

ASSET PRESERVATION PLAN FOR THE DISTRICT OF COLUMBIA NATIONAL HIGHWAY SYSTEM

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Under contract to: SAIC

**Prepared for: Federal Highway Administration
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and

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Section 1

Introduction

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The District of Columbia Department of Public Works (DCDPW), in cooperation with the Federal Highway Administration (FHWA), is entering into a partnership with a management company to maintain and preserve the assets comprising the National Highway System (NHS) within the District of Columbia. Through this unique arrangement, a private firm will assume the responsibility for maintaining and preserving the roadways and associated elements and appurtenances along approximately 75 miles of streets and highways. The contractor will assume the role traditionally held by municipal personnel. The contractor's forces in the field become agents of the DCDPW and are held accountable to the same standards of behavior, confidentiality, and workmanship as DCDPW personnel. All work performed by contractor forces must be in accordance with DCDPW and other applicable rules, guidelines, and standards. Innovation is encouraged under this contract. Techniques and materials, other than those currently employed by DCDPW may be considered. The final decision with respect to the use of these techniques and materials, however, rests with the responsible DCDPW staff.

This asset management contract is a demonstration project sponsored by the FHWA. The purpose of the demonstration project is to evaluate the feasibility of using a public-private partnership to assume the responsibilities more typically held by the public sector. Through the course of the project, the successes and failures will be used to illustrate to other states and municipality, the best means of employing private sector forces so as to enable public sector forces to direct efforts in other avenues. This project is also intended to demonstrate the best means of creating a cooperative venture in which public and private entities work together to the advantage of the general public.

This document describes the scope of the assignment including the assets to be preserved, the condition to which the assets should be raised and maintained, and the means by which DCDPW will ensure the performance of the management company responsible for the task. This asset management plan is a shell around which the management company will develop a quality control plan. This plan describes the assets and the desired condition of those assets but does not specify the means by which the management company will achieve that desired outcome. The quality control plan developed by the management company describes the activities, staffing, equipment, and frequency to meet the goals described in this document. The contractor's quality control plan was submitted as part of the management companies proposal and was reviewed and accepted by DCDPW. All of the proposed activities described in the quality control plan must conform to the applicable municipal and industry standards. Innovative techniques and materials may need to be tested in controlled and field conditions prior to being permitted system-wide. Appropriate testing procedures are included in the approved quality control plan.

The management company will assume the full responsibility for maintaining and preserving the National Highway System. DCDPW will monitor the contractor's work to ensure compliance with the terms of the management contract and that the outcome conforms to the requirements described

in the performance measures contained in that agreement. DCDPW, through the monitoring program described in Section VII of this document, will make periodic payments to the contractor as specified in the management contract.

Section III describes the existing and anticipated maintenance and construction contracts that may affect this assets preservation program. While not all future projects can be fully anticipated, this section of the document represents a best estimate, based upon current information, of the work that may take place on or near the NHS that could conflict with NHS assets preservation work and therefore must be coordinated.

This document contains a list of the assets for which the management company is responsible. It also itemizes the performance criteria that describe the desired conditions for the assets. These performance criteria are described in Section VI of this document along with the levels of service—the extent to which those performance measures must be met in each year of the contract and over the various roadways within the system.

The contractor's performance will be monitored throughout the term of the contract. The DCDPW will assign a project engineer to monitor the progress and activities of the management company. The contractor will also be responsible for documenting activities daily. The project engineer's daily log and the contractor's records will be one of the means employed to ensure progress and compliance with the terms of the contract. At least monthly, DCDPW, through FHWA's consultant, will make a field review of the NHS noting the general condition of the NHS assets. These monthly reviews are intended to be cursory and will be confirmed through an annual inspection during which time the full NHS will be sampled and condition rigorously compared with the performance criteria. Section VII more fully describes the monitoring program that will be used.

Section II

Geographic Scope

The purpose of the National Highway System (NHS) is to provide an interconnected system of principal arterial routes which serve major population centers, international border crossings, ports, airports, public transportation facilities, and other intermodal transportation facilities and other major travel destinations; meet national defense requirements; and serve interstate and interregional travel. Within the District of Columbia, 118 miles of freeway, arterial street, and collector road are included in the National Highway System. Approximately thirteen miles of that system are under federal control—primarily National Park Service (NPS) and Architect of the Capitol (AOC)—the remainder is under the control of the DCDPW.

A number of additions and deletions were made to the NHS for purposes of this contract. Deletions include:

- 17th Street, NW from Base Line to Constitution Avenue
- 23rd Street, NW from Lincoln Memorial Circle to Constitution Avenue, NW
- Constitution Avenue, NW from 15th Street NW to 23rd Street, NW
- Lincoln Memorial Circle, from Base Line East to Baseline W
- 17th Street, SW from Base Line to Independence Avenue
- George Washington Memorial Parkway from the Virginia Line east to the Virginia Line west
- Lincoln Memorial Circle, SW from Base Line west to Base Line east
- Interstate 95 from Maryland Line to Virginia Line

These roads, with the exception of Interstate 95, are maintained by the National Park Service.

Additions include short sections of roadway, such as service roads and highway ramps paralleling the NHS routes or connecting NHS routes to routes off the system, for which it would not be convenient to bypass while conducting maintenance operations. Connecticut Avenue, NW, from Nebraska Avenue to the Maryland Line is also added to the NHS for the purposes of this contract. The result is approximately 75 miles of roadway for which the management company is responsible. Figure II-1 presents the NHS for the purposes of this contract.

TABLE II-1

**NATIONAL HIGHWAY SYSTEM ROUTES, MILEAGE, CLASSIFICATION,
AND NUMBER OF LANES**

Street	From	To	Length (miles)	Functional Classification	Number of Lanes
7th Street, NW	Base Line	Florida Avenue & Georgia Avenue	1.84	Arterial	6
9th Street, NW	Base Line	D Street	0.35	Freeway	3
12th Street, Express Way, NW	Base Line	12th Street & Constitution Avenue	0.18	Collector	3
14th Street, NW	Base Line	K Street	0.91	Arterial	6
15th Street, NW	Base Line	E Street & Pennsylvania Avenue	0.43	Arterial	6
16th Street, NW	K Street	Colesville Road, Eastern Avenue & North Portal Drive	6.21	Arterial	6
17th Street, NW	Constitution Avenue	Pennsylvania Avenue	0.48	Arterial	6
20th Street, NW	E Street	E Street	0.05	Arterial	3
Canal Road, NW	36th Street, M Street, & Whitehurst Freeway	Clara Barton Parkway & Chain Bridge	3.13	Arterial	4
Connecticut Avenue, NW	17th Street & K Street	Nebraska Avenue	4.10	Arterial	6
Constitution Avenue, NW	Louisiana Avenue	15th Street	0.99	Arterial	6
Constitution Avenue, NW	23rd Street	Interstate 66	0.21	Arterial	6
E Street, NW	17th Street	20th Street	0.49	Arterial	4
E Street Express Way, NW	20th Street	Interstate 66	0.49	Freeway	4
Georgia Avenue, NW	7th Street & Florida Avenue	Maryland Line	4.77	Arterial	6
H Street, NW	14th Street	19th Street & Pennsylvania Avenue	0.64	Arterial	6
I Street, NW	14th Street	21 Street & Pennsylvania	0.82	Arterial/Collector	4

		Avenue			
K Street, NW	14th Street	27th Street	1.29	Arterial	6
M Street, NW	Pennsylvania Avenue	Wisconsin Avenue	0.29	Arterial	6
Military Road, NW	Missouri Avenue	Broad Branch Road & Nebraska Avenue	1.95	Arterial	4 & 6
Missouri Avenue, NW	Georgia Avenue	Military Road	0.26	Arterial	4 & 6
Nebraska Avenue, NW	Connecticut Avenue	Broad Branch Road & Military Road	0.42	Arterial	4
New York Avenue, NW	North Capitol Street	7th Street & Mt. Vernon Place	0.79	Arterial	6
New York Avenue, NW	17th Street	18th Street & E Street	0.14	Arterial	3
Pennsylvania Avenue, NW	Constitution Avenue	15th Street & E Street	0.99	Arterial	8
Pennsylvania Avenue, NW	17th Street	M Street	1.04	Arterial	6
Washington Circle, NW	23rd Street	23rd Street	0.24	Arterial	3
Whitehurst Freeway, NW	27th Street	36th Street & Canal Road & M Street	0.79	Freeway	4
Wisconsin Avenue, NW	M Street	Western Avenue	4.14	Arterial	4 & 6
Chain Bridge, NW	Virginia Line	Clara Barton Parkway & Canal Road	0.27	Arterial	4
Francis Scott Key Bridge, NW	Francis Scott Key Bridge, NW	Virginia Line	0.30	Arterial	6
Kenilworth Avenue, NE	East Capitol Street	Maryland Line	2.05	Freeway	6
New York Avenue, NE	N Street & North Capitol Street	Maryland Line	3.77	Freeway/Arterial	6
Anacostia Freeway, SE	East Capitol Street	Interstate 295	2.24	Freeway	4
Branch Avenue, SE	Pennsylvania Avenue	Southern Avenue	1.01	Arterial	4
Independence Avenue, SE	South Capitol Street	2nd Street & Pennsylvania Avenue	0.30	Arterial	6
Independence Avenue, SE	Pennsylvania Avenue	3rd Street	0.01	Arterial	6
Pennsylvania Avenue, SE	2nd Street & Independence Avenue	Southern Avenue	3.45	Arterial	6
Suitland Parkway, SE	South Capitol Street	Maryland Line	2.63	Freeway	4

7th Street, SW	Base Line	Independence Avenue	0.15	Freeway	3
9th Street, SW	Base Line	Interstate 395	0.53	Freeway	3
12th Street Expressway, SW	Base Line	Interstate 395	0.71	Freeway	3
14th Street, SW	Base Line	Virginia Line	1.32	Arterial	3
15th Street, SW	Base Line	Independence Avenue & Raoul Wallenberg Place	0.13	Arterial	4
Independence Avenue, SW	South Capitol Street	3rd Street	0.31	Freeway	6
Independence Avenue, SW	3rd Street	14th Street	0.91	Arterial	6
Washington Avenue, SW	South Capitol Street	Independence Avenue	0.38	Arterial	
Rochambeau Bridge, SW	14th Street & Interstate 395	Virginia Line	0.56	Freeway	
Interstate 66	Virginia Line	27th Street	1.48	Freeway	7
Interstate 295	Maryland Line	M Street	6.25	Freeway	4 & 6
Interstate 395	Virginia Line	4th Street & New York Avenue	3.48	Freeway	6
Interstate 695	Interstate 395	11th Street & Interstate 295	1.38	Freeway	8
South Capitol St	Canal St, Washington Ave	Suitland Parkway	1.59	Freeway	5 & 6
Connecticut Ave NW	Nebraska Ave	Maryland State Line	0.85	Arterial	6

Section III

Currently Programmed Projects

The District of Columbia Department of Public Works (DCDPW) currently supplements its work force with contractors for many maintenance and preservation activities. A number of maintenance contracts are in effect, some of which will continue through at least part of the five-year term initially envisioned for this management contract. In addition, the Transportation Improvement Program (TIP) for the District identifies a number of construction projects on the National Highway System (NHS). The management company must accommodate these efforts and coordinate activities so as to most efficiently carry out the work under this contract and the work of other contractors.

