

# STAFF RECOMMENDATION

E. Keller

NCPC File No. MP053



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## NATIONAL ZOOLOGICAL PARK MASTER PLAN

3001 Connecticut Avenue, NW, Washington, D.C.

Submitted by the Smithsonian Institution

October 31, 2008

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### Abstract

The Smithsonian Institution (SI) has submitted an updated master plan for the National Zoological Park adjacent to Rock Creek Park on Connecticut Avenue, NW. The previous master plan was approved by the Commission in 1988. The master plan has been created to improve wildlife and zoo exhibition management and to upgrade the park and its facilities. The proposed master plan makes many modifications to enable the Zoo to meet Americans with Disabilities Act (ADA) requirements.

### Commission Action Requested by Applicant

Approval of final master plan, pursuant to 40 U.S.C. § 8722(b)(1) and (d).

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### Executive Director's Recommendation

The Commission:

**Notes** that the Environmental Assessment prepared for the master plan and the public comments on the Environmental Assessment provide information to guide the Commission in its decision-making and that the Executive Director has issued a Finding of No Significant Impact for the master plan.

**Approves** the master plan for the National Zoological Park, **with the exceptions noted below**, as shown on NCPC Map File No. 72.00(05.00)42588, subject to the implementation of the required mitigation actions indicated in the Executive Director's Finding of No Significant Impact, as follows:

- During design and construction, implement erosion and sediment control measures in accordance with District of Columbia requirements and the regulations of the Department of the Environment and Department of Health. The control measures address federal responsibilities for meeting Clean Water Act pollution control requirements.
- Accomplish Memoranda of Agreement with the District of Columbia State Historic Preservation Officer (DC SHPO) that identify requirements and mitigation to be employed during the individual project development phases deemed to have an adverse effect on historic resources by the DC SHPO, when more detailed design features and effects can be evaluated under the National Historic Preservation Act Section 106 process. Design stages of individual projects must consider ways to avoid and minimize impacts to character-defining historic structures and cultural landscape features.

**Disapproves** the 300-space underground parking structure identified as item (B4) of the plan and thirty-five (35) official guest and volunteer parking spaces because the Transportation Management Plan (TMP) is not able to demonstrate that the provision of these spaces conforms to policies in the Transportation Element of the Federal Elements of the Comprehensive Plan for the National Capital and because potential adverse traffic impacts on surrounding roadways and intersections have not been adequately addressed in the TMP.

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## PROJECT DESCRIPTION

### Site

The Rock Creek facility of the National Zoological Park, known to the public as the National Zoo, is located on 163 acres between Connecticut Avenue, NW and Rock Creek Parkway/Beach Drive in Washington, D.C. It is one of two zoo facilities managed by the Smithsonian Institution (SI), the other being located at Front Royal, Virginia.

The Rock Creek stream valley meanders through the eastern portion of the National Zoo, contributing to the steep and uneven topography of the site. The layout of the Zoo follows the natural topography, with the Olmsted Walk—the major pedestrian circulation route for walking through the zoo, extending along a ridge from Connecticut Avenue down slope to Rock Creek at the southeast end of the Zoo.

Within the developed area of the proposal, the primary land use is animal exhibit areas with approximately 35 acres used as animal buildings and yards. These animal exhibit areas are located south of North Road along the ridgeline and in the lower reaches of the valley. Visitor services are currently dispersed throughout the National Zoo with concentrations at the upper and lower entries and Panda Plaza. Administrative and support uses are located north of North Road, in the Lot C/General Services Building, and the administrative trailers near that building.

Other administrative space is located at the Visitor Center and Mane Restaurant. The Zoo currently has 4.5 acres of surface parking.

The entire National Zoo property, with the exception of Holt House, is listed as a site on the National Register of Historic Places. The Holt House is individually listed on the National Register of Historic Places as a significant example of a five-part Georgian plan dwelling.

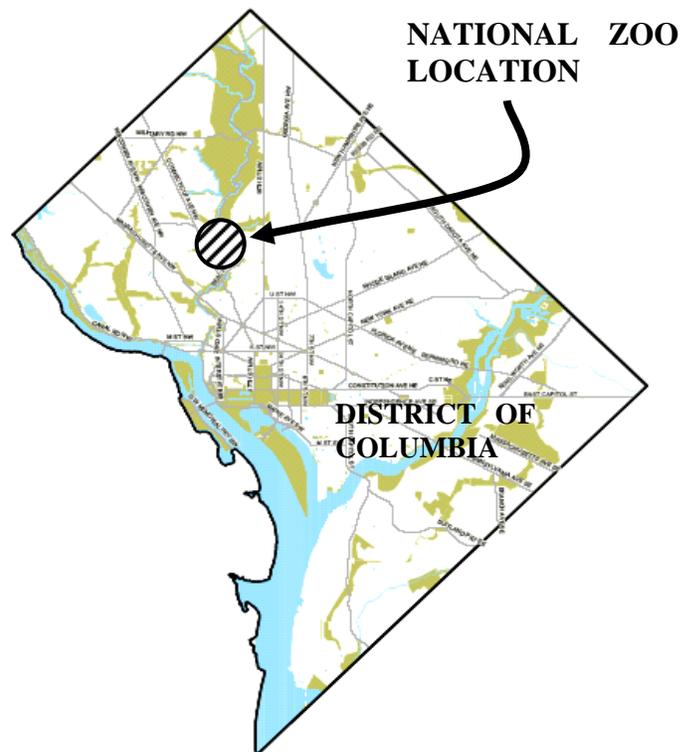
### Background

The National Zoo houses more than 1,600 animals representing 370 individual species. Today, the National Zoo is one of only a few “free entry” zoos in the country. In 1889, the National Zoo was founded by an act of Congress and in 1890 became a full unit within the Smithsonian Institution. Soon afterwards, the Rock Creek site was identified as the site for the zoological park.

The most recent prior master planning effort was a plan developed in 1986 and approved by the Commission in 1988. The plan did not address issues of circulation, traffic, and parking. In contrast, the present submitted plan emphasizes facilities and infrastructure and provides flexibility for future exhibit and collection decisions.

Other previous actions of the Commission recently involving the National Zoo were:

- On March 4, 2004 the Commission approved the preliminary and final site and building plans for the Asia Trail Project, Phase 1, at the National Zoological Park, Washington, D.C., as shown on NCPC Map File No. 2.00(38.00)-41306.
- On February 26, 2006, the Executive Director pursuant to delegated authority approved the final site and building plans for the Asia Trail, Phase 2, which comprises renovation of the existing elephant house and development of three new elephant habitat areas, as depicted on NCPC Map File No. 2.00(38.00)-42254.



**REGIONAL LOCATION**

## Proposal

The SI identifies in the final master plan the following existing conditions that form the basis of issues to be addressed by the plan:

- The park-like setting within a dense urban area and within the contiguous natural system is a key asset and responsibility.
- The forested, steep slopes are a sensitive zoo resource.
- Topography weighs upon and impacts everything.
- Overall visitor experience does not meet the expectations of the “national” name or the Smithsonian standards. Visitor services are not consistently available throughout the entire zoo.
- Existing circulation and lack of internal transportation negatively affects visitor experience.
- Popular animal exhibits and visitor amenities, such as the Visitor Center, are clustered at the Connecticut Avenue end of the National Zoo, making visitor distribution uneven. Crowded conditions on peak days affect the quality of the visitor experience.
- After several years of decreased visitation (post-9/11), visitation is beginning to increase and is expected to exceed the peak levels of the year 2001. A future attendance level of 4 million is deemed to be feasible, assuming 3.5 million annual daytime visitors and 500,000 more visitors during off-peak hour, off-peak season, and special event hours.
- The quantity of parking and visitor services is inadequate to serve current peak levels or the expected increases in annual visitation.
- A clear science and conservation message is not uniformly conveyed.

In the submitted master plan, large, multi-species exhibits would be developed throughout the park, allowing visitors to disperse and to have more direct exposure to animals along the Olmsted Walk. Older exhibits would be revitalized, and scarce, flat land, once used for surface parking, would be developed as exhibits. The entry and arrival sequence would be enhanced through the revitalization and construction of three visitor entry and facility hubs at Connecticut Avenue (C2, B1), the Mid-Point Entry (C5, B5), and Harvard Street Bridge/Beach Drive (B9), as illustrated on the plan at page 6 of this report. An aerial tram would make stops at these three entry points to assist visitors in traversing the topography of the park and to provide a unique interpretive experience with views of the National Zoo and Rock Creek Park. A fourth entry, dedicated to visitors arriving by bus, would remain at the current bus lot (C3) with some reconfiguration for better access. As another alternative to traversing the park’s hill, a road-based alternative fueled shuttle, along the North Road, would connect the entries at the upper and lower ends of the park and would provide an introductory interpretive experience.

The Connecticut Avenue entrance (C2), the primary entrance for pedestrians and visitors coming from Metro buses and trains, would be revitalized with a defined plaza for events. Visitors would enter and exit the National Zoo through the new plaza space with subtle, mechanized counters to allow for more accurate measures of visitation that will control access by regulation of volume flow through possible gated portals. The plaza would be flanked by visitor services kiosks (B1) with retail, information, Friends of the National Zoo (FONZ) membership site, and stroller rental. A new underground parking garage (B4) would serve the Connecticut Avenue end of the park and provide parking for special events and after-hours events at the Visitor Center. The existing Visitor Center would be enlarged, renovated, and reprogrammed (R1, B2, B3) to include visitor services such as restrooms, an information kiosk, educational facilities, and retail space.

In addition to the new 300 space underground garage, the current Parking Lot A would be reclaimed for future exhibit space (EX1). The existing Visitor Center would include services noted earlier and a tram station stop. Destination dining/retail/entertainment space could be programmed to attract visitors outside of normal National Zoo operating hours and the peak season and provide increased capacity for special events. Parking Lot B would also be reclaimed for exhibit space and stormwater management (EX3).

A new Mid-Point Visitor Center, the major entry for patrons arriving by vehicle from Connecticut Avenue and Harvard Street, would provide a new parking structure on Parking Lot C (B6) with 1,128 spaces, connected to the park by a new pedestrian access bridge over North Road. This pedestrian overpass provides a long-needed, safe, and accessible route from the parking area to the exhibits and other amenities. From the bridge, visitors would enter a new pavilion/visitor center (B5), facing a pedestrian plaza (C5) at the site of the existing Great Ape House. An entry exhibit would provide visitors



**VICINITY LOCATION**

with an introduction to the National Zoo’s conservation message. A full range of visitor services including new restrooms, information kiosks, educational facilities, and food service is proposed for the entry area vicinity.

The new plaza of the mid-entry would be framed by three of the National Zoo’s distinctive historic buildings—Small Mammal House (R3), Reptile Discovery Center (R4), and Think Tank (R5)—and a new tram station (B18) serving the area. This iconic entry would also serve as an orientation point both for visitors entering at the mid-point and those navigating the Olmsted Walk.



## NATIONAL ZOO FINAL MASTER PLAN

(Key on Next Page)

- Ⓟ Parking
- Aerial Tram
- ⋯ Surface Tram

## KEY TO MASTER PLAN ILLUSTRATED ELEMENTS

### Proposed Buildings

- B1 Connecticut Avenue Entry Facilities
- B2/3 Additions to Visitor Center
- B4 Underground Parking
- B5 Mid-Point Visitor Center
- B6 Parking Garage and Pedestrian Access Bridge
- B7 General Services Building Expansion
- B8 New Exhibit Building
- B9 Harvard Street Entry Facilities
- B10 Enhanced Bandshell and Event Area
- B11 Information Kiosk
- B12 Entertainment Pavilion and Restrooms
- B13 Renewal and Addition to Pumphouse at Seal/Sea Lion
- B14/15 Beaver Valley Building and Boardwalk
- B16 Additions to Research Space
- B17 New Greenhouse
- B18 Mid-Point Aerial Tram Station
- B19 Lower Entry Aerial Tram Station

### Proposed Renovations

- R1 Visitor Center Renovations
- R2 General Services Building Renovation
- R3 Small Mammal House Renovation
- R4 Reptile House Renovation
- R5 Think Tank Renovation
- R6 Police Station Renovation
- R7 Propagation Building Renovation
- R8 Aviary Renovation
- R9 Bird House Renovation
- R10 Amazonia Renovation and Addition
- R11/12 Renovations to Research Space
- R13 Veterinary Hospital Renovation
- R14 Holt House Renovation

### Proposed Animal Exhibits

- EX1 New Animal Exhibit
- EX2 New Entry Animal Exhibit
- EX3 New Sustainability Exhibit/Stormwater Management
- EX4 New Animal Exhibit
- EX5 New Sustainability Exhibit/Stormwater Management
- EX6 New Animal Exhibit
- EX7 New Animal Exhibit
- EX8 New Animal Exhibit
- EX9 New Animal Exhibit

### Proposed Circulation Improvements

- C1 Traffic Roundabout
- C2 Entry Plaza
- C3 North Road Realignment and Bus Lot Improvements
- C4 Olmsted Walk Improvements
- C5 Entry Plaza
- C6 Olmsted Walk Improvements
- C7 Service Access and Road
- C8 Traffic Roundabout
- C9 Olmsted Walk Improvements
- C10 Lot E Sustainable Design
- C11 Upper Valley Path/Access Improvements
- C12 New Service Road
- C13 Additional Surface Parking

The third entry point at the lower end of the zoo, near Harvard Street Bridge/Beach Drive, (B9) provides another entrance for visitors entering on foot from Adams-Morgan, parking in Lot E, or arriving by shuttle or bus. The entry would be reconfigured and revitalized to provide visitor services such as new restrooms, information kiosk (B11), stroller rentals, retail services, event space, and a tram station (B19). The Mane Restaurant would continue to provide dining and event support. The bandstand and event area would also be revitalized (B10).

The National Zoo's conservation mission would be demonstrated by various planning efforts. The surface parking in Lot D adjacent to Rock Creek would be removed and reclaimed for stormwater management and exhibits (EX5). A visitor interpretive experience and/or children's

discovery area would focus on the Rock Creek ecosystem and sustainable practices related to maintaining water quality and managing stormwater. The Kids' Farm, an existing facility, would be enhanced by a new discovery zone and other child-oriented education and entertainment facilities (B12). The Great Cats exhibit and surrounding area would be revitalized (EX6).

The current Amazonia Science Gallery building (R10) would be modified so that the main entrance would be located on Olmsted Walk. At the lower end of Beaver Valley, exhibits and walkways (B14, B15) would be designed to allow universal access through a series of interior and exterior bridges, structures, lifts, and ramps that flow between Beaver Valley and Olmsted Walk exhibits. An Amazonia building addition would allow for an accessible connection between Beaver Valley, the Olmsted Walk exhibits, and the new mid-point entry. The forested edge of Beaver Valley (EX10) would be utilized for low impact animal exhibits that are compatible with the existing forest and topography. The existing restrooms in Amazonia and Beaver Valley would continue to be used. The Seal and Sea Lion exhibit (B13) would remain with a renovated pumphouse, new holding areas, and new water pools. Pedestrian and vehicular traffic convergence exists in this area, but is improved by Sea Lion revised circulation plan. Limited separation of pedestrian and small vehicle service traffic is achieved.

