

CREDIT OPINION

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New York City Municipal Water Fin. Auth., NY

Update to credit analysis

Summary

The Aa1 rating on the [New York City Municipal Water Finance Authority's](#) revenue bonds reflects the system's very large and diverse service area, strong rate setting track record, and robust liquidity. These strengths are balanced against a high debt burden and adequate debt service coverage on a net revenue basis. While debt service coverage is high on a bond ordinance basis, net revenue coverage is narrower than some highly rated peers but remains in line with other large municipal utilities. The system's exposure to unfunded retirement liabilities is limited, and its liabilities do not place a significant burden on the city's broad revenue base.

The authority issues debt for the New York City Water and Sewer System. The system delivers water and wastewater services to an expansive and diverse economic base that primarily comprises the five boroughs of [New York City](#) (Aa2 Negative), but also includes an area of about one million residents outside the city. Together with the New York City Water Board (the Board), the combined system is a component unit of the City of New York.

The authority's Aa1 rating and stable outlook are higher than New York City's issuer rating and outlook, reflecting the system's stronger fundamental enterprise profile and sector characteristics that support resilient revenue performance, including essential-service demand, established cost recovery through rate actions, and strong liquidity and debt service coverage. The city (system operator), along with the Board and the authority, collectively manage the system and have a record of maintaining strong financial metrics. While the outlook remains stable, a weakening of the city's credit profile that signals constraints on the authority's governance, financial flexibility, or rate-setting capacity could have negative implications for the authority's credit quality.

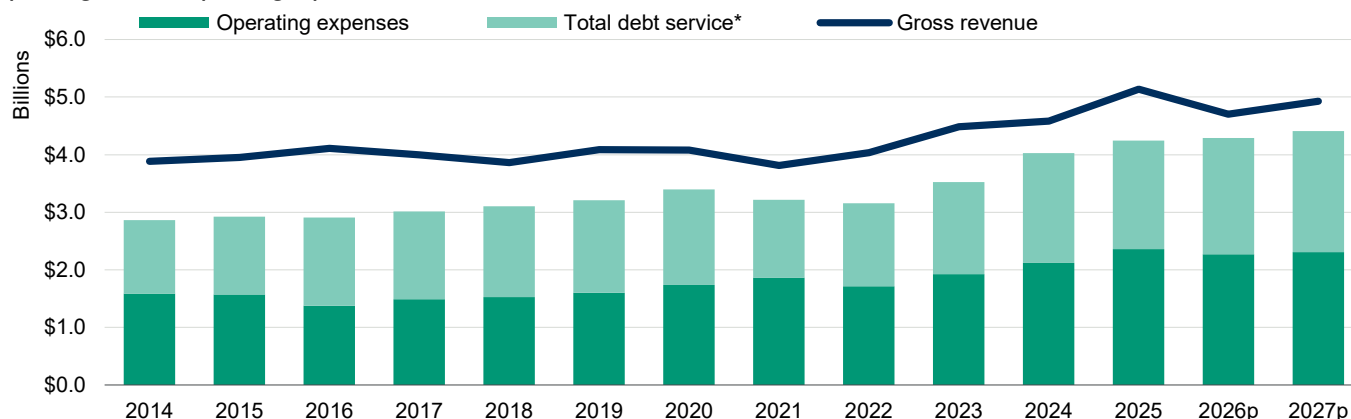
On a net revenue basis, debt service coverage is adequate but similar to coverage ratios maintained by other large municipal utility systems in the US. Additionally, the authority has established a bondholder-protective flow of funds, backed by early set-aside of debt payments that typically results in full funding of annual debt service requirements transferred to the trustee within the first several months of the fiscal year. On a bond ordinance basis, coverage of annual debt service will remain strong through the fiscal 2030 forecast period, given a gross revenue pledge and the authority's use of prior year surplus revenue to pay debt and lessen debt service requirements. This practice does not require the system to draw from its unrestricted liquidity to make debt service payments.

Relative to large municipal utilities, the system's debt burden is high with approximately \$35.2 billion of subordinate lien debt outstanding, amounting to roughly 7.5 times operating revenue. We expect leverage to remain stable, relative to revenues. Total liabilities of New

York City, inclusive of the system's debt (the system is a component unit of the city), remains below that of many major US cities with large utility systems of their own.

