



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

AUG 27 2007

To All Interested **Government** Agencies and Public Groups:

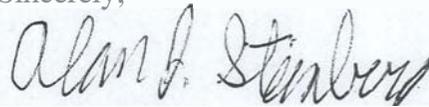
In accordance with the U.S. Environmental Protection Agency's (EPA) procedures for the preparation of environmental impact statements (EIS), an environmental review has been performed on **the** proposed agency action below:

- Project Name:** **The Peninsula** at Bayonne Harbor
Water System Improvements
- Purpose of Project:** The project will **increase** the **reliability** and **capacity** of the water **distribution system** which **services the Peninsula** at Bayonne (the **former Military Ocean Terminal Bayonne**) in accordance with **the** City of **Bayonne's** redevelopment **plan** for the area.
- Project Originator:** Bayonne Municipal Utilities Authority
- Project Location:** **The Peninsula at Bayonne Harbor**
City of Bayonne, Hudson County, New Jersey
- Project Description:** The proposed **project involves** design and **construction** of approximately 7,325 **linear** feet of 16-inch diameter **water mains**, 2,200 linear feet of **12-inch diameter** water main, 460 linear feet of 8-inch **diameter** **water mains**, and connections to **the** City of **Bayonne's** **water supply system**.
- Estimated Eligible Project Costs:** \$ 2,624,364
- EPA Grants:** \$ 1,443,400

Our environmental review of this project 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. This decision is **based** on a careful review of the project's environmental **information** document, a site visit, **and other** supporting **information**. All of these documents, **along** with the Environmental Assessment (copy enclosed), are on file **at the** offices of the EPA Region 2 and of the Bayonne Municipal Utilities Authority, where they are available for public scrutiny upon request. 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** (FNSI). Please address your comments **to: Grace Musumeci**, Chief, Environmental Review Section, at **the** above address. No **administrative action** will be taken on the project for at least 30 calendar days **after** the date of this FNSI.

Sincerely,



Alan J. Steinberg
Regional Administrator

Enclosure

Environmental Assessment

I. Project Identification

Name of Project: Peninsula at Bayonne Harbor
Water System Improvements

Grant Applicant: Bayonne Municipal Utilities Authority
630 Avenue C
Bayonne, New York 07002

Project Location: City of Bayonne
Hudson County, New Jersey

II. Background and Purpose and Need for Project

The Peninsula at Bayonne Harbor is a man-made peninsula approximately 440 acres in area. It is approximately 0.33 miles wide and projects approximately two miles into the waters of Upper New York Harbor. (Figures 1 and 2)

The proposed water line project will improve the reliability and capacity of the water distribution system on the Peninsula in accordance with the recommendations of the Bayonne Municipal Utilities Authority's 2004 Water System Master Plan for the Peninsula at Bayonne Harbor.

The site served as a major terminal for the movement of military cargo from World War II until 1999. The U.S. Navy operated the site as the Bayonne Navy Yard from 1941 to 1967, when it was transferred to the U.S. Army and renamed the Military Ocean Terminal at Bayonne (MOTBY). The facility was decommissioned in 2000 and the property and existing site improvements were subsequently transferred to the City of Bayonne and its Local Redevelopment Authority for reuse pursuant to the Base Realignment and Closure Act. The redevelopment includes commercial and residential aspects and, as such, requires improvement of the existing water system.

III. Description of the Project

The project includes the design and construction of approximately 7,325 linear feet of 16-inch diameter water line, 2,200 linear feet of 12-inch diameter water line, and 460 linear feet of 8-inch diameter water line, and connecting them to the City's existing water supply mains. (Figure.3) It represents the stage of improvements to the Peninsula's water supply and distribution system recommended in the Water System Master Plan. The project will:

Provide the improved water supply capacity and pressure necessary to meet the needs of planned redevelopment of the Peninsula at Bayonne Harbor;
Create additional interconnection points between the water distribution system servicing the Peninsula at Bayonne Harbor to increase the reliability of the system;

- Improve water quality and reliability of service for the existing commercial and industrial water users in the Constable Hook section of Bayonne;
- Expand the effectiveness of the City's **Pulaski** Street existing water supply interconnection with Jersey City; and
- Create an alternative means to convey water to the southern end of Bayonne in the event that the existing 30-inch water main that serves that area of the City needs to be shut down for maintenance or repairs.

IV. Alternatives

Alternative A - No Action - The analysis conducted on the existing water **distribution** system indicates that the present system is only capable of providing adequate water volume and pressure for initial stages of redevelopment, **and that it will be insufficient** for the anticipated water demands for full redevelopment of the **peninsula**. Consequently, this alternative was rejected.

Alternative B - The Preferred Action - The proposed alignment has been selected over other locations **due** to its efficiency in connecting to the existing water supply. Under the proposed alternative, installation of the water line across the cove between the Peninsula and the Constable Hook area **will** be accomplished through **the** use of directional drilling beneath the cove. This will minimize impacts to the cove and to tidal wetlands and upland vegetative communities that are adjacent to the cove. The proposed alignment also follows the configuration of roadways that are proposed to **be** constructed on the MOTBY peninsula, which will limit environmental disturbance during any necessary future maintenance.

V. Affected Environment and Environmental Consequences

A. Land Use

1. General Land Use - Having been used as a terminal for movement of military cargo until operations ceased in 1999, most of the 440 acres is either paved or occupied by buildings and other structures.
2. Soils - The State Soil Geographic Database for New Jersey maps the following soil mapping **units** within the proposed project **area**:
 - a. Benton-Urban Land-Wethersfield - This mapping unit consists of an amalgamation of three separate upland soil series.
 - b. Sulfaquents-Udorthents-Psamments - This mapping unit **consists** of relatively young **mineral entisols** defined as having **no** or little distinct layering.

A Soil Erosion and Sediment Control Plan will be implemented for the proposed project in accordance with the NJ Soil Erosion and Sediment Control Standards. All excavated soils will be **beneficially** reused to the extent practical, or will be removed to an appropriate **offsite** location. No significant impacts to soils are anticipated **as** a result of the proposed project.

- B.** Floodplains - According to the Federal Emergency Management Agency's floodplain mapping of the site, approximately 40 percent of the **water** main extension will be placed within the 100-year floodplain. This is the **area** where the water main will traverse the open water cove within the **southern** portion of **the** alignment. However, the water main will be placed underground, beneath the cove bottom. Thus, there will be no permanent floodplain **impacts**.
- C.** Wetlands - Wetlands within the project area include estuarine, **tidal wetlands** dominated by **saltmarsh** cord grass (**Spartina alterniflora**) and **common** reed grass (**Phragmites australis**) adjacent to both the north and south sides of the cove. **These** wetlands are **bordered** by a thin strip of high marsh shrubs, dominated by high-tide bush (*Iva frutescens*). The wetland communities on the **Peninsula** include isolated freshwater emergent wetlands, which contain small, non-contiguous patches of forested wetlands.