Table III-1 identifies maintenance contracts that are currently in effect. Also shown are the streets and assets covered by those contracts and their terms. It is the responsibility of the contractor to verify the general scope and time frame of these other activities and to coordinate work so as to optimize the efficiency of all work.

The contractor is responsible for maintaining a liaison with all maintenance and preservation activities conducted by either private or public forces. The means of coordinating that activity, including the individuals for both the management company and the public or private agencies conducting other operations are identified in the contractor's quality control plan. The specific means of coordinating operations is the responsibility of the contractor. The contractor documents all coordination efforts and makes these records available to the project engineer upon request. The project engineer will, as part of his oversight responsibilities, verify that contractor and outside forces' activities do not conflict.

The contractor may need to reschedule maintenance and preservation activities to accommodate other public and private work. Alternatively, public or private operations may be rescheduled to accommodate contractor work. Opportunities for collaborative and cost-saving efforts will be entertained and may be undertaken with the approval of the project engineer.

Construction Activities

The District of Columbia has engaged or is preparing to engage contractors for resurfacing and reconstruction of a number of roads on the NHS. While this work is underway, the maintenance management contractor will not be responsible for maintenance on those roads. The contractor will, however, maintain the roads until resurfacing or reconstruction work begins and resume maintenance activities immediately upon acceptance of the work by the DC Department of Public Works. The maintenance management contractor will be responsible for coordinating work schedules with the construction contractor. The table below indicates the anticipated schedule of those contracts, including some work recently completed. This schedule is advisory only and is subject to change.

TABLE III-1 (continued)
EXISTING MAINTENANCE AND PRESERVATION PROJECTS
1999 - 2000

Maintenance Category	Responsible Party	Contact	Type of Work	Location(s)	Proposed Start Date
Pavement	TIP includes \$25 million per year for pavement repair and resurfacing; \$17 - \$20 million for roadway reconstruction and upgrades; \$2 million for citywide sidewalk, curb, and alley repair.	Mesfin Lakew (202) 939-8115			
Roadway Cleaning	City Service				
Drainage	D.C. Water and Sewer				
Roadside - Curbs, Gutters, and Sidewalks	City Service				
Roadside - Vegetation	C&D Tree Service; Prince Construction and True Green Chemical Lawn Company	Sandra Hill (202) 727-5559			
Bridges	Tessa-Martin for minor repairs	Mr. Sandu Don Cooney Luke DiPompo			
Tunnels	City Service	Luke DiPompo			
Snow & Ice Control	Contractors	Clarence Cotton (202) 671-0110 Parney Jenkins (202) 645-6140	Snow plowing and removal for snowstorms of with accumulation over 3". Antiskid and deicer application for snowstorms with accumulations of less than 2" and for freezing rain and ice storms.	Suitland Parkway from South Capitol Street to the District Line to Branch Avenue I-395 SE/SW FRWY from the north side of the 14th Street Bridge to the Sousa Bridge including all ancillary ramps to and from the SE/SW Freeway, the 3rd Street Tunnel to NY Avenue, and the 9th & 12th Street Tunnels to Constitution Avenue including all ramps.	For 3 years beginning with 1998/99 winter season with the option to extend for 2 additional years in 1 year increments.

TABLE III-1 (continued)
EXISTING MAINTENANCE AND PRESERVATION PROJECTS
1999 - 2000

Maintenance Category	Responsible Party	Contact	Type of Work	Location(s)	Proposed Start Date
				<p>I-295-Kenilworth Avenue from the District line @ Eastern Avenue to the southern District line @ Oxen Creek, all ramps on & off I-295 & 2nd assignment approach roads and service roads (blue routes).</p> <p>South Capitol Street from I Street (incl. service roads & bridge) to Southern Avenue and second assignment approach roads (blue routes) including Martin Luther King Jr., Boulevard south of South Capitol Street.</p> <p>Canal Road/Chain Bridge from Chain Bridge to Key Bridge; Macarthur Boulevard from Fowhill Road to the District Line; Q Street NW from Q Street to Whitehurst Freeway and 31st Street NW from Q Street to Whitehurst Freeway and second assignment routes (blue routes).</p> <p>NY Avenue From DC/MD line (NE) to North Capital Street; Montana Avenue from Rhode island Avenue to Bladensburg Road; West Virginia Avenue from Florida Avenue to NY Avenue.</p>	
Snow & Ice Control (Continued)				<p>PA Avenue, SE from Barney Circle to Southern Avenue and second assignment routes (blue routes).</p> <p>Loughboro Road, NW from Macarthur Boulevard to Foxhall Road; Arizona Avenue from</p>	

TABLE III-1 (continued)
EXISTING MAINTENANCE AND PRESERVATION PROJECTS
1999 - 2000

Maintenance Category	Responsible Party	Contact	Type of Work	Location(s)	Proposed Start Date
				Loughboro Road to Potomac Avenue; Nebraska Avenue from Wisconsin Avenue to Macarthur Boulevard; Cathedral Avenue from Foxhall Road to Mass. Avenue; New Mexico Avenue from Nebraska Avenue to Tunlaw Road; Tunlaw Road from New Mexico Avenue to 37th Street; 39th Street from Cathedral Avenue to Mass. Avenue; and Calvert Street from 39th Street to Tunlaw Road.	
Traffic/Safety - Pavement Markings	A-Annandale	Mr. Harque (202) 727-3113 (Maintenance Shop 1338 G Street SE)	Furnishing and placing of extruded of sprayed hot applied thermoplastic compound reflective pavement markings on a work order basis.	There are no specific locations listed in the invitation to bid, all work to be assigned by written work orders.	Bids were to be opened on 4/15/97. The contract was to run for 365 consecutive calendar days after written NTP was issued. NTP date unknown at this time.
Traffic/Safety - Signs	City Services				
Traffic/Safety - Traffic Attenuators, Guardrails	Contractor	Abdul Sleemi (202) 939-8092	Repair and reconstruction of damaged guiderail and impact attenuators of various types and designs including their platforms, anchorages and bolted bases.	The majority of the work will be on Interstates (I-29, I-66, Kenilworth Avenue, Anacostia Freeway, SW & SE Freeway, and others) but the entire District road system is included under this contract.	Bids were to be opened on 3/11/97. The contract was to run for 720 consecutive calendar days after written NTP was issued. NTP date unknown at this time.
Traffic/Safety - Street Lights	PEPCO for light replacement and Vignola Electric for other maintenance	John Payne (202) 872-5656	Furnish labor and materials for the maintenance of the street and alley lighting system in the City of Washington, D.C. Maintenance includes: group relamping of incandescent, Mercury Vapor and High Pressure Sodium Vapor	Throughout Washington D.C. except as noted. The contract does not include tunnel or underpass lighting, upper or lower 10th Street Mall, National Park Service owned street lighting, Architect of the Capitol owned	Bids were to be opened on 3/10/97. The contract was to run for 1 year from the award date with the option to extend it in 1 year increments

TABLE III-1 (continued)
EXISTING MAINTENANCE AND PRESERVATION PROJECTS
1999 - 2000

Maintenance Category	Responsible Party	Contact	Type of Work	Location(s)	Proposed Start Date
			lamps once a year, cleaning, broken glassware replacement, missing photoelectric controls and all other parts of lighting fixtures, conversion of incandescent and mercury fixtures to high pressure sodium fixtures as directed, response to citizen request for streetlight repairs, & etc.	street lighting, or street lighting owned by any other governmental agency.	for a total of 5 years. The award date is unknown at this time.

Table III-2

**Current and Anticipated Resurfacing and Reconstruction
on the National Highway System**

CURRENTLY UNDER CONTRACT				
Activity	Street	From	To	Time Frame
Resurfacing	Constitution Ave., NW	7th St.	15th St.	Completed
Resurfacing	Connecticut Ave., NW	Ellicot St.	Nebraska Ave.	Completed
Resurfacing	Pennsylvania Ave., SE	27th St.	Branch Ave.	Completed
Resurfacing	Pennsylvania Ave., SE	38th St. (E)	Fort Davis Dr.	Completed
Resurfacing	Pennsylvania Ave., SE	30th St.	Texas Ave.	Completed
Resurfacing	Independence Ave., NW	3rd St.	7th St.	Completed
Resurfacing	16th St., NW	M St.	S St.	Present - Winter 1999
Resurfacing	Connecticut Ave., NW	DeSalles St.	18th St.	Present - Winter 1999
Resurfacing	Constitution Ave., NW	Base Line	Pennsylvania Ave. (E)	Present - Winter 1999
Resurfacing	Connecticut Ave., NW	Macomb St.	Sedgwick St.	Present - Winter 1999
Resurfacing	I St., NW	Vermont Ave.	21st St. (N)	Present - Winter 1999
Resurfacing	Connecticut Ave., NW	Nebraska Ave.	Jenifer St.	Present - Spring 2000
Reconstruction	Nebraska Ave., NW	Connecticut Ave.	Nevada Ave.	Present - Fall 2000
Reconstruction	Interstate 695, BN	Virginia Ave.	I-295	Present - Summer 2001
FUNDED WORK - NOT YET UNDER CONTRACT				
Activity	Street	From	To	Time Frame
Resurfacing	K St., NW	21st St.	24th St.	Spring 2000 - Fall 2000
Resurfacing	Pennsylvania Ave., NW	3rd St.	13th St. (S)	Spring 2000 - Fall 2000
Resurfacing	Wisconsin Ave., NW	41st St.	Jenifer St.	Spring 2000 - Fall 2000
Resurfacing	16th St., NW	Rittenhouse St.	Alaska Ave.	Spring 2000 - Fall 2000

Table III-3 (continued)

**CURRENT AND ANTICIPATED CONSTRUCTION
ON THE NATIONAL HIGHWAY SYSTEM**

The Department of Public Works has also programmed a number of other rehabilitation and reconstruction projects that will affect portions of the National Highway System. Table III-3 indicates the anticipated projects and an estimate of when that work will take place.