Exhibit 1

Operating revenue, operating expenses and debt service Fiscal 2014-2027



*Debt service includes debt paid with prior year surpluses and revenue carried forward. Fiscal years 2026 and 2027 are projected

Source: Source: New York City Municipal Water Finance Authority and Moody's Ratings

Credit strengths

- » Very large service area with a diverse customer base
- » Debt service payments are set aside well in advance of being due
- » Very strong liquidity equivalent to 371 days of operating costs in fiscal 2025
- » Exposure to unfunded retirement liabilities of the city is low because New York City's unfunded pension burden is moderate and the city's contribution practices are strong among US local governments

Credit challenges

- » Falling consumption necessitates regular rate increases to address rising operating costs and debt service, similar to other cities
- » Narrower debt service coverage on a net revenue basis compared to many highly rated water and sewer systems, though not far out of line with that of several large municipal utility systems

Rating outlook

The stable outlook reflects expectations that ongoing rate actions will remain sufficient to preserve strong liquidity and solid debt service coverage while supporting the system's substantial capital program. The outlook also incorporates the system's fundamental enterprise strengths as an essential, monopolistic service provider with independent rate setting capacity and other sector characteristics that have historically supported resilient revenue performance. The authority's rating and stable outlook are higher than New York City's issuer rating and outlook, reflecting the water and sewer system's stronger fundamental credit profile. Its outlook remains stable, though a weakening of the city's credit that signals constraints on the authority's governance, financial flexibility, or rate-setting capacity could have negative impacts on the authority's credit quality.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on <https://ratings.moody.com> for the most updated credit rating action information and rating history.

Factors that could lead to an upgrade

- » Moderated borrowing or accelerated growth in revenue that brings the system's debt burden down to a level more in line with large system peers without adverse effects on system infrastructure

Factors that could lead to a downgrade

- » Coverage maintained below 1.3x combined first and second resolution bond debt service, as measured by Moody's on a net revenue basis
- » A fall in operating liquidity to under 250 days of operating expenses
- » Growth in the system's debt burden to over 8x gross revenue
- » The long-term rating on the second resolution bonds specifically could be downgraded if the authority materially increased its issuance of first resolution bonds

Key indicators

Exhibit 2

New York City Water and Sewer System Debt Overview

Type of debt	Outstanding principal (billion)	Pledge	Lien status	Rate covenant	Debt service reserve
First resolution (senior lien) revenue bonds	\$0.0	Senior lien on gross revenue of the water and sewer system	Open	1.15x	Lesser of traditional three-prong test
Second resolution (subordinate lien) revenue bonds	\$35.2	Subordinate lien on gross revenue of the water and sewer system after payment of authority expenses	Open	1.00x	None

Previously outstanding senior lien bonds were refunded by new subordinate lien bonds issued in 2026. Amounts on deposit with the Trustee will be used to pay the senior lien bonds on the redemption date of June 15, 2026. The Trustee has been irrevocably instructed to pay the senior lien bonds on the redemption date at 100% of the principal amount plus accrued interest.

Source: New York City Municipal Water Finance Authority and Moody's Ratings

Exhibit 3

New York City Water and Sewer System Trend Analysis

	2018	2019	2020	2021	2022	2023	2024	2025
Gross revenue (million)	\$3,860	\$4,088	\$4,076	\$3,812	\$4,035	\$4,482	\$4,579	\$5,137
Coverage of senior lien debt service per bond ordinance	62.8x	51.4x	37.1x	429.2x	434.5x	240.9x	277.8x	361.5x
Coverage of total debt service per bond ordinance	10.2x	6.0x	6.6x	13.2x	10.5x	13.0x	24.6x	95.9x
O&M (million)	\$1,530	\$1,598	\$1,734	\$1,862	\$1,711	\$1,922	\$2,123	\$2,357
Net revenue (million)	\$2,330	\$2,490	\$2,342	\$1,962	\$2,328	\$2,560	\$2,468	\$2,803
Coverage of total scheduled debt service by net revenue	1.5x	1.5x	1.4x	1.4x	1.6x	1.6x	1.3x	1.4x
Available cash and investments (million)	\$1,203	\$1,334	\$1,345	\$1,359	\$1,572	\$2,056	\$2,178	\$2,398
Days cash on hand	287	305	283	266	335	391	374	371
Debt to operating revenue (x)	7.8x	7.4x	7.5x	8.4x	8.1x	7.6x	7.6x	7.5x

Gross revenue, O&M and net revenue are shown in the chart on an audited and full accrual basis. Available cash and investments consists of the sum of cash held in the New York City Water Board's operating and maintenance (O&M) reserve and the authority's revenue fund as reported in the authority's annual financial statements.

