

WOODROW WILSON BRIDGE REPLACEMENT
PRELIMINARY DESIGN PLANS AND
FINAL DREDGING AND FOUNDATION PLANS
City of Alexandria, Virginia, Prince George's County, Maryland
and the District of Columbia

RECORD OF DECISION

August 3, 2000

Abstract

The Federal Highway Administration (FHWA) has requested that the Commission review preliminary design and final dredging and foundation plans to enable it to proceed this year with work related to constructing the replacement Woodrow Wilson Bridge. The current schedule calls for the outer loop of the new bridge to be completed by 2004-2005 before weight restrictions may need to be imposed on the existing bridge. To accommodate this schedule, highway officials would like to begin constructing the foundations for the crossing in the fall of 2000. The dredging and foundation plans have been carefully coordinated with all necessary approval agencies. Design of the bridge is proceeding satisfactorily and preliminary design plans for several of the elements that the Commission reviewed at the design concept stage have been included as part of this submission. The plans continue to convey a grace and beauty befitting this important river crossing. The FHWA will continue to work with all stakeholders, including the Commission, to refine elements of the design plans that have not been considered by the Commission up to this point.

Authority

Pursuant to Section 5 of the National Capital Planning Act of 1952, as amended (40 USC 71d), and D.C. Code, sec. 5-432 (in lieu of zoning), the Commission has authority to review the Woodrow Wilson Bridge Replacement as it relates to the bridge structure from landing to landing, including the drawspan, operator's control tower, parks, and overpass decks. The Virginia landing is the bridge abutment located generally at Royal Street, west of Jones Point Park. This includes the uses under the bridge and the overpass urban deck at Washington Street (George Washington Memorial Parkway) which is part of the approach to the Wilson Bridge. The Maryland landing is the bridge abutment

located on Rosalie Island, including the overpass deck, which is part of the bridge approach from Maryland. The review does not extend to changes to the interchanges or approach roadways within the project area.

Commission Action

The Commission:

- **Commends** the Federal Highway Administration (FHWA) for the high quality of the bridge design and encourages FHWA to ensure that the harmonious and attractive design it has developed is maintained throughout the bridge approval process.
- **Approves:**
 - Preliminary site and building plans for the Woodrow Wilson Bridge Replacement, as shown on NCPC Map File No. 3206.00(48.20)-40820; and
 - Final foundation and Phase 1 dredging plans for the Woodrow Wilson Bridge Replacement, City of Alexandria, Virginia, Prince George’s County, Maryland, and the District of Columbia, as shown on NCPC Map File No. 3206.00(48.20)-40813.
- **Requests** that, in the preparation of subsequent plan submissions for the Woodrow Wilson Bridge Replacement project, the FHWA:
 - Work with Commission staff in the continued design development of the light fixtures and sign structures so that they reflect the same forward-looking treatment as the bridge; and
 - Coordinate the design plans for Jones Point Park and the related overpass urban deck in Virginia, and Rosalie Island (Potomac River Waterfront Community Park) and the Beltway overpass deck in Maryland with the City of Alexandria, Prince George’s County, and the Commission prior to submission.

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BACKGROUND AND STAFF EVALUATION

DESCRIPTION

The Federal Highway Administration (FHWA) has submitted preliminary design plans and final dredging and foundation plans for the Woodrow Wilson Memorial Replacement Bridge (Wilson Bridge). The Wilson Bridge carries Interstate 95/Interstate 495, the Capital Beltway, across the Potomac River. The bridge replacement and related highway improvements extend from Telegraph Road on the west to Maryland Route 210 (Indian Head Highway) on the east. The bridge is 5,897 feet long and 100 feet wide.

Designed as a national memorial bridge to former President Woodrow Wilson, our 28th President, this six-lane bridge was opened to traffic in 1964 to accommodate approximately 75,000 vehicles per day. Today, over 190,000 vehicles use the bridge daily. At this rate, FHWA estimates that by the year 2004, the Wilson Bridge will require substantial rehabilitation or a restrictive ban on vehicles weighing more than 20,000 pounds for it to continue to accommodate regional traffic needs.

According to the Final Supplemental Environmental Impact Statement (FSEIS), construction will occur in several stages. They are:

1. Start of the construction access, dredging, and foundations in the Potomac River—by fall, 2000
2. Begin the construction of the Woodrow Wilson Bridge (outer loop) superstructure—by 2001-2002
3. Begin the I-295, US 1, and MD 210 interchanges—by 2001-2002
4. Begin the Telegraph Road interchange—by 2002-2003
5. Complete the Woodrow Wilson Bridge outer loop—by 2004-2005
6. Demolish the existing Woodrow Wilson Bridge and complete inner loop—by 2006-2007
7. Complete all interchanges—by 2006-2007

FHWA's current submission includes three elements:

- Work related to dredging construction and access channels to facilitate erection of the proposed bridge and the demolition of the existing structure
- The construction of the foundations for the replacement bridge
- Preliminary design plans for the replacement bridge, including the roadway deck, superstructure, deck railings, lighting, and Operator's Control Tower

This summer, the FHWA expects to advertise two contracts related to the new bridge—one for the dredging activity and the other involving the foundation work.

The dredging work involves removing (using mechanical dredging techniques) approximately 600,000 Cubic Yards (CY) of river bottom material for construction and access channels in the river. The current anticipated schedule requires approximately

300,000 CY to be dredged from October 16, 2000 to February 14, 2001, and the remainder to be dredged within the same seasonal window during later phases of the bridge construction. The time-of-year restriction is established to protect fish and other aquatic life, including submerged aquatic vegetation (SAV), in the river. Dredging will occur to a depth of nine feet below mean sea level. Present plans call for the spoil material to be barged down the Potomac River to Charles City County, Virginia (south of Richmond) and then trucked to an upland disposal site.

The second contract involves constructing the majority of the foundations for the new bridge—those supports outside the alignment of the existing bridge. The work includes driving several steel pipe piles, ranging in diameter from 42” to 66”, into the river bed. These piles will serve as the support for the V-shaped bridge piers which will form the superstructure of the bridge. Piers on the Virginia shoreline will likely include 24” pre-stressed concrete piles. A pile cap would be constructed atop the piles, and a pedestal foundation would be built on top of the pile cap.

