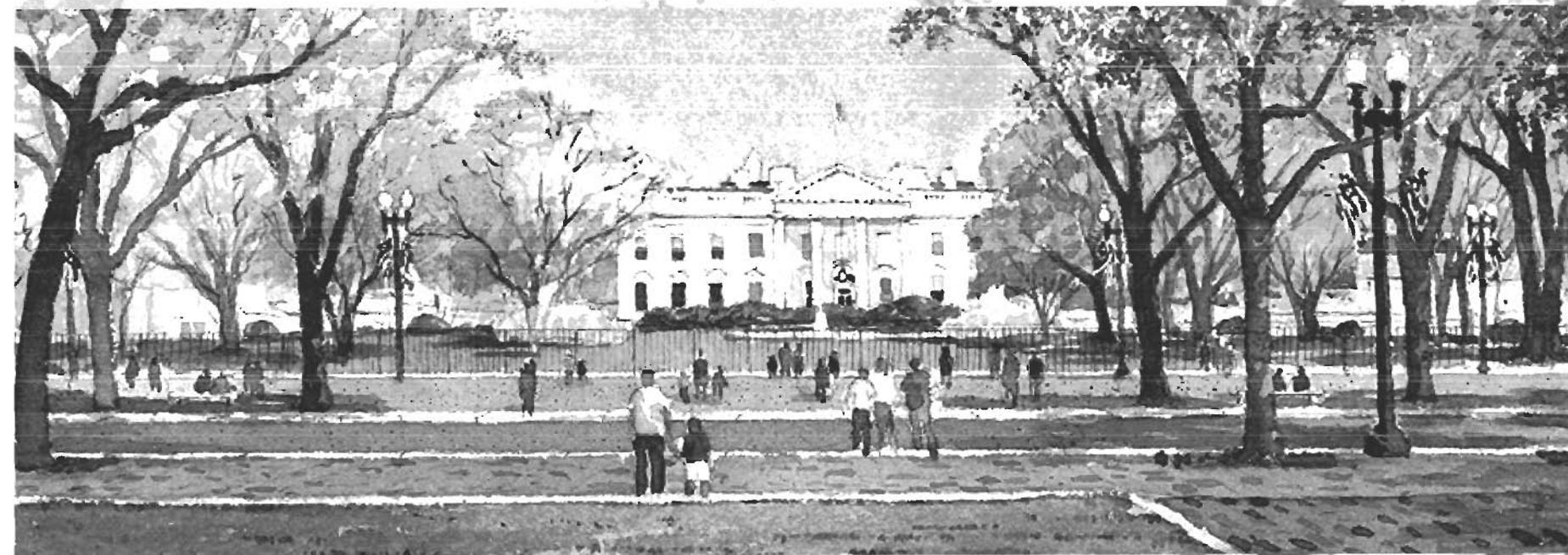


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The National Capital Urban Design and Security Plan



NCPC NATIONAL CAPITAL PLANNING COMMISSION

OCTOBER 2002
November 2004 Addendum

The National Capital Urban Design and Security Plan is the result of close collaboration among the federal and District of Columbia governments, the professional planning and design community, security agencies, and civic, business, and community groups. The Interagency Security Task Force invited key public and private stakeholders to participate as members of its Core Advisory Group. During early development of the plan, National Capital Planning Commission staff presented its security design work to dozens of audiences in Washington and around the country. The plan was released in draft for public comment in July 2002. The Commission received dozens of responses from groups and individuals and carefully considered those comments in the preparation of this final plan.

The National Capital Urban Design and Security Plan is available from the National Capital Planning Commission offices and is online at www.ncpc.gov.

First Printing October 2002

Second Printing November 2004



The National Capital Planning Commission is the federal government's planning agency in the District of Columbia and surrounding counties in Maryland and Virginia. The Commission provides overall planning guidance for federal land and buildings in the region. It also reviews the design of federal construction projects, oversees long-range planning for future development, and monitors capital investment by federal agencies.

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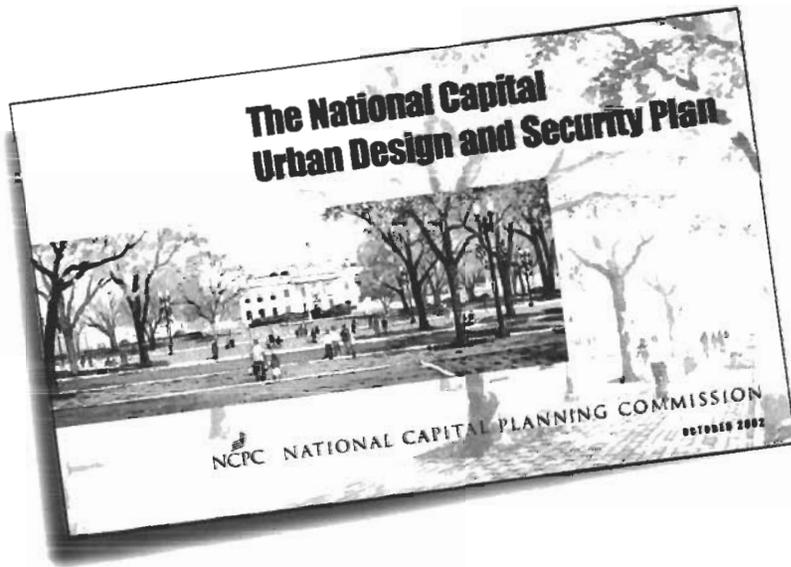
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NATIONAL CAPITAL URBAN DESIGN AND SECURITY PLAN ADDENDUM

When the National Capital Planning Commission released *The National Capital Urban Design and Security Plan* in October 2002—little more than a year after the September 11 terrorist attacks—security design was in its infancy. The NCPC plan has since led the nation in exploring innovative urban design solutions to meet heightened perimeter security requirements. In Washington’s monumental core, the design policies outlined in *The National Capital Urban Design and Security Plan* are transforming the way the federal government secures its land and buildings. The plan has dramatically altered the building-by-building approach traditionally employed by federal agencies. Today, federal security planners are working together in multi-agency efforts to develop coherent design plans that run the length of streets and across multi-block precincts. In designing their security installations, federal agencies are now collaborating with their neighbors to achieve aesthetic continuity.



“Security must not be gained at the expense of the very qualities we seek to protect—accessibility, openness, and civic beauty.”

Richard L. Friedman
NCPC Interagency Security Task Force Chairman

NCPC’s groundbreaking plan also has served as a model for the nation’s planning and design community. NCPC commissioners and staff members have presented the plan across the country at the request of numerous groups in the professional community, including the American Society of Landscape Architects, the American Institute of Architects, and the American Planning Association. In addition, planners from cities big and small have sought NCPC’s advice as they work to develop their own security guidelines. Even planners in foreign capitals such as Ottawa, Canada and as far away as Canberra, Australia are using the NCPC plan as a model for similar initiatives in their own capital cities. Today, architects and planners in the United States and around the world are working together to integrate new security measures into the public realm in ways that demonstrate that security and great urban design can be compatible. For its part, NCPC is committed to advancing the use of security solutions that do not threaten the very qualities we seek to protect—accessibility, openness, and civic beauty.

Reinforced street furniture such as the pieces shown here can serve as vehicle barriers while maintaining an attractive and welcoming civic space.



Design and Testing of Security Elements

In the past year the National Capital Planning Commission has joined with the Department of State, the Federal Highway Administration, the General Services Administration, the National Park Service, the Secret Service, the Architect of the Capitol, the National Crash Analysis Center, and the Department of Homeland Security to work with private-sector vendors to develop the hardened street furniture called for in *The National Capital Urban Design and Security Plan*. Federal agencies are looking to security providers to design a wide array of reinforced street benches, trash cans, lampposts, and other streetscape elements to serve as curbside vehicle barriers. The ready availability of such new and tested security elements is essential to the successful implementation of *The National Capital Urban Design and Security Plan*. Otherwise, if faced with pressing security concerns and the absence of immediately available alternative and attractive designs, federal agencies will resort to the long, monotonous rows of bollards and planter pots that have already been greatly overused.

To allow agencies the time it takes to design and install more thoughtful, permanent security measures, NCPC developed policies to allow federal agencies to install temporary barriers while long-term solutions are crafted. The policies state that temporary security measures intended to be in place for more than 60 days are subject to NCPC's review and that temporary security measures may not be in place longer than two years.

Implementation of NCPC's security plan continues to move forward in the nation's capital, much of it as originally envisioned. Agencies are conducting risk assessments of their facilities and installing security measures as their needs dictate and their funding permits. In cases requiring design solutions along streetscapes or across multiple blocks, agencies have been consulting with one another, often with NCPC serving as a facilitator among the multiple partners.

In some cases security measures have increased beyond those conceptually outlined in the plan. To address these developments, NCPC has reconvened its Interagency Security Task Force and plans to update *The National Capital Urban Design and Security Plan*.

Transforming Public Spaces



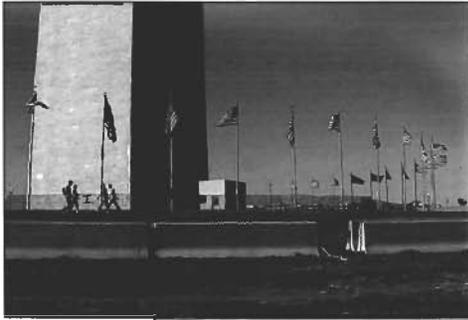
Numerous projects outlined in NCPC's urban design and security plan are already completed or are under construction at some of the nation's most symbolic civic sites.

PENNSYLVANIA AVENUE AT THE WHITE HOUSE

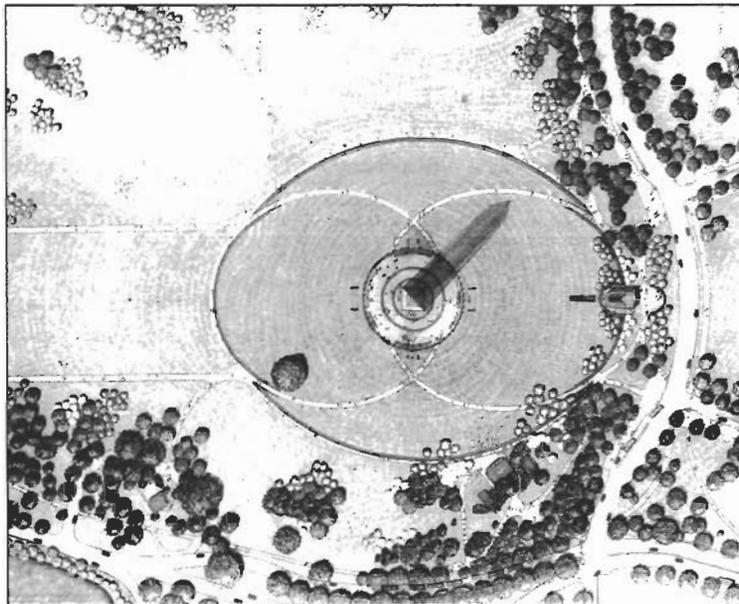
A dignified new civic space featuring pedestrian-friendly amenities and site furnishings now graces the famous stretch of Pennsylvania Avenue in front of the White House. As one of the most symbolically significant destinations in the nation, Pennsylvania Avenue was one of the first sites in NCPC's security plan to be completed. It officially reopened to pedestrians on November 9, 2004 during a ceremony with First Lady Laura Bush and the federal and local partners who collaborated on the effort.

The completed design closely follows the concept plan presented in NCPC's 2002 security plan. Twin-headed streetlights originally designed for Washington by Henry Bacon in 1923 now line the precinct. A rustic paving helps unify the White House grounds with Lafayette Park, and large granite pavers at the ends of the street and along the sidewalk reinforce the connection of the avenue to the city's urban fabric. In place of bulky planter pots, specially designed fluted bollards as well as retractable and removable bollards ensure a visually open setting. New guard booths complement the classical architecture found along the avenue, and more than 85 new American elm trees—due to be planted in spring 2005—will provide a welcoming canopy for pedestrians. The project's design is reversible and does not preclude the reopening of the avenue in the future, if and when the security environment permits.



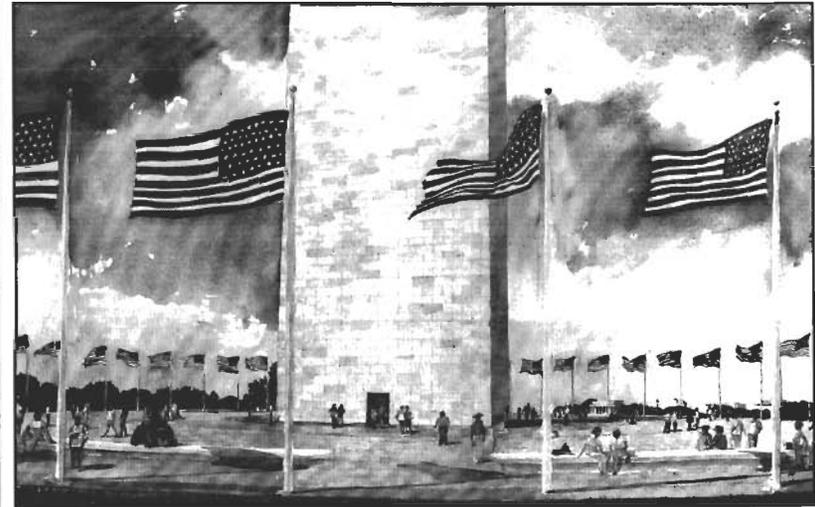


A ring of jersey barriers surrounded the Washington Monument prior to the security improvements.



WASHINGTON MONUMENT

In June 2003 the Commission approved the final security design for the grounds of the Washington Monument. The landscape project, which was in the planning stages at the time NCPC released *The National Capital Urban Design and Security Plan*, is now under construction and scheduled to be completed in 2005. The simple and minimally intrusive design features a series of oval walkways extending around the monument plaza at the base of the mound. These walkways are lined with curved and sunken seating walls that also serve as vehicle barriers. Granite will replace the asphalt surface of the monument's plaza, and curved white stone benches will form the outer edge of the plaza. Approximately 800 new shade and flowering trees will augment 400 existing trees, and new lighting and signage will grace the monument. The design retains the pastoral quality of this portion of the National Mall and allows visitors to enjoy the grounds and open space of one of Washington's most important iconic structures.

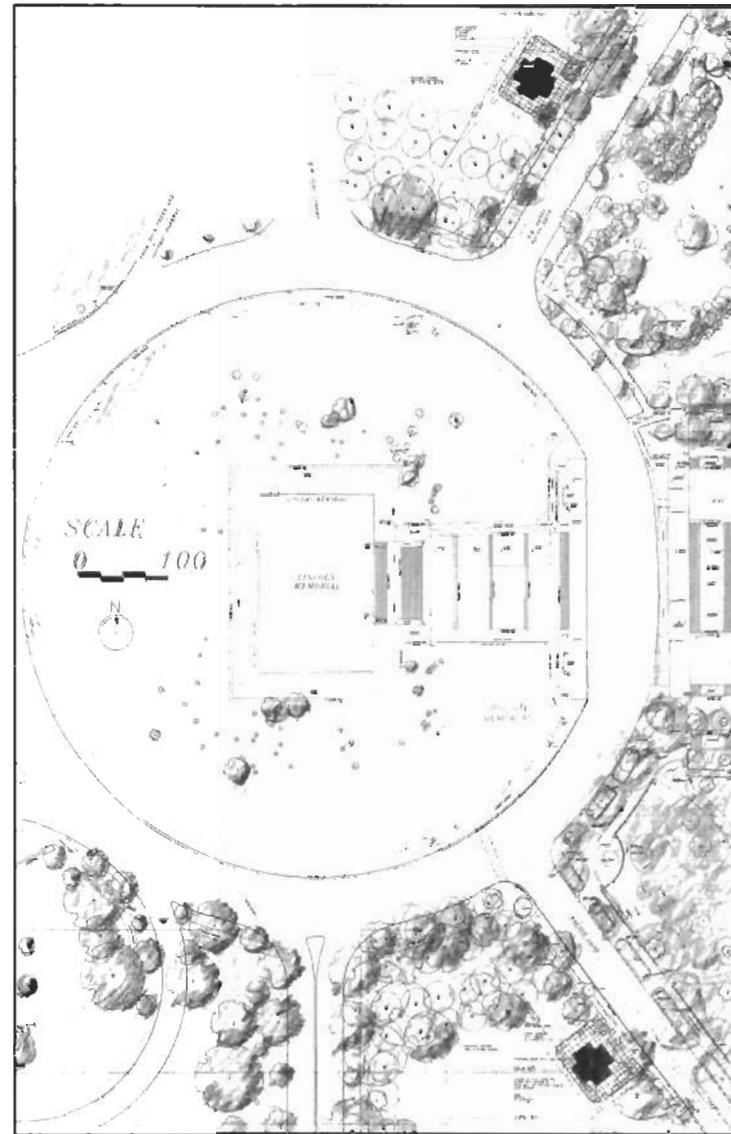
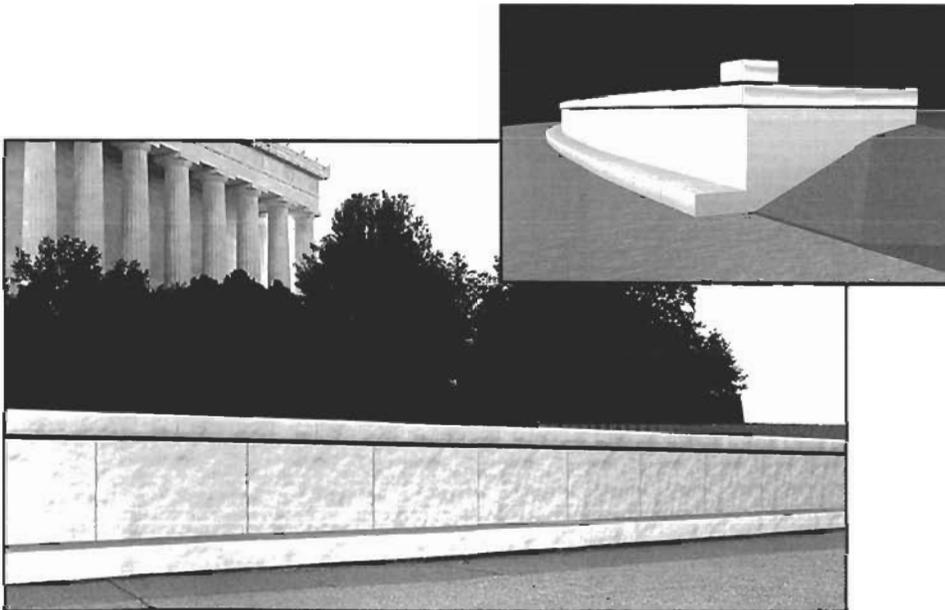


The new landscape plan for the Washington Monument features oval walkways, curved stone benches, 800 new trees, and new lighting.

LINCOLN MEMORIAL

The design of security improvements at the Lincoln Memorial, another project featured in the urban design and security plan, demonstrates the continuing challenge to find the right balance between appropriate security measures and site-sensitive design. Preliminary plans submitted by the National Park Service in December 2003 include a low wall to enclose the circular lawn on which the Lincoln Memorial sits. Other changes include traffic and pedestrian improvements, new street lights, and new concession buildings.

The plan generally employs materials, color, and massing that are compatible with the historic and architectural qualities of the memorial and grounds. However, on the critical east side of the memorial (Mall side), the Park Service proposed a long line of bollards above the stairs to the Reflecting Pool, at the outer edge of the Lincoln Memorial Circle. In the Commission's view a long row of bollards would form a visual and physical barrier between the memorial and the Reflecting Pool, two elements that are physically, historically, and symbolically linked. The Commission has asked the Park Service to refine its design with fewer bollards in order to minimize the visual impact that a continuous row of bollards would create.



An aerial view of the Lincoln Memorial. New security measures include a granite wall (shown left) that will encircle the memorial at the lawn's edge. Other planned changes include traffic and pedestrian improvements, new street lights, and new concession buildings, in red above.

SMITHSONIAN INSTITUTION

In October 2004 the Commission approved preliminary plans for perimeter security measures for nine Smithsonian museums on the Mall. The Commission appreciated the Smithsonian's adherence to many of the tenets of the urban design and security plan such as establishing security lines within the building yard rather than in the public space; incorporating security into already existing site features when possible; respecting the monumentality of Independence and Constitution Avenues; custom designing solutions at entryways and plaza areas; and establishing a comprehensive tree planting program.

Due to differences in architecture, streetscape elements, and roadway conditions, the Smithsonian tailored its designs to each facility. Along Independence Avenue, for example, existing walls will be hardened and custom-designed bollards will be used to secure pedestrian and vehicular entrances. Along Constitution Avenue the design calls for new freestanding walls on the inside edge of the sidewalk. Custom-designed benches, light poles, and urns will complement the historic fabric of the Mall precinct.



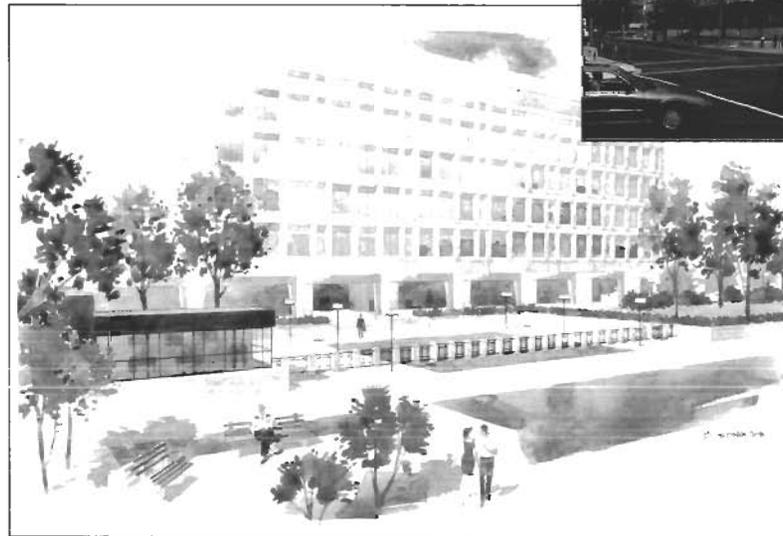
A low fence along Constitution Avenue will help to secure the National Museum of Natural History.



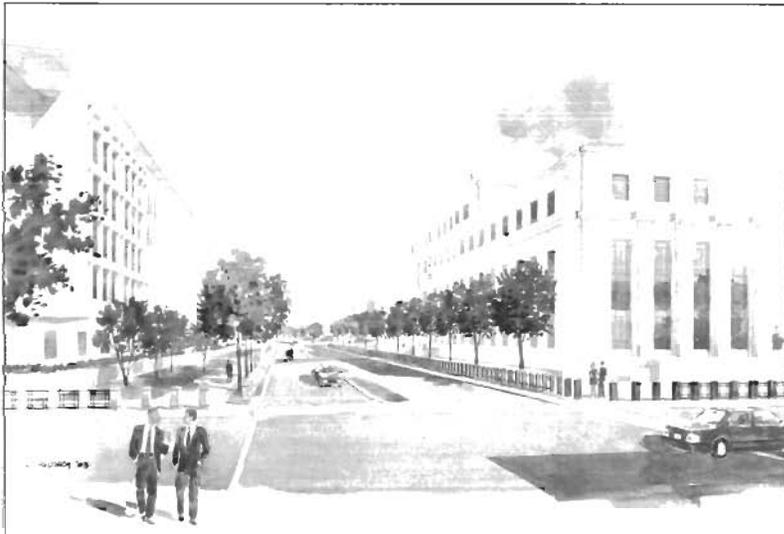
Outside the Smithsonian Castle, a landscaped retaining wall will provide attractive security.

FEDERAL RESERVE

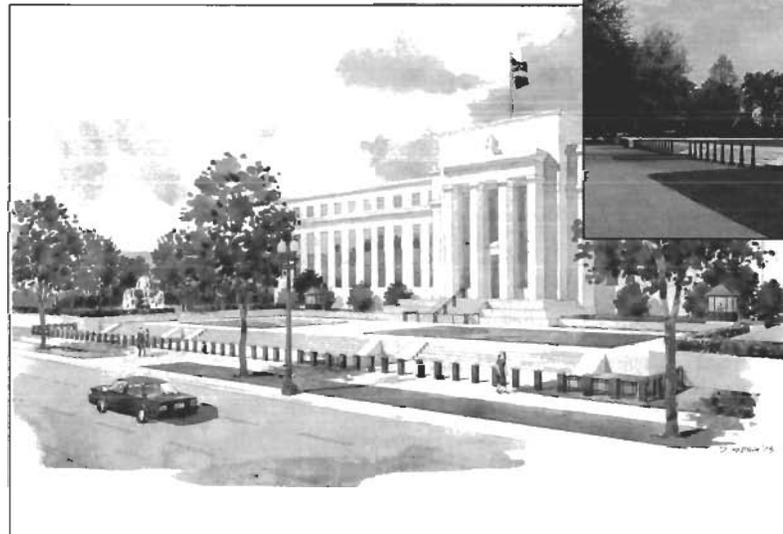
Recognizing the Federal Reserve's special security risk, NCPC allowed the Reserve to modify its security design for its Northwest Washington facilities. The Federal Reserve's two buildings have frontages on Constitution and Virginia Avenues, and C, 20th, and 21st Streets. The perimeter security proposal consists of landscape features including plinth walls and planters, bollards, and a fence wall. While NCPC did not envision the need for guard kiosks for this facility, the Federal Reserve has monitored pedestrian activity for more than a year and has concluded that 24-hour security guards and kiosks to shelter the guards are necessary. Similarly, while the NCPC plan proposed a wider sidewalk and plinth wall on the inside edge of the sidewalk on 21st Street, the Federal Reserve, in order to meet its recommended stand-off distance, intends to install a fence wall 18 inches from the curb line. The fence wall is depicted below in front of the buildings on 21st Street.



The Federal Reserve's Martin Building along Virginia Avenue, NW



The Federal Reserve's Eccles and Martin Buildings at the intersection of 21st and C Streets, NW



The Eccles Building along Constitution Avenue, NW

Responding to Heightened Security Measures

Security projects have become a significant focus of Commission activity and now account for nearly 30 percent of the projects that the Commission reviews.

Over the past two years the Commission has noted the evolution of federal security requirements and the heightened threat levels that federal security managers seek to protect against. While bomb-laden vehicles have been considered the prime threat and perimeter security measures to protect against those vehicles are the focus of *The National Capital Urban Design and Security Plan*, federal agencies are now also seeking protection against other threats such as chemical and suicide attacks. In response, agency security managers are considering an expanded array of security measures not envisioned in the urban design and security plan adopted by the Commission in October 2002. The Commission has grown concerned that these escalating threat assessments and potentially extreme security responses undermine its objectives for a vibrant capital city that showcases democratic ideals of openness and accessibility. In addition, the cost of ever more sophisticated security measures against an expanding array of threats is beginning to overwhelm individual agency budgets.

For these reasons the Commission has reconvened its Interagency Security Task Force to better understand the evolving threat environment; manage the risk assessment process; and develop reasonable, cost-effective security responses. The task force will update *The National Capital Urban Design and Security Plan* to reflect the changing security environment and the specific needs of federal installations and the communities that surround them.

While updating *The National Capital Urban Design and Security Plan*, NCPC will continue to work with federal agencies, the Office of Management and Budget, and Congress on funding strategies for comprehensive security design projects. Current funding patterns too often force agencies to adopt piecemeal approaches to their security installations. For example, agencies may receive funding for new well-designed guard booths but not for the adjacent entry area, or in some cases money is available to appropriately secure a garage entrance but jersey barriers continue to mar nearby curbs. The Commission recommends funding that enables agencies to develop complete security installations, and NCPC will continue to work with its partners to encourage the necessary funding for such coordinated projects.

The updated urban design and security plan also will provide guidance for the design of perimeter security solutions at federal facilities outside of the monumental core in the National Capital Region. Citizens and local officials are increasingly concerned about security measures at federal facilities that adversely intrude into their communities. Concerns include street closings, divisive perimeter fences, and limited public access to federal land. The updated plan will examine the security and design challenges these federal installations face, particularly where they abut non-federal property.

As the Commission advances its security design work, it will continue to work with its partners and stakeholders to find an acceptable balance between meeting legitimate security needs and creating lively, welcoming, and economically vibrant communities.

The National Capital Urban Design and Security Plan



Illustration: Michael McCann



NATIONAL CAPITAL PLANNING COMMISSION

OCTOBER 2002

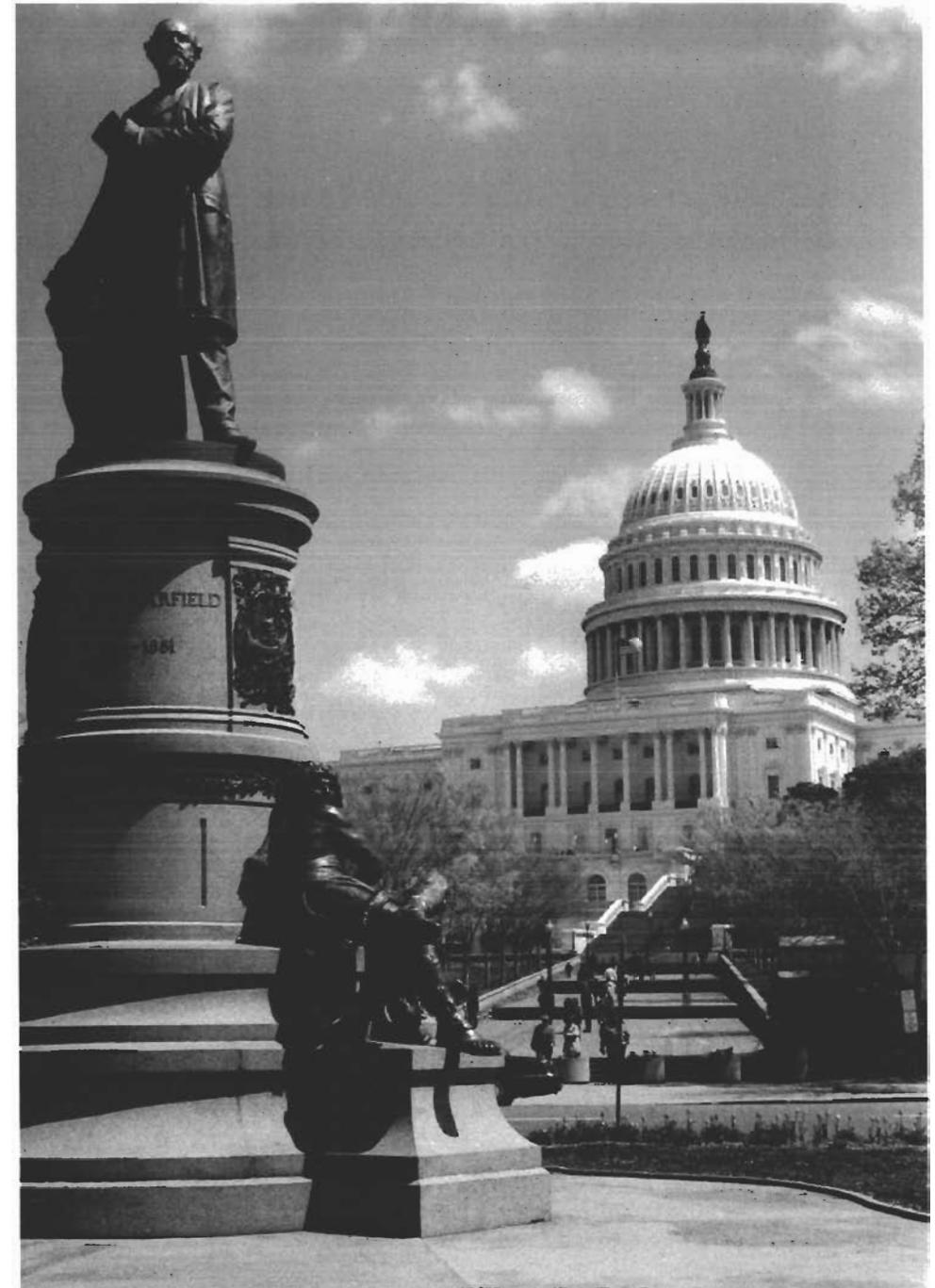
MESSAGE FROM JOHN V. COGBILL, III

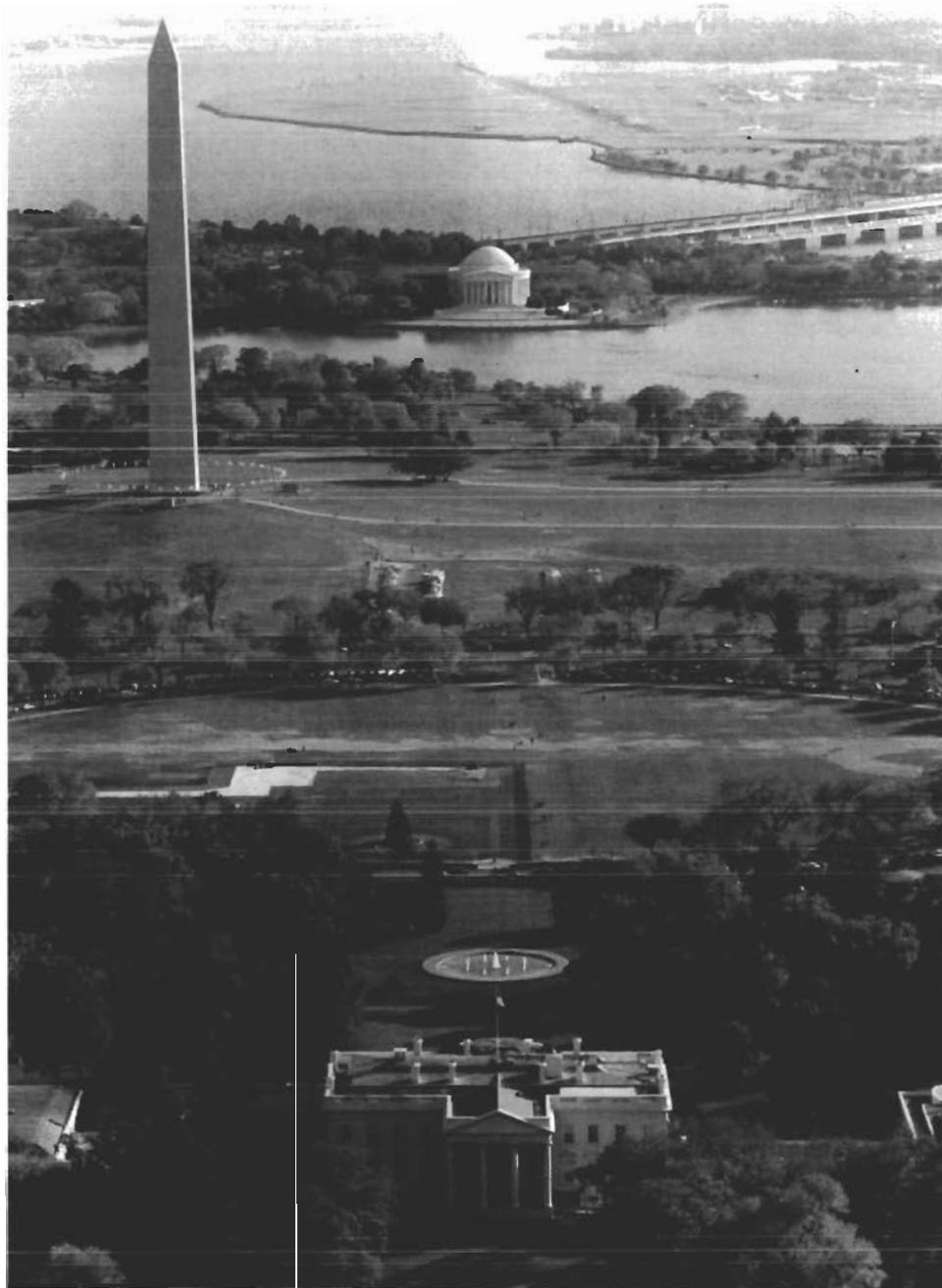
Chairman, National Capital Planning Commission

Great cities like great nations must continuously reinvent themselves to keep pace with a changing world. The Nation's Capital today is challenged to find acceptable ways to protect itself from new and unprecedented international threats. We are in uncharted waters, seeking innovative technology and design solutions to safeguard our citizens, national buildings, monuments, and civic spaces. But our security must not be gained at the expense of the very values and qualities that we seek to protect—accessibility, openness, and civic beauty. *The National Capital Urban Design and Security Plan* balances legitimate security needs with the preservation of Washington's historic urban design and character and its big-city vitality.

The Plan, which was prepared by the Commission's Interagency Security Task Force, reflects extraordinary collaboration among public agencies, the private sector, the professional design community, and citizens from many walks of life. After years of piecemeal and disjointed efforts, key stakeholders have finally come together to address security design issues in the Nation's Capital.

Task Force Chairman Richard Friedman deserves special recognition for his efforts on behalf of the Plan. It was his passionate commitment to restore dignity to Washington's streets that launched the effort in March 2001, and his vision that has since sustained it. We are indeed indebted to Mr. Friedman and to all of the Interagency Security Task Force participants who helped find a way to secure our city streets while protecting the civic ideals and public spaces we most treasure.





MESSAGE FROM RICHARD L. FRIEDMAN

Chairman, Interagency Security Task Force

The *National Capital Urban Design and Security Plan* addresses the alarming proliferation during the last decade of unsightly and makeshift security barriers that are negatively impacting the historic beauty of Washington, D.C. The Plan reflects our strong conviction that we can have both good urban design and good security; that as we invest to make our streets and public spaces safer, we can also make them more beautiful. Our goal has been to seamlessly integrate building perimeter security into consistent, coherent, and welcoming streetscapes that are truly worthy of the Nation's Capital. If we are to be a free and open society, then our public realm must express those values and at the same time offer the protections mandated by today's security concerns.

A wide range of diverse interest groups worked diligently and cooperatively in reaching consensus on these complex and varied problems that have been neglected for too long.

The Interagency Security Task Force prepared this Plan in cooperation with federal agencies, the District of Columbia government, security experts, the professional planning and design community, the Architect of the Capitol, and the public. We had the benefit of the private sector's best landscape architects and urban design experts, and the help of many truly dedicated professionals. I am particularly appreciative of the efforts and cooperation of the U.S. Secret Service, which contributed greatly to the development of this Plan, and I look forward to continued coordination with all contributors on the further design and implementation of security improvements.

While this Plan was prepared to address the needs of federal facilities, specifically those in the Nation's Capital, its principles and concepts can easily be applied to other public and private lands throughout the nation.

The benefits from this Plan outweigh the costs. Significant funds are already being spent to create the present intolerable environment, and the costs will be much higher if instead of planning for the future, we continue to sit by and watch as jersey barriers and concrete pots engulf our capital city. Future generations will judge our stewardship of this sacred ground. If we allow the deterioration of the city's historic civic spaces we will have failed in our obligation to the American people and to the visionary leaders who came before us. Our success today will impact many generations yet to come.

Our collective work has only just begun. Implementation of the Plan will require the continuing support of the President, Congress, local residents, and Americans across the country. In the coming months my colleagues and I look forward to working with all those who share our passion for a city that is the pride of the nation and the capital of the free world. With conviction, optimism, and imagination we can find the design and funding solutions to reclaim our Nation's Capital and to make our public streetscapes reflect our national values.

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INTRODUCTION

Urban Design and Security Plan

Unightly jersey barriers, large concrete planters, and guard huts that ring our buildings and line our streets mar the beauty of the Nation's Capital.



Americans, and the world-at-large, have long admired Washington, D.C. for the sweep and grace of its open public spaces. Secure in the knowledge that the civic environment of the Nation's Capital belongs to all citizens, Americans feel entitled to move about their capital freely and to feel secure in doing so. Such confidence is precious and particularly worth sustaining in an era of heightened concerns about safety and security.

Today, however, guard huts define the National Mall, rows of concrete planters encircle our public buildings, and temporary barriers block Pennsylvania Avenue. These and other fortifications have become familiar features in the Washington landscape in recent years, and since September 11, their number has increased alarmingly. While erected in response to security concerns, these fortifications communicate fear and retrenchment and undermine the basic premises of an open and democratic society.

At present, security measures around federal facilities protect the occupants inside the building, but frequently disrupt access and movement for those on the surrounding streets and sidewalks. In addition, the protective barriers and closed streets that block potential evacuation routes and emergency access present their own security risks. The commercial, cultural, and social vitality that makes Washington one of the world's greatest urban centers depends upon the openness and access that have defined the city from its beginning.

The image and quality of life in the District has suffered in the absence of a well-coordinated and unified approach to the design of building perimeter security. Installation of repetitive elements such as highway barriers or bollards along streets and around monuments will continue to degrade the beauty and openness of these spaces, and uncoordinated installation and maintenance will be more expensive to the agencies and ultimately to the public who pay for these projects. The Task Force recognizes the need for coordination throughout the

federal government in identifying, designing, and implementing security measures.

On November 1, 2001, the National Capital Planning Commission (the Commission) adopted a report of the Interagency Security Task Force entitled *Designing for Security in the Nation's Capital*. The report recommended specific urban design strategies to improve mobility and aesthetic conditions resulting from the installation of makeshift security measures throughout the Nation's Capital.

With the assistance of nationally recognized urban designers, landscape architects, and security experts, the Commission has prepared a design framework and an implementation strategy entitled, *The National Capital Urban Design and Security Plan* (the Plan) for Washington's Monumental Core and the Downtown.

The Plan focuses exclusively on perimeter building security designed to protect employees, visitors, and federal functions and property from threats generated by unauthorized vehicles approaching or entering sensitive buildings. It does not address other kinds of security measures, such as building hardening, operational procedures, or surveillance.

The Plan recognizes that Americans today live with a heightened awareness of how fragile public safety can be; how confidence in the stability of the public environment can suddenly be shaken as security is breached or threatened. Citizens, therefore, demand increased protection for themselves and for their most cherished or most vulnerable institutions. Yet, the nation must not guard against terror at the expense of a long-standing national ideal: the appreciation—indeed, aspiration—for openness, accessibility, and comfort within the public domain.

The goal of the Plan is to restore the beauty and dignity of the Nation's Capital by integrating building perimeter security into an attractive streetscape and by coordinating the design and installation of streetscape projects.

The National Capital Urban Design and Security Plan is motivated by six goals:

- Providing an appropriate balance between the need to accommodate perimeter security for sensitive buildings and their occupants and the need to maintain the vitality of the public realm.
- Providing security in the context of streetscape enhancement and public realm beautification, rather than as a separate or redundant system of components whose only purpose is security.
- Expanding the palette of elements that can gracefully provide perimeter security in a manner that does not clutter the public realm, while avoiding the monotony of endless lines of jersey barriers or bollards, which only evoke defensiveness.
- Producing a coherent strategy for deploying specific families of streetscape and security elements in which priority is given to achieving aesthetic continuity along streets, rather than solutions selected solely by the needs of a particular building under the jurisdiction of one public agency.
- Providing perimeter security in a manner that does not impede the City's commerce and vitality, excessively restrict or impede operational use of sidewalks or pedestrian and vehicular mobility, nor impact the health of existing trees.
- Identifying an implementation strategy that can be efficiently coordinated in the most cost effective manner.

On Capitol Hill, the Architect of the Capitol has designed and is in the process of implementing permanent security improvements. The Architect and the Commission's Task Force plan to coordinate on the further design and implementation of security improvements on the Hill and throughout the Monumental Core.



The National Capital Urban Design and Security Plan includes:

- A summary of building perimeter security considerations that influence the streetscape designs proposed in the Plan.
- A variety of streetscape design concepts that incorporate security components. These designs illustrate how an array of landscape treatments and street furniture may be applied within various contextual areas of the Plan and are not intended as final design solutions.
- A proposal to initiate the Circulator transit system and to undertake a set of traffic and parking studies to identify impacts of increased security mitigation strategies, such as developing centralized parking facilities to replace parking spaces lost as a result of new security requirements.
- An implementation strategy for design, construction, funding, maintenance, and operations of security installations. The implementation strategy will ensure that work is completed according to the design intent of the Plan and that improvements are maintained.

The Plan offers a framework that distinguishes the urban design character of various areas within the Monumental Core and identifies perimeter security design solutions most appropriate to the character of each area. This comprehensive approach will ensure that improvements along streets are complementary and enhance the special character of each precinct, while addressing the required security measures for individual buildings.

The National Capital Urban Design and Security Plan covers the following contextual areas, monumental streets, and memorials:

CONTEXTUAL AREAS

- Federal Triangle
- National Mall
- West End
- Southwest Federal Center
- Downtown

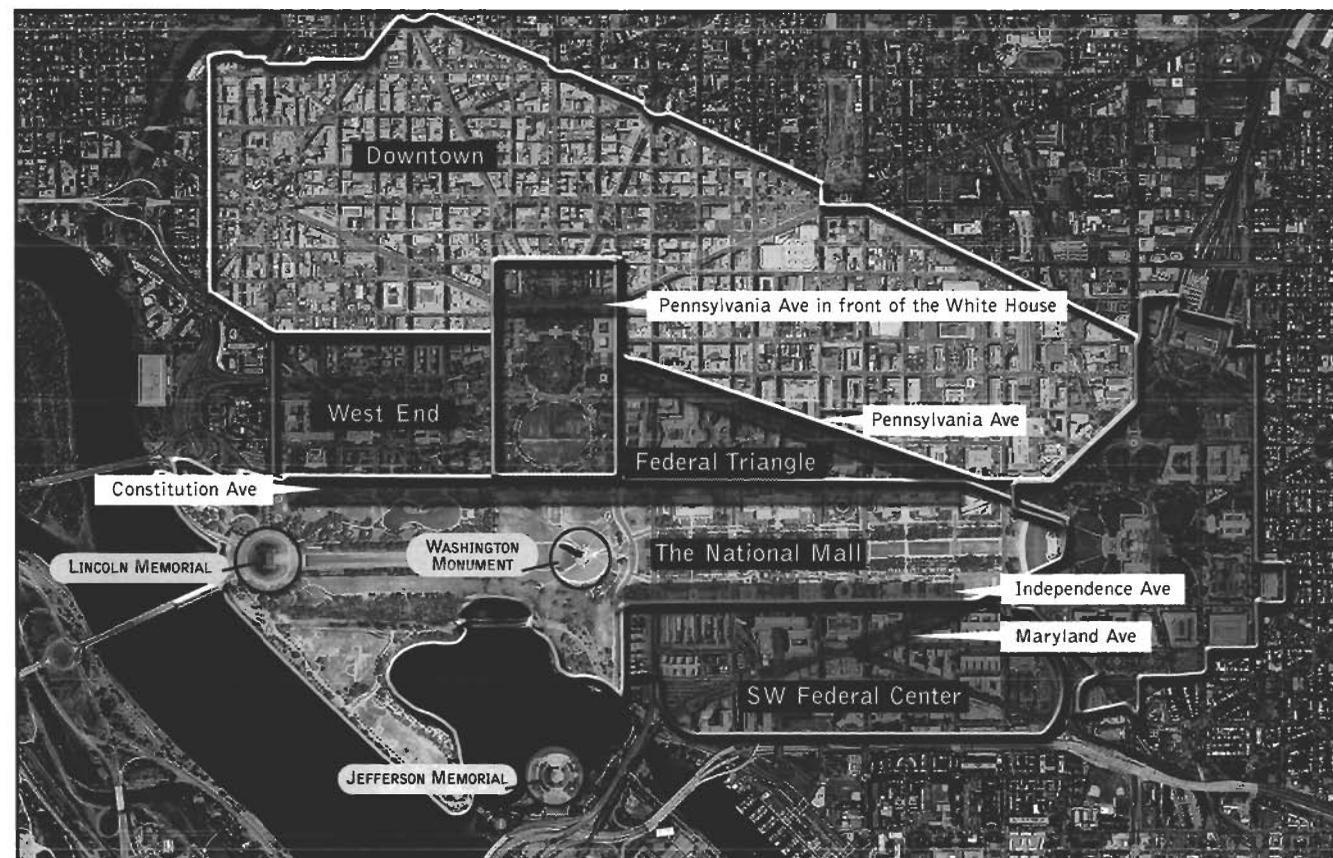
MONUMENTAL STREETS

- Pennsylvania Avenue in front of the White House
- Pennsylvania Avenue between the White House and the Capitol
- Constitution Avenue
- Independence Avenue

- Maryland Avenue

MEMORIALS

- Washington Monument
- Lincoln Memorial
- Jefferson Memorial



CONTEXTUAL AREAS, MONUMENTAL STREETS, AND MEMORIALS

In recommending security design solutions, the Plan recognizes that one size does not fit all. For example, the Federal Triangle is unified by the classical architecture of its monumental buildings and the two ceremonial streets that border it on each side (Pennsylvania and Constitution Avenues). For this portion of Pennsylvania Avenue, the Plan recommends replacing and hardening the street furniture to emulate the existing streetscape components. A variety of fence and bollard elements are proposed on the north-south streets that reflect the materials and style of the classical buildings. On the other hand, the Southwest Federal Center currently suffers from the absence of a cohesive urban design character and street grid. The Plan proposes to introduce a vocabulary of unifying planters, benches, and seat bollards to help establish the character of this precinct, to improve its connections to other precincts, and to enhance the pedestrian experience.