The project alignment avoids impacts to the estuarine wetlands adjacent to the cove through the use of a directional drill installation method. **Furthermore**, the remainder of the water main proposed for the peninsula will follow the alignment of proposed roadways. Thus, there will be no impacts to wetlands or other regulated features **as** a result of **the** proposed project.

D. Water Resources

1. Surface Water - The closest water body to the project area is Upper New York Bay, which is located within the Lower New York Bay drainage basin and the Atlantic Ocean drainage system.

The **NJDEP's** surface water quality classification of the Upper **New** York Bay is Saline Estuarine 3, Non-trout production, **Category 2**. Saline **estuarine** is the general surface water classification applied to **saline waters** of **estuaries**. **Non-trout** waters means **fresh** waters that **have** not been designated as trout production waters. These waters are generally **not** suitable **for** trout because of the physical, chemical, or biological characteristics, but **are suitable** for a wide variety of other fish species. Category 2 **waters are** those waters not designated as Outstanding National Resource Waters or Category **One** for purposes of **implementing** anti-degradation policies.

The use of directional drilling will **avoid** impacts to **the** water **resources** of the cove area, which is part of the Upper New York Bay. Furthermore, implementation of a Soil Erosion and Sediment Control Plan for **the** construction of the water main will minimize impacts to surface water quality during construction.

2. Ground Water - During construction it is possible that groundwater may be encountered. If contaminated groundwater is encountered during construction, it will be managed in **accordance** with **the** NJDEP established requirements **under** the Procedural Guidance Document for Management of **Post-Remediation Environmental Conditions for the Peninsula**.
- E. Air Quality - Because the project is funded with a federal grant, it is subject to the general conformity air regulations (40 CFR 93 Subpart B). **The** proposed project is located in Hudson County, New Jersey, which is part of the New York-Northern New Jersey-Long Island NY-NJ-CT moderate 8-hour **ozone** nonattainment area, **PM_{2.5}** nonattainment area, and CO maintenance area. Accordingly, EPA conducted an analysis of pollutant emissions **from** construction of **the** project (Attachment). Emission estimates **were** based on **emission** factors taken **from** a number of **sources** and on **vehicle/equipment** types and activity levels supplied by **the project** sponsor.

Tables 1 and 2 below show the **results** of the general conformity applicability analysis. As indicated, emissions of **NO_x**, **VOC**, **CO**, **PM_{2.5}**, and **SO₂**, from construction of the project are significantly less than the applicable general conformity "**deminimis**" threshold values. Therefore, the project is presumed to **conform** with the State Implementation **Plan**.

TABLE 1					
2007 CONSTRUCTION EMISSIONS SUMMARY FOR GENERAL CONFORMITY					
POLLUTANT:	NO _x	VOC	CO	PM _{2.5}	SO ₂
OFF-ROAD CONSTRUCTION EMISSIONS (tons/yr)	0.692	0.032	0.204	0.028	0.019
ON-ROAD CONSTRUCTION EMISSIONS (tons/yr)	0.008	0.009	0.066	0.000	0.000
TOTAL CONSTRUCTION EMISSIONS (tons/yr)	0.7	.042	0.27	0.028	0.019
GENERAL CONFORMITY THRESHOLD (tons/yr)	100	50	100	100	100
EMISSIONS AS A PERCENTAGE OF THRESHOLD	0.70%	0.08%	0.27%	0.03%	0.02%

TABLE 2					
2008 CONSTRUCTION EMISSIONS SUMMARY FOR GENERAL CONFORMITY					
POLLUTANT:	NO _x	VOC	CO	PM _{2.5}	SO ₂
OFF-ROAD CONSTRUCTION EMISSIONS (tons/yr)	2.761	0.260	0.959	0.212	0.086
ON-ROAD CONSTRUCTION EMISSIONS (tons/yr)	0.068	0.086	0.624	0.002	0.001
TOTAL CONSTRUCTION EMISSIONS (tons/yr)	2.829	0.346	1.583	0.214	0.087
GENERAL CONFORMITY THRESHOLD (tons/yr)	100	50	100	100	100
EMISSIONS AS A PERCENTAGE OF THRESHOLD	2.89%	0.69%	1.58	0.21%	0.09%

Short-term construction-related impacts to air quality in the project area include fugitive dust emissions and emissions from construction equipment. Mitigation techniques include but are not limited to:

1. Wetting or chemically treating exposed earth during construction.
2. Limiting construction activities during extremely windy **and/or** dry conditions.
3. Covering dust-producing materials being transported to and from the project area.
4. Keeping trucks and other construction equipment clean and properly maintained **during** construction.
5. Implementing a traffic management plan to minimize delays and routing **traffic** away **from** residential areas and other sensitive receptors.

F. Biological Resources

1. Vegetation • Vegetation within the project area includes estuarine, tidal wetlands dominated by saltmarsh cord grass (***Spartina alterniflora***) and common reed grass (***Phragmites australis***) located adjacent to both the north and south shorelines of the cove. These wetlands are bordered by a thin strip of high marsh shrubs, dominated by high-tide bush (***Iva frutescens***). Landward of these areas, vegetative communities consist of highly disturbed and developed uplands, which contain vegetation commonly associated with urban areas, including **mugwort (*Artemisia vulgaris*)** and tree-of-heaven (*Ailanthus altissima*). Other vegetative communities consist of **maintained/landscaped** grasses and ornamentals associated with the commercial development on the south side of the cove, and the maintained areas located on the existing peninsula.

Any vegetation disturbed during the installation of the water main will be restored following project completion. Best Management Practices during construction, such as utilizing developed **surfaces** for staging construction and material storage, installation of erosion control devices, such as silt fencing and hay bale barriers, and temporarily stockpiling of excavated material on the uphill side of the excavation trench will ensure that environmental impacts are minimized. Furthermore, the use of directional drilling for the installation of the water main will greatly limit the amount of vegetative disturbance.