Bird Hill would be revitalized as an animal exhibit area in the plan. The Bird House (R9) and Aviary (R8) in conjunction with the surrounding land areas (EX7, EX8, EX9) would be used for animal exhibits and viewing.

Congestion and safety issues along North Road would be dealt with through a comprehensive traffic and parking management strategy including two traffic roundabouts (C1, C8) and an intermittent turn lane on North Road. Shuttles would utilize the traffic roundabouts for flexible passenger handling and for accommodating vehicles that need to turn around. During peak times and for special events, the traffic roundabouts would be used for passenger drop-off, redirecting vehicles that turn-around, information dissemination, and valet service. Service vehicle and visitor conflicts would be minimized by providing alternate routes for service and limiting service vehicles on Olmsted Walk. A dedicated service lane (C7) would be constructed between North Road and the historic core buildings, passing under the pedestrian bridge. Other dedicated access for service would be created between Beaver Valley and Bird Hill plateau (C12) to reduce the use of city streets for service vehicles, and limit conflicts between visitors and service vehicles.

Two new forms of accessible transportation would be added to address the Zoo's steep topography, ease navigation of the park to make it more accessible, and provide a unique visitor interpretive experience. An aerial tram would carry passengers through the trees to gain an aerial perspective of the National Zoo and Rock Creek Park. Riding the tram would give visitors the opportunity to orient themselves to the park during the early part of their visit or use the tram for transportation to get from one location to another without having to traverse Olmsted Walk. This service would operate continuously with the number of cars varying by seasonal and daily demand.

An alternative-fuel road-based shuttle would be operated along North Road between the two traffic roundabouts. This service would assist visitors in getting between the upper and lower

ends of the park. Since the physical constraints of North Road do not allow for a dedicated shuttle lane the entire length of the road, frequency of service and travel time would be dependent on pedestrian traffic conditions, and the road's vehicle flow to and from the mid-entry parking garage.

The General Services Building would be renovated and expanded in order to create a consolidated administrative, support, and operations hub (B7, B8) on the Lot C site along with the parking garage. Additions to the General Services Building would provide relocated administrative offices for the National Zoo and FONZ employees. The Police Station would be renovated and would continue to be used for public safety (R6). A complete renovation and a small addition to the research buildings would include new office and lab space, and a branch of the Smithsonian Institution Libraries (B16, R11, and R12). The animal hospital would be renovated (R13). Holt House would be renovated for National Zoo uses, potentially a meeting and training center (R14) with guest housing and 20 surface parking spaces for researchers and guests (C13). The Propagation Building (R7) would also be renovated for other purposes and a new greenhouse would be added near the Holt House (B17).

While the majority of land uses within the National Zoo are proposed to remain the same as today, the amount of land dedicated to animal exhibits would increase and the amount of surface parking would decrease. The plan calls for the consolidation of surface parking in order to utilize scarce, flat land for exhibit renewal and expansion. Exhibit areas would increase from 35 acres to 47 acres while surface parking would decrease from 4.5 acres to 1.7 acres.

A portion of the plan also addresses transportation management planning for the National Zoo. The Transportation Management Plan (TMP) documents an active program element of the master plan to foster more efficient employee commuting patterns. The plan includes specific strategies to encourage changes in travel modes, trip-timing, and travel routes in an effort to reduce traffic congestion and improve regional air quality.

The Zoo TMP includes data and analyses for the following issues:

- Daily Visitor Demand
- Parking Demand
- Visitor Arrival Mode Survey
- Pedestrian Circulation and Safety Study
- Vehicular Access Study
- Employee Parking

The SI analysis indicates the number of parking spaces that would be required for patron parking would be met on all but 47 days of the year in 2016 with 3.5 million annual daytime visitors, compared to the existing supply of parking spaces that presently accommodates the demand for all but 87 days of the year. Peak parking demand for future visitor levels is projected at 2,105 spaces. Sixty-five to 70 percent of zoo visitors drive with families. Allowing for accounting of staff parking, the visitor parking peak would require 1,939 spaces.

The development proposed, and the measures for transportation management noted below, are expected to reduce the impacts of a 3.5 million daytime visitor year to a level below those which were observed in 2001. However, accounting of changed traffic volumes in the Connecticut Avenue corridor is not fully analyzed, and is a concern to District of Columbia traffic planning officials.

These objectives address the most significant transportation deficiencies at the National Zoo and would minimize additional adverse traffic effects.

<b>National Zoological Park Transportation Management Program</b>		<b>RK&amp;K Engineers, LLP May 2008</b>
<p>Description of Alternative 'C': Build a two-level, 300 space parking structure beneath the existing cheetah exhibit adjacent to the Visitor Center/Administrative Building. Expand the Lot C parking structure to provide a total of 1,128 spaces at this location, connected to the exhibits by a pedestrian bridge across North Road. Eliminate Lots A, B, and D to reclaim space for animal exhibits and visitor services. Retain Lot E and the existing bus drop-off area adjacent to Panda Plaza.</p> <p>Transportation Issues Addressed:                      Increases the amount of parking available on-site to 1,600 spaces, which would accommodate the parking demand on all but 47 days of the year (assuming 3.5 million annual daytime visitors)                      Reduces potential pedestrian/vehicle conflicts by eliminating all at-grade North Road pedestrian crossings except to Lot E                      Improves traffic flow along North Road by centralizing the parking facilities and reducing the number of parking lot access points</p>		
	<b>Actions to Consider</b>	<b>Transportation Issues Addressed</b>
C.1	Build additional parking levels atop existing Lot C.	Provides a centralized parking facility for automobiles.
C.2	Form partnerships with the owners of nearby parking resources to provide zoo staff and/or visitor parking, through coordination with the District of Columbia Housing Authority.	Action Deleted From TMP
C.3	Construct roundabouts along North Road adjacent to the Visitor Center/Administrative Building and adjacent to the Kids Farm.	The upper roundabout would provide a drop-off and turnaround point for zoo shuttle buses, provide access to the proposed parking garage beneath the cheetah exhibit, and serve as a turn-around point for traffic attempting to enter the zoo when the parking facilities are full The upper and lower roundabouts would provide drop-off points for visitors arriving via automobile Both roundabouts would also serve as turnarounds for vehicles attempting to enter the zoo when the parking lots are full
C.4	Provide real-time parking space availability information to visitors using the centralized parking garage and the 'cheetah' underground garage via electronic message boards at the zoo entrances, the garage entrances, and along the parking aisles within the garages. Provide electronic parking space occupancy detectors and indications above each space, visible to drivers browsing the aisles for open spaces.	Improved parking management would help traffic flow and circulation in the garages and along North Road, reducing congestion and providing a more pleasant visitor experience.
C.5	Operate more frequent NZP shuttle buses between the proposed turnarounds at the zoo and the Woodley Park/Zoo/Adams Morgan and Cleveland Park Metrorail stations. (Action most effective when associated with C.3 above).	If adequately publicized, the availability of the shuttle could increase the percentage of visitors traveling to the zoo via Metrorail, thereby reducing the demand for on-site parking.

<b>National Zoological Park Transportation Management Program</b>		<b>RK&amp;K Engineers, LLP May 2008</b>
	<b>Actions to Consider</b>	<b>Transportation Issues Addressed</b>
C.6	Operate shuttle buses between the zoo and the National Mall with shuttle stops at the Woodley Park and Cleveland Park Metrorail stations. (Action most effective when associated with C.3 above).	If adequately publicized, the availability of the shuttle could increase the percentage of visitors traveling to the zoo using non-passenger car modes of transportation, thereby reducing the demand for on-site parking.
C.7	Eliminate free parking for zoo staff, consistent with the Smithsonian Inspector General's recommendation and National Mall policy.	Charging staff members for parking may encourage them to commute to work using an alternate mode of transportation, reducing the demand for on-site parking. Staff parking would be permitted in designated spaces only.
C.8	Coordinate with nearby hotels (Wardman Park Marriott, Omni Shoreham) to reserve their excess parking for zoo visitors, and provide an NZP shuttle bus to/from those hotels.	Reduces demand for on-site parking.
C.9	Replace the existing pedestrian crossing warning signs along North Road with signs that are in compliance with Sections 2C.03, 2C.04 & 2C.41 of the Federal Highway Administration's 2003 Manual on Uniform Traffic Control Devices (MUTCD) (i.e., diamond-shaped with black symbol and border on a yellow or fluorescent yellow-green background). Also install pedestrian crossing warning signs in advance of all marked crosswalks along North Road.	Makes crosswalk locations more prominent, which may reduce the potential for pedestrian/vehicle conflicts.

As detailed in the submission of the revised TMP for the master plan, the plan maintains staff parking which achieves a parking ratio of 1 space for every 4 employees of the zoo, excluding volunteers. The allotment of parking for staff is 131 vehicle parking spaces. The proposed ratio adheres to the Commission's Comprehensive Plan goal of 1:4 for government facilities within the District of Columbia that are within service areas of Metrorail and Metrobus routes. The Comprehensive Plan does not have a visitor parking goal pertaining to federal parking.

Development Program

Applicant: Smithsonian Institution, National Zoological Park, in association with the SI Office of Planning and Project Management.

Estimated Cost: The submission has estimated cost ranges identified for various phased segments of master plan implementation. The individual projects that comprise the master plan would be established as specific proposals and planning are further developed. However, at this time a median cost range for all master plan development is estimated by SI consultants to be approximately \$900 million to \$1.1 billion.

Architect: The final master plan was developed as a joint venture by Ayers Saint Gross Baltimore, MD; Biohabitats, Inc., Baltimore, MD; Greenhorne & O'Mara, Inc. Baltimore, MD; Integrative Design Collaborative, Arlington, MA; James Posey Associates, Baltimore, MD; John Milner Associates, Alexandria, VA; McGillivray Consulting Group, LLC, Orlando, FL; Michael Vergason Landscape Architects, Alexandria, VA; ORCA Consulting, Clermont, FL; PBS&J Encinitas, CA; PJA Architects + Landscape Architects, Seattle, WA; Rummel, Klepper & Kahl, LLP, Baltimore, MD

## PROJECT ANALYSIS

### Executive Summary

While the majority of land uses within the National Zoo are proposed to remain the same as today, the amount of land dedicated to animal exhibits would increase and the amount of surface parking would decrease in the proposed master plan. The plan calls for the consolidation of surface parking to utilize scarce, flat land for exhibit renewal and expansion. Staff supports these objectives and believes the future of the zoo relies on these improvements.

Additional improvements involve the visitor entry experience into the public part of the National Zoo. Ingress and egress points would be reduced from 11 to four. While vehicles can still enter from Connecticut Avenue and the Harvard Street Bridge/Beach Drive entrance, pedestrians and visitors walking from the parking areas would enter at Connecticut Avenue, at the Mid-Point Entry, and at the Lower Entry only. Visitors arriving by bus would enter through a fourth portal at Panda Plaza. Staff-only access would remain at Research Hill. The revisions assist accessing features of the zoo by maintaining a variable extent of travel and reduced difficulty to the pedestrian approaches. Moreover, the improved access reduces the time and effort for the required visitor walking. Overall, the pathways and walking environment becomes more user-friendly.

Staff finds the consolidation of parking, with the elimination of three surface lots (lots A, B, and D—a total loss of 433 spaces), and the creation of potentially two parking structures fulfills a need for patron parking and reduces neighborhood impacts of vehicle circulation congestion by placing more visitor parking onsite. It does not relieve vehicle flow volumes to the surrounding main avenue corridors accessing the Zoo.

Parking in the new master plan would be better organized for visitors. An underground parking garage with two levels (300 spaces) is proposed south of North Road under the exhibit area to the east of the Visitor Center. Parking Lot C would be upgraded to a parking structure (approximately 1,128 spaces). Parking Lot E would remain as a lower entry surface parking resource and to accommodate bus staging (172 spaces to remain). A small amount of surface parking, 20 spaces, would be added for staff and Research Hill visitors next to Holt House. The total amount of proposed parking would increase from present 868 (628 for visitor) spaces to 1,628 (1,497 for visitor) parking spaces in the proposed plan.

Staff notes that parking traffic effects are moderated from the implementation of employed traffic management measures, which are updated by the revised planning information of the submission. The revisions address project time-frames, added pedestrian travel benefits, augmented shuttle planning, parking technologies, and TMP bicycle planning. These measures are:

1. The master plan calls for an improved internal circulation system with a road-based shuttle along North Road and an aerial tram, as well as roundabouts located at the upper and lower ends of North Road (refer to TMP Actions C.3a, C.3b, and C.5). Riders of these internal systems will be directed to the public transit stations (bus and rail) that can be accessed from both the Connecticut Avenue (upper) and Harvard Street (lower) ends of the Zoo. An enhanced ground-based shuttle service could be operational during the 2013-2015 timeframe upon completion of the roundabouts. The aerial tram is planned for implementation in the 2017-2018 timeframe. (DDOT referral comment #1).
2. Traffic roundabouts at both ends of North Road will be implemented as part of the master plan to facilitate shuttles entering the site, dropping off passengers, and efficiently leaving the site. Zoo management will seek support from private (e.g., Tourmobile, Old Town Trolley) and quasi-governmental (e.g. D.C. Circulator) shuttle operators to include and utilize the upper roundabout on their routes. The transit operators would provide links to other tourist destinations. The Smithsonian Institution will establish how this shuttle service would be implemented prior to the construction of the roundabouts and road improvement infrastructure, which will occur in the 2013-2015 timeframe.
3. As discussed in the revised TMP, The National Zoo will coordinate with the Washington Metropolitan Area Transit Authority (WMATA) and District agencies to improve signage at the Metro stations and to provide information about using the Connecticut Avenue buses as a means of accessing the Zoo from the Metro stations. The goal to implement revised signage is in the 2009-2010 timeframe. The National Zoo will enhance its public outreach program to emphasize the convenience of using the existing public transportation services to travel to and from the Zoo. The Zoo itself will also promote public transportation as the preferred method of travel for visitors and staff by posting WMATA schedules and routes within the complex. Methods of disseminating this information will include the zoo website, radio advertisements, message boards on zoo grounds, and pamphlets made available to visitors at the Zoo and at other Smithsonian venues.
4. The National Zoo currently participates in the Federal Transit Subsidy Program and Wage Works Program for its staff. These programs will continue to be encouraged and promoted. Visitors and staff alike will be educated about the impacts of various transportation decisions as part of the Zoo's sustainability outreach. (DCOP referral comments #2 and #3).
5. Pedestrian accommodations are further defined by the revised TMP. The Zoo provides a natural refuge within the urban context for visitors, recreational walkers and joggers. The master plan calls for specific improvements to enhance the pedestrian experience and improve safety. These improvements include the elimination of at-grade crossings of North Road (by eliminating parking lots that require North Road crossings, adding a pedestrian bridge between Lot C garage

and mid-point entry, and creating alternative service paths and limited service hours to eliminate service vehicle-pedestrian conflicts on Olmsted Walk). All pedestrian and roadway signs will be brought within compliance within ten (10) years of the effective date of the Final Rule for the 2009 FHWA’s Manual on Uniform Traffic Control Devices (MUTCD). The National Zoo will begin to replace the existing signing along roads open to public travel in accordance with this requirement (refer to TMP Action C.9). This change to the MUTCD will affect many signs along North Road, including the pedestrian crossing signs. However, the construction of the multi-level parking structure at Lot C and its associated pedestrian bridge across North Road will reduce the number of at-grade pedestrian crossings.