The following describes the items included as part of the preliminary design plan submission. They include:

- The replacement bridge that is designed to function as a ten-lane crossing with two additional lanes that can serve as High Occupancy Vehicle (HOV) lanes in the future.
- The main span of the bridge which consists of 18 V-shaped piers with arched or curved legs that support a concrete roadway bed and steel box girder system. The replacement bridge is 6,055 feet long and 257 feet wide. The bridge piers will be constructed of pre-cast concrete tinted to give a “monumental white” appearance. The steel box girders will be painted a lighter shade than the concrete, comparable to the color of the Lincoln and Jefferson Memorials.
- The twin-bridge, draw span facility (15 feet separation), built immediately adjacent and parallel to the existing bridge alignment. The bridge’s vertical clearance in the closed position is 70 feet in the river’s navigation channel. The existing bridge has a 50-foot clearance.
- A 12-foot-wide path for pedestrians/bicyclists would be provided along the northern side of the bridge with connections to trails in Virginia (Mount Vernon Memorial Trail) and Maryland (Potomac Heritage Trail and the proposed National Harbor development). Also on the north side are four overlooks, with views toward the Monumental Core. The overlooks will be placed on either side of the draw span, at the mid-point of the bridge, and near the Maryland shoreline.
- A contemporary-style glass and metal (aluminum and stainless steel) Operator’s Control Tower would be located near the draw span approximately 15-20 feet above the road deck.
- Subdued night lighting of the V-shaped piers. Illumination will try to achieve a light quality similar to that of other Potomac River bridge crossings. The floor of the pedestrian pathway would be lighted as well by way of lighting elements mounted in the barrier wall separating the walkway and the westbound shoulder.
- Highway light fixtures mounted on the 3’6” traffic barrier separating the local and HOV lanes.

- Overhead highway sign structures

The preliminary plans do not include park plans for either Jones Point Park or Rosalie Island. In accordance with the conceptual mitigation plan articulated in the Final EIS and the signed MOA, Jones Point Park would be enhanced as an *active* recreational facility with historic interpretations, and park and shoreline improvements. The mitigation plan also includes a deck over the Beltway in the area of Washington Street (George Washington Memorial Parkway). Rosalie Island would be enhanced as a *passive* recreational facility in keeping with the natural conditions of the island. It would include a deck over the Beltway on the island, nature trails or path connections to the Potomac Heritage Trail, and connections to the north (Oxon Cove Park) and south (future Potomac River Waterfront Community Park) sides of Rosalie Island.

PREVIOUS COMMISSION ACTION

The Commission approved the design concepts for the Woodrow Wilson Bridge Project in April 1999, as shown on NCPC Map File No. 08.21(3200.00)-40612. The Commission:

- Requested that, in the preparation of preliminary site and building plans, the FHWA provide more detailed information and illustrative drawings for the following:
 - The bridge's night lighting scheme including the lighting of the V-shaped arched piers, the roadway deck, and the area underneath the bridge at Jones Point Park, as viewed from the Virginia and Maryland shores and the Nation's Capital.
 - The texture and color of the exterior finish of the bridge, including piers, roadway deck, furniture (including railings, light fixtures, and signage), the Operator's Control tower, underneath the bridge, and its abutments at Jones Point Park and Rosalie Island.
 - Design details for the roadway deck railings, light fixtures, and signage, Operator's Control Tower, pedestrian/bicycle pathway along the bridge and its linkages or connections to other trails or paths in Virginia and Maryland, and potential noise barriers at each end of the bridge.
 - Noise effects of the new bridge including noise impacts generated by the planned steel box girders, including any "resonance" or reverberation impacts.
 - Landscape plans at the bridge abutment areas in Jones Point Park and on Rosalie Island.
- Also requested that, prior to the final bridge design and in cooperation with the City of Alexandria, Prince George's County, and National Park Service officials, FHWA submit for Commission review design plans for Jones Point Park and the related overpass urban deck in Virginia and Rosalie Island (Queen Anne's Park) and the Beltway overpass deck in Maryland.

RESPONSE TO PREVIOUS COMMISSION ACTION

In response to the Commission's April 1999 action, FHWA has:

- Provided a night lighting scheme for the bridge showing the expected quality of lighting for the V-shaped piers. As noted previously, FHWA proposes to light the bridge piers in a manner similar to other Potomac River crossings in the Core area. Pole-mounted highway light fixtures are planned on the bridge as well. The area below the roadway deck is not shown as lighted.
- Selected a "monumental white" color for the pre-cast concrete piers. The steel box girder system will be painted a lighter shade than the piers. The railings, light poles, and sign structures will be "pewter" in color. All the major elements of the bridge will follow a consistent theme in style, materials, and color.
- Provided preliminary design details for the Operator's Control Tower. (Additional design information is needed for the bridge railings, light poles, and sign structures.)
- Indicated that information is not available at this time on the noise effects of the replacement bridge, potential noise barriers, landscape plans for Jones Point Park and Rosalie Island, or trail connections from the bridge to the federal parklands.

EVALUATION

The staff recommends that the Commission approve the preliminary site and building plans and final dredging and foundation plans for the replacement of the Woodrow Wilson Bridge. Based on our review of the proposal, the FHWA has developed the dredging and foundation plans to preserve and protect, to the extent possible, aquatic resources and to minimize any long-term impacts on the Potomac River and its shoreline. The principal environmental effect of dredging operations is disturbances to substrate and sediments, and with the proposed dredging plan, over 53 acres of river bottom will be affected. Although there will be some temporary resuspension of bottom sediments and possibly short-term degradations in water quality criteria below acceptable levels, these are expected to be transitory. Time-of-year restrictions on construction activity in the water and plans for off-site upland disposal should help limit impacts on Potomac River aquatic resources and water quality.

Significant progress has been made in the design of the bridge since the Commission's April 1999 review. The updated design plans successfully balance the bridge's monumental aspirations and the more pragmatic requirements of a transportation facility. FHWA's concern for developing a harmonious design that integrates the design details into the overall bridge concept is also apparent. We commend FHWA for its efforts and encourage it to ensure that as the design plans progress that the high quality that is reflected in the preliminary submission is maintained throughout the design process. This includes such things as ensuring that construction materials are of the highest quality and

that architectural detailing and refinements contribute to the monumental character the design attempts to reflect.

In particular, the Operator's Control Tower is refreshing in its simplicity. Its clean lines and glass and metal skin suggest a 21st century view of transportation that is difficult to convey in a more traditionally designed structure. The fritted glass enclosure, partially hidden behind a metal screen, is exciting and should be an attractive feature for those crossing the bridge.

Although the renderings are very encouraging, and suggest an extremely high quality and a forward-looking design for the roadway light fixtures and sign structures, we look forward to working with the FHWA in the further development of these two elements to ensure that the high standard of design that FHWA has established in the bridge is carried through to the design of the roadway light fixtures and sign structures. FHWA has indicated its willingness to work with the Commission staff in this regard.

Finally, we urge FHWA to continue working closely with the Park Service, affected local jurisdictions, and the Commission on the remaining portions of the bridge plans not included in this submission. In particular, we look forward to reviewing the park plans for Jones Point Park and Rosalie Island and the proposed decks over the I-95 in the vicinity of the two park properties.

CONFORMANCE

Coordinating Committee

The Coordinating Committee reviewed this item at its meeting on June 15, 2000, and forwarded the proposal to the Commission with the statement that the project has been coordinated with all agencies participating. The participating agencies were NCPC; the District of Columbia Office of Planning; the Fire Department; the Department of Housing and Community Development; the General Services Administration; the National Park Service; and the Washington Metropolitan Area Transit Authority.