2. **Wildlife** - There are several resident mammals that **are likely** to be found within the vicinity of the proposed project area. Typical **mammal** species include opossum (**Didelphis virginiana**), **raccoon** (**Procyon lotor**), striped **skunk** (**Memphitis memphitis**), **black-tailed** jackrabbit (**Lepus californicus**), eastern cottontail rabbit (**Sylvilagus floridanus**), **eastern** chipmunk (**Tamias striatus**), gray squirrel (**Sciurus carolinensis**), **white-footed** mouse (*Peromyscus leucopus*), meadow vole (**Microtus pennsylvanicum**), muskrat (**Ondatra zibethinus**), and house mouse (*Mus musculus*).

Reptile and amphibian species **typically** found within the vicinity of the proposed project area include Fowler's toad (*Bufo Fowler*), spring peeper (*Pseudacris crucifer*), gray **treefrog** (**Hyla versicolor**), green frog (**Rana clamitans**), spotted salamander (**Ambystoma maculatum**), **redback** salamander (*Plethodon cinereus*), northern brown snake (*Storeria dekayi*), smooth green snake (**Opheodrys vernalis**), garter **snake** (**Thamnophis sirtalis**), **eastern hognose** snake (*Heterodon platirhinos*), eastern milk snake (**Lampropeltis triangulum**), northern black racer (*Coluber constrictor*), snapping turtle (*Chelydra serpentina*), red-eared slider (*Trachemys scripta elegans*), **eastern** painted turtle (**Chrysemys picta**), eastern box turtle (**Terrapene carolina**), and diamond **back** terrapin (*Malaclemys terrapin*).

The majority of the wildlife identified within the areas proposed for disturbance are common species adapted to urban environments. The temporary loss of small areas of primarily successional and landscaped vegetation will have little impact on urban wildlife and their habitats. **The** cove and adjacent **estuarine**, tidal wetlands, serve **as** foraging habitat for numerous shorebirds, including the black-crowned night heron (**Nycticorax nycticorax**). The use of the directional drilling method for the water main **installation** beneath the cove will avoid impacts to this habitat and its adjacent wetlands. The remainder of the water main alignment will utilize proposed roadways within the site to **further** limit disturbance.

3. Endangered Species Act - The **U.S.** Fish and Wildlife Service (FWS) has been consulted about the project. In correspondence dated May 16, 2006, the **FWS** indicated that no federally-designated threatened or endangered species or their habitat are known to exist on or near the site. Accordingly, no **endangered/threatened** species are expected to be affected by the project.
- G.** Archaeological, Cultural, and Historic Resources - Correspondence from the New Jersey State Historic Preservation **Office** (SHPO), dated December 13, 2001, indicates that the Peninsula is not eligible for inclusion on the National Register of Historic Places, and that no Register-listed or eligible archaeological properties are present. Furthermore, there have been extensive studies documenting historic and **archaeological** resources within Upper New York **Bay**. Consequently, the project is **not expected** to affect any significant resources. The documentation **includes** the following:
1. U.S. **Army** Corps of Engineers, Survey Cultural Resource Priority Area 2, March 31, 1977, Norman J. **Brauer**, Staff **Marine** Historian, Survey of **Cultural** Resources in the form of **Derelict** Ships.
 2. U.S. **Army** Corps of Engineers, N.Y. District, Cultural Resource **Reconnaissance**, New York Harbor Collection and **Removal** of Drift Project, Bayonne Reach, Hudson Co., **N.J.**, Vol. I-III, by Historic Sites Research, Oct. 1984, revised Aug. 1985
 3. Final Report Cultural Resources Mitigation, Bayonne Reach II, Documentation of the **Bayonne** Peninsula Ship Graveyard, Hudson Co., New Jersey, New York Harbor Collection and Removal of **Drift Project** for **U.S. Army** Corps of Engineers, **Raber** Associates, May 1996
 4. Route 169 Location Study, Prehistoric and Historic Archaeological Report, Survey for Prehistoric and Historic Archaeological sites and Historic Sites and Structures, Rt. 169 & 440 **from** Bayonne Bridge to the vicinity of **Bayview** Avenue in Jersey City, Hudson County, New Jersey, Federal Highway Administration, NJDOT, April 12, 1976.
- H.** Coastal Zone Management - Implementation of the measures needed to facilitate reuse of the Bayonne Peninsula have been previously **determined** to be consistent with the New Jersey Coastal Zone Management Plan. Accordingly, this project is consistent with the applicable coastal zone management plan.
- I.** Socioeconomic Issues - There are currently no dwellings or residential communities located within the **proposed** project area. The project will provide a reliable **source** of water to the proposed redevelopment of the Peninsula at Bayonne Harbor, to the commercial and industrial clients in the Constable Hook section of the city, and the residents and businesses located at **the southern** end of **Bayonne**.

