



# Reconstruction & Rehabilitation of Rock Creek & Potomac Parkway

ENVIRONMENTAL ASSESSMENT



July 2012





# Reconstruction and Rehabilitation of Rock Creek and Potomac Parkway Southbound at Waterside Drive, NW

## Rock Creek Park Washington, D.C.

*Environmental Assessment*

July 2012

Printed on recycled paper.

---

## SUMMARY

This environmental assessment (EA) evaluates a range of feasible alternatives and strategies for the rehabilitation and reconstruction of Rock Creek and Potomac Parkway southbound at Waterside Drive, NW in the District of Columbia. The National Park Service (NPS), in cooperation with the Federal Highway Administration (FHWA), proposes a combination of road safety improvements located where the southbound ramp from Waterside Drive, NW merges onto Rock Creek and Potomac Parkway (the parkway), in Washington, D.C.

Rock Creek Park is an administrative unit of the NPS that includes Rock Creek Park proper (Reservation 339) and Rock Creek and Potomac Parkway (Reservation 360). It is located in the Northwest quadrant of Washington, D.C.

The purpose of the proposed action is to improve traffic flow and to minimize the number of vehicle accidents along the parkway in the vicinity of Waterside Drive, NW using a combination of improvements to include a new acceleration lane along the parkway where the southbound ramp from Waterside Drive, NW merges. The proposed action would also address severe erosion that occurred along the stream banks of Rock Creek in the vicinity of Waterside Drive, NW as a result of flooding after Hurricane Irene and Tropical Storm Lee moved through the Washington, D.C. area during consecutive weeks in the August and September of 2011.

Action is needed at this time to improve traffic flow and to minimize the number of vehicle accidents where the southbound ramp from Waterside Drive, NW merges with the parkway. A small merge area and poor sight distances have resulted in numerous vehicle accidents and backups of cars waiting to merge at the intersection of Waterside Drive, NW and the southbound parkway. As a result, the NPS needs to increase sight distances and lengthen the merge area to improve motor vehicle visibility and traffic safety. In addition, action is needed to address the erosion that has occurred, affecting the stability of the Rock Creek Park Multi-use Trail.

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) and the National Park Service's Director's Order 12; *Conservation Planning, Environmental Impact Analysis, and Decision-making* (NPS 20011). Compliance with Section 106 of the National Historic Preservation Act of 1966, as Amended (NHPA) has occurred in conjunction with the NEPA process.

The NPS explored and objectively evaluated a range of alternatives. Four alternatives were carried forward for further analysis: 1) Alternative 1: No Action, 2) Alternative 2: Restore to Original Conditions, 3) Alternative 3: Add Merge Lane by Widening the Road toward the Creek, and 4) Alternative 4: Add Merge Lane by Widening the Road toward the Median. Alternative 4 is the preferred alternative chosen by the NPS.

### Note to Reviewers and Respondents

If you wish to comment on the EA, you may mail comments to the name and address below or respond online via <http://parkplanning.nps.gov/projectHome.cfm?projectID=39210>. The comment period will be open for 30 days after the release of the EA. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. Although you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. Please address all comments to:

Tara Morrison, Superintendent  
Rock Creek Park  
3545 Williamsburg Lane, NW  
Washington, D.C. 20008-1207

[This page was intentionally left blank.]

---

# TABLE OF CONTENTS

<b>CHAPTER 1: PURPOSE AND NEED .....</b>	<b>1</b>
Introduction .....	1
Purpose of the Action .....	1
Need for the Action .....	2
Project Location .....	2
Significance of Rock Creek Park and Rock Creek and Potomac Parkway .....	6
Scoping .....	6
Internal Scoping .....	6
Public Scoping .....	7
Relationship to Laws, Executive Orders, Policies, and Other Plans .....	7
Applicable Federal and State Laws and Regulations .....	7
Executive Orders and Director's Orders .....	9
National Park Service Plans and Policies .....	10
Impact Topics .....	11
Impact Topics Analyzed in This Environmental Assessment .....	11
Soils .....	12
Vegetation .....	12
Wildlife .....	12
Cultural Resources .....	12
Visitor Use and Experience .....	13
Transportation and Safety .....	13
Impact Topics Dismissed from Further Analysis .....	13
Threatened, Endangered, and Other Special Concern Species .....	13
Air Quality .....	14
Geology and Topography .....	14
Socioeconomics, Including Local Economy and Land Use .....	14
Environmental Justice .....	15
Cultural Resources .....	15
Indian Trust Resources and Sacred Sites .....	15
Park Operations .....	15
Climate Change .....	16
Sustainability and Energy Conservation Potential .....	16
<b>CHAPTER 2: ALTERNATIVES .....</b>	<b>17</b>
Alternative 1: No Action .....	17
Elements Common to All Action Alternatives .....	23
Riparian Area Revegetation .....	23
Staging Area and Construction Access .....	23
Alternative 2: Restore to Original Conditions .....	24
Road Realignment .....	24
Stream Bank Restoration .....	24
Traffic Calming .....	28
Alternative 3: Add Merge Lane by widening the Road toward the Creek .....	28
Road Realignment .....	28
Stream Bank Restoration .....	29
Traffic Calming .....	29
Construction Cost and Schedule .....	29
Alternative 4: Add Merge Lane by Widening the Road toward the Median (NPS preferred alternative) .....	33

