UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

DEC 14 2010

To All Interested Government Agencies and Public Groups:

In accordance with the U.S. Environmental Protection Agency's (EPA) procedures for the preparation of environmental impact statements (EIS), an environmental review has been performed on the proposed agency action below:

Project Name:	**Farnham Park Stormwater Infrastructure Improvements**
Purpose of Project:	The purpose of the project is to refurbish obsolete stormwater systems that are degrading nearby wetlands, reinvigorate use of the park, enhance safety and provide a trail that will be a critical link in the Camden Greenway.
Project Originator:	City of Camden, Camden County, N.J. 08102
Project Location:	Farnham Park Block 1265, Lots 2 & 4, City of Camden, Camden County, N.J. 08102
Project Description:	The project consists of implementing stormwater management improvements in Farnham Park to improve drainage and correct erosion problems within the park as well as along wetlands adjacent to the park. The project also includes installation of multi-use trails, an improved crosswalk at Baird Boulevard, repairs to the spray pool area to prevent flooding and increase water infiltration, and other park amenities.
EPA Grant Number:	XP-97261706-0
Estimated Project Cost:	$ 868,909
EPA Grant:	$ 477,900

Based on information provided by the City of Camden, and other existing information, our assessment indicates that no significant adverse environmental impacts will result from the proposed action. Consequently, we have made a decision not to prepare an EIS on the project. The Environmental Assessment (EA) document provides recommendations that were consulted upon with the project's proponent and are connected to the EA's conclusions.

All supporting documents, along with the EA (copy enclosed,) are on file at the offices of the EPA Region 2 and in Camden City Hall, Room 105, 520 Market Street, Camden, NJ 08102. The EA is also available on EPA Region 2's website at http://www.epa.gov/region02/spmm/r2nepa.htm.

Comments supporting or disagreeing with this decision may be submitted to EPA for consideration. All comments must be received within 30 calendar days of the date of this finding of no significant impact. Please address your comments to: Grace Musumeci, Chief, Environmental Review Section, at the letterhead address. No administrative action will be taken on the project for at least 30 calendar days after the date of this FONSI.

Sincerely,

Judith A. Enck

Judith A. Enck
Regional Administrator

Enclosure

USEPA Region 2
290 Broadway
New York, NY 10007-1866

Farnham Park Stormwater Infrastructure Improvements

City of Camden, Camden County, N.J.
XP-97261706-0

Environmental Assessment

December, 2010

Environmental Assessment

I. Project Identification

Name of Project:	Farnham Park Stormwater Infrastructure Improvements
Name & Address of Applicant:	City of Camden, Camden County, N.J. 08102
EPA Project Number:	XP-97261706-0
Project Location:	Farnham Park, Block 1265, Lots 2 and 4, City of Camden, Camden County, New Jersey

II. Project Description

The project consists of implementing stormwater management improvements in Farnham Park to improve drainage and correct erosion problems within the park as well as along wetlands adjacent to the park. The project also includes installation of multi-use trails, an improved crosswalk at Baird Boulevard, repairs to the spray pool area to prevent flooding and increase water infiltration, and other park amenities.

III. Purpose and Need for the Project

The purpose and need of this project is to alleviate flooding in order to restore safety and functionality to Farnham Park and the surrounding area. Secondarily, this project would provide an important link in the Camden Greenway[1] and add to the regional trail system. Eliminating the source of erosion and repairing the gullies, trail, and eroded hillsides will improve water quality on the site and of the flow into the Cooper River thereby improving the natural environment of the park-side community and overall safety within the park.

In 1907 a ravine was built in Farnham Park. The ravine is now weather beaten and characterized by an inadequate stormwater system with severe erosion that is degrading nearby wetlands and exposing topography, such as eroded hillsides, that limits sight lines and endangers the safety of casual walkers.

[1] Camden Greenways, Inc.'s mission is to implement the comprehensive Greenways Plan that details an extensive linear park system along the Delaware River, Cooper River, and Newton Creek in Camden, New Jersey (http://www.camdengreenways.org/index.html).

Farnham Park is located between Kaighns Avenue and Park Boulevard at Block 1265, Lots 2 and 4, in the City of Camden, Camden County, New Jersey (see figures 1 and 2). The Park was transformed into a Victorian style recreation area where a ten acre pond was the center of several recreation activities. An earthen dike was built to separate the area from the Cooper River's tidal influence. In 1971, the dike was breached in three places by a hurricane and never repaired. The natural environment eventually reclaimed the pond area and wetlands, tidal marsh and open water now occupy most of the park area. The dike and perimeter roadway at the foot of the adjacent escarpment remain above the daily high tide. The former drainage systems and tidal gate structures are deteriorated and are inoperable.