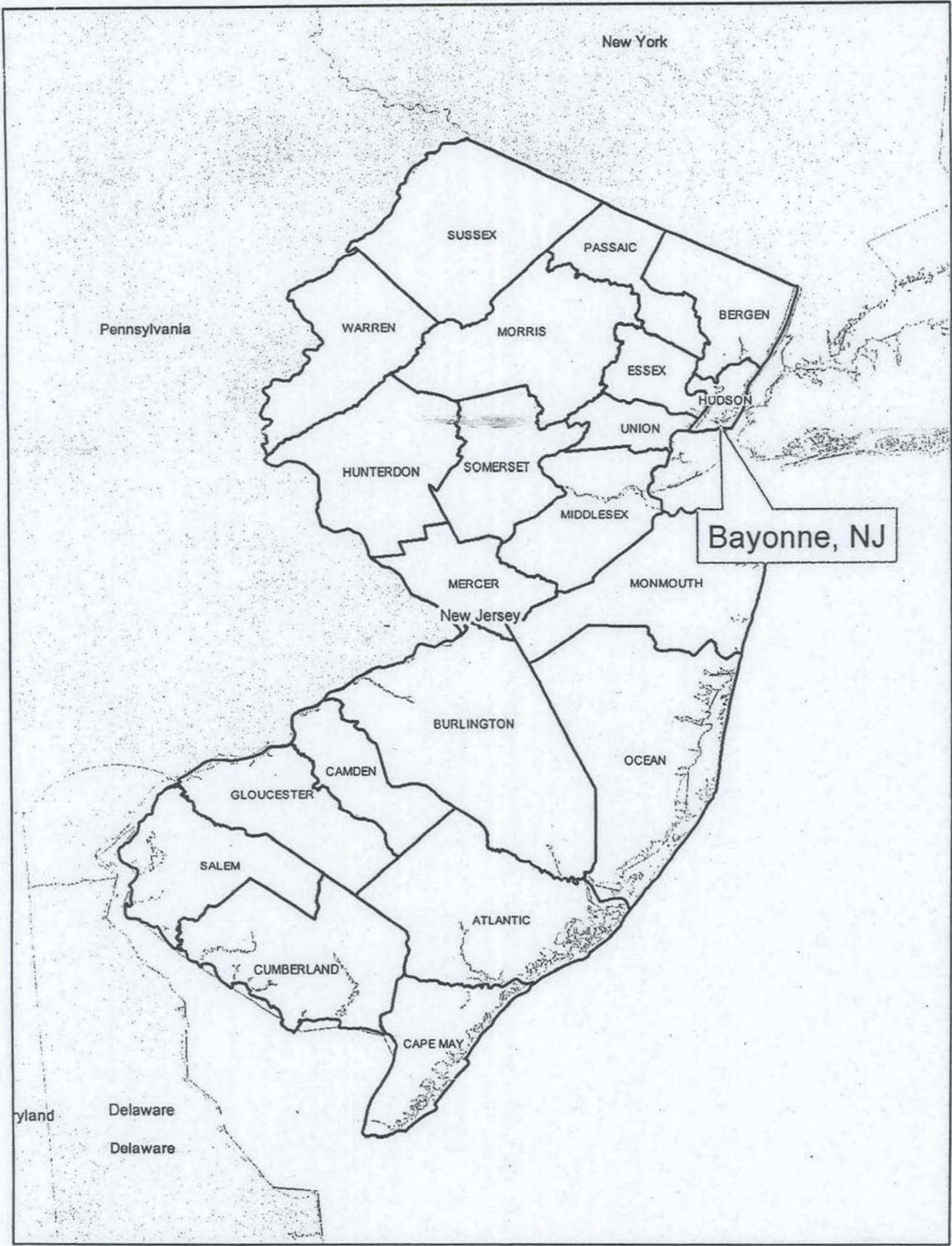
- J. **Traffic** - The proposed **water** main installation is a component of the overall redevelopment of the site. The peninsula does **not** currently experience high **traffic** levels, and the water main installation will be **performed** concurrently with **other** redevelopment activities. Therefore, it is not anticipated that the project will have an adverse impact to **traffic** flows in the area.
- K. **Visual Impacts** - The proposed project entails the installation of an underground water main extension and will have no post-construction adverse visual impacts on the surrounding community.
- L. **Noise** - Installation of the proposed water main extension will adhere to all municipal timing restrictions during the construction phase of the **project-to-minimize** noise-related impacts to the surrounding **community**. **The** proposed project will not increase post-construction noise levels within the **surrounding** communities.
- M. **Cumulative Impacts** - The **proposed project involves** improving the water **supply infrastructure** to facilitate development of the site. Prior to its **decision** to transfer the property to **the City of Bayonne for redevelopment, the Department of the Army prepared a federal environmental impact statement (EIS)**. The EIS **analyzed** the environmental impact of various **reuse scenarios, intensities, and disposal** alternatives and **was** subject to **public participation, including formal public review and comment**. In its EIS, the Army considered three disposal **alternatives**: (1) **no action, under which** the property would remain under **caretaker status**, (2) **transferring the property** without restriction, **and** (3) **transferring the property** with environmental **restrictions** and easements. The **Army's Record of Decision** did not find it **necessary** to impose development restrictions, but included **language** restricting impacts to **floodplains** and wetlands and facilitating continued investigation **and cleanup** of **contaminated** areas.
- N. **"Green" Growth** - **The City of Bayonne** is part of the **Hudson County Urban Complex** as designated by the **State Planning Commission**. **The proposed** project will facilitate achieving the **three central objectives** of the **State's "smart growth"** initiative, by **making developed** areas healthier through **improved** water quality, reducing the rate **at** which forests, open **space**, farmland and **other undeveloped areas** are being **lost** to development, and promoting development in a designated urban **center**. EPA encourages the transformation of so-called **brownfields** areas into **ecologically-friendly sustainable developments**. To this **end**, EPA **plans** to make **technical** assistance available for this redevelopment effort to promote **the** use of green building standards and techniques in its design, and **throughout** the **construction process**.

VI. Environmental Justice

Analysis of the project area vicinity indicates that minorities are less than thirty percent of the population (compared to **48.52%**, the percentage EPA uses to determine minority areas in urban areas of New Jersey), and that less than ten percent of residents have income below the poverty level (compared to **18.58%**, the percentage that EPA uses to identify low income urban areas in New Jersey). Accordingly, the area **does not** meet the EPA criteria for being classified an Environmental Justice area.

