Cultural Landscape Report

BALTIMORE WASHINGTON PARKWAY

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VIRGINIA TECH

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This report documents the history and current conditions of the Baltimore-Washington Parkway (B-W Parkway). In doing so, it assesses the landscape's historical integrity and proposes changes to meet highway safety concerns while maintaining and improving the historical integrity of the landscape. It focuses on a series of maps generated at three distinct scales that document conditions and design decisions that underlie the parkway's structure and character. It also studies the parkway's sequential experience through a series of sections that record the spatial sequence that drivers experience. Based on this documentation, it recommends specific design proposals in response to highway management and safety concerns identified by NPS personnel and others that emerged through this historical analysis.

For most of its length, the B-W Parkway is a four-lane, divided roadway extending northeast of Washington, DC for nineteen miles through a forested corridor. The parkway originally was conceived as part of an unrealized proposal to create a national forest near the capital, and it connects several federal properties that collectively conserve much of the proposed forest lands. Forest defines the character of the surrounding vegetation, and its continuity along the length of the parkway is a defining characteristic of the landscape.

The parkway's history reveals an ambiguity in its purpose between being a scenic parkway and an efficient inter-city highway. That ambiguity has led to repeated attempts to transfer ownership of the route to the State of Maryland, but thus far, those efforts have failed because of the cost of upgrading the roadway to carry commercial traffic. This document argues that part of the B-W Parkway's historical significance is due to this ambiguity. It shows in its design that it is possible for an ordinary highway to have an aesthetic character consistent with earlier parkways.

In the document, the parkway is mapped at a scale of 1:10,000 to show it in regional contexts. Specifically, the maps place the parkway in relation major transportation routes; watersheds, topography and road alignment; the historic national forest proposal; and current forests that are conserved by the adjoining federal properties. These maps show that the parkway plays a distinct role in regional transportation; its layout is influenced by the topography of the watersheds; and that it is an important corridor in the regional forests.

The parkway is mapped at a scale of 1:2000 to identify structure and pattern to the design decisions. Topography is an important influence on the alignment and infrastructure of the parkway and even on the age and composition of the adjoining forests. Collectively, these factors distinguish four character areas: the Washington Entrance character area, the Picturesque Urban Parkway character area; the Beltway Transition character area; and the Modern Forested Parkway character area. Of these, the Modern Forested Parkway character area comprises almost two-thirds of the parkway, and its combination of modern road alignment and parkway characteristics is key to the overall historical significance of the design of the B-W Parkway.

Maps at a scale of 1:700 document detailed design decisions, especially with regard to safety infrastructure, forest management, and designed plantings. The locations of guard walls and guardrails are shown to be directly related to topography and dangerous traffic conditions, and they are also shown to be consistent in their design along most of the parkway. Later exceptions are documented that detract from this consistency of design. Forests have been disturbed during periods of construction and rehabilitation, and this is evident in patterns of successional and mature forest. Composed plantings have been concentrated at interchanges, where they make a transition between the surrounding suburban landscape and the forested corridor of the parkway. Few of these plantings remain today.

A series of sections drawn at half-mile increments documents the spatial sequence of driving the parkway. Spatial conditions can be difficult to record, and these repetitive sections operate like a film storyboard, constructing a facsimile of the driving experience. They reveal that in the most traditional segment of the parkway, the Picturesque Urban Parkway character area, the spatial conditions differ every half-mile. This spatial structure helps inform design decisions especially in places where the spatial conditions do not vary for notably longer distances.

This overall analysis informs specific design proposals. New emergency crossovers and pull-offs are located and designed in conjunction to one another to operate as emergency infrastructure (and not be seen as casual pull-offs). They are understated in design in order to continue the character of the landscape. New guard walls are proposed to replace steel guardrails along the main roadway, and consistent guardrails are proposed along interchange ramps where currently there is no consistency to them. Consistency and coherence of these structures is important to the character of the parkway. New mile marker signage is proposed that identifies drivers' locations in emergencies, and they set a standard for signage along the parkway. A proposal for forest edge management allows for a wider safety margin along the roadway while controlling the spread of invasive plant species. And a method of restoration and rehabilitation of planted vegetation is proposed and applied to key interchanges.

These design proposals adhere to a management philosophy consistent with the design and character of the parkway. Part of the historical significance of the parkway is that it shows that a modern highway can indeed have parkway aesthetics. Therefore, it is important that all changes maintain that parkway character and attention to design detail.

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Picturesque view of the parkway from under the Good Luck Road bridge, 1954.
(NARA 54-2246)

Scope of the Report

This report is an analysis of the history, integrity and character of the Baltimore-Washington Parkway, and it makes recommendations for management and design of the parkway to increase safety for drivers and to preserve and rehabilitate its historical character.

As its name implies, the parkway extends northeast from its southern entrance in Washington, DC toward Baltimore, Maryland, and the roadway extends all the way to Baltimore via Maryland Rt. 295 (MD 295). Only the southernmost nineteen miles comprise the parkway, and that portion is the subject of this study.

Analysis

The report investigates four areas of concern. Infrastructure, including large-scale structures like bridges and interchanges and smaller-scale features like guard walls and signage, is examined as part of a focus on highway safety. Forest vegetation is studied due to its importance in the character of the parkway and to its historical significance in regional forest conservation. Spatial sequence is documented as a key to understanding the subtle and unfolding experience of driving the parkway. And planting designs are examined to understand how vegetation has been planted to develop specific detailed character for the parkway and to see how much of that character remains intact.

Proposals

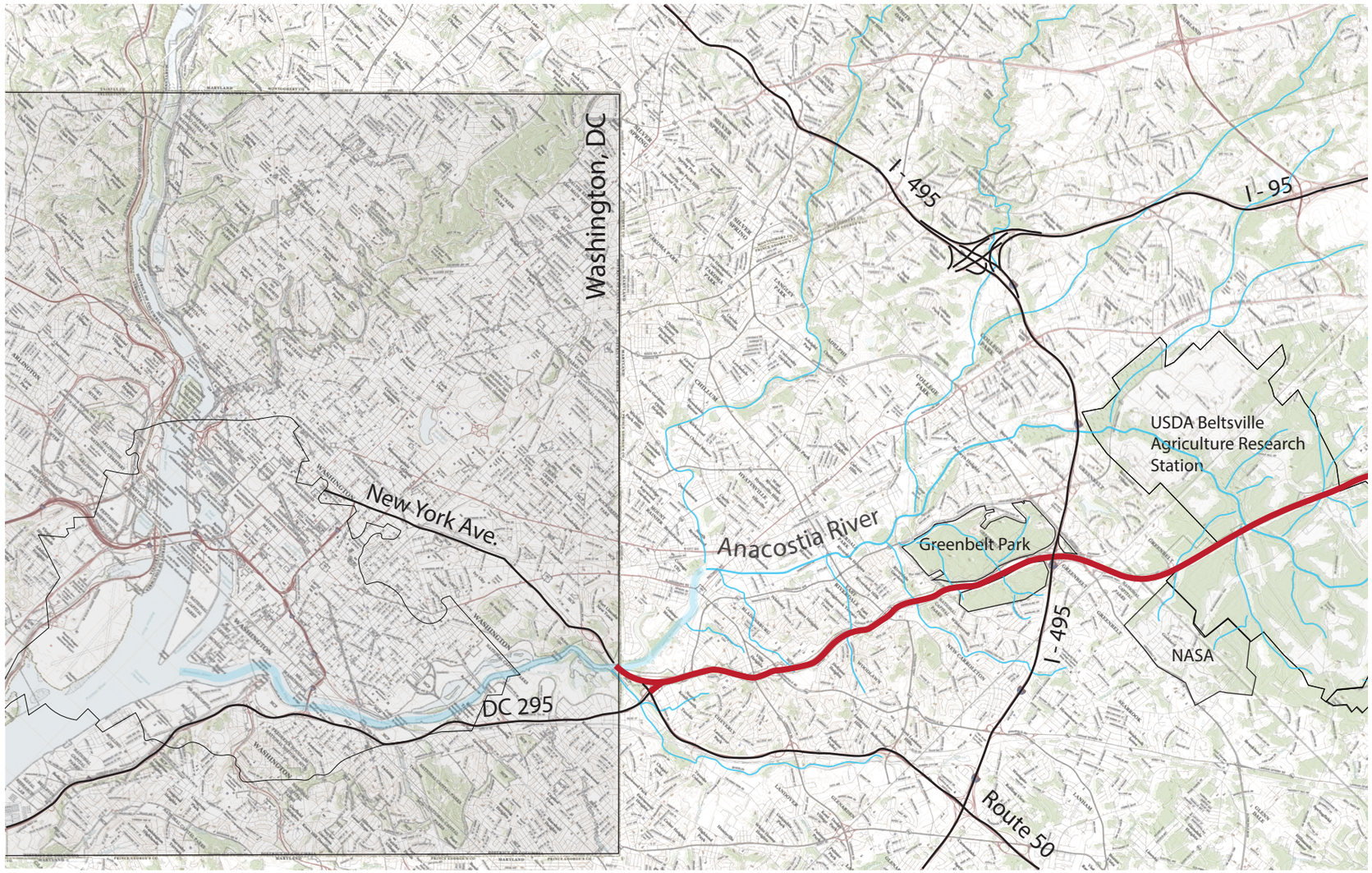
Based on this investigation, proposals are made in several specific areas. Proposals for highway safety infrastructure include: new guard walls and guardrails to replace existing ones that do not conform to parkway character; new emergency crossovers and pull-offs for use by park police; and new mileage markers and guidelines for signage and traffic signals. Proposals are made for vegetation management to control invasive plant species that are colonizing the edge of the forests and open meadows and brushland. Finally, an approach for restoration and rehabilitation of planting designs is proposed along with specific designs for key interchanges where changes are underway or likely to be implemented in the future.

Collectively this analysis and these proposals aim to strengthen the parkway's character and historical significance while allowing it to meet guidelines for modern highway safety.

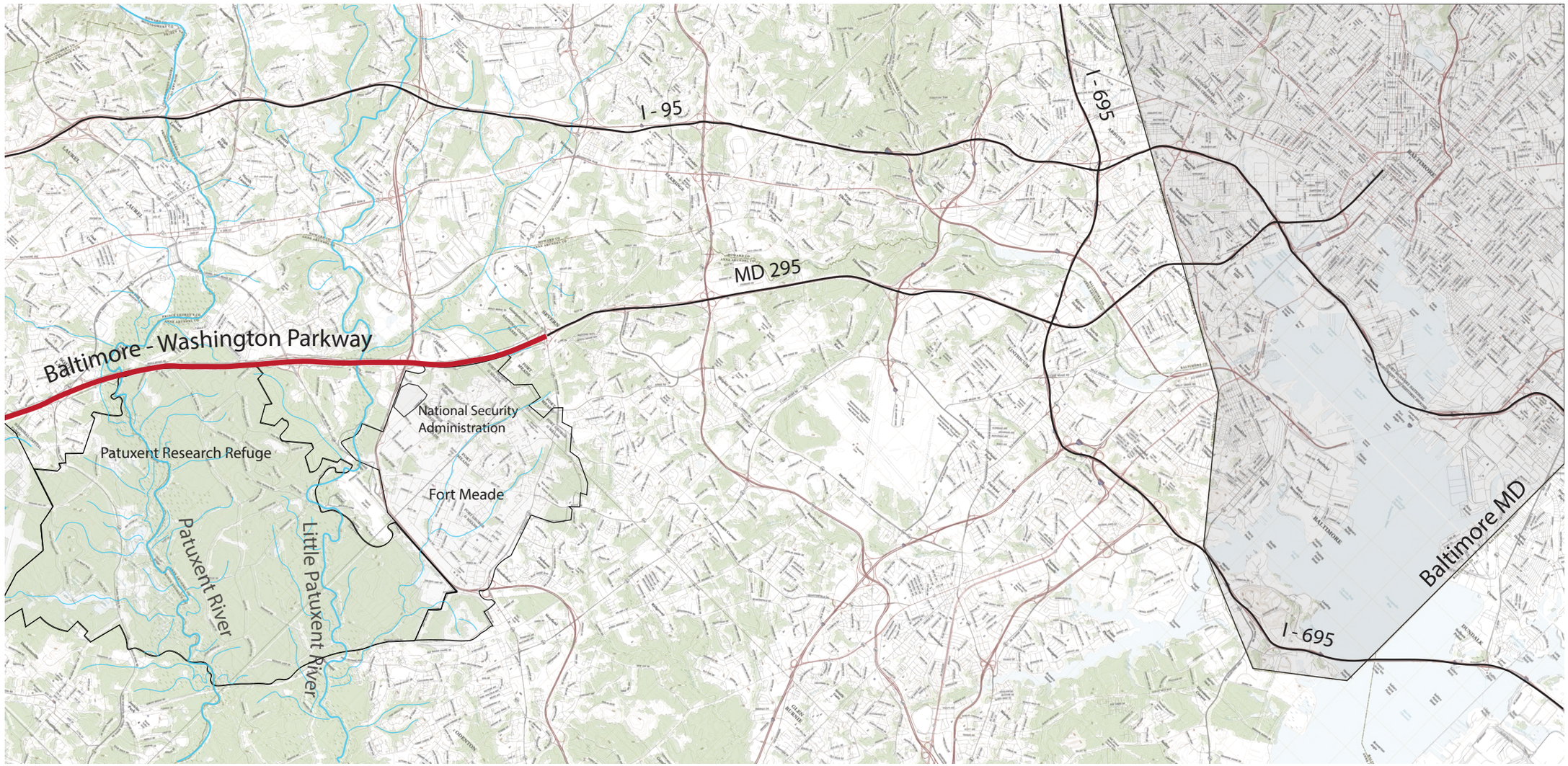
LOCATION

The Baltimore-Washington Parkway is part of a limited-access highway that connects Baltimore, Maryland and Washington, DC. The southern nineteen miles of the highway, about two-thirds of its full length, comprise the Baltimore-Washington Parkway, and the northern third is Maryland Rt. 295 (MD 295). The highway runs southwest to northeast, paralleling Interstate 95, which also connects that two cities and carries most of the traffic. The parkway roughly straddles the boundary between two geologic provinces, the Piedmont and the Coastal Plain, and it traverses gently rolling terrain amid forests typical of the mid-Atlantic region. Much of this land had been part of a proposal for a national forest in the early twentieth century, and the parkway is an important part of the conservation of these forest lands, shown in green on the accompanying map. It parallels the Anacostia River and crosses the Patuxent and Little Patuxent Rivers, but none of these is prominent along the route of the parkway even though the topography that defines the watersheds impacts the alignment of the roadway.

The parkway links several federal properties, from south to north: Greenbelt Park, NASA Goddard Space Flight Center, USDA Beltsville Agriculture Research Station, Patuxent Research Refuge, the National Security Administration, and Fort Meade. The parkway provides direct or indirect access to all of these institutions.



0 2500 5000 10000 15000 20000ft


I - 95
I - 695
MD 295
Baltimore - Washington Parkway
National Security Administration
Patuxent Research Refuge
Fort Meade
Patuxent River
Little Patuxent River
Baltimore MD
I - 695

METHODOLOGY & STRUCTURE

The parkway was studied with an emphasis on infrastructure, forest vegetation, planting design and spatial sequence, and each of these is studied at multiple scales to reveal different aspects of the landscape, its history, and its character. Numerous maps were created at three distinct scales in order to uncover specific physical attributes that underlie the character of the landscape. The goal was to relate precise physical conditions with visual and experiential character, so that direct links are evident between the physical design decisions and the experienced qualities of the landscape.

The largest scale maps at 1:10,000 show the entire nineteen miles of the parkway in a single map, and this allows it to be seen in regional context. The base map for these maps is compiled from standard USGS maps, so that the parkway's contexts are related to the most commonly used U.S. maps and it can be seen easily in relationship to numerous other contexts. Specifically, at this scale the parkway is situated relative to other regional highways, watersheds and their topography, and historic and current forests.

Medium scale maps at 1:2000 show the parkway in three segments of about six miles each, and these reveal the structure and pattern of design decisions. The base maps at this scale are constructed from GIS topography and are shaded to reveal landforms and stream valleys. The topographic relief shows the impact that topography had on road alignment and on the location of bridges, guard walls, emergency crossovers, etc. Indirectly, the topography even relates to the age of forests, since areas with greater topographic change required more grading during construction and therefore the removal of existing forests. These areas have younger forests today, and the undisturbed lands contain more mature forests.

The smallest scale maps at 1:700 show the parkway in nine segments of about two miles each, and these show detailed character and decisions regarding placement of infrastructure, composition of forests, and planting strategies. The base maps for these are aerial photographs that show the immediate context of the parkway including housing developments, commercial properties and preserved natural lands. Swaths of invasive plant species along the forest edges are noted at this scale as are swaths where the edge vegetation has been cleared to make a wider setback from the roadway.

Driving the parkway in real time and through Google maps street view was key to studying the current conditions of the parkway and the experience of driving it. Photographs from these drives were studied along with screenshots from Google maps to identify and illustrate specific visual characteristics of the parkway. Historic photographs from the National Archives showed conditions during construction and shortly after the parkway opened, and these were compared with current conditions to help understand the relationships between original design and present-day conditions.

Spatial sequence and experience were studied through a series of sections drawn at half-mile increments. The half-mile increment was an intuitive decision based on the scale of the landscape and the time to pass from one to another. It takes thirty seconds to drive a half-mile at sixty miles per hour, so they capture a fairly fine-grain sequence of experience along the parkway. To capture that sequence required thirty-eight separate drawings to represent the whole parkway in one direction, so the drawings needed to be constructed with some degree of repetition. Standardized vegetation modules were used to animate each distinct section line, and together they construct a facsimile of the experience of driving the parkway.

The sections (at 1:200) were overlaid on the 1:2000 maps, and reading them collectively at this scale, revealed patterns in the spatial character of the parkway that correspond with the four defined character areas that were also mapped at this scale. Studied in more detail at a scale at a scale of 1:70, they showed specific experiential characteristics of the nine segments mapped at 1:700.

All of these scales and types of representation were used in making proposals for management and design of the parkway. New drawings and maps were made using the same scales as much as possible, though in many cases, more detailed plans and photographs were necessary to illustrate the specifics of the proposals.

Composite planting plans at a scale of 1:200 were compiled from several sheets of construction drawings, and these composites were colorized to reveal specific planting strategies. These were overlaid on current aerial photographs and formed the datum for proposals for restoration and rehabilitation plans.

This study is an assessment of physical conditions of the landscape in relation to the historical design of the parkway, and the primary sources are original plans for the parkway and especially its planting designs. The following drawings comprised the bulk of the analysis of plantings and other aspects of the parkway design. In addition, GIS data provided by park staff served as base information for much of the mapping that is the core of this analysis.

Historical photographs from the National Archives provided valuable information about the landscape during construction and the first years of operation. They are archived in:

RG 30, Bureau of Public Roads, Prints: Highway Transport 1951-1959. Highways – National, Baltimore-Washington Parkway. Box no. 322. NN-366-112.

National Park Service, "Turnaround Study – Section 1F1-1G1." NPS TIC, BAWA 842/80117 [id196854]. Washington DC: National Park Service, Department of the Interior, Washington DC, 1952.

National Park Service, "Landscape Planting – Various Locations." NPS TIC, BAWA 842/80180 [id168726]. Washington DC: National Park Service, Department of the Interior, 1955.

National Park Service, "Landscaping – U.S. Route 50 and Kenilworth Interchange." NPS TIC, BAWA 842/80465 [id154916]. Washington DC: National Park Service, Department of the Interior, 1966.

National Park Service, "Landscaping – Capital Beltway." NPS TIC, BAWA 842/80478 [id1863]. Washington DC: National Park Service, Department of the Interior, 1966.

National Park Service, "Landscape Plan – NSA Interchange and Access Road." NPS TIC, BAWA 842/41010 [id159712]. Washington DC: National Park Service, Department of the Interior, 1986.

National Park Service, "Planting Plan." NPS TIC, BAWA 842/41914B [id22876]. Washington DC: National Park Service, Department of the Interior, 1993.

National Park Service, "Planting Plan – Capital Beltway to Powder Mill Road." NPS TIC, BAWA 842/41014 [id37624]. Washington DC: National Park Service, Department of the Interior, 1996.

National Park Service, "Planting Plan – Powder Mill Road to Route 175." NPS TIC, BAWA 842/41017 [id18730]. Washington DC: National Park Service, Department of the Interior, 1996.

National Park Service, "Planting Plan (MD Route 32 Interchange)." NPS TIC, BAWA 842/ 41914D [id96181]. Washington DC: National Park Service, Department of the Interior, 1996.

National Park Service, "Baltimore Washington Parkway" (topographic map). NPS TIC, BAWA 842/41012 [id69141]. Washington DC: National Park Service, Department of the Interior, undated.

MANAGEMENT PHILOSOPHY

From its early planning in the 1930s to twenty-first century traffic safety concerns, the Baltimore-Washington Parkway has embodied an ambiguity between being a scenic parkway and being an efficient expressway. This has manifested in a division of the Washington to Baltimore route into two segments, a Maryland highway built for commercial traffic and a National Park Service (NPS) parkway designed for passenger vehicles only. It is reflected in a modern highway alignment with an expression that is consistent with many characteristics of its fellow urban parkways of Washington. And it has led to calls to convey the parkway to the State of Maryland and upgrade it to a modern highway.

Despite the ambiguity of its history and design, the B-W Parkway remains a parkway within the system of urban parkways leading out from the nation's capital. It is listed as an historic district in the National Register of Historic Places, and the extensive rehabilitation of the parkway in the 1990s reaffirmed NPS's commitment to the landscape and its historic significance. The care with which that rehabilitation was designed and constructed should guide future management. Critically, the B-W Parkway's character as a parkway is a reflection of its design details and expression. These are what distinguish it from MD 295, and it is important that this attention to detail, character and spatial sequence be maintained as the parkway faces new safety issues.

This document's approach to management reflects that earlier attention to careful design decisions. In each case, design proposals are aimed at reinforcing the subtle design decisions of the current parkway so that changes will reinforce the "parkway" characteristics of the landscape. The current design relies upon subtle and understated decisions. Bridges are few and simple in their design. Continuous forest edges are the primary vegetation. And mowed grass medians create a spatial rhythm in balance with the enclosing forest. In this document, proposals strive to be equally subtle. Designs for pull-offs and crossovers, signage and mile markers, and management of vegetation all aim for understatement, trying to make the least evident design so as to be in keeping with the understated style of the roadway itself. Careful design is key to the management of the "parkway" character of the landscape.

As noted by its name, the Baltimore-Washington Parkway (B-W Parkway) is a parkway extending from the northeast boundary of Washington, DC toward Baltimore, MD. For most of its length, it is a four-lane divided roadway with a median that varies from fifteen feet to two hundred feet in width. It is aligned along a swath of mostly-forested landscape that serves as a forested corridor linking significant forests protected within federal properties that abut the parkway. The continuity of forest is important to its parkway character as well as its historical significance.

The roadway itself is comprised of twelve-foot-wide lanes, two in each direction, except in the southernmost two miles, where there are six lanes between the Kenilworth Avenue and Annapolis Road interchanges. The parkway has three-foot-wide shoulders along the median and six-foot-wide shoulders on the outer edge, and all shoulders are edged with a mountable concrete curb. This gives the roadway a defined edge yet allows drivers to pull off the road onto the grass in an emergency. The parkway is a limited-access roadway with grade-separated crossings. The parkway crosses over most side roads with only limited bridges carrying side roads over the parkway.

The parkway is part of a set of parkways in and around Washington DC that extend from the capital to various historical sites and military installations. For its part, the Baltimore-Washington Parkway extends nineteen miles from the edge of the capital to Fort Meade, passing through or along the National Park Service's (NPS) Greenbelt Park, the U.S. Department of Agriculture's (USDA) Beltsville Agriculture Research Station, and the U.S. Fish and Wildlife Service's (USFWS) Patuxent Research Refuge. The National Aeronautics and Space Agency's (NASA) Goddard Space Flight Center and the National Security Agency are also accessed from the parkway.

The B-W Parkway was designed and constructed in the 1940s and early 1950s, and its design is more modern than earlier parkways in the Washington region. Its alignment has longer curves and gentler grades associated with more modern highways, and many of its details are more modern in character than its earlier, more rustic predecessors. Its bridges are concrete in construction with simple, trapezoidal stone-faced abutments, and stone-work is comprised of cut stones and caps. By contrast, stone walls along the George Washington Memorial Parkway are made of irregular stones and uncapped which gives them a more rustic character. The modern alignment and the more refined style of its structures mark the B-W Parkway as a transitional parkway. It is one of the last of parkways to be constructed, and part of its historical significance is as a 'modern parkway' showing that modern highways can also be designed with parkway aesthetics.

The parkway's forested landscape also distinguishes it from other parkways of the region. The parkway traverses lands that were largely forested when it was first planned and constructed. In places where construction involved major grading, the forest was necessarily removed, but in other places the forests remained intact. After initial construction, most of the disturbed lands were allowed to follow natural succession, and the undisturbed lands grew into mature forests. Parkway designers initially planted specimen and ornamental trees at four interchanges only and chose species indigenous to the adjoining Piedmont and Coastal Plain forests. These decisions cultivated natural forest along the full-length of the parkway rather than the composed, picturesque landscape that characterizes other parkways of the capital region.

The parkway was rehabilitated in the 1990s to accommodate increased traffic loads that made many of the interchanges dangerous. Drivers were unable to exit the parkway quickly enough at many interchanges, leading to traffic jams and rear-end collisions. Changes in the bridges, exit ramps, roadway edges and guardrails made the roadway much safer than it had been. Much of the roadway's current design detail dates to the 1990s, though it is deemed consistent with the original design. The parkway is safer now, yet it retains its parkway character.

Introduction

The Baltimore-Washington Parkway has a surprisingly long planning history for a roadway considered a transitional parkway and "the end of a fifty-year continuum of parkway construction".[1] It was designed and constructed in the 1940s and '50s, but its planning dates to the beginning of the twentieth century as part of a proposal for a national forest northeast of Washington, DC and overall plans for the capital region. Ambiguities are embedded within this lengthy planning history between intentions for the road to be a parkway or an expressway, and these ambiguities fuel ongoing debates about the parkway's status as a unit of the National Park Service. Although this document argues for the parkway's character and significance as a "modern parkway", recent proposals continue the history of controversy over the status of the parkway that run deep in the history of this landscape.

Regional and Parkway Planning

The earliest proposal for a roadway leading northeast from Washington is part of a proposal for a national forest between Washington, Baltimore and Annapolis, lands that were well-forested at the time. William M. Ellicott, a Baltimore architect had proposed the national forest in 1910 to be the "glory of the nation's capital", and he revised his proposal in 1920 after World War I to be a national war memorial forest with a "splendid avenue" that would lead to the capital. His proposal differed from the natural parkway that would eventually be built, but he linked the idea of a significant roadway with regional planning and forest conservation and thus established the first vision of a forested parkway extending northwest from the capital.[2]

Ellicott's proposal and the idea of a parkway connecting Baltimore and Washington each received quite a bit of attention among planners and parkway designers, and in 1927, Charles Eliot II, planner for the National Capital Park and Planning Commission, proposed the first true plan for a Baltimore-Washington Parkway. Eliot's route followed the valleys of the Anacostia River (Eastern Branch) and Indian Creek to Beltsville, Maryland and then followed the western boundary of the U.S. Experimental Farm to Camp Meade (now Fort Meade.) With Camp Meade as the destination, the parkway gained an additional purpose as a strategic military connection between Washington and the fort.[3]

Passage of the Capper-Cramton Act in 1930, provided funds for parkway development in the capital, and planning efforts became more focused on a system of parkways radiating from the capital. Through the 1930s, emphasis for a parkway expanded to include it being a proper entrance into the capital and an alternative to U.S. Route 1 as a connection between Baltimore and Washington. Route 1 was increasingly congested with numerous accidents and fatalities, and an inter-city parkway was seen as an important alternative route.[4]

These diverse values for the parkway – forest conservation, military transport, entrance to the capital and inter-city connector – led to ambiguity between viewing the roadway as a scenic parkway versus it being an efficient expressway. That ambiguity would lead to decades of debate about the status, design and ownership of the parkway.

Part of the ambiguity lay in the division of the roadway into two portions, a federally-built segment leading from Washington to Fort Meade, and a State of Maryland-built portion extending from Fort Meade to Baltimore. The federal interest in the project was in the overall plan for parkways radiating from the capital and in connecting to several federal installations that had developed in the years after William Ellicott's national forest proposal. Most notable were the Department of Agriculture's Beltsville Agriculture Research Center and the Department of War's Fort Meade. Fort Meade included lands that would become the Patuxent Research Refuge. Not only were these installations considered important destinations, but they were lands already owned by the federal government so there was no need for additional land purchases in this stretch. Maryland's interest lay in the intercity connector which led to a focus on efficiency of transportation. Consequently, the two portions of the roadway were designed and developed differently. The federal portion was designed as a parkway with passenger traffic only, and the Maryland portion was designed as an expressway that would carry commercial traffic, too.[5]

Considerable debate in the early 1940s focused on two proposed alignments and an alternative to each. The National Capital Park and Planning Commission (NCPPC) supported a version of Charles Eliot's proposal that followed the Anacostia River and Indian Creek to Beltsville, whereas the Public Roads Administration (PRA) proposed a route farther east on higher land. The valley route crossed significant public land, was closer to existing communities and had fewer grades, but it was in the floodplain of the river and would need to be built entirely on fill, which limited the roadway to a narrow strip and would divide existing parklands. A revised version of the PRA proposal would require more grading but would pass through undeveloped, wooded land, but proponents argued that the topographic changes and forested border would make for a more scenic drive. Perhaps most critical, the PRA route was shorter and would be significantly less expensive to build. The revised PRA route was endorsed by Thomas Jeffers, the principal landscape architect of the Washington parkway system, and was accepted as the final route.[6]

Design and Construction

The roadway was designed according to PRA standards for rural inter-regional highways with three, twelve-foot-wide lanes, though only two of them were paved for most of its length. The third, unpaved lane allowed for potential future expansion. The design used higher speed standards than earlier parkways with gentler grades and longer curves, and it maintained a nearly continuous median ranging from fifteen to two hundred feet wide. Grade separated interchanges varied, utilizing clover-leaf and diamond-shaped ramps. Bridges were designed by the Bridge Design Office of the Bureau of Public Roads, and were standardized in their concrete construction, but each differed in their detailed expression. Stylistically, they were simpler, more modern designs than used in earlier parkways.[7] Gilmore Clarke, the leading landscape architect for the Westchester County parkway system, reviewed the designs and advocated for simplicity as a more lasting aesthetic. "As I look at bridges which I designed twenty and more years ago, I feel like taking an ax and cutting off the excrescents [sic] which in my younger days I deemed necessary. Now the simpler we make bridges, the better we like them and, incidentally, the more simple the structures are, the better they stand the test of time."[8]

Construction of the parkway began in 1945, and by 1947, two disconnected segments were constructed: from Defense Highway to Good Luck Road and from Laurel-Fort Meade Road to Jessup Road. Construction was interrupted until more funding was provided in 1950, construction resumed in 1951, and the parkway was completed and dedicated in October of 1954.[9]

Limited planting plans were developed and installed at four interchanges – Kenilworth Road, Landover Road, Defense Highway (Annapolis Road) and the northern entrance at Jessup Road. These plans called for large specimen, shade trees – mostly oaks and maples indigenous to the regional forests – and numerous species of ornamental trees, also indigenous to the regional forests.[10]

Ownership Controversy

Even before the parkway was completed, the National Park Service, the Public Roads Administration and the State of Maryland debated transfer of ownership from NPS to the State of Maryland. For its part, NPS did not believe it the roadway was enough of a parkway to justify it as part of the national park system because it did not lead to significant other parklands nor was it especially scenic. It seemed to be primarily a highway in its usage. A counter argument was that it served important federal institutions and was part of a system of parkways radiating out from Washington, DC. The State of Maryland would only accept the parkway if it were reconstructed to carry commercial traffic. Numerous proposals and cost estimates were considered from the 1950s to the 1970s, including expanding it and converting it to an interstate highway, but by 1981, all reconstruction proposals were deemed too expensive, and NPS retained ownership and management of it.[11]

Rehabilitation

With increased suburbanization and increased traffic volumes, the parkway had become dangerous, especially at interchanges which could not handle the volume of traffic, and cars backed up on the travel lanes leading to rear-end collisions. An extensive rehabilitation was planned in the 1980s and implemented in the 1990s. Lanes were shifted toward the median at interchanges, and the third lane paved as an additional deceleration lane. Some bridges were rebuilt or rehabilitated to accommodate more traffic as cars exited the parkway. New shoulders were carefully designed with mountable curbs to allow drivers to pull-off safely, while also maintaining a defined edge consistent with parkway aesthetics. New concrete guard walls replaced old steel guardrails along the full length of the parkway. These were formed to look like stonework that matched the original stonework of the bridges, and they generated significant discussion about the appropriateness of the design. The concrete walls passed crash tests and met the approval of NPS and the Federal Highway Administration, but the Advisory Council on Historic Preservation objected to them and requested bids for stone-faced walls, too. The actual stone walls were much more expensive than the concrete walls, and therefore form-liner concrete walls were built.[12]

Rehabilitation began in 1990 with the construction of a new interchange for the National Security Agency by Fort Meade and continued to 2000 when the northbound bridge at MD 197 Laurel-Bowie Road was completed. Four bridges were substantially reconstructed – Annapolis Junction (MD 32), Fort Meade Road (MD 198), Laurel-Bowie Road (MD 197) and Greenbelt Road (MD 193). Many other bridges were restored, and two unused bridges were removed, one over railroad tracks near the MD 32 interchange and another unused bridge over Old Fort Meade Road.[13]

As part of the rehabilitation, planting plans were developed for the entire parkway (except the Laurel-Bowie Road/MD 197 interchange). These plans, like the 1955 plans, relied upon shade trees indigenous to the regional forests and a variety of ornamental trees, shrubs, grasses and wildflowers that are mostly native to the region as well. The plan strengthened forest edges and called for reforestation in many places along the route. The most composed plantings were concentrated at interchanges, where they were intended, apparently, to make transitions from the adjoining suburban roads to the forested parkway.[14]

With the exception of concern over the form-liner concrete walls, the Advisory Council on Historic Preservation and the Maryland State Historic Preservation Office approved of the changes to the parkway and considered them in keeping with the historic character of the parkway.[15]

Changes Since Rehabilitation.

Despite the increased safety due to the rehabilitation of the parkway, additional safety studies in the 2000s identified additional problems that needed to be addressed. Numerous W-shaped, steel guardrails were added to increase the length of the some of the guard walls and in other locations where walls had not been built .[16]

In the 2010s, new proposals threaten the existence of the parkway. Once again, the State of Maryland proposed taking over the parkway and transforming it into an eight-lane highway, and other transportation proposals threaten the corridor with additional infrastructure. The struggle between the road as a parkway and as a highway continues.

Footnotes

1. National Park Service, "National Register of Historic Places – Registration Form." sect 7, p 1.

2. Ellicott, William M., "A National Capital Forest," Foreward. Ellicott, William M., "Report of the American Society of Landscape Architects on National Forest and Regional Plan."

3. Eliot, Charles W., II, "Preliminary Report, Park System for the National Capital Washington Region." Historic American Engineering Record, "Baltimore-Washington Parkway", HAER MD-129, p. 38.

4. HAER, p. 40

5. HAER, p. 55

6. HAER, p. 61]

7. HAER, pp. 92-94]

8. Clarke, Gilmore D., "Landscape Construction Notes 35, Notes on Textures in Stone Masonry," Landscape Architecture, vol. 21, no. 3 (April 1931), pp. 197-208. NPS, "National Register -- Registration Form", Sect 7, p.17

9. HAER, p. 107

10. HAER, p. 104

11. HAER, p. 111 – 120

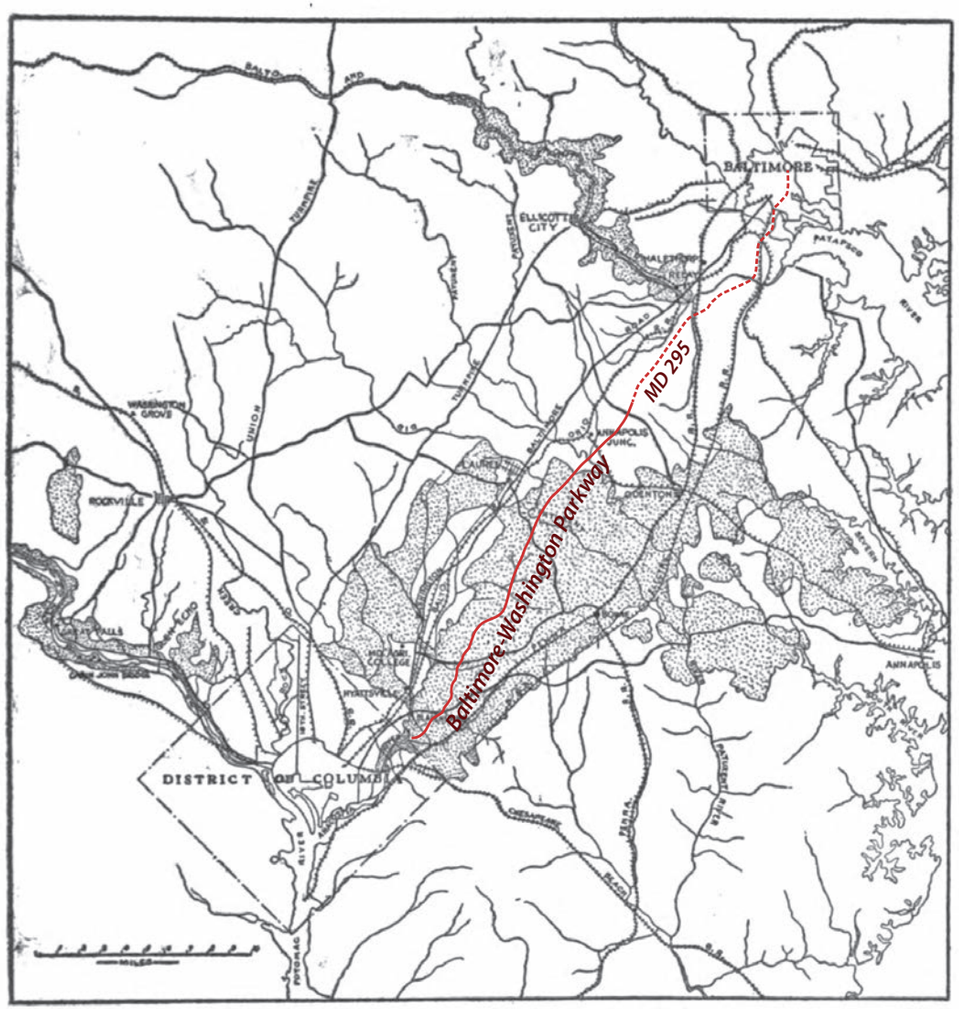
12. HAER, p. 130-134

13. HAER, p. 121-137

14. 1993 Planting Plan (BAWA_842_41914B). 1996 Planting Plan - Capital Beltway To Powder Mill Road (BAWA_842_41014). 1996 Planting Plan - Powdermill Road To Route 175 (BAWA_842_41017), HAER, p.135.

15. HAER, p. 134

16. National Park Service, "The Road Inventory of Baltimore-Washington Parkway", NPS TIC, BAWA 842/D31A [id117292]. Washington DC: National Park Service, Department of the Interior, 2001. Eastern Federal Lands Highway Division, "Baltimore-Washington Parkway, Safety Study." Washington, DC: Federal Highway Administration, 2003.



Map of William Ellicott's proposed national forest, 1910, showing approximate location of Baltimore-Washington Parwkay and MD 295

Developing the Vision: 1910-1925
Forest Conservation, Regional Planning, and Parkways

1910. William Ellicott, a prominent Baltimore architect/developer, proposes a National Capital Forest of 100,000 acres near Washington, DC, Baltimore, and Annapolis for demonstration plots and experiments. The National Forest proposal is significant because it establishes a legacy of forest conservation at the site of the future Baltimore-Washington (B-W) Parkway.

Early 1920s. Ellicott's National Forest proposal, now adapted into a national war memorial with allées, boulevards, and parkways, has garnered support from the American Society of Landscape Architects, the American Institute of Architects, the American Forestry Association, the American Planning and Civic Association, the US Department of Agriculture (USDA), the US Army Corps of Engineers, the Commission of Fine Arts (CFA), the DC Board of Commissioners, and Frederick Law Olmsted, Jr. Serious consideration of Ellicott's proposal is significant in that it spurs regional interest in a parkway between Baltimore and Washington, DC.

1925. Officials from CFA (James Greenleaf, Landscape Architect), DC Public Buildings and Parks (Col. C.O. Sherrill, Director), and the American Planning and Civic Association (Frederick Delano, President, later Chairman of the National Capital Parks and Planning Commission (NCPPC)) form an early vision of the B-W Parkway that incorporates features from the popular Westchester County Parkway while providing a high-speed route connecting Baltimore and Washington, DC, to relieve traffic congestion on Route 1. Proponents of this early vision attract progressively stronger support and justification for the parkway, such as the need for a "dignified" entrance to the nation's capital and a military route between Washington, DC, and Fort Meade.

Design and Planning: 1926-1944
Federal, State, and Regional Involvement

1926. The National Park Service (NPS) and the Bureau of Public Roads (BPR) sign a memorandum of agreement (MOA) to cooperate in the design and construction of NPS park roads and parkways. The MOA establishes that BPR is responsible for engineering, design, and construction while NPS is responsible for determining parkway character. The MOA is significant in that it establishes roles and responsibilities for the future B-W Parkway.

1927. NCPPC (Charles Eliot II, Planner) prepares the first plan for the B-W Parkway in a preliminary report on the national capital park system. Eliot's plan is significant because it is the first potential alignment ever established for the B-W Parkway.

1930. The Capper-Cramton Act is passed, providing $16 million for parkland acquisition to expand DC's federal park system into a regional park system. The Act is significant in that it provides the potential for acquiring federal funding to construct the B-W Parkway as an extension of the Anacostia Park system.

1932. Encouraged by the passage of the Capper-Cramton Act, and in response to the increasing traffic issues on Route 1, NCPPC (Thomas Jeffers, Landscape Architect) develops the first legitimate alignment proposals for four sections of parkway from Washington, DC, to Fort Meade. These proposals form the basis for cooperation with federal agencies (e.g., USDA and the War Department) with installations in the proposed right-of-way.

1933. NCPPC briefly resurrects and then officially abandons Ellicott's National Forest plan, citing a lack of legislative support from Maryland. Ellicott remains involved in planning efforts, encouraging NCPPC to reduce land-acquisition costs by establishing right-of-way through existing federal installations and further justifying parkway construction by connecting those installations to Washington, DC.

1937. A Baltimore-Washington-Annapolis regional plan, long endorsed by Ellicott, is published. The plan is significant because it is the first public proposal for the B-W Parkway as a solution to traffic congestion and safety concerns on Route 1, a dignified entrance to the nation's capital, and a strategic connection between Washington, DC, and Fort Meade.

1939. NCPPC submits its plan for the B-W Parkway alignment to the District Highway Department. The proposed parkway is intended to primarily serve inter-city traffic, although military importance is also emphasized.

1942. NCPPC recommends that the portion of parkway between Washington, DC, and Fort Meade be designated as an extension of the Anacostia River Parkway and incorporated into DC's regional park system, making it eligible for NPS ownership and providing access to funding through the Department of Interior (DOI) parkway budget. This approach to securing NPS ownership is significant because it not only provides access to federal funding but also provides a means to restrict commercial traffic on the federal portion of the parkway.

1942. NCPPC successfully lobbies President Roosevelt to appropriate $2 million in National Industrial Recovery Act (NIRA) funds for initial construction activities on sections threatened by private development. With funding for the federal portion assured, NCPPC asks the Maryland State Roads Commission to begin working on the state portion of the parkway between Fort Meade and Baltimore.

1942. The Public Roads Administration (PRA, formerly BPR) and NCPPC debate alignments for the federal portion of the parkway. NCPPC argues for wider right-of-ways, alignment that follows topography, inclusion of attractive natural features, and a commitment to prohibiting commercial traffic. PRA argues that although the road had been planned as a parkway, it likely would function as a freeway given projections for development and Maryland's plans to construct a freeway (rather than a parkway) between Baltimore and Fort Meade.

1944. After much debate over alignment, NCPPC approves PRA's "revised east line" because it best achieves NPS parkway standards through varied median widths, separated roadways that follow topography, and the inclusion of forested areas suitable for parkway landscape treatments. NCPPC's approval is significant because it allows for construction activities to begin using the $2 million in appropriated NIRA funds before those funds expire.

Construction: 1945-1975
Traffic Problems and Contested Ownership

1945-1947. Four grading projects from Laurel-Fort Meade Road to Good Luck Road are completed using NIRA funds, and all land is acquired for the B-W Parkway right-of-way. Although the progress is significant, no further construction on the federal portion of the parkway occurs until 1951, pending Congressional approval and additional funding.

1946-1950. The bill to fund the B-W Parkway and transfer ownership to NPS proceeds slowly through the House and Senate. The uncertainty and resulting delay is significant because the state of Maryland has already made considerable progress constructing the route between Fort Meade and Baltimore. Finally, Cold War concerns and the outbreak of the Korean conflict are key to the final debate and passage of the bill, which is signed into law on August 3, 1950.

1952. Maryland completes construction of the state portion of the B-W Parkway from Baltimore to Fort Meade. The federal portion does not open until 1954.

1951. Construction of the federal portion of the B-W Parkway resumes in January 1951, after a three-year delay. Eleven contracts for grading and paving projects, eighteen contracts for bridge projects, and four contracts for smoothing and seeding slopes and installing guardrails, traffic signs, and fencing are let.

1953. DOI (Orne Lewis, Assistant Secretary) discloses that officials have debated the transfer of ownership of the B-W and Suitland Parkways to the state of Maryland for "some time," publicly questioning whether NPS should have responsibility over two roads that do not fit the NPS definition of a parkway. As a condition of ownership, the state of Maryland asserts that the federal government should be responsible for the substantial investment required to make the federal portion of the parkway suitable for commercial traffic. This ownership debate is significant because it begins before the construction of the federal portion of the B-W Parkway is complete, and it is the first of many ownership debates that will occur to present day.

1954. The federal portion of the B-W Parkway opens, connecting the state portion to Washington, D.C. Although early planning estimates had established a capacity of 20,000 cars per day, more than 21,000 cars per day are counted within one week of the opening.

1955. Planting plans are developed and implemented at four interchanges: the southern entrance at Kenilworth Avenue, Landover Road, Annapolis Road and the northern entrance at Jessup Road.

1957. Construction is completed on the Kenilworth interchange, considered one of the most complex "traffic mixing bowls" in the area.

1962-1966. Interstate 95 interchange is constructed under the parkway in 1962. It is planted in 1966.

1966. A new interchange with a bridge over the parkway is constructed for the National Aeronautics and Space Administration's Goddard Space Flight Center.

1966. A planting plan was installed at the southern entrance as part of Lady Bird Johnson's plan to beautify entrances to the capital. Most of the plantings are within the loops formed by the ramps of the interchange with U.S. Rt. 50. These loops are outside the boundaries of the parkway administered by NPS.

Late 1960s to 1975. As daily use of the parkway climbs past 50,000 cars per day, the Federal Highway Administration (FHWA, formerly BPR), NPS, and the Maryland Department of Transportation (MDOT) move toward rebuilding the B-W Parkway into an interstate freeway. By 1972, much progress has been made to secure federal interstate funding and transfer ownership. However, by 1975, engineering estimates have climbed past the funding ceiling and opposition begins to form among state residents and newspapers. The Maryland State Highway Administration (MDOT SHA) informs FHWA and NPS that the state will not assume jurisdiction.

Rehabilitation: 1976-2000
Improving Safety while Preserving Parkway Character

1984. FHWA issues an Engineering Report to rehabilitate the federal portion of the B-W Parkway for continued NPS ownership. Rehabilitation focuses on improving safety and lowering maintenance costs – not increasing capacity. The report identifies structural problems with the road surface, bridges, and guardrails and determines that high traffic volumes make certain parkway features dangerous, especially interchanges. FHWA and NPS disagree over design standards for shoulder treatments, barriers, signage, and lighting. Compromises are made, as when FHWA assists NPS with selecting an artificial stone alternative when masonry-faced barriers are found to be cost-prohibitive.

1991. The B-W Parkway is designated as an Historic District and listed on the National Register of Historic Places. The parkway is nominated both individually and as an element of the parkways of the national capital region.

1990-2000. Rehabilitation of the B-W Parkway is carried out. The project shifts traffic lanes to provide additional clearance under bridges, installs mountable curbs, builds 12,000 feet of form-liner concrete guard walls from the Capital Beltway to north of Riverdale Road, repaves, reconstructs interchanges, replaces bridges, repaves, and installs landscaping to achieve a naturalized, low-maintenance design. During rehabilitation, NPS produces the first-ever planting design for the entire federal portion of the parkway. Bridges were rebuilt at Annapolis Junction (MD 32), Fort Meade Road (MD 198), Laurel-Bowie Road (MD 197) and Greenbelt Road (MD 193). The northbound bridge at MD 197 is completed in 2000 marking the end of the rehabilitation.

Current Context: 2001 to Present
Threats to Parkway Status

2001 - 2003. Additional safety studies led to additional steel guardrails as extensions of form-liner concrete guardwalls and in new locations where there had been no previous guard walls or rails.

2012. FHWA, NPS, and the Maryland Department of Transportation conduct a feasibility study that identifies numerous obstacles to widening the B-W Parkway to six lanes, including prohibitive construction costs, limited improvements to traffic congestion, public uncertainty, and adverse impacts to the environment and the parkway's character and historic significance.

2017. Governor Hogan of Maryland proposes that the state of Maryland assume ownership of the federal portion of the B-W Parkway and convert the entire parkway into an eight-lane toll road via public private partnership. Also, the B-W Parkway corridor is identified in an environmental study of two potential routes for a future superconducting magnetic levitation (SCMAGLEV) train between Baltimore and Washington, DC.

STATEMENT OF SIGNIFICANCE

Period of Significance 1927 - 2000

The Period of Significance extends from the initial plan for the parkway by Charles W. Eliot II in 1927 and concludes with the completion of rehabiltiation of the parkway in 2000.

Statement of Significance

The registration form for the National Register of Historic Places identifies the Baltimore-Washington Parkway as having state and local significance in the areas of transportation and landscape architecture under criteria A and C. It is associated with urban development of the national capital as a federal center; it exemplifies the last period of construction for this type of road; and it is the only fully developed parkway of its kind in Maryland.

Based on additional research, the parkway also achieves national significance under criterion A for its important role in the planning of the national capital landscape and management of regional public lands in the late 19th and early 20th centuries. Its location, alignment, and design aesthetic extend the national capital's regional parkway system and are a lasting legacy of a vision for conserving the land between Washington, DC, and Baltimore as a "National Capital Forest".

In the late nineteenth and early twentieth centuries in the United States, forestry science was making great strides in establishing the many virtues and economic benefits of productively managed forests and healthy ecosystems. In the west, vast tracts of forest land were being established to conserve valuable resources and ecosystems. In the east, Theodore Roosevelt, Gifford Pinchot and other forest advocates called for the creation of eastern National Forests through the acquisition of cutover private lands and the active restoration of their damaged forests.

During this same time period, population density was rapidly increasing in the east, including in Washington, where the population nearly doubled from 278,000 to 437,000 between 1900 and 1920. In this context, the 1902 Senate Park Commission Plan, (more familiarly known as the McMillan Plan) proposed a system of parks and parkways throughout the city and extending into the region, most notably along the Potomac River. While not formally adopted by the US Government, the McMillan Plan, with its vision of a monumental core and an extensive parkway system, established a framework and character for the broader landscape of the nation's capital that has guided development to a significant degree.

Then in 1910, a prominent Baltimore architect and developer, William M. Ellicott, proposed that much of the land between Washington and Baltimore, (in addition to land stretching east to Annapolis and land that is now along the George Washington Memorial Parkway on the Potomac River), be preserved as the first eastern national forest for the enjoyment of the growing population as well as to serve as the setting for a dignified northern entrance to Washington, fitting of the nation's capital. In 1910 this proposal was published in American Forests, the magazine of the American Forestry Association. Ellicott's proposal was accompanied by a report on the condition of the land and its forests from the State Forester of Maryland, highlighting the significance of the ecosystem along the Atlantic Seaboard Fall Line, which combined species endemic to both the Piedmont and Atlantic Coastal Plain regions.

Ellicott's vision for a National Capital Forest became the central focus of the conversation about development of the region between Washington and Baltimore for well over two decades to follow, briefly shifting into a national 'memorial' forest vision following World War I. Then, in the 1930s, in a clear recognition of the potential value of much of the same land as identified in Ellicott's original proposal for its ecological benefits, the government established the US Department of Agriculture (USDA) Beltsville Agricultural Research Center in 1933 and then the US Fish and Wildlife Service Patuxent Research Refuge in 1936. These facilities, combined with the Army's Fort Meade, which had been established farther north in 1917, placed much of the same land originally proposed for the National Capital Forest under federal government control.

After 1933, the conversation in the Bureau of Public Roads and National Capital Parks and Planning Commission then shifted to the development of a parkway connecting Washington and Baltimore. Benefits for such a route included easy access to Fort Meade for military purposes during World War II and the beginning of the Cold War and also as a safer alternative to Route 1, but the legacy remained of a vision for maintaining a uniquely forested and dignified northern entrance to Washington. Indeed, the 1950 authorizing legislation (H.R. 5590) for parkway construction, establishes that the parkway will provide a "… suitable approach to the National Capitol and for an additional means of access between several Federal establishments adjacent hereto."

The parkway achieves national significance in the areas of transportation and landscape architecture under criterion C. It represents the work of masters of landscape architecture and leaders in the design of the country's most prominent parkways, Gilmore C. Clarke, Thomas Jeffers, Charles W. Eliot II.

The parkway is regionally significant under Criterion C for its design as part of the parkway system of Washington DC. It is an example of late parkway design that accommodated higher volumes of traffic at higher speeds than earlier parkways, and it developed a more modern parkway aesthetic. Whereas other segments of this regional system of urban parkways are more traditional and picturesque parkways, the Baltimore-Washington Parkway has an alignment that is more modern and less rustic than its predecessors.

This is especially true in the northern portion, the Modern Forested Parkway character area. In that character area, the alignment is not different from the alignment of MD 295 which extends the roadway to Baltimore. Yet the character of the two roadways is critically different, and in this regard, the Baltimore-Washington Parkway is significant because it shows an ordinary highway can actually be designed as a parkway with careful attention to the expression of the landscape.

Numerous design decisions at different scales distinguish the parkway from its northern extension and place it firmly within the tradition of parkway design. Among them is the presence of robust forest along its entire length with narrow shoulders and mountable curbs that bring the landscape close to the road, often in the form of a grass shoulder. The lack of overhead structures and visible structures along the edges of the landscape also contributes to an overall sense of driving through a natural landscape, even though at times suburban development is just beyond the trees. Stone-faced bridges abutments, form-stone guard walls, and (often) distinct signage contribute to the feeling of this being a parkway rather than a conventional highway. The subtle spatial sequences between enclosing forests, open grass medians, and planted interchanges also contribute to this parkway character.

The bridges and guard walls of the Baltimore-Washington Parkway are key to the modern parkway character of the landscape. They establish an important link to the traditions of parkway design in the urban context of Washington DC, but in style they are more refined than many of the earlier, more rustic parkways. The stone and concrete bridges are faced with cut-stone in varied rectangular blocks with a slightly lighter cap, also of cut-stone. By contrast the stone walls of the George Washington Memorial Parkway are dry-laid, rough stone with uneven stones forming the top of the wall. There is no cap, which makes for a decidedly rustic stone wall.

The guard walls of the Baltimore-Washington Parkway are form-liner concrete shaped to approximate the stonework of the bridges, and are convincing in their mimicry. By contrast, the guardrails of the original design of the Mount Vernon Memorial Highway were natural logs on wooden posts. They had a decidedly rustic character, especially as it extended south of Alexandria into what was then rural landscape. The apparent stone walls of the Baltimore-Washington Parkway keep the roadway firmly in the parkway idiom, but they are far more refined than the rusticity of the older Mount Vernon Memorial Highway and the George Washington Memorial Parkway.

These distinctions between more rustic and more refined styles are important to note. They illustrate the significance of the Baltimore-Washington Parkway as a modern parkway.



Construction of MD 197 interchange with extensive forests visible in the background, 1953.
(NARA 53-2272)

Introduction

Maps at a scale of 1:10,000 reveal relationships between the parkway and regional contexts.

Relationships to regional highways, watersheds and forests are critical to the parkway's alignment, character and significance. Base maps are USGS maps, so that the parkway is easily related to common mapping practices.

Road Network

The parkway was built as a scenic alternative to the congestion of Rt. 1, the primary road connecting Baltimore and Washington, and it also provided direct access to Ft. Meade. Later, I-95 and I-495 were constructed and carry more traffic, but the parkway remains an important link between the Capital Beltway (I-495) and Washington DC.

Watersheds and Alignment

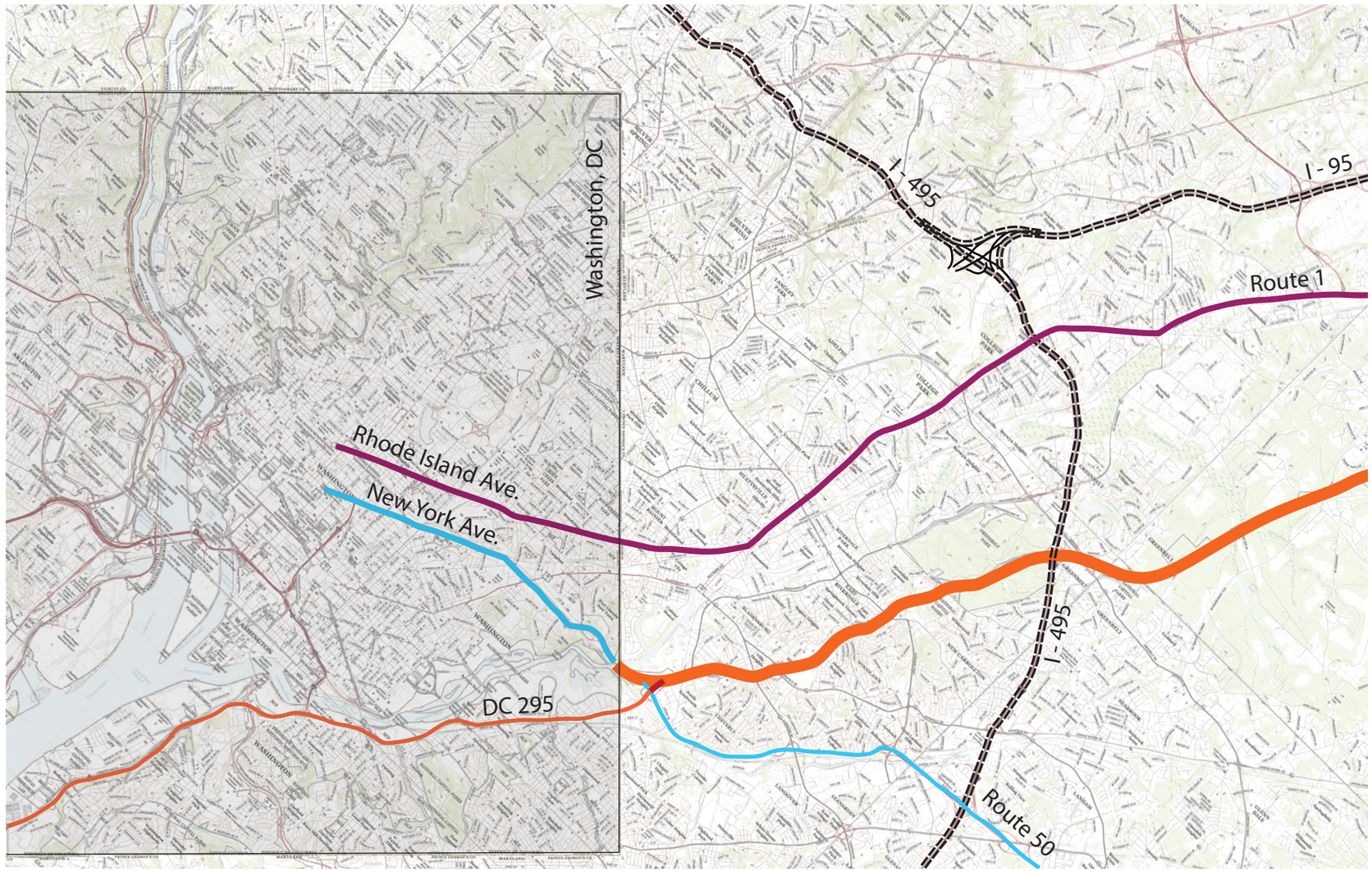
The topography of the parkway is subtle but its influence on the alignment of the parkway is revealed in its relationships to the watersheds of the region. The original proposed alignment of the roadway was to follow the Anacostia River, but the road was moved to higher ground and away from the river. Watershed boundaries and high points create subtle points of transition in the landscape.

Forest Preservation

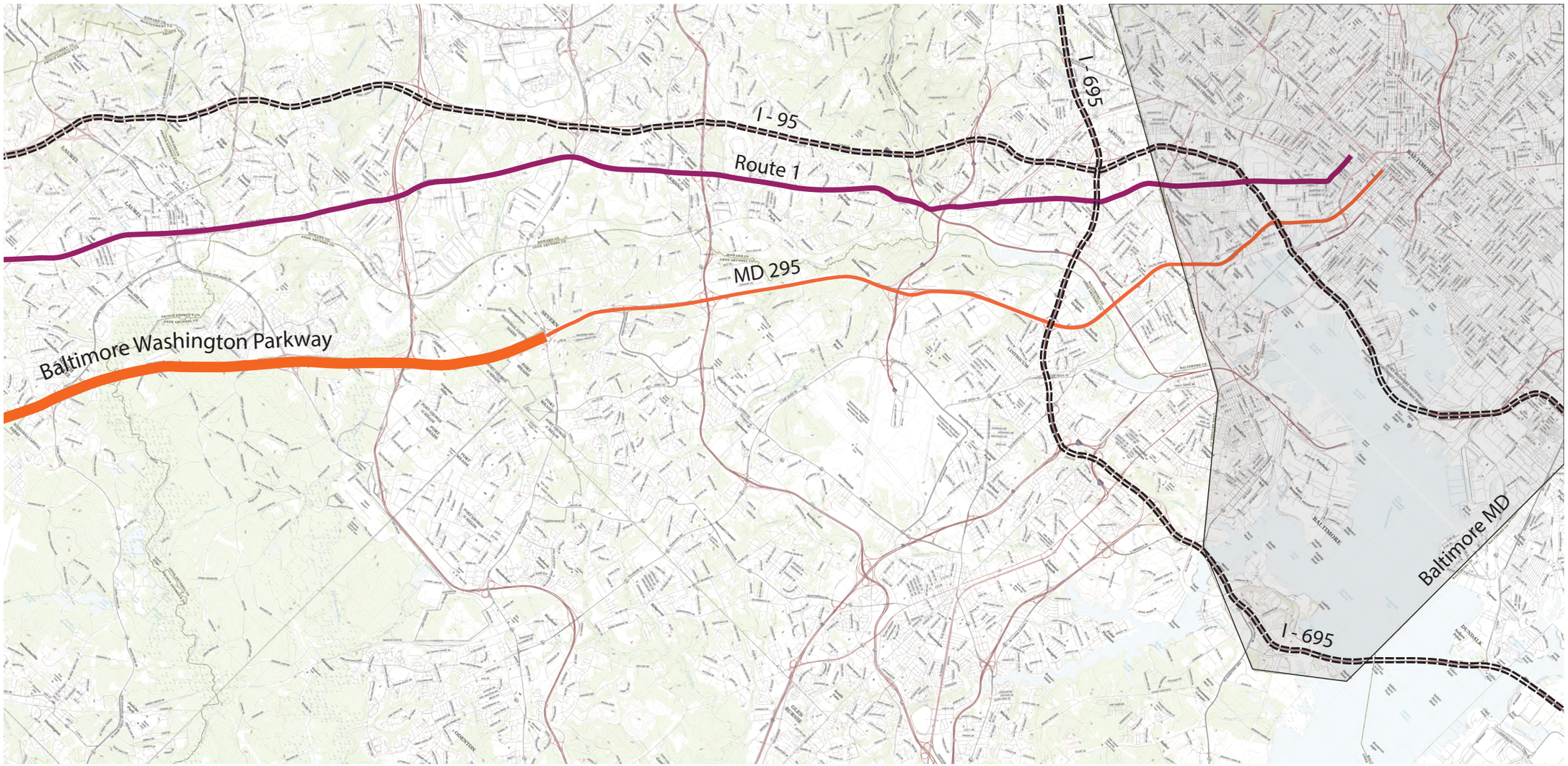
The parkway has played an important role in the preservation of regional forests. William Ellicott's proposed a national forest in this region at the beginning of the twentieth century, and overlaying current forest land on top of his plan shows that much of that forest has been preserved on several key federal properties. The Baltimore Washington Parkway is an important corridor linking these properties to each other and to other federal lands along the Anacostia River. Collectively they form an important network of preserved forest land.

REGIONAL CIRCULATION

The Baltimore - Washington Parkway holds a distinct position in the regional circulation network between Baltimore and Washington. Opening in 1954 with its extension MD 295, the B-W Parkway provided the first limited-access alternative to US Rt. 1, the traditional route between the two cities, which becomes Rhode Island Avenue in Washington DC. I-95 opened in the 1960s and provided a third, major route between the cities, carrying much higher traffic volumes and heavy truck traffic. The three routes create distinct experiences for drivers and offer alternative routes when traffic is congested, especially between the Capital Beltway (I-495) and the Baltimore Beltway (I-695). Within this trio of roads, the B-W Parkway is the most scenic drive, a result of its intentional design and decades-long management of its forested landscape. An important goal of the design was to make a park-like entrance to the city of Washington, and at its southern end, the B-W Parkway connects to New York Avenue (US Rt. 50), leading into the center of Washington. Alternative routes into the heart of Washington are accessed from DC 295 which parallels the Anacostia River. Because trucks are not permitted on the B-W Parkway, trucks driving on the Capital Beltway enter Washington via Rt. 50, Rt. 1 or other surface roads.

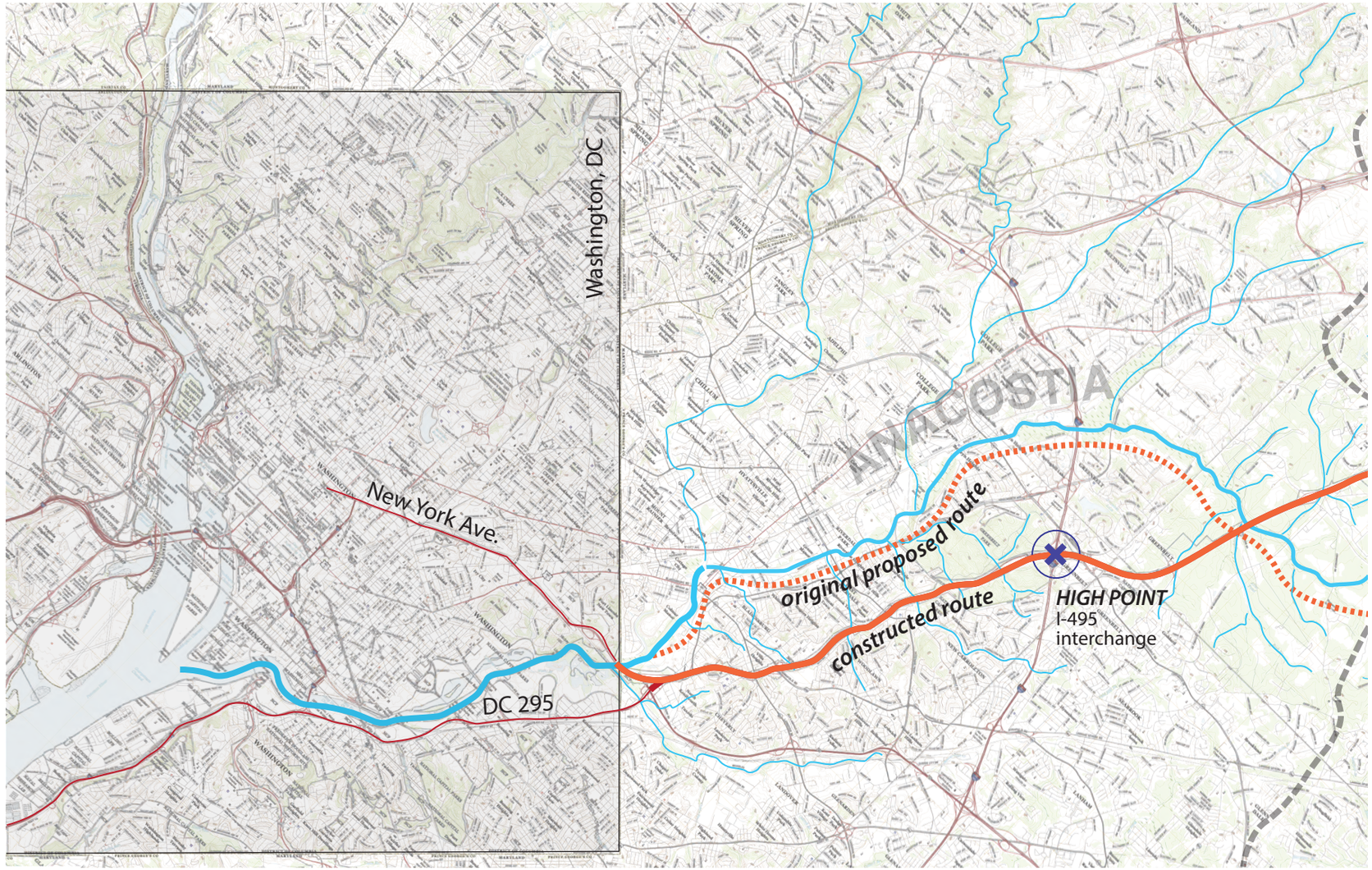


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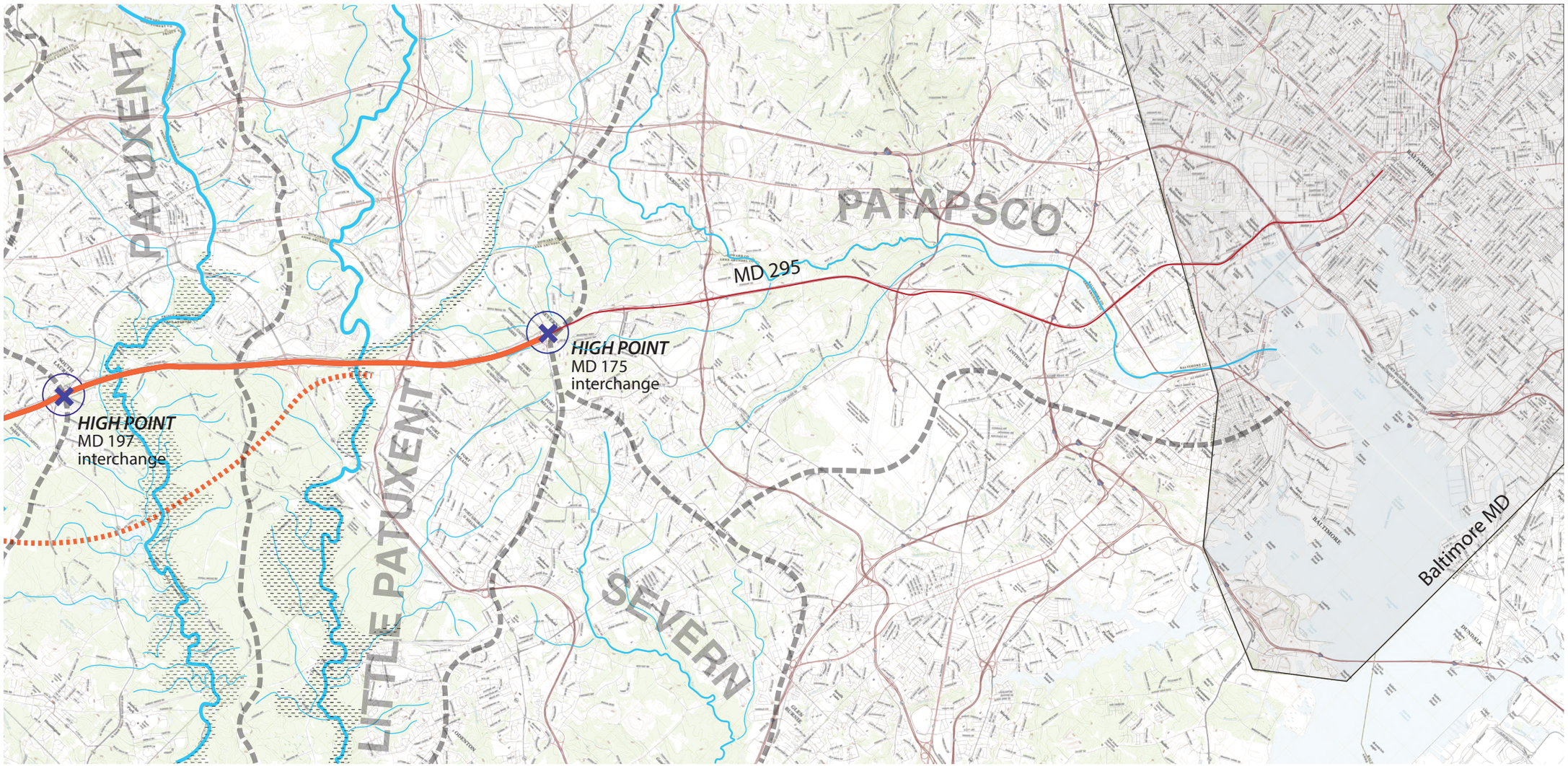

I - 95
Route 1
MD 295
Baltimore Washington Parkway
I - 695
Baltimore MD
I - 695

WATERSHEDS & ALIGNMENT

Rivers and watersheds influenced the alignment of the parkway in subtle but important ways. In early planning stages (1920s-30s), the route was planned to follow the Anacostia River and its major northern tributaries and then cross the Patuxent and Little Patuxent Rivers. The final roadway lies farther east than the original proposal and crosses several small Anacostia tributaries nearer their headwaters. The streams are relatively small and unnoticeable to drivers, but the roadway ascends and descends as it crosses them. The Patuxent and Little Patuxent Rivers are larger rivers and slightly more noticeable to drivers, especially in the winter when trees are bare. Each river has extensive wetlands, and the parkway crosses them at narrower points. Three high points influence the parkway layout. The Capital Beltway interchange is located at a highpoint between sub-watersheds of the Anacostia. This provided level, dry land for constructing the intersection but little topographic distinction. A second highpoint is the divide between the Anacostia and Patuxent watersheds. This is the experiential highpoint of the roadway, the spot that feels like the highest point while driving. The actual highest point is the divide between the Little Patuxent and Patapsco Rivers, the northern boundary of the B-W Parkway.

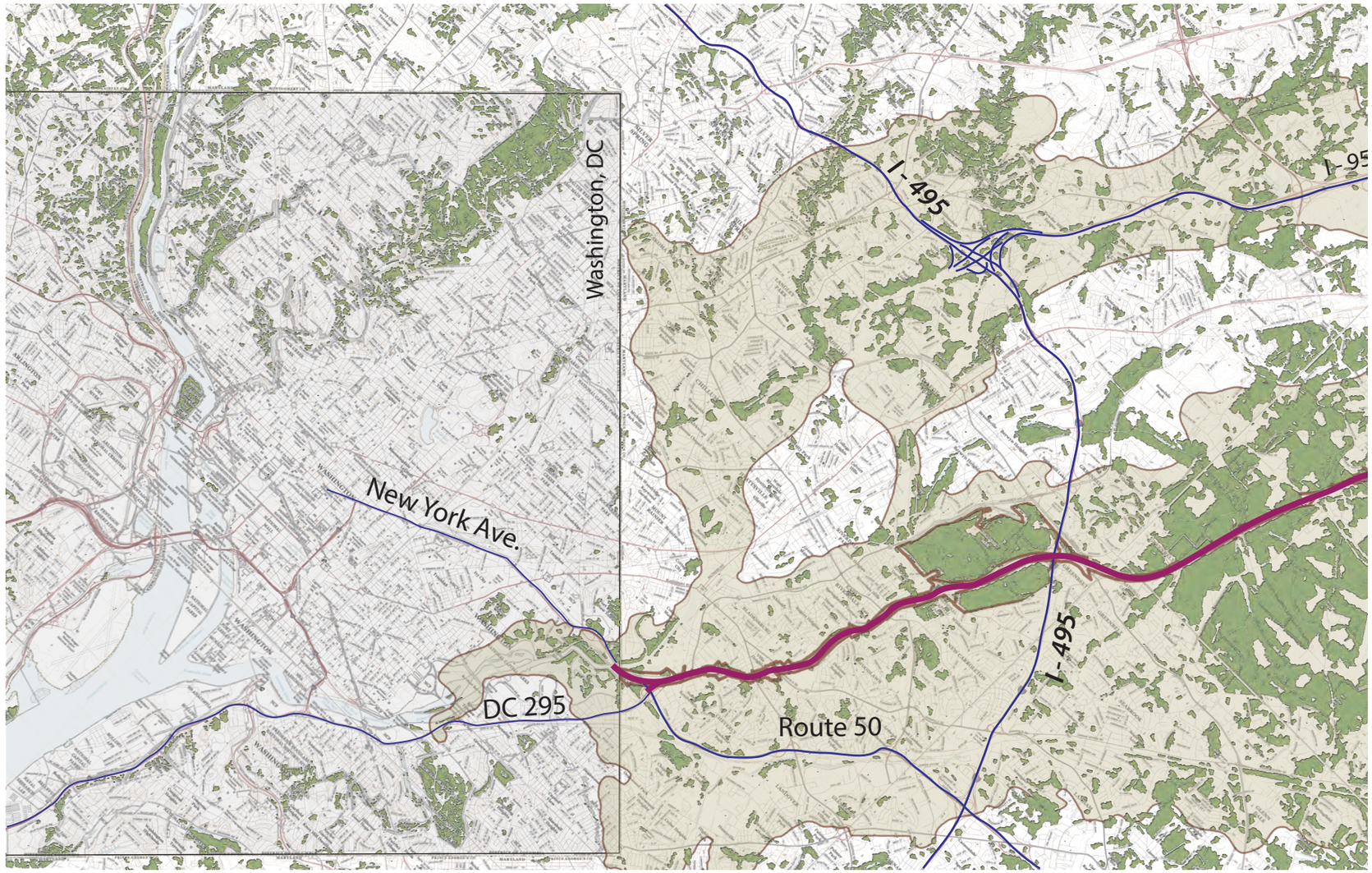


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PATUXENT
PATAPSCO
MD 295
HIGH POINT
MD 175
interchange
HIGH POINT
MD 197
interchange
LITTLE PATUXENT
SEVERN
Baltimore MD

HISTORIC FOREST LANDS

Forest preservation was an important planning goal for the lands of the Baltimore-Washington Parkway for decades before the parkway itself was envisioned. In 1910, William Ellicott proposed a national forest for lands between Washington, Baltimore and Annapolis, including lands shown in tan on this map. (Further research is needed to determine the state of the forest on those lands at the time.) Current forest lands, shown in green, occupy much of the proposed national forest lands, especially along and adjacent to the Patuxent and Little Patuxent Rivers and their wetlands. On the lands nearer to Washington DC, extensive suburban development has fragmented the forest.




I - 95
I - 695
MD 295
Baltimore Washington Parkway
Baltimore MD
I - 695
LEGEND
Federal Institutions
Current Forests

FORESTS & FEDERAL LANDS

Although the proposed national forest was never delineated, the forests that exist today are largely protected by federal institutions. The most significant in terms of forest preservation is the Patuxent Research Refuge of the U.S. Fish and Wildlife Service, since their mission includes habitat preservation. Greenbelt Park of the National Park Service protects a smaller portion of forest but it is fully intact natural forest land. The U.S. Department of Agriculture's Beltsville Agricultural Research Center also preserves forested land, although their primary emphasis is on agricultural research. Other federal properties hold varying acreage with less of the forest protected. Fort Meade, National Security Administration, and National Aeronautics and Space Administration each hold properties that include lands once proposed as part of the national forest. Numerous other forested lands cover adjoining lands, but it is the federal lands that preserve the most forest. Within this context, the Baltimore Washington Parkway plays a distinct role, connecting all these properties into a continuous forested landscape and making links between parcels that are otherwise fragmented. Most notable is the link between Greenbelt Park and various parklands along the Anacostia River operated by NPS.