Federal Capital Improvements Program

This project was included in the Federal Capital Improvements Program (FCIP), Fiscal Years 2000–2004, adopted by the Commission on July 1, 1999. The total project cost in this program was \$1.89 billion. A total of \$800 million was programmed in the FCIP between Fiscal Years 2000-2004.

Comprehensive Plan

At the design stage, the proposed replacement bridge would affect the Potomac shoreline and floodplain, wetlands, ambient noise levels, and would generate spoil materials. Policies in the Environment Element of the Comprehensive Plan applicable to these impacts specify:

If construction in a floodplain is necessary, (1) the site should be returned as close as possible to its natural contours; (2) floodplain fill should be minimized; (3) grading requirements should be minimized; and (4) free natural drainage should be preserved.

Land uses adjacent to Wetlands should be compatible with the preservation of natural resources supported by the Wetlands.

Highway development design should be sensitive to existing and proposed adjacent land uses and should employ the use of barrier attenuations, where necessary.

Spoil materials generated during construction of Federal and non-Federal facilities should be re-used, where possible, on site. If the materials are disposed of elsewhere, it should be done in accordance with local regulations.

Policies contained in the Parks, Open Space and Natural Features Element apply to shoreline protection and the preservation and enhancement of river views and state:

Natural shoreline areas in the National Capital Open Space System should be retained in their natural condition or be appropriately landscaped for a distance of 150 to 200 feet from the water's edge, if possible. Large paved parking areas and other non-water related development should be discouraged within the area.

The Y-shaped composition of open water spaces created by the confluence of the Potomac and Anacostia Rivers in the L'Enfant City and its environments should be treated as an urban river setting. Development in this area should preserve and enhance the variety of views and vistas proposed in the L'Enfant and McMillan Plans, respect the grand scale of the river landscape, and allow for the appreciation of the extensive areas of water landscape. Docking areas and waterfront buildings should be integrated with the generally low and continuous line of river embankments.

The Oxon Hill Children's Farm in Prince George's County and Bellehaven Park on the Virginia side of the Potomac River are located in the vicinity of the proposed bridges and their river views would be affected.

The proposed bridge would require easements for construction on Jones Point Park, Rosalie Island, the Mount Vernon Memorial Highway, and on some of the land for the Potomac Heritage Trail. Jones Point Park and Rosalie Island are federally owned and are designated for Natural Park use in the Comprehensive Plan. The Mount Vernon Memorial Highway is a designated national landmark, a Gateway to the Nation's Capital and is part of the George Washington Memorial Parkway. The following additional policies from the Parks, Open Space and Natural Features Element apply:

Natural Parks...should be established, protected, and maintained to ensure the conservation and enhancement of the significant features of the National Capital.

The George Washington Memorial Parkway should be maintained as a scenic corridor which not only serves as a spectacular Gateway artery to the Nation's Capital, but which also preserves its important historic associations. Its scenic, historic, and recreational aspects should be emphasized and protected, even at the expense of its traffic-carrying role.

The proposed Potomac Heritage Trail, to be part of the National Trail System extending from the Chesapeake Bay to the Appalachian Trail north of the Region and beyond, should be developed, using the existing and proposed trails within the National Capital Open Space System as much as possible.

Two additional policies in this element relating to bridge design and the protection and enhancement of Gateways also apply:

Bridges over rivers and streams should be designed to retain the natural continuity of waterways, shorelines and valleys. Whenever possible, bridges and their approaches should enhance the sense of arrival, gateway or transitional qualities inherent in river crossings.

Roadways in the Interstate Highway System are important Gateways used by Visitors and should be maintained in a manner which protects and enhances their landscape character and quality, gives attention to scenic views from the road, and provides informative signs to assist Visitors. Advertising signs and bordering development should be carefully controlled to avoid adverse visual impacts.

The bridge proposal would also require an easement for construction in the Alexandria Historic District. An applicable policy the Preservation and Historic Features Element specifies:

New construction on Historic Landmarks or in Historic Districts should be compatible with the historical architectural character and cultural heritage of the landmark or districts. In design, height, proportion, mass, configuration, building materials, texture, color and location, new construction should complement these valuable features of the landmark or district, particularly features in the immediate vicinity to which the new construction will be visually related.

National Historic Preservation Act

FHWA has completed its responsibilities under Section 106 of the National Historic Preservation Act (NHPA). A Memorandum of Agreement (MOA) for the proposed Woodrow Wilson Bridge replacement (Preferred Alternative 4A) was signed in October and November of 1997. The signatories are FHWA, NPS, the Advisory Council on Historic Preservation, and the State Historic Preservation Offices for Virginia, Maryland, and the District of Columbia.

FHWA and NPS determined that the bridge project would have an adverse effect on the Alexandria Historic District, Jones Point Lighthouse, the District of Columbia South Cornerstone, two terrestrial archaeological resources within Jones Point Park, and two underwater archaeological resources in Prince George's County. In addition, the bridge project was determined to have an effect on the Mount Vernon Memorial Highway/George Washington Memorial Parkway. The signatories also agreed that the project might have an effect on additional resources such as the Freedmen's (Contraband) Cemetery in Alexandria; and on Oxon Hill Manor, Fort Washington, Hard Bargain Farm, Longview, and Butler House, all in Prince George's County. It was also agreed that the project might have an effect on additional properties (not yet identified) as a result of activities related to the implementation of the project, such as construction staging, dredge disposal, wetland mitigation, and ancillary activities.

The governmental entities participating in the consultation were the D.C. Department of Public Works, the Maryland State Highway Administration, the Virginia Department of Transportation, the Maryland-National Capital Park and Planning Commission, the Prince George's County Government, and the City of Alexandria. In addition, the following interested parties were invited to participate in the consultation process and to review and comment on the MOA: the Alexandria Historical Restoration and Preservation Commission; the Daughters of the American Revolution; the Friends of Jones Point; the Historic Alexandria Foundation; the Old Town Civic Association; the Old Town/Hunting Creek Civic Association; the Yates Garden Civic Association (all in Alexandria); the National Trust for Historic Preservation; and the U.S. Army Directorate of Public Works, Fort Belvoir.

The MOA contains numerous stipulations on the documentation and treatment of known and of potential historic or archaeological resources during the construction of the bridge. The signatories also agreed to design goals during the design and review of the project. These include such goals as: designing the bridge with high aesthetic values; designing pier placement so that park uses in Jones Point Park and Rosalie Island Park can be maintained and so that views southward along Royal, Fairfax, and Lee Streets are preserved; and designing the bridge so as to avoid terrestrial and underwater archaeological areas to the maximum extent possible. In addition, construction impacts to historic and archaeological resources are to be avoided or minimized to the extent possible. The project is to be designed to avoid all temporary and permanent impacts to the Freedmen's (Contraband) Cemetery. In addition, the bridge design and other project elements are to take into account the historic plan of the Mount Vernon Memorial Highway and NPS's General Management Plan for the facility; the agreement between NPS and the City of Alexandria for the management of Jones Point Park and its resources; the agreement with the Daughters of the American Revolution for the management of Jones Point Lighthouse; and effects on archaeological resources.