Source: New York City Municipal Water Finance Authority and Moody's Ratings

Profile

The New York City Water and Sewer System serves a population of approximately 8.6 million in the five boroughs of New York City, a service area of more than 300 square miles. It also provides water to an additional one million people in the counties where its water supply facilities are located. The system is vast: its watershed area is 1.2 million acres; there are 19 water reservoirs and three controlled lakes; 6,800 miles of water mains; 7,500 miles of sewers; and 14 wastewater treatment plants. The New York City Municipal Water

Finance Authority finances the capital needs of the system. The New York City Water Board sets the system's rates. The City of New York operates the system.

Detailed credit considerations

Service area and system characteristics

New York City's massive water and sewer system delivers one billion gallons of water per day to a population exceeding 9.5 million spread across the five boroughs, parts of [Westchester County](#) (Aa1 positive), and other suburban counties. The sewer system treats an average of over 1.2 billion gallons of wastewater daily.

New York's water and sewer system takes in nearly double the revenue of the second-largest municipally-owned system in the country, and at least quadruple the revenue of most other large municipal systems that similarly serve a significant population beyond its immediate borders.

The outstanding debt of New York's water and sewer system, relative to revenues far surpasses that of other systems. A noteworthy factor driving this high debt is the system's expansive reach and the need to finance and maintain infrastructure that includes a system of aqueducts and tunnels channeling water from 19 upstate reservoirs, some of which are more than 100 miles from the city.

The New York system has among the highest debt burdens of water and sewer systems in the nation, and especially among systems of large US cities. However, the total liabilities burden of New York City, inclusive of water and sewer system debt, remains below that of many major US cities, when combined with their own utility systems.

The system has around 839,800 accounts, of which are 96% billed on a metered basis and 92% are residential. The top ten users account for over 10% of revenue, with the two largest users - the New York City Housing Authority and the City of New York - together contribute approximately 8% of the system's annual gross revenue.

Debt service coverage and liquidity

Water and sewer rates

The New York City Water Board has a strong record of adjusting rates to maintain robust liquidity, despite a gradual but persistent decline in consumption. This strategy of countering falling consumption with regular rate hikes is a common thread among water utilities across the US that are grappling with a mix of flat or decreasing consumption and escalating debt service to pay for infrastructure maintenance or upgrades.

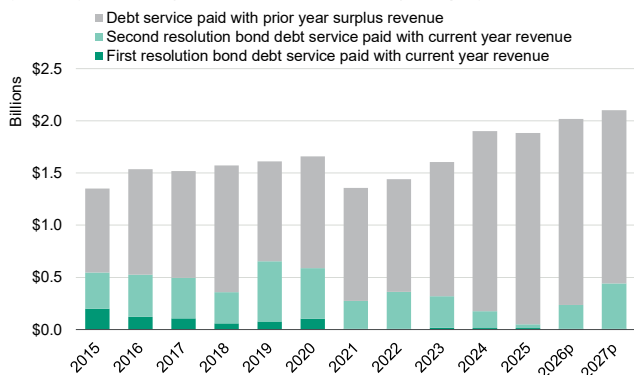
The board followed a 0% change in rates in fiscal 2021 (prompted by the coronavirus pandemic) with annual rate increases of between 2.8% and 4.9% between fiscal years 2022 and 2026, except 2025. The board adopted a more significant 8.5% rate increase for fiscal 2025, with similarly high rates above 5% forecasted starting in 2027. Forecasted rate increases are still subject to board approval on an annual basis.

To mitigate reduced affordability among the city's lower income population, the water board has managed a Home Water Assistance Program since 2015 that provides an annual credit below certain income thresholds. Further assistance to multifamily affordable housing properties is provided through the Multi-Family Water Assistance Program, which has been in place since 2017.

Debt Service Coverage

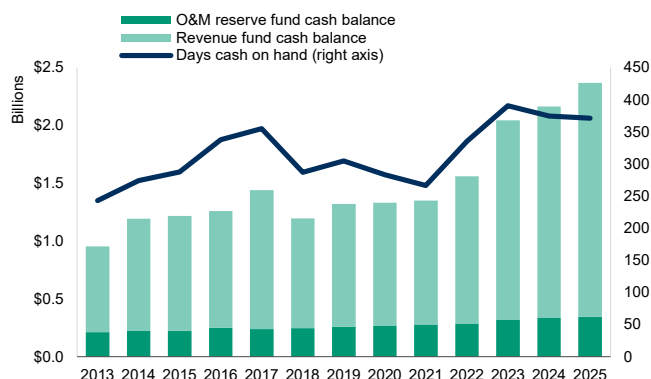
Net revenue coverage is below peers. The authority typically reduces a given year's debt service by the amount of debt service paid with the previous year's operating surplus. Even with revenue declines in fiscal 2018 and fiscal 2021, debt service coverage on a bond ordinance basis increased in both years (see Exhibit 3 above). Debt service coverage, factoring both current year net revenues as prior year surplus is strong, averaging 2.7x over the past five years.