I - 95
I - 695
MD 295
Baltimore Washington Parkway
National Security Administration
Fort Meade
Patuxent Research Refuge
Baltimore MD
I - 695
LEGEND
Federal Institutions
Current Forests



Winter view at Little Patuxent River showing road curvature, forests and spatial sequencing, 1955 (NARA 55-243)

Introduction

As with the previous chapter, much of this study of the parkway relies upon mapping at different scales to reveal physical conditions that underlie the character and significance of the landscape. Mapping and analysis of plans is key to understanding the important design decisions, so that future decisions are grounded in factual conditions. However, the effect and impact of those decisions are manifested in the experience of driving the parkway and the eye-level character that drivers encounter. In this chapter, important visual attributes are illustrated in photographs and articulated in the accompanying text in order to establish characteristics that are the focus for subsequent mapping in later chapters.

Parkway Character

The character of the parkway is shaped in large part by six conditions. Topography and Alignment concerns how the parkway sits on the land, undulating or not, across varied topographic conditions. Forest Vegetation refers to the continuous forest along the edges of the parkway, which varies in visual character according to age and composition. Planting Design shapes experience at a finer scale, subdividing and ornamenting the landscape, especially along the edge of the roadway and at interchanges. Spatial Sequence is a key aspect of the driving experience, unfolding in cinematic fashion as one drives the parkway. Infrastructure and Small-Scale Features are the most visible structures along the parkway, and their consistency of design is important to the character of the parkway.

The cumulative impact of these conditions is illustrated in a comparison between the Baltimore-Washington Parkway and MD 295, which extends the parkway all the way to Baltimore. Though similar in alignment, they are different in character due to these shaping characteristics.

Character Areas

The overall character of the parkway is quite consistent along its nineteen-mile length. However, four character areas are distinguished and identified based largely on topography and alignment and its effects on the spatial experience, vegetation and infrastructure. The character areas are described and illustrated in this chapter and then explored through the following map-based chapters. They are: Washington Entrance, Picturesque Urban Parkway, Beltway Transition and Modern Forested Parkway.

Introduction

True to the definition of a parkway, the Baltimore-Washington Parkway is a combination of roadway and landscape, and the design of both the road and the surrounding landscape shape the character of the overall landscape. It has a remarkably consistent character along its nineteen-mile length, defined in large part by several key attributes. Simply described, this parkway is a divided, limited access roadway with narrow roadbeds, stone and concrete bridges, formed concrete guard walls, grassy verges, and nearly continuous forest on both sides of the road with additional forest in substantial segments of the median. The forest often grows very close to the roadway, and its continuous presence is one of the defining characteristics of this parkway. As described in the statement of significance, this parkway and the adjoining federal properties have played important roles in the preservation of the forests between Baltimore and Washington.

The landscape characteristics that most directly influence the character are: the topography and road alignment, forest vegetation, planting design, spatial character, and infrastructure (structures and small-scale features). Each of these is mapped and discussed in the remainder of this chapter, but their defining roles are described here in overview.

Topography and Road Alignment

The parkway begins at sea level, adjacent to the Anacostia River, and rises gradually to its highest point at its northern terminus at MD 175, Jessup Road. Heading generally northeast from the Anacostia, the parkway crosses a series of small tributaries of the Anacostia, ascending gradually, while undulating over the ridges that divide the streams. North of the Capital Beltway (I-495) the land continues to ascend but with broader, more level topography. There is less undulation and only a few significant highpoints and low points, notably a high point at the Rt. 197 interchange and low points at Patuxent River and Little Patuxent River.

The road alignment reflects these topographical conditions. South of the Capital Beltway (I-495) the roadway curves frequently as it rises and falls over the ridges and bridges the streams. North of the Beltway, the road has very long curves so that the whole northern section feels relatively straight. [Figure A] The road itself is comprised of two divided roadways which allows each to fit the land according to its immediately adjacent conditions. Consequently, the median varies in width, consistent with the relative curvature of the alignment. South of the Beltway, the width of the median changes frequently, whereas north of the Beltway, the median alternates between long stretches of narrow median and equally long stretches of wide median.



View showing subtle curvature of roadway across gentl;y undulating terrain
(Photo by authors, summer 2018)

Forest Vegetation

The parkway is bordered by nearly continuous forest for its entire length, and this is one of its defining characteristics. The forests have differing compostion, typically defined by the local topographic and moisture conditions. They have varying setbacks from the road, and they often extend well beyond the boundaries of the parkway itself. Although much of the forest bordering the roadway was disturbed during construction, there remain some substantial swaths of mature forest in places that were not disturbed. In places that were disturbed, parkway managers allowed natural succession processes to establish new, successional forest. These stands are younger than the older, undisturbed forests, but they are old enough in many cases to be less noticeably different from the older stands.

Planting Design

In addtion to the continuous forests, there are frequent openings defined by mowed grass and occasional plantings of specimen trees, especially at interchanges and in narrow medians. In the original 1955 plans, only a handful of interchanges were planted, each with species native to the surrounding forests, especially oaks and maples. These open-grown specimens served to accent the interchanges and make a transition between the adjoining vernacular landscape and the forested landscape of the parkway. A 1966 plan for the southern entrance to Washington DC was as part of Lady Bird Johnson's capital beautification initiative. Later plans in the 1990s were developed to again make better transtions at the interchanges and to enrich the edges of the forest with larger specimens and ornamental species of the local forest types.



View showing different forest composition and age
(Photo by authors, summer 2018)



View showing planted vegetation as transition at interchange
(Photo by authors, summer 2018)

Spatial Sequence

The combination of forest and grassy open areas, makes a spatial sequence that defines the experience of driving along the roadway. As one drives the parkway, the sequence of spaces one passes through is a key factor in the definition of distinct character areas. At the southern end of the parkway, motorists travel through a fairly consistent spatial corridor defined mostly by the six lanes of traffic and narrow median. After passing the interchange for Annapolis Boulevard and northward to the Capital Beltway interchange, the spatial sequence varies considerably between stretches with close roadways and open grassy medians and others with widely separated roadways and deeply forest medians. Coupled with the rising and falling topography, the experience of the parkway unfolds as one drives this stretch, and consequently it has the most traditional parkway spatial experience. North of the Beltway, the spatial sequence changes considerably, alternating between long stretches of narrow grassy medians and equally long stretches of forested medians. The unvarying spatial character of this part of the parkway over relatively long distances is its most defining characteristic.



View showing diverse spatial characteristics due to forests and grass median
(Photo by authors, summer 2018)

Infrastructure: Structures

Bridges and small-scale features fine-tune the character established by the topography, road alignment and forest vegetation. The roadbed is relatively narrow because rather than having conventional shoulders, it is edged with mountable concrete curbs and grass verges. This keeps the grass and forest of the adjacent landscape close to the roadway and immediate in the drivers' experiences. The parkway crosses over most roads and interchanges, but there are several bridges that cross over the parkway, and these contribute highly to the visual character of the parkway.

Bridges are of modern construction but they typically reference more traditional stone construction in their expression. Most have arching concrete spans and trapezoidal, stone-faced abutments (random ashlar veneer), and in the original designs, most of them had stone-faced guard walls with steel guard atop the actual span, a more modern detail. This combination of modern and traditional styles is indicative of the blending of style that characterizes the parkway. Several bridges were reconstructed as part of the 1990s rehabilitation of the parkway, and this has changed the character of some of them, notably that the steel rails have been replaced with fully concrete guard walls. Other new bridges have been added, and generally they differ in form from the original designs, even though some use similar materials.



Bridge at Rt. 410, 1953
(NARA 53-2271)

Infrastructure: Small-scale features

Extensive form-liner guard walls were added during the 1990s renovation; these are concrete walls poured into formwork that looks like actual cut stone walls and caps. They are close to the original stone abutments in appearance, but they are distinguishable on closer inspection. Newer steel guardrails were added in the 2000s, and these dramatically impact the character of the parkway landscape. Numerous types of guardrails have been used along interchange ramps which makes inconsistent transitions from the parkway to the adjacent roadways.

Signs are quite varied. Most are on the side of the road and aim to be discreet, often using standard National Park Service brown as the background. In higher traffic areas, newer signs reach out over the roadway, and safety signs and exit signs for the Capital Beltway are all standard U.S. highway signs. Though required by law, they are not as discreet as the brown NPS signs.



View showing typical form-liner concrete guard wall
(Photo by authors, summer 2018)

Overall Character

The HAER report and National Register nomination refer to the Baltimore-Washington Parkway as a 'transitional' parkway, meaning that it is a transition from earlier, more rustic parkways to modern highway design, exemplified by the interstate highway system. While this description is fair, it is worth exploring the design of the parkway to understand the dimensions that make it a hybrid of modern highway design and traditional parkway design. The four-lane, divided highway and the long curves of the parkway north of the Capital Beltway are fairly typical of modern highway design. By contrast, the narrow shoulders, mountable curbs and grassy verges are characteristics of many traditional parkways. The combination of modern alignment and closeness of the vegetated edges is consistent with the hybrid character of this parkway.

The bridges are made of reinforced concrete, a modern material and method of construction, yet with shallow vaults for the spans and stone facing on the abutments (random ashlar stone veneer), the bridges reference traditional stone construction. Still, the abutments and the concrete spans retain a clarity of geometry and minimal detail that make the bridges seem more modern than rustic. Stone facing is of cut-stone with caps, and most guard walls on the bridges are concrete with single or double steel rails. The combination of bridge form, material and detail yield a hybrid aesthetic.

The same hybridity characterizes the form-liner guard walls. The mere act of constructing stone walls instead of steel guard rails is a nod to earlier, more rustic parkways, but these have the appearance of being made of cut stone capped with another type of cut stone. All are made of formed concrete. Even if the walls were faced with actual stone, the detail of cutting and the capping of the wall gives a more formal, less rustic appearance.

Comparison to MD 295

The cumulative impact of this set of characteristics on the overall character of the parkway can be appreciated best in comparison to MD 295, the northern extension of the roadway leading to Baltimore. The alignment and topography of MD 295 is quite similar to the Baltimore-Washington Parkway, but the details of the roadway and its attendant structures are quite different and give distinct characters to the two roadways. For much of its length, MD 295 is six lanes with conventional shoulders and no curbs; guard rails are galvanized steel 'W-section' rails. Bridges span the roadway with large, flat, steel girders, fully modern in design. Signs are bright green and often span the full width of the parkway on steel structures. Vegetation frequently lines the roadway and fills the median, but it is typically a thin line rather than full, mature forest, and adjacent structures are frequently noticeable. In short, the character of MD 295 is that of a modern highway not a parkway.

In direct contrast, the Baltimore Washington Parkway has the character of a modern, forested parkway, especially north of the Capital Beltway where the alignment is most similar to that of MD 295. The narrower roadway with mountable curbs and grassy verges makes a crisp boundary between roadway and adjoining vegetation, so the vegetation feels close. There are few bridges and overhead structures which maintains a nearly continuous ribbon of open space along the length of the parkway. The bridges are concrete and have clear geometric designs typical of modern construction, but the stone-faced abutments and shallow arching vaults of the spans reference older, stone construction. Though not rustic in character like some earlier parkway construction, the bridges (and guard walls) retain the tradition of stonework that was used in those earlier, more rustic parkways. The cultivation of robust forests along the full length of the parkway gives the landscape a modern parkway character. Whereas earlier parkways, notably the Mount Vernon Memorial Highway, designed the edge of the woods to be more explicitly picturesque in character (Kelsch, CLI), the Baltimore-Washington Parkway allowed natural succession to guide the growth of the forest in disturbed areas, and only in the 1990s was the edge planted give it more visual interest. The forest is the intended vegetation of this parkway, and its continuity and maturity add important character to the drive. This set of design decisions give a clear 'parkway' character to a modern, high-speed alignment. As noted in the statement of significance, it stands as an example of what a highway might be like if parkway standards were applied to other modern highways.



Parkway view showing its character due to use of guard walls, mountable curbs, open space and forest edge.
(Google maps street-view, June 2019)

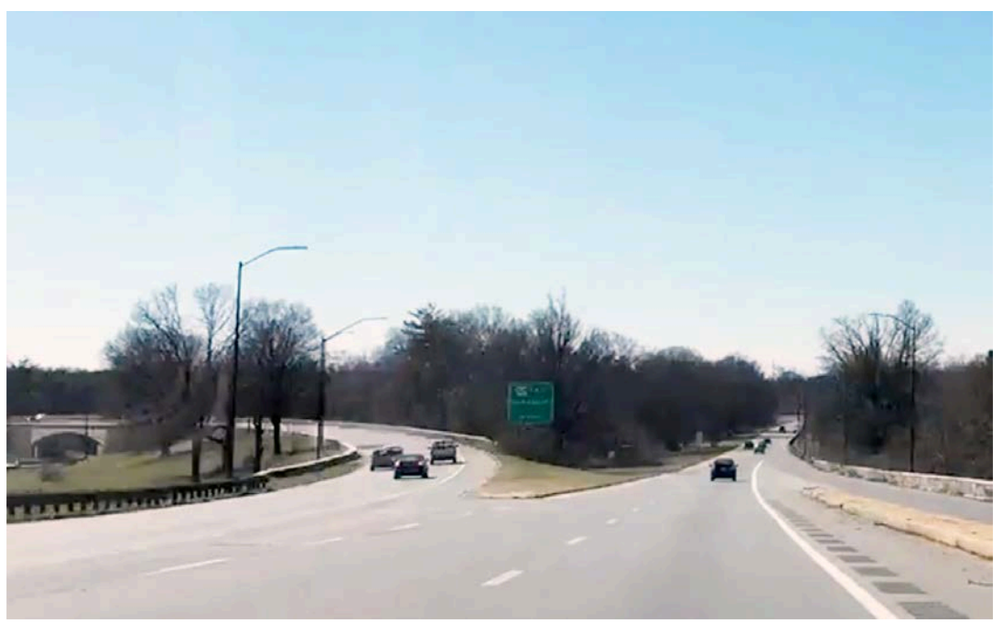


MD 295 view showing its highway character due to use of steel guardrails, wide shoulders and overhead signs.
(Google maps street-view, June 2019)

Washington Entrance

Road alignment, forest vegetation, planting design, spatial character and infrastructure combine in different ways and respond to the conditions of the land to create four distinct character areas, each a variation of the overall parkway character. From south to north, these are: Washington Entrance, Picturesque Urban Parkway, Beltway Transition, and Modern Forested Parkway.

The WASHINGTON ENTRANCE character area (Mile 0 - Mile 3) is the southernmost stretch of the parkway and the entrance to Washington DC. It is marked by six lanes of traffic and several exit ramps leading to New York Avenue and DC 295. An especially narrow median with a continuous guard wall and consistent forest edges, gives this segment a nearly uniform spatial experience, broken only by the diverging lanes of traffic. Due to high traffic volumes and the confusion of merging and diverging traffic, the roadway is almost fully enclosed by guard walls and guardrails, and numerous signs are used to control and guide traffic. This area was included in Lady Bird Johnson's initiative to plant ornamental vegetation at the main entrances to the city, and the 1966 planting plan has a more ornamental plant palette compared to the rest of the parkway.



Washington Entrance character area, view south at Mile 1
(Photo by authors, summer 2018)

Picturesque Urban Parkway

The PICTURESQUE URBAN PARKWAY character area (Mile 3 - Mile 6) extends from Annapolis Road to the Capital Beltway, and is the segment that most typifies the ideals of an urban parkway. The roadway undulates across varying topography, and paired roadbeds have distinct alignments from each other, each defined by tighter curves than the rest of the parkway. The varied topography necessitated more grading during initial construction, so there is less mature forest in this stretch, however, the successional forests are now sixty years old and do not differ greatly from more mature forests. The spatial rhythm of forest and open grass areas is subtle and changes frequently, which makes a very pleasant driving experience.



Picturesque Urban Parkway character area, view north at Mile 5
(Photo by authors, summer 2018)

Beltway Transition

The BELTWAY TRANSITION character area (Mile 6 - Mile 8) is a transition between the curvature and alignment of the Picturesque Urban Parkway and the Modern Forested Parkway character. It has longer curves than in the former area with more level terrain and this allow for views straight ahead but not at long distance. The character area has three overhead bridges and overhead signs associated with four crossings in short proximity, and these interrupt the continuity of the ribbon of open space that characterizes the whole parkway. The parkway crosses over the Capital Beltway with minimal visual impact, but four ramps and bright green interstate highway signs alters the character established with brown NPS signs. Immediately to the north of the beltway is the Greenbelt Road bridge followed in quick succession by a pedestrian foot bridge and the bridge leading to the NASA property. These successive bridges break the continuity of the spatial sequence, and the open, grassy spaces around the Greenbelt Road interchange are especially disorienting with views of moving traffic, overhead signs and the close proximity of the ramps of the beltway interchange.



Beltway Transition character area, view south at Mile 8
(Photo by authors, summer 2018)

Modern Forested Parkway

The MODERN FORESTED PARKWAY character area (Mile 8 - Mile 19) covers the northern two-thirds of the parkway, approximately eleven miles. The road alignment is the most critical character-defining element with very long, gentle curves and long stretches with a narrow, grassy median alternating with equally long stretches of wider, forested median. There are more mature forests along the middle stretch in particular, where the parkway is bordered by forested lands of the USDA Agriculture Research Station and the Patuxent Research Reserve. The continuity of the forest and the long stretches of median make for a continuous spatial sequence and little experiential variety for drivers.



Modern Forested Parkway character area, view south near Mile 18
(Photo by authors, summer 2018)



View of MD 410 interchange showing grading, infrastructure and vegetation of the new parkway, 1954. (NARA 54-2248)

Introduction

Mapping at a scale of 1:2000 reveals structure and patterns of the parkway's design that lead to a deeper understanding of its character and significance. At this scale, the parkway divides into three six-mile segments, and the base map shows the underlying topography, lightly shaded to reveal ridges and stream crossings.

Topography and Alignment

The alignment of the roadway gives structure to the parkway as it traverses the subtle topography of the region. At its southern end, the roadway ascends away from the Anacostia River, rising over ridges and crossing small streams before reaching relatively level ground at the Capital Beltway (I-495). From there northward, slopes are long and gentle as the land generally rises to the northern end of the parkway. The Rt. 197 interchange is an intermediary high point that seems like the actual highest point because the landscape is more open and the change in slope is more dramatic than elsewhere along the route.

The alignment of the parkway corresponds to these topographic conditions. At the southern end, the roadway curves more frequently in concert with the undulating terrain, and north of the Beltway, it runs straighter corresponding to the long, gentle changes in elevation.

These topographical and alignment conditions distinguish four character areas: Washington Entrance, Picturesque Urban Parkway, Beltway Transition, and Modern Forested Parkway. Other factors contribute to the distinctions, but most are traceable to the underlying structure and pattern of the topography and alignment.

Infrastructure

Large-scale and small-scale infrastructure is key to the parkway's safety and character. Guard walls generally occur in three situations: stream crossings, narrow medians, and elevated interchanges where the parkway crosses the other road on a bridge. Guardrails are used at interchanges and as safety extensions to the guard walls. These patterns are easily visible on the 1:2000 maps.

Forest Vegetation

The continuity of the forest is an important component of the parkway's character. At this scale, vegetation is categorized into mature forest, successional forest, shrubland and mowed grass, and these categories reveal patterns of enclosure by the forest and openings the mowed grass. In the southern segment, openings occur at interchanges and road crossings. In the middle segment, they are long open medians, and in the northern segment the pattern is fragmented and inconsistent due to new crossings and much shrubland.

Planting Design

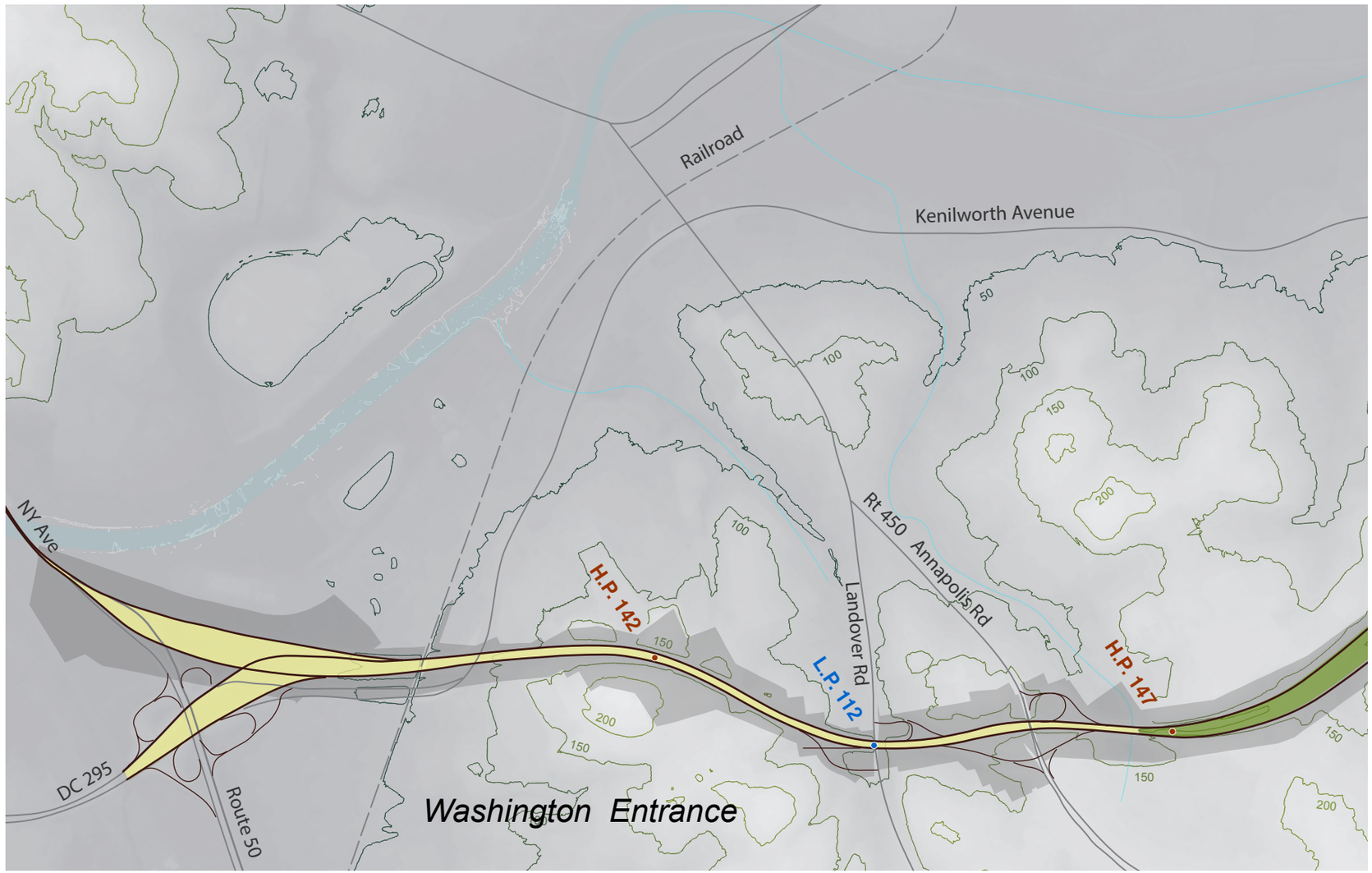
The history of planting designs is shown by color coding plantings according to when and where they were planted. The first plantings, in 1955, were installed only at interchanges in the southern segment and at the northernmost end of the parkway. In 1966, a second major planting plan was implemented at the newly constructed interchange with US 50 at the southern entrance. It was part of Lady Bird Johnson's Capital Beautification project, but most of the plantings were outside the jurisdiction of the National Park Service. The third major planting plan in the 1990s was the only one to cover the full length of the parkway. Other minor plans were implemented in conjunction the construction of specific new interchanges.

TOPOGRAPHY & ALIGNMENT

As shown in the 1:10,000 regional scale maps, the overall alignment of the parkway responded to watersheds, high points, and the ownership patterns of adjacent federal properties. At a closer scale, the specific alignment decisions are linked more closely to topography. From the Anacostia River to the Capital Beltway, the land rises and falls, and the road curves and undulates frequently in response. Beyond the Beltway, the land is broad with longer rises and falls, and consequently the road runs straighter with long, gentle grades.

Although topography and alignment do not define the character areas by themselves, they establish the underlying structure of the parkway landscape and consequently shape people's experience in profound ways. (In these maps, the character areas are shown by coloring the median in each segment, which reveals quite distinct alignments.) Given that neither topography nor alignment is easily changed, understanding their underlying structure helps identify aspects of the experience of this landscape that can be modified and others that cannot change substantively.

In the southern third of the parkway the road rises from the tidal shores of the Anacostia River to a local highpoint of 174' at the center of the interchange with the Capital Beltway (I-495). The southernmost character area "Washington Entrance" extends from the entry ramps at New York Avenue and DC 295 to the paired interchanges at Landover Road and Annapolis Road. Entering the parkway from the south, four entry ramps are elevated above the surrounding land and carry traffic into and out of the city. They converge into six lanes of traffic with a very narrow median and this six-lane segment traverses a ridge, crosses a stream, and ascends another ridge to reach the paired exits. The width of the roadway and the converging/diverging lanes of traffic dominate one's experience, and identify this as a distinct character area.



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'Washington Entrance' Character Area



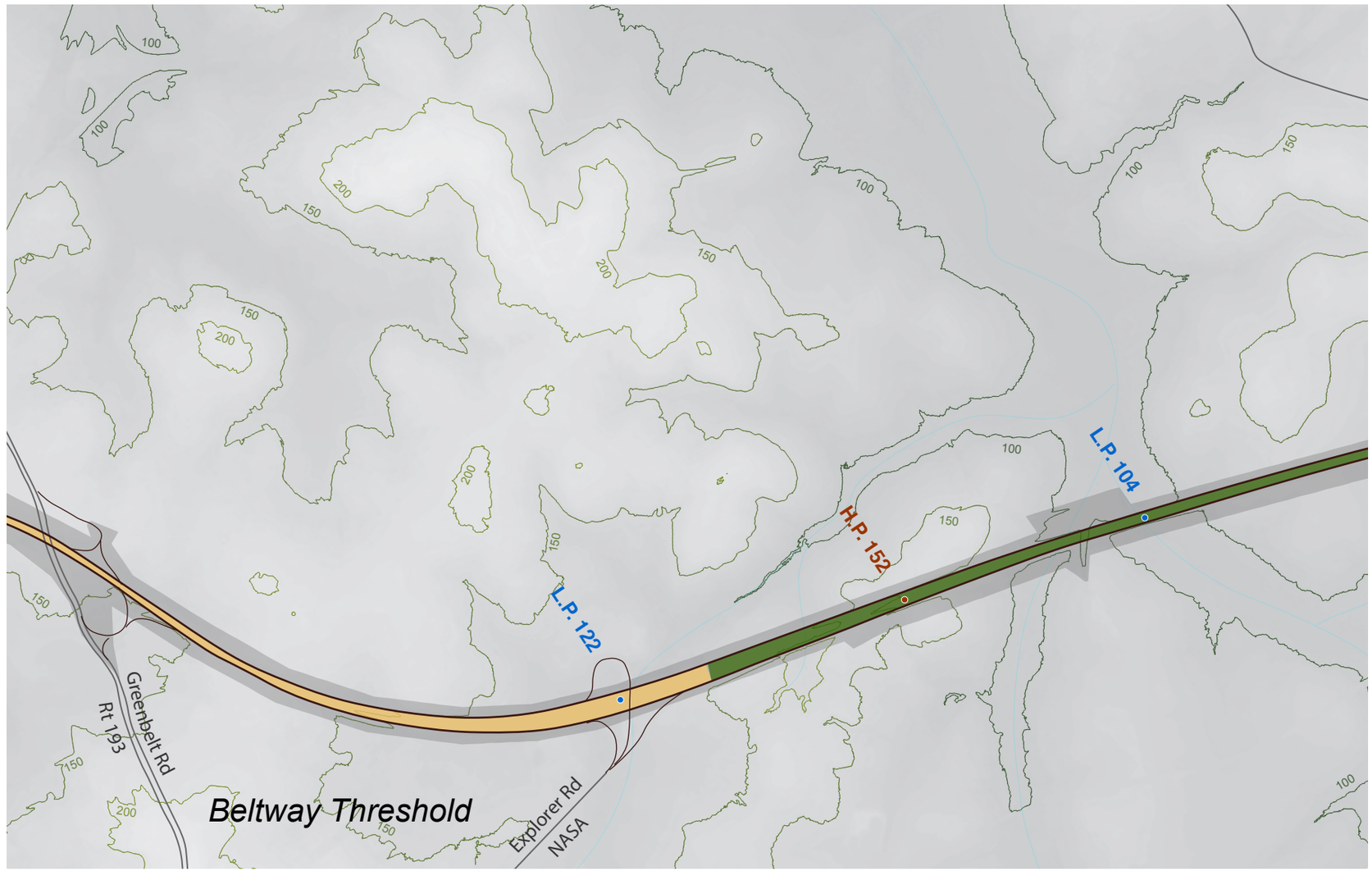
'Picturesque Urban Parkway' Character Area | 'Beltway Threshold' Character Area

TOPOGRAPHY & ALIGNMENT

In the southern segment, the road parallels the broad valley of the Anacostia River but is located higher up the slope where it crosses five small tributaries and the ridges that separate them. Stream crossings are low points of the roadway and ridges are high points, and in each case, significant grading raised the road over the streams and cut it through the ridges. The grading diminished the changes in topography and substantially disturbed the land and surrounding forests. This "Picturesque Urban Parkway" character area extends from the Annapolis Road interchange to the ramps for the Capital Beltway, I-495. The roadway curves and undulates over the topography and has a varying median. Driving this segment, one experiences a series of changing views of forest and open spaces. This segment provides a 'classic' parkway experience.

At the Beltway interchange the topography changes, and from here north the land rises and falls gradually with long slopes. In the "Beltway Transition" character area, the road alignment has a single, long S-shaped curve that begins at the first Beltway interchange ramps and continues through the NASA interchange. This curve is substantially bigger than the previous curves, and it has a relatively constant median width. Three interchanges occur in quick succession (I-495, Greenbelt Road and NASA), and drivers frequently need to focus on entering and exiting traffic rather than the surrounding forest.

North of the NASA interchange, the land rises and falls gradually with a notable high point at Rt. 197, where the landscape is most open to the sky. Bridges over the Patuxent and Little Patuxent Rivers are noticeable low points. In this "Modern Forested Parkway" character area, the road curves only slightly and the median varies between long stretches of narrow, grassy median and equally long stretches of forested median. The alternating rhythm of narrow open space and enclosing forest characterizes the spatial experience here.





'Beltway Threshold' Character Area



'Modern Forested Parkway' Character Area

TOPOGRAPHY & ALIGNMENT

Road alignment impacts experience of the parkway in critical ways. The six lanes and merging traffic dominate the Washington Entrance such that drivers need to focus on merging traffic rather than the surrounding landscape. In the Picturesque Urban Parkway character area, where the roadway narrows to four lanes that curve and undulate over the rising and falling landscape, drivers experience a changing sequence of views of clearings and the surrounding forest. The longer curves of the Beltway Transition prevent drivers from seeing far ahead but do not really make for changing experiences as in the Picturesque Urban Parkway. The Modern Forested Parkway has an alignment more akin to modern highways, as its name suggests. Here the topography and road alignment change gradually, and views and spatial experiences vary little for quite long stretches.

As stated earlier, the topography and alignment are not the only characteristics that define these character areas, but they are the most fixed conditions of this cultural landscape. Understanding the impact of these underlying conditions on the character of the vegetation, the safety of the roadway, and the experience of driving the parkway clarifies the degree to which the parkway landscape can be modified and the experience enriched while making changes to improve the safety of the roadway. The Picturesque Urban Parkway may embody classic parkway character, but its character is not transferable to the Modern Forested Parkway because the topographic and alignment conditions are so different. The challenge in managing the parkway is to understand how these fixed conditions underlie these distinct character areas, and how other characteristics can shape and enrich each character area within the limits of its own alignment and topography.



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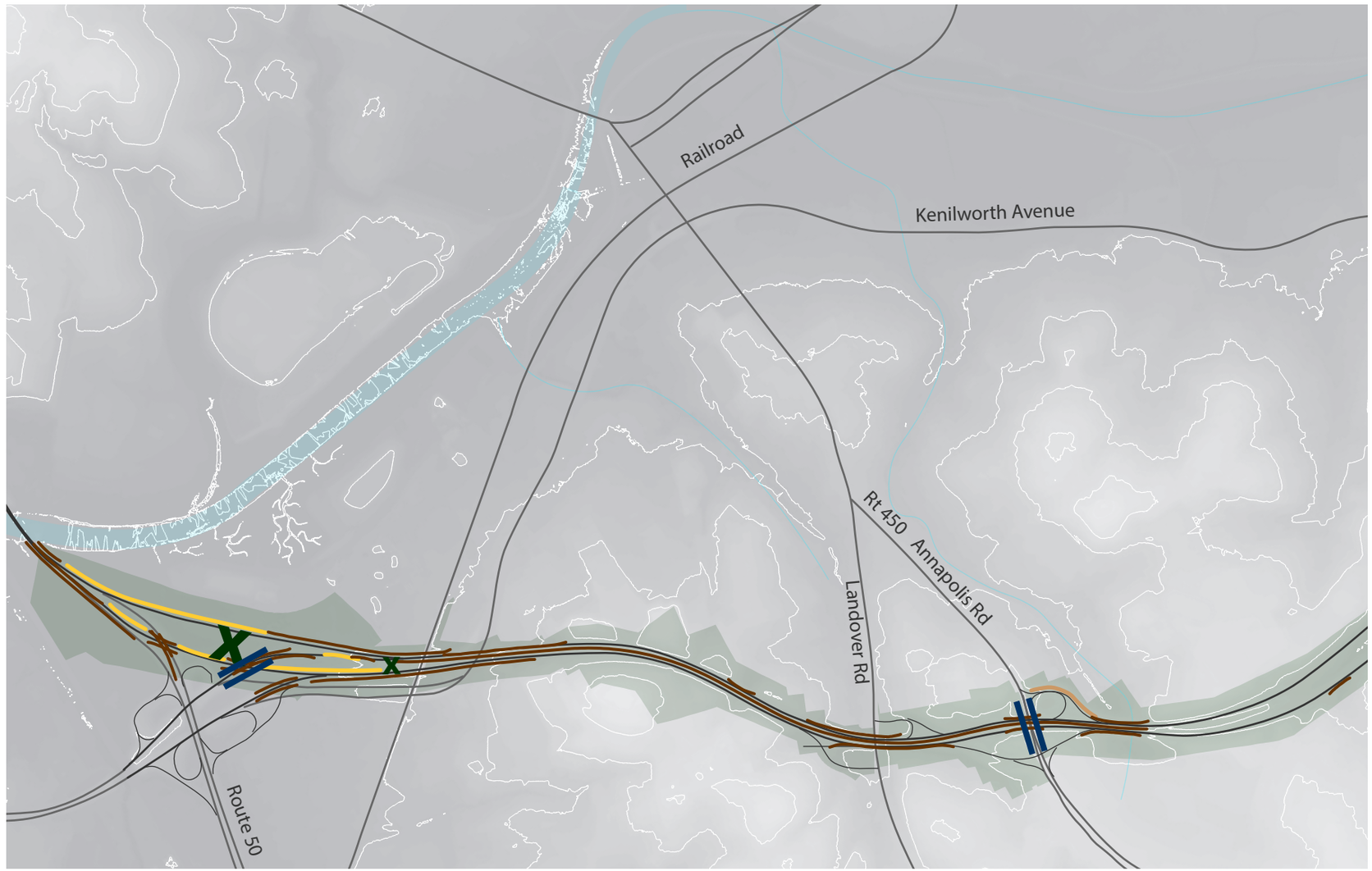
'Modern Forested Parkway' Character Area

LEGEND
Parkway Property
H.P. 142
High Point
L.P. 112
Low Point
L.P. 128
H.P. 206
L.P. 187
H.P. 251
Rt 32 Patuxent Fwy
NSA entrance
Rt 175 Jessup Rd
150
200
250
300

Bridges and small-scale features such as guard walls, curbs and signage comprise the infrastructure of the parkway and play a key role in the character and significance of the parkway. As noted earlier, the topography and alignment create the structure of the parkway, but the infrastructural elements determine much of the parkway's style. As articulated in the statement of significance, the style of the parkway (as compared to MD 295) is what gives its design significance as a work of landscape architecture.

In the original design bridges crossed the parkway in six locations: in the southern end at Annapolis Rd., Good Luck Rd. and Greenbelt Rd., and in the northern end at Rt. 198, Rt. 32 and Rt. 175. Each bridge and overpass was distinct in its design, but they typically were modern concrete structures with arching spans and random ashlar stone-faced trapezoidal abutments that referenced the earlier, more rustic parkways of the region. Despite the reference to earlier rustic traditions, the bridges and overpasses retained many modern characteristics. All the stone is cut into rectangular blocks and also capped with cut stones; the concrete work is geometric in its form; and most of the bridges originally had tubular, steel guard rails. Taken as a set, the bridges have a refined aesthetic and are key to establishing the style of the parkway.

The small number of bridges in the original design is also a key attribute of the style and signficance of the design of the parkway. With only six bridges in 19 miles, motorists typically would experience clear open sky above the roadway for most of the route. Quite notably, drivers would have experienced no overhead structures for nearly ten miles of the parkway from Greenbelt Rd. to Rt. 198. Three newer bridges have been added: the pedestrian crossing in Greenbelt, the NASA interchange, and the NSA interchange.



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'Washington Entrance' Character Area


LEGEND
Parkway Property
Original Bridges
Later Bridges
Crossovers
Guard Walls
Steel Guardrails
Greenbelt Rd
Rt 193
Rt 410
Riverdale Rd
Veteran's Parkway
Good Luck Rd
Rt. 495
Capital Beltway

Form-liner concrete guard walls were added as part of the renovation of the 1990s to increase safety for drivers. The formed concrete mimicks the stonework of the bridge abutments, and because of their extensive use, they are among the most defining elements of the parkway's refined style. In response to a safety study in the 2003, W-section, corten steel guard rails were added to extend some of the form-liner walls or in places where additional protection was needed. These guardrails are out of character with the style of the stone bridges and form-liner concrete walls.

The Washington Entrance character area is lined extensively with guard walls and guard rails, and they are a prominent defining feature of this character area. A single guard wall runs for nearly two miles with only a very narrow strip of grass on either side and is the only visual break dividing six lanes of traffic. In the Picturesque Urban Parkway character area, the guard walls reinforce the rhythm of ridges and swales that define the character area. In the Beltway Transition character area and the Modern Forest Parkway character area, guard walls are less frequent due to the gentler terrain. However, a single W-section, steel guard rail runs for nearly two miles in the Modern Forested Parkway character area and noticeably changes the character of the parkway in this stretch.

Various guard rails and walls exist at interchange ramps, including form-liner walls, steel-backed timber rails, and W-section steel rails in corten or galvanized steel. The timber rails were installed as part of the 1990s renovations, but they changed the refined style of the parkway. Simply put, there is no wood construction in any other part of this parkway, though it is used along others in the region.



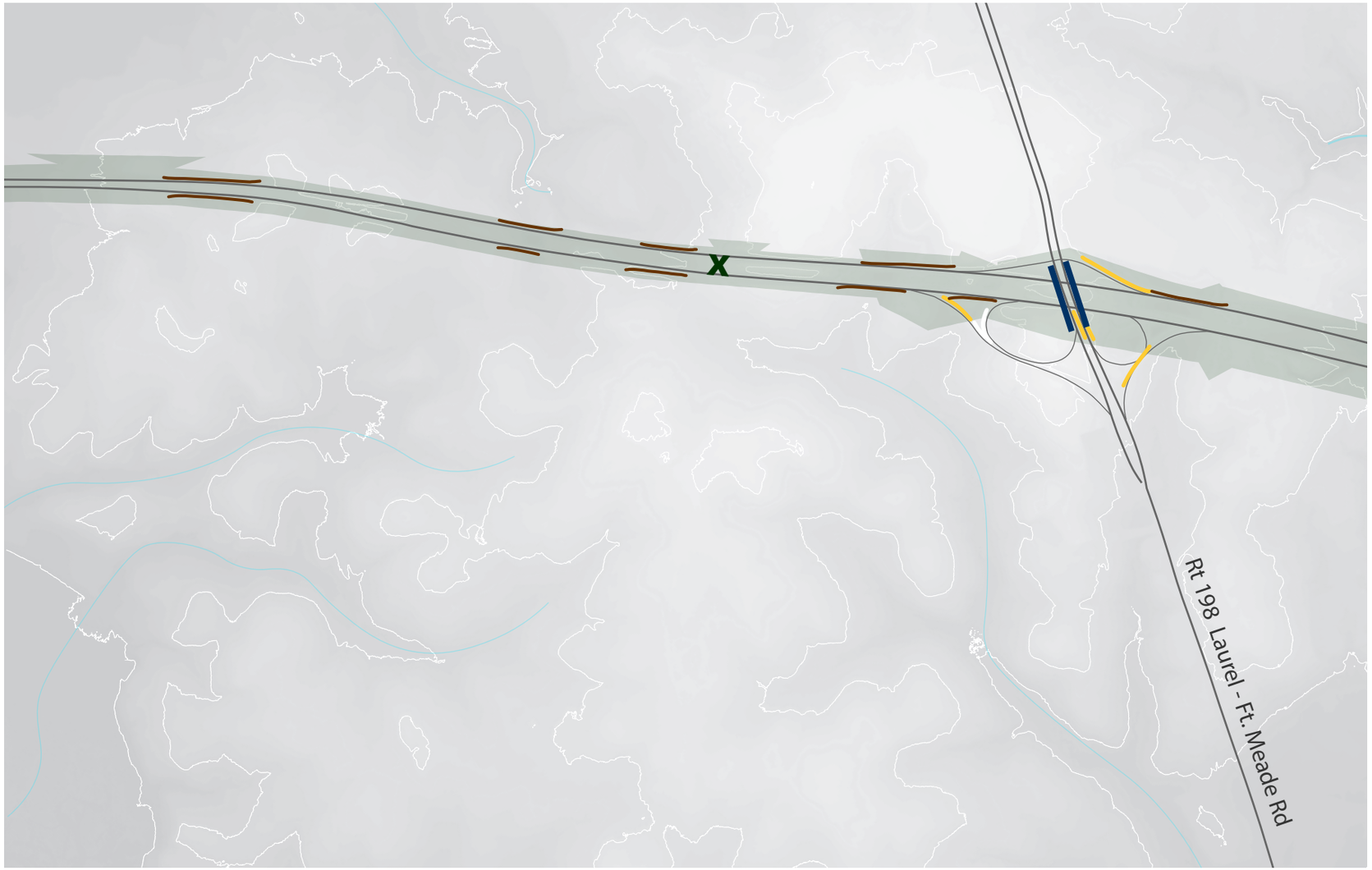


'Modern Forested Parkway' Character Area

Mountable curbs with narrow paved shoulders are a subtle but important small-scale feature. They give the parkway a crisp boundary between the roadway, the adjoining grass strip, and the forest. The paved shoulder is three feet on the inner edge of the roadway and eight feet on the outer edge. The eight-foot shoulder is not intended to be sufficient for emergencies, and instead drivers are expected to mount the curb and pull onto the grass with at least two wheels. At the time of construction, signs indicated that drivers were to pull onto the grass in emergencies.

Based on historical images, there were few signs in the original parkway design, and at least some were distinctive, identifying the parkway as a national park with the NPS logo and traditional brown, wooden background. Signs have proliferated over the history of the parkway and include traffic control signs, exit signs, federal highway signs and information signs. Some conform to NPS standards, but there is little consistency. In several cases, they reach out over the roadway on steel structures or span across the entire roadway, interrupting the continuous open space of the roadway itself.

Several crossovers allow emergency vehicles cross to the opposite lane of traffic in six places where the terrain and lack of forest cover allows easy crossing. Most are paved with grass pavers to be less intrusive. Although the existing crossovers provide access in many locations, there are still segments of the parkway where it is not possible for emergency vehicles to switch direction except at exits.



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'Modern Forested Parkway' Character Area


LEGEND
Parkway Property
Original Bridges
Later Bridges
Crossovers
Guard Walls
Steel Guardrails
Rt 32 Patuxent Fwy
NSA entrance
Rt 175 Jessup Rd

FOREST VEGETATION

More than the other parkways of Washington DC, the Baltimore-Washington Parkway is defined by its forested landscape and relationship to adjoining forests. Forest vegetation is critical to the character of this parkway and to its historical significance.

The forests are a patchwork of upland and lowland forests in different stages of succession -- fields beginning to succeed to woodland, early successional forests, and mature stands – and these differences are probably due mostly to the history and character of disturbance during construction. During initial construction, large areas of forest were removed in the path of the roadway and in places where significant grading occurred. Historic images show large graded hillsides, especially where the road cut through the ridges in the southern end. Other images show relatively narrow swaths of disturbance in gentler terrain with existing forest growing close to the new roadbed. These patterns are reflected in the current forest where successional forests (shown with added texture) are common in the Picturesque Urban Parkway character area, and mature forests are more dominant in the Modern Forested Parkway character area, especially adjacent to the Beltsville Agriculture Research Station and Patuxent Research Refuge.

During original construction, the newly graded slopes were stabilized with asphalt spray and allowed to succeed naturally. Pines formed a significant component of the next generation of forest, and a conceptual planting plan in the 1980s called for removal of most of them, perhaps due to their susceptability to wind damage. This was not included in the implemented planting plans of the 1990s. Construction of new interchanges and reconstruction of several existing ones disturbed the forests again in the 1980s and 1990s, and this probably accounts for the greater amount of early successional fields and shrubland at the interchanges for Rt. 197 and Rt. 32.



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'Washington Entrance' Character Area



'Picturesque Urban Parkway' Character Area | 'Beltway Threshold' Character Area

FOREST VEGETATION



Grading at MD 197 with major forest disturbance (NARA 53-2272)

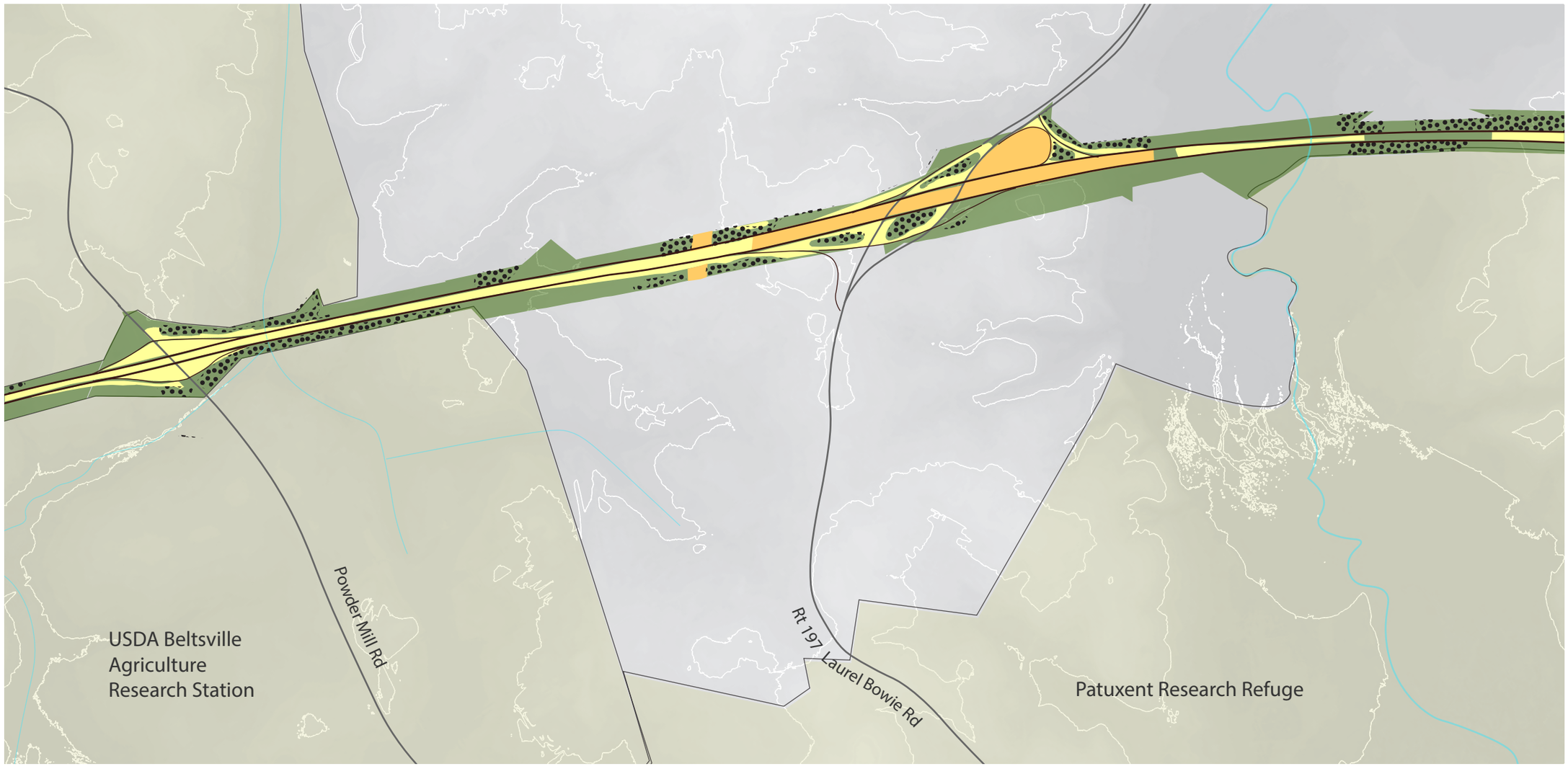


Paving on level land with minimal disturbance (NARA 53-2284)



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'Beltway Threshold' Character Area



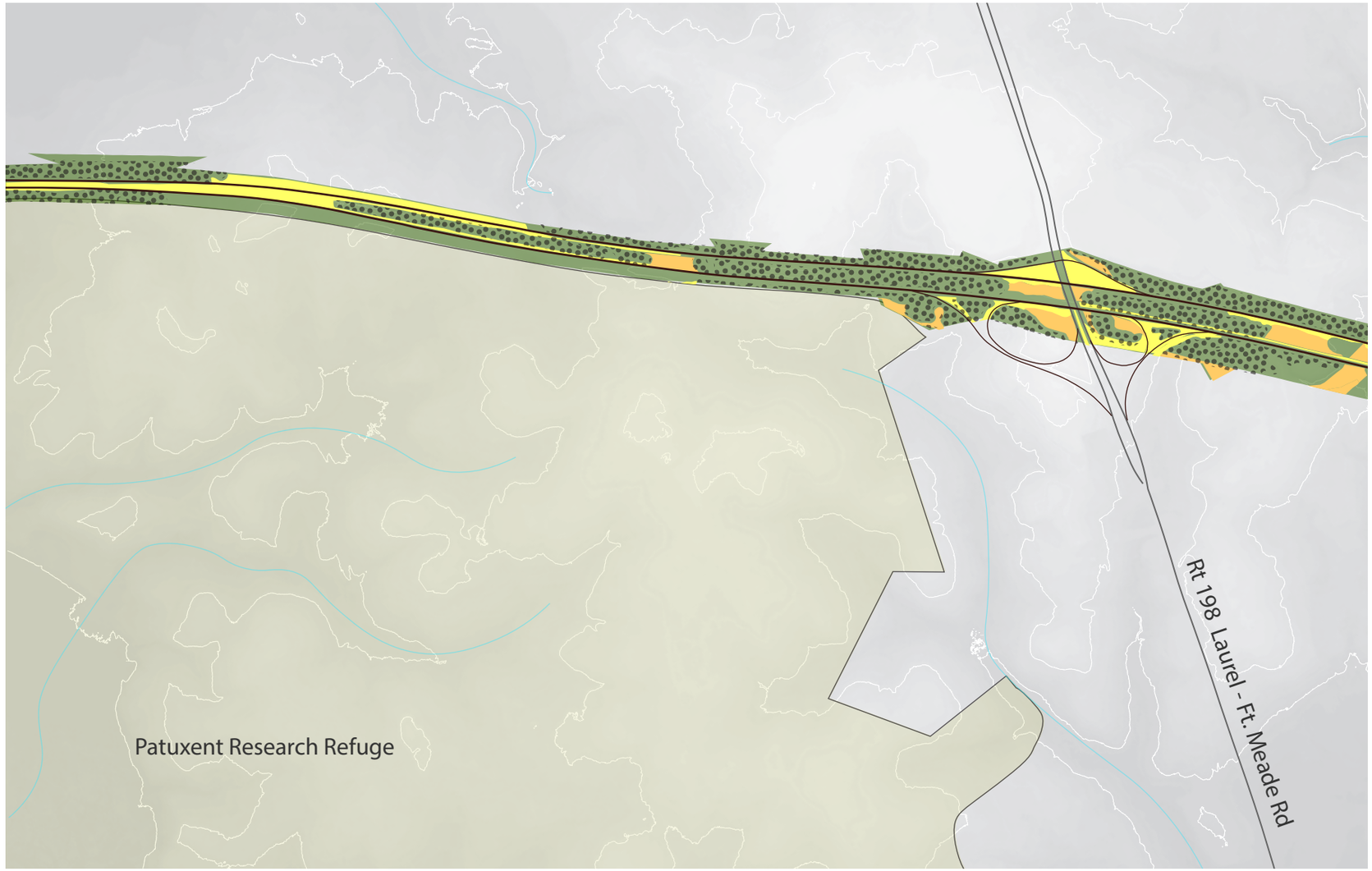
'Modern Forested Parkway' Character Area

FOREST VEGETATION

Mowed grass serves as a visual and biological counterpoint to the forests. Grass is mowed along much of the road edge, at most interchanges, and in areas with narrow medians. The mowing creates breaks in the continuity of the canopy and a varied border to the woods. In many places there is very little or no mowed edge, and the forest grows very close to the roadway. This may pose a safety hazard for drivers, although the proximity of the forest is important to the character of the cultural landscape. Guard walls protect drivers from steep slopes, but they allow mature forest to exist adjacent to the roadway without compromising the safety of drivers.

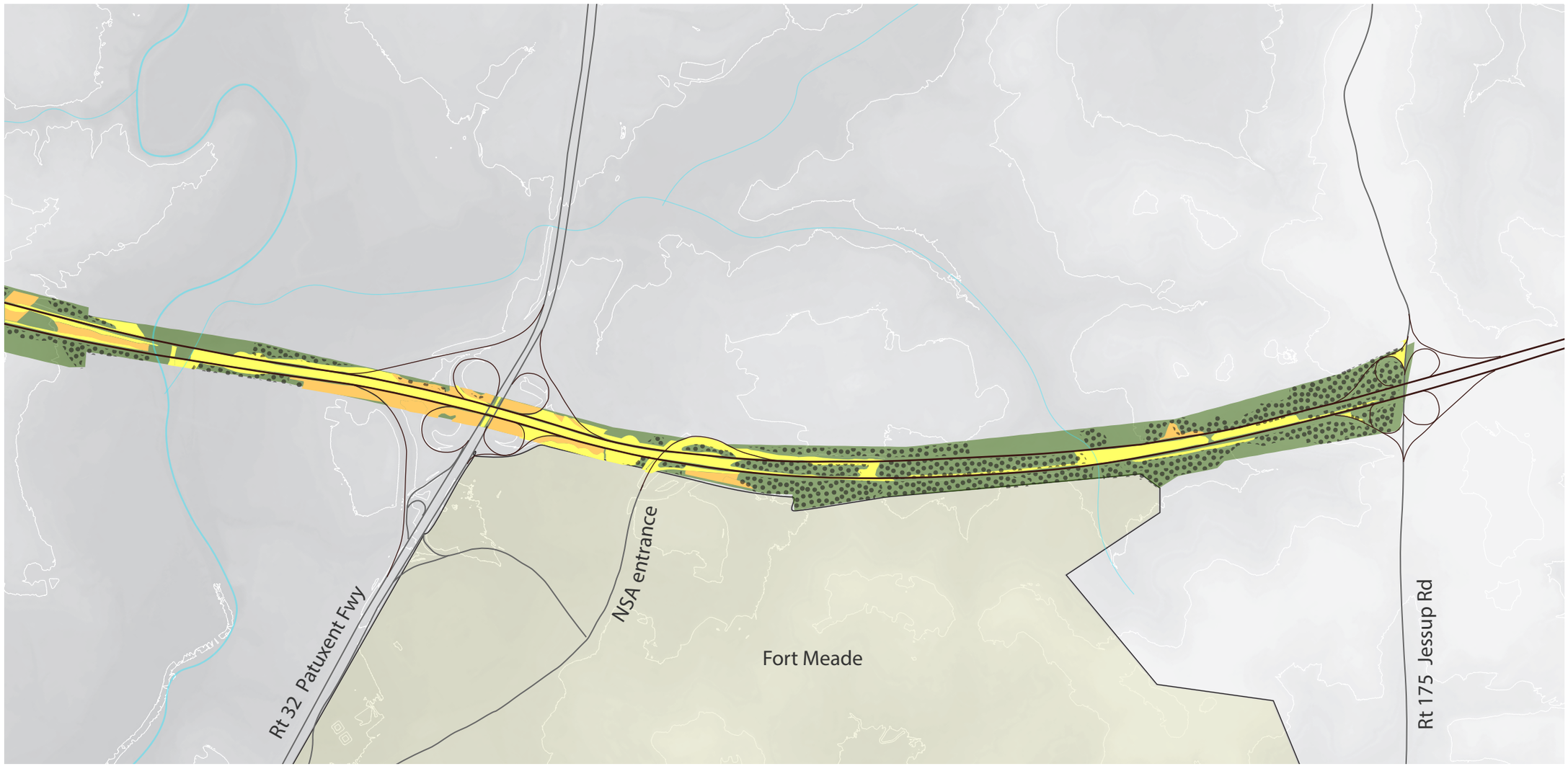
The openings created by the roadway and by mowing create very sunny conditions along the edge of the forests. Typically, forest edges are dense with low branches, shrubs and non-woody vegetation taking advantage of the abundant light. This impacts the appearance of the forest and the character of the landscape. The richness and extent of the forest are masked behind a nearly continuous wall of dense foliage, except in winter months after the leaves have fallen. Invasive vegetation has established in many areas along the edge, because the seeds of numerous invasive species spread easily along the corridor and are very successful in sunny, open areas.

In summer 2017, the National Park Service maintenance crew removed all edge vegetation (probably mostly invasive species) along several stretches of the southbound lane in the Picturesque Urban Parkway character area. This created a distinct new condition to the edge of the forest which is likely to lead to further establishment of invasive species that can outcompete local species.



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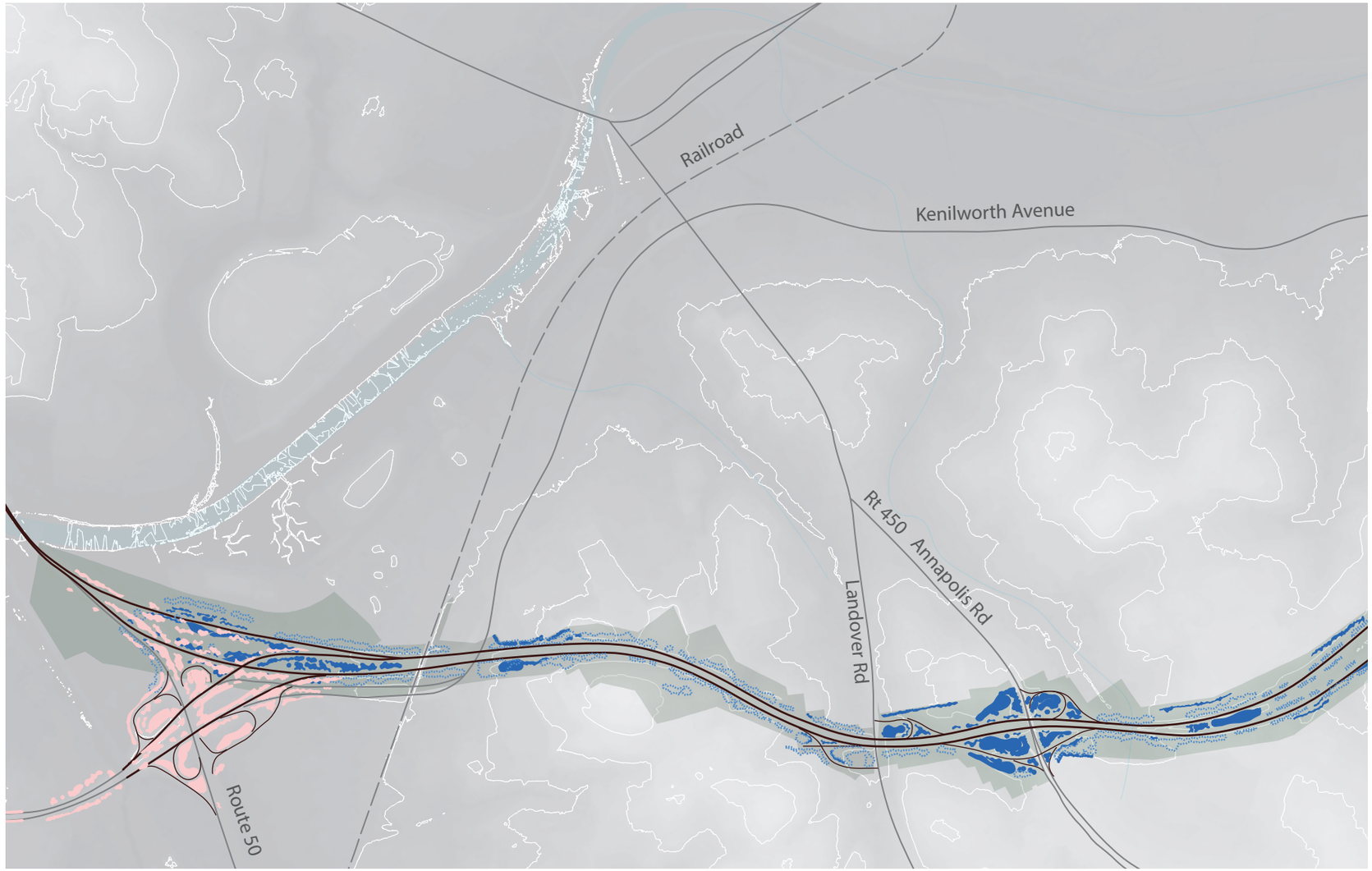
'Modern Forested Parkway' Character Area


LEGEND
Mature Forest
Succession Forest
Mowed Grass
Shrubland Vegetation
Other Federal Lands
Rt 32 Patuxent Fwy
NSA entrance
Fort Meade
Rt 175 Jessup Rd

There have been four distinct planting periods over the history of the parkway: 1955, 1966, 1986, and several phases in the 1990s. Prior to the rehabilitation of the landscape in the 1990s, there had been very few planting designs for the parkway. The plantings in the '50s, '60s and '80s only covered small areas, mostly at interchanges. Over the four planting periods, there have been three distinct intentions for the plantings as described below.

1955: During initial construction of the parkway, planting designs were implemented at several key interchanges and at the northern end of the parkway at Rt 175. For the most part, these plantings highlighted the entrances and exits with specimen shade trees and ornamental trees native to the region, and judging from the plans, they made a transition onto the parkway from the adjacent cross roads. Only two interchanges were planted in this manner in 1955: the dual interchanges at Landover Road and Annapolis Road. In addition, the two 'entrances' to the parkway at its southern and northern ends were planted to make the transition onto the parkway distinct from New York Avenue and MD 295, respectively. In all of these cases the plantings set the tone for the driver, acting as a gateway to a new driving experience.

1966: New lanes were added at the southern end of the parkway to connect with DC 295 in the 1960s, and new plantings were added in 1966 to enhance these new entry lanes. This planting plan was part of Lady Bird Johnson's capital beautification project that included beautifying all the major entrances to the city. Unlike the previous planting plans that relied on regionally native trees, the 1966 palette included numerous non-native species that were chosen for their ornamental qualities rather than their relevance to the forests of the region.



0 500 1000 2000 3000 4000ft

'Washington Entrance' Character Area



'Picturesque Urban Parkway' Character Area | 'Beltway Threshold' Character Area

PLANTING DESIGN

The most extensive planting plans were those developed as part of the rehabilitation of the parkway in the 1990s. Planting plans were developed for nearly the entire length of the Baltimore-Washington Parkway, and in most places, these are the only planting plans designed or implemented for the parkway. One notable exception is the stretch at the Rt. 197 exit, the last part of the renovations to be completed. At present, there is no known planting design for the Rt. 197 interchange.

The plans in the 1990s included diverse strategies for planting. As with previous plans, entrances and exits were planted with specimen trees (mostly oaks and maples) and ornamental trees like dogwoods and other native ornamentals. Reforestation strategies were used in places (presumably where there had been recent disturbance), and this focused mostly on species typical of the regional forests. The most extensive planting strategy was forest edge treatment along most of the length of the parkway (shown in zones marked by dashed lines.) These segments generally called for overstory species characteristic of the adjoining forests so they would reinforce the forest edge. Ornamental species from regional forests were also proposed along the forest edge to add visual interest. These included species such as American holly (Ilex opaca), serviceberry (Amelanchier arborea), mountain laurel (Kalmia latifolia) and flowering dogwood (Cornus florida). Two other planting strategies were less commonly used. In a few places, lines of evergreens were proposed to screen specific structures visible during the winter. In other places meadows were proposed.



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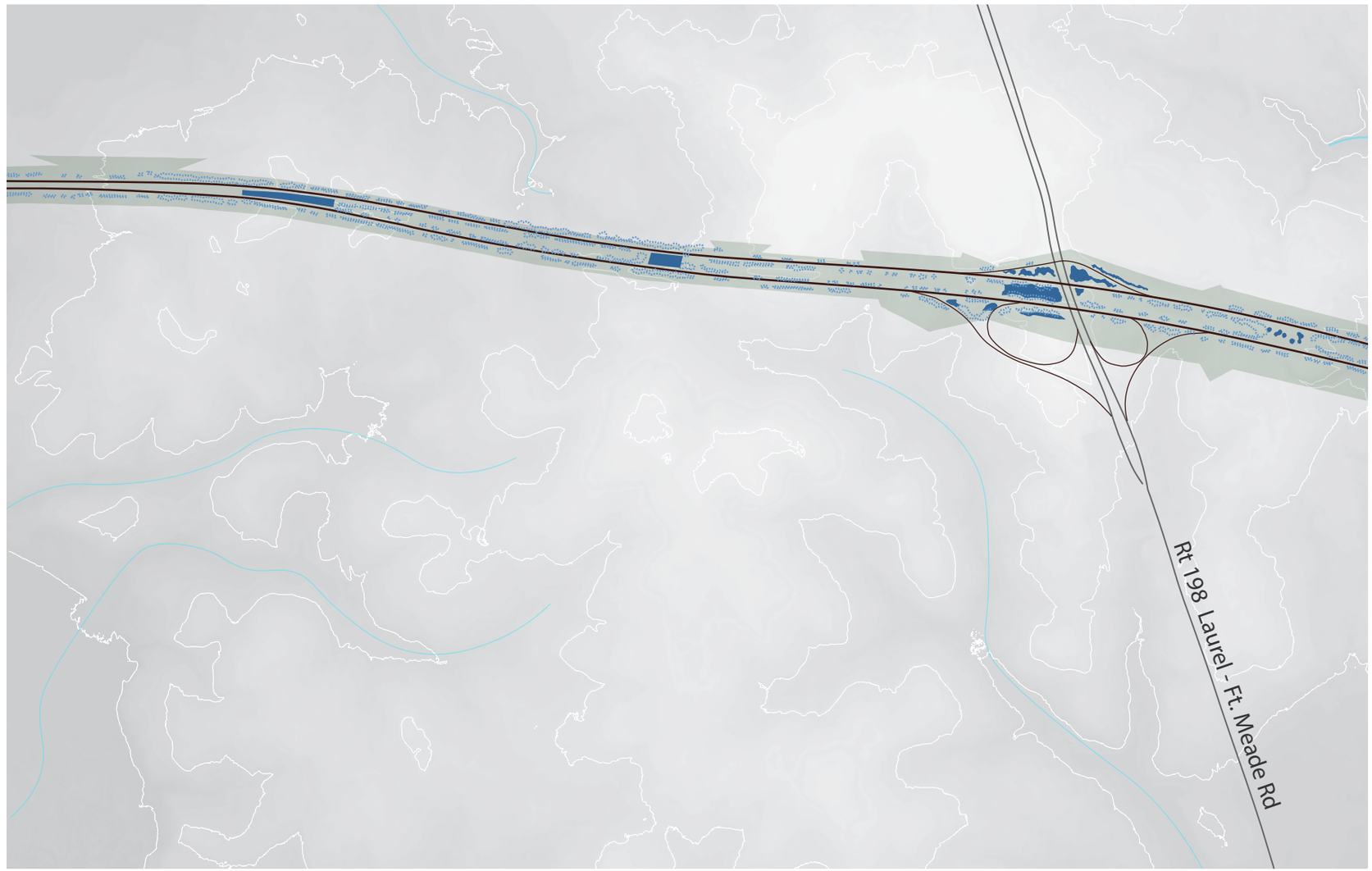
'Beltway Threshold' Character Area



'Modern Forested Parkway' Character Area

The northernmost segment of the parkway is typical of the combination of the various planting plans. Specimen trees were planted at the northern end, presumably to signal that southbound drivers were entering a new landscape with a different driving experience. In the 1980s, planting plans were developed for the new National Security Administration (NSA) exit. These called for forest edge enhancement. And in the 1990s renovations, plans at the Rt. 32 interchange included significant reforestation as well as specimen plantings at the entry and exit ramps. All along the roadway, forest edge enhancement was proposed.

Specific plans for each segment of the parkway are discussed in more detail using smaller scale maps. (1"=700') along with evidence of integrity. In general, however, it is clear from aerial imagery and driving surveys that few of the specimen plantings at entrances and exits have survived. Near the southern entrances, there are notable large trees, especially oaks, that are clear remnants of the 1950s planting plans, and other, smaller specimen trees, especially in open medians, seem to date to the 1990s plans. By contrast, there is virtually no evidence of forest edge plantings, especially ornamental species. It may be that these edge plantings were never implemented, and further research is needed to know if this is the case. Ground truthing may provide clearer insight into the integrity of the plantings.



0 500 1000 2000 3000 4000ft

'Modern Forested Parkway' Character Area


LEGEND
Mature Forest
Succession Forest
Mowed Grass
Shrubland Vegetation
Other Federal Lands
Rt 32 Patuxent Fwy
NSA entrance
Rt 175 Jessup Rd



1957 view of a long, open median in the Modern Forested Parkway character area. NARA 57-1146

Introduction

Spatial sequence is key to the driving experience of a parkway, but it is challenging to 'map' in the same way as infrastructure, forests, and planting. In this chapter, spatial experience is represented and analyzed through a series of cross-sections drawn at half mile intervals, and collectively they create a sort of cinematic story-board of the driving experience along the parkway. Thirty-eight sections cover the full-length of the parkway, and the half-mile interval allows frequent enough analysis without becoming overly burdensome or redundant. Each shows the actual topographic conditions of its unique location, and each uses standardized vegetation to represent its spatial boundaries and recurring vegetative conditions like mature forest, forest with cleared understory, and mowed lawn with individual trees.

Spatial Sequences at 1:2000

Spatial experience is an important factor in identifying and distinguishing the four character areas. To compare spatial sequences with the previously mapped information about forests, plantings and infrastructure, the sections are reduced in scale and overlaid on the 1:2000 base maps. This way they depict the overall spatial sequences in each character area, and they can be related to the other 1:2000 maps. Turning this book sideways and looking at the sections from south to north along a common centerline, you can imagine them as a visual sequence similar to the experience of driving the full parkway.

Detailed Sections at 1:700

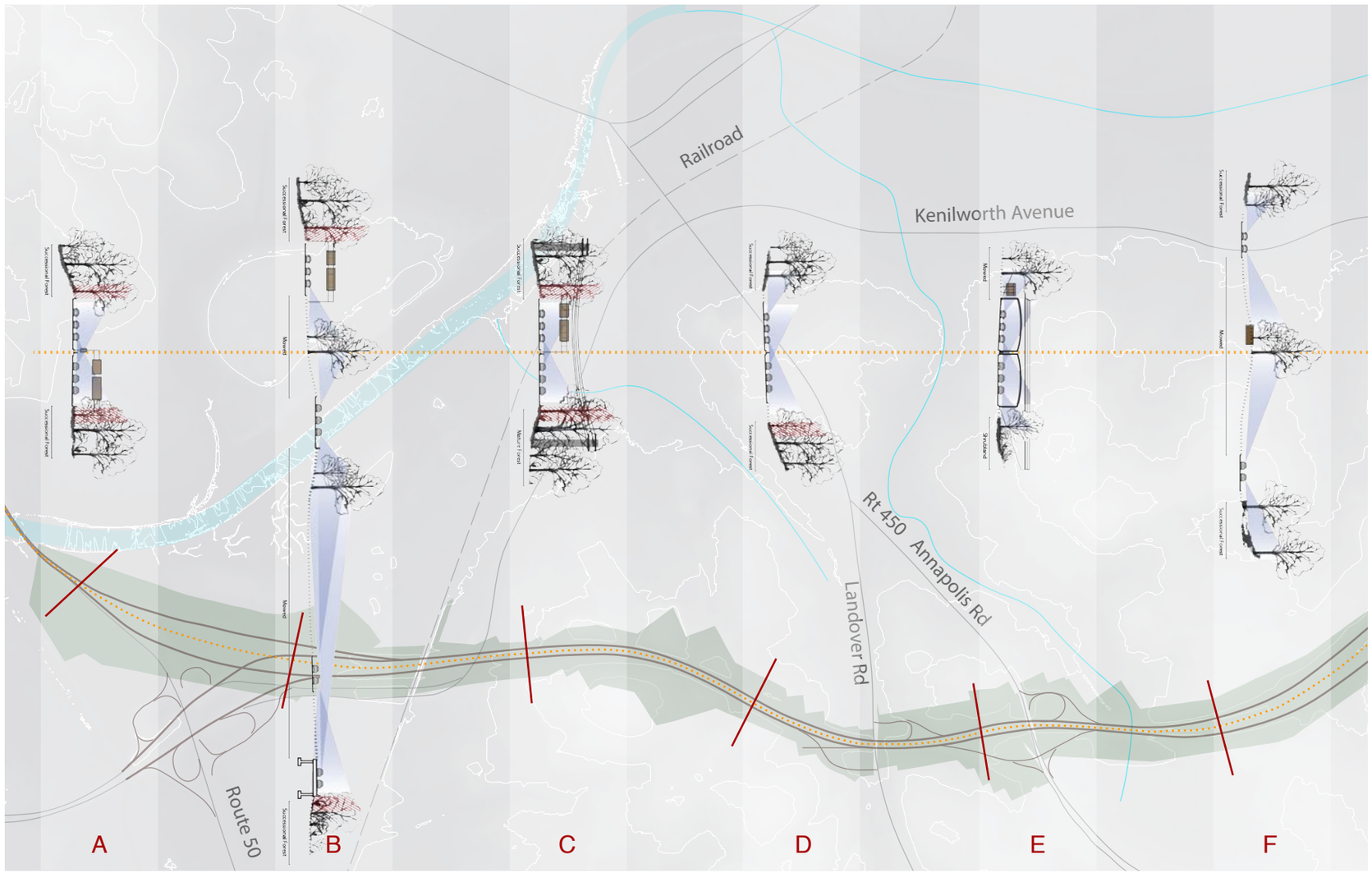
To study spatial conditions in more detail, the sections are clustered into nine segments of five sections each, drawn at a scale of 1"= 70' . (These nine segments correspond with the more detailed analysis of forests, plantings and infrastructure in Chapter Six.) For each of the nine segments, the sections read from bottom of the page to top as if one is driving the parkway south to north, and for continuity, the northernmost section usually repeats in the next segment as the southernmost section. An orange center line orients them to the centerline of the parkway, and a legend provides a key to the types of vegetation represented. In addition, red hatching shows invasive vegetation, and blue view cones show the extent of drivers' views.

In each segment an inset map indicates the location of each section, and a colored side bar indicates the character area(s) depicted in the five sections. A 2019 street view image from Google Maps shows current conditions in each segment, and an equivalent historic image gives background information by showing the conditions at or near the time of completion of original construction in the 1950s. The two do not directly correspond, but they typically address similar conditions of their segment. Written descriptions call attention to key spatial characteristics and specific problems that may need to be addressed.

SPATIAL SEQUENCE: A

The spatial conditions of the Washington Entrance character area are shaped by the space of the roadway itself with its diverging and converging lanes at the southern end of the parkway and six parallel lanes of traffic heading north to Annapolis Road. At Sections A and B, several lanes of traffic fragment the median into discrete segments, and their diverse vegetation makes for an uneven spatial sequence. At Sections C, D and E, six lanes of traffic with a very narrow median and continuous forested edges make a consistent spatial corridor and a constant experience for drivers as the road ascends a consistent slope as well. Although these three sections differ in overhead structures (signs, wires, and an overpass), the experience is nearly identical for about a mile, as evident in the sameness of the blue view-cones drawn in the sections.

By contrast, in the Picturesque Urban Parkway character area, the experience changes from section to section, and this is a defining aspect of this character area. For example, at Section F, the roadways divide and contain a grass median and specimen trees that rise to a crest and partially obscure the opposing lanes of traffic. Section G has a wide median of mature forest that conceals the other traffic entirely, and drivers are enveloped within a narrow, forested corridor. At Section H, the median narrows again and opens up to a grassy swale with specimen trees where traffic is visible across the way. At Section I, the median is wide enough to contain forest again, this time with a slightly wider grass edge, and this pattern of alternating stretches of open, sunny medians and narrower forested corridors continues all the way from Section F through Section L, just before the interchange for the Washington Beltway.



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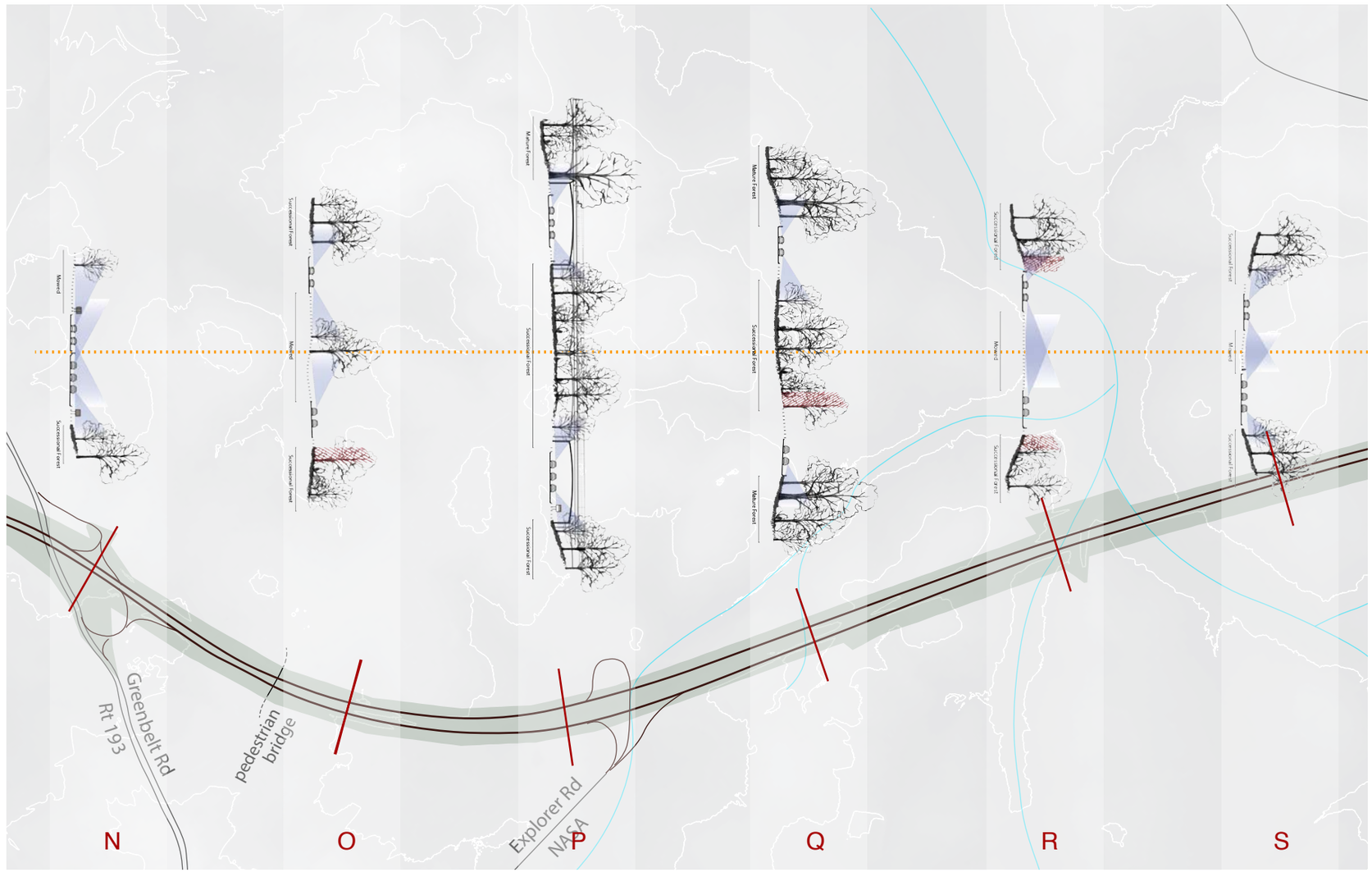
Washington Entrance character area

Greenbelt Rd
Rt 193
Rt. 495 Capital Beltway
Good Luck Rd
Rt 410
Riverdale Rd
Veteran's Parkway
G
H
I
J
K
L
M
Picturesque Urban Parkway character area
Beltway Threshold character area

SPATIAL SEQUENCE: B

The frequently changing spatial experience of the Picturesque Urban Parkway character area serves as a benchmark to compare and define the spatial sequences of the other character areas. As its name implies, the Picturesque Urban Parkway is typical of other urban parkways. Although comparable studies have not been done of the other Washington parkways, it is likely they would exhibit similar changing spatial experiences given their respective alignments, planting patterns, and topographic conditions. As the Baltimore-Washington Parkway extends northward beyond the Picturesque Urban Parkway, the spatial experiences change dramatically, becoming more consistent for longer stretches, and this is part of what defines the Modern Forested Parkway character area (described on the next page).