National Environmental Policy Act

Pursuant to the regulations implementing the National Environmental Policy Act (NEPA), the FHWA has prepared a Final Supplemental Environmental Impact Statement

(FSEIS) and Record of Decision for the Woodrow Wilson Bridge Project. These documents were prepared in April and June 2000, respectively.

On June 16, 2000, NCPC issued its own FEIS which adopted the FHWA FSEIS relating to NCPC's authority for review and approval of this proposed action. The purpose of the FEIS was to identify potential environmental impacts, as defined by CEQ regulations, resulting from the Woodrow Wilson Bridge Project. The FEIS examined alternatives to the proposed action and the impacts of those alternatives. The FEIS also addressed mitigation of adverse resulting effects from the alternatives. NCPC elected to adopt the existing April 2000 FSEIS pursuant to Section 1506.3 of the CEQ regulations. This adoption was accomplished through staff review and approval of the FHWA document. The adopted FEIS was available to the public for review more than thirty days before Commission action.

Determination Of Effects

The NCPC environmental conclusions regarding the construction plans for the Woodrow Wilson Bridge Project, I-95/I-495 from west of Telegraph Road to east of MD Route 210, City of Alexandria and Fairfax County Virginia, Prince George's County, Maryland, and the District of Columbia are presented below. This section of the report presents a summary of the environmental considerations, as required by the NEPA Regulations, 40 CFR 1505.2. The FEIS by NCPC along with this report constitutes NCPC compliance with NEPA.

Alternatives Considered

The NCPC FEIS evaluates two 12-lane design alternatives and describes construction-related impacts. It also describes the impacts on historic resources subject to Section 106 of the National Historic Preservation Act that result from the construction of the project and the implementation of environmental mitigation measures. In addition to the two alternatives, the No Action alternative and the other build alternatives were analyzed in the FSEIS by reference to the detailed examinations that occurred in the 1997 FHWA FEIS. In evaluating the No Action alternative, the NCPC environmental review document recognizes that until development occurs, the existing conditions remain.

Environmentally Preferred Alternative

The alternative that best meets the objectives of NEPA is known as the Environmentally Preferred Alternative. This option, according to CEQ, is the alternative that causes the least damage to the biological and physical environment; it also is the alternative which best protects, preserves, and enhances historic, cultural, and natural resources. Identification of the Environmentally Preferred Alternative is a requirement of NEPA regulations regardless of the intent of the project.

On the basis of all information presented in the NEPA process involving the proposed action, it is the determination of NCPC that the Environmentally Preferred Alternative is

the No Action alternative. It should be noted, however, that even the No Action alternative would result in certain adverse impacts to water quality, traffic conditions, air quality, and cumulative impacts from other nearby area actions. Nevertheless, the degree and extent of these adverse effects to the biological and physical environment would be appreciably less under the course of No Action. However, the No Action alternative would also conflict with the objectives of the federal, state, and county planning and decision-making processes that have recognized the need for the Woodrow Wilson Bridge Replacement.

Because the No Action alternative does not meet the purpose and need of the proposed development, the Commission has not chosen it as an alternative for potential approval.

The following were the major factors used in review of the Woodrow Wilson Bridge Replacement's potential environmental effects:

Air Quality

The project site is located within the National Capital Interstate Air Quality Control Region, which has been designated by EPA as a "serious non-attainment area" for ozone National Ambient Air Quality Standards (NAAQS). Ozone is a secondary pollutant that is formed in the atmosphere by the reaction of hydrocarbons and nitrogen oxides in the presence of sunlight.

The majority of expected project-generated emissions of ozone precursors would be generated by mobile sources (vehicular traffic). The analysis of regional mobile source emissions was based on the traffic projections for the two bridge alternatives. The Metropolitan Washington Council of Governments (MWCOG) has used the same assumptions in developing its cooperative forecast for the Washington, D.C. metropolitan region. Data from the cooperative forecast are used by MWCOG in its attainment model. Since the Woodrow Wilson Bridge Project is factored into the region's cooperative forecast it would not affect the State Implementation Plan (SIP) or the attainment status of the region.

Based on air impact modeling performed for the Woodrow Wilson Bridge alternatives, localized mobile source emissions associated with vehicle traffic on nearby roadways would not result in exceeding the applicable NAAQS at nearby existing or proposed sensitive receptors.

Water Quality Impacts

Stormwater and nutrient loadings are expected to increase somewhat within the Potomac River as a result of the bridge and interchange impervious surface development. The increase in runoff from the bridge, I-95/495, and modified interchanges would discharge both directly and indirectly into Cameron Run and the Potomac. However, because the project's stormwater management plans have been modified and increased to compensate for the change, it is believed the compensatory overmanagement and increased

characteristics of the stormwater facilities will adequately mitigate water quality effects to a minimal level. Additional water quality effects are being mitigated through the use of compensatory off-site enhancement in other areas of Potomac watershed. Both state and local authorities must issue permits for all stormwater management plans.

Dredging Impacts

The proposed dredging of Smoot Bay and the Potomac River for construction of the Replacement Bridge is extensive but necessary to construct the facility. Dredging may result in temporary or permanent displacement, inhibited growth, or mortality of fish and other aquatic organisms as a result of the initial physical disturbance, release, and settling of sediment, and increased water turbidity. Dredging can also result in indirect alteration or loss of important habitats. The biological effects of releases of sediment have generally been found to be temporary (Waters, 1995) and some extent of recovery would occur. The impacts of bottom dredging are generally thought to be moderate and reversible over time, especially when the area to be dredged is a relatively small proportion of the overall affected waterway (Pfitzenmeyer, 1975, 1978; Klein, 1995). Dredged materials will be tested and removed for disposal to a remote disposal site at the Weanack Dredged Material Placement Site, Charles City County, Virginia.

Dredging effects, in total, are expected to be moderate and limited to the immediate area of the bridge under both build alternatives. Because of the mobility of fish, and the ability of many benthic organisms in the Potomac River to recolonize disturbed areas, the permanent effect of the dredging is not believed to be overwhelmingly adverse to the river as a whole.

Dredging Impacts to Submerged Aquatic Vegetation

Primary impacts to Submerged Aquatic Vegetation (SAV) and potential SAV habitat from the Woodrow Wilson Bridge Project would result from dredging material from open water areas. Total primary impacts from the dredging of potential SAV habitat would affect approximately 31.7 acres. Compensatory replacement, assisted re-establishment of SAV, and project modifications are anticipated to mitigate SAV impacts of the project.

Aquatic Habitat

Consideration has been given to the cumulative effects of development on aquatic habitat for fish species in the tidal Potomac River, particularly the spawning and nursery habitat. Many other small projects and a number of major projects are occurring or could soon occur near Smoot Bay and the location of the Woodrow Wilson Bridge Piers. Notable large projects, either approved or proposed, include the Ronald Reagan Washington National Airport expansion, the deepening of the federal navigation channel near Alexandria, the proposed private development of National Harbor, and the Anacostia River and Tributaries Ecosystem Restoration Project. The FEIS states that the Woodrow Wilson Bridge Project, considered together with these other projects, may result in a cumulative impact on selected aquatic resources.