The Plan recognizes that not all buildings on a block will need security, yet it acknowledges the importance of a coherent streetscape. Therefore, the Plan proposes custom-designed treatments for those portions of a building or block where perimeter security is needed only at entries to buildings, or where only a small portion of the street or block requires increased security. In other instances, the Plan proposes consistent design treatment for entire streets or blocks where additional security is required. In such cases, the Plan acknowledges that some blocks, or portions of blocks, will be hardened while others will not.

The Plan also recognizes that a vibrant Downtown must provide space for a variety of pedestrian experiences. Therefore, the Plan uses streetscape manuals of the D.C. Department of Public Works and the Downtown Business Improvement District as a framework for designing streetscape elements that will seamlessly integrate security of federal properties with existing and future development in the Downtown. Additionally, there are a number of monumental and unique buildings in Downtown which, because of their civic importance or special location, warrant custom-designed solutions.

While the Plan focuses on security improvements for federal properties, it can also be used to guide design solutions for private properties.



DESIGNING FOR SECURITY

The Security Threat and Response

The Plan provides design solutions for building perimeter security intended to protect against threats resulting from unauthorized vehicles approaching or entering sensitive buildings. Included in this category of threats are bomb-laden vehicles, which are considered to be the easiest mode of attack and could cause extensive structural damage, progressive collapse, and loss of life. This Plan does not address bombs carried by pedestrians, air attack, or chemical and biological weapon terrorism.

To establish the appropriate security response or level of intervention, individual agencies must conduct risk assessments to determine the magnitude of the security threat and the level of protection required for individual buildings. Not all buildings and facilities require the same level of security. The Interagency Security Committee, a group examining federal security responses, circulated design criteria to federal agencies in May 2000. These criteria and responses form the basis of the current federal policies and guidelines for assessing security risks. Buildings are assigned a "protection level" based on factors that include symbolic importance, critical nature of operations, consequences of an attack, and surrounding site conditions. This approach, used in conjunction with a detailed risk assessment, identifies the appropriate level of protective measures to be applied to any federal facility. Concerned that agencies may have a natural tendency to elevate the required level of protection and to over-design security, the National Capital Planning Commission recommends that the federal government develop a protocol similar to that used by the General Services Administration for agencies under its jurisdiction. This process will facilitate a consistent application of the Interagency Security Committee Guidelines.

In conjunction with determining the protection levels of each building, the required strength of the perimeter barrier must also be determined. Some barriers must be designed to stop heavy vehicles at high rates of speed, while others may be designed to protect against a lesser vehicle threat. Barriers of less structural capacity may be used for protection at reduced cost when travel speed is restricted

due to the angle of approach to the building. A higher level of protection will be required when an approach is unimpeded, therefore allowing vehicles to approach at higher speeds.

Perimeter security design must also consider the existing standoff distance of the building from the street. The Interagency Security Committee criteria recommends a minimum standoff distance of 20 feet, with a more desirable standoff distance of 50 feet. Many buildings throughout Washington's Monumental Core have setbacks in excess of 100 feet, while others have less than 20 feet. The force of an explosion's impact on a structure decreases with the linear distance from the blast. In simple terms, every foot counts.

While outside the scope of this study, structural measures can also be taken to enhance facility security and blast resistance. Each building has its own unique engineering characteristics. Therefore, effective standoff distances can vary.

The General Services Administration has developed specifications for six security zones surrounding federal buildings for each of the designated protection levels. These security zones correspond to building and site relationships. Three of the zones make up the perimeter security areas, which are the focus of this Plan. The Plan focuses on solutions within the building yard or sidewalk. Only where absolutely necessary does the Plan consider elimination of curbside parking or restriction of access to streets adjacent to buildings that require a high level of protection. In these instances, parking and mobility studies should be conducted to identify impacts and appropriate mitigation measures. Additional countermeasures include hardening and/or modifying buildings and implementing operational measures to control access to the building.

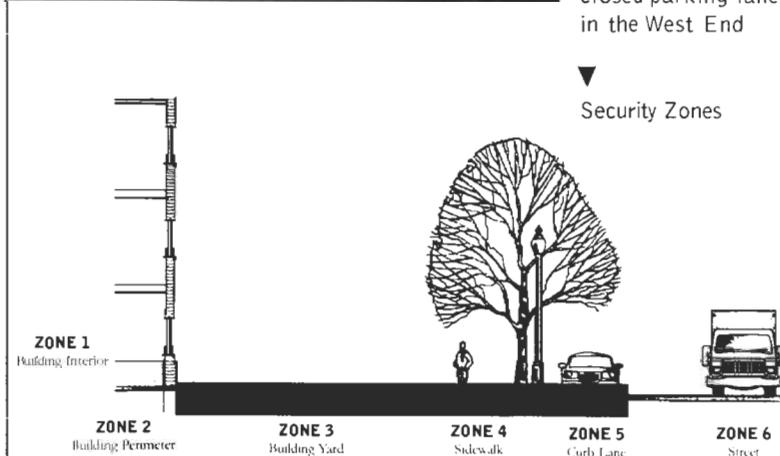
Based on the preliminary analysis of some security consultants, it appears that only a few buildings will require an extremely high level of protection. While many facilities in the District of Columbia are assigned a very high protection level, site conditions, such as significant setbacks from streets or inability to approach the building head-on at a high speed, may decrease the risk to a given building.



▲ Permanent security at the Ellipse in President's Park



◀ Jersey barriers on the sidewalk and in the closed parking lane in the West End



▼ Security Zones

URBAN DESIGN FRAMEWORK AND STREETScape DESIGN SOLUTIONS



Entrance to Old Post Office on Pennsylvania Avenue in the Federal Triangle

Urban Design Framework

The Plan identifies a framework of precincts or contextual areas, as well as streets and landscape features, that contribute to the unique urban design character of the Monumental Core. The Plan illustrates streetscape design solutions for the following four street types, based on roadway widths, sidewalks, and building setbacks.

MONUMENTAL AVENUES

Monumental avenues connect and define the most important areas of the city. Pennsylvania, Constitution, Independence, and Maryland Avenues are treated as significant, coherent spaces within the public realm. The design of these avenues should emphasize streetscapes as a whole, rather than the parts. Attention should be given to axiality and formality.

DIAGONAL AVENUES

Diagonal avenues criss-cross the orthogonal grid of city streets. These streets are typically wider than most city streets and have significant landscaping. Avenues such as Vermont, Connecticut, and New York should be treated in a manner that emphasizes their landscape features. Significant tree cover and ground planting are appropriate elements to characterize the design of these streets.

SPECIAL STREETS

Special streets are those that make important connections or have been included in special planning areas. For example, the 10th Street L'Enfant promenade creates an axis between the Smithsonian Castle and Banneker Overlook, while 4th and 7th Streets, SW are significant connectors to the Mall and waterfront. The streetscape designs of these streets should derive from and further reinforce their unique conditions and individual character.

West End



The unique architecture and site conditions of the contextual areas and special streets call for design solutions that complement the distinctive character of various precincts.

GRID STREETS

Grid streets are the consistent and repeated city streets, running at right angles to one another, north-south and east-west. The design of these streets should be specific to each area. In the Downtown, design should build upon existing streetscape standards of the District to provide continuity with previous design efforts and to minimize the contrast between security and streetscape elements.

Streetscape Design Solutions

Design applications may differ from area to area, based on the character of the contextual area or special street.

Designs of these areas include an array of streetscape elements that incorporate security components, such as walls and fences, planters, bollards, and hardened street furniture ranging from light posts to seating. The composition and arrangement of these elements should respond to the various conditions and street typologies within the contextual areas. The rhythm and repetition should reflect the area's planning, urban design character, and security requirements. Streetscapes should be designed as an amenity to the public realm that will provide necessary security and not unduly impede street life activities and the normal movements of pedestrians and traffic.

Southwest Federal Center



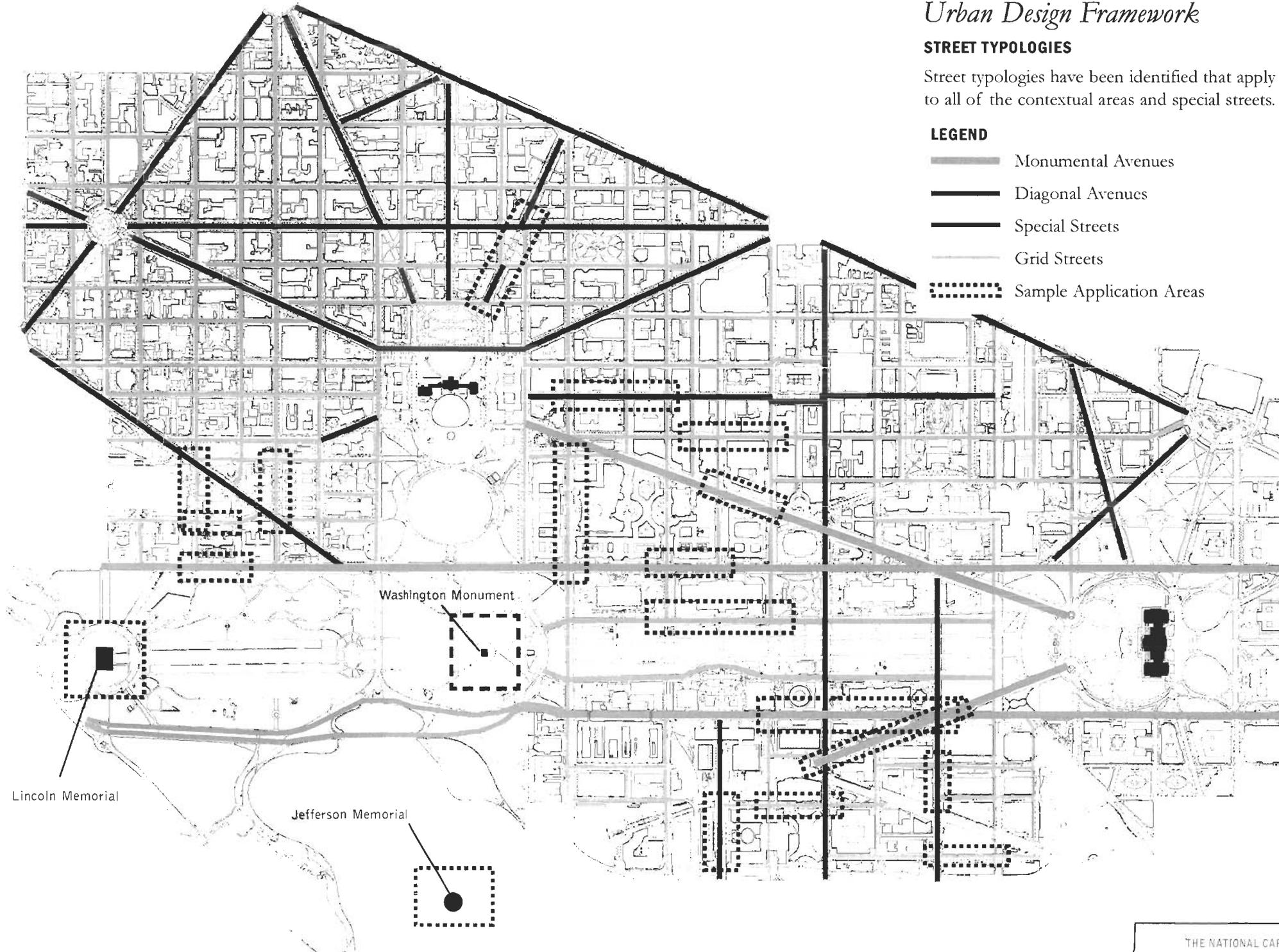
Urban Design Framework

STREET TYPOLOGIES

Street typologies have been identified that apply to all of the contextual areas and special streets.

LEGEND

- Monumental Avenues
- Diagonal Avenues
- Special Streets
- Grid Streets
- ▭ Sample Application Areas



Contextual areas are best understood as urban precincts with similar buildings, blocks, and streets that follow traditional boundaries. Monumental streets are the great linear connectors of the city and provide an important symbolic and ceremonial function in the Nation's Capital.

For streets within each contextual area and for monumental streets, conceptual design solutions have been developed as sample applications for each street typology based on the distance between building and street.

Security Zones

The General Services Administration's *Urban Design Guidelines for Physical Perimeter Entrance Security: An Overlay to the Master Plan for the Federal Triangle* identifies several security zones located between the building and the street. These are the building yard, the sidewalk, and the curb or parking lane. All of the proposed perimeter streetscape design solutions occur within one of these three security zones.

Building Yard

The building yard is the exterior space between the building and the sidewalk. It typically consists of a grassy area adjacent to the building flush with the sidewalk or a planted bed raised above the level of the sidewalk. Pedestrian entries and loading docks typically occur within the building yard. Security components located in this zone should complement the building architecture and the landscaping of the yard. In cases where the building yard provides an acceptable standoff distance from the building, the GSA guidelines recommend that the security perimeter be located near the outer edge of the yard. When the security barrier is provided in this location, for example, through the use of a raised plinth or wall, the sidewalk can remain free from all security elements. Security appears as an extension of the building, visually present yet seamlessly integrated.

Sidewalk

The sidewalk zone is located between the building yard and the curb or parking lane. In this urban context, the sidewalk serves as the common space for pedestrian interaction, movement, and activity. It is therefore important to allow for and to promote active public use of the sidewalk.

To the greatest extent possible, sidewalks should be left open and accessible to pedestrian movement. Generally, streetscape security components should be excluded from this zone. Adjustment to

the width of this zone may occur. Where widths are too great, the building yard can be extended to make the sidewalk more appropriately scaled for pedestrians.

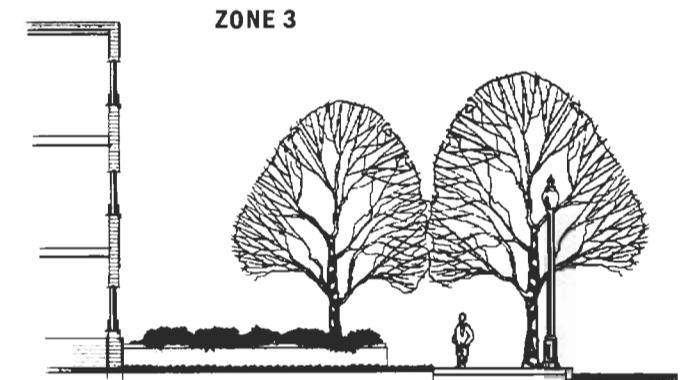
Streetscape security components should be placed at least 18" from the edge of the curb to allow for the opening of car doors and pedestrian movements from car to sidewalk. This area is the most common location for streetscape elements, and it typically offers the most compatible location for the security barriers. Curbside parking and traffic lanes do not need to be removed when security requirements can be met at the curb.

Parking meters, streetlights, benches, planters, and trash receptacles are familiar elements found at or near the curb. Streetscape designs incorporating hardened versions of these elements should be designed to reinforce the pedestrian realm.

Curb Lane

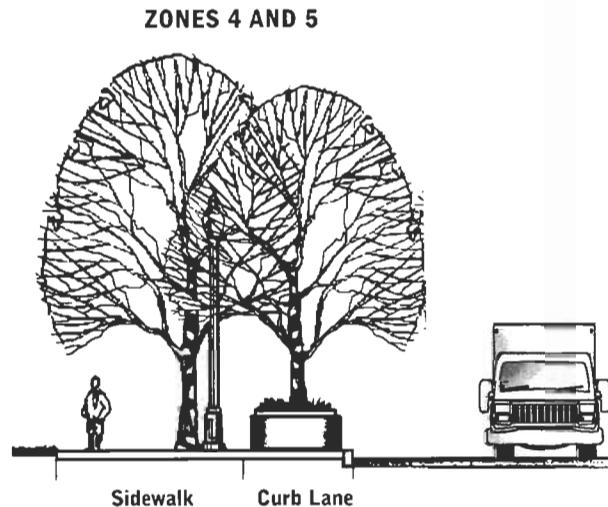
The curb lane is the lane of the street closest to the sidewalk. Curbside parking, passenger drop-off, loading, and service vehicles most often use this lane.

Curbside parking should be removed only in locations where the need for additional standoff distance is absolutely required and only for buildings with the highest security threat. With the exception of the proposed removal of the curb or parking lanes on 10th Street, NW, adjacent to the Department of Justice, and in the West End around the Department of State, the majority of solutions that propose removing the curb lane are in the Southwest Federal Center area. In very limited circumstances when curb lane restrictions are contemplated, consideration should be given to using this portion of the roadway as a secure dedicated transit way to accommodate the Circulator. The parking needs of adjacent owners and of the entire area should be assessed and parking replaced prior to the removal of any existing curbside lanes.



Building Yard

Raised planter or plinth wall provides security barrier in the building yard.



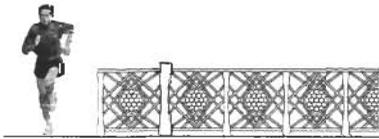
Trees, planters, and other streetscape elements are incorporated into sidewalks. There are limited situations where parking may be removed to widen the sidewalk and increase setback from the street.

STREETScape SECURITY ELEMENTS



Hardened Street Furniture

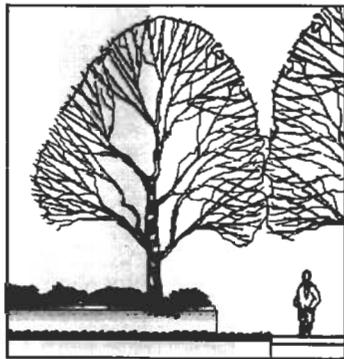
Seat Bollard



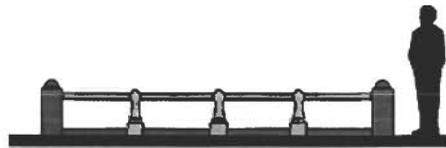
Fence Wall



Decorative Fence

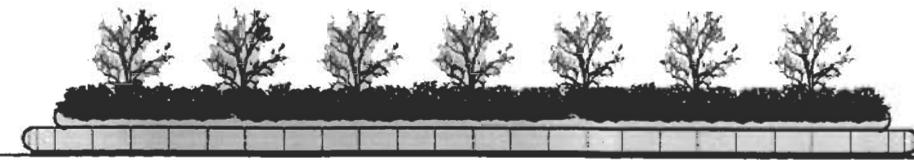


Plinth Wall



Fence and Bollard

Bollards



Planters



Seat Planter

Streetscape Security Elements

The Monumental Core of Washington, D.C. is composed of distinct areas that have distinguishable boundaries and unique characteristics. Streetscape design is intended to reinforce or establish (in the case of areas with less recognizable features) urban design and architectural character.

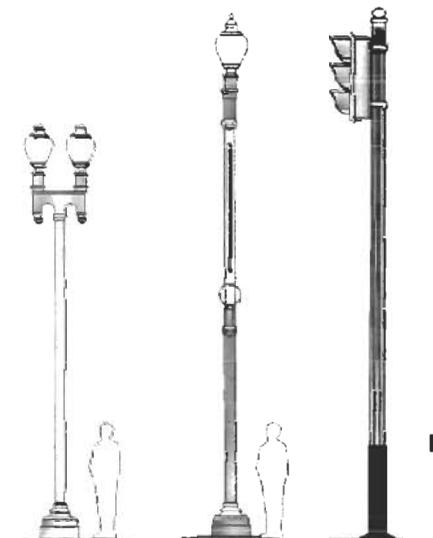
The goal of *The National Capital Urban Design and Security Plan* is to seamlessly incorporate building perimeter security into a beautifully designed streetscape. The Plan broadens the palette of perimeter security elements into an attractive streetscape, including a range of street furnishings and elements, such as streetlights, walls, planters, fences, and seats. These elements have been studied to determine the feasibility of "hardening" them so that they function as both amenities and as components of physical building perimeter security. The structural design, spacing, shape, and detailing of the perimeter security components must be designed to address the required level of protection for a particular building.

While some elements may apply universally, others must respond to contextual areas, reflecting the unique character through use of appropriate materials, scale, and design detail. Though a family of streetscape elements has been designed for each contextual area or street, there are seven basic security design concepts. These include hardened street furniture, fences or fence walls, plinth walls, hedges and bollards, planters, bollards, and custom-designed solutions. While one or more of these concepts are used in multiple areas, the style of the elements will vary based on the character of a particular area.

The Plan's Streetscape Element Catalogue includes an array of streetscape components and landscape solutions developed for each Contextual Area and Monumental Street. The application of these elements is illustrated in the Area Concept Plans as they apply to various conditions found throughout the Monumental Core.

Tested and installed streetscape components have served as the basis for the security design concepts proposed in the Plan. In general, proposed solutions use materials and capabilities as those applied in proven elements such as the Presidential Bollard. This bollard has been integrated with new streetscape and security designs for light poles, newspaper racks, and benches.

Many of these new designs will need to be engineered and crash tested to verify that they are effective. The feasibility and cost of implementing these solutions will be determined as individual assessments are conducted and design of the components are tested to prove their effectiveness in defending against a variety of specified threats.



Hardened Light Fixtures

Mobility and Parking

Security needs should be addressed by measures that have the least adverse impact on parking, traffic, and pedestrian circulation. Since providing for physical perimeter security may, on occasion, compete with the space used to accommodate vital transportation needs of the city, great care must be given to ensuring that neither is diminished through this effort. In fact, improvements to traffic flow also promote safety because they allow for faster emergency response and evacuation times when necessary. Improved circulation throughout the Monumental Core along more attractive and more secure streets should be a beneficial product of the Plan. The Plan should also advance the District's long-range goals of increasing the use of public transit and better managing on- and off-street parking.

At individual locations, where the need to improve building stand-off zones requires impact to roadways, detailed traffic analyses must be conducted to determine the associated impacts to traffic movements and the parking supply. These studies will require participation and approval by the District of Columbia Department of Transportation and other affected agencies. In most cases, such actions should be reversible so that if and when restrictions are lifted, streets can easily be used again to improve vehicular circulation.

Where roadway impacts occur at multiple locations, the associated effects on traffic and parking could be compounded. The following actions will be necessary to mitigate these effects:

- Fund and implement the Downtown Circulator to supplement the existing transit system, reduce Downtown traffic congestion, increase mobility, and mitigate transportation impacts caused by security improvements and street closures.
- Fund and conduct comprehensive traffic and parking studies to address impacts of increased security at federal properties within the Monumental Core.
- Identify and fund mitigation strategies to address any adverse circulation impacts, adverse impacts to the roadway network, or parking supply caused by security measures.
- Replace any substantial loss of on-street parking, including structured or off-street parking. Initiate a study identifying potential parking repositories in relationship to existing or potential transit corridors.
- Fund and initiate a feasibility and impact study for mitigating and enhancing transportation access along the Pennsylvania Avenue/E Street corridor, including developing secure tunnel options and reopening E Street as soon as possible.

A future transit Circulator could be accommodated without taking away from the generally pedestrian character of the Avenue.

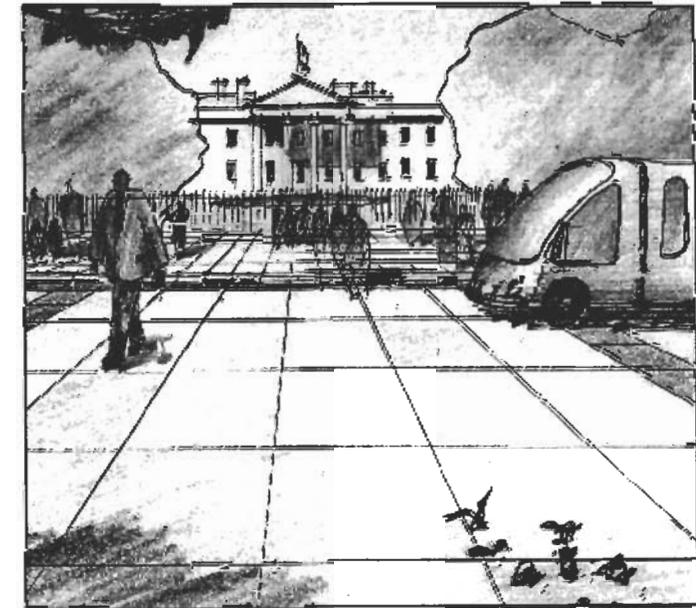
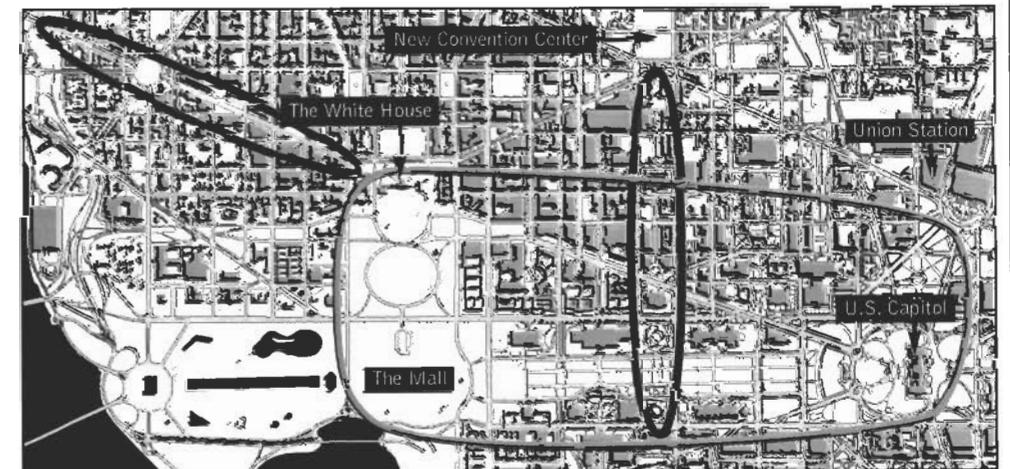


Illustration: Wolff Clements and Associates



One of the Circulator routes should provide service along Pennsylvania Avenue in front of the White House.

CONCEPT DESIGNS FOR CONTEXTUAL AREAS AND SPECIAL STREETS

Pennsylvania Avenue at the White House

Historic Character

Pennsylvania Avenue at the White House is one of the most historic and symbolically sensitive places in the nation. The White House at 1600 Pennsylvania Avenue lies within President's Park, a special precinct of the Nation's Capital. Generous public spaces and views, historic buildings and landscapes, and associations to historical events and people characterize this precinct and tell its history. These settings, buildings, and associations have great significance for the American people.

Pennsylvania Avenue is an important element in the White House setting. It traverses the L'Enfant reservation between the White House and Lafayette Park and provides a world-renowned address, public access, open views, and orientation for the White House and other buildings situated on and near it. The route of Pennsylvania Avenue through the reservation was not part of L'Enfant's 1791 Plan. It developed as the White House was built, and continued as an informal path in subsequent years.

Pennsylvania Avenue was formally made a public street in 1824, the same year that General Lafayette visited Washington and spoke to the public from the park now named in his honor. The segment of Pennsylvania Avenue in front of the White House has been designated a contributing element of the historic street plan of Washington, also known as the L'Enfant Plan.

The layout of Lafayette Park, designed by Andrew Jackson Downing, the noted horticulturist and landscape designer, was implemented in the mid-19th century. Most of the 19th-century buildings along Madison and Jackson Places facing Lafayette Park are now executive branch offices, although they were originally private dwellings. Similarly, the buildings on the north side of Pennsylvania Avenue, such as the Smithsonian Institution's Renwick Gallery, Blair House, and Riggs Bank, reflect earlier private development near the White House. Lafayette Park is the centerpiece of the Lafayette Square Historic District, designated a National Historic Landmark in 1970. It contains approximately 30 buildings, including the Eisenhower Executive Office Building and the Treasury Building flanking the White House. The 15th Street Financial Historic District and the Pennsylvania Avenue National Historic Site are other designations that document the area's significance.

As in other parts of Washington, and particularly in this area, open space—including the street rights-of-way and parkland—is as significant to the historic setting and as worthy of protection as the buildings. The views and vistas along Pennsylvania Avenue and in all directions to and from the avenue are significant, since they comprise an important aspect of the setting of the White House. Views to and from the radiating avenues were planned by L'Enfant in his design of the White House and they have been reinforced by subsequent architects and designers.

Existing Context

The Secretary of the Treasury ordered the closure of Pennsylvania Avenue on May 19, 1995, following the recommendation of a Blue Ribbon Panel charged with reviewing security at the White House to prevent catastrophic damage of the mansion by a vehicle bomb. The security booths and vehicle barriers installed on the avenue and surrounding streets, which were never intended to be a permanent solution, detract from this powerful, historic, and symbolic place. In preparing the recommendations contained in its report, *Designing for Security in the Nation's Capital*, the Interagency Security Task Force analyzed the current and future security needs of the area, past proposals for either reopening or permanently closing the street, and traffic alternatives to the continued closure of the street to normal vehicular traffic.

While pursuing every possible solution that would permit reopening the street, the Task Force, responding to overwhelming and legitimate security concerns, ultimately concluded that the street must remain closed to normal city traffic at this time. However, the Commission and the Task Force have emphasized that any design for this section of Pennsylvania Avenue must be reversible, and that changes in the security threat or improvements to security technology could result in its future reopening. They further recommended the design and construction of a landscaped civic space that respects and enhances the historic setting and views of the White House.



Pennsylvania Avenue in front of the White House c. 1791

Given its great symbolic importance, the security needs of this portion of the avenue, and its current unacceptable appearance, the Task Force invited four of the country's top landscape architecture firms to submit proposals to create a pedestrian-oriented public space and to accommodate a Circulator vehicle in front of the White House.

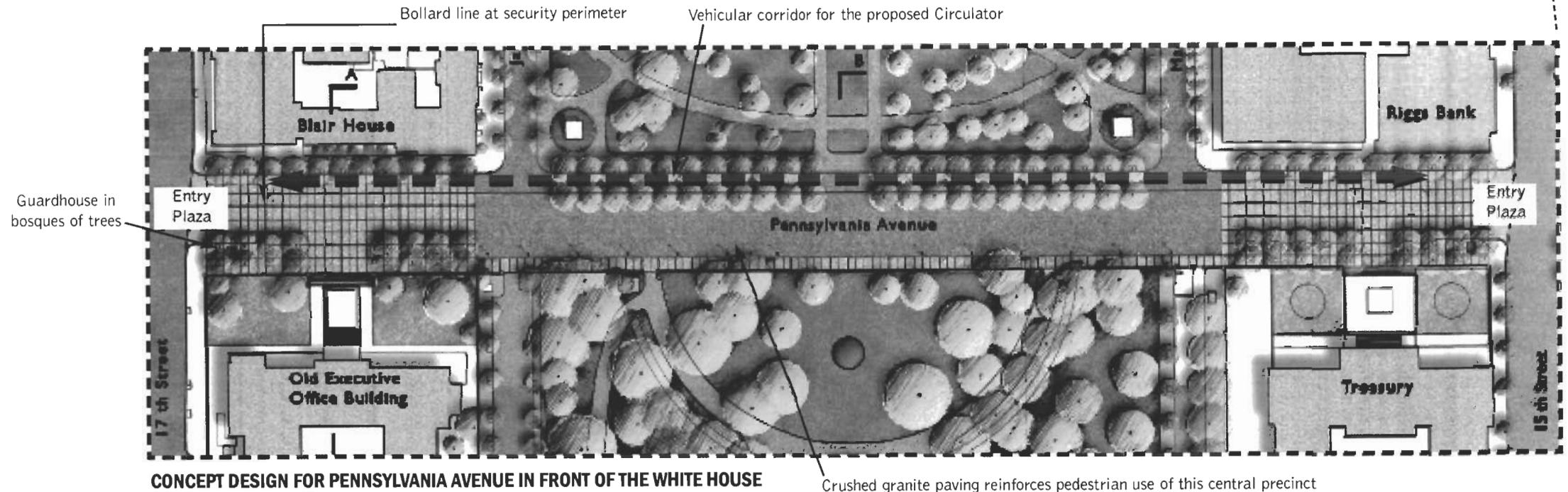
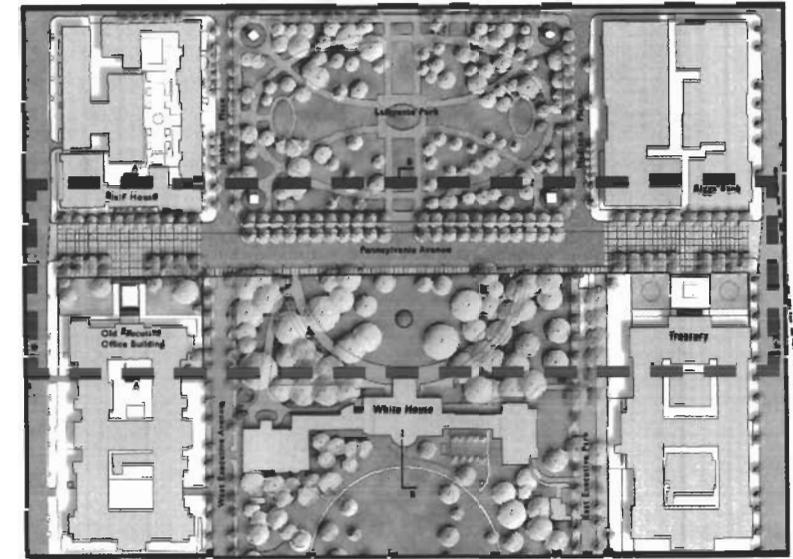
The four firms were Balmori Associates and Michael Van Valkenburgh Associates of New York City; EDAW Inc. of Alexandria, Virginia; and Peter Walker and Partners of Berkeley, California.

The Task Force provided the designers with the objectives outlined in its November 2001 report, and with the design guidelines contained in the Comprehensive Design Plan for the White House and President's Park, which were prepared with extensive public consultation by the National Park Service in 1999. In addition to respecting the historic setting of the White House and reflecting the memory of the street's historic use, the Task Force's design criteria required that the proposals:

- Accommodate the staging of inaugural parades.
- Accommodate the Circulator, a new transit system planned for Downtown Washington.
- Permit the possible future reopening of Pennsylvania Avenue.
- Permit the possible future construction of a tunnel.

In assessing the submissions, the Task Force examined how well each responded to several urban design objectives including security, circulation, pedestrian environment, visual quality, and historic character.

Based on the recommendation of the Task Force, the Commission selected Michael Van Valkenburgh Associates to proceed with the conceptual design for Pennsylvania Avenue at the White House. The Commission noted that it was selecting a designer and a design approach and that the design concept may be modified and refined as the actual design process goes forward.



CONCEPT DESIGN FOR PENNSYLVANIA AVENUE IN FRONT OF THE WHITE HOUSE

Design Framework

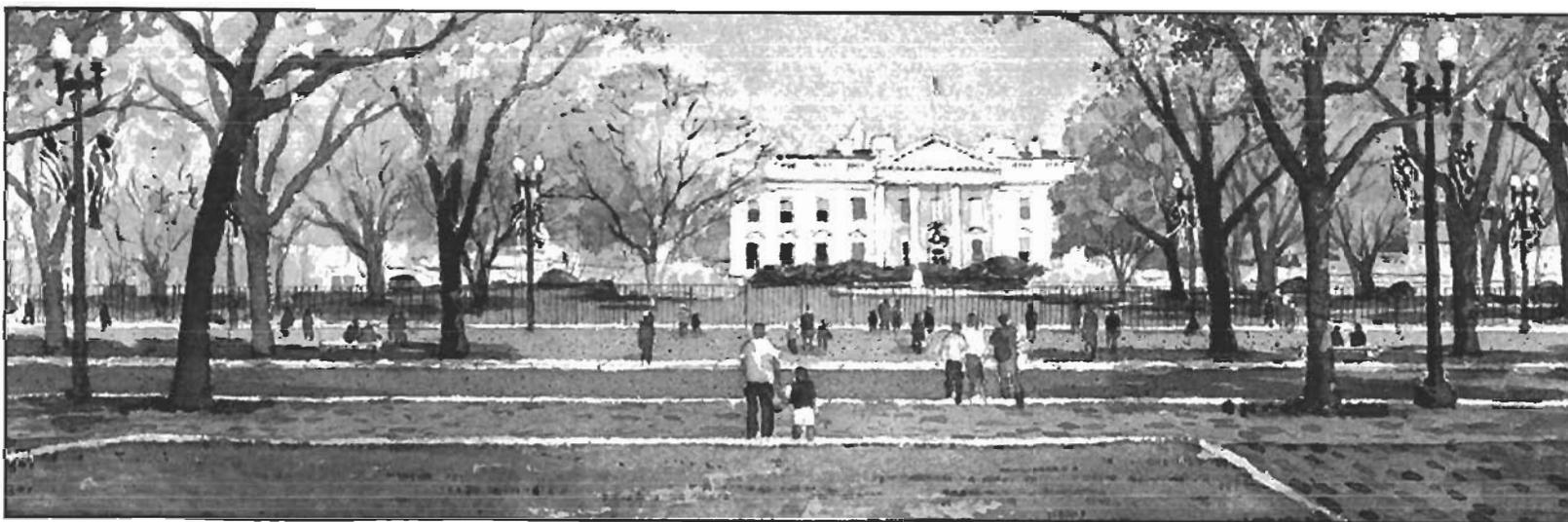
The Van Valkenburgh design scheme creates a precinct in front of the White House that uses familiar materials and mediates between the European formality of the L'Enfant Plan, the naturalism of Downing's Lafayette Park, and the open setting of the grounds of the White House.

The scheme creates a pedestrian precinct and environment that is welcoming and dignified, and that is able to accommodate multiple uses, including the inaugural parade. It incorporates a simple array of historic Washington light fixtures, stone benches, and other traditional streetscape elements. It preserves the historic axis and existing street pattern and ensures views of the White House.

The design includes a simple array of historic Washington light fixtures, stone benches, and discreet bollards.



An allee of large trees delineates the route for the Circulator and defines and humanizes the space in front of the White House.



The concept consists of four primary components:

- Entry plazas at 15th and 17th Streets are formed by the addition of bosques of trees in front of the Treasury Building at the 15th Street entrance and the Eisenhower Executive Office Building at the 17th Street entrance. These plazas provide locations for the required security checkpoints and, together, they frame the area of the avenue in front of the White House.
- Crushed granite granular paving is proposed for the area of Pennsylvania Avenue in front of the White House between Madison and Jackson Places. This pavement is similar to that used on the Mall walkways and in other renowned civic landscapes around the world. This material encourages pedestrian use of the space and acts as a joining element between Lafayette Park and the White House grounds, reinforcing the relationship of the White House within President's Park. The timelessness of the granular paving also references the historic origins of the avenue. The design maintains this central area as an open space, preserving views of the White House and the axial view corridor of the avenue.
- A corridor lined with large trees is proposed on the north side of Pennsylvania Avenue adjacent to Lafayette Park. This corridor serves as a roadway for presidential and visiting dignitaries, motorcades, security and emergency vehicles, and for the proposed Circulator vehicle.
- The concept allows for secure public access to the White House precinct and President's Park through the proposed Circulator. A Circulator would permit a partial and limited use of Pennsylvania Avenue to allow for controlled and secure vehicular traffic in front of the White House. A Circulator would also help mitigate the closure of Pennsylvania Avenue by restoring a cross-town transportation link and, once more, offer to both visitors and residents the experience of riding in front of the White House.

The design concept addresses the functional requirements of security, circulation, the inaugural parade, and pedestrian amenities in the following ways:

Security

The security perimeter is in the same location as the existing temporary security barriers. Inside the perimeter no additional vehicular security is required. Security elements consist of a row of bollards located at each end of the avenue inside the 15th and 17th Street intersections. Guard booths are proposed to be located within the tree bosques. The ultimate design and location of these security elements will change as required to meet criteria established by the U.S. Secret Service and other law enforcement agencies.

Circulation

The design accommodates the planned Circulator by including a travel lane for controlled and secure vehicular traffic in front of the White House. As proposed, vehicles entering the avenue will either be turned away or cleared to proceed through the

perimeter barrier at the entrance to the street on the north side of Pennsylvania Avenue. This street is delineated by a shallow curb and a second row of trees that parallel the existing street trees on the south side of Lafayette Park. Whereas the Circulator will remain on this street, Presidential motorcades, VIP, law enforcement, and other authorized vehicles would cross the central pedestrian area to enter the ceremonial drive of the White House.

Inaugural Parade

A 60-foot-wide uninterrupted right-of-way is maintained throughout the length of Pennsylvania Avenue between 15th and 17th Streets, as required for the Inaugural Parade. The total width of the central area in front of the White House is 90 feet, including the 15-foot sidewalk on the south, but excluding the 24-foot vehicular street on the north. Temporary bleachers that are able to seat approximately 21,000 spectators will line both sides of this route. (Temporary bleachers for the 2001 Inaugural Parade accommodated 17,500 spectators.)

Site Amenities

As proposed, the entry plazas facing the Eisenhower Executive Office Building and the Treasury Building will be constructed with monolithic 10- by 15-foot slabs of granite. The central area in front of the White House will be constructed of crushed granite. Bench seating will be located in shaded areas under the trees. A simple order of historic Washington light fixtures, stone benches, and bollards chosen for their timeless appearance, will reinforce the existing overall sense of the avenue.

ADDITIONAL DESIGN CONSIDERATIONS

- The design concept offers a conceptual starting point for the permanent design of Pennsylvania Avenue in front of the White House. The extraordinary historic, symbolic, and security concerns of this area will require modification and refinement as the design proceeds.
- The design and location of security elements will be modified, as necessary, to meet the criteria established by the U.S. Secret Service and other law enforcement agencies.
- The design may require modification to meet the unique requirements of the Inaugural Parade, including Presidential viewing, media stands, and bleachers.
- The design must ensure that the avenue can be quickly and easily reopened to normal vehicular traffic.
- A contingency plan should be prepared to ensure that construction does not impact the Inaugural Parade. Ideally, construction should be completed in time for the 2005 parade.
- The design should not preclude the ability to incorporate a tunnel in the future if deemed necessary and appropriate at this location.



Illustration: Michael McCann

Proposed streetscape looking east on Pennsylvania Avenue

Pennsylvania Avenue—White House to the Capitol



"America's Main Street"— Pennsylvania Avenue from the White House to the Capitol



Historic Character

Pennsylvania Avenue, today the most symbolic thoroughfare in the city, was also the most significant in L'Enfant's plan for Washington. The Pennsylvania Avenue right-of-way is a contributing element of the historic L'Enfant Plan designation, and the buildings along this right-of-way comprise part of the Pennsylvania Avenue National Historic Site. The U.S. Capitol and the Treasury Building near the White House grounds flank the segment from 3rd to 15th Streets, NW, creating some of the most recognized vistas in the Nation's Capital and the world. Parks, water features, statues, and memorials further enhance the avenue. The U.S. Navy Memorial and the National Archives mark the 8th Street cross-axis. The non-orthogonal intersections with Indiana and Constitution Avenues have inspired distinctive building footprints and open spaces.

Conceived by the Pennsylvania Avenue Development Corporation (PADC), the 1974 Pennsylvania Avenue Development Plan guided the design and implementation of the current streetscape design. The features include uniform brown square pavers, rows of willow oaks, and a family of street furniture, all reflecting the era in which they were designed.

The architecture on the south side of the avenue is more uniform and monumental in character, reflecting the federal government's planning and architectural design throughout the 20th century.

The north or commercial side of the avenue denotes the southern edge of the city's commercial Downtown. The Canadian embassy and the Market Square buildings are notable recent additions, and the Willard Hotel, the Evening Star Building, and the Apex Building are rehabilitations of significant landmarks.

Existing Context

The existing streetscape design incorporates a pedestrian walkway approximately 12 to 15 feet wide with a row of street trees on either side. This walkway is set back 8 to 10 feet from the curb and is typically 40 to 45 feet from the face of the buildings. A line of streetscape elements is located within each row of trees, mostly in the line closest to the street. The streetscape elements are designed to sit above the ground, as separate distinct objects animating this spatial environment. These objects are arranged in a repetitive pattern establishing a rhythm that respects block-to-block relationships and idiosyncrasies.

Security needs and pedestrian conditions vary greatly along the length of Pennsylvania Avenue from the Capitol to the White House. Some buildings are set far back from the street on wide sidewalks, while others are not; some buildings require maximum security, while others do not.

Design Framework

The proposed streetscape design for Pennsylvania Avenue reinforces the existing streetscape of the avenue by the incorporation of new, custom-designed, hardened street furniture.