The Beltway Threshold character area serves as a transition between the Picturesque Urban Parkway and the Modern Forested Parkway, and it includes sections M through P. Section M is immediately south of the Capital Beltway interchange and contains forest in the median and along the edges that help hide the visibility of the Beltway. Despite the Beltway's size, its lanes are at lower elevation, and the forests make it less apparent than it would be otherwise. At Section N, the median narrows to accommodate merging traffic from the Greenbelt Road interchange, and at section P, it widens again with a forested median. Several overhead bridges define this spatial sequence, although they do not all show up in the sections. In quick succession, drivers pass beneath overpasses at Greenbelt Road, the pedestrian bridge, and the exit for NASA. Originally only Greenbelt Road spanned this stretch of the parkway, and there were very few overhead crossings in the original design. However because the road curves, these bridges are not visible from one to another and do not disrupt the experience too much.



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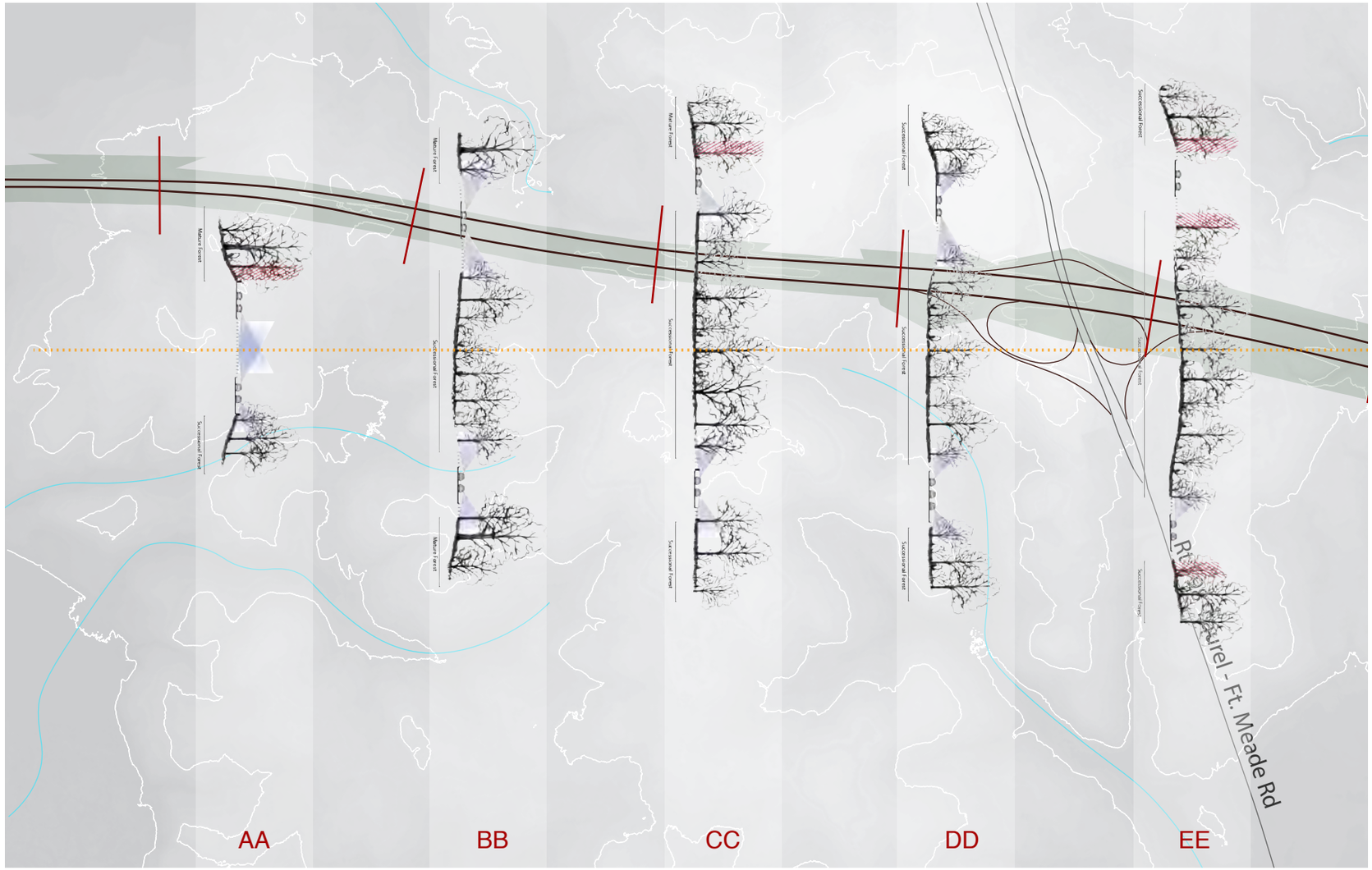
Modern Forested Parkway character area

SPATIAL SEQUENCE: C

The Modern Forested Parkway character area extends from section Q to section LL at the northern end of the parkway. Its most defining spatial characteristic is a set of alternating, long segments with similar spatial conditions. In places, it has long, narrow grassy medians where both northbound and southbound lanes of traffic are clearly visible in either direction. In other places it has equally long stretches of forested median, where motorists travel through long forested corridors. Sections R, S, T and U are nearly identical except for the exit ramps at Beaverdam Road, which do not actually change the driver's experience very much. Throughout this two-mile segment, drivers experience an unvarying swath of narrow, open grass median. At Rt. 197 (sections W and X) the land reaches a high point with scrubby vegetation and wider, more open space, before returning to another continuous open median at sections Y, Z and AA. For nearly four and a half miles, drivers experience little variation except for the brushy, open landscape at Rt. 197.

From section BB through FF, the spatial condition is opposite that of the previous four miles, but it is similarly constant. In this stretch there is a wide, forested median with forest close in on either side, too, making two long segments of forested corridor. The width of the median changes and it is at times higher than the road and at other times lower than the roadway, but the spatial condition remains constant. Here, drivers experience the closeness and continuity of the forest for about two miles.

The northernmost sections (GG – LL) of this character area have similar spatial conditions as the previous open and forested segments, but in this stretch they stay constant for slightly shorter durations.



0 500 1000 2000 3000 4000ft

Modern Forested Parkway character area

Modern Forested Parkway character area

SECTIONS: SEGMENT ONE

Sections A through E document the Washington Entrance character area, from the Anacostia River to the Annapolis Road interchange. The sections reveal spatial differences between the southern and northern halves of the character area.

At the southern end, Sections A and B document diverse spatial conditions where the parkway lanes and medians diverge and converge to meet New York Avenue and DC 295. As seen in a 2019 Google Maps street view, the multiple lanes of traffic divide the landscape into discrete segments with diverse vegetation, and these define varying spatial conditions as shown by the changing view cones in light blue. Some segments are wooded with invasive vegetation, some have specimen trees, and others are mostly open lawn. Most are framed by guard walls and guardrails that reinforce the segmentation of the landscape.

In the northern half, Sections C, D and E are similar to each other with a dual, six-lane roadway divided by a very narrow median and guard wall. Forest vegetation is nearly continuous along the outside edges, and with the constant width of the median and roadway, the landscape is experienced as a consistent corridor of space. The three sections differ due to signage, overhead wires and the Annapolis Road bridge, but the overall spatial character is similar for more than a mile.

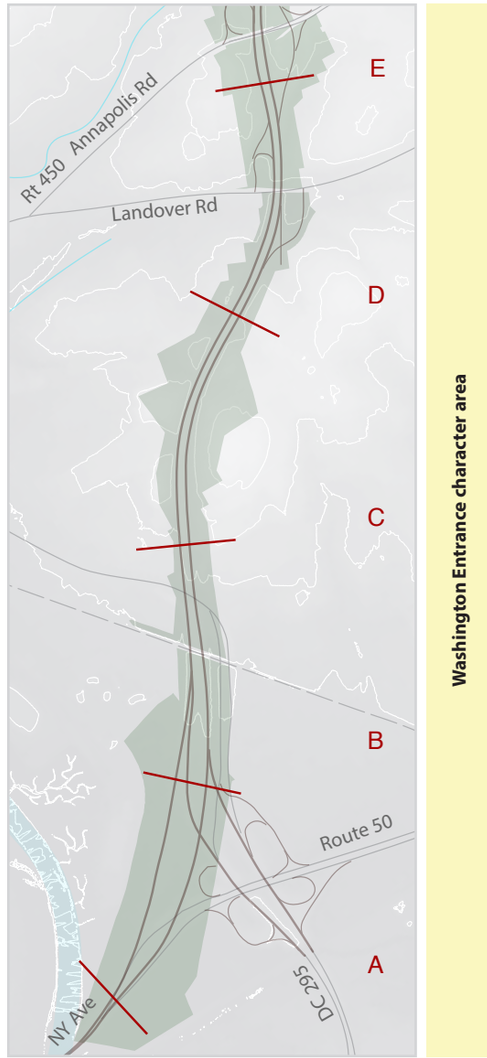
A 1954 photograph shows that this area was cleared extensively to construct and grade the highway, and currently much of the forest is still in a successional state. The adjacent woodland has significant amounts of invasive vegetation, especially near Sections A and B. Invasive vegetation has been cleared from forest edges along the western side of sections D and E which have open understory along that edge. This makes it vulnerable to colonization by invasive plant species.



View S near Section B, SB lane. Diverging lanes to meet New York Ave and DC 295. Image retrieved from Google Maps, April 24-26, 2019.



Landover Rd and Defense Hwy exits before planting, 1954. Near Section E. NARA 54-2251



Legend

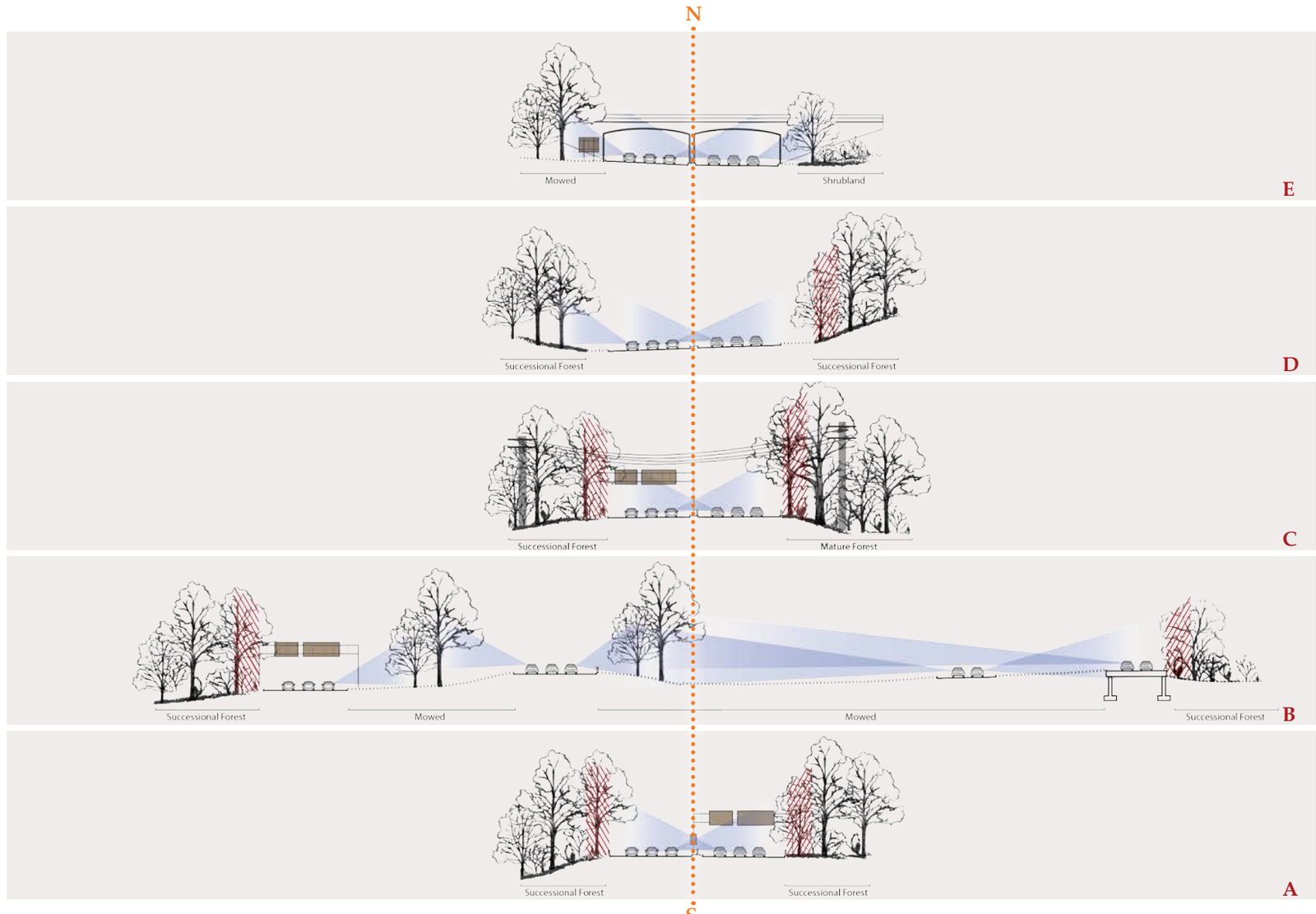
mature forest

successional forest *with invasive plants*

forest with clear understory

mowed grass with open trees

shrubland *with view cone*



0 35 70 105 140

SECTIONS: SEGMENT TWO

Sections E through I document the southern half of the Picturesque Urban Parkway character area, which begins just north of Annapolis Road and continues to the southern edge of the Capital Beltway interchange. The most notable spatial characteristic is that each section is remarkably different from the previous one and the following one. This indicates that the experience of driving through this character area is changing at least every half mile, and that motorists travel through a varying sequence of spaces. After passing under the bridge at Annapolis Road, the roadways diverge and reduce to two lanes in each direction, creating an open median with planted specimen trees at Section F. The significance of this change of scenery is underscored by a National Park Service sign identifying this as the Baltimore Washington Parkway (for northbound travelers) even though the parkway actually begins two miles to the south.

The roadways diverge further at Section G, separated by a wide swath of mature forest, and consequently drivers are unaware of the opposite lane of traffic. Travelers experience continuous forest in this segment, usually with a mowed edge along the roadway. At Section H, the roadways are near enough to each other to have another open median with planted specimen trees, and then they diverge again at Section I, where the median is forested again with wider mowed grass strips along the edge of the roadway.

These variations in spatial conditions are evident in a 1954 photo when the parkway first opened, and also in a 2019 streeet view from Google Maps.

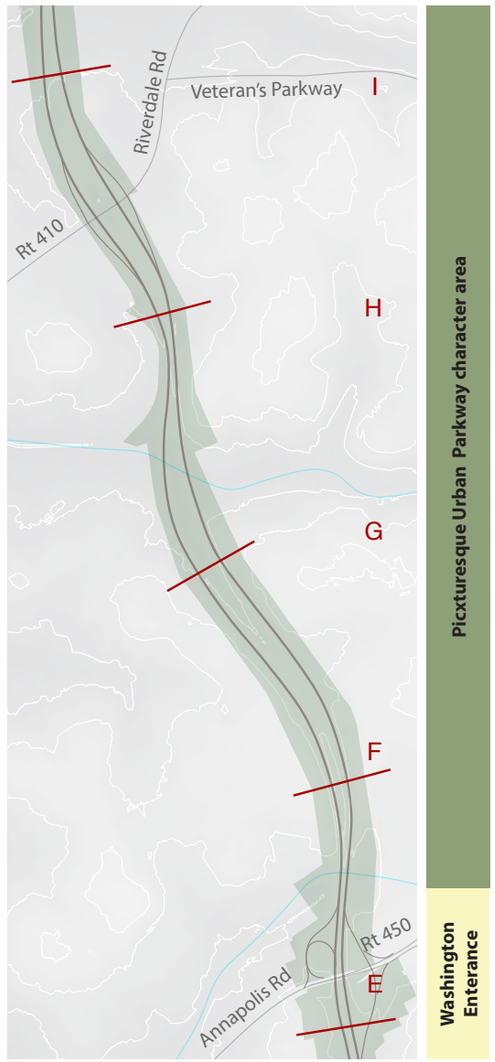
All five sections show cleared understory along the western edge where invasive species have been removed. As in other segments, these cleared forest edges are vulnerable to colonization by invasive plant species.



View S near Section G, SB lane. Planted median and cleared forest understory. Image retrieved from Google Maps, April 24-26, 2019.



Road curvature in Picturesque Urban Parkway character area, 1954. Near Section H? NARA 54-2250



Legend



mature forest



successional forest *with invasive plants*



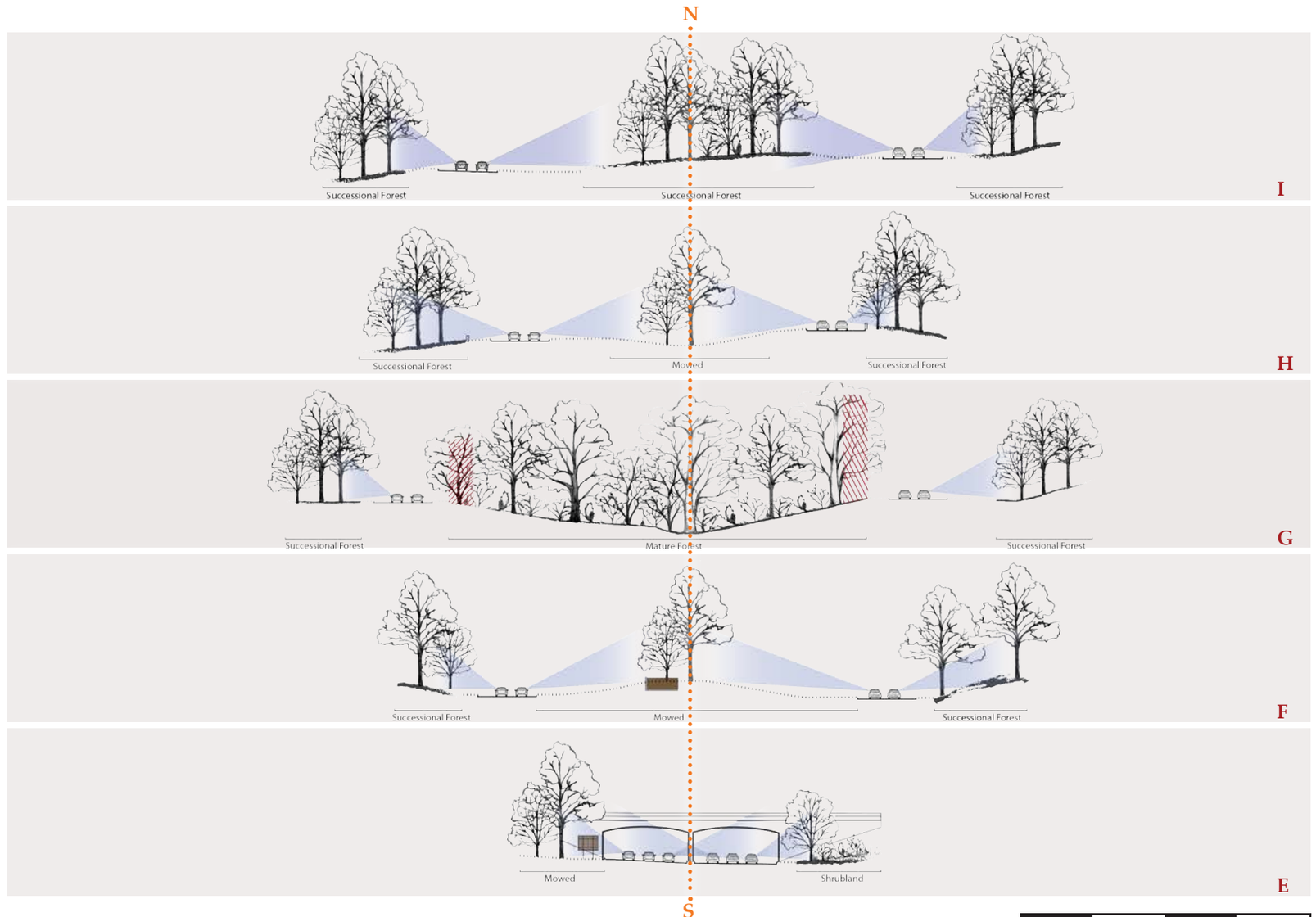
forest with clear understory



mowed grass with open trees



shrubland *with view cone*



0 35 70 105 140

Sections I through M document the northern half of the Picturesque Urban Parkway character area. As with the southern half, it is notable that each section differs from those immediately before and after it. This frequently changing spatial experience is a defining characteristic of this character area.

The plan detail shows the parkway crossing three streams in this segment and rising over the ridges between them. To minimize grade changes, the road was cut through the ridges and filled over streams, and this is evident in a 1954 photograph of the parkway just south of Good Luck Road bridge. The foreground shows significant cut banks on either side of the roadway, and these are also visible in Section J with the Good Luck Road bridge spanning between them. In the distance of the photograph, the road presumably crosses a small stream at the low point, indicated on the plan just north of Section I. The stream itself is not visible, presumably because it is carried under the roadway in a pipe. Throughout this character area, guard walls were added in the 1990s at these low points to prevent drivers from driving down the steep banks, and the guard walls also protect adjacent forests. In the 2019 Google Maps street view near section L, mature trees tower over the adjacent roadway, and frequently along the parkway, guard walls like this protect forests and allow mature trees to grow adjacent to the roadway.

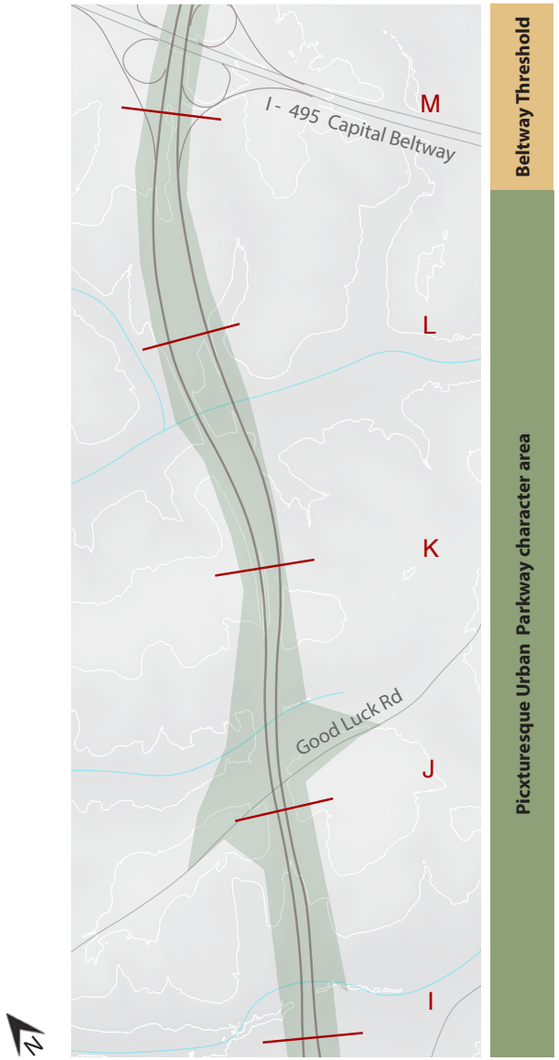
All five sections show open understory along the western edge where invasive species have been removed in the late 2010s. The sections do not show invasive vegetation along the eastern edge of the character area, but it has not been actively removed as it has on the western edge. Sections J and L show developed understory on on the eastern side, typical of healthy, deciduous forests in this region.



View N near Section L, SB lane. Guard wall with mature forest and mowed grass edge. Image retrieved from Google Maps, April 24-26, 2019.



View south from Good Luck Road bridge, 1954. Section J.
NARA 54-2261



Legend



mature forest



successional forest *with invasive plants*



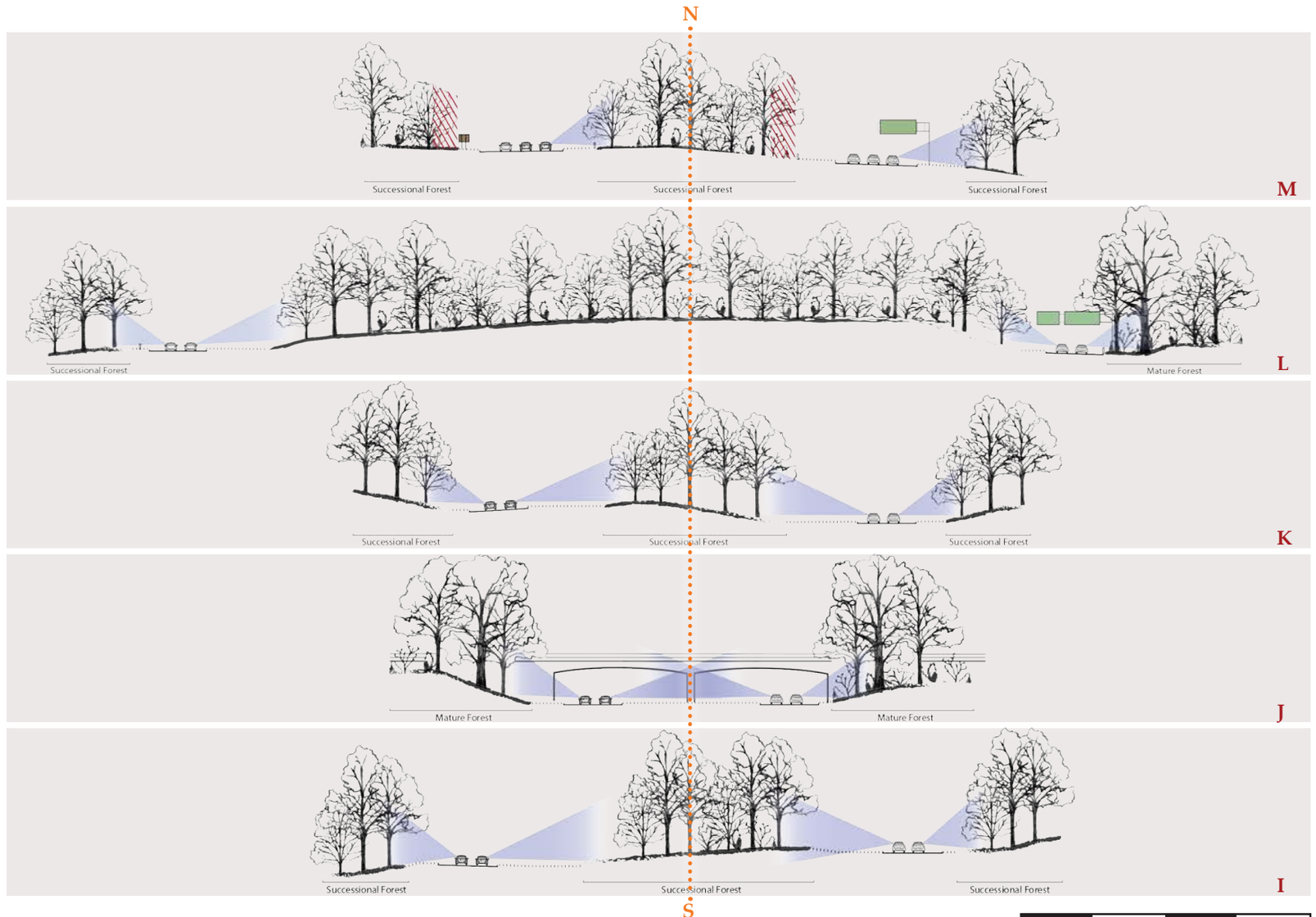
forest with clear understory



mowed grass with open trees



shrubland *with view cone*



0 35 70 105 140

Sections M through Q document the Beltway Threshold character area where the road has bigger curves with larger radii. The northbound and southbound roadways are mostly parallel to one another throughout the character area, but the width of the median differs enough to vary the spatial experience. This character area is defined largely by the proximity of the Capital Beltway and Greenbelt Road interchanges which can be confusing to drivers, especially southbound drivers.

Sections M, N and O depict differences in openness and enclosure that help identify the sources of the confusion at the interchanges. Section M depicts forest within the median as the parkway approaches the Capital Beltway interchange. The parkway crosses over the Beltway, and the Beltway itself is relatively unnoticeable with forest among the exit ramps and in the median. This is especially true for northbound drivers. Sections N and O depict a more open landscape on the north side of the Greenbelt Road interchange, and this leads to confusion for southbound drivers. As seen in a 1954 image, the Greenbelt Road bridge is very visible along the roadway, and in the 2019 Google Maps street view, the exit ramps and bridge are still quite visible. Confusion arises because southbound drivers see a Beltway exit sign exit before signs for Greenbelt Road, but they actually arrive at the Greenbelt Road exit first, and it is highly visible, before they get to the less-visible Beltway exits. It is easy to mistake the Greenbelt Road exit ramp for one of the Beltway exits.

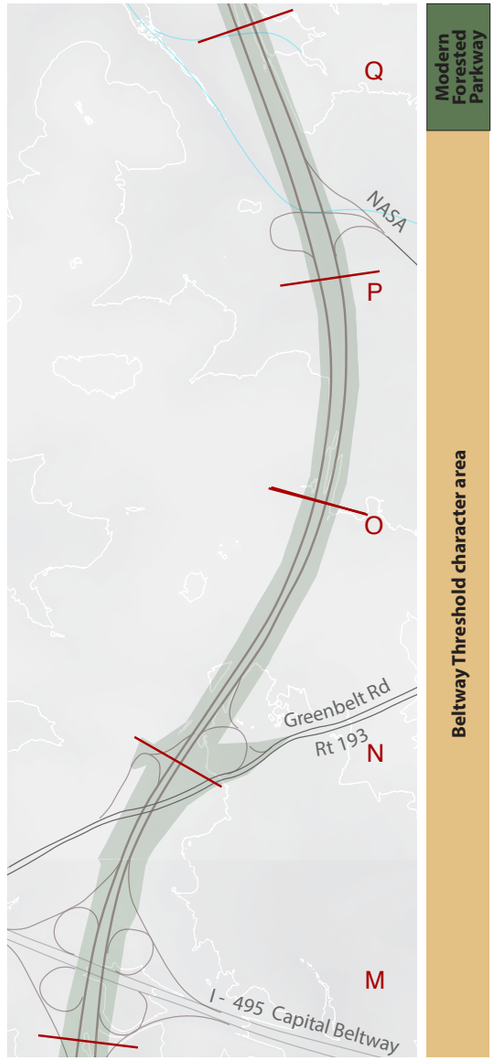
At Sections P and Q, the divided roadways have a wide enough median to contain mature forest so drivers are less aware of traffic on the opposite lanes.



View S near Section N, SB lane. Open interchange at Greenbelt Rd.
Image retrieved from Google Maps, April 24-26, 2019.



"Transitional" bridge character at Greenbelt overpass, 1954. Near Section N.
NARA 54-2247



Legend



mature forest



successional forest *with invasive plants*



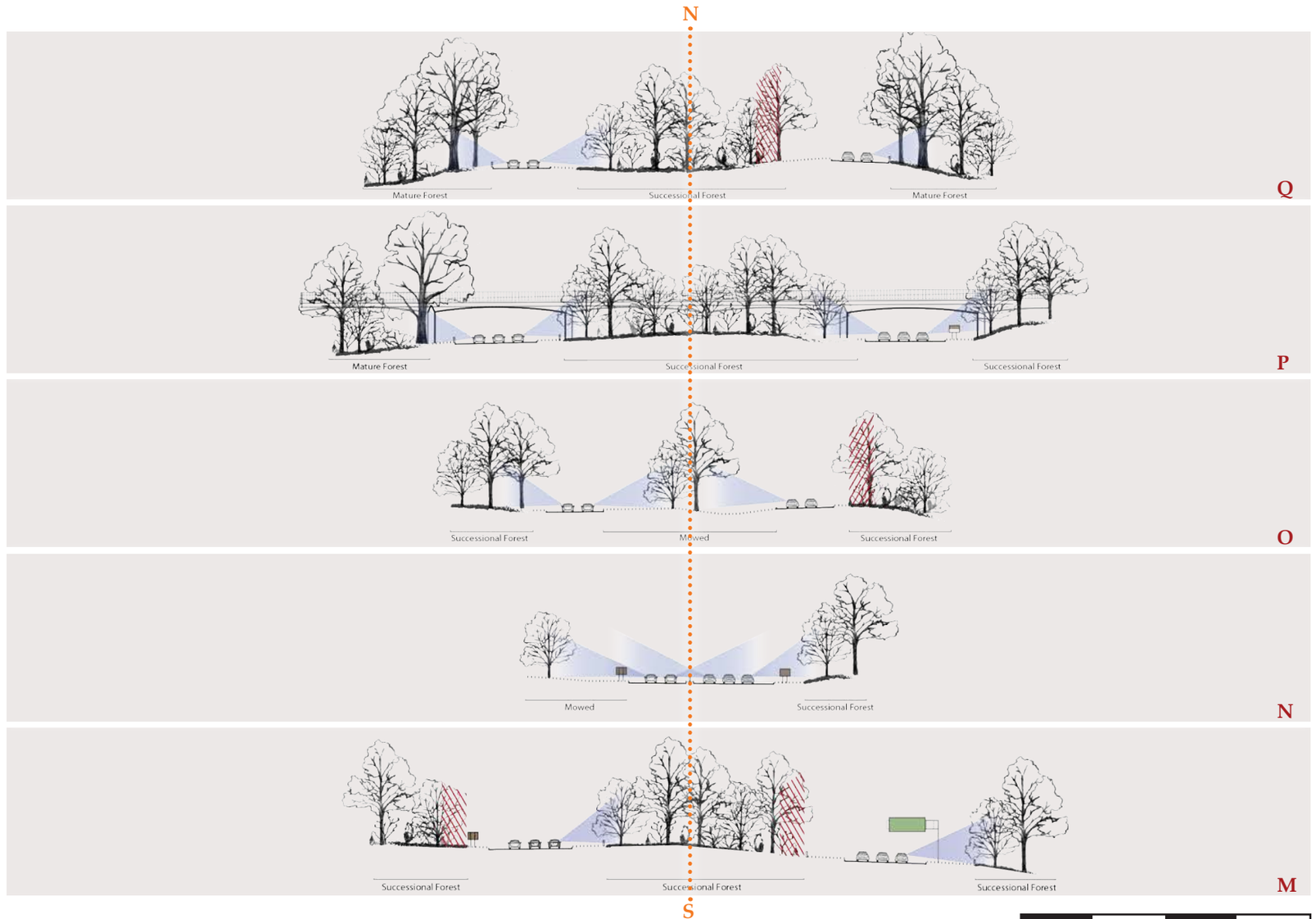
forest with clear understory



mowed grass with open trees



shrubland *with view cone*



0 35 70 105 140

Sections Q through U document the southernmost portion of the Modern Forested Parkway character area, about one fifth of the full character area. Notably, this segment contains the longest, most continuous spatial experience along the parkway.

Sections R, S and U are nearly the same, each comprised of an open, mowed grass median and forest on both sides. At Section R, the parkway sits higher than the adjoining land whereas at Sections S and U the adjoining land rises up. Section T is wider, because the exit and entry ramps of the Powder Mill Road interchange broaden the landscape, but the main roadway and median remain constant, and the experience stays largely the same for motorists driving through. A 1957 photograph shows the continuity of the landscape and experience along this stretch.

Guard walls line the roadway where adjacent land drops off, and for much of the segment, a Corten steel guardrail runs in the median close to the northbound lanes. It prevents cars from driving across the median and into oncoming traffic, and it is prominent in a 2019 street view from Google Maps. These walls and rail differentiate the experience in subtle but important ways.

At night, there are no barriers or vegetation to deflect headlights from oncoming traffic. The headlights of oncoming traffic are especially glaring because they are in marked contrast to the darkness of the rest of the parkway. By contrast, the Capital Beltway is filled with light from cars, and therefore oncoming headlights do not seem nearly as blinding.

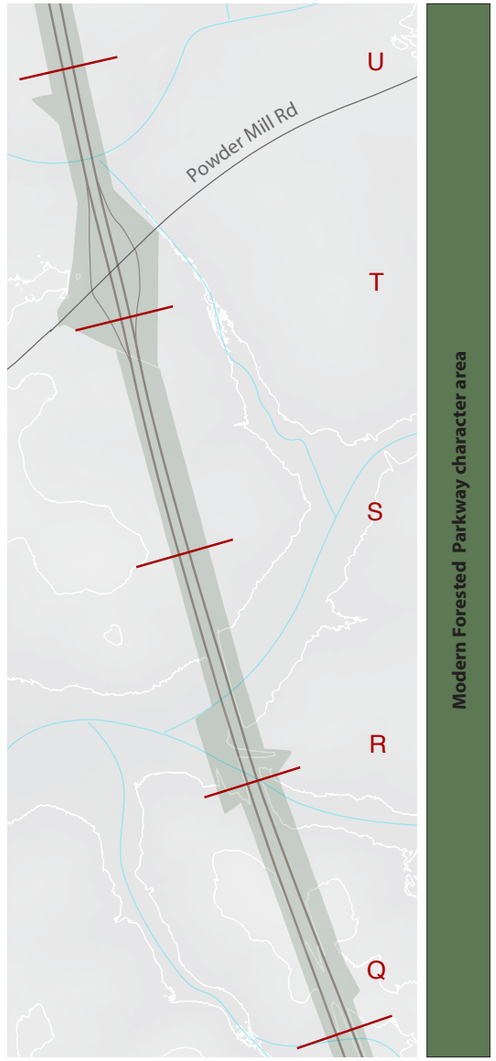
Invasive vegetation has been removed from some of the forest edges on both sides of the roadway, and as in other places, these cleared forest edges are vulnerable to colonization by invasive plant species.



View N near Section T, SB lane. Long open median with Corten steel guard rail. Image retrieved from Google Maps, April 24-26, 2019.



Long open median, Modern Forested Parkway character area, 1957. Near Section R. NARA 57-1139



Legend



mature forest



successional forest *with invasive plants*



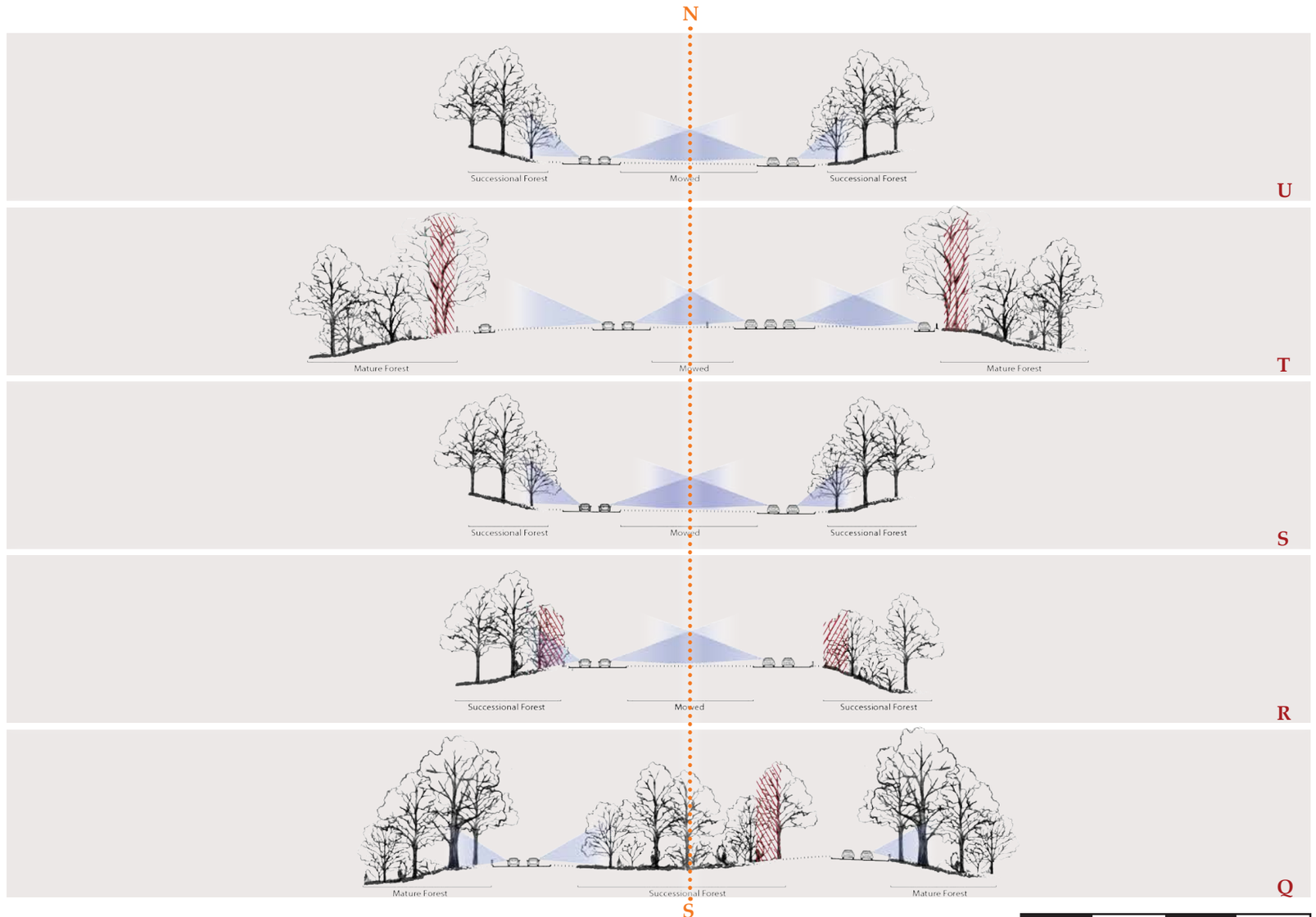
forest with clear understory



mowed grass with open trees



shrubland *with view cone*



0 35 70 105 140

SECTIONS: SEGMENT SIX

Sections U through Y document the second segment of the Modern Forested Parkway character area, including the lengthy interchange at Maryland Rt. 197. This is the only segment of the parkway without a developed planting plan, and the vegetation in this stretch has a noticeably different character with a different spatial condition. Furthermore, this is the experiential high point of the parkway. Overall, the parkway continues to rise to the northernmost interchange at RT. 175, but this segment feels like the highest point along the route.

The long, narrow, open median of Segment Five gradually widens and includes specimen plantings that create a more varied spatial sequence. This transition is evident in Sections U and V. At Sections W and X the median is wider with shrubby, early successional vegetation and many invasive species, visible in a 2019 image from Google Maps. The vegetation is shorter here than the typical forest vegetation along the rest of the parkway, and with the greater width of the median, there is an openness to this part of the parkway that is quite distinct. Rt. 197 crosses under the parkway here so there are no overhead bridges, and this contributes to the general openness along this stretch.

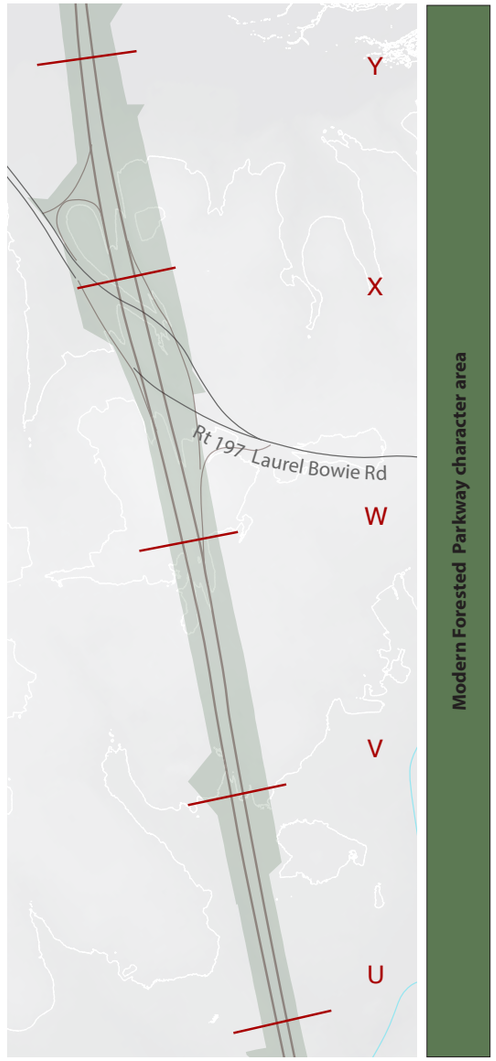
As seen in a 1953 construction photograph, the land rises gradually but consistently here to a high point at the southern end of the interchange. Collectively, the shorter vegetation, lowered road crossings, and ascending topography give this area a subtle spatial condition that is distinctive along the total length of the parkway. Without a planting plan for this section, there is no historical direction for management of the early successional vegetation in this stretch. Judging from historic photos, other stretches like this were allowed to succeed to forest, and this stretch is the only place that represents this earlier condition of the landscape.



View S near Section Y, SB lane. Early successional vegetation, rising topography. Image retrieved from Google Maps, April 24-26, 2019.



Rising topography to high point at Rt. 197 interchange, 1953. Near Section X. NARA 53-2272



Legend



mature forest



successional forest *with invasive plants*



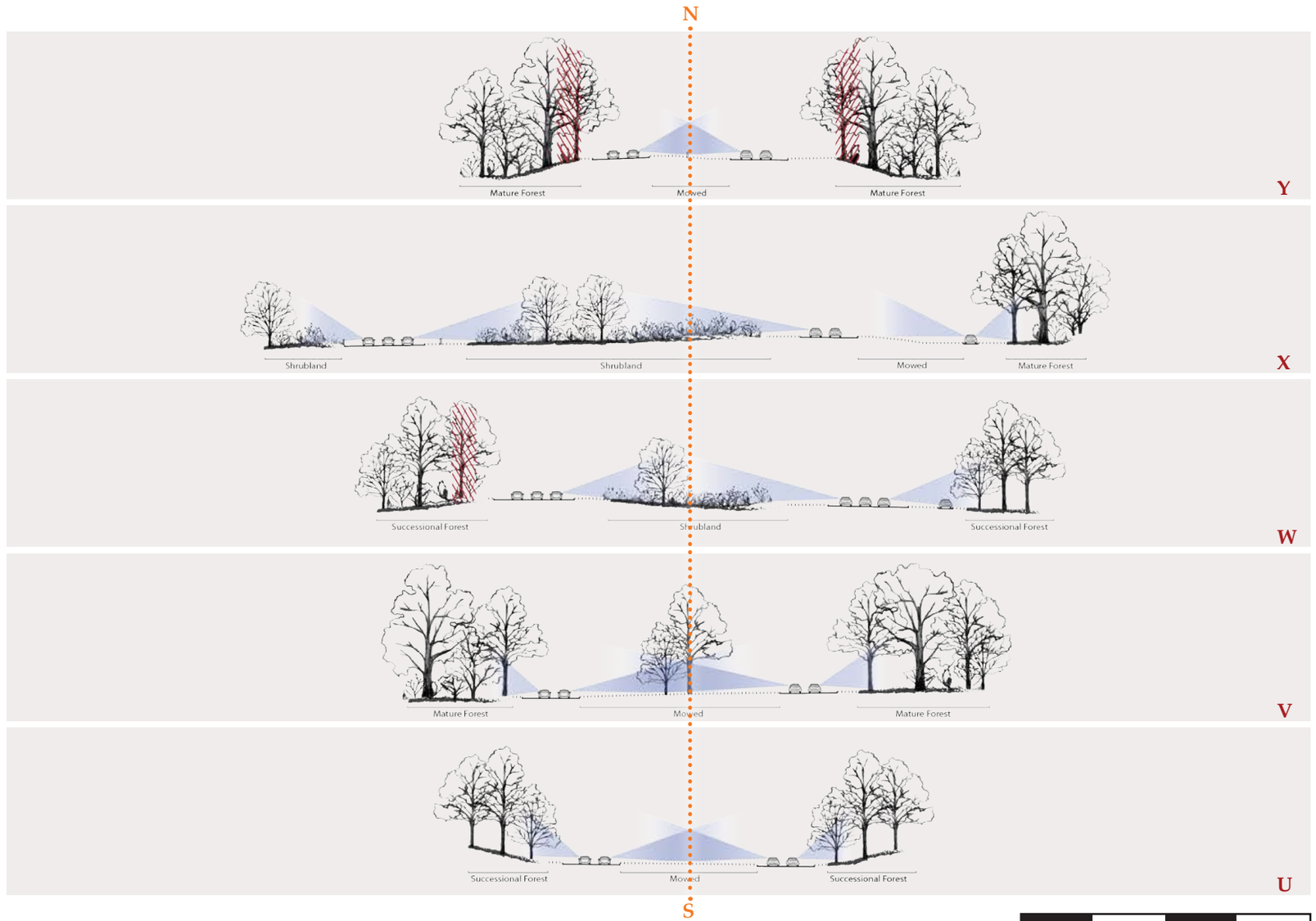
forest with clear understory



mowed grass with open trees



shrubland *with view cone*



0 35 70 105 140

SECTIONS: SEGMENT SEVEN

Sections Y through CC document the third segment of the Modern Forested Parkway which includes the Patuxent River crossing. The actual crossing is not very noticeable, although the northbound and southbond lanes converge to cross the river on a single bridge, and the roadway sits above the low wetlands that fill the Patuxent floodplain. The narrow, elevated roadbed is visible in Sections Y, Z and AA. In sections BB and CC, the median widens and is filled with mature forest. This is the start of a long, forested median, the counterpart to the long, grassy median of Segment Five. These long stretches of consistent vegetation and spatial conditions are a defining characteristic of the Modern Forested Parkway character area.

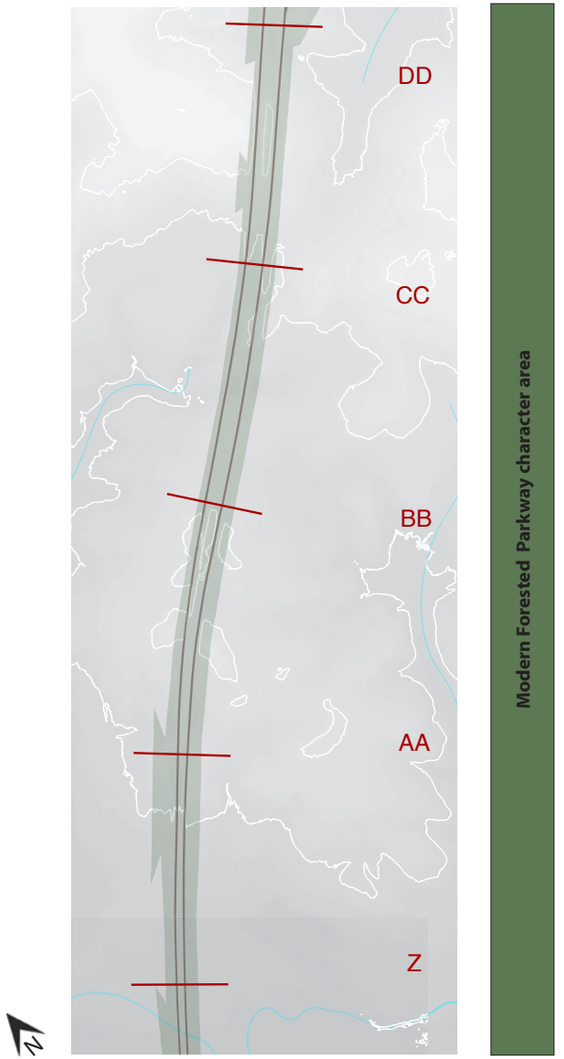
All five sections show significant stands of mature forest, which indicates that the roadway was constructed with less grading and destruction of the adjoining forests. A 1953 photograph showing construction of the roadway illustrates the impact of construction and grading on the adjoining forests. The photograph is of construction north of the Rt. 198 interchange in Segment 8, but the conditions it shows are typical of construction in the Modern Forested Parkway. All of the foreground vegetation has been removed due to grading for the roadway, but in the median and along the distant edges of the roadway, substantial existing forest remains, sometimes immediately adjacent to the roadway. These remnants of the pre-parkway forest have grown to be the mature forests of the current parkway landscape as seen in the 2019 Google Maps image.



View S near Section DD, SB lane. Mature forest both sides. Mowed edge in median. Image retrieved from Google Maps, April 24-26, 2019.



Long, wide median in Modern Forested Parkway, north of 198, 1953. N of Section GG. NARA 53-2285



Legend



mature forest



successional forest *with invasive plants*



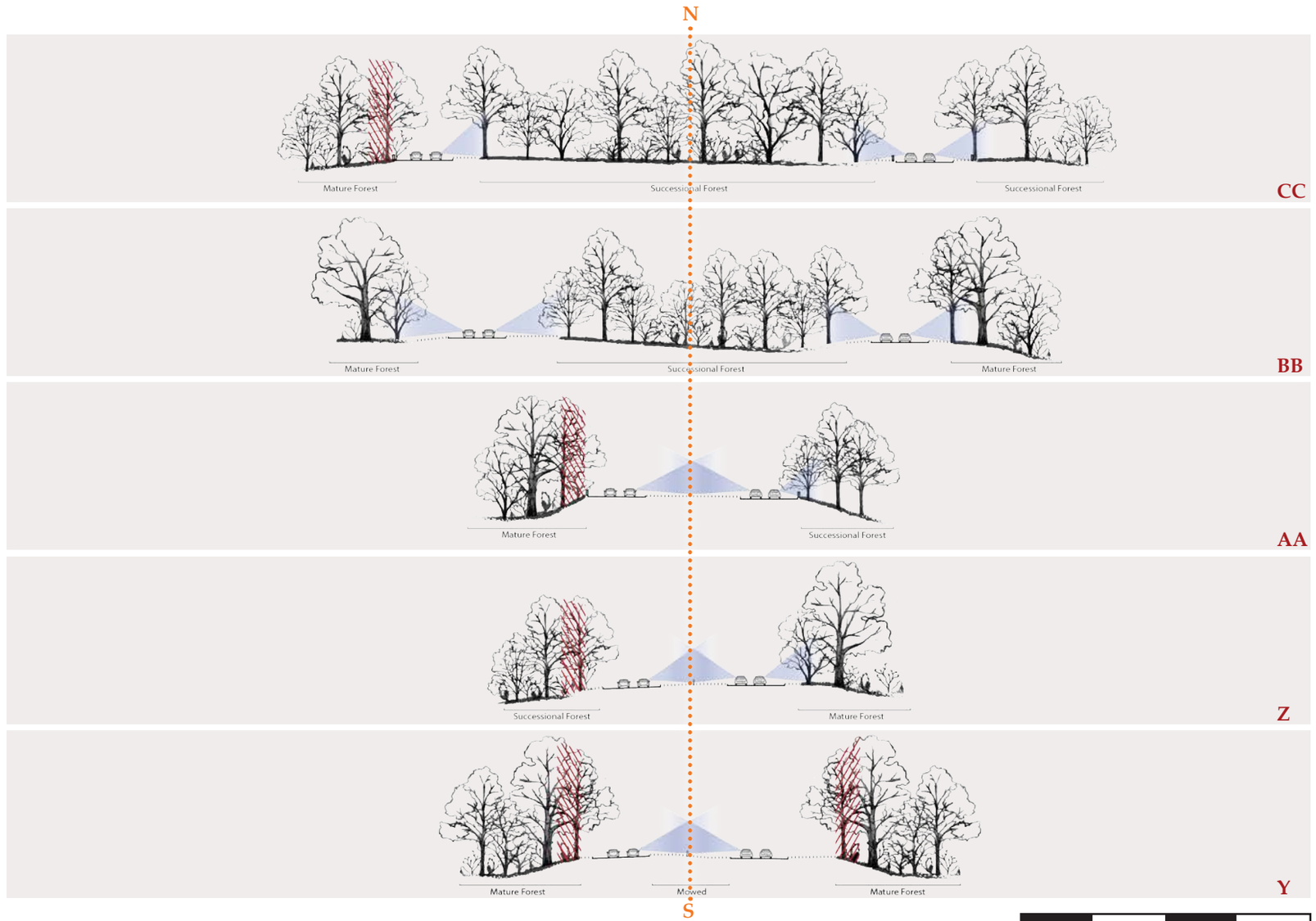
forest with clear understory



mowed grass with open trees



shrubland *with view cone*





SECTIONS: SEGMENT EIGHT

Sections DD through HH document the fourth segment of the Modern Forested Parkway from the Rt. 198 interchange to the Rt. 32 interchange, which includes the Little Patuxent River crossing. Sections DD, EE and FF depict a continuous forested median, a continuation of the median in Sections BB and CC. Although the ramps of the Rt. 198 interchange are distinguished by areas of mowed grass, the forest in the median continues uninterrupted, and the interchange does not interrupt the experience of the forested corridor as much as most of the other interchanges do. Near the interchange, the forest is noticeably younger, perhaps due to disturbance during initial construction in the 1950s or reconstruction in the 1990s. North of the Rt. 198 interchange, the roadways are elevated above the floodplain of Little Patuxent River as shown in Section FF. A 1954 photograph shows the crossing in open meadow, whereas today it is fully forested. The river is barely visible today except in winter when leaves are off the trees.

At the Rt. 32 interchange, the median narrows and is fully open with mowed grass in the median, as shown in Sections GG and HH. All traffic is fully open to view as is a prominent high-rise building to the NW of the interchange. The bridge was reconstructed during the 1990s rehabilitation, and afterward young trees were planted to reforest much of the land within and around the looping ramps of the interchange. A 2019 Google Maps image shows the early successional forest and shrubs in the background of the wide grassy and open space of the roadway.

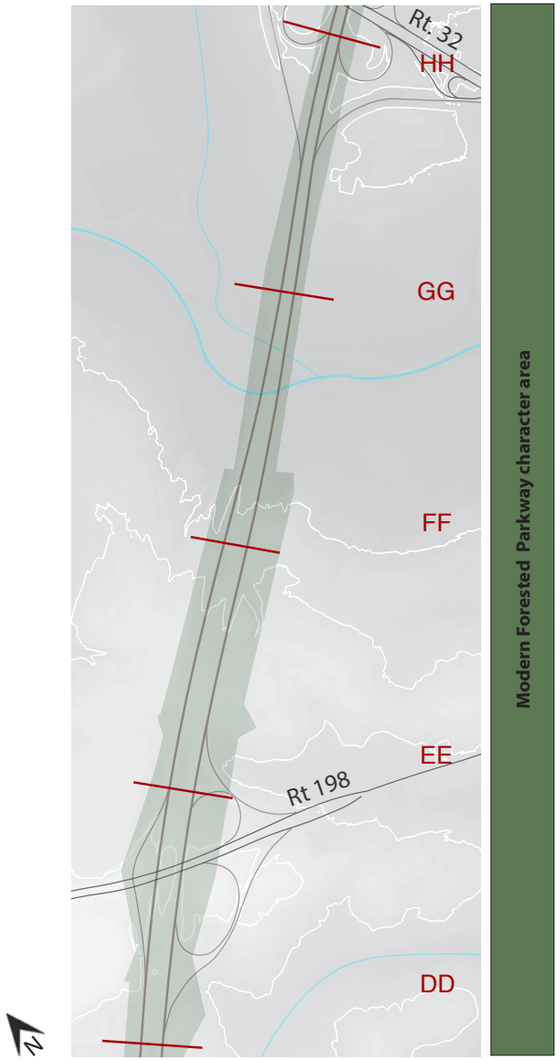
Corten steel guardrails are very prominent in the median as they extend from the Rt. 32 bridge abutment.



View S near Section II, NB lane. Mowed grass and Corten guardrail. Successional forest. Image retrieved from Google Maps, April 24-26, 2019.



Descent to Little Patuxent River with long grasses and pull-off, 1954. Near Section FF. NARA 54-1555



Legend



mature forest



successional forest *with invasive plants*



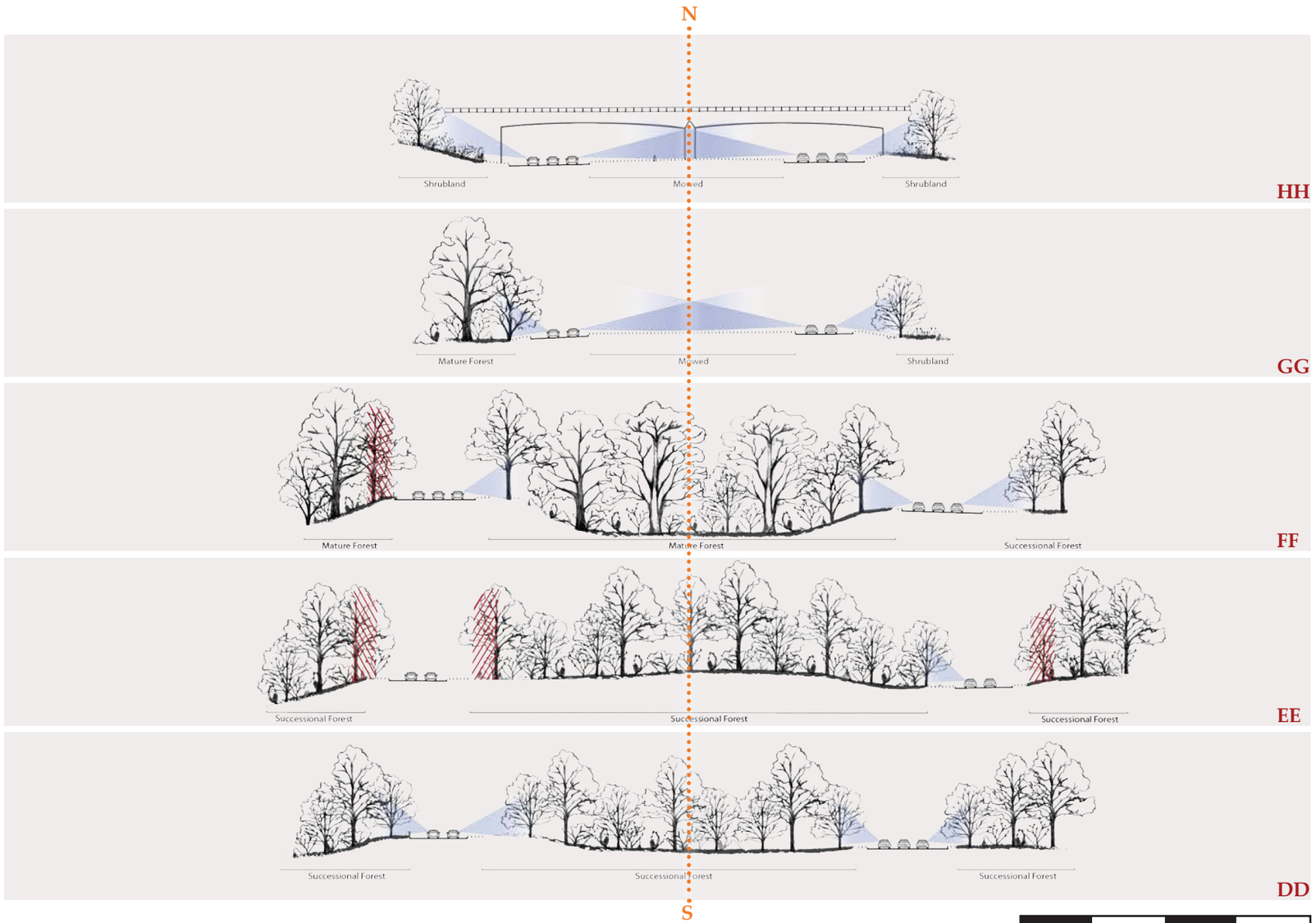
forest with clear understory



mowed grass with open trees



shrubland *with view cone*



Sections HH through LL document the fifth and final segment of the Modern Forested Parkway from the Rt. 32 interchange to the northern end of the parkway at the Rt. 175 interchange.

Sections HH and II depict an open median with mowed grass between the bridges at the Rt. 32 interchange and the National Security Administration (NSA) interchange, and both of these bridges show up in the sections. North of the NSA interchange the median widens and contains successional forest in Sections JJ and KK. It narrows again at Section LL, and open grass with specimen trees fills the median as seen in the 2019 Google Maps image. The largest of these trees date to the original 1955 plantings. This open, planted stretch signals the beginning of the parkway for southbound motorists, as noted by the presence of the official NPS sign.

Successional forest with a narrow, mowed strip of grass borders the outside edges of the roadway consistently through this segment with invasive species along much of the edge. With the forested median at Sections JJ and KK, the experience for drivers is of a tight corridor through continuous forest.

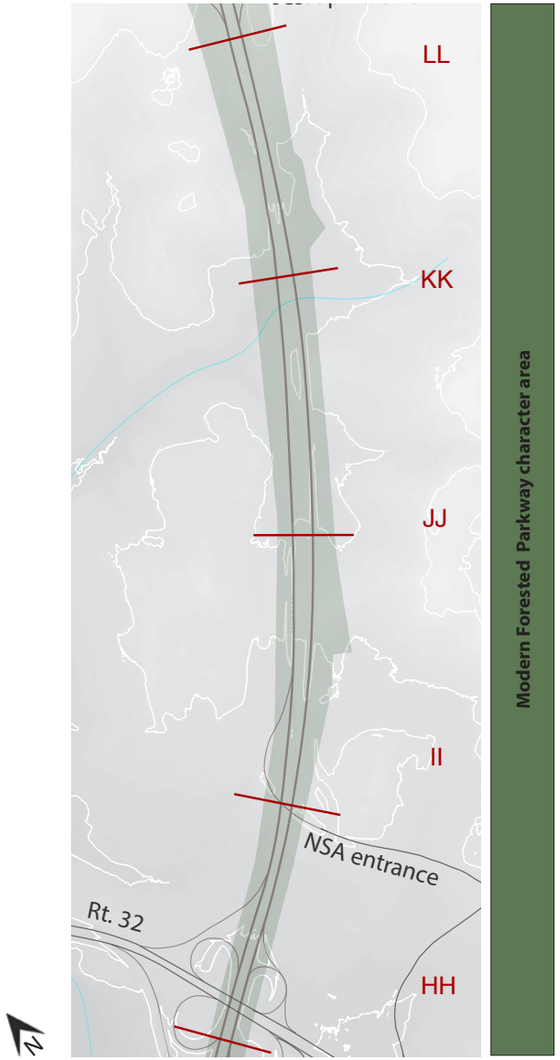
A 1955 photograph from an unidentified stretch of the parkway shows the original edge condition of the parkway which encouraged cars to drive onto the grass in emergencies. Tire tracks and ruts in the grass confirm that it was used this way, but also show it limited capacity to handle that use. The 2019 image shows the mountable curb and narrow shoulder from the 1990s rehabilitation.



View S near Section KK, SB lane. Planted specimen trees in median, forested edge. Image retrieved from Google Maps, April 24-26, 2019.



Shoulder parking sign, unidentified location, 1955. Unknown location. NARA 55-346



Legend



mature forest



successional forest *with invasive plants*



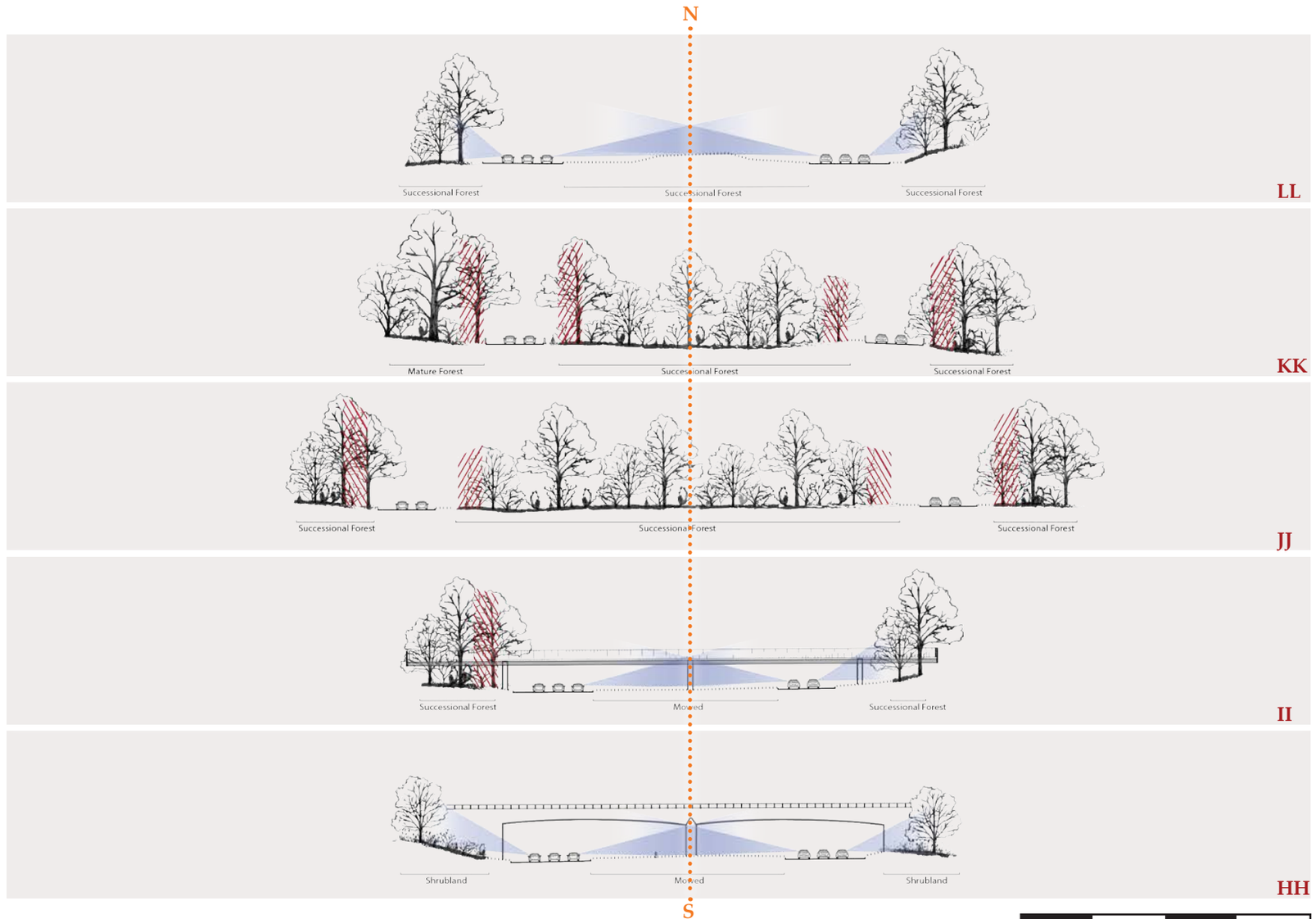
forest with clear understory



mowed grass with open trees



shrubland *with view cone*



0 35 70 105 140



Little Patuxent River bridge during construction, 1953.
(NARA 53-2281)

Introduction

Infrastructure, forests, and planted vegetation are mapped at 1"=700' in this chapter, allowing for more detailed inventory and assessment. At this scale, the parkway is represented in nine segments of approximately two miles each, beginning at the Anacostia River at the southern end and extending northward to the Rt-175 interchange at Jessup Road. Match lines indicate the overlap from one segment to the next. In each case, mapping began with existing information – GIS maps and existing planting plans – which were synthesized and colored to reveal relevant information. These were augmented using Google Maps street view and verified with driving surveys and ground inspection. Base maps are derived from aerial photographs to give a clearer sense of immediate context beyond the boundaries of the parkway landscape.

Infrastructure/Small Scale Features

Maps of infrastructure and small-scale features identify and locate elements such as guardrails, guard walls, signs, and other features that influence the character of the parkway. Many of them, especially guardrails, overhead signs, and power lines do not contribute to the parkway's character and significance. Corten steel guardrails were added in the 2000s, often to increase the length of the earlier guard walls and in places deemed necessary by a later safety study. Guardrails at interchanges are inconsistent with several materials and types of guardrails at the various ramps. Signs have proliferated, and at certain interchanges they become dominant and at times contradictory. The simplest interchange is Powder Mill Road (Segment Five), which is a good benchmark for minimal signage.

Forest Vegetation

Forest is the defining vegetation of the parkway and key to its historical significance. These maps simplify GIS categories into three forest types (upland, lowland and swamp) and three ages (shrubland, successional forest and mature forest). Streams correlate well with lowland forests, and these are often more mature today, because filling for the roadway caused less disturbance than cutting through upland topography. Invasive species, cleared edges, and 'healthy forests' are mapped as additional layers. Invasive species indicate more recent disturbances, especially near adjacent development. Clearing the forest edges is the newest disturbance, opening the forests to further invasion, especially in places where invasive species are already problematic. 'Healthy forests' is a subjective assessment here, referring to stands that have significant presence and well-developed edge conditions.

Planting Design

Several planting designs have been implemented in the history of the parkway, and these are mapped according to specific planting strategies: clusters of specimen overstory trees; clusters of specimen trees with flowering trees; edge planting; reforestation; evergreen screening; and native grass meadows. Only the 1990s planting plans extend the length of the parkway, and these serve as the baseline for the documentation of the plantings. In places where additional plans have been implemented, the 1990s plans are shown first and the others are presented in reverse chronological order. Mapping the planting strategies at this scale helps reveal the intentions of the planting designs and show similar patterns between the different plans. Most evident is the consistent planting of interchanges as special places of transition between the forested corridor of the parkway and the more conventional suburban landscape that adjoins it.

INFRASTRUCTURE & SMALL SCALE FEATURES

Segment One

Infrastructure in Segment One includes a complex set of entrance and exit lanes to New York Avenue, Kenilworth Avenue, Route 50, and DC-295. Infrastructure also includes a dual exit at MD-202 and MD-450. All interchanges were constructed during the Period of Significance and retain integrity.

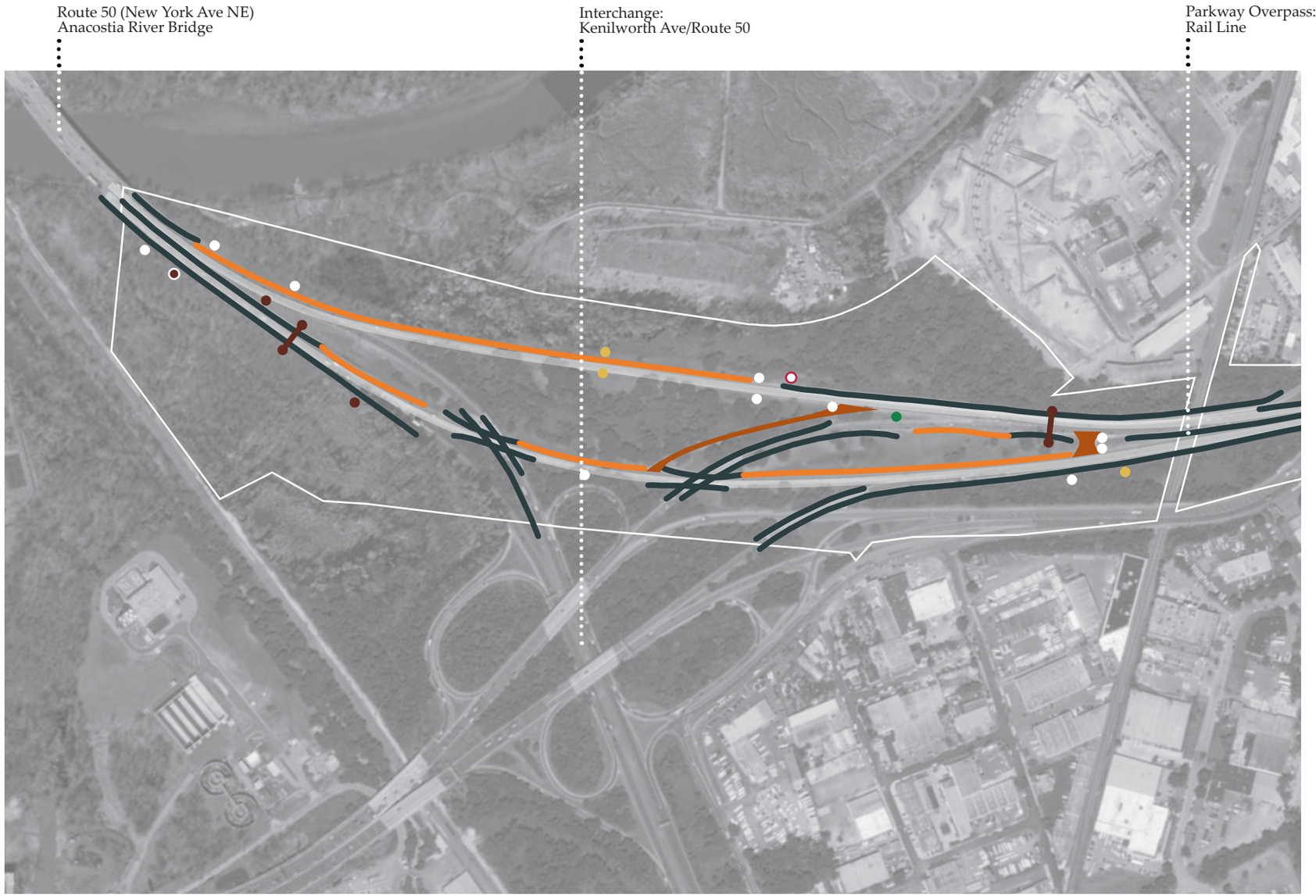
The southern half of the segment contains a large quantity and diversity of signs, including three overhead signs. Buildings are seen clearly from both the northbound and southbound lanes. The southern half of Segment One is artificially lit. (Given the large quantity, individual light poles are not marked in the southern half of this segment.)

The segment contains several formliner walls and several stretches of Corten W guardrail.

The segment also contains two median crossovers: one long gravel path near the Kenilworth interchange and one grasscrete-paved turnaround south of the rail line.

