



FINAL

**Jersey City Municipal Utilities Authority
Updated Solid Waste Collection Rate Study**

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Hoboken, New Jersey



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SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

Background and Study Objectives

The Jersey Authority Municipal Utilities Authority (“Authority”) in 2021 initiated a solid waste collection service municipal utility. The solid waste utility has accepted assignment, effective January 1, 2021, of the solid waste collection contract (the “Contract”) (see Appendix A) entered into between the City of Jersey City and Regional Industries Inc. (the “Collector”) on July 30, 2020. Under the terms of the Contract the Collector will provide complete solid waste collection services for all eligible properties within the City of Jersey City for a period of 5 years. The Authority will pay for the cost of the Contract beginning on January 1, 2021, from the proceeds of the solid waste utility rates, as collected from users.

The solid waste collection contract provides city residents with timely garbage and recycling collection to dispose of refuse. Every residential property receives 2 trash pickups per week (104 trash pickups per year) and 1 recycling pick up per week (52 recycling pickups per year). Total services equal 156 pickups per year for every residential location covered under the contract.

In early 1998 the Jersey City Sewerage Authority was reorganized as the Jersey City Municipal Utilities Authority to operate both the sewer and water systems. The addition of solid waste collection services is an authorized activity for a municipal utility authority under N.J.S.A. 40: 14B-1 et seq.

Solid Waste System

The solid waste system is comprised of three major components:

- 1- The Collection Contract to be undertaken by the Authority
- 2- Disposal of solid waste by the Collector in accordance with the flow control directives of the Hudson County Improvement Authority
- 3- Oversight of Collector compliance with the Contract by the City of Jersey City Sanitation Department, including oversight of recycling mandates from the New Jersey Department of Environmental Protection

JCMUA Solid Waste 2021 Budget Summary

Revenue

Solid Waste Collection Fees	\$ 16,100,000
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Appropriations

Collection Contract	\$ 15,100,000*
Administrative Costs	600,000
Reserves	<u>400,000</u>
Total Expense	\$16,100,000

**Note 2022 Contract rises to \$15,300,000*

A. PURPOSE OF THE STUDY

The Authority retained NWFG in 2020 to evaluate and establish its initial solid waste rates. The rates initially developed were based upon water usage as established by water meter readings. Given that water usage is a reflection of the amount of occupancy and that occupancy drives solid waste generation this approach was deemed to be a fair and equitable approach to assessing solid waste collection rates. In developing proposed solid waste rates, NWFG and Authority Staff worked cooperatively in developing study results and rate alternatives.

Upon implementation of actual billing of these rates a number of anomalies resulted in bills that raised concerns, some of these anomalies were:

- Accounts with nonresidential uses, such as laundromats, that had high water usage but no correlation to solid waste generation
- Commercial or institutional accounts not serviced with solid waste collection
- Accounts with water leakage that drove higher water usage but was not related to solid waste collection
- Accounts with very low water usage that did not fully reflect the cost of solid waste collection for that unit
- Vacant properties

As a result of these anomalies, JCMUA suspended billing for solid waste in August of

2021 and directed NW Financial to develop a revised billing approach based upon the number of dwelling units in each location as determined by the city property tax records rather than based upon water usage. We undertook a comprehensive review of the data base used for billing which includes the data in the city assessors tax data base. We also retained the city assessor's technical consultant to assist in finding the data electronically.

The review of the data base and conversion to unit counts was problematic as the tax data, although usually containing unit data did not have that data in a retrievable format to align with a billing data base. Several attempts at algorithms to conquer the problem were undertaken with some success but in the end a line-by-line manual review of over 30,000 lines of data was needed to narrow the problem. Additionally, many locations required individual inspection which was done through the use of Google maps and some field visits.

