FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE CROTON WATER TREATMENT PLANT AT THE EASTVIEW SITE

5.7. SOCIOECONOMIC ANALYSIS

5.7.1. Introduction

This section assesses potential socioeconomic impacts as a result of locating the proposed Croton Water Treatment Plant project (Croton project) at the Eastview Site. Potential socioeconomic impacts include direct and indirect displacement. Direct displacement is the geographical dislocation of existing populations, employment or facilities at the water treatment plant site. Indirect displacement is the displacement of existing populations, employment or facilities due to changes in taxes, property values, living conditions or water rates that could potentially result from the proposed project.

The study area is based on a one-half mile radius from the periphery of the water treatment plant site. The study area is located in the Towns of Mount Pleasant and Greenburgh in Westchester County. While the water treatment plant site is undeveloped, the study area consists of a range of land uses and development densities.

The methodology used to prepare this analysis is presented in Section 4.7, Data Collection and Impact Methodologies, Socioeconomic Analysis. Detailed tables containing U.S. Census data used for this analysis at the tract and block group level are presented in Appendix A.

5.7.2. Baseline Conditions

5.7.2.1. Existing Conditions

5.7.2.1.1. Water Treatment Plant Site.

A complete description of the existing land use at the Eastview Site is presented in Section 5.2, Land Use, Zoning and Public Policy.

For fiscal year (FY) 2003, the 83-acre City-owned parcel generated total property tax payments of $294,873 including $87,964 for the County (comprised of general County tax and County sewer and refuse districts), $57,592 for Mount Pleasant, and $149,317 for the Pocantico Hills School District (2002/2003 academic year).[1]

5.7.2.1.2. Study Area.

The study area for the water treatment plant site consists of a one-half mile radius that includes Grasslands Reservation (a.k.a. Westchester County Valhalla Campus) to the west, north and east.

To the direct south and southeast is additional land owned by New York City. To the southwest are the Cross Westchester Executive Park and a portion of the Elmsford Distribution Center, multiple commercial/retail establishments along Saw Mill River Road, and residential uses. A

[1] Town of Mount Pleasant Tax Collector's Office and Town of Mount Pleasant Assessor's Office, 2004.

complete description of the existing land use in the study area is presented in Section 5.2, Land Use, Zoning and Public Policy.

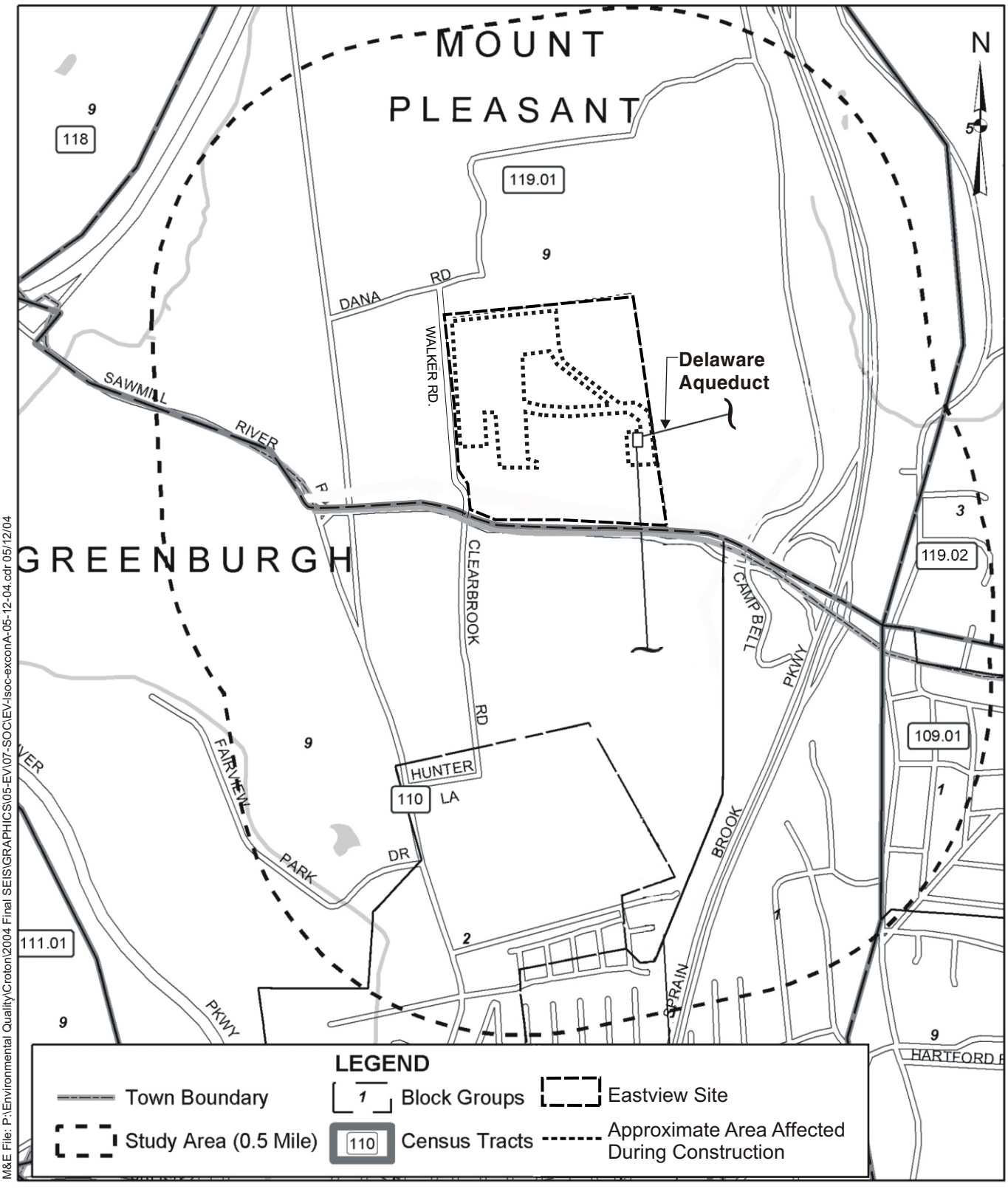
The study area contains portions of four census tracts (Tracts 109.01, 110, 119.01, and 119.02) in Westchester County (Figure 5.7-1). Approximately 3,157 people and 666 households were located within the study area in 2000 (see Eastview Study Area in Table 5.7-1). The majority of these households are located in the southern and eastern portions of the study area. Compared to Westchester County, the study area had a population density roughly half that of Westchester County's in 2000 (Table 5.7-1). This lower population density is partially attributed to the dominant commercial and industrial nature of the study area.

Following a stagnant period of growth between 1970 and 1990, the 2000 U.S. Census reported that Westchester County's population increased 5.6 percent between 1990 and 2000. Hispanics and immigrants account for much of that increase.[2] In 2000, Hispanics accounted for 15.6 percent of the population in Westchester County compared to 9.9 percent in 1990.[3] The African-American population also increased slightly from 13.1 to 14.2 percent during this period. By comparison, the study area had a smaller percentage of whites (46.0 percent) and a larger percentage of African-Americans (40.4 percent) in 2000 (Table 5.7-1). The racial makeup of the block groups within the study area was very heterogeneous. For instance, percentages of white populations ranged from a low of 36.1 percent (block group 1 in tract 110) to a high of 93.6 percent (block group 3 in census tract 119.02) (see Appendix A, Table 5.7-3).

Although the County's overall population increased by approximately 5.6 percent during the period of 1990 and 2000 (Table 5.7-1), the study area's population experienced a decline of approximately 185 persons, or approximately 5.5 percent of the study area population. As discussed in Section 5.2, Land Use, Zoning, and Public Policy, the land uses comprising the study area are predominately institutional, with relatively small areas being residential land uses; newly constructed projects in the study area have been entirely institutional or commercial (see Table 5.2-3). The growth trend of the study area during the 1990 to 2000 period has shown an increase in institutional and commercial uses of the study area, resulting in a reduction of residential land uses, and a decline in the area's overall population.

There has been a trend of an aging population in Westchester County. The County's elderly population has increased from 74,828 in 1960 to 128,964 in 2000.[4] In 2000, approximately 14 percent of the County's population was age 65 or older. The study area's age distribution was very similar to the County's. The block groups in the study area were fairly homogenous with respect to percentages of population in various age groups with the exception of block group 9 in tract 119.01 which had a significantly higher percentage of residents between the ages 20 to 44 (see Appendix A, Table 5.7-4).

[2] Westchester County Department of Planning (WCDP). 2001. Databook 2001: Westchester County, New York. WCDP. White Plains, NY.
[3] WCDP. 2001. Databook 2001: Westchester County, New York. WCDP. White Plains, NY.
[4] WCDP. 2000. Westchester County Megatrends. WCDP. White Plains, NY; and 2000 U.S. Census.



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Socioeconomic Analysis
Eastview Site

Croton Water Treatment Plant

Figure 5.7-1

TABLE 5.7-1. EASTVIEW SITE DEMOGRAPHIC SUMMARY TABLE

Socioeconomic Feature	Geographic Unit	Details (categories differ by feature)					
Population Change and Density, 1990-2000		**1990 Pop.**	**2000 Pop.**	**Percent Change 1990-2000**	**2000 Density (persons per sq mi)**		
	Eastview Study Area[1]	3,342	3,157	-5.5	1,468		
	Westchester County	874,866	923,459	5.6	2,134		
Change in Number of Households, 1990-2000		**1990**	**2000**	**Percent Change 1990-2000**			
	Eastview Study Area[1]	594	666	12.1			
	Westchester County	320,030	337,142	5.3			
Racial Composition, 2000 % of Total Population		**White**	**Black**	**American Indian[2]**	**Asian or Pacific**	**Other**	**Hispanic or Latino[3]**
	Eastview Study Area	46.0	40.4	0.2	6.6	6.8	12.3
	Westchester County	71.3	14.2	0.3	4.5	9.7	15.6
Age Composition, 2000 % of Total Population		**Age 0-4**	**Age 5-9**	**Age 10-19**	**Age 20-44**	**Age 45-64**	**Age 65+**
	Eastview Study Area	4.5	1.8	12.9	48.8	17.4	12.4
	Westchester County	7.0	7.4	12.8	35.5	23.5	14.0
Change in Median Household Income, 1989-1999		**1989**	**1999**	**Percent Change 1989-1999**			
	Eastview Study Area	$89,118	$77,436	-13.1			
	Westchester County	$65,603	$63,582	-3.1			
Change in No. of People Below Poverty Line, 1990-2000		**1990**	**2000**	**Percent Change 1990-2000**			
	Eastview Study Area	398	272	-31.8			
	Westchester County	58,164	78,967	35.8			