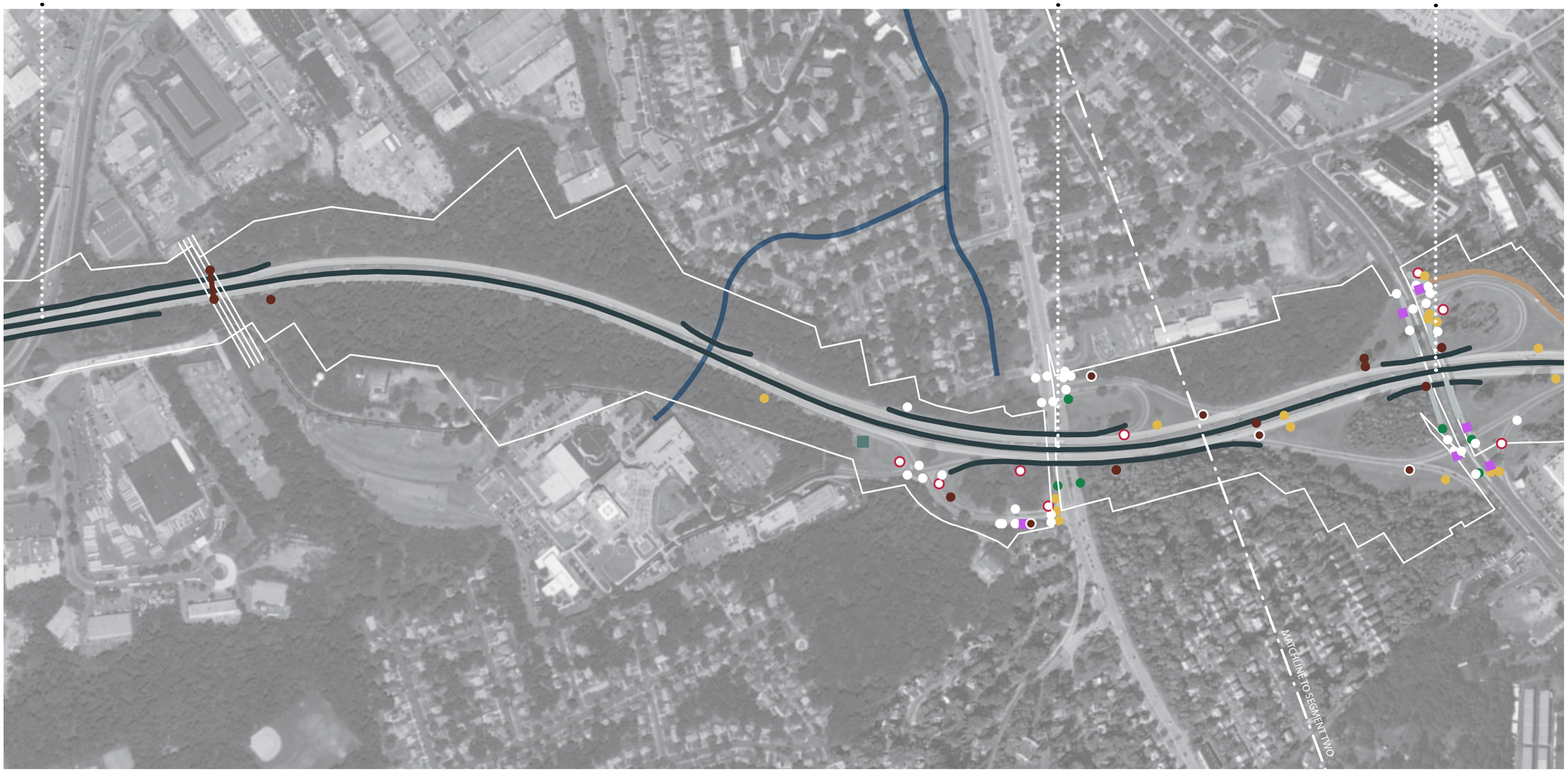
Overhead power lines cross the parkway north of the MD-201 underpass. As with most entry and exit points to the BW Parkway, grounds maintenance appears to be performed sporadically, with weeds emerging from curbs/ gutters and formliner walls.

The northern portion of the character area has numerous signs at the interchnages, no lighting, and no Corten W guardrails, although a wooden guard rail lines the southbound exit ramp at MD-450. Buildings still can been seen periodically from both lanes, particularly at the MD-202 and MD-450 interchanges.



0 175 350 700 1.050 1.400 ft.

Washington Entrance character area



Washington Entrance character area

INFRASTRUCTURE & SMALL SCALE FEATURES

Segment Two

Segment Two is characterized by the MD-450 and MD-410 interchanges, both of which are artificially lit and include a variety of small-scale features.

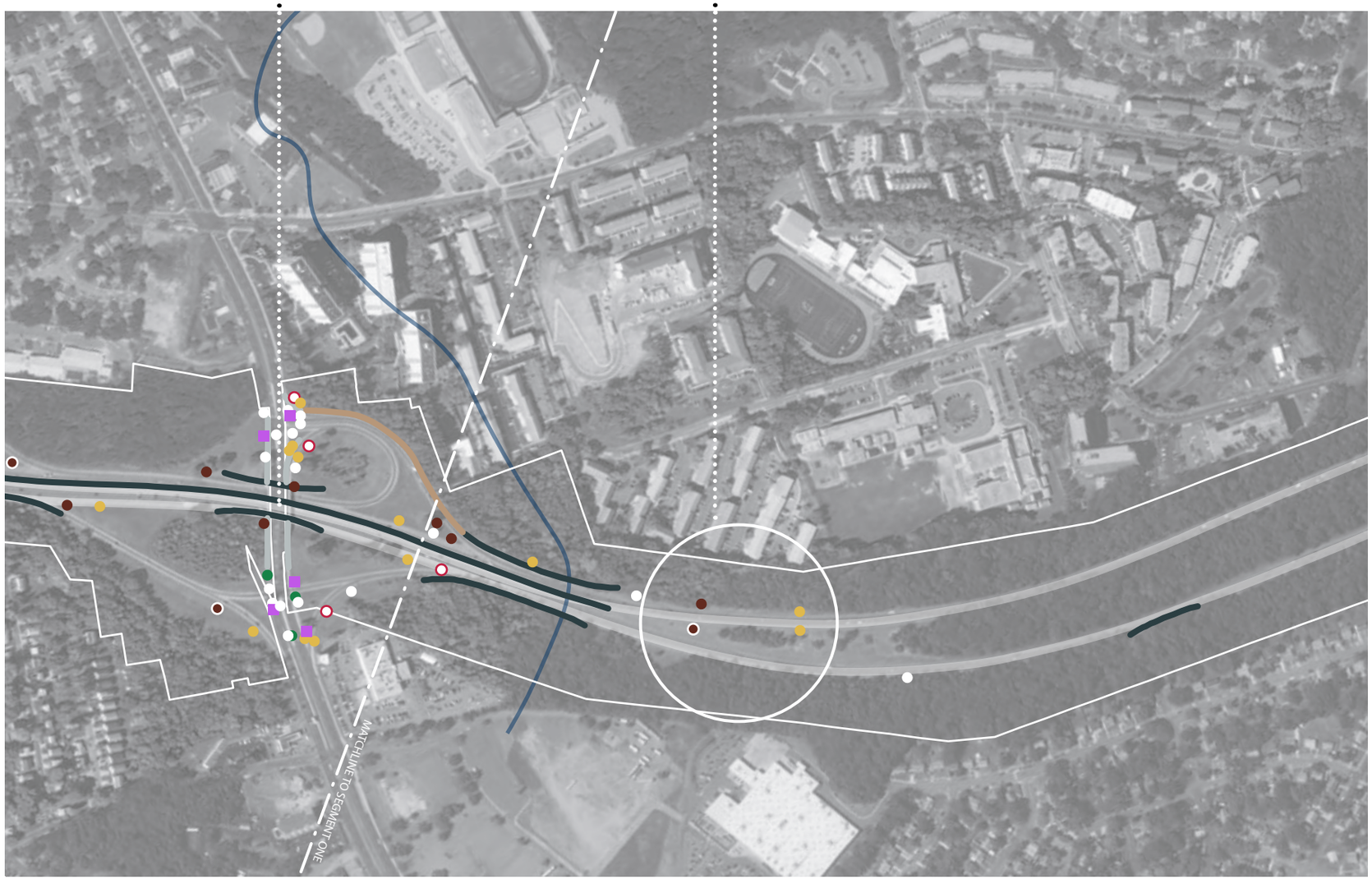
In the southbound lane, a speed-reduction zone - marked by signs on both the median and the shoulder - reduces speed to 45 mph north of the MD-450 interchange

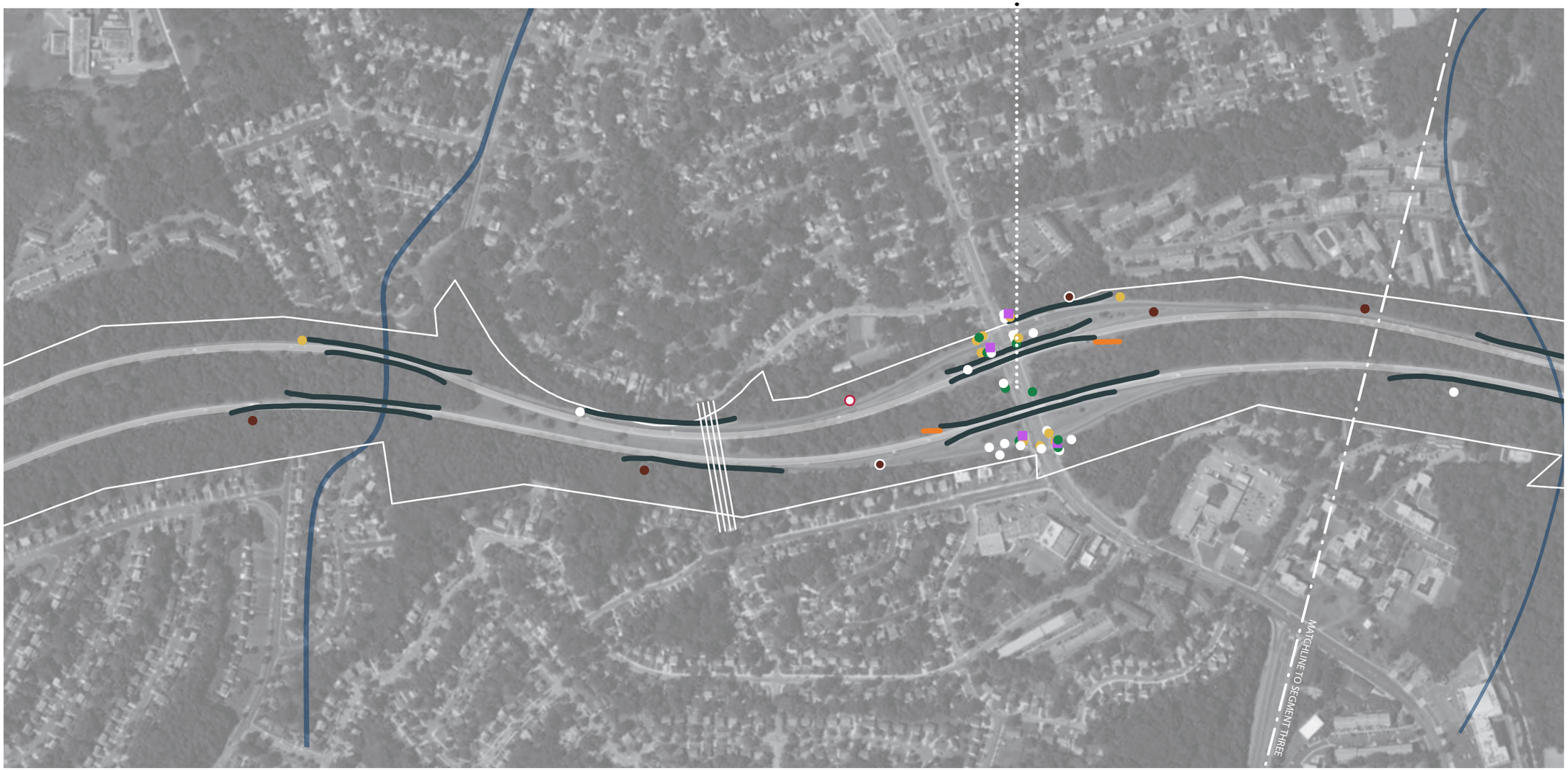
Overhead power lines cross the parkway south of the MD-410 underpass.

The segment contains one underpass (MD-450) and one overpass (MD-410).

Most walls in the segment are formliner, with two short Corten W guardrail extensions at the MD-410 interchange and timber guardrail at the MD-450 interchange. Guardrails are discussed in detail in Chapter Seven, Treatment: Guardrails.

The official NPS sign identifying the parkway as the Baltimore Washington Parkway, dedicated to Gladys Noon Spellman, is located in the median, just north of the MD-450 interchange. (Shown in Chapter 7, Treatment: Signage). It faces northbound traffic, and is located at the start of the Picturesque Urban Parkway character area. This location, after drivers have already passed through the Washington Entrance character area, carries an implication that the previous segment is not fully perceived as being part of the parkway.





Picturesque Urban Parkway character area

INFRASTRUCTURE & SMALL SCALE FEATURES

Segment Three

Segment Three is characterized by the transition between the 'Picturesque Urban Parkway' character area and the 'Beltway Threshold' character area, with the quantity and variety of small-scale features increasing significantly as the parkway nears the I-495 interchange. Green cantilevered and overhead signs identify the approaching interchange in the northbound lane, while parallel signs (one in the shoulder and one in the median) reinforce the speed limit in the southbound lane just south of the interchange.

The segment contains one underpass (Good Luck Road), which features a mildly curving, picturesque approach to the arched, stone-faced bridge, particularly noticeable from the southbound lane, which reinforces the urban parkway experience. The segment contains no overpasses.

The segment contains one median crossover paved with Grasscrete pavers. The crossover is bordered by trees on its north side and open to the grassy median on its south side.

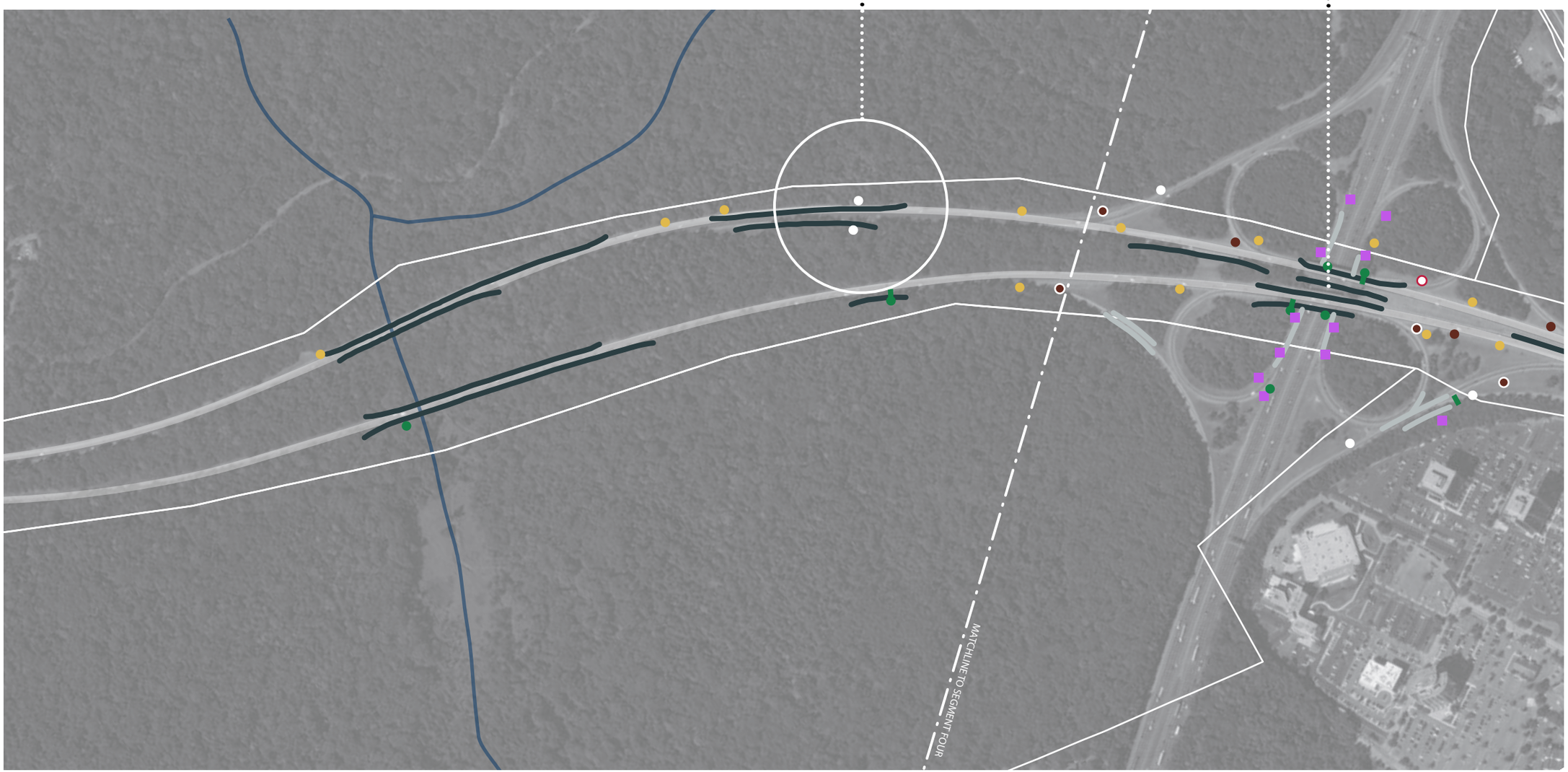
Most walls in the segment are formliner, with two short Corten W guardrail extensions on the wall in the median at the Good Luck Road Bridge.

The segment contains one median crossover, which is partially hidden by trees and paved with Grasscrete pavers.



0 175 350 700 1,050 1,400 ft.

Picturesque Urban Parkway character area



Picturesque Urban Parkway character area | **Beltway Threshold character area**

INFRASTRUCTURE & SMALL SCALE FEATURES

Segment Four

Segment Four is characterized by the proximity of four parkway interchanges: I-495, MD-193, the Greenbelt pedestrian bridge, and the NASA restricted-access bridge. The I-495 and MD-193 interchanges are adjacent. Both the Greenbelt pedestrian bridge and the NASA restricted-access bridge are visually distinct from other parkway bridges.

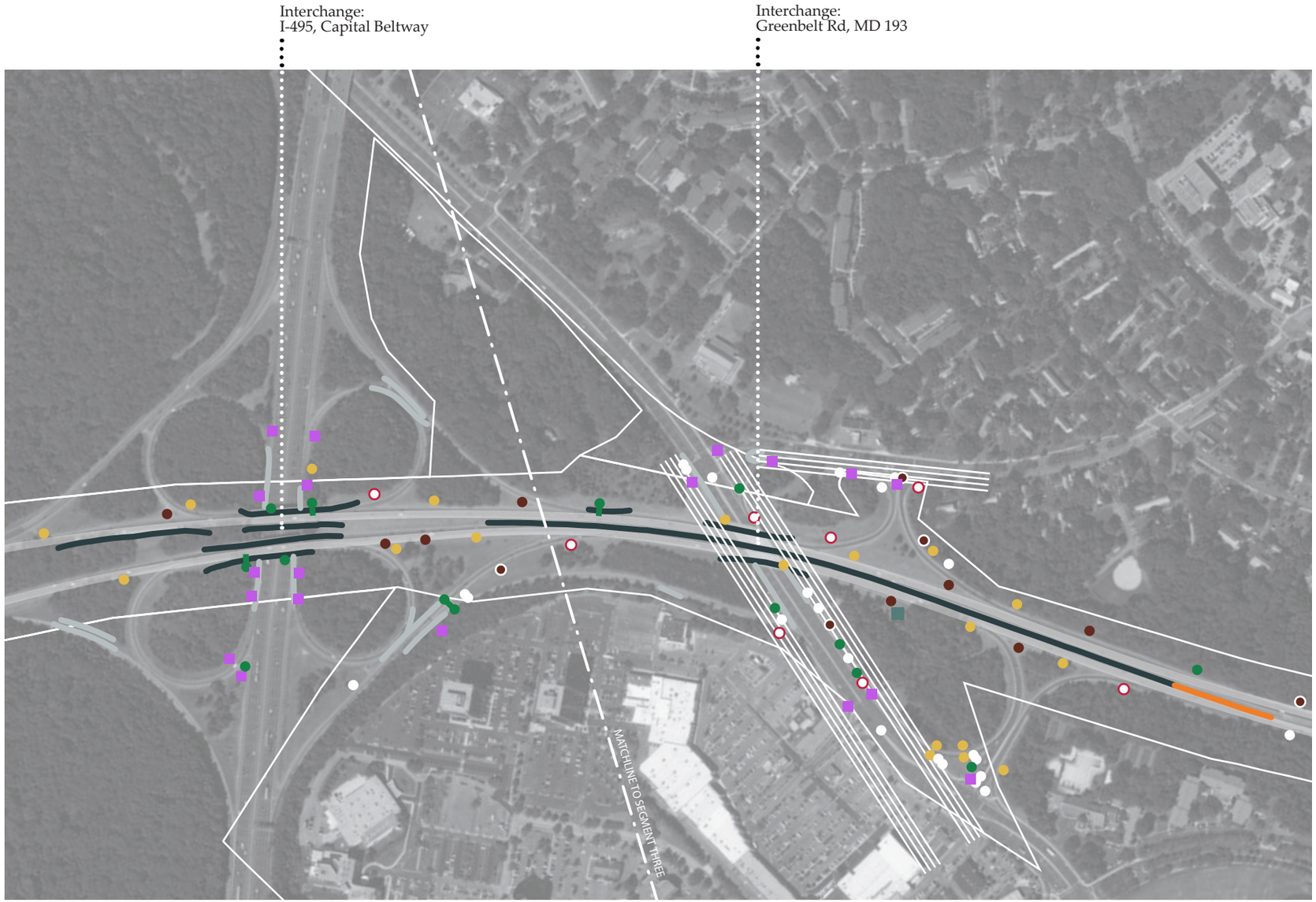
The I-495 interchange is the parkway's only interstate crossing. It is marked with green interchange signs - rather than NPS-brown - all of which are cantilevered over the parkway. Signs are also mounted to the parkway overpass bridge. I-495 is artificially lit, and poles are visible from the parkway, as are commercial buildings to the southeast. For southbound drivers, signs for the Beltway interchange precede signs for MD-193, which causes confusion as to which exit ramp relates to which sign.

The MD-193 interchange is marked by a significant quantity and variety of small-scale features, including an abundance of overhead power lines. Although the interchange is artificially lit, the poles are relatively short and positioned away from the parkway.

The Greenbelt pedestrian bridge is the only pedestrian bridge that passes over the parkway. With its narrow width, chain-link safety fencing, artificial lighting, and lack of stone-facing, the bridge is visually distinct from other parkway bridges.

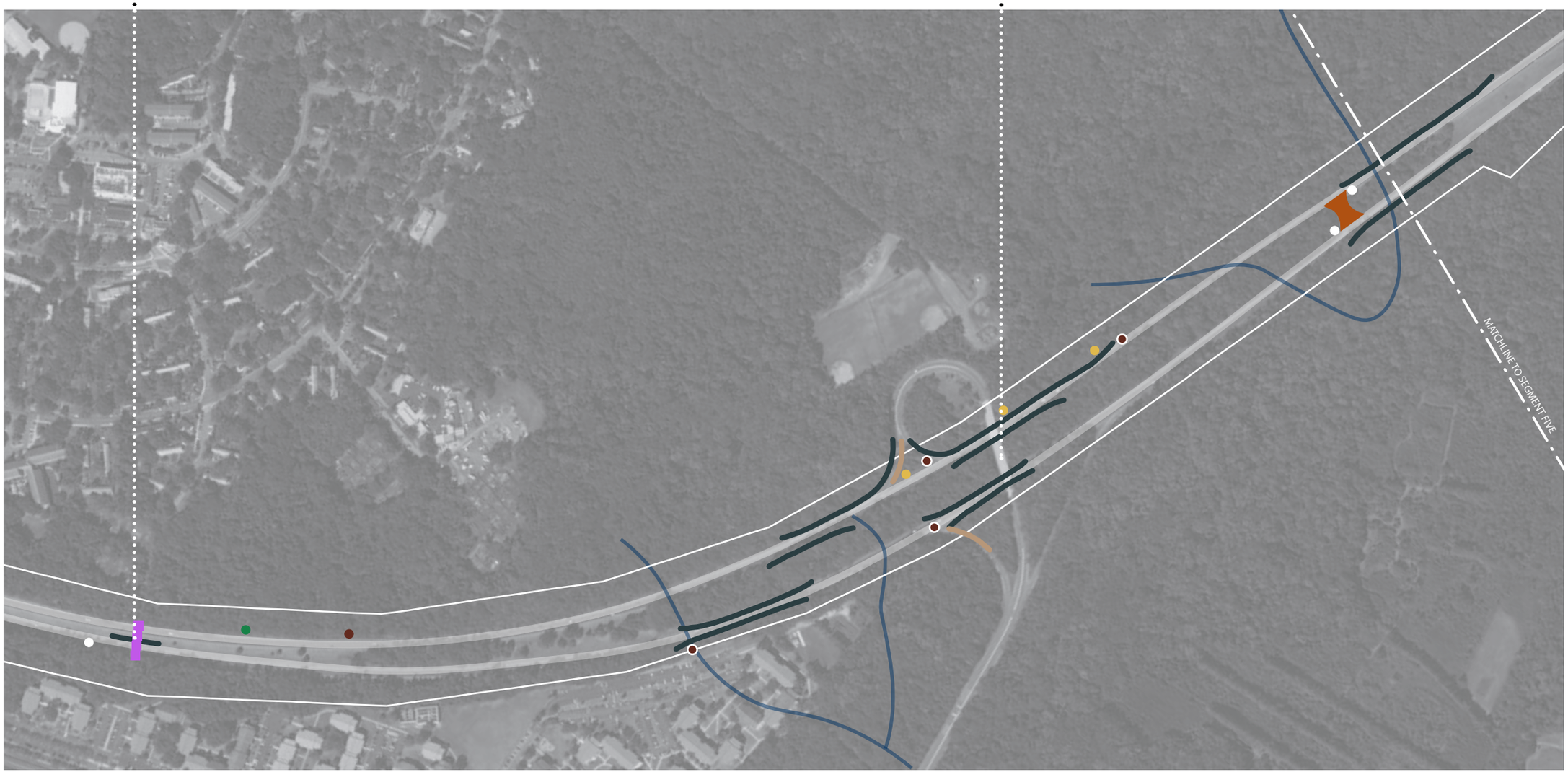
The NASA interchange is one of two restricted-access interchanges on the parkway (the other is the NSA interchange in Segment Nine). The bridge, which lacks stone facing, is also visually distinct from other parkway bridges.

North of the NASA interchange, the segment contains one median crossover, which is partially hidden by trees and paved with Grasscrete pavers.



0 175 350 700 1.050 1.400 ft.

Beltway Threshold character area



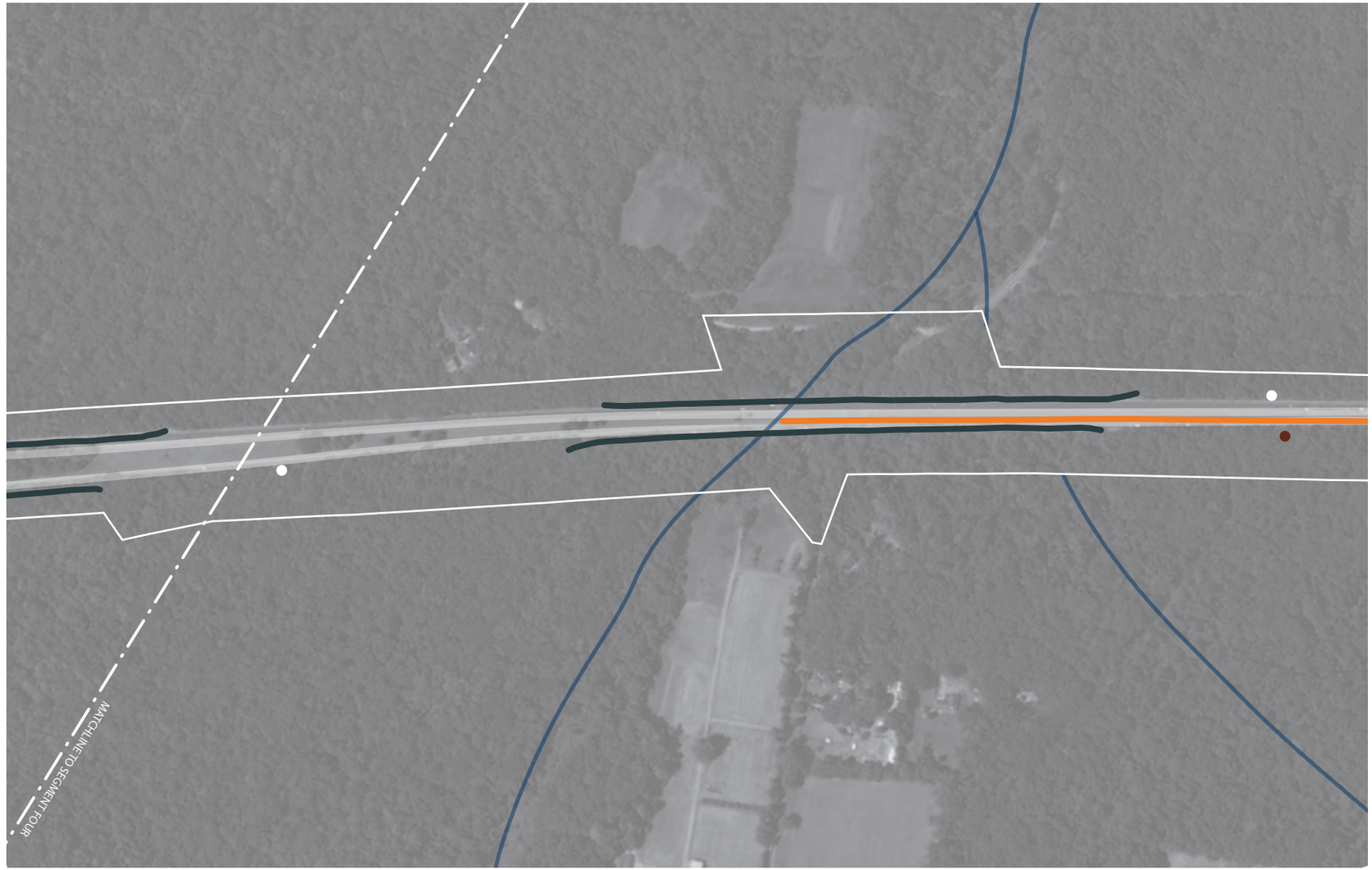
Beltway Threshold character area | **Modern Forested Parkway character area**

INFRASTRUCTURE & SMALL SCALE FEATURES

Segment Five

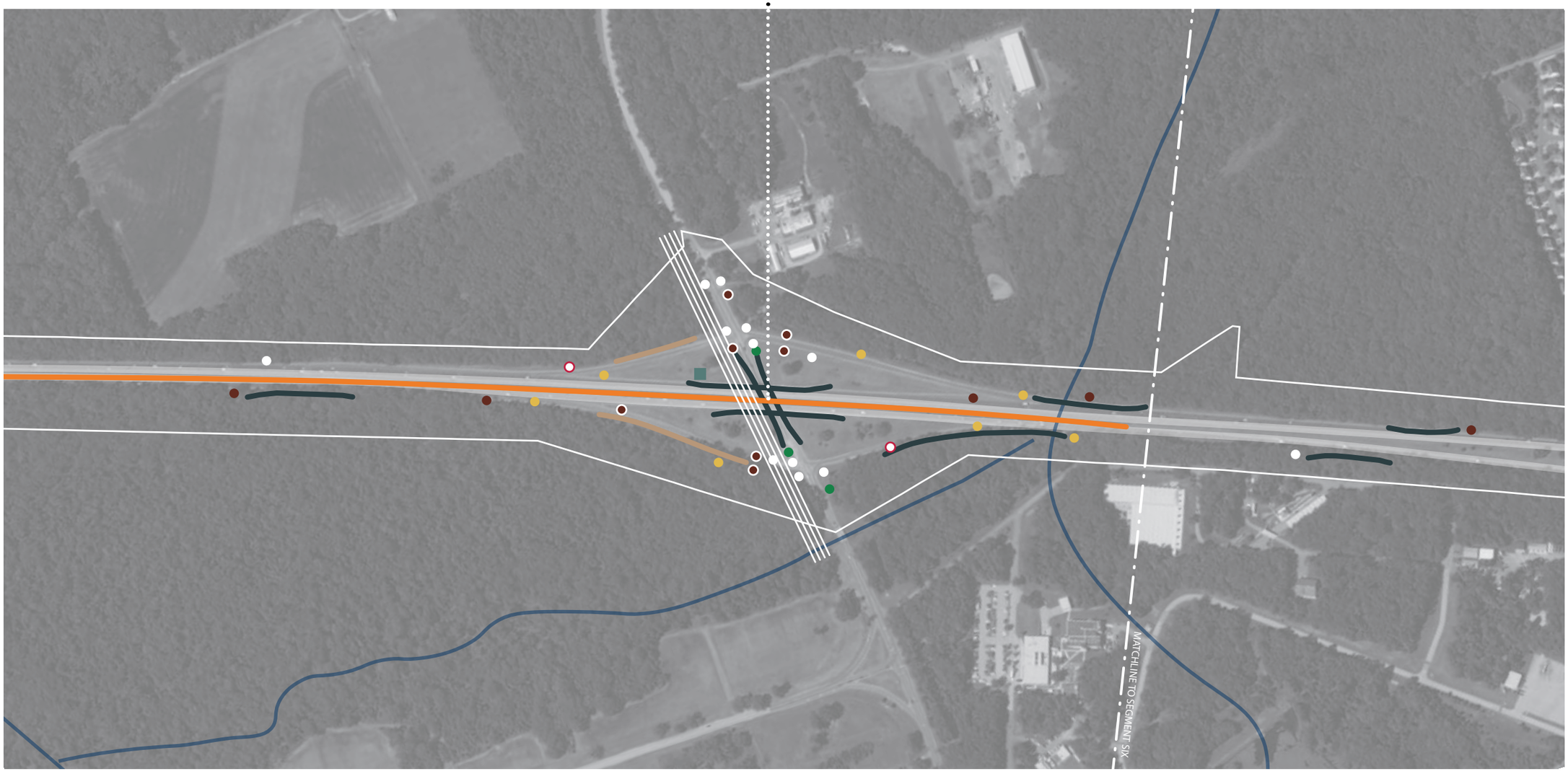
Segment Five is characterized by the Powder Mill Road interchange and a single Corten Steel W guardrail, which spans more than one mile in length, in the grassy median. The guardrail, which is doubled up with two W channels at low points in the grading, is the most dominant feature in the segment.

Compared to other parkway interchanges, the small- and large-scale features of the Powder Mill Road interchange are largely consistent with the overall parkway aesthetic, with formliner walls on Powder Mill Road, NPS-brown information signs, timber guardrails on ramps, and no artificial lighting. A few aesthetic outliers are present: overhead power lines and one traffic camera can be seen from the parkway overpass at the interchange.



0 175 350 700 1,050 1,400 ft.

Modern Forested Parkway character area



Modern Forested Parkway character area

INFRASTRUCTURE & SMALL SCALE FEATURES

Segment Six

Segment Six is characterized by the MD-197 interchange and the high-voltage power lines that cross both lanes of the parkway just south of the interchange.

Notably, while the segment contains several formliner walls, it contains no Corten Steel W guardrails, and grading techniques appear to have been used to prevent crossover situations in the median.

The MD-197 interchange is complex, with parallel bridges taking both lanes of the parkway over MD-197. Lights and traffic cameras on MD-197 can be seen from the parkway overpasses.

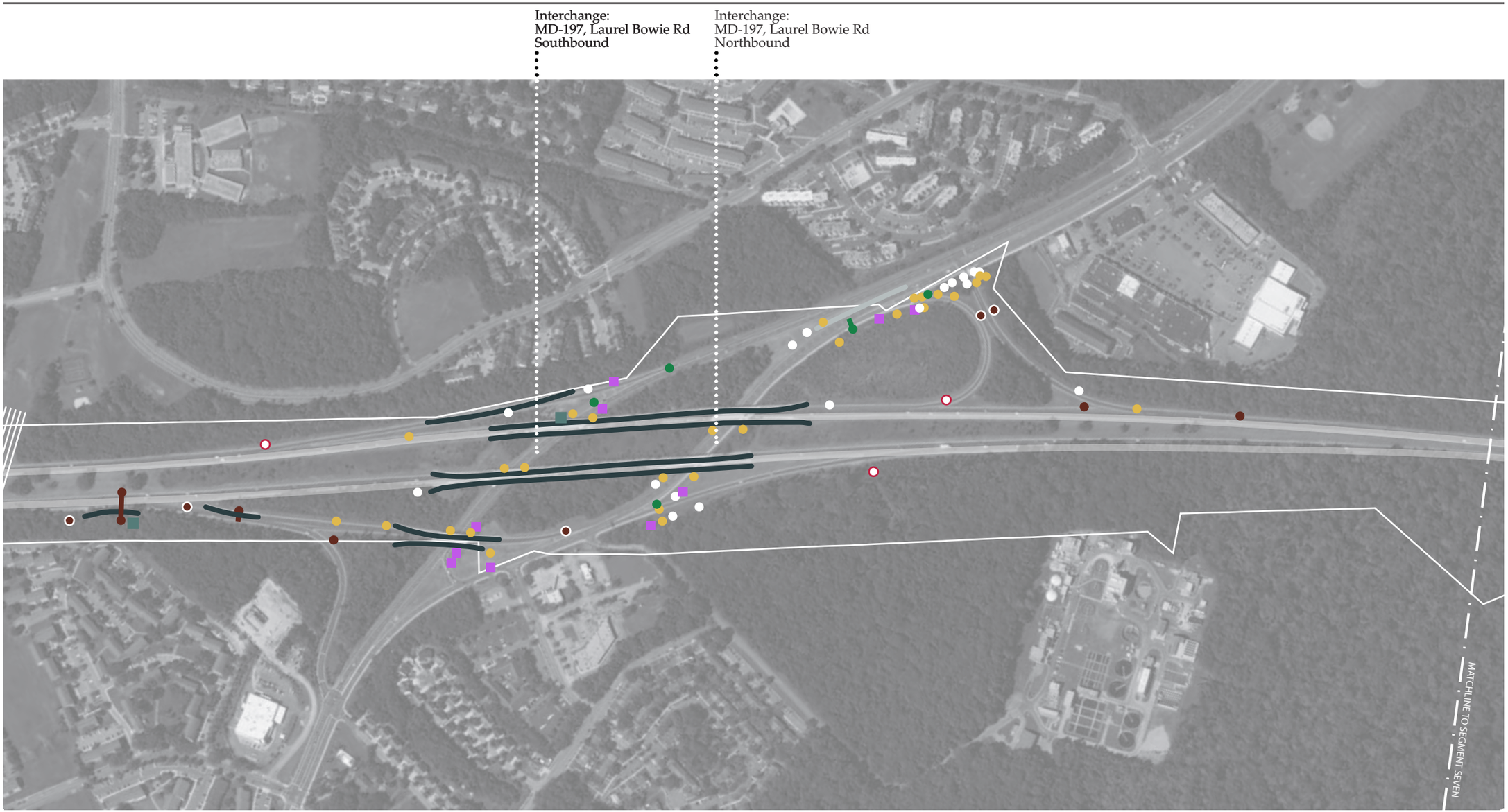
In the northbound lane, two overhead signs - one cantilevered and one spanning the entire northbound lane - warn motorists of the approaching MD-197 interchange. An additional cantelievered overhead sign appears on the exit ramp to MD-197. An entrance ramp from MD-197 to the southbound lane of the parkway has a large formliner retaining wall that can be seen from the parkway.

The segment contains one median crossover, which is partially hidden by trees and paved with Grasscrete pavers



0 175 350 700 1,050 1,400 ft.

Modern Forested Parkway character area



Modern Forested Parkway character area

INFRASTRUCTURE & SMALL SCALE FEATURES

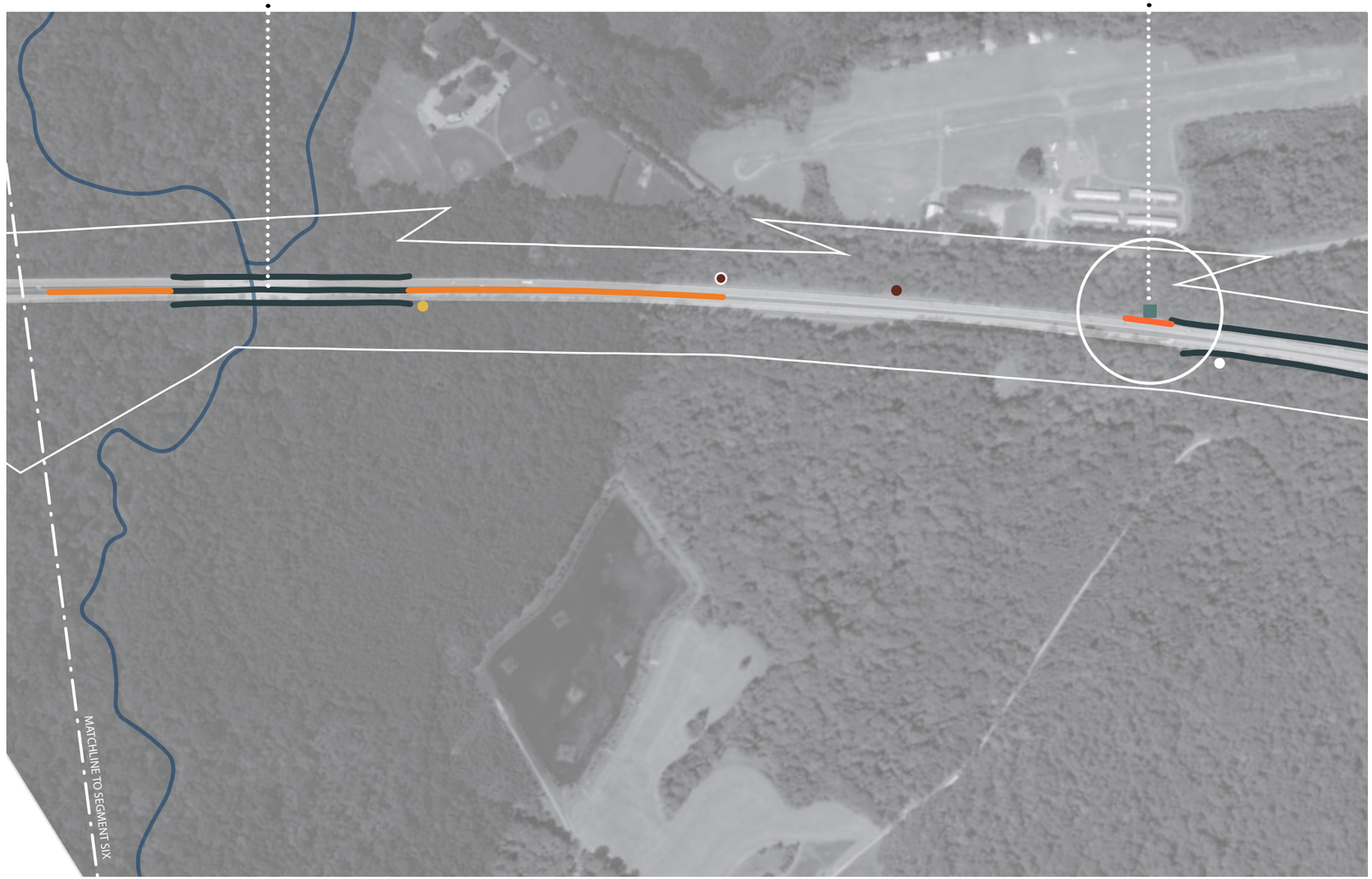
Segment Seven

Segment Seven contains no interchanges and relatively few small- and large-scale features compared to other parkway segments. As a result, guardwalls and guardrail - in particular, the Corten Steel W guardrail extension to the Patuxent River bridge - tend to dominate the visual experience in this segment.

One bridge takes the parkway over the Patuxent River. The river crossing is not marked with any signage.

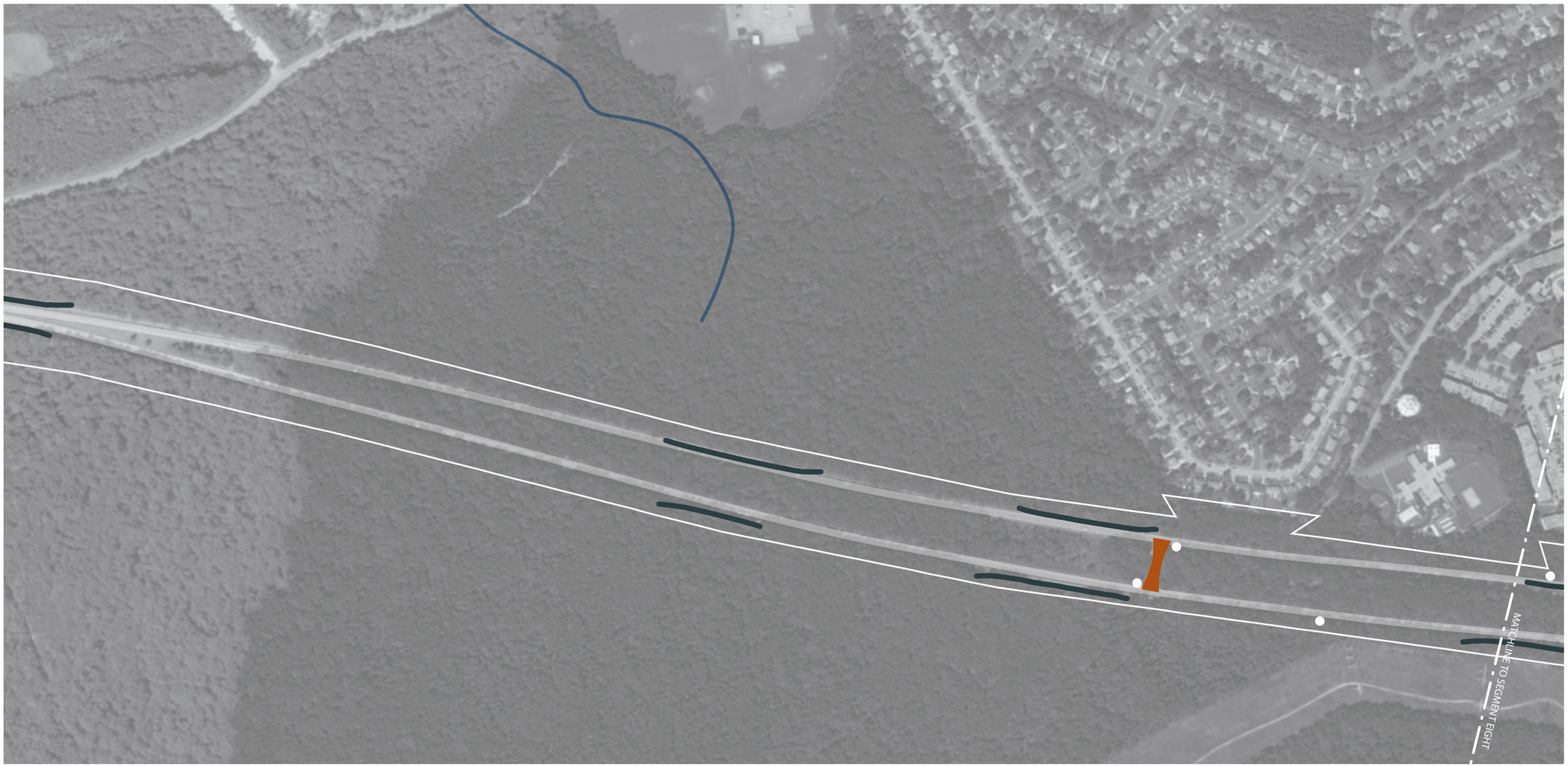
In the southbound lane, a newly installed traffic camera just outside the shoulder is protected by a W guardrail extension to the existing formliner wall. The guardrail is painted brown..

The segment contains one median crossover, which is hidden by trees and paved with Grasscrete pavers.



0 175 350 700 1.050 1.400 ft.

Modern Forested Parkway character area



Signage
- Caution
- Information
- Yield
- Exit (NPS)
- Information (NPS)
- Overhead Exit (NPS)
- Exit (Standard)
- Overhead Exit (Standard)

Guardrail/ Guardwall
- Formliner
- W
- Corten W
- Timber

Other
- Median Crossover
- Traffic Camera
- Light
- Overhead Power Lines
- Parkway Property Boundary

Modern Forested Parkway character area

INFRASTRUCTURE & SMALL SCALE FEATURES

Segment Eight

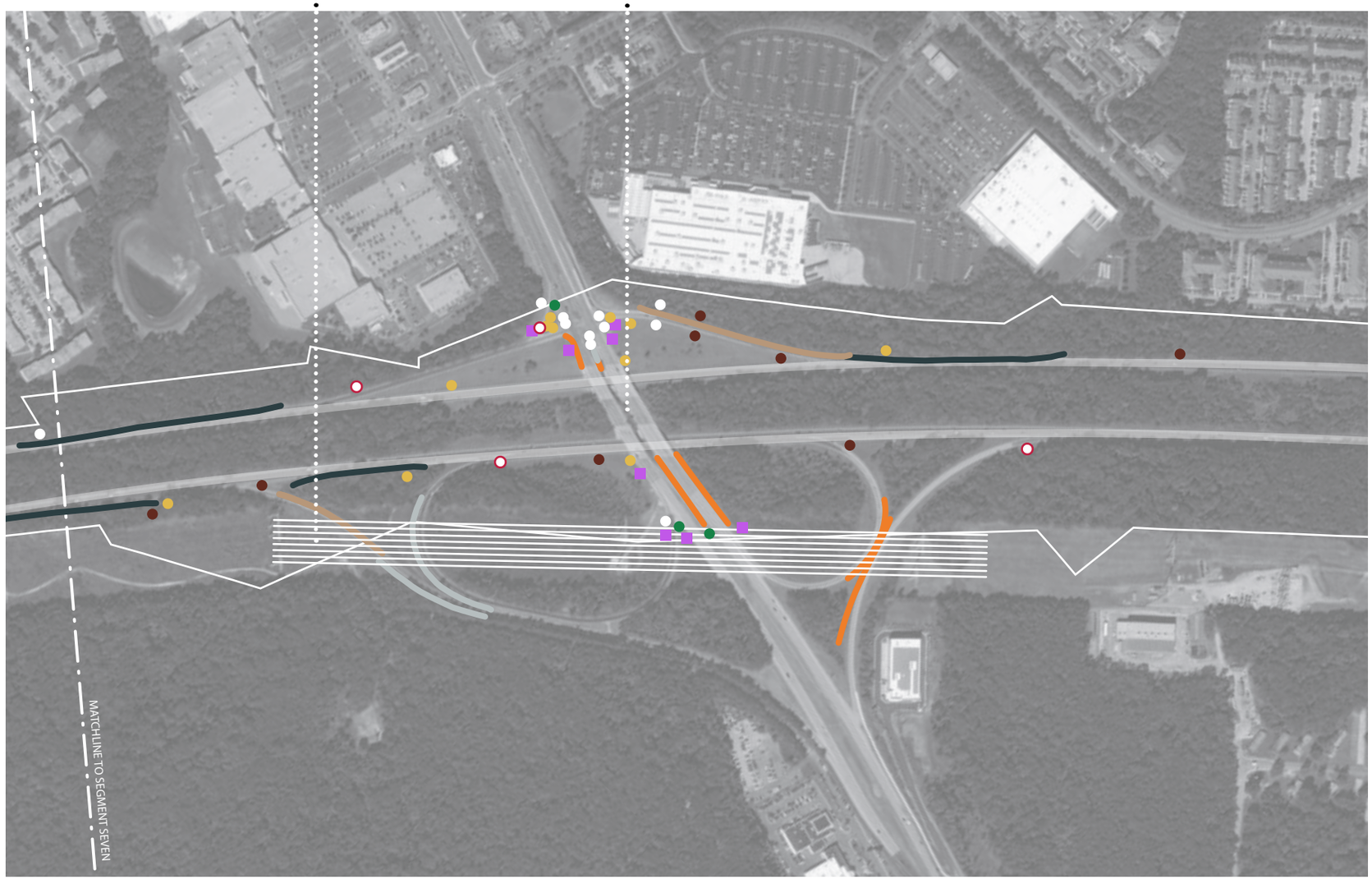
In Segment Eight, high-voltage power lines are visible in the area adjacent to the northbound lane near the MD-198 interchange. These lines cross both lanes of the parkway midway through the segment.

The segment contains several formliner walls in the median and on the shoulders, Corten Steel W guardrail in the median extending from the MD-32 bridge, and a variety of Corten Steel W, galvanized W, and timber guardrail at the interchanges.

Two bridges pass over the parkway in this segment - the MD-198 and MD-32 interchanges - and one bridge takes the parkway over the Little Patuxent River. Signage marks the river crossing only on the northbound lane.

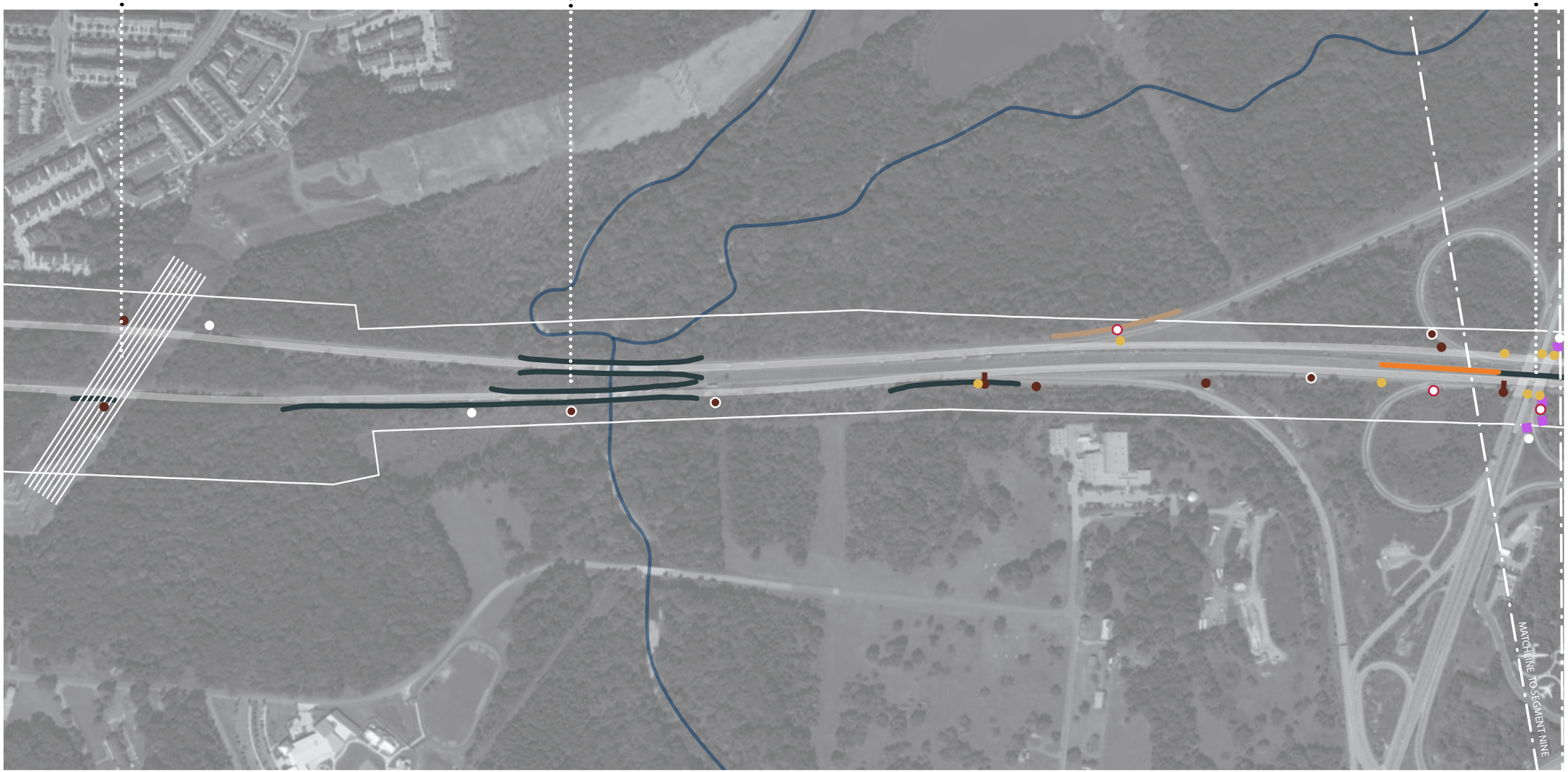
Three NPS interchange signs in the northbound lane for MD-32 are of the overhead cantilever style. All three signs require maintenance to repair the faded brown background.

The MD-198 and MD-32 interchanges are characterized by a significant increase in the density and variety of signage and guardrail types. Curbs and gutters at the interchanges require weed removal. Both interchanges are artifically lit.



0 175 350 700 1.050 1.400 ft.

Modern Forested Parkway character area



Modern Forested Parkway character area

INFRASTRUCTURE & SMALL SCALE FEATURES

Segment Nine

Segment Nine is characterized by the National Security Agency (NSA) campus, a portion of which is visible from both lanes, and the transition between the NPS-managed and state-managed portions of the parkway at the northern entrance.

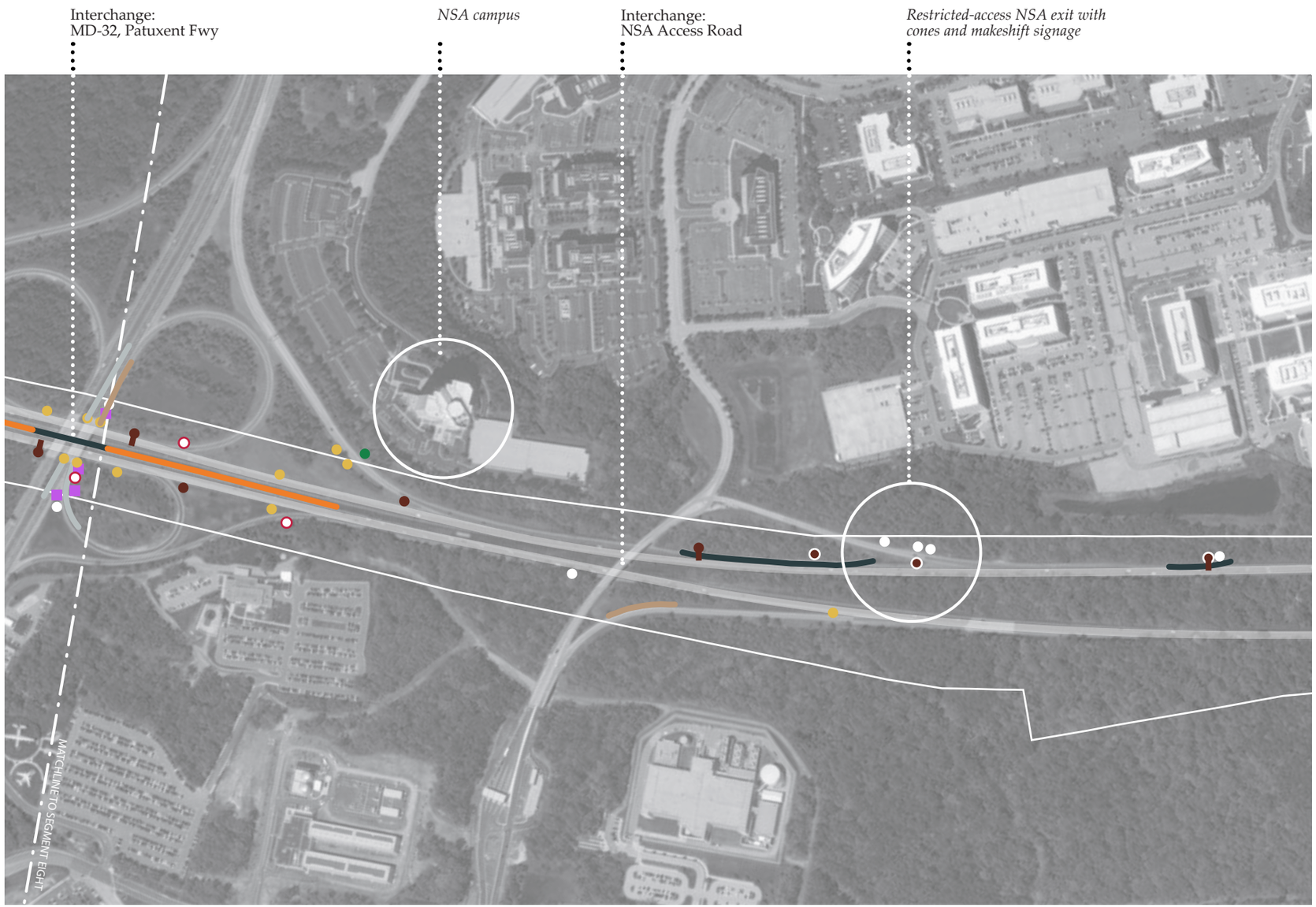
The southbound lane has a restricted access NSA exit, occassionally blocked with cones and a makeshift "Road Closed" sign. The segment contains formliner walls, Corten Steel W guardrail in the median extending from the MD-32 bridge, and galvanized W and timber guardrails at the interchanges.

The segment also contains one median crossover, which is paved, unlike all other crossovers on the parkway.

There are three overpass bridges in the segment: MD-32, the NSA access road, and MD-175. Signs for the MD-32 interchange are of the overhead cantaliever style.

Near the MD-175 interchange, smallscale features are gradually less consistent, indicating the shift from NPS management to state management. The maintenance boundary is within the NPS property boundary and is marked by an official "Baltimore-Washington Parkway" sign facing the northbound lane, an abrupt pavement change, and an end to the curb/gutter system.

Beyond the maintenance boundary, the quantity and variety of small-scale features increase significantly. The MD-175 overpass bridge is visibly less maintained.



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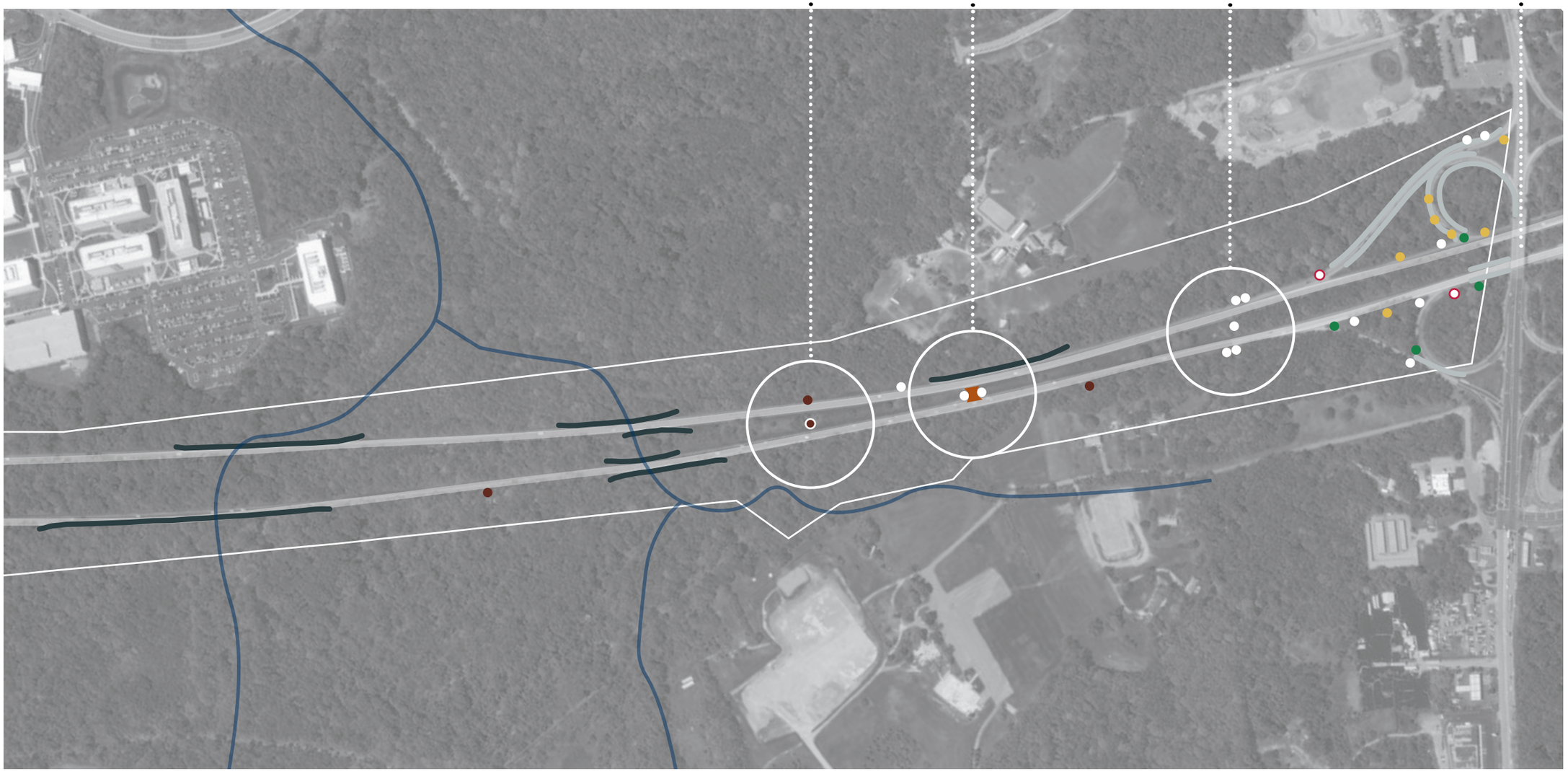
Modern Forested Parkway character area

NPS BW Parkway sign in median facing southbound lane

Paved median crossover

Maintenance boundary; increase in small-scale features to the north

Interchange: MD-175, Jessup Rd



Signage
- Caution
- Information
- Yield
- Exit (NPS)
- Information (NPS)
- Overhead Exit (NPS)
- Exit (Standard)
- Overhead Exit (Standard)

Guardrail/ Guardwall
- Formliner
- W
- Corten W
- Timber

Other
- Median Crossover
- Traffic Camera
- Light
- Overhead Power Lines
- Parkway Property Boundary

Modern Forested Parkway character area

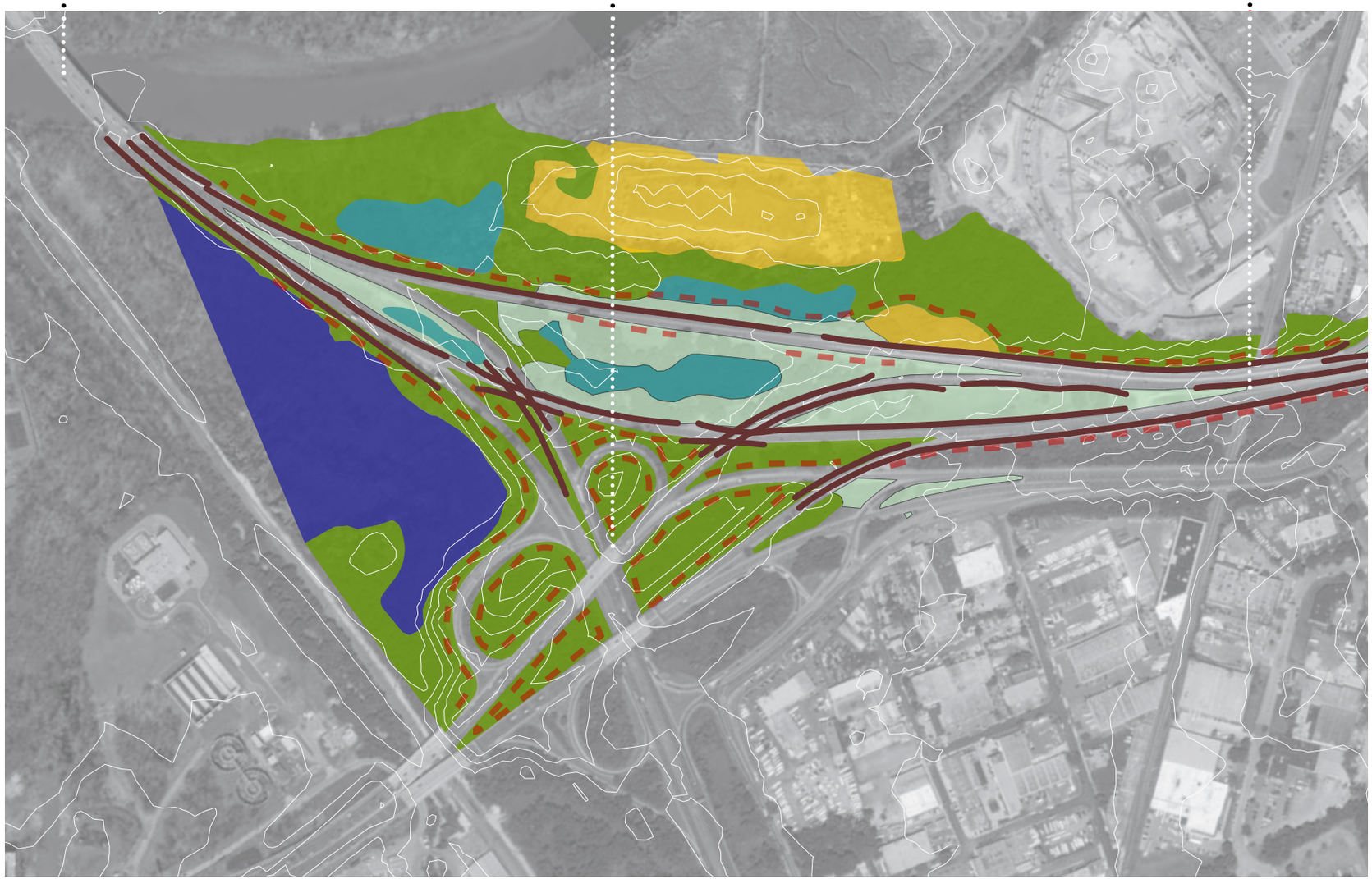
FOREST VEGETATION

Segment One

Forests in Segment One are almost entirely successional forests, because this area required substantial grading during construction, and therefore the existing forests in the early 1950s were completely removed. One small patch of mature, lowland forest exists (dark blue-green) where the road crosses a small swale, just south of the Landover Road interchange.

The southern end of the segment has significant lowland forests (medium blue-green) in the wetter lands of the Anacostia floodplain. A small stand of lowland woods is contained within the north and southbound lanes connecting to New York Avenue. This stand is noteworthy because several planting plans have promoted this area as wetlands or small pond to collect water. Other than the southern end, most of the forests are successional upland forests (medium green).

Many of the edges of the forest in this segment are inundated with invasive plant species. The western side has been cleared of invasives, which also helps create a larger vegetative setback to protect drivers. Clearing the invasives has exposed the forest edge to much greater sunlight, which makes it especially vulnerable to further colonization by invasive species. The cleared understory makes the edge more visually interesting, but it is not a natural or sustainable condition. In order to keep the invasives under control and sustain the health of the forest, special treatment of the edge is needed. This will be discussed more fully in the Treatment chapter. Invasive species are especially rampant among the loops of the Route 50 interchange, where ownership and maintenenace responsibility is unclear. Extensive guard walls and guardrails protect the forest edges in this segment, and if the invasives are controlled, these forests will mature and can exist close to the roadway.



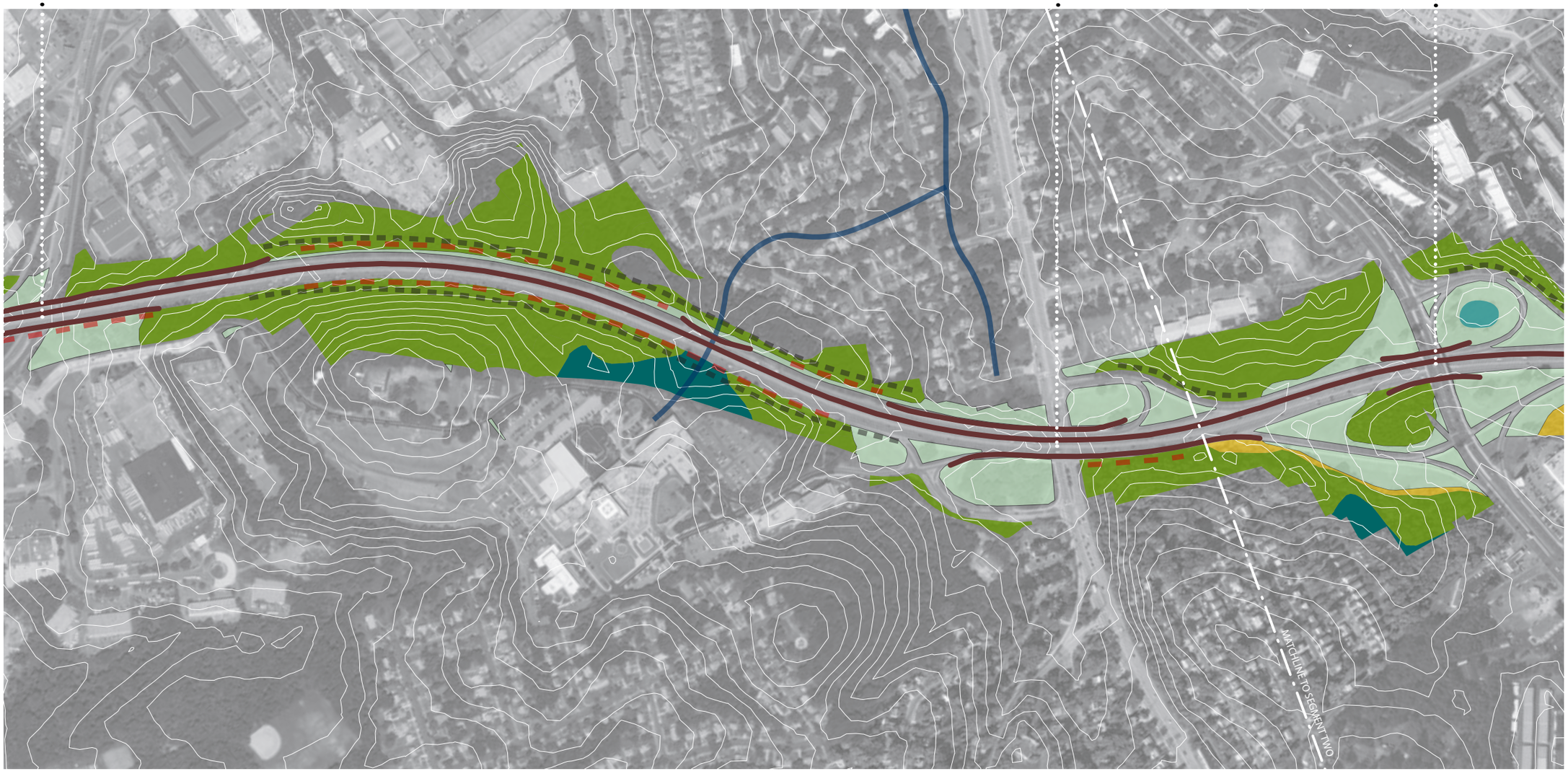
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Washington Entrance character area

Parkway Overpass:
MD-201 (Kenilworth Ave)

Interchange:
Landover Rd, MD 202

Interchange:
Annapolis Rd, MD 450



Forest Conditions

- Mature Upland Forest
- Succession Upland Forest
- Mature Lowland Forest
- Succession Lowland Forest
- Swamp Forest
- Shrubland
- Mowed Grass
- Invasive Species
- Cleared Understory
- High Quality Forest

Washington Entrance character area

FOREST VEGETATION

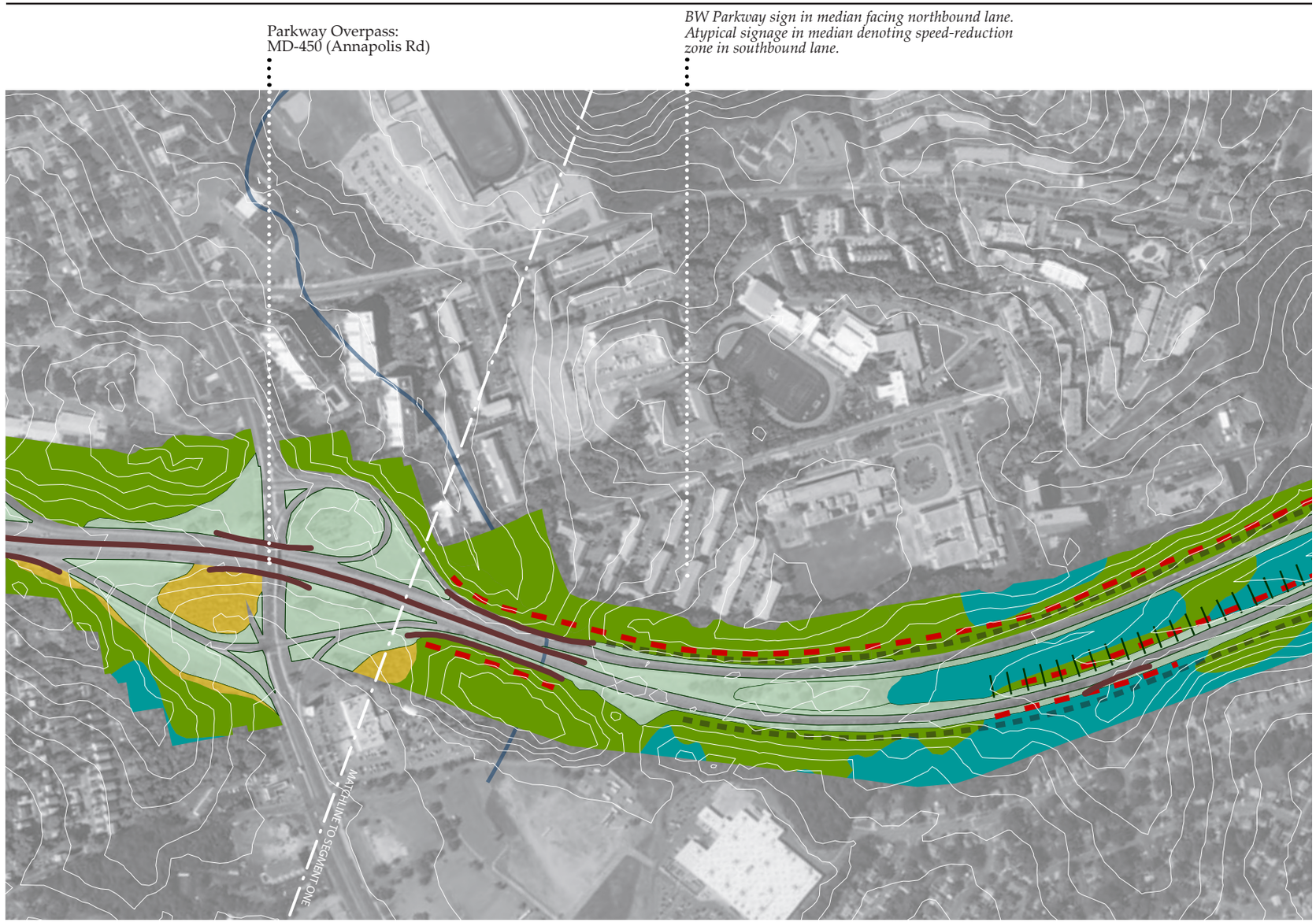
Segment Two

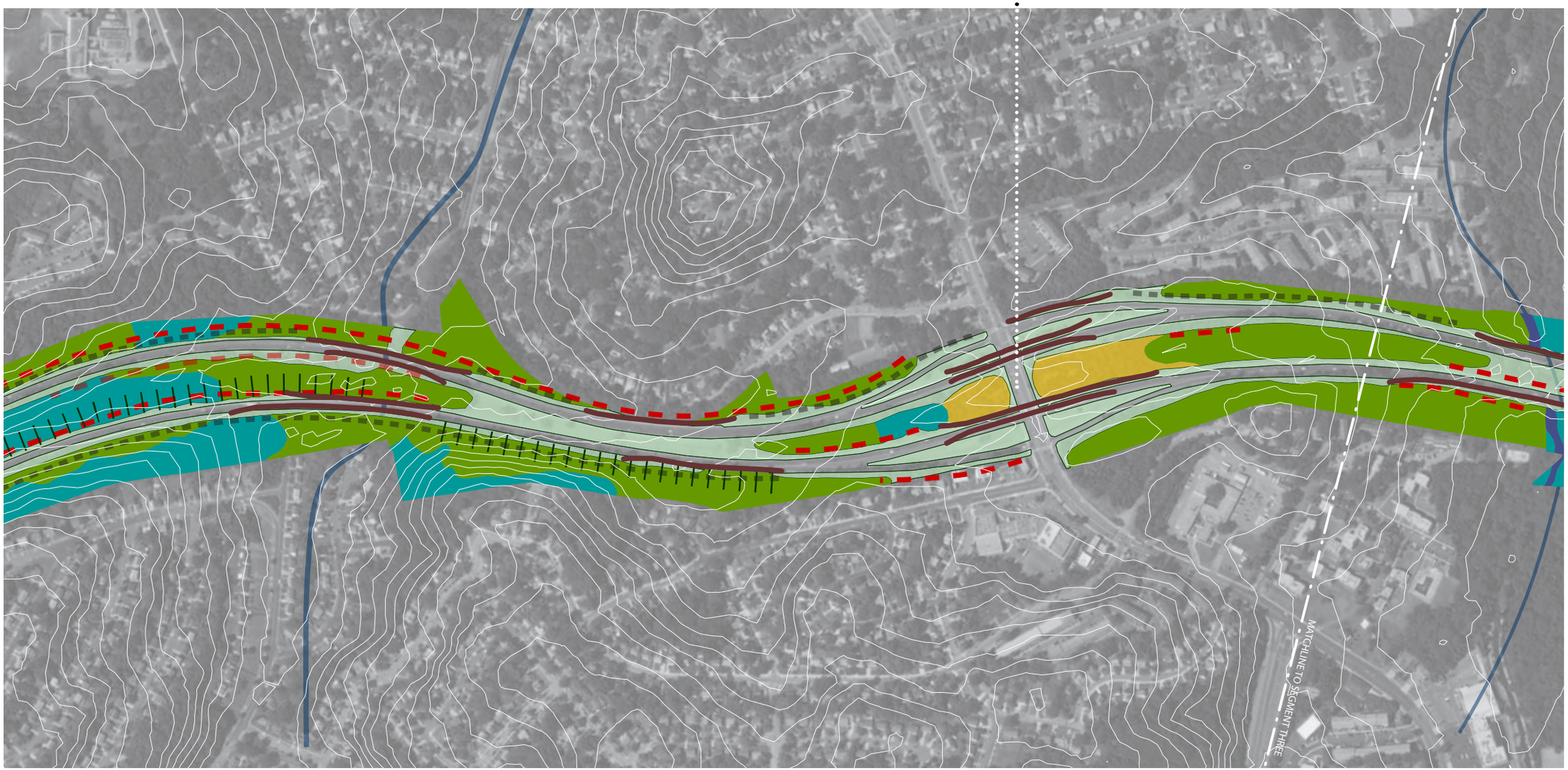
The forest vegetation of Segment Two exemplifies many of the conditions found along the parkway and represented in these maps. The forest itself is a narrow corridor here, and with the forest corridor in Segment One, it connects the substantial forest of Greenbelt Park to the floodplain forests of the Anacostia River.