---

Road Realignment.....	33
Stream bank Restoration .....	33
Traffic Calming.....	33
Construction Cost and Schedule .....	34
Mitigation Measures for All Action Alternatives.....	37
General Considerations.....	37
Water Resources .....	37
Soil Erosion and Sediment Control.....	38
Vegetation.....	38
Wildlife .....	39
Cultural Resources .....	39
Transportation Management .....	39
Alternatives Considered but Dismissed.....	40
Add Merge Lane by Widening the Road Toward the Median and the Creek.....	40
Traffic Calming Alternative.....	40
Stream bank Restoration / Bioengineering Options.....	41
The Environmentally Preferable Alternative.....	42
National Park Service Preferred Alternative .....	43
Summary of Environmental Impacts.....	45
<b>CHAPTER 3: AFFECTED ENVIRONMENT .....</b>	<b>49</b>
Water Resources.....	49
Stream Channel Characteristics and Water Quality.....	49
Floodplains .....	55
Wetlands.....	57
Wetland Definition .....	57
Wetland Delineation and Findings.....	58
Soils.....	59
Vegetation .....	62
Invasive Plant Species.....	62
Wildlife.....	63
Mammals .....	63
Birds.....	63
Reptiles and Amphibians .....	63
Fish.....	64
Cultural Resources .....	64
Areas of Potential Effect.....	64
Historic Context for Rock Creek Park .....	65
Historic Structures and Districts .....	69
Cultural Landscapes.....	71
Archeological Resources .....	72
Visitor Use and Experience.....	73
Transportation and Safety .....	74
Road Characteristics .....	74
Road Environment .....	74
Operational Characteristics .....	74
Traffic Conditions.....	74
Safety .....	75
<b>CHAPTER 4: ENVIRONMENTAL CONSEQUENCES .....</b>	<b>77</b>
General Methodology for Establishing Impact Thresholds and Measuring Effects by Resource.....	77
General Analysis Methods .....	77

Assumptions.....	77
Impact Thresholds.....	78
Cumulative Impacts .....	78
Water Resources.....	80
Methodology and Assumptions .....	80
Study Area .....	81
Impact Thresholds.....	81
Impacts of Alternative 1: No Action.....	82
Impacts of Alternative 2: Restore to Original Conditions .....	83
Impacts of Alternative 3: Add Merge Lane by Widening the Road toward the Creek.....	84
Impacts of Alternative 4: Add Merge Lane by Widening the Road toward the Median .....	85
Floodplains .....	86
Methodology and Assumptions .....	86
Study Area .....	86
Impact Thresholds.....	86
Impacts of Alternative 1: No Action.....	87
Impacts of Alternative 2: Restore to Original Conditions .....	88
Impacts of Alternative 3: Add Merge Lane by Widening the Road toward the Creek.....	88
Impacts of Alternative 4: Add Merge Lane by Widening the Road toward the Median .....	89
Wetlands.....	90
Methodology and Assumptions .....	90
Study Area .....	91
Impact Thresholds.....	91
Impacts of Alternative 1: No Action.....	91
Impacts of Alternative 2: Restore to Original Conditions .....	92
Impacts of Alternative 3: Add Merge Lane by Widening the Road toward the Creek.....	93
Impacts of Alternative 4: Add Merge Lane by Widening the Road toward the Median .....	94
Soils.....	95
Methodology and Assumptions .....	95
Study Area .....	95
Impact Thresholds.....	95
Impacts of Alternative 1: No Action.....	96
Impacts of Alternative 2: Restore to Original Conditions .....	96
Impacts of Alternative 3: Add Merge Lane by Widening the Road toward the Creek.....	97
Impacts of Alternative 4: Add Merge Lane by Widening the Road toward the Median .....	98
Vegetation .....	99
Methodology and Assumptions .....	99
Study Area .....	99
Impact Thresholds.....	99
Impacts of Alternative 1: No Action.....	100
Impacts of Alternative 2: Restore to Original Conditions .....	101
Impacts of Alternative 3: Add Merge Lane by Widening the Road toward the Creek.....	101
Impacts of Alternative 4: Add Merge Lane by Widening the Road toward the Median .....	102
Wildlife.....	103
Methodology and Assumptions .....	103
Study Area .....	104
Impact Thresholds.....	104
Impacts of Alternative 1: No Action.....	104
Impacts of Alternative 2: Restore to Original Conditions .....	105
Impacts of Alternative 3: Add Merge Lane by Widening the Road toward the Creek.....	106
Impacts of Alternative 4: Add Merge Lane by Widening the Road toward the Median .....	107