TABLE 5.7-1. EASTVIEW SITE DEMOGRAPHIC SUMMARY TABLE

Socioeconomic Feature	Geographic Unit	Details (categories differ by feature)					
Change in Unemployment Rate, 1990-2000		**1990**	**2000**	**Percent Change 1990-2000**			
	Eastview Study Area	3.9	7.3	87.2			
	Westchester County	4.8	4.4	-8.3			
Units in Structure, 2000 % of Total Units		**1 Unit Structure**	**2 to 4 Units in Structure**	**5+ Units in Structure**			
	Eastview Study Area	67.3	6.8	25.9			
	Westchester County	50.2	17.7	32.1			
Owner-Occupied Housing Units and Vacancy Rates		**Percent Owner-Occupied Units 1990**	**Percent Owner-Occupied Units 2000**	**Percent Change 1990-2000**	**Percent Vacant 2000 (based on total units)**		
	Eastview Study Area	74.6	70.4	-5.6	1.3		
	Westchester County	59.7	60.1	0.8	3.5		
Age of Housing Stock, 2000 % of Total Units		**Less than 10 Years Old**	**10 to 19 Years Old**	**Over 20 Years Old**			
	Eastview Study Area	6.5	4.7	88.8			
	Westchester County	5.4	7.5	87.1			
Year Householder Moved into Unit, 2000% of Total Householders		**Moved in from 1995 to 2000**	**Moved in from 1990 to 1994**	**Moved in from 1989 to 1980**	**Moved in from 1979 or earlier**		
	Eastview Study Area	46.1	12.3	15.2	26.4		
	Westchester County	41.4	15.7	17.4	25.5		
Comparison of Median Housing Value, 1990-2000		**1990 Median Value[5]**	**2000 Median Value**	**Percent Change 1990-2000**			
	Eastview Study Area	$331,703	$252,743	-23.8			
	Westchester County	$373,568	$285,800	-23.5			

TABLE 5.7-1. EASTVIEW SITE DEMOGRAPHIC SUMMARY TABLE

Socioeconomic Feature	Geographic Unit	Details (categories differ by feature)					
Comparison of Median Monthly Rent, 1990-2000		**1990 Median Rent[5]**	**2000 Median Rent**	**Percent Change 1990-2000**			
	Eastview Study Area	$936	$701	-25.1			
	Westchester County	$716	$782	9.3			

Notes:
1. For block groups partially in a study area, the population was based on the percentage of the block group within the study area.
2. Category appeared as "Native American" in 1990 Census.
3. Category appeared as "Hispanic" in 1990 Census.
4. Adjusted to 1999 dollars based on the New York MSA Consumer Price Index (CPI) for 1989 (130.6) and 1999 (177.0).
5. Adjusted to 2000 dollars based on the New York MSA CPI for 1990 (138.5) and 2000 (182.5).
Source: U.S. Department of Commerce, Bureau of Census, 1990 and 2000.

Economic trends in Westchester County from 1989 to 1999 included a slight decrease in median household income (MHI).[5] Similarly, the study area's MHI decreased approximately 14 percent during this same time period (see Appendix A, Table 5.7-5). In the study area, MHI ranged greatly from a low of $16,912 in block group 9 in tract 119.01 to a high of $124,029 in block group 9 in tract 109.01 (see Appendix A, Table 5.7-5). Although the County experienced a significant increase in persons living below the poverty line between 1990 and 2000, the number of people living in poverty in the study area dropped over 31 percent during the same period (Table 5.7-1). Even though the number of people living in poverty in the study area decreased from 1990 to 2000, data from the 2000 U.S. Census indicates that the study area's unemployment rate increased from 3.9 percent in 1990 to 7.3 percent in 2000 (Table 5.7-1). Block group 9 in tract 119.01 experienced the most dramatic increase (from 8.4 percent in 1990 to 30.4 percent in 2000) during this period (see Appendix A, Table 5.7-7).

The percentages of the work force in the study area for various occupational sectors generally reflected those of Westchester County in 2000 (Table 5.7-2). The largest occupational sector for the study area consisted of management, professional, and related occupations. This sector made up approximately 47.7 percent of the study area's work force. Driving alone was the primary means of transportation to work for the study area's work force (Table 5.7-3). Based on 2000 U.S. Census data, the residents in the study area are well educated. In 2000, approximately 85 percent of the residents in the study area were high school graduates or above. This compares to approximately 84 percent for Westchester County. Block group 9 in tract 119.01 had the lowest percentage of high school graduates with 63 percent (see Appendix A).

[5] In making this comparison, 1989 MHI was adjusted to 1999 dollars based on the New York MSA Consumer Price Index for 1999.

TABLE 5.7-2. DISTRIBUTION OF OCCUPATIONS IN 2000 EASTVIEW SITE STUDY AREA

Occupation	Percent of Study Area Work Force	Percent of Westchester County Work Force
Management, professional, and related occupations	47.7	45.6
Service occupations	11.8	14.3
Sales and office occupations	23.1	26.2
Farming, fishing, and forestry occupations	0.0	0.1
Construction, extraction, and maintenance occupations	9.2	7.2
Production, transportation, and material moving occupations	8.2	6.6

Source: U.S. Department of Commerce, Bureau of Census, 1990 and 2000.

TABLE 5.7-3. MEANS OF TRANSPORTATION TO WORK IN 2000 EASTVIEW SITE STUDY AREA

Travel Mode	Percent of Study Area Work Force	Percent of Westchester County Work Force
Drive Alone	66.1	61.6
Car Pool	12.5	9.5
Bus	3.7	5.1
Street Car	0.0	0.1
Subway or El	0.3	1.6
Railroad	9.9	13.1
Ferry Boat	0.0	0.0
Taxi	0.0	0.6
Motorcycle	0.0	0.0
Bicycle	0.0	0.1
Walk	3.9	4.0
Other	0.0	0.5
Work at Home	3.6	3.8

Source: U.S. Department of Commerce, Bureau of Census, 2000.

Based on field observation, a majority of the households within the study area are single-family dwelling units. However, multiple-dwelling units and apartment buildings are also located within the study area. Residences with five or more units, for instance, constitute approximately 80 percent of block group 9 in tract 119.01 (see Appendix A, Table 5.7-10). In 2000, the study area had a relatively high percentage of owner-occupied housing units (70 percent) as compared to Westchester County (60 percent) (Table 5.7-1). Similar to Westchester County, the majority of the housing units (roughly 89 percent) in the study area were built prior to 1980 (Table 5.7-1). A majority (59 percent) of the study area householders had moved into their year 2000 residence

within the previous ten years (Table 5.7-1). In 2000, the study area had a median housing value of $252,743 (Table 5.7-1).

5.7.2.1.3. Property Value

The Westchester County Department of Planning's (WCDP) *Databook 2001* provided the average selling price for single-family residential units by municipality annually from 1993 to 2000.[6] In addition, average selling prices for 2001 and 2002 were obtained from the WCDP. Table 5.7-4 shows the average selling prices within the two towns in the study area and Westchester County based on the WCDP data (all dollars were adjusted to 2004 dollars for comparison purposes). Data were only available for single-family homes. Average prices in the Town of Mount Pleasant were higher than those for the Town of Greenburgh. In 2002, the latest full year for which data are available, the median sale price in Mount Pleasant was $492,477. Between 1993 and 2002, the median sale price for single-family homes in Mount Pleasant increased approximately 41 percent, somewhat lower than the County growth rate of 55 percent for the same period. In Greenburgh, the 2002 median sale price was $466,000. Sale prices in the town rose by 51 percent between 1993 and 2002, slightly lower than the County-wide growth rate of 55 percent. In comparison, the median sale price for single-family homes in all of Westchester County was $556,023 in 2002.

TABLE 5.7-4. MEDIAN SELLING PRICES FOR SINGLE-FAMILY RESIDENCES, 1993 TO 2002 EASTVIEW SITE STUDY AREA

Year	Median Sale Price[1]		
	Town of Mount Pleasant	Town of Greenburgh	Westchester County
1993	$348,598	$308,477	$361,753
1994	$340,445	$327,598	$356,504
1995	$382,170	$324,532	$359,303
1996	$353,142	$298,344	$347,054
1997	$365,605	$339,724	$356,978
1998	$355,611	$324,879	$374,635
1999	$403,321	$361,697	$396,145
2000	$423,184	$371,321	$453,252
2001	$467,092	$442,108	$488,709
2002	$492,477	$466,000	$556,023

Notes:
1. All dollars were adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 2.75 percent to 2004.
Source: WCDP. 2001. Databook 2001: Westchester County, New York. WCDP. White Plains, NY; 2001 and 2002 supplemental information provided by WCDP.

As shown in Table 5.7-14 in Appendix A, median housing values in the block groups in the study area in 2000 varied with a low of $145,300 for block group 9 in tract 110 and a high of

[6] Westchester County Department of Planning (WCDP). 2001. Databook 2001: Westchester County, New York. WCDP. White Plains, NY

$330,600 for block group 9 in tract 109.01. Median values in the study area were less than the median value of $285,800 for Westchester County as a whole. Exceptions were block groups 1 and 9 in tract 109.01. The decreasing trend for median housing values based on 2000 U.S. Census data does not reflect the increasing trend for median sale prices based on WCDP data.

5.7.2.1.4. Socioeconomic Conditions of Businesses

As stated previously, the study area consists of a range of land uses and development densities. The study area contains part of one of the County's largest office and employment areas: the Route 9A corridor. The corridor is bounded to the west by the Saw Mill River Parkway, to the south by the Cross Westchester Expressway, to the east by the Sprain Brook Parkway, and to the north by the crossing of the Saw Mill and Sprain Brook Parkways. This corridor has almost 4.8 million square feet of office space; one million square feet of warehouse, laboratory, and light assembly; and 500,000 square feet of retail.[7] The vacancy rate in the study corridor, in 1996, was relatively low (10 percent) when compared to the County-wide rate of 21 percent. This corridor is noted for having one of the highest volumes of wholesale trade in the County.

The 455 businesses in the Route 9A study corridor employ over 13,000 persons.[8] The majority of the jobs in the corridor are within large firms that employ over 100 employees. The largest concentrations of employees are in the Westchester County Valhalla Campus, the Landmark at Eastview Corporate Park, the Cross Westchester Executive Park, and the Mid-Westchester Executive Park. The top employment firms are United Parcel Service, IBM, Con Edison, and First Fidelity, each with over 400 employees in the area.