Exhibit 4
Annual debt service, including debt service paid with surplus revenue
 by fiscal year ending June 30; 2026 & 2027 figures projected



Source: New York City Municipal Water Finance Authority and Moody's Ratings

Exhibit 5
Available operating cash balances and days cash on hand
 by fiscal year ending June 30



Source: New York City Municipal Water Finance Authority and Moody's Ratings

Our methodology for measuring and comparing debt service coverage for all utilities is calculated on a net revenue basis. By this measure, coverage of combined first and second resolution bond debt service averaged 1.5x over the past five fiscal years (see Exhibit 3 above). The authority's updated forecast indicates debt service coverage will fall below 1.3x in the coming years. However, actual operating results typically are better than forecast.

The authority's early payment of debt from either current year operating revenue or surpluses carried forward is a further strength. Since fiscal 2014, the authority has annually set aside with its trustee by at least November of each fiscal year (year ending June 30) 100% of that year's debt service requirement.

Liquidity

At the close of fiscal 2025, the system held a substantial \$3.6 billion in total cash and investments. This total includes \$376 million held by the New York City Water Board in an operation and maintenance reserve fund and local water fund. The authority itself had \$2 billion in its revenue fund. The remaining \$1.2 billion consisted of funds across the authority's debt service reserve fund and construction fund.

Considering only the water board's operating reserves and the authority's revenue fund, fiscal 2025 cash and investments were equivalent to 371 days of operating expenses. In the past three years, system liquidity averaged a very strong 379 days of operating expenses.

Debt and legal covenants

The system carries a high debt burden. To maintain and update the system, the city's ten-year capital plan anticipates nearly \$33.5 billion of total capital commitments on the system through 2035. As part of this plan, the authority expects to borrow about \$14.6 billion in new debt over fiscal 2026 through 2030. This will likely result in a small net increase in debt over this period, but growth in revenue should keep the debt burden stable.

The authority has borrowed considerably to improve its environmental resiliency. Further, maintenance of water sources, while costly, keeps the supply more distant to hurricane events. The system includes three water tunnels for greater flexibility and supply redundancy should damages be incurred.

The authority has a number of infrastructure projects to protect the system from flooding associated with extreme rainfall, storm surge, and tidal flooding due to sea level rise. Such projects include structural upgrades and improvements to the upstate Ashokan Reservoir, improvements to wastewater treatment assets and resiliency projects along the East River. The costs of the Ashokan Reservoir upgrades (\$1.2 billion) and other resiliency projects are substantial and mostly incorporated in the capital improvement plan.

One particular outstanding issue for the New York City Water and Sewer System is the pending expiration of a filtration avoidance determination (FAD) by the New York State Department of Health. The exemption was first issued in 1993 and has been continually

extended since then. The most recent extension expires in 2027 and allows the system to provide water from upstate sources without filtration. Water quality, even without this filtration meets standard requirements.

Legal security

The authority's first resolution bonds are secured by a senior lien on gross revenue of the New York City Water and Sewer System. The second resolution bonds also have lien on revenue of the water and sewer system, but are subordinate to the senior lien bonds. The subordinate lien is applied to revenue after the payment of first resolution bonds and authority operating expenses, which are only those to operate the authority, averaging about \$43 million annually over the past several years.

Debt structure

Most of the system's debt is fixed rate revenue bonds issued under the second resolution, with approximately 13% in various non-fixed rate modes. The system currently has \$3.7 billion of revenue bonds in bank liquidity supported adjustable rate mode. The liquidity support is provided by a diversity of banks and existing standby bond purchase agreements are not subject to term-out provisions. An additional \$554 million of debt consists of index rate bonds (\$350 million) and adjustable rate remarketed securities (\$204 million).