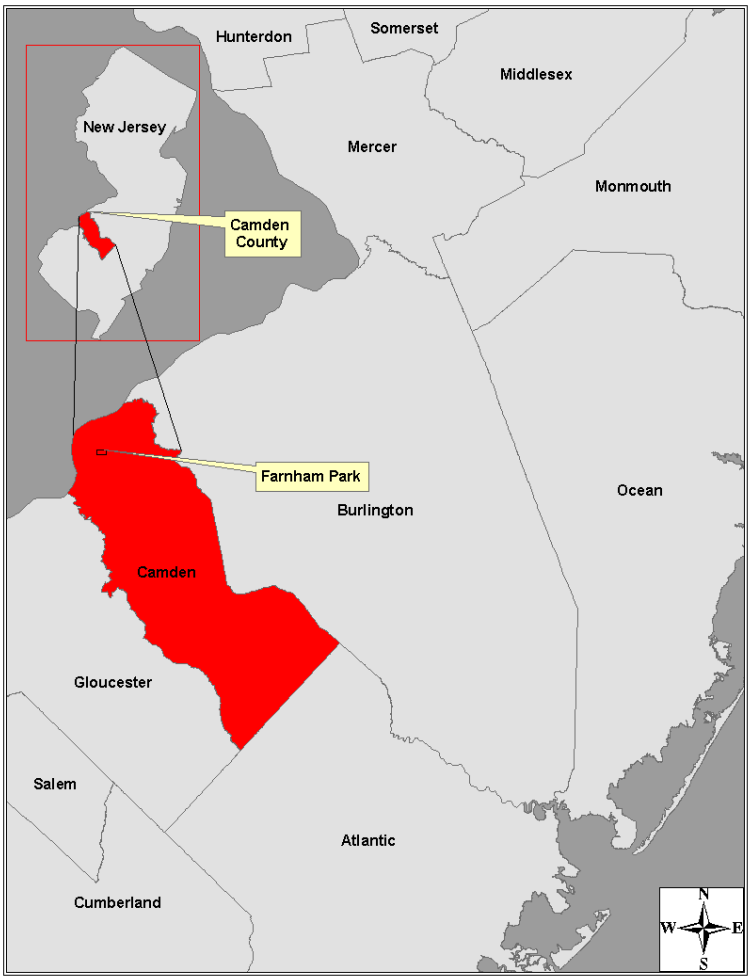

Figure 1 – County Location Map

Figure 2 – Site Location Map

IV. Alternatives

A. No Action Alternative

Presently, the Park ravine's severe erosion persists, causing runoff into the Cooper River, degrading water quality as well as the wetlands in the area. The no action alternative would not stop the ravine's severe erosion and would not alleviate human hazards at the ravine's site.

The No Action Alternative would not prevent additional adverse effects to the environment caused by future water runoffs and other weather conditions. Additionally, No Action would worsen the extent of the ravine's erosion and would increase the extent of repairs in the future.

B. Stormwater Infrastructure Improvements

The proposed action is intended to alleviate drainage and severe erosion problems within the park and along the wetlands adjacent to the Cooper River. Additionally, the project considers upgrade to the upper portion of Farnham Park in the form of a new pedestrian and biking trail, a new picnic area, and landscape improvements that will enhance the park's beauty and filter runoff at various locations, to help improve drainage and correct erosion problems The new pedestrian and biking trail will provide a critical link in the Camden Greenway, which ties into the Cooper River/Delaware River Greenway and is a long-range plan pursued jointly by the City of Camden and Camden County.

The proposed action seeks to address ravine erosion that has resulted in unsafe topography and a failing stormwater system (Figure 3 & 4).

Figure 3 - – Gully erosion, pipe exposed

Figure 4 - Gully erosion

In addition to decreasing erosion, the recreational attributes of the project have significant conservation and environmental benefits. For example, the steep slopes along the Cooper River will be stabilized and replanted and new infiltration areas will be created. Additionally, all of these measures will improve drainage and runoff within and around the park and reduce sediment loading to the wetlands at the base of the ravine where the stormwater outfall is located.

The design for Farnham Park encompasses three primary objectives:

1) *Erosion and sediment control*. Due to excessive storm flows, a major portion of the bluff leading to the Cooper River at Farnham Park has eroded severely over the past ten years. Not only is a major portion of the hillside missing, but also the concrete sidewalk that runs parallel to the water's edge has been undermined and collapsed.