According to the 2000 U.S. Census, Westchester County's labor force approximated 452,517 persons, down from 468,652 in 1990. There were 375,959 jobs in Westchester County in 2000. The study area contributed approximately 982 persons to the Westchester County labor force in 2000. The estimated number of jobs within the study area was not available.

5.7.2.1.5. Water Rate Structure

This section summarizes the current water rate structure for City and upstate customers of the New York City Water Supply System. This information would be used to assess the potential socioeconomic indirect displacement effects from increased water rates due to the construction of the proposed project at the Eastview Site.

Financing Mechanisms for New York City Department of Environmental Protection (NYCDEP) Capital Improvements. The New York City Water and Sewer System are financially self-sustaining; i.e., the costs of paying for system costs and operations are supported by water and sewer charges. Costs (operating expenses and debt service on new and existing capital improvements) are estimated annually for the entire system and water and sewer rates are adjusted accordingly to provide annual operating revenues equal to the costs. Therefore,

[7] WCDP. 1996. Route 9A Bypass Study Area, an Overview of Development and Transportation. Westchester County Department of Planning. White Plains, NY.
[8] Ibid.

residential, commercial, and industrial users of the water supply system would pay for the capital and operating costs of the proposed project through their water charges.

There are two forms of borrowing available to fund the construction of NYCDEP capital improvement projects: (1) the New York City Municipal Water Finance Authority ("Authority"), and (2) the New York State Drinking Water Revolving Fund Program (SRF).

The Authority is authorized to issue bonds to fund the construction of capital improvement projects. The bonds are payable solely from, and secured by, a pledge of gross revenues from the New York City Water Board. Water and Sewer System fixed rate revenue bonds issued by the Authority for fiscal year 2004 currently carries an interest rate of 5.25 percent and are repaid over a period of 30 years. Amortization of Authority bonds begins in the year that the bonds are issued. Capital improvement projects with multi-year construction schedules, such as the proposed project, are financed with Authority bonds issued once or twice per year in amounts necessary to cover the anticipated construction cost in any given year.

New York State makes lower-cost financing available to municipalities around the state for capital improvement projects related to drinking water. The state receives an annual grant from the U.S. Environmental Protection Agency (USEPA) that provides seed money for construction of facilities related to drinking water. Under a matching fund provision, the state is required to contribute an amount equal to 20 percent of the grant as additional funding. The state invests the seed money, and uses the proceeds to subsidize the interest rate on bonds that it issues through the SRF to finance municipal projects. Municipalities repay the proceeds of the SRF bonds to the state, thus creating a "revolving fund" that can be used for future projects. Interest rates under the SRF program are currently less than bonds issued by municipalities. Rates vary; however, interest rates in FY 2004 are 5.2 percent. This rate is further reduced by one-third to one-half depending on the projects. SRF bonds have a repayment period of 20 years. Leveraged loans for drinking water projects would be approximately one-third less. As with some municipal bonds, the SRF program includes funding for several water projects from around the State in a single bond issue.

The proceeds of both bonds are typically used to finance the cost of the capital improvement program, to fund certain reserves and to pay costs of issuance, including the premium for bond insurance. The majority of the proceeds is deposited in a construction fund and smaller percentages of the proceeds are deposited in a debt service reserve fund and the operation and maintenance fund, or are used for various underwriting discounts.

Total Debt Service Payable from Current Revenues. Major investments have been made in the City's water and sewer infrastructure since the 19th century. Some ongoing capital improvement projects include: (1) the Water Quality Preservation Program, which provides for improvements to the upstate watersheds and includes a land acquisition program, the upgrade of non-City owned water pollution control facilities, and construction of an ultraviolet water treatment facility; (2) the construction of portions of a new water tunnel (City Tunnel No. 3) from the Hillview Reservoir to Manhattan, Brooklyn, and Queens to create a more flexible system and provide an alternative water supply system in the event of a disruption of any of the tunnels (Stage 1 of the tunnel construction became operational in 1998); (3) trunk distribution

and main replacement; and (4) wastewater treatment plant upgrades and construction in compliance with consent decrees.

The New York City Water and Sewer System was obligated to make debt service payments in Fiscal Year (FY) 2004 of approximately $654.8 million on outstanding bonds. This number was projected to increase to $840.6 million in FY 2005. The majority of the debt service would be paid from current water and sewer user payments.

Existing Rates for City Customers. There are approximately 828,000 water and sewer accounts in the City, the vast majority of which receive both water and sewer service. Approximately ninety percent (747,000 accounts) are metered accounts, and annual charges are calculated on actual water usage. Sewer charges are computed as a percentage of water charges. The remaining 81,000 accounts are flat rate accounts and charges are assessed based on building characteristics, the number of housing units in the building, and the number of water-using fixtures in the building. In addition, certain institutions are exempt from payment of water and sewer charges, including religious institutions, certain educational and charitable institutions, homes for the aged, hospitals, and other nonprofit or charitable corporations. In FY 2004, there were approximately 4,000 accounts that are entirely or partially exempt from water and sewer charges. In FY 2004, water and sewer payments for City customers were estimated to be $1.6 billion.[9]

There are 12 major categories of water and sewer system customers. As indicated in Table 5.7-5, which shows the respective percentage of billings in each category, 65 percent of the user payments that support the water and sewer system come from residential customers.[10] The rate for a single–family residence household effective in FY 2004 is $1.52 per hundred cubic feet (ccf).[11] This would represent an annual water and sewer charge of $526 per 100,000 gallons of usage (in 2004 dollars).

Existing Rates for Upstate Customers. Water is provided to customers north of New York City on a wholesale basis. The City delivers water to central locations and municipalities or water districts subsequently distribute the water to their individual customers. For the period 1991 through 2000, the City provided an average of approximately 44,600 million gallons per year, or 122.2 million gallons per day, to upstate municipalities or water districts. The total averaged approximately 8.65 percent of all water supplied both in-City and to upstate municipalities or water districts. The percentage of water supplied to upstate municipalities or water districts has increased in recent years, reaching a high of 9.6 percent in 1999. Four upstate water districts are the primary users of water from the Croton system. These four districts received an estimated 1.38 million gallons per day from the Croton system in 2000. Residential demand is estimated to be approximately 89 percent of total demand, with approximately 61,000 households served.

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[9] NYCMWFA. 2004. New York State Environmental Facilities Corporation. State Clean Water and Drinking Water Revolving Funds Revenue Bonds. Series 2004C. New York City Municipal Water Finance Authority. New York, NY.

[10] NYCMWFA. 2001. Fiscal Year 2001 Comprehensive Annual Financial Report. New York City Municipal Water Finance Authority. New York, NY.

[11] New York City Water Board. Water Rate Increase for Fiscal Year 2004. May 29, 2003.

TABLE 5.7-5. CITY WATER AND SEWER SYSTEM BILLING

Classification	Percent of Billings (%)
Single-family dwellings	9.6
Two-family dwellings	10.3
Walk-up apartments	19.0
Elevator apartments	25.7
Factories and Industrial Buildings	5.2
Stores	8.3
Office Buildings	5.6
Utility Properties	2.8
Loft Buildings	2.6
Hospitals and Health Facilities	1.5
Hotels	2.3
Other	7.1
Total	100.0

Source: NYCMFWA. 2001. Fiscal Year 2001 Comprehensive Annual Financial Report. New York City Municipal Water Finance Authority. New York, NY.

Rates for water supply service to upstate municipalities or water districts are determined in accordance with the Water Supply Act of 1905, which states that rates shall be based on the system's actual cost of service. Charges to upstate municipalities or water districts are established on the basis of actual total cost of water to the City after deducting the capital and operating costs incurred within the City limits for the distribution and delivery of water to City customers. The sale of water and the rates and the charges for that sale are regulated not only by state law, but also by individual agreements between the City and upstate municipalities or water districts. Each contract establishes a system for metering the water sales to individual municipalities or water districts and the application of a specific charge per unit of metered volume. According to information from the New York City Municipal Water Finance Authority, in most cases per capita consumption in the upstate municipalities or water districts is less than that of City customers.[12] The regulated rate for upstate municipalities or water districts may not exceed the rate charged to customers within the City. The upstate municipalities or water districts must pay for water in excess of allowance quantities at a rate equal to the in-City metered rate.

Rates for water supplied to upstate purveyors were $342.97 per million gallons in FY 1999, $383.78 per million gallons in FY 2000, $414.42 per million gallons in FY 2001, $448.83 per million gallons in FY 2002, and $485.71 per million gallons in FY 2003. The FY 2004 rate is $542.36 per million gallons. In FY 2004, total water payments from upstate customers are estimated to be $25.4 million. The cost of water per residential household using 100,000 gallons

[12] NYCMWFA. 2002. Water and Sewer System Revenue Bonds, Fiscal 2003 Series A and B Statement. New York City Municipal Water Finance Authority. New York, NY.

per year in FY 2004 would be approximately $54 (in 2004 dollars). It is important to note that this dollar amount represents the cost of New York City water only. The purveyor of water to the upstate customers also assesses charges for distribution and treatment, as applicable. In addition, upstate customers are responsible for sewer charges, when applicable.

5.7.2.2. Future Without the Project

The Future Without the Project conditions were developed for the anticipated peak year of construction (2008) and the anticipated year of operation (2010) for the proposed plant. The anticipated peak year of construction is based on the peak number of workers.

For each year, two scenarios are assessed: one in which the NYCDEP Catskill/Delaware Ultraviolet (UV) Light Disinfection Facility (Cat/Del UV Facility) is not located on the Eastview Site, and a second in which the Cat/Del UV Facility is located on the site. Specifically, the Cat/Del UV Facility would be located in the southeastern area of the Eastview Site. The scenario without the Cat/Del UV Facility is included because that project has not yet received its necessary approvals, and its inclusion or not would reflect major changes to the site. By the peak construction year, two additional NYCDEP projects could be located on the Eastview Site, namely a Police Precinct and possibly an Administration Building[13]. The Police Precinct may be located in the southwest corner of the Eastview Site. The Administration Building is less certain, however, as the Eastview Site is one of several properties currently being evaluated for use as a possible site for that particular building. In addition to these projects, NYCDEP's Kensico-City Tunnel may be under construction at the Eastview Site starting in 2009. All of these NYCDEP projects are analyzed in this Final SEIS to the extent to which information is available. They are all separate actions from the proposed project and will undergo their own independent environmental reviews. The generic impacts associated with the KCT are discussed in Section 3.8.2, Treated Water Conveyance Alternatives.