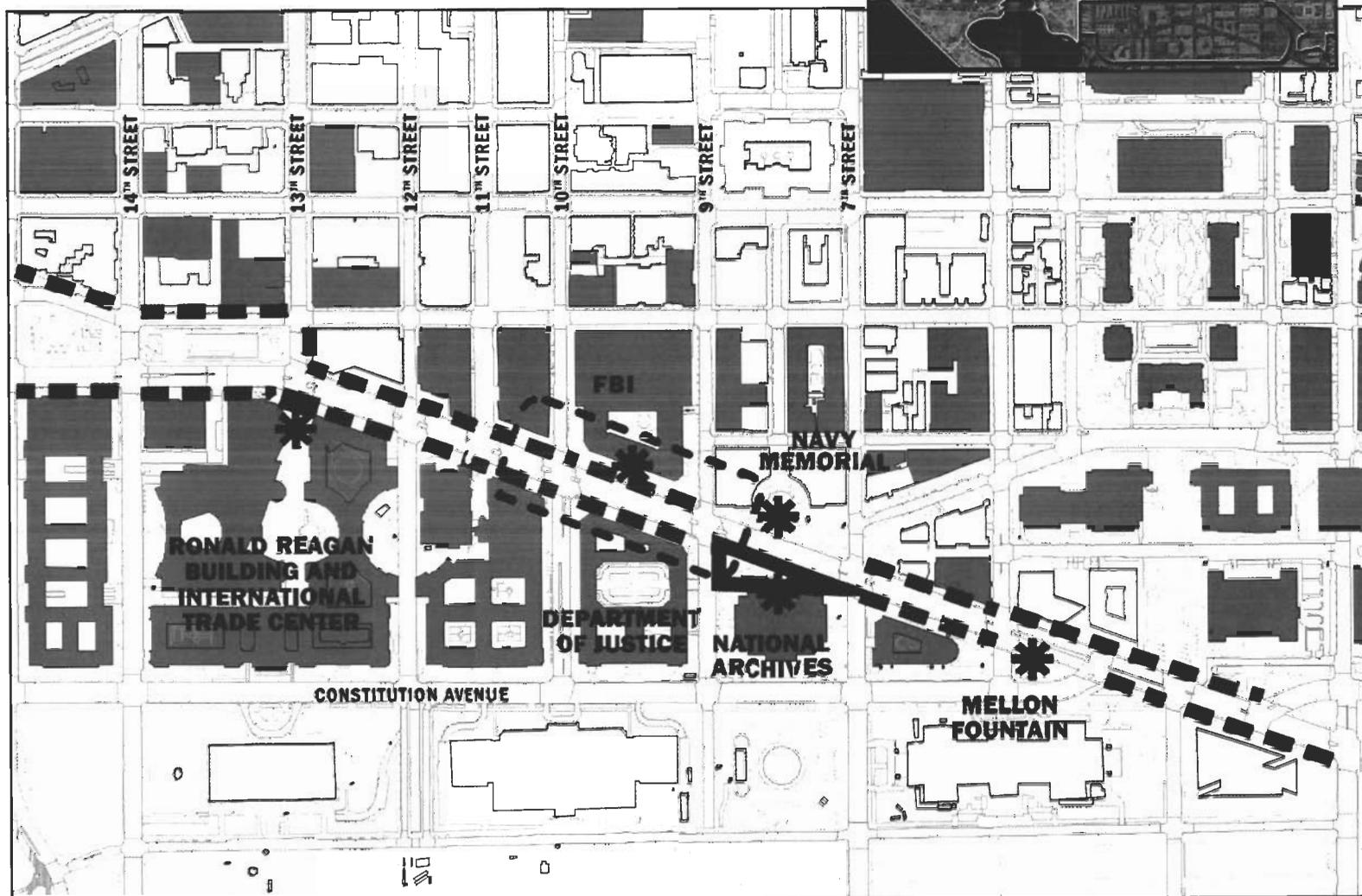
The proposed security perimeter reinforces the existing line of streetscape elements that are located at the row of trees closest to the street (8 to 10 feet from the curb). This results in most of the buildings along the avenue having a standoff distance of approximately 40 feet. The proposed security barrier consists of custom-designed, hardened street furniture. The palette is expanded to include the additional components of bollards, planters, and custom-designed bus shelters.

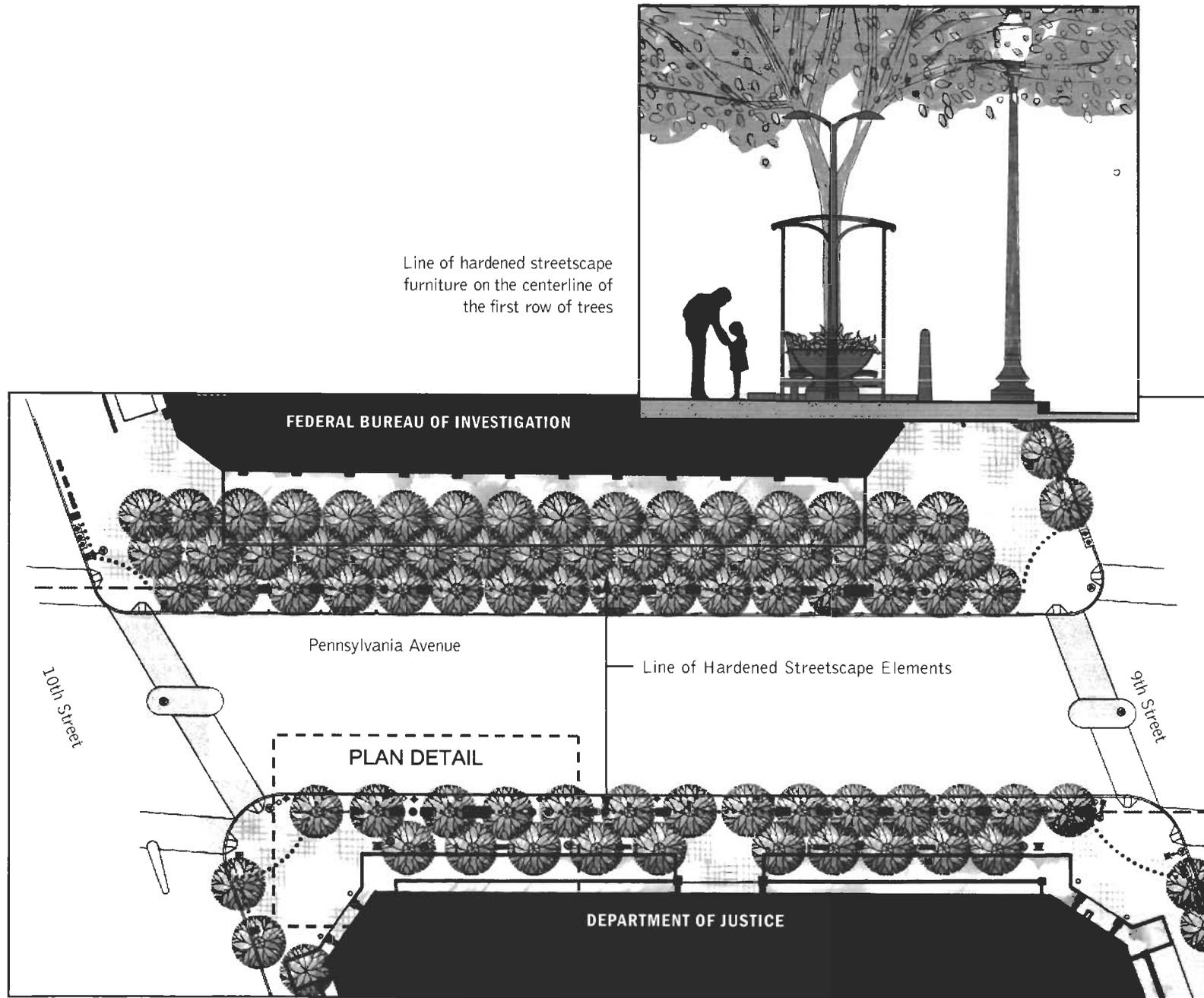
Ultimately, final design direction for the avenue between 3rd and 15th Streets will be determined based on the design of new, hardened street furniture and the updated national historic register nomination currently being conducted by the National Park Service.

PENNSYLVANIA AVENUE - WHITE HOUSE TO THE CAPITOL KEY PLAN

LEGEND

-  Typical Streetscape Design
-  Custom-Designed Area
-  Custom-Designed Elements
-  Sample Application Area





Sample Applications

The block between 9th and 10th Streets, NW is used to illustrate the proposed typical streetscape design solution for Pennsylvania Avenue. This block of the avenue contains the headquarters of the Department of Justice (DOJ) on the south and the J. Edgar Hoover Building of the Federal Bureau of Investigation (FBI) on the north. The existing condition in front of the DOJ is typical of most of the avenue while conditions in front of the FBI Building, with an additional 30 feet of sidewalk width and an additional row of street trees, are atypical.

The proposed streetscape design and security barrier, where required, should be identical on both sides of the avenue. For buildings that must be secured, hardened street furniture will be necessary; for buildings that do not require security, similar but unhardened versions of the same furniture will be installed at greater spaced intervals.

The proposed security elements consist of hardened designs of new street furniture, including: benches, drinking fountains, trash containers, and pedestrian light fixtures. Other elements include bollards, planters, and a new design for the bus shelters. All of these new components are custom-designed both to accommodate the required hardening and to respect the design of the existing furniture. The illustrated solution applies these components to create a rhythm and, at major building entrances, to reflect the significance of the space and the architecture of the building.

The additional setback of the FBI Building offers the opportunity to custom design this section of the avenue to add either a unique feature or simply provide additional green space. Although shown as a raised landscaped planting bed that offers further protection as a secondary vehicle barrier, the appropriate design of this area is yet to be determined.

PENNSYLVANIA AVENUE SAMPLE APPLICATION

Special Projects

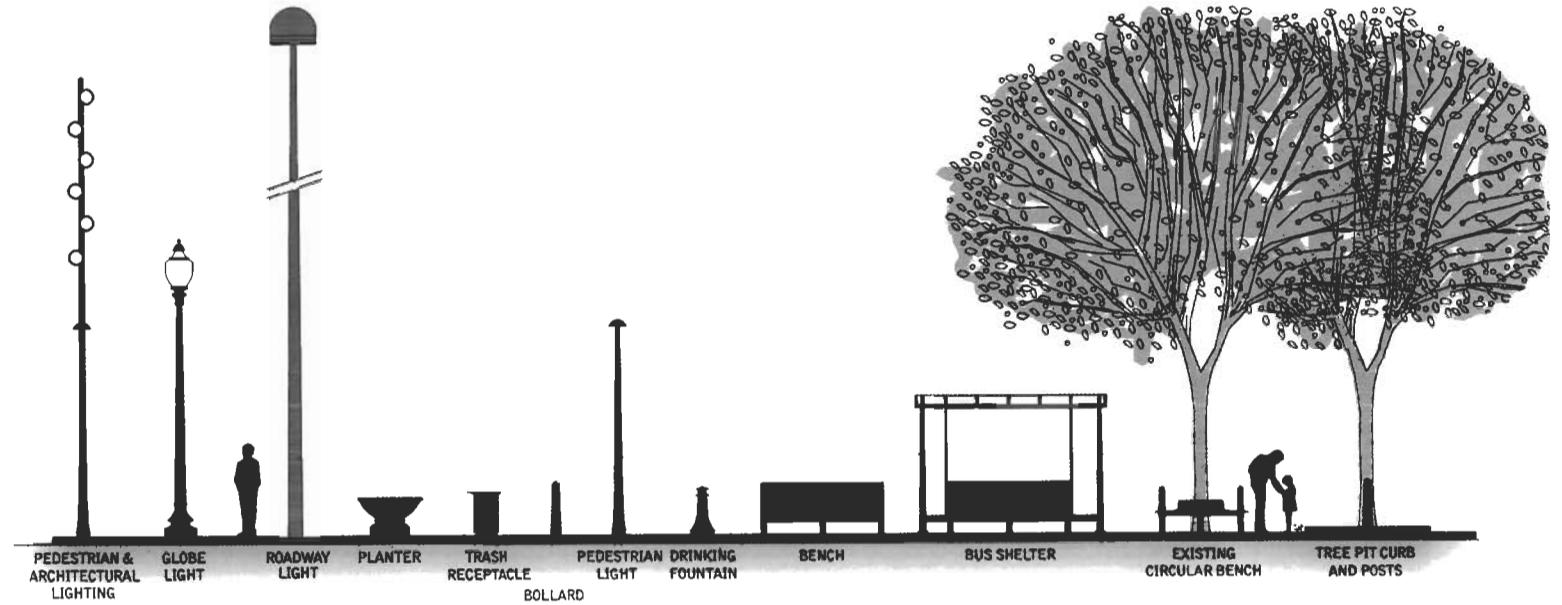
Over the length of any street, some variety is apparent. On Pennsylvania Avenue, this variety includes design challenges to which the typical design concept will need to adapt and where more site-specific design is appropriate. Locations that call for site-specific design include:

- Fountain at the eastern end of the Federal Triangle on 4th Street.
- Navy Memorial and Archives, between 7th and 9th Streets, both sides of Pennsylvania Avenue.
- In front of the J. Edgar Hoover FBI Building.
- Terminus of 13th Street at the Ronald Reagan Building and International Trade Center.

ADDITIONAL DESIGN CONSIDERATIONS

- The design of hardened street furniture components must be appropriate to the 1974 PADC design concepts for the avenue.
- Hardened street furniture must be tested to ensure that it satisfies security requirements.
- Underground utility locations are yet to be determined.

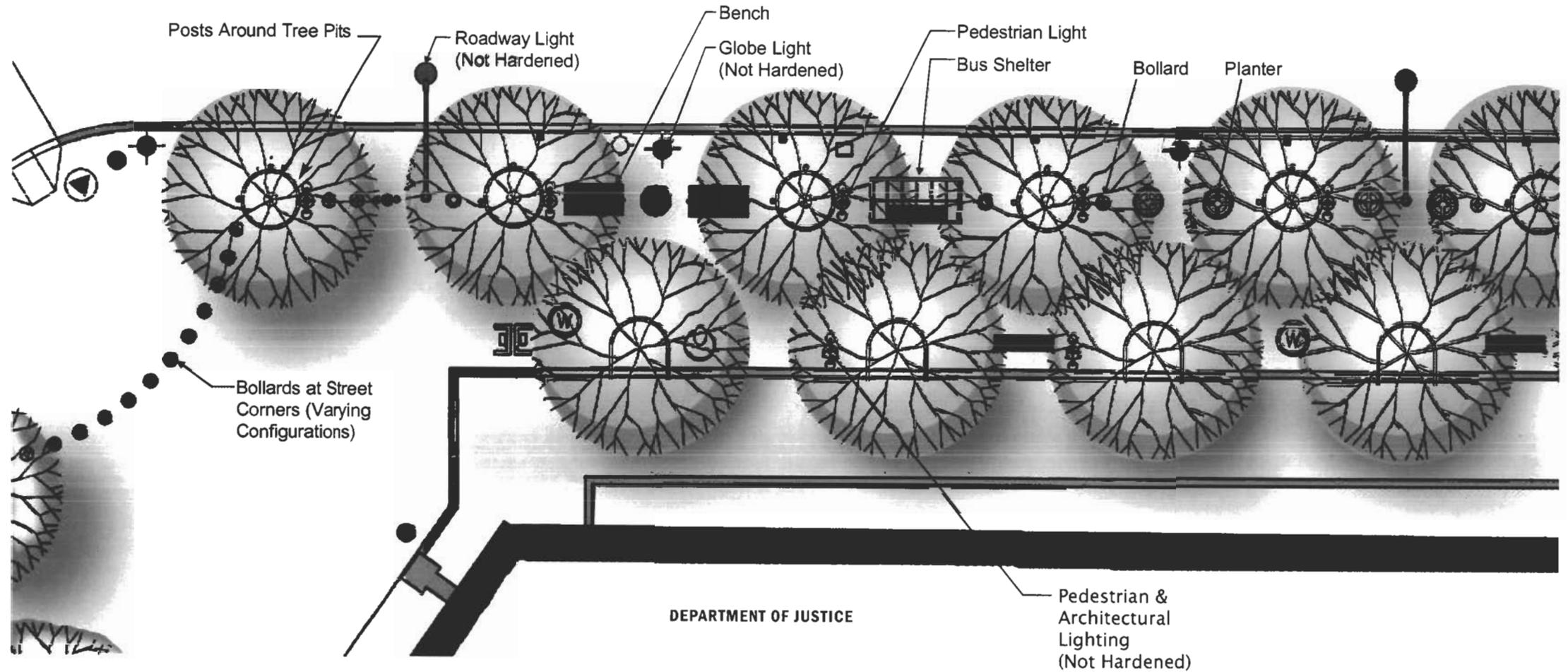
Proposed line of hardened street furniture ►



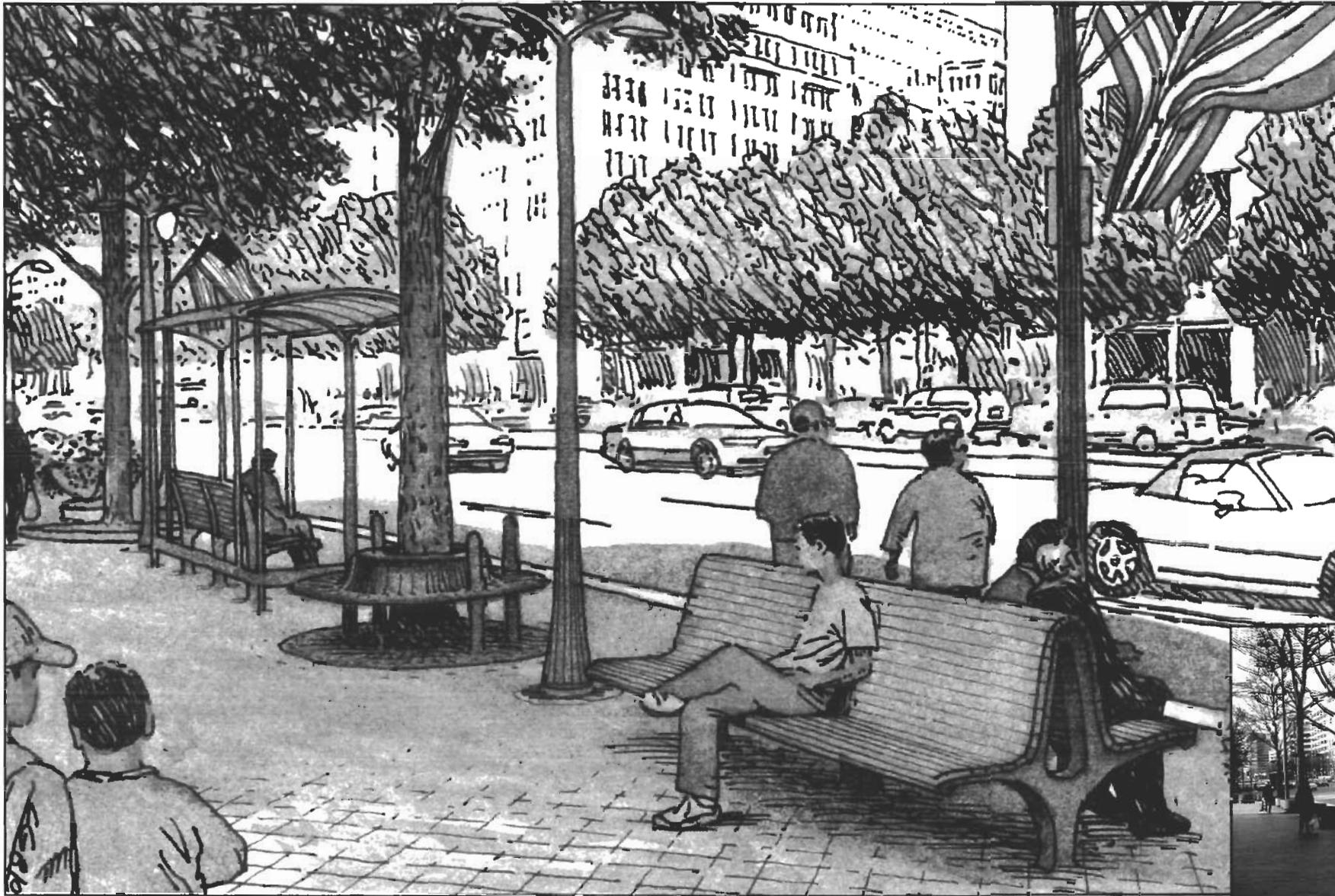
PENNSYLVANIA AVENUE HARDENED STREETScape ELEMENTS



Trash Receptacle Bus Shelter Pedestrian Lighting Planter Bench Tree Pit Curb and Posts
STREETScape ELEVATION



PENNSYLVANIA AVENUE SAMPLE APPLICATION - PLAN DETAIL 1



Proposed streetscape design for Pennsylvania Avenue looking west from the Treasury Building



Existing conditions

Federal Triangle

Historic Character

The Federal Triangle, an enclave of federal office buildings conceived in the McMillan Plan, is listed in the National Register of Historic Places. Part of the Pennsylvania Avenue National Historic Site, the area was designated for its exceptional architectural and planning significance and for its contribution to the image of the federal government in the Nation's Capital. All of the buildings in the Federal Triangle were designed and constructed in the 1920s and 1930s, with the exception of the Old Post Office (a surviving 1890s landmark), the Wilson Building (1908), and the Ronald Reagan Building and International Trade Center (completed in the 1990s).

The Federal Triangle complex represents a high standard of coordinated federal planning and design in the Beaux Arts style. Massive in size but classically proportioned and adroitly scaled, the buildings dominate the south side of Pennsylvania Avenue between the White House and the U.S. Capitol. These buildings also line the north side of Constitution Avenue and complement the scale of the museums across the avenue. John Russell Pope's National Archives Building punctuates the 8th Street cross-axis in both plan and elevation. Within and between the buildings, graceful plazas, generous courtyards, and carefully modulated facades showcase a sophisticated architectural vocabulary.



Plaza entrance to Ronald Reagan Building and International Trade Center



View north on 14th Street in front of the Department of Commerce



Bus operations on 10th street adjacent to the Department of Justice and IRS

Existing Context

Conceived as a unified precinct, the Federal Triangle originally consisted of manicured lawns with minimal, entranced-focused foundation plantings. The Triangle is articulated by a landscaped building yard, typically with low moat walls at the building wall, and wide sidewalks incorporating a generous tree-planting strip. A hierarchy of vehicular and pedestrian movement exists within the Federal Triangle. Although all of the north-south streets extend through the Triangle, several terminate at their intersection with Constitution Avenue and the Mall.

UNIQUE OR SPECIAL CONDITIONS INCLUDE:

- National Archives with its plinth walls and Beaux Arts landscaping.
- Old Post Office building and its narrow sidewalk on 12th Street.
- Buildings around the hemicycle that are at the curb on both sides of 12th Street.
- Terminus of 13th Street at the Ronald Reagan Building.
- Ronald Reagan Building entrance plaza on 14th Street.

These special conditions represent opportunities for the custom design of streetscape, landscape, and related urban design and security solutions.

Design Framework

Streetscape designs for the Federal Triangle reflect the hierarchy of Pennsylvania Avenue, Constitution Avenue, and the north-south streets in this precinct. The designs distinguish the avenues from the streets. Design concepts respond to the historic site and architectural character while enhancing the pedestrian experience.

The Federal Triangle design concept incorporates a uniform streetscape design for the majority of the north-south streets. Specific design solutions are applied to the special conditions that exist on these streets, including: custom design of the hemicycle on 12th Street, the terminus of 13th Street, and the 14th Street entry plaza of the Ronald Reagan Building and International Trade Center.

Security components proposed for the Federal Triangle include several bollard designs, a street fence design, and modifications of existing plinth and retaining walls. The typical north-south streetscape design incorporates a fence and bollard wall located on the curbside of the existing tree planting beds (typically two trees in length). Where breaks in this element exceed security requirements, a bollard or other hardened streetscape component is incorporated. While not proposed as a component of this security barrier, hardening of the street light poles is also an option. Bollards are used on corners and where the sidewalk is too narrow to incorporate street trees and the associated fence wall.

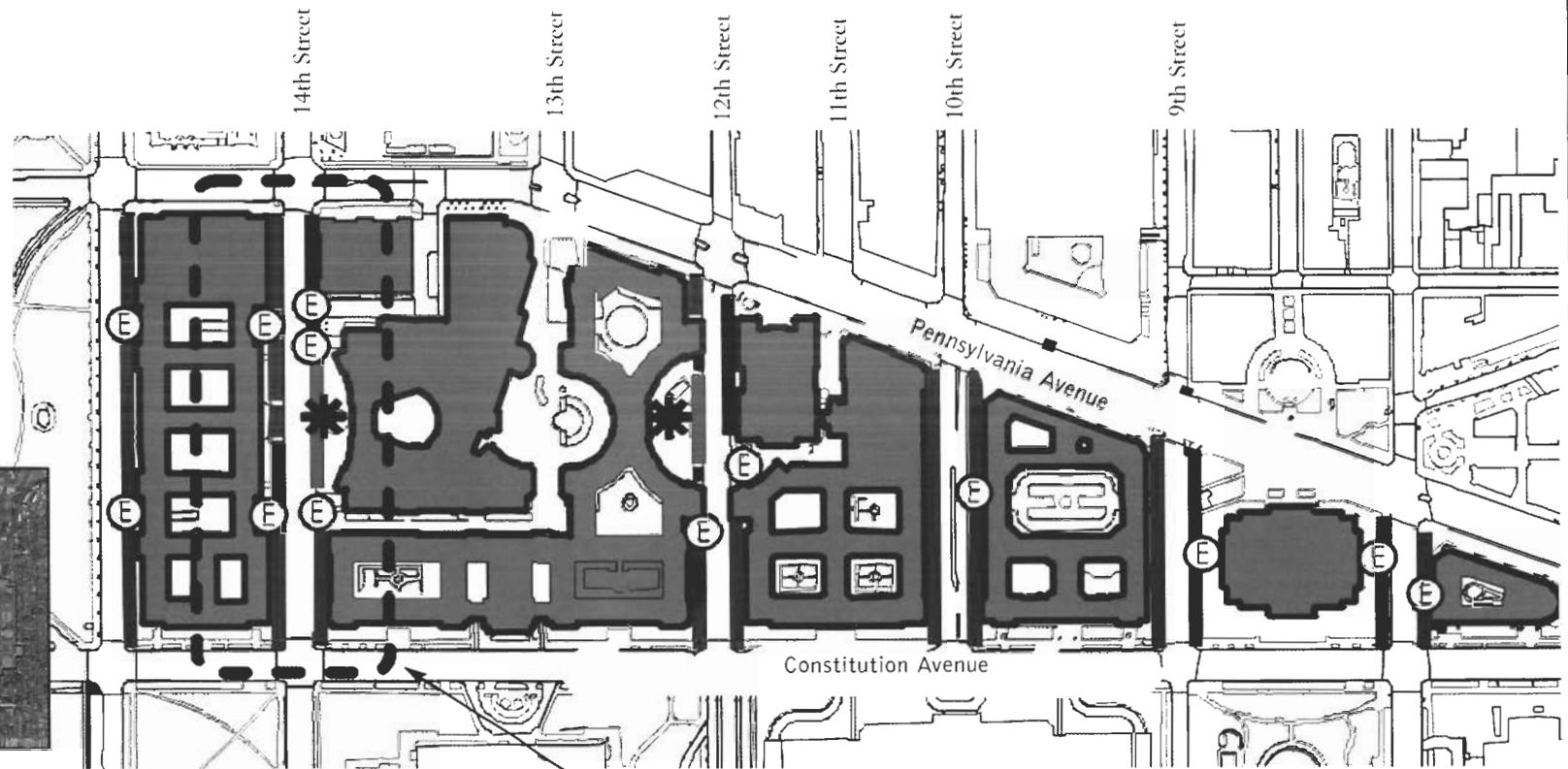
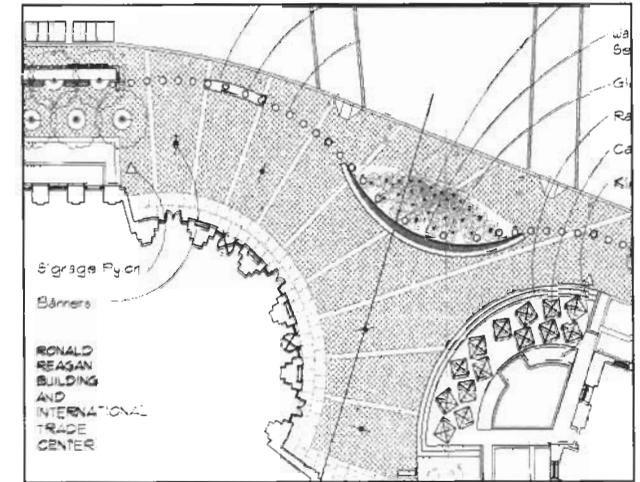


FEDERAL TRIANGLE KEY PLAN

LEGEND

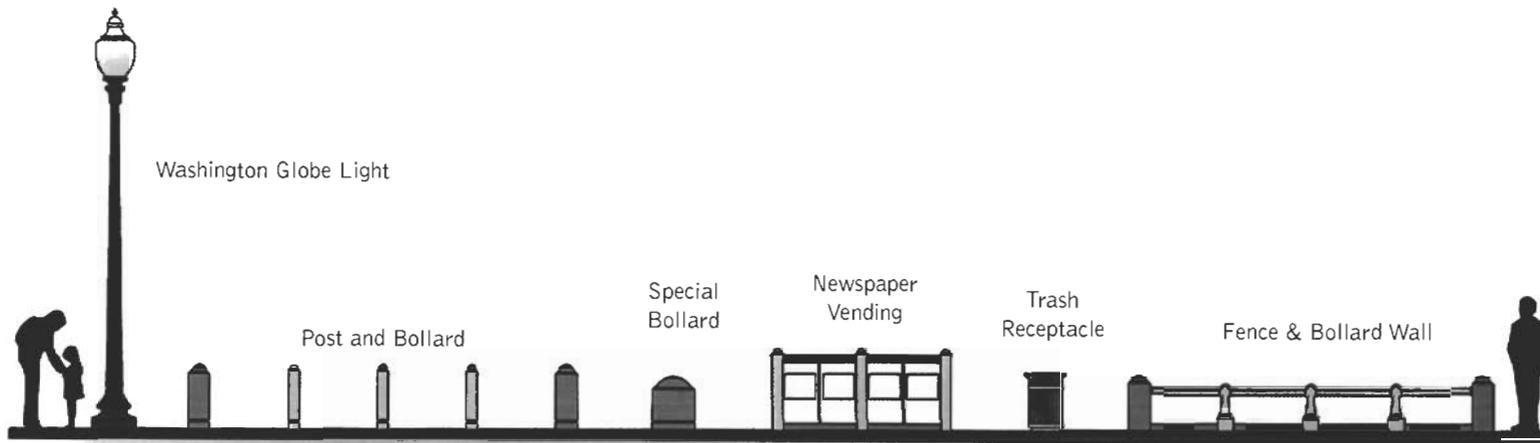
-  Post and Bollard
-  Fence and Bollard
-  Plinth Wall
-  Special Bollard
-  Vehicle Entrance
-  Special Projects
-  Sample Application Area

The Plan endorses the General Services Administration's proposal for the design of a fountain at the 13th Street terminus at Pennsylvania Avenue.



FEDERAL TRIANGLE KEY PLAN

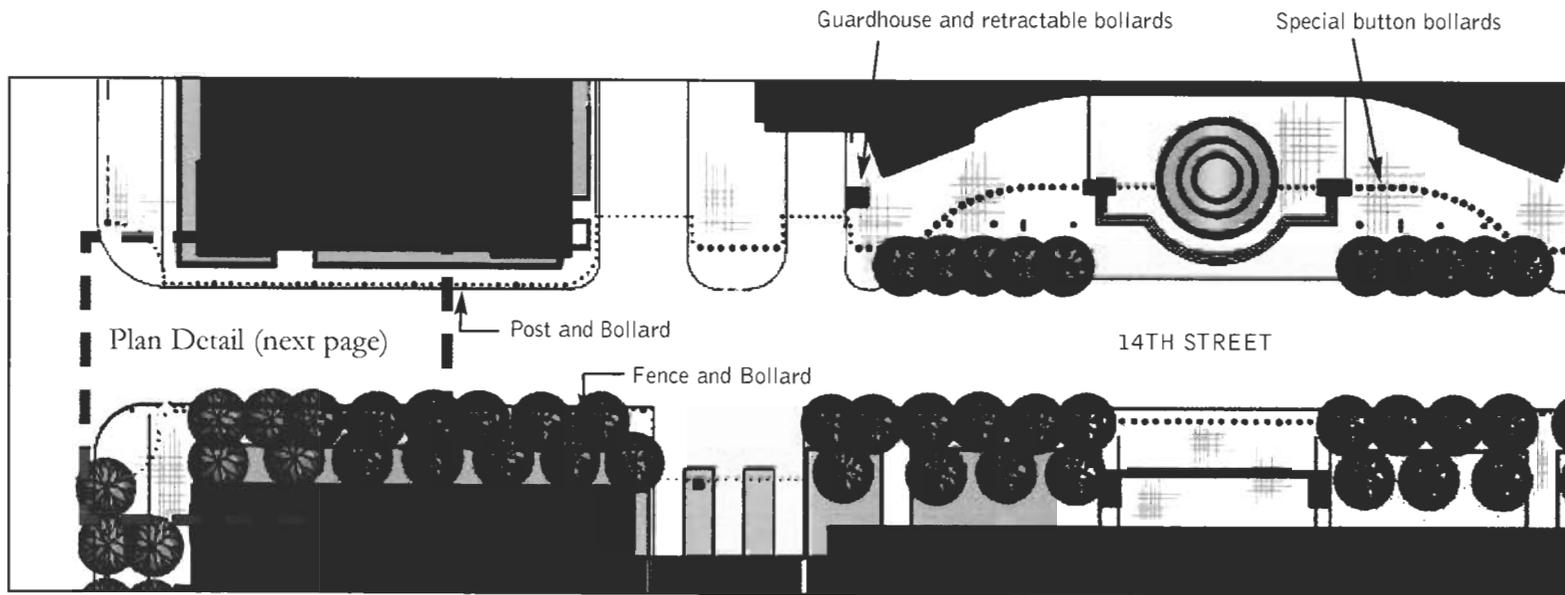
14th Street Sample Application Area



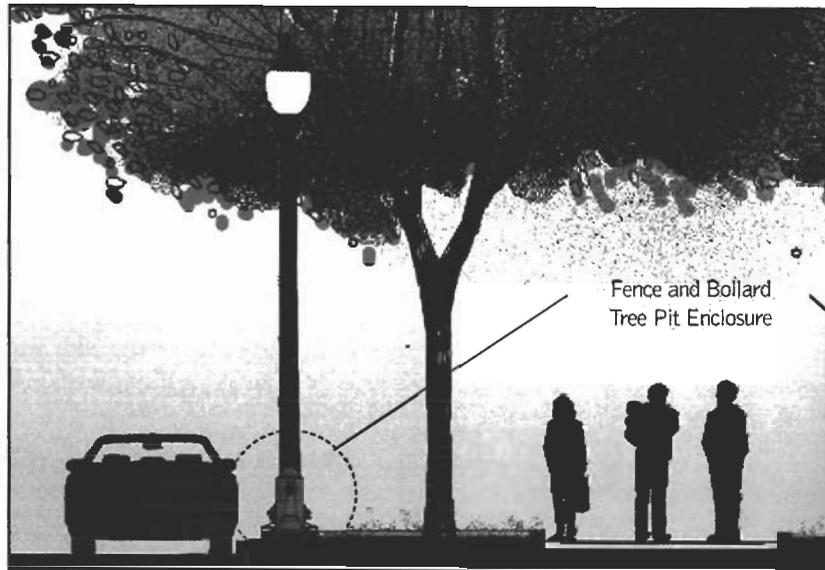
FEDERAL TRIANGLE - HARDENED STREETScape ELEMENTS

The proposed streetscape design framework on the north-south streets of the Federal Triangle incorporates:

- A fence and bollard wall on the curbside of the tree planting beds.
- Bollards where sidewalk conditions are too narrow to employ the fence wall, such as adjacent to the Wilson Building on 14th Street.
- Custom-designed solutions for the 12th Street hemicycle and 14th Street plaza in front of the Ronald Reagan Building.
- The General Services Administration's proposal for the design of a fountain at the 13th Street terminus at Pennsylvania Avenue.
- Redesign of the fountain in front of the National Archives on Pennsylvania Avenue to accommodate security requirements.
- Removal of the parking lanes on both sides of 10th Street. A study to develop modifications of 10th Street bus operations is recommended to make the street more pedestrian friendly, as appropriate to this street and its termination at the Constitution Avenue entrance to the National Museum of Natural History.
- Guardhouses, as required at points of vehicular entry to parking and service areas, to be located close to the buildings, and designed to be compatible with the associated building architecture. Gate arms are acceptable in areas of high traffic volume.



FEDERAL TRIANGLE - 14TH STREET SAMPLE APPLICATION AREA



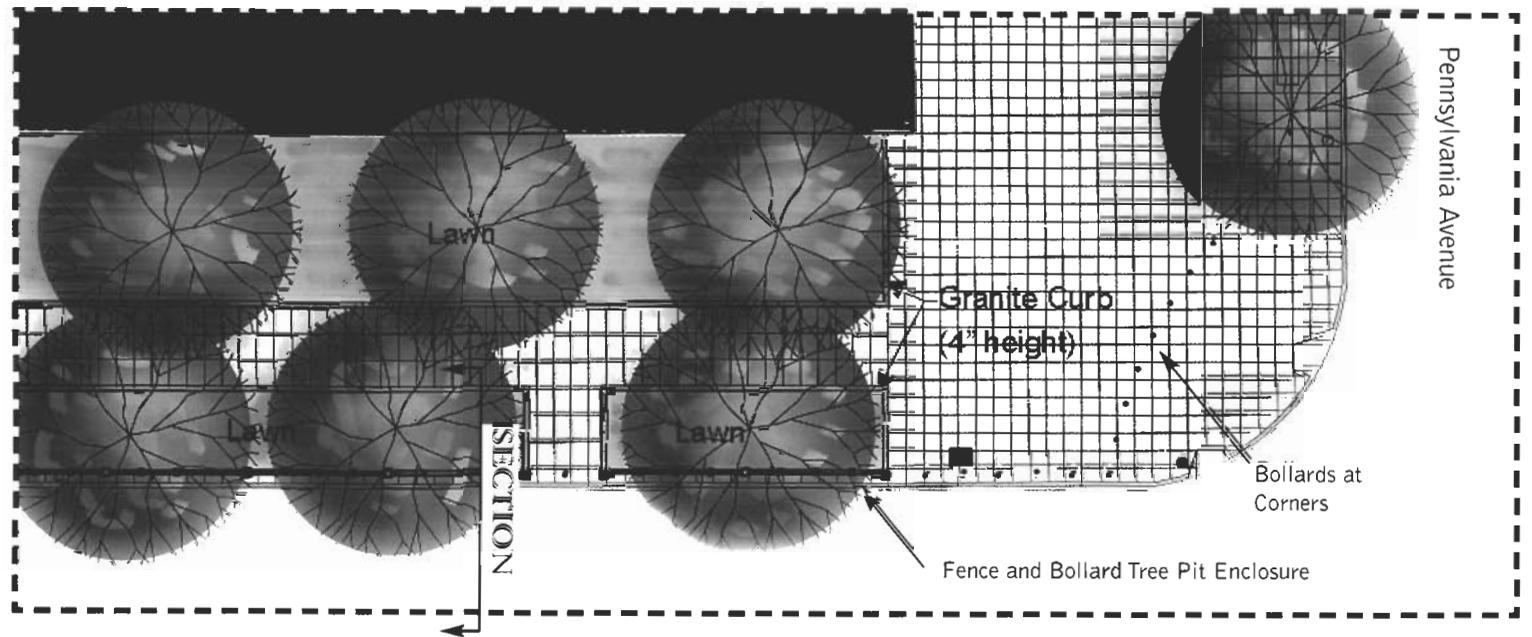
TYPICAL FENCE AND BOLLARD SECTION



TYPICAL NORTH-SOUTH STREET ELEVATION

ADDITIONAL DESIGN CONSIDERATIONS

- The proposed fence and bollard wall component requires both engineering and testing to ensure that it satisfies security requirements.
- Removal of the parking lanes on 10th Street requires a traffic study and parking analysis and confirmation by DCDOE.
- Underground utility locations have yet to be determined.



TYPICAL PLAN DETAIL



Illustration: Christopher Grabbis



Existing conditions

Proposed and typical Federal Triangle streetscape design looking north on 14th Street in front of the Department of Commerce

Department of Justice

Within the Federal Triangle, the Department of Justice (DOJ) has designed perimeter security for its headquarters building on Pennsylvania Avenue. It's recommended that the streetscape designs for the surrounding streets of Pennsylvania Avenue on the north, Constitution Avenue on the south, and the typical streetscape design proposed for the north-south streets in the Federal Triangle apply to the DOJ headquarters building. (These proposed streetscape designs are described in the respective sections for each of these avenues and the Federal Triangle.)



Department of Justice Building as viewed from Pennsylvania Avenue

- The proposed Pennsylvania Avenue streetscape design concept constitutes a new design for the 1974 Pennsylvania Avenue Development Corporation plan for the avenue. The design incorporates hardened components that are consistent with the existing design of the avenue, e.g., benches, drinking fountains, etc., and include the addition of bollards at the corners and at major entrances to the buildings.
- The proposed Constitution Avenue streetscape incorporates a plinth wall design that raises the existing coping stone on the inside of the sidewalk.
- The Federal Triangle north-south streetscape design introduces a fence and bollard wall at the curbside of the tree planting beds. Bollards are incorporated in the sidewalk between this wall and at vehicular entrances where retractable bollards and/or gate arms are employed.
- Guardhouses are proposed to be custom-designed for compatibility with the building architecture.
- Given the high level of security applicable to the DOJ and the special condition that exists on 10th Street between Pennsylvania and Constitution Avenues, the Plan recommends incorporating the existing curb/parking lanes on both sides of this block in widened sidewalks, thereby increasing the standoff distance. This widening of the sidewalk incorporates the redesign of this predominately pedestrian street in a manner appropriate to its limited traffic use and termination at the Constitution Avenue entrance to the National Museum of Natural History

Constitution and Independence Avenues

Historic Character

CONSTITUTION AVENUE

L'Enfant's Constitution Avenue was originally a creek, and then later channeled into a canal. It was a 90-foot-wide street by the late 19th century and became the grand thoroughfare we know today as a result of the standards established in the McMillan Plan and implemented through the 20th century. Along its entire length in the Northwest quadrant of the city, Constitution Avenue affords views of the Capital's most significant memorials and open space, national museums, and prominent federal and institutional buildings, designed by the leading architects and landscape architects of this era.

As monumental as these buildings are, they are also elements of larger ensembles that complement the size and scale of the avenue—the Mall museums, the Federal Triangle, and the West End. The avenue provides prime views of the White House, the Washington Monument Grounds, and the Lincoln Memorial. While the buildings in the Federal Triangle were constructed to the building line, the museums and the West End institutions are among the rare Washington buildings that are set back within generous green lawns. The character of the open space in these latter two ensembles is open, low, and landscaped. While the setting of the Federal Triangle buildings alludes to its urban context, the museums are clearly related to the National Mall and their position along this grand avenue. The West End buildings are carefully set back to extend the open and landscaped character of West Potomac Park across the avenue. The Constitution Avenue right-of-way is a contributing element of the historic L'Enfant Plan designation.

INDEPENDENCE AVENUE

Forming the southern edge of the National Mall, Independence Avenue was historically a 90-foot right-of-way called Avenue B. The avenue contains significant and architecturally varied national museums along the Mall and mid 20th-century federal office buildings to the south. The Agriculture South Building is by far the largest building on the avenue. Many of the Southwest Federal Center office buildings are set back behind paved plazas, reflecting the conventions of the Modern era of design and planning.

The Smithsonian Museum complex includes the colorful Arts and Industries Building, which preceded the sidewalk abutting its south façade; the fenced Enid Haupt Garden; the neoclassically sited Freer Gallery; the Hirshhorn Museum, whose round shape sweeps away from the avenue but whose podium defines the building line; and the Air and Space Museum, whose long length is mitigated by its architectural design. The Independence Avenue right-of-way is a contributing element of the historic L'Enfant Plan designation.

Existing Context

Constitution and Independence Avenues are major ceremonial streets that frame the National Mall. They are also major traffic arterials of eight lanes that provide off-peak parking. Constitution Avenue is an elegant boulevard lined with monumental buildings and wide sidewalks with generous lawn panels containing mature street trees. Independence Avenue differs from Constitution Avenue in that the sidewalk is much narrower with a sporadic and diverse mix of street trees; the building setbacks vary widely; and the architectural style of the buildings is diverse. These characteristics bring inconsistency to the character of this avenue.

Design Framework

The proposed streetscape design for both Constitution and Independence Avenues is intended to result in a continuous, dignified appearance, in keeping with the significance of these major avenues in the Nation's Capital. To the extent possible the appearance of these avenues should relate to one another. The streetscape design for both avenues (3rd to 15th Streets) incorporates a plinth wall located at the inside of the sidewalk. This wall is used as a unifying element along these avenues, consistent with the array of architectural styles.



Independence Avenue in front of the National Air and Space Museum

Constitution Ave
Independence Ave



Constitution Avenue at
the Federal Triangle

CONSTITUTION AVENUE (5TH TO 15TH STREETS, NW)

The streetscape design proposed for both sides of Constitution Avenue (5th to 15th Streets, NW) incorporates a plinth wall on the inside of the existing sidewalk and will result in a streetscape that is similar to that which exists on the western portion of the avenue (west of 17th Street). Plinth walls exist within the Federal Triangle and a low coping stone is currently employed on the inside of the sidewalk around the Smithsonian museums that are located on this avenue. The plinth wall design would simply entail raising this coping stone and, where practical, backfilling.

More specifically, the coping stone located on the inside of the sidewalk on the Federal Triangle side of the avenue will be raised and backfilled. The anticipated height of the plinth wall is 2' - 6"; however, as is the case with the existing walls associated with the National Archives, it may be appropriate to increase this height. Likewise, the existing wall on the inside of the sidewalk on the Smithsonian side of the avenue is proposed to be raised and backfilled and/or buttressed so as to provide the required security barrier in this area.

Stone bollards and benches are incorporated at building entrances and at intersections. Retractable steel bollards and/or gate arms are recommended at vehicle entrances. Guardhouses, as required in these areas, are to be custom designed as appropriate to the building architecture or, as is the case with the Smithsonian Institution and National Gallery of Art, appropriate to the landscape setting.

INDEPENDENCE AVENUE (4TH TO 14TH STREETS, SW)

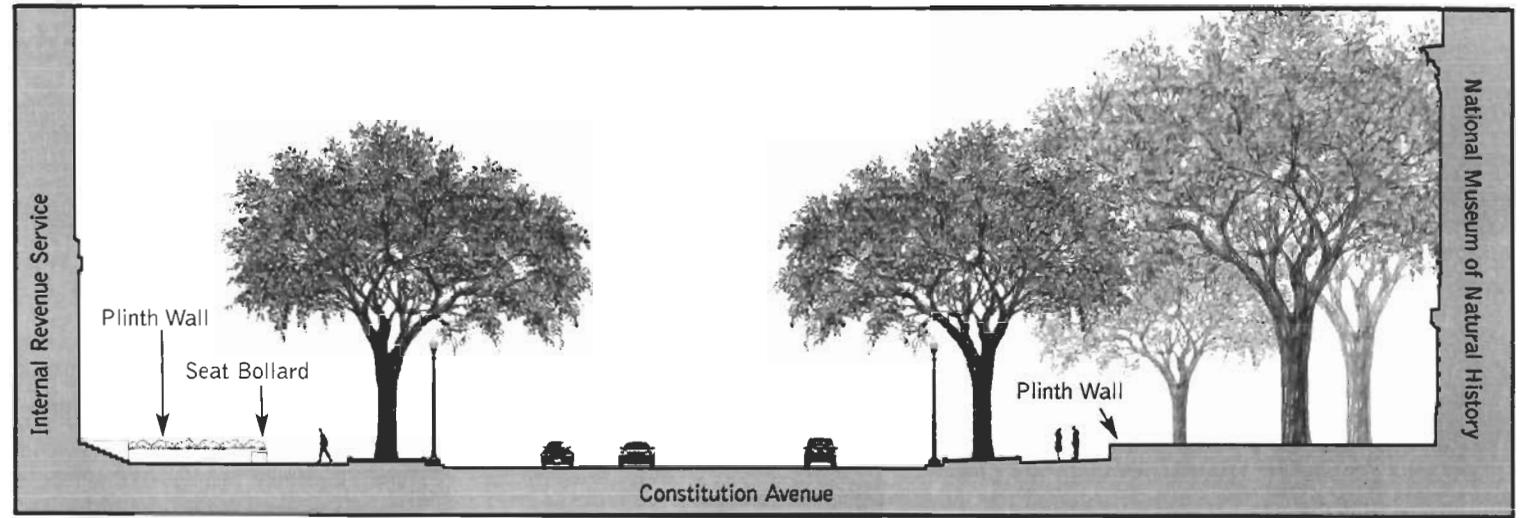
Improvements to Independence Avenue will include a comprehensive tree planting program, and a combination of plinth walls and custom-designed solutions. The plinth wall streetscape security solution can be applied to a significant proportion of the avenue. Many of the existing conditions on the south side of the avenue are similar to those on the north side of Constitution Avenue, e.g., building setbacks, elevation changes, etc. However, conditions on the north side of the avenue are considerably varied. In some locations, such as at the National Air and Space Museum, existing raised planters can be expanded, and at the Hirshhorn Museum, the existing walls may already constitute a secure perimeter.