VII. Reference Documents

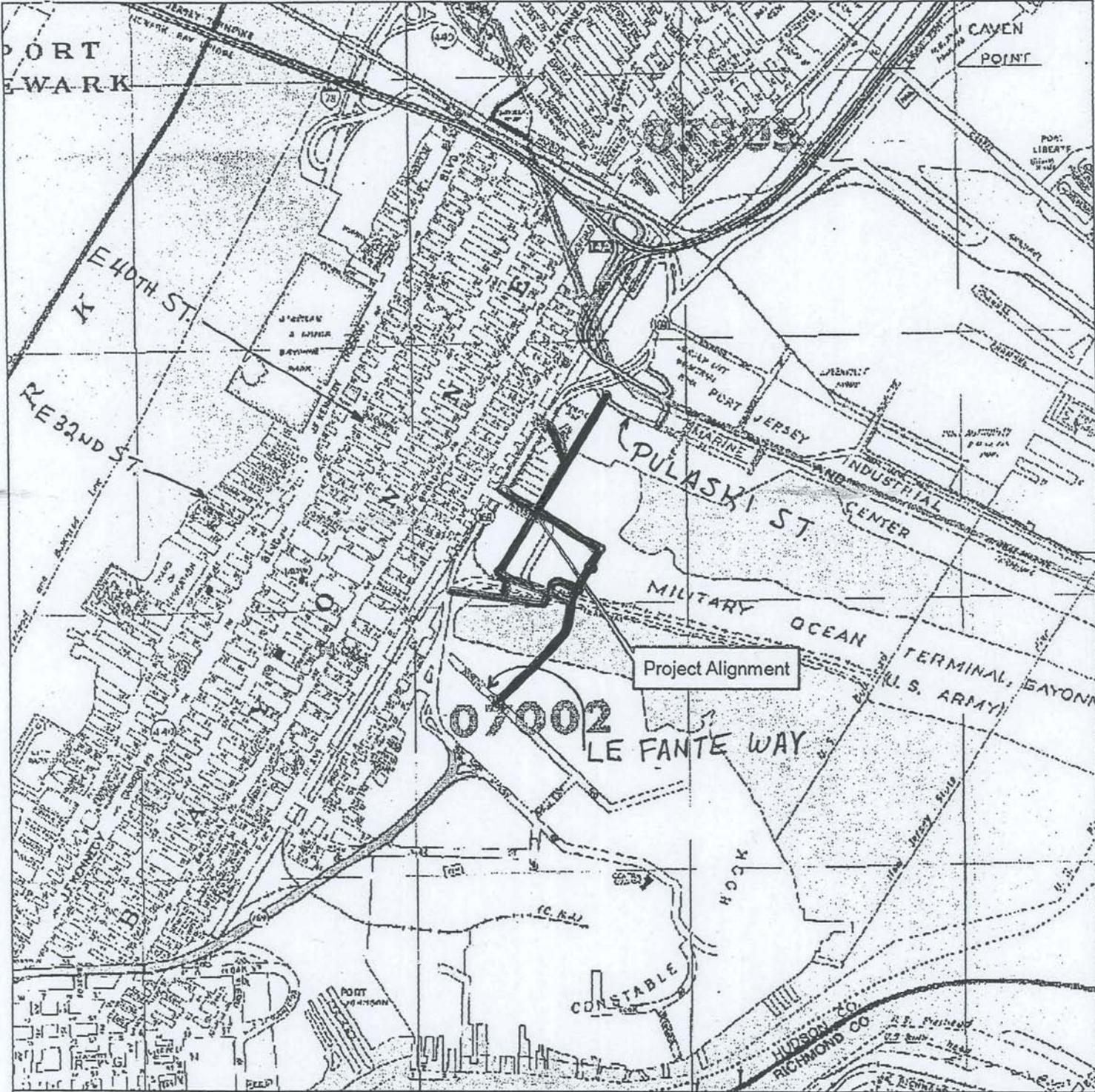
- Amy S. Green Environmental Consultants, October 2006, Environmental Information Document, The Peninsula at Bayonne Harbor, Water System Improvements
- Department of the Army, Record of Decision (ROD) on the Final Environmental Impact Statement (FEIS) on Disposal and Reuse of the Military Ocean Terminal, Bayonne, New Jersey
- Bayonne Municipal Utilities Authority, August 2004, Water System Master Plan for the Peninsula at Bayonne Harbor
- Excel Environmental Resources, Inc., September 2004, Draft Procedural Guidance Document for Management of Post-Remediation Environmental Conditions
- Excel Environmental Resources, Inc., September 2004, Wetland Delineation Report for The Peninsula at Bayonne Harbor
- Federal Interagency Committee for Wetland Delineation, 1989, Federal Manual for Identifying and Delineating Jurisdictional Wetlands, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and U.S. Department of Agriculture, Soil Conservation Service, Washington, D.C.
- New Jersey Department of Environmental Protection, Division of Water Quality, Municipal Finance and Construction Element, June 19, 2007, Public Notice of approval of planning information for the proposed project
- New Jersey Department of Environmental Protection, Office of Natural Lands Management, Natural Heritage Data Base, Trenton, New Jersey, March 16, 1993
- New Jersey Department of Environmental Protection, Division of Coastal Resources, Rules on Coastal Zone Management, N.J.A.C. 7:13-1.1, et seq.
- New Jersey Department of Environmental Protection, Land Use Regulation Program, March 20, 1995, Flood Hazard Area Control Act Rules, N.J.A.C. 7:13-1.1, et seq.
- New Jersey Department of Environmental Protection, Land Use Regulation Program, 1992, Freshwater Wetlands Protection Act Rules, N.J.A.C. 7:7A
- Newcomb, L., 1977, Newcomb Wildflower Guide, Little, Brown and Company, Boston, Massachusetts
- Niles, Larry & Bruce E. Beans, 2003, Endangered and Threatened Wildlife of New Jersey, Rutgers University Press, New Brunswick, New Jersey
- Reed, P.B. 1988, National List of Plant Species That Occur in New Jersey Wetlands, U.S. Fish and Wildlife Service, St. Petersburg, Florida
- State Soil Geographic Database for New Jersey, 1994, U.S. Department of Agriculture, Soil Conservation Service



Bayonne, New Jersey Location Map - FIGURE 1







Legend

 Project Alignment



NOT TO SCALE

Figure
Project Location Map

The Peninsula at Bayonne Harbor
Water System improvements
City of Bayonne
Hudson County, New Jersey

ASGECI Project #2664

 AMY S. GREENE
ENVIRONMENTAL
CONSULTANTS.

Sources:
Map of Hudson County, New Jersey, Hagstrom Map Company, Inc., Maspehl, NY, 2000.

FIGURE 3

General Conformity Determination

**Peninsula at Bayonne Harbor
Phase I and II Infrastructure Improvement Project**

Bayonne, NJ

Prepared by:
U.S. Environmental Protection Agency Region 2
290 Broadway
New York, NY 10007-1866

ATTACHMENT

1. Introduction

The Peninsula at Bayonne Harbor Phase I and II Infrastructure Improvement project is located in the City of Bayonne, Hudson County, NJ. The project involves installation of approximately 10,400 linear feet of water line pipe ranging from 8" to 16" in diameter, through the use of a combination of open trenching and subsurface directional drilling, to enable redevelopment of the former Military Ocean Terminal Bayonne (MOTBY).

Hudson County, NJ, is part of the New York-Northern New Jersey-Long Island, NY-NJ-CT moderate 8-hour ozone nonattainment area, PM_{2.5} nonattainment area, and CO maintenance area. Because the project is funded through a Federal grant by the Environmental Protection Agency (EPA) the project is subject to the general conformity regulations (40 CFR 93 Subpart B). This report documents the general conformity applicability analysis.

2. Background

The Clean Air Act Amendments of 1990 (CAAA) established the concept of conformity as a way to ensure that Federal actions do not interfere with air quality goals set by a state in that state's state implementation plan (SIP). The conformity regulations were divided into two parts: transportation conformity, covering projects initiated with Federal Highway Administration or Federal Transit Administration funding or approval; and general conformity, covering all other Federal agencies.

Conformity to a SIP means that a project will not cause or contribute to violations, worsen existing violations, or delay timely attainment of the National Ambient Air Quality Standards (NAAQS). The NAAQS have been set for six "criteria pollutants": ozone (O₃), carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and particulate matter (both <10 microns [PM₁₀] and <2.5 microns [PM_{2.5}]). An area that violates one or more of the NAAQS may be designated as a nonattainment area by EPA. Areas that do not have violations but may contribute to nearby violations can also be designated as nonattainment areas.