For the purpose of evaluating potential impacts associated with the proposed Croton project on water rates, future baseline conditions in the years 2010 and 2016 are discussed. The year 2010 is selected because it represents the anticipated first year of operation for the proposed plant, and the year 2016 is selected because it represents the year in which all the effects of capital costs would be reflected in the debt service of the bonds issued for the facility. The baseline is presented only for the scenario with the Cat/Del UV Facility and other planned projects (police precinct, administration building, and KCT). This is because these projects are already included in the Capital Improvement Plan (CIP) and are reflected in the projected 2010 and 2016 base rates.

5.7.2.2.1. Without Cat/Del UV Facility at Eastview Site

Eastview Site. In the Future Without the Project, the Eastview Site would undergo changes from its existing condition. These changes include a proposed NYCDEP Police Precinct and a possible new administration building for the NYCDEP's upstate East-of-Hudson Southern

[13] This depends on the results of a siting evaluation which is currently ongoing. The siting decision will be evaluated and discussed as part of a separate independent environmental review.

Division Administrative and Engineering offices. The NYCDEP police precinct would be constructed on the southwest corner of the site at the corner of Route 100C and Walker Road. The precinct would include a ±20,500 square-foot precinct building with 52 permanent employees. The Administration Building would be approximately 46,000 square feet, with another 10,000 square feet of storage space, and could generate an estimated 55 jobs.

In addition, if the Eastview Site becomes a major staging area for the KCT project in 2009, there would be a large construction workforce for that project on site. The other structures presently located on the Eastview Site would remain the same, including the Hammond House and the site's water and electrical utilities.

In the Future Without the Project, the Eastview Site would generate higher taxes for the Town of Mount Pleasant and the County due to the addition of these separate NYCDEP projects.

Study Area. Projections for population, employment, and labor force were undertaken. Data used to prepare projections were obtained from Woods & Poole Economics, Inc. (W&P) at the county-level. To determine the projections for the future analysis years, it was assumed the anticipated growth or decline would occur in even intervals annually. For details on anticipated development projects that may affect growth rates, see Section 5.2, Land Use, Zoning, and Public Policy.

Projected growth rates for Westchester County were applied to the study area to determine potential population changes for the years 2005, 2010, and 2015 (Table 5.7-6). Based on these rates, the study area's population would remain relatively unchanged over the analysis period; only minor increases would be anticipated (Table 5.7-7). It should be noted that the study area projections are intended to indicate anticipated trends.

TABLE 5.7-6. POPULATION PROJECTIONS

Geographic Unit	2000	2005		2010		2015	
	Total Pop.	Total Pop.	Percent Change over 2000	Total Pop.	Percent Change over 2000	Total Pop.	Percent Change over 2000
Westchester County	925,603	944,659	2.1	960,752	3.8	979,360	5.8
Eastview Site Study Area Estimate	3,157	3,223	2.1	3,277	3.8	3,340	5.8

Source: W&P. 2003. County Data Pamphlet for Westchester, NY.

TABLE 5.7-7. POPULATION PROJECTIONS FOR PEAK CONSTRUCTION AND OPERATION YEARS

Study Area	2000 Estimate	2008 Pop.	2010 Pop.
Eastview Site Study Area	3,157	3,255	3,277

Source: W&P. 2003. County Data Pamphlet for Westchester, NY.

The land zoned for residential use within the study area is almost entirely built out. One exception is an undeveloped area located south of Saw Mill River Road and west of Route 9A, which is zoned for multi-family residential use. At the time of preparation of this document, no proposals for residential development were identified within the study area. However, proposed multi-unit residential developments were identified in the vicinity (see Table 5.2-3 and Figure 5.2-7 in Section 5.2, Land Use, Zoning, and Public Policy).

Property Value. It is anticipated that increasing property value trends would continue.[14] High housing costs and availability of units would continue to be a concern while housing demand is anticipated to remain steady.[15]

Socioeconomic Conditions of Businesses. Projections for employment and labor force for Westchester County were also carried out for the years 2005, 2010, and 2015. Both employment (number of jobs) and the labor force (number of workers) are anticipated to increase in the County (Table 5.7-8). The County's labor force is anticipated to continue to exceed the employment in the County. Table 5.7-9 shows the projections for the County for the two future analysis years (2008 and 2010). The largest employment increases are projected to be in the following industries: retail, health services, and educational services.[16]

TABLE 5.7-8. LABOR FORCE AND EMPLOYMENT PROJECTIONS

		2000	2005		2010		2015	
		Total	Total	Percent Change over 2000	Total	Percent Change over 2000	Total	Percent Change over 2000
Westchester County	Labor Force (No. of workers)*	588,970	603,480	2.5	617,810	4.9	622,890	5.8
	Employment (no. of jobs)	530,210	545,760	2.9	560,620	5.7	579,530	9.3

***Note:** Labor force includes all people between the ages of 16 and 65.
Source: W&P. 2003. County Data Pamphlet for Westchester, NY.

[14] WCDP. 2002. Email correspondence between WCDP (Michael Lipkin) and M&E (Aaron Weieneth), December 24, 2002.
[15] WCDP. 2000. Westchester Urban County Consortium Consolidated Plan: Covering Fiscal Years 2000-2004. WCDP Division of Housing and Community Development. White Plains, NY.
[16] NYSDOL. 2001. Occupations with Favorable Employment Prospects, 1998-2008: Hudson River Valley. Available online: http://www.labor.state.ny.us/pdf/rs53.pdf.

TABLE 5.7-9. LABOR FORCE AND EMPLOYMENT PROJECTIONS FOR PEAK CONSTRUCTION AND OPERATION YEARS

		2000 Total	2008 Total	2010 Total
Westchester County	Labor Force (No. of workers)*	588,970	607,188	617,810
	Employment (No. of jobs)	530,210	556,508	560,620

***Note:** Labor force includes all people between the ages of 16 and 65.
Source: W&P. 2003. County Data Pamphlet for Westchester, NY.

Based on recent trends and current development proposals in the study area, it is anticipated that development would continue over the analysis period. The study area contains numerous characteristics including regional accessibility and vacant land in accessible locations that lead the Towns, the County, and local realtors to anticipate growth. Areas likely to experience growth are located in the western and northern portions of the study area. Specifically, future growth would likely occur in existing office and industrial parks (e.g. Landmark at Eastview and Grasslands Reservation) and along the northern section of Route 9A. If the proposed Route 9A Bypass is constructed in the western portion of the study area, an additional swell of development in this area would be anticipated.[17] Additional proposed projects in the study area include a Home Depot at the intersection of Route 9A and Dana Road, an addition of lab space at the Landmark at Eastview, and a variety of developments within the Grasslands Reservation. Construction of the Millennium Gas pipeline would also take place in the study area, running underneath Westchester County's North and South County Trailway, a paved recreational trail located on a former railway bed located roughly parallel to the Saw Mill River Parkway in the northern part of the study area. A complete description of proposed projects within the study area is presented in Section 5.2, Land Use, Zoning, and Public Policy.

Water Rate Structure. The New York City Water Board forecasts system-wide revenues and expenses for a future period. The forecast includes an estimate of the annual revenues that would be collected through water and sewer user payments, as well as an estimate of the annual debt service required to amortize bonds issued to fund previous capital improvement projects and future expenditures scheduled under the City's Capital Improvement Program. The City's most recent forecast (covering FY 2004 to FY 2013) was extended to FY 2016, and Croton capital costs were removed for this analysis. The year 2016 was used for the end year of the water rate projection model since 2016 represents the year in which all the effects of the capital costs related to the proposed Croton project alternatives would be reflected in the debt service of the bonds issued to finance the capital costs.

[17] WCDP. 1996. Route 9A Bypass Study Area, an Overview of Development and Transportation. Westchester County Department of Planning. White Plains, NY; U.S. DOT Federal Highway Administration and NYSDOT. 2001. Route 9A Bypass Expanded Project Proposal.

Analyzing and illustrating the potential impact of the City's proposed projects on water and sewer rates necessarily involves making a series of assumptions relative to estimated values of a diverse set of key variables. Since it is certain that the future conditions that would be obtained with respect to at least some variables would be different than what is assumed for analytical purposes, the rate impact must be considered illustrative, rather than precise.

The following are among the variables for which assumptions are typically made: construction schedules and estimated costs for proposed projects, the inflation rate on construction costs, the financing rate realized at the time bonds are issued to finance each project's expenditures, anticipated completion dates, contingencies, estimated annual operations and maintenance expenses, the inflation rates on operations and maintenance expenses including personnel costs and materials and equipment costs, and the rate of increase on upstate real estate taxes, as appropriate.

Future Rates for City Customers. Projected increases in rates in the absence of the proposed Croton project have been estimated, as shown in Table 5.7-10. These increases would be anticipated to occur in the future without the project, and represent an increase in annual water and sewer cost per City customer household using 100,000 gpy from $526 in FY 2004 to $1,066 in FY 2016. In FY 2010, the anticipated first year of operation for the proposed Croton plant, water rates would be $811. Note that these costs are inflated annually, so each year's rate is expressed in that year's respective dollars. Also, these costs do include the other possible projects including the Cat/Del UV Facility, police precinct, administrative building, and KCT.

TABLE 5.7-10 PROJECTED BASE WATER RATES (FUTURE WITHOUT THE PROJECT) [1,2]

Year	In-City Rate Estimates ($)	Upstate Rate Estimates ($)
2010	$811	$86
2016	$1,066	$116

Notes:
1. Projected base case water rate estimates have been updated to reflect, among other factors, January 2004 Capital Program changes and more current estimated interest rates.
2. Each year's rate is expressed in that year's respective dollars.

For the lowest income group in the study area, with a predicted 2004 median household income of $12,055[18] (Tract 271.01), current water and sewer costs account for 4.2 percent of annual median income. The projected rates without the proposed project represent a 52.3 percent increase in water and sewer rates from FY 2004 to FY 2016, accounting for inflation. Assuming an inflation rate of 2.75 percent, median household incomes of this lowest income group would increase 38.5 percent to $16,694 during the same period. The projected increase in rates would raise water and sewer costs from 4.2 percent (FY 2004) to 6.4 percent (FY 2016) of annual

[18] $12,055 is the projected median family income in 2004 of Tract 271.01 in the Kingsbridge area of the Bronx. This was selected as a representative low income housing area for City water users. This income is based on a $10,825 annual income from the 2000 U.S. Census data, adjusted to 2003 dollars based on the New York MSA Consumer Price Index, and further inflated at 2.75 percent per year to 2004, the current projected year for water rates.

median household income in the Future Without the Project. In FY 2010, the projected rates would be 5.7 percent of annual median household income for this income group.