Treatment at building entrances incorporates the same stone bollards, seat bollards, and benches as those recommended for Constitution Avenue. While these solutions may be adequate for a number of buildings, they will not suffice for those with minimal setbacks, where custom-designed solutions will be required.

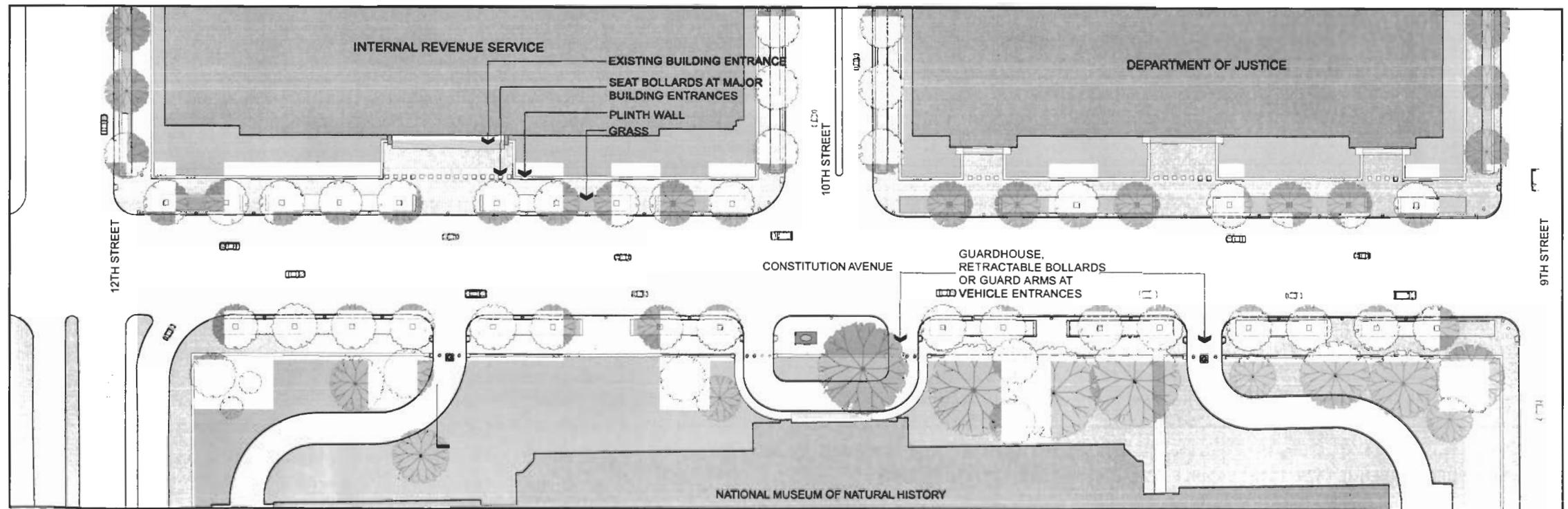
Constitution and Independence Avenues streetscape elements include:

- Plinth walls
- Marble or granite bench (2' 6" high, 2' 0" wide, 13' long)
- Marble or granite seat (2' 6" high, 3' 0" wide, length varies)
- Granite bollard (3' 0" high, 14" diameter) with 42" clear between bollards
- Stone wall (2' 6" high, varying width and length)
- Street trees (8" caliper Elm), as required

Constitution Avenue Solution

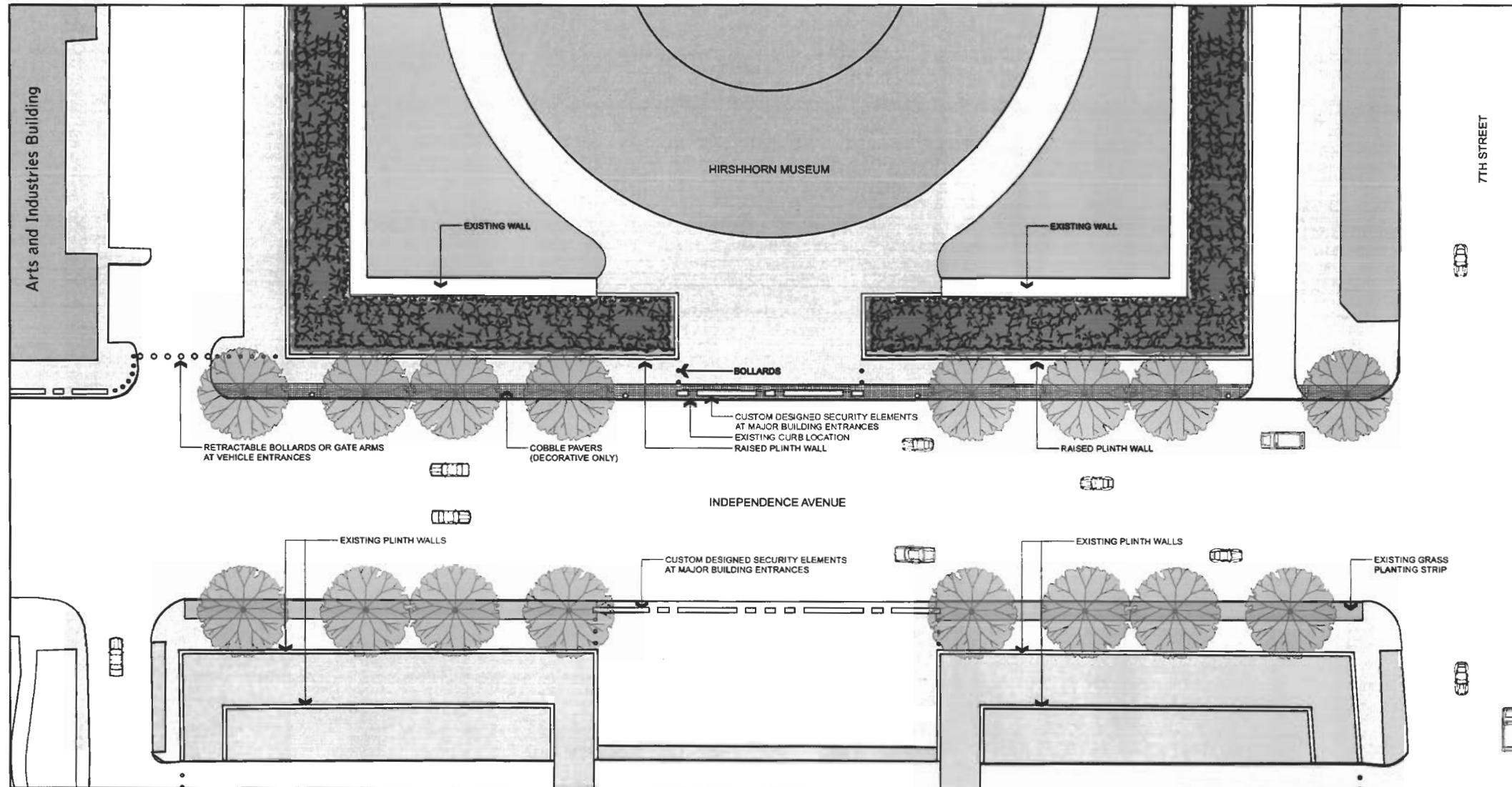


CONSTITUTION AVENUE (5TH-15TH) SECTION - PLINTH WALL



CONSTITUTION AVENUE (5TH-15TH) SAMPLE APPLICATION PLAN - PLINTH DESIGN

Independence Avenue Solution



INDEPENDENCE AVENUE (4TH-14TH) SAMPLE APPLICATION PLAN - PLINTH DESIGN

CONSTITUTION AVENUE (WEST OF 15TH STREET, NW)

There is no requirement for the provision of perimeter security on Constitution Avenue between 15th and 17th Streets, NW (adjacent to the Ellipse and the Washington Monument grounds) because of the adjacent parkland. The security perimeter for the Washington Monument has been established within 400 feet of the monument. In addition, there is no requirement to establish a security barrier on Independence Avenue west of 15th Street, SW as the avenue is also flanked by parkland.

No overall streetscape design is proposed on Constitution Avenue west of 17th Street, NW because no security requirement exists on the Constitution Gardens or Mall side of the avenue. The existing buildings on the north side are substantially set back and incorporate plinth walls at, or just inside, the sidewalk. Where required, these walls may need to be raised to meet security requirements. Stone bollards and benches are proposed to be custom-designed as appropriate to each of the major entrances of the buildings that require security improvements on this avenue.

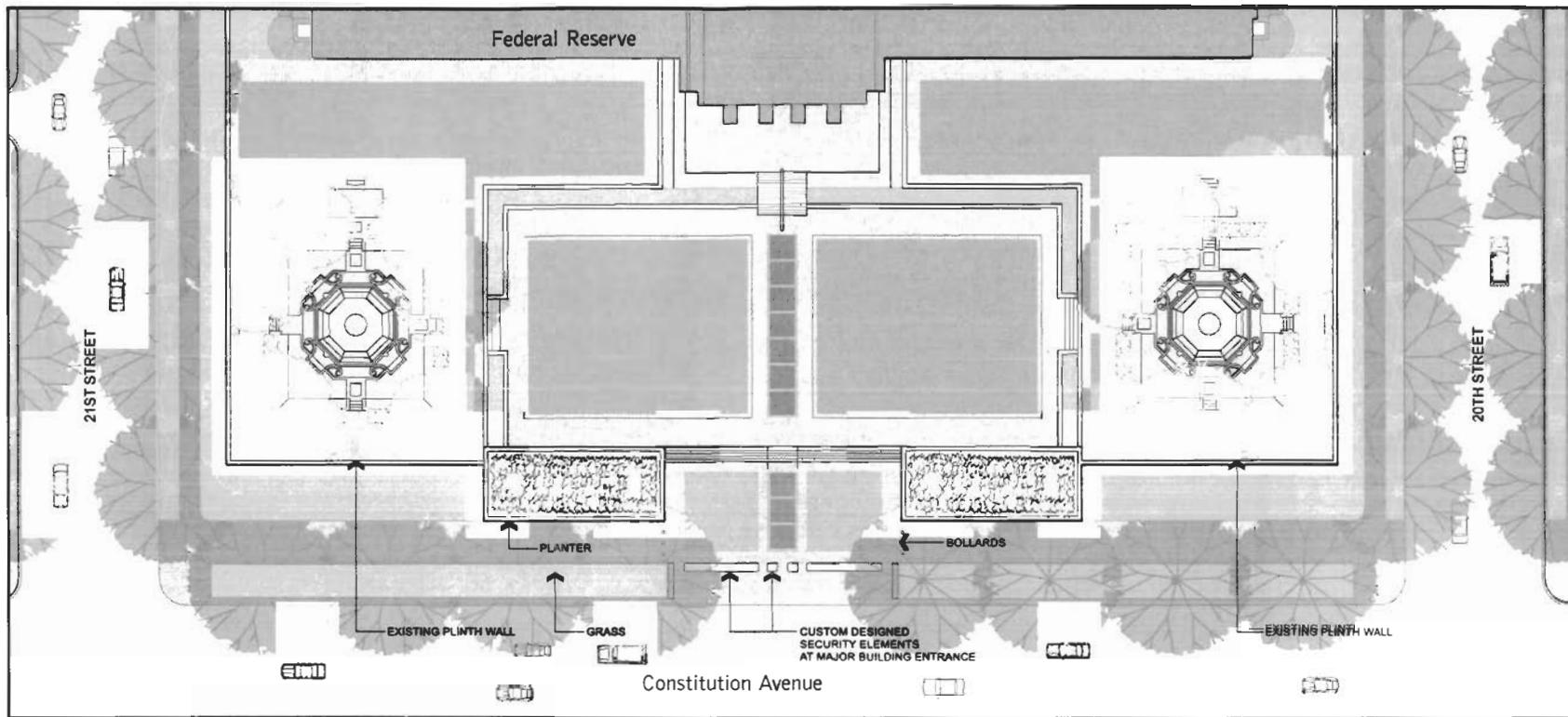
A custom design for the entrance to the Federal Reserve Building on Constitution Avenue is illustrated as representative of the design concept proposed for the major building entrances on the avenue. The majority of the perimeter utilizes the existing plinth wall (located on the inside of the sidewalk). The entrance plaza is redesigned to include a large raised planter on either side of the existing walk (and steps) and incorporates stone benches and bollards. A recommended design consideration is to avoid locating bollards or other security components in close proximity to either the top or bottom of steps; thus, the benches are shown on the curb or street side of the sidewalk.

Streetscape elements proposed for the custom design of the entrance security at the Federal Reserve Building on Constitution Avenue include:

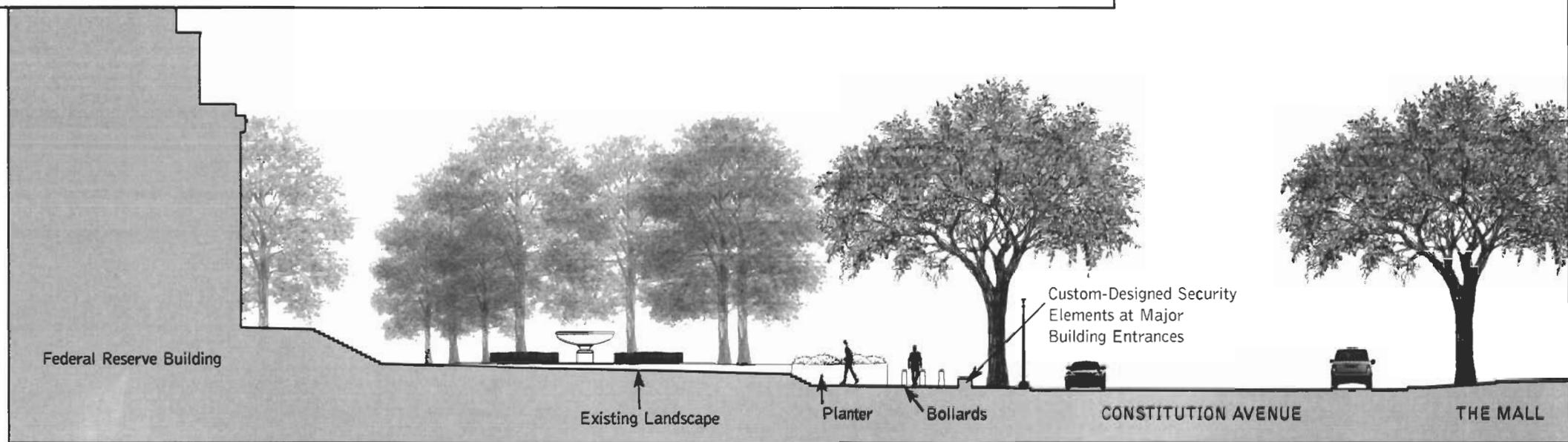
- Planter wall (4' 0" high, 1' 6" wide; match existing white marble)
- Paving (match existing entrance pattern)
- Marble or granite bench (2' 6" high, 2' 0" wide, 13' long)
- Marble or granite seat (2' 6" high, 3' 0" wide, length varies)
- Granite bollard (3' 0" high, 14" diameter), 42" clear between bollards



Constitution Avenue looking east toward the Federal Reserve

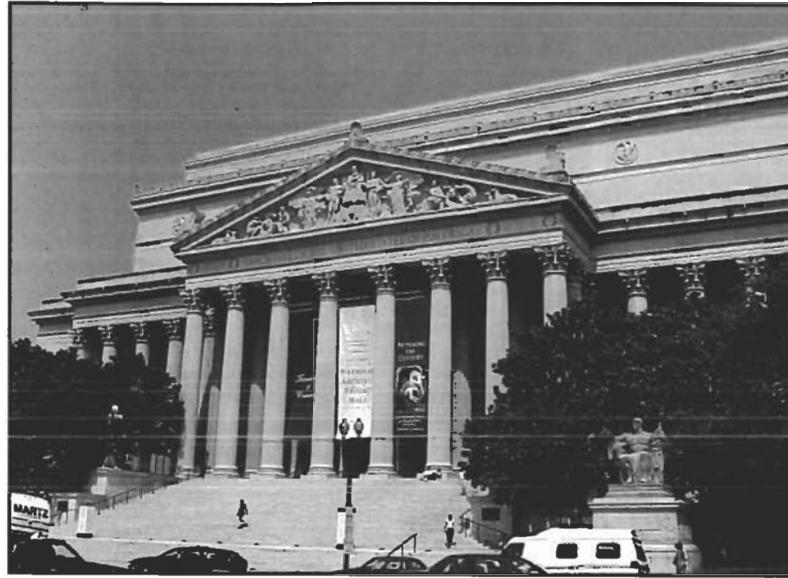


**CONSTITUTION AVENUE (17TH-23RD)
SAMPLE APPLICATION - CUSTOM-DESIGN**

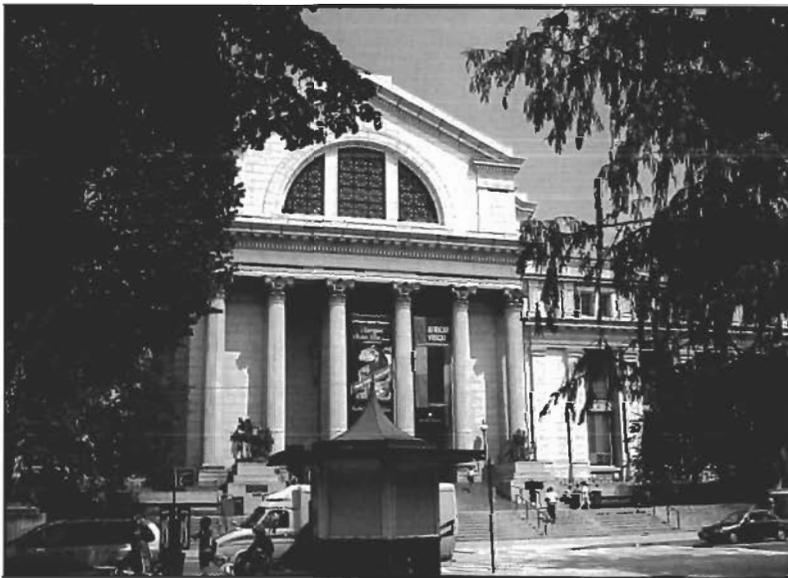


CONSTITUTION AVENUE (17TH-23RD) SECTION - CUSTOM-DESIGN

The National Mall – Jefferson and Madison Drives



View from the Mall looking north at the National Archives



View from the Mall looking north at the Museum of Natural History

Historic Character

The National Mall, with its magnificent memorials and museums, is identified throughout the world as the physical embodiment of the ideals of the United States. The Mall is the setting for our collective history and our public celebrations. From the formal cross-axis of the Mall to the informal configuration of the Tidal Basin, from the rectilinear Reflecting Pool to the informal curves of Constitution Lake, from the graceful rows of elms to the famous cherry trees, and from the museums to the ball fields, the Mall has many different characteristics, but is unified by its vast and open parkland.

The grounds that collectively comprise what is called "The Mall" (the National Mall, the Washington Monument Grounds, and West Potomac Park) are components of the L'Enfant and McMillan Plans. They and the historic buildings and structures on them are designated in the National Register of Historic Places for their historic and architectural significance; their association with noted architects, landscape architects, sculptors, and planners; their primacy in the plan and design of the Nation's Capital; and as the setting for national events.

Although the Mall has been extended and altered continuously during the past two centuries, reflecting the evolving history of the nation, it has become a mature landscape with established buildings, trees, features, and vistas. The buildings and structures, visited by millions of people annually, are among our most visible national symbols. The national museums and memorials have generous, landscaped settings. The museums are primarily oriented toward Madison and Jefferson Drives on the Mall.

Existing Context

Madison and Jefferson Drives are local streets that parallel the Mall from the Reflecting Pool at 3rd Street to the Washington Monument grounds at 14th Street. The buildings adjacent to these drives include the major museums of the Smithsonian Institution and the National Gallery of Art.

On Madison Drive, the American History and Natural History museums and the West Building of the National Gallery of Art—set back nearly 100 feet from the street—are similar in scale, massing and materials, and share an existing vocabulary of walls and planters that are recommended to be incorporated into the design of security. In contrast, the museums that line Jefferson Drive vary widely in massing and scale, and setbacks vary from virtually none (at the Smithsonian Castle) to more than 100 feet at the Department of Agriculture.



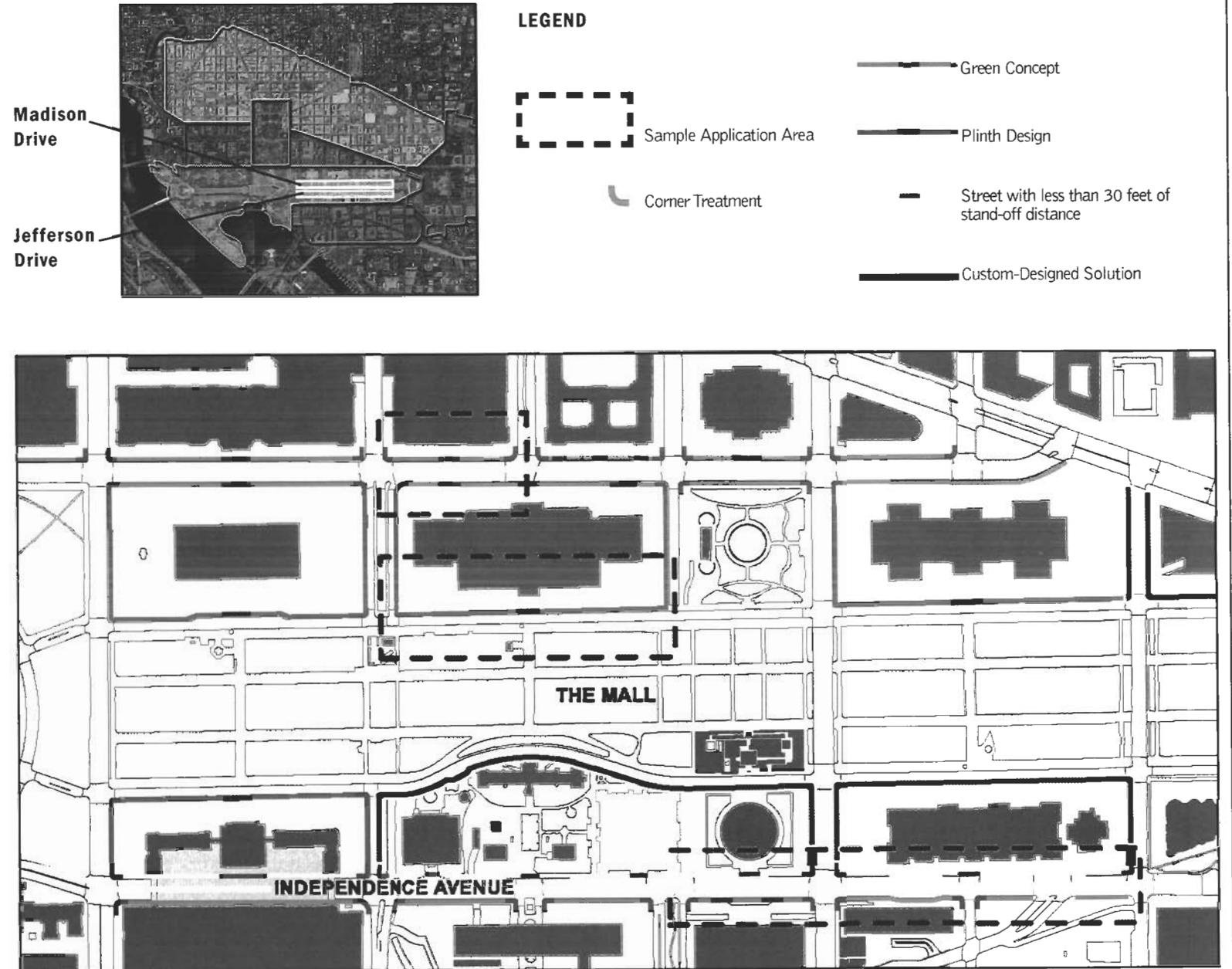
National Mall, looking west

Design Framework

Whereas the historic relationship of both Madison and Jefferson Drives is identical, and their streetscape designs should be maintained to the greatest extent possible, the buildings on Madison Drive have large setbacks and the majority of those on Jefferson Drive do not. While many of the same components may be incorporated, physical perimeter security design solutions will vary on these streets. With the exception of the proposed consistent plinth wall design for Madison Drive, security solutions identified as applicable to the majority of the museums on the Mall are recommended to be custom-designed.

A common landscape element that runs the length of Madison Drive is a wide coping stone curb located on the inside edge of the sidewalk. The security barrier is recommended at this location. The coping stone is proposed to be raised and used as the capstone of a new wall. The wall may be backfilled to the height of the existing retaining wall, resulting in a raised planter or plinth wall. Stone bollards, benches, and planters are proposed to be located on the entrance plazas in front of these major museums. Although the security design of these entrances will vary to complement the differences in architecture and site design, the same components are recommended throughout. Because a coping stone (curb) does not currently exist on the Madison Drive sidewalk of the East Building of the National Gallery of Art, the plinth wall solution may not be applicable in this location and a custom-designed solution may be required.

In addition, 4th Street between the East and West Buildings of the National Gallery presents a different and unique situation that will require a custom-designed streetscape security solution.



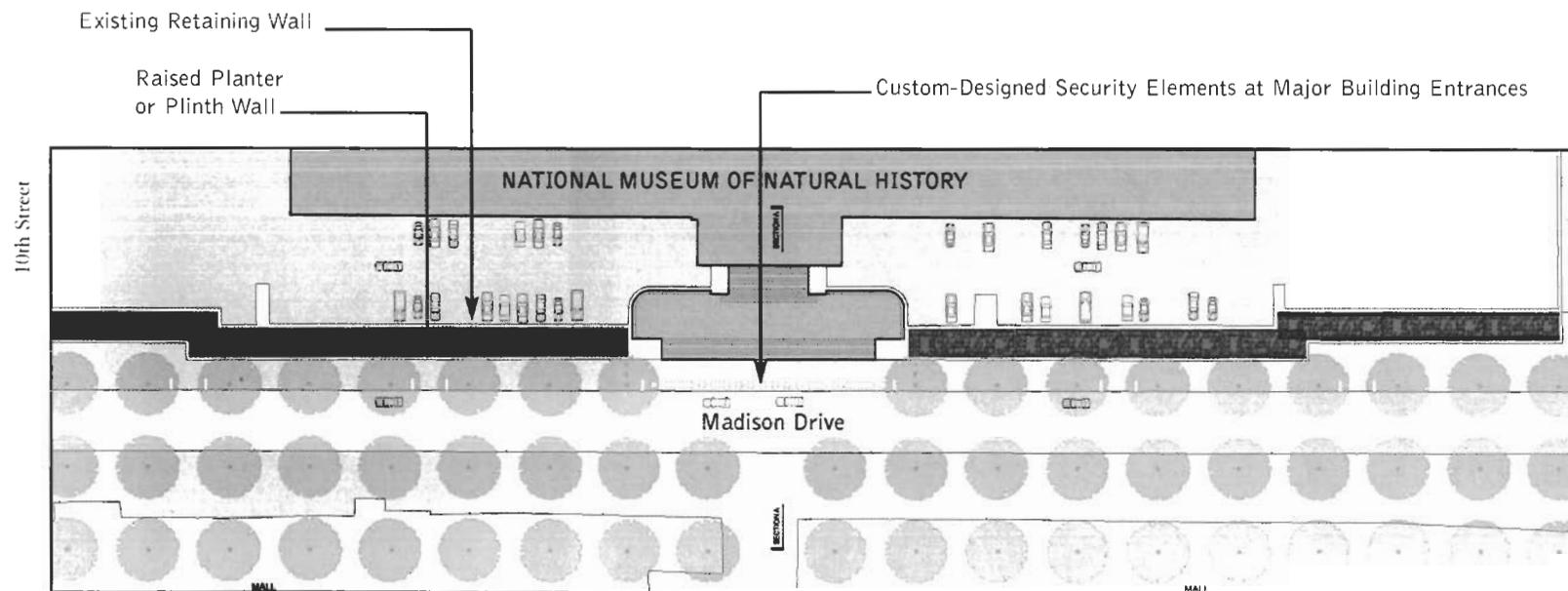
The design of perimeter security measures for the varying conditions that exist on Jefferson Drive will require a number of custom-designed solutions. Where there is little or no setback, stone bollards and/or benches are recommended. Given the monumental nature of these buildings and the significance of their major public entrances (both architecturally and functionally), security in these locations is recommended to be custom-designed using this family of security components.

Sample Applications

A plinth wall is illustrated on Madison Drive at the National Museum of Natural History (NMNH). A custom-design for the provision of entrance security is also illustrated at the main Mall entrance. Stone bollards, benches, and planters are located on the plaza at the entrance to this museum.

Streetscape elements proposed for Madison and Jefferson Drives include:

- Washington globe light (Bacon Twin 20), reuse existing
- Street trees (8" caliper Elm), infill existing, as required
- Coping wall (2' 6" high, 2' 0" wide) for the entire length of the existing coping stone curb
- Deciduous shrub (3' BB, full to ground) in planter behind wall
- Granite garden curb (6" high, 6" wide)
- Marble or granite bench (2' 6" high, 2' 0" wide, 7' 0" long)
- Marble or granite seat (2' 6" high, 3' 0" wide, length varies)
- Granite bollard (3' 0" high, 14" diameter) with 42" clear between bollards
- Stainless steel bollard (simple cylindrical form, 2' 6" high, 8" diameter) at 4' on-center



THE MALL SAMPLE APPLICATION PLAN - MADISON DRIVE PLINTH WALL AND CUSTOM-DESIGNED ENTRANCE SECURITY

Monuments and Memorials

The National Park Service (NPS) has determined that in addition to the requirement to provide security (perimeter and entrance) for the Washington Monument, where a security plan is currently under development, perimeter security is required for both the Lincoln and Jefferson Memorials. With the exception of establishing a vehicular barrier at the 17th Street ceremonial entrance to the World War II Memorial, no additional physical perimeter security is deemed necessary at this time for the other monuments and memorials located on the Mall or in West Potomac Park.

Historic Character

WASHINGTON MONUMENT

Standing at the cross-axis of the Mall, the Washington Monument is recognized and beloved as a symbol of the city that bears its founder's name. Originally designed by Robert Mills and constructed between 1848 and 1889, the obelisk and grounds were modified and completed by the U.S. Army Corps of Engineers, most notably without the elliptical colonnade that Mills had envisioned for its base. A generation later, the McMillan Plan proposed centering the monument within its setting at the crossing of the two axes of the Mall by embellishing the grounds with an elaborate Beaux Arts-style landscape plan of plantings, terraces, and water pools. The plan was not realized. The monument and its grounds, often referred to as a greensward, are at the center of the National Capital's Monumental Core and serve as a natural gathering place for events large and small, public and private. The Washington Monument was one of the first historic properties to be listed in the National Register of Historic Places in 1966. The monument and grounds are recognized as an element of the historic plan of Washington, D.C.

LINCOLN MEMORIAL

Facing the Washington Monument and the U.S. Capitol, the Lincoln Memorial forms the terminus of the McMillan Commission's extension of the Mall. Henry Bacon's design, ranked among the most beautiful buildings in Washington, is a neoclassical reinterpretation of a Greek temple form with columns in the Doric order. The marble and limestone building, on a high podium with monumental steps, is set within a circle that emphasizes the Mall axis through the elaborate landscaped and terraced base that extends to the Reflecting and Rainbow Pools. Selected through competition, the memorial was designed by 1913 and completed in 1922. Daniel Chester French's majestic sculpture of the seated Lincoln dominates the interior.

JEFFERSON MEMORIAL

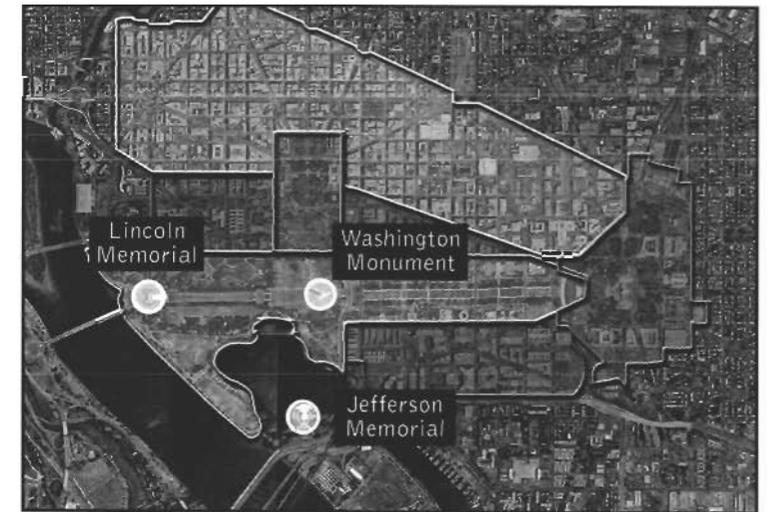
The Jefferson Memorial forms the southern terminus of the cross-axis of the Mall. The memorial was designed by John Russell Pope and completed in 1942—after his death—by Eggers and Higgins. The marble neoclassical rotunda reminiscent of Jefferson's own designs was famously controversial in its time but is admired today. The formal, classical memorial and its monumental terrace and steps are contrasted by its informal landscape plan by Frederick Law Olmsted, Jr., and its setting on the Tidal Basin. The dome and colossal statue of Jefferson by Rudolph Evans are the focus of magnificent views across the Basin from the White House and other axial points. The steps of the memorial provide magnificent views towards the Washington Monument and the city beyond.

Design Context

The Washington Monument and the Lincoln and Jefferson Memorials are surrounded by generous expanses of open space that exceed the minimum required standoff distances determined for these memorials. This response allows for flexibility in the design of the perimeter security solutions for these memorials, including the manipulation of topography and the creation of low walls, planters, and other elements that both complement and defer to their existing landscape and architecture.

Design Framework

Custom perimeter security designs as described in the following sections are recommended for these Memorials.



Washington Monument

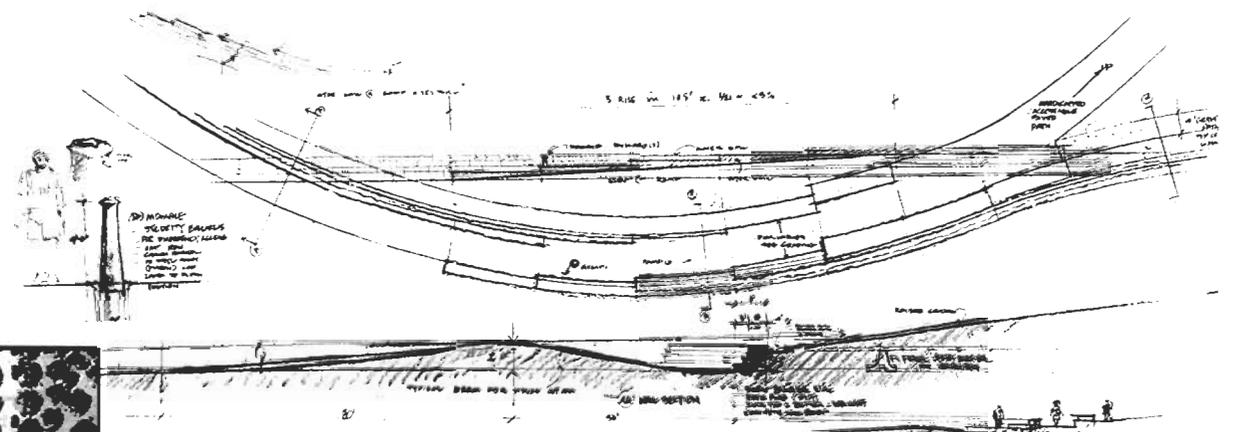
The Washington Monument is one of the nation's most prominent and visible symbols and one of Washington's most visited sites. The monument has also been the site of numerous threatening incidents, and could be the target of a future terrorist attack. Temporary security at the Washington Monument includes a ring of jersey barriers and a temporary visitor screening facility that is attached to the monument's entrance.

The National Park Service (NPS) has developed a concept plan for perimeter security improvements for the monument. The existing walkways would be reconfigured as a series of partial ovals extending east and west from the monument plaza. These walkways incorporate retaining or plinth walls to serve as the vehicular barrier; and individual removable bollards are located at the intersection of the walkways to allow access by service and emergency vehicles. This design concept is consistent with the principles set forth by the Interagency Security Task Force and, more specifically, those principles that have been proposed for the design of perimeter security for the monument. The Commission approved the proposed concept design plan on February 7, 2002 and will be considering final approval at a later date.

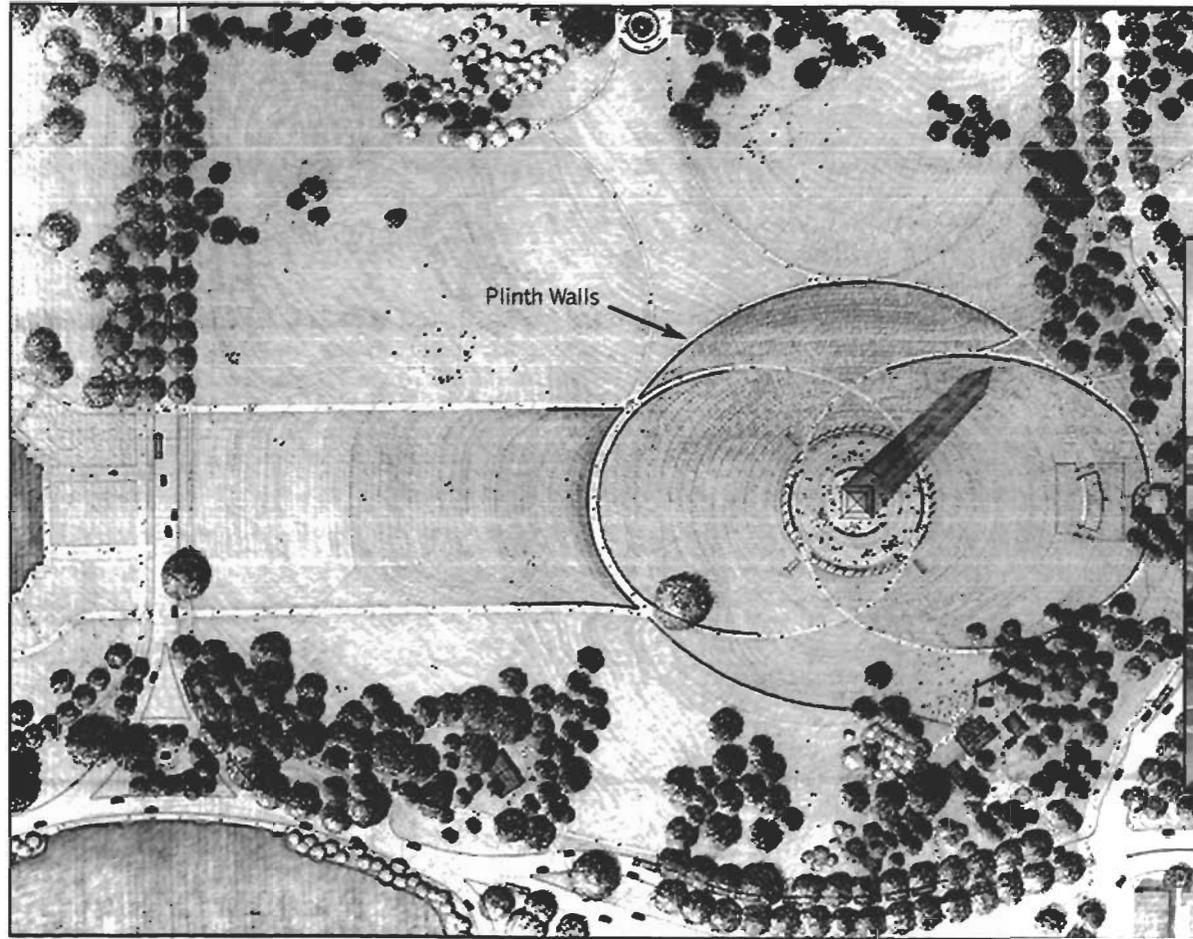


Existing temporary security measures





Concept detail of proposed walkways, plinth walls, and berms (grading)



Proposed walkways configured as a series of partial ovals extending east and west from the Washington Monument plaza would enhance pedestrian approaches.



Illustration: Laurie Olin

Proposed Washington Monument grounds with redesigned walkways, plinth walls, and grading

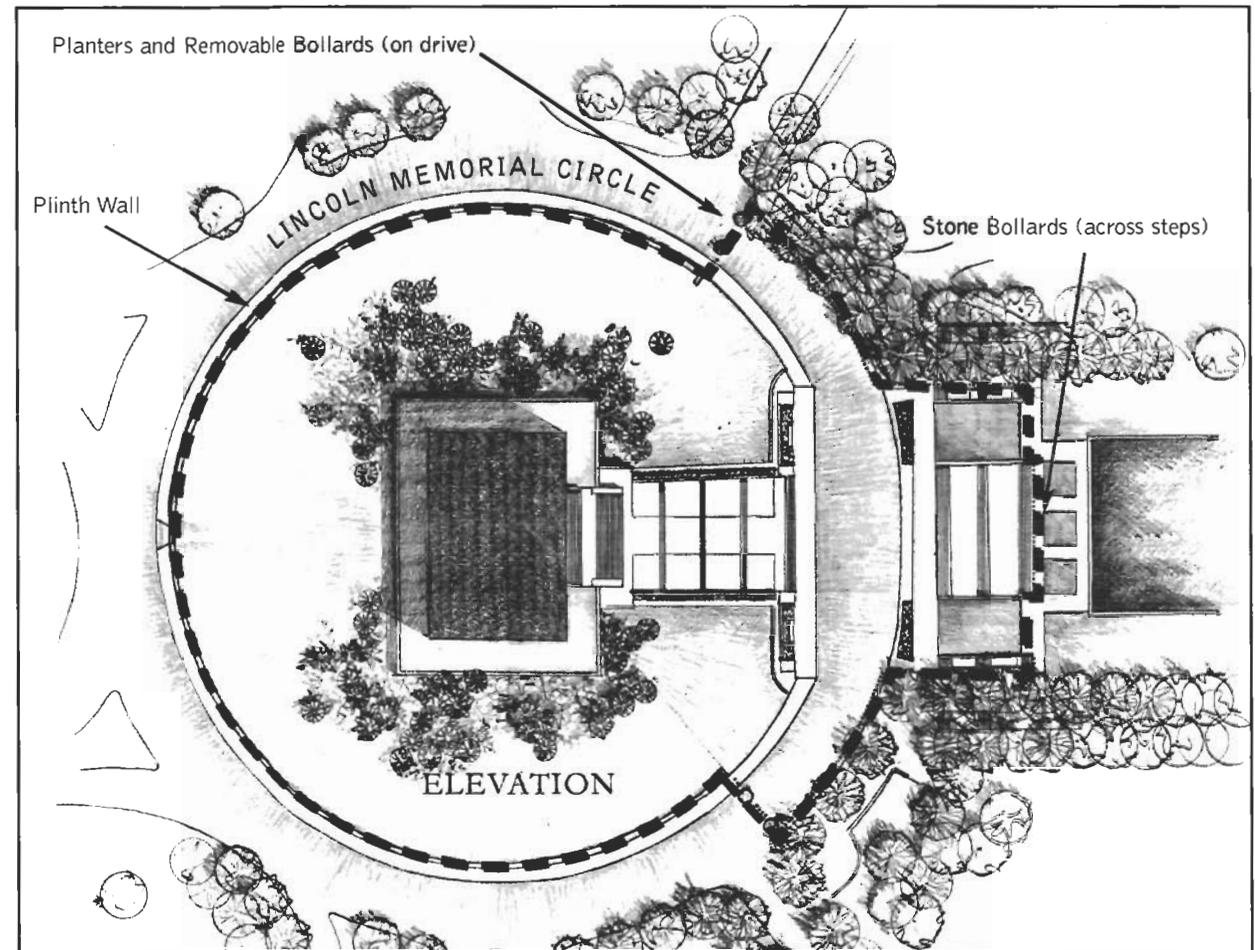


Lincoln Memorial

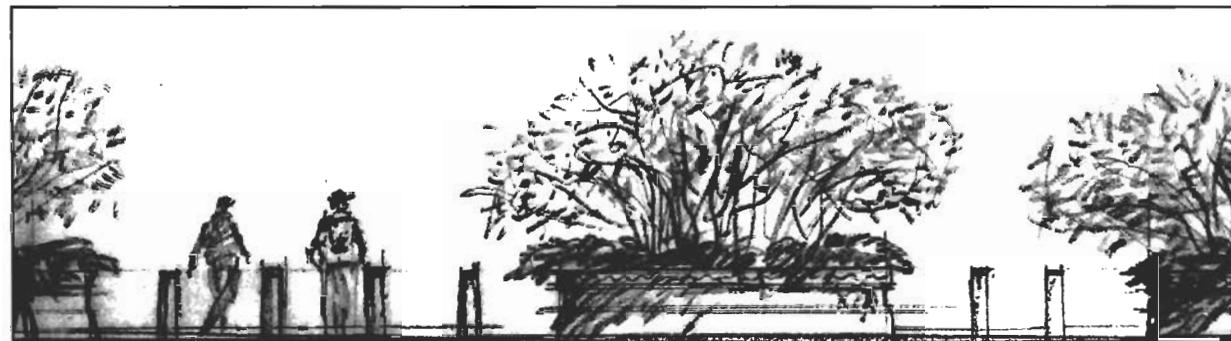
The proposed security design for the Lincoln Memorial consists of a low wall that encloses the circular mound upon which the memorial sits. The security perimeter extends across the Mall side of the closed portion of the circular roadway (incorporating bollards and planters), and continues in a line of metal bollards on the Mall side of this road to, and alongside, the steps leading to the Reflecting Pool. The security perimeter is completed across the axis of the Mall by placement of stone bollards at the foot of these steps.