The FEIS discusses the measures that are incorporated into the planning of the Woodrow Wilson Bridge Replacement to reduce and mitigate these habitat losses. Mitigation would occur in the use of both in-kind and out-of-kind replacement measures focusing on the watershed of the Potomac River.

Mitigation

Mitigation Efforts for Impacts of Dredging and Construction

Potential impacts to the aquatic environment from dredging are expected to be associated with short-term re-suspension and settling of sediments and related water turbidity and water quality effects. Mitigating these construction and dredging impacts would be accomplished through minimizing the extent of dredging, careful attention to dredging methods and procedures, and time-of-year restrictions on sediment disturbing activities.

Newer dredging methodologies and deployment methods are available to reduce the impacts of re-suspension of sediments (Metzger and Abood, 1998). These methods include the use of covered clam bucket dredges to seal and contain sediments while being lifted through the water column. These methods have been used in New York harbor and have effectively reduced and contained re-suspension (Metzger and Abood, 1998). The clam buckets excavate into the sediments with the least amount of disturbance to adjacent areas and contain the dredged materials within the bucket, allowing for very little to escape while being brought to the surface.

All of the dredging will occur between October 15 and February 15, a period of relatively low biological activity. This time period largely avoids the spawning and rearing period for most fishes and benthic macroinvertebrates, as well as the growing period of SAVs. As a result, this restriction would substantially reduce the potential impacts on these resources. Implementation of seasonal restrictions combined with Best Management Practices in dredging and construction would minimize the potential impacts to aquatic resources. With these mitigation measures in place, the direct impacts of construction activities on aquatic resources would be reduced and short-termed.

The Virginia Department of Environmental Quality (VDEQ) has prepared a draft Virginia Water Protection (VWP) Permit that is designed to ensure that water quality impacts from the project are avoided, minimized, and mitigated to the greatest extent possible. An informal public hearing on the proposed issuance of the VWP Permit is scheduled. The hearing will include a presentation and review of the draft VWP Permit. Following a comment period, the State Water Control Board will make a determination regarding the issuance of the VWP Permit for the Woodrow Wilson Bridge Project.

Aquatic Habitat Mitigation

In regard to mitigating adverse impacts to aquatic habitat, the FEIS recommends design features for shoreline stabilization and associated structures that would provide some

value toward fish and wildlife habitat diversity, and have a positive effect on water quality.

These measures include:

- Replanting vegetation in association with the abutment revetment.
- Designing abutment and pier structures that would minimize reflective wave energy scour.
- Removing unused construction materials.
- Fragmenting of compacted soils.
- Replacing lost topsoil.
- Avoiding and minimizing effects through revisions in profile grade changes, changes in drainage structures, revisions in drainage channels, and ancillary roadway structure relocations.

A Conceptual Compensatory Aquatic Resources Mitigation and Monitoring Plan has been developed by FHWA for project impacts to Waters of the United States, including wetlands and SAV affecting areas of Virginia, Maryland, and the District of Columbia.

Endangered Species Act

Pursuant to the Endangered Species Act (ESA), the FHWA entered into formal Section 7 consultation with U.S. Fish and Wildlife Service (USFWS) and prepared a Biological Assessment that was submitted to USFWS on September 22, 1999. That document quantifies the extent of direct and indirect impacts to bald eagle habitat as a result of the proposed project. USFWS issued a Biological Opinion on April 14, 2000, characterizing the anticipated effects of the Woodrow Wilson Bridge Project on bald eagle habitat and identifying the terms and conditions for appropriate mitigation of these adverse effects. The provisions below are nondiscretionary, and must be implemented by FHWA, so that they become binding conditions for the exemption in Section 7(o)(2) to apply. The stipulations include:

- Construction must be timed to significantly reduce the risk of eagle nest abandonment on the adjacent Betty Blume Park (M-NCPPC ownership).
- Retaining the wooded shoreline on Rosalie Island and reducing the limits of disturbance to the northern portion of the island that includes Maryland SHA and NPS lands.

The Biological Opinion provided by USFWS to FHWA indicates that implementing protective measures during construction associated with fish passage improvements in Rock Creek Park as a project mitigation action will avoid the incidental take of the Hay's Spring Amphipod found in Rock Creek Park. The Biological Opinion also includes other requirements that authorize proceeding with the project provided that the agency adheres to the terms and conditions of the Biological Opinion.

The National Marine Fisheries Service requested a Biological Assessment of the Shortnose Sturgeon that determined the probability of the presence of the species in the vicinity of the Woodrow Wilson Bridge Project to be very low. Nevertheless, time-of-year restrictions on the use of underwater blasting and mitigation measures for removal of debris and bridge demolition activities will be implemented.

Section 106 Memorandum of Agreement

The National Park Service, the Maryland State Historic Preservation Officer, the Virginia State Historic Preservation Officer, the Advisory Council on Historic Preservation, and FHWA negotiated a Memorandum of Agreement (MOA) established in October 1997. The MOA delineates the methodology to be employed to ensure appropriate consideration and treatment, including mitigation of adverse effects of relevant historical and archaeological resources. The stipulations of the ratified MOA identify elements of the mitigation plan that FHWA will continue to coordinate and implement through the final design of the Woodrow Wilson Bridge Replacement.

Monitoring or Enforcement Program

Monitoring provisions by NCPC for mitigation actions identified in this report will occur through implementation of its authority under D.C. Code, Section 5-432, in review of the Woodrow Wilson Bridge Replacement as it progresses to final construction plans.

Unresolved Issues

No major unresolved issues exist, although the U.S. Army Corps of Engineers has not finalized the Clean Water Act, Section 404/401 Dredge and Fill permit. Various objections or concerns have been expressed about the FHWA FSEIS for the bridge replacement project during the 30-day public review period of that document, which ended on May 30, 2000. NCPC received no comments during the review period of its FEIS, which concluded on July 31, 2000.