6. TMP bicycle use is further defined and applied. A continuous bike path runs through Rock Creek Park and abuts the National Zoo along the stream’s eastern edge, providing access to the site for bicyclists. Connecticut Avenue is also recognized a major transportation corridor for bicyclists, public transit, and vehicles. However, bicycles are not permitted on pedestrian walkways within the Zoo property. In order to encourage greater use of bicycles as a mode of transportation for visitors and employees, the Zoo will provide outdoor bike storage for visitors and indoor bike storage for staff, and will create a bike lane along North Road. The outdoor bike racks will be located at both the Connecticut Avenue end and the Harvard Street/Rock Creek end of the Zoo near the new traffic circles. A third rack will be located near the Rock Creek Trail near Rock Creek and the staff-only road behind Amazonia. Staff facilities will be included in the new parking garages. Recommendations of the DC Bicycle Master Plan will be followed and efforts will be coordinated with DDOT and NPS (DCOP referral comment #2 and DDOT referral comments #1 and #2).



Proposed Bicycle Facilities

-  Bike Lane (4-5 foot lane)
-  Rock Creek Bike Path
-  Outdoor Bike Racks
-  Indoor Bike Storage (staff only)

**PROPOSED MASTER PLAN BICYCLE ELEMENT**

The National Zoo has agreed to participate as a future site of the DC SmartBike program in the revised TMP. The Smithsonian management believes facilities can be designated at either end of the Zoo. Smithsonian and Zoo officials will coordinate with DDOT representatives to implement this program within five years. Information about these bike facilities and how to access the site by bike will be included in the communications and outreach efforts outlined in item 1, including the zoo website, radio advertisements, message boards on zoo grounds, and pamphlets made available to visitors at the zoo and at other Smithsonian venues.

7. TMP parking management technologies. The plan has incorporated, and the Smithsonian Institution is currently conducting, research and analysis of several vendors of parking management technologies. The Zoo expects to begin a pilot program in 2010 to provide a parking management system for the existing lots with notification to drivers on the zoo premises, potentially with message boards along North Road (refer to Action C.4). The parking management system would be expanded to the proposed new parking facilities upon their completion, and the system of notifying drivers could be expanded to Rock Creek and Potomac Parkway and along Connecticut Avenue, with coordination with DDOT, the National Park Service, and the Federal Highway Administration.

During special events at the National Zoo, there is often a need for overflow parking areas. The Zoo currently works with the Marriott Wardman Park Hotel on a case-by-case basis for special event parking. Visitors attending special events at the Zoo are informed in advance of the parking location and permitted to park at the hotel (at the hotel's standard hourly rate) even if they are not staying at the hotel. This agreement was possible because special events at the zoo typically do not occur at the same time as the conferences at the hotel. NZP will seek similar partnerships with other nearby hotels and operators of blocks of parking on other case-by-case bases (refer to TMP Action C.8), although it appears these potential off-site parking areas are limited in number. The National Zoo also allows a policy of other users to utilize its parking lots during major non-Zoo events, and will maintain that approach in the development of the new parking garage spaces.

Even with these above measures, however, staff finds the proposed addition of the Connecticut Avenue/Visitor Center underground garage problematic in reviewing the supporting data on intersection level of service (LOS). Staff finds the analysis of the existing background traffic of Connecticut Avenue intersections incomplete (north and south of the zoo) and the vehicle volumes have not been evaluated in detail for the Connecticut Avenue corridor. Additional vehicles to the zoo will utilize the crowded arterial, to which District officials have raised concerns on overall roadway capacity. Consequently, **staff recommends excepting from the master plan the presently identified 300 parking spaces of the underground parking structure.** Furthermore, **staff finds the volunteer/official guest parking not justified to the extent identified by the plan, which comprises 70 parking spaces. Staff recommends a reduction of 35 parking spaces for the volunteer/official guest parking.** With these adjustments, the total parking component of the master plan is recommended at 1,285 (1,119 visitor) spaces. This is a 343 space reduction, but reflects an overall 58 visitor space increase, and recaptures the 433 lost surface parking spaces of the plan.

Staff notes the plan's proposal for two new mechanical circulation elements for visitors—the aerial tram and the road tram along North Road are new interior transportation modes. The aerial tram would be an accessible transportation system that would help visitors move between the three major entries while having an educational experience and taking in unique views from within the tree canopy. The aerial network would consist of three stations, one at each entry, and an energy-efficient system of four to six passenger cars. The existing road-based shuttle service that runs on North Road would be upgraded to provide regular service in an accessible vehicle, powered by alternative fuel. Service would be offered on a daily basis at regularly scheduled intervals between the two traffic roundabouts. Both these features would mitigate the visitors experience on the National Zoo's steep topography.

Staff supports the submitted plan's conservation and sustainability goals for improving the environmental quality of the National Zoo. An ancillary benefit of converting surface parking to exhibit or habitat areas is the reduction of impervious surfaces. In particular, two of these areas, Parking Lot B and D, will be replaced with exhibits and/or interpretive areas that will incorporate rain gardens, detention basins, and other water quality features to further enhance the environmental benefits to the zoo and Rock Creek. In the longer term, Beaver Valley exhibits would be altered to return the stream valley to a more natural riparian landscape. To further the National Zoo's sustainability efforts, the landscape component of the master plan recommends maintaining three plant zones at the Zoo. Adoption of this policy will include the control and removal of all non-native invasive plants within the present landscape areas from the designated Natural Forested Woodland and Floodplain Landscape Zones that exist.

Other sustainable measures in the plan emphasize the four points of the mission statement of the Zoo (Animal Care, Science, Education, and Sustainability). The National Zoo is committed to using sustainable design, construction, and operation practices in the revitalization of the Zoo and using these real-life examples to educate and communicate conservation practices to the broader public. Sustainability issues at the Zoo encompass all aspects of design, development, and operations including parking policies, how visitors get to the site, what staff and visitors consume, how waste is handled, and how water is conserved.

Specifics related to sustainable design will be integrated into the planning and design process for each master plan project. Important issues of sustainability and carbon footprint reduction have been raised to the highest level of internal Smithsonian policies in Smithsonian Directives 422 (SD-422) (Sustainable Design of Smithsonian Facilities) and 414 (SD-414) (Energy Management). The National Zoo has included the specific recommendations of these directives in the master plan (pages 151-152, 177, 179). The Smithsonian also follows federal guidelines for energy management in accordance with Executive Order 13423, "Strengthening Federal Environmental, Energy, and Transportation Management" (master plan page 177).

While all plans and designs for the Zoo must put animal health and welfare first, the character and design of the buildings and spaces are sought to be of the highest quality with emphasis on sustainable design. Such measures include:

- Leadership in Energy and Environmental Design (LEED) certification for all new facilities and existing buildings undergoing renovation work

- Incorporating the prerequisites needed to obtain LEED certification into the day-to-day planning, engineering, design, construction, deconstruction, maintenance, and operations of Smithsonian facilities. The list of prerequisites is determined by the US Green Building Council (USGBC) depending on the type of project, and includes but is not limited to the following:
  - Construction Pollution Prevention
  - Building Systems Commissioning
  - Energy Performance
  - Refrigerant Management
  - Storage and Collection of Recyclables
  - Indoor Air Quality Performance
  - Tobacco Smoke Control
  - Elimination of the use of listed hazardous materials
  - Integration of life-cycle, cost-based analysis
- Encouraging the purchase of recycled-content products as designated through the Environmental Protection Agency (U.S.EPA)
- Maximizing the opportunity for contractors to bid recycled-content materials
- Eliminating products that emit off-gassing and noxious odors affecting indoor air quality

Both realistic and new techniques to achieve sustainable best practices at the National Zoo are to be carried forward by the proposed master plan (DCOP comment #1).

The whole of the improvements keyed to the new master plan are important to its role and mission, and **staff recommends the Commission approve the master plan with the caveat of the reduction in parking spaces, with their disapproval, and the environmental mitigation measures noted by the Executive Director's Finding (see attached)**. No other outstanding issues of the plan exist.

## CONFORMANCE

### Comprehensive Plan for the National Capital

NCPC's Comprehensive plan for the National Capital has limited direct discussion of the National Zoo as a specific facility in the Plan. At page 107 of the plan it is noted; "Other federal agencies that operate parks or manage open space include the Smithsonian Institution with its National Zoological Park..." At page 108, the Comprehensive Plan acknowledges the functions of the National Zoo in stating "Other designed landscapes are larger and often have cultural and educational purposes. Examples of these resources include Wolf Trap National Park for the Performing Arts, the Carter Barron Amphitheater, Meridian Hill Park, the National Arboretum, and Kenilworth Aquatic Gardens, and the National Zoo". Since the Zoo is acknowledged as open space and as a park, policies of the Comprehensive Plan that relate to the Zoo include:

The federal government should:

10. Guide the long-range development for all installations on which more than one principal building, structure, or activity is located or proposed through a master plan.

- The characteristics of the installation and its surroundings should be established through the master planning process as required by the Commission. Characteristics include the qualities and resources to be protected; building groupings, massing, and architectural character; and streetscape and landscape elements and character.
- Agencies should review master plans on a periodic basis to ensure that both inventory material and development proposals are current. Such reviews should be conducted at least every five years. Agencies should advise the Commission of the results of such reviews and provide to the Commission a proposed schedule for revising master plans when updating is determined to be needed. Revisions to master plans should reflect changed conditions and provide an up-to-date plan for the development of the installation. (Page 51 of the Plan).

The federal government should:

1. Ensure that Rock Creek Park and its tributary parks in the District and Montgomery County continue to serve as important natural resource recreational and cultural areas. (Page 110 of the Plan); and

The federal government should:

4. Maintain the “fall-line” gorge through Rock Creek Valley in its natural condition and keep its transition highlands and rim areas and surroundings free of intrusive constructed forms (Page 116 of the Plan).

#### Federal Capital Improvements Plan

The recently approved September 2009-2014 Federal Capital Improvements Plan (FCIP) includes three National Zoo projects presented in the proposed master plan. These projects are:

- Renew Bird House Facilities and Site; previously included in earlier FCIP of 2007-2011.
- Repair General Services Building; previously included in earlier FCIP of 2007-2011.
- Renew Seal/Sea Lion Facility; \$28,500,000 (estimated total project cost). Previously included in earlier FCIP of 2002-2007, and now re-identified as the following:

The project will repair structural deficiencies in the seal and sea lion pools and in the lower bear areas as well as replace mechanical and electrical systems and water treatment systems. Additional staff support space will be added, and the area will be reconfigured to provide accessible viewing for visitors with disabilities. The seal/sea lion area has structural problems, failing mechanical and electrical systems, and do not meet ADA standards. The existing water systems fail to meet new water chemistry and animal protocol requirements. The project in the FCIP was endorsed as “Recommended”.

### National Capital Urban Design and Security Plan

The certifying association for accrediting zoos has defined parameters and goals for maintaining safety and operational considerations for zoo planning. Many of these goals and criteria have been considered by the SI in the master plan effort.

The fewer and more formalized entry/exit facilities will accommodate an official security presence at each entry and more controlled access through monitored and gated entries. The main police station would remain in its current location, but renovations to the building would upgrade the facilities. A mass notification system is also being identified by the master plan to be implemented within the property.

*Smithsonian Institution Security Design Criteria for New Construction and Major Modernization Projects*, dated May 9, 2002, will serve to implement security initiatives for the master plan and will be followed to ensure that security becomes an integral part of new construction and modernization projects. The master plan does not recommend any changes to the present perimeter fence. A 2005 study titled “National Zoological Park Close Perimeter Fence Gaps at Rock Creek,” included options for closing the gaps at Rock Creek, but it was determined by SI that no revision was deemed feasible at the present. As further master plan implementation efforts are achieved in the next few years, changes may need to be considered as best practices in animal care and zoo operations evolve in regards to protection required for public zoo exhibition.

### Relevant Federal Facility Master Plan

The existing zoo master plan, approved in 1988, will be replaced by this plan as submitted by the SI for review by NCPC.

### National Environmental Policy Act (NEPA)

The Smithsonian Institution (SI) completed an Environmental Assessment (EA) for the master plan to analyze the proposal in conformance with NEPA. The National Capital Planning Commission was the lead federal agency for the evaluation effort in conformance with the Commission’s Environmental and Historic Preservation Policies and Procedures (69 FR 41299).

In the EA, analysis of potential impacts from four feasible alternatives (including the No-Action Alternative) was completed. The EA emphasized evaluation of the large land areas for exhibit renewal, and identified improvements to circulation, entry/arrival experience, service access, and parking. Government agencies and the public were requested to provide review and comment on the EA during a 30-day public review period that began on May 19, 2008 and concluded on June 19, 2008. The EA was posted on the NCPC website and mailed to potential interested people and organizations that had participated in earlier master plan meetings or scoping meetings for the NEPA document. NCPC staff received no direct comments on the EA from individuals or organizations during the 30-day open review period for the EA. Further, as described in the consultation section below, the SI contacted and met with several organizations regarding the master plan and with the DC-SHPO. Finally, the SI conducted a series of workshops, design charettes, and interviews with National Zoo, other SI, and Friend of the National Zoo (FONZ) staffs to identify facilities needs.

At the conclusion of the EA commenting period, the SI had received eighteen comments; 16 by e-mail, and two by mail. In addition, four agencies provided written comments. A summary of the comments follows:

- Several responses noted animal welfare should be the primary concern in the implementation of the master plan. Two interested parties indicated that they would like to see the National Zoo become the world's premiere zoo. One individual provided suggestions for new species to bring to the Zoo.
- There were several comments regarding the natural environment. One specifically stated that the implementation of the plan should be eco-friendly, and another supported the replacement of non-native vegetation with native vegetation. One interested party expressed concern with vehicle contamination of runoff into Rock Creek, and wanted a plan to avoid this incorporated into the proposed parking structure. Another comment expressed concern over trash on the sidewalks and streets outside of the National Zoo washing into Rock Creek and suggested the zoo to be responsible for cleaning up trash left by visitors.
- There were two comments in support of the surface tram. There were also two comments in support of the aerial tram, and three comments suggesting the aerial tram not be implemented. Two people cited concerns regarding disturbance to the tree canopy and local birds, and another person did not think people would use an aerial tram. The Woodley Park Community Association expressed concern over noise and changes to the viewshed for the surrounding neighborhoods. Another person, who supported the aerial tram, suggested enclosed cars be used so no objects may be dropped to the ground.
- Comments regarding parking included support of a structured parking deck at Lot C and underground parking at the Connecticut Ave entrance. Another person noted that she did not want to see additional buildings at the Connecticut Avenue entrance, citing that they would impair the entrance to the park as a retreat from the surrounding city. One comment was not in favor of employee parking near the Holt House.
- Four comments received were in support rehabilitation of the Holt House, but two of those were opposed to a greenhouse in the vicinity and another asked that the parking and greenhouse be designed in such a manner that was sensitive to the Holt House historic significance. One individual suggested that the SI staff contact the staff at Montpelier in Orange, VA regarding the rehabilitation work there. The Association of the Oldest Inhabitants of the District of Columbia also stated that they do not support additional structures surrounding the Holt House.