Components proposed for the custom-design of security at the Lincoln Memorial include:

- New plinth wall (2' 6" high, 3' 0" wide, length varies), material and finish to match the existing exterior stone of the memorial
- Granite planter (3' 0" high, 1' 0" thick) with 5-7 multi-stem understory specimen trees
- Granite bollard (3' 0" high, 8" diameter, thermal finish) with 42" clear between bollards
- Stainless steel retractable bollard (simple cylindrical form, 2' 6" high, 8" diameter) at 4' on-center
- Re-grade slope and sod inside the wall



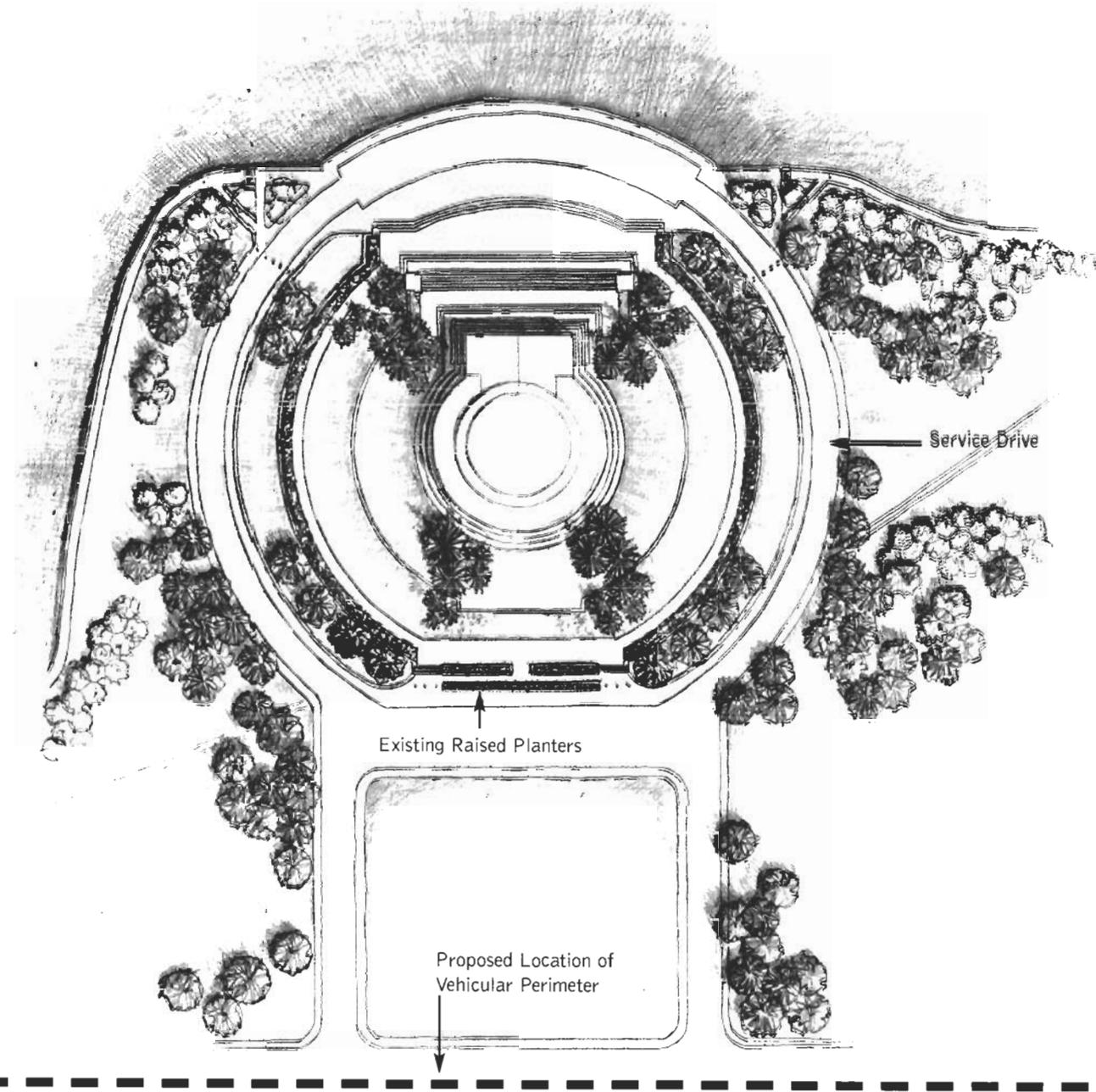
PROPOSED SECURITY ELEMENTS AT THE LINCOLN MEMORIAL



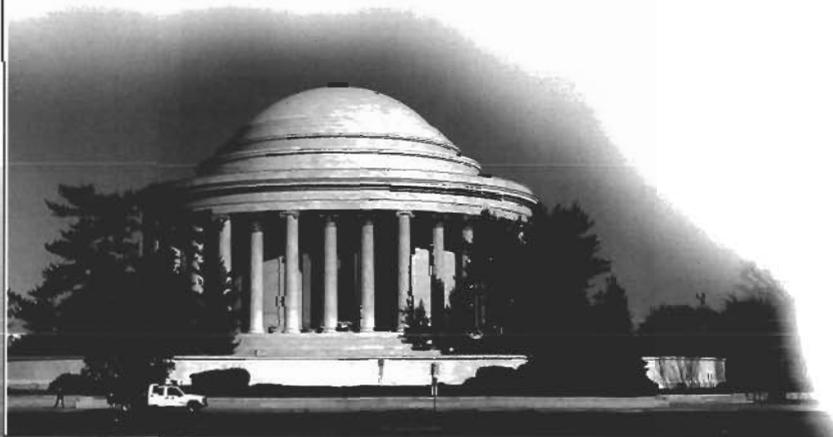
PLANTERS AND RETRACTABLE BOLLARDS ON LINCOLN MEMORIAL CIRCLE

Jefferson Memorial

Security design concepts for the Jefferson Memorial incorporate site grading, plinth or low retaining walls, and bollards. The most effective location for a vehicle perimeter is proposed along East Basin Drive at the eastern and southern edges of the memorial grounds. Final design solutions are recommended to incorporate a combination of these elements as dictated by varying site conditions. Designs are encouraged to fully integrate the perimeter design as an intrinsic part of the landscape, insuring that the vehicle barrier is unobtrusive when viewed in context with the memorial. Security should not compete with the memorial itself or detract from the pastoral landscape plan as envisioned by Frederic Law Olmsted, Jr.



EXISTING PLAN OF THE JEFFERSON MEMORIAL



West End

Historic Character

Comprising the buildings bounded by 17th Street to the east, Constitution Avenue to the south, 23rd Street to the west, and E Street to the north, the West End is dominated by large federal office buildings and a row of architecturally significant institutional buildings along 17th Street and Constitution Avenue. The largest and most dominant building in the West End is the Department of State's Harry S. Truman Building.



Constitution Avenue in front of the Federal Reserve Building

The National Register significance of the historic structures and places in the West End is derived from the social, architectural, and planning history of the area; the associations with significant historical events and movements; and the buildings' and area's contributions to the character of the city.

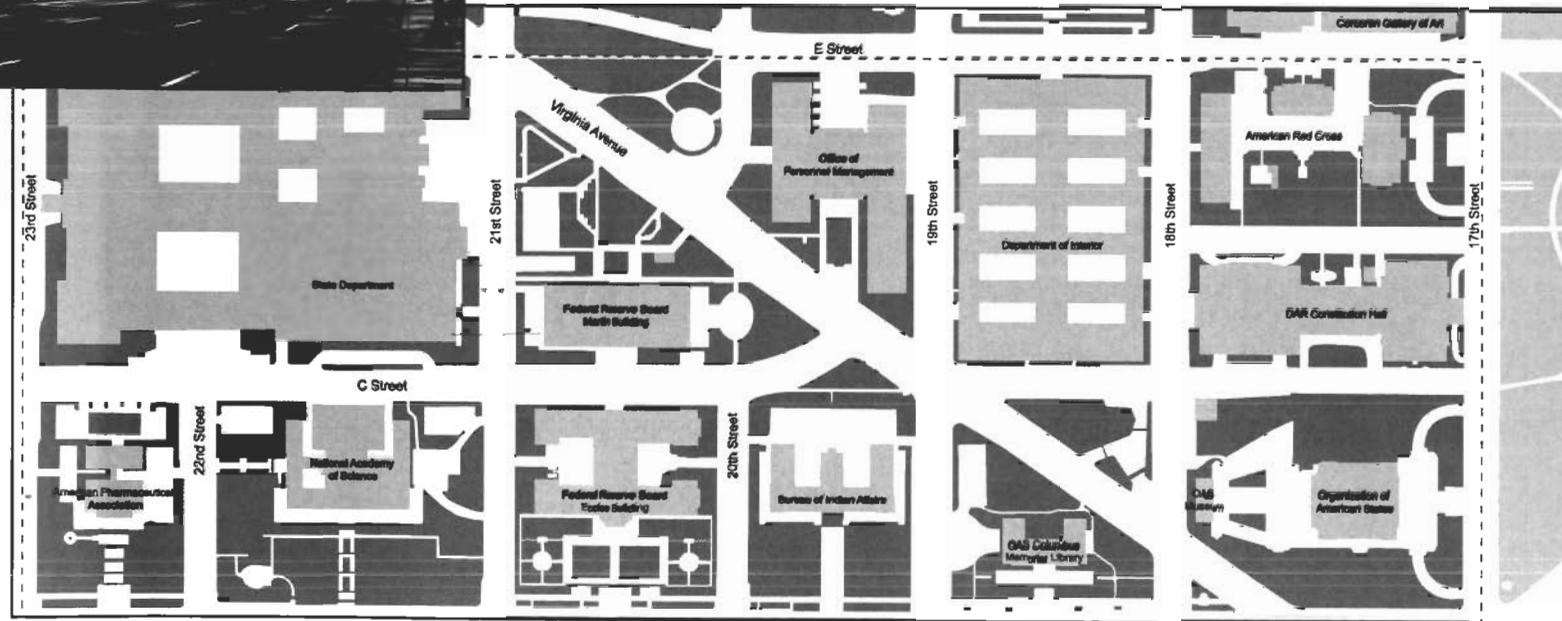
The federal government intended the area west of the White House to be an enclave of federal buildings, although the 1935 Plan for the Northwest Rectangle, championed by NCPC, was only partially executed over the years. Nevertheless, the area contains significant and monumental historic buildings such as Waddy B. Wood's Department of the Interior Building of 1936 and the State Department's mammoth "stripped classical" style building. The buildings in the area reveal their architects' desire in the late Beaux Arts era to create buildings that conveyed both the established federal image and more modern design sensibilities. The institutional buildings west of 17th Street and north of Constitution Avenue create their own sub-context. These impressive neoclassical style buildings are sited in an

expanse of open space, responding to the McMillan Plan's desire for a grand avenue adjacent to West Potomac Park and the Lincoln Memorial. These striking exemplary buildings precede the Northwest Rectangle Plan, and were contributed by notable architects such as Cret, Goodhue, and Pope.

Existing Context

Most buildings in the West End are located close to the street, except those buildings facing Constitution Avenue. These prominent buildings on large landscaped lots afford a range of design opportunities to incorporate perimeter security improvements. Other buildings with small setbacks and narrow sidewalks afford little opportunity for the design of required security solutions without consideration of vehicle restrictions or curb (parking) lane removal. The streetscape design of perimeter security is further complicated by the differing security requirements within this area.

The majority of the north-south streets are major connector streets and 18th, 19th, and 23rd Streets are major citywide arterial streets. The east-west streets primarily serve local traffic. Currently there are a number of temporary traffic restrictions, including the closures of C and D Streets adjacent to the State Department and the removal of parking around both the State Department and the Federal Reserve. A traffic analysis and assessment of the potential for traffic restrictions and curb lane removal is recommended in conjunction with the design of streetscape security solutions in this area.



WEST END AREA

Design Framework

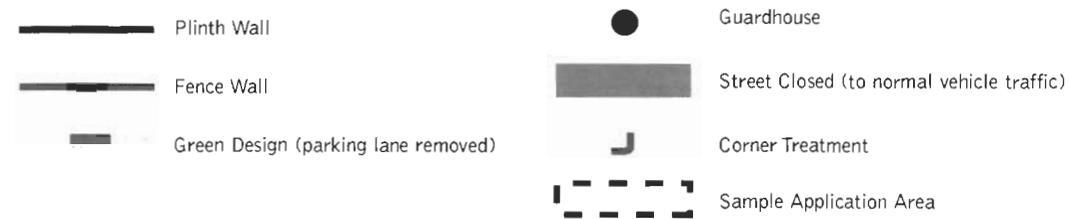
Streetscape designs proposed for the West End are intended to reinforce the green campus-like setting of the area. Streetscape designs include both green (bollards in plantings within the existing tree pits) and plinth security solutions and variations of the fence wall design proposed for the north-south streets in the Federal Triangle. These green and fence designs are proposed both with and without removal of the curb (parking) lanes.

The green solution consists of a line of bollards in the tree planting beds. New plantings are included to soften the introduction of these new elements. Bollards are incorporated on the sidewalk between the planting beds, at building entrances, and at intersection corners. Benches are used at the ends of the planting beds to emphasize the entrance plazas.

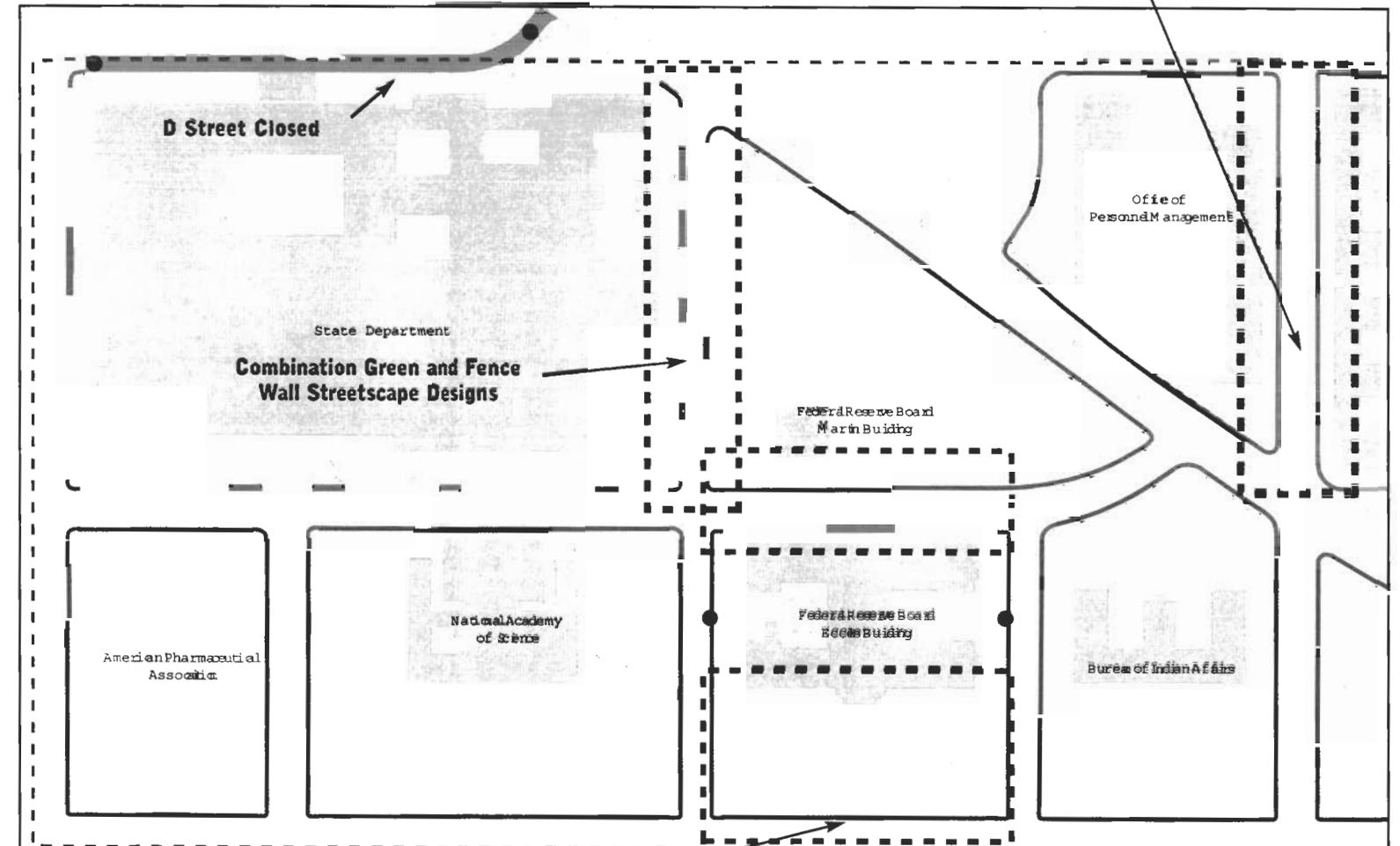
Constitution Avenue

In the West End, Constitution Avenue has wide sidewalks, a more or less continuous existing plinth or planter wall, and building setbacks that approach or exceed security standoff requirements. As discussed in the streetscape design for Constitution and Independence Avenues, proposed security improvements for the western portion of Constitution Avenue include the use of the existing plinth walls and the custom-design of security at the major public entrances to these monumental buildings. Security components include stone plinth and planter walls, stone benches, and bollards.

WEST END KEY PLAN LEGEND

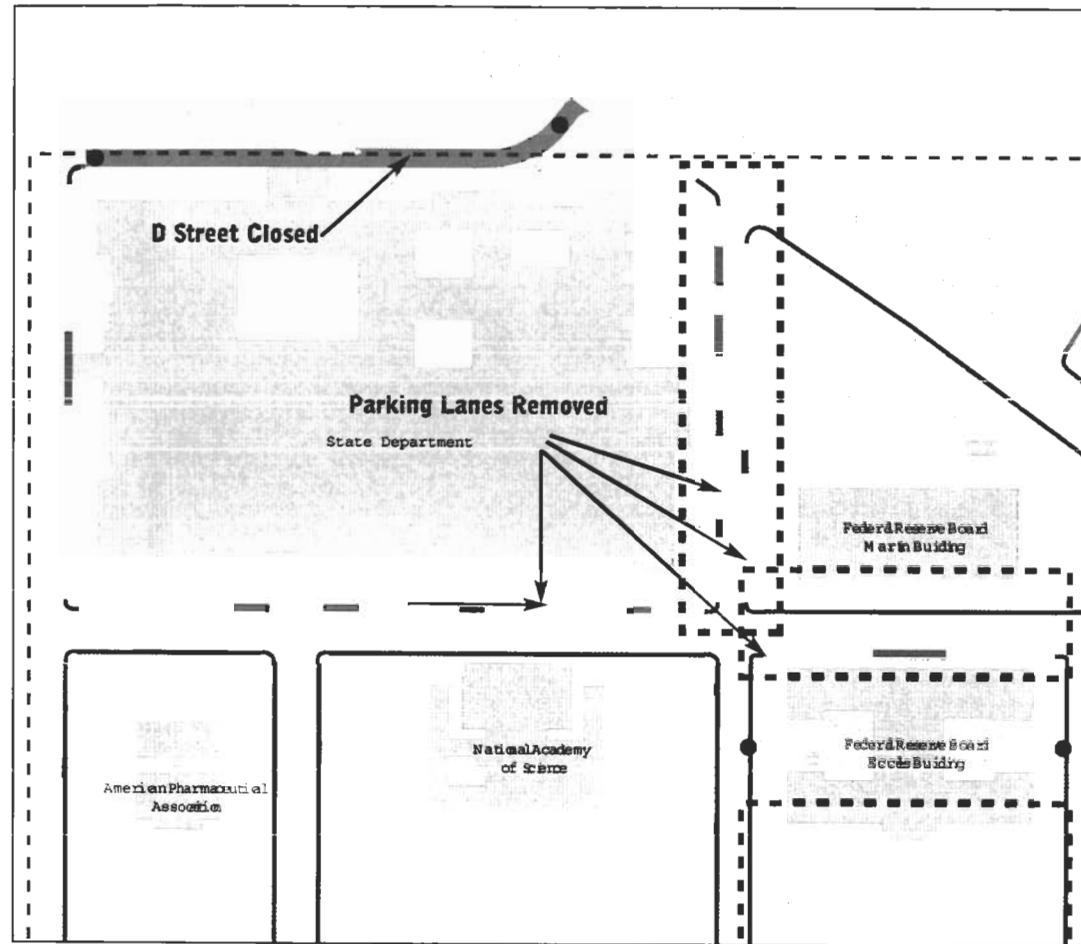


Fence Wall Streetscape Design



WEST END KEY PLAN

Plinth Wall and Custom-Designed Entrance Security



WEST END - PROPOSED STREET CLOSURE AND CURB PARKING LANE REMOVAL

Grid Streets

Variations of the plinth wall security design is recommended, as required, on the north-south streets (18th through 23rd Streets) between Constitution Avenue and C Street. Most of these blocks incorporate existing plinth or low walls that can be increased to the minimum required height. Where standoff distances are inadequate, alternatives include either the green design concept, (bollards in plantings at the existing tree line) or a fence wall solution at the curb (see the fence wall streetscape design concept proposed for 18th and 19th Streets at the Department of the Interior). Green streetscape design can be applied to any street in the West End. This design is, for all intents and purposes, the green streetscape design proposed for Maryland Avenue, SW.

Where additional standoff distance is required, green streetscape design is proposed to incorporate the existing parking lane. This solution is proposed on the south side of C Street from 20th to 21st Streets (adjacent to the Federal Reserve) and may also be applicable on C Street adjacent to the State Department (from 21st to 23rd Streets). Any restrictions to traffic operations will need to be mitigated through an overall mobility enhancement program that would include the development of secure, centralized parking facilities.

Several fence wall designs are also proposed for application in the West End. As with the green streetscape, these designs vary as to their location and may or may not include removal of curb/parking lanes. A fence wall is proposed at the curb adjacent to both the Department of the Interior and the Office of Personnel Management. From an urban design perspective, ideally, the fence would be located on the inside of the sidewalk (on the edge of the building yard); however, this may not provide the setback (standoff distance) necessary for these buildings.

On both 21st and 23rd Streets, adjacent to the State Department, security requirements necessitate taking the curb lane to ensure adequate standoff distance. The perimeter security solutions applied to these streets include variations of the fence wall streetscape design concept. Department of State security requirements are unique and specific aspects of these concepts may require custom-design.

Sample Applications

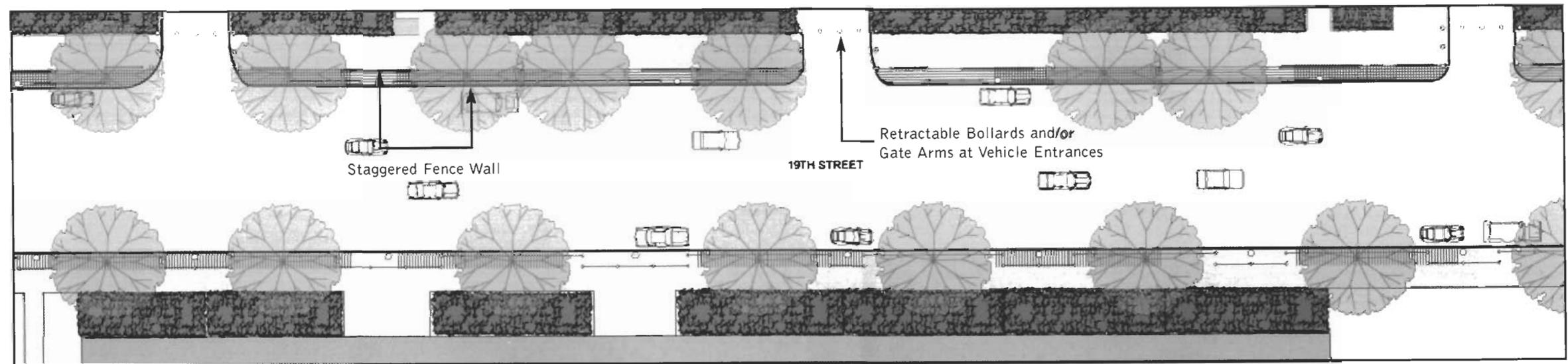
Illustrated streetscape design solutions in the West End include application of: the fence wall design to 19th Street between C and D Streets (adjacent to the Department of the Interior); green design, with removal of the parking lane, on C Street between 20th and 21st Streets (adjacent to the Federal Reserve); and variations of the fence wall design concept, with removal of the parking lanes, on 21st Street (adjacent to the Department of State).

FENCE WALL DESIGN (19TH STREET)

As illustrated, the streetscape design on 19th Street incorporates a metal fence at the curb. Granite pillars and bollards may be used as alternatives to metal posts and bollards. Although several examples of grillwork are illustrated, the design of the fence has yet to be determined. Other existing streetscape elements such as the street trees, Twin 20 light standards, etc., will remain.

Streetscape elements of the fence wall streetscape design include:

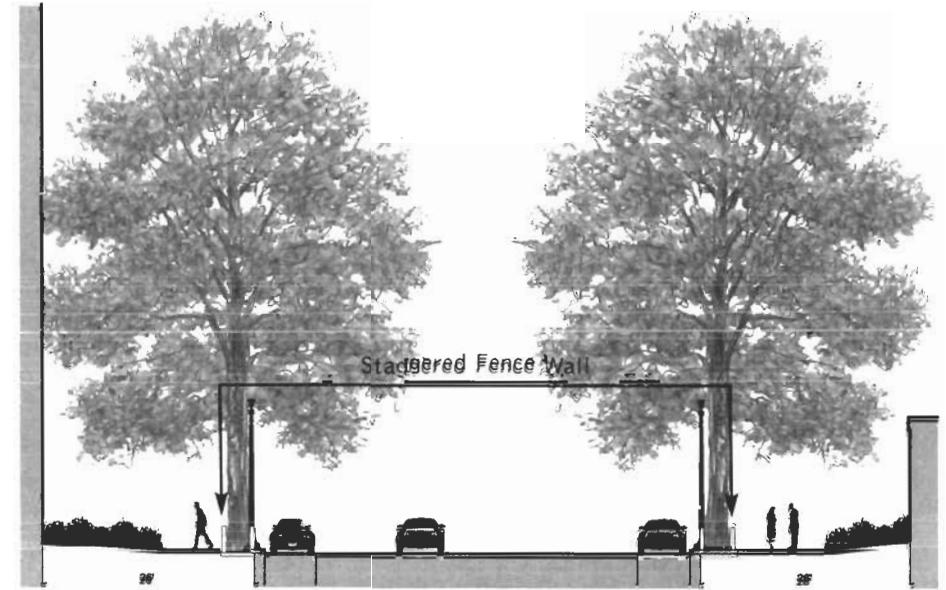
- Metal fence (2' 6" high, length varies)
- Metal or granite bollard (3' 0" high, 14" diameter at base) at 42" clear between bollards
- Metal retractable bollard (3' 0" high, 8" diameter), at 4' 0" on-center
- Gate arms (as per manufacturer's specification)



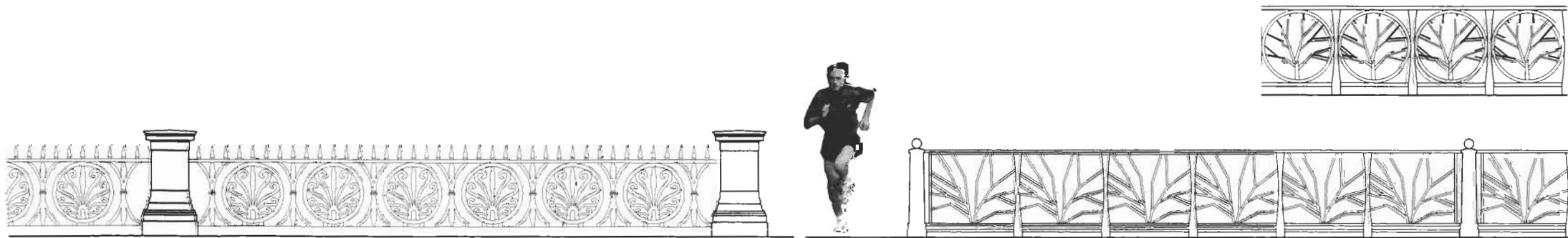
WEST END 19TH STREET, NW - SAMPLE APPLICATION PLAN - FENCE WALL DESIGN



WEST END ELEVATION 19TH STREET, NW – FENCE WALL DESIGN



TYPICAL SECTION – FENCE WALL DESIGN



FENCE WALL DESIGN OPTIONS

GREEN STREETScape DESIGN (C STREET)

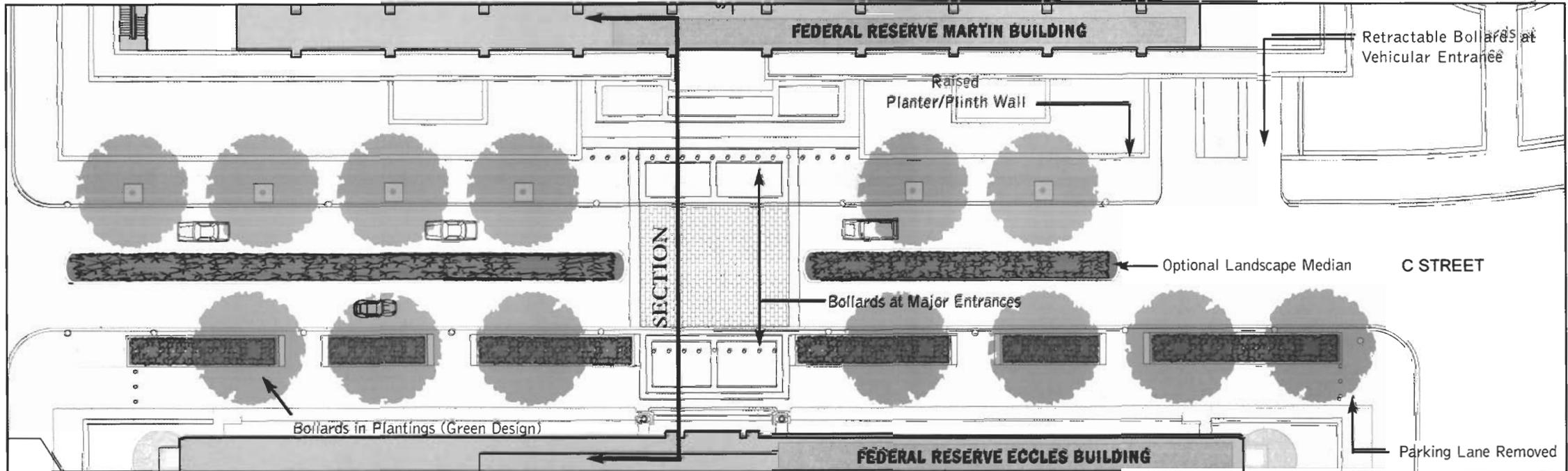
The streetscape design concept illustrated on C Street, between 20th and 21st Streets, removes the parking lane on the south side of the street and incorporates the green design security solution, i.e., bollards within plantings in the tree pits between the trees. Removal of the parking lane not only increases the standoff distance but is also necessitated in this area by the location of a large sewer main under the sidewalk that prohibits the foundation required for the installation of security measures.

The security perimeter on the north side of the street incorporates the existing plinth or planter wall. Security at the major entrances to these buildings is illustrated as custom-designed, incorporating the security components of bollards,

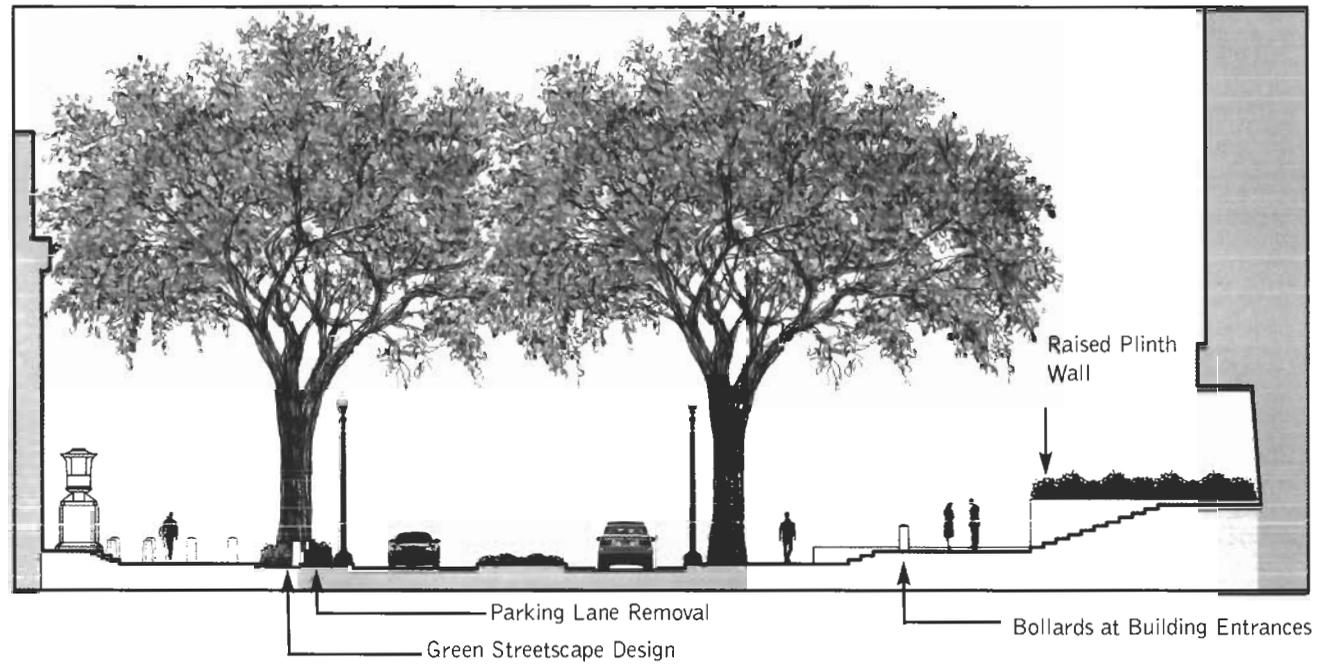
benches, and planters that are proposed elsewhere within the West End. The landscaped median in the street is shown as an amenity and is not intended as security.

Security components proposed for the streetscape design illustrated on C Street include:

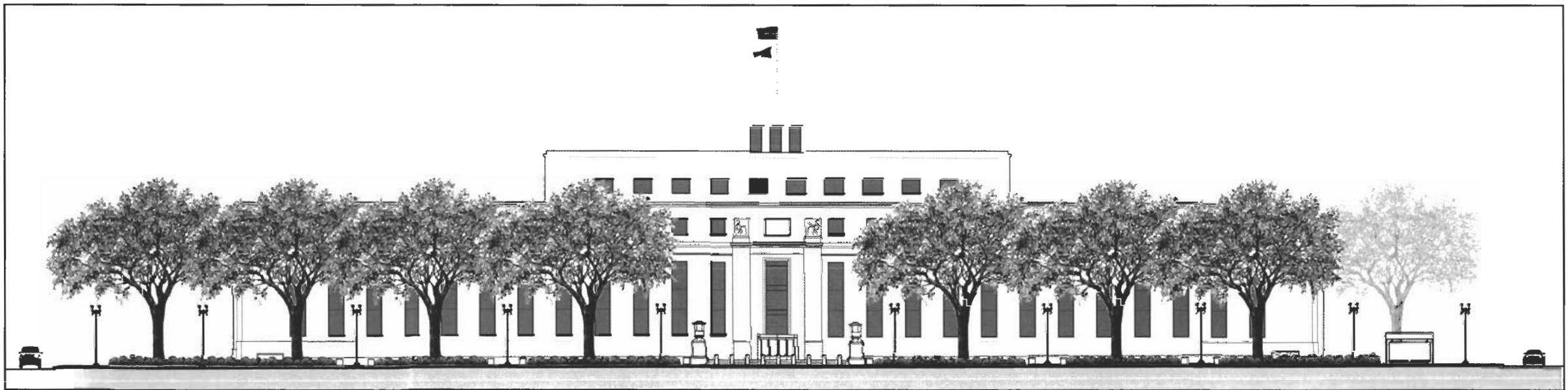
- Curb/parking lane removal
- Extension of the sidewalk (over removed parking lane)
- Extension of plinth wall (2' 6" high, length varies)
- Deciduous or evergreen plantings (3' BB, full to ground), in green design
- Granite bench (2' 6" high, 2' 0" wide, 7' 0" long)
- Granite seat (2' 6" high, 3' 0" wide, length varies)
- Granite bollard (2' 6" high, 14" diameter at base), at 42" between bollards
- Stainless steel retractable bollard (2' 6" high, 8" diameter) at 4' 0" on-center
- Street trees (8" caliper Elm) at 30 feet on-center (infill as required)



WEST END C STREET, NW - SAMPLE APPLICATION PLAN - GREEN AND PLINTH WALL STREETScape DESIGNS



WEST END SECTION AT C STREET, NW – GREEN AND PLINTH WALL DESIGNS



WEST END ELEVATION ON C STREET IN FRONT OF THE FEDERAL RESERVE BUILDING

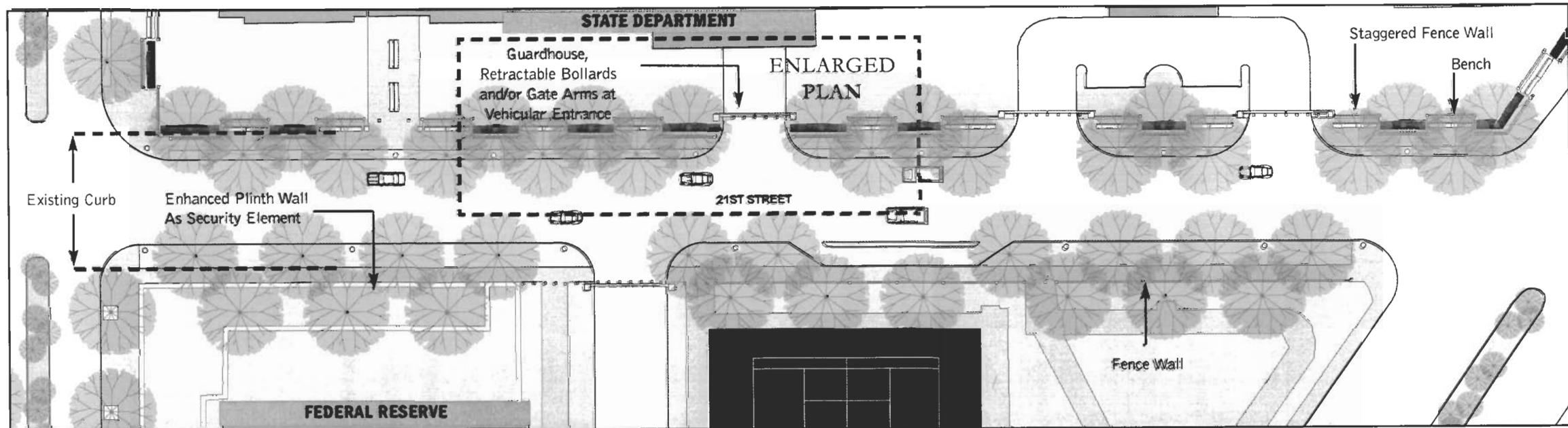
FENCE WALL CONCEPTS (21ST STREET)

The streetscape design illustrated on 21st Street, adjacent to the Department of State, includes removal of the parking lanes and the application of variations of the fence wall security solution.

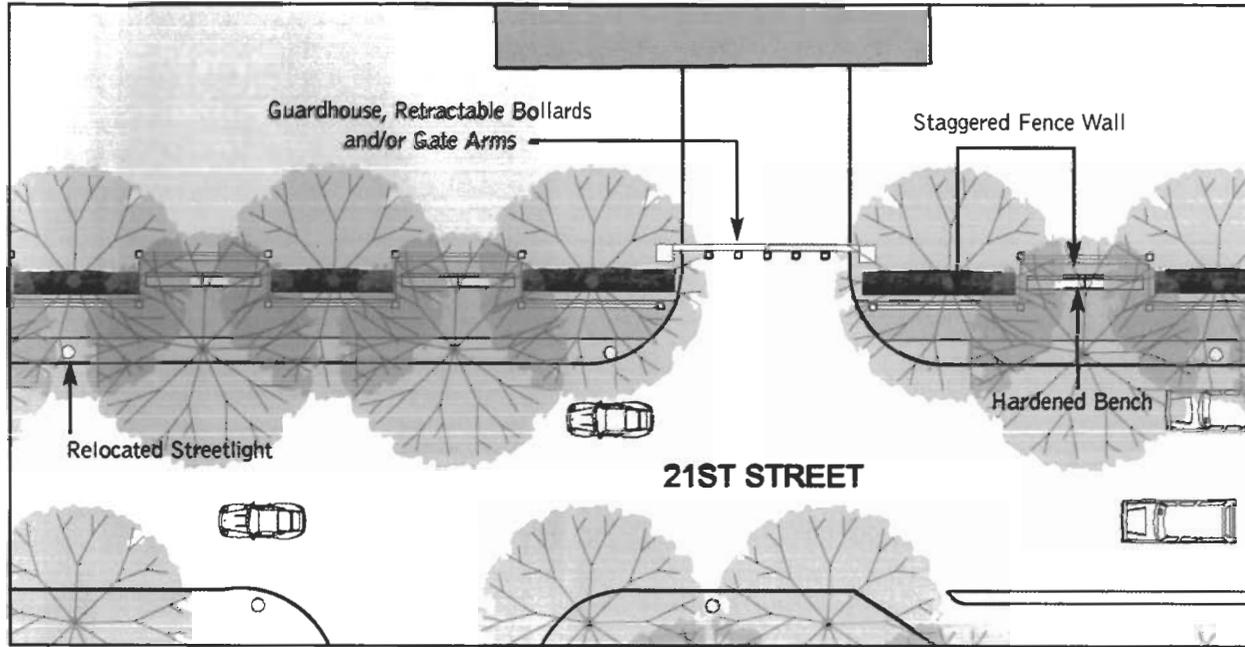
The staggered fence wall design locates the security perimeter at the inside edge of the sidewalk and includes a variety of components including: pillars, posts, benches, bollards, and gate arms. Plantings are also part of the fence wall streetscape design. An alternate illustration places the staggered fence wall at the curb, which may be a more desirable security solution, but a less desirable streetscape design. Although these designs are for illustrative purposes only and are not intended as final designs, they describe the streetscape elements considered appropriate to these concepts and to the West End.