Table III-3

**CURRENT AND ANTICIPATED CONSTRUCTION
ON THE NATIONAL HIGHWAY SYSTEM**

Activity	Street	Time Frame
Bridge rehabilitation	16th Street Underpass at Scott Circle (#100)	Fall 2001 - Fall 2002
Bridge rehabilitation	11th Street Bridge over railroad, NE (#516)	Fall 2002 - Fall 2003
Bridge rehabilitation	New York Avenue Bridge over railroad, NE (#534)	Summer 2002 - Summer 2004
Bridge rehabilitation	11th Street SE Freeway Ramps (#1405, 1406, 1407, 1408)	Fall 2000 - Summer 2002
Bridge reconstruction	Kenilworth Avenue bridge over Nannie Helen Bur. Avenue	Fall 2000 - Summer 2002
Bridge rehabilitation	Southbound 11th Street bridges over Anacostia River, SE (#55, 1406)	Summer 2001 - Summer 2003
Bridge rehabilitation	Northbound 11th Street bridges over Anacostia River (#56, 1406)	Summer 2001 - Summer 2003
Bridge rehabilitation	Connecticut Avenue bridge over Klinge Valley (#27)	Fall 2002 - Summer 2003
Bridge rehabilitation	16th Street bridge over Military Road (#209) and roadway work	Fall 2001 - Fall 2002
Taft Bridge Lions Rehabilitation	Connecticut Avenue	Year 1999 - 2000
Bridge reconstruction	Pedestrian bridges NE over Kenilworth Avenue at Douglas Street and Meade Street	Spring 2001 - Spring 2002
Bridge rehabilitation	Southwest Freeway Ramp G over South Capitol Street (#104)	Summer - 2002 - Summer 2003

Table III-3 (continued)

**CURRENT AND ANTICIPATED CONSTRUCTION
ON THE NATIONAL HIGHWAY SYSTEM**

Activity	Street	Time Frame
Electrical upgrade	E Street Expressway under Virginia Avenue	Construction time to be determined
Rehabilitation	Connecticut Avenue underpass at Dupont Circle (#10)	Summer 2002 - Fall 2004
Bridge rehabilitation	South Dakota Avenue, NE over railroad	Fall 2002 - Fall 2004
Bridge rehabilitation	14th Street bridge, SW over Potomac River (#169-1)(Rochambeau Memorial Bridge)	Spring 2000 - Spring 2001
Roadway reconstruction	Kenilworth Avenue, NE from Foote Street, NE to railroad	Fall 2000 - Fall 2002
Roadway rehabilitation	Anacostia Freeway from Chesapeake Street to DC/Maryland Line (#1019, #1026)	Fall 2001 - Fall 2003
Roadway reconstruction	16th Street, NW from Alaska Avenue to Primose Road	Summer 2000 - Summer 2001
Roadway rehabilitation	Anacostia Freeway, SE from 11th Street to bridge over railroad (#505) and #1001, Ramp 6	Summer 2001 - Spring 2003
Roadway rehabilitation	Anacostia Freeway, 2,360 feet south of Firth Sterling to 11th Street (#1008, 1009, 1012, 1015)	Spring 2002 - Spring 2004
Wheelchair/bicycle ramps	Citywide locations to be determined before construction	No date scheduled
Tree improvements	<ul style="list-style-type: none"> • New Hampshire Avenue, NW/NE Corridor from F Street, NW to Eastern Avenue, NE • Benning Road SE/NE Corridor from Southern Avenue to Maryland Avenue, NE 	To be readvertised

Table III-3 (continued)

**CURRENT AND ANTICIPATED CONSTRUCTION
ON THE NATIONAL HIGHWAY SYSTEM**

Activity	Street	Time Frame
	<ul style="list-style-type: none"> • Pennsylvania Avenue NW/SE Corridor from M Street, NW to Southern Avenue • Martin Luther King Jr. Avenue SW/SE Corridor, Blue Plains Drive, SW to Good Hope Road, SE • Wisconsin Avenue, NW Corridor from K Street NW to Western Avenue • East Capitol Street Corridor from First Street to Southern Avenue 	Bid opened 5/19/99
	<ul style="list-style-type: none"> • South Capitol Street Corridor, from Southern Avenue to D Street • Ridge Road, SE Corridor, from Minnesota Avenue SE to Bowen Road, SE • Texas Avenue, SE Corridor from Ridge Road, SE to East Capitol Street • Bladensberg Road, NE Corridor from Maryland Avenue, NE to Mount Oliver Road, NE and New York Avenue, NE to Eastern Avenue, NE 	Not yet advertised
Roadway rehabilitation	Anacostia Freeway, South of Firth Sterling to Chesapeake Street (#1014, 1015, 1016, and 1017)	Summer 2002 - Summer 2004
Median barriers and street lights improvements	Military Road from Oregon Avenue to 13th Street	Summer 2002 - Summer 2004

Transportation Improvement Program

The TIP identifies construction work programmed for the next five years. All work in the TIP is subject to the availability of funds and a variety of approvals both within the District of Columbia government and outside. The contractor is cautioned, therefore, that the TIP is only an indication of work that may occur. The TIP is subject to additions and deletions over the succeeding five years.

Projects programmed for fiscal year 1999/2000 have the greatest likelihood of proceeding as programmed. Work scheduled for subsequent years has a greater likelihood of being redefined. The contractor is responsible for confirming all construction activities and coordinating work accordingly. Table III-4 lists the construction projects currently programmed for the next five years. Routine maintenance and asset preservation activities should be adjusted accordingly. While the assets must be maintained and preserved in accordance with the performance standards described in Section VI of this document, less costly means, albeit of shorter life spans, may be more appropriate where large scale reconstruction is anticipated. Programming of reconstruction, however, does not obviate the contractor's responsibility to maintain the performance standards specified.

The contractor is required to obtain future editions of the Transportation Improvement Program (TIP) and any updates. The contractor also works through the DCDPW project engineer to learn of future work envisioned on or affecting the NHS and the progress of any work underway. As with conflicting maintenance and preservation activities, the contractor is responsible for coordinating, and where necessary, rescheduling his activities. Means of working cooperatively with construction activities may be proposed to the project engineer who will have the final authority to approve or disapprove the proposals.

Table III-4 (continued)**PROGRAMMED CONSTRUCTION PROJECTS (1999-2004)****Table III-4****PROGRAMMED CONSTRUCTION PROJECTS (1999-2004)**

ROADWAY FACILITY	PROGRAMMED IMPROVEMENTS	FUNDING YEAR(s)
Kenilworth Ave Bridge Over Nannie Helen Burroughs Ave., NE & Watts Branch, Kenilworth Ave. from Foote St. to Lane Pl.	\$15,421,000 in construction funding	2000 & 2001
Pedestrian Bridge over Kenilworth Ave. at Douglass Street	Unspecified	1999
Pedestrian Bridge over Kenilworth Ave. at Nash Street	Unspecified	1999
Pedestrian Bridge over Kenilworth Ave. at Lane Place	Unspecified	1999
Theodore Roosevelt Memorial Bridge (I-66) over the Potomac River	\$95,000,000 in funding.	2003 & 2004
SB/NB Anacostia Freeway from DC line to Chesapeake St	\$7,000,000 in construction funding	2000
SB/NB Anacostia Freeway from Firth Sterling to Chesapeake St	\$7,000,000 in construction funding	2002
New York Avenue, NE Over Railroad (#534)	\$10,000,000 in construction funding	2002
Southeast Freeway from 2nd to 7th Streets. & from 7th to 11th Streets.	\$2,000,000 in construction funding	1998 & 1999
Southeast Freeway Bridge Ramps	\$15,000,000 in construction funding	1999
Center Highway Bridge (Rochambeau)	\$6,000,000 in construction funding	1999
Northbound 14th Street Bridge over the Potomac River (Arland Williams)	\$4,000,000 in construction funding	2001
Southbound 11th Street, SE over Anacostia River and N St.	\$18,000,000 in construction funding	2000
Northbound 11th Street, SE over Anacostia River and N St.	\$18,000,000 in construction funding	2001
16th Street NW Underpass at Scott Circle	\$6,000,000 in construction funding	2002

Table III-4 (continued)

PROGRAMMED CONSTRUCTION PROJECTS (1999-2004)

ROADWAY FACILITY	PROGRAMMED IMPROVEMENTS	FUNDING YEAR(s)
Connecticut Ave. Underpass at Dupont Circle	\$5,000,000 in construction funding	2000
Southwest Freeway Bridge Ramp G, SW over South Capitol Street	\$4,000,000 in construction funding	2002
Anacostia Freeway, 11th Street, SE to bridge over railroad	\$12,000,000 in construction funding	2002
Anacostia Freeway over Suitland Parkway, Howard Road, Firth Sterling SE & Railroad	\$24,000,000 in construction funding	1999 & 2002
South Capitol Street Bridge over Suitland Parkway and connecting ramps	\$900,000 in preliminary engineering and construction funding	1999 & 2002
K Street Bridge over Center Leg	\$1,600,000 in preliminary engineering and construction funding	1999 & 2003
Connecticut Ave. NW over Klinge Valley (Bridge. 27)	\$5,000,000 in preliminary engineering and construction funding	1999 & 2004
16th Street NW over Military Road	\$1,170,000 in preliminary engineering and construction funding	1999 & 2002
Open End Bridge Repair (Bridges not specified)	\$5,600,000 in preliminary engineering and construction funding	1999 & 2002
Bridge Inspection On/Off System (Bridges not specified)	\$2,000,000 in preliminary engineering funding	1999 - 2003
Bridge painting and renovation (Bridges not specified)	\$2,000,000 in construction funding	1999 - 2003
Safety Improvements Citywide (Roadways not specified)	\$16,320,000 in preliminary engineering and construction funding for: <ul style="list-style-type: none"> - Replace/Refurbish Impact Attenuators; - Rail/Highway Safety Imp; - Streetlight Hazard Elimination; - CW Streetlight Replace; - Safety. Imp Plan - NY Ave; - Safety. Imp Plan - PA Ave; - Traffic Accident Report Analysis 	1999 - 2003
Resurfacing Street and Freeways Citywide (Roadways not specified)	\$126,000,000 in preliminary engineering and construction funding for: <ul style="list-style-type: none"> - Federal Aid Resurfacing; - F.A. Pavement Restoration; 	1999 - 2003