Future Rates for Upstate Customers. Projections for the upstate uniform rate for 2010 and 2016 in the Future Without the Project have been estimated (Table 5.7-10). As stated above, these costs are inflated annually, so each year's rate is expressed in that year's respective dollars. The City charges upstate suppliers a wholesale rate for the water it supplies to upstate communities. Rates are anticipated to increase from $542 per million gallons in FY 2004 to $1,162 per million gallons in FY 2016, a 61.1 percent increase, accounting for inflation. In FY 2010, the anticipated first year of operation for the proposed Croton plant, the anticipated wholesale cost per household using 100,000 gpy would be $86. The anticipated wholesale cost in FY 2016 would be $116. The actual rate charged to consumers, which includes the supplier's cost of constructing and maintaining the distribution system, varies between water districts within communities and is much higher than the wholesale rate charged by the City to the suppliers.

5.7.2.2.2. With Cat/Del UV Facility at Eastview Site

In the Future Without the Project, the existing structures on the Eastview Site would remain, including the connections to the aqueducts, the electrical transmission lines and substation, the NYCDEP laboratory, and the historic Hammond House, which is a private residence. In addition to the projects identified above, the Cat/Del UV Facility (an additional, but separate NYCDEP project) could be developed on the southeastern portion of the Eastview Site. If the Cat/Del UV Facility were constructed on the Eastview Site, economic benefits would result in the form of construction-related employment and purchases of materials during the construction period, as well as permanent employment and annual operating costs associated with the ongoing operations of the Cat/Del UV Facility.

The estimated capital and construction cost for the Cat/Del UV Facility would be $490 million, in 2003 dollars. Annual operation and maintenance would be approximately $6.7 million. This includes property taxes the NYCDEP would pay to the Towns of Mount Pleasant and Greenburgh for the Cat/Del UV Facility. It is estimated that the Cat/Del UV Facility would generate an estimated $2.36 million annually, based on 2003 tax rates (the latest year for which data are available), with an estimated $2.26 million in tax revenues collected in Mount Pleasant and $102,480 collected in Greenburgh.

The anticipated year of peak construction for the Cat/Del UV Facility is 2008, which is the same year as for the proposed Croton project. The peak construction year (in terms of peak numbers of workers on the Eastview Site) would introduce approximately 480 construction employees per day into the area. The 480 construction workers would likely add money to the local economy through their visits to area businesses. Spin-off benefits from the construction of the Cat/Del UV Facility could add an annual average of 750 new jobs (including construction workers at the Cat/Del UV Facility) per year of construction to the County's economy during the construction period. Total output from the construction of the proposed Croton project to the County's economy would be an estimated $819 million (including both direct and indirect output). It should be noted that the economic benefits would likely affect a region larger than the County,

since materials may be purchased outside of the County limits. Jobs created and their indirect effects would result in positive socioeconomic effects.

The Cat/Del UV Facility would require 31 (21 full-time and 10 part-time) permanent employees. The 31 workers, their salaries, and the total dollars invested annually by NYCDEP for operation and maintenance ($4.44 million, excluding property taxes) of the Cat/Del UV Facility would create indirect effects on Westchester County's economy. Spin-off benefits from the Cat/Del UV Facility could add a total of 109 new jobs to the County's economy (including the 31 employees at the Cat/Del UV Facility). Total economic output from the Cat/Del UV Facility to the County's economy would be an estimated $7.8 million; however, it is likely that the benefits to the County would be less, since some of the benefits could occur in other counties. It is not anticipated that the operation of the Cat/Del UV Facility would significantly cause commercial or residential property values to rise or fall.

Water rates would be the same as presented in the previous section because the Cat/Del UV Facility is included in the City's Capital Improvement Program without the proposed Croton project.

5.7.3. Potential Impacts

This section describes capital and operation and maintenance costs, employment, property tax revenues, water rate changes, and other socioeconomic effects related to the construction and operation of the proposed Croton project. Two scenarios from which to assess the proposed project's potential impacts have been considered. Both include the possible NYCDEP Police Precinct, Administration Building, and KCT projects, but only one scenario includes the Cat/Del UV Facility. Should the Eastview Site be selected for construction of the proposed Croton project and the Cat/Del UV Facility, they would be under construction at the same time. The impacts of the construction and operation of the Cat/Del UV Facility by itself are described in the Draft EIS for that project issued by NYCDEP on May 31, 2004.

Some modifications to the manner in which the RIMS II multipliers have been used to estimate spin-off benefits as a result of operation of the proposed project have been made during preparation of the Final SEIS. These changes have been made due to additional consultation with the U.S. Bureau of Economic Analysis (BEA) and public comments received suggesting that the spin-off benefits reported in the Draft SEIS appeared to be too high. Based on discussions with the BEA, it was determined that while use of the RIMS II "final-demand multiplier" for estimating spin-off effects during construction of the proposed plant is accurate, the "direct-effect multiplier" is more appropriate for estimating spin-off effects during operation since some assumptions and associations made for operation of the proposed Croton project (e.g. relationships between earnings and output or employment and output) do not match the assumptions of the RIMS II model for final-demand.[19] Also, it is important to note that the spin-off benefits reflect total effects (for both operation and construction). In other words, the spin-off benefits reported in this section include both the direct impacts from the operation and construction of the plant itself as well as indirect impacts experienced by the County and region.

[19] BEA. 2004. Personal communication between BEA and M&E, May 24, 2004.

Property taxes that would be generated by the proposed plant have been excluded from the RIMS II analysis since customer savings that would result from property taxes generated by the proposed Croton project property taxes are already referenced in this report.

In the Draft SEIS, multipliers from Sector 11.0800 (office, industrial, and commercial buildings construction) were used for the RIMS II construction analysis. Subsequently, it was determined that multipliers from Sector 11.0900 (other new construction) were more appropriate to use for the proposed plant since these multipliers are referenced to "other heavy construction," such as water treatment plant construction, in SIC codes. Thus, Sector 11.0900 multipliers are used for analysis in this Final SEIS. Also, as a means to more reasonably reflect the number of spin-off jobs in response to public comments received on the Draft SEIS, the RIMS II employment multiplier for construction was corrected for inflation in this Final SEIS since the RIMS multipliers reflect 2000 regional data while costs for the proposed plant are in 2003 dollars. Such an adjustment is also recommended by the BEA. Finally, in this Final SEIS, average year employment rather than peak year employment data have been used for the construction analysis.

5.7.3.1. Potential Project Impacts

5.7.3.1.1. Without Cat/Del UV Facility at Eastview Site

The anticipated year of operation for the proposed Croton plant is 2010. Therefore, with the exception of effects on water rates, potential project impacts have been assessed by comparing the Future With the Project conditions against the Future Without the Project conditions for the year 2010. This section further describes jobs and other socioeconomic effects related to the proposed project, and then compares them to the Future Without the Project to determine potential socioeconomic impacts. In addition, potential socioeconomic impacts due to increases in water rates are analyzed. As previously noted, costs associated with the debt service issued to finance the project would be reflected in the year 2016. Thus, effects on water rates are discussed for 2016 (in 2016 dollars) in addition to 2010, which was disclosed in the Draft SEIS.

Impacts were assessed for both alternative means of treated water conveyance for the Eastview Site: proposed Croton project with Kensico-City Tunnel (KCT) and proposed Croton project with New Croton Aqueduct (NCA) Pressurization. Refer to Section 5.1, Introduction and Project Description for the Eastview Site, for details on these two conveyance alternatives.

Socioeconomic Conditions Associated with the Water Treatment Plant Site.

Capital and Operation and Maintenance Costs. The estimated capital and construction cost for the proposed Croton project would range from $1.2 billion for the proposed project with KCT to $1.6 billion for the proposed Croton project with NCA Pressurization. Annual operation and maintenance would be approximately $33 million for both conveyance alternatives. These amounts are in 2003 dollars.

Jobs. The proposed plant would require 53 permanent employees for both alternatives, introducing additional employment at the Eastview Site beyond what would be generated by the Police Precinct and possible Administration Building. These new employees may reside in the

Town of Mount Pleasant, surrounding Westchester County communities, the City, or in other nearby counties.

Property Tax Revenues. The NYCDEP would pay taxes to the Town of Mount Pleasant, Westchester County, and Pocantico Hills School District for the proposed plant. Construction of the proposed plant would create a unique tax situation in the Town that is not entirely predictable. Ultimately, the Town, in discussions with the City of New York, would determine how the proposed project would be assessed. However, the New York State Division of Equalization and Assessment indicated that a reasonable approach to estimate the assessed value of the proposed project would be to apply the commercial and industrial equalization rate to the construction costs of the proposed plant. This approach also requires factoring out the costs of certain items that would likely be exempt, such as costs related to the transmission of water to and from the NCA. Based on this approach and the tax rates per thousand dollars of assessed value, it is estimated that the proposed plant would generate an estimated $5.8 million annually, based on 2003 tax rates (the latest year for which data are available), for both conveyance alternatives (Table 5.7-11 and Appendix A).

TABLE 5.7-11. ESTIMATED PROPERTY TAXES FOR THE PROPOSED PLANT

Estimated Taxable Construction Costs[1]	$394,644,000
Commercial/Industrial Equalization Rate[2]	2.07
Assessed Value (AV)	$8,169,131
Total Tax Rate per $1000 AV[3]	703.44
Total Taxes Owed	$5,746,493

Notes:
1. Does not include conveyance costs for raw water and finished water to and from NCA; includes contingency.
2. 2002 equalization rate for Mount Pleasant as provided by the New York State Office of Real Property Services. Available online at: http://www.orps.state.ny.us/MuniPro/muni_theme/muni/ratehistory.cfm?swis=553400.
3. 2003 tax rates as provided by the Westchester County Tax Commission. Available online at: http://www.westchestergov.com/taxcommission/.

Indirect Effects. The 53 permanent employees, their salaries, and the total dollars invested annually by NYCDEP for operation and maintenance ($27 million, excluding property taxes) of the proposed plant would create indirect effects on Westchester County's economy. These effects include additional jobs created in the County, associated earnings, and increased output, which are estimated using RIMS II multipliers (see Section 4.7, Data Collection and Impact Methodologies, Socioeconomic Analysis for details on RIMS II). The results are provided in Table 5.7-12, which show that spin-off benefits could add a total of 186 new jobs to the County's economy (including the 53 employees at the plant). It is likely that the benefits to the County would be less, since some of the benefits could occur in other counties.