States with nonattainment areas must develop state implementation plans (SIPs) to show how the areas will attain the NAAQS as expeditiously as practicable. An area that was previously in nonattainment and has been re-designated to attainment by EPA becomes a "maintenance area." States must develop SIPs for maintenance areas to show how they will maintain the applicable NAAQS for a period of 20 years.

General conformity applies only to Federal actions in nonattainment and maintenance areas. The Peninsula at Bayonne Harbor Phase I and II Infrastructure Improvement project in Bayonne, NJ lies within the New York-Northern New Jersey-Long Island, NY-NJ-CT moderate 8-hour ozone

nonattainment area. The area was designated by EPA as nonattainment for the 8-hour ozone standard effective June 15, 2004 (the area was previously a severe nonattainment area under the 1-hour ozone standard, which was revoked when the 8-hour designation became effective). The "moderate" classification is based on the severity of the air quality problem in the area and means that the NY-NJ-CT nonattainment area has until no later than 2010 to attain the 8-hour ozone standard. New Jersey must submit a SIP to EPA detailing how the NY-NJ-CT area will attain the standard.

The project also lies within the New York-Northern New Jersey-Long Island, NY-NJ-CT $PM_{2.5}$ nonattainment area. The area was designated by EPA as nonattainment for the $PM_{2.5}$ standard effective April 5, 2005. The NY-NJ-CT $PM_{2.5}$ nonattainment area has until no later than 2010 to attain the $PM_{2.5}$ standard. New Jersey must submit a SIP to EPA by April 5, 2008 detailing how the NY-NJ-CT area will attain the standard.

In addition to the nonattainment areas, the project lies within the New York-Northern New Jersey-Long Island, NY-NJ-CT CO maintenance area. The area was designated by EPA as nonattainment for the CO standard effective January 6, 1992. On January 15, 2002, New Jersey submitted a redesignation request and maintenance plan for the New Jersey portion of the NY-NJ-CT CO nonattainment area. EPA redesignated the area to attainment with a maintenance plan for CO effective October 22, 2002 (67 FR 54574).

3. General Conformity Applicability and Analysis

Because the Peninsula at Bayonne Harbor Phase I and II Infrastructure Improvement project is subject to general conformity, EPA conducted an analysis of pollutant emissions from the project. Ozone is not directly emitted from vehicles and equipment, but rather it forms through a chemical reaction in the atmosphere in the presence of sunlight. Therefore, for the analysis we determined the emissions of the ozone precursors, oxides of nitrogen (NO_x) and volatile organic compounds (VOC). These precursors result from combustion and are directly emitted by vehicles and engines.

Fine particulate matter ($PM_{2.5}$) is both directly-emitted and formed secondarily through chemical reactions in the atmosphere. EPA has identified the precursors of $PM_{2.5}$ for general conformity purposes as NO_x and sulfur dioxide (SO_2). For the general conformity analysis we determined the emissions of direct $PM_{2.5}$, as well as NO_x and SO_2 .

Carbon monoxide is a directly-emitted pollutant with no identified precursors. Therefore, we only had to determine the amount of directly-emitted CO for the project.

The general conformity rule identifies "de minimis levels" (40 CFR 93.153(b)(1)), or threshold values of emissions below which projects are presumed to conform without further mitigation of emissions or other action on the part of the project

sponsor. These de minimis levels are based on annual pollutant emissions; therefore, we determined emissions by year for this project.

The de minimis levels for the NY-NJ-CT ozone nonattainment area are 100 tons per year of NO_x and 50 tons per year of VOC (40 CFR 93.153(b)(1)). For the NY-NJ-CT $\text{PM}_{2.5}$ nonattainment area the de minimis levels are 100 tons per year of $\text{PM}_{2.5}$, 100 tons per year of NO_x , and 100 tons per year of SO_2 . For the CO maintenance area the de minimis level is 100 tons per year of CO. In the analysis we considered only the emissions from the construction of the project. Emissions from the operation of the project are considered indirect emissions (40 CFR 93.152). We have deemed that EPA does not have continuing program responsibility for the indirect emissions and therefore have not included those emissions in the analysis.

Emission estimates were based on emission factors taken from a number of sources and vehicle/equipment types and activity levels supplied by the project sponsor. Tables A1 through A4 in Appendix A detail the emission factors and the calculation of total project emissions.

4. Conclusion

Tables 1 and 2 below show the results of the general conformity applicability analysis. Emissions of NO_x , VOC, CO, $\text{PM}_{2.5}$, and SO_2 in the Peninsula at Bayonne Harbor Phase I and II Infrastructure Improvement project's construction years of 2007 and 2008 are below the applicable de minimis threshold values; therefore, the project is presumed to conform and no further action is necessary.

TABLE 1

2007 CONSTRUCTION EMISSIONS SUMMARY FOR GENERAL CONFORMITY						
POLLUTANT	NO_x	VOC	CO	$\text{PM}_{2.5}$	SO_2	
OFF-ROAD CONSTRUCTION EMISSIONS (tons/year)	0.682	0.032	0.204	0.028	0.019	
ON-ROAD CONSTRUCTION EMISSIONS (tons/year)	0.008	0.009	0.066	0.000	0.000	
TOTAL CONSTRUCTION EMISSIONS (tons/year)	0.700	0.042	0.270	0.028	0.019	
GENERAL CONFORMITY THRESHOLD (tons/year)	100	50	100	100	100	

TABLE 2

2008 CONSTRUCTION EMISSIONS SUMMARY FOR GENERAL CONFORMITY						
POLLUTANT	NO_x	VOC	CO	$\text{PM}_{2.5}$	SO_2	
OFF-ROAD CONSTRUCTION EMISSIONS (tons/year)	2.1	0.260	0.959	0.212	0.086	
ON-ROAD CONSTRUCTION EMISSIONS (tons/year)	0.068	0.086	0.624	0.002	0.001	
TOTAL CONSTRUCTION EMISSIONS (tons/year)	2.829	0.346	1.583	0.214	0.087	
GENERAL CONFORMITY THRESHOLD (tons/year)	100	50	100	100	100	