Table III-4 (continued)

PROGRAMMED CONSTRUCTION PROJECTS (1999-2004)

ROADWAY FACILITY	PROGRAMMED IMPROVEMENTS	FUNDING YEAR(s)
	<ul style="list-style-type: none"> - Regular Cover; - Slurry/Joint Seal; - Citywide Resurfacing; - Local Pavement Restor. (Potholes); - Asphalt PCC Repair. 	
Roadway Reconstruction Citywide	\$116,000,000 in preliminary engineering and construction funding for: <ul style="list-style-type: none"> - 14th St NW, Constitution to PA; - Wheelchair/bicycle Ramps; - 16th St NW, Kalimia to Northgate; - Nebraska Ave., NW, Connecticut to Nevada; - Suitland Parkway SE, Pomery to Line; - Kenilworth Ave., Foote to RR Bridge; - 	1999 - 2004
Whitehurst Freeway Restoration of Lower K Street	\$2,320,000 in preliminary engineering and construction	1999 & 2000
Traffic Operations Improvements Citywide (Roadways not specified)	\$34,000,000 in preliminary engineering and construction including: <ul style="list-style-type: none"> - Pavement Markings; - Raised Reflective Pris. Markings; - Traffic Signal Improvements; - Consultant Design Services; - Traffic Signal Systems Software Enhancement; - Traffic Signal Control System Support; - Moveable Barrier System; - Corridor Signing; - Guidesign Replacement; - Traffic Signal Upgrades; - Wayfinding Signage. 	1999 - 2003
Transportation Enhancements Program (Roadways not specified)	\$7,000,000 in preliminary Engineering and construction for: <ul style="list-style-type: none"> - Wheelchair/Bicycle ramps/facilities; - Corridor landscaping program; - Taft Bridge Lion Sculptures; - Pedestrian Bridges (See Above) - Community Enhancements; - Cultural/Heritage Trail; - Historical Streetlights; - Ward 4 Corridor enhancements; - Kenilworth Aquatic Gardens 	1999 - 2003

Table III-4 (continued)

PROGRAMMED CONSTRUCTION PROJECTS (1999-2004)

ROADWAY FACILITY	PROGRAMMED IMPROVEMENTS	FUNDING YEAR(s)
	Boardwalk.	
Transportation Electrical Systems Citywide (Roadways not specified)	\$6,225,000 in preliminary engineering and construction funding for: - Streetlight series circuit; - Local streetlight conversion.	1999 - 2003
Planning and Management Systems	\$6,125,000 in Metropolitan Planning; \$14,000,000 in Management systems and Plans including: - Highway Pavement Management System; - Bridge Management System; - Traffic Congestion Management; - Safety Management System; - Intermodal Transportation System and Facility Management; - Highway Traffic Monitoring System; - Highway Accident Traffic Data System; - Highway Performance Monitoring System; - GIS; - Traffic Monitoring system for highways.	1999 - 2003 1999 - 2003
Demonstration Projects	\$10,000,000 for preliminary engineering for the Theodore Roosevelt Bridge; \$12,000,000 for GIS; \$5,000,000 for Traffic management System (Roadways unspecified);	2002 2000 2000
Federal Lands Highways	\$800,000 in preliminary engineering and construction funding for District of Columbia that includes: - Constitution Ave., 2nd St NE, to 7th St NW. \$37,400,000 in unspecified funds for National Park Service Jurisdiction Roads that includes: - Independence Ave., SW fro 14th St to Lincoln Memorial including Maine Ave., SW and Swan Boat Area, 15th St., SW to Lincoln Memorial (in 3 phases from 1998 to 2000)	1999 1999 - 2004
Roadside Improvements Citywide	\$9,075,000 in preliminary engineering and construction funding for the	1999 - 2003

Table III-4 (continued)

PROGRAMMED CONSTRUCTION PROJECTS (1999-2004)

ROADWAY FACILITY	PROGRAMMED IMPROVEMENTS	FUNDING YEAR(s)
(Roadways not specified)	following: - Tree planting; - Dead tree removal; - Corridor tree improvements.	
Local Street Improvements Citywide (Roadways not Specified)	\$11,901 in preliminary engineering and construction funding for the following; - CW sidewalk & curb repair; - CW sidewalk & alley repair; - CW joint/slurry seal; - Alley resurfacing.	1999 - 2003
Intelligent Vehicle Highway System	Funding by special legislation, no roadways specified	
Transportation Signage Improvement Program (Roadways not specified)	\$10,200,000 in construction funding.	1999 - 2002
New Washington Convention Center Traffic Improvements (Roadways not specified)	\$22,500,000 in preliminary engineering and construction funding to meet TCM and air quality objectives	1999 - 2002
New York Ave & Bladensburg Road. Grade Separation	\$300,000 in preliminary engineering funding to meet TCM objectives	2003
New York Ave & Florida Ave Grade Separation	\$300,000 in preliminary engineering funding to meet TCM objectives	2003
Reversible Lanes on Southeast/Southwest Freeway	No funding in place for this project that includes the area from the 14th Street. Bridges to PA Ave.	
Scenic Byways	\$50,000 in preliminary engineering funds for a Corridor Mgmt Plan for Canal Road; \$506,000 in preliminary engineering and construction funds for Scenic Byways Signage/Streetscape Enhancement (roadways not specified); \$100,000 in preliminary engineering funds for Scenic Byways, Corridor Mgmt Plan - PA Ave.	1999 1999 1999

Section IV

Assets To Be Maintained

The management company will maintain and preserve the National Highway System (NHS) assets identified below. These features include:

Pavement Surface	Guardrails
Shoulders	Barriers
Manholes	Attenuators
Open Drainage Structures (paved & unpaved ditches and swales)	Shrubs & plantings
Catch Basins	Grass
Drains	Pavement Markings
Inlets	Pavement Striping
Curb	Raised Pavement Markings
Gutter	Signs (All Signs Including Variable Message Signs)
Sidewalk	Highway & Sign Lights
Median	Pedestrian Bridges
Fencing	Weigh-in-Motion Stations

These assets have been grouped into thirteen (14) categories for ease of presentation. The individual maintenance activities have been identified for informational purposes only. The management company is responsible for identifying the best means of achieving the desired condition of each of the various elements contained within the management contract. The specific procedures will be described in the contractors quality control plan and are subject to the approval of the DCDPW project engineer. All maintenance activities must conform to DC Specifications and applicable rules, guidelines, and standards and must be approved by the DCDPW project engineer.

Table IV-1 (continued)

CONTRACTOR RESPONSIBILITIES

Table IV-1

CONTRACTOR RESPONSIBILITIES

MAINTENANCE CATEGORY	REPRESENTATIVE MAINTENANCE ACTIVITIES
1. Pavement Structure	
Pavement Surface	Pavement patching and repair
	Crack sealing and chip seals
	Milling/grinding
	Thin overlays
	Joint sealing/repair
	Spall repair
Shoulders	Shoulder maintenance (pavement patching and repair, crack sealing and chip seals, milling/grinding, thin overlays, joint sealing/repair, spall repair)
Manholes	Adjust, replace covers as necessary
Roadway (miscellaneous)	Miscellaneous roadway maintenance
2. Roadway Cleaning	
Roadway Pavement	Sweeping and cleaning
3. Drainage	
Ditches (paved & unpaved)	Grade & clean ditches
Swales	Clean & grade swales
Catch basins, drains & inlets	Remove debris and silt from inlet and within catch basin structure.
Side slopes	Slope repairs including repair from slides, drifting sand, or erosion. Repair to riprap, bulkheads. Repair from slide of rock, mud, or dirt.
	Erosion Control
Retention/Detention Ponds	Retention/Detention Pond
Concrete Oil Retention Separator	Concrete Oil Retention Separator
4. Roadside (curbs, gutters, sidewalks)	
Curb	Granite and concrete curb and gutter repair & maintenance
Curb cut	Curb cut/driveway repair & maintenance
Sidewalk	Sidewalk repair & maintenance
Median (paved)	Paved median maintenance
Roadside (miscellaneous)	Miscellaneous roadside maintenance
Sound Barriers	

Table IV-1 (continued)

CONTRACTOR RESPONSIBILITIES

MAINTENANCE CATEGORY	REPRESENTATIVE MAINTENANCE ACTIVITIES
Front Slope	Repair of slope damage from slides & erosion
Fencing	Fencing maintenance & repair
5. Traffic/Safety: Guardrails, Barriers, and Attenuators	
Guardrail, barriers, and attenuators	Guardrail, barrier & attenuator maintenance
6. Roadside: Cleaning	
Right-of-way limits beyond roadway.	Litter Pickup (debris and roadkill, litter)
Right-of-way limits	Graffiti Removal from DCDPW-maintained assets (e.g., signs, light poles, etc.)
7. Roadside: Vegetation	
Right-of-way limits beyond roadway.	Weed/vegetation control
Roadway Median	Unpaved median maintenance (mowing, curb maintenance)
Grass	Mowing
Trees and shrubs.	Control of Vegetation Obstructions (incl. tree trimming)
Right-of-way limits	Landscape Maintenance including care of ornamental landscape plantings, weed prevention, fertilizing, liming, pruning, trimming and mowing of lawns.
8. Bridges	
Bridge deck	Bridge Deck Repair
	Bridge Cleaning and Washing
	Joint Repair Seal, where required
	Crack Repair and Sealing
Approach Slab	Approach Slab Repair
Bridge Super-Structure	Bridge Spot Painting
Bridge railings, barriers, and parapets	Bridge Railing Painting
	Bridge Railing Replacement and Repair
	Median Barrier Repair and Maintenance
Bridge Sub-structure	Retaining Walls, Abutments and Back-Walls Repair & Maintenance
Bridge drainage	Scupper and drainpipe cleaning/flushing
Bridge	Washing underside of bridge (bird droppings)
	Debris Removal from around Piers and Bents
	Miscellaneous Bridge Maintenance (includes traffic control)
	Cleaning grit/oil separator
9. Tunnels	
Mechanical Systems	Ventilation System Preventative Maintenance, Repair,