TABLE 5.7-12. INDUCED ECONOMIC BENEFITS DURING OPERATION, WESTCHESTER COUNTY

Economic Factor	Economic Benefits
Total Output to County's Economy	$47,738,700
Total Income	$6,575,985
Total New Jobs	186

Source: Bureau of Economic Analysis, U.S. Department of Commerce. 2003. RIMS II for Westchester County, 2003.

The RIMS II employment multipliers indicate that the most pronounced growth would occur in the following sectors: construction; electric, gas, and sanitary services; retail and business services. Although the results apply to all of Westchester County, it is reasonable to conclude that some of the benefits would occur in the immediate area. For example, sales could increase for commercial services including gas stations, convenience stores, and restaurants, such as those found along Route 9A. If the workers were to frequent businesses during, before, or after the workday, it could result in increased business to area merchants.

Property Values. It is difficult to determine the extent to which potential project-related impacts would cause displacement. One potential indicator of how project-related impacts affect displacement is reduced property values since property values in an area reflect the willingness or unwillingness of people to live in a certain area. To determine potential impacts to property values during operation of the proposed plant, literature was reviewed that covered a broad range of land uses perceived as undesirable or unwanted. Unfortunately, no studies were identified that were similar in nature to the proposed plant and its operation. The studies focused on noxious land uses (such as incinerators, hazardous waste facilities, and Superfund sites), and less noxious uses (mental health facilities and subsidized housing). Other land uses addressed in the studies included high voltage transmission lines and mining. Overall, each type of undesirable land use had unique features that were analyzed to determine potential impacts to property values, including health and safety risks, visibility, or the introduction of distinct population groups to the neighborhood.

The studies were inconclusive or conflicting in their results. For example, research by Greenberg et al. indicated that an incinerator decreased property values and increased residents' desires to relocate according to the distance from the site,[20] while research by Liu claimed that empirical studies have not provided any conclusive evidence as to whether an undesirable facility negatively affects nearby property values.[21] In addition, Steelman and Carmin state that the siting of facilities such as landfills or incinerators often make significant contributions to surrounding neighborhoods by providing local jobs and economic stability, thereby minimizing

[20] Greenberg, Michael, Dona Schneider, and Jim Parry. 1995. Brown Fields, a Regional Incinerator and Resident Perception of Neighborhood Quality. Risk: Health, Safety, & Environment Vol. 6, No. 3, pp. 241-260.

[21] Liu, Feng. 1997. Dynamics and Causation of Environmental Equity, Locally Unwanted Land Uses, and Neighborhood Changes. Environmental Management Vol. 21, No. 5, pp. 643-656.

any impacts on property values.[22] A study of high voltage electric transmission lines was determined to have an effect on property values, but only for a narrow corridor of houses in direct proximity to the lines.[23] The study attributed the effects to the appearance of the lines. Any power lines associated with the proposed plant would be underground.

Some studies recognized that many external factors affect the rating of neighborhood quality and property values rather than any specific land use, such as presence of crime, litter, and existing undesirable land uses.[24] These factors further complicate a comparison between the studies and the proposed project. Most of the studies noted a lack of adequate sales data. Many studies did not address whether the values that were affected would rebound over time. However, Kiel and McClain did discuss rebounding in a study on an incinerator. They noted that the combination of the loss by the seller and the benefit the buyer realizes after the property values rebound results in no overall loss in value.[25]

Many of the studies stressed the importance of community involvement during the siting process in order to lessen the negative perceptions associated with a facility. Research by Liu suggests that the impact of an undesirable land use on the socioeconomic structure of a neighborhood depends on how the neighborhood responds to the undesirable land use and what risks they perceive as a result of it.[26]

The proposed project is not considered to be similar to projects within undesirable land use categories. The operation of the proposed project is not anticipated to generate appreciable amounts of undesirable pollution. Therefore, it is not anticipated that the operation of the proposed plant would significantly cause commercial or residential property values to rise or fall.

Potential Displacement Impacts. This section analyzes the potential for direct and indirect displacement during operation of the proposed Croton plant.

The proposed plant would be located on undeveloped land owned by the City. Therefore, no direct displacement is anticipated for the Eastview Site as a result of operation of the proposed plant. The existing Hammond House, a private residence, would likely remain on the Eastview Site and the proposed project would not affect the future employment that may be generated by other possible NYCDEP projects on the site (e.g., the Police Precinct). Since no significant adverse impacts would occur as a result of operation of the proposed plant, no indirect displacement is anticipated.

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[22] Steelman, Toddi A. and Joann Carmin. 1998. Common Property, Collective Interests, and Community Opposition to Locally Unwanted Land Uses. Society & Natural Resources. 11, pp. 485-504.

[23] Hamilton, S. W. and G.M. Schwann. 1995. Do high voltage electric transmission lines affect property value? Land Economics. 71, pp. 436 - 439.

[24] Greenberg, Michael, Dona Schneider, and Jim Parry. 1995. Brown Fields, a Regional Incinerator and Resident Perception of Neighborhood Quality. Risk: Health, Safety, & Environment Vol. 6, No. 3, pp. 241-260.

[25] Kiel, K.A. and K. T. McClain. 1995. House Prices during Siting Decision Stages: The Case of an Incinerator from Rumor through Operation. Journal of Environmental Economics and Management. 28, pp. 241-255.

[26] Liu, Feng. 1997. Dynamics and Causation of Environmental Equity, Locally Unwanted Land Uses, and Neighborhood Changes. Environmental Management Vol. 21, No. 5, pp. 643-656.

Water Rate Structure. The following describes the potential socioeconomic impacts on City and upstate consumers of the New York City Water Supply System due to potential water rate increases from the proposed plant. If these rate increases were high enough, potential indirect socioeconomic impacts such as housing dislocation could occur.

Capital Costs. Table 5.7-13 shows the anticipated capital costs in 2003 dollars for the proposed plant for both treated water conveyance alternatives. As discussed in Section 4.7, Data Collection and Impact Methodologies, Socioeconomic Analysis and also noted in the existing conditions, there are two forms of borrowing that would be available to fund the construction of the proposed project: (1) bonds issued by the New York City Municipal Water Finance Authority, and (2) bonds issued through the SRF. Between the Draft SEIS and the Final SEIS, NYCDEP has been in communication with local town officials. These officials have indicated that an amenities package of an estimated $30 to $35 million would be reasonable to assume in order to gain local approval for the proposed project. NYCDEP has not negotiated this amenities package, but in order to be fair when comparing the costs of each of the alternative water treatment plant sites and to allow room for further negotiation should the Eastview Site be pursued, $28 million is an estimated placeholder for factoring the potential socioeconomic impact of this project site in the Final SEIS. This potential additional cost is reflected in Table 5.7-13.

TABLE 5.7-13. ESTIMATED CAPITAL AND O&M COSTS AT THE EASTVIEW SITE

	Capital Cost	O&M Cost
Eastview WTP with KCT	$1,247,000,000	$33,000,000
Eastview WTP with NCA Rehabilitation	$1,597,000,000	$33,000,000

Note: Costs reflect total costs for all components of the project, including a potential amenities package, in 2003 dollars. Annual property tax payments are included in the O&M cost.

It is assumed that the Authority would issue long-term debt for the permanent financing of the capital costs. The long-term debt of the Authority is assumed to cover a term of 30 years, with the level repayment of principal and interest on the bonds, and an annual interest rate of approximately 6.26 percent, which is the weighted average of anticipated interest rates between FY 2004 and FY 2016. The interest cost on commercial paper and the principal and interest cost for Authority debt become additional revenue requirements that must be met through the rates and charges of the water and sewer system.

The City of New York may be able to obtain a low-interest SRF from the State Environmental Facilities Corporation (EFC) for part or all of the construction costs for the proposed project. Funds obtained from the EFC would carry a lower interest rate; however, these funds must be repaid in a shorter timeframe (20 years as opposed to 30 years). The result is that overall debt service costs using SRF funding would not result in a substantially lower cost than Authority financing.

Operating Costs. Operating costs for the proposed plant are also shown in Table 5.7-13. Operating costs include the labor required to operate and maintain the systems, as well as expenses such as electricity, chemicals, spare parts and property taxes. Labor costs are escalated

from 2010 at the rate of 2.5 percent per year and costs other than labor are escalated at the rate of three percent per year. These escalations are consistent with the rates used in the financial forecast prepared in connection with the issuance of the bonds.

Potential Impacts on City and Upstate Consumers. The following section evaluates potential socioeconomic impacts due to water rate increases on City and upstate consumers of the New York City Water Supply system. The year 2016 was used for the end year of the water rate projection model since 2016 represents the year in which all the effects of the capital costs related to the proposed Croton project alternatives would be reflected in the debt service of the bonds issued to finance the capital costs. While total costs over the life of the proposed project would vary depending upon the type of financing method selected (due to the shorter repayment period, but lower interest rate imposed by the SRF program), as noted above, the actual difference between the Authority financing and the SRF financing is negligible. Therefore, the anticipated rate increases and the effect on charges to residential consumers have been developed for the water treatment plant site using only the Authority form of financing.

Analyzing and illustrating the potential impact of the proposed Croton project at the Eastview Site on water and sewer rates necessarily involves making a series of assumptions relative to estimated values of a diverse set of key variables. Since it is certain that the future conditions that would be obtained with respect to at least some variables would be different than what is assumed for analytical purposes, the rate impact must be considered illustrative, rather than precise.

The following are among the variables for which assumptions have been made: the proposed project's construction schedule and its estimated costs, the inflation rate on construction costs, the financing rate realized at the time bonds are issued to finance each project's expenditures, the anticipated completion date, contingencies, the estimated annual operations and maintenance expenses, the inflation rates on operations and maintenance expenses including personnel costs and materials and equipment costs, and the rate of increase on upstate real estate taxes.