Although the forest in Segment Two was heavily disturbed in construction due to the challenges of fitting the road to its undulating topography, several segments of the forest have grown into fairly mature, high-quality forests with good understory and few invasives. High quality forest is not a clearly defined category, and the assessment is based on visual survey from moving cars and google maps street view. Close observation and scientific assessment would be needed to confirm the initial assessment, but at this scale and for the purposes of this study, visual assessment is sufficient. Significant stretches are noted and marked with parallel hatching along the roadway.

The understory and edge vegetation has been cleared along the entire western side, except where guard walls are present. As noted in Segment One, these cleared edges are very vulnerable to widespread establishment of invasive species due to increased sunlight and likely abundance of seeds in the soil. Clearing the edge has created an ideal environment for these rapidly colonizing species, and the edge must be carefully controlled so as not to lose the whole forest to invasive vines and other species. Overall, invasive species are quite widespread in this section, with long stretches of the highway having invasive plants along the edges.

Many of the guard walls constructed in the 1990s have young, invasive Tree of Heaven (*Ailanthus altissima*) growing behind the wall. These will soon become a major seed source.





Picturesque Urban Parkway character area

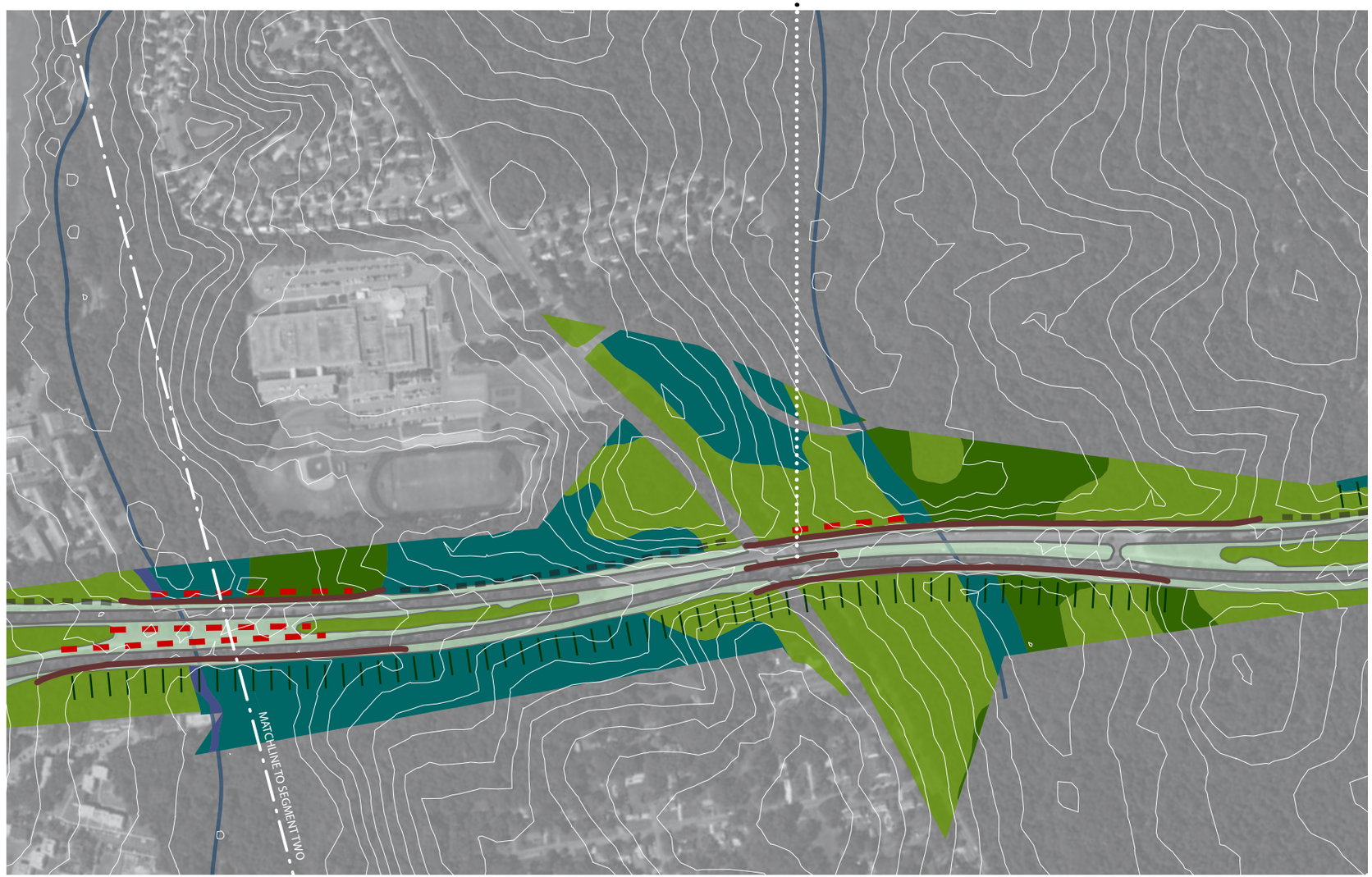
FOREST VEGETATION

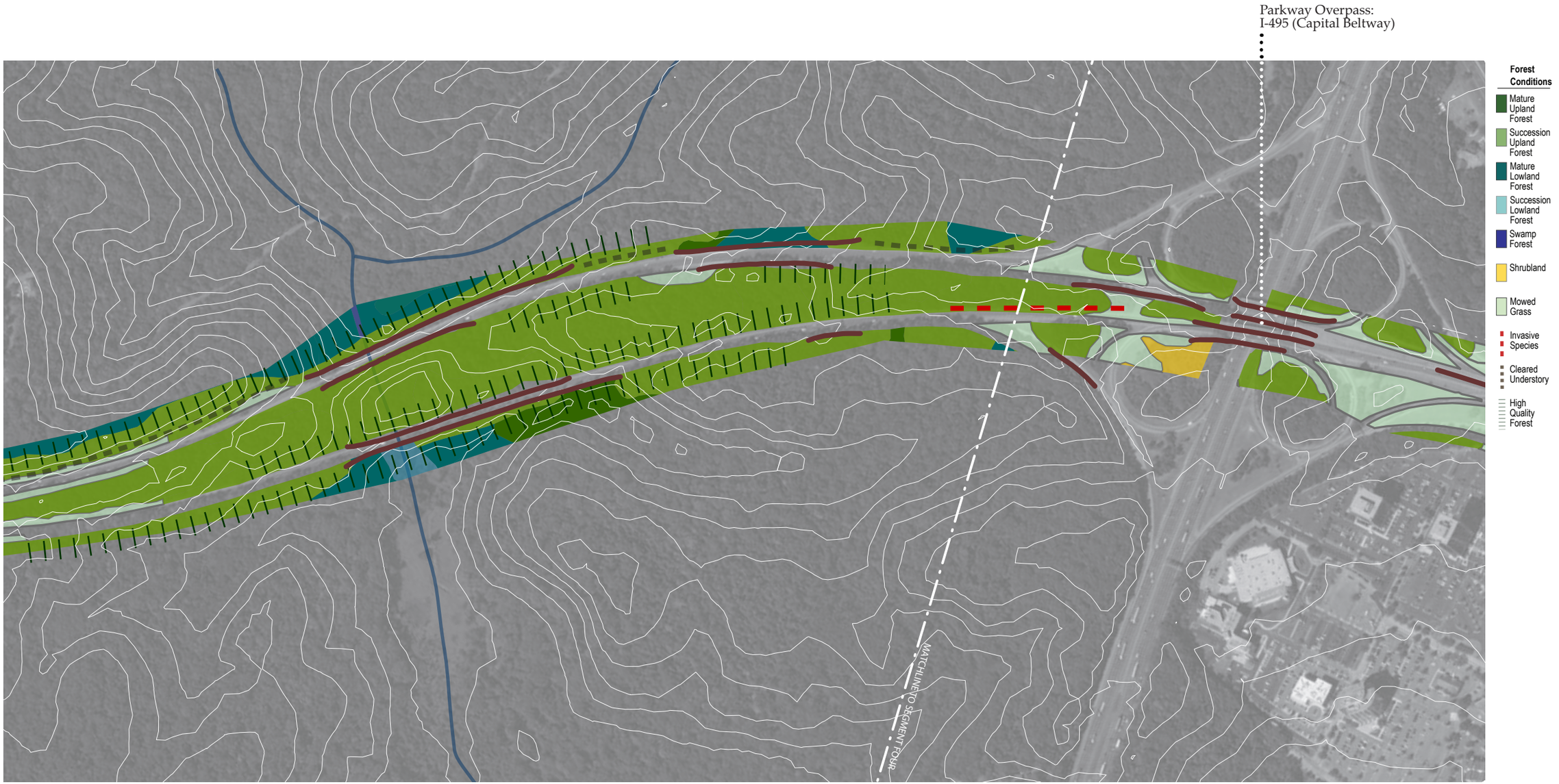
Segment Three

The forest in Segment Three is part of extensive protected forest of Greenbelt Park, and more of it is high quality forest than in the previous segments which are more influenced by surrounding development and have more invasive species as a result.

Several streams cross the parkway in this segment, and therefore there is more lowland forest. According to the GIS data, much of this forest is mature. The roadway was built on fill in these areas, which apparently did not destroy the surrounding forests to the same extent that cutting through the ridges did. Consequently, the adjacent forests are older, more mature and frequently have well-developed understory and edge conditions. These mature, high-quality forests need to be treated carefully so as to preserve the healthy edge conditions.

The understory has been cleared along the entire western edge of the parkway in this segment, as it has been in Segment One and Segment Two, except where guard walls are present. Given the relative lack of invasive species in this section, the clearing was presumably done to maintain the vegetative setback. Since the forest in this section is healthier and extends well beyond the boundaries of the parkway, this is an important case study in the management of the edges after clearing. Specifically, it is a test to see if clearing the edge can be sustained without succumbing to invasive species.



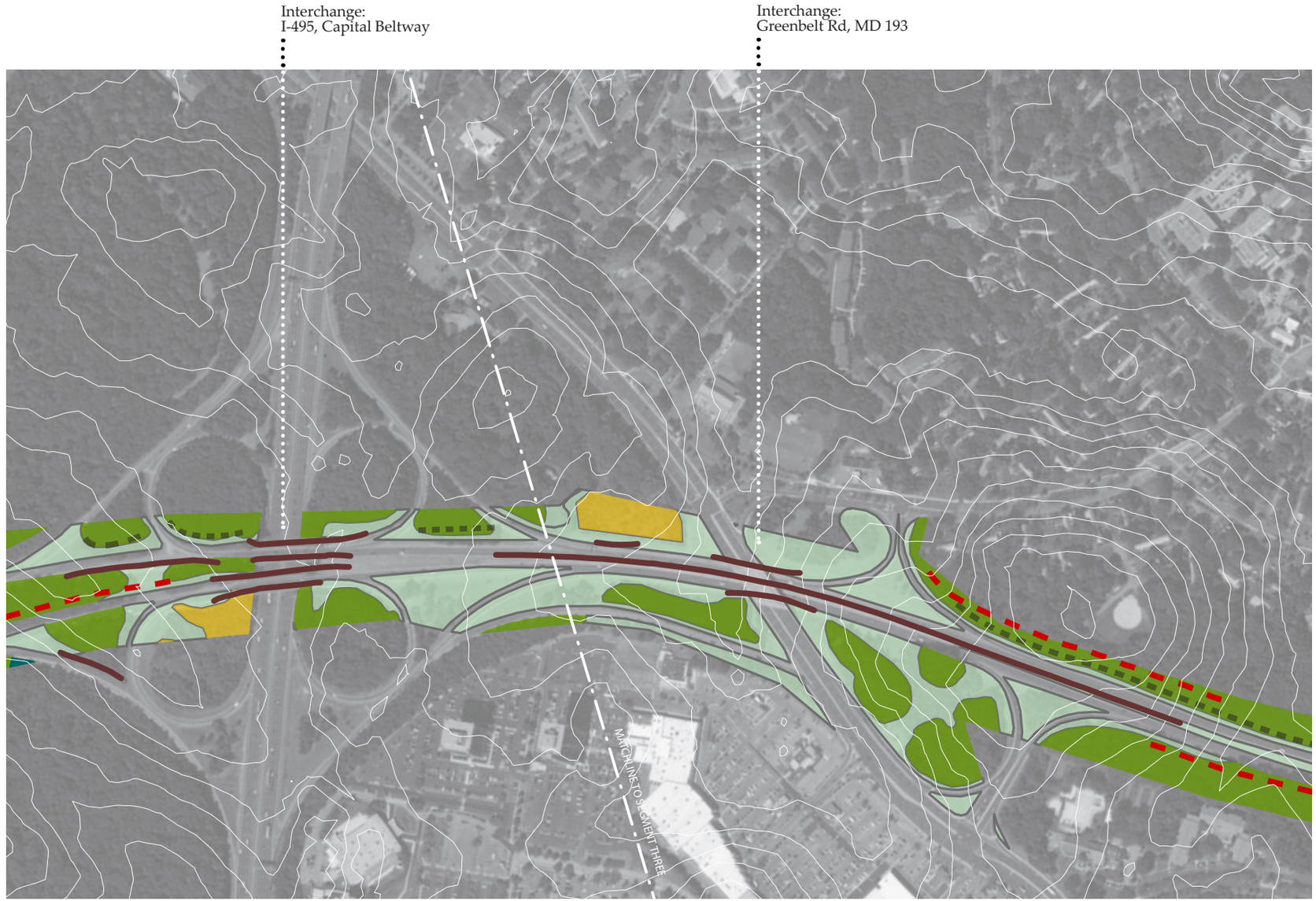

Parkway Overpass:
I-495 (Capital Beltway)
MATCHLINE TO SEGMENT FOUR
Forest Conditions
Mature Upland Forest
Succession Upland Forest
Mature Lowland Forest
Succession Lowland Forest
Swamp Forest
Shrubland
Mowed Grass
Invasive Species
Cleared Understory
High Quality Forest

FOREST VEGETATION

Segment Four

The forest in Segment Four, as with other aspects of the Beltway Threshold character area, is a transition from the successional forests of the Picturesque Urban Parkway character area to the more mature forests of the Modern Forested Parkway character area. The forest is divided into smaller patches with significant amounts of open lawn near the interchanges for the Capital Beltway and Greenbelt Road. From there to the NASA interchange, the forest is mostly successional and in several stretches there are substantial invasive species along the edges. On the northern side of the NASA interchange, the forests are more mature and healthier with fewer invasive species and better-developed understory.

As with the other segments to the south, the entire west side of the parkway has been cleared of understory vegetation, except where there are guard walls, to maintain the vegetative setback and eliminate invasive planting encroachment. North of the NASA interchange the forest is tall and fills the median as well as the edges of the roadway. The space of the roadway is proportionally tall and narrow, and this limits the amount of direct sunlight that reaches the cleared edge. Presumably, this will help reduce the establishment and growth of invasives, and this segment will be an important management test case for other segments with similarly narrow open corridors of space between two tall, forested edges.

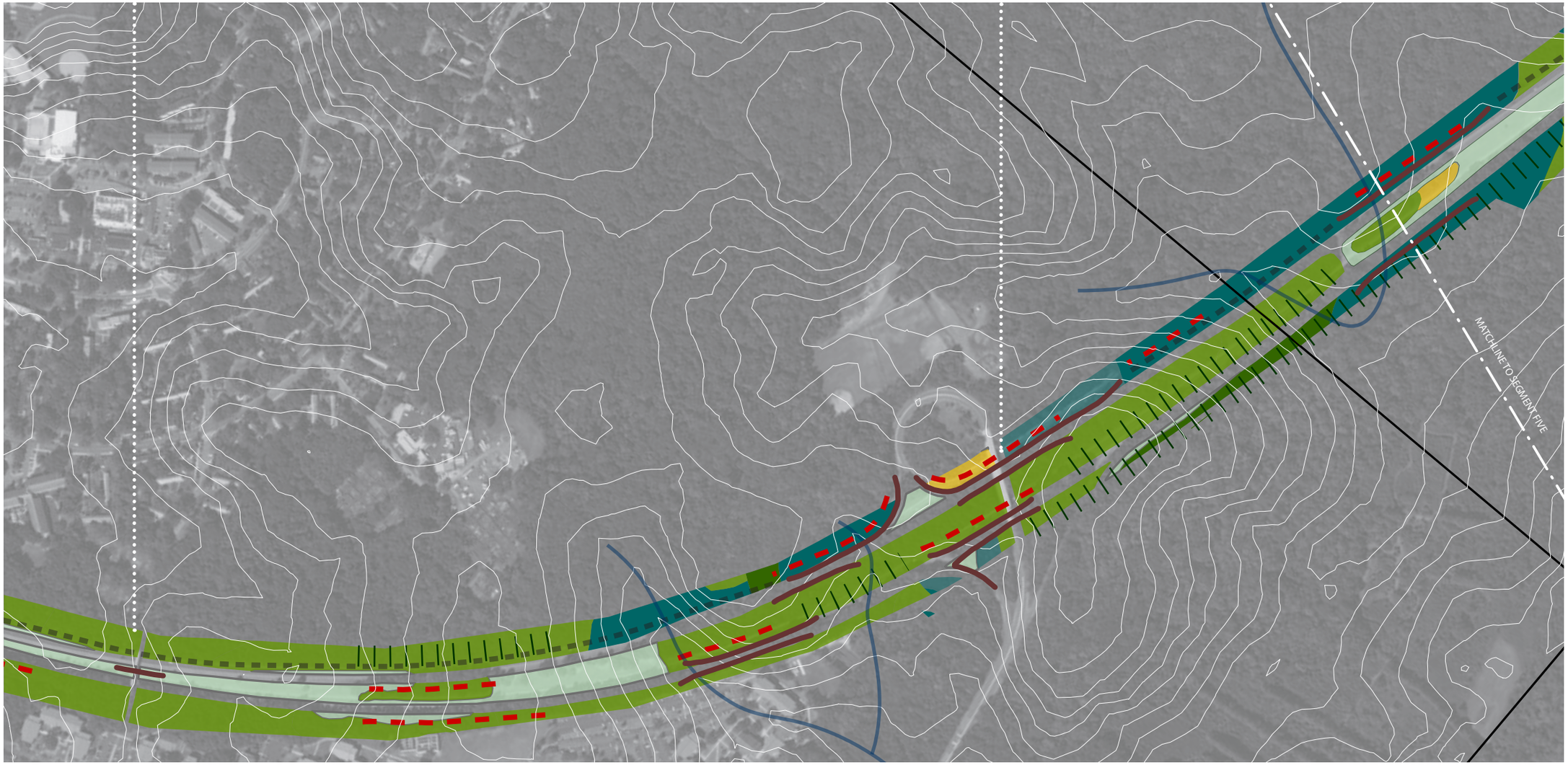


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Beltway Threshold character area

Parkway Underpass:
Greenbelt Pedestrian Bridge

Interchange:
NASA, Restricted Access



Forest Conditions

- Mature Upland Forest
- Succession Upland Forest
- Mature Lowland Forest
- Succession Lowland Forest
- Swamp Forest
- Shrubland
- Mowed Grass
- Invasive Species
- Cleared Understory
- High Quality Forest

Beltway Threshold character area

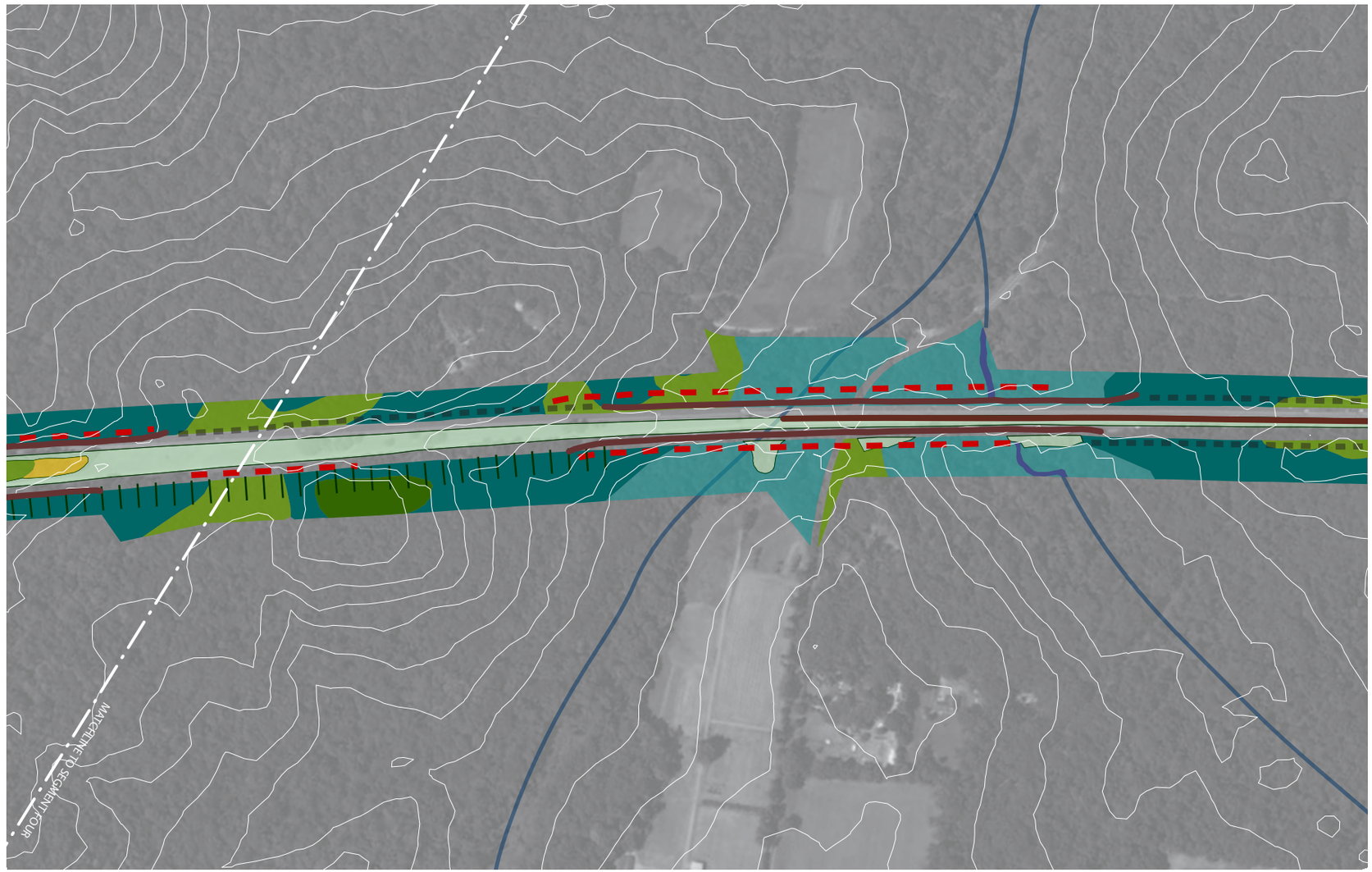
Modern Forested Parkway character area

FOREST VEGETATION

Segment Five

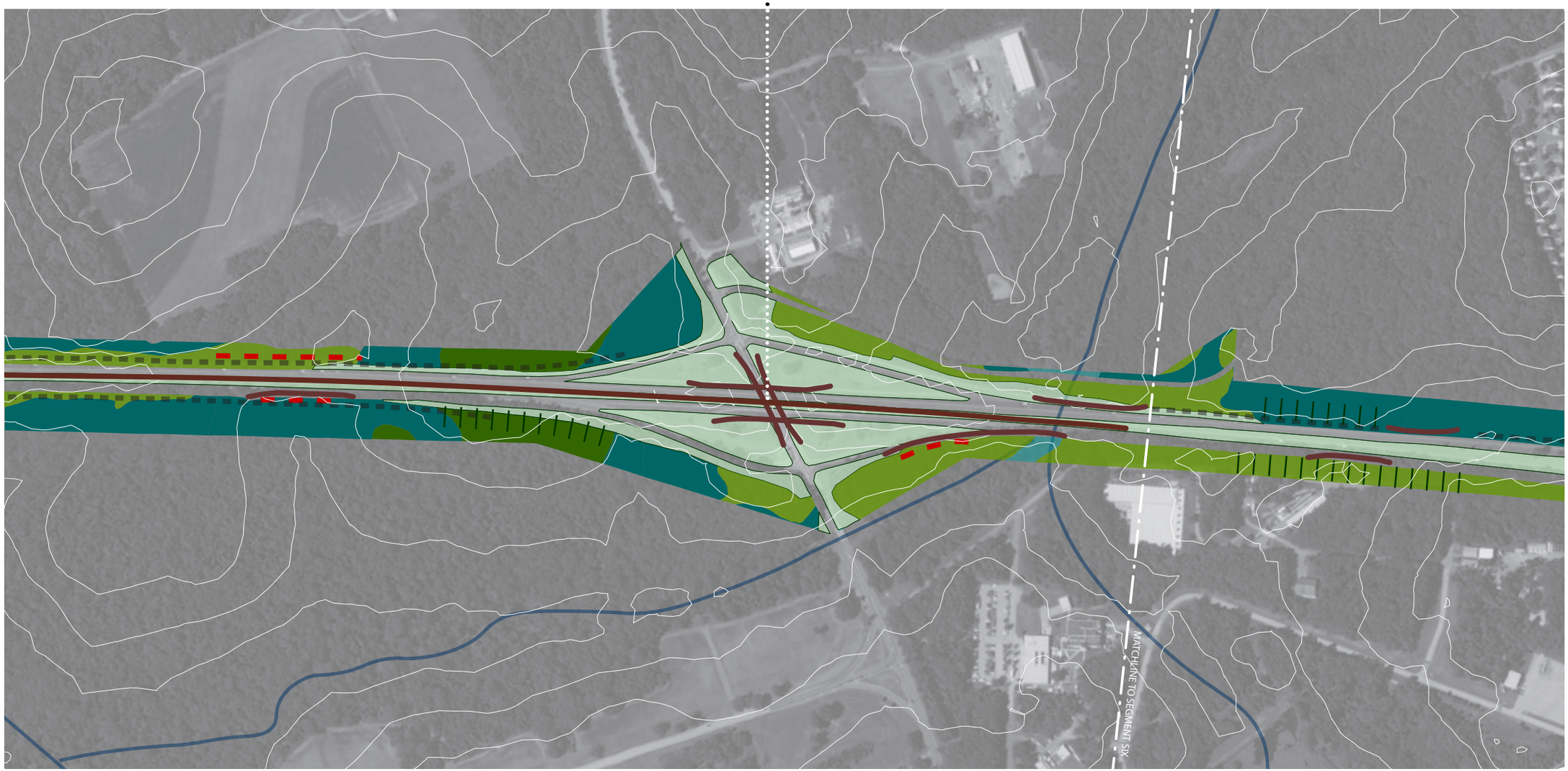
Segment Five has a significant amount of mature forest, shown in darker shades of green and blue-green. The road runs straight with a narrow median through this segment, as it bisects the USDA Beltsville Agriculture Research Center, and this narrow footprint over level terrain meant that less forest was disturbed during initial construction. Today those undisturbed forests are among the more mature forests along the parkway, and they are part of much more extensive forests of the research center. Many of the forests are lowland forest due to several small streams that flow across the level terrain.

Most of the forest has been cleared of understory to maintain vegetative setbacks, and with an open median, these more-mature forests are susceptible to colonization by invasive species with the added sunshine from the clearing. Fortunately, there currently are few invasive species in this stretch, perhaps because the surrounding lands are largely forested and the segment is farther from other highways that would help disperse the seeds of many species. It will be important to monitor these edges closely to make sure the clearing does not result in the establishment of invasive species where there have been few in the past.



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Modern Forested Parkway character area



Modern Forested Parkway character area

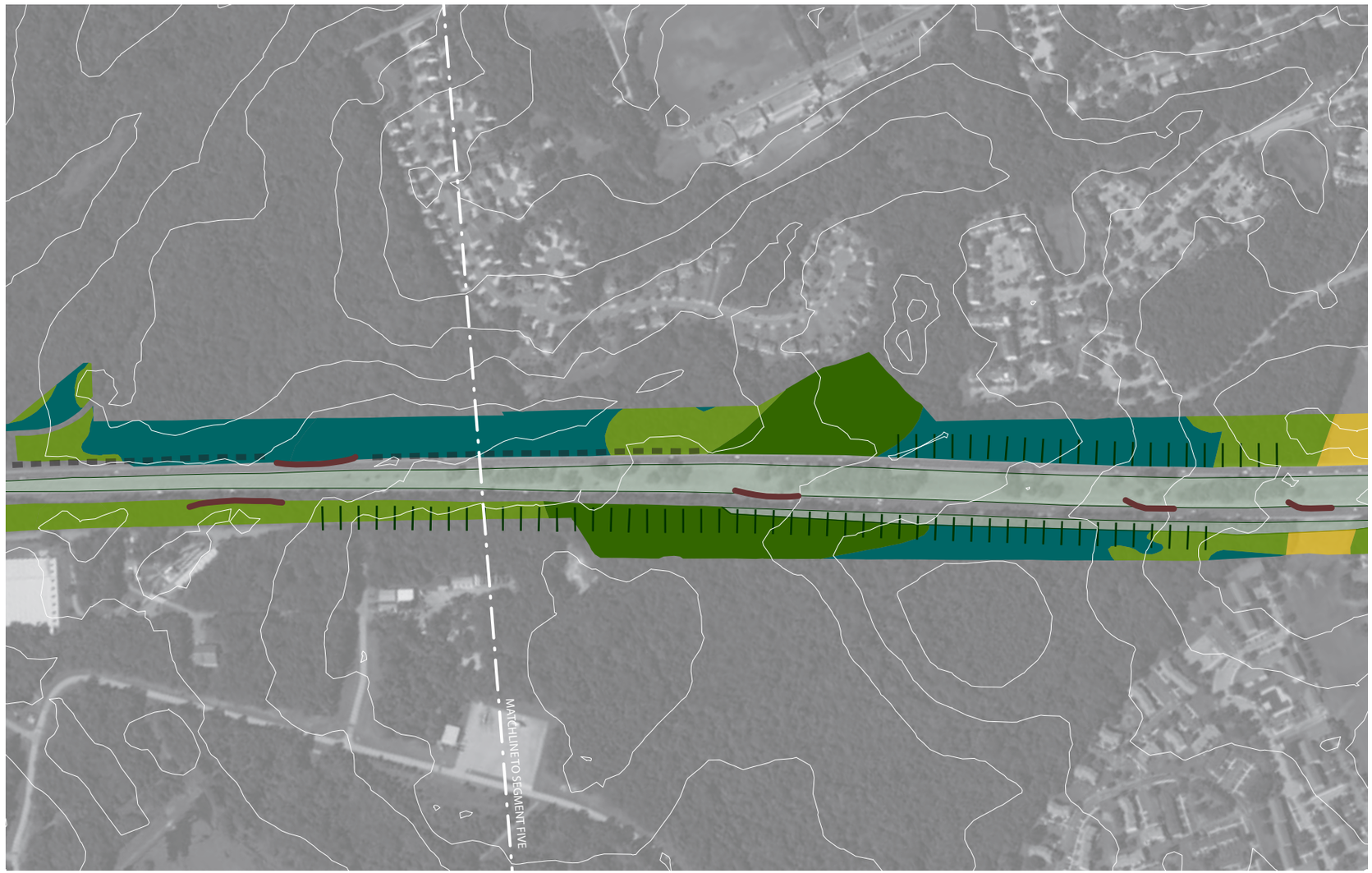
FOREST VEGETATION

Segment Six

Segment Six has the most extensive shrubland along the parkway, much of it with significant invasive species. The full length of the Rt. 197 interchange is shrubland with many invasive species among the cedars and sumacs that typically colonize such fields. GIS data show these areas as mowed lawn, but mowing has ceased and early successional processes are changing the vegetation to shrubland.

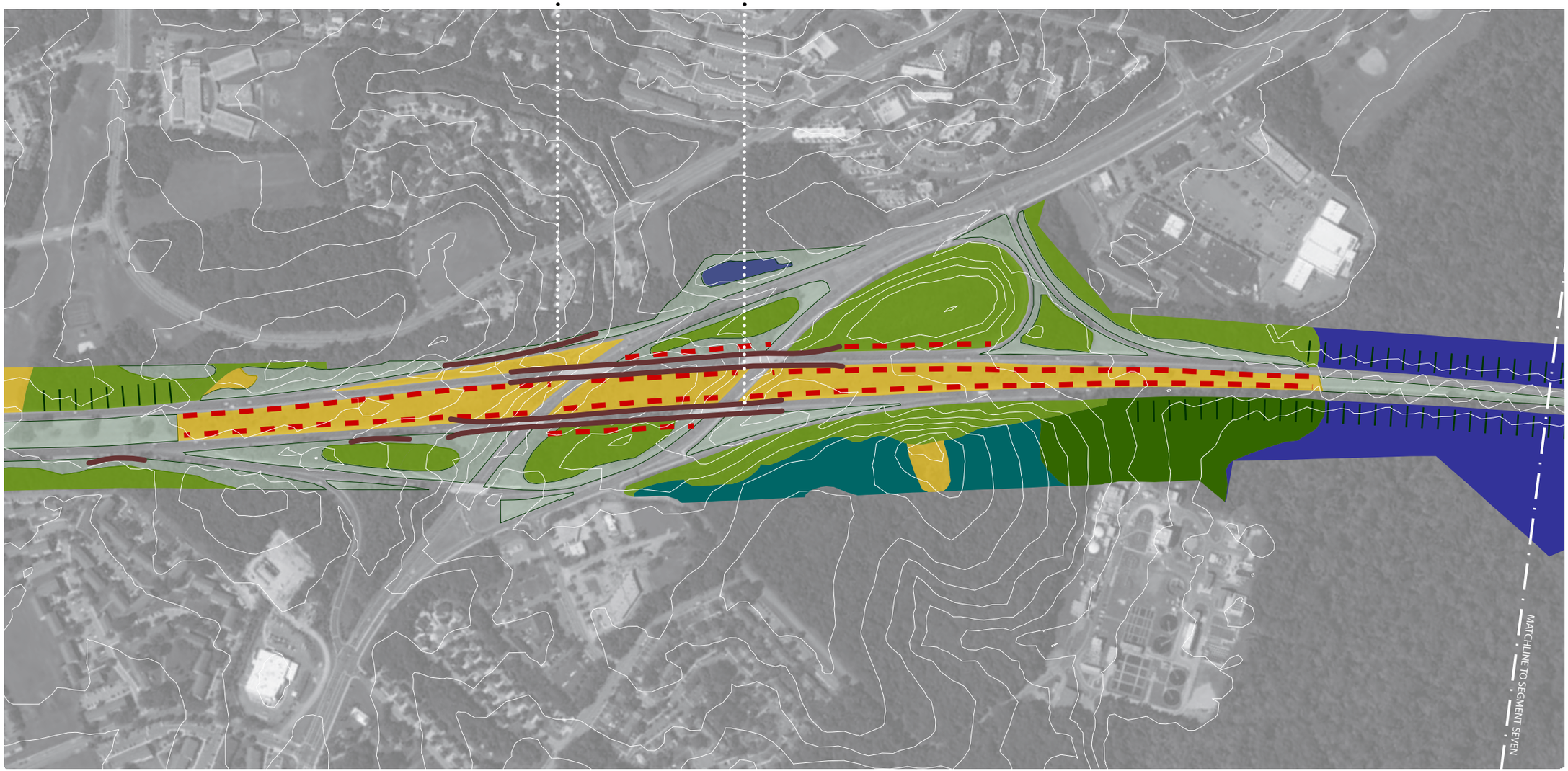
In the 1950s and '60s, natural succession processes allowed the current forest to re-establish in the wake of construction, and much of the current successional forest presumably dates to that period. At the time, invasive species were not the pernicious problem that they are today, and leaving the land to succeed on its own, is not likely to produce the same kinds of forest that characterize the parkway and the region.

The difference between the mowed lawn shown in the GIS data and the current shrubland evident on site, illustrates the difficulty of mapping early successional fields. Since the vegetation is rapidly changing, the GIS data that underlies these maps is not accurate for long. At this scale, shrubland as a category is likely to reflect quite a bit of variation in actual forest conditions. These conditions need to be evaluated and updated with direct field observation when management decisions are made.



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Modern Forested Parkway character area



Modern Forested Parkway character area

FOREST VEGETATION

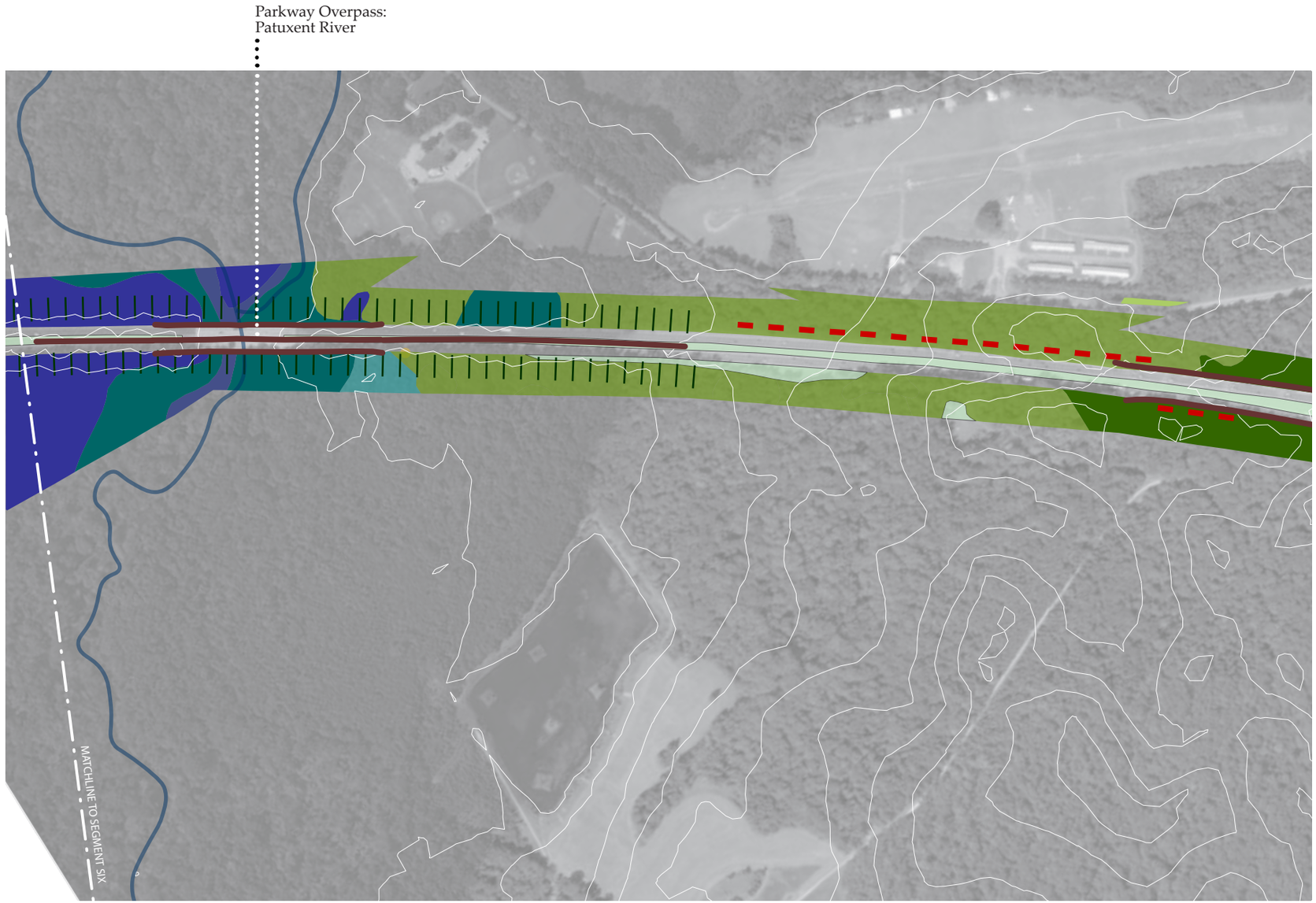
Segment Seven

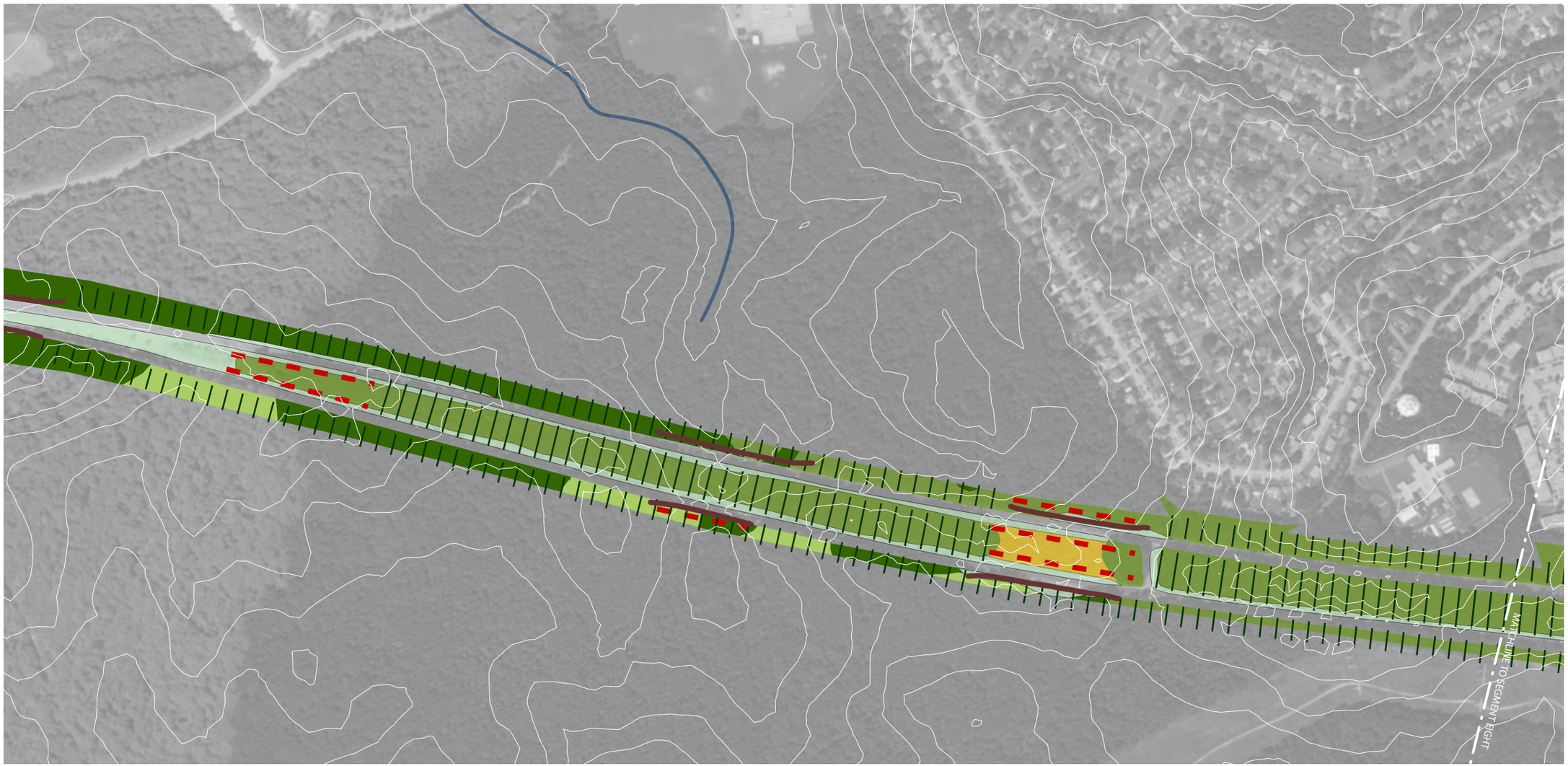
The forest in Segment Seven adjoins lands of the Patuxent Research Refuge with its extensive preserved forests and wetlands. Significant swampland and lowland forest characterize the Patuxent River (also included in Segment Six) and these forests are part of the reason for the creation of the refuge.

There are extensive, high-quality forests in this segment, some of which were unlikely to have been disturbed during initial construction and today are identified as mature forests. As stated earlier, these high-quality forests are determined from Google Maps street view, driving surveys, and GIS categorization, and they are assessed in a 'broad-brushed' manor. More careful assessment is needed to confirm these observations, but in general, they should be considered highly valuable to the parkway character and its significance in the preservation of regional forests. Clearing of the edges should be carefully considered due to the increased chances of colonization of these forests by invasive species.

Swamps along the Patuxent River (shown in blue here and in Segment Six) are not as visually impressive as mature upland forests, but they are a less common forest type and are important in the ecology of the refuge and the region.

Invasive species are limited to places where mowing practices have changed and where development abuts the parkway. These relatively small areas indicate how easily invasive species can establish when small disturbances create the right conditions for them.





Modern Forested Parkway character area

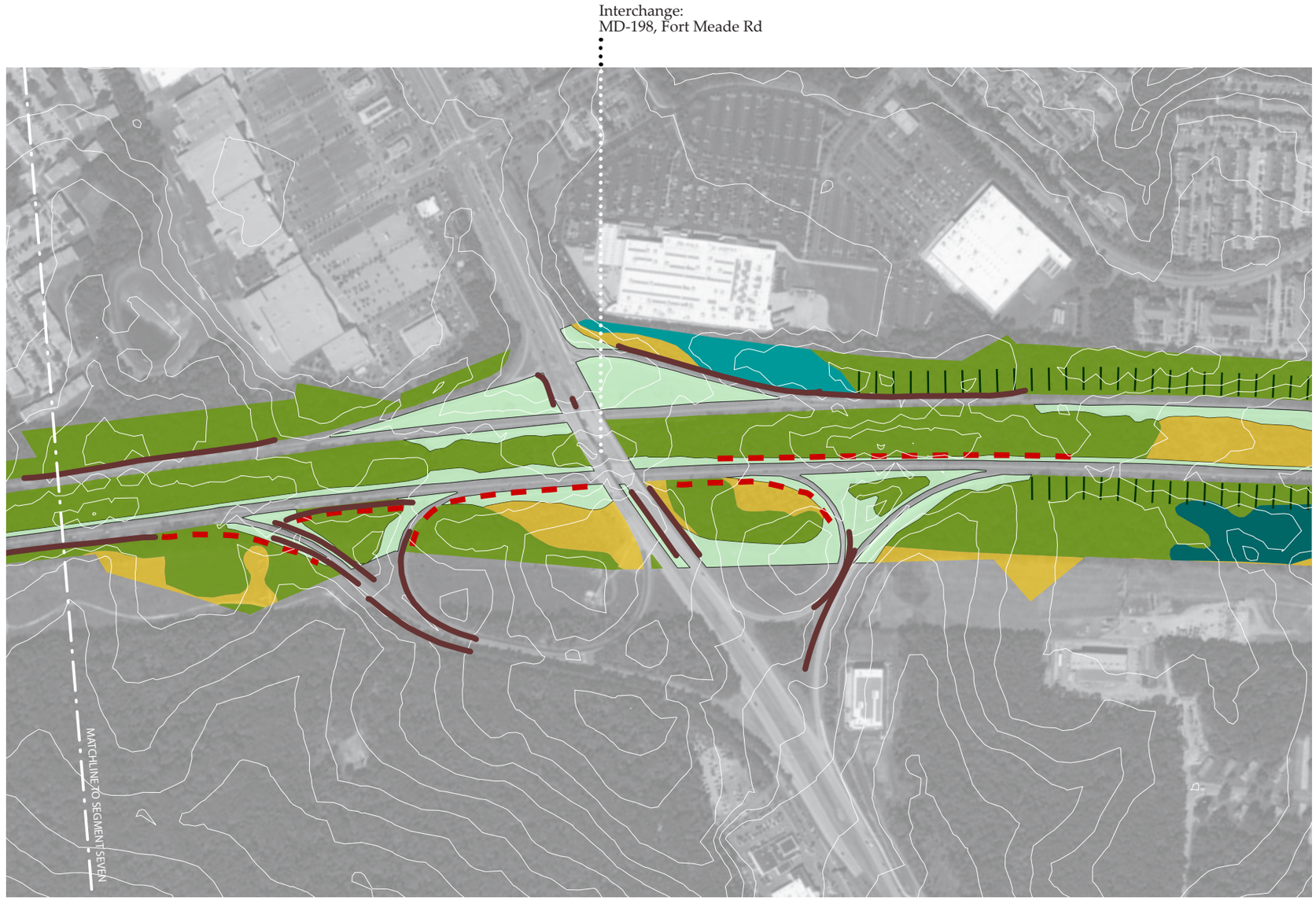
FOREST VEGETATION

Segment Eight

The forest in Segment Eight is the 'patchiest' stretch of the parkway with evidence of several disturbances at different points in time that have led to a forest of mixed age and mixed type with many areas of shrubland and invasive species.

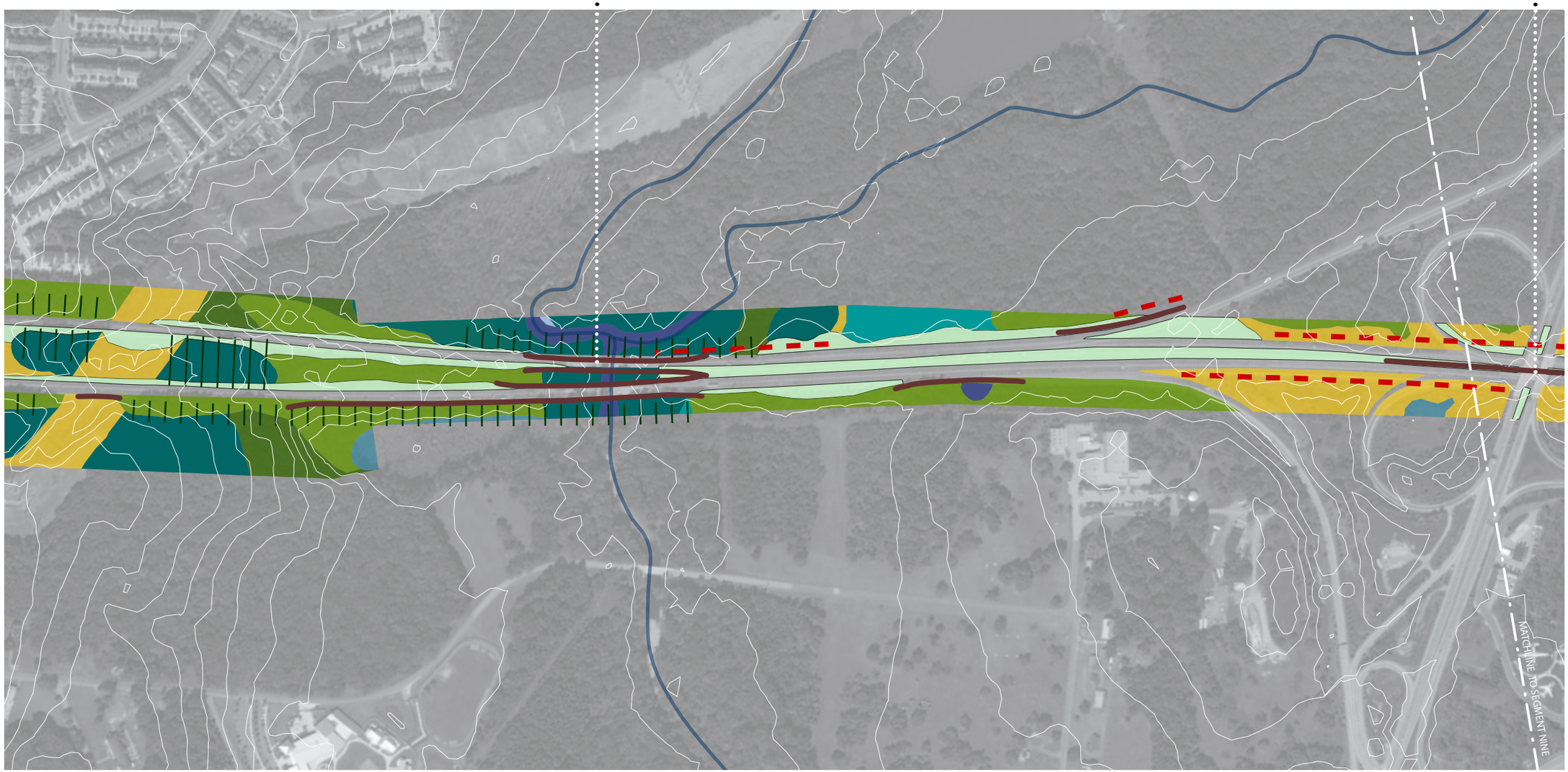
There are considerable high-quality forests in this segment, including the lowland forests along Little Patuxent River and those to the south between the river and the Rt. 198 interchange. Some of these forests are protected by guard walls, but in some cases invasive species have established behind the walls and threaten the forest. A powerline bisects these forests with shrubland, but invasive species do not seem to have colonized here, creating a field and forest edge environment.

The bridges and interchanges at Rt. 198 and Rt. 32 were altered during reconstruction in the 1990s, and due to those disturbances, presumably, there are substantial areas of shrubland and also invasive species. At Rt. 32, several reforestation areas were planted in the 1990s, and these areas will need control of invasives to allow succession to proceed. Although these areas are far from being mature, if succession is monitored and guided, they will develop into forests equivalent to the existing forests throughout the landscape.



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Modern Forested Parkway character area



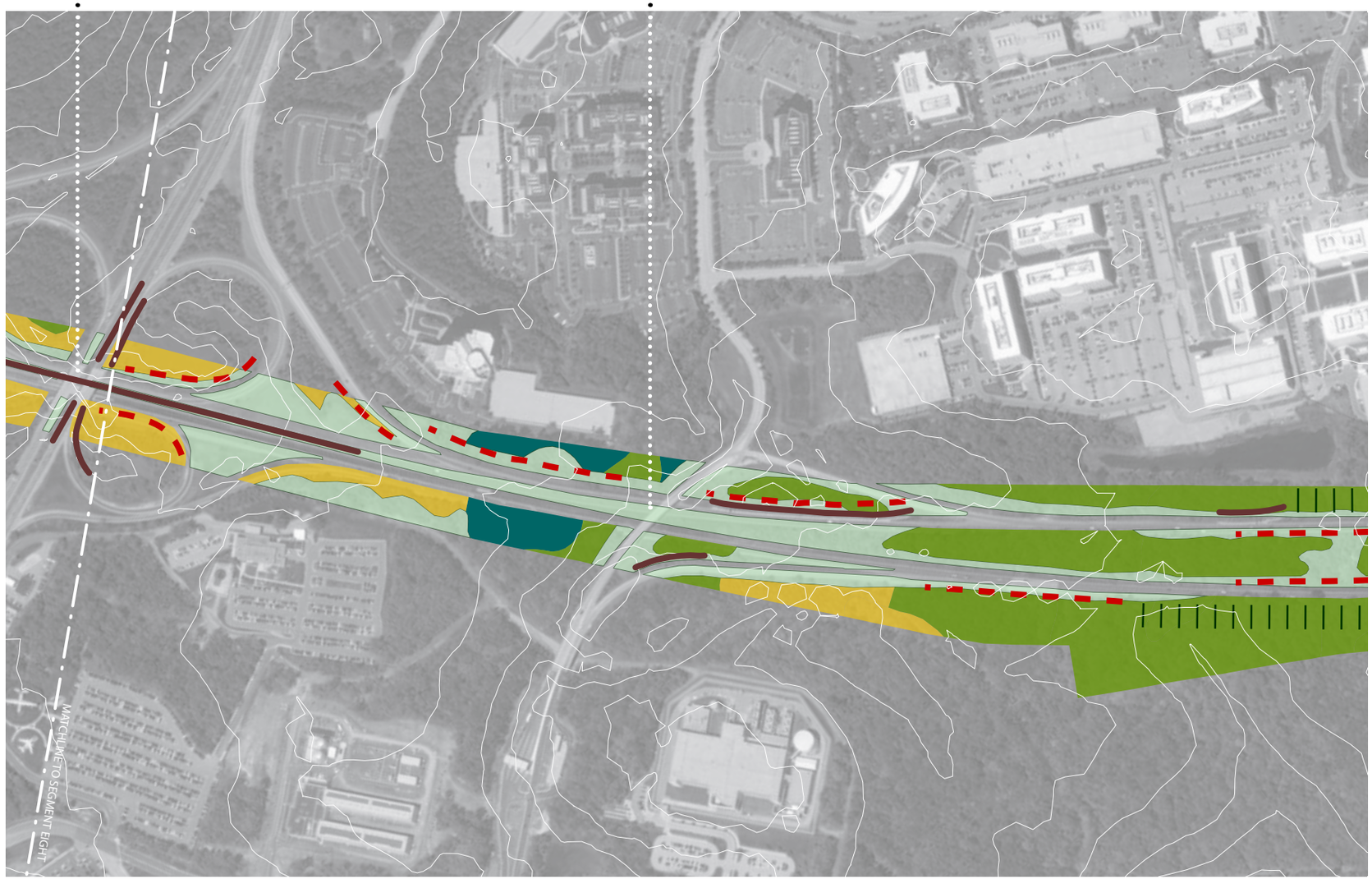
Modern Forested Parkway character area

FOREST VEGETATION

Segment Nine

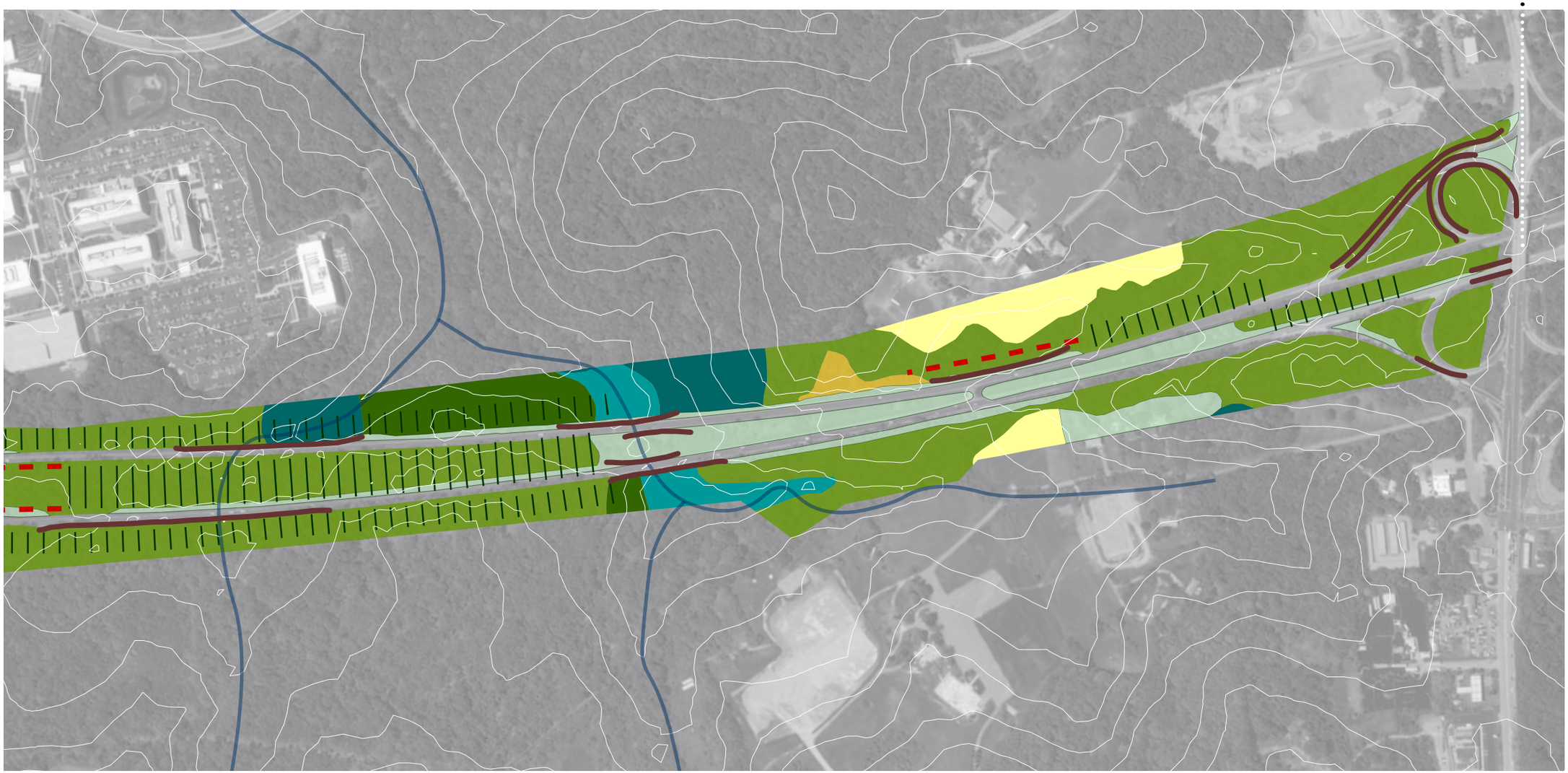
The patchiness that characterizes Segment Eight extends to the NSA Interchange in Segment Nine, but north of there, high-quality forest lines both sides of the roadway in each direction. Though not as large as the high-quality forests that border Greenbelt Park (Segment Three) or Patuxent Research Refuge (Segment Seven) this is one of the more impressive stands of forest along the parkway, and it serves as a threshold when entering the parkway from the north, indicating that this parkway is different from MD 295. With relatively tall forest on either side of the roadway, the space of the road is narrow and prevents a lot of direct sunlight from reaching the forest edges. These should be treated carefully when managing for traffic concerns.

As in other segments, invasive species have established in places where mowing practices have changed and where interchange alterations have disturbed the forest. Again, invasives need to be controlled in order to let typical succession processes continue.



0 175 350 700 1.050 1.400 ft.

Modern Forested Parkway character area



Modern Forested Parkway character area

Introduction

Three major planting plans have been implemented along the parkway that have set a direction for its planting character. Few trees and almost no shrubs remain from any of them, but the plans make clear the intended character of the landscape. Plans implemented in the 1990s are by far the most comprehensive, the only ones that cover the entire length of the parkway, and therefore they should be considered the baseline for any future plantings. The second most influential plans are those implemented in 1955 as part of initial construction. They are limited to the southern and northern ends of the parkway and two additional interchanges, and they established the original character of the plantings. A third plan, implemented in 1966 at the southern end of the parkway, was part of Lady Bird Johnson's initiative to make entrances to the city more beautiful. This plan is unlike the 1990s and 1955 plans, proposing a very different character for the complex interchange between the parkway and the converging roads at its southern end. Plan details of each of these three plans of the southern entrance to the parkway are compared here to illustrate the differences between them. The details do not quite align because of differences in the areas planted, but they are close enough for comparison.

Planting plans for the whole parkway are mapped at 1:700 with multiple plans mapped on separate double-page spreads. The plans themselves are far too detailed to comprehend at this scale, so they are mapped in terms of six major planting strategies: clusters of specimen trees, specimen trees with flowering trees, reforestation areas, forest edge planting, evergreen screening, and native grass meadows. Identifying these common strategies helps see the patterns of planting in individual plans and also shows similarities between plans, even when the details of those plans are quite distinct.

1955 Plan

After initial construction of the parkway in 1955, limited planting plans were implemented at the northern end and southern end of the parkway and at the Landover Road (MD 202) and Annapolis Road (MD 450) interchanges. The 1955 plans propose a landscape of plants native to the mid-Atlantic region, emphasizing open-grown overstory trees with ornamental understory trees planted among them. Four trees dominate the plans: northern red oak (*Quercus borealis*), scarlet oak (*Q. coccinea*), pin oak (*Q. palustris*), and red maple (*Acer rubrum*). Other forest species are used in specific locations, like the wetter areas at the southern end of the parkway, and pines are used for screening, but the oaks and maples are by far the dominant specimen trees. Understory species are more diverse and are all species indigenous to the mid-Atlantic piedmont and coastal plain. They are generally planted among the oaks and maples near the roadways where they would be most visible to drivers. At the southern end (shown) they are also planted in front of the pine screen, where they would be visible against the darker background of the pines.

Despite the exclusive use of species from the Piedmont and Coastal Plain, the plan does not restore natural woodland and instead uses the plants to create a continuous landscape of large, open-grown, specimen deciduous trees with smaller ornamental trees among them. The trees and shrubs are planted mostly in small, naturalistic clusters near the edges of the roadway and ramps, and collectively these form nearly continuous swaths of naturalistically planted trees along the roadways. They would make a beautiful and spatially articulated landscape for drivers as they enter and exit the parkway.

1966 Plan

In the mid-1950s, the southern entrance to the parkway was expanded to include a new interchange with US 50, and a planting plan was developed in 1966 for this complicated interchange. The plan, part of Lady Bird Johnson's capital beautification project, includes a variety of plants chosen for their ornamental qualities, including many non-native species and some that proved to be quite invasive.

For the southern entrance, the plan calls for relatively few plantings in the long median that had been planted in 1955, and the new plantings there are somewhat in keeping with the earlier plan. Again, oaks and maples dominate, but other species of the regional forests are planted, including sweetgum (*Liquidambar styraciflua*), tulip poplar (*Liriodendron tulipifera*), and sycamore (*Platanus occidentalus*). Ornamental trees and shrubs are far more varied than in the earlier plan, and most are not native to the region.

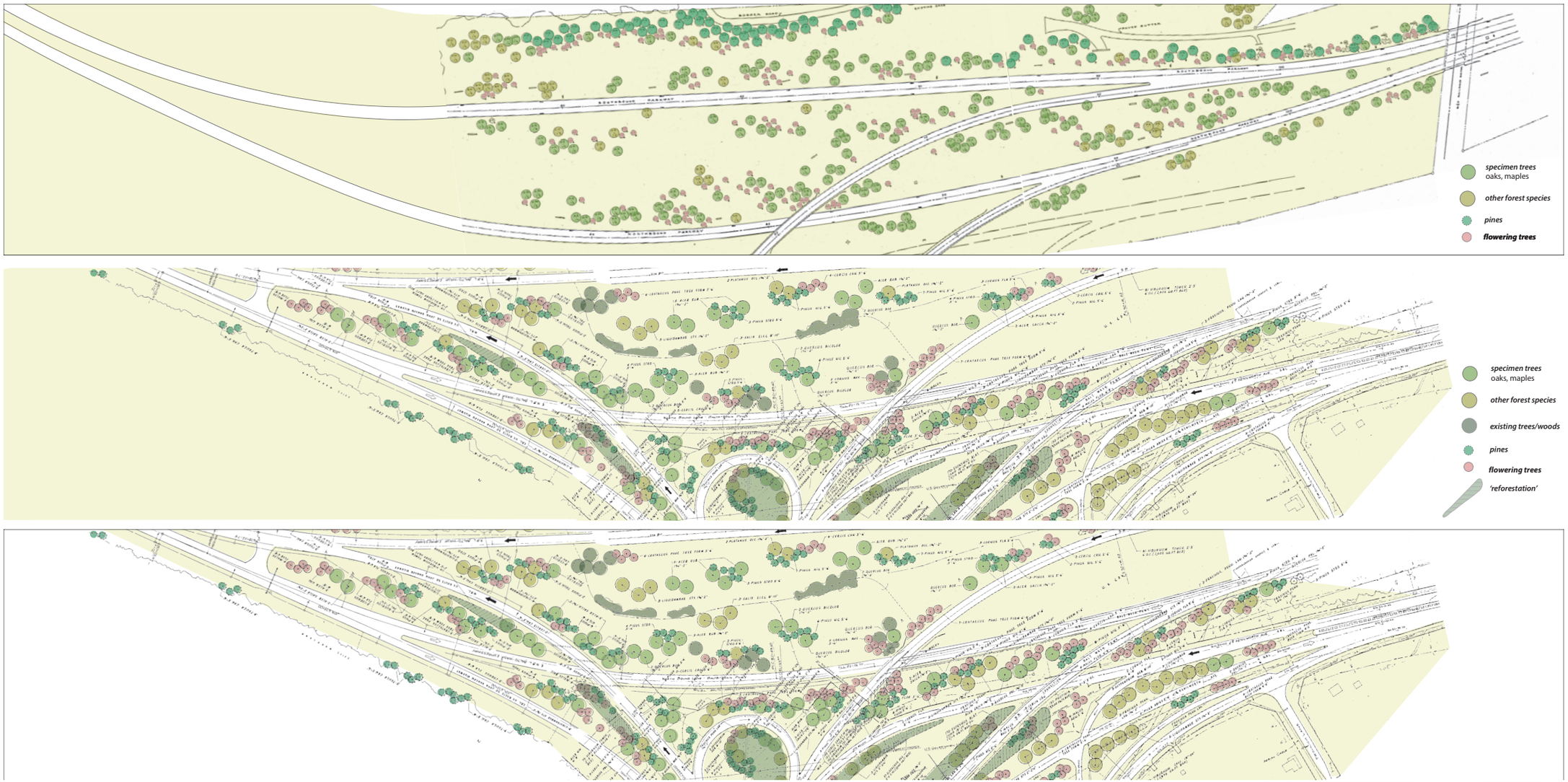
The looping ramps of the US 50 interchange divide the landscape into discrete segments, and the plan emphasizes specific groupings within each segment. Plants are composed in tight groupings of overstory trees, pines and ornamental trees, making a set of individual clusters in contrast to the continuous swath of native trees envisioned in the 1955 plan.

The major portion of the plan addressed the loops and medians of the new interchange ramps, most of which is not shown in this detail and are beyond the NPS property boundary. In this portion of the plan, overstory trees, pines and ornamental trees are again tightly composed into linear compositions that mimic the loops and median segments of the interchange. Unusual combinations of three species - typically a pine, a flowering tree, and an ornamental shrub - were planted in dense 'reforestation' areas, but these would not have resembled natural forests. If it were intact, the 1966 plan would have created a very different character from the 1955 plan.

1990s Plans

As part of the rehabilitation of the parkway in the 1990s, planting plans were developed for almost its entire length. The 1990s plans are more elaborate and ambitious than previous plans, and they utilize several repeated planting strategies. As in the 1955 plans, open-grown overstory trees and ornamental understory trees are planted at interchanges to beautify and articulate the experience of entering and exiting the parkway. At some interchanges, native grass meadows are also proposed, and these enrich and diversify the landscape of the interchanges.

Forest management is an important part of the 1990s plans and includes direct reforestation in certain open areas, some that were probably disturbed during reconstruction of interchanges. Species native to the surrounding forests were planted along most of the edge of existing forests, though the purpose of the plantings is not clear from the plans. It is possible that edges were disturbed during road reconstruction, making them vulnerable to invasive species, and the additional planting was intended to thicken the existing edge. In places where adjacent development was visible, dense plantings of evergreens are planted to screen it from view.



Colorized planting plan details of the southern entrance from 1955 (top), 1966 (middle), 1993 (bottom). Differences in planting strategies are evident.

Plant Palettes

Each of the three major planting plans uses a distinct plant palette, though there is considerable overlap among many of the large overstory trees. A distinguishing characteristic of the three plant palettes is the use (or not) of plants native to the mid-Atlantic piedmont and coastal plain.

1955 Plant Palette

The plant palette of the 1955 plan is comprised almost exclusively of plants native to the mid-Atlantic piedmont and coastal plain. The only exceptions are red pine (*Pinus resinosa*), which is native to the northeast U.S., and gray birch which is also native to the northeast but extends as far south as the New Jersey coastal plain, an ecosystem similar to the Baltimore Washington Parkway. The native range of white pine (*Pinus strobus*) does not coincide with the Baltimore Washington Parkway, although it does extend into the piedmont at the base of the Blue Ridge and is widely planted in the region. The palette includes an impressive range of regional flowering and ornamental trees and shrubs.

The emphasis on native plants indicates a desire to use species characteristic of the regional forests, and this makes it a good baseline plant list for future plantings. The trees are planted as open grown trees and create some degree of ecological continuity with the surrounding forests even though they do not reestablish forest.

1966 Plant Palette

The 1966 planting plan was part of Lady Bird Johnson's initiative to create more beautiful entrances to the city, and consequently the plant palette is quite different from the 1955 and 1990s plans. More research is needed to see how this plant palette compares with other plans that were part of Johnson's overall strategy.

Most of the overstory trees are native to the regional forests, including two that are not on the 1955 palette: sugar maple (*Acer saccharum*) and swamp white oak (*Quercus bicolor*). None of the evergreens used are native to this ecosystem, although as noted already, white pines are planted frequently in the region. Most of the ornamental trees and shrubs in the plant list are not native to the U.S., though many are commonly planted species. Three of the native species used in 1966 are not on the 1955 palette: Washington hawthorn (*Crataegus phenopyrum*), red chokeberry (*Aronia arbutifolia*), and witherod viburnum (*Viburnum cassinoides*).

1990s Plant Palette

The 1990s plant palette is comprised primarily of species indigenous to the regional forests. Fewer overstory species are used, but several are not on the 1955 list: common hackberry (*Celtis occidentalis*), green ash (*Fraxinus pennsylvanica*), and black cherry (*Prunus serotina*). The 1990s plant list is the only one to include evergreens native to the region: American holly (*Ilex opaca*) and eastern red cedar (*Juniperus virginiana*).

Kousa dogwood (*Cornus kousa*), Japanese flowering crabapple (*Malus floribunda*), and several hybrid dogwoods are included on the plant list. All are considered hardier replacements for the native flowering dogwood and native crabapples, and it is likely they were chosen for that reason, although flowering dogwoods are also used in the plan.

The 1990s plant list includes four native wildflowers, and these are the only non-woody species included in any of the plant lists.