Table IV-1 (continued)

CONTRACTOR RESPONSIBILITIES

MAINTENANCE CATEGORY	REPRESENTATIVE MAINTENANCE ACTIVITIES
	and Replace/Upgrade
	Drainage Pump System
Tunnel walls and ceiling	Wall/Ceiling Cleaning
	Wall/Ceiling Repair
Electrical systems	Maintain Lighting
	Maintain Video System, Fire Detection, Carbon Monoxide Detection Systems
10. Snow & Ice Control	
Roadway	Snow Plowing
	Loading, Hauling, and Disposal of Snow, where required
	Treating with Abrasives and Chemicals
	Post-Storm Cleanup
11. Traffic/Safety: Pavement Markings	
Raised pavement markings, pavement symbols	Repaint Pavement Markings & Symbols
Striping	Repaint Pavement Striping
Raised Pavement Markings	Replace Missing Raised Pavement Markers
12. Traffic/Safety: Signs	
Signs	Repair/Replace Signing (incl. warning, regulatory, informational/guide, and parking)
	Overhead Sign Structure Maintenance (incl. structure, signs, lighting, and peripherals)
Variable message signs.	Variable Message Sign Maintenance
13. Traffic/Safety: Lighting	
Highway Lights and Sign Lights	Highway Lighting Maintenance, painting
14. Miscellaneous	
Miscellaneous Traffic Safety Features	Pedestrian Crossing Structure Maintenance
	Weigh-in-Motion (WIM) and Permanent Automatic Traffic Recorders Maintenance
	Abandoned/Illegal Parked Vehicle Removal
Tunnel	Miscellaneous Tunnel Maintenance (includes traffic control and over height detector system)

Table V-1 (continued)
SUMMARY OF ASSETS AND CONDITION

Section V Condition Assessment

A complete inventory and condition assessment of all assets along the National Highway System (NHS) were conducted prior to the initiation of this contract. Each of the assets described in Section IV were counted and condition compared against the relevant performance standards. That information was summarized in a series of electronic databases and made available to the selected contractor.

Each of the assets was inventoried either through a field inspection or from existing records. In some instances a sample of the total number of assets was inspected and extrapolated to represent the full count. During the field inspection, each individual asset was assessed for condition. The performance standards described in Section VI of this document were the basis for that assessment. Assets that clearly meet the standards are identified as “Good.” Those that clearly do not meet the standards are identified as “Poor.” Assets which are marginal, perhaps only discernible through a particularly close measurement were identified as “Fair.” Assets in fair condition can be expected to fall into the “Poor” category during the course of this contract.

A summary tabulation of information is contained in Table V-1. The detailed databases are shown in Appendix A.

Table V-1
SUMMARY OF ASSETS AND CONDITION

Asset	Units	Total	Good	Fair	Poor
Bridges ¹	Each	114	43	69	2
Pavement Surface	Lane Miles	344	299	25	20
	Square Feet	19,362,967	16,830,021	1,407,192	1,125,754
Catch Basins ²	Each	2,928			
Retaining Walls	Square Feet	178,575	177,555	510	510
Curb - Total	Linear Feet	459,311	451,141	3,100	5,070
Curb - BIT	Linear Feet	3,774			
Curb - GR	Linear Feet	197,109			
Curb - PCC	Linear Feet	258,428			
Sidewalk ³	Linear Feet	786,630	772,810	5,300	8,520

¹ Bridge condition assessment based on sufficiency rating: >80%-Good; <20%-Poor. All bridges, including those identified as being in “Good” condition have elements that are deficient.

² Includes a 10% increase to account for missing plots

Table V-1 (continued)
SUMMARY OF ASSETS AND CONDITION

Asset	Units	Total	Good	Fair	Poor
Manholes	Each	5,300	4,479	632	189
Fencing	Linear Feet	178,253	173,553	600	4,100
Guardrails	Linear Feet	108,270	105,520	1,500	1,250
Barriers	Each	---	---	23	17
Attenuators	Each	80	75	---	5
Shrubs⁴	Linear Feet	---	---	1,020	1,060
Grass⁵	Acres	134	127	3	4
Vegetation⁶	Linear Feet	88,280	83,300	2,460	2,520
Roadside Debris	Linear Feet	797,180	785,930	4,200	7,050
Pavement Markings	Each	3,351	2,315	678	358
Pavement Striping	Miles	401	389	6	6
Raised Pavement⁷ Markings	Linear Feet	356,611	352,411	2,500	1,700
Upright Signs⁸	Each	12,203	8,255	2,482	1,466
	Square Feet	76,270	51,594	15,513	9,163
Overhead Signs⁹	Each	280	245	32	3
	Square Feet	11,200	9,800	1,280	120

³ Assumes sidewalk on both sides of all streets, for their entire length

⁴ Fair or poor indicates tree or bush encroaching on signs, sidewalks or roadways

⁵ Mowable area within medians, along roadways etc. Fair or poor indicates a need for cutting

⁶ Fair or poor indicates weed or grass growth within sidewalks or curbs

⁷ Raised Marking only along: I-66, I-295, I-395, I-695, 12th St. Expressway SE, Suitland Pkwy SE, Anacostia Freeway SE, Kenilworth Ave. NE, Whitehurst Freeway NW, Canal Road. NW and portions of 16th St. NW, Military Road., NW and Wisconsin Ave., NW

⁸ Assume average sign = 900 sq. in. Or .25 sq. ft.

⁹ Assume average sign = 40 sq. ft.

Table V-1 (continued)
SUMMARY OF ASSETS AND CONDITION

Asset	Units	Total	Good	Fair	Poor
Variable Message Signs	Each	64	61	3	0
Light Poles¹⁰	Each	4,221	4,192	---	29

Limitations of Inventory and Condition Data

Data was collected through both a field inventory and from existing, DCDPW records. While every effort was made to collect accurate information, potential exists that the tabulated records may have contained erroneous or outdated data.

Assets on the roadways contained within the NHS were inventoried using digital video-logging techniques. The video tapes were viewed in the office and each asset counted and evaluated for condition against the performance measures described in Section VI. To supplement and verify the video data, most of the roadway segments on the arterial streets were field inspected. This effort proved to be significantly more effective than video-logging, particularly on the short segments around the Mall, Capitol, and White House.

Some roadway segments were field inspected but only on a sampling basis. Field crews walked a sample of approximately 25% of the streets. In these cases, representative sample lengths were determined after a reconnaissance drive of the segment. Then one-fourth of the segment was field-walked, and the values expanded to obtain the values for the full length of the roadway segment. Significant effort was taken to ensure that the sample lengths chosen corresponded to the predominant types and conditions on that street segment.

The video-logging and supplemental field inspections reduced the likelihood of inaccuracies in the database. Certain assets, however, remained difficult to conclusively inventory and evaluate. Limitations on the accuracy of those elements is described below.

Manholes

Manholes were best seen from the field-walks rather than video. Traffic and parked vehicles, particularly tour busses downtown, often blocked the camera’s view of the manholes. During the field walks, traffic was normally not a problem, as field inspectors waited for traffic to move off of the manholes. Parked busses represented a greater problem and it is likely that the view of numerous

¹⁰An average of 29 knockdowns anticipated per year

manholes was obscured by busses. Errors from parked buses was most likely on the tourist routes around the Mall, White House, and Capitol areas.

Fencing

The safety fencing which parallels most Interstates and controlled access freeways was difficult to see from the videologs. Frequently, trees and vegetation blocked a line of sight to the fences. Often, the fences themselves were completely covered with vegetation and blended fully into the woods. The fences were generally outside of the field of view of the video camera and so the video crew used the audio track to "voice-in" instances of fence damage.

It is likely that fence damage is more extensive than the inventory indicates. Much of the visible right-of-way fencing was damaged; rarely did the video crews see long stretches of fence in good condition. Most of the damage was cut-holes or fallen trees leaning on the fence. Most of the fencing was also covered with weeds and vegetation.

Roadside Debris / Cleaning

The video-logging was only partially effective in recording litter and debris. Unquestionably, the volume of debris and litter was underestimated despite efforts to "voice-in" instances of debris that may not have been detected from the video logs.

The field crews did not note significant volumes of debris and litter on the field-walked segments downtown. The streets and sidewalks were generally free of debris and litter.

Roadside Vegetation

Roadside vegetation includes trees, shrubs, and weeds growing in the right-of-way. The inventory and evaluation identified instances in which trees, shrubs or weeds were in need of trimming or removal.

The inventory determined that ornamental trees planted adjacent to the sidewalks in the downtown business and tourist areas obstructed many street signs.

Trees and weeds growing close to the shoulder blocked the motorists' view of signs along the interstates and freeways. It was apparent that regular trimming and maintenance will soon be urgent at the risk of obstructing additional signs along the highways.

Roadside Vegetation - Grass

Areas covered with grass were evaluated against the performance criteria. It is understood that this condition assessment represented an isolated instance in a constantly changing environment.

The grass area was calculated from registered aerial photographs. The evaluation crew used high resolution air photos from the WGIS program and GIS software to hand digitize polygons of grass on each segment. These areas were easy to identify on the interstates, freeways and other divided routes where grass medians and right-of-ways could be detected. The treespace on the downtown streets and other small areas were estimated as the resolution of the photography was not sufficient to determine the acreage for small areas. It also was difficult in some parts of the imagery to differentiate between grass and dirt since most of the images were taken during winter when the grass was often the same color as dirt. In these cases, all areas that appeared to be intended as grass areas were counted as grass.