Appendix A: Emission Factors and Emission Calculations

TABLE A1

OFF-ROAD EMISSION FACTORS FOR NO _x								
EQUIPMENT	FUEL TYPE	HP	NO _x EF (Tier 1) g/hp-hr ¹	TAF	A	Fraction of Useful Life Expended	DF ²	NO _x EF _{adj} g/hp-hr ³
Auger	DIESEL	385	6.0153	1.00	0.024	0.5	1.012	6.09
Backhoe	DIESEL	75	5.5988	1.10	0.024	0.5	1.012	6.23
Bulldozer	DIESEL	232	5.5772	0.95	0.024	0.5	1.012	5.36
Excavator	DIESEL	345	6.0153	0.95	0.024	0.5	1.012	5.78
Generator	DIESEL	402	6.0153	1.00	0.024	0.5	1.012	6.09
Loader	DIESEL	211	5.5772	1.10	0.024	0.5	1.012	6.21
Mud Pump	DIESEL	10	5.2298	1.00	0.024	0.5	1.012	5.29

OFF-ROAD EMISSION FACTORS FOR VOC								
EQUIPMENT	FUEL TYPE	HP	VOC EF (Tier 1) g/hp-hr ¹	TAF	A	Fraction of Useful Life Expended	DF ²	VOC EF _{adj} g/hp-hr ³
Auger	DIESEL	385	0.2025	1.00	0.036	0.5	1.018	0.21
Backhoe	DIESEL	75	0.5213	2.29	0.036	0.5	1.018	1.22
Bulldozer	DIESEL	232	0.3085	1.05	0.036	0.5	1.018	0.33
Excavator	DIESEL	345	0.2025	1.05	0.036	0.5	1.018	0.22
Generator	DIESEL	402	0.2025	1.00	0.036	0.5	1.018	0.21
Loader	DIESEL	211	0.3085	2.29	0.036	0.5	1.018	0.72
Mud Pump	DIESEL	10	0.7628	1.00	0.036	0.5	1.018	0.78

OFF-ROAD EMISSION FACTORS FOR CO								
EQUIPMENT	FUEL TYPE	HP	CO EF (Tier 1) g/hp-hr ¹	TAF	A	Fraction of Useful Life Expended	DF ²	CO EF _{adj} g/hp-hr ³
Auger	DIESEL	385	1.3060	1.00	0.101	0.5	1.0505	1.37
Backhoe	DIESEL	75	2.3655	2.57	0.101	0.5	1.0505	6.39
Bulldozer	DIESEL	232	0.7475	1.53	0.101	0.5	1.0505	1.20
Excavator	DIESEL	345	1.3060	1.53	0.101	0.5	1.0505	2.10
Generator	DIESEL	402	1.3060	1.00	0.101	0.5	1.0505	1.37
Loader	DIESEL	211	0.7475	2.57	0.101	0.5	1.0505	2.02
Mud Pump	DIESEL	10	4.1127	1.00	0.101	0.5	1.0505	4.32

OFF-ROAD EMISSION FACTORS FOR PM _{2.5}																
EQUIPMENT	FUEL TYPE	HP	PM EF (Tier 1) g/hp-hr ¹	TAF	A	Fraction of Useful Life Expended	DF ²	BFSC	BFSC TAF	soxcnv	soxbas	soxdsl	S _{PM adj}	PM EF _{adj} g/hp-hr ³	Convert PM to PM2.5	PM _{2.5} EF _{adj} g/hp-hr ⁴
Auger	DIESEL	385	0.2008	1.00	0.473	0.5	1.2365	0.367	1.00	0.02247	0.33	0.05	0.0733	0.17	0.97	0.17
Backhoe	DIESEL	75	0.4730	1.97	0.473	0.5	1.2365	0.408	1.18	0.02247	0.33	0.05	0.0962	1.06	0.97	1.02
Bulldozer	DIESEL	232	0.2521	1.23	0.473	0.5	1.2365	0.367	1.01	0.02247	0.33	0.05	0.0740	0.31	0.97	0.30
Excavator	DIESEL	345	0.2008	1.23	0.473	0.5	1.2365	0.367	1.01	0.02247	0.33	0.05	0.0740	0.23	0.97	0.22
Generator	DIESEL	402	0.2008	1.00	0.473	0.5	1.2365	0.367	1.00	0.02247	0.33	0.05	0.0733	0.17	0.97	0.17
Loader	DIESEL	211	0.2521	1.97	0.473	0.5	1.2365	0.367	1.18	0.02247	0.33	0.05	0.0865	0.53	0.97	0.51
Mud Pump	DIESEL	10	0.4474	1.00	0.473	0.5	1.2365	0.408	1.00	0.02247	0.33	0.05	0.0815	0.47	0.97	0.46

OFF-ROAD EMISSION FACTORS FOR SO ₂							
EQUIPMENT	FUEL TYPE	HP	BFSC	BFSC TAF	soxcnv	soxdsl	SO ₂ EF g/hp-hr ⁵
Auger	DIESEL	385	0.367	1.00	0.02247	0.05	0.16
Backhoe	DIESEL	75	0.408	1.18	0.02247	0.05	0.21
Bulldozer	DIESEL	232	0.367	1.01	0.02247	0.05	0.16
Excavator	DIESEL	345	0.367	1.01	0.02247	0.05	0.16
Generator	DIESEL	402	0.367	1.00	0.02247	0.05	0.16
Loader	DIESEL	21t	0.367	1.11	0.02247	0.05	0.19
Mud Pump	DIESEL	10	0.408	1.00	0.02247	0.05	0.18

Notes:

1. All diesel equipment was assumed to be Tier 1 compliant (model years 1996-2001 for most equipment) with the emission factors (EF), transient activity factors (TAF), relative deterioration factors (A), and emission factor equations taken from Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling—Compression-Ignition(EPA420-P-04-009)

2. Diesel equipment was assumed to have reached half of its useful life. The deterioration factor (DF) is then:

$$DF = 1 + A * (\text{Fraction of useful life expended}) \text{ or } 1 + A * 0.5$$

3. Adjusted emission factors for NO_x, VOC, and CO were determined by:

$$EF_{adj} = EF_{Tier1} * TAF * DF$$

4. Adjusted emission factors for PM were determined by:

$$EF_{adj} = EF_{Tier1} * TAF * DF - S_{PM_{adj}}$$

$$S_{PM_{adj}} = BSFC_{adj} * 453.6 * 7.0 * soxcnv * 0.01 * (soxbs - soxds)$$

$$BSFC_{adj} = BSFC * TAF_{BSFC}$$

5. SO₂ emission factors were determined by:

$$SO_2 \text{ EF} = (BSFC * 453.6 * (1 - soxcnv) * VOC \text{ EF}_{adj}) * 0.01 * soxds * 2$$