NCPC has carefully reviewed the issue of noise effects involving the proposed alternatives. NCPC staff has found noise impacts are fully evaluated in the FEIS, but that the consequences from noise effects are directly within the purview of the State of Maryland, the Commonwealth of Virginia, and local government agencies in conjunction with the FHWA. Staff notes that the FEIS has identified noise mitigation measures for roads and traffic, which would be implemented during the design review and permitting

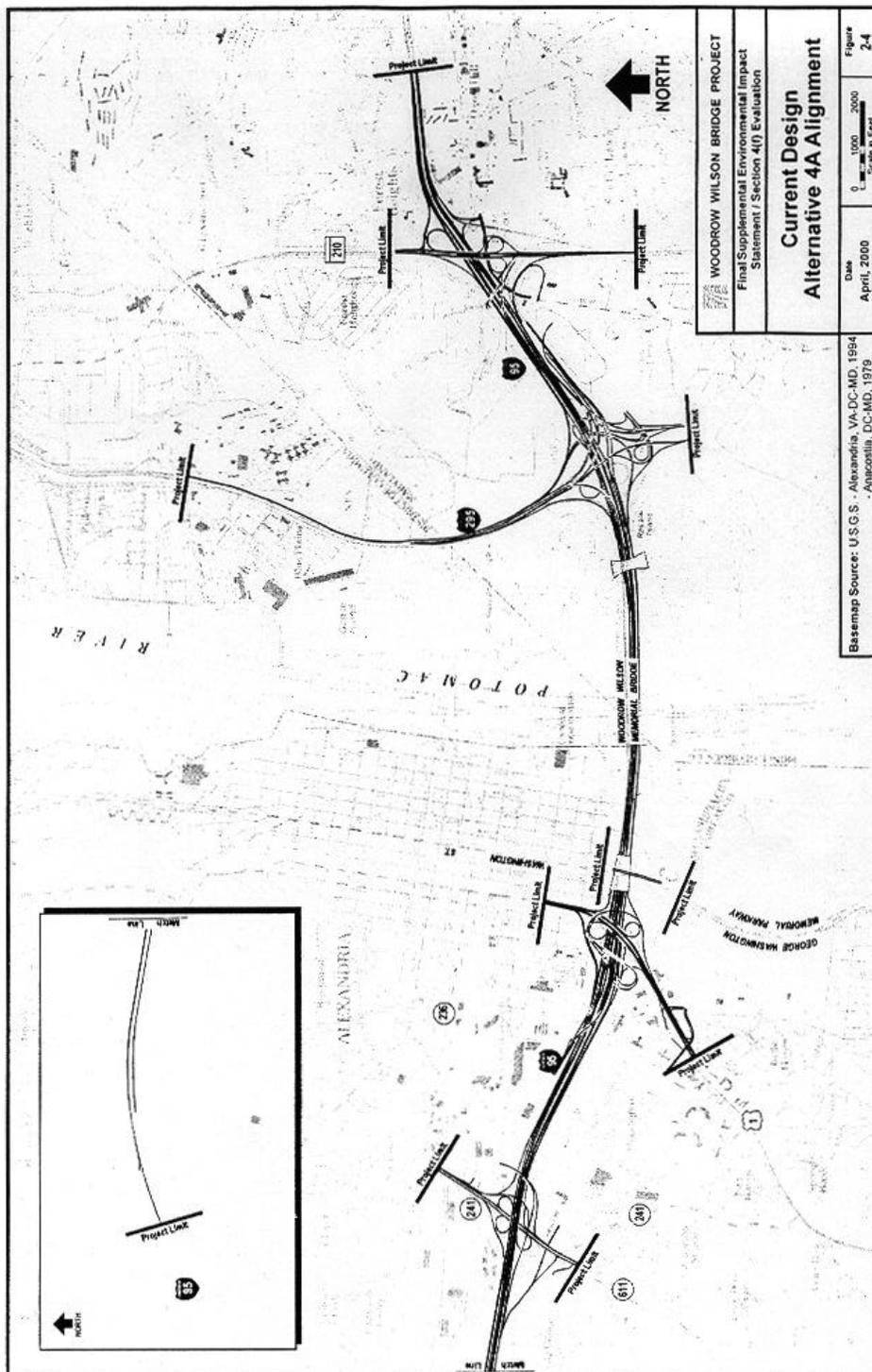
action by Maryland and Virginia authorities. The staff believes the potential noise effects from those features will be appropriately addressed by those agencies.

Conclusion

Review of the above information indicates that the Woodrow Wilson Bridge Replacement clearly has certain adverse effects on the environment as a consequence to its development. In comparison to the impacts generated by the initial 1997 4A alternative, several environmental consequences would be nearly identical to the preferred alternative of the NCPC FEIS, Current Design Alternative 4A. These similar impacts include the potential disturbance of some underwater archeological resources, the loss of terrestrial vegetation and habitat, and the potential incidental taking of bald eagles.

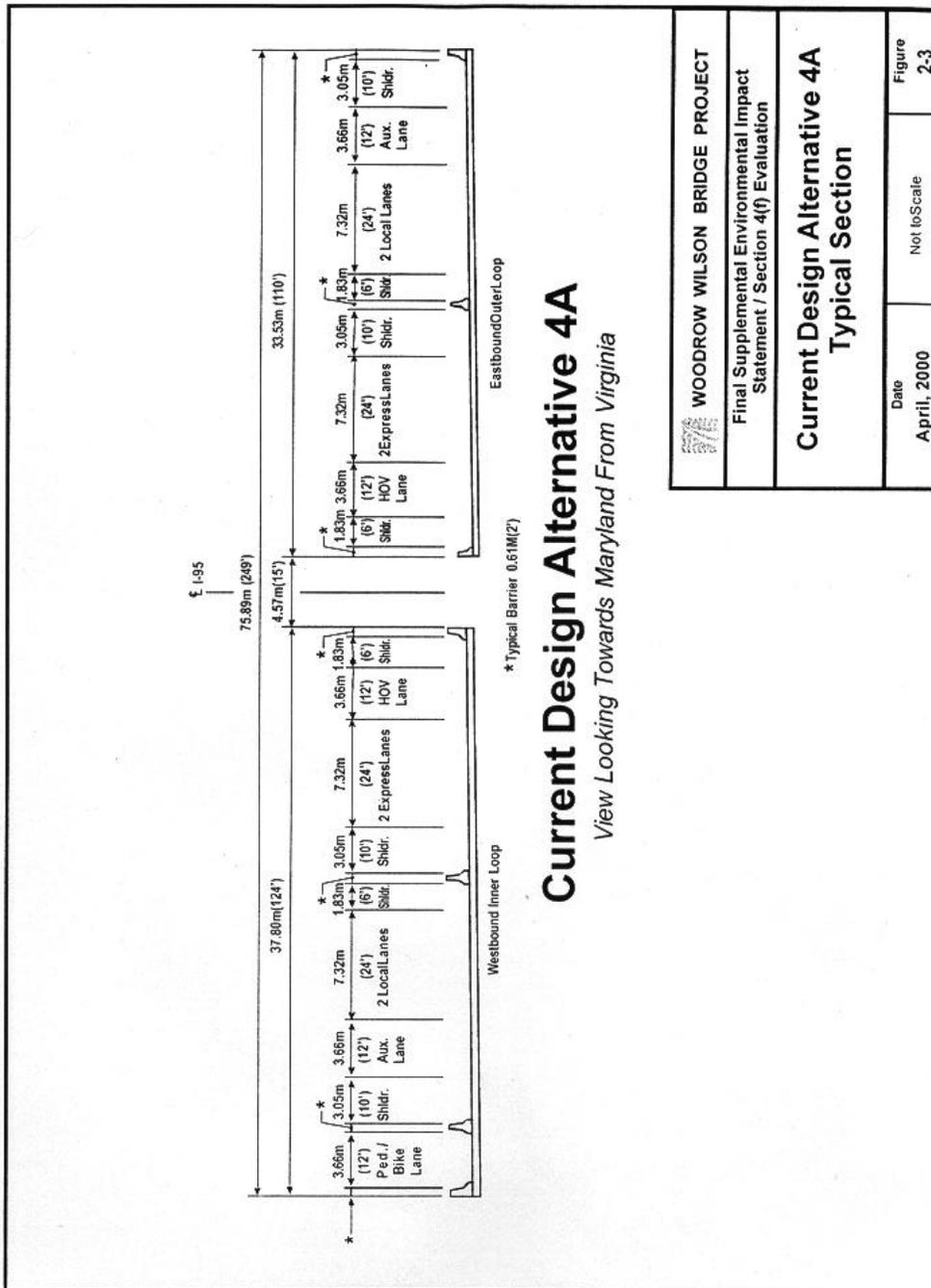
The environmental effects of the selected 4A alternative for the Woodrow Wilson Bridge Replacement can be mitigated, reducing their impact, or offsetting it with in-kind compensatory replacement within the Potomac River watershed. A majority of both the federal and state agencies with jurisdiction have found the environmental effects of this project are acceptable when mitigation measures are employed.