Raised Pavement Markers

The field crew had difficulty determining the condition of raised markers from the video-logs. Nearly all such markers were located on freeway segments where it was not feasible to field inspect the routes. Consequently, it is likely that there are more raised pavement markers in poor condition than were identified on the video.

Signs

Many of the street signs within the downtown areas were posted lower than is typical. These signs could easily be obstructed by large autos such as vans and SUVs. Signs posted low but otherwise in good condition were identified as “poor.”

Overhead Signs

Overhead signs were located primarily on interstates and freeways. It was not possible from video to determine the condition of the sign structure. The inventory and evaluation noted whether the sign structure was properly hung and other condition criteria applicable to post-mounted signs.

Bridges

A summary of the most recent bridge report for each of the 114 bridges along the NHS is provided. Each bridge is on a two year cycle of review; thus any bridge summary that lists an inspection date of longer than 2 years ago has likely been reinspected but a report had not yet been compiled and added to the files that were reviewed. Bridges 1301-1304 have been involved in a major reconstruction recently and their current status is not known. A field inspection is recommended to determine the current condition of these bridges if they are still present.

Report Summaries:

Within the General Bridge Information table there is a rating listed for the Deck, Superstructure, Substructure, Channel and Culvert for each bridge. This number refers to the National Bridge

Inventory Code of an item's condition and should be interpreted as follows: 0-2 Critical, 3-4 Poor, 5-6 Fair, 7-8 Good. Further guidance can be found in *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges*.

Within the Recommendations table, for each item, there is a recommended action priority number, a count of how many of the item there is, and the number of those items that were judged to be of a certain quality.

The Total Quantity for each item were recorded with the following units:

Abutment (LF)	Pier (LF)
Approach (EA)	Portal (LF)
Bearings (EA)	Railings (LF)
Curbs (LF)	Signs (EA)
Deck (EA)	Steel Open Girder (LF)
Drainage (EA)	Steel Secondary Members (EA)
Joints (LF)	Timber Fender (LF)

The Priority number listed for each item should be interpreted as follows:

- 0 - Critical safety deficiency (Prompt action required)
- 1 - Emergency, attention required within 6 months
- 2 - Emergency, attention required within 12 months
- 3 - Emergency, attention required within 2 years
- 4 - Routine structural (Can be delayed until funds are available)
- 5 - Routine non-structural (Can be delayed until programmed)

The description of the Quality values are specifically described for each type of item and are described in detail in the *PONTIS Core Element Report*. Generally these values range from 1-5 and can be interpreted as follows:

- 1 - No structural or aesthetic failures; Excellent condition - No action required.
- 2 - Signs of wear; developing rust, paint failing, debris buildup; deterioration within design limits - May require painting, sealing, patching, cleaning etc.
- 3 - Significant wear; delamination, spalling, corrosion, noticeable deflections/misalignments - May require rehabilitation and/or painting, sealing, patching, cleaning etc.
- 4 - Advanced deterioration; systemic corrosion, warping, significant deflections/misalignments, losses to section thicknesses affect structural soundness - May require replacement, rehabilitation and/or structural analysis.
- 5 - Same as Quality 4. If an item has a quality of 5, the problems are of the same nature as those listed in 4 above but the previous 4 qualities have a finer division between quality gradations.

Lighting

Location, number and lamp type were recorded for each NHS segment as they are recorded on the plots filed in the DC DPW building. Some segments include notes where applicable. The lamp codes are described below:

Incandescent Lamps		
Lamp Code	Wattage	Lumens
L1	92 W	1,000
L2	189 W	2,500
L4	295 W	4,000
L6	405 W	6,000
L10	620 W	10,000
Mercury Vapor Lamps		
L3V	100 W	3,000
L7V	175 W	7,000
L10V	250 W	10,000
L20V	400 W	20,000
High Pressure Sodium Lamps		
L2SV	70 W	7,000
L4SV	100 W	10,000
L7SV	150 W	15,000
L10SV	250 W	25,000
L15SV	400 W	50,000

- The lighting count along Interstate 295 is questionable due to uncertainties as to where I-295, the Suitland Pkwy, Anacostia Fwy and South Capitol St. meet and separate from each other. The same is true of the Suitland parkway, Anacostia Freeway and South Capitol Street Counts. All lights listed are recorded but may be attributed to the wrong stretch of road.
- Arlington Memorial Bridge, SW: This bridge is not shown beyond Potomac Pkwy/Ohio Dr.
- 15th Street is not shown north of Independence Avenue.

- The Suitland Parkway is not shown on the C through G series plots.
- Plots NW C-7 and SW G-8 could not be found.

Parking

The predominant parking restrictions for each block of each segment are recorded. Gaps exist in the data where records for those blocks were not available. A number or numbers corresponding to the primary parking restriction for each block is provided. This number indicates a specific parking restriction which is recorded in the “Restrictions” table within the “NWParking” database. When there are two numbers recorded they are often to describe rush hour versus non-rush hour restrictions or parking versus standing restrictions. A list of roads where no parking is allowed any time is recorded in “Q:\usr\mosler\dcnhsbackup\parking\noparkroads.doc”.

Generally there is parking allowed along each block at some times during the day. Portions of numerous blocks have Metro Bus zones as well as loading zones in addition to the restrictions listed.

Drainage

The number of catch basins along each segment are recorded as determined from the plan sheets of the city sewer system. Totals for each street are provided. Approximately 10% of the sheets needed to cover the NHS roadways were not found. Assuming that catch basins are preset at the same frequency within this 10% of roadway, an estimated 292 catch basins were missed and have been added to the totals listed in “Q:\usr\mosler\dcnhsbackup\pavement\assetsum.wpd”.

Routine and Remedial Activities

This contract includes both routine maintenance activities and remedial, preservation work. Routine work is most typically associated with tasks such as street sweeping, mowing, spot painting, and pot hole patching. Remedial or preservation work generally entails those activities required to extend the life of an asset to its ideal duration. Replacement of missing or defective elements, treatments to seal surfaces to prevent water intrusion and rusting, and repairing and replacing structural members so as to return an asset to its original functioning condition are general examples of preservation activities. A third type of activity—rehabilitation—is not included in this contract. Full depth repaving over long sections of roadway, for example, is generally accepted as a rehabilitation activity. Rehabilitation is covered by other construction contracts and by DCDPW forces.

The boundary between preservation and rehabilitation activities is not well defined. The contractor is responsible for maintaining the system at a specified level whether the preferred remedial action is clearly preservation or rehabilitation. The contractor chooses the approach that will meet the criteria, conforms to applicable standards, and will prove the most cost-effective, subject to the approval of the project engineer. The contractor may recommend that rehabilitation be undertaken but remains obliged to maintain the assets at the pre-defined levels until such time as that rehabilitation action is accepted and completed.

Snow Fall

Washington, DC typically experiences 19 days of snowfall per calendar year based upon U.S. weather service records for the years 1996 through 1998. The average snowfall, can be further categorized by amount of snowfall as shown in Table V-2 below.

Table V-2

AVERAGE DAYS OF SNOWFALL BY YEAR AND INTENSITY

TOTAL (inches)	1996	1997	1998	Average
0 TO 2	19	16	13	16.0
2 TO 4	4	1	0	1.7
4 TO 8	3	0	0	1.0
8 TO 12	0	0	0	0.0
12 TO 18	1	0	0	0.3
18 TO 24	0	0	0	0.0
TOTAL	27	17	13	19.0

Further detail can be found in Appendix A-10.

Section VI

Performance Measures and Levels of Service

The National Highway System (NHS) Asset Preservation Plan is an outcome-based project in which the management company is charged with maintaining and preserving the NHS to a specified condition. This arrangement is intended to promote: efficiency, optimization of resources, and innovation. The management company is free to select the methods, materials, and techniques that will best meet the stated performance criteria.

The performance criteria specify the means by which the outcome of any maintenance and preservation activities will be conducted. The level of service prescribes the precise measure for the particular asset under consideration. As such, the outcome, and not the procedures, are defined in this contract. Neither is the frequency of activities specified other than for time-sensitive responses. The contractor may choose between more frequent, and possibly less cost actions and less frequent, more enduring solutions; cost-effectiveness is encouraged in selecting a solution.

Clearly, the selection of an action must conform to applicable DCDPW and other relevant standards, guidelines, and regulations and industry standards. The selection is also subject to the approval of the DCDPW project engineer.

Table VI-1 describes the performance measure for each of the elements included in the contractors responsibility. The contractor shall achieve the stated performance measures for ninety percent of the assets, by element type, on the NHS.

Levels of Service

The performance measures are the standards against which the maintenance and system preservation work is evaluated. The threshold for acceptable performance however, varies across the system and for each of the various assets. The roadways within the NHS are used differently, differing in condition, and at different points in their life spans. Efforts to maintain, for example, twenty year old pavement to the same levels as recently reconstructed roadways would probably not be cost-effective. Similarly, maintenance along higher volume roads is of a higher priority than lower volume roads. Consequently, different levels of service are used to distinguish the specific performance measure—how many—for each specific condition.

The performance measure, the means by which performance is evaluated, remain the same regardless of the particular facility. It is the target value that varies from one facility to another. As an example, grass should be mowed to a height of 12 inches along freeways while a 4-inch height is necessary in the more urban setting of an arterial street. Table VI-1 indicates the level of service required for each condition, roadway type, etc.