Streetscape elements illustrated for application on 21st Street include:

- Curb/parking lane removal
- Extension of the sidewalk (over removed parking lane)
- Deciduous or evergreen plantings (3' BB, full to ground)
- Wood and metal bench (12' 0" long)
- Metal fence (2' 6" high, length varies)
- Granite bollard (2' 6" high, 14" diameter at base), at 42" between bollards
- Stainless steel retractable bollard (2' 6" high, 8" diameter) at 4' 0" on-center
- Stainless steel gate arms
- Street trees (8" caliper Oak) at 30 feet on-center (new and infill as required)



WEST END - 21ST STREET, NW - SAMPLE APPLICATION PLAN - STAGGERED FENCE WALL AND EXISTING PLINTH WALL DESIGNS

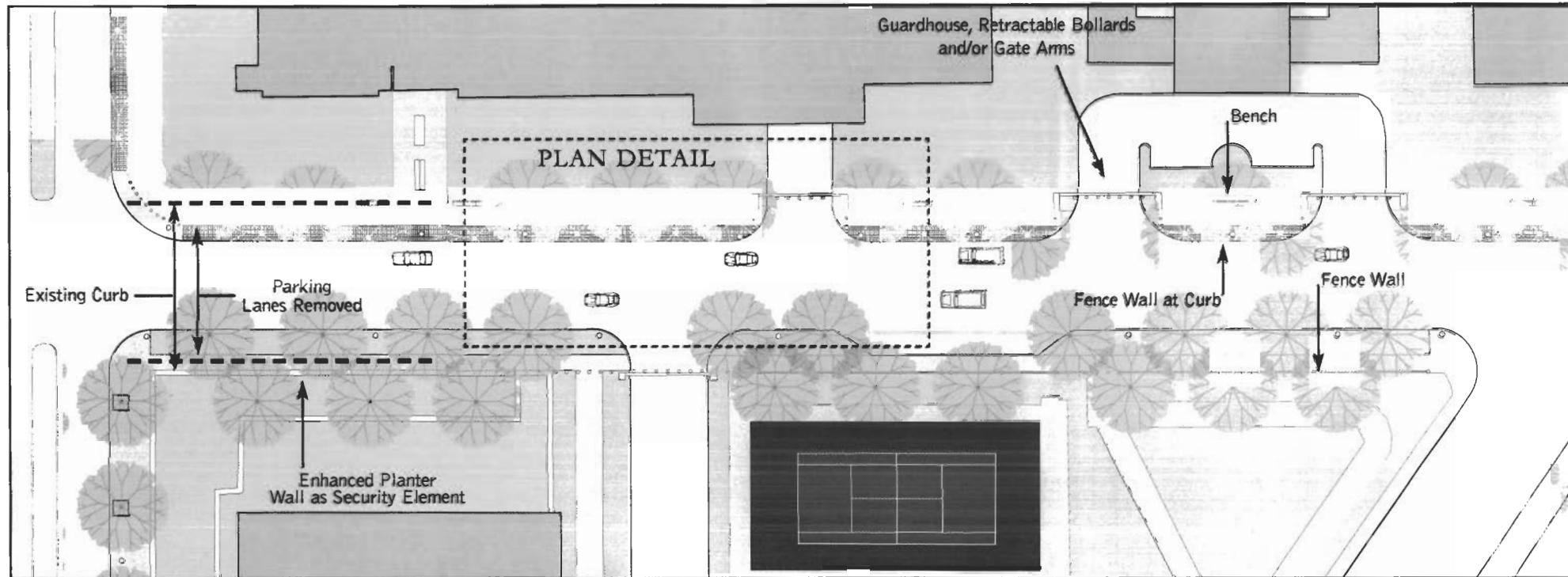


ENLARGED PLAN-
STAGGERED FENCE
WALL DESIGN

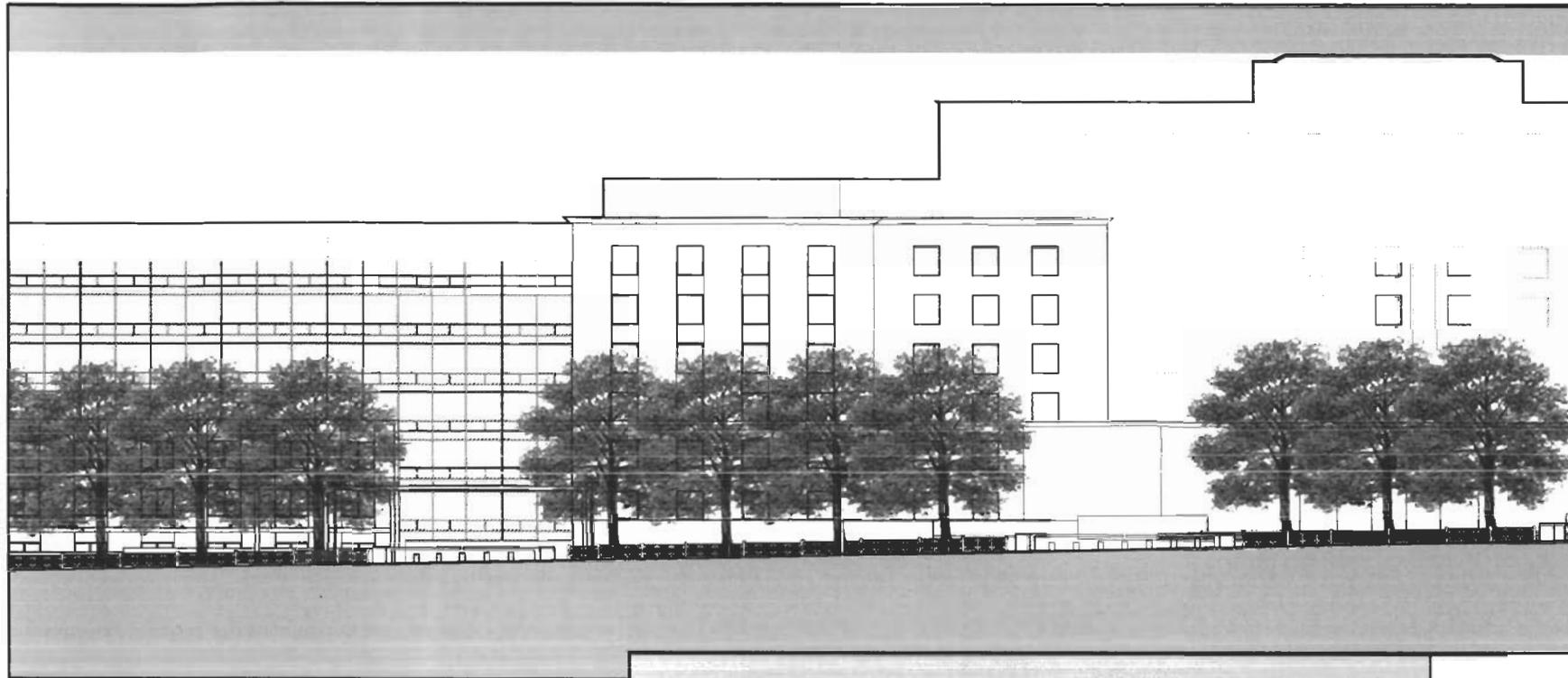


WEST END 21ST STREET, NW - SECTION - STAGGERED FENCE WALL DESIGN

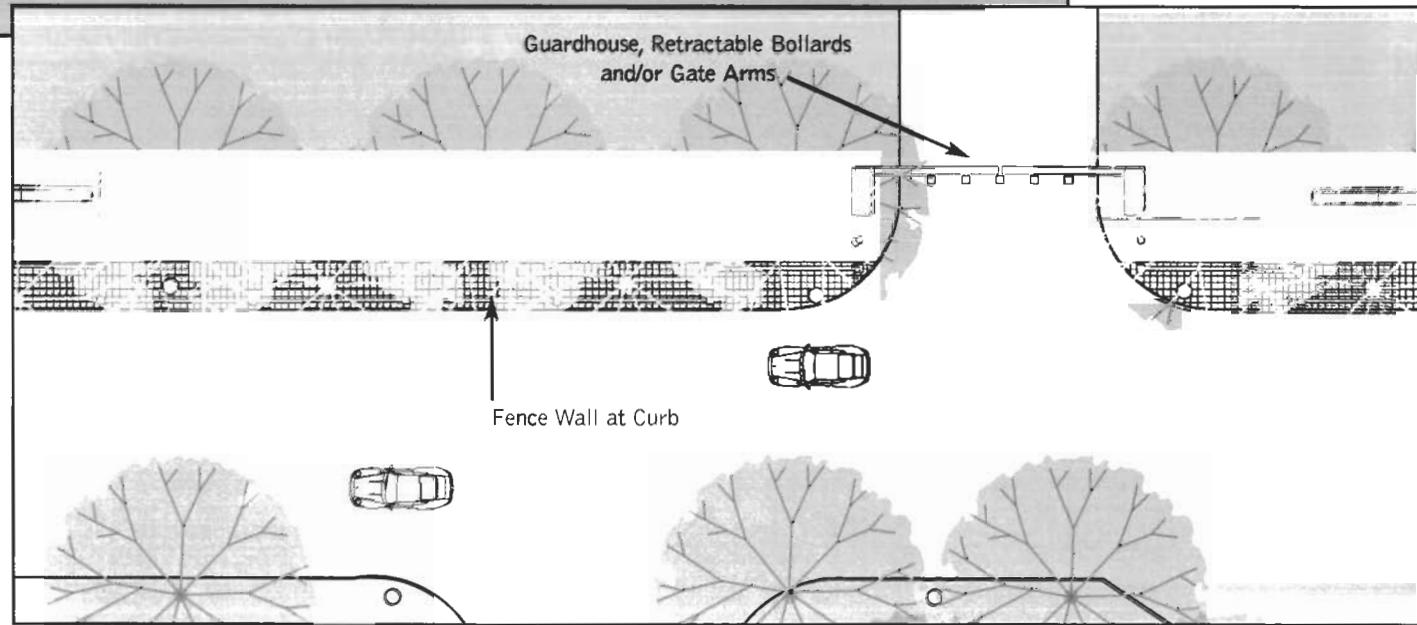
West End Alternative Solution



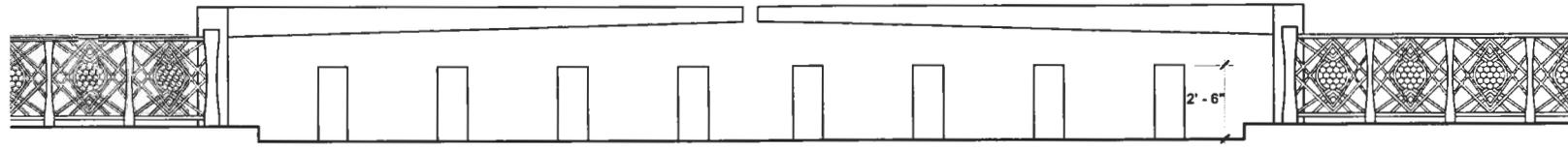
WEST END - 21ST STREET, NW - ALTERNATIVE SAMPLE APPLICATION PLAN - FENCE WALL AT CURB



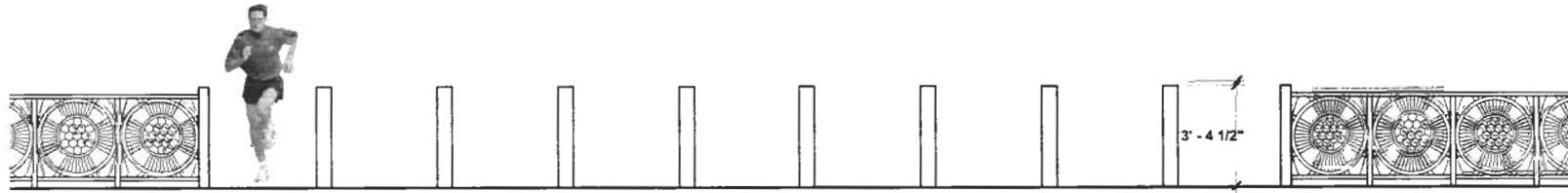
ELEVATION - FENCE WALL AT CURB



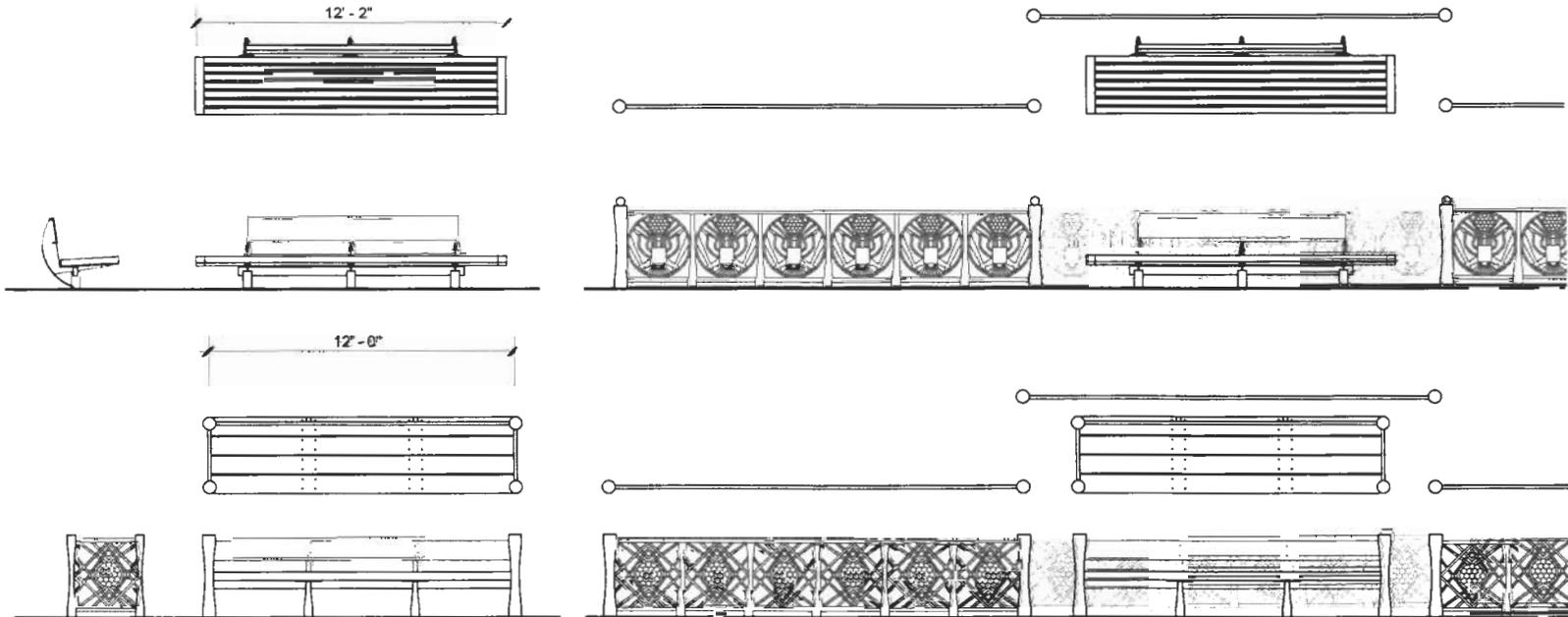
ELEVATION PLAN - FENCE WALL AT CURB



RETRACTABLE BOLLARDS AND GATE ARMS



BOLLARDS AT BUILDING ENTRANCES



BENCH AND WALL DESIGN OPTIONS

ADDITIONAL DESIGN CONSIDERATIONS

- Although standoff distance can be maximized at the curb, fence wall designs incorporating grillwork are more appropriately located on the inside of the sidewalk. Fencing at the curb also requires numerous breaks for pedestrian safety, egress, etc. The fence wall proposed for application at the curb on the north-south streets in the Federal Triangle may be applicable to this area.
- Any removal of curb lanes requires a comprehensive mobility and access strategy, including the development of secure, centralized, short-term parking facilities.
- The Department of State is unique in its security requirements and may require custom-designed security solutions.
- Proposed security components require engineering and testing to ensure that they satisfy security requirements.
- Underground utility locations are yet to be determined.

Southwest Federal Center

Historic Character

The Southwest Federal Center reflects the ambitions of post World War II. Although some federal buildings were constructed in the late 1930s, the area retained its local industrial character until the federal government and private developers transformed the area in the 1960s with new buildings that espoused the architectural and planning tenets of Modernism. Office buildings by architects including Marcel Breuer now dominate the area.

The Southwest Federal Center has not realized the integrity and coherence that was envisioned for it, although components of large-scale public and private sector development, such as L'Enfant Plaza and the 10th Street promenade, were completed. As is typical of that era and style, many of the modern buildings are set back from the street by plazas on structure. Because of the setbacks, raised roadways, plazas on structure, and the ramps for underground parking, the nature of the pedestrian experience is, for the most part, less than optimal.

The Department of Agriculture South Building is one of the most significant examples of federal government expansion during the 1930s (and was once considered the world's largest office building). In addition, the area's earlier industrial character is still evident in rehabilitated warehouses and in the elevated railroad tracks that bisect the precinct. Some of the federal buildings serve industrial purposes, including the Bureau of Printing and Engraving and Paul Cret's 1934 Heating Plant.

Maryland Avenue, one of L'Enfant's original avenues, is not clearly discernable today because of the grade separation for the railroad tracks along the Maryland and Virginia Avenue rights-of-way and the 1970s modernist design approach of sitting buildings in large plazas with a poor relationship between building and street. The avenue is not enhanced by

distinguished buildings or embellished by streetscape treatments in the manner of other avenues in Washington. The views along the right-of-way are not focused or shaped due to a lack of attention to good urban planning principles that would reinforce the edges.

Existing Context

Large federal headquarters, often with associated large plazas, characterize the Southwest Federal Center area. Although the initial development of this area reflects the McMillan Plan and the stripped classicism of the Federal Triangle, the majority of the buildings are characterized as mid-to-late 20th-century modern architecture. Maryland Avenue was intended to run diagonally through the center of the area but was truncated after two blocks by the B&O Railroad.

Streetscape designs should be developed and evaluated in relation to the 10th Street promenade design study and to existing urban design projects under study, such as the Southwest Waterfront redevelopment. Designs should repair the isolated and disconnected condition of this area by emphasizing pedestrian and vehicular connections and improving pedestrian circulation patterns. Streetscape design has the potential to unify the appearance of this area more than any other within the Monumental Core.



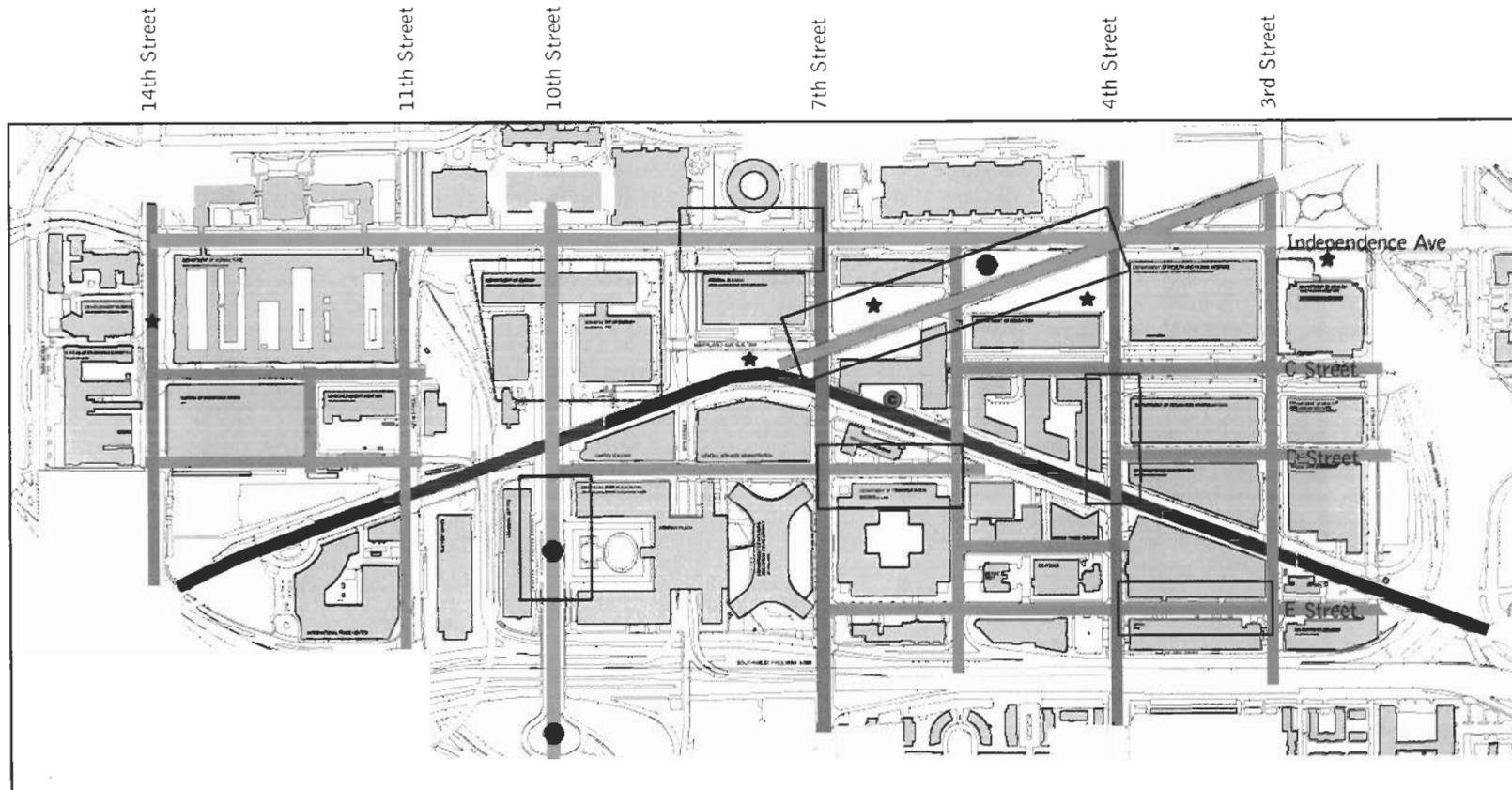
Maryland Avenue looking toward the U.S. Capitol



E Street looking toward the U.S. Capitol

STREET TYPOLOGY LEGEND

-  Memorial Site
-  Special Project
-  Custom Design
-  Monumental Avenue
-  Through Street
-  Grid Street
-  Railroad
-  Sample Application Area



SOUTHWEST FEDERAL STREET TYPOLOGY PLAN

The provision of perimeter security measures in the Southwest Federal Center area is complicated by several different street and building typologies. Many of the buildings with a high-level security requirement have minimum setbacks and may require curb or parking lane removal to provide a minimum acceptable standoff distance. Given that several of the north-south streets are major connector streets, a detailed traffic analysis and parking assessment is required prior to the removal of curb or parking lanes in this area. These studies must identify appropriate mitigation strategies.

The Southwest Federal Center area is characterized by the following:

- 70,000 people work in the area daily.
- Most of the buildings are either owned or leased by the federal government.
- Architecture is not uniform in scale, style, or quality.
- Building setbacks are limited and varied.
- The area suffers from a lack of streetscape design, landscaping, and pedestrian amenities.
- The quality of the environment is perceived negatively.
- There are few through streets and most are only a few blocks in length.
- Parking is extremely limited.
- Circulation is difficult and uncoordinated.
- Many tourists form their first impression of Washington when arriving by metro in this area.

Given these characteristics, particularly the conflicting combination of minimum setbacks and existing traffic and parking limitations, creative design solutions and strategies to improve safety, mobility, parking, and aesthetics must be developed and implemented.

INDEPENDENCE AVENUE

Independence Avenue frames the southern edge of the Mall and is one of the Capital's major ceremonial avenues. Although it shares some of the grand character of Constitution Avenue, Independence Avenue has been neglected and weakened as a ceremonial street. Streetscape design and application of streetscape elements can strengthen the character of this avenue as a ceremonial street and gateway.

MARYLAND AVENUE

Maryland Avenue is currently in a state of neglect. New streetscape design has the potential to enhance, strengthen, and improve the prominence of this important L'Enfant street.

THE 10TH STREET PROMENADE

In L'Enfant's Plan, 10th Street was intended to link the Mall with the waterfront and to be a significant axis. L'Enfant Plaza and the 10th Street promenade were the centerpiece of Washington's Southwest redevelopment. The National Capital Planning Commission's recent *Memorials and Museums Master Plan* identifies a commemorative opportunity on this promenade with a major memorial site at the overlook. The District of Columbia is undertaking a transportation and urban design study of 10th Street. Streetscape design can re-establish the pedestrian character of this street while also anticipating a future connection to the Southwest Waterfront.

4TH, 7TH AND 14TH STREETS, SW

These north-south streets serve as both vehicular and pedestrian corridors. The design and application of streetscape elements, including security components, can improve both driver and pedestrian experiences on these streets and enable important connections to the city beyond.

THE BALTIMORE AND OHIO (B&O) RAILROAD

The B&O Railroad currently runs on the rights-of-way of both Maryland and Virginia Avenues, bifurcating the area, disrupting the continuity of streets and ultimately impeding mobility within and throughout the Southwest Federal Center. Ceremonial axes that should provide orientation and hierarchy are blocked, and the perception of the area is diminished. In the Legacy Plan, In NCPC's framework plan for Washington's Monumental Core, *Extending the Legacy: Planning America's Capital for the 21st Century*, the Commission recommends relocation of the railroad from this area. Such relocation could re-establish both avenues.

Design Framework

The streetscape designs proposed for the Southwest Federal Center are intended to establish a coherent design identity for this area, while at the same time improving pedestrian and traffic circulation and providing required perimeter security.

Design principles applicable to streetscape designs for the Southwest Federal Center include:

■ IDENTITY

- Introducing streetscape elements unique to the area.
- Reversing the current negative perception of the area.
- Reinforcing the unique character of the predominantly modern buildings.
- Establishing streetscapes that enhance wayfinding.

■ AMENITY

- Mitigating the scale of existing architecture.
- Providing seating and other amenities to enhance the pedestrian experience.
- Increasing the overall aesthetic quality of the area through the addition of street trees and the design and placement of plantings, street furniture, and lighting.

■ TRANSPORTATION

- Establishing a sense of hierarchy among existing streets.
- Re-establishing north-south connections.
- Developing solutions for the provision of additional parking in the area.
- Improving circulation for pedestrians.
- Developing a Circulator vehicle service.

■ SECURITY

- Improving circulation and escape routes.
- Providing the maximum possible security standoff distances.
- Identifying appropriate security components for application in this area.

Streetscape design concepts in the Southwest Federal Center include a green streetscape design concept proposed for Maryland and Virginia Avenues, and variations of planter and hardened bench concepts, applied to the grid streets in this area.

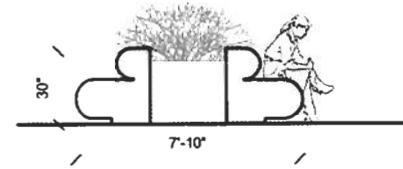
Where security is proposed to be located at the curb, existing trees will almost certainly be impacted. Given that many trees are currently missing, or of questionable health, a new street tree planting effort is integral to all of the streetscape design concepts proposed. This will also help soften the area and provide consistency and identity to these streets.

■ UNIVERSAL APPLICATION

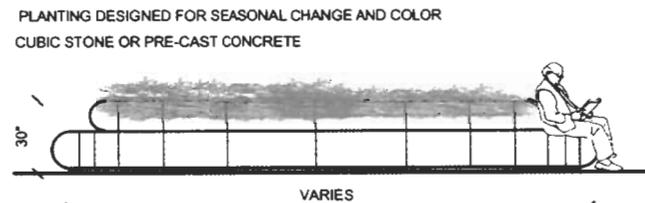
The following security components are recommended to be applied throughout the Southwest Federal Center area:

- Bollards at entries and corners (to maintain the free movement of pedestrians).
- Removable bollards, as required, for emergency vehicle and service access.
- Retractable bollards and/or gate arms at vehicle/service or parking garage entrances. (Gate arms are used where volumes preclude the use of retractable bollards.)
- Guardhouses at vehicular entrances (custom designed to be compatible with the building architecture).
- Curb or parking lane removal (where required standoff cannot be achieved due to limited setback).
- Traffic calming devices (to reduce the speed of vehicles).

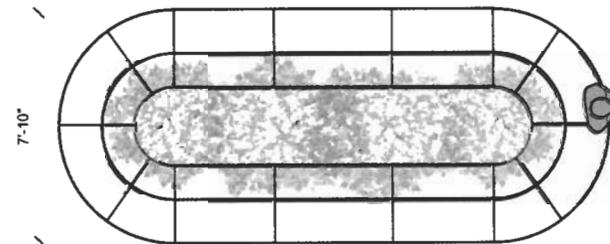
Elevation



Section

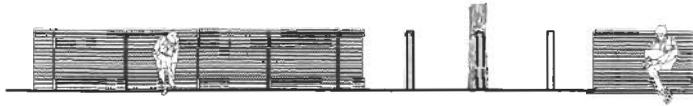


Plan

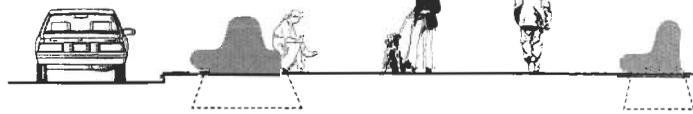


PLANTER STREETScape ELEMENT

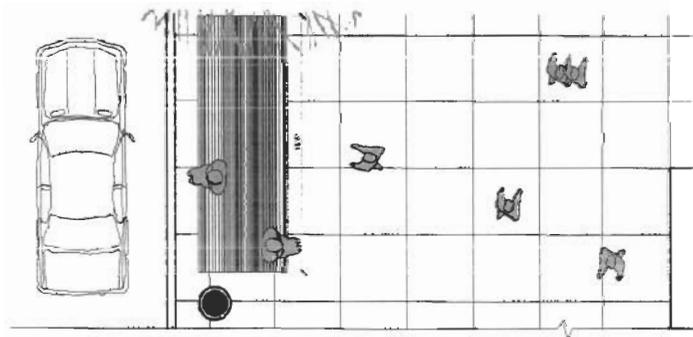
Elevation



Section



Plan



BENCH STREETScape ELEMENT

■ MARYLAND AVENUE

Maryland Avenue, and those blocks of Virginia Avenue that parallel the B&O Railroad tracks, are proposed to incorporate a green streetscape design. The green design solution consists of a line of bollards between the street trees. New plantings are introduced in the tree planting beds to soften the introduction of these security elements. Bollards are also incorporated on the sidewalk between the planting beds, at building entrances, and at intersection corners. Hardened benches are used at the ends of the planting beds to emphasize the entrance plazas.

■ THE 10TH STREET PROMENADE

The proposed streetscape design for the 10th Street promenade uses seat planters to create an improved pedestrian scale and to formalize and beautify the street. The planter streetscape design concept incorporates large round and linear pre-cast concrete or stone seat planters on the sidewalk on both sides of the street. Existing drop-off or pull-out lanes are removed and replaced with sidewalk so that these planters maintain a consistent line at the edge of the street. Stainless steel bollards are used in front of the major entrances to buildings and on the street corners.

Because 10th Street is built on structure, large trees cannot be introduced into this streetscape, but large shrubs such as crepe myrtle are recommended to provide scale and elegance. The green median strip also provides an opportunity for the location and design of future memorials.

Special conditions exist in association with the Department of Energy that will require custom design solutions in this area.

■ GRID STREETS

Variations of the planter streetscape design concept are applicable to all of the grid streets within the Southwest Federal Center area. Specially designed seat planters and benches are recommended as the primary security components. Streetscape designs may vary in the design and application of these elements. For most streets, these components are proposed to be located in the removed curb or parking lane. If curb lanes are retained, then the alternative streetscape design concept should be applied.

As illustrated on 4th and D Streets, SW, an alternative streetscape is proposed that does not require the removal of a parking lane. Security elements are located at the curb and, due to the likely damage to existing street trees in this area, new street trees are recommended throughout. A rhythm of new bollards, street lights, seat bollards, benches, and trash cans provide security infill between the trees.

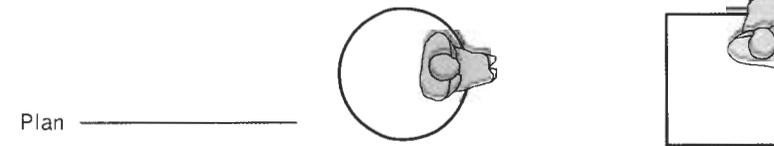
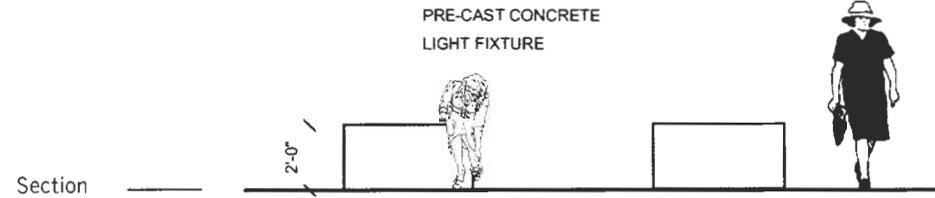
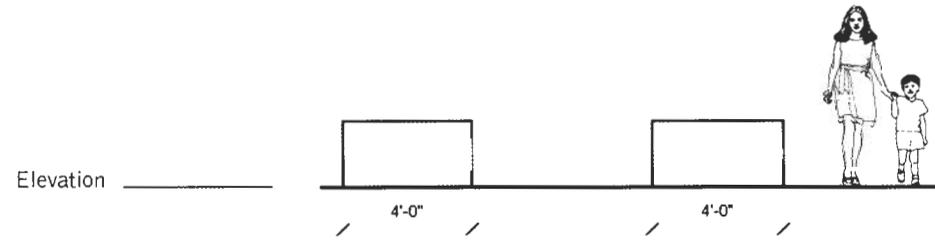
The Bureau of Engraving and Printing and the Holocaust Museum have designed and implemented permanent security measures on 14th and 15th Streets. Future permanent security improvements on these streets should reflect the design of these existing solutions.

Sample Applications

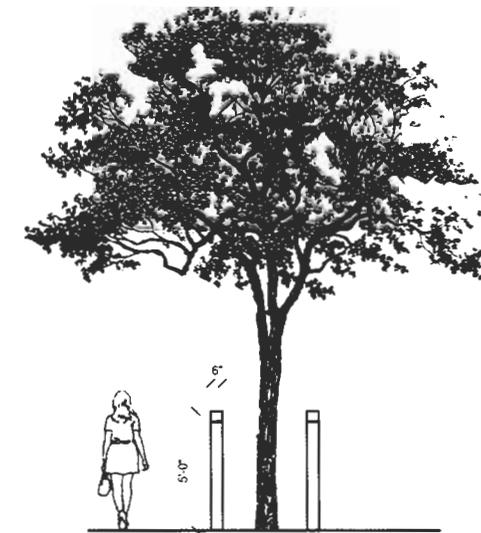
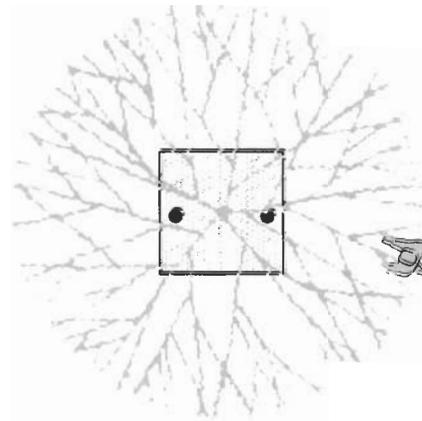
Illustrated streetscape security design solutions in the Southwest Federal Center include various applications of the planter and bench design concepts as illustrated: on the 10th Street promenade (adjacent to L'Enfant Plaza); on 4th Street, between D Street and the B&O Railroad overpass; on D Street, between 7th and 9th Streets; and on E Street, between 3rd and 4th Streets. The green design is illustrated on Maryland Avenue.

■ INDEPENDENCE AVENUE

Reference Constitution and Independence Avenue Section of the Plan.



BOLLARD STREETScape ELEMENTS

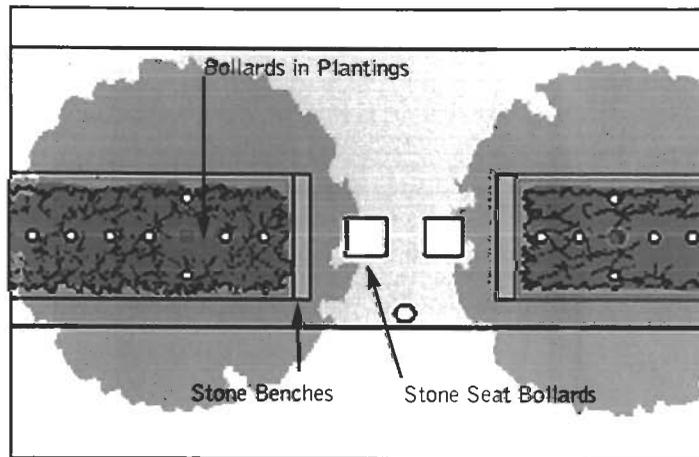


TREE AND BOLLARD STREETScape ELEMENT

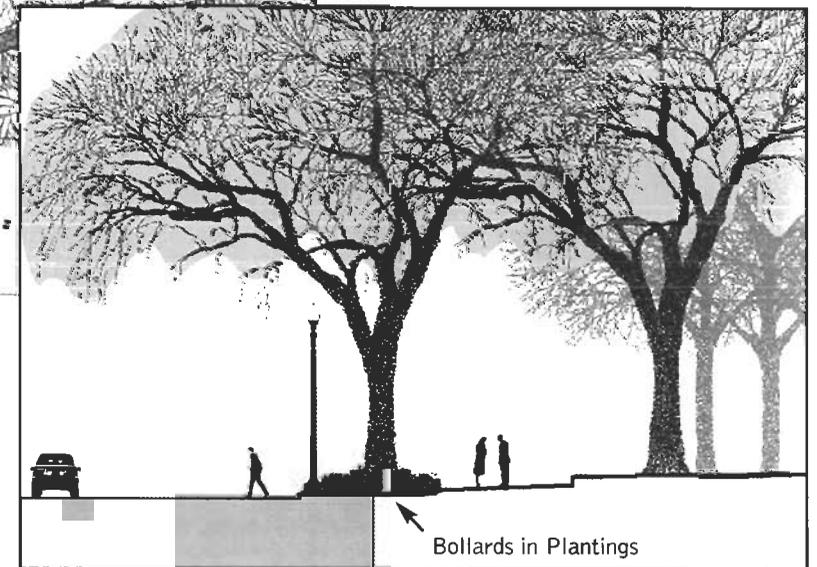
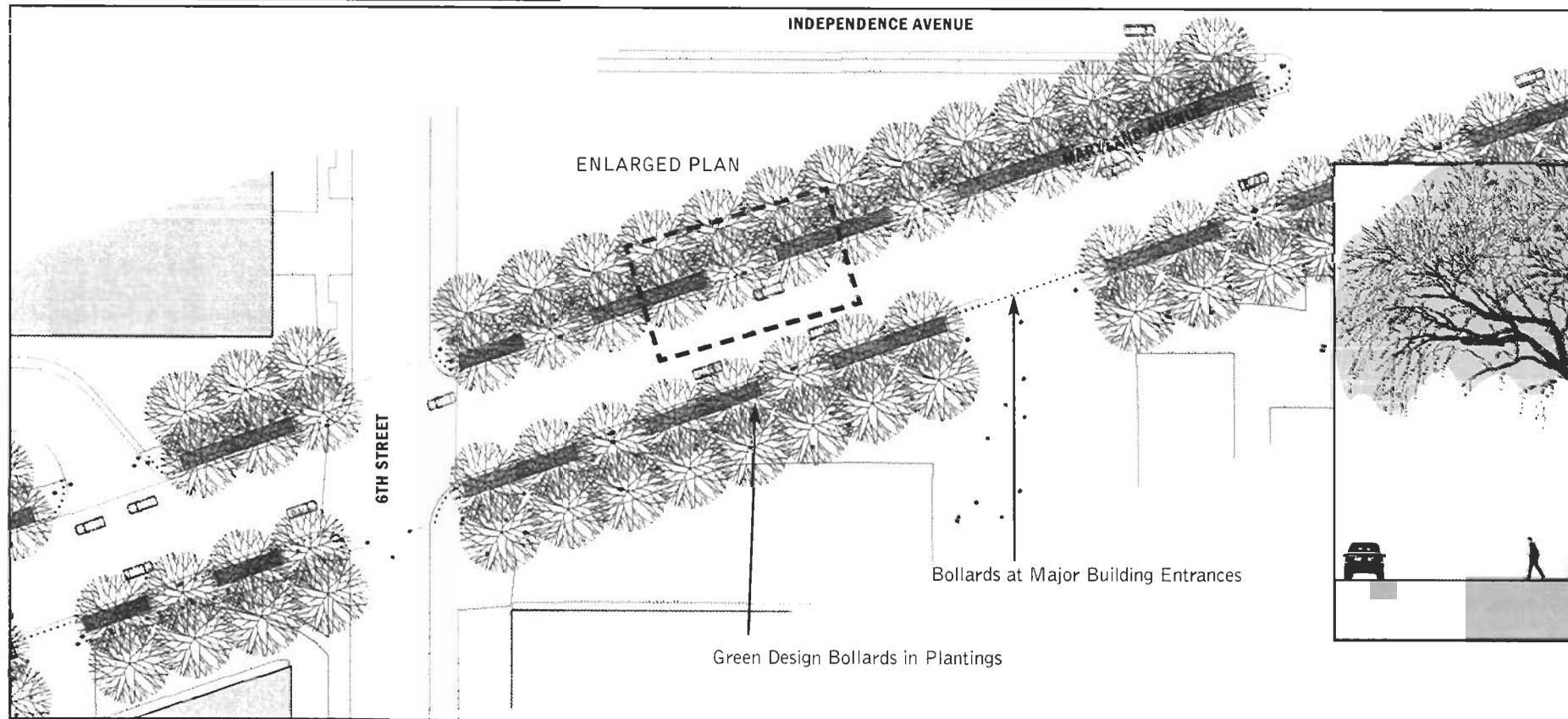
Maryland Avenue Streetscape Design

MARYLAND AVENUE

The application of the green streetscape design illustrated for Maryland Avenue includes tree-planting beds with a double allee of trees and a line of bollards. New plantings are introduced to soften the introduction of these security elements. Bollards are also incorporated on the sidewalk between the planting beds, at building entrances, and at intersection corners. Benches are used at the ends of the planting beds to emphasize entrance plazas.



**ENLARGED PLAN - GREEN DESIGN
(BOLLARDS IN PLANTINGS)**



TYPICAL SECTION - GREEN DESIGN

MARYLAND AVENUE SAMPLE APPLICATION - GREEN STREETScape DESIGN



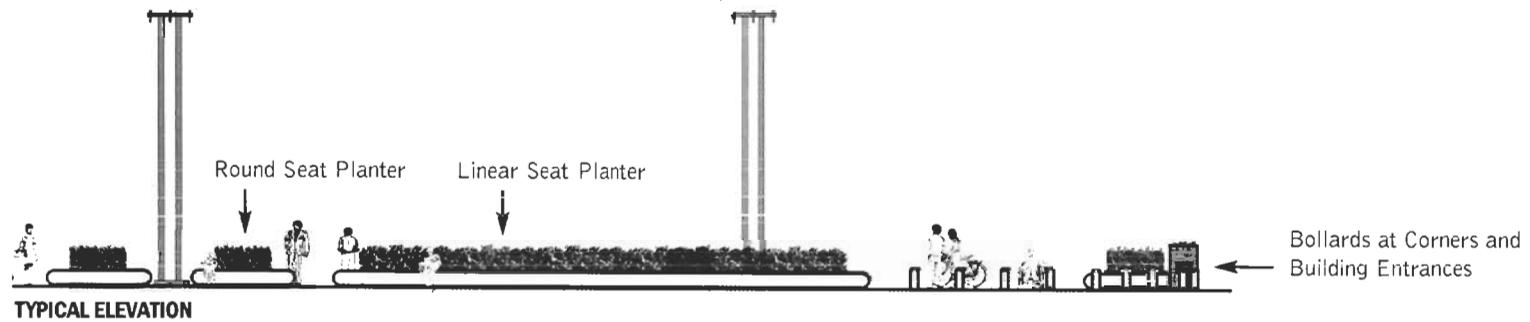
Illustration: Christopher Grubbs



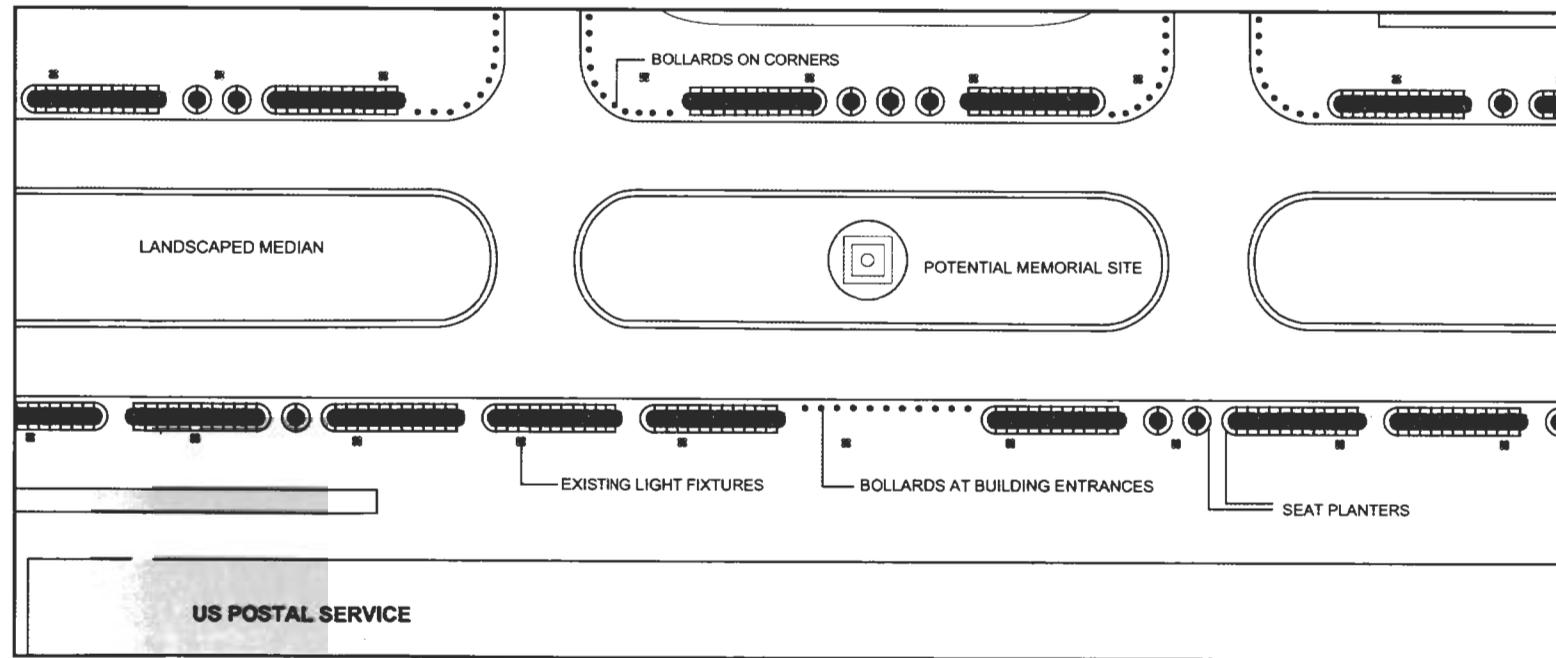
Existing conditions

Proposed Maryland Avenue
streetscape design looking
toward the U.S. Capitol

10th Street, SW – Sample Application – Planter Design



TYPICAL ELEVATION



10TH STREET, SW - SAMPLE APPLICATION PLAN - PLANTER STREETScape DESIGN

10TH STREET, SW

The streetscape design illustrated on 10th Street is one variation of the planter design concept that incorporates a continuous row of seat planters at the curb on both sides of the street. The predominant planter is a 9' 6"-wide by approximately 24'-long seat planter with 9' 6" round seat planters used to create a rhythm interrupted only by bollards at the major public entrance to the U.S. Postal Headquarters and on the corners of the entrance and exit drives to L'Enfant Plaza. Existing street lights will remain.

In addition, a median is introduced into the existing roadway. This median is illustrated as a landscaped park and may include the location of a future memorial. The median is not required for security, and the design of the median may vary in width and location. Coordination is required with the District's urban design study of this street. A study of the condition and capacity of the existing structure is also required prior to the design and construction of any improvements.

Streetscape elements illustrated for 10th Street include:

- Pre-cast concrete or stone seat planter (2' 6" high, 9' 6" diameter), 42" between planters
- Pre-cast concrete or stone seat planter (2' 6" high, 9' 6" wide, 24' 0" long), 42" between planters
- Stainless steel cylindrical bollard (2' 6" high, 8" diameter, 4' 0" on center)
- Median, landscape treatment may vary



Existing conditions

Proposed 10th Street, SW
streetscape design looking south

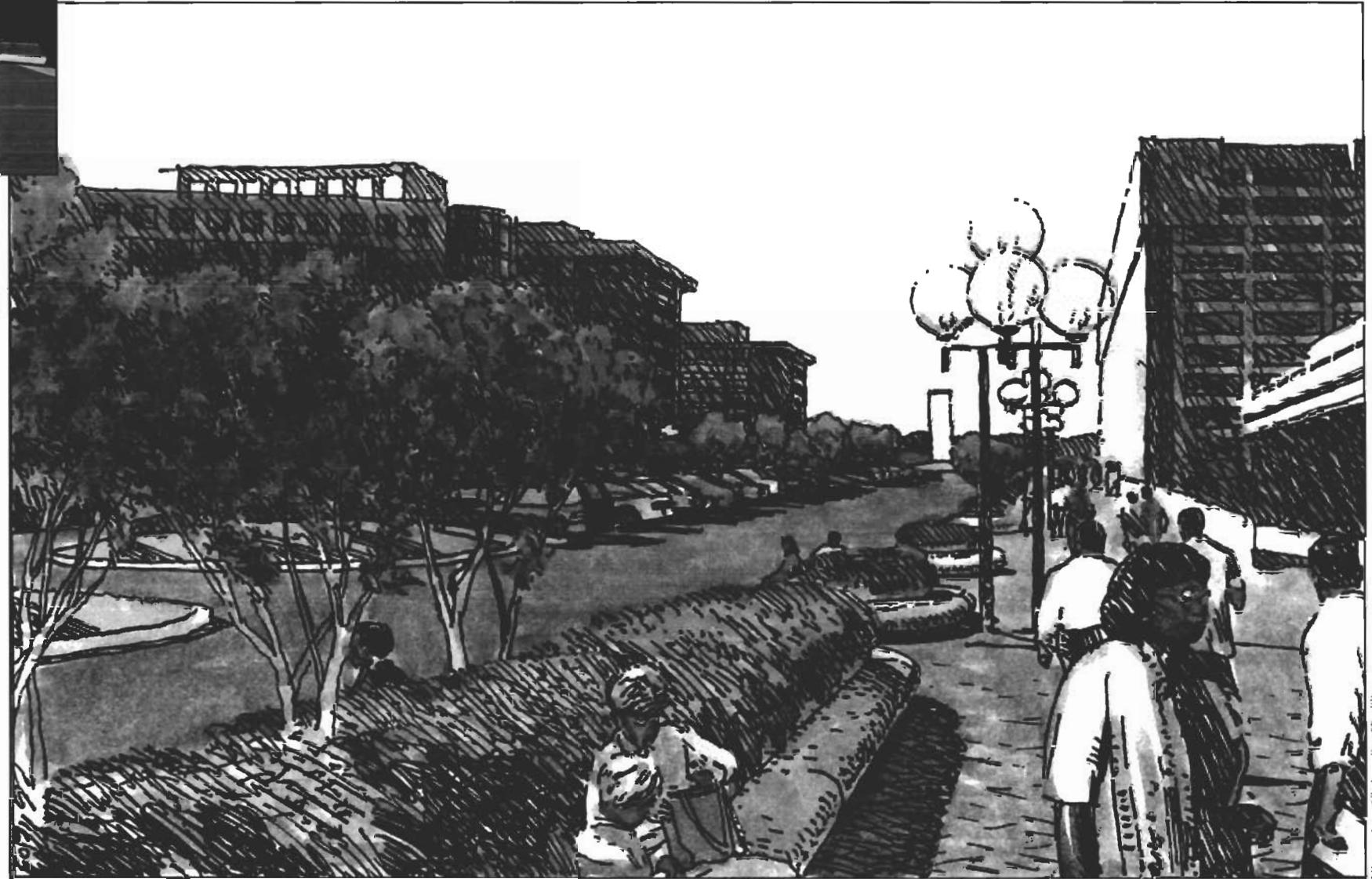


Illustration: Christopher Grubbs

E Street, SW

E STREET, SW

The streetscape design for E Street, between 3rd and 4th Streets, illustrates a security barrier on only one side of the street (adjacent to NASA). Although most streets in the Southwest Federal Center will require security on both sides, there is no need to install perimeter security where it is not required.