   The design calls for a) eliminating the source of erosion and then b) repairing the gullies, trail, and eroded hillsides. First; the discharge pipe will be extended further out to the river, then new stone bedding, a splash zone, and an energy dissipation structure will be installed to remove the erosive forces. In addition, a new stormwater infiltration system will reduce the volume of stormwater runoff coming through the pipe. Part of this restoration is extensive trail realignment and repair, native tree and shrub plantings for amenity and soil stabilization, adding picnic facilities, and integrating river views, circulation, and uses into the park.

2) *Stormwater management*. The City of Camden uses a combined sewer overflow system that results in water quality problems. Stormwater will be redirected out of the pipes to infiltrate into the ground, reducing point source pollution to the Cooper River. This approach uses simple infiltration techniques to take surface runoff into constructed wetlands and meadows, and out of the sewer system. By lowering the discharge from pipes, it also serves to reduce erosion.

   The design calls for rerouting surface stormwater flow to forested and grass systems. This is done in a passive way that does not detract from the usage of the park. It includes subsurface piping and catchment systems to allow stormwater to infiltrate into the deeper underlying soils. This improves groundwater quality and quantity, thus replenishing the aquifer and reducing point source discharge into the river.

3) *Repair of the spray pool area:* Currently, the spray pool, a popular park use, overflows almost immediately following rain events due to

compacted and poorly drained soils. This causes excess flooding and a nuisance to the spray pool users.

The design calls for repair of the plumbing of the spray pool, so that it operates in a fully functional manner, and repair of the surrounding grounds for better drainage. This will be accomplished with minor grading, rototilling and disking the soils to open up the surface, adding an overflow basin, and adding better structure to the soil to promote infiltration.

Project Costs for the Proposed Action:

Total Project Cost……..$868,909
Total Eligible Project Cost……$477,900
Estimated EPA Grant Funds…….$477,900

C. Conceptual Alternative

The conceptual alternative included other possible methods including structural measures to control erosion such as; concrete walls, stone walls and segmented retaining walls. The alternative was rejected due to extensive disruptive work that would be necessary and the desire to maintain a more natural condition in the park by using native vegetation for stabilization.

V. Affected Environment

Farnham Park sits on 71 acres of land and is the largest park in the City of Camden. Bordering north and east of the Park is the Cooper River. Kaighn Avenue is located south and Park Boulevard and Baird Boulevard are west of the Park. The Park is divided in two parts; Upper Farnham Park covering the western portion of the site located above the mean high water line, while Lower Farnham Park covers the eastern portion which lies below the mean high water line (See Figure 2).

1. Archaeology and Historical Resources

The potential for historic resources is moderate due to the limited development at the site. Dated February 2008, a Phase IA Archaeological Survey and an Intensive- Level Architectural Survey of Farnham Park were completed. A prehistoric site and a historic site are located within one mile of the project. Historical documentation reported that a Native American village was once located in Farnham Park. The State Register-listed Pomona Hall is located approximately 625 feet south of the southern edge of the project site.

2. **Wetlands**

   Freshwater wetlands under the jurisdiction of the US Army Corps of Engineers and the New Jersey Freshwater Wetlands Protection Act are located north and east of the site. Also, activities at this site are covered under the Waterfront Development Act.

3. **Flood plains**

   The project site is located within the tidal floodplain of the Cooper River.

4. **Agricultural Lands**

   The proposed project site is not located within agricultural lands.

5. **Designated Coastal Zones**

   The project is located within the tidal floodplain of the Cooper River.

6. **Wild and Scenic Rivers**

   The Cooper River is not registered as a Wild and Scenic River under the National Wild and Scenic River Act.

7. **Endangered/Threatened Species**

   The project is located in a suitable habitat for endangered and threatened species such as the Eastern Box Turtle. Also, the site is suitable as a foraging area for birds.

8. **EPA-designated Sole Source Aquifers**

   The project is located in the Coastal Plain Sole Source Aquifer system.

9. **Designated Wellhead Protection Areas**

   Most of the project site is situated in either a Tier 1, 2 or 3 area, only the southeastern side of the project area is not included in a protection area.

10. **Air Quality**

    Camden County is located in an Ozone moderate attainment area under the Clean Air Act (CAA). Also, Camden County is ranked non-attainment for particulate matter less than 2.5 microns (PM 2.5).

11. **Ground Water**

Two ground water monitoring wells are located on the site; one near Cooper River and Baird Boulevard and the second at the intersection of Euclid Street and Kaighn Avenue. Data from these wells is dated 1982 and 1987. More recent data is not available.

