts your staff has made to work with us. We will assist you in any way we can in identifying potential conservation areas for DFS. Thank you for your cooperation in carrying out the requirements of the Endangered Species Act..

Sincerely,



Robert J. Pennington
Assistant Field Supervisor
Chesapeake Bay Field Office

cc: Dan Johnson, FHWA
Glenn Therres, MD DNR

Copies of the Section 4(f) Evaluation can be obtained by contacting one of the following:

Ms. Cynthia D. Simpson
Deputy Director
Office of Planning and
Preliminary Engineering
State Highway Administration
707 North Calvert Street
Baltimore Maryland 21202
Hours: 8:00 a.m. to 4:30 p.m.
Phone: (410) 545-8500

Ms. Caryn Brookman
Environmental Protection Specialist
Federal Highway Administration
City Crescent Building
10 South Howard Street, Suite 2450
Baltimore Maryland 21201
Hours : 7:30 a.m. to 4:30 p.m.
Phone: (410) 779-7146