**Table VI-1
PERFORMANCE MEASURES**

**Table VI-1
PERFORMANCE MEASURES**

MAINTENANCE CATEGORY	MAINTENANCE ELEMENT	PERFORMANCE MEASURE	LEVELS OF SERVICE		
Pavement Structure	Pavement Surface	International Roughness Index	<u>Roads reconstructed in past 5 years</u> <ul style="list-style-type: none"> • IRI < 181 	<u>Roads not reconstructed in past 5 years</u> <ul style="list-style-type: none"> ➤ Percentage of pavement in good condition must remain the same or increase. • Percentage of pavement in poor condition must remain the same or decrease 	
		Pavement Condition Index	<u>Roads reconstructed in past 5 years</u> <ul style="list-style-type: none"> • PCI > 80 	<u>Roads not reconstructed in past 5 years</u> <ul style="list-style-type: none"> • Percentage of pavement in good condition must remain the same or increase • Percentage of pavement in poor condition must remain the same or decrease 	
		Friction number (skid numbers)	<ul style="list-style-type: none"> • Skid number > 40 		
		Number of potholes/blowups	<ul style="list-style-type: none"> • Potholes/blowups that are a safety hazard removed within 4 hours of the noted deficiency • 95% of all reported potholes/blowups permanently repaired within 48 hours of the noted deficiency • No potholes encompassing an area > 64 sq. in. 		
			<u>Year 2-5</u> <ul style="list-style-type: none"> • ≤ One 64 sq. in. x 1 in. deep pothole/lane-mile 	<u>Year 1</u> <ul style="list-style-type: none"> • ≤ Four 64 sq. in. x 1 in. deep pothole/lane-mile 	
		Existence and depth of rutting	<ul style="list-style-type: none"> • No average rut depth > 0.50" (based on a segment average) • Rutting > 0.50" must be repaved within 1 month of the noted deficiency 		
		Number of unsealed cracks (includes joints)	<u>Year 2-5</u> <ul style="list-style-type: none"> • 95% of all cracks > 0.25" must be sealed 	<u>Year 1</u> <ul style="list-style-type: none"> • 80% of all cracks > 0.25" must be sealed 	
		Shoulders	Number of potholes/blowups	<ul style="list-style-type: none"> • Potholes/blowups that are a safety hazard removed within 4 hours of the noted deficiency • 95% of all reported potholes/blowups permanently repaired within 48 hours of the noted deficiency • No potholes encompassing an area > 64 sq. in. 	
				<u>Year 2-5</u> <ul style="list-style-type: none"> • ≤ One 64 sq. in. x 1 in. deep pothole/lane-mile 	<u>Year 1</u> <ul style="list-style-type: none"> • ≤ Four 64 sq. in. x 1 in. deep pothole/lane-mile

**Table VI-1
PERFORMANCE MEASURES**

		Lane/shoulder drop off height	<ul style="list-style-type: none"> • < 10% (linear measure) >1" per segment • none > 2"
	Manholes	Variation from roadway grade	<ul style="list-style-type: none"> • ½" above or below roadway grade
Roadway Cleaning	Roadway Surface	Buildup of dirt, rock, debris, etc.	<ul style="list-style-type: none"> • no buildup in travel lanes • clean of all debris
		Large or hazardous debris and roadkill	<u>Freeways and Arterial Streets</u> <ul style="list-style-type: none"> • removed within 4 hours of noted deficiency
Drainage	Open drainage structures (Ditches, both paved & unpaved, and Swales)	Erosion and siltation	<ul style="list-style-type: none"> • ditch bottom elevation does not vary by more than 25% of original grade • no undermining (paved elements) • no erosion showing a pattern that will endanger slope stability
		Functional	<ul style="list-style-type: none"> • no obstruction to flow of water
		Appearance	<ul style="list-style-type: none"> • grass no higher than 6" and no slopes clear of foreign vegetation
	Catch basins, drains, and inlets	Percent of inlet clear and open	<ul style="list-style-type: none"> • > 90% open, free flowing
		Functional	<ul style="list-style-type: none"> • ≤ ½" of settlement (if part on sidewalk) 1" (otherwise), grate unbroken
Roadside (curbs, gutters, sidewalks)	Curb	Functional and sound	<ul style="list-style-type: none"> • < 1" settlement or misalignment in 10 feet • unsealed cracks and joints > 1/4" (excluding granite curbs) • no spalling > ½" deep in 25% of surface per curb section between joints
	Sidewalk and paved medians	Functional	<ul style="list-style-type: none"> • no settlement > ½" • < 25% of surface spalled per section between joints
	Fencing	Damage	<ul style="list-style-type: none"> • no openings • fence height = original height
	Retaining Walls	Weep Holes	<ul style="list-style-type: none"> • no evidence of blocked drainage
		Alignment	<ul style="list-style-type: none"> • no indication of settlement or rotation • notify Project Team in case of significant settlement

**Table VI-1
PERFORMANCE MEASURES**

Traffic/Safety: Guardrails, Barriers, and Attenuators	Guardrail and barriers	Functional, operational and structural integrity	<ul style="list-style-type: none"> • 95% of guardrail/barrier free of structural defects per 100' section • all guardrail posts, offset blocks, panels and connection hardware in good condition and in place • cables taut and properly secured (according to standard) 	
	Attenuators	Damage	<ul style="list-style-type: none"> • no damage to any piece of attenuator unit • all damaged impact attenuators repaired or replaced within 24 hours of the noted deficiency 	
Roadside: Cleaning	Right-of-way limits beyond edge of roadway.	Litter and debris	<ul style="list-style-type: none"> • less than 10 pieces of fist-sized litter per tenth of a roadside (or median) mile • roadkill removed and disposed within 24 hours of the noted deficiency • graffiti removed from DCDPW assets within 24 hours of the noted deficiency 	
Roadside Vegetation	Shrubs and roadside vegetation	Overall appearance and sight restriction	<ul style="list-style-type: none"> • no sight distance or sign obstructions • vertical clearance of 15' over roadway, 7' over sidewalks 	
	Grass, both roadside and on unpaved medians	Height of grass	<u>Urban Streets</u> • grass height 4" or less	<u>Freeways</u> • grass height 6" or less
Bridges	Bridge deck	Percent of deck surface spalled or cracked	<ul style="list-style-type: none"> • less than 5% of deck surface spalled, cracked or damaged per 100 sq. ft. • 95% of all visible cracks (excluding hairline) must be sealed 	
		Joints fully operational and not inhibiting the longitudinal movement of the superstructure	<ul style="list-style-type: none"> • all joints are sealed, in alignment, and undamaged and without signs of leakage 	
	Bridge Super-Structure	<ul style="list-style-type: none"> • no loss of section or cracks; • paint in good shape; • no spalling; • proper vertical clearance; • proper openings at expansion dams; paint uniform; • paint adhering; paint covers all areas • steel fasteners in place, tight, with none missing 		

**Table VI-1
PERFORMANCE MEASURES**

Bridge railings, barriers, and parapets	Railings, barriers, and parapets in place and functioning as intended	<u>Metal</u> <ul style="list-style-type: none"> no measurable section loss all connections are sound and tight no missing, damaged, or severely deteriorated sections protective coating provides an acceptable aesthetic appearance 	<u>Concrete</u> <ul style="list-style-type: none"> no missing, damaged or severely deteriorated sections no cracks > 0.25" no spalling > 0.5" no exposed reinforcing or surface evidence of corrosion
	Dents/damage that decrease structural integrity	<ul style="list-style-type: none"> damaged railings and barriers replaced within 24 hours of noted deficiency 	
Bridge Sub-structure	<ul style="list-style-type: none"> no spalls, cracks, scaling adequate foundation founded below scour depth bearing assemblies functional abutment seats clean and sound abutment sound; pier seats clean and sound bearings clean and sound truss panel points clean 		
Bridge drainage	Scuppers and downspouts	<ul style="list-style-type: none"> clean, flushed and free flowing no evidence of salt, anti-skid, dirt, debris, or other deleterious matter 	
	No section is damaged or severely deteriorated	<ul style="list-style-type: none"> < 10% deteriorated barrel 	
	End protection is intact	<ul style="list-style-type: none"> end protection intact 	
	Settlement over pipes	<ul style="list-style-type: none"> no dip in road over pipe 	
	All connections are sound and tight. 5. No water leakage is present	<ul style="list-style-type: none"> free flowing joints intact 	
	Evidence of erosion at outlets	<ul style="list-style-type: none"> minimal erosion at ends no evidence of flooding; 	

**Table VI-1
PERFORMANCE MEASURES**

	Bridge Approach	Approach is smooth and is aligned with the bridge deck	<u>Concrete</u> <ul style="list-style-type: none"> • Settlement of approach slab is less than ½" • The combined areas of patches (repaired areas that are expected to have less durability than the surrounding deck material and are considered temporary), spalls/delaminations, pop outs and scaling greater than ½" in depth are <5% of approach slab 	<u>Asphalt</u> <ul style="list-style-type: none"> • Settlement of approach slab is less than ½" • Potholes or impending potholes (area of intersecting unsealed map cracks that are likely to pop out) are <5% of approach slab
	Bridge	No graffiti on structures	<ul style="list-style-type: none"> • all bridge surfaces free of graffiti 	
Tunnels	Mechanical Systems	Functional		
	Tunnel walls and ceiling	Neat and attractive		
	Electrical systems	Functional		
Snow & Ice Control	Roadway	Timeliness and coverage	<ul style="list-style-type: none"> • In accordance with Penguin guide 	
Traffic/Safety: Pavement Markings	Pavement markings, striping and raised pavement markings	Striping and markings are visible in daytime and nighttime conditions	<ul style="list-style-type: none"> • striping and/or raised pavement markings are visible at a distance of 125' 	
		Gaps in striping or reflectors	<ul style="list-style-type: none"> • no gaps in striping or raised pavement markings greater than 120' 	
Traffic/Safety: Signs	Signs including variable message signs.	Signs are visible in daytime and nighttime conditions Sign surface is free of damage and graffiti	<ul style="list-style-type: none"> • signs are clear and visible at a distance of 125' • 100% clear of obstruction, surface damage, and graffiti • replace missing signs within 24 hours of the noted deficiency 	
		Overhead signs are structurally sound	<ul style="list-style-type: none"> • structurally sound; • foundation sound • properly assembled and hung 	

**Table VI-1
PERFORMANCE MEASURES**

		Signs are visible and legible in daytime and nighttime conditions	<ul style="list-style-type: none"> • repair overhead sign structures that present a safety hazard immediately upon the noted deficiency
Traffic/Safety: Lighting	Highway and sign lights	Lights functioning	<ul style="list-style-type: none"> • 90% functioning along each highway segment • no 2 consecutive luminaires out • sign lighting illuminates signs • 100% of access panels present and secured; • non-functional lights repaired within a week of noted deficiency.