Where:

BSFC = Brake Specific Fuel Consumption

soxcnv = grams of PM sulfur / grams of fuel sulfur consumed

soxds = episodic fuel sulfur weight percent (0.05 or 500ppm) for nonroad diesel fuel in 200712008

soxbs = default certification fuel sulfur weight percent (0.33 or 3300 ppm)

TABLE A2

ON-ROAD VEHICLE EMISSION FACTORS														
EQUIPMENT	FUEL TYPE	GVWR	VEHICLE CLASS	LOCATION	2007					2008				
					NO _x EF (g/mi) ¹	VOC EF (g/mi) ¹	CO EF (g/mi) ¹	PM _{2.5} EF (g/mi) ¹	SO ₂ EF (g/mi) ¹	NO _x EF (g/mi) ¹	VOC EF (g/mi) ¹	CO EF (g/mi) ¹	PM _{2.5} EF (g/mi) ¹	SO ₂ EF (g/mi) ¹
Truck	DIESEL	26,000	HDDV6	ON-SITE	7.98	0.82	3.66	0.19	0.01	7.18	0.75	3.33	0.16	0.01
Truck	DIESEL	26,000	HDDV6	OFF-SITE	6.42	0.54	2.18	0.19	0.01	5.78	0.49	1.98	0.16	0.01
Auto	GASOLINE	Auto	LDGV	OFF-SITE	0.55	0.87	6.15	0.01	0.01	0.49	0.79	5.80	0.01	0.01

Notes:

1. Emission factors developed using MOBILE6.2 with specific inputs for temperature, vehicle age distribution, and VMT mix representing northern New Jersey. Off-site vehicles were modeled as traveling on arterial roads. On-site vehicles were modeled as traveling at 10 miles per hour on local roads.

TABLE A3

CONSTRUCTION EMISSIONS FROM OFF-ROAD EQUIPMENT												
YEAR	ACTIVITY	EQUIPMENT	FUEL TYPE	NO.	HP	LOAD FACTOR ¹	TOTAL HRS	NO _x EMISSIONS (g)	VOC EMISSIONS (g)	CO EMISSIONS (g)	PM _{2.5} EMISSIONS (g)	SO ₂ EMISSIONS (g)
2007	Directional Drilling	Auger	DIESEL	1	385	0.43	160	161245.27	5460.37	36340.29	4495.65	4304.95
	Directional Drilling	Excavator	DIESEL	1	345	0.59	160	188344.31	7049.42	68363.10	7308.46	5345.76
	Directional Drilling	Mud Pump	DIESEL	1	10	0.43	160	3641.28	534.25	2972.43	314.80	123.93
	Directional Drilling	Generator	DIESEL	1	402	0.43	160	168365.19	5701.48	37944.93	4694.16	4495.04
	Open Trench	Backhoe	DIESEL	2	75	0.21	144	14135.50	2756.22	14484.22	2323.17	481.40
	Open Trench	Bulldozer	DIESEL	1	232	0.59	72	52843.65	3249.86	11840.53	2957.47	1616.56
	Open Trench	Loader	DIESEL	2	211	0.21	144	39614.45	4588.84	12876.70	3265.30	1220.64
TOTAL 2007 OFF-ROAD CONSTRUCTION EMISSIONS (g/year)								628189.65	29340.43	184822.20	25359.01	17588.27
TOTAL 2007 OFF-ROAD CONSTRUCTION EMISSIONS (tons/year)								0.692	0.032	0.204	0.028	0.019
2008	Open Trench	Backhoe	DIESEL	3	75	0.21	2904	285065.93	55583.79	292098.48	46850.59	9708.30
	Open Trench	Bulldozer	DIESEL	2	232	0.59	1936	1420907.11	87385.14	318378.72	79523.09	43467.41
	Open Trench	Loader	DIESEL	3	211	0.21	2904	798891.46	92541.55	259680.14	65850.26	24616.14
TOTAL 2008 OFF-ROAD CONSTRUCTION EMISSIONS (g/year)								2504864.50	235510.49	870157.35	192223.94	77791.84
TOTAL 2008 OFF-ROAD CONSTRUCTION EMISSIONS (tons/year)								2.761	0.260	0.959	0.212	0.086

Notes:

1. Load factor is the fraction of rated horsepower at which the equipment typically operates over its duty cycle. Load factors were taken from *Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling (EPA420-P-04-005)*

TABLE A4

CONSTRUCTION EMISSIONS FROM ON-ROAD VEHICLES											
YEAR	ACTIVITY	EQUIPMENT	NO.	VEHICLE CLASS	MILES PER VEHICLE	TOTAL MILES	NO _x EMISSIONS (g)	VOC EMISSIONS (g)	CO EMISSIONS (g)	PM _{2.5} EMISSIONS (g)	SO ₂ EMISSIONS (g)
2007	Worker transportation to/from job	Auto	12	LDGV	800	9600	5256.96	8314.56	58993.92	109.44	65.28
	Directional Drill Machine (to/from site)	Truck	1	HDDV6	50	50	321.19	26.81	109.035	9.365	0.545
	Directional Drill Machine (on site)	Truck	1	HDDV6	50	50	399.145	40.995	182.975	9.365	0.545
	Open Trench	Truck	2	HDDV6	100	200	1284.76	107.24	436.14	37.46	2.18
TOTAL 2007 ON-ROAD CONSTRUCTION EMISSIONS (g/year)							7262.06	8489.61	59722.07	165.63	68.55
TOTAL 2007 ON-ROAD CONSTRUCTION EMISSIONS (tons/year)							0.008	0.009	0.066	0.000	0.000
YEAR	ACTIVITY	EQUIPMENT	NO.	VEHICLE CLASS	MILES PER VEHICLE	TOTAL MILES	NO _x EMISSIONS (g)	VOC EMISSIONS (g)	CO EMISSIONS (g)	PM _{2.5} EMISSIONS (g)	SO ₂ EMISSIONS (g)
2008	Worker transportation to/from job	Auto	20	LDGV	4840	96800	47654.64	76830.16	561556.16	1103.52	658.24
	Open Trench	Truck	3	HDDV6	800	2400	13866.96	1177.2	4761.6	394.32	26.16
TOTAL 2008 ON-ROAD CONSTRUCTION EMISSIONS (g/year)							61521.60	78007.86	566317.76	1497.84	684.40
TOTAL 2008 ON-ROAD CONSTRUCTION EMISSIONS (tons/year)							0.06%	0.086	0.624	0.002	0.001