To demonstrate the variable nature of analyzing water and sewer rate impacts, a number of scenarios are analyzed in the Final SEIS. For instance, the allocation of the project costs for the years 2010 and 2016 has been developed for the KCT treated water conveyance alternative with the proposed $28 million amenities package using a relatively conservative four percent property tax inflator, as well as using a higher property tax inflator of five and six percent. These higher property tax rates are more realistic than the four percent rate utilized in the Draft SEIS. Property tax rates in Westchester County, as well as the rest of the state and the country, have been rising over the past few years and it is anticipated that they will continue to rise. Therefore, in the Final SEIS, water rates are presented using these higher property tax inflator rates. In addition, the allocation of the project costs for the years 2010 and 2016 has been developed for the NCA rehabilitation treated water conveyance alternative without the proposed amenities package. The amenities package has not been included in this scenario since this alternative already includes the $558,000,000 cost of aqueduct pressurization plus $125,000,000 for the Treated Water Tunnel. It was assumed that City consumers would be anticipated to pay approximately 91 percent of the upstate project costs and upstate consumers would pay nine

percent of those costs. This allocation is based on the current percentage of water used by upstate consumers.

Table 5.7-14 shows the anticipated charges to City and upstate consumers in the years 2010 and 2016 (in 2010 dollars and 2016 dollars, respectively), the anticipated dollar increase over the estimated rate without the proposed project (base rate), and the percentage increase the new rate represents over the base rate for all of the water rate projection models discussed above. The base rates, which reflect the City's CIP without the proposed Croton project, are also shown in this table. Although the projection models take into consideration differing assumptions and account for varying costs, the increase over base rate in 2010, or the anticipated first year of operation, is the same for each projection model ($38, or 4.7 percent). This is largely due to the fact that the property taxes are not reflected in water rates until after the first year of operation (year 2011). The increase over base rate varies in the year 2016, ranging from a low of $45 (or 4.2 percent) to a high of $52 (or 4.9 percent), since the variables rise with the increase in property taxes. Also, the Eastview water treatment plant with the NCA rehabilitation alternative has higher capital costs than the KCT alternative and thus results in overall greater increases in rates. As indicated in Table 5.7-14, the NCA rehabilitation alternative would result in a larger percentage increase in the year 2016 than the KCT alternative, even with the 6% property tax inflator included in the analysis. This is largely due to the fact that the NCA rehabilitation would not begin until after the first operation year of the proposed water treatment plant (2010). In other words, greater capital spending would occur later in the forecast period than for the Eastview water treatment plant with KCT.

TABLE 5.7-14 ESTIMATED ANNUAL WATER RATES FOR EASTVIEW WATER TREATMENT PLANT

Water Rate Projection Model	Year	In-City Rates	Increase over Base Rate		Upstate Rate	Increase over Base Rate	
		(Dollar)	(Dollar)	(Percent)	(Dollar)	(Dollar)	(Percent)
Base Case (CIP without Croton)	2010	811	0	0.0	86	0	0.0
	2016	1,066	0	0.0	116	0	0.0
Eastview with KCT ($28 million amenities, 4% tax inflator)	2010	849	38	4.7	104	18	20.9
	2016	1,111	45	4.2	155	39	33.6
Eastview with KCT ($28 million amenities, 5% tax inflator)	2010	849	38	4.7	104	18	20.9
	2016	1,112	46	4.3	156	40	34.5
Eastview with KCT ($28 million amenities, 6% tax inflator)	2010	849	38	4.7	104	18	20.9
	2016	1,113	47	4.4	156	40	34.5
Eastview with NCA Rehab (without amenities, 4% tax inflator)	2010	849	38	4.7	106	20	23.3
	2016	1,118	52	4.9	163	47	40.5

Note: Base rate is the estimated rate cost in the Future Without the Project. Each year's rate is expressed in that year's respective dollars.

As previously noted, costs associated with the debt service issued to finance the project would be reflected in the year 2016. Thus, the year 2016 is used for the following water rate discussion as an illustrative example of potential water rate impacts resulting from the proposed project. The proposed Croton project with KCT, including the $28 million amenities package, and the proposed Croton project with NCA Pressurization water rate projection models (both using a four percent property tax inflator) have been used as representative examples for this discussion. Note that values are presented in 2016 dollars.

As noted in Table 5.7-14, the average annual payment per household required in 2016 to support the City share of the proposed project would be $45 and $52 for the proposed project with KCT or with NCA Pressurization, respectively. This represents a percentage increase of 4.2 and 4.9 percent over the base rate ($1,066, without the Croton project) in the year 2016.

The anticipated increase in annual customer cost to upstate consumers required in 2016 as a result of the proposed Croton project with KCT or with NCA Pressurization would be $39 and $47, respectively, as presented in Table 5.7-14. This represents a 33.6 and 40.5 percentage increase over the base rate ($116, without the proposed Croton project) in the year 2016.

Potential Impacts on City Residential Consumers. In 2000, approximately 2.1 million units in New York City were renter-occupied (69.8 percent) and over 900,000 units were owner-occupied (30.2 percent), as shown in Table 5.7-15. Queens had the highest number of owner-occupied units (334,815); Brooklyn had the highest number of renter-occupied units (642,360).

TABLE 5.7-15. DISTRIBUTION OF HOUSING UNITS IN NEW YORK CITY, 2000

Borough	Renter Occupied	Owner occupied	Percent Renter (%)	Percent Owner (%)
Bronx	372,525	90,687	80.4	19.6
Brooklyn	642,360	238,367	72.9	27.1
Manhattan	589,912	148,732	79.9	20.1
Queens	447,849	334,815	57.2	42.8
Staten Island	56,646	99,695	36.2	63.8
New York City	2,109,292	912,296	69.8	30.2

Source: U.S. Department of Commerce, Bureau of Census, 2000.

In the year 2016, the proposed Croton project with KCT would require an increase of approximately $45, or 4.2 percent, in water and sewer payments per average household. For the proposed Croton project with NCA Pressurization alternative, the increase in annual water and sewer payments per average household would be $52, or 4.9 percent. Table 5.7-16 presents the median gross rent in the five boroughs in 2016 (presented in 2016 dollars), to be consistent with the end year of the water rate projection model. Gross rent is defined by the U.S. Census as the contract rent plus the estimated average monthly cost of utilities (electricity, gas, water and sewer) and fuels (oil, coal, kerosene, wood, etc.), if the renter pays these. In 2016, the estimated median monthly gross rent ranges from $960 in the Bronx to $1,232 in Manhattan. The average for all renter-occupied units in the City would be $1,091. As shown in Table 5.7-16, the

additional monthly rate charge of approximately four dollars (figured by dividing the annual rate increase by twelve) related to implementation of the proposed project would represent increases of less than one percent in median monthly gross rent.

TABLE 5.7-16. POTENTIAL IMPACT ON CITY RENTER MEDIAN MONTHLY GROSS RENT[1]

Borough	Median Monthly Gross Rent[2]	Increase as Percent of Median Monthly Gross Rent for Eastview WTP with KCT	Increase as Percent of Median Monthly Gross Rent for Eastview WTP with NCA Pressurization
Bronx	$960	0.39	0.45
Brooklyn	$1,040	0.36	0.42
Manhattan	$1,232	0.30	0.35
Queens	$1,200	0.31	0.36
Staten Island	$1,149	0.33	0.38
New York City	$1,091	0.34	0.40

Notes:
1. Represents percentage increase in 2016 dollars due to implementation of the proposed project.
2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 2.75 percent per year to 2016, the end year of the water rate projection model.

Source: U.S. Department of Commerce, Bureau of Census, 2000.

Table 5.7-17 presents the median monthly costs of owner-occupied units in the five boroughs in 2000, expressed in 2016 dollars to be consistent with the end year of the water rate projection model. The median monthly owner costs are estimated by the U.S. Census for one-family houses and include the following expenses: mortgages (including first, second, and third mortgages), equity loans, real estate taxes, insurance, utilities (including water, electricity and gas), fuel, and other miscellaneous fees. In 2016, median monthly owner-occupied unit costs would be highest in Manhattan, $5,596 and lowest in Staten Island, $2,215. The average for all owner-occupied units in the City would be $2,418. As shown in Table 5.7-17, the implementation of the proposed project would result in increases of less than one percent in monthly owner cost for both alternatives, using the same method as above.

The potential impact of the proposed project was also evaluated for the lowest income groups in the City. As discussed in Future Without the Project section above, average household income for City customers in the lowest income block in the Bronx study area (Tract 271.01) is projected to be $12,055 in 2004, and is anticipated to rise to $16,694 by 2016. Water and sewer rates are anticipated to rise from 4.4 percent of annual income in 2004 to 6.4 percent in 2016 without the proposed Croton project. The additional $52 of annual water and sewer costs resulting from the construction and operation of the proposed Croton plant[27] would raise the percentage of annual income that would go to water and sewer payments from 6.4 percent to 6.7 percent. This

[27] This analysis assumes the most expensive treated water conveyance alternative directly attributable to the proposed Croton project, the NCA pressurization alternative. The KCT alternative would result in an annual

TABLE 5.7-17. POTENTIAL IMPACT ON CITY OWNER MEDIAN MONTHLY COST[1]

Borough	Median Monthly Owner Cost[2]	Increase as % of Median Monthly Gross Owner Cost for Eastview WTP with KCT	Increase as % of Median Monthly Gross Owner Cost for Eastview WTP with NCA Pressurization
Bronx	$2,452	0.15	0.18
Brooklyn	$2,484	0.15	0.17
Manhattan	$5,596	0.07	0.08
Queens	$2,472	0.15	0.18
Staten Island	$2,215	0.17	0.20
New York City	$2,418	0.16	0.18

Notes:
1. Represents percentage increase in 2016 dollars due to implementation of the proposed project.
2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 2.75 percent per year to 2016, the end year of the water rate projection model.
Source: U.S. Department of Commerce, Bureau of Census, 2000.

incremental increased expense of 0.3 percent of annual income to the lowest income group is not considered significant, and the costs to other users would be less adverse.

Because of the minimal net increase in the median monthly cost of renting or owning a residential unit in New York City resulting from the proposed project, it is unlikely that renters or owners of residential units would relocate from the City as a result of the proposed project. Therefore, the proposed project is not anticipated to result in significant adverse socioeconomic impacts on New York City residential system consumers.

Potential Impacts on Upstate Residential Consumers. In 2016, the estimated median monthly gross rent in Westchester County would be $1,299 (Table 5.7-18), and the estimated median monthly cost per owner-occupied unit would be $3,672 (Table 5.7-19). These amounts are expressed in 2016 dollars to be consistent with the end year of the water rate projection model. Projected annual increases due to the proposed project were divided by twelve to determine monthly cost increases. Although the percent increase over the base water rate is relatively high for upstate users, a comparison of the potential increase in monthly costs per customer due to the proposed project with the KCT or with NCA Pressurization ($3.25 and $3.92, respectively) to the 2016 monthly housing costs ($1,299 to $3,672) shows that the increased cost would represent between a 0.1 percent and 0.3 percent increase over existing monthly costs. Based on this

increase of $43, which would have a lower impact. Costs of the KCT project without the proposed Croton project are included in the Future Without the Project.