Section VII

Performance Monitoring

The quality of the maintenance and preservation work is assured through a program of performance monitoring and project oversight. The maintenance management contractor will submit a quality control plan that fully describes the procedures that will be employed to ensure that the assets on the NHS are maintained to a level consistent with the performance criteria described in Section VI. Subsequent performance monitoring by District of Columbia Department of Public Works personnel will verify compliance with the quality control plan and the performance criteria.

CONTRACTOR'S QUALITY CONTROL PLAN

Upon notification of selection, the maintenance management contractor will develop a complete program of asset maintenance and preservation from the concepts presented in his proposal. The plan will contain the following elements:

- a description of the maintenance and preservation activities that will be carried out for each asset identified in Section IV. The description will include the types and number of staff, equipment, materials, and work techniques that will be employed.
- the frequency with which all work will be conducted.
- the means by which the contractor will respond to complaints and emergency conditions.
- the methods and procedures that will be employed to document the work.
- the methods and procedures that the contractor will use to ensure that his own forces follow the procedures identified in the quality control plan.
- the means by which the contractor's operations will remain coordinated with other maintenance and construction contractors, public utilities, property owners, police, DPW, and other municipal and federal agencies.
- the information that will be maintained to provide DPW with a permanent record of all maintenance activities.

DCDPW staff will review the contractor's quality control plan both for completeness and for concurrence on proposed methods. Following this review, the contractor may be required to make revisions to ensure satisfactory performance consistent with the performance criteria and applicable guidelines, regulations, and laws.

Project Orientation

During the first month of the project, the contractor's representative and the DC DPW project engineer will tour the NHS. They will reach a consensus on the work to be performed and the options for remedying any deficiencies. During this inspection, a list of priorities will be established of the items to be addressed in the first months of the project and also during the first year versus subsequent years.

Performance Monitoring

The monitoring program takes place on three levels, essentially daily, monthly, and annually. Each level of monitoring is more rigorously applied but the combination of the three ensures progress and acceptable performance throughout the term of the contract.

The District of Columbia Department of Public Works (DCDPW) assigns a project engineer to oversee the day-to-day activities of the management company's operations. It is the project engineer's responsibility to confirm that maintenance and preservation activities continue throughout the term of the contract and that needs are met in a timely manner. The project engineer does not become involved in the contractor's staffing or equipment requirements nor in individual work activities. The project engineer's role, rather, is to verify that the desired outcome is produced and that the system's assets are being preserved as specified in the contract and this plan.

Day-to-day Monitoring

The project engineer maintains a daily log for the project. The log contains information regarding:

- daily activities of the management contractor's crews including the locations on which work is performed;
- complaints received from the general public for which contractor response is required;
- unusual or unexpected conditions uncovered in the course of maintenance and preservation activities;
- incidents involving safety either of the general public or contractor work forces.

The project engineer tracks the daily activities against the annual program of maintenance and preservation and advises the contractor of any variations. The project engineer may also redirect contractor efforts when priorities established within DCDPW dictate.

The management company will also monitor the daily activities of the field crews noting:

- daily activities including locations at which work is performed;
- problems and actions taken to mitigate problems;
- locations and conditions that warrant more extensive work than is envisioned under the terms of the maintenance and preservation contract and recommendations, including short-term contractor actions to ameliorate problems;
- coordination activities between the contractor's forces and other city agency personnel and utilities operations.

The contractor's daily reports are available to the project engineer to assist in verifying daily progress under the maintenance and

preservation contract.

Monthly Inspections

At least once monthly, the project engineer or his designee will travel through the system and on a random sample basis, review contractor progress. Generally, these field inspections will entail a windshield survey during which time the inspectors will evaluate asset conditions and rate the assets as “good,” “fair,” or “poor.” A rating of “good” indicates that the asset apparently meets the performance standard at the level assigned to that asset and location. A rating of “fair” indicates that the asset may not meet the performance standard while a rating of “poor” indicates that the asset is clearly below the performance standard for the level of service assigned to that asset and location. These ratings will be summarized and compared against the ratings for previous months and against either the baseline condition, in the case of the first year of the contract, or the previous annual inspection, in the case of subsequent years.

Generally, the portion of the system assets in the “poor” category should decline from year to year. At any location in which the contractor has recently completed work all assets should fall into the “good” or “fair” category. The only exception would be deterioration or accident-related incidents which have developed since the last inspection.

The project engineer may also periodically visit sights at which deficiencies have been reported and for which remedial work is required within a fixed time period. Inspectors, for example, may go to a site at which an animal carcass has been reported to confirm that the carcass has been removed within the requisite time frame.

The results of the monthly inspections will be discussed with the management company. A general level of performance satisfaction will be reported along with recommendations and concerns. The maintenance company may also bring issues to the attention of the project engineer along with suggestions for future activities.

Annual Inspection

At least once annually, the project engineer or his designee, will conduct a full evaluation of the contractor’s performance. During this evaluation, the inspectors will travel through the entire NHS and sample one-tenth mile segments for all roadways on the system. Within those segments, every asset will be evaluated. Measurements will be made to confirm that assets are within the tolerances and parameters specified in the performance standards. The results of the inspection will be summarized and compiled in an annual report which will be made available to the management company. The report will describe the overall performance of the management company and specific instances of performance of import.

The results of the annual inspection will be compared with prior years' inspections and with the baseline conditions. All assets should meet the performance standards for the level of service assigned to those locations. Both individual and systemic failure to meet those standards will be reported. The management company will advise the project engineer of the actions proposed to remedy any deficiencies and to bring conditions to the appropriate level along with the time frame for taking those actions.

Other Inspections

The District of Columbia conducts bi-annual inspections of all bridges. These detailed inspections cover the structural condition of the bridges and any maintenance requirements. The project engineer may use these inspections in addition to or in lieu of the annual inspections described above.

Similarly, detailed inspections of the highway tunnels may not be included in the annual inspection. The project engineer reserves the right to call for such an inspection, particularly after the first year of the contract to ensure that all electrical and mechanical systems in the tunnels and functioning as intended.

Because the performance standards for roadway pavement generally require specialized testing equipment, the annual inspection may not include detailed evaluations. The project engineer may make such an inspection at any time.

Other Considerations

Beyond the satisfactory maintenance and preservation of NHS assets, the maintenance management contractor will also be responsible for ensuring that all work is done:

- in a timely manner;
- in accordance with the highest workmanship standards;
- with regard for the safety of the work crews and the general public;
- with attention to appearance and roadside aesthetics; and
- with the least impact to the movement of traffic.

Timeliness

The contractor's quality control plan will present a schedule of all regularly scheduled activities. The plan will show both the days during

which those activities will be conducted and the approximate duration of each operation. The plan might, for example, indicate that catch basin cleaning will take place between October 15 and December 15 of each year. The plan would also state the anticipated duration of cleaning for each catch basin, thereby supporting the schedule for catch basin cleaning

The quality control plan would also indicate the proposed response time for operations required as a result of complaints or emergency requirements. This would include a discussion of the means by which the contractor will receive the complaint, the steps that will be taken to dispatch the appropriate crew, and the means by which the a task is successfully completed. The project engineer may verify compliance with the plan at any time.

Workmanship

All work conducted by the contractor's forces must be in accordance with the highest standards. Only qualified personnel will be used to carry out maintenance and preservation operations. All procedures, materials, and tools, will be identified in the quality control plan. The project engineer may inspect ongoing maintenance and preservation operations at any time to ensure compliance with the plan. The project engineer may also inspect sights at which work has been completed to confirm that the results of the operation conform to the performance standards.

Safety

Worker and general public safety is paramount to this project. The contractor's forces shall at all times comply with applicable OSHA and other labor safety standards and practices. Workers shall maintain in good condition and use appropriate headgear, eye and ear protection, gloves, boots, and other clothing so as to best protect themselves from harm. Workers shall also wear appropriate reflective clothing and work behind suitable warning systems and barriers to minimize the risk of being struck by passing vehicles. All equipment shall have protective markings including flashing lights and audible signals, as appropriate.

The contractor must work with the safety of pedestrians, motorists, and residents always in mind. The work crews must maintain adequate buffers between work operations and passing motorists and pedestrians. Work near buildings must be conducted so as not to present hazards to residents either accessing their homes or workplaces or within them. Adequate walkways and signing must be insured to safely guide travelers around work zones.

Aesthetics

All maintenance and preservation work must be carried out in a manner that minimizes adverse appearance of the work zone and

surrounding area. The work site must be neatly organized and the work crews must mind the presence of debris, dirt, and materials. Litter and debris shall be removed from work zones frequently. Equipment and materials shall be stored so as to minimize visual intrusion. Workers and equipment shall be neat and presentable. Signs and barriers shall be clean and in good condition.

Upon completion of work activities, and prior to leaving a work site, the work crew shall remove all excess materials and debris and ensure that the site is restored to its previous condition.

Both during and after work has taken place, the project engineer may inspect the site to confirm that the area's aesthetics are not adversely affected by work operations.

Maintenance of Traffic

All maintenance and preservation work must be conducted in a manner that minimizes adverse impact to the movement of people and vehicles. All work must be conducted in conformity to DC maintenance of traffic guidelines. The contractor will include as part of the quality control plan, generalized maintenance of traffic plans to cover typical work site situations. While prior approval of maintenance of traffic plans for each site are not required, the contractor must conform to the plans described in the quality control plan unless local conditions dictate otherwise. The contractor may secure prior approval of unique plans but is not required to do so. The project engineer, however, may require the contractor to modify any maintenance of traffic plans in operation should the plans not adequately maintain the safe and efficient flow of traffic.

All work must be conducted in coordination with the DC DPW and other municipal and federal agencies. Similarly, the contractor must coordinate work efforts with other contractors and with the public utilities. Part of this coordination requires that the contractor's maintenance of traffic plan is consistent with the plans of other operations in the area. The contractor shall work with other maintenance and construction activities to ensure the continuous safe and efficient flow of traffic.

The contractor must all be aware of special events that could require unusually heavy movement of traffic through a potential work zone. Where special events might require the temporary use of portions of the right of way, the contractor should delay work operations. In the event of emergency maintenance and preservation activities, the contractor will minimize inconvenience to the movement of people and vehicles.

The contractor must respond to complaints from the general public and may be required to alter either the traffic control plans or the entire work operation if so directed by the project engineer.