The analyses of the effects of the alternatives and the ability of the alternatives to satisfy the identified purpose and need for the proposal have been carefully considered. All practicable means to avoid or minimize environmental harm from the selected Current Design Alternative 4A, as identified above, are recommended by staff. It is therefore recommended that the Commission approve the final dredging and foundation and preliminary design plans for the Woodrow Wilson Bridge Replacement.



WOODROW WILSON BRIDGE PROJECT
Final Supplemental Environmental Impact
Statement / Section 4(f) Evaluation
**Current Design
Alternative 4A Alignment**
Date: April, 2000
Scale: 1" = 1000'
Figure: 2-4

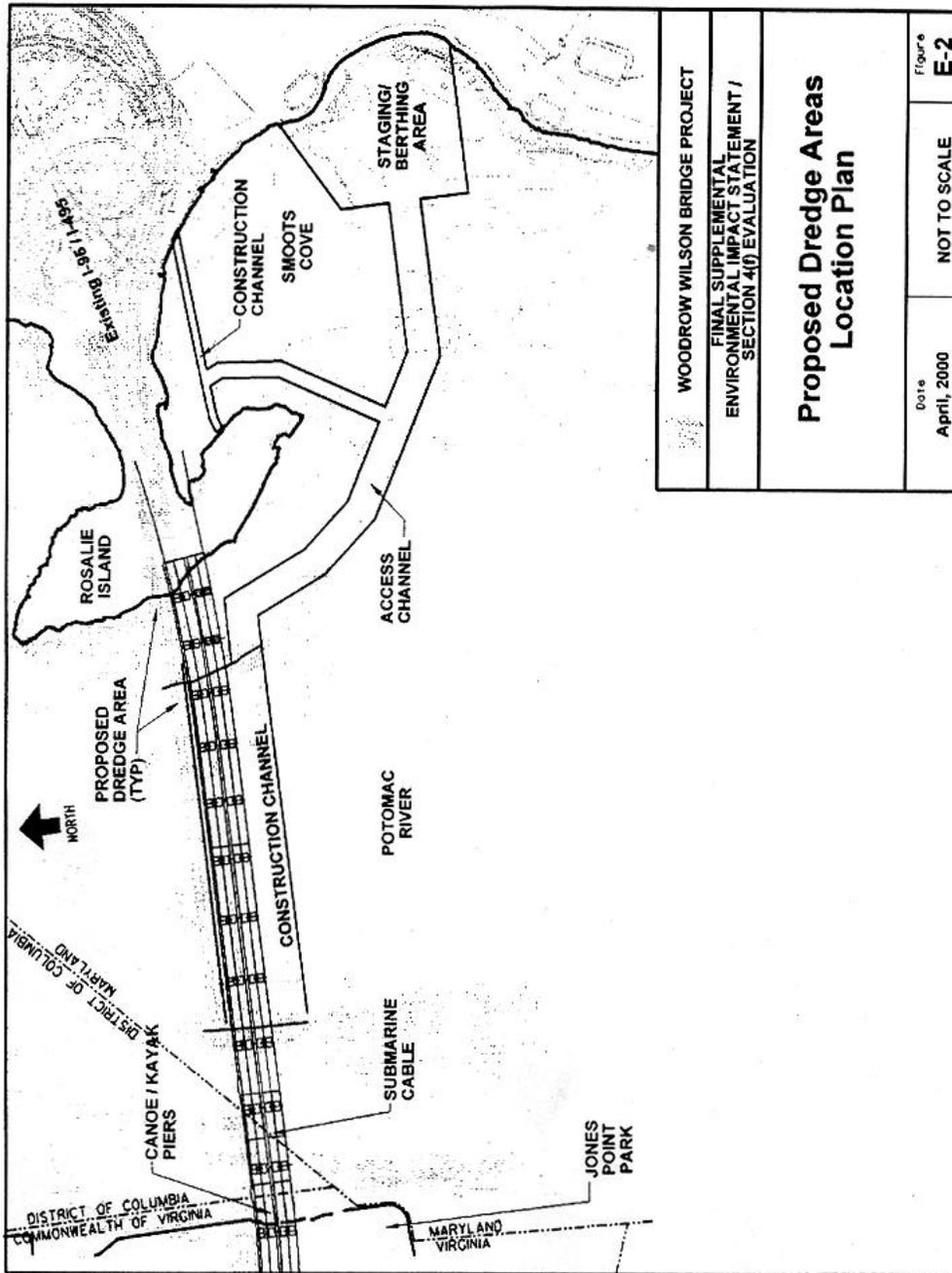
Basemap Source: U.S.G.S. - Alexandria, VA-DC-MD, 1994
- Annapolis, DC-MD, 1979