Pensions and OPEB

The authority's exposure to unfunded pension liabilities is moderate, as New York City's pension funding practices are strong. As of fiscal 2025, New York City's adjusted net pension liability (ANPL) was \$81.5 billion, approximating 67% of that year's revenue. The city's unfunded pension burden, as measured by the ANPL, has been fairly close to the median of all US local governments for the past several years. The ANPL is our measure of a local or state government's unfunded pension liability that incorporates a market-based interest rate to value liabilities accrued by the government.

The New York City Water and Sewer System is operated by the New York City Department of Environmental Protection. Eligible employees of the department, as employees of the city, are covered by the New York City Employees Retirement System, a defined benefit pension plan of the city. The system's allocated portion of reported net pension and OPEB liabilities each constitute a minimal share of New York City's total reported net pension and net OPEB liabilities.

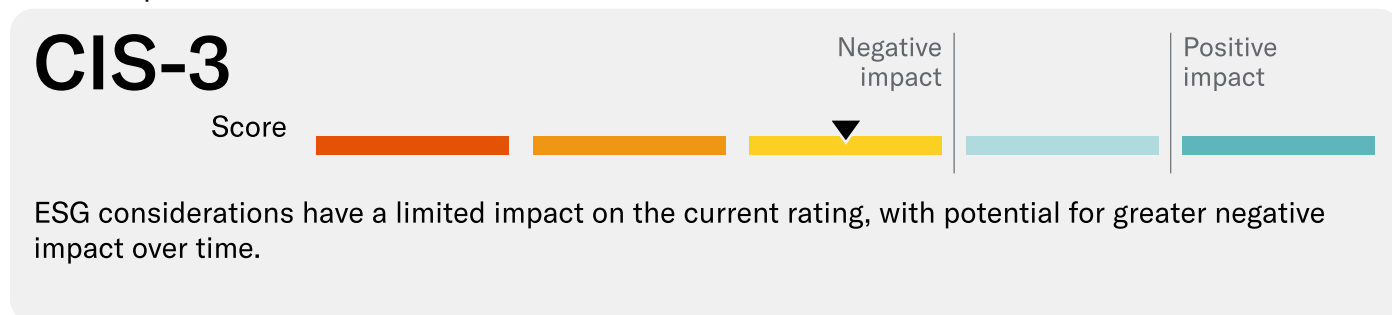
The city's annual contributions to its pension plans have, for several years, exceeded what we calculate as a "tread water" indicator. This indicator, which we derive from pension plan disclosures, measured the annual employer contribution required to prevent an increase in plan reported net pension liabilities, assuming other plan actuarial assumptions hold, after factoring in employee contributions. Contributions exceeding this level cover all net pension liability interest and pay down some principal. From a credit perspective, this is stronger compared to contributions falling below this level.

ESG considerations

New York City Municipal Water Fin. Auth., NY's ESG credit impact score is CIS-3

Exhibit 6

ESG credit impact score

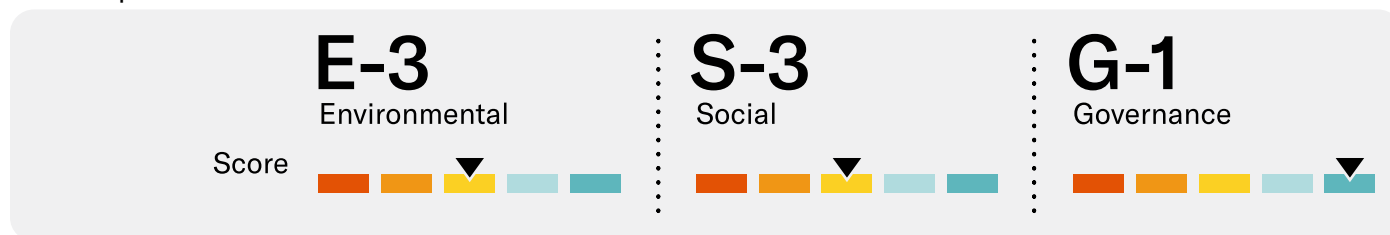


Source: Moody's Ratings

The authority's ESG Credit Impact Score is moderately negative (**CIS-3**), reflecting its above average exposures to environmental and social risks, and good governance.

Exhibit 7

ESG issuer profile scores



Source: Moody's Ratings

Environmental

The authority's exposure to physical climate risks is higher than average within the regional and local government sector. This is reflected in its **E-3** issuer profile score, which is the same score we assign to New York City. The water & sewer system is a component unit of New York City whose rates are set by the New York City Water Board. New York City's risks are more elevated than those of other local governments because of its location on the Eastern Seaboard and its geographic position between two tidal estuaries. Environmental risks within the city include intense storms, rising sea levels, and extreme heat, and the city has initiated resilience and adaptation strategies to confront these risks. For greater detail on the risks to the city in general, please see our reports on the City of New York. Wastewater and combined water and wastewater utilities, in general, also have moderately negative exposure to water management considerations given the risk of regulatory violations associated with wastewater disposal. Wastewater operations face risks of increased operating costs or capital requirements to address violations.