Comments were received from the Holt House Preservation Task Force opposing the construction of the greenhouse and additional parking spaces near Holt House. The Task Force disagreed with the statement that the land around Holt House lacks archaeological potential due to excessive grading in the past, stating that pre-development of the zoo photos contradict the assumption. The group also opposed to the construction of the aerial tram, as it would cross Rock Creek.

- Some of the interested public did not support demolition of Great Ape House; and were concerned with the status of the apes if the Great Ape House were to be removed. One comment supported an improved great apes building. Another party stated that the O-line should be kept in place. Several parties expressed support for the Preferred Alternative, and also recognized that funding for the projects could be an issue.

The District Department of Transportation (DDOT) provided the following comments based on their review of the EA:

#### Traffic Impacts:

- DDOT requested clarification on number of additional parking spaces, citing that in the document it states Parking Lot C will accommodate 1125 additional spaces, and that it states 200 spaces at Connecticut Avenue on p. 57, but 300 spaces throughout the remainder of the document.
- Questions that adding more parking spaces will not add additional vehicle trips – states that this is contrary to professional assumptions.
- Notes the EA does not provide traffic counts or analysis for existing or future conditions. DDOT would like to see the Transportation Management Plan that is referenced in the EA.
- DDOT was disappointed to learn that 65% of visitors use private vehicles and only 22% use Metro. The agency recommends that the National Zoo develop more options to encourage transit, bicycle and pedestrian modes of transportation.

#### Pedestrian and Bicycle Impacts:

- DDOT is looking for more consideration given to sidewalks, crosswalks and bicycle paths to access the site to encourage greater use of non-auto transportation.

#### Parking Structure:

- DDOT is concerned that the new visible and underground parking structures would have a negative impact on surrounding traffic.

#### Air Quality:

- DDOT believes localized air pollutant emissions will increase because additional parking will result in additional vehicle miles traveled on the network.

The District of Columbia State Historic State Preservation Office provided comments on the EA in letters dated May 12, 2008 and June 10, 2008. These comments are summarized below:

#### General:

- List of historic structures in the EA does not include the 1965 Great Flight Cage or the addition to the Bird House. These resources should also be evaluated for their historic significance.
- Agrees with the findings in the “Historic Structures” and “Cultural Landscape” sections of the EA as they relate to the Preferred Alternative.

- Points out that Section 106 requires evaluation of alternatives that will avoid adverse effects before alternatives that will merely minimize or mitigate the adverse effects. Section 106 consultation will be required before some of the actions of the Preferred Alternative including, but not limited to: alteration of Olmstead's primary circulation route, removal of the stone entry piers near the Stone Guard House, and relocation of the Camel Building and Peccaries Building.

#### Archaeological Resources:

- DC-SHPO does not have a record of consultation on the reconnaissance-level archaeological survey mentioned in the EA, and the work is not cited in the references.
- Sixteen sites of archaeological sensitivity are mentioned in the text, but a map would be helpful in evaluating whether a given alternative would affect these areas.
- Summary in the EA is incomplete; there are three sites present on, or adjacent to the National Zoo. One was incompletely recorded in 1986 and little information is available on it. The three sites include:
  - Prehistoric Site 51NW028 near the Klinge Valley Area south of Porter Street. National Register eligibility is unknown.
  - Prehistoric Site 51NW220 near the Calvert Street Bridge. National Register eligibility is unknown
  - Historic Site 51NW216, much of which is located in Walter Street Park. A portion of the site was sold to the National Zoo and interments were removed. However, cemetery removal is rarely 100% successful, and remains could still exist on the property. This site is eligible for the National Register.
- A recent National Park Service survey of Rock Creek Park identified archaeological sites from every prehistoric and historic period. Results indicate that areas assumed to be disturbed by grading still retain archaeological potential. Furthermore, surveys of historic houses in the area were found to have intact prehistoric sites, indicating that locations like the Holt House grounds may also retain archaeological potential.
- It is recommended that all National Zoo grounds slated for ground-disturbing activities be subjected to a Phase I archaeological survey incorporating geomorphological analysis. The testing program of areas of high and medium potential should be coordinated with the DC SHPO following initiation of Section 106 consultation.

The District of Columbia Office of Planning (OP) submitted comments by letter on June 16, 2008. OP indicated that it generally supported Alternative C as the optimal choice for balancing development activities with historic preservation, neighborhood compatibility issues, and access to the park for disabled visitors. The letter cites several policies from the District's Comprehensive Plan of 2006 in conjunction with suggestions and recommendations. A summary of OP comments follows:

#### General:

- Incorporate sustainable principles into the building and renovation of individual animal exhibits, parking, and administrative buildings.
- Conduct visitor survey to determine number of visitors from out of town vs. local. Encourage more visitors to use transit, walking or biking to access the National Zoo.

#### Historic Preservation:

- Restates the comments provided by the DC SHPO.

#### Transportation and Circulation:

- Data concerning parking capacity is unclear
- Strategies to better mitigate traffic impacts should be included
- Specific facilities for pedestrians, bicyclists and transit users are not sufficiently addressed.

#### Parking Structures:

- Unclear about number of parking spaces
- Recommends a more thorough investigation and explanation of impacts of additional parking spaces and vehicular trips on air quality inside the park and in adjacent neighborhoods.
- Requests additional analysis to determine impacts on adjacent streets and neighborhoods when parking capacity at the National Zoo is reached, which is stated as 87 days a year. Should use the existing figure of 65% of visitors arriving by automobile to establish goals to shift travel to transit, walking and bicycling.
- Recommends consideration of parking management strategies to encourage the used of alternative modes on the busiest days. Suggestions include real-time parking information, perks for transit users (discounted tickets and free shuttle to the Zoo), and increased parking fees.

#### Bicycle Facilities:

- Promotes bicycle use by offering facilities such as covered bicycle parking near main entrances, and providing bike lanes throughout property. Coordinate with NPS and DDOT to provide connections to Rock Creek Park, and improved facilities on Connecticut Avenue and Harvard Street. Coordinate with DDOT regarding a SmartBike rental station at the Zoo.

#### Pedestrian Facilities:

- Pedestrian facilities should be developed and improved and planning and safety considerations should be more fully integrated into the design of facilities.
- Recommends wayfinding from transit locations, walkways and promenades at entrances, and protected crossings, traffic control at key crossings, and sidewalks.
- Concerned with the location of the key parking structure and footbridge at the new Mid-Point entry on the north side of North Road. Paths and driveway entrances will encourage uncontrolled crossings of North Road. Suggests consideration to locating the parking garage and designing the roadway to prevent this.

In a letter dated June 19, 2008 the U.S. Environmental Protection Agency offered the following comments on the EA:

With regard to Beaver Valley-

- Identified as an “environmentally sensitive area” on p. 33 under Exhibit Renewal at Beaver Valley. Area should be quantified and its contributing features identified.
- EPA requests that the EA address any potential impacts on Beaver Valley due to the proposed “series of bridges, structures, lifts, and ramps”.
- Impacts to Beaver Valley due to the addition of a bridge connecting buildings should also be quantified.
- Proposed actions of new exhibits, walkways, and bridges should be clearly identified and labeled on a map, showing spatial relationships to the environmentally sensitive area and addressing possible impacts.

#### Vegetation-

- The results of the 2003 survey should be provided and should identifying the number and species of mature trees present as well as their location on the site.
- Quantify the potential impacts to trees of individual projects. Shrubs should also be identified and quantified. The location of these potentially impacted species should be depicted on a map.

#### Wildlife-

- The area impacted by both the aerial tram and new service road from Amazonia Science Gallery to Bird Hill should be quantified and the impacted wildlife identified.

The National Park Service commented on the EA with a letter on August 1, 2008. General observations were:

- Under “Cultural Resources” Page 61, please note that Rock Creek Park is listed on the National Register of Historic Places. The park is architecturally and historically significant under National Register Criteria A and C in the areas of community planning and development, engineering, recreation and landscape architecture. The property’s period of significance, 1828-1951, is defined by the beginning of construction of the C&O Canal and erection of The Arts of Peace sculpture groups. The National Park Service would like to continue to coordinate with the Smithsonian as this project moves forward to ensure that changes at the National Zoo property do not impact the character of Rock Creek Park.
- Visual resource or operational impacts to Rock Creek Park. NPS supports the choice of Alternative C as the preferred alternative as long as new facilities or services do not adversely affect the park. Examples of those effects are:
  - Harvard Street Bridge/Beach Drive - Reconfiguration and revitalization of the entry near Harvard Street and Beach Drive on the east side of Rock Creek. It is imperative that the Natural setting of the park not be impacted.
  - Aerial Tram - If the National Zoo decides to build an aerial tram, we request that it be constructed in such a way that the tram, as well as the stations, is not visible from Rock Creek Park. We encourage the Smithsonian to follow through on further evaluation of the noise impacts associated with the operation of the aerial

tram and to take proper actions to minimize the impact to visitors of Rock Creek Park.

- Lot C - Alternative C calls for an above-ground parking structure to be built on the existing Parking Lot C that would provide for 1,128 spaces. We request that it be constructed in such a way as not to be visible from Rock Creek Park.
- Bus Parking - Alternative 3 calls for the existing Parking Lot B to be converted to a bus drop off point, reducing the amount of bus parking available. We are concerned that reducing bus parking on National Zoo property increases the likelihood that buses will look for parking outside of the Zoo, such as in Rock Creek Park.
- Removal of Parking Lot B - We support removal of parking Lot D and it's conversion to a storm water management exhibit. We urge you to look at other ways to deal with storm water as you plan for new facilities on Zoo property, so as not to increase storm water runoff into Rock Creek. We hope to coordinate with the Zoo on storm water issues.
- Planting Plans - The improvements being proposed under Alternative C for the property will have moderate adverse impacts to vegetation, which you have proposed to mitigate by removal of exotic species, installation of native species, and implementing measures for tree protection. We would like to review the planting plans and the tree protection measures as they become available.

The SI, in developing its findings and conclusions, responded to the issues noted above and are included as attachments to this report.

The NCPC staff has reviewed all information of the submission, including the issues noted above, and has developed a Finding of No Significant Impact (FONSI) from the analysis provided by the EA. The NCPC Executive Director issued a Finding of No Significant Impact on October 30, 2008.

The EA examines three alternatives and the no action alternative within the NEPA analysis utilized by NCPC. NCPC overviewed the analysis and indicated revisions where environmental issues were unresolved prior to the document being issued to the public for review. The EA also outlined measures to avoid, minimize, and mitigate impacts under the action alternatives. To the extent possible at the master planning phase, this project has undergone a review of the alternative's potential effects on historic resources and invited interested parties to participate, consistent with Section 106 of the National Historic Preservation Act (NHPA). DC-SHPO recommendations for further consideration and implementation of planning for individual project proposals are being adhered to in NCPC findings.

Alternative C (The Preferred Alternative) would include revitalization of older exhibits throughout the National Zoo. Areas once dedicated to surface parking would be reclaimed and utilized in the development of large, multi-species exhibits similar in form to Asia Trail. This development would distribute visitors more evenly across the National Zoo's facilities. Under Alternative C, the zoo entrances and visitor service hubs would be consolidated into four entry points. This would include revitalization of the existing Connecticut Avenue entry, the addition of a Mid-Point entry at the current Parking Lot C, the reworking of the Harvard Street

Bridge/Beach Drive entry, and the bus drop-off area. A new parking structure would also be constructed at the site of the current Parking Lot C. Traffic circles would be installed along North Road at the Connecticut Avenue and Harvard Street Bridge/Beach Drive entrances. Visitor transportation would be incorporated with a surface level tram on North Road, bus drop-off area, and an aerial tram with stations near the entry points.

NCPC staff has found few potential environmental impacts. Those that exist are moderate to minimal and are addressed by mitigation through design modifications and through best management practices and revised design approaches that the applicant has incorporated into its submission of the master plan. Affects to historical and cultural components of the environment regarding potential plans may impact various structures and are being addressed by a National Historic Preservation Act, Section 106 requirements, which would be completed by the SI in the further development of the project planning provided to NCPC and the District of Columbia State Historic Preservation Office.

Water resources, cultural resource effects, and transportation effects are found by NCPC staff evaluation to be potentially the most prevalent effects from the proposed master plan and are evaluated within the EA and the supporting studies of traffic effects.

In the proposed plan, the reduction of impervious surfaces throughout the zoo would have a net beneficial impact to water quality. Clearing of undeveloped forest to accommodate the aerial tram and new service road would result in the loss of vegetation and could potentially cause minor adverse impacts to water quality. The creation of the Discovery Zone and stormwater management exhibit at the current Parking Lot D site occurs within areas of potential floodplain that will be more fully examined under compliance with Executive Order requirements if the plans are implemented. The replacement of impervious surface with a functioning wetland at this location would have a minor long-term beneficial impact to water quality.

*Avoidance, Minimization, and Mitigation:* During construction, erosion and sediment control measures would be implemented according to District of Columbia requirements and the regulations of the Department of the Environment and Department of Health. Control measures such as sediment trapping, filtering, and other BMPs, would help avoid temporary impacts to water quality. Stormwater management would also be detailed on a project by project basis to address long-term runoff and pollutant discharge control. SI as part of its sustainability goals and conservation mission is dedicated to incorporating sustainable principles into the building and renovation of animal exhibits, parking, and administrative buildings. As part of that initiative, SI will incorporate Low Impact Development methods and other green building practices into future designs as projects are further developed in design. NCPC would monitor and maintain implementation of regulatory and design requirements through its review process for federal projects in accordance with the National Capital Planning Act (40 U.S.C. § 8722(b)(1)).

For the recommended action, improvements would include the renovation of older exhibits, construction of new entrances to the zoo, installation of new transportation facilities, and construction of new administrative facilities. These improvements would have minor to moderate long-term adverse impacts to the zoo property as they would physically and visually impact several character defining features of the cultural landscape including: the land uses and

activities; spatial organization; circulation networks; small-scale features; and the designed response to the natural environment. As a result, direct and indirect long-term moderate adverse impacts to the cultural landscape could occur.