TABLE 5.7-18. POTENTIAL IMPACT ON RENTER MEDIAN MONTHLY GROSS RENT[1]

County	Median Monthly Gross Rent[2]	Increase as % of Median Monthly Gross Rent for Eastview WTP with KCT	Increase as % of Median Monthly Gross Rent for Eastview WTP with NCA Pressurization
Westchester County	$1,299	0.25	0.30

Notes:
1. Represents percentage increase in 2016 dollars due to implementation of the proposed project.
2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 2.75 percent per year to 2016, the end year of the water rate projection model.
Source: U.S. Department of Commerce, Bureau of Census, 2000.

TABLE 5.7-19. POTENTIAL IMPACT ON UPSTATE OWNER MEDIAN MONTHLY COST[1]

County	Median Monthly Owner Cost[2]	Increase as % of Median Monthly Owner Cost for Eastview WTP with KCT	Increase as % of Median Monthly Owner Cost for Eastview WTP with NCA Pressurization
Westchester County	$3,672	0.09	0.11

Notes:
1. Represents percentage increase in 2016 dollars due to implementation of the proposed project.
2. Adjusted to 2003 dollars based on the New York MSA Consumer Price Index (CPI) for 2000 (182.5) and 2003 (197.8); then further inflated at 2.75 percent per year to 2016, the end year of the water rate projection model.
Source: U.S. Department of Commerce, Bureau of Census, 2000.

information, the proposed project would not be anticipated to result in significant adverse socioeconomic impacts on upstate residential system users, including those within the study area.

5.7.3.1.2. With Cat/Del UV Facility at Eastview Site

As noted above, the Cat/Del UV Facility (an additional NYCDEP project) may be located on the Eastview Site in the Future Without the Project. The incremental socioeconomic effects in terms of jobs, wages and salaries, property tax revenues, and indirect effects resulting from operation and maintenance of the proposed Croton plant would be the same in the Future With the Project regardless of whether the Cat/Del UV Facility is operating on the Eastview Site as well. The additional socioeconomic effects associated with the Cat/Del UV Facility are presented in the Future Without the Project (5.7.2.2.2, With Cat/Del UV Facility at the Eastview Site).

5.7.3.2. Potential Construction Impacts

The Future With the Project considers the anticipated peak year of construction (2008) for the proposed Croton project (either with the KCT or with NCA Pressurization alternative). For this year, two scenarios are assessed: one in which the NYCDEP Cat/Del UV Facility is not located on the Eastview Site, and another in which the Cat/Del UV Facility is located on the site, specifically in the southeastern portion of the parcel. Therefore, potential construction impacts have been assessed by comparing the Future With the Project conditions against the Future Without the Project conditions for the year 2008 for both of these scenarios.

5.7.3.2.1. Without Cat/Del UV Facility at Eastview Site

Jobs. During the peak construction year (in terms of peak numbers of workers on the Eastview Site), the proposed Croton project with the KCT or with NCA pressurization would introduce approximately 652 construction employees per day into the area. These construction workers would have a median salary of approximately $49,600 (based on the salaries of the types of construction workers that would be on-site). Neither Westchester County nor the Town of Mount Pleasant would receive any income tax benefits from these construction workers, since neither the County nor the Town tax personal income. If residing in New York City, however, the worker would pay approximately $1,700 in taxes per year to the City (Appendix A).

Indirect Effects. The 652 construction workers would likely add money to the local economy through their visits to area businesses. The RIMS II multipliers used for this analysis are available by county for certain detailed industries. The detailed industries are based on the 1999/2000 annual input-output accounts and are referenced to standard industrial classification (SIC) codes. The multipliers for the Croton analysis for the construction period are those developed for the construction industry, specifically Sector 11.0900, other new construction (construction other than residential, commercial, or industrial buildings, or highway and streets).

The multipliers for each county are derived based on data from national input-output accounts and other secondary data, and then adjusted by regional data. These regional data account for variations in the level of activity in the various sectors of the local economy. According to data provided by the U.S. Department of Commerce Bureau of Economic Analysis, multipliers for new activities tend to be higher in a region when existing levels of that activity are fairly low. Conversely, when there is already a fairly high level of a certain activity, the multiplier for new input into that activity is relatively low. Thus, multipliers for new input in the water supply and sewerage system classifications are higher in Westchester County where the existing infrastructure is less developed than in Bronx County where the infrastructure systems are essentially fully developed.

The RIMS II multipliers for the construction industry indicate that the sectors that would see the most benefits during construction are retail trade and business services. It is not possible to determine exactly where the workers may conduct business, but it is likely that they would visit gas stations, convenience stores, and restaurants. The dollar investment that NYCDEP would make for construction of the proposed Croton project with the KCT alternative, including capital costs, could add an average of 1,736 new jobs per year of construction to the County's economy,

according to the RIMS II multipliers for Westchester County. For the proposed Croton project with the NCA Pressurization alternative, this number increases to 2,223 (Table 5.7-20 and Appendix A). It should be noted that the economic benefits would likely affect a region larger than the County, since materials may be purchased outside of the County limits.

TABLE 5.7-20. INDUCED ECONOMIC BENEFITS DURING CONSTRUCTION, WESTCHESTER COUNTY

Economic Factor	Induced Effect to County's Economy	
	Proposed Project with KCT	**Proposed Project with NCA Pressurization**
Total Output to County's Economy	$2,084,360,500	$2,669,385,500
Total Income	$409,265,400	$524,135,400
Average Annual Jobs During the Construction Period	1,736	2,223

Source: Bureau of Economic Analysis, U.S. Department of Commerce. 2003. RIMS II for Westchester County, 2003.

Potential Displacement Due to Construction Related Noise, Traffic, and Air Quality Impacts. The characteristics of the proposed project were reviewed to identify potential impacts that could result in indirect displacement due to construction related noise, traffic and air quality impacts. This analysis depends upon other analyses, as discussed below. Refer to the respective sections for an explanation of peak years. Impacts would be the same for the proposed Croton plant at Eastview with the KCT or NCA pressurization alternative. In general, the significant adverse impacts identified below would be mitigated. Therefore, no indirect displacement is anticipated to occur.

Noise. Four noise sensitive receptors located in the vicinity of the proposed plant at the Eastview Site were studied for potential impacts: the Westchester County Department of Labs and Research building to the north; the Westchester County Penitentiary to the southeast; the Woodfield Cottage Juvenile Detention Center to the north; and a private residence to the south, which is the nearest residence to the water treatment plant site.

The juvenile detention center and the private residence would experience an elevated noise level due to noise from on-site construction activities if no noise reduction measures were implemented, however it is not anticipated that elevated noise levels would result in displacement since the levels would decrease upon the completion of construction. (see Section 5.10, Noise Analysis).

Potential temporary noise increases associated with mobile sources, such as construction traffic traveling to and from the site, would not be anticipated to result in indirect displacement.

Vibrations. Due to the magnitude of this project, it is possible that excavation activities may cause vibrations. Vibrations could occur due to rock blasting activities and from tunnel boring machine (TBMs). The foundation and the shafts of the proposed Croton project would

require rock drilling and some blasting. The raw water tunnel (and treated water tunnel, if built as part of the NCA-pressurization alternative) would be completed with TBMs. There are laboratories associated with the hospital located to the north of the site that are potentially sensitive to vibrations. However, these potential vibrations would be monitored and/or controlled and would not be considered significant (see Section 5.10, Noise Analysis).

Traffic. Increases in construction-related traffic would result in significant impacts at several intersections. However, no displacement or indirect effects would be anticipated to occur given that mitigated measures would be incorporated into the project to address the significant traffic-related impacts during construction, such as optimizing signal timing and, in some cases, adding lanes (see section 5.8, Traffic and Transportation).

Air Quality. Air quality could be affected by both mobile and stationary sources. The mobile source emissions during construction or operations from vehicles would not result in significant air quality impacts (see Section 5.11, Air Quality).

Stationary sources include diesel emissions from heavy equipment, and fugitive dust emissions raised from the movement of bulk material during construction, and boiler emissions during operations. The operation impacts would not be significant. Although the air quality impacts from stationary construction sources would exceed the interim guidance criteria for small particulate matter ($PM_{2.5}$) emissions, this air quality impact is not considered significant because it is based on modeling of potential air quality emissions with very conservative assumptions. In addition, measures would be taken, such as the use of Ultra Low Sulfur Diesel Fuel, to provide meaningful reductions in PM_{10} and $PM_{2.5}$. See Section 5.11 for detailed information on air quality attenuation measures.

5.7.3.2.2. With Cat/Del UV Facility Project at Eastview Site

The Cat/Del UV Facility (an additional NYCDEP project) may be constructed on the Eastview Site in the Future Without the Project. If the Cat/Del UV Facility and the proposed Croton project were constructed concurrently on the Eastview Site, the construction area for the Cat/Del UV Facility would not be large enough to store or stockpile excavated material and accommodate its construction worker vehicles. Therefore, additional expenses (approximately $30 million) would be incurred as part of the Cat/Del UV Facility resulting from the need to haul the fill off site for sale during the initial stages of construction; purchase and deliver new fill to the site when it is needed during later stages of construction (i.e., for backfilling); store construction worker vehicles off site at parking lots in the vicinity; and to shuttle the workers back and forth between these locations and the project site (see Section 5.9, Traffic and Transportation). These additional expenses could generate short-term economic benefits for businesses that provide transportation services and to property owners of the selected off-site parking lots.

During the construction of the proposed Croton project in the scenario where the Cat/Del Facility is built on the Eastview Site at the same time, the requirement to haul fill to and from the site during the construction process would result in temporary adverse construction period traffic impacts due to increased truck traffic. Additional construction period traffic impacts would

result from the requirement that workers be shuttled between off-site parking lots and the construction site, thereby further increasing traffic on local roadways. As determined in Section 9.1, Mitigation of Potential Impacts, mitigation for some of the traffic impacts may not feasible. However, due to the temporary nature of these impacts, no direct or indirect business displacement is anticipated.

There would be no significant adverse noise impacts resulting from the construction of the proposed facility, if the Cat/Del UV Facility is also sited at Eastview (see Section 5.11, Air Quality). Potential temporary impacts associated with mobile sources, such as construction traffic traveling to and from the site, would not be anticipated to result in indirect displacement.