1955 Plant List

Botanical Name	Common Name	Origin	Type
Acer rubrum	Red Maple	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Betula nigra	River Birch	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Betula populifolia	Gray Birch	Northeast US/NJ Coast	Deciduous Tree
Carpinus caroliniana	American hornbeam	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Carya ovata	Shagbark Hickory	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Celtis occidentalis	Hackberry	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Fagus grandifolia	American Beech	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Liriodendron tulipifera	Tuliptree	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Nyssa sylvatica	Water tupelo	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Platinus occidentalis	American Planetree	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus alba	White Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus borealis	Northern Red Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus coccinea	Scarlet Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus palustris	Pin Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus phellos	Willow Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Salix nigra	Black willow	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Pinus resinosa	Red Pine	Northeast US	Evergreen Tree
Pinus strobus	Eastern White Pine	Mid-Atlantic Piedmont	Evergreen Tree
Amelanchier canadensis	Shadblow Serviceberry	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Cercis canadensis	Eastern Redbud	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Chionanthus virginicus	White Fringetree	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Cornus florida	Flowering Dogwood	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Crataegus crusgalli	Cockspur Thorn	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Crataegus phoenopyrum	Washington Hawthorn	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Hamamelis virginiana	Common Witchhazel	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Malus angustifolia	Southern Crabappple	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Rhus aromatica	Fragrant Sumac	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Rhus copallina	Flameleaf Sumac	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Ilex verticillata	Common Winterberry	Mid-Atlantic Piedmont/Coastal Plain	Shrub
Myrica cerifera	Southern Waxmyrtle	Mid-Atlantic Piedmont/Coastal Plain	Shrub
Myrica pensylvanica	Northern Bayberry	Mid-Atlantic Coastal Plain	Shrub
Viburnum lentago	Nannyberry	Mid-Atlantic Piedmont/Coastal Plain	Shrub
Viburnum prunifolium	Blackhaw viburnum	Mid-Atlantic Piedmont/Coastal Plain	Shrub

1966 Plant List

Botanical Name	Common Name	Origin	Type
Acer rubrum	Red Maple	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Acer saccharum	Sugar Maple	Mid-Atlantic Piedmont	Deciduous Tree
Fraxinus pensylvanica lanceolata	Green Ash	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Liquidambar styraciflua	Sweetgum	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Nyssa sylvatica	Black Tupelo	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Platinus occidentalis	American Planetree	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus bicolor	Swamp White Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus borealis	Northern Red Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus palustris	Pin Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Salix elegantissima	Thurlow Weeping Willow	Non-Native	Deciduous Tree
Picea abies	Norway Spruce	Non-Native	Evergreen Tree
Pinus nigra	Austrian Pine	Non-Native	Evergreen Tree
Pinus strobus	Eastern White Pine	Mid-Atlantic Piedmont	Evergreen Tree
Pinus sylvestris	Scots Pine	Non-Native	Evergreen Tree
Pinus thunbergii	Japanese Black Pine	Non-Native	Evergreen Tree
Acer ginnala	Amur Maple	Non-Native	Ornamental Tree
Cercis canadensis	Eastern Redbud	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Cornus florida	Flowering Dogwood	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Crataegus phoenopyrum	Washington Hawthorn	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Malus arnoldiana	Arnold Crabapple	Non-Native	Ornamental Tree
Malus baccata	Siberian Crabapple	Non-Native	Ornamental Tree
Malus floribunda	Japanese Flowering Crabapple	Non-Native	Ornamental Tree
Oxydendrum arboreum	Sourwood	Southeast US	Ornamental Tree
Prunus kwanzan	Flowering Cherry	Non-Native	Ornamental Tree
Prunus subhirtella	Higan Cherry	Non-Native	Ornamental Tree
Aronia arbutifolia brilliantissima	Brilliant Red Chokeberry	Mid-Atlantic Piedmont/Coastal Plain	Shrub
Cornus alba siberica	Siberian Dogwood	Non-Native	Shrub
Elaeagnus angustifolia	Russain Olive	Non-Native	Shrub
Euonymous alatis compactia	Dwarf Winged Euonymous	Non-Native	Shrub
Lonicera tatarica	White Tatarian Honeysuckle	Non-Native	Shrub
Photinia villosa	Oriental Photinia	Non-Native	Shrub
Pyracantha coccinea Bakers Red	Bakers Red Firethorn	Non-Native	Shrub
Rosa multiflora	Japanese Rose	Non-Native	Shrub
Spirea nipponica Snowmound	Snowmound Spirea	Non-Native	Shrub
Viburnum cassinoides	Witherod Viburnum	Mid-Atlantic Piedmont/Coastal Plain	Shrub
Viburnum tomentosum	Doublefile Viburnum	Non-Native	Shrub
Viburnum trilobum	American Cranberry Bush	Northeast US/Canada	Shrub

1990s Plant List

Botanical Name	Common Name	Origin	Type
Acer rubrum	Red maple	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Acer rubrum 'October Glory'	October Glory Red Maple	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Acer rubrum 'Red Sunset'	Red Sunset Red Maple	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Acer saccharum	Sugar Maple 'Green Mountair	Mid-Atlantic Piedmont	Deciduous Tree
Acer saccharum	Sugar Maple	Mid-Atlantic Piedmont	Deciduous Tree
Celtis occidentalis	Common Hackberry	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Fraxinus Pensylvanica	Green Ash	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Fraxinus pensylvanica 'Patmore'	Green Ash	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Liquidambar styraciflua	Sweetgum	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Platinus occidentalis	American Sycamore	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Platinus x acerfolia 'Liberty'	Liberty Sycamore	Hybrid	Deciduous Tree
Prunus serotina	Black Cherry	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus borealis	Northern Red Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus palustris	Pin Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Quercus phellos	Willow Oak	Mid-Atlantic Piedmont/Coastal Plain	Deciduous Tree
Ilex opaca	American Holly	Mid-Atlantic Piedmont/Coastal Plain	Evergreen Tree
Juniperus virginiana	Eastern Red Cedar	Mid-Atlantic Piedmont/Coastal Plain	Evergreen Tree
Pinus strobus	Eastern White Pine	Mid-Atlantic Piedmont	Evergreen Tree
Amelanchier canadensis	Shadblow Serviceberry	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Cornus florida	Flowering Dogwood	Mid-Atlantic Piedmont/Coastal Plain	Ornamental Tree
Cornus kousa	Kousa Dogwood	Non-Native	Ornamental Tree
Cornus rutban	Aurora Dogwood	Hybrid	Ornamental Tree
Cornus rutdan	Galaxy Dogwood	Hybrid	Ornamental Tree
Cornus rutgan	Stellar Pink Dogwood	Hybrid	Ornamental Tree
Malus floribunda	Japanese Flowering Crabapple	Non-Native	Ornamental Tree
Malus F. ' Professor Sprenger'	Professor Sprenger Crabapple	Non-Native	Ornamental Tree
Malus F. 'Indian Magic'	Indian Magic Crabapple	Non-Native	Ornamental Tree
Malus F. 'Sugar Thyme'	Sugar Thyme Crabapple	Non-Native	Ornamental Tree
Kalmia latifolia	Mountain Laurel	Mid-Atlantic Piedmont/Coastal Plain	Shrub
Viburnum dentatum	Arrowood Viburnum	Mid-Atlantic Piedmont/Coastal Plain	Shrub
Aster laevis	Smooth Aster	Mid-Atlantic Piedmont/Coastal Plain	Wildflower
Helianthus mollis	Hairy Sunflower	Mid-Atlantic Piedmont/Coastal Plain	Wildflower
Helianthus stromosis	Woodland Sunflower	Mid-Atlantic Piedmont/Coastal Plain	Wildflower
Rudbeckia fulgida	Blackeyed Susan	Mid-Atlantic Piedmont/Coastal Plain	Wildflower

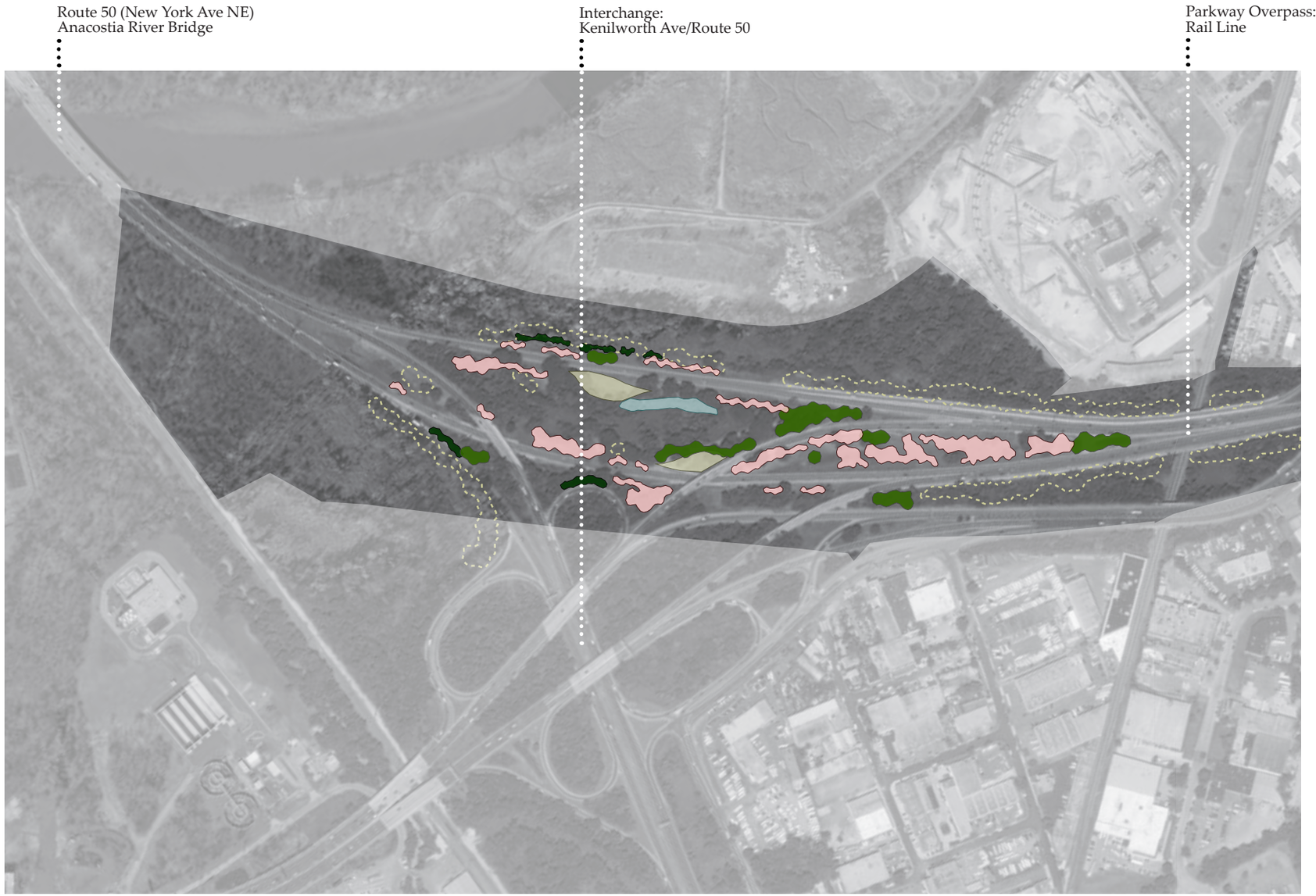
PLANTING PLANS

Segment One: 1993

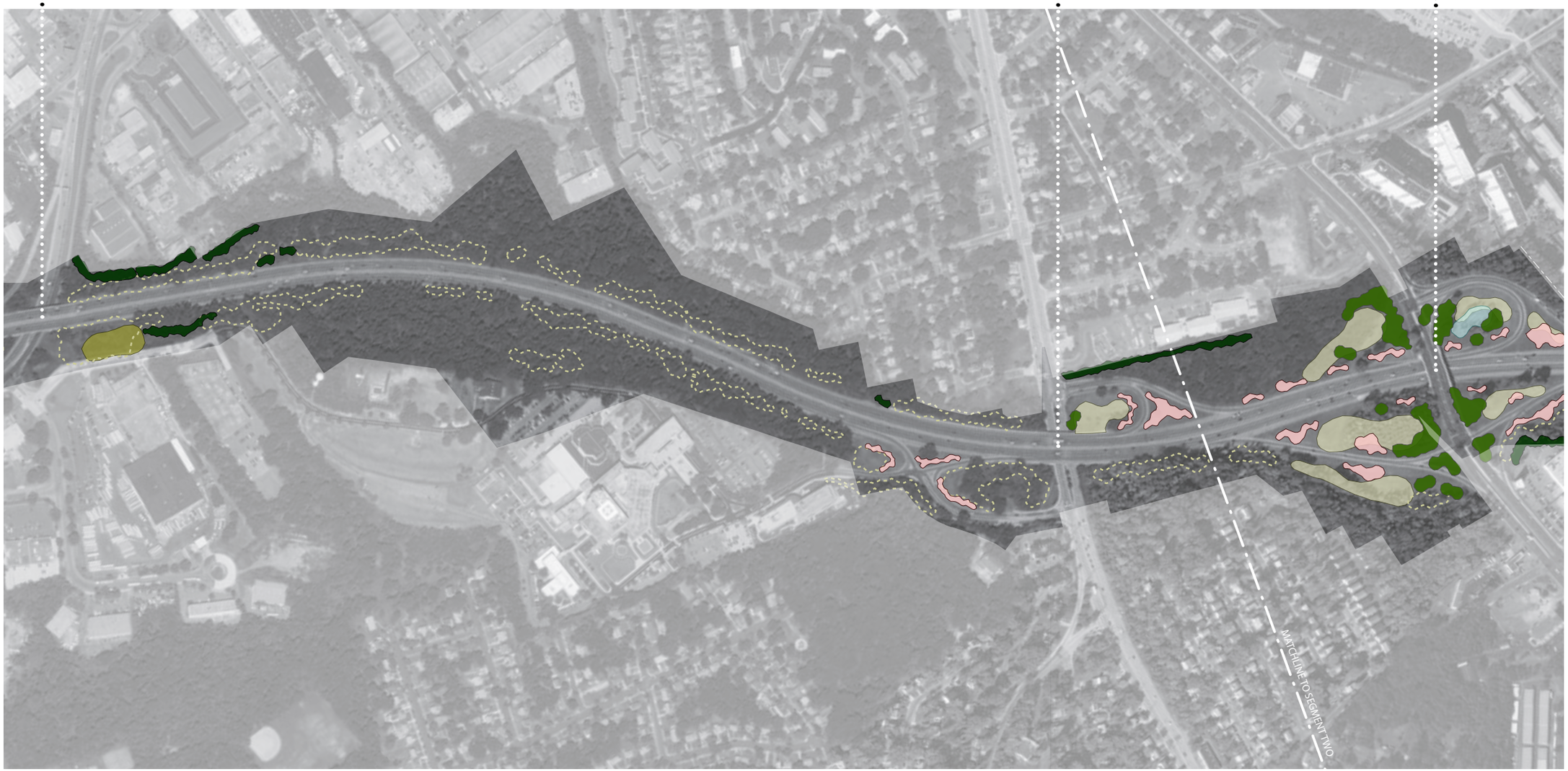
Segment One comprises all of the Washington Entrance character area, and this is reflected in the three plans for the segment. The 1993 plan emphasizes the southern entrance to the parkway with irregular, naturalistic clusters of mostly oaks and maples and with flowering trees among them. This is the dominant pattern in the 1990s plans for almost all the interchanges along the entire route of the parkway. Two small meadows of native grasses and a small pond are included in the wide median between the major lanes of traffic connecting with New York Avenue. Evergreen screening is shown on the northwestern edge to block the view to adjacent land use.

Between the southern entrance and Landover Road, the forest edge is planted with diverse species that characterize the local forest. Oaks and maples are still prominent species along with others from the local forest such as sweetgum (*Liquidambar styraciflua*), American sycamore (*Platanus occidentalis*), and tulip poplar (*Liriodendron tulipifera*). All are planted to integrate into the edge of the forest rather than stand alone as specimens. The forest edge is further enhanced with flowering species, but like the overstory trees, they are integrated into the forest edge rather than planted as specimens. This would add visual interest to the border, in spring especially, and also help cultivate a sustainable, natural edge to the forest.

The Landover Road and Annapolis Road interchanges include substantial areas of native grass meadows within and around the on and off ramps. The prevalence of meadows is unique to these interchanges, and they are framed with clusters of specimen trees and clusters of specimens and flowering trees which is more typical of other interchanges. As a result, these interchanges are both unique and typical of the parkway landscape as proposed in the 1990s plans.



Washington Entrance character area



Washington Entrance character area

PLANTING PLANS

Segment One: 1966

As noted previously, the 1966 plan is quite different in style from the 1990s and 1955 plans, and its focus was on the newer ramps and loops of the US 50 interchange, which are outside the National Park Service property boundary. The plan frequently calls for linear plantings along the edges of the roadway, with clusters of trees and shrubs that are more overtly composed in style. Frequently, the individual loops and median segments seem to be planted as discrete compositions rather than establishing a more continuous character. A few 'reforestation' areas were planted with large numbers of red maple (*Acer rubrum*), Scots pine (*Pinus sylvestris*) and sumac (*Rhus glabra*), an unusual combination of species that bears no resemblance to actual forests of the region. It is probably incorrect to label these areas as reforestation, but they are labeled on the plan in a manner similar to other reforestation areas with large numbers of small trees proposed with a predetermined spacing rather than a specific location.

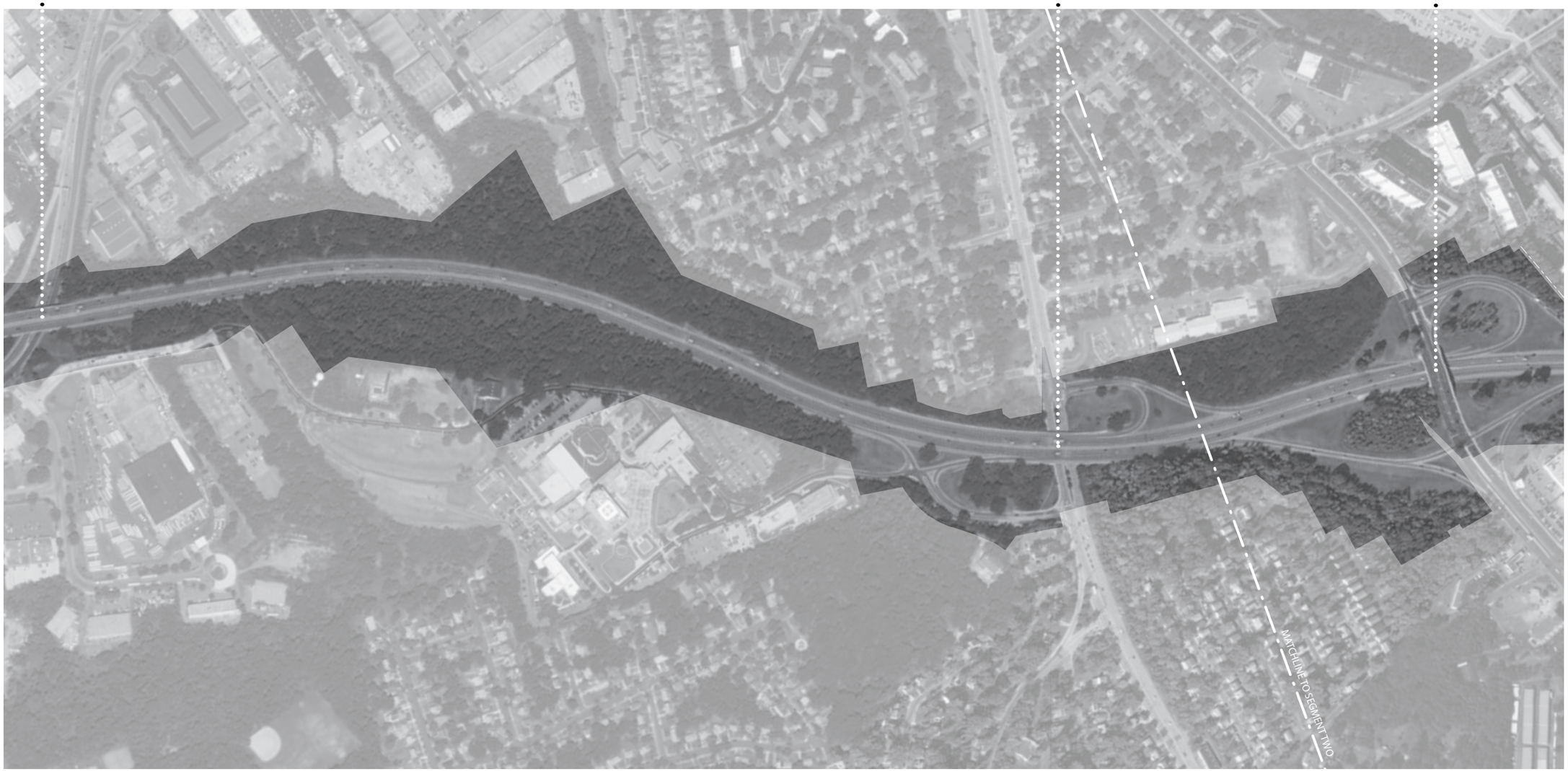
Despite these differences from the other plans, there is commonality in the use of a mixture of specimen and ornamental trees throughout the segments of the interchange. Although the style of the plan is different, there is a consistent emphasis on making the entrance to the parkway and the city a beautiful, planted landscape.



Parkway Overpass:
MD-201 (Kenilworth Ave)

Interchange:
Landover Rd, MD 202

Interchange:
Annapolis Rd, MD 450



Planting strategies

- Specimen Clusters
- Specimen/ Flowering Clusters
- Edge Planting
- Evergreen Screening
- Native Grass Meadow
- Wetland/ Pond
- Reforestation

Washington Entrance character area

PLANTING PLANS

Segment One: 1955

At the southern entrance to the parkway the dominant oaks and maples are scattered in small clusters, and other floodplain species – river birch (*Betula nigra*) and American sycamore (*Platanus occidentalis*) – are planted in larger, single-species clusters on the northern side of the parkway where the terrain is wetter. Water tupelo (*Nyssa sylvatica*) is uniquely planted as individual specimens along the roadway, perhaps because of its striking fall color. Red pines (*Pinus resinosa*) and white pines (*P. strobus*) are also planted heavily along the northern edge to screen adjacent development, though neither is well-adapted to the wet conditions. Understory trees and shrubs are planted near the roadway or against the pines to give them greater visibility.

Proposed plantings at the Landover Road and Annapolis Road interchanges are much less diverse. Almost all overstory trees are oaks and maples, but the ornamental species are more varied. Clusters of shrubs (*Myrica spp.*) are combined with dogwoods and hawthorns to ornament bridge abutments, and sumacs (*Rhus spp.*) line the southbound exit ramp at Landover Road.



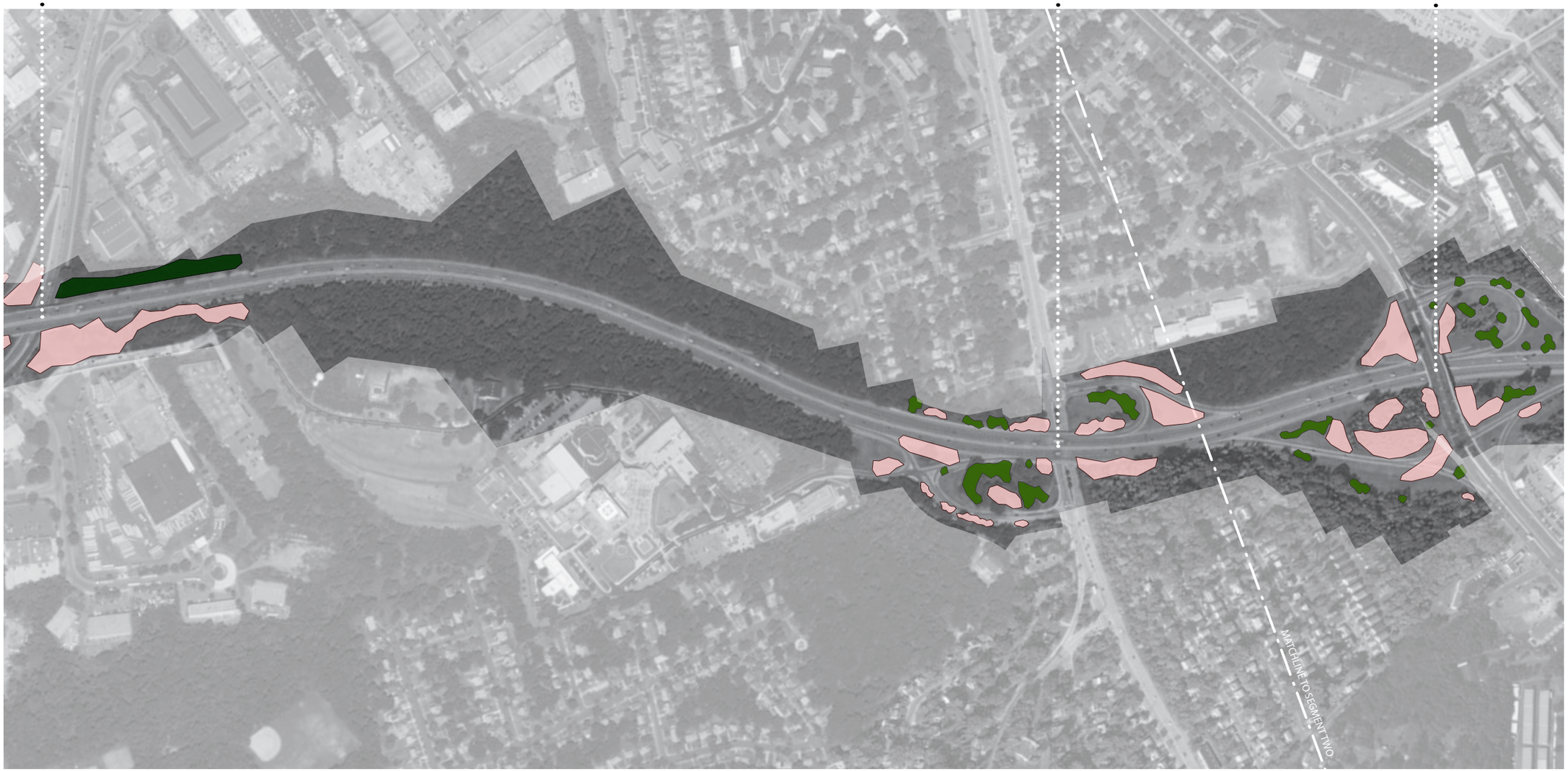
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Washington Entrance character area

Parkway Overpass:
MD-201 (Kenilworth Ave)

Interchange:
Landover Rd, MD 202

Interchange:
Annapolis Rd, MD 450



Planting strategies

- Specimen Clusters
- Specimen/ Flowering Clusters
- Edge Planting
- Evergreen Screening
- Native Grass Meadow
- Wetland/ Pond
- Reforestation

Washington Entrance character area

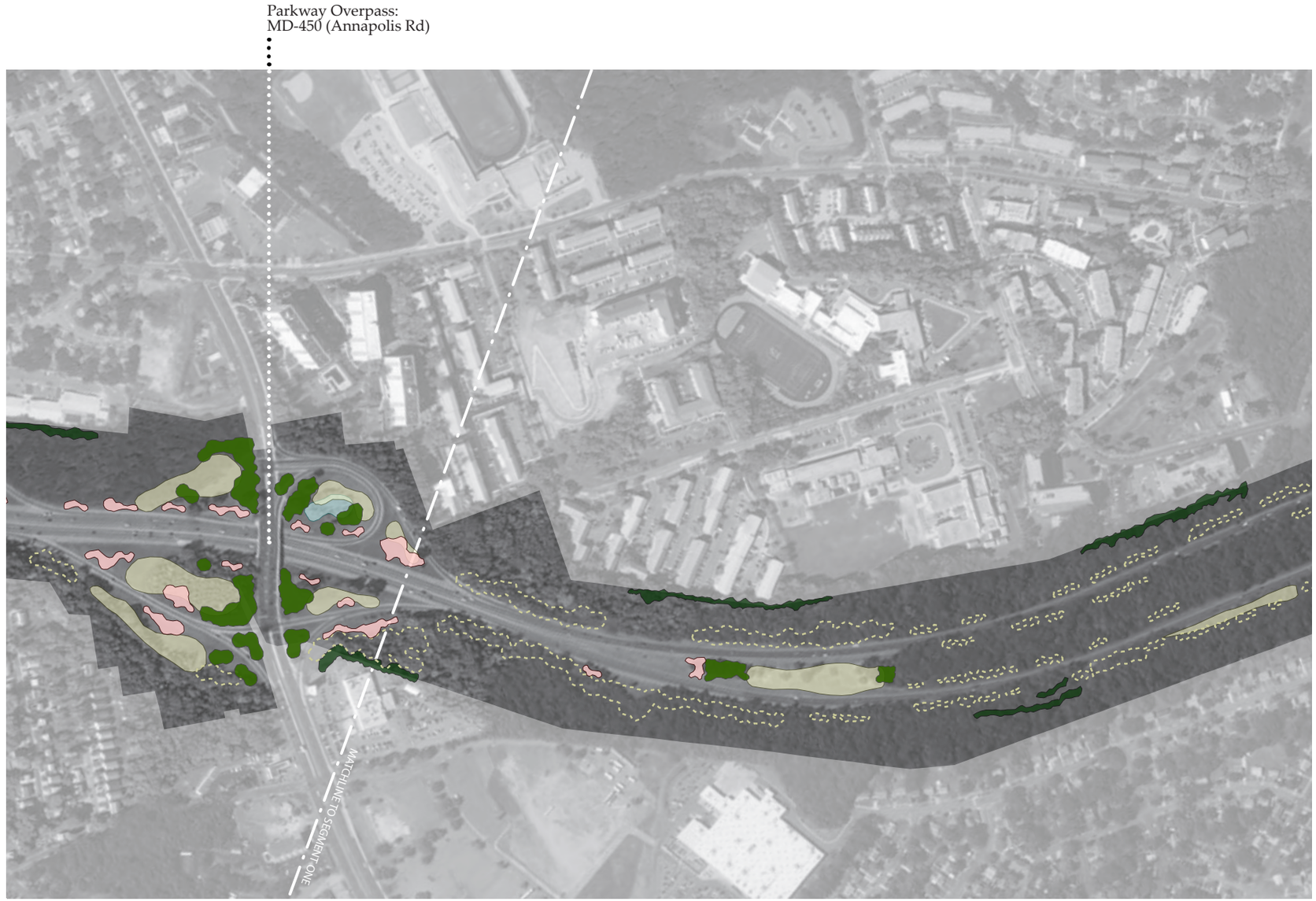
PLANTING PLANS

Segment Two: 1993

Segment Two comprises the southern half of the Picturesque Urban Parkway character area, beginning immediately north of the interchange for Annapolis Road (MD 450) and extending to include the interchange for Riverdale Road (MD 410). The 1993 planting plan is the only known plan for this segment. An earlier plan for the Riverdale Road interchange is part of the 1955 plans, but the road configuration in it does not match the constructed interchange, and there are no trees of the appropriate age at the interchange, that would indicate it was implemented. It is assumed, therefore, that it was not planted.

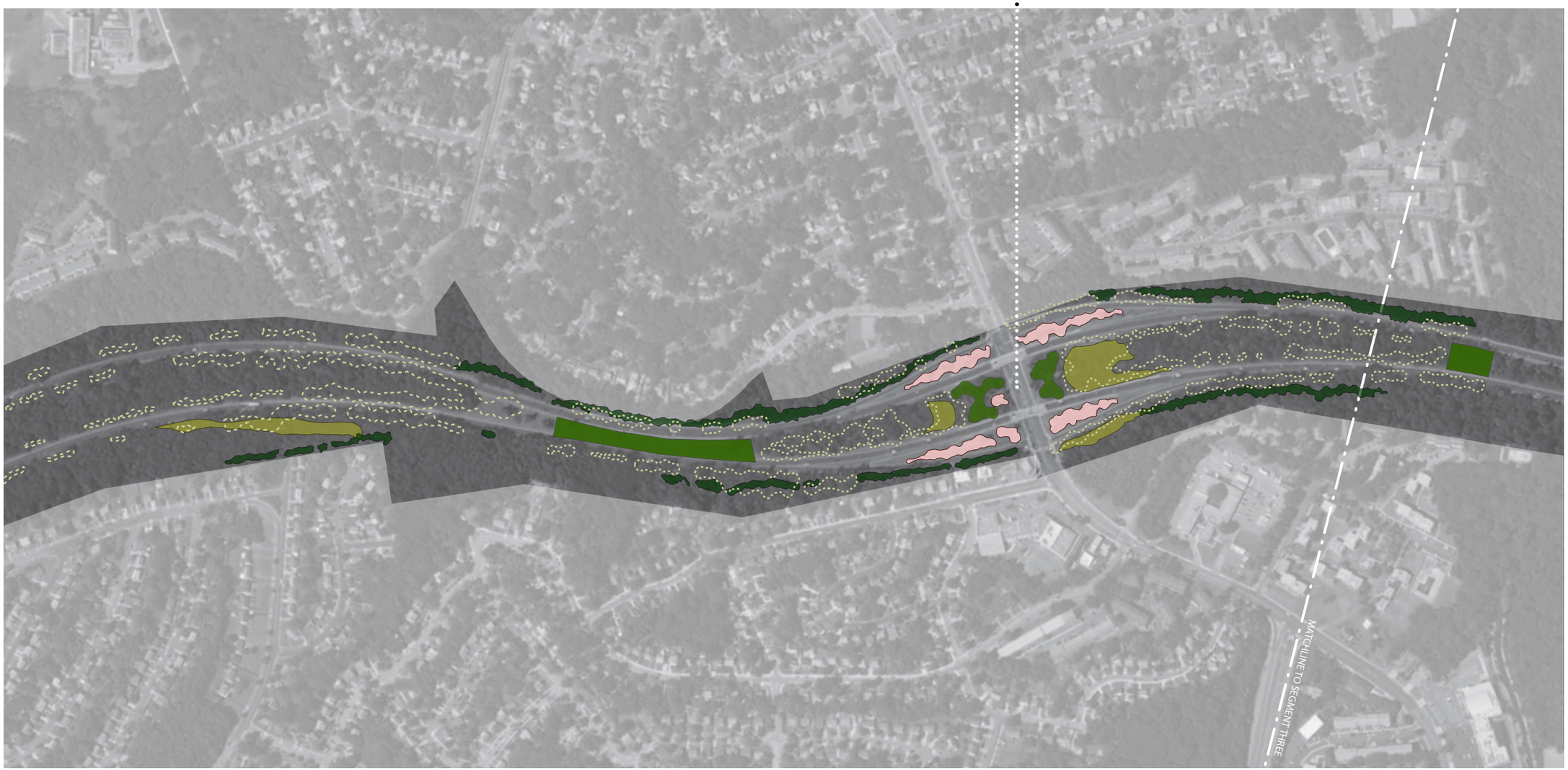
The 1993 plan calls for extensive edge plantings along the entire segment, and due to the amount of development adjacent to the parkway, there is much more evergreen screening proposed here than in other segments. Distinctive plantings are proposed in two narrow stretches of the median in addition to those at Riverdale Road. Just north of the Annapolis Road interchange, a native grass meadow is proposed in the median immediately after the official Baltimore Washington Parkway sign. Just south of the Riverdale Road interchange, scattered specimen trees are proposed in a large swath of the median. These are indicated with a green rectangle, since the trees are more dispersed in their spacing than the typical clusters at most interchanges.

The Riverdale Road interchange has several reforestation areas that bring the forest closer to the road, and clusters of specimen trees in the median. Specimen and flowering trees fill the spaces between the roadway and the exit and entry ramps.



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Washington Entrance character area | Picturesque Urban Parkway character area



Picturesque Urban Parkway character area

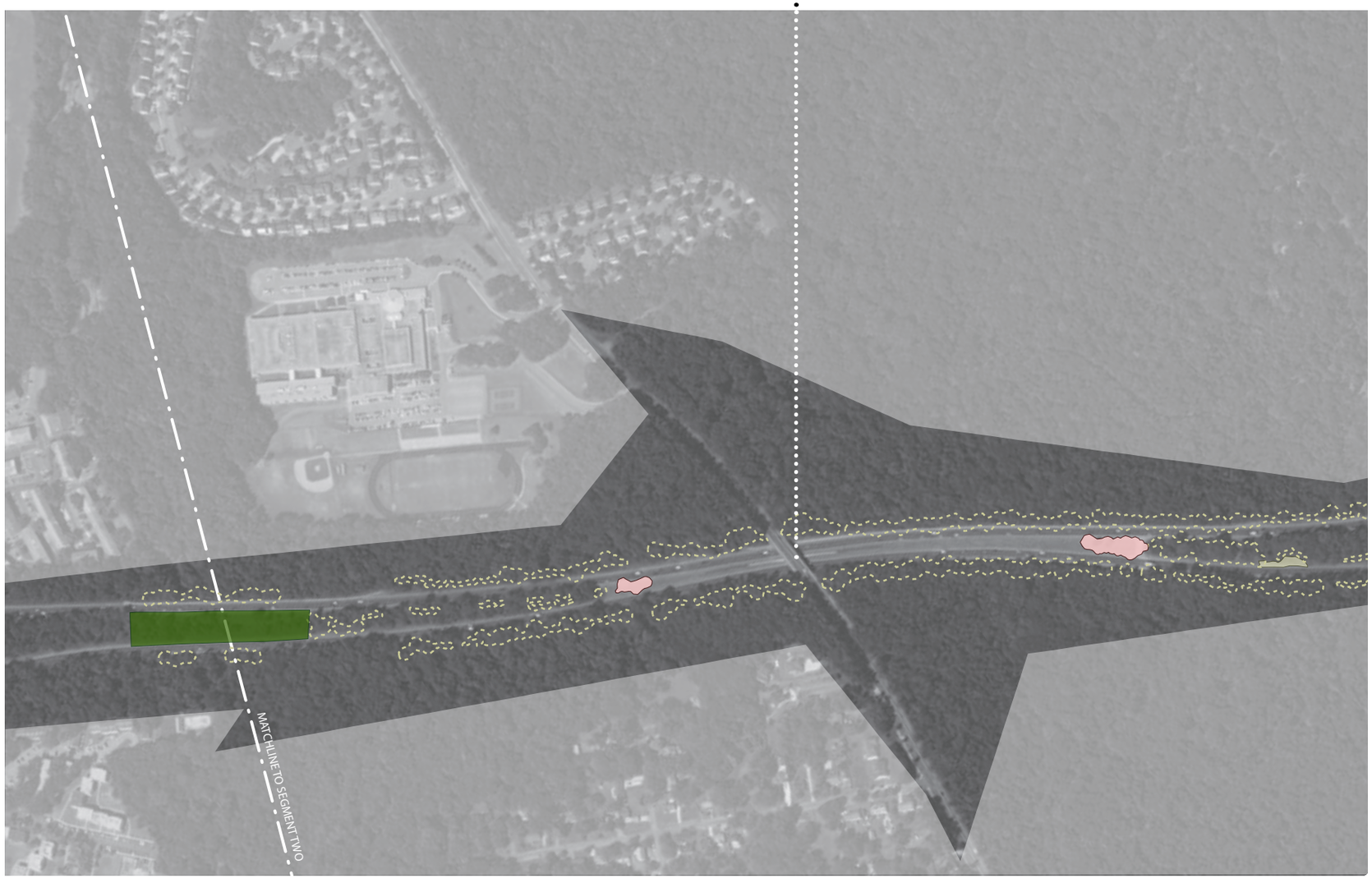
PLANTING PLANS

Segment Three: 1993

Segment Three comprises the northern half of the Picturesque Urban Parkway character area; and the plans call for edge plantings almost exclusively. (The Capital Beltway interchange is discussed in Segment Four which comprises the Beltway Threshold character area.)

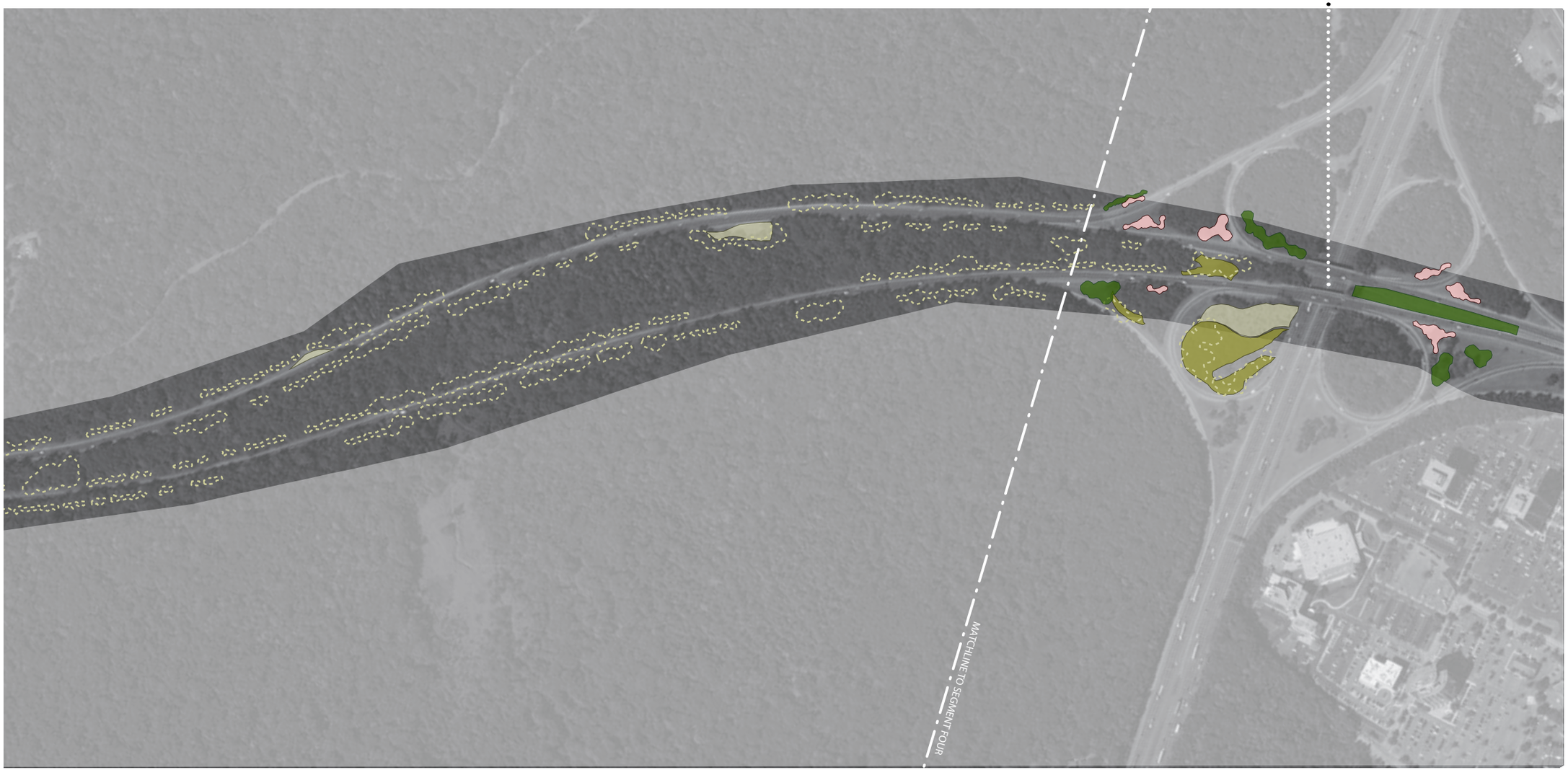
In this segment, there is clear evidence of the edge planting strategies. Most of the overstory trees are planted behind the newly-constructed guard walls, which suggests they were planted to repair the forest edge disturbed by construction. Sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), red oak (*Quercus borealis*), tulip poplar (*Liriodendron tulpifera*), American beech (*Fagus grandifolia*) and Liberty sycamore (*Platanus x acerifolia*) are planted just at the edge of the forest, usually behind the guard walls. In other places, where only new shoulders and mountable curbs were built, the plantings are dominated by ornamental, understory trees and shrubs. American holly (*Ilex americana*), shadbush serviceberry (*Amelanchier canadensis*), flowering dogwood (*Cornus florida*) and mountain laurel (*Kalmia latifolia*) are prominent. Along the very edge, native wildflowers are proposed along most of the areas without guard walls. These are equal mixes of smooth aster (*Aster laevis*), black-eyed Susan (*Rudbeckia fulgida*) and woodland sunflower (*Helianthus stromosis*). All this suggests that disturbance to these areas was minimal, and the plantings were intended to strengthen the forest edge, protecting it from invasive species and giving it a more ornamental character.

At Good Luck Road bridge the median is too narrow for plantings other than mowed grass. On either end of this grass median, specimen and flowering trees make a transition between the forest and the open turf. This is a common pattern along the full length of the parkway.



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Picturesque Urban Parkway character area



Picturesque Urban Parkway character area | **Beltway Threshold character area**

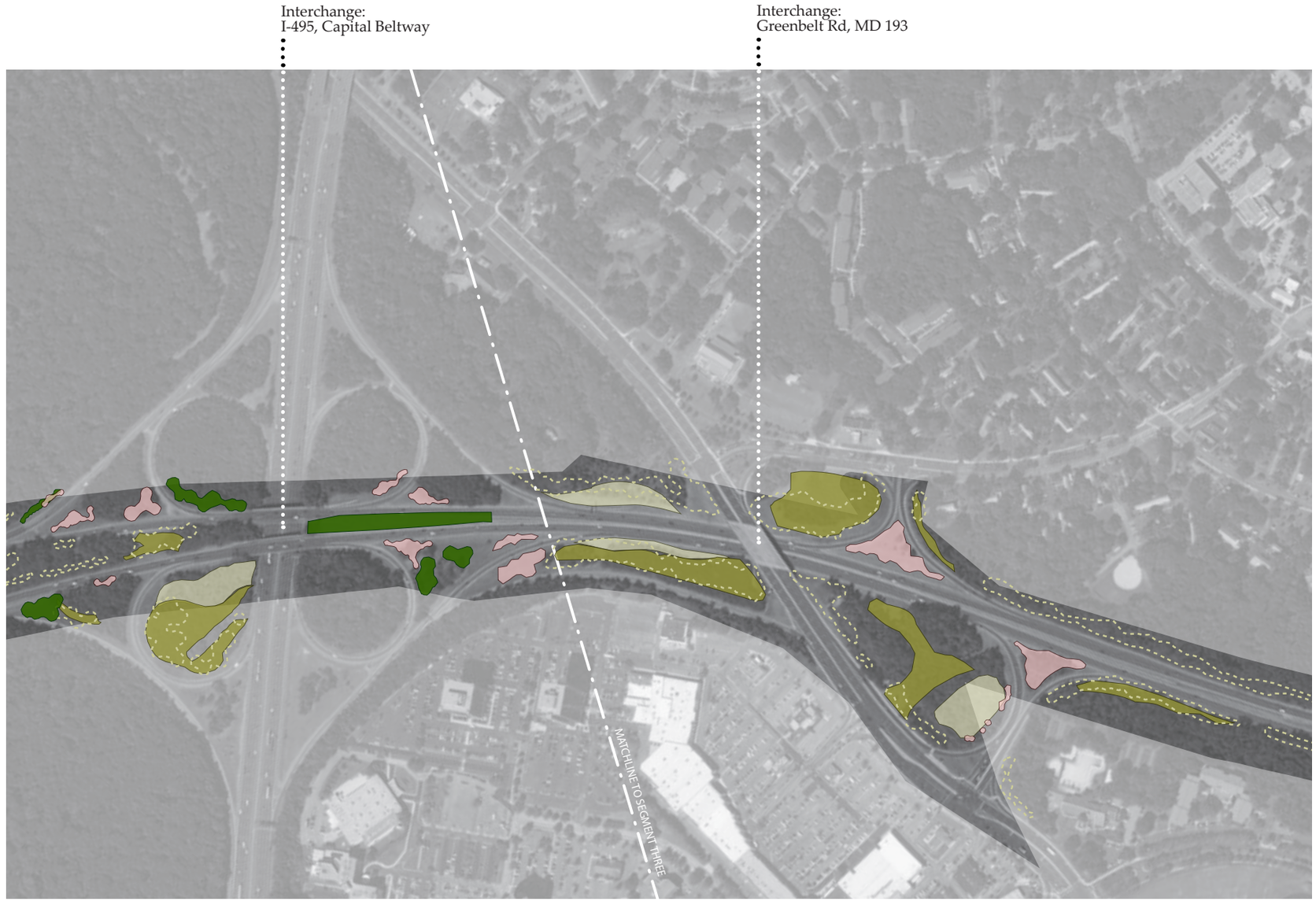
PLANTING PLANS

Segment Four: 1993 & 1996

Segment Four comprises the Beltway Threshold character area and includes plantings in 1966, 1993 and 1996. The first plantings were in 1966 after construction of the Capital Beltway interchange, and these are mapped separately on the next pages. The segment was planted more extensively in 1993 and 1996, two phases of the 1990s reconstruction project.

The character of the design and the plant palette are consistent between the two phases. Specimen and flowering trees visually enhance the exit and make a transition for drivers between the parkway and the adjacent roads.

In addition to these typical specimen and flowering trees, there are substantial areas of reforestation in and around the interchange loops for the Beltway, Greenbelt Road and to a lesser extent the NASA exit. Reforestation involved the use of large numbers of saplings of seven species of deciduous trees, two evergreens, and three shrubs, all characteristic of forests of the Piedmont and Coastal Plain. The plans call for a distribution by the percentage of total composition (5, 10 or 15 percent of the total) and minimum and maximum spacing (6 – 14 feet). Sweetgum (*Liquidambar styraciflua*) is planted most frequently (15%). Red maple (*Acer rubrum*), hackberry (*Celtis occidentalis*), green ash (*Fraxinus occidentalis*), American holly (*Ilex americana*), American sycamore (*Platanus occidentalis*), and pin oak (*Quercus palustris*) each comprise 10% of the plantings, and eastern red cedar (*Juniperus virginiana*), black cherry (*Prunus serotina*), flameleaf sumac (*Rhus copallina*), arrowwood viburnum (*Viburnum dentatum*), and blackhaw viburnum (*V. prunifolium*) each make up 5% of the plantings. Collectively the species comprise a forest of mixed early and late successional trees with mixed shrubs to establish an understory as well.



0 175 350 700 1.050 1.400 ft.

Beltway Threshold character area

Parkway Underpass:
Greenbelt Pedestrian Bridge

Interchange:
NASA, Restricted Access



Planting strategies

- Specimen Clusters
- Specimen/ Flowering Clusters
- Edge Planting
- Evergreen Screening
- Native Grass Meadow
- Wetland/ Pond
- Reforestation

Beltway Threshold character area

Modern Forested Parkway character area

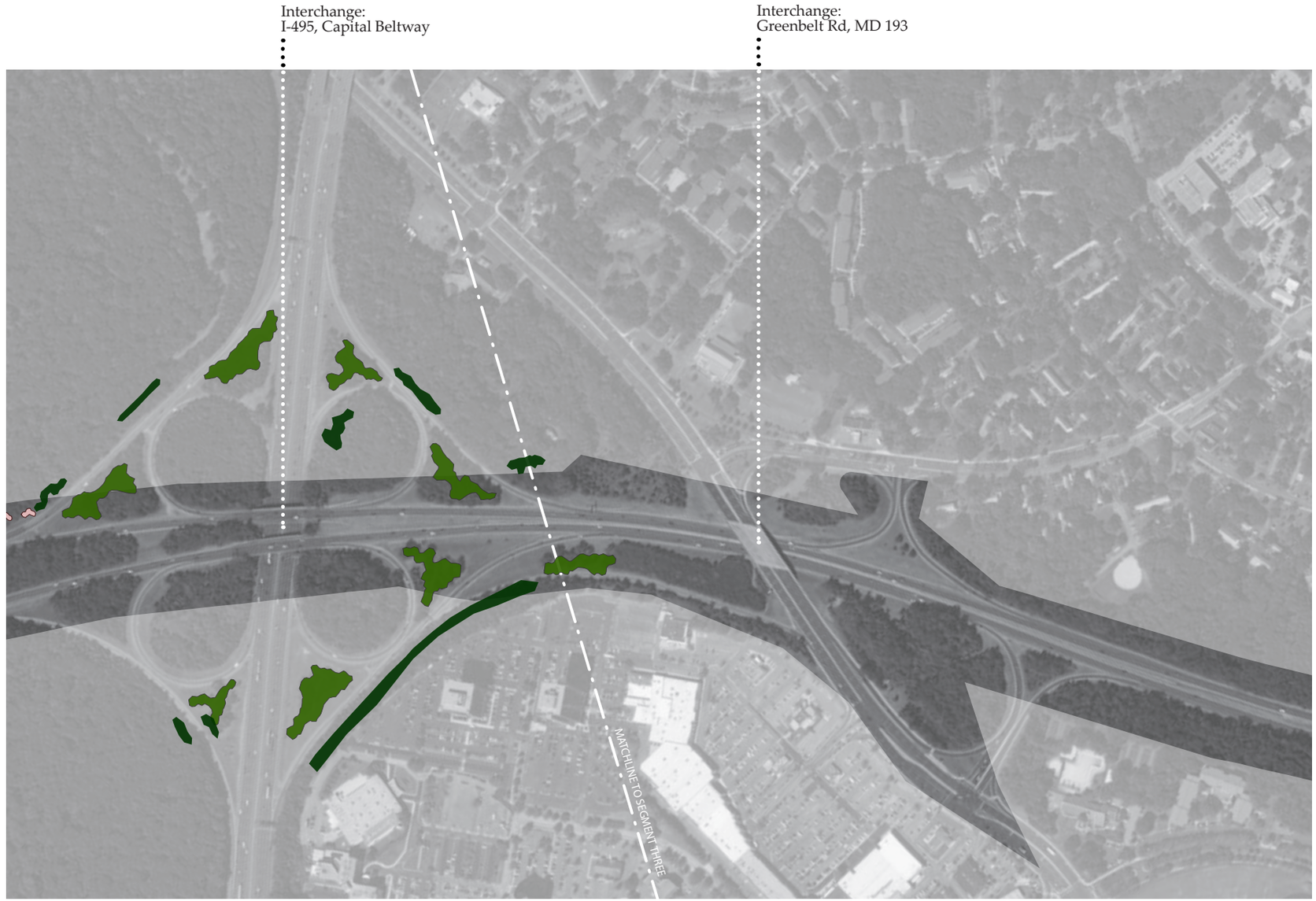
PLANTING PLANS

Segment Four: 1966

Plantings in 1966 at newly-built interchange with the Capital Beltway were quite simple, and only used a few species. It is not clear if this plan was part of Lady Bird Johnson's plan for beautifying the entrances to Washington, because the planting plan is attributed to Lloyd Associates, whereas the planting plan for the southern entrance is not attributed to any specific landscape architect. However, both plans extensively use Scots pines (*Pinus sylvestris*) which is infrequently planted in the mid-Atlantic piedmont and coastal plain, and this would suggest that the designers were at least familiar with each other's work. Also, many of the trees at the beltway interchange are planted in beds with Russian olive (*Eleagnus angustifolia*), a non-native shrub used frequently in the other plan as well.

The plan calls for clusters of Scots pines mixed with either red maple (*Acer rubrum*) or sweetgum (*Liquidambar styraciflua*) in each of the triangular segments formed by the entrance and exit ramps. Scots pines are also planted on the outside edges of the ramps, apparently so that drivers would experience pines on both sides of the roadway. Only on the outside edge of the northeastern loop are the pines clearly intended to screen adjacent development.

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0 175 350 700 1.050 1.400 ft.

Beltway Threshold character area

Parkway Underpass:
Greenbelt Pedestrian Bridge

Interchange:
NASA, Restricted Access



Planting strategies

- Specimen Clusters
- Specimen/ Flowering Clusters
- Edge Planting
- Evergreen Screening
- Native Grass Meadow
- Wetland/ Pond
- Reforestation

Beltway Threshold character area

Modern Forested Parkway character area

PLANTING PLANS

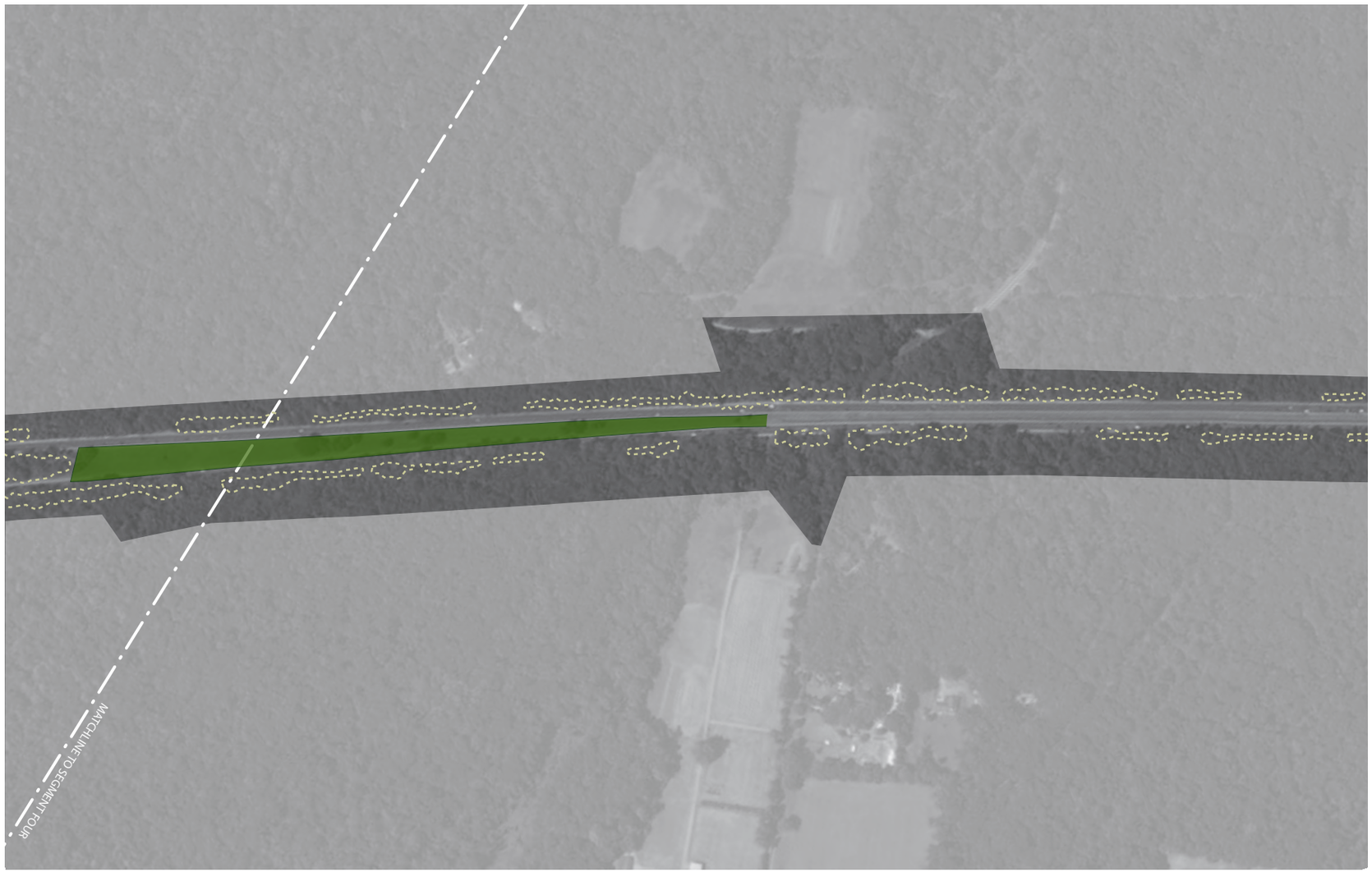
Segment Five: 1996

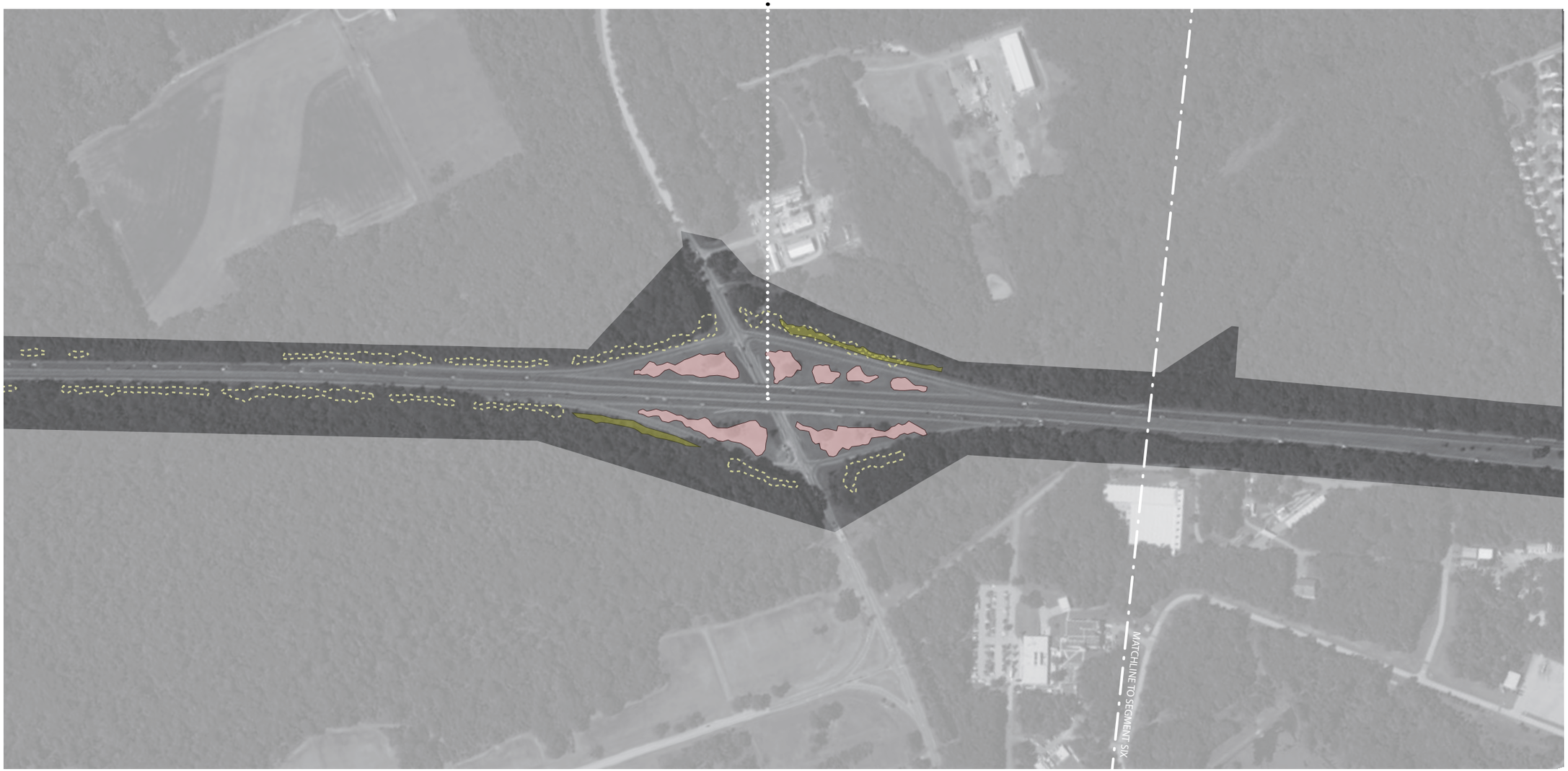
Segment Five is the first full segment of the five that comprise the Modern Forested Parkway character area, and it includes the most notable long, narrow median planted only with mowed grass. It also includes the interchange at Powder Mill Road.

Consistent with other aspects of this segment, the planting design is minimal in plantings and relies mostly on the forest as its defining characteristic. Edge plantings are proposed along the entire length of the segment, but they include fewer numbers of trees and shrubs than in previous segments and wildflowers are used sparingly. As in other segments, most of the trees are planted behind guard walls, presumably to repair forest disturbed during construction. Fewer ornamental plants are called for in the stretches without guard walls, and it is presumed that there was little disturbance to these edges.

Numerous oaks and maples are planted as individual specimen trees in a long stretch of the median just before it becomes too narrow for planting. Sugar maples (*Acer saccharum*) and willow oaks (*Quercus phellos*) are planted in alternating groups of three trees each with one of the three separated from the other two. Only a few trees break this pattern, and collectively they create a loose line of large trees in the median that exemplifies the use of open-grown oaks and maples along the parkway.

The interchange at Powder Mill Road has straight entrance and exit ramps creating triangular 'medians', and these are planted with sugar maples, willow oaks, kousa dogwood (*Cornus kousa*), and several crabapple cultivars (*Malus floribunda*). The kousa dogwoods and crabapples are not native to the U.S., but they are generally hardier than varieties native to the mid-Atlantic region and were probably chosen for their hardiness.





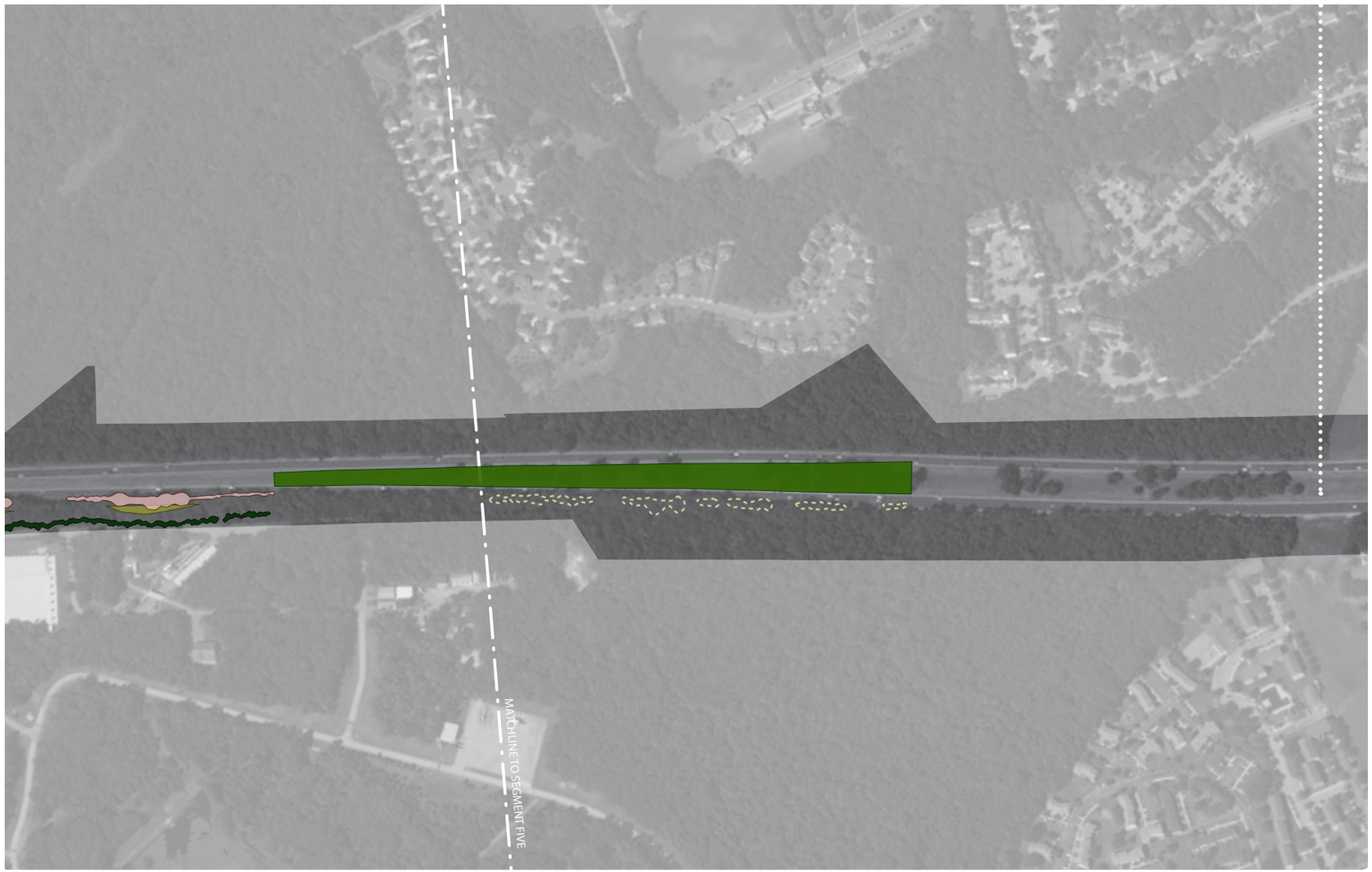
Modern Forested Parkway character area

PLANTING PLANS

Segment Six: 1996

Segment Six is the second of five segments that comprise the Modern Forested Parkway character area, and it includes the interchange with MD 197, Laurel-Bowie Road, which stretches out along half of the segment. This lengthy interchange is the only part of the parkway landscape for which there is no known planting plan. This interchange was the last phase of the 1990s rehabilitation, and it seems that a planting plan was never developed here. Currently, all the vegetation appears to be a product of successional processes.

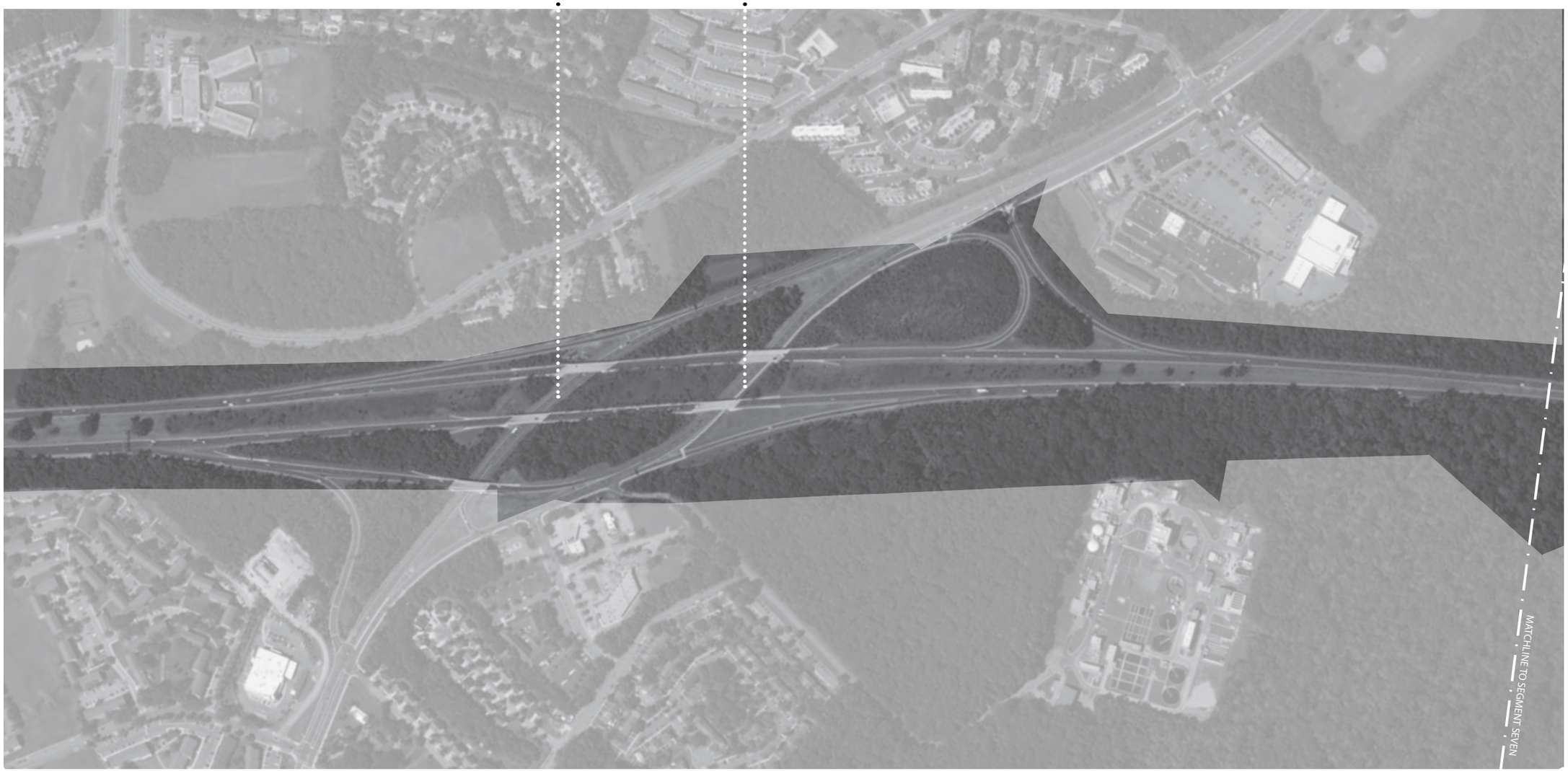
Sugar maples and willow oaks are planted in the median at the northern end of the long, narrow grassy median of Segment Five. The planting is nearly identical to the trees planted on the southern end of the narrow median (shown in Segment Five), and together the two plantings make a symmetric pair that frames the grassy median.



0 175 350 700 1.050 1.400 ft.

Modern Forested Parkway character area

Interchange:
MD-197, Laurel Bowie Rd
Southbound



Planting strategies

- Specimen Clusters
- Specimen/ Flowering Clusters
- Edge Planting
- Evergreen Screening
- Native Grass Meadow
- Wetland/ Pond
- Reforestation

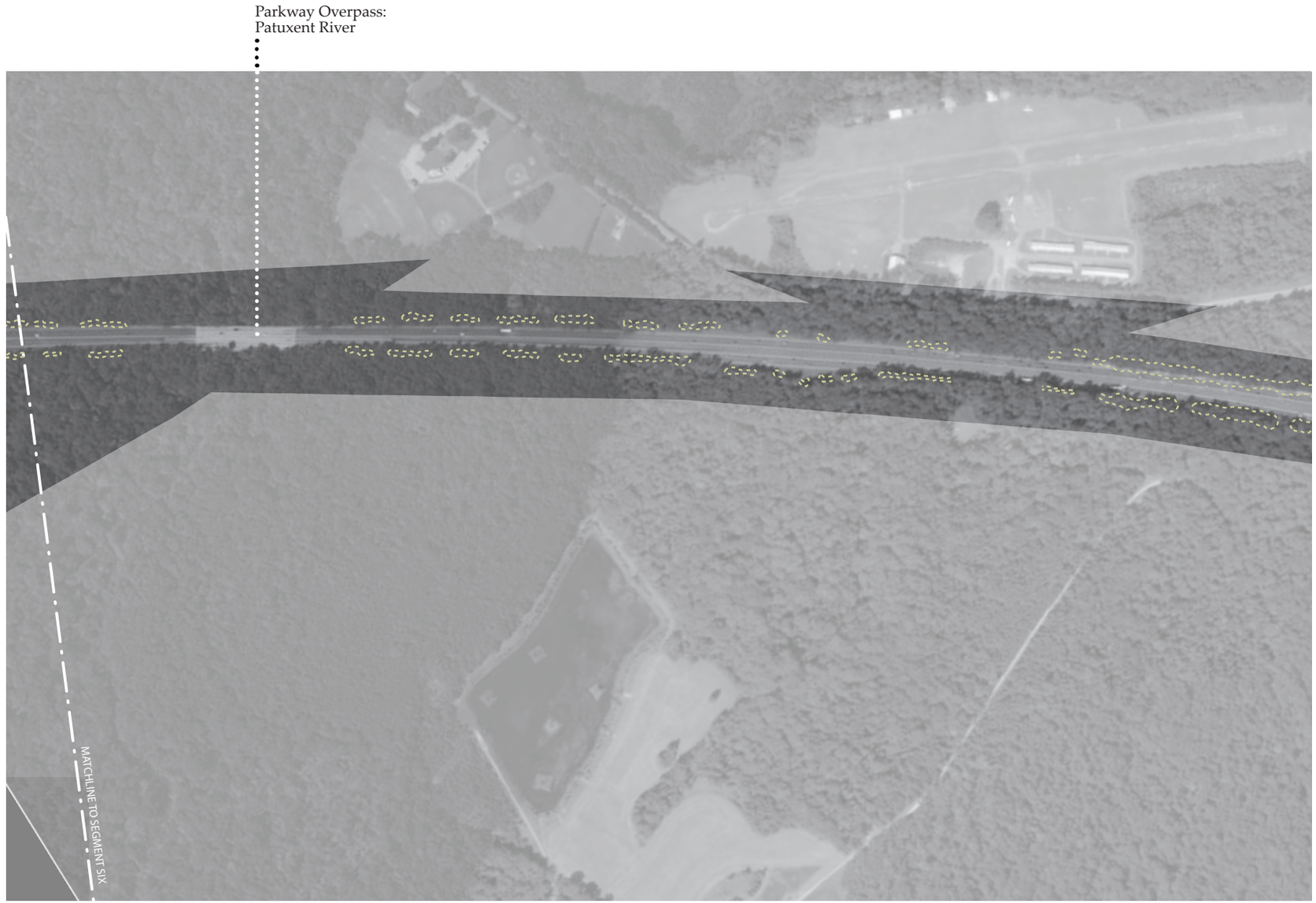
Modern Forested Parkway character area

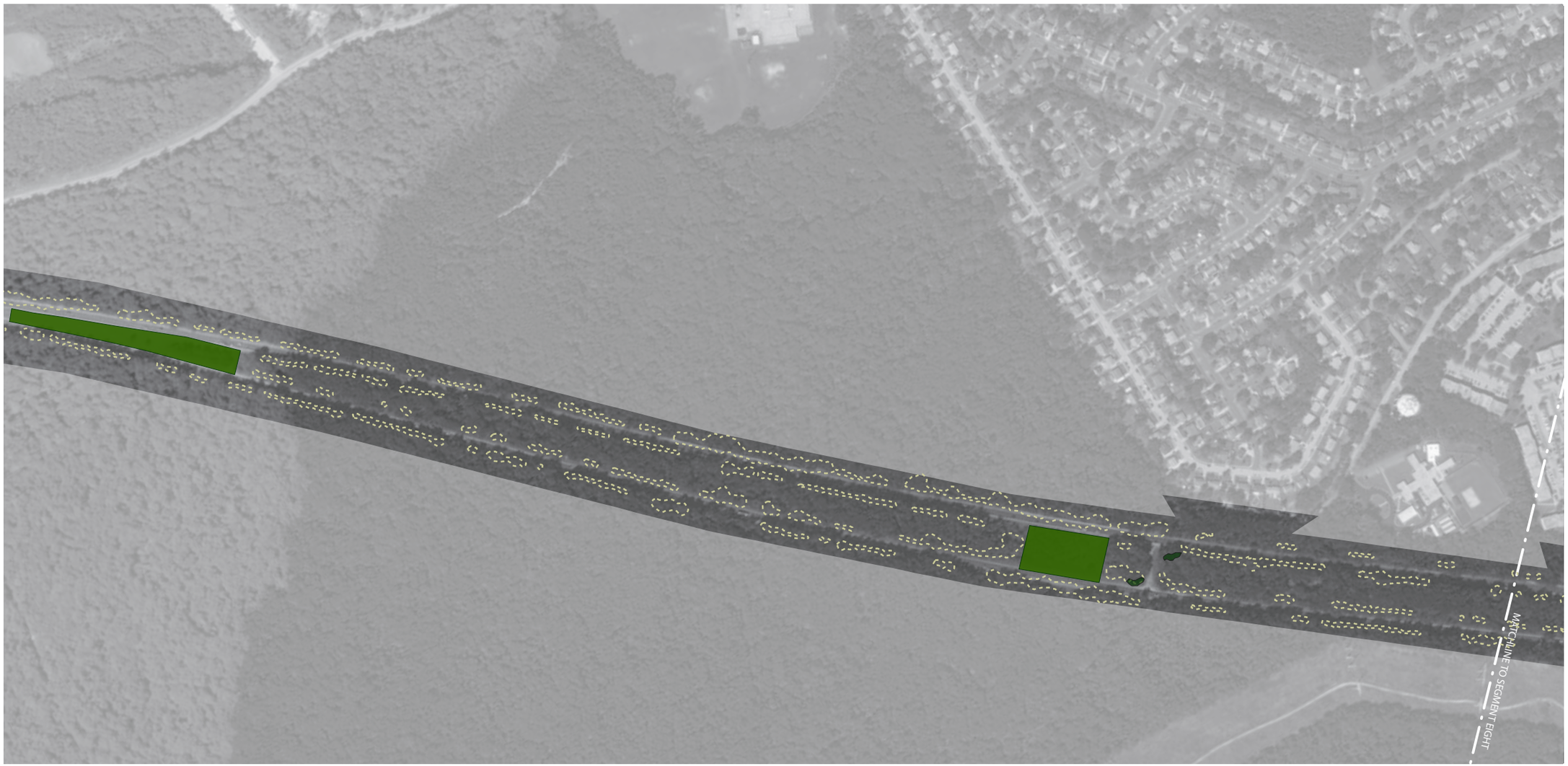
PLANTING PLANS

Segment Seven: 1996

Segment Seven is the third of five segments that comprise the Modern Forested Parkway character area, and it includes the bridge over Patuxent River. There are no interchanges in this segment.

Planting in this segment is very simple and follows strategies described elsewhere. Forest edge planting is the dominant strategy throughout the segment. Forest species are planted behind newly constructed guard walls and ornamental trees, and shrubs are planted along the forest edge where there was less disturbance due to construction. Specimen trees are planted in the median in two zones. One is a transition from forest to grass median, and the other fills an opening between two new guard walls.





Planting strategies

- Specimen Clusters
- Specimen/ Flowering Clusters
- Edge Planting
- Evergreen Screening
- Native Grass Meadow
- Wetland/ Pond
- Reforestation

Modern Forested Parkway character area

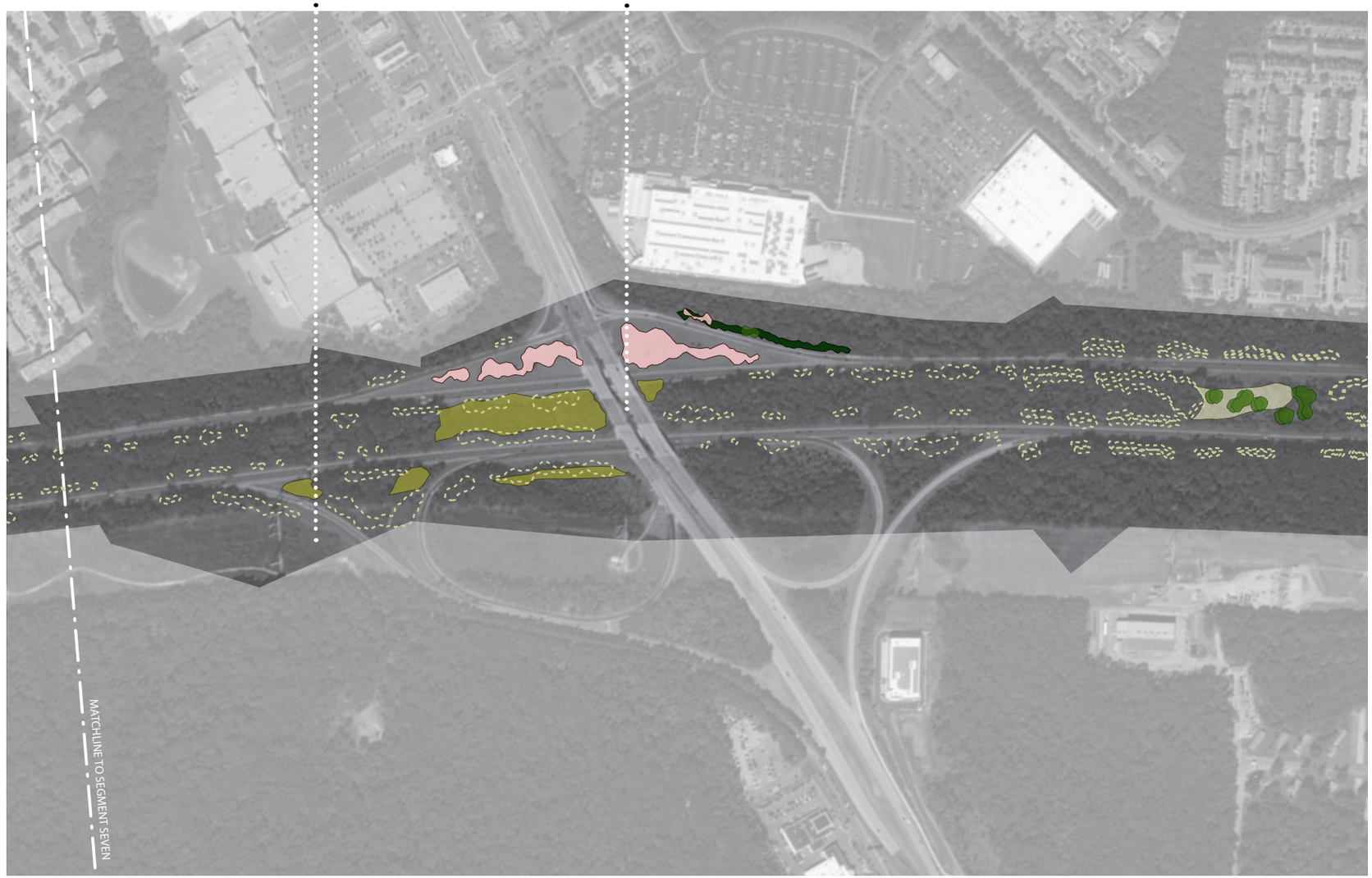
PLANTING PLANS

Segment Eight: 1996

Segment Eight is the fourth of five segments that comprise the Modern Forested Parkway character area, and it includes the Rt. 198/Ft. Meade Rd. interchange, the southern half of the Rt. 32 interchange, and the bridge over Little Patuxent River.