Under the Section 106 review process criteria, the planned alternative would have an adverse effect on the National Register-listed National Zoo because some of the actions, such as the addition of the aerial tram and parking structures, would result in changes to the cultural landscape and add non-conforming elements to the viewsheds.

*Avoidance, Minimization, and Mitigation:* SI has the lead responsibility for complying with the National Historic Preservation Act, when its actions are subject to NCPC review. SI has initiated consultation with the District of Columbia State Historic Preservation Office (DC-SHPO) through the Section 106 process of the Act. As a result of this consultation, memoranda of agreements will be sought that identifies requirements and mitigation to be employed during the individual project development phases, when more detailed design features and effects under Section 106 can be evaluated. Future design stages of individual projects would consider ways to minimize impacts to character-defining cultural landscape features. With regard to historic structures, the master plan would have minor to moderate long-term adverse impacts to the National Zoo Historic Site. The master plan would also have minor to moderate long-term impacts to the Holt House District in actions affecting its surrounding site.

SI has initiated consultation through the Section 106 process with the DC-SHPO. As a result of this consultation, SI and DC-SHPO agree that SI will conduct Section 106 reviews of individual projects and seek to avoid and, if necessary, minimize and mitigate adverse effects to National Zoo Historic Site and the other historic structures on the site. SI will follow the principles outlined in *The Secretary of the Interiors Guidelines for the Treatment of Historic Properties*. NCPC will seek ways to minimize the profile of the Greenhouse and use vegetative screening if necessary to minimize its effect on the landscape surrounding the Holt House and any other measures identified as viable to address effects during the Section 106 review. Furthermore, the Great Flight Cage and addition to the Bird House are described in the Cultural Resources Assessment dated April 11, 2008 as an important zoo resource. SI will continue to consult with the DC-SHPO with regards to the potential significance of these structures as it proceeds through the Section 106 and design review processes on individual projects.

Archeological resources of the cultural environs of the zoo may have minor to moderate long-term adverse impacts through the proposed new construction of the master plan. This potentially would physically impact areas of high potential for prehistoric archeological resources. The presence or absence of archeological resources in areas of high potential needs to be verified by testing before ground disturbance begins as noted by the EA.

*Avoidance, Minimization, and Mitigation:* As the final designs for master plan improvements have not been fully developed, consultation with the DC-SHPO through the Section 106 process would establish appropriate testing and mitigation efforts as initial design and preconstruction efforts. SI has submitted the Cultural Resources Assessment to the DC-SHPO for review and will continue to consult with them with regards to archeological potential at the Holt House and Zoo property. Based on comments from the DC-SHPO, SI recognizes that a number of other

sites (51NW028, 51NW220, and 51NW216) with archeological potential in the vicinity of the Zoo property have been identified since the preparation of Cultural Resources Assessment and EA. These sites do not appear to be located in areas of proposed development. However, as SI progresses with more detailed project design efforts, SI will evaluate archeological potential for each site and consult with the DC-SHPO. For each project that exists in areas of medium or high potential for archeological resources, SI will conduct Phase I archeological survey and evaluate feasible alternatives for each project to attempt to avoid and, if necessary, minimize and mitigate adverse effects in accordance with Section 106 requirements.

Transportation and parking impacts from the proposed master plan will be present in the implementation of the master plan.

*Avoidance, Minimization, and Mitigation:* As more detailed preliminary design of improvements to each entry of the proposed master plan detailed projects is undertaken, SI will coordinate with the District of Columbia Department of Planning and D.C. Department of Transportation (DDOT) to implement programs and facilities that promote non-motorized modes of transportation (see attachments). Further, SI has provided and planned for additional support for bicyclists and pedestrian needs at the site. Additionally, the master plan and EA note the inclusion of traffic circles on North Road will assist to support a shuttle type system for both internal and external circulation. With the renewal of the Connecticut Avenue and lower entries, SI has committed to provide facilities to support bicyclists and pedestrians such as bike racks, signage, crosswalks, and bike paths to the zoo connection points, and include new facilities in the site designs for the entries once further coordination and consultation with DCOP, DDOT and the Park Service are achieved. Finally, SI will implement parking strategies with the development of the parking garages, including use of real-time technologies to encourage the use of alternative modes of transportation during periods of high parking demand and to better inform visitors about parking at the zoo. NCPC will monitor and require implementation of transportation management objectives in the further construction planned at the zoo.

#### National Historic Preservation Act (NHPA)

The Smithsonian Institution (SI) initiated consultation with the District of Columbia State Historic Preservation Office (DC-SHPO) in the early development of its master planning efforts. In May 12, 2008 and June 10, 2008, the DC-SHPO responded in writing to the SI indicating issues from their preliminary review of the master plan, and agreed with most of the findings of the EA regarding historic structures and cultural landscape analysis as it related to the preferred alternative of the master plan. The DC-SHPO staff pointed out that Section 106 requires evaluation of alternatives that will avoid adverse effects before alternatives that will minimize or mitigate the adverse effects. The DC-SHPO also noted that Section 106 consultation will be required before some of the actions to the following must occur:

- Alteration of Olmstead's primary circulation route,
- Removal of the stone entry piers near the Stone Guard House, and relocation of the Camel Building and Peccaries Building.

The DC-SHPO highlighted the detailed description of potential effects included in the *Affected Environment and Environmental Consequences* section of the EA was quite thorough and that

the DC-SHPO appreciated the conscientious efforts that have been undertaken to consider effects on historic properties thus far. The DC-SHPO emphasized also that the review of the EA finds all three of the proposed action alternatives are likely to constitute "an adverse effect" on historic properties.

The DC-SHPO also discussed archeological issues involving the master plan proposals that must be further addressed. SI has acknowledged the comments from the DC-SHPO, and SI recognizes that a number of other sites (SINW028, SINW220, and SINW216) exist in the vicinity of the Zoo property that have been identified. The locations of these sites do not appear to be in areas of proposed development; however, as SI proceeds with more detailed site design it would evaluate archeological potential for each site and consult with the DC SHPO. SI has submitted the Cultural Resources Assessment to the DC SHPO for review and will continue to consult with them with regards to archeological potential at the Holt House and Zoo property. For each project that exists in areas of medium or high potential for archeological resources, SI will conduct Phase I archeological survey and the findings will be coordinated with the DC-SHPO prior to any proposed development plans. If a site is determined to be eligible, SI would evaluate feasible alternatives for each project that will avoid impacts before taking action that would just minimize or mitigate the adverse effects in accordance with Section 106 requirements.

Despite the likelihood of adverse effects, the DC-SHPO further noted that many of the proposed actions may result in beneficial effects on historic properties, such as the future restoration of the Holt House and the rehabilitation of the circa ,1928 Bird House.

SI will continue to proceed with the required Section 106 process with the DC-SHPO, in the format the DC-SHPO has identified. The SI and DC-SHPO agree that SI will conduct Section 106 reviews of individual projects and seek to avoid and, if necessary, minimize and mitigate adverse effects to National Zoo Historic Site and the other historic structures on the site. SI will follow the principles outlined in *The Secretary of the Interiors Guidelines for the Treatment of Historic Properties*.

SI has the lead responsibility for complying with the National Historic Preservation Act, when its actions are subject to NCPC review. As the final designs for master plan improvements have not been fully developed, continued consultation with the DC-SHPO through the Section 106 process would establish appropriate testing for avoidance and mitigation efforts, as initial detailed design efforts, in accomplishing individual projects. SI has submitted the Cultural Resources Assessment to the DC-SHPO for review and will continue to consult with them with regards to archeological potential at the Holt House and Zoo property.

## CONSULTATION

### Coordinating Committee

The Coordinating Committee reviewed the final master plan and its updated modifications on September 10, 2008, The Committee forwarded the proposal to the Commission with the statement that the project has been coordinated with all agencies represented, the participating agencies were: NCPC; the District of Columbia Office of Planning; the District Department of

Transportation; the District of Columbia Office of Housing and Community Development; the General Services Administration; the National Park Service and the Washington Metropolitan Area Transit Authority.

#### Commission of Fine Arts

The Commission of Fine Arts (CFA) reviewed and approved the plan at its meeting of July 17, 2008. The Commission members supported the planning goals for the National Zoo and the renewal of its facilities and infrastructure for the next twenty years, endorsing the plan's objectives to improve exhibits, animal care and habitats, visitor services and circulation, as well as sustainable practices.

The Commission members noted the importance of making timely improvements to the Zoo's infrastructure and giving priority to addressing the site's challenging circulation issues. They expressed support for the establishment of the proposed new central entrance and its associated parking garage, while noting the opportunity for this structure to take better advantage of its position overlooking Rock Creek Park. In addition, the CFA suggested the Smithsonian study ways to connect the site's internal circulation to the local Metro stations to enhance visitor access.

#### Referral to relevant local planning agencies

The Smithsonian Institution has coordinated its master plan efforts with the National Capital Planning Commission (NCPC), the National Park Service (NPS), the U.S. Commission of Fine Arts (CFA), Washington Metropolitan Area Transit Authority (WMATA), and the United States Access Board.

The Smithsonian Institution has also engaged local government agencies in the process. Local agencies with which coordination has occurred include the DC Historic Preservation Office (DC SHPO), the DC Office of Planning (DCOP), the DC Department of Transportation (DCDOT), and DC Department of Health (DCDOH).

Members of the consulting team and the National Zoo Master Planning Work Group met with the NCPC, DC SHPO, and CFA on July 8, 2005, for an informal discussion. The purpose of this meeting was to review and consult with agency staff on the proposed project scope, the approach to the master plan, NEPA and Section 106 compliance, and public participation. Additionally the team reviewed NCPC requirements for the environmental review processes and master plan requirements.

On December 19, 2005, SI again met with NCPC staff to discuss project specific requirements for compliance activities and master plan submittal.

On February 16, 2006, SI met with DCDOT, DCOP, WMATA, and DC-SHPO to provide the agency staff with a general overview of the plan and schedule. Additional projects near the National Zoo were discussed during this meeting, as well as area transportation and traffic circulation.

On March 13, 2006, members of the consulting team met with the DC Department of Health (DOH) to introduce DOH staff to the master plan effort, and to discuss District requirements and approval processes for stormwater management and erosion control. Green Design opportunities for the Rock Creek facility were also discussed.

On May 16, 2006, SI met with agency representatives from NCPC, CFA, and the DCOP to provide an update of the planning for the National Zoo. The planning team gave a presentation of the activities leading up to the development of the preliminary alternatives and provided the agencies with an opportunity to offer feedback on the draft alternatives prior to presenting them to the public.

On May 30, 2006, SI met with DC-SHPO and NCPC staff to present and discuss the preliminary alternatives and review the master plan schedule and important dates in the planning and EA/Section 106 processes. During the meeting, an overview of the historic resources at the National Zoo was presented.

On November 21, 2007, SI met with NCPC to discuss submittal requirements and provide an update on the status of alternatives being considered. SI gave NCPC staff an update on the status of the planning alternatives and an overview of the public comments received, and asked for clarification on the appropriate level of assessment for different concepts being considered, such as the parking structure at Lot C and the aerial tram concept.

On January 2, 2008, SI met with DC-SHPO to update the agency on the status of the plan, review public comments received to date, and get clarification on the appropriate level of assessment for different concepts being considered, such as the parking structure at Lot C and the aerial tram concept. SI gave a presentation showing the potential viewshed that may be affected at the National Zoo.

On April 4, 2008, SI met with the NPS to outline the master plan alternatives and to discuss potential impacts of the various development scenarios.

NCPC staff, in receipt of the specific master plan submission in July 2008, referred the submission to the District of Columbia Office of Planning and the District of Columbia Department of Transportation. The referral provided additional detailed information of the plan itself and the Transportation Management Plan along with detailed traffic study data.

On August 28, 2008 the District of Columbia Department of Transportation responded to the request for comment on the master plan. On September 11, 2008, the District Office of Planning had responded to NCPC's request for comment. See attachments.

**ENVIRONMENTAL REVIEW AND HISTORIC PRESERVATION PROCESS  
LETTERS AND RESPONSES**

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
HISTORIC PRESERVATION OFFICE



May 12, 2008

Mr. Harry Rombach, R.A.  
Associate Director for Facilities Master Planning  
Smithsonian Institution  
600 Maryland Avenue, SW  
Suite 5001  
Washington, DC 20013-7012

RE: Preliminary Draft Environmental Assessment ("Background Brief for the DC State Historic Preservation Officer"); Facilities Master Plan; National Zoological Park

Dear Mr. Rombach:

Thank you for providing the DC Historic Preservation Office (HPO) with a copy of the above-referenced Preliminary Draft Environmental Assessment (EA). We have reviewed the document in accordance with Section 106 of the National Historic Preservation Act and are writing to provide our initial comments regarding possible effects on historic properties.

As noted in the EA, the National Zoo is listed in the National Register of Historic Places and the Holt House, a circa 1820 Georgian house which contributes to the significance of Zoo, is individually listed in the National Register. The EA also includes a list of structures that may be considered character defining resources but the 1965 Great Flight Cage and addition to the Bird House are not included in this list. These structures are not yet fifty years of age but we believe that an evaluation of their potential significance, or lack of significance, should be carried out in order to inform decisions about their possible future treatment.

The detailed description of potential effects included in the *Affected Environment and Environmental Consequences* section of the EA was quite thorough and we appreciate the conscientious efforts that have been undertaken to consider effects on historic properties thus far. Based upon our review of this and other sections of the EA, we agree that all three of the proposed action alternatives are likely to constitute an "adverse effect" on historic properties. These effects could range from direct physical alteration (e.g. removing a portion of Olmstead's "Valley Trail") to the introduction of new visual elements that may not be in keeping with the character of the historic landscape (e.g. installing a new aerial tram).

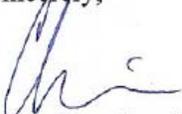
Despite the likelihood of adverse effects, we note that many of the proposed actions may result in beneficial effects on historic properties. For example, the Holt House is specifically identified for rehabilitation in all three action alternatives while rehabilitation of "older exhibits" such as those in the circa 1928 Bird House are included in some of the alternatives.

Mr. Harry Rombach, R.A.  
Preliminary Draft EA; Facilities Master Plan; National Zoological Park  
May 12, 2008

As the Smithsonian Institution moves forward in selecting the preferred alternative, we would appreciate additional opportunities to consult regarding approaches that could avoid as many adverse effects as possible. When avoidance is not possible, we can assist in identifying measures to minimize and/or mitigate the adverse effects and in developing a programmatic agreement to formalize the agreed upon actions.

We appreciate your on-going efforts to coordinate the development of the National Zoo Facilities Master Plan with the HPO and we look forward to working closely with you to select the preferred alternative and to develop a programmatic agreement. If you should have any questions or comments regarding this matter, please contact me at [andrew.lewis@dc.gov](mailto:andrew.lewis@dc.gov) or at 202-442-8841. Otherwise, we look forward to receiving more information on this important undertaking as it becomes available.