Cultural Resources .....	108
Historic Structures and Districts .....	108
Cultural Landscapes.....	113
Archeological Resources .....	119
Visitor Use and Experience.....	122
Methodology and Assumptions .....	122
Study Area .....	123
Impact Thresholds.....	123
Impacts of Alternative 1: No Action.....	123
Impacts of Alternative 2: Restore to Original Conditions .....	124
Impacts of Alternative 3: Add Merge Lane by Widening the Road toward the Creek.....	124
Impacts of Alternative 4: Add Merge Lane by Widening the Road toward the Median .....	125
Transportation and Safety .....	126
Methodology and Assumptions .....	126
Study Area .....	126
Impact Thresholds.....	126
Impacts of Alternative 1: No Action.....	126
Impacts of Alternative 2: Restore to Original Conditions .....	128
Impacts of Alternative 3: Add Merge Lane by Widening the Road toward the Creek.....	128
Impacts of Alternative 4: Add Merge Lane by Widening the Road toward the Median .....	130
<b>CHAPTER 5: CONSULTATION AND COORDINATION .....</b>	<b>131</b>
<b>CHAPTER 6: PREPARERS AND CONTRIBUTORS.....</b>	<b>133</b>
Preparers.....	133
Louis Berger Group, Inc. ....	133
Contributors.....	133
U.S. Department of the Interior .....	133
U.S. Department of Transportation.....	134
<b>CHAPTER 7: REFERENCES CITED .....</b>	<b>135</b>
<b>CHAPTER 8: ACRONYMS AND GLOSSARY.....</b>	<b>141</b>
Acronyms .....	141
Glossary.....	142

## APPENDICES

APPENDIX A: CONSULTATION AND COORDINATION	
APPENDIX B: FLOODPLAINS STATEMENT OF FINDINGS	
APPENDIX C: WETLANDS STATEMENT OF FINDINGS	
APPENDIX D: SECTION 106 ASSESSMENT OF EFFECTS	

## TABLES

Table 2-1: Summary of Impacts (Environmental Consequences) .....	45
Table 3-1: General Soil Characteristics .....	59
Table 3-2: Historic Districts and Structures: Project Area at Waterside Drive, NW and Riparian Revegetation Area APEs.....	71
Table 3-3: 2009 Existing ADT Volumes .....	75

Table 3-4: Rock Creek and Potomac Parkway Southbound at Waterside Drive, NW Accidents — Primary Contributing Factors (2009–2011) .....	76
Table 4-1: Cumulative Impact Projects .....	79

## FIGURES

Figure 1-1: Rock Creek Park .....	3
Figure 1-2: Project Site at Waterside Drive, NW .....	4
Figure 1-3: Riparian Revegetation Area .....	5
Figure 2-1: Current Condition of Merge Area of Rock Creek and Potomac Parkway and Waterside Drive, NW .....	18
Figure 2-2: Condition of Rock Creek (West Bank) .....	19
Figure 2-3: 2011 Condition of Rock Creek (East Bank).....	19
Figure 2-4: No Action.....	21
Figure 2-5: Restore to Original Conditions.....	25
Figure 2-6: Example of VRSS after Construction .....	27
Figure 2-7: Example of VRSS after Vegetation Establishment.....	27
Figure 2-8: Add Merge Lane by Widening the Road toward the Creek .....	31
Figure 2-9: Add Merge Lane by Widening the Road toward the Median .....	35
Figure 3-1: Watershed.....	50
Figure 3-2: Wetlands and Hydrology - Project Area .....	52
Figure 3-3: Floodplains – Project Area.....	56
Figure 3-4: Soils– Project Area.....	60
Figure 3-5: Soils – Riparian Revegetation Areas.....	61
Figure 3-6: Area of Potential Effect – Archeological Resources (Project Area) .....	66
Figure 3-7 Area of Potential Effect – Cultural Landscape and Historic Structures (Project Area) .....	67
Figure 3-8: Area of Potential Effect – Cultural Landscape and Historic Structures (Riparian Revegetation Area).....	68

[This page was intentionally left blank.]