12. **Environmental Justice**

The Region 2 Environmental Justice (EJ) Analysis supports EPA Region 2's Interim Policy for Environmental Justice (IP). The specific community that is under evaluation for inclusion in the Region's EJ program is referred to as the Community of Concern (COC) in the IP. The evaluation process hinges on the comparison of the respective levels of the environmental burden, minority representation, and low income representation between the COC and its statistical reference area.

For environmental burden analysis, Region 2 advances the concept of an "Environmental Load Profile (ELP)." The profile would provide a representation of the environmental load (i.e., relative environmental burden) within a community. The ELP serves to identify communities that may bear a disproportionate environmental load in comparison to statewide-derived thresholds. Currently, the Environmental Load Profile consists of the following three indicators: Toxics Release Inventory (TRI) Air Emissions, Air Toxics, and Facility Density. The ELP generates a summary report that provides numeric values for state thresholds, indicator of the community of concern (COC Indicator), and the ranking of the community in the state. These calculated values not only identify whether the particular community meets an ELP threshold, but further upon exceedance, the indicator value is ranked to provide a measure of magnitude.

Application of the Environmental Load Analysis for the Camden area indicates that every indicator evaluated exceeds the respective New Jersey thresholds (see table 1).

Indicators	NJ State Threshold	COC Indicator	Ranking
TRI Indicator:	10.5183	18.99	7
Facility Density Indicator:	75	1295.45	9
Air Toxics Cancer Indicator:	38.79	48.31	5
Air Toxics Non_cancer Indicator:	5.62	7.24	4

Table 1: Environmental Load Analysis

Consequently, a demographic analysis was done to calculate the percent minority and percent poverty (see table 2) for the COC and compare to an appropriate statistical reference. Statistical reference for percent minority and percent poverty were calculated for each state in EPA Region 2 using cluster analysis. Separate statistical references for urban and rural settings were developed for evaluating percent minority. The location of the COC determines which statistical reference area is used. As indicated in Table 2, the indicators for minority and poverty are well above the state thresholds so the COC is considered an EJ community.

Indicators	NJ State Thresholds	COC Indicator	Urban/Rural
Percent Minority:	48.52	97.07	urban
Percent Poverty:	18.58	35.77	urban

Table 2: Demographic Analysis

VI. Environmental Consequences of the Proposed Action

1. Archaeology and Historical Resources

The final project design does not include disturbance to the potentially significant prehistoric site (28-Ca-120) identified in the October 2008 Phase IB Archaeological Survey, as a consequence on January 10, 2010 the New Jersey State Historic Preservation Office concurred with the above decision. On January 20, 2010, EPA received documentation indicating that a Phase II Archaeological Survey will not be needed for this project.

2. Wetlands

The project area is proposed for classification as having sensitive environmental features such as wetlands. Therefore, the boundaries of the project were designed to avoid the wetlands.

3. Ground Water

The quality of the surface runoff entering ground water should improve as a result of stormwater management and erosion control components of the project. The addition of retention/infiltration basins and rain gardens will filter runoff from paved areas and correct severe soil erosion along the escarpment edge. Erosion and sediment entering the Cooper River will be reduced or eliminated as a result of stabilizing the slopes with vegetation.

4. **Noise**

During construction activities there will be an increase in noise levels on the site from construction equipment. It is not anticipated that the number of vehicles or duration of the construction period will create undue noise impacts.

5. **Aesthetics**

There should be a beneficial impact to aesthetics resulting from the project. Eroded, unstabilized areas will be stabilized. Areas in need or repair will be repaired. Rain gardens will add permeable areas in an interesting and attractive manner. Overall, there should be a beneficial, noticeable improvement to the Park.

6. **Air Quality**

EPA performed a general conformity applicability analysis calculating emissions of nitrogen oxides (NO_X) volatile organic compounds (VOC), fine particle pollution ($PM_{2.5}$) and sulfur dioxide ($SO_{2.}$) Table 3 shows the results of the general conformity applicability analysis for the Farnham Park Stormwater Management Project's construction year. All levels are below the applicable deminimis threshold values; therefore, the project is presumed to conform and no further action is necessary.

2009 CONSTRUCTION EMISSIONS SUMMARY FOR GENERAL CONFORMITY				
POLLUTANT	**NO_X**	**VOC**	**$PM_{2.5}$**	**SO_2**
OFF-ROAD CONSTRUCTION EMISSIONS (tons)	0.134	0.031	0.022	0.004
ON-ROAD CONSTRUCTION EMISSIONS (tons)	1.269	0.078	0.031	0.007
TOTAL CONSTRUCTION EMISSIONS (tons)	1.403	0.109	0.054	0.012
GENERAL CONFORMITY THRESHOLD (tons)	100	50	100	100
PERCENTAGE OF THRESHOLD	1.40%	0.22%	0.05%	0.01%

Table 3: General Conformity Analysis

7. **Greenhouse Gas Emissions**

EPA conducted a greenhouse gas analysis of the Farnham Park Stormwater Management Project for informational purposes only. This analysis (see table 4) includes carbon dioxide (CO_2) emissions from the construction phase of the project. Please contact EPA for more information on emission factors and assumptions.