Sincerely,



C. Andrew Lewis  
Senior Historic Preservation Specialist  
DC Historic Preservation Office

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
HISTORIC PRESERVATION OFFICE



June 10, 2008

Mr. Harry Rombach, R.A.  
Associate Director for Facilities Master Planning  
Smithsonian Institution  
600 Maryland Avenue, SW  
Suite 5001  
Washington, DC 20013-7012

RE: Final Environmental Assessment Facilities Master Plan Comments; National Zoological Park

Dear Mr. Rombach:

Thank you for providing the DC State Historic Preservation Office (DC SHPO) with a copy of the above-referenced Final Environmental Assessment (EA). The majority of the comments made in our May 12, 2008 letter regarding the Preliminary Draft EA remain relevant, but we are writing to reiterate some of the more pertinent points and to provide some additional comments now that Alternative C has been identified as the "Preferred Alternative."

As already noted, the National Zoological Park (Zoo) is listed in the National Register of Historic Places (National Register) and the Holt House is individually listed in the National Register. The EA also includes a list of structures which may be considered character defining resources of the Zoo. We note again that the 1965 Great Flight Cage and addition to the Bird House are not included in this list and we reiterate that these resources should be evaluated for their potential historical significance so that informed decisions can be made regarding their appropriate treatment.

HPO  
Comment  
1

Given the range of proposed improvements and the Zoo's significance as a cultural landscape, virtually every one of the preferred actions has the potential to alter Frederick Law Olmsted's original design and constitute an "adverse effect" on historic properties. Therefore, we generally agree with the findings outlined in the "Cultural Landscapes" and "Historic Structures" Sections of the EA as they relate to the Preferred Alternative (pages 66-67 and 74-76). These findings identify many actions that are likely to cause adverse effects and outline the types of adverse effects which may result.

It is important to note, however, that Section 106 requires the evaluation of alternatives that will avoid adverse effects *before* those alternatives that will merely minimize or mitigate the adverse effects. For this reason, further Section 106 consultation will be necessary before final decisions can be made regarding some of the proposed actions in the Preferred Alternative. Examples of these types of actions include, but are not necessarily limited to, alteration of Olmsted's primary circulation route, the removal of the stone entry piers near the Stone Guard House and the relocation of the Camel Building and the Peccaries Building. We encourage the Smithsonian Institution (SI) and the National Capital Planning Commission (NCPC) to maintain as wide a range of possible alternatives open for consideration.

HPO  
Comment  
2

Mr. Harry Rombach, R.A.  
 Final Environmental Assessment Facilities Master Plan Comments; National Zoological Park  
 June 10, 2008

Although we generally agree with the findings in the “Cultural Landscapes” and “Historic Structures” Sections of the EA, we have a number of additional comments regarding the “Archaeological Resources” Sections of the document. Most importantly, the summary of the archaeological resources present in the Zoo is incomplete. Three archaeological sites are present on, or adjacent to, Zoo property. Unfortunately, one was incompletely recorded sometime prior to 1986 and little information is available for it, while research and reporting on the other two sites are in progress. The EA mentions that a reconnaissance-level archaeological survey was conducted but does not provide a reference to it in the bibliography. The DC SHPO has no record of concurring with a work plan or review of such a survey, and does not have a copy of a final report. The text also mentions that 16 areas of archaeological sensitivity were identified during the reconnaissance survey but they are not shown on a map or figure; therefore it is difficult to evaluate whether a given alternative would affect these areas.

HPO  
 Comment  
 3

Site 51NW028 is a prehistoric site reputedly the source of steatite artifacts. This unnamed site is at the north end of the Zoo just south of Porter Street near the Klinge Valley area; this general location could be a source of steatite artifacts as prehistoric steatite quarries in Rock Creek valley and its tributaries have been identified. There is no record that the location of 51NW028 has ever been investigated or otherwise ground-truthed. The National Register eligibility of this site is unknown.

HPO  
 Comment  
 4

One prehistoric site, 51NW220, was identified near the Calvert Street Bridge where the Zoo property meets Rock Creek Park (NPS property) and Walter Pierce Park (DC government property). The site was observed during a walkover of the area and has only been informally recorded; the spatial extent has not been defined although it appears to extend onto Zoo property. The temporal association of this quarry/workshop has not been defined and the National Register eligibility of this site is unknown.

HPO  
 Comment  
 5

The historic site 51NW216 is comprised of the area occupied by the Colored Benevolent Union Cemetery, much of which is in Walter Pierce Park. A small portion of the cemetery was sold to the Zoo and the internments were removed. Because cemetery removal is rarely 100% successful, and approximately 7,000 individuals were buried in the cemetery, the possibility exists that some of these remains could still be present on Zoo property. This site is considered eligible for the National Register.

HPO  
 Comment  
 6

The Zoo property has not been systematically surveyed for historic or prehistoric resources. A recently completed survey of Rock Creek Park conducted under the auspices of the NPS identified archaeological sites from every prehistoric and historic time period, including in areas near the Zoo. The results indicate that many areas assumed to have been disturbed by grading still retain archaeological potential. Archaeological surveys at historic houses in the area such as Greystone and Porter Crest have identified intact prehistoric archaeological sites despite construction disturbance and land alterations. Locations like the Holt House grounds may yet retain archaeological potential. Reevaluation of the archaeological potential of the Zoo property using data from the recent survey coupled with geomorphological analysis should occur to more clearly define the impacts to potential archaeological resources of the Zoo. It is anticipated that additional areas of archaeological potential will be identified. The testing program of areas of high and medium potential should be coordinated with the DC SHPO following initiation of Section 106 consultation.

HPO  
 Comment  
 7

Mr. Harry Rombach, R.A.  
Final Environmental Assessment Facilities Master Plan Comments; National Zoological Park  
June 10, 2008

Results of recent archaeological investigations surrounding the Zoo property make it clear that the Zoo grounds are likely to contain many types of archaeological resources. Consequently, even the small scale site improvements of the No-Action Alternative are likely to adversely affect archaeological resources that have not yet been identified. Therefore, we recommend that all of the Zoo property slated for ground-disturbing activities be subjected to a Phase I archaeological survey incorporating geomorphological analysis. Identification of archaeological resources should proceed to facilitate future development at the National Zoo.

HPO  
Comment  
7  
Cont.

We look forward to working further with the Smithsonian Institution and the National Capital Planning Commission to complete the review of the National Zoo Facilities Master Plan in accordance with Section 106 of the National Historic Preservation Act. If you should have any questions or comments regarding the Section 106 review process or any of the matters identified in this letter, please contact Andrew Lewis (for the historic built environment) at [andrew.lewis@dc.gov](mailto:andrew.lewis@dc.gov) or 202-442-8841 or Ruth Troccoli (for archaeology) at [ruth.troccoli@dc.gov](mailto:ruth.troccoli@dc.gov) or 202-442-8836. Otherwise, we thank you for providing this opportunity to comment on this important undertaking.

Sincerely,



Mr. David Maloney  
DC State Historic Preservation Officer

See



## Smithsonian Institution

July 28, 2008

David Maloney, DC State Historic Preservation Officer  
Historic Preservation Office  
801 North Capital Street, NE  
3rd Floor  
Washington DC 20002

Dear Mr. Maloney:

The Smithsonian Institution (SI) would like to thank you for your letters dated May 12, 2008 and June 10, 2008 in response to SI's request for comments on the Environmental Assessment (EA) for the National Zoological Park's Facilities Master Plan. SI has reviewed and considered your comments in the preparation of the Finding of No Significant Impact and Facilities Master Plan submission to the National Capital Planning Commission (NCPC). In accordance with NCPC requirements, a Historic Preservation Report (HPR) was prepared as part of our study, and included as an appendix of the Facilities Master Plan. For your convenience, we have also included a CD copy of the document with this letter. We offer the following information in response to your comments on the EA, and have included a copy of your letter, with each comment identified by number, for your reference.

### **Comment 1:**

SI is aware of these resources. While inadvertently omitted from the EA, they are described in the Historic Preservation Report, completed in April 2008. The character-defining resource status of the Bird House and the Great Flight cage are discussed in Section 4.2 of the Historic Preservation Report, stating, "later buildings at the zoo, such as the 1928 Bird House and 1937 Bird House addition (331-032) and the 1937 Elephant House (331-009) show the incorporation of more modern exhibit types into the zoo buildings. The Bird House included an indoor flight cage and the Elephant House used moated exhibit spaces rather than cages. Both of these buildings were renovated in the 1960s and 1970s, with the Elephant House retaining much of its original interior and exterior detailing, while the Bird House renovation changed the character of the exterior. Its original tile hipped roof over the interior flight cage and its original entry portico were both removed...while the Great Flight Cage (331-032B) does not reinforce Olmsted design principles for the zoo, this building warrants individual evaluation as an outstanding example of neo-expressionist design". Both structures are also listed as character defining resources in the Appendices to the Historic Preservation Report.

### **Comment 2:**

Language describing Section 106 consultation and avoidance of impacts was added to the Finding of No Significant Impact (FONSI). The FONSI states "SI has initiated consultation through the Section 106 process with the DC SHPO. As a result of this consultation, SI and DC SHPO agree that future reviews of projects will be conducted as they have in the past and avoidance, minimization, and mitigation employed during project development. Future design would consider ways to avoid and then if necessary minimize and mitigate adverse effects to National Zoo Historic Site and the other historic

structures that exist on the site. SI will follow the principles outlined in The Secretary of the Interior Guidelines for the Treatment of Historic Properties. SI will seek ways to minimize the profile of the Greenhouse and use vegetative screening if necessary to minimize its effect on the landscape surrounding the Holt House. Furthermore, the Great Flight Cage and addition to the Bird House are described in the Cultural Resources Assessment dated April 11, 2008. SI will continue to consult with the DC SHPO with regards to the potential significance of these structures as it proceeds through the Section 106 and design review processes on individual projects at this location. SI would evaluate feasible alternatives for each project that will seek to avoid impacts. If avoidance is not feasible, SI will then look to minimize or mitigate the adverse effects in accordance with Section 106 requirements.”

**Comment 3:**

Since the EA is a public document, it is not customary to include a map detailing areas of high archaeological potential or known archaeological sites for the protection of the resource. An archaeological map of the National Zoo and vicinity is provided in the Historic Preservation Report.

**Comments 4-7:**

These archaeological sites have been added to the Finding of No Significant Impact (FONSI). The FONSI states, “based on comments from the DC SHPO, SI recognizes that a number of other sites (51NW028, 51NW220, and 51NW216) exist in the vicinity of the Zoo property that have been identified since the time of Cultural Resources Assessment and Environmental Assessment for the Master Plan. The locations of these sites do not appear to be in areas of proposed development; however, as SI proceeds with more detailed site design, SI would evaluate archeological potential for each site and consult with the DC SHPO. SI has submitted the Cultural Resources Assessment to the DC SHPO for review and will continue to consult with them with regards to archeological potential at the Holt House and Zoo property. For each project that exists in areas of medium or high potential for archeological resources, SI will conduct Phase I archeological survey and the findings will be coordinated with the DC SHPO prior to any proposed development plans. If a site is determined to be eligible, SI would evaluate feasible alternatives for each project that will avoid impacts before taking action that would just minimize or mitigate the adverse effects in accordance with Section 106 requirements”.

We again want to thank you for your comments on the EA. We look forward to working with your agencies in the review of the Facilities Master Plan. If you should have any additional questions or concerns, please feel free to contact me.

Sincerely,



Harry Rombach, R.A.  
Associate Director for Facilities Master Planning

Enclosures

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
DEPARTMENT OF TRANSPORTATION



June 9, 2008

National Zoo Master Plan EA  
c/o Greenhorne & O'Mara, Inc  
810 Gleneagles Court, Suite 106  
Baltimore, MD 21286

RE: Environmental Assessment (EA) of the National Zoo Master Plan

Thank you for providing the District Department of Transportation (DDOT) the opportunity to review the Environmental Assessment (EA) of the National Zoo Master Plan. We have carefully reviewed the EA and would like to point out the following concerns:

1. Traffic Impacts: Section C.8 of the preferred alternative states that Parking Lot C of preferred plan C will accommodate an additional 1128 parking spaces. This statement is very confusing since on page 57 it is stated that there will be additional 200 parking spaces while at other locations in the EA it is indicated that 300 parking spaces will be added. It was unclear from the document the actual number of parking spaces added and how they will impact traffic.

The EA also makes the conclusion that adding more parking spaces will not add additional vehicle trips. This conclusion is made without any analysis provided in the document and is contrary to professional assumptions.

The EA does not provide any traffic analysis for the proposed development. We are concerned the additional traffic resulting from the proposed action will impact the neighboring streets and surrounding transportation network. The EA provides the existing LOS in the transportation section of the EA, however, does not provide any traffic counts or analysis for existing or future conditions. There is a reference of a Transportation

DDOT  
comment  
1

Management Plan (TMP) in the EA, however, that plan is not part of the EA. The TMP is necessary to demonstrate avoidance and/or mitigation.

The EA indicates that 65% of the visitors use private vehicles and only 22% of visitors use Metro to access the site. DDOT is disappointed to learn that such a high number of visitors use vehicles to access the site. This site is located between two metro stations. Also due its location within the District more emphasis should have been given to improve the transit share of the visitors. The EA does not identify any interest in increasing the transit usage or non-vehicular mode usage. DDOT highly recommends the National Zoo management develop more options that encourage transit, bicyclist, and pedestrian modes of transportation.

DDOT  
Comment  
1  
Cont.

2. Pedestrian and Bicyclist Impacts: The EA does not address the bicyclist and pedestrian needs to access the site. DDOT is concerned about the lack of consideration given to sidewalks, crosswalks, and bicycle paths to access the site. The EA identifies 12% of the visitors accessing the site as pedestrians. However, even with this number, no analysis is provided regarding the existing or the future conditions. DDOT recommends that the pedestrian and bicycle facilities should be given more emphasis since an increase in pedestrian and bicycle facilities would encourage greater use of non-auto mode of transportation, mitigating the level of delay both on site and in surrounding roads. The construction of a parking amenity would contradict this effort by increasing your ratio of vehicle to pedestrian visitors.

DDOT  
Comment  
2

3. Parking Structure: We are extremely concerned about the negative impacts that both the visible parking structure as well as the proposed underground garage will have on the zoo's surrounding traffic. Once again, clarification is needed on the exact number of vehicles this structure would accommodate.

DDOT  
Comment  
3

4. Air Quality: Additional parking will result in additional vehicles and additional Vehicle Miles Traveled on the network. This increase will affect the air quality of the area. Even though the project may not exceed the regional NAAQS, localized air pollutant emission in the project area will increase.