Current Design Alternative 4A

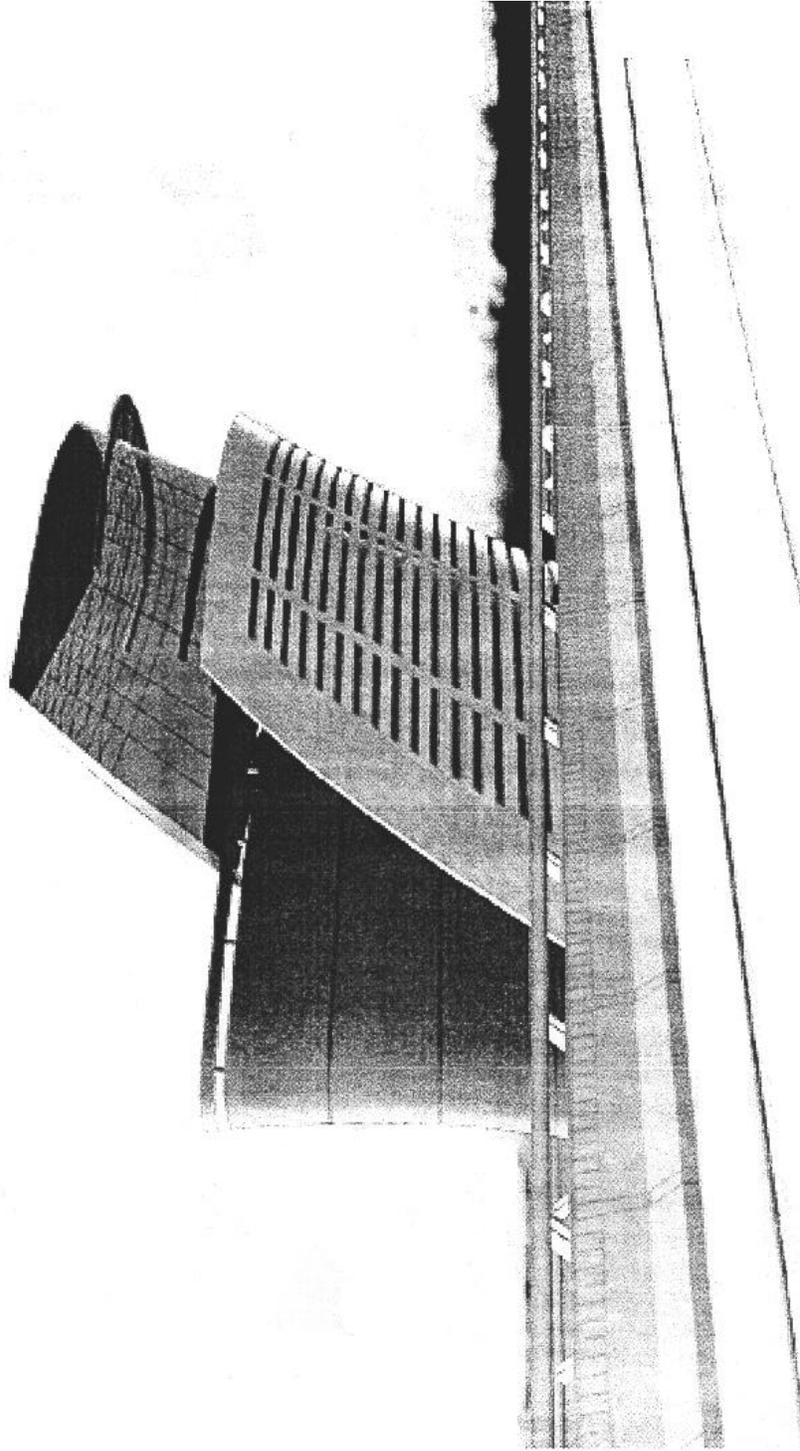
View Looking Towards Maryland From Virginia

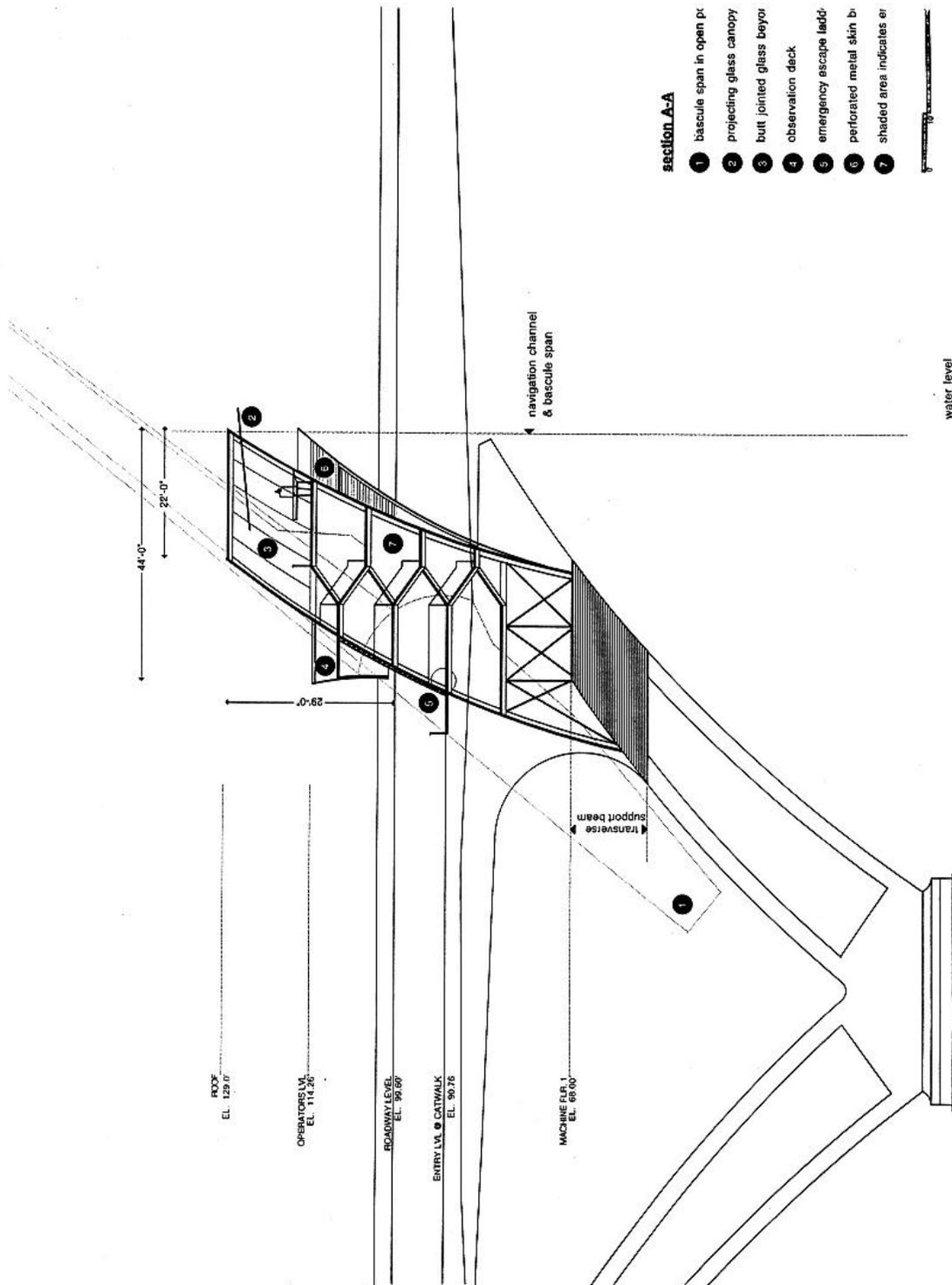
WOODROW WILSON BRIDGE PROJECT	
Final Supplemental Environmental Impact Statement / Section 4(f) Evaluation	
Current Design Alternative 4A Typical Section	
Date April, 2000	Not to Scale Figure 2-3



WOODROW WILSON BRIDGE PROJECT	
FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT / SECTION 4(f) EVALUATION	
Proposed Dredge Areas Location Plan	
Date	Figure
April, 2000	E-2
NOT TO SCALE	

OPERATOR'S CONTROL TOWER





PEDESTRIAN/BICYCLE PATH