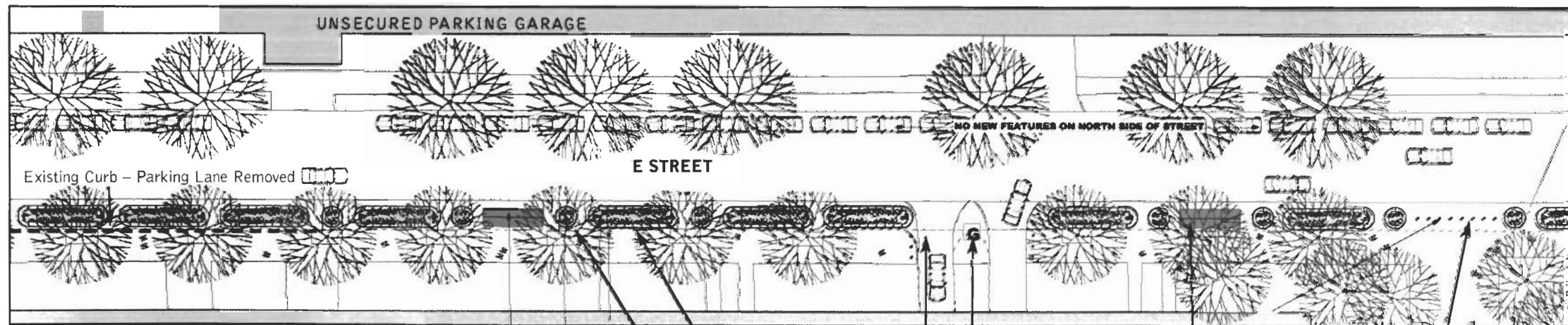
The illustrated streetscape security design incorporates a combination of both round and long seat planters and hardened benches at the curb of the expanded sidewalk (over the removed parking lane). Existing street trees are maintained. Lane removal and location of the security perimeter at the relocated curb achieve the best possible security standoff on this street. This streetscape design also helps reduce the scale of the street, slows traffic, and improves the pedestrian environment. Plant materials also help develop character and provide beauty.

ADDITIONAL DESIGN CONSIDERATIONS

- Given the limited standoff distance that exists throughout the majority of the Southwest Federal Center, proposed security solutions are either at the existing curb or along a new curb within an extended sidewalk to replace the curb (parking) lanes.
- Although curb lane removal and expansion of the sidewalk may provide additional standoff, they should be limited to only those streets where absolutely required.
- All curb lane removals must be undertaken in tandem with a comprehensive program to expand short-term parking opportunities through the development of secure, central parking facilities, and to enhance mobility through implementing the Circulator vehicle.
- Streetscape design and implementation for the 10th Street promenade will require analysis of the structural capacity and condition of this elevated roadway.
- The Department of Energy is unique in its security requirements and will require custom-designed security solutions.
- With its narrow sidewalks on Independence Avenue and 14th Street, the Department of Agriculture will require custom-designed security solutions.
- Future security improvements on 14th Street should reflect the permanent security installed by the Bureau of Printing and Engraving and the Holocaust Museum.
- Proposed custom-designed security components require engineering and testing to ensure that they satisfy security requirements.
- Underground utility locations are yet to be determined.



E STREET, SW - ELEVATION



E STREET, SW - SAMPLE APPLICATION PLAN - PLANTER STREETScape DESIGN



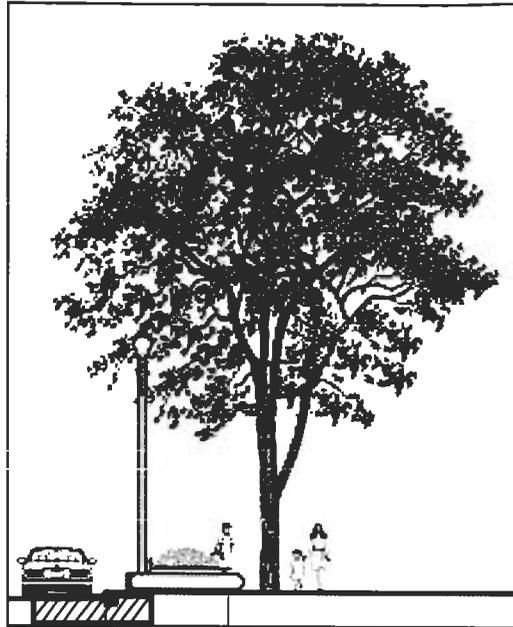
Existing conditions



Proposed E Street, SW
streetscape design looking east
(with parking lane removed)

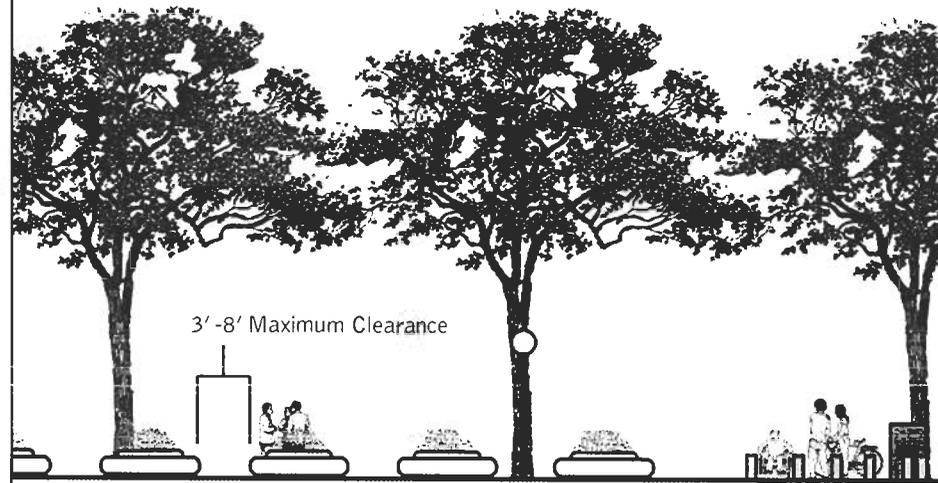
Illustration: Christopher Gribbs

4TH STREET, SW - TYPICAL SECTION

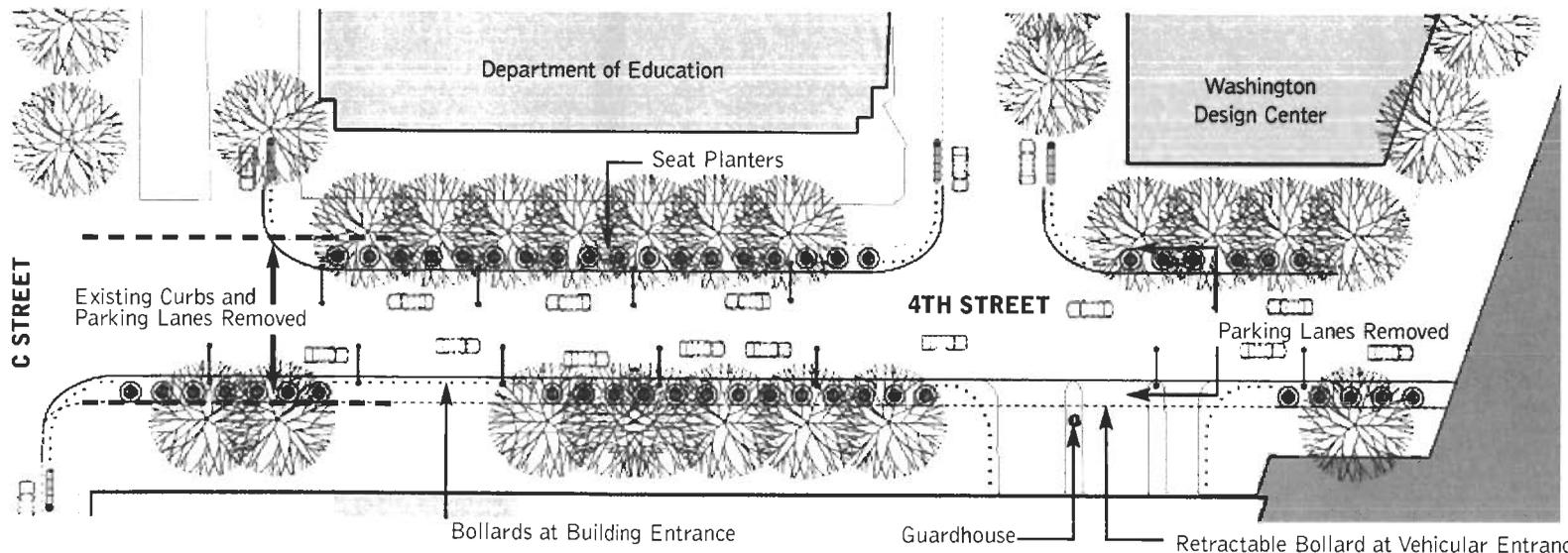


Existing Curb and Parking Lane Removed

4th Street, SW - Proposed Approach



TYPICAL ELEVATION



4TH STREET, SW - SAMPLE APPLICATION PLAN - PLANTER STREETScape

4TH STREET, SW

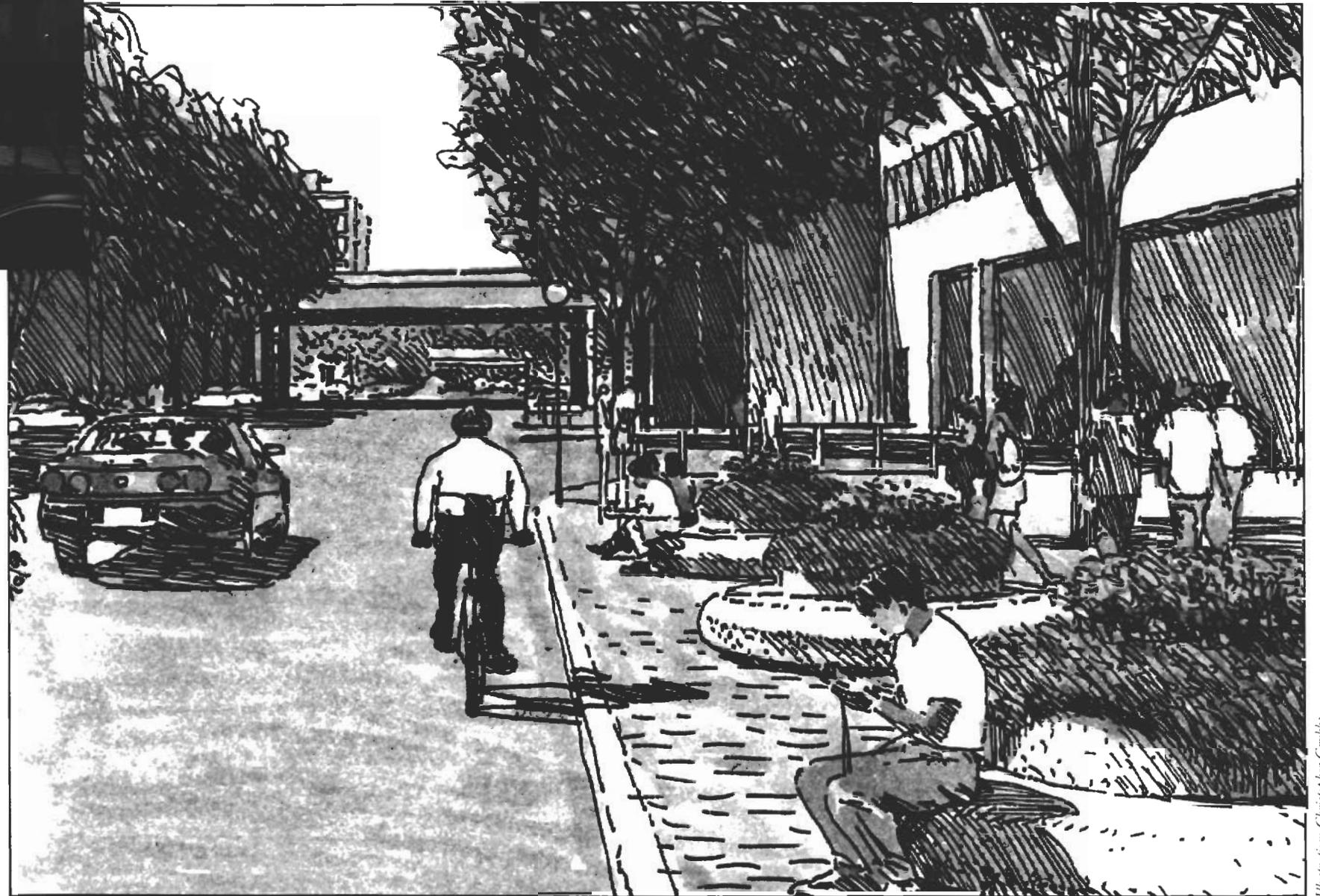
The streetscape design illustrated for 4th Street (between C Street and the B&O Railroad overpass) is a variation of the planter design concept. This streetscape incorporates a row of 9' 6" round seat planters located on the extended sidewalk (over the removed curb lane) on both sides of the street. This repetition of planters is intended to provide both identity and consistency to the street. Plant materials are used to develop street character and provide beauty. Stainless steel bollards are located in front of the major entrance to the FEMA building; on the street corners, and at the vehicle service entrances to parking. A guardhouse is also proposed in this location. The existing streetlights are relocated to the new curbs. Existing street trees are retained.

Streetscape elements illustrated for 4th Street include:

- Curb (parking) lane removal
- Extension of sidewalk (over removed curb lane)
- Pre-cast concrete or stone seat planter (2' 6" high, 9' 6" diameter), 42" between planters
- Stainless steel cylindrical bollard (2' 6" high, 9' 6" diameter, 4' 0" on center)
- Stainless steel cylindrical retractable bollard (2' 6" high, 8" diameter, 4' 0" on center)
- Gate arm, as per manufacturer's specifications
- Guardhouse, custom designed to relate to the building architecture
- Street trees, infill with the existing species, as required



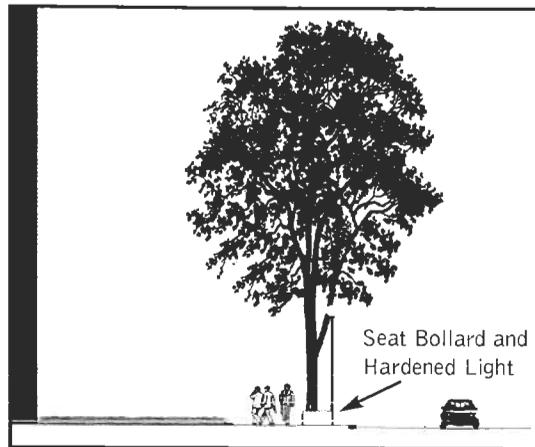
Existing conditions



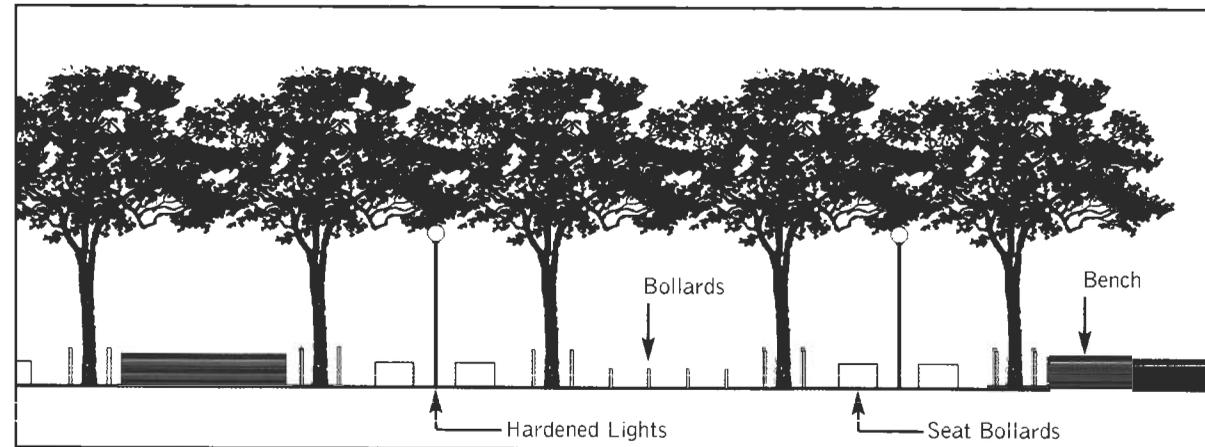
Proposed 4th Street,
SW streetscape design
looking south (parking
lane removed)

Illustration: Christopher Gambis

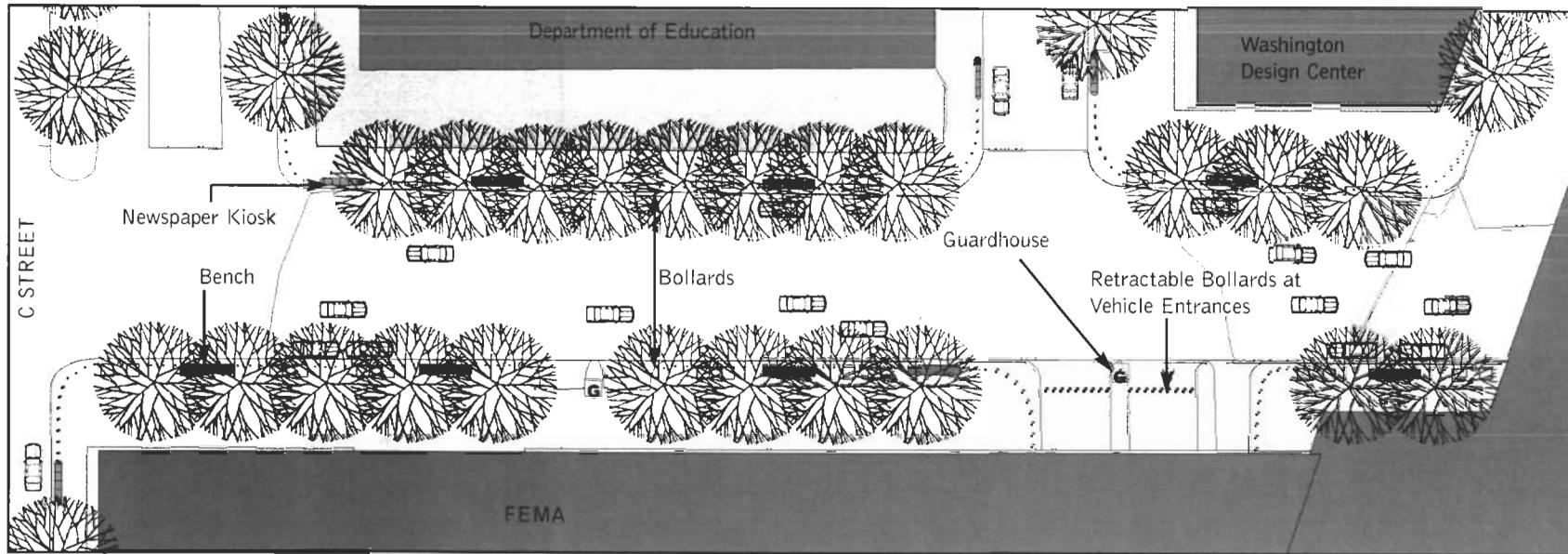
4th Street Alternative Approach



**TYPICAL SECTION - D STREET
BOLLARD AND BENCH DESIGN**



TYPICAL BOLLARD AND BENCH ELEVATION - 4TH STREET, SW



4TH STREET, SW - ALTERNATIVE SAMPLE APPLICATION BOLLARD AND BENCH DESIGN (NO PARKING LANE REMOVED)

D Street, SW – Proposed Approach

D STREET, SW

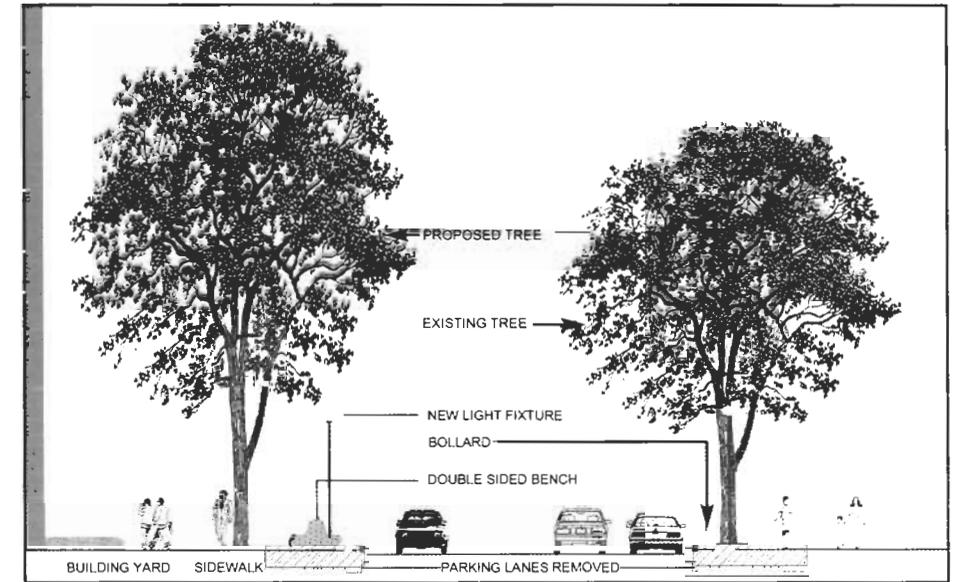
The block of D Street between 7th and 9th Streets, adjacent to GSA's regional headquarters and the Department of Housing and Urban Development (HUD), is illustrated as an example of the application of the Southwest Federal Center area's streetscape elements. The curb/parking lane is removed on both sides of the street. The security barrier on the GSA side incorporates a row of custom-designed hardened benches with bollards placed between the benches and in front of the main public entrance to the building. The HUD-side security barrier incorporates a row of four-foot diameter pre-cast concrete or stone seat bollards. The typical use of stainless steel bollards on street corners and at vehicle/service entrances is also included. In that few trees currently exist in the narrow sidewalk on this side of the street, new street trees are shown in the widened sidewalk. These trees will help unify the street.

This streetscape illustration is representative of the application of these streetscape elements to some of the varying conditions that exist within the Southwest Federal Center, e.g., the narrow sidewalk and block-long building wall of the GSA building and the contrasting building setback and large ground level plaza of the HUD building.

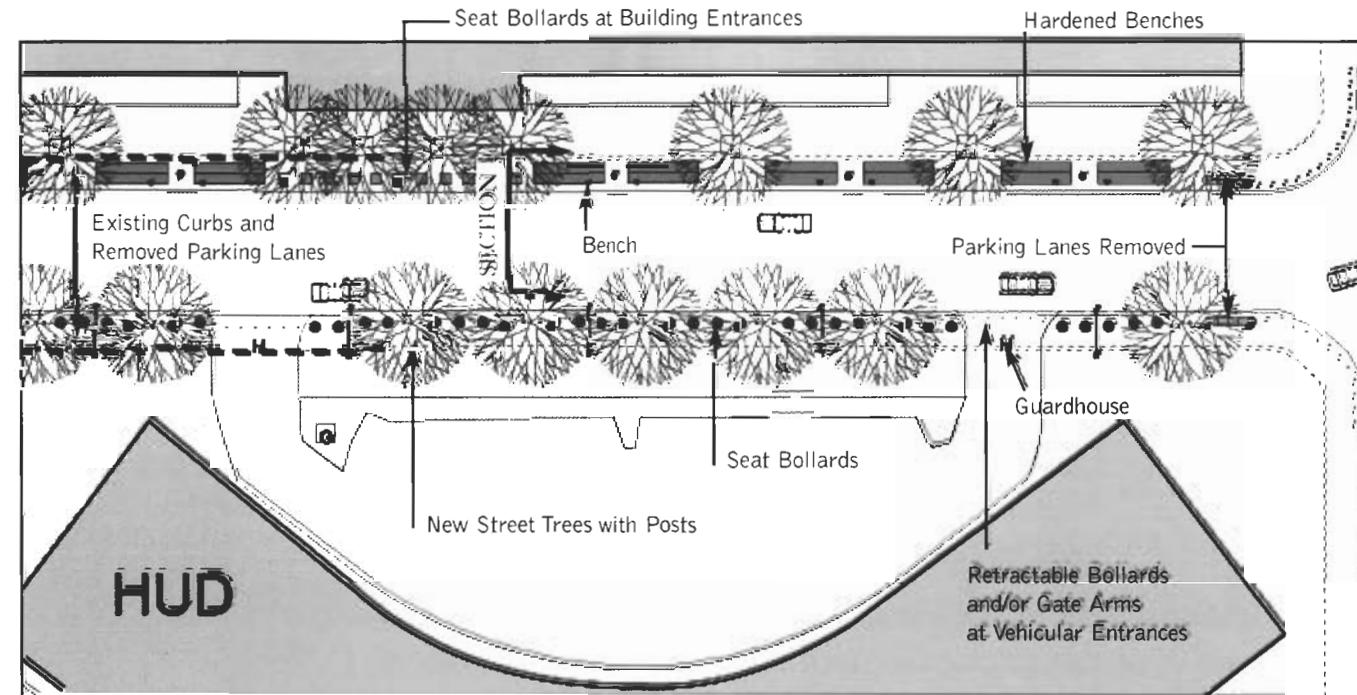
Streetscape elements illustrated for D Street include:

- Curb (parking) lane removal
- Extension of sidewalk (over removed curb lane)
- Metal bench (3' 2" high, 15' 6" long), wood or metal slats; one sided 3' 0" wide; two sided 6' 0" wide

- Pre-cast concrete or stone seat bollard (2' 6" high, 4' 0" diameter), 42" between bollards
- Pre-cast concrete or stone seat bollard (2' 6" high, 4' 0" square), 42" between bollards
- Stainless steel cylindrical bollard (3' 0" high, 8" diameter, 4' 0" on center)
- Stainless steel cylindrical retractable bollard (3' 0" high, 8" diameter, 4' 0" on center)
- Gate arm, as per manufacturer's specifications
- Guardhouse, custom designed to relate to the building architecture
- Street trees (8" caliper oak), new and infill as required



TYPICAL BENCH AND BOLLARD SECTION



D STREET, SW - SAMPLE PLAN APPLICATION - BENCH AND BOLLARD DESIGN



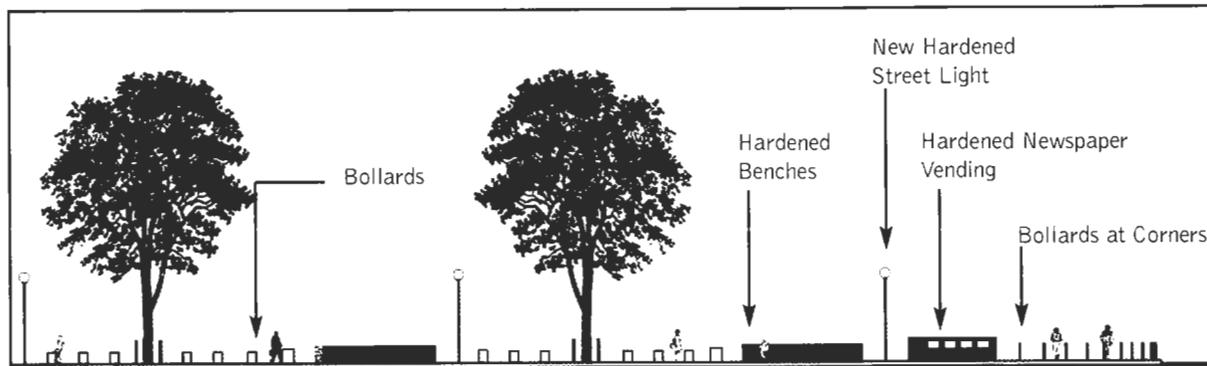
Existing conditions



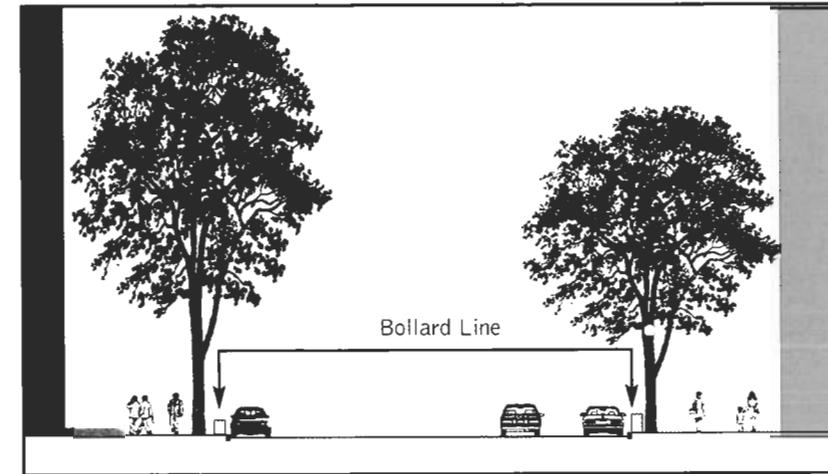
Illustration: Christopher Grubbs

Proposed D Street, SW streetscape design looking west toward Department of Housing and Urban Development (with parking lane removed)

D Street Alternate Approach (without curb lane removal)



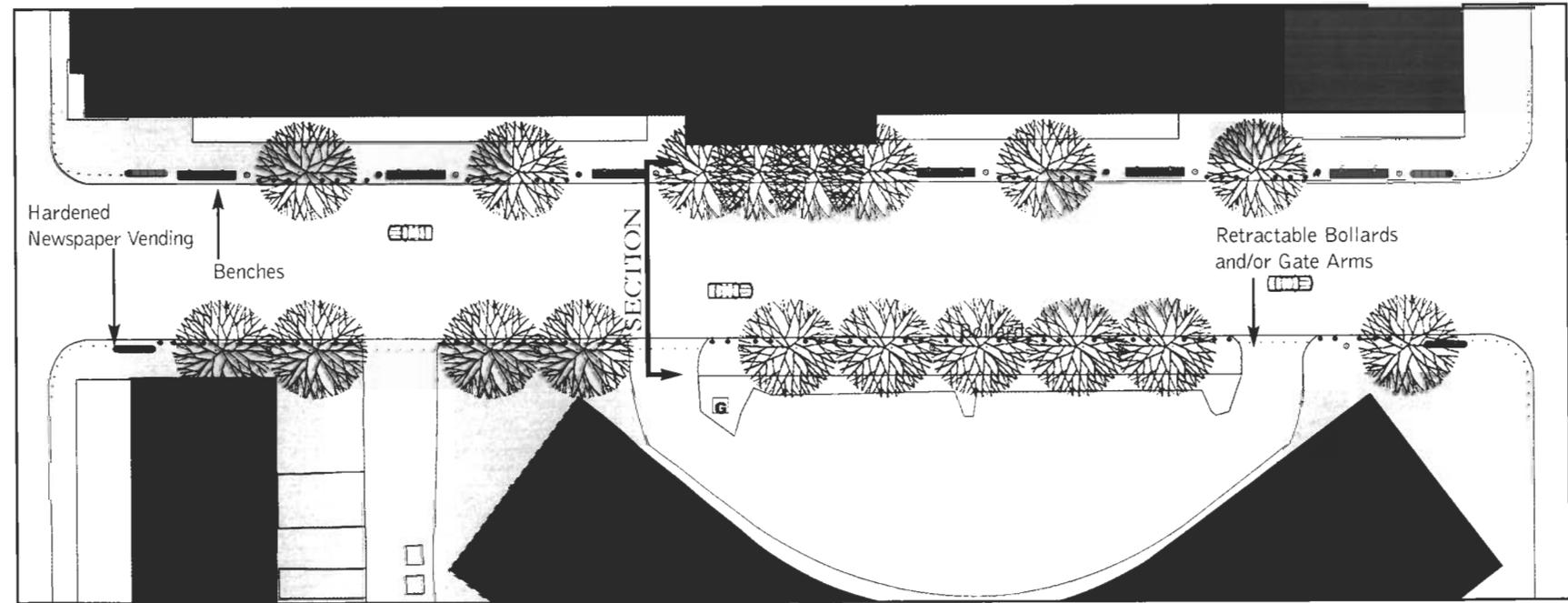
D STREET, SW - TYPICAL BOLLARD AND BENCH DESIGN - ELEVATION



TYPICAL SECTION

INDEPENDENCE AVENUE

The Independence Avenue streetscape design concept incorporates a combination of plinth wall and custom-designed components. Stainless steel bollards are located on the street corners. Pre-cast or stone benches and seat bollards are located at building entrances. (See the Constitution and Independence Avenue Section of the Plan for additional information.)



D STREET, SW ALTERNATIVE SAMPLE APPLICATION - BENCH AND BOLLARD DESIGN (NO PARKING LANE REMOVAL)

Downtown

Historic Character

The Downtown, a contextual area in the Northwest quadrant of the city, is roughly bounded by Pennsylvania Avenue on the south, Massachusetts Avenue on the north, and 3rd Street on the east to 25th Street on the west. As is typical in an area that has developed over time, the variety of styles, scales, and materials presents lively and differentiated street frontages. The many historic buildings in the Downtown, varying in the quality and interest of their architecture, are associated with a range of historical events and persons and the development of the local city.

The area began to develop, if slowly, as soon as the seat of government was established. Some of the oldest surviving structures in the city are included in the Downtown Historic District, in the 800 block of F Street, and as individually designated buildings. The Foggy Bottom Historic District reflects the modest neighborhood that developed near the Potomac River. The earliest surviving tall buildings, the historic department stores, and historic sites such as Ford's Theater are located in the Downtown. The federal government established an early presence with the Old City Hall, the Patent Office, and the General Post Office.

The western portion of the Downtown, especially along K Street, was redeveloped in the mid-20th century as residential buildings were demolished to make way for large commercial buildings. Although many churches moved out of the Downtown in the early decades of the last century, some prominent examples remain. Many of the elegant row houses around Dupont Circle have been preserved, but rapid growth throughout the 20th century has brought great change to the Circle itself. To the east, the residential scale of Logan Circle and its surrounding streets has been preserved.

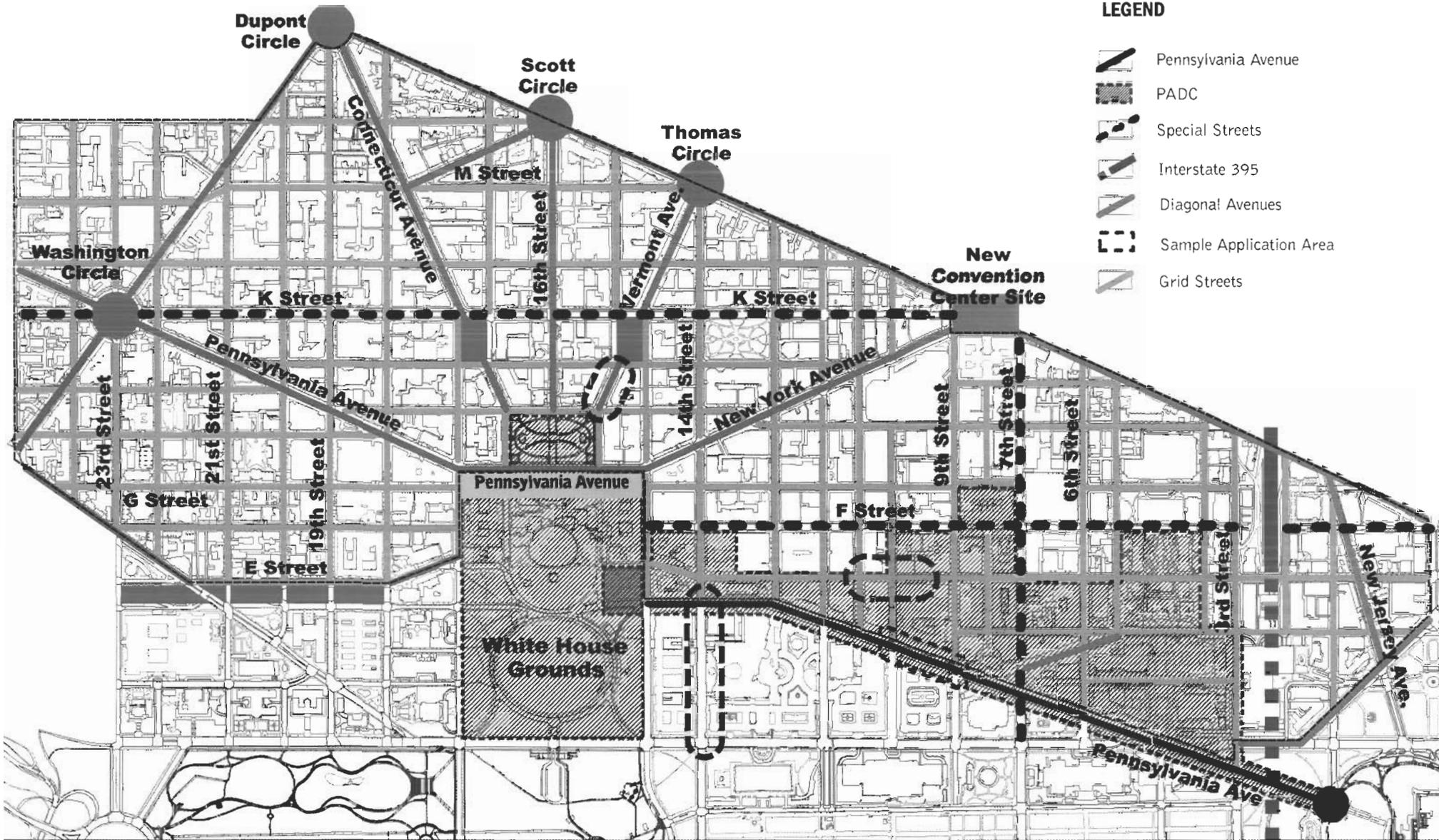
Existing Conditions

Although a number of streetscape components, such as street lighting, tree species, and curb materials are standardized throughout the Downtown, other streetscape standards for variations in the elements of street furniture create character definition throughout the area. For example, the Downtown Business Improvement District includes neighborhood streetscape overlays with their own character and context for: Judiciary Square, Chinatown, and the 15th Street Financial and Downtown Historic areas. The Business Improvement District has also designated special streetscapes for the K, F and 7th Special Streets.

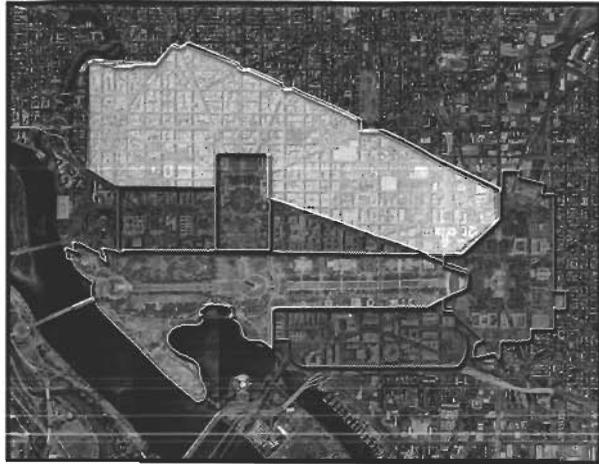


Typical downtown sidewalks with tree planting beds and other streetscape elements, including temporary security elements

DOWNTOWN STREET TYPOLOGY AND KEY PLAN



DOWNTOWN STREET TYPOLOGY AND KEY PLAN



Design Framework

The Downtown is unique in that there are a number of federal buildings located in close proximity to private buildings; however only a few of these federal facilities will likely require perimeter security. The Task Force recognizes the distinction between federally owned and federally leased space. Where security has been determined as necessary for federally owned facilities, agencies are in the process of installing perimeter measures on an interim basis. For leased space, the focus has been on operational procedures. It is important, given the transitional nature of lease agreements, that the federal government not require perimeter security around all federally leased space.

Streetscape designs proposed for the Downtown are intended to reinforce the existing streetscape. Although the addition of security components may only be needed on a few blocks, or a portion of a block, it is the intent that the look of the streetscape will not vary significantly among public and private properties. Streetscape elements of the DCDOT, Business Improvement District, and/or other applicable streetscape standards will be maintained throughout the area and hardened only where security needs demand. The Federal Bureau of Investigation could be used as a Downtown demonstration project to guide future implementation in this area.

A hierarchy of streetscape security design solutions is established by the combination of varying setbacks and security requirements of the buildings located on the avenues and grid streets in the Downtown.

■ Grid and Special Streets

The Downtown city grid streets and their sidewalks tend to be narrower than those of the avenues. Proposed streetscape designs applicable to these grid streets incorporate hardened components of the Business Improvement District's streetscape design elements that include street lighting, tree fence enclosures, benches, bicycle racks, trash and newspaper vending containers, and the introduction of bollards. Special Street streetscape designs may also incorporate hardened designs for special signage, kiosks, and a specially designed café enclosure (fence wall). Security requirements typically require that the security barrier be at the curb.

■ Diagonal Avenues

Diagonal Avenues typically have broad rights-of-way that can accommodate landscape-oriented streetscapes with widened street tree panels and sidewalks. The proposed Diagonal Avenue streetscape design incorporates a tree enclosure fence wall at the back of the planting strip, next to the sidewalk. Where necessary to ensure the required security spacing, bollards will connect between fence segments. Hardened benches are also employed.

Sample Applications

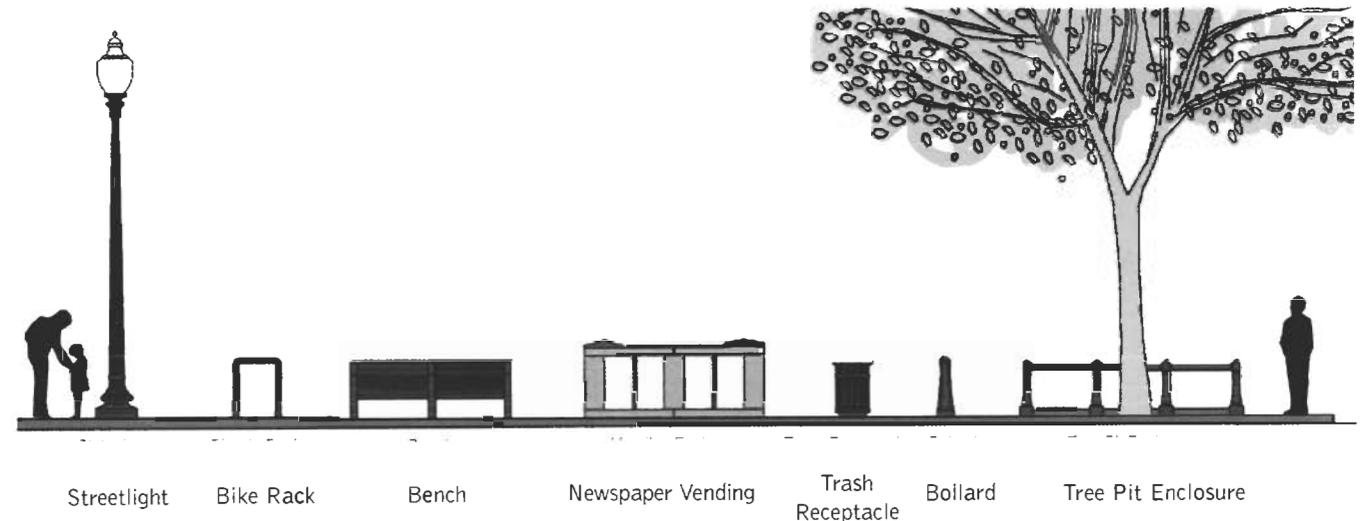
Typical streetscape security design solutions have been illustrated for each of the street typologies. A typical Grid Street streetscape design is illustrated on E Street, between 9th and 10th Streets, NW. A block of F Street, NW is illustrated as the typical Special Street, and a typical Diagonal Avenue streetscape design is illustrated on the block of Vermont Avenue north of K Street, NW.