Social

The authority's social risk profile primarily reflects water utilities' general exposure to responsible production risk. Testing results reported to the Environmental Protection Agency indicate that most utilities provide clean and safe drinking water. However, water utilities are at risk of health violations resulting from catastrophic events, changes in source water quality, failures in treatment or transmission processes or revised regulations.

Governance

Authority governance is strong. The authority is part of a larger nexus of state-created entities designed to finance and operate the New York water and sewer system. Under state law and a variety of agreements, the city leases its water and sewer system to the New York City Water Board, members of which are appointed by the mayor of New York City. The board establishes water rates. The city's Department of Environmental Protection operates the system and collects revenue from system activity. The authority issues bonds to fund the system's capital needs. Collectively, management of the system and its finances has been strong, as illustrated by the healthy indicators discussed above. We view New York City's financial management, in general, to be strong. Our assessment is supported by institutional budget and financial management practices that emerged from the 1970s fiscal crisis and substantial transparency of its financial operations. The hallmark of these practices is effective multiyear planning via quarterly updates to the city's five-year financial plan, including consistently conservative revenue estimates, which gives a clear forward-looking view to potential budget challenges. Although the authority is closely integrated with the city's governance structure, the system's essential-service profile and demonstrated rate-setting and financial management practices have supported credit metrics consistent with the authority's higher rating and stable outlook. A material shift in the city's credit quality would be more likely to affect the authority if it signaled constraints on governance, financial flexibility, or rate-setting capacity, which could weaken the system's ability to sustain strong liquidity and debt service coverage.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on [Moody's.com](https://www.moodys.com). In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Rating methodology and scorecard factors

Exhibit 8

US Municipal Utility Revenue Debt methodology scorecard
New York City Municipal Water Fin. Auth., NY Senior Lien

Rating Factors	Input	Weight	Score
System Characteristics (30%)			
Asset Condition (Years of Annual Depreciation)	32	10%	Aa
System Size (O&M in Millions of Dollars)	\$2,357	7.5%	Aaa
Service Area Wealth (Median Family Income as % of US)	93%	12.5%	Aa
Financial Strength (40%)			
Annual Debt Service Coverage (x)	1.41	15%	A
Days Cash on Hand	371	15%	Aaa
Debt to Operating Revenue (x)	7.47	10%	Baa
Management (20%)			
Rate Management	Aaa	10%	Aaa
Regulatory Compliance and Capital Planning	Aaa	10%	Aaa
Legal Provisions (10%)			
Rate Covenant (x)	1.15	5%	A
Debt Service Reserve Requirement	Aa	5%	Aa
Notching Factors			Up/Down
Structural Enhancements/Complexities			Up
Scorecard-Indicated Outcome			Aa2
Assigned Rating			Aa1

Data is based on most recent fiscal year available.

Source: New York City Municipal Water Finance Authority and Moody's Ratings

Exhibit 9

US Municipal Utility Revenue Debt methodology scorecard
New York City Municipal Water Fin. Auth., NY Subordinate Lien

Rating Factors	Input	Weight	Score
System Characteristics (30%)			
Asset Condition (Years of Annual Depreciation)	32	10%	Aa
System Size (O&M in Millions of Dollars)	\$2,357	7.5%	Aaa
Service Area Wealth (Median Family Income as % of US)	93%	12.5%	Aa
Financial Strength (40%)			
Annual Debt Service Coverage (x)	1.41	15%	A
Days Cash on Hand	371	15%	Aaa
Debt to Operating Revenue (x)	7.47	10%	Baa
Management (20%)			
Rate Management	Aaa	10%	Aaa
Regulatory Compliance and Capital Planning	Aaa	10%	Aaa
Legal Provisions (10%)			
Rate Covenant (x)	1.00	5%	Ba
Debt Service Reserve Requirement	Baa and Below	5%	Baa
Notching Factors			Up/Down
Structural Enhancements/Complexities			Up
Scorecard-Indicated Outcome			Aa2
Assigned Rating			Aa1

Source: New York City Municipal Water Finance Authority and Moody's Ratings

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