Specimen trees are planted in the median immediately south of the Rt. 32 interchange, and specimen trees with flowering trees are planted within the southbound ramps at Rt. 198 and in small clusters at the southern end of the Rt. 32 interchange. Forest edge planting and screening are typical of other sections.

Segment Eight has the most substantial areas of reforestation, especially within the loops and ramps of the Rt. 32 interchange, part of which is shown in Segment Nine. As described in Segment Four, thousands of small trees and shrubs were planted in each median area to be reforested. The saplings ranged in height from 1 – 5 feet and were planted based on percentages of the total planting. In the southeastern loop of the Rt. 32 interchange, for example, 3340 saplings were planted within the four-acre loop. Sweetgum *(Liquidambar Styraciflua)* is most prevalent with 501 saplings (15%) of the total, most other tree species were planted in quantities of 334 saplings (10%), and most shrubs were planted in quantities of 167 saplings (5%). Larger specimens of the same species were planted at the edges of the reforestation areas, and these would have helped the forest edge mature more quickly. Although the reforestation plantings have established successional woodland in these locations, the larger trees are not present, and the edges are comprised of herbaceous plants and invasive species.



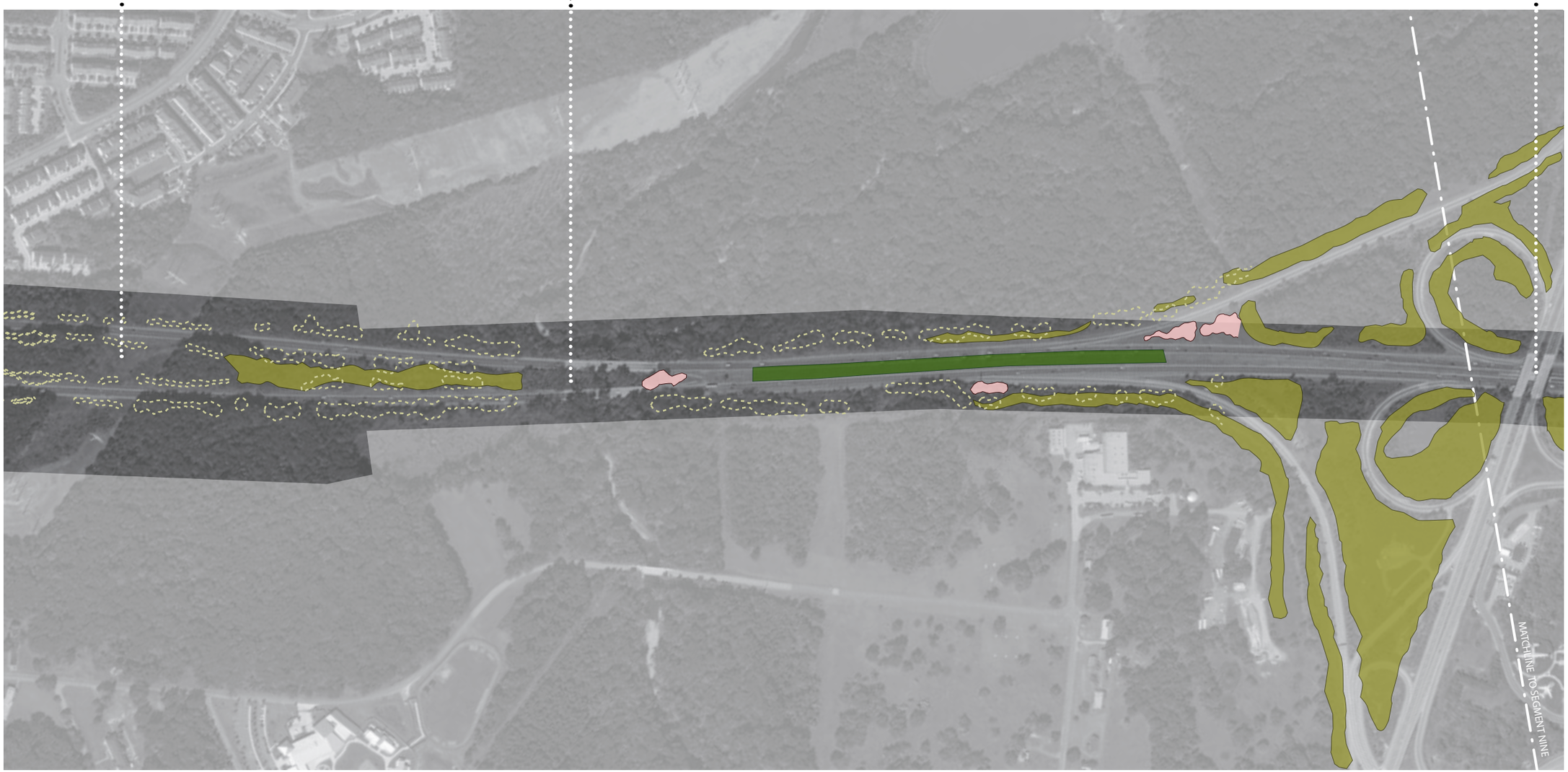
0 175 350 700 1.050 1.400 ft.

Modern Forested Parkway character area

Overhead power lines crossing both lanes

Parkway Overpass: Little Patuxent River

Interchange: MD-32, Patuxent Fwy



Planting strategies

- Specimen Clusters
- Specimen/ Flowering Clusters
- Edge Planting
- Evergreen Screening
- Native Grass Meadow
- Wetland/ Pond
- Reforestation

Modern Forested Parkway character area

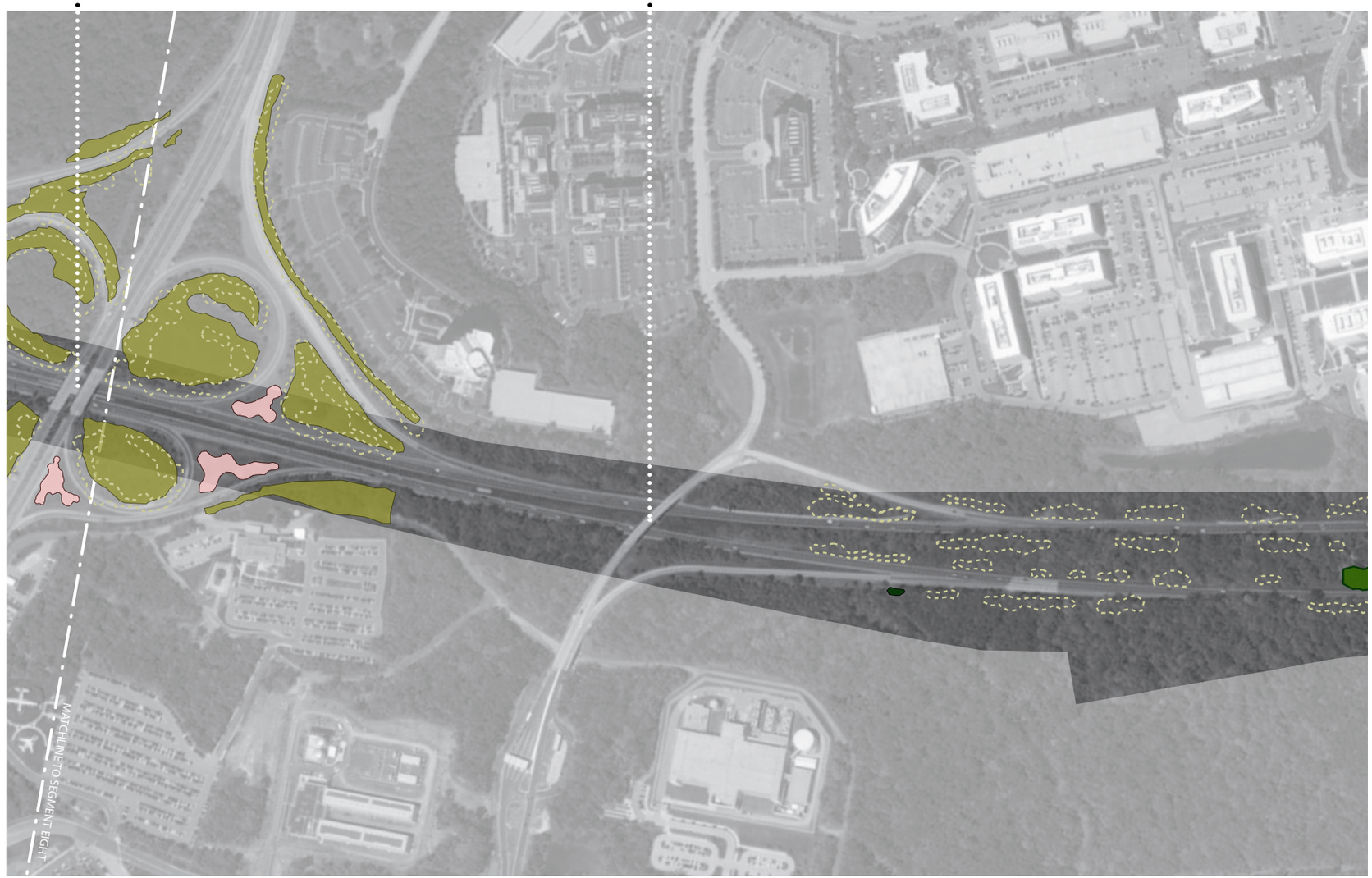
PLANTING PLANS

Segment Nine: 1996

Segment Nine is the last of five segments that comprise the Modern Forested Parkway character area, and it includes the northern half of the Rt. 32 interchange, the interchange for National Security Administration (NSA), and the northernmost interchange, Rt. 175/Jessup Rd.

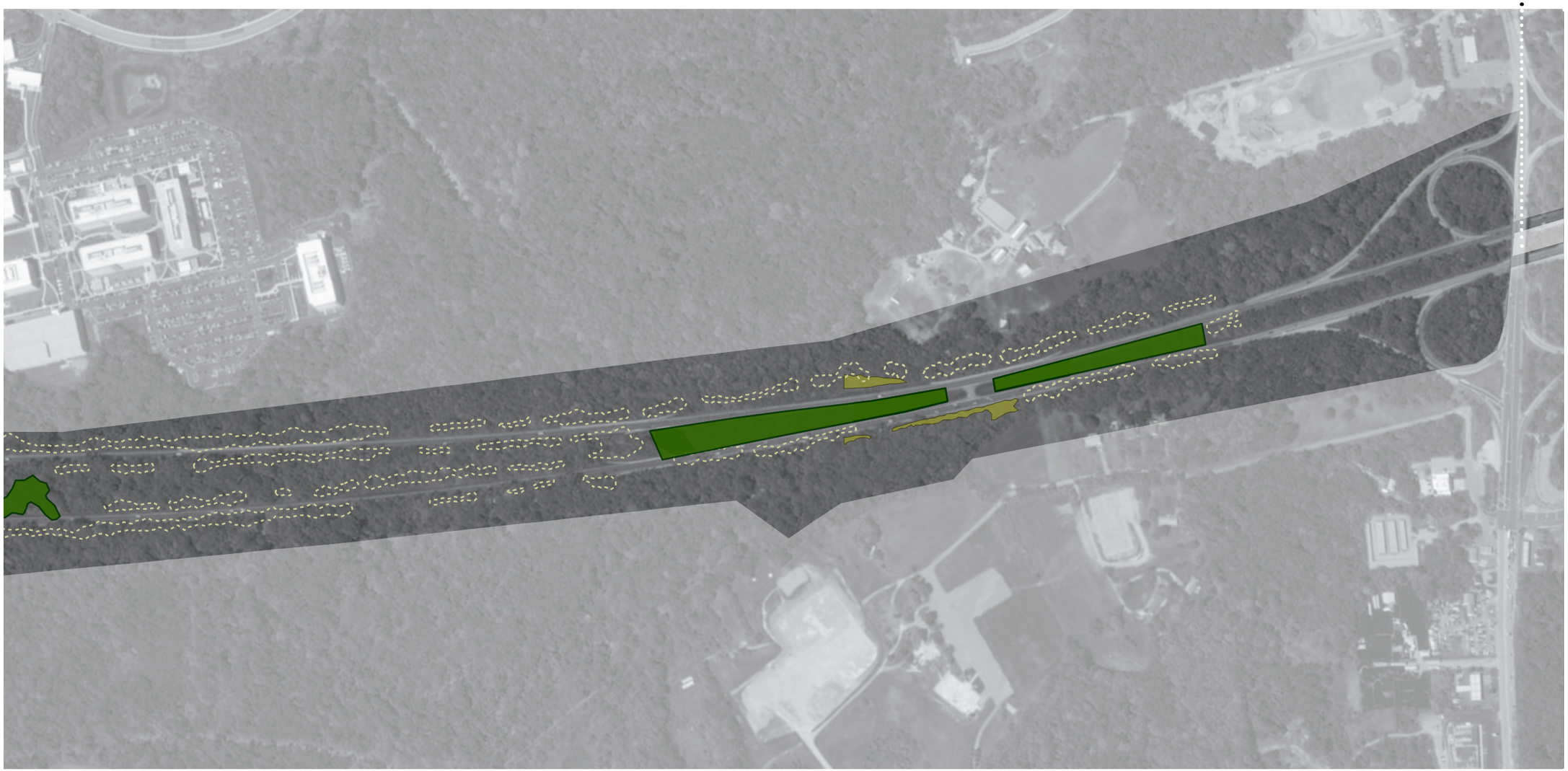
1990s plantings in this segment are typical of those in other segments. Forest edge plantings line the entire segment between the NSA interchange and the Rt. 175 ramps, and small areas of reforestation fill gaps near the northern end.

Two zones of specimen plantings fill the median just south of the northern property limit. This area was first planted in 1955 as illustrated and described on the next pages, and the 1996 plan adds oaks and maples to the handful of older trees that remain from the earlier plantings.



0 175 350 700 1.050 1.400 ft.

Modern Forested Parkway character area



Modern Forested Parkway character area

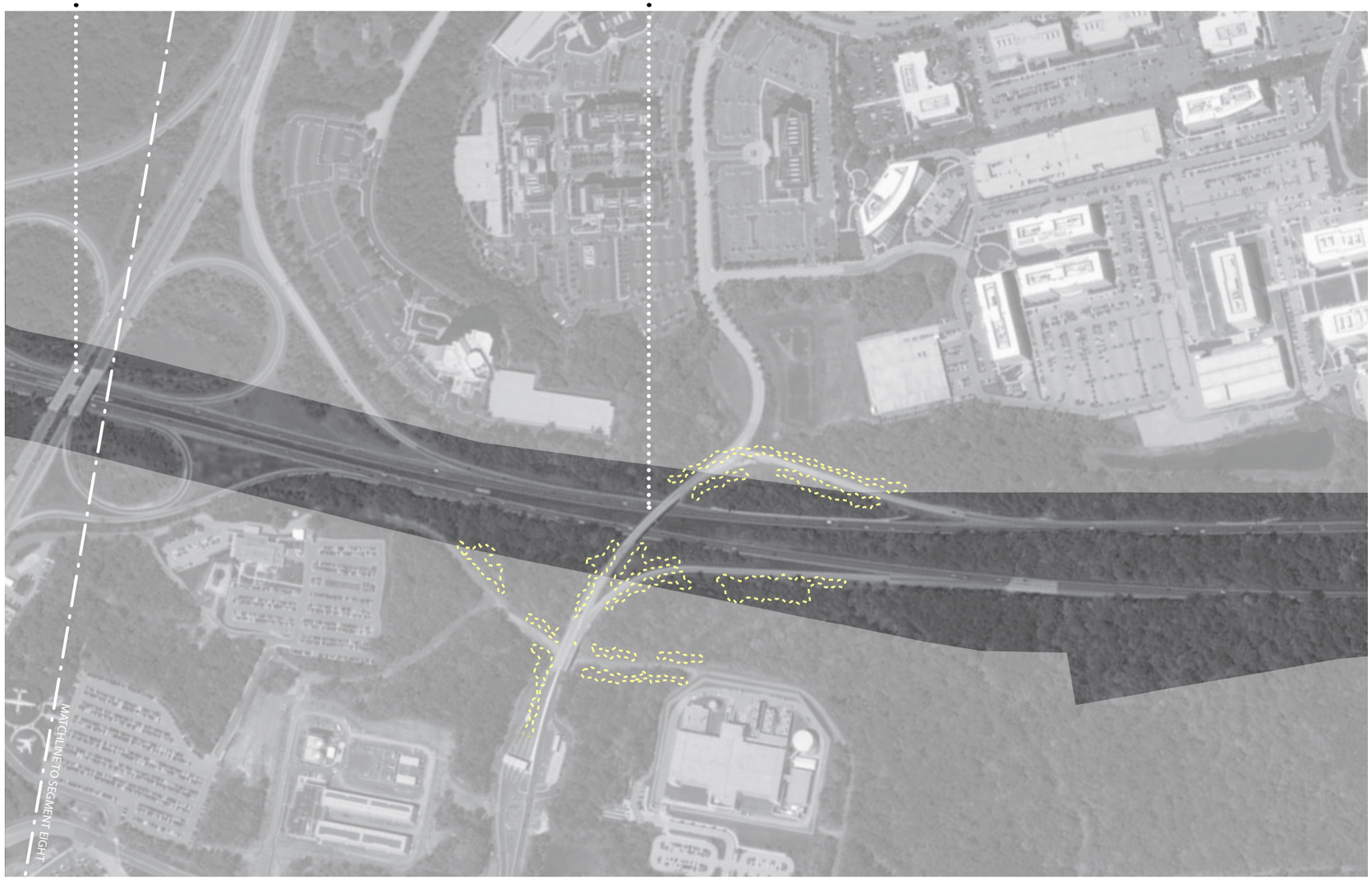
PLANTING PLANS

Segment Nine: 1986 & 1955

Prior to the 1996 plantings, two earlier planting plans were implemeted in this segment, one in 1955 at the northern end of the parkway, and the other in 1986 at the National Security Administration (NSA) interchange.

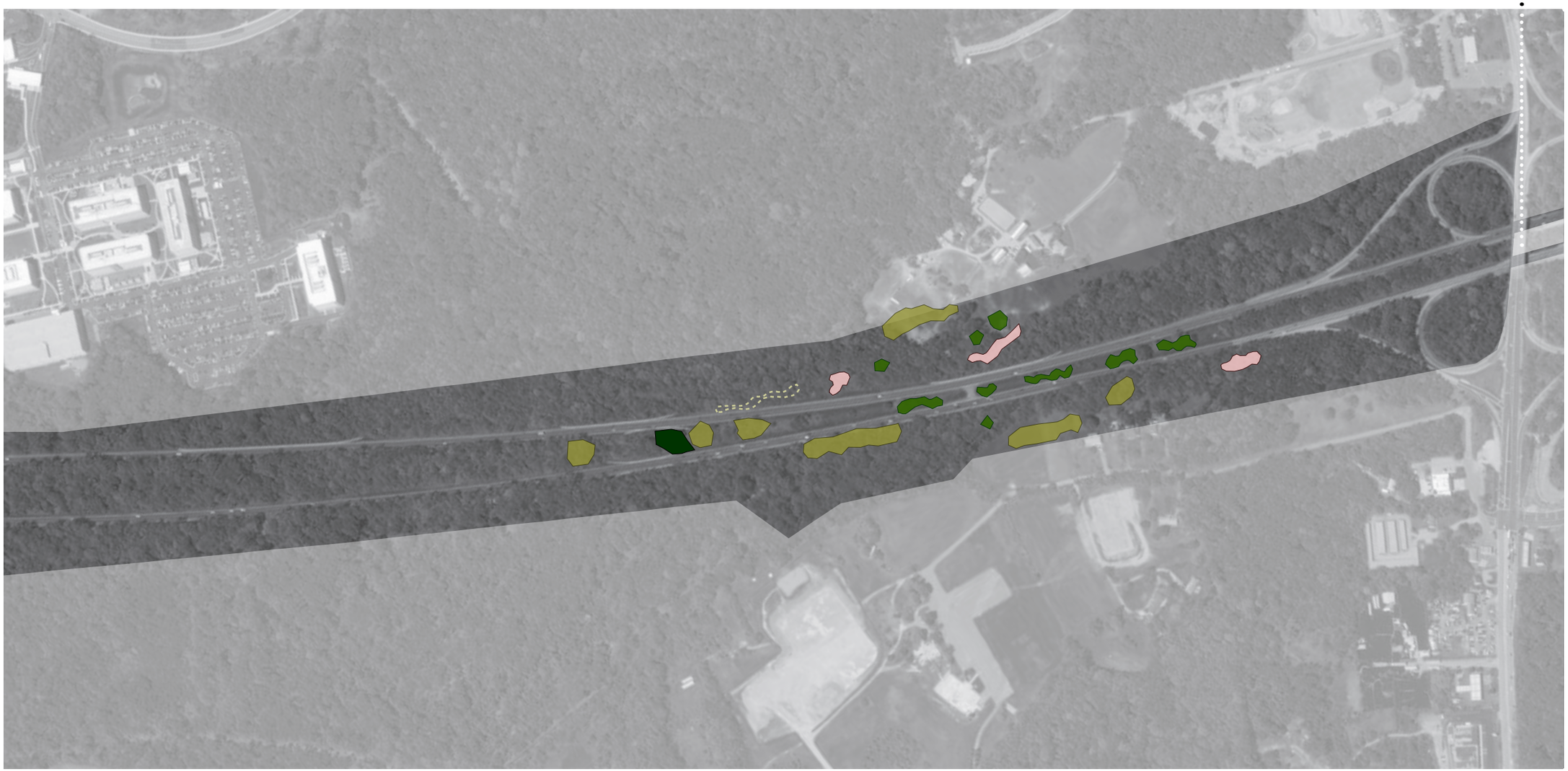
At the northern end of the parkway, the median narrows for about half a mile, just south of the Rt. 175/Jessup Rd. interchange. This area was planted in 1955. As shown in the 1955 plan, the narrow median and the land immediately adjacent to it was not forested. This open land was planted to make a landscape entrance to the parkway, equivalent to the southern entrance in Segment One. As with the southern entrance, the palette expands beyond the dominant oaks and maples to include trees suited to its local conditions. These include tuliptree (*Liriodendron tulipifera*), American planetree (*Platanus occidentalis*), water tupelo (*Nyssa sylvatica*) and a few white oaks (*Quercus alba*). There are fewer species of flowering trees and shrubs than in the plantings at the southern end of the parkway, but they still include the most prominent species, flowering dogwood, redbud, hawthorn, fringe tree, and viburnums.

In 1986, forest edge plantings were proposed along the ramps of the newly built National Security Administration interchange. These are similar in character and intention to those planted along the rest of the parkway in the 1990s.



0 175 350 700 1.050 1.400 ft.

Modern Forested Parkway character area



Modern Forested Parkway character area



Workers preparing soil and hand seeding on constructed bank, 1954, NARA 54-2252

Introduction

The previous chapters mapped three factors – Infrastructure & Small-Scale Features, Forest Vegetation, and Planting Design – at three different scales to reveal their impact on the character and historical significance of the parkway. Spatial characteristics were studied in a series of sections to reveal and understand subtleties in the sequential experience of driving the parkway. Collectively, these chapters articulated a set of characteristics that can guide the implementation of needed safety features while preserving and improving the historic integrity of the landscape. This chapter assesses the integrity of the landscape following seven criteria from National Park Service documents, and it uses them as a basis for specific design recommendations and planning guidelines. Recommendations fall into three categories that parallel and build on the earlier chapters: Safety Infrastructure, Vegetation Management, and Planting Design.

Safety Infrastructure

Parkway Safety infrastructure includes guard walls & guardrails, emergency pull-offs & crossovers, traffic signals, signage and mile markers. Each has been identified as needing improvements for safety, and each has current or potential impacts on the historical integrity of the landscape. First, recommended changes are mapped at a scale of 1:2000 (the scale of maps in Chapter Four) to show where the proposals are located. After these locational issues are mapped and articulated, design considerations for each element are addressed. Typically, these design issues are detailed and illustrated in one or more double-page spreads with plans, sections and perspectives as needed.

Vegetation Management

As identified in earlier chapters, much of the forest edge has been cleared in recent years to give drivers a wider and safer margin along the edge of the roadway. This has made for appealing views into the forest but also threatens the forests with colonization by invasive species. Careful management can yield a sustainable edge for the forest while partially maintaining the spatial complexity resulting from the clearing. Since the linear forest is key to the historical significance of the parkway, and since numerous miles of forest have already been cleared, this is an especially important and pressing issue.

Planting Design

The parkway was primarily planted at two important time periods – 1955 (limited) and the 1990s (extensively) – but very few plantings remain from either period. The lack of planted vegetation impacts the historic integrity of the landscape, and frankly, makes driving the parkway more boring. The designed landscape included diverse plantings that would have enriched and further diversified motorists' experiences. By contrast, the parkway today is mostly a continuous open space with a solid forest backdrop, and it lacks the richness of vegetation and spatial diversity that the previous plans envisioned. By studying the different plans, a set of restoration guidelines is developed and these guidelines are illustrated in a proposal for the Landover/Annapolis Road interchanges which embody most of the conditions found along the parkway. In addition, a specific plan is proposed for the Rt. 410 interchange where construction of the Purple Line necessitates replanting, and another plan is proposed for the southern end of the parkway where stormwater management likely will necessitate replanting in the future.

INTRODUCTION

The Baltimore-Washington Parkway is significant for its role in regional forest preservation and as a model of modern parkway design in which the attention to design detail, extensive forest vegetation, and subtle spatial sequencing give the landscape distinct "parkway" character that is notably different from that of conventional highways.

Overall and with regard to these two significances, the parkway has moderately high integrity in the following seven categories: Location, Design, Setting, Materials, Association, Feeling and Workmanship. The most critical losses of integrity are in the addition of materials that do not conform to the Design and Materials of the landscape and in various threats to the forest and planted vegetation.

These impacts result from an accumulation of small, ongoing and continuous impacts such as increasing numbers of overhead structures and addition of features like guard rails that have been added to increase safety but do not conform with the historical design. Vegetative impacts include decline in forest health due to invasive plant species, the almost complete loss of planted specimen and ornamental trees, and the lack of resources to manage the vegetation.

Location

The location of the Baltimore-Washington Parkway is described simply and accurately as a long thin landscape extending northeastward for nineteen miles from the banks of the Anacostia River in Washington, DC toward Baltimore, MD.

This linear landscape plays two important roles in the regional landscape. The first and most direct role is as a transportation corridor connecting Washington to various federal institutions along the parkway, most notably Fort Meade at the northern limit of the parkway. The roadway continues as MD 295 all the way to Baltimore, and thus the full roadway does indeed connect the two cities implied in its name. The second role of the parkway is as a forested corridor connecting the forested federal properties into a larger protected forest environment. Collectively these properties have preserved substantial acreage of forest, northeast of Washington, and the parkway links them together into a larger network of forested land.

In both these roles, the location of the parkway retains integrity to its period of significance. The property itself has not changed significantly, and with improvements to the roadway, it continues to play an important role as a transportation corridor. As the forest matures, it continues its role linking the other key forested properties.

Design

The design of the Baltimore-Washington Parkway has changed in important ways in order to meet highway safety challenges.

The original design of the parkway established the overall character of the parkway including the road alignment, topographic relationships, locations of most exits, the low number of bridges and their hybrid pre-modern style, and the overall forested character of the landscape. The extensive rehabilitation of the roadway in the 1990s changed the detailed character of the parkway by slightly widening the roadway, adding a new, mountable curb along its edge, adding extensive guard walls, and establishing the first complete planting plan for the landscape. Collectively these two phases of the construction of the parkway created a landscape which distinguishes this roadway as a modern parkway in contrast to the conventional highway design of the northern extension to Baltimore.

In order to meet additional safety needs, steel guardrails were added in the 2000s; signs have proliferated; and recently, forest edges were cleared. All these have impacted the character of the landscape and the integrity of its design. Although the design of the parkway retains moderately high integrity to the period of significance, these more recent (and continued) responses to safety needs risk diminishing its integrity further.

Setting

The setting of the parkway has changed as suburbanization has spread out from both Washington and Baltimore, and these changes have consequential impacts on the landscape even though they are relatively limited in scope.

Suburban development has increased adjacent to the parkway, and this underscores the importance of the parkway and other federal lands in preserving regional forests. In aerial photographs, there is clear difference between the protected lands of the federal institutions and the highly developed suburban lands surrounding them. It should be noted that the parkway itself contributes to the suburbanization of the setting, because it enables easier transportation between the two major cities and their surrounding suburbs. In most cases, the adjacent development is not visible from the parkway - at least not when leaves are on the trees - because of the continuity of the forest along its length. However, in a few places adjacent development is prominent. A mid-rise building is especially prominent at the Rt. 32 interchange, powerlines run along the parkway and cut across it in several places, and development at the southern end is visible in the Washington Entrance character area.

An important impact of adjacent development is the prevalence of invasive plant species, which are more prominent with adjacent development and other disturbances to the forest. These threaten to compromise the integrity of the forest.

The setting of the Baltimore-Washington Parkway has changed substantially over the history of the parkway, but the impacts are less visible because the forest has grown, and it buffers the impact of adjacent development. The landscape has moderately high integrity to the period of significance in this regard, but the spread of invasive plant species could diminish it if they are not contained.

Materials

Materials of the parkway consist of constructed materials for bridges, guard walls, etc. and planted materials, especially specimen trees as opposed to forest vegetation. Of these, the constructed materials are often true to the period of significance, with a few notable exceptions, but the planted trees are almost entirely gone.

The roadway itself was originally paved in concrete and in is now paved with asphalt. It is assumed that asphalt paving was included in the 1990s rehabilitation and therefore part of the later design. Stone, concrete and steel bridges are generally in good shape, though later bridges do not use materials in the same manner as those in the period of significance. Form-liner concrete guard walls, approximating stone, were constructed during the 1990s rehabilitation. When driving at speed, these seem to be in good shape, but on closer inspection, they need repair in many places. Newer, Corten steel, guard rails have been added in the 2000s, and these are inconsistent with the materials within the period of significance. Likewise, numerous kinds of guardrails have been added at interchanges, and these are both inconsistent as a set of guardrails and inconsistent with the period of significance. The steel and wood guard rails show wear and they damage readily.

Specimen plantings are intended to make a transition between the adjacent, suburban landscape and the forested parkway. Scattered oaks and maples remain from the 1950s and 1990s plantings, but overall, there are very few specimen trees and virtually no flowering trees at all.

Overall, the materials of the parkway have moderate integrity to the period of significance due to the use of steel guard rails and the near total lack of specimen and ornamental plantings at interchanges and other key moments along the length of the parkway.

Association

The parkway does not have explicit associations with a person or an event. It is dedicated to Gladys Noon Spellman, a former congresswoman from Maryland's fifth congressional district which includes much of the parkway. Spellman had no direct association with the parkway other than it running through her district.

Feeling

As noted in the statement of significance, the parkway is significant in part because its carefully designed details and overall expression convey a sense of being a modern parkway rather than merely a modern highway. Because of this collection of design decisions, the roadway and its surrounding landscape do indeed feel like a parkway, despite having a modern roadway alignment like that of more conventional highways.

The feeling of the parkway today is mostly true to the intended character of the landscape. The narrow roadbed and mountable curbs keep the adjoining landscape close to the drivers, and motorists feel the presence of the forest as part of their immediate driving experience. The guard walls and stone bridges evoke a more substantial feeling than conventional highway bridges and guardrails, and the continuous forest, sometimes surrounding motorists, sometimes receding to make sunny openings, makes a fluid driving experience separated from the surrounding suburban landscape.

Certain details, especially the Corten-steel guardrails in the medians, the increasing signage with inconsistent character, and the increasing number of overhead structures, have diminished the feeling of driving along a parkway instead of being on a highway.

Despite these intrusions, the parkway still retains a moderately high level of integrity to the intended feeling of the landscape.

Workmanship

Workmanship is manifested in the construction and maintenance of the numerous structures along the parkway, the condition of the road surface, and the management of the vegetation throughout the cultural landscape.

The road surface degraded severely and dangerously during the winter of 2019, which necessitated major resurfacing through the spring and summer. These repairs have restored the surface to good condition.

Guard walls and guard rails are frequently damaged in automobile accidents, and these need repairs. Major damage to guard walls is generally repaired, but steel and wooden guardrails are frequently bent and damaged to the point that they detract from the character of the landscape.

Signage is quite inconsistent -- some brown, some green, some faded, some discolored -- and many simply need to be replaced.

Management of the vegetation requires more labor than the operating budget allows, and as a result vegetation management suffers. This is most evident in areas where recent clearing of the forest edge has allowed invasive plant species to dominate due to infrequent mowing, and other places where mowing is difficult and brushy or invasive vegetation establishes. There is little evidence of recent plantings or ability to maintain and support those that already exist. Many specimen trees need pruning and limbing up to give them the character intended as mature, open-grown specimens.

Overall, the workmanship has a moderate level of integrity to the period of significance, due to the lack of maintenance of vegetation, damage to guardrails, and inconsistency and discoloration of signs.

Guard Walls & Guardrails

Introduction

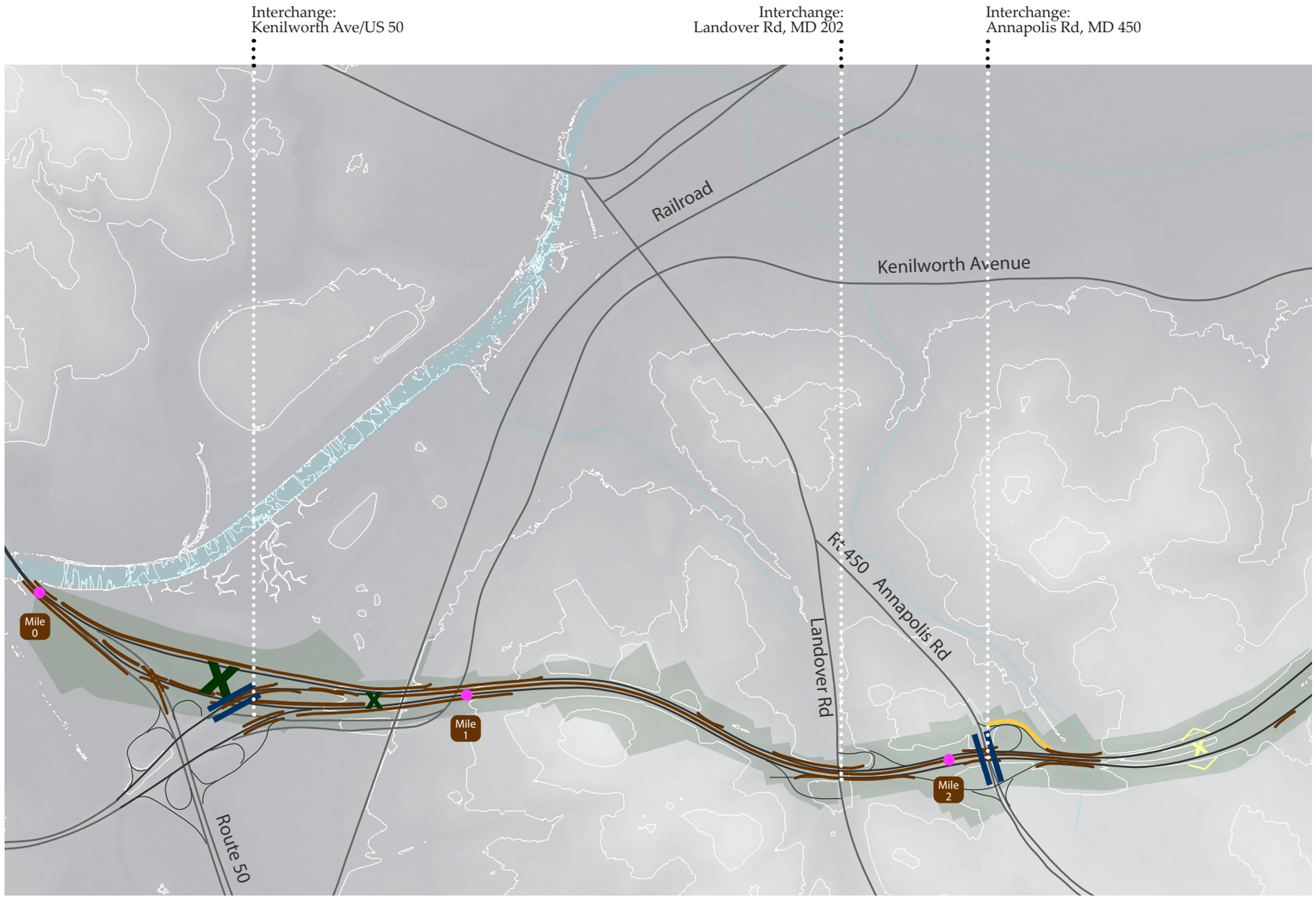
Guard walls, guardrails, median cross-overs, pull-offs, traffic signals, signs and mileage markers each contribute to making driving safer, and each has implications for integrity of the parkway landscape. Locations of proposed treatments are addressed in these 1:2000 scale maps. Specific design issues are addressed in subsequent pages.

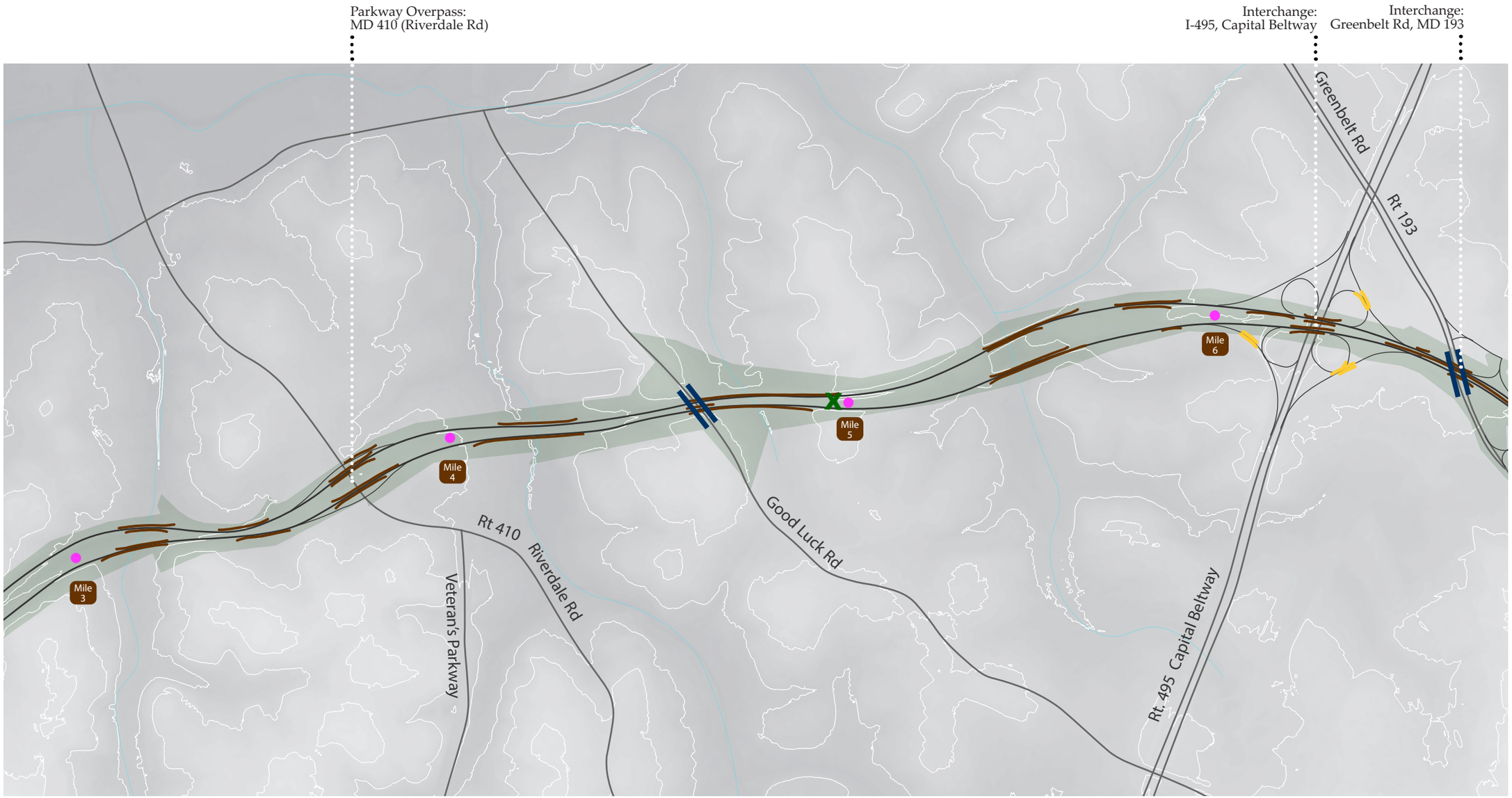
Guard Walls and Guardrails

Guard walls and guardrails are critical to the significance of the Baltimore-Washington Parkway because they are among the most visible design details that distinguish it as a parkway rather than a conventional highway. Form-liner concrete guard walls, installed along the main roadway in the 1990s, create much of this character while contributing to the safety of the highway. Newer, Corten steel guard rails were added in the 2000s, and these diminish the integrity of the landscape. They should be replaced with matching form-liner concrete walls, and any new traffic barriers should also be form-liner walls.

Numerous guardrails have been added at interchanges with little consistency in their designs. Currently there are Corten steel rails, galvanized steel rails, wooden rails, and form-liner walls. A consistent design is needed that reinforces the parkway character and distinguishes it from conventional highway guardrails.

This set of maps illustrates the impact of having guard walls along all the main roadways (shown in dark red) and having a single design for guardrails at interchanges (shown in orange). In the maps, the parkway has a more subtle and consistent graphical character when compared with the analytical maps in Chapter Four, and this is analagous to the consistent character the landscape itself would have with these changes in place.





'Picxturesque Urban Parkway' Character Area

'Beltway Threshold' Character Area

Crossovers, Pull-offs & Traffic Signals

As mapped in Chapter Four, there are seven crossovers for emergency vehicles along the length of the parkway (dark green X's). Three additional crossovers are proposed (yellow X's) so there would be one crossover between every two interchanges. Three conditions are necessary for new cross-overs: the median must be open grass; it must be level enough for a car to cross; and it needs to be far enough from other crossovers and interchanges to be useful. Three new crossovers are proposed in the following locations: north of the Annapolis Road interchange (Mile 3), north of the Greenbelt Road interchange (Mile 7), and south of the MD 32 interchange (Mile 17).

Pull-offs are needed for emergencies and so police can pull over offending vehicles. It is recommended they be paired with crossovers so they work together as emergency infrastructure. Pull-offs require long, level terrain adjacent to the road, adequate space between guard walls, and enough distance from interchanges. Pull-offs (yellow chevrons) are recommended near mile markers 5, 11, 13, 17 (southbound only) & 19 (northbound only). An alternate location is shown near mile 9, where the terrain is not as suitable as at Mile 11 but the location may be more useful.

Traffic Signals

With increasing regional traffic, some interchanges may need traffic signals, and it is important that they be consistent with parkway character. Since the parkway is unlit at night, light shields should be used to minimize the spread and visiblity of the light. Preferably, signals should be brown to match parkway signage, and they should mounted at street level (instead of overhead) at the side of the interchange. This proposal is shown in blue at the Powder Mill Road interchange. This will make the signals less visible from the parkway and consistent in character.





'Modern Forested Parkway' Character Area

Signs & Mile Markers

Signs have proliferated over the lifespan of the parkway, having grown both in number and in size. Large, overhead signs and cantilevered signs impact integrity the most because they interrupt the continuity of the open, spatial ribbon of the parkway. The sheer quantity of signs and their inconsistent style significantly impact the character of the parkway. An overall sign study is necessary with a recommended goal of reducing signage and creating a more consistent character and identity for the parkway landscape.

A few general strategies are recommended in anticipation of a formal study. Signs that identify the parkway and its specific driving regulations should be located along entrance ramps, as shown with red dots at the MD 198 interchange. Other signs should be consolidated especially when interchanges are complex or in close proximity and where signs for separate interchanges overlap. This is especially problematic at the Greenbelt Road and I-95 interchanges where competing signs make it confusing to identify the correct exit ramp. Overhead signs should be replaced by street-level signs, even if that means putting signs on both sides of the road in a few instances. Standard National Park Service brown signage should be used throughout, except when federal highway standards take precedence.

Mile markers are needed for locating stranded vehicles or sites of emergencies. The most critical question relative to location is their interval and frequency. At least initially, they are recommended at one-mile intervals as shown on these 1:2000 maps. Drivers are more likely to notice and remember fewer, whole-number signs (e.g. Mile 7, Mile 15) than numerous half-mile, decimal-number signs (e.g. 8.5, 12.5). If needed, simple, half-mile decimal signs can be added later in between the whole-number ones, as shown at 14.5.





'Modern Forested Parkway' Character Area

Long Median Guard Wall Design

As the parkway passes through the USDA Beltsville Agriculture Research Station, it runs straight for nearly two miles with a narrow footprint and a long narrow grass median between opposing lanes of traffic. During the 1990s rehabilitation, the median was left open as in the original design, but in the 2000s, a long, W-shaped, Corten steel guardrail was added for the length of the median and about five feet from the northbound lane. (See image, p. x) Although long, continuous medians are characteristic of the Modern Forested Parkway character area, this one also makes a monotonous driving experience, and mowing is dangerous in the five-foot strip of grass between the curb and the guardrail. The steel rail itself diminishes the integrity of the landscape since it is inconsistent with the stone-faced bridges and form-liner guard walls.

This nearly two-mile guardrail requires a special design because of its unique situation. It is free-standing, long and very visible. Also, at night, headlights from the opposing lanes of traffic are especially glaring in contrast to the relative darkness of the rest of the parkway.

A series of three guard walls are proposed to replace the single guardrail, and these would alternate on opposite edges of the median. The are aligned so their tapered ends form a gap for lawnmowers to pass through, as shown in the adjoining perspective. The walls themselves should be slightly taller than the current walls, so they block the headlights of most normal-sized vehicles to minimize the glare from oncoming traffic. This is shown in the sections on the opposite page, where orange view cones illustrate how the guard walls will help shield headlights from opposing cars. The alternating view cones also represent the subtle spatial rhythm formed by the alternating walls. This is described in more detail on the next page.

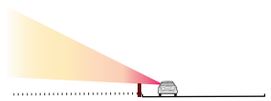


Perspective view of the junction of two proposed guard walls with an open gap for lawnmower access.
(Original photo from Google maps street-view, April 2019)

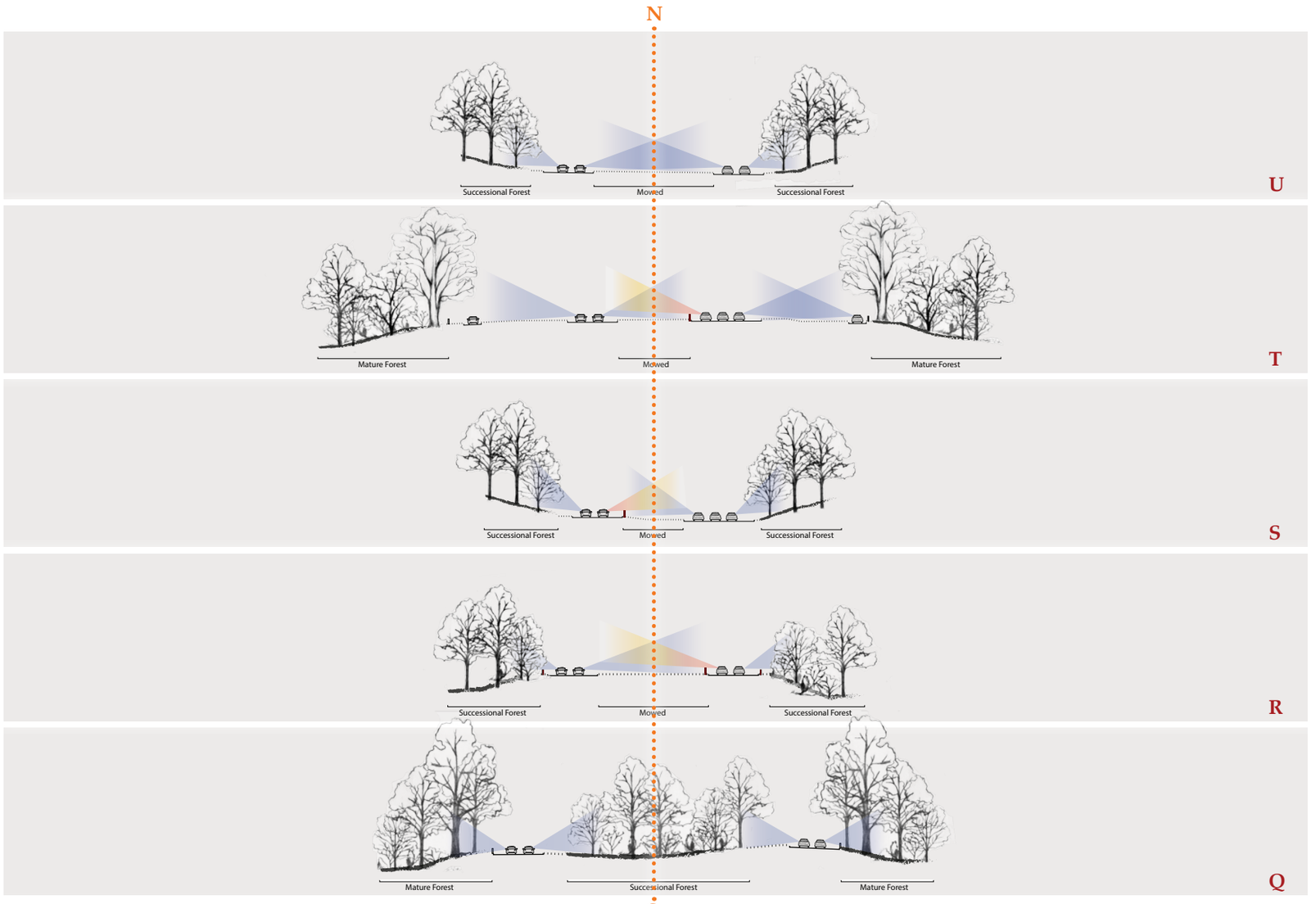
Legend



driver's view cone, existing



driver's view cone screened by new guard wall



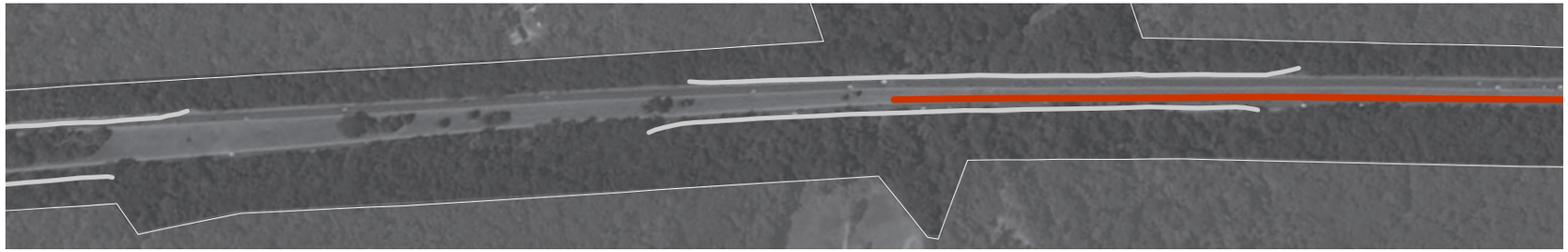
Sections from Segment Five (p. x) with view cones changed due to new guard walls

0 35 70 105 140

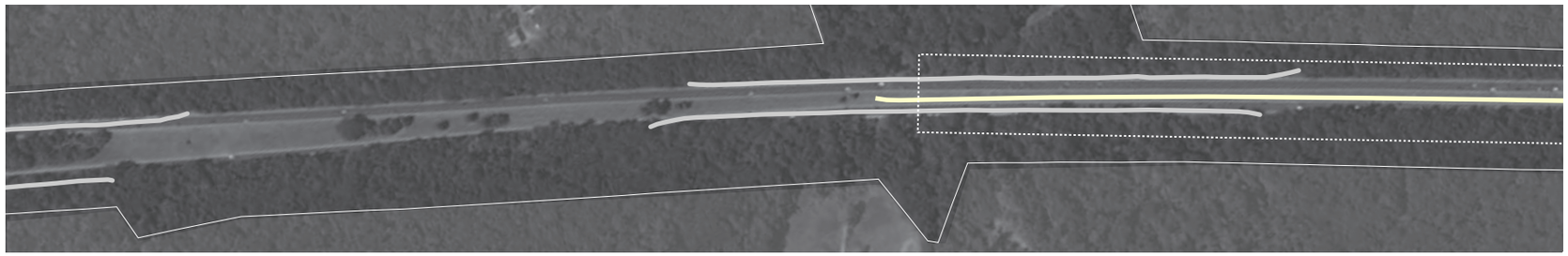
Long Median Guard Wall Design

The plans on this page show the existing steel guardrail (upper plan) and the proposed alternating guard walls that would replace it (middle plan). A slight gap is shown where the end of each wall tapers toward a central point in the median, and this is shown more clearly in the bottom detail plan. This opening allows lawn mowers to stay in the median at a safer distance from traffic. The gap is also visible in the perspective on the previous page.

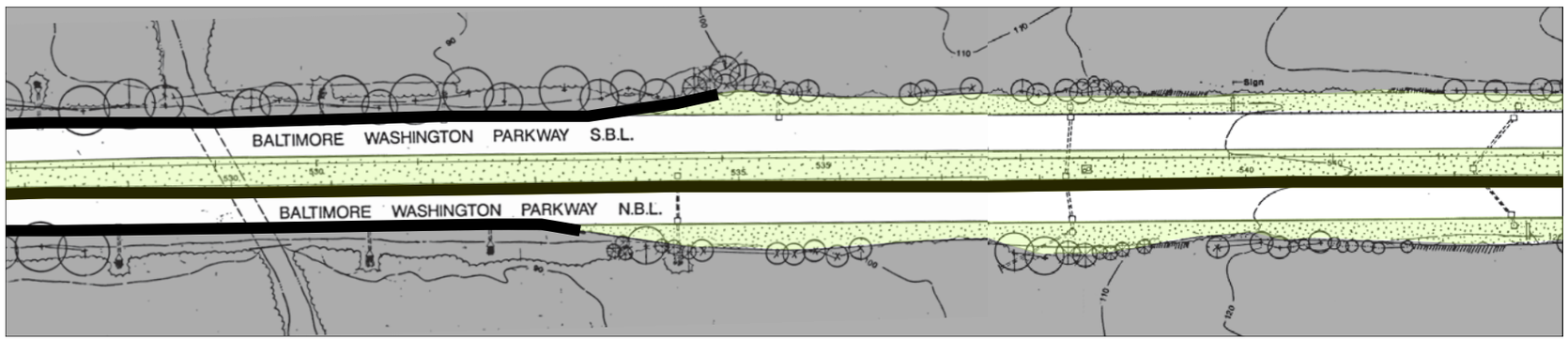
The three alternating guard walls would create a subtle spatial rhythm and similarly subtle experience for drivers. This sequence is informed by the sectional analysis of spatial sequences in Chapter Five. As shown in that chapter, the spatial condition of the landscape changes every half mile in the Picturesque Urban Parkway character area, where the parkway has the most engaging driving experience. As in that segment, these proposed guard walls alternate in slightly longer than half-mile increments that would make a more engaging driving experience. Instead of having one long constant spatial condition, drivers would encounter frequently changing conditions. The detailed lower plan illustrates these changing conditions where the existing and proposed guard walls (shown in black) frame the forest and open grass. Northbound drivers, for example, would first pass between two guard walls close on either side, then the right-side wall ends and the forest edge is more immediate. Next, the left wall tapers off, and open grass extends to the far side of the median. Another short wall edges the forest on the right side, and so on. These experiential differences would be subtle and would still retain the character of the long open space of this segment of the parkway.



Plan showing existing Corten steel guardrail (dark red) at Powder Mill Road interchange.

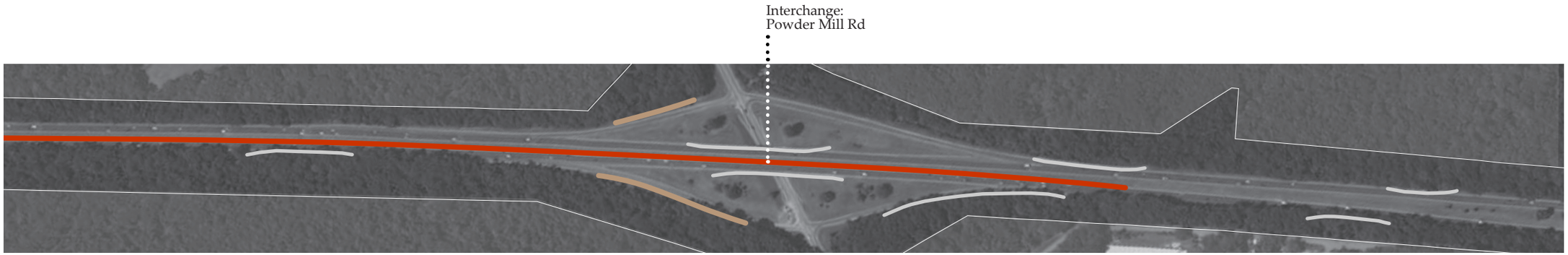


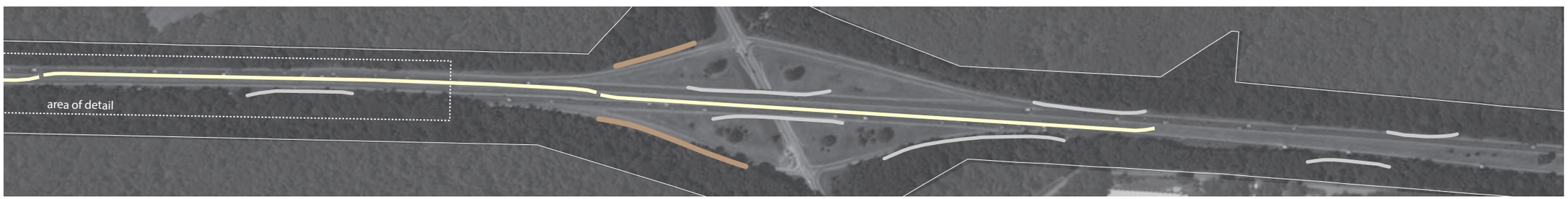
Plan showing three form-liner concrete guard walls (light yellow) proposed to replace steel guardrail.

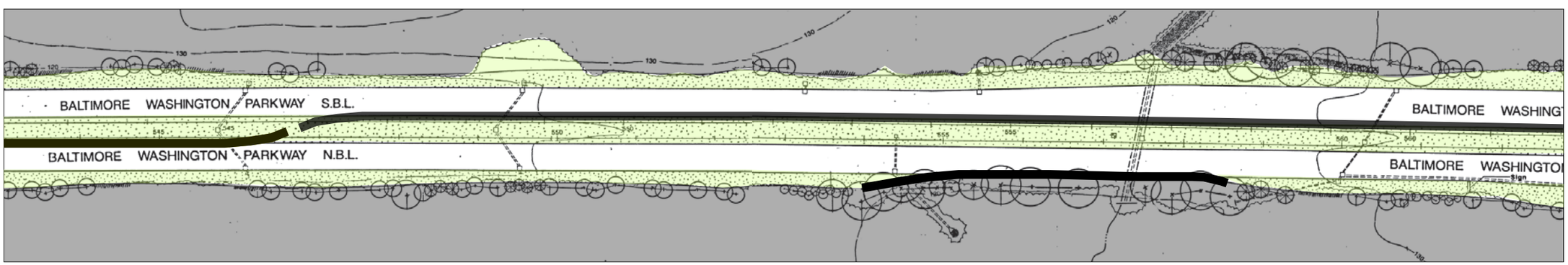


Plan detail showing proposed guard walls in place with existing guard walls (all black). The subtle spatial rhythm is evident in the varying amount of grass adjacent to the roadways.

0 175 350 700 1,050 1,400 ft.


Interchange:
Powder Mill Rd
LEGEND
Guardrail
Corten steel
Wood
Guard Wall
Existing
Proposed


area of detail


BALTIMORE WASHINGTON PARKWAY S.B.L.
BALTIMORE WASHINGTON PARKWAY N.B.L.
BALTIMORE WASHING
BALTIMORE WASHINGTO
LEGEND
Guard Wall
Mown Grass

Guardrail Design and Materials

Historic Guardrails

Guardrails exist at many interchange ramps, but they do not have a consistent style. There are steel-backed wood rails, W-shaped galvanized steel rails, W-shaped Corten steel rails, and a few form-liner concrete guard walls. Often more than one style exists at the same interchange. Planting plans from the 1990s show form-liner concrete guard walls along the full length of the parkway but do not indicate any of these various guardrails. A road inventory in 2001 includes all or almost all of them, so it is assumed they were constructed between the completion of the rehabilitation and 2001. They do not contribute to the period of significance, and a consistent style is needed that is compatible with the historic character and style of the parkway. This matrix compares historic precedence, style and durability of three potential guardrail types as a new standard foruse at all interchanges.

The original design of the parkway included several kinds of safety barriers. Bridges had concrete walls with steel guardrails; roadways and ramps had W-shaped steel guardrails painted white; and bridges over Pennsylvania Railroad tracks on the western side of the Anacostia River had "one of the most unusual designs in the area, with 1 1/2-inch aluminum cables and posts serving as guard rails". (HAER, p. 108) This location is not considered part of the parkway today, but apparently it was considered so at the time of construction. During the 1990s rehabilitation, the painted guardrails and many of the steel rails were replaced with guard walls.

A 1957 photograph (1) shows concrete abutment walls and steel guardrails at a MD 197 bridge with white steel guardrails leading to it. A 1956 photograph (2) shows cable guard rails at the South Dakota Ave bridge over the Pennsylvania RR tracks.



1. Concrete abutments, steel rails and white guard rails (NARA 57-1147, detail)



2. Cable guardrails over Pennsylvania Railroad tracks (NARA 56-1398, detail)

Steel Guardrails

PRECEDENT

White, W-shaped steel guardrails were the standard guardrail from initial construction in the 1950s to the rehabilitation in the 1990s. They were replaced in the 1990s with significant debate about the design of their replacement. Initially, brown steel guardrails were proposed, then steel-backed wood ones. Stone-faced walls were the preferred choice, but they were too costly, and thus form-liner concrete walls were constructed with forms derived from the original bridges. (HAER, 127-135)

STYLE

Galvanized steel rails are closest to the original white ones, however, they are also the standard highway guardrail in the region and are used extensively along MD 295. (3) Existing galvanized steel rails make the parkway seem more like a conventional highway than like a parkway, especially when they are clustered together as at the MD 32 interchange. (4) A Corten-steel version on wooden posts is an updated version of the brown painted model. (5) As seen at the MD 198 interchange, they do indeed distinguish the parkway from conventional highways, though the dark color does make them stand out even more in open grass. They have the 'heaviest' physical presence of any of these options.

DURABILITY

W-shaped guardrails are very strong but have little resilience. When damaged, they retain and show all dents, some of which can be very large and expensive to replace.



3 .Galvanized steel, W-section guardrail, MD 295 (Google maps, 4/20)



4. Galvanized steel, W-section guardrails, MD 32 interchange (Google maps, 4/20)



5. Corten steel, W-section guardrails, MD 198 interchange (Google maps, 4/20)

Wood Guardrails

PRECEDENT

Steel-backed wood guardrails were considered as replacements for white steel guardrails because the material is more natural in appearance than steel. They are commonly used in National Parks and have been used along the George Washington Memorial Parkway and at a few interchanges along the Baltimore-Washington Parkway. Their use along the GWMP is precedented, because rustic wood guardrails, light posts and bus stops were used in the southern half of the Mount Vernon Memorial Highway to create a more rural character south of Alexandria. Conversely, there is no other use of wood along the Baltimore Washington Parkway, and a 1989 letter from an FHWA engineer indicated that wood guardrails would be used for general NPS roadways, but stone walls would be used for parkways in the Washington DC area. (HAER, 127-135)

STYLE

At their best, as shown in the upper photograph, wood guardrails blend with the surrounding vegetation and give a natural character to the edge. (6) When constructed adjacent to the curb, which is more common, the rusticity of the wood is more at odds with the modern aesthetic of the B-W Parkway. (7) They clearly distinguish the parkway from conventional highways, but as an entrance to the parkway, they set up expectations of a rustic character that is not consistent with the character of the parkway itself.

DURABILITY

The steel backing gives the wood rails significant strength and helps prevent warping, but as they age, warping and cracking is inevitable. (8) When vegetation overgrows them, they become especially 'rustic' in appearance and more out of place with the modern aspects of the parkway. landscape..



6. Wood guardrail, MD 198 interchange
(Google maps, 4/20)



7. Wood guardrail, Powder Mill Rd interchange
(Google maps, 4/20)



8. Wood guardrail, Annapolis Rd interchange
(Google maps, 4/20)

Cable Guardrails

PRECEDENT

Cable guardrails were used at Pennsylvania Railroad crossings approaching the parkway from the west side of the Anacostia River. These bridges (New York Ave. & South Dakota Ave.) are not considered part of the parkway today, but at the time of construction, they were included in the reporting and documention of the project. (HAER, 127-135) This indicates that the full project included more than the current boundaries, and these cable guardrails were part of the original design. (2) They consist of thick cables stretched between heavier steel posts and are akin to the tubular steel guardrails of the original bridge designs along the rest of the parkway.

STYLE

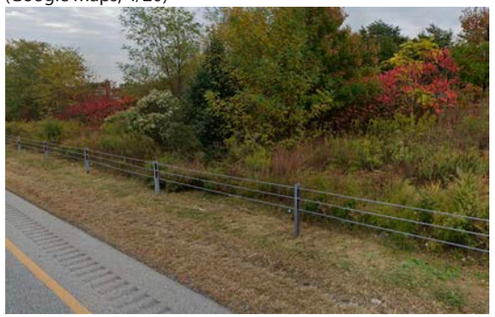
In recent years, both Maryland and Virginia have been using four-cable guardrails along stretches of I-95 north of Washington and I-81 in the Shenandoah Valley. (9)A three-cable design is being used along MD 295, the northern extension of the Baltimore-Washington Parkway. (10) These new designs have more widely spaced posts than earlier designs and are remarkably transparent in many kinds of lighting. Often, they practically disappear. Using the same cable guardrail as MD 295 would make the two roadways more similar rather than more distinct. However, if the posts were made of Corten steel, as in the New York example, (11) the guardrails would be distinct from their use along MD 295. Also, the brown posts and silvery cables would mimic the colors of the NPS signage.

DURABILITY

When cable guardrails are hit by vehicles the posts lean, and their irregularity detracts from their minimalist aesthetic. Presumably it is possible to realign them. In especially bad accidents the cables themselves can break and need to be replaced.



9. Cable guardrail, I-81 near New Market, VA
(Google maps, 4/20)



10. Cable guardrail, MD 295
(Google maps, 4/20)



11. Cable guardrail, NY 30 near Speculator, NY
(Google maps, 4/20)

SAFETY INFRASTRUCTURE

Emeergency Crossover Design

Emergency crossovers are needed in three places where there currently are no crossovers between two adjacent interchanges. These three will ensure that parkway safety officials can reverse direction in one location between every two interchanges.

Crossovers have historic precedents. A single crossover is indicated in the 1955 planting plan at the northernmost end of the parkway, and exists as planned just before the MD 175/Jessup Road interchange. Two additional crossover designs were studied in 1952, though they do not seem to have been implemented. These consisted of two long U-shaped turns placed back-to-back, like the one shown in the upper plan on the opposite page for a location north of the Patuxent River bridge.

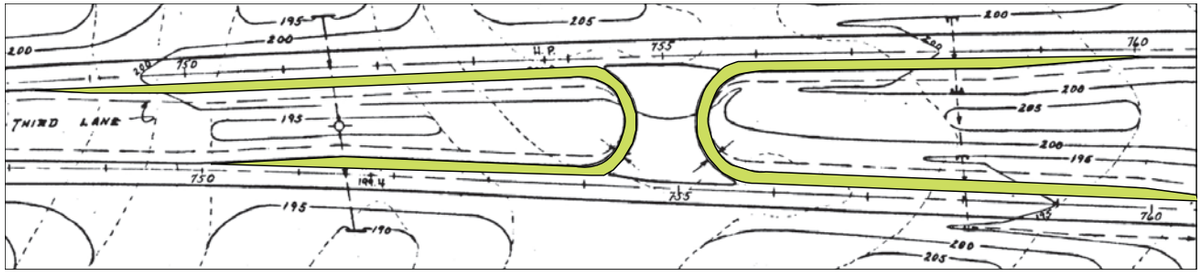
A simpler crossover exists currently, somewhat closer to the Patuxent, and consists of a single, level crossing paved with grass-pavers and screened from view in both direction by forest vegetation and planted trees. As shown in the adjacent perspective, this combination of grass-pavers and screening vegetation is typical of most of the existing crossovers and masks the crossover to minimize unofficial use. This should be considered the design standard for new ones as well.

This existing crossover north of the Patuxent River is also a proposed location for a pair of new emergency pull-offs. The lower plan on the opposite page shows the proposed pairing of crossover and pull-offs. Together they form a unified piece of emergency infrastructure for park personnel that would discourage drivers from using them in non-emergencies. More detail for the pull-off is provided on the following pages.

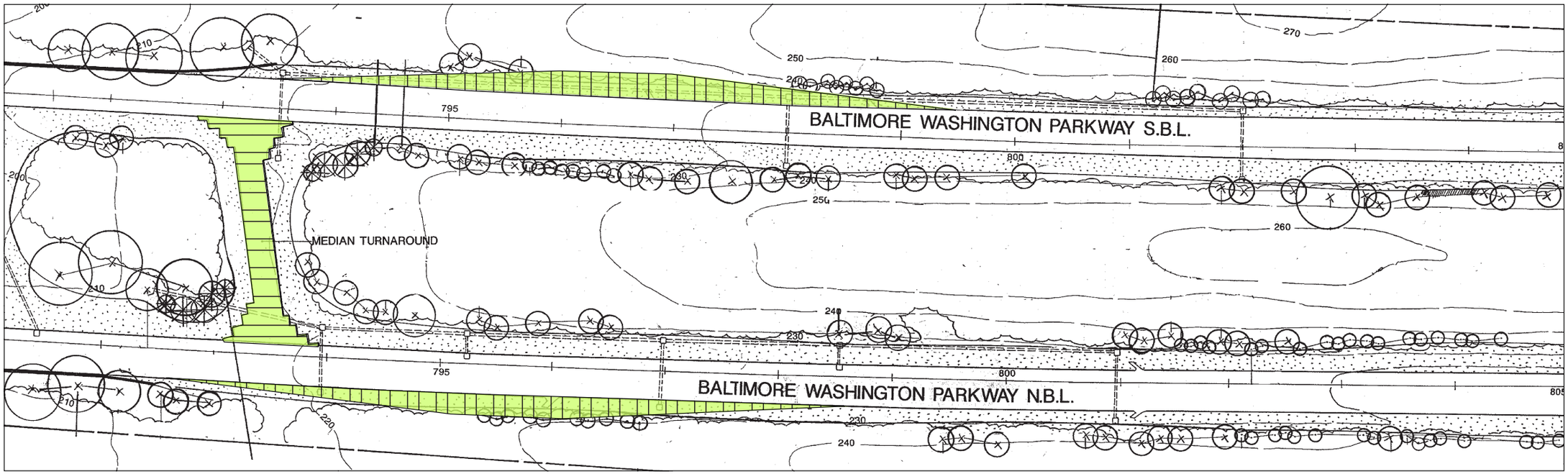


Existing crossover north of Patuxent River with grass pavers and screening vegetation.
(Original photo from Google maps street-view, May 2020)

0 25 50 100 150 200 ft.



Turnaround Study, 1952, north of Patuxent River (BAWA 842-80117, detail, colorized)



Existing crossover north of Patuxent River with proposed pull-offs (Planting Plan, sheet L-10, 1996, BAWA 842-41017, detail, colorized)

Emergency Pull-off Design

In the original parkway design, signs indicated that drivers were to pull-off on grass roadsides in an emergency. However, a very small pull-off is seen in a 1955 photograph (below), which suggests that extra pull-offs were used in some situations. The 1990s rehabilitation added a five-foot shoulder and mountable curb so drivers can pull off with one tire on grass and one on the shoulder. Currently, new pull-offs are needed for policing the roadway. They need to be carefully designed to blend with the character of the parkway and so they are not seen by drivers as substitutes for pulling off on the grass and mountable curbs.

The proposed design modifies the standard pull-off design to appear more consistent with the existing mountable curbs. The design includes slightly shorter tapers, since the speed limit is lower than standard highways, and a refuge area of 100', which would accommodate a commercial bus and two police vehicles. To blend with the parkway character, the pull-off utilizes the current shoulder as part of the taper and paves the extra width of the pull-off with permeable, grass pavers. Flush curbs replace the mountable curb and mark the tapers to indicate the pull-off while continuing the curb line of the parkway.

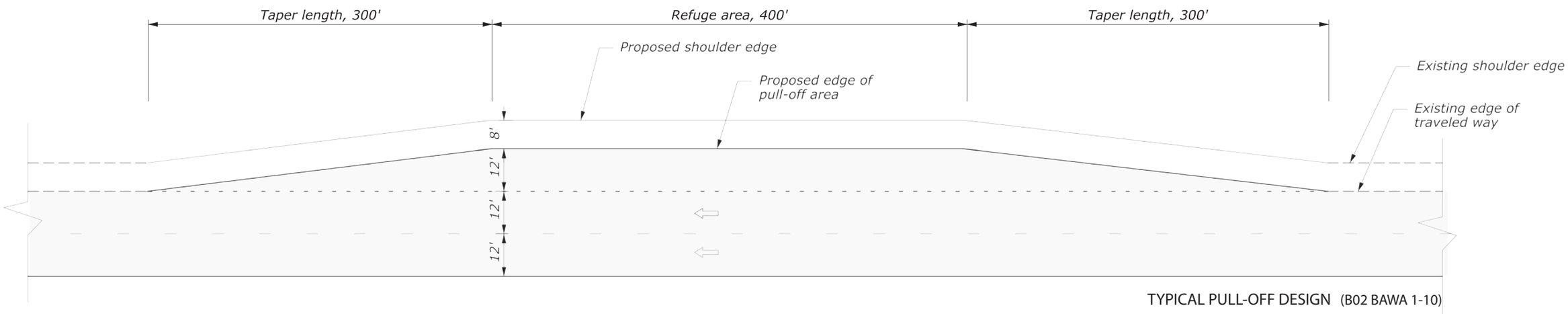
Original pull-off near Little Patuxent River
(NARA 54-1955, detail)



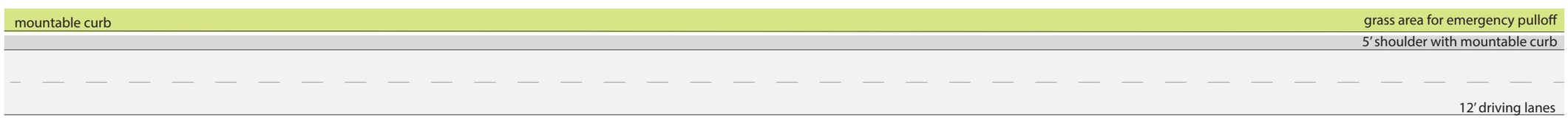


0 50 100 200 300 400 ft.

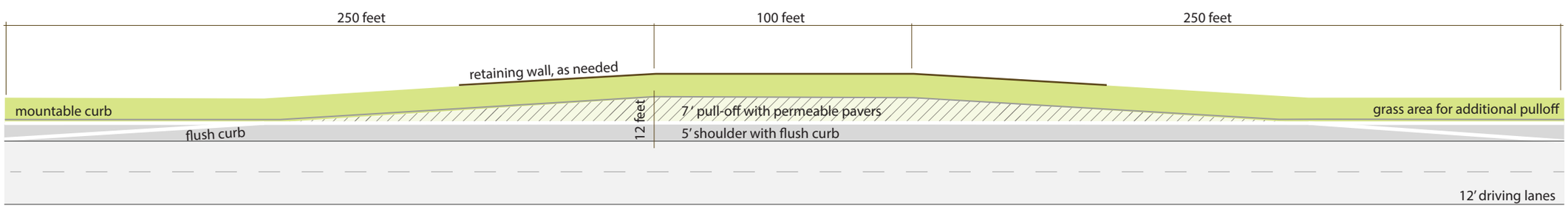
Proposed pull-off at existing crossover with grass pavers and flush curbs to mimick current parkway shoulder design.
(Original photo from Google maps street-view, May 2020)



TYPICAL PULL-OFF DESIGN (B02 BAWA 1-10)



BALTIMORE-WASHINGTON PARKWAY SHOULDER DESIGN



REVISED PULL-OFF DESIGN

SAFETY INFRASTRUCTURE

Mile Marker & Signage Design

Signs are conspicuous elements of the parkway's safety infrastructure, second only to guard walls in their visibility and impact on the character of the parkway landscape. Early photographs show signs identifying the parkway as a national park (1) and indicating proper use of the roadway (2), although they do not suggest a consistent style for the parkway. Current signage and the official entry signs to the parkway (4) frequently follow National Park Service (NPS) standards: brown signs with white lettering, stone structures, and the NPS arrowhead logo. These standards should be used consistently except where federal highway standards prohibit them.

The NPS arrowhead logo is used in a proposed design for a mile marker, (3) which reminds drivers that this is a national park and shows how even small details can distinguish this parkway from conventional highways. It is recommended that mile markers be mounted slightly higher than guard walls, as shown in the adjoining perspective, so they are the same height along the full route. When mounted along grass edges, they should be placed far enough back from the mountable curb to maintain an open margin for emergency pull-offs. Any intrusions in this margin will deter drivers from pulling onto the grass. As stated on p. X, they are recommended at one-mile intervals. If needed, simpler half-mile signs with numerals only (12.5) can be added later.

Overhead signs greatly impact the open ribbon of space along the parkway. The MD 197 interchange, for example, is the experiential high point of the parkway where the landscape opens to the sky more than anywhere else along the route. (5) Signs over the roadway intrude upon the open sky, diminishing this unique spatial condition. All overhead signs should be replaced with smaller signs, on each side of the roadway if needed, to restore the open space of the roadway itself.



Perspective showing proposed mile marker mounted atop a guard wall
(Base image, Google maps, 4/20)



1. Original sign at on-ramp identifying the parkway and travel restrictions, 1957 (NARA 57-1140)



2. Original sign instructing drivers to pull off the roadway in emergencies, 1955 (NARA 55-346)



3. Proposed design for mileage markers with NPS logo



4. Current sign identifying the parkway at the northern entrance (Google maps, 4/20)



5. Proliferation of signs and visual impact of overhead signs at Rt 197 interchange (Google maps, 4/20)

SPATIAL CHARACTER

Maintaining Framed Open Corridor

An important attribute of the parkway's spatial character is the nearly continuous ribbon of space formed by the enclosing forest along the full-length of the roadway. With only six bridges spanning the parkway in the original design, the parkway created a continuous driving experience of forest and sky. The bridges were spaced widely apart, so that motorists would experience mostly natural scenery. During the intervening years, numerous additions to the landscape have impacted this continuous ribbon of space and sky. Three more bridges have been added, overhead power lines cross the parkway and disturb the enclosing forest, and overhead signs intrude upon the ribbon of open space.

The accompanying photographs show the importance and vulnerability of this subtle characteristic. As originally constructed, the parkway crossed over Rt. 197, as it did almost all interchanges. (1) Extensive grading created this smooth open ascent, and it illustrates the degree to which parkway designers carefully considered the impact of the crossing on the driving experience. Similarly, the Washington Beltway was constructed in the mid-1960s and crossed underneath the parkway. (2) The spatial corridor is uninterrupted, and crossing the Beltway on the parkway today is barely noticeable. By contrast, the small bridge added at the NASA interchange (3) interrupts the spatial flow to a much larger degree, even though the crossing itself is much smaller than the Beltway crossing. The powerline crossing near Rt. 197 (4) greatly disturbs the spatial character by opening the forest edge widely.

The spatial corridor should be improved and maintained by careful management of the forest along its edge, by replacing overhead signs (as described in the Mile Marker and Signage Design section in this chapter), and by not building additional structures across the parkway.