DDOT  
Comment  
4

We again appreciate the opportunity to review of the EA of the Master Plan for the National Zoo. With increasing concerns around climate change, air quality, and environmental health for both human and animal residents and visitors to the area, the District is aggressively pursuing environmentally sustainable development which requires attention to encouraging sustainable multi-modal transportation practices. DDOT strongly recommends re-evaluation of additional parking structures to meet access demands and encourages the National Zoo to develop a transportation plan which is more pedestrian, bicyclist, and transit friendly. DDOT will require the submission of a comprehensive and aggressive Transportation Management Plan for this

DDOT  
Comment  
5

expansion and its associated impact on the transportation system. DDOT believes that by giving more consideration to the concerns mentioned above the EA document and the project can be improved.

We look forward to working with you.

A handwritten signature in black ink, appearing to read 'Ka' followed by a large, stylized flourish that loops back to the left.

Sincerely,

Karina Ricks,  
Associate Director,



## Smithsonian Institution

July 28, 2008

Karina Ricks, Associate Director  
D.C. Department of Transportation  
2000 14th Street, NW  
6th Floor  
Washington, DC 20009

Dear Ms. Ricks:

The Smithsonian Institution (SI) would like to thank you for your letter dated June 9, 2008 in response to SI's request for comments on the Environmental Assessment (EA) for the National Zoological Park's Facilities Master Plan. SI has reviewed and considered your comments in the preparation of the Finding of No Significant Impact and Facilities Master Plan submission to the National Capital Planning Commission (NCPC). In accordance with NCPC requirements, a Transportation Management Program (TMP) was prepared as part of our study, and included as an appendix of the Facilities Master Plan. For your convenience, we have also included a CD copy of the document with this letter. We offer the following information in response to your comments on the EA, and have included a copy of your letter, with each comment identified by number, for your reference.

**Comment 1:**

There are currently 868 parking spaces at the National Zoo, of which 210 spaces are used by staff and official vehicles on an average day. With employment growth, approximately 240 spaces would be needed for staff on an average day under the current staff parking policies. Under the Preferred Alternative, the lot beneath the Cheetah exhibit will accommodate 300 new parking spaces (the 200 spaces referred to on page 57 of the EA is a typographical error), current Lot C will be expanded from 263 parking spaces to 1128 parking spaces, and Lot E, which is mainly used for construction staging and bus staging, will remain open with 172 existing spaces. Lots A, B, and D will be eliminated.

In all, 732 new spaces will be added, for a total of 1600 parking spaces under the Preferred Alternative (Master Plan, page 171). In addition, a proposed lot near the Holt House would accommodate an additional 20 employee or official guest spaces when Holt House is used for meeting space.

A Transportation Management Plan (TMP), a required component of the Facilities Master Plan, was completed in June 2006, and updated in June 2008. The TMP states one goal of the Comprehensive Facilities Master Plan is to develop the infrastructure capable of accommodating 3.5 million visitors per year by 2016 (similar to the annual attendance of 2001). The transportation impacts of returning to and exceeding that attendance level by 2016 should not be greater than the impacts observed in 2001. Rather, the Master Plan proposed developments are expected to reduce the impacts of a 3.5 million visitor year to a level below those which were observed in 2001 by accommodating the vehicles on site (TMP, page 18). An analysis of daily attendance and attendance forecasting is included in the TMP to qualify the assumption that traffic levels will not increase beyond 2001 levels in the time frame of the Master Plan.

The Facilities Master Plan is not intended to be an "expansion" of the Zoo, but rather an improved utilization of the existing grounds. The TMP, EA, and Master Plans were prepared under the assumption that Zoo visitation would increase in both action and no-action scenarios. Prior to September 11, 2001, Zoo visitation

was estimated to be approximately 2.9 million visitors. It is evident by past visitation numbers that parking is not the primary factor that influences visitation at the Zoo. It is anticipated based on current visitor trends that the Zoo visitation will continue to grow to and exceed pre-existing conditions whether or not the Master Plan is implemented. One of the purposes of the Facilities Master Plan is provide adequate facilities to serve anticipated visitation levels such as parking. Providing more on-site parking capacity would enable the Zoo to implement parking strategies, reduce congestion, and minimize overflow into the surrounding neighborhoods. The Zoo would also handle the increased visitation by extending the shoulder seasons and through increased programming during non-peak periods to reach its visitation goals. Under the No-Action Alternative, increased attendance would cause greater impacts to the surrounding neighborhoods (air and traffic) because visitors would have to be turned away once parking has reached capacity and seek parking outside of Zoo grounds on neighborhood streets. Also, it is important to note the type of visitors that travel to the zoo by vehicles are families, traveling with small children in strollers and the elderly, who plan to spend the entire day and therefore bring daytrip supplies; there is a benefit to the visitor experience by providing convenient parking. For this type of visitor, the use of the Metro and other forms of transportation is often not practical. However, by providing in-park transportation, some of these visitors may decide that walking to and from the Metro is a viable option.

**Comment 2:**

The National Zoo is interested in encouraging use of public transportation and non-vehicular travel. The National Zoo encourages visitors to use the Metrorail on its website and as visitation grows, plans to provide the infrastructure to support an external shuttle between the National Zoo and the Metro stations (Master Plan, page 57). Increased transportation within the National Zoo will provide visitors with rest, so that more visitors may be able to walk or bike to the National Zoo and use the Metro.

This is described in more detail in the Finding of No Significant Impact (FONSI) document, which states, “as more detailed programming, planning, and preliminary design of improvements to each entry of the National Zoo is completed, SI will coordinate with the DC Department of Planning and DC Department of Transportation related to programs and facilities that promote non-motorized modes of transportation and support bicyclists and pedestrian needs at the site. Specifically, SI has as part of the Master Plan included traffic circles on North Road to help support a shuttle type system for both internal and external circulation. With the renewal of Connecticut and Lower Entries, SI will evaluate the need for additional facilities to support bicyclists and pedestrians such as bike racks, crosswalks, and bike paths to the site and based on that need include new facilities in the site designs for the entries. Also, SI has evaluated different parking management strategies. The strategies depend in part on the consolidation of parking. Parking strategies will be considered with the development of the parking garages and real time technologies will be explored to encourage the use of alternative modes of transportation during peak periods when parking may not be available and to better inform visitor about parking at the Zoo.”

It should be noted that studies conducted during the master planning process confirm that the Zoo is not visited by a population that would typically utilize the Metro. Families with children and senior citizens carrying strollers, wheelchairs, picnics, etc., often rely on their vehicles to transport their families and the things they bring to enjoy a day in the park. Keeping the Zoo family-friendly is part of the education mission of the Zoo.

2004 visitor studies and focus groups indicated that 70% of Zoo attendees were visiting with children. The focus group requested the creation of onsite transport for children and seniors. In addition, one-third of the survey responders stated they had trouble parking their vehicles prior to their visit, and one tenth changed their plans altogether due to lack of parking. Visitors are already using the surrounding neighborhoods to park, and additional on-site parking would alleviate some of these vehicular impacts.

**Comment 3:**

As stated previously, the new parking and circulation structures are expected to ease neighborhood traffic and reduce off-site traffic congestion. Providing more parking on-site will limit the number of visitors searching for parking in the surrounding neighborhoods. The two traffic circles will allow a smoother flow of traffic so that vehicles can be easily redirected on crowded days, allowing the National Zoo to be proactive in redirecting vehicles to sanctioned and appropriate off-site parking. In addition, the Lot C parking structure is consistent with the previously approved 1986 Master Plan. Parking space totals are addressed in the response to Comment 1.

**Comment 4:**

Attendance at the National Zoo is expected to increase to pre-existing conditions (i.e., pre September 11, 2001) whether or not the Master Plan is implemented. Under the No-Action Alternative, increased attendance would cause greater air quality impacts to the surrounding neighborhoods as visitors seek parking outside of Zoo grounds. However, the new circulation and parking infrastructure detailed in the Preferred Alternative will relieve traffic congestion, resulting in a reduction of emission levels to below 2001 levels, while accommodating the same number of visitors.

**Comment 5: See comment 2**

Multimodal transportation and an explanation of the parking infrastructure is detailed in the TMP, and summarized in the response to Comments 1, 2, 3 and 4. Further coordination with DC Department of Transportation as individual projects are implemented and preliminary engineering occurs.

We again want to thank you for your comments on the EA. We look forward to working with your agencies in the review of the Facilities Master Plan. If you should have any additional questions or concerns, please feel free to contact me.

Sincerely,



Harry Rombach, R.A.  
Associate Director for Facilities Master Planning

Enclosures

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PO BOX 37012 MRC 511  
Washington DC 20013-7012  
202.633.6555 Telephone  
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rombah@si.edu Email



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

June 19, 2008

Mr. J. Wisner  
National Zoo Master Plan EA  
c/o Greenhorne & O'Mara, Inc.  
810 Gleneagles Court, Suite 106  
Baltimore, MD 21286

Dear Mr. Wisner:

In accordance with the National Environmental Policy Act of 1969 and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) has reviewed the Environmental Assessment for the Smithsonian National Zoological Park, Facilities Master Plan, Washington, DC. The purpose of the Environmental Assessment (EA) is to describe and address the Comprehensive Facilities Master Plan which identifies infrastructure needs and develops a comprehensive strategy that helps guide facilities renewal related to animal welfare, research, exhibits, visitor services, and circulation at the National Zoo over the next 20 to 25 years.

EPA commends the Smithsonian Institution for its preparation of the EA to ensure compliance with NEPA requirements recognizing its stewardship responsibilities and commitment to integrating environmental considerations into its planning and decision-making activities. The Master Plan embodies the vision of the new Strategic Plan which emphasizes the National Zoo's "leadership in animal care, science, education, and sustainability." To reach the National Zoo's goal of becoming an international leader, it is noted that "animal habitats require constant renewal to keep pace with new knowledge about animal health and well-being." Thus, the Plan proposes development while understanding the importance of sound land-use strategies to complement the existing zoo and the need to increase visitor amenities. EPA recognizes that the Plan is beneficial to the goals of the National Zoo; however, to better assess the potential environmental impacts, EPA offers the following comments for your consideration.

*Environmentally Sensitive Areas*

Page 33, Exhibit Renewal at Beaver Valley, states that, "The Beaver Valley area (see Figure 11) is environmentally sensitive and provides a shaded, quiet respite from Olmsted Walk." The environmentally sensitive area should be quantified and its contributing features identified to ensure that the designated area is protected and that improvements proposed are not infringing on the integrity of the sensitive area/species.

EPA  
Comment  
1

“Exhibits and walkways would be designed to allow universal access through a series of bridges, structures, lifts, and ramps that flow between the Beaver Valley and Olmsted Walk exhibits.” EPA requests that the EA address any potential impact from that which is proposed on the environmentally sensitive area?

“An upper addition to the building would allow a bridge to connect to a new building in Beaver Valley, providing access from Beaver Valley.” What are the impacts, if any, to the environmentally sensitive area?

With regards to that which is quoted below, new exhibits, walkways, and bridges should be clearly identified and labeled on a map that clearly depicts environmentally sensitive areas showing spatial relationship and addressing possible impacts.

“A new visitor building would also be connected by a bridge to another new exhibit building on the site of the former Lower Bear exhibit and a new visitor building at the site of the former Upper Bear exhibit.”

“Renovation of the Seal and Sea Lion exhibits and the addition of new animal exhibits that use the naturally forested slopes of the valley would attract visitors and allow crowds to distribute to areas outside of Olmsted Walk.”

“Elevated boardwalks would likely reduce the current at grade conflict between pedestrians and service vehicles in Beaver Valley.”

“In order to minimize the reliance on public streets and to create emergency and service access to Bird Hill, a service road is proposed that would connect Beaver Valley to Bird Hill.”

EPA  
Comment  
1  
Cont.

### Vegetation

Page 46 states that “A tree survey was conducted on the grounds in 2003 in order to categorize the value of the trees for insurance purposes.” The results of this survey should be provided identifying the number and kind of mature trees present as well as their location on the site.

EPA  
Comment  
2

Page 49, Alternative C (Preferred Alternatives), states that “Construction activities requiring land clearing of trees and shrubs in undeveloped areas would cause site-specific, minor to moderate vegetation impacts.” EPA is pleased that “SI would use tree protection measures to the extent practicable to save larger tree specimens that are indigenous to Rock Creek and the surrounding area.” However, it is important to quantify the potential impact to trees as well as identify the kinds of trees impacted. In addition, the shrubs that may be impacted should be identified and quantified. The location of these potentially impacted species should be depicted on a map.

EPA  
Comment  
3

Wildlife

Page 52 states that, "The pathway of the proposed aerial tram, particularly from Amazonia Science Gallery to Bird Hill would require clearing of trees and shrubs from an undeveloped forest, segmenting the forest habitat and causing moderate adverse impacts to wildlife." In addition, "Construction of a new service road, also from Amazonia Science Gallery to Bird Hill would require further clearing of the same undeveloped area of forest, causing additional segmentation and resulting in moderate adverse impacts to wildlife." It is noted that the two actions will fragment the existing wildlife habitat to disconnecting the forests areas. Again, the area impacted should be quantified and the impacted wildlife identified.

EPA  
Comment  
4

Thank you for providing EPA with the opportunity to review this project. If you have questions regarding these comments, the staff contact for this project is Karen DelGrosso; she can be reached at 215-814-2765.

Sincerely,



William Arguto  
NEPA Team Leader  
Office of Environmental Programs



## Smithsonian Institution

July 28, 2008

William Arguto, NEPA Team Leader  
Office of Environmental Programs  
Environmental Protection Agency, Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

Dear Mr. Arguto:

The Smithsonian Institution (SI) would like to thank you for your letter dated June 16, 2008 in response to SI's request for comments on the Environmental Assessment (EA) for the National Zoological Park's Facilities Master Plan. SI has reviewed and considered your comments in the preparation of the Finding of No Significant Impact and Facilities Master Plan submission to the National Capital Planning Commission (NCPC). We offer the following information in response to your comments on the EA. A copy of your letter, with each comment identified by number, is attached to this letter for your reference.

### **Comment 1:**

The term "environmentally sensitive area" does not indicate a designation of protected land, and does not contain protected species or habitat. The term was referring to an undeveloped segment of forest in the Beaver Valley area of the Zoo. The Master Planning Team called out the special quality of the valley area because of the topography and existing vegetation, in contrast to the density of development along Olmsted Walk. This area displays low impact development that compliments the ecological qualities of the area. No known rare, threatened, or endangered vegetative or animal species occur within this forest tract. The Beaver Valley area contains a portion of Rock Creek, the Rock Creek floodplain (Master Plan pages 117-119, 130). The proposed construction in Beaver Valley will not impose on wetland areas (page 130).

Because of the nature of a Master Plan, exact designs, layouts, and locations, as well as impact quantities are not yet available. As individual projects within the Master Plan are implemented, and design proceeds, impacts will be calculated and appropriate mitigation measures will occur.