CARBON DIOXIDE EMISSIONS SUMMARY	
POLLUTANT	CO_2
OFF-ROAD CONSTRUCTION EMISSIONS (tons)	13.190
ON-ROAD CONSTRUCTION EMISSIONS (tons)	276.492
TOTAL CONSTRUCTION EMISSIONS (tons)	289.682

Table 4: Greenhouse Analysis

8. **Environmental Justice**

While this project will not affect the ELP, the improvements to the park will make it safer and more functional for community use.

VII. Indirect and Cumulative Impacts

The National Environmental Policy Act requires the consideration of past, present and reasonably foreseeable actions that may also affect area resources in addition to direct and indirect project impacts. The proposed action brings more indirect and cumulative effects than the anticipated direct effects from the action. The level of traffic impacts in the area might increase over time in combination with other future development. However, there are no other recent, ongoing or planned projects that will affect the project area known at this time.

Short term impacts will involve minor disturbance from construction and planting, which will be dealt with using erosion control devices. Long-term impacts will result in an improved natural environment and a safe outdoor space for the residents of Camden.

VIII. Steps to Minimize Adverse Effects on the Environment

The project incorporated several green technologies in the final plans such as:

- the construction of a five foot wide level spreader with Best Management Practices of a vegetative filter of indigenous woods for a width of 25 feet. The vegetative filter will provide 80% removal of total suspended solids without requiring the disturbance of any existing vegetation or long term maintenance
- the construction of an infiltration trench on the downward slope side of the ten foot wide multi-purpose trail to allow runoff to infiltrate into the permeable silty-sand below will decrease impermeable surface in the park
- the ravine restoration will be located outside the riparian zone, outside of the wetlands buffer, outside the 100 year floodplain limit, and with minimum disturbance to existing vegetation

- the construction of rain-gardens around the spray pool area will allow 30% more water to infiltrate into the ground
- the addition of two hot ash receptacles and two triple recycling cans will be located within the picnic and playground areas
- the addition of environmental educational trail signs in strategic locations will add public awareness for environmental protection and education
- the existing cobra head lights will be replaced with 100 foot-candle LED fixtures saving energy and cutting down emissions.
- the assessment of this project did not include any future development plans in the lower park section. Any future plans to connect the park to the water across the wetlands should involve a detailed environmental assessment where issues such as the Park's flooding history, climate change, and wetlands impacts, will be thoroughly considered.

Also, the addition of benches at the lookout location will not have detrimental impacts such as the removal of trees or retaining walls due to their planned strategic locations.

IX. Coordination of Environmental Review

A. Public Participation Program

Since 2006, representatives from the City of Camden, Camden County, local neighborhood organizations and nonprofits have been involved in planning the extension of the Camden Greenway plan through Farnham Park, as well as stormwater management and other improvements to the park.

On March 14, 2006, a community meeting was organized in order to hear the community's perspective on the following:

1. Current uses and design features in the park that they would like to maintain and enhance;

2. Ways to enliven the park and increase use of the park by a wider variety of community members;

3. Interest in developing the trail through the park and trail routes and design features that would enhance safety and use;

4. Flooding and stormwater problems in the park;

The results from this meeting were the following key points:

a. Maintain the historic and natural look of the park.

b. Increase use of the park, but not in a way that would detract from the historic and natural feel of the park.

c. Safety is a serious concern; therefore the trail was not placed through wooded slopes.

d. Repair and upgrade the playground and water features at the park. Also, flooding in the upper part of the park near the parking area and intersections is a serious problem, as is erosion along the slopes.

A second meeting was held on April 10, 2006, for which a public announcement was put out and an official transcript of the meeting was taken. The results were consistent with the March 14, 2006 meeting.

In 2010 an informational table was set at the celebration of Camden's Day to inform and update the citizens on the status of the Farnham Park project.

X. REFERENCES

A. References

- USEPA Greenbook. 2009. http://www.epa.gov/oar/oaqps/greenbook/ancl.html#NEW JERSEY
- Camden Greenways, Inc., 2010. http://www.camdengreenways.org/index.html