Perspecitive showing open spatial corridor and ribbon of sky that characterizes much of the driving experience of the parkway.
(Base Image: Google maps street view, 4/20)



1. Photograph showing the extensive grading to construct the parkway over Rt. 197, 1957.
(NARA 57-1147)



2. Uninterrupted spatial corridor where the parkway crosses over the Washington Beltway, I-495, 2020
(Google maps street view, December 2020)



3. NASA interchange bridge interrupting the spatial corridor defined by forest vegetion and open roadway.
(Google maps street view, December 2020)



4. Overhead power line making a large gap in the enclosure of the spatial corridor. Distant signs intrude overhead.
(Google maps street view, December 2020)

VEGETATION MANAGEMENT

Forest Edge Mowing and Planting

In recent years, much of the forest edge has been cleared to make it safer for drivers. Clearing this vegetation offers appealing views into the forest but opens it to colonization by invasive plant species that thrive in the bright sunshine of the cleared edge. There is real possibility the forest could become a wall of invasive species on both sides of the parkway. Since conservation of the forest is key to the parkway's historical significance, management of this edge is vital to the parkway's integrity.

It is highly recommended that recently-cleared stretches be stabilized before clearing any more of the forest edge. First, a two-zone mowing schedule is recommended similar to what is already being practiced. Regular mowing adjacent to the roadway should continue so the margin remains clear and safe for emergency pull-offs. Typically, this zone should extend to the end of level land or to the bottom of an adjoining swale. Seasonal mowing (about 3 times/year) should be extended from the edge of regular mowing to the point where shade makes it harder for fast-growing invasive species to dominate. Mowing seasonally will favor long grasses and will reduce the establishment of aggressive invasive species. At the shade line, ornamental trees and shrubs should be planted to thicken the forest edge and protect the interior from invasive species. Specimen ornamental trees can be planted in the sunny zone, and behind them more shade-tolerant trees and shrubs should be planted to grow into a lush edge. This will make a new kind of forest border with long grasses extending under the outermost canopy, and shade-tolerant native trees and shrubs forming a new, protective edge farther back. If native forest species establish in front of this border, they should be encouraged and mowed around to foster natural regeneration.



Perspecitive showing two mowing zones in sunny areas and planted understory vegetation in the lightly shaded behind the first trees.
Original photo from Google maps street-view, May 2019)

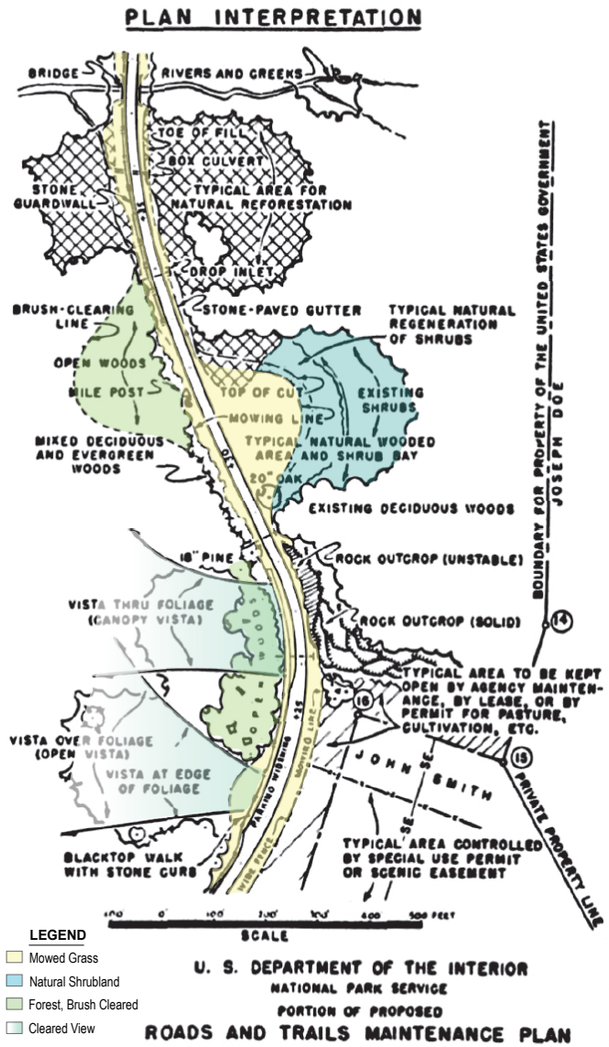
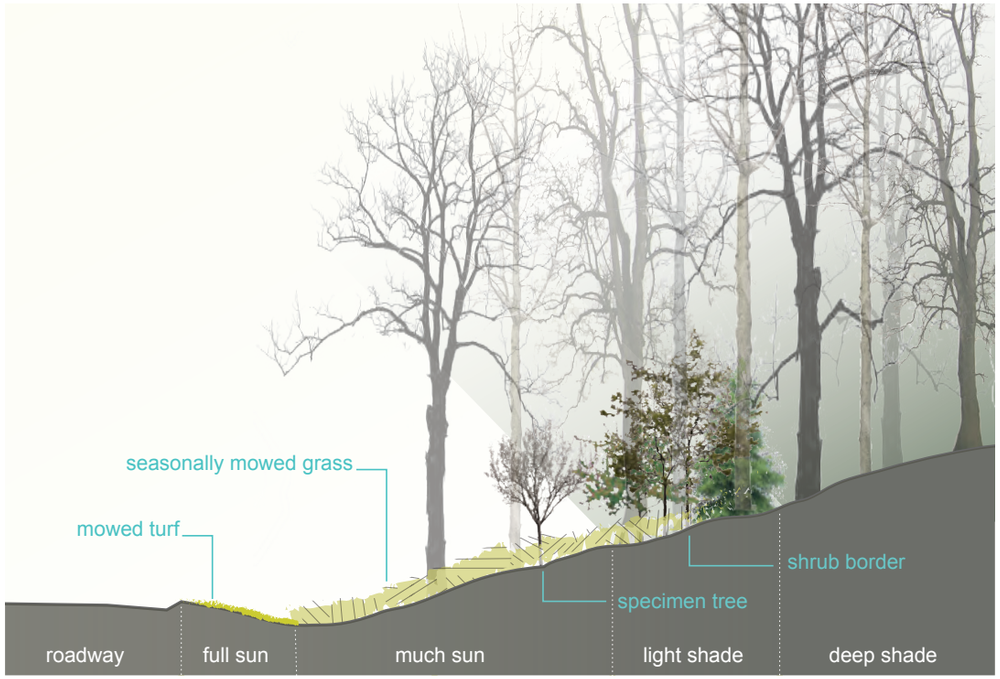


Diagram (colorized) showing a range of management practices along a parkway.
(Dudley Bayliss, "Planning Our National Park Roads And Our National Parkways", 1957)

Planning Park Roads & Parkways

There is precedent for varying treatment of forested edges. In "Planning Our National Park Roads And Our National Parkways", written shortly after the Baltimore-Washington Parkway opened, Dudley C. Bayliss illustrates different strategies for maintaining vegetation along an imagined segment of a parkway. In his diagram (left) he distinguishes between open grass (yellow), open shrubland (blue), woods cleared of undergrowth (green), natural forest (uncolored), and areas cleared for views (blue gradation). His article does not anticipate the current needs of the forest edges of the Baltimore-Washington Parkway, but it shows that treating the grasses, shrubs and trees as distinct layers is a long-standing maintenance practice in parkway management.



EVERGREENS & TREES

Botanical Name	Common Name	Light?
Ilex opaca	American Holly	Sun/Shade
Pinus virginiana	Virginia Pine	Sun
Amelanchier canadensis	Shadblow Serviceberry	Sun/Shade
Cercis canadensis	Eastern Redbud	Sun/Shade
Chionanthus virginicus	White Fringetree	Sun/Shade
Cornus florida	Flowering Dogwood	Sun/Shade
Cornus rutban	Aurora Dogwood	Sun/Shade
Crataegus crusgalli	Cockspur Thorn	Sun
C. phoenopyrum	Washington Hawthorn	Sun
Hamamelis virginiana	Common Witchhazel	Sun/Shade
Malus angustifolia	Southern Crabappple	Sun

SHRUBS

Botanical Name	Common Name	Light?
Ilex verticillata	Common Winterberry	Sun/Shade
Kalmia latifolia	Mountain Laurel	Sun/Shade
Myrica cerifera	Southern Waxmyrtle	Sun/Shade
Myrica pensylvanica	Northern Bayberry	Sun/Shade
Viburnum cassinoides	WitheRod	Sun/Shade
V. dentatum	Arrowood Viburnum	Sun/Shade
V. lentago	Nannyberry	Sun/Shade
V. prunifolium	Blackhaw viburnum	Sun/Shade

Section diagram showing sun/shade zones and relevant mowing practices and planting strategies
Recommended plant species for edge planting from overall recommended plant list (pp. xx-yy)

VEGETATION MANAGEMENT

MD 197 Interchange Median

The MD 197 interchange was the last to be reconstructed, from 1999 – 2004, and it has never had a designed planting plan. There are several options for management. A planting plan could be developed in keeping with the rest of the parkway. The median and surrounding parcels could regenerate to forest, although with many invasive plants already established, it is unlikely to develop similar to the rest of the forests. A third option is to keep the vegetation in a meadow-like condition with fewer invasive plants.

This third approach rests upon the uniqueness of the interchange. Geographically, this is the experiential high point of the parkway. The parkway does rise higher at its northern end, but this feels like the crest, especially for southbound motorists who encounter the highpoint after rising the full length of the interchange. Historically, as mentioned, this is the only place that has never been planted, and it more closely resembles conditions in the early years of the parkway, as seen in a 1954 photograph near Little Patuxent River. (1) Given these circumstances, there is an opportunity here to maintain grassland, that does not exist elsewhere along the parkway.

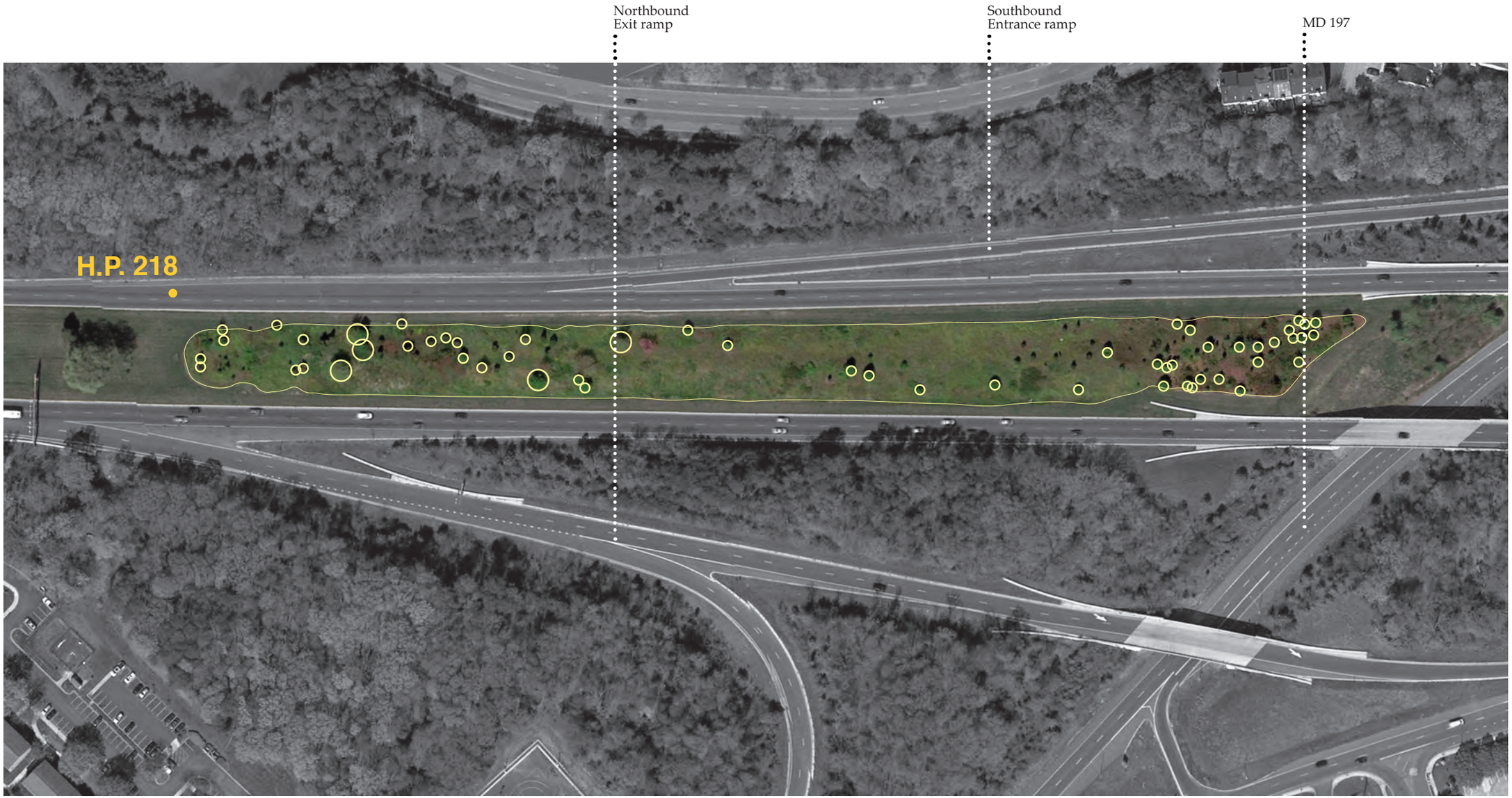
1. Long grasses and forest near Little Patuxent River, 1954 (NARA 54-1955)





Perspecitive showing seasonally mowed grasses in the median with cedars naturally interspersed. Grasses bordering the roadway should continue to be mowed regularly. Original photo from Google maps street-view, May 2020)





Plan of southernmost median identifying likely locations of invasive plants to be removed

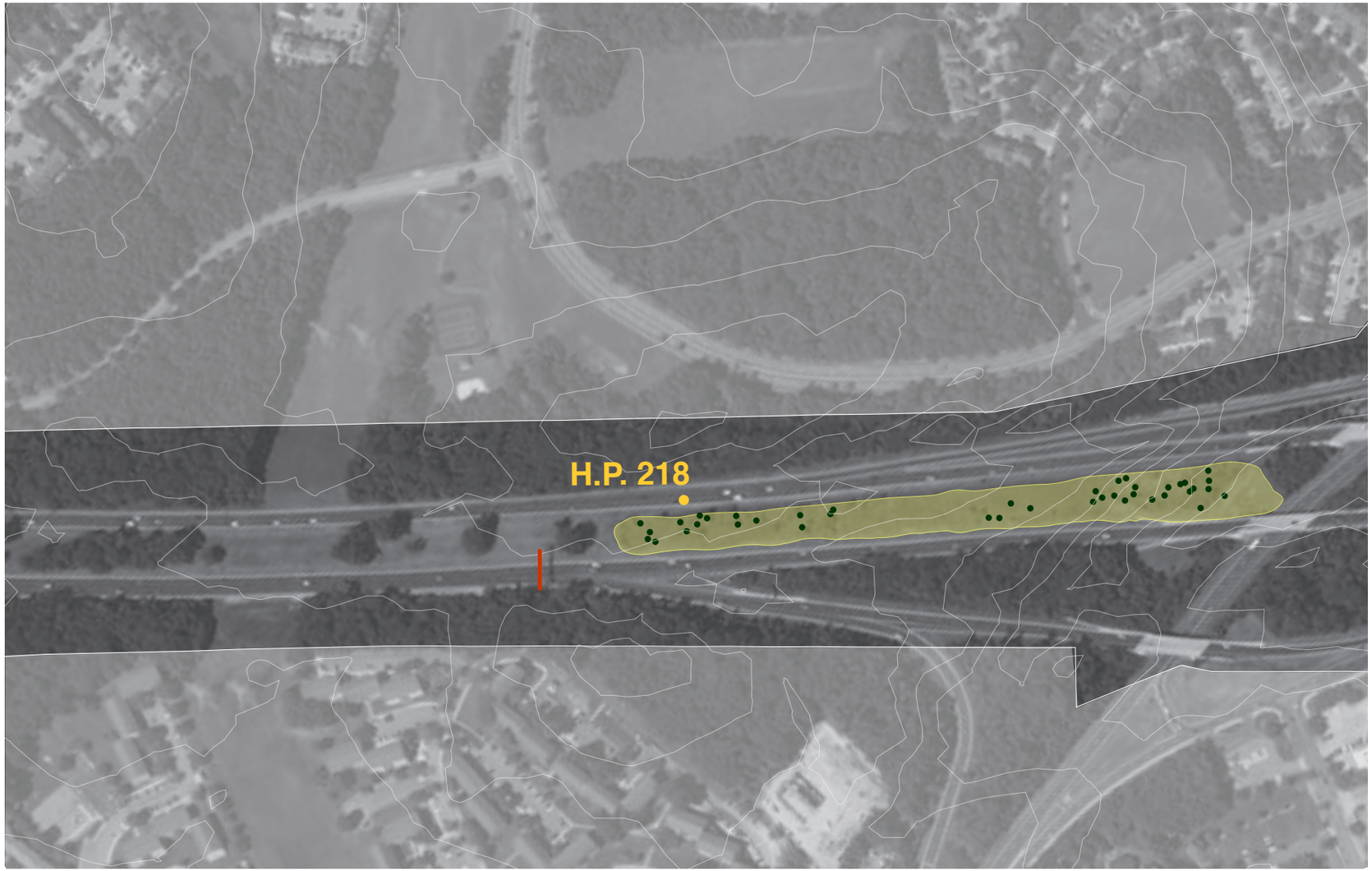
VEGETATION MANAGEMENT

MD 197 Interchange Median

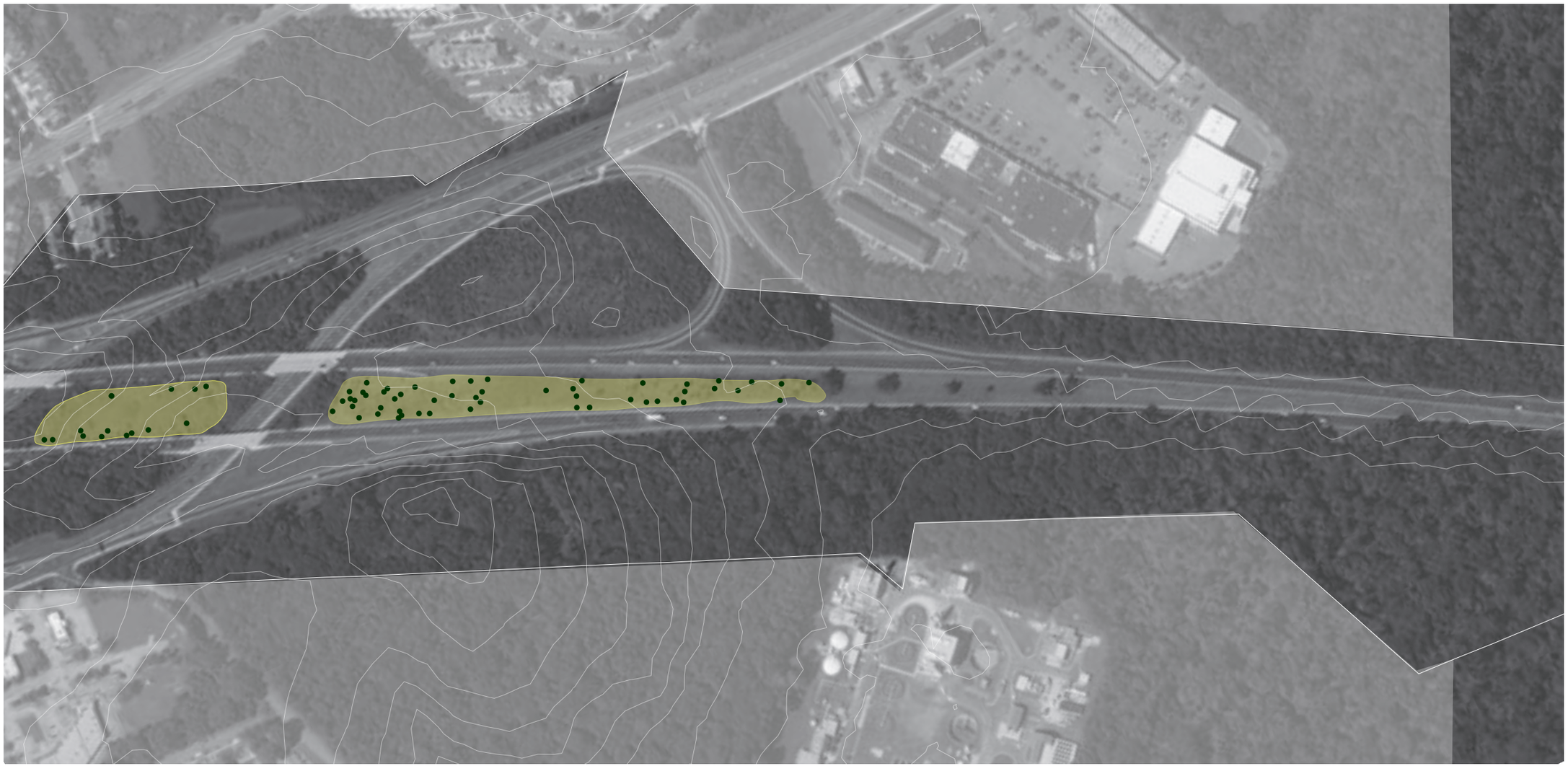
The proposed treatment for the interchange is to remove invasive plants, especially Bradford pear (*Pyrus calleryana 'bradford'*), and leave in place early successional species like cedars (*Juniperus virginiana*) and sumacs (*Rhus spp.*) that first colonize open grasslands. Seasonal mowing around the remaining plants should favor long grasses and keep the land more open and meadow-like. Planting native, warm season grasses and native wildflowers would further improve the beauty and habitat value of the median by cultivating true meadow, but infrequent mowing (about three or four times per year) should keep woody plants from establishing and reduce competition to the grasses from non-native perennials.

The plan on this page shows the extent of areas to be maintained in grassland with likely locations of cedars indicated. Clusters of sumacs are not identifiable at this scale. The highpoint is indicated at the southern end of the interchange as is an overhead sign spanning the northbound lanes, also at the height of land, that should be removed. (See the Mile Marker and Signage Design section in this chapter.)

The plan on the previous page is a detail of the southernmost median that indicates locations of Bradford pears (estimated) and other invasive plants that should be removed. The perspective shows the impact of mowing with long grasses growing amidst the cedars. Sumacs would likely colonize in this area as well, though currently none are evident in the base photo.



Plan showing areas of seasonally mowed grasses with cedars remaining after non-native, invasive species have been removed. High point indicated and overhead sign (to be removed)


LEGEND
Cedars
Long Grass
. 218
High Point
Overhead
Sign

Planting Treatment Guidelines

The lack of planted vegetation greatly reduces integrity of the landscape. Specimen and ornamental trees would make for more varied and interesting driving experiences, because the planted vegetation would create complex spaces and carefully designed transitions between the forested parkway and the adjacent landscape.

Historical plantings can be restored where currently there is only open grass, but in other places, forest has established and rehabilitation is necessary. The following guidelines can inform decisions about restoration and rehabilitation in specific locations. Implementation of these guidelines is illustrated in the subsequent study and redesign of the dual interchanges of Landover and Annapolis Roads which embody most of the conditions found along the parkway.

1. The 1990s plans serve as the basis for restoration and rehabilitation. This is the only plan for the full parkway, and it builds on the strategy developed in 1955. Trees remaining from 1955 are the oldest trees along the parkway and should be specially cared for and maintained as open-grown specimens wherever possible.

2. Open grass areas should be restored with specimen and flowering trees where possible, especially within the loops and triangles associated with the interchange ramps. Visibility should be maintained for merging traffic. Existing specimen trees are often circled by volunteer vegetation; these should be limbed up for easier mowing and to restore their open-grown character.

3. When direct restoration is not feasible, plantings similar to those in the 1993 plan should be implemented to rehabilitate the plan. This will require comparison between the original plans and existing conditions, as illustrated in the Landover/Annapolis Roads example.

4. Where forest has established in formerly open areas, it should be allowed to mature unless it poses safety concerns. Forest succession has been an important generator of parkway vegetation, and this is consistent with its historical character.

5. Native grass meadows in the 1990s plans rarely reflect the topography or the realities of mowing, and new meadows should be reconfigured to accommodate these factors. Wet meadows may be implemented where appropriate to infiltrate stormwater.

6. The 1955 planting plans established a planting strategy based on overstory and ornamental trees from the mid-Atlantic piedmont and coastal plain forests. The 1966 and 1990s plans included some additional regional species but included many that were not native to the region. The following composite list includes plants from all three palettes that are native to the region. Pines on the original list were not native to the region, and two substitutions are recommended. Virginia pines thrive in this landscape and loblolly pines are likely to become more common as temperatures increase. For these reasons, these two species are added to the palette in lieu of non-native species.

7. Wet meadows may be necessary for infiltration of stormwater, and an additional list of plants is included for this purpose. These are recommended by the Alliance for the Chesapeake Bay for use in rain gardens in the Chesapeake Bay region. Several plants on their list coincide with the historic palettes of the parkway; others expand the list with other plants native to the mid-Atlantic piedmont and coastal plain. They are categorized by their hydrologic zone when used in rain gardens: the ponding area, the middle range which gets periodically saturated, and the upper range that does not get inundated but has changing moisture levels.

Recommended Composite Plant List: Trees

Year	Botanical Name	Common Name	Origin	Type
1990s	Acer rubrum	Red Maple	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1990s	Acer saccharum	Sugar Maple	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Betula nigra	River Birch	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Betula populifolia	Gray Birch	NE US/NJ Coast	Deciduous Tree
1955	Carpinus caroliniana	American hornbeam	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Carya ovata	Shagbark Hickory	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Celtis occidentalis	Hackberry	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Fagus grandifolia	American Beech	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1990s	Liquidambar styraciflua	Sweetgum	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Nyssa sylvatica	Water tupelo	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Platinus occidentalis	American Planetree	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1990s	Prunus serotina	Black Cherry	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Quercus alba	White Oak	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1966	Quercus bicolor	Swamp White Oak	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Quercus borealis	Northern Red Oak	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Quercus coccinea	Scarlet Oak	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Quercus palustris	Pin Oak	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Quercus phellos	Willow Oak	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1955	Salix nigra	Black Willow	Mid-Atl Piedmont/Coastal Plain	Deciduous Tree
1990s	Ilex opaca	American Holly	Mid-Atl Piedmont/Coastal Plain	Evergreen Tree
1990s	Juniperus virginiana	Eastern Red Cedar	Mid-Atl Piedmont/Coastal Plain	Evergreen Tree
1955	Pinus strobus	Eastern White Pine	Mid-Atlantic Piedmont	Evergreen Tree
NA	Pinus taeda	Loblolly Pine	Mid-Atlantic Coastal Plain	Evergreen Tree
NA	Pinus virginiana	Virginia Pine	Mid-Atl Piedmont/Coastal Plain	Evergreen Tree
1955	Amelanchier canadensis	Shadblow Serviceberry	Mid-Atl Piedmont/Coastal Plain	Ornamental Tree
1955	Cercis canadensis	Eastern Redbud	Mid-Atl Piedmont/Coastal Plain	Ornamental Tree
1955	Chionanthus virginicus	White Fringetree	Mid-Atl Piedmont/Coastal Plain	Ornamental Tree
1955	Cornus florida	Flowering Dogwood	Mid-Atl Piedmont/Coastal Plain	Ornamental Tree
1990s	Cornus rutban	Aurora Dogwood	Mid-Atlantic Hybrid	Ornamental Tree
1955	Crataegus crusgalli	Cockspur Thorn	Mid-Atl Piedmont/Coastal Plain	Ornamental Tree
1955	Crataegus phoenopyrum	Washington Hawthorn	Mid-Atl Piedmont/Coastal Plain	Ornamental Tree
1955	Hamamelis virginiana	Common Witchhazel	Mid-Atl Piedmont/Coastal Plain	Ornamental Tree
1955	Malus angustifolia	Southern Crabappple	Mid-Atl Piedmont/Coastal Plain	Ornamental Tree
1955	Rhus aromatica	Fragrant Sumac	Mid-Atl Piedmont/Coastal Plain	Ornamental Tree
1955	Rhus copallina	Flameleaf Sumac	Mid-Atl Piedmont/Coastal Plain	Ornamental Tree

Recommended Composite Plant List: Shrubs and Wildflowers

Year	Botanical Name	Common Name	Origin	Type
1966	Aronia arbutifolia brilliantissima	Brilliant Red Chokeberry	Mid-Atl Piedmont/Coastal Plain	Shrub
1955	Ilex verticillata	Common Winterberry	Mid-Atl Piedmont/Coastal Plain	Shrub
1990s	Kalmia latifolia	Mountain Laurel	Mid-Atl Piedmont/Coastal Plain	Shrub
1955	Myrica cerifera	Southern Waxmyrtle	Mid-Atl Piedmont/Coastal Plain	Shrub
1955	Myrica pensylvanica	Northern Bayberry	Mid-Alantic Coastal Plain	Shrub
1966	Viburnum cassinoides	WitheRod	Mid-Atl Piedmont/Coastal Plain	Shrub
1990s	Viburnum dentatum	Arrowood Viburnum	Mid-Atl Piedmont/Coastal Plain	Shrub
1955	Viburnum lentago	Nannyberry	Mid-Atl Piedmont/Coastal Plain	Shrub
1955	Viburnum prunifolium	Blackhaw viburnum	Mid-Atl Piedmont/Coastal Plain	Shrub
1990s	Aster laevis	Smooth Aster	Mid-Atl Piedmont/Coastal Plain	Wildflower
1990s	Helianthus mollis	Hairy Sunflower	Mid-Atl Piedmont/Coastal Plain	Wildflower
1990s	Helianthus stromosis	Woodland Sunflower	Mid-Atl Piedmont/Coastal Plain	Wildflower
1990s	Rudbeckia fulgida	Blackeyed Susan	Mid-Atl Piedmont/Coastal Plain	Wildflower

Recommended Plants for Stormwater Infiltration

Year	Botanical Name	Common Name	Origin	Hydro Zone	Type
1990s	Acer rubrum	Red Maple	Mid-Atl Pied/Coast Pl	Middle/Upper	Deciduous Tree
1955	Betula nigra	River Birch	Mid-Atl Pied/Coast Pl	Middle	Deciduous Tree
1955	Nyssa sylvatica	Water tupelo	Mid-Atl Pied/Coast Pl	Middle/Upper	Deciduous Tree
1966	Quercus bicolor	Swamp White Oak	Mid-Atl Pied/Coast Pl	Ponding/Middle	Deciduous Tree
1990s	Amelanchier canadensis	Serviceberry	Mid-Atl Pied/Coast Pl	Upper	Ornamental Tree
1955	Cercis canadensis	Redbud	Mid-Atl Pied/Coast Pl	Upper	Ornamental Tree
1955	Rhus aromatica	Fragrant Sumac	Mid-Atl Pied/Coast Pl	Upper	Ornamental Tree
1966	Aronia arbutifolia	Red Chokeberry	Mid-Atl Pied/Coast Pl	Middle/Upper	Shrub
NA	Aronia melanocarpa	Black chokeberry	Mid-Atl Pied/Coast Pl	Ponding/Middle	Shrub
NA	Cephalanthus occidentalis	Buttonbush	Mid-Atl Pied/Coast Pl	Ponding	Shrub
NA	Cornus sericea	Red-osier dogwood	Mid-Atl Pied/Coast Pl	Ponding/Middle	Shrub
1955	Ilex verticillata	Common Winterberry	Mid-Atl Pied/Coast Pl	Ponding/Middle	Shrub
NA	Sambucus canadensis	American Elderberry	Mid-Atl Pied/Coast Pl	Middle	Shrub
1990s	Viburnum dentatum	Arrowood Viburnum	Mid-Atl Pied/Coast Pl	Middle/Upper	Shrub
NA	Aquilegia canadensis	Wild columbine	Mid-Atl Pied/Coast Pl	Middle/Upper	Wildflower
NA	Asclepias incarnata	Swamp milkweed	Mid-Atl Pied/Coast Pl	Ponding/Middle	Wildflower
NA	Asclepias tuberosa	Butterfly milkweed	Mid-Atl Pied/Coast Pl	Upper	Wildflower
NA	Eupatorium fistulosum	Joe-Pye weed	Mid-Atl Pied/Coast Pl	Ponding/Middle	Wildflower
NA	Liatris spicata	Blazingstar	Mid-Atl Pied/Coast Pl	Middle/Upper	Wildflower
NA	Lobelia cardinalis	Cardinal flower	Mid-Atl Pied/Coast Pl	Ponding	Wildflower
NA	Lobelia siphilitica	Great blue lobelia	Mid-Atl Pied/Coast Pl	Middle/Upper	Wildflower
NA	Mertensia virginica	Virginia bluebell	Mid-Atl Pied/Coast Pl	Ponding/Middle	Wildflower
1990s	Rudbeckia fulgida	Blackeyed Susan	Mid-Atl Pied/Coast Pl	Middle/Upper	Wildflower
NA	Symphyotrichum novae-angliae	New England aster	Mid-Atl Pied/Coast Pl	Ponding/Middle	Wildflower
NA	Tradescantia virginica	Spiderwort	Mid-Atl Pied/Coast Pl	Middle	Wildflower
NA	Veronia noveboracensis	New York ironweed	Mid-Atl Pied/Coast Pl	Ponding/Middle	Wildflower
NA	Carex stricta	Tussock sedge	Mid-Atl Pied/Coast Pl	Ponding	Grass
NA	Elymus canadensis	Canada wild rye	Mid-Atl Pied/Coast Pl	Middle/Upper	Grass
NA	Hystrix patula	Bottlebrush grass	Mid-Atl Pied/Coast Pl	Middle/Upper	Grass
NA	Juncus effusus	Soft rush	Mid-Atl Pied/Coast Pl	Ponding	Grass
NA	Panicum virgatum	Switch grass	Mid-Atl Pied/Coast Pl	Ponding	Grass
NA	Schizachyrium scoparium	Little bluestem	Mid-Atl Pied/Coast Pl	Upper	Grass

Landover & Annapolis Roads: 1955 Plan

Typical of other interchanges, the dual exits of Landover Road (MD 202) and Annapolis Road (Defense Highway, MD 450) were heavily disturbed during construction, and little vegetation remained. Three forest remnants are shown in dark green on the Annapolis Road planting plan (colorized), though it seems other forests may have existed to the north of the interchange that are not shown on the plan. Forests are not shown at all on the adjoining Landover Road plan (colorized), but they at least extended from the Annapolis Road sheet. Topographic lines on the later 1993 planting plan give evidence of land that was not graded during construction. (Graded hillsides tend to have relatively parallel and evenly spaced contours.) It is likely that forest remained in 1955 where the land was not regraded, and these presumed forests are shown in lighter green with hatching.

Plantings are mostly oaks and maples with a few other large deciduous species and numerous flowering trees. The vast majority of overstory trees planted are red oak (*Quercus borealis*, now *Q. rubrum*), pin oak (*Q. palustris*), scarlet oak (*Q. coccinea*) and red maple (*Acer rubrum*), and they are planted between the loops of the ramps and along the forest edges. There is more variety in ornamental trees, which include the genera: dogwood (*Cornus*), serviceberry (*Amelanchier*), redbud (*Cercis*), hawthorn (*Crataegus*), viburnum (Viburnum), crabapple (*Malus*), bayberry (*Mirica*), sumac (*Rhus*) and others. These were planted among the overstory trees, especially along exit ramps, and were clustered at the bases of bridge abutments.

The trees are drawn with smaller circles on this plan than on later plans, which makes them seem sparse. Had they been drawn larger, the proposed landscape would seem more enclosed and spatially diverse.





Composite base map: BAWA 842-80180 [id168726] - 1955 Landscape Planting - Various Locations (colorized)

DETAILED PLANTING PLANS

Integrity of 1955 Plan

Superimposing the colorized 1955 plan on a current aerial photograph reveals the influence of that plan on current vegetation. (The plans themselves do not align well with the photograph, so the plans are adjusted to line up as best as possible on the aerial image.) Overall, there is little integrity to the plantings indicated on the 1955 plan. There are numerous individual trees that can be reasonably dated to the 1955 plan based on their size, species, location, and these are outlined in yellow, but they do not represent the intention or the spatial character of the plan. However, they are among the oldest trees along the parkway, and as such they have historical significance on that account alone. There is no evidence of any ornamental trees remaining from this plan.

Existing forested areas marked on the plan are larger today than they once were, and they encompass adjacent areas that were planted with specimen trees. Some of the older trees along the edge of the forests appear to be those specimen trees planted in 1955. Often the forest extends up to the edges of roadways or former ramps, and this suggests that succession was allowed to proceed between the forest and the roadways. It is unclear if this was the intention of the plan.

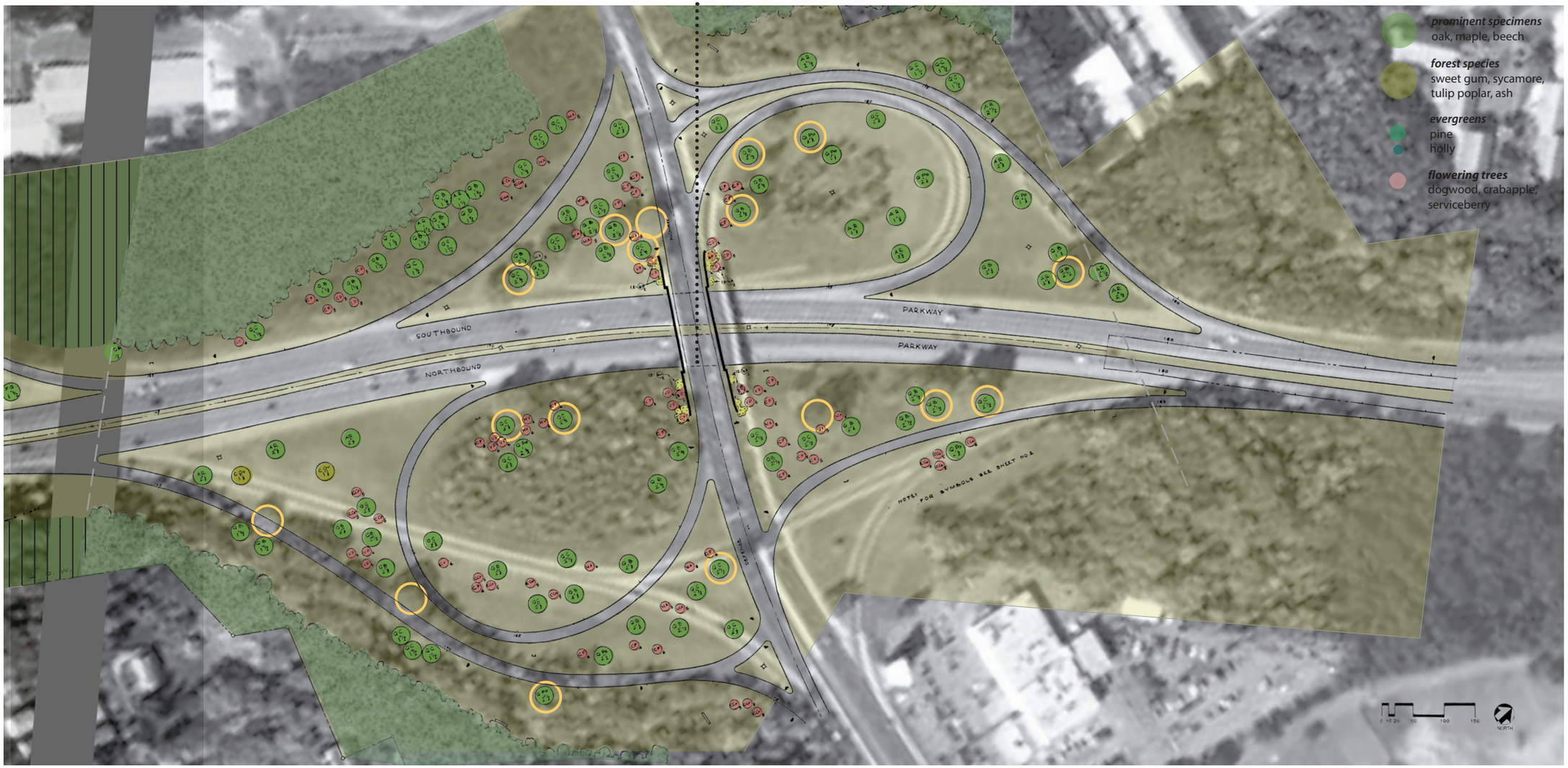
Two entry loops bear noting. The northbound entry from Landover Road has numerous older trees around its perimeter and many invasive species growing among them. The area is largely a messy tangle of vegetation rather than the grove of large trees that was intended. A former northbound entry loop at Annapolis Road circumscribed an area that is now a brushy area with many invasive and early successional plants. It seems to have been released from mowing at some point before the loop was removed, leading to its current status.

Interchange:
Landover Rd, MD 202



0 50 100 200 300 400 ft.

Interchange:
Annapolis Rd, MD 450



*** NOTE: Aerial imagery from NPS GIS data: I need a date on the imagery, and how to I cite the data?*

DETAILED PLANTING PLANS

Landover & Annapolis Roads: 1993 Plan

The 1993 planting plan (colorized) for the Landover and Annapolis Road interchanges is more elaborate than the 1955 plan. It includes more diverse overstory plantings; evergreen trees planted to screen objectionable views; native grass meadows; and fewer, less diverse ornamental plantings. Surrounding forests have expanded since 1955, and roadways have changed, as well. Landover Road was widened and its bridge reconstructed, and the complicated ramps on the southeastern side were reconfigured. Two ramps were removed from the Annapolis Road interchange, and the lanes of the Parkway itself were widened with added mountable curbs.

This interchange illustrates the planting strategies used along the length of the parkway. Oaks and maples are dominant overstory trees, the only species planted in open areas. Other species of the regional forests are also planted to expand or reinforce forest edges. Pines and hollies are planted to screen adjacent properties, with pines also planted to screen Annapolis Road and frame its bridge over the Parkway. Flowering trees accentuate exit ramps and ornament the edges of the forest.

Most species planted are native to the forests of the piedmont and coastal plain, however several species are hardier substitutes for native species. Kousa dogwood (*Cornus kousa*) and Japanese flowering crabapple (*Malus floribunda*) substitute for native species, presumably because their local counterparts are more susceptible to diseases. London plane tree (*Platanus x acerifolia*) is planted instead of the native sycamore (*P. occidentalis*).

Native grass meadows are proposed within and adjacent to the loops of the interchanges. Mowed lawn of varying width separates the meadows from the roadways, but the shapes of the meadows seem arbitrary in places, disregarding topography or likely patterns of mowing.

Interchange:
Landover Rd, MD 202



0 50 100 200 300 400 ft.



Composite base map: BAWA 842-41914B [id22876] PlantingPlan, 1993 (colorized)

DETAILED PLANTING PLANS

Integrity of 1993 Plan

Superimposing the 1993 plan on a current aerial photograph shows how little integrity the plan has in the present-day landscape. Very few specimen trees and none of the flowering trees remain from the plan, and there are no native grass meadows. Where specimen trees do remain, they are often characterized by having low limbs that shelter shrubs and vines. This makes for a mass of messy vegetation rather than the free-standing oaks and maples envisioned in the plan. Forests have established in places where forest species reinforced their edges, but they have extended into areas where meadows were proposed. This is especially evident where successional shrubland is colonizing the former southeastern loop of the Annapolis Road interchange. Overall, the state of this interchange typifies other interchanges. The plan calls for numerous specimen and flowering trees that would populate the otherwise open spaces, articulating the median and making a varied spatial experience as drivers enter and exit the parkway. Instead, there are basically only two realms, open grass and forest edge. There is very little spatial and experiential diversity.

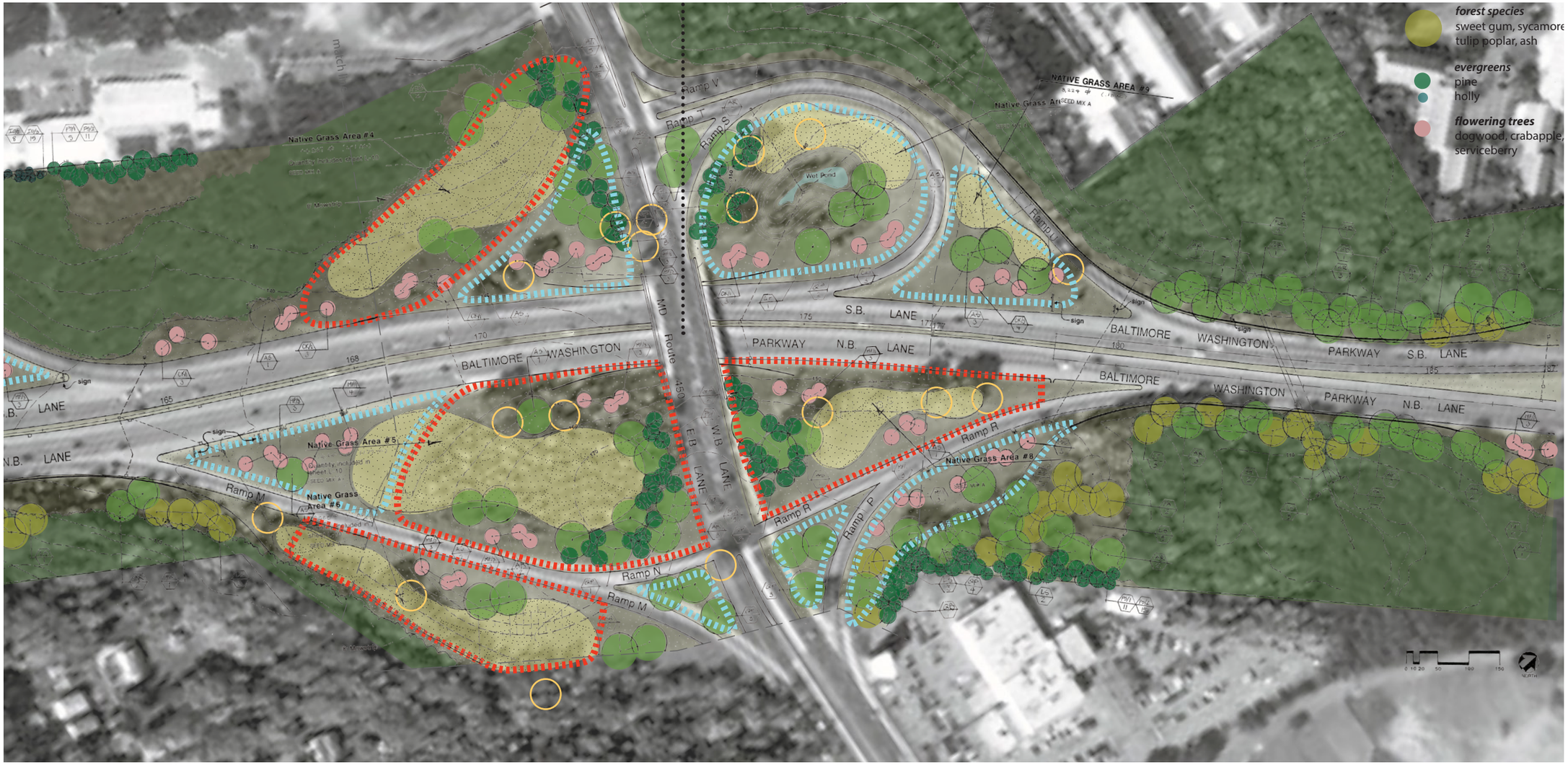
Areas for potential restoration are identified with blue dashed lines. These are places where open grass exists, and the proposed trees could easily be replanted. Areas marked in red dashed lines require rehabilitation because the existing conditions do not allow for easy restoration. This may include different planting plans, reconfiguration of native grass meadows and accepting of new forest edges.

Interchange:
Landover Rd, MD 202



0 50 100 200 300 400 ft.

Interchange:
Annapolis Rd, MD 450



*** NOTE: Aerial imagery from NPS GIS data: I need a date on the imagery, and how to I cite the data?*

PLANTING GUIDELINES

Landover/Annapolis Roads Interchanges

This proposal for the Landover and Annapolis Road interchanges is intended to illustrate several guidelines for restoring and rehabilitating plantings along the parkway.

1. The 1993 planting plans should serve as the basis for restoration and rehabilitation, though the planting list should be expanded to include plants from previous plans. (See pp. xx)

2. Trees remaining from the 1955 plan are the oldest trees along the parkway and should be specially cared for and their stature enhanced by carefully maintaining them in appropriate spaces.

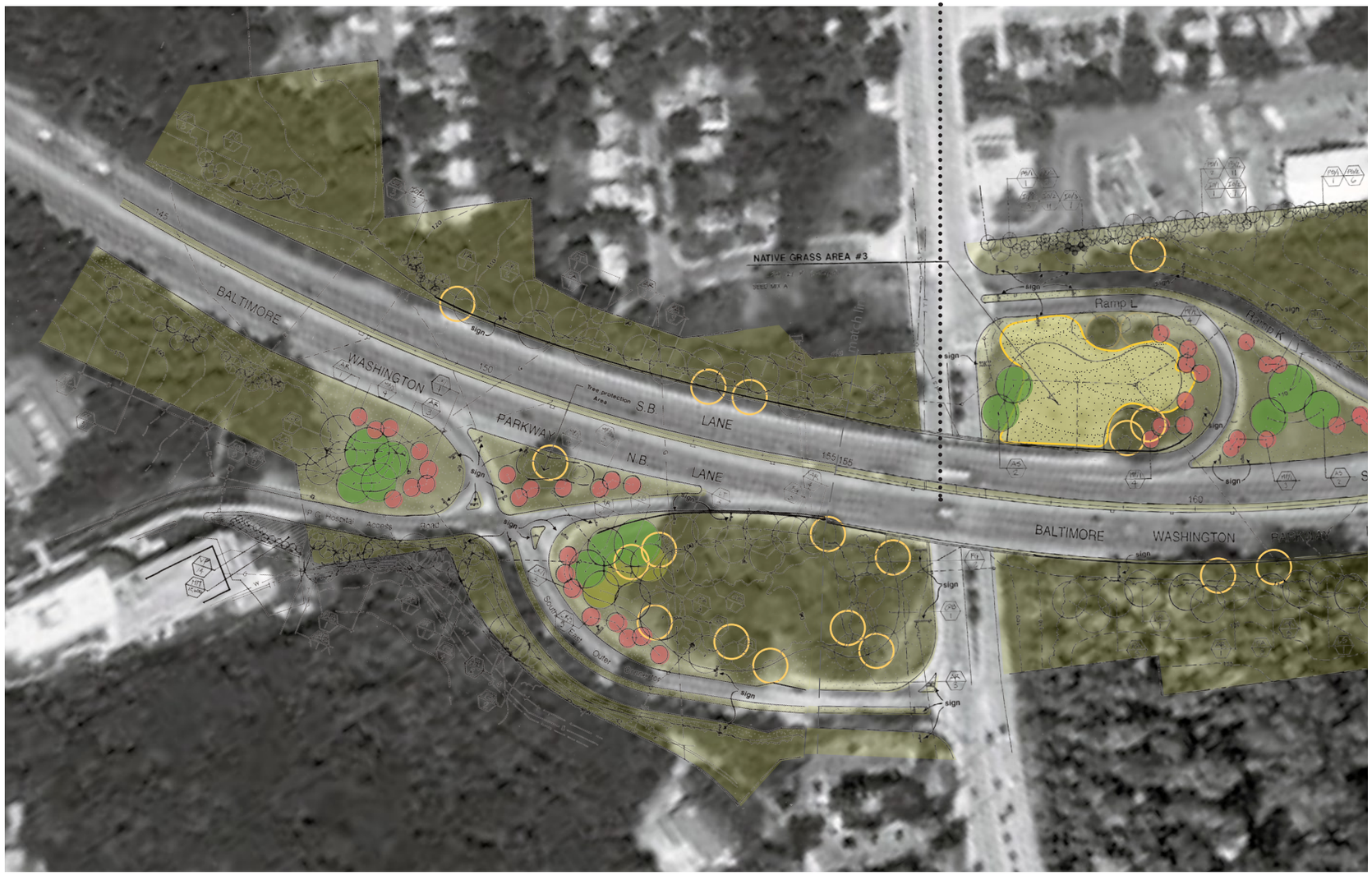
3. Open grass areas should be replanted with specimen and flowering trees where possible, especially within the loops and triangles associated with the interchange ramps. Visibility should be maintained for merging traffic.

4. When direct restoration is not feasible, plantings similar to those in the 1993 plan should be implemented to rehabilitate the plan.

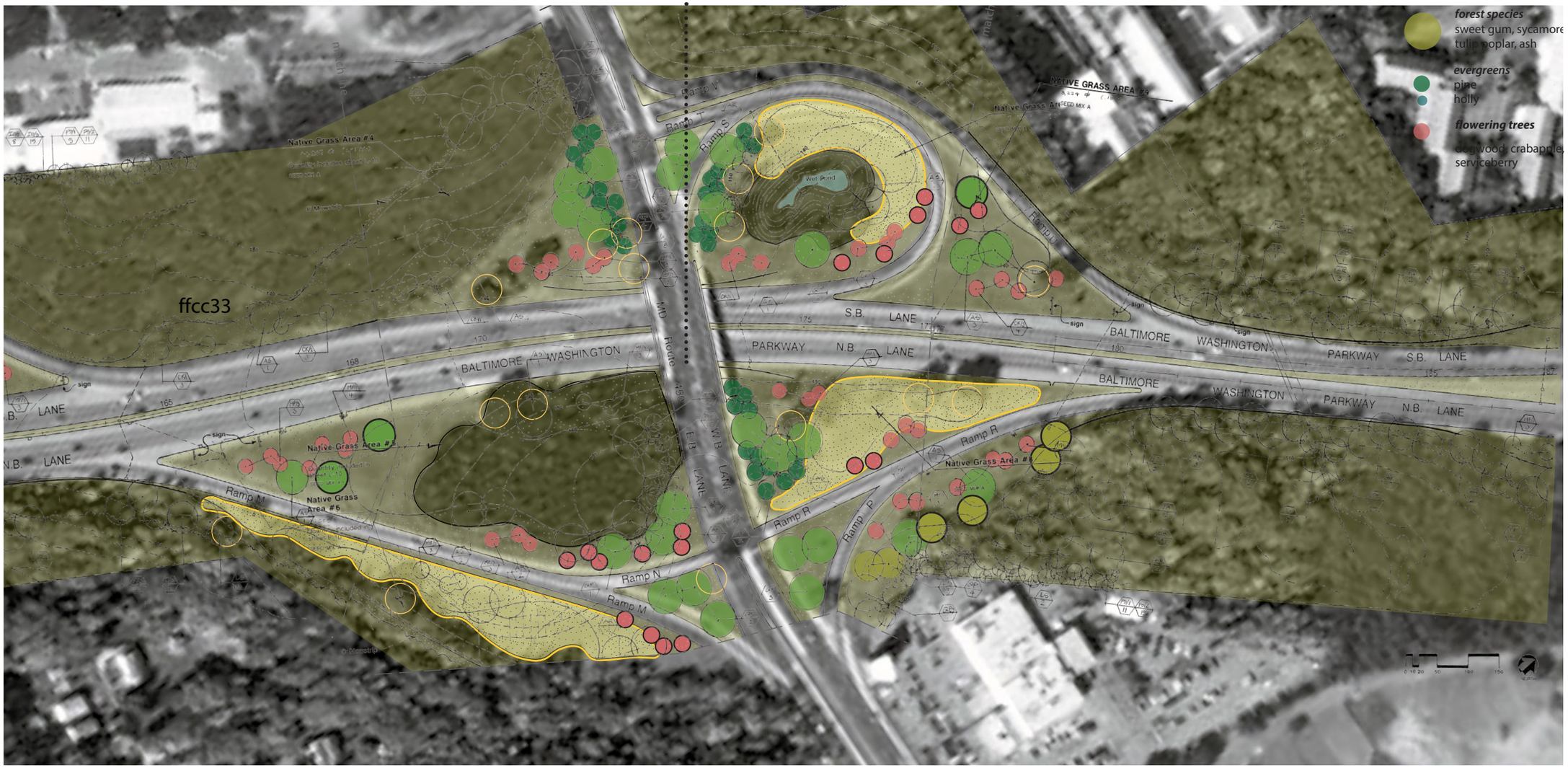
5. Native grass meadows should be reconfigured to reflect topographic conditions and mowing patterns, for example, trees should be planted at meadow edges so they don't interfere with mowing.

6. Existing trees should be limbed up to allow easier mowing around them.

Interchange:
Landover Rd, MD 202



Interchange:
Annapolis Rd, MD 450



*** NOTE: Aerial imagery from NPS GIS data: I need a date on the imagery, and how to I cite the data?*

ROUTE 410 INTERCHANGE

1993 Planting Plan

The Riverdale Rd/MD 410 interchange has four simple ramps veering gently from the parkway to intersect Riverdale Road as it crosses under the parkway. A 1954 photograph shows a grassy median sloping down to meet the grade of Riverdale Road, and undisturbed forest is visible in the background. (1)

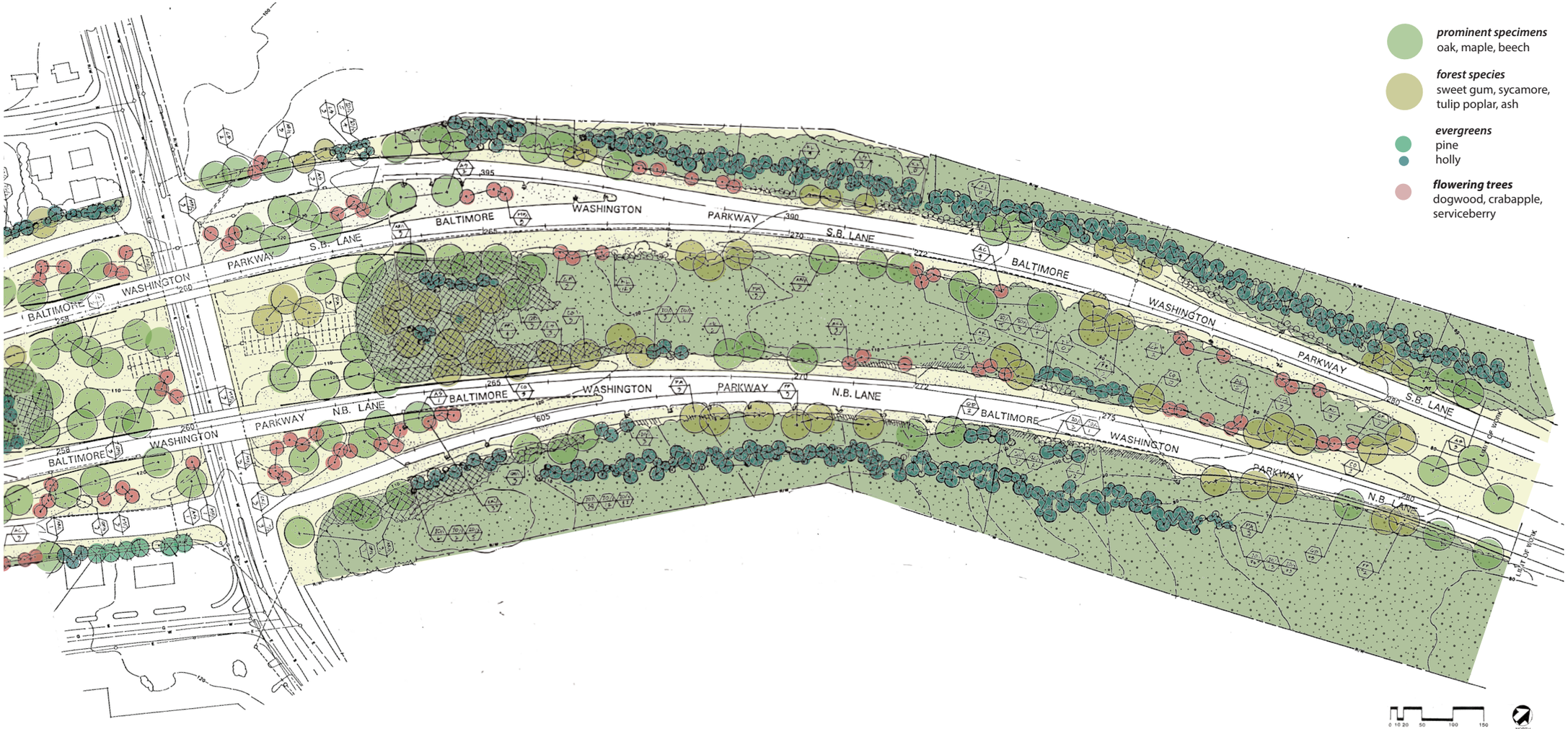
Typical of other 1990s plans, the 1993 planting plan calls for specimen oaks and maples in the median on the lower terrain adjacent to Riverdale Road, and forest restoration on the upper slopes to expand the existing forest. More specimen oaks and maples are planted with flowering trees in the narrow, sloping triangles between the ramps and the main roadway. Consistent with other interchanges along the parkway, these would serve as a transition between the vernacular landscape adjacent to the parkway and the forested landscape of the parkway itself. The plan also calls for densely planted American holly (*Ilex opaca*) to screen adjacent development. The edges of the forests are reinforced with overstory species typical of the regional forests, and additional native flowering trees embellish the edges of the forest, perhaps to signal subtly that the interchange is near at hand.

1. Open median at Riverdale Road interchange, 1954 (NARA 54-2248)





0 50 100 200 300 400 ft.



Composite base map: BAWA 842-41914B [id22876] PlantingPlan, 1993 (colorized)

ROUTE 410 INTERCHANGE

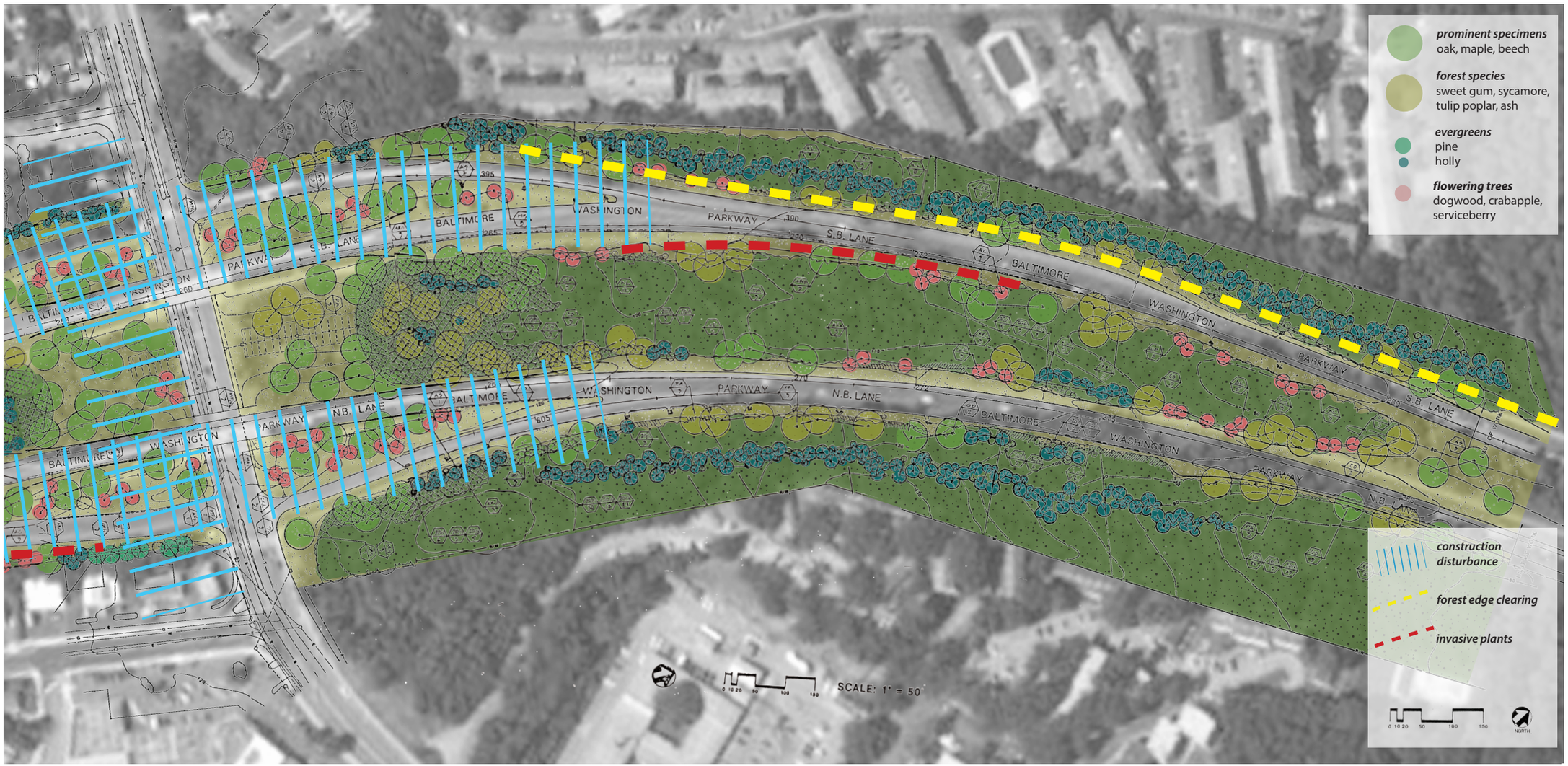
Integrity of 1993 Plan

As of the late 2010s, successional forest and shrubland had filled the median all the way down to Riverdale Road, and there is no sign of the specimen oaks and maples in a contemporary aerial photograph. A few of the trees planted remain in the narrow triangles and also in the planted median to the south of the interchange, but overall the landscape retains little of the designed character of the 1990s planting plan. It is mostly forest or open grass.

Construction of the Purple Line light-rail along Riverdale Road has necessitated complete reconstruction of the bridges to accommodate the new tracks, and this has fully disturbed the forest along either side of Riverdale Road creating a need to rehabilitate the 1993 planting plan. Furthermore, recent clearing of the understory along the western side has exposed the forest edge to colonization by invasive species. Due to the substantial additional disturbance from construction of the Purple Line, these edges are especially vulnerable to dominance by invasive plants.



0 50 100 200 300 400 ft.



*** NOTE: Aerial imagery from NPS GIS data: I need a date on the imagery, and how to I cite the data?*

ROUTE 410 INTERCHANGE

Rehabilitation Plan

Construction of the Purple Line has significantly disturbed the forest adjacent to the interchange and along the ramps connecting to the main northbound and southbound lanes of the parkway. This disturbance directly impacts the vegetation along the parkway and necessitates restoration or rehabilitation of those areas directly impacted. It also makes the edges of the adjacent forests especially vulnerable to colonization by invasive species, which thrive on disturbance.

Following the guidelines for vegetation restoration and rehabilitation described in the previous planting section, the 1993 plan should serve as the basis for restoration and rehabilitation. The four narrow, sloping triangles between the ramps and the main roadway can be restored to a combination of specimen oaks and maples with native, flowering trees as indicated in the 1993 plan. This can serve as a model of the 1993 planting design and the transitional landscape it envisioned. The median between the northbound and southbound lanes has succeeded to forest since the 1990s, and it is reasonable to reestablish the forest where construction has disturbed it. Following the strategy used in the 1990s plans, it should be planted densely with species of the local forest as identified in the recommended plant list. (pp.xx).

The edges of the forest north and south of the interchange are especially vulnerable to colonization by native plants, and these edges should be heavily planted with understory trees and shrubs at the shade line and mowed in the sunshine, following the recommended forest edge management strategy. (pp. xx-yy) This should extend at least half a mile in each direction, where hollies had been specified in the 1993 plan.



0 50 100 200 300 400 ft.



*** NOTE: Aerial imagery from NPS GIS data: I need a date on the imagery, and how to I cite the data?*

SOUTHERN ENTRANCE

Rehabilitation Plan

The southern end of the parkway is a complicated interchange that fragments the landscape into numerous parcels among its loops and ramps. Three planting plans have been implemented, two related to parkway construction and the third related to Lady Bird Johnson's capital beautification program. Adding to the complications, NPS only has jurisdiction over the western portion of the interchange.

As shown in Chapter Six (pp. xx-yy) the 1955 and 1993 planting plans proposed large specimen oaks and maples and ornamental trees to create a pastoral landscape against the backdrop of nearly continuous forest. Both plans used species of the regional forests, and the 1993 plan included forest restoration, meadows, and wetlands, especially in the large median at the hinge point of the interchange. The 1966 plan had a different style and intention, highlighting the entrance to the capital. Clusters of species – often a pine, a flowering tree and a shrub – are in linear arrangements that mimick the curvature of the roadway.

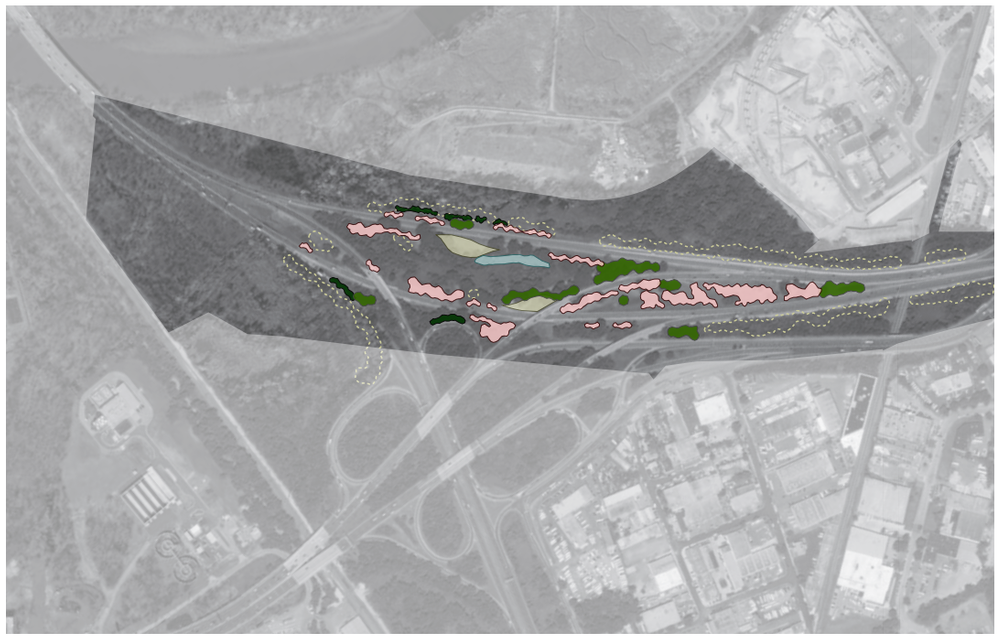
Much of the vegetation today is a tangled mess of invasive plants, especially in the segments outside NPS jurisdiction. Despite the invasive plants, the overall character of the NPS portion is fairly true to the 1993 plan. The western edge and the large central median are mostly forested with grass edges and a few large oaks from 1955. However, there are almost no ornamental trees, and the long, northernmost median is mostly grass with few trees remaining of its original plantings. Perhaps more critical, with overgrown vegetation and numerous lanes of merging traffic, there is no sense of having arrived at the entrance to the capital or the beginning of the Baltimore-Washington Parkway.

The long, northernmost median is the most critical location for replanting. Both the 1955 and 1993 plans called for a typical mix of oaks and maples used as specimen trees along with numerous ornamental trees, but today the median is mostly open grass with a handful of large trees and shrub masses. *Rehabilitation* of the 1990s plan is recommended (in lieu of restoration) to take advantage of the median's prominent swale for stormwater infiltration and to cultivate more distinct and prominent vegetation to mark the entrance to the parkway and the capital.

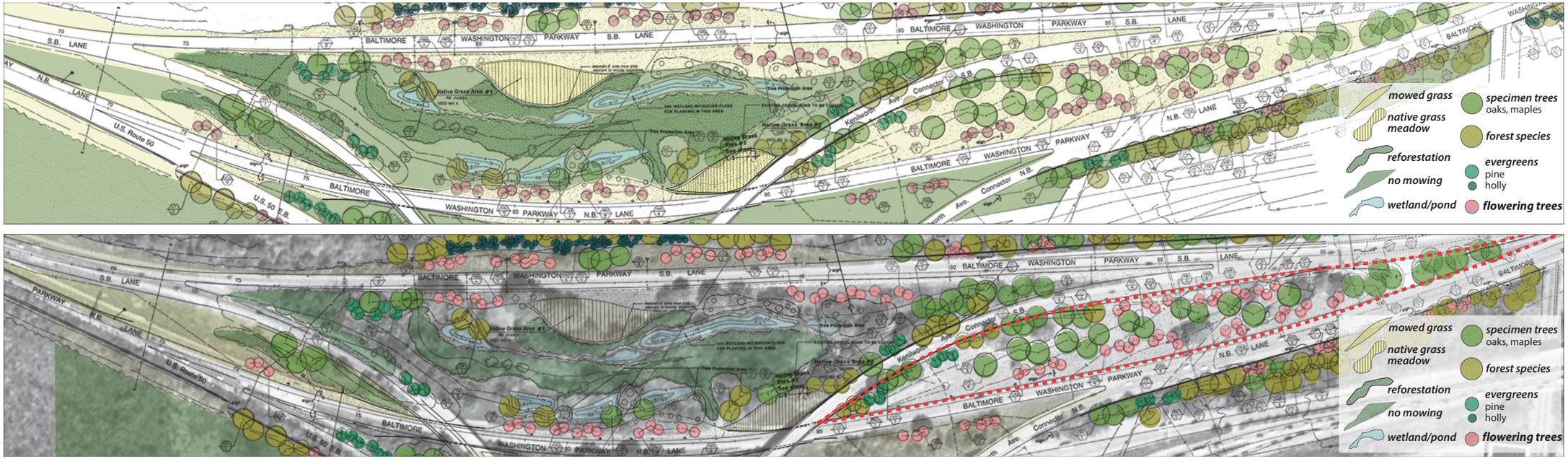
The proposal is simple: a large grove of majestic oaks with ornamental rain garden shrubs in the swale and flowering trees on higher ground. The oaks – willow oaks (*Quercus phellos*), pin oaks (*Q. palustris*) and swamp white oaks (*Q. bicolor*) – all tolerate wetter conditions, and raingarden species should be chosen for their ornamental qualities, especially winterberry (Ilex verticillata) and red-twigged dogwood (Cornus sericea). Ornamental trees can be consistent with those of the rest of the parkway plans. Collectively, the grandeur of the oaks with ornamental trees and shrubs beneath them, would make a strong image at the northern point of the interchange just as drivers begin their journey up the parkway or into the capital. It would be a prominent grove marking this important transition.

Photo of vegetated swale, north of Defense Highway, 1954 (NARA 54-2250)



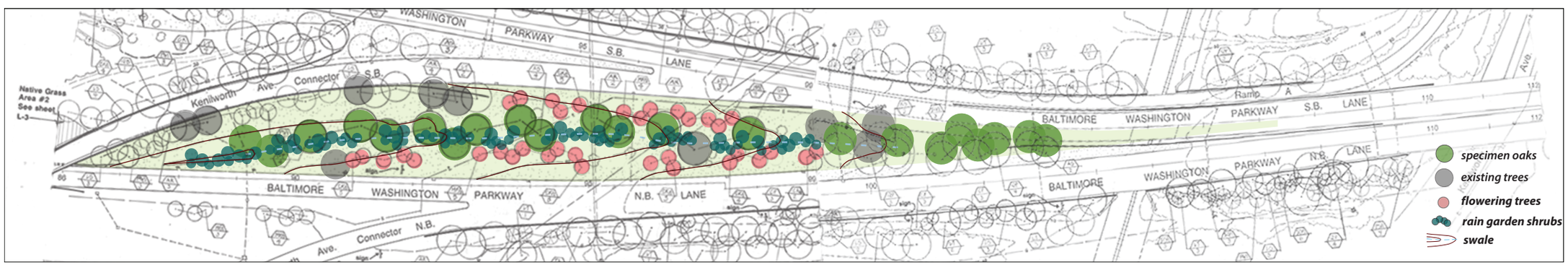


Overall plan of interchange showing extent of planting in 1993 planting plan. (See also Chapter Six)



0 100 200 400 600 800 ft.

1993 planting plan (top), superimposed on aerial photograph (bottom). Composite base map: BAWA 842-41914B [id22876] PlantingPlan, 1993 (colorized)



0 50 100 200 300 400 ft.

Proposed rehabilitation planting plan for the long, northernmost median. Composite base map: BAWA 842-41914B [id22876] PlantingPlan, 1993 (colorized)

Articles and Reports

Bayliss, Dudley C., "Planning our National Park Roads and our National Parkways." Washington DC: United States Department of the Interior, National Park Service, 1957.

Clarke, Gilmore D., "Landscape Construction Notes 35, Notes on Textures in Stone Masonry," Landscape Architecture, vol. 21, no. 3 (April 1931), pp. 197-208.

Eastern Federal Lands Highway Division, "Baltimore-Washington Parkway, Safety Study." Washington, DC: U.S. Department of Transportation, Federal Highway Administration, 2003.

Eastern Federal Lands Highway Division, "Final Construction Report – Project BW 1E16 (MD Route 197)," NPS TIC, BAWA 842/100502 [id167167], Washington, DC: U.S. Department of Transportation, Federal Highway Administration, 2007.

Ellicott, William M., "A National Capital Forest," with F.W. Besley, "A Report on the Washington Forest," American Forestry, June 1910, Vol. 4, 1910.

Ellicott, William M., "Report of the American Society of Landscape Architects on National Forest and Regional Plan." Washington DC, 1920, revised 1921, 1, in RG 66, Box 27, National Archives.

Eliot, Charles W., II, "Preliminary Report, Park System for the National Capital Washington Region." Washington, DC: National Capital Park and Planning Commission, February 1927. RG 79, Box 4, National Archives.

Historic American Engineering Record, "Baltimore-Washington Parkway", HAER MD-129. Washington DC: United States Department of the Interior, National Park Service, undated.

Krakow, Jere L., "Historic Resource Study: Rock Creek and Potomac Parkway, George Washington Memorial Parkway, Suitland Parkway, Baltimore-Washington Parkway." Washington DC: United States Department of the Interior, National Park Service, 1990.

National Park Service, "The Road Inventory of Baltimore-Washington Parkway", NPS TIC, BAWA 842/D31A [id117292]. Washington DC: National Park Service, Department of the Interior, 2001.

National Park Service, "National Register of Historic Places – Registration Form." Washington DC: United States Department of the Interior, National Park Service, 1991.

Drawings

National Park Service, “Turnaround Study – Section 1F1-1G1.” NPS TIC, BAWA 842/80117 [id196854]. Washington DC: National Park Service, Department of the Interior, Washington DC, 1952.

National Park Service, “Landscape Planting – Various Locations.” NPS TIC, BAWA 842/80180 [id168726]. Washington DC: National Park Service, Department of the Interior, 1955.

National Park Service, “Landscaping – U.S. Route 50 and Kenilworth Interchange.” NPS TIC, BAWA 842/80465 [id154916]. Washington DC: National Park Service, Department of the Interior, 1966.

National Park Service, “Landscaping – Capital Beltway.” NPS TIC, BAWA 842/80478 [id1863]. Washington DC: National Park Service, Department of the Interior, 1966.

National Park Service, “Landscape Plan – NSA Interchange and Access Road.” NPS TIC, BAWA 842/41010 [id159712]. Washington DC: National Park Service, Department of the Interior, 1986.

National Park Service, “Planting Plan.” NPS TIC, BAWA 842/41914B [id22876]. Washington DC: National Park Service, Department of the Interior, 1993.

National Park Service, “Planting Plan – Capital Beltway to Powder Mill Road.” NPS TIC, BAWA 842/41014 [id37624]. Washington DC: National Park Service, Department of the Interior, 1996.

National Park Service, “Planting Plan – Powder Mill Road to Route 175.” NPS TIC, BAWA 842/41017 [id18730]. Washington DC: National Park Service, Department of the Interior, 1996.

National Park Service, “Planting Plan (MD Route 32 Interchange).” NPS TIC, BAWA 842/ 41914D [id96181]. Washington DC: National Park Service, Department of the Interior, 1996.

National Park Service, “Baltimore Washington Parkway” (topographic map). NPS TIC, BAWA 842/41012 [id69141]. Washington DC: National Park Service, Department of the Interior, undated.

Photographs

National Archives, RG 30, Bureau of Public Roads, Prints: Highway Transport 1951-1959. Highways – National, Baltimore-Washington Parkway. Box no. 322. NN-366-112.