### **Comment 2:**

The 2003 tree survey, due to its scale, would be difficult to incorporate into the Environmental Assessment format. However, a copy can be provided upon request by

contacting John Wiser at Greenhorne & O'Mara by phone at 410-583-6700 or by email at [jwiser@g-and-o.com](mailto:jwiser@g-and-o.com). Furthermore, impacts to vegetation were assessed qualitatively because the level of detail for each alternate is commensurate to that of a master plan.

**Comment 3:**

At this master planning phase, impact quantities and types of trees and shrubs are unknown. As projects are implemented and detailed design occurs, quantities will be calculated, mature trees will be identified in the plans, and specific tree protection measures and mitigation will be further detailed.

**Comment 4:**

Impacts to the forested area between Amazonia Science Center and Bird Hill will be quantified as projects are implemented and design occurs. Appropriate protection measures and mitigation will also be detailed. The National Zoo employs professional horticulturists who are dedicated to protecting the natural habitat of the park. As stated above, although the phrase "environmentally sensitive area" was used to describe Beaver Valley, no rare, threatened or endangered species occur in this area, and none will be impacted as a result of proposed Master Plan activities.

We again want to thank you for your comments on the EA. If you should have any additional questions or concerns, please feel free to contact me.

Sincerely,



Harry Rombach, R.A.  
Associate Director for Facilities Master Planning

Enclosure

**REFERRAL RESPONSES TO NCPC**

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
OFFICE OF PLANNING



Office of the Director

September 3, 2008

David Levy  
Acting Director  
Office of Urban Design and Plan Review  
National Capital Planning Commission  
401 9<sup>th</sup> Street, NW  
Washington, DC 20004

Dear Mr. Levy:

The Office of Planning (OP) submits the following comments regarding the Comprehensive Facilities Master Plan (the Master Plan) for the National Zoological Park (Zoo) for consideration. While OP supports the overall Master Plan elements we are deeply concerned about three aspects of the plan and recommend revisions, as well as mitigation of impacts. The National Zoological Park is a wonderful facility and a source of pride for both locals and visitors from around the country. The educational mission of the Smithsonian is particularly well implemented at the National Zoo where children and adults of all ages learn about the amazing diversity of the animal kingdom, their often endangered habitats, and the impact of human activity on their prospects for survival.

Helping visitors to understand how their own every day actions affect other creatures on the planet is not just the objective of a special exhibit at the Zoo, but an immersive experience that begins when visitors decide how they will access the Zoo, particularly their mode of travel. The impacts – air pollution, climate –changing greenhouse gases, run off from new impervious surfaces – vary widely depending on whether they walk, bike, take the bus, use Metro, or drive. Wouldn't it be great if the Zoo's website helped to facilitate a more environmentally benign choice?

The District of Columbia is a city that offers a wide range of travel choices – unusually so for a North American city. We have one of the lowest rates of household automobile ownership in the country (63% of households, compared to a national average of more than 90%) where at every income level, residents elect to forego owning their own vehicle. We have the second largest transit ridership in the country, behind New York City, and we were recently named the most improved city for biking in the nation, largely because we adopted a bike-sharing program, the first in the country; and have stripped miles and miles of new bike lanes. Our investment in a multitude of transportation options helps make our city move sustainable, provides high quality mobility for people of every age and income, and prepares us for a future where high fuel price may make driving an unaffordable luxury for many families.

The National Zoo's plans seem to imagine a different future or a setting in a very different city; at least as far as these key areas of the plan are concerned.

After reviewing the Master Plan, OP offers specific comments in the following three areas: 1) Sustainable Development, 2) Multi-Modal Accessibility, 3) and Transportation Management Plan (TMP). We look forward to working in collaboration with your office and the Smithsonian Institution to address

our concerns about the project and to refine the proposed development and publicly-accessible open space.

### Sustainable Development

The Master Plan does not directly address the types of specific Low Impact Development (LID) methods or other “Green Building” practices OP recommends incorporating sustainability principles into the building and renovation of individual animal exhibits, parking (both surface and structured) and administrative buildings. OP refers specifically to the following policies articulated in the District’s Comprehensive Plan of 2006:

*Policy E-3.1.1 Maximize Permeable Surfaces.* Encourage the use of permeable materials for parking lots, driveways, walkways and other paved surfaces to absorb stormwater and reduce urban runoff.

*Policy E-3.1.2 Using Landscaping and Green Roofs to Reduce Runoff.* Promote and increase tree planting and landscaping to reduce stormwater runoff, including the expanded use of green roofs in new construction and adaptive reuse and the application of tree and landscaping standards for parking lots and other large paved surfaces.

*Policy E-3.1.3 Green Engineering.* Promote green engineering practices for water and wastewater systems. These practices include design techniques, operational methods and technology to reduce environmental damage and the toxicity of waste generated.

### Multi-Modal Accessibility

The Office of Planning is committed to planning for and promoting multi-modal accessibility within District neighborhoods and to major destinations, such as the National Zoo. The District’s Comprehensive Plan of 2006 outlines broad policies specifically tied to achieving this vision. These include:

***Policy T-2.3.3: Bicycle Safety***

*Increase bicycle safety through traffic calming measures, provision of public bicycle parking, enforcement of regulations requiring private bicycle parking, and improving bicycle access where barriers to bicycle travel now exist. 409.10*

***Policy T-2.3.2: Bicycle Network***

*Provide and maintain a safe, direct, and comprehensive bicycle network connecting neighborhoods, employment locations, public facilities, transit stations, parks and other key destinations. Eliminate system gaps to provide continuous bicycle facilities. 409.9*

***Policy T-2.5.1: Creating Multi-Modal Corridors***

*Transform key District arterials into multi-modal corridors that incorporate and balance a variety of mode choices including bus or streetcar, bicycle, pedestrian and auto. 411.11*

To meet the sustainability goals in the Zoo’s Master Plan, complete facilities for non-motorized transportation should be provided as well as promoted. For example, covered bicycle parking should be installed in locations convenient to the Zoo’s main entrances. Bike lanes should be provided on North Road to connect through the Zoo property. The Zoo should coordinate with the District’s Department of Transportation (DDOT) and the National Park Service (NPS) to investigate a bicycle connection from Rock Creek Park, and improved bicycle facilities on Connecticut Avenue and Harvard Street. The

Smithsonian Institution should also coordinate with DDOT regarding the location of a SmartBike rental station at the Zoo.

Bicyclists should only be prohibited from riding on Olmsted Walk, not from using other roadways on Zoo property. The Transportation Management Plan (TMP) should provide details on the bicycle facilities that will be installed to encourage bicycling to the Zoo. Bike lanes or shared lanes (signs indicating the roadway is shared space) should be provided on North Road to connect through the Zoo property. Online information and maps of the Zoo should indicate bike lanes, routes and paths connecting to the Zoo and the specific location of bicycle parking.

The Office of Planning also has concerns regarding the quality of the maps and level of detail provided in the plans. The maps presented are inadequate to convey proposed changes to the transportation system. Maps are not presented that include the number of lanes and road widths, location of turning lanes, signals or pedestrian crosswalks, or proposed bicycle parking. For example, Figure 90 in the Master Plan does not provide any labels or indicate how many parking spaces will be accommodated in each location.

#### Transportation Management Plan

OP has concerns regarding the focus in the Master Plan and the TMP on adding a maximum amount of parking at the Zoo while presenting limited and vague strategies and commitment to encouraging walking, bicycling and transit-use by staff and visitors.

The TMP states that congestion on North Road is currently a significant issue for the Zoo, particularly for buses needing to pick up and drop off visitors. It also reports that during peak hours, buses are queued on Connecticut Avenue waiting to turn into the Zoo. The addition of approximately 800 parking spaces (868 currently provided; plan to provide 1,620) located primarily in one parking structure (C) with only one point of entry/exit (Figure 91 in the MP) will invariably increase congestion on North Road and in turn lanes on Connecticut Avenue. While the proposed roundabouts will offer some relief (allowing vehicles to turn around and buses to drop off), OP does not feel this is adequate to mitigate approximately double the number of vehicles entering/exiting the property. The TMP should indicate that Alternative "C" is the preferred alternative and offer more specific actions and mitigations related to that alternative.

To reduce the impact of additional vehicles searching for parking in adjacent neighborhoods, real time information should be available online. Visitors should know whether parking will be available at the Zoo prior to making their mode choice.

The TMP should include specific concrete strategies to encourage transit use for visitors and staff. Zoo staff should be required to pay for parking, and a transit benefit should be provided to encourage the use of metro and bus services. The Zoo should allocate sufficient resources to provide a regular shuttle from the Metro station to the park -- this is a more sustainable and cost effective strategy than adding structured parking spaces. The TMP should include specific recommendations to improve information about, and wayfinding from nearby rail stations and bus stops.

Greater details should be provided regarding proposed pedestrian facilities. Figure 92 in the Master Plan does not show crossing locations, sidewalk widths or other pedestrian amenities. Raised crosswalks should be considered for crossings on North Road to increase visibility of pedestrians and reduce motor vehicle speeds. New side of street pedestrian warning signs as adopted in the District's Pedestrian Master Plan (and slated for inclusion in the Manual for Uniform Traffic Control Devices) should be installed at crosswalk locations in place of the diamond shaped signs.

Conclusion

The Office of Planning appreciates the opportunity to comment on the Comprehensive Facilities Master Plan. Additionally, we welcome the opportunity to have a direct dialogue with you regarding our comments and how they can be best incorporated. If you have questions, please do not hesitate to contact me or Geraldine Gardner, Associate Director for Neighborhood Planning, at (202) 442-7600.

Sincerely,

A handwritten signature in black ink, appearing to read "Harriet Tregoning". The signature is written in a cursive style with some overlapping strokes.

**Harriet Tregoning**  
Director, DC Office of Planning

HT/gg/cgb

GOVERNMENT OF THE DISTRICT OF COLUMBIA  
DEPARTMENT OF TRANSPORTATION



August 28, 2008

National Zoo Master Plan  
c/o Greenhorne & O'Mara  
810 Gleneagles Court, Suite 106  
Baltimore, MD 21286

RE: Comprehensive Facilities Master Plan and Transportation Management Program

Thank you for providing the District Department of Transportation (DDOT) the opportunity to review the Comprehensive Facilities Master Plan (MP) and Transportation Management Program (TMP). We have carefully reviewed each and would like to point out the following concerns:

1. **Traffic Impacts:** Alternative C of the MP and TMP proposes a total of 1,600 parking spaces to accommodate staff, volunteers and visitors to the National Zoo. This number is double (existing 868) what the facility currently has and neither the MP nor TMP describe the impacts the additional trips will have on the existing road network. DDOT has serious concerns what the additional trips may have on Adams Mill Road, Harvard Street, Connecticut Avenue, and Beach Drive with increased queuing times needed to enter the proposed parking structure and facilities to the National Zoo. Neither document mentions the additional trips the increase in parking will generate. Also, the future Levels of Service (LOS) on the surrounding roadway network specifically on key access points to the National Zoo have not been adequately analyzed or provided.

The TMP (p. 9) cites the survey polling National Zoo visitors reflecting 65% of visitors interviewed arrived by car and of those 11% parked in the surrounding neighborhoods. 22% of the survey respondents took Metro to the National Zoo. DDOT does not consider the mode split appropriate since Cleveland Park Metro station is 0.3 miles from the Zoo and Woodley Park/National Zoo Metro station is 0.4 miles. The TMP (p. 23) mentions providing shuttle service to the National Park from the Metro stations and possibly from the National Mall but no goals as to the frequency or target reductions on vehicle trips to the National Zoo. The TMP does not identify any interest in increasing the transit usage or non-vehicular mode usage. DDOT highly recommends for the National Zoo consultant to develop options that encourage mass transit, bicycling, and pedestrian access.

The TMP (p. 9) mentions that 11% of drivers to the National Zoo park on neighborhood streets to avoid parking fees and it (p. 7) indicates that visitors parked in the neighborhoods even though parking spaces were available on site. Providing 800 additional parking spaces will not reduce this type of spillover parking impact on nearby neighborhoods.

The TMP (p. 24) calls for coordination with nearby hotels (Wardman Park Marriot, Omni Shoreham) to reserve their private excess parking to visitors to the National Zoo. DDOT through its development review process is aware of no excess parking spaces at these two locations making this option unattainable for the National Zoo. To the best of our knowledge, neither the consultant nor the National Zoo have reached out to the District of Columbia Housing Authority (DCHA) to inquire if parking is available for National Zoo staff. This option, if available, would provide very limited parking spaces to National Zoo employees and will not result in significant reduction of vehicle trips. The TMP under "Actions to consider" (p. 23-24) should only list alternative actions that can be achieved and should not assume that parking spaces are available without discussing this matter with the appropriate parties.

In the TMP (Action C7) it calls for the elimination of free parking for National Zoo staff, consistent with the Smithsonian Inspector's General recommendation and National Mall policy. DDOT supports this action and commends this approach. However, if pursued; there will be less of a demand for a 300 space underground garage for employees and volunteers. Additionally, DDOT believes that Zoo staff should be offered some incentive to live close to the Zoo location in order to create more of a staff campus. Allowing for staff to live in vicinity will minimize use of parking and offer more eco-friendly practices. More information on Live Near Your Work can be found at: <http://www.mwcog.org/commuter2/LNYW/housing-options.html>

2. Pedestrian and Bicyclist Impacts: The MP and TMP do not address the bicyclist and pedestrian needs to access the site. DDOT is concerned about the lack of consideration given to sidewalks, crosswalks, and bicycle paths to access the site. The MP and TMP identify 12% of the visitors accessing the site as pedestrians. However, even with this number no analysis is provided regarding the existing or the future conditions. DDOT recommends that the pedestrian and bicycle facilities should be given more emphasis since an increase in pedestrian and bicycle facilities would encourage greater use of more sustainable modes of transportation, mitigating the level of delay both on site and in surrounding roads. The construction of a parking amenity would contradict this effort by increasing your ratio of vehicle to pedestrian visitors. DDOT is concerned about the impacts the proposed parking structure and expansions will have on the planned reconstruction of the Rock Creek bicycle and pedestrian trail running parallel to the National Zoo property.
3. Parking Structure: DDOT is concerned about the negative impacts that the visible parking structure and the proposed 300 vehicle underground garage may have on the zoo's surrounding traffic.

4. Air Quality: Addition of parking and encouragement of additional auto trips will result in negative air quality of the area. Even though the project may not exceed the NAAQS, air pollutant emissions in the project area will increase.

We again appreciate the opportunity to review of the Master Plan and Transportation Management Program for the National Zoo. However, we believe that all development projects within the District should encourage environmentally sustainable development including sustainable multi-modal transportation. DDOT strongly recommends re-evaluation of additional parking structures and developing a transportation plan which is more pedestrian, bicyclist, and transit friendly. DDOT believes that by giving more consideration to the concerns mentioned above the Master Plan and the Transportation Management Program documents and the project can be improved.

We look forward to working with you.

Sincerely,



Rick Rybeck,  
Deputy Associate Director, TPPA for  
Karina Ricks  
Associate Director for Transportation Policy & Planning