Grid and Special Streets

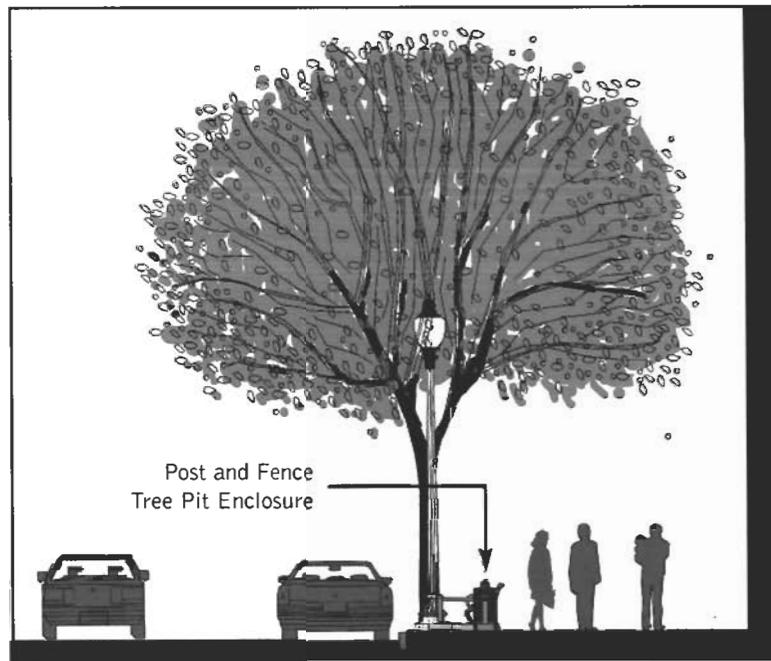
The Grid Street streetscape design concept, as previously described, utilizes hardened components of the Downtown Business Improvement District's (BID) streetscape elements, including: street light standards, tree fence enclosures, benches, bicycle racks, trash and newspaper vending containers, and the introduction of bollards. The Special Street streetscape design includes the above elements and also may incorporate hardened special signage, kiosks, and a café enclosure (fence/wall). These are described below:

TYPICAL GRID STREET STREETScape

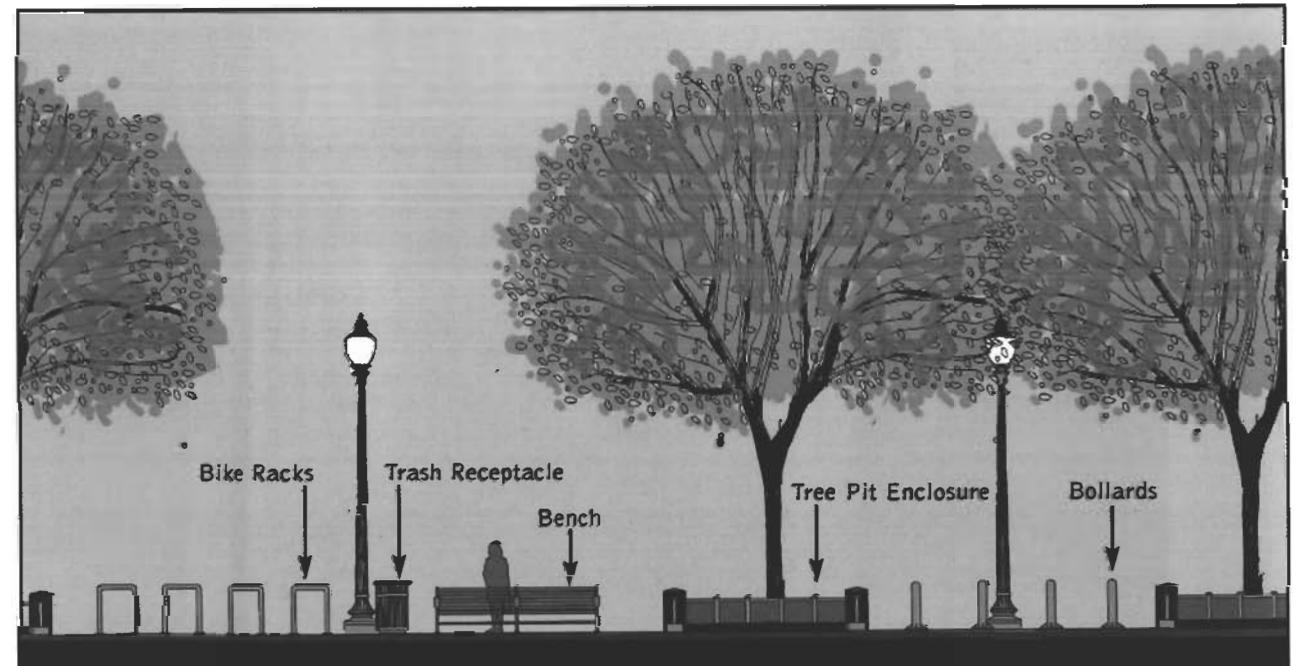
- Washington Globe light at approximately 40 feet on-center
- Street trees at approximately 30 feet on-center
- Tree enclosure fence/wall (on the outside of the tree planting bed)
- Bench (Downtown BID)
- Bike rack (Downtown BID)
- Trash container (Downtown BID)
- Newspaper condo (Downtown BID)



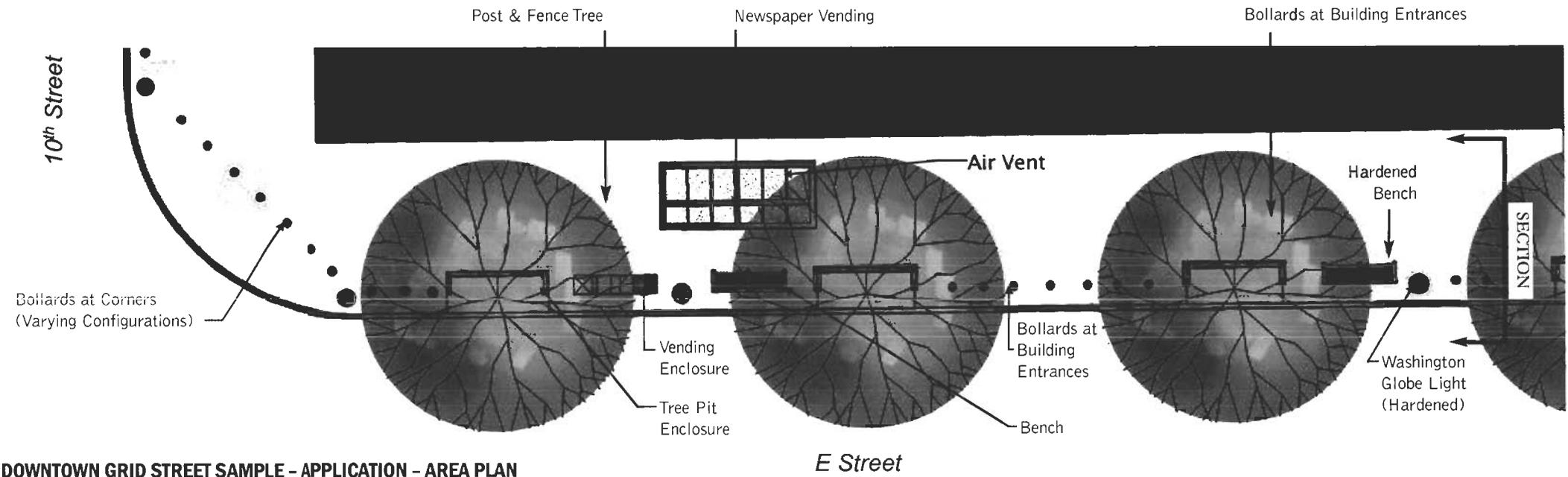
DOWNTOWN GRID STREET - HARDENED STREET FURNITURE



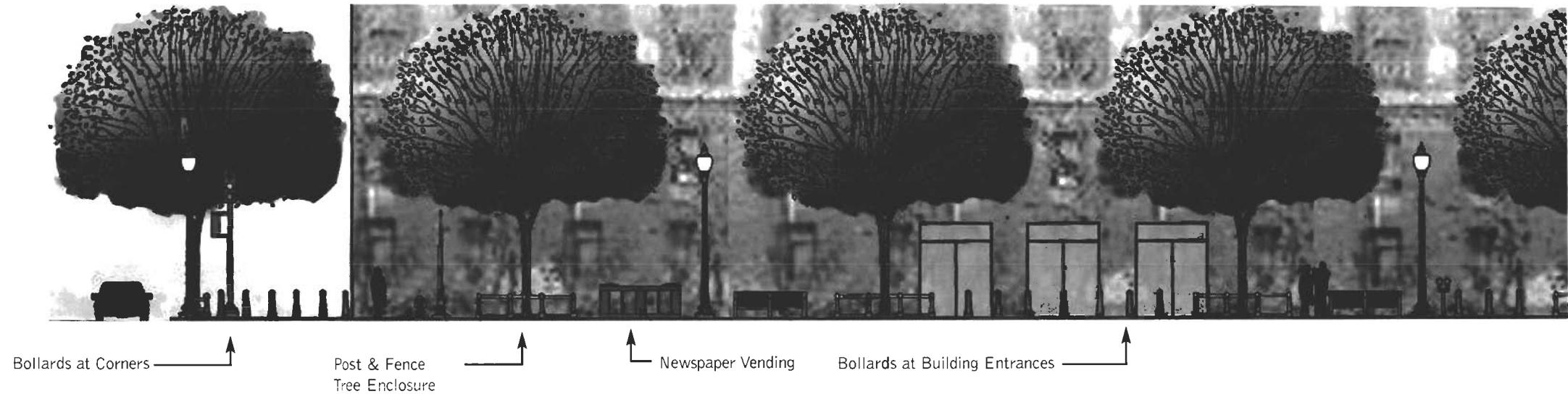
GRID STREET - TYPICAL SECTION



GRID STREET - TYPICAL ELEVATION



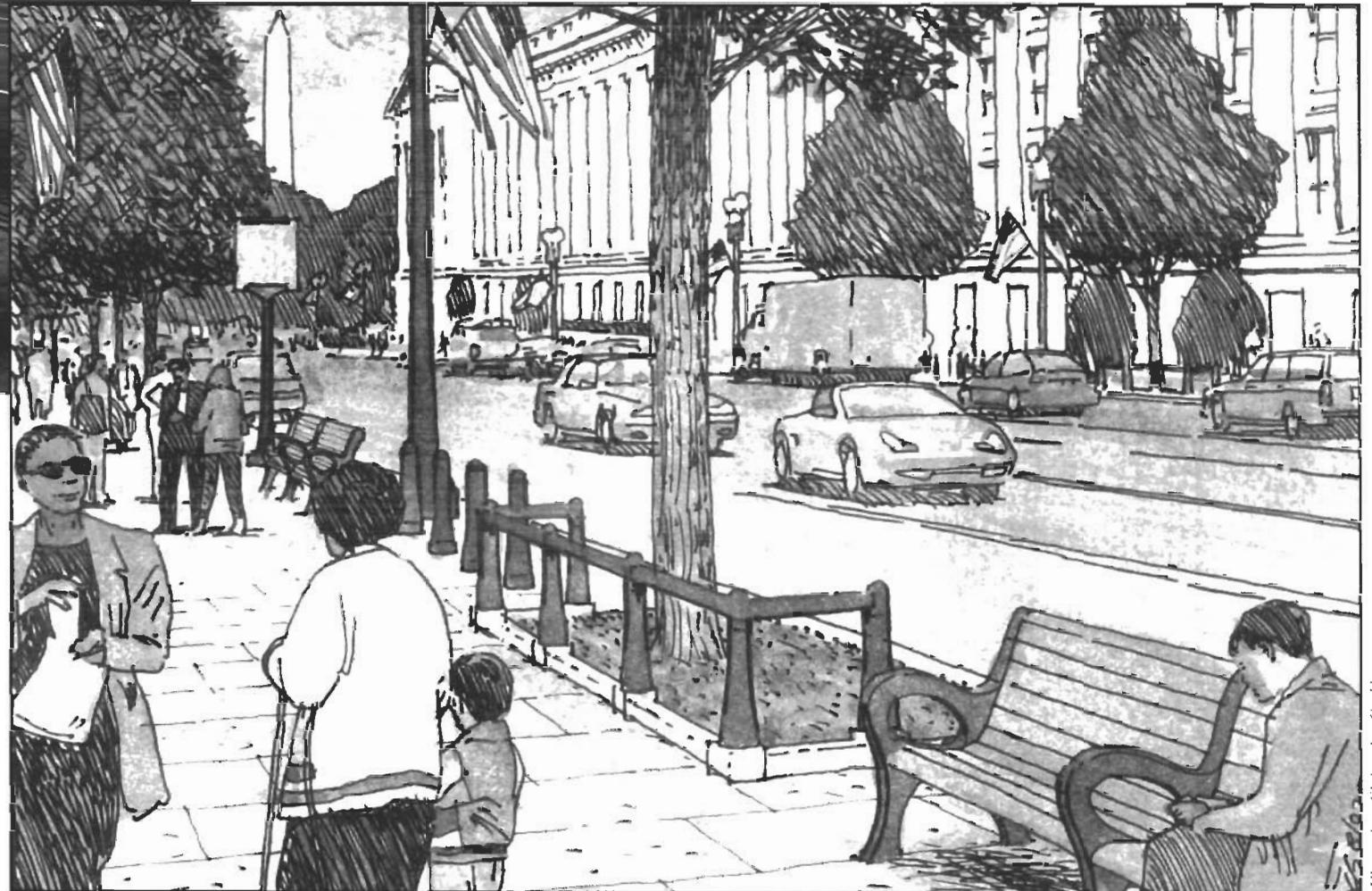
DOWNTOWN GRID STREET SAMPLE - APPLICATION - AREA PLAN



DOWNTOWN GRID STREET - ELEVATION

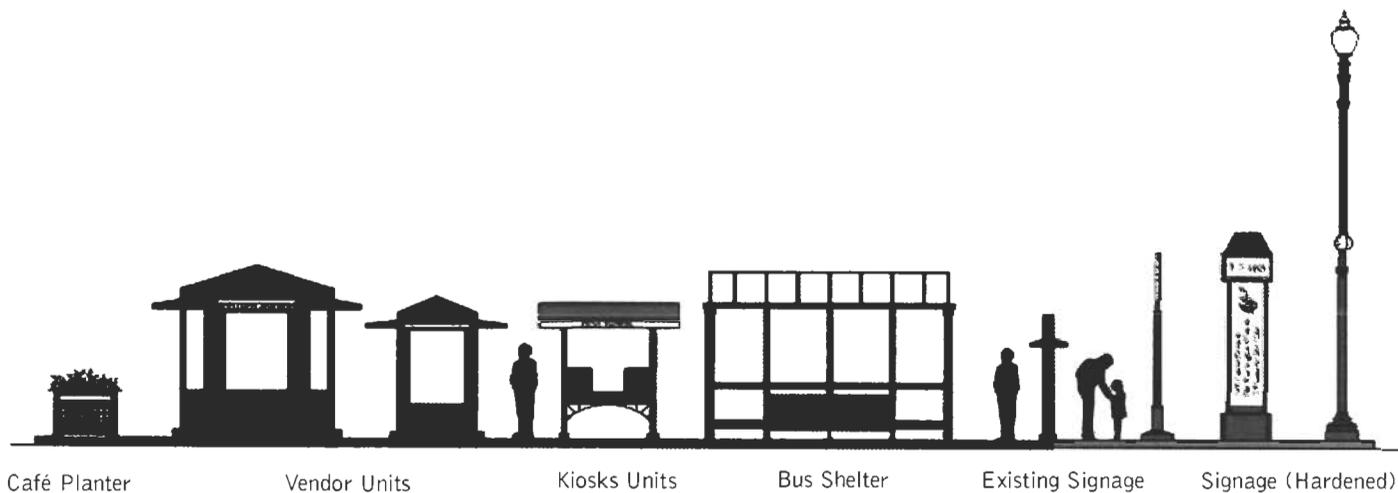


Existing conditions



Proposed Downtown Grid Street depicting hardened street furniture streetscape design (15th Street looking south across from the Treasury Building)

Illustration: Christopher Grubbs

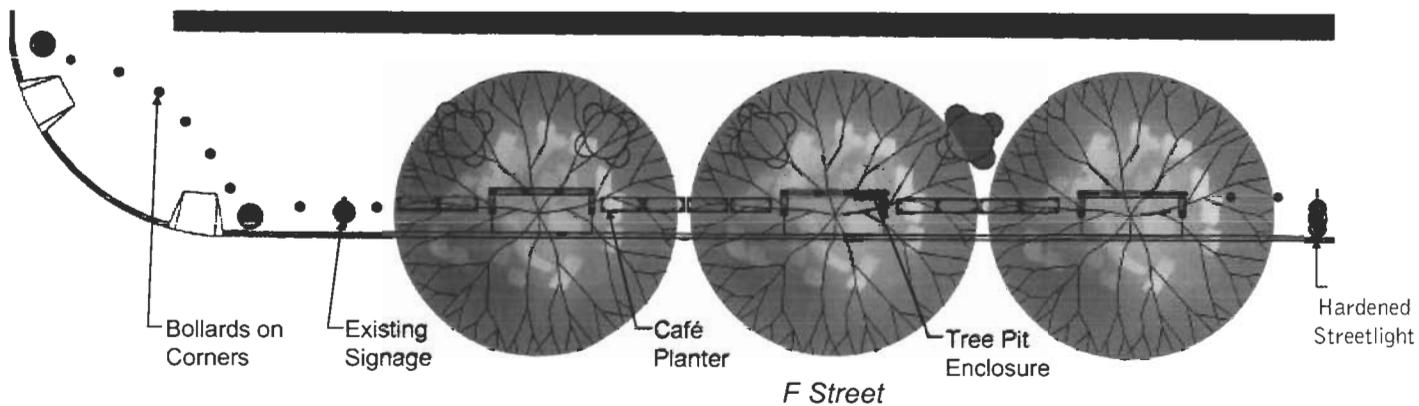


Café Planter Vendor Units Kiosks Units Bus Shelter Existing Signage Signage (Hardened)

SPECIAL STREET - ADDITIONAL HARDENED STREETScape ELEMENTS

Typical Special Street Streetscape

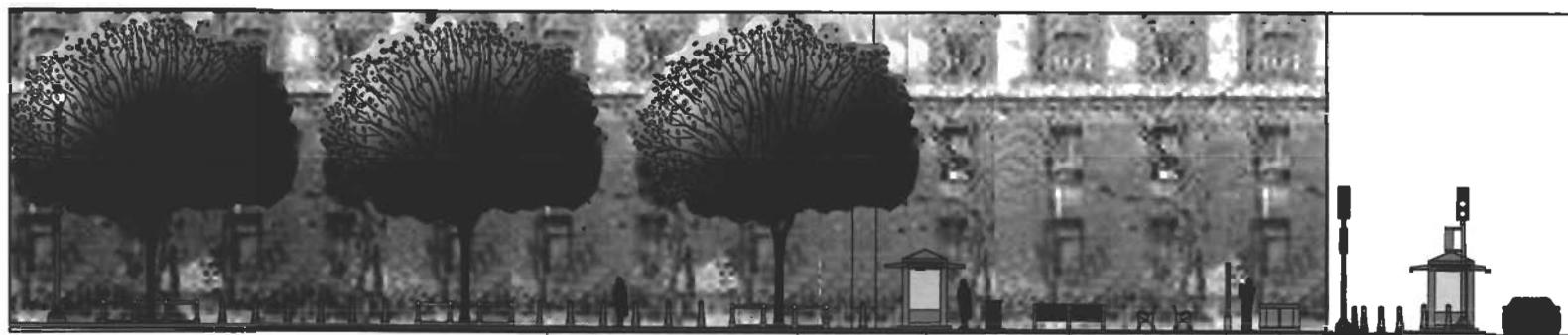
- Washington Globe light (Twin 20 or Twin 25), at 40 feet on-center
- Street trees at 20 feet on-center (pairs at 50 feet on-center)
- Tree enclosure fence/wall (on the inside of the tree planting bed)
- Bench (Downtown BID)
- Bike rack (Downtown BID)
- Trash container (Downtown BID)
- Newspaper condo (Downtown BID)
- Special signage (Downtown BID)
- Kiosk (news, flower, etc.), (Downtown BID)
- Café enclosure/fence (to be determined)
- Bollard



Bollards on Corners Existing Signage Café Planter Tree Pit Enclosure Hardened Streetlight

F Street

DOWNTOWN - SPECIAL STREET - SAMPLE APPLICATION - AREA PLAN



DOWNTOWN SPECIAL STREET - ELEVATION

Bollards Tree Pit Enclosure Kiosk Benches Sign Newspaper Vending



Existing conditions

Proposed Downtown Special
Street streetscape design



Illustration: Christopher Grubbs

Diagonal Avenues

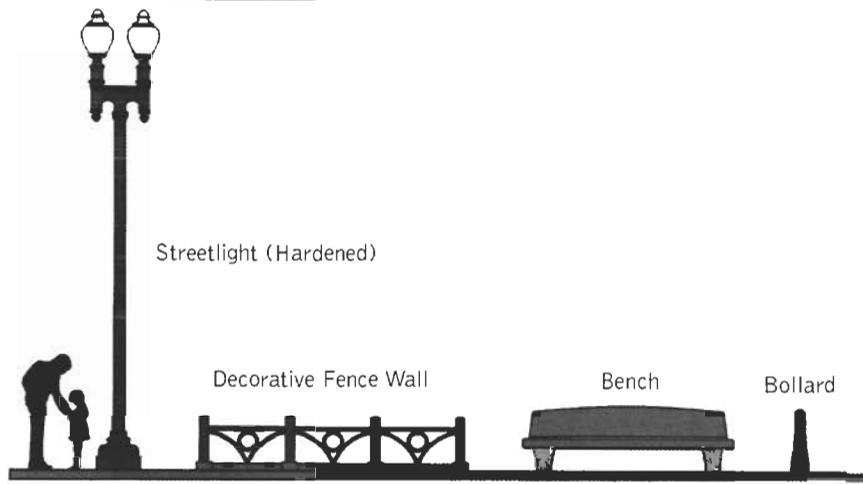
The proposed Diagonal Avenue streetscape design proposes to incorporate a tree enclosure fence wall at the back of the planting strip, next to the sidewalk. Bollards, benches, and other hardened street furniture are located between the fence wall segments to ensure the required security spacing. Characteristics of the hardened streetscape design are:

Typical Diagonal Avenue Streetscape

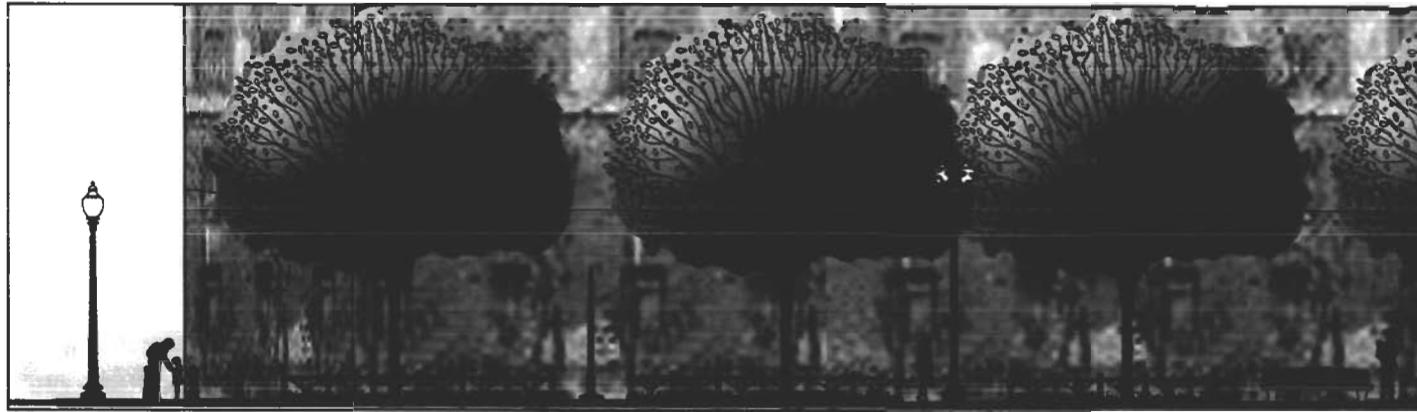
- Washington Globe light (Twin 20), at approximately 40 feet on-center
- Street trees (staggered double row), at approximately 40 feet on-center, or a single row of trees with additional landscape planting in the building yard
- Tree enclosure fence wall (on the inside of the tree planting bed)
- Bollard

Additional Design Considerations

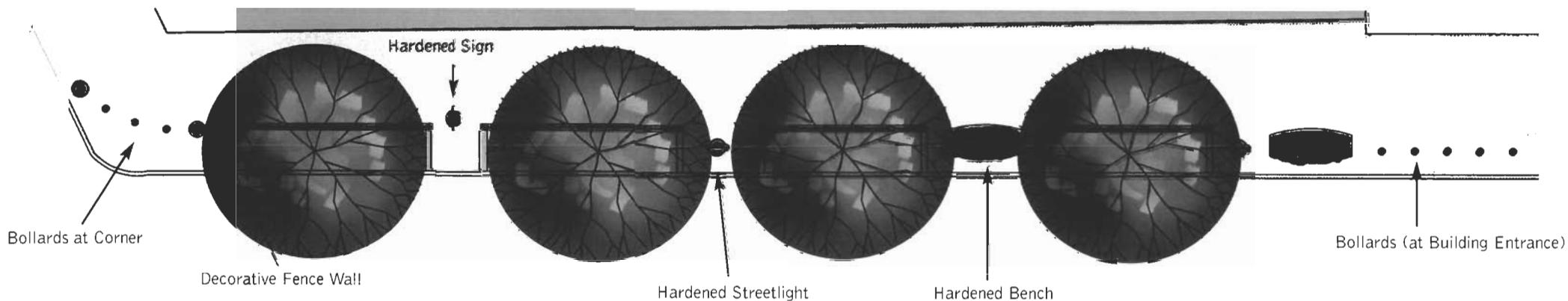
- The design of hardened streetscape components should be compatible with the design of the existing street furniture, as applicable, e.g., the DCDOF Streetscape Manual, Downtown BID, etc.
- Proposed hardened street furniture and other elements require engineering and testing to ensure that they satisfy security requirements.
- Underground utility locations are yet to be determined.



DOWNTOWN DIAGONAL AVENUE - HARDENED STREETScape ELEMENTS



DOWNTOWN DIAGONAL AVENUE - ELEVATION



DOWNTOWN DIAGONAL AVENUE SAMPLE APPLICATION-AREA PLAN



Existing conditions



Proposed Downtown Diagonal
Avenue streetscape design

Illustration: Christopher Gribbis

IMPLEMENTATION PROGRAM

Implementation Strategy

The National Capital Urban Design and Security Plan illustrates principles and concept design solutions for design development of security measures and provides recommendations for the efficient and cost effective implementation of these improvements.

The implementation approach comprises several phases to ensure that security and streetscape improvements are appropriately planned, designed, installed, and maintained. A program and funding strategy will be forwarded to the Office of Management and Budget for consideration as an addendum in the Federal Capital Improvements Program (FCIP).

The program and funding strategy is organized by project, and will include preliminary cost estimates for design studies. The projects range in size from one block—affecting one agency that may be constructed in one phase—to numerous blocks, affecting multiple agencies that may be phased in over an extended period of time. The following tasks are required to prepare a reliable cost estimate:

1. Assessment of the threat risks to federal facilities.
2. Design of proposed security improvements that are specific to individual risk assessments.
3. Testing of the structural integrity of the various security elements proposed in the Plan, such as hardened benches, light poles, etc.
4. Parking and traffic studies to determine the effects on traffic and pedestrian circulation.

The Plan recommends that the following projects and studies be given priority. The projects are critical because of either their prominence and symbolic significance in the Monumental Core or their relationship to each other as cohesive streetscape projects. The studies are important because they will guide future design and implementation activities.

PROJECTS

Pennsylvania Avenue (White House)
Pennsylvania Avenue (3rd to 15th Streets)
Constitution Avenue
Federal Triangle (including the Department of Justice)
Federal Bureau of Investigation
Department of State
Circulator White House-Capitol Loop

STUDIES

Streetscape Component Structural Testing
Mobility and Parking Impact Studies for Recommended Curb Lane Removal
Pennsylvania Avenue and E Street Tunnel Feasibility Study

Implementation of the perimeter security projects will require a carefully planned construction schedule. Construction should be planned in conjunction with other scheduled public works projects and phased so that work does not impact scheduled national events. It will also be important to minimize disruption to pedestrian and vehicular traffic circulation during construction throughout the Plan's implementation.

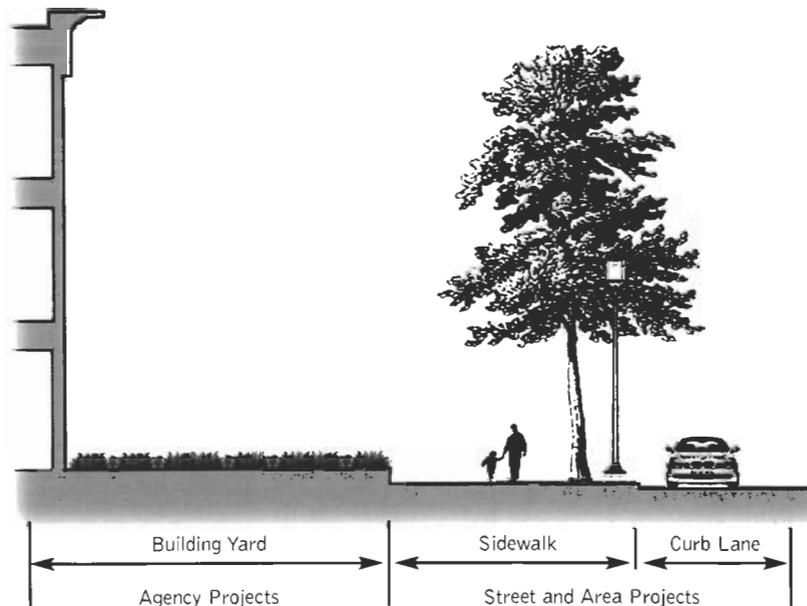
Additionally, improvements to federal properties Downtown must be closely coordinated with the District of Columbia to properly plan for the funding, planning, design and construction of these streetscape projects. Ideally, security improvements along a block or portion of a block should be planned in conjunction with the entire streetscape in accordance with the plans of the Downtown Business Improvement District and the District of Columbia.

Projects

The *National Capital Urban Design and Security Plan* identifies three types of projects to implement a unified vision, ensure cost efficiency, and minimize disruption due to construction. The three types include: Street, Area, and Agency Projects.

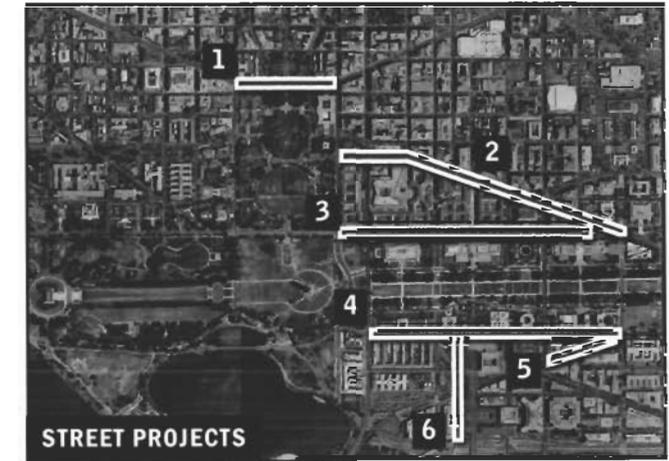
Street Projects and Area Projects. Street and Area Projects apply to those areas where building perimeter security is accomplished within the sidewalk or curb lane. A Street Project is one that affects a primary street, such as Constitution Avenue, and that runs along one side of multiple buildings. Since most buildings occupy an entire block, several Street Projects must be implemented to secure all sides of a building. Area Projects are made up of numerous smaller secondary streetscape projects, and can be organized to secure the remaining perimeters of a building.

Agency Projects. Two situations warrant projects to be implemented by an individual agency. The first applies to agencies that perform functions central to national security and warrant immediate installation of security measures. The second type includes those buildings where perimeter security is accomplished in the area surrounding the building yard or memorial under the jurisdiction of the sponsoring agency. For example, securing pedestrian entries into the building often occurs in the building yard and often warrants a custom-design.



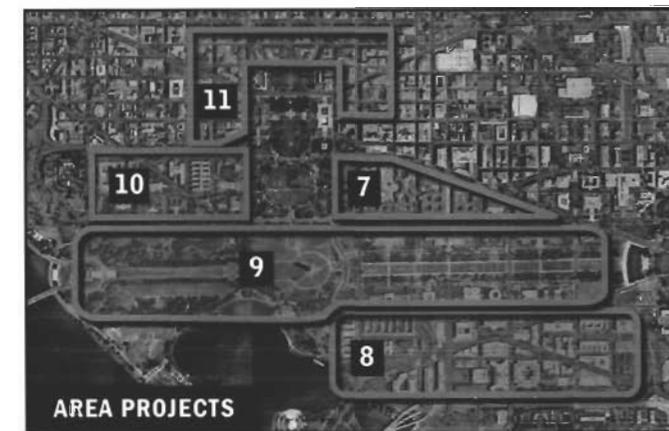
Street Projects (Primary Street Projects)

1. Pennsylvania Avenue (White House)
2. Pennsylvania Avenue (3rd to 15th St., NW)
3. Constitution Avenue (3rd to 15th St., NW)
4. Independence Avenue (3rd to 14th St., NW)
5. Maryland Avenue, SW
6. 10th Street, SW



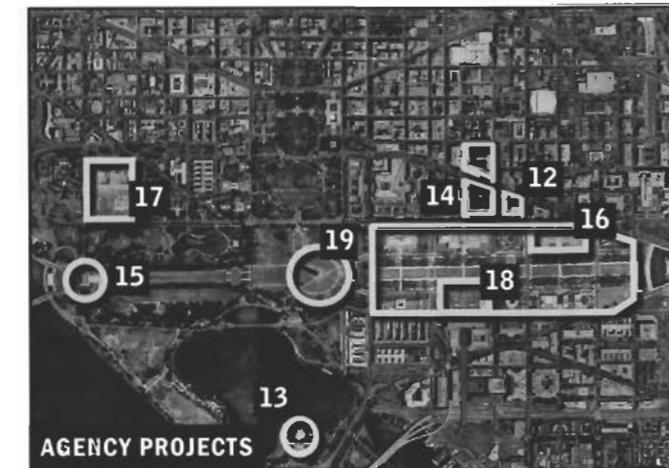
Area Projects (Secondary Street Projects)

7. Federal Triangle
8. Southwest Federal Center
9. The National Mall
10. West End
11. Downtown



Agency Projects

12. Federal Bureau of Investigation
13. Jefferson Memorial
14. Justice Department
15. Lincoln Memorial
16. National Gallery of Art
17. State Department
18. Smithsonian Institution
19. Washington Monument



Project Design

The *National Capital Urban Design and Security Plan* illustrates conceptual designs and applies them to typical blocks as sample applications. It is intended to illustrate continuity, proportion, composition, and materials that fit within the context of a contextual area or monumental street. Further design development will entail applying the sample application to site-specific conditions for each project. Depending on the scope and location of a project, there may be a wide range of site-specific conditions that require special treatments.

There are four key considerations that must be addressed when designing streetscape projects to integrate building perimeter security.

- **Risk Assessment and Level of Protection.** As agencies conduct risk assessments—considering such factors as agency function, number of employees and visitors, building design and construction, and relationship of the building to the street—the Federal Protective Service and/or others need to evaluate the recommended level of protection. It is not appropriate for the Commission to make recommendations or determinations of the level of protection.

The Commission is concerned that the agencies may have a natural tendency to elevate the required level of protection and thus over-design for security. Therefore, the Commission recommends that the federal government develop a protocol to determine the appropriate level of protection. This will determine the final design and construction standards of the security components to be incorporated into the streetscape design.

- **The Security Threat.** Many variables are considered when determining the standards of the security component, including the magnitude of threat (size and weight of vehicle), the potential speed and angle of the vehicle's approach, and the distance between the site perimeter and the building. After each agency determines the threat against which it needs to protect, the streetscape security components will be specifically designed for that site. Barriers will be selected or custom-designed to stop a vehicle of a given weight traveling at a given speed.

- **Location of Underground Systems.** While the above-grade elements can be aesthetically attractive, some may require substantial below-grade structural systems that will compete with the location of underground structures, utilities, and tree roots. Before a final design solution can be implemented, a survey will be required to determine the location of underground structures and utilities, and an evaluation will be conducted to determine the impact of nearby trees and root systems. The type of structural system must be carefully considered and alternative structural systems and installation techniques investigated, such as core drilling for pile footing, when determining the final design and location of the security components. Scrupulous care must be taken to protect existing trees for both aesthetic and security reasons. In some cases, the feasibility of installing streetscape components for security will be affected by these underground conditions and will significantly influence the location of the security elements, and the cost of installation.

- **Streetscape Component Design and Testing.** The magnitude of a potential threat influences the design of security components. While the proposed streetscape elements have been designed based on existing components, many will require testing to prove their effectiveness prior to final design of a streetscape plan. Assessment and engineering of the streetscape components should begin immediately to determine which components must be tested.

Additionally, there are a number of operational issues that may be considered and applied to site-specific conditions during design development, such as:

- **Vehicular Entries to Buildings.** Typically guardhouses are located at vehicular entries to buildings. The location of these guardhouses must accommodate adequate staging areas for vehicles and at the same time allow pedestrian and vehicular traffic flow to continue unimpeded. Generally, guardhouses are located within the building yard and should be custom-designed to reflect the architecture of the building they serve. If conditions warrant a guardhouse to be located at the curb, the design of the guardhouse should reflect the character of the streetscape. Additionally, secured vehicle entrances require removable or retractable bollards, gates, or plate barriers.

These elements must be able to accommodate highly repetitive usage.

- **Access to Sidewalks and Building Entries.** Typically, a family of bollards, planters, or bench furnishings secures intersections and building pedestrian entrances. Careful consideration must be given to allow free and easy pedestrian movement, including handicap and wheelchair access to the sidewalk and building entrances. The design of a secure perimeter must accommodate emergency vehicles and maintenance equipment such as utility trucks, motorized cleaners, and snow plows, and allow easy access to Metro stops.
- **Sidewalk and Street Activities.** Design solutions must be compatible with vital daily activities such as tourism, commerce, and pedestrian and vehicular movement. Security elements located at the curb or edge of the sidewalk should not unduly impede pedestrian access to various sidewalk and street activities, such as vendor stations, or parade viewing and demonstration areas, particularly along parade routes that travel the ceremonial streets, such as Pennsylvania, Constitution, and Independence Avenues. The designs must accommodate bleachers, tents, and review stands that are used during these significant events.

Special design features may be needed on some security elements to discourage improper use of the element, e.g., sloping the top surface of a plinth wall to prevent improper use, such as skateboarding or collection of debris.

All design solutions, particularly Downtown, must consider vendor activity, the location of parking meters, and directional signs. Adequate flexibility should be maintained in the placement and density of security elements to accommodate land use changes, mobile vendor kiosks, and sidewalk cafes.

Approval and Permitting

Implementation of building perimeter security will require constructing improvements in the building yard, sidewalk, and possibly the street. In many cases, the streetscape projects will lie within multiple jurisdictions, including some combination of the affected federal agency, the District of Columbia, the National Park Service, and/or the General Services Administration.

Consequently, perimeter security projects may require approvals from multiple agencies, including the National Capital Planning Commission and the Commission of Fine Arts. Projects must comply with applicable federal and local codes, regulations and acts, including the National Environmental Policy Act and the National Historic Preservation Act. Additionally, permits may be required from the District of Columbia since a majority of anticipated improvements are proposed for property under the District's jurisdiction.

As specific streetscape designs are finalized, site-specific conditions must be addressed. Although the Plan is a framework, it is expected that the final designs will strive to comply with the intent of the Plan and draw upon the vocabulary of elements in the Streetscape Element Catalogue. The location and arrangement of security elements must be designed in a manner that is appropriately consistent and compatible with solutions for other buildings and blocks along the street. Agencies submitting specific project proposals that do not comply with the design guidance of this Plan will need to provide adequate justification to the Commission in conjunction with any request for approval.

Traffic and Parking Studies

The National Capital Planning Commission will coordinate with the District of Columbia Department of Transportation to resolve outstanding transportation issues resulting from proposals for perimeter security projects. Studies may include:

- A traffic study of Independence Avenue to determine the feasibility of lane reconfiguration or removal to accommodate the widening of the sidewalk on the north side of Independence Avenue.
- A traffic study and parking analysis to evaluate the impact of permanent vehicle restrictions and/or parking lane removal adjacent to the State Department.
- A traffic study and parking analysis to evaluate the impact of parking lane removal in the Southwest Federal Center, and recommend parking loss mitigation measures, such as parking garages.

National Environmental Policy Act and National Historic Preservation Act (NEPA and NHPA)

The National Capital Urban Design and Security Plan is a concept framework that will guide the planning, design, and implementation of uniform or compatible streetscape treatments. The improvements proposed in the Plan may have various impacts on environmental and historic resources. However, the Plan's concept designs have not been sufficiently developed to permit appropriate environmental or historic preservation review in accordance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA). As design development proceeds, these impacts may need to be further analyzed, evaluated, and potentially mitigated in accordance with NEPA and NHPA.

Some cultural and environmental resources may be affected in the application of site-specific design solutions. For example, much of the area covered by the Plan includes properties listed on the National Register of Historic Places, including the

Pennsylvania Avenue National Historic Site and the Lafayette Square Historic District. In addition, rights-of-way of the streets and avenues within the original L'Enfant Plan are listed as part of the historic plan of Washington, D.C. The reservations of the L'Enfant Plan, including the circles and squares, the National Mall, West Potomac Park, and President's Park, are part of the National Register designation. Additionally, environmental considerations may include impacts to existing trees and vegetation, parking and traffic circulation, short-term construction effects, surface water drainage and soil conditions.

Implementing agencies will be responsible for ensuring that such environmental and historic impacts are considered in accordance with appropriate public input, as may be required by the NEPA and NHPA 106 processes.

Relationship to Other Plans and Guidelines

The National Mall Streetscape Manual, the Downtown Streetscape Guidelines, and the Pennsylvania Avenue Development Corporation Plan guide design treatment in public space. Each of these manuals addresses a range of streetscape elements, including road surface treatment, curb design, trees, and street furniture. These manuals provide a basis for future design decisions, and should be amended to include the streetscape elements from the Urban Design and Security Plan once the elements have been tested and proven to be crash worthy, and preliminary design approval is obtained from the Commission of Fine Arts and the National Capital Planning Commission. All regulatory parties or signatories of the agreements affecting these special plans should be included to coordinate and amend the respective manuals accordingly.

Design Development and Construction Strategy

For the efficient and cost effective implementation of the recommendations in this Plan, the Commission recommends that one lead agency, the Federal Highway Administration, administer and coordinate design, permitting, and construction of street and area projects, including the engineering and testing of security components. This is crucial to minimize cost and disruption, and to improve the visual quality and image of the Nation's Capital.

The Commission also recommends using the Interagency National Mall Road Improvement Program and the Kennedy Center Access Study as implementation models. These initiatives, which are being led by the Federal Highway Administration Federal Lands Division, provide a mechanism for interagency coordination and implementation, and include a Memorandum of Agreement between appropriate parties to establish responsibilities and procedures.

The National Capital Urban Design and Security Plan participants and general responsibilities should include:

1. A coordinating committee responsible for project oversight and reporting to the Office of Management and Budget and Congress.
2. Federal Highway Administration Federal Lands Division responsible for:
 - Overall administration and coordination of Street and Area Projects.
 - Coordinating with area partners to prepare design concepts and final design (construction documents) for perimeter security projects.
 - Coordinating and administering streetscape component engineering and testing.
 - Coordinating work with the National Capital Planning Commission, the District of Columbia, the Commission of Fine Arts, and the Advisory Council on Historic Preservation; and obtaining all necessary approvals and permits.
 - Coordinating compliance with the National Environmental Policy Act and the National Historic Preservation Act.
 - Administering and monitoring construction of projects.
3. Area partners responsible for completing security risk assessments and assisting the designated lead agency with design development.

For each project, partnerships should be created through Memoranda of Agreement (MOA) with area partners for the purpose of establishing the scope and responsibilities of each party relevant to their expertise. The following serve as examples of potential partnerships:

Plan Participants

1. Urban Design Security Coordinating Committee

- National Capital Planning Commission
- General Services Administration
- National Park Service
- Architect of the Capitol
- D.C. Office of Planning
- D.C. Department of Public Works
- D.C. Department of Transportation
- D.C. City Council
- Security Agencies, such as Secret Service and Federal Protective Service

2. Federal Highway Administration, Federal Lands Division

3. Area Partners

- Pennsylvania Avenue (in front of the White House)
 - The White House
 - United States Secret Service
 - National Park Service
 - D.C. Department of Transportation

- Pennsylvania Avenue (Capitol to the White House)
 - National Park Service
 - General Services Administration
 - Affected Agencies
 - D.C. Department of Transportation
- National Mall
 - Smithsonian Institution
 - National Gallery of Art
 - Department of Agriculture
 - National Park Service
 - D.C. Department of Transportation
- Downtown
 - Affected Agencies
 - General Services Administration
 - D.C. Department of Transportation
 - D.C. Department of Public Works, Public Space Division
 - Downtown Business Improvement District
- Southwest Federal Center
 - Affected Agencies
 - General Services Administration
 - Architect of the Capitol
 - D.C. Department of Transportation
- Federal Triangle
 - Affected Agencies
 - General Services Administration
 - National Park Service
 - D.C. Department of Transportation
- West End
 - Affected Agencies
 - D.C. Department of Transportation
- Constitution Avenue and Independence Avenue
 - Affected Agencies
 - Smithsonian Institution and National Gallery of Art
 - General Services Administration
 - National Park Service
 - Architect of the Capitol
 - D.C. Department of Transportation

Maintenance

The Nation's Capital deserves to be well maintained, respecting the people it represents and visitors from abroad who come to learn about its ideals. Americans should be proud to call it their own. Any and all streetscape security improvements will require maintenance in a uniform and consistent manner to preserve the capital investment, ensure security measures are sustained, and maintain the quality of the public realm. Therefore, concurrent with funding appropriation for security improvements associated with *The National Capital Urban Design and Security Plan*, a commitment must be made for both an ongoing funding source and a maintenance program.

Maintenance of the improvements will require a routine program of inspection, cleaning, touch-up, repair, and replacement. Construction or replacement and repair of the components will not be typical, because of the structural reinforcement contained within all of the components. This will require some supervisory and field staff to have specialized training and knowledge. Management of the maintenance program will also require a readily available supply of streetscape fixtures and replacement elements. Maintenance tasks will include:

- General. Daily clean-up and litter removal, monthly washing of sidewalks, rodent control, and graffiti control.
- Lighting. Monthly inspection, bulb replacement, fixture repair, and painting touch-up.
- Furnishings. Routine inspection, repair and touch-up painting, and replacement.
- Landscape. Weeding, watering, fertilizing, pruning, grass cutting, plant removal and replacement, irrigation inspection and maintenance.
- Administrative. Inventory control for replacement of hardened components and coordination with building owners on maintenance activities.

Maintenance Responsibility and Funding

There are several options in which to house the maintenance function. Maintenance responsibility could be centralized into an existing agency, such as the General Services Administration, the National Park Service, the Federal Highway Administration, the District of Columbia, or the Downtown Business Improvement District. Maintenance responsibility could also be dispersed to several existing agencies based on jurisdiction. Other options could be explored, such as creating a new entity to administer maintenance operations, similar to a business improvement district.

Establishment of both an interim and perpetual funding source will be required to ensure that the assigned agency can adequately perform maintenance operations on a regular basis. This will provide the implementing agency with the funds necessary to enter into a maintenance contract during the transition period from the completion of construction to establishment of the designated maintenance agency. Additionally, an innovative mechanism must be implemented to establish a dedicated funding source.

The National Capital Planning Commission recommends that Congress and OMB assign maintenance responsibility to the appropriate agency or agencies and establish an ongoing funding commitment to maintain the streetscape security improvements. Maintenance responsibility and funding could be based on location of the improvements. For example, improvements in the building yard could be maintained by individual agencies, while improvements within the sidewalk or public right-of-way could be maintained by either one assigned entity, or several entities if assigned by contextual areas or precincts. The funding for the first three years of maintenance should be included in the construction fund appropriation, and a dedicated funding mechanism should be established by the Office of Management and Budget and Congress for ongoing maintenance and operations. To further address the long-term maintenance of the streetscapes and security solutions, the Commission recommends establishment of an interagency committee task force to develop recommendations for ongoing maintenance.

ACKNOWLEDGEMENTS

The National Capital Urban Design and Security Plan is the result of an intensive collaborative effort. The Commission is grateful for the cooperation of the federal and District of Columbia governments, the professional design and planning community, and members of the public in preparing this plan.

PARTICIPATING ORGANIZATIONS/MEMBERS

Congressional

Chairman, Committee on Government Reform,
U.S. House of Representatives
Chairman, Committee on Governmental Affairs,
U.S. Senate

Federal

Advisory Council on Historic Preservation
Architect of the Capitol
Central Intelligence Agency
Commission of Fine Arts
Federal Aviation Administration
Federal Bureau of Investigation
Federal Highway Administration
Federal Reserve Board
Federal Trade Commission
Homeland Security Council
Internal Revenue Service
National Archives and Records Administration
National Gallery of Art
National Park Service
National Security Agency
Office of Management and Budget
Small Business Administration
Smithsonian American Art Museum
Smithsonian National Museum of American History
Smithsonian National Museum of Natural History
Smithsonian National Portrait Gallery
Smithsonian Office of Engineering and Operations
Smithsonian Office of Facilities Planning and Resources
Smithsonian Office of Protection Services
U.S. Capitol Police
U.S. Department of Agriculture
U.S. Department of Defense
U.S. Department of Education
U.S. Department of Energy
U.S. Department of Justice
U.S. Department of State
U.S. Department of the Treasury
U.S. Federal Courts
U.S. General Services Administration
U.S. Secret Service

District of Columbia

D.C. Council
D.C. Courts
D.C. Department of Public Works
D.C. Department of Transportation
D.C. Metropolitan Police Department
D.C. Office of Planning

Other

American Pharmaceutical Association
Broadcasting Board of Governors
Committee of 100 on the Federal City
Design Coalition
American Institute of Architects
American Planning Association
American Society of Landscape Architects
Greater Washington Board of Trade
Scenic America
D.C. Guild of Professional Tour Guides
Downtown Business Improvement District
Federal City Council
Holocaust Memorial and Museum
International Monetary Fund
Newseum
Organization of American States
Penn Quarter Association
The World Bank Group

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