Even after all the refinements it is difficult to have a definitive data base with a 100% accurate unit count for each location. This difficulty is largely due to the following factors:

- In large properties there is often more than one meter that gets billed
- Metering for condo (and some rental) project varies from a central meter for all units to a grouping of units on one meter to individual meters for each unit. The data base does not code for this.
- Some larger residential properties have metering for power production facilities
- Churches, schools, commercial properties and vacant properties needed to be excluded
- A large number of line items did not show any property description data
- Some addresses with multiple meters overcounted the actual units by showing the same tax data for each meter

Given the challenges we were forced to make estimations for billing purposes of the unit counts. In our judgement the total unit count appears to be between 105,000 and 110,000 units and we have utilized the mathematical average of 107,500 dwelling units as the base of accounts that are likely to be billed.



B. OVERVIEW OF THE STUDY

Key Issues Addressed – As part of the effort to meet the overall objectives summarized above, the specific elements addressed in this study included:

Overall Rate Design – The impacts of solid waste rates on customer bills are significant concerns to the Authority and staff and, therefore were critical considerations in evaluating the overall rate design.

C. RATE STUDY METHODOLOGY


Components of the Rate Study Methodology – A comprehensive solid waste utility rate study typically encompasses three major components: (1) the utility's overall revenue requirements and financial plan, (2) the cost-of-service for each customer class, and (3) rate structure design. These three components were used in this study, and are summarized below:

- A- Revenue Requirements & Financial Plan
 - i. Compare projected revenues and expenses
 - ii. Calculate total revenues needed from rates
 - iii. Project annual rate percentage increases needed

- B- Cost of Service Analysis
 - i. Allocate requirements to customer classes

- C- Rate Design
 - i. Determine rate structure by customer class
 - ii. Reflect JCMUA policies and rate objectives

These components are intended to address general requirements for equity and fairness.



As a part of this rate study, NWFG projected revenues, expenditures, net revenue requirements, performed cost-of-service rate analyses, and evaluated rate design alternatives that resulted in the recommended revised solid waste rates. The following sections present an overview of the methodologies, assumptions, and data used along with the financial plans and rates developed during this study.

Rate Design Criteria – Several criteria are typically considered in setting rates and developing sound rate structures, including:

- Rates should be easy to understand from the customer’s perspective.
- Rates should be easy to administer from the utility’s perspective.
- Rates should be equitable and non-discriminating (that is, cost based).
- There should be continuity in the rate making philosophy over time.
- Other utility policies should also be considered (for example, encouraging economic development).
- Rates should provide month-to-month and year-to-year revenue stability.

The following section covers basic rate design criteria that NWFG and Authority staff considered as a part of their review of the rate structure alternatives.

Rate Structure Issues – One of the most fundamental components in rate design is the relationship between fixed and variable costs; many rate structures contain a fixed charge in combination with a volumetric charge. Fixed costs typically do not vary with the amount of service consumed and the proposed solid waste rate is expected to be charged as a fixed cost based upon the number of dwelling units at the property location, which is a reflection of the expected production of solid waste for collection under the Contract.

Key Financial Assumptions

Following are the key assumptions used in the water and sewer rate analyses:

- **Cost of Collection Contract** – Review of the actual collection contract to determine total annual costs and any allowances for adjustments.
- **Reserve Targets** – Target reserves for solid waste operations in connection with the contract to assure positive cash flow:
 - Operating Reserve target levels – 90 days of Contract and Authority related expenses.

- Emergency Reserve – 30 days of budget

- **Inflation and Growth Projection Assumptions**

- No annual customer growth.
- Contract costs are inflated as per the terms of the Contract.
- Authority expenses are inflated at a rate of 2 percent annually,

SECTION 2. SOLID WASTE RATE STUDY

A. KEY SOLID WASTE RATE STUDY OBJECTIVES

A few of the more specific objectives for the solid waste rate study included:

- Evaluating per dwelling unit rates in a manner that is incorporating the Authority's need to ensure adequate revenues to pay for the costs of the annual operation of the system as well as to fund prudent reserve requirements.
- Finding an acceptable plan for generating sufficient revenue to meet projected funding requirements.

B. SOLID WASTE UTILITY REVENUE REQUIREMENTS

It is important for municipal utilities to maintain reasonable reserves to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices.

Dwelling unit count per meter location is representative of solid waste disposal volume and pickup cost per location. Therefore, we have revised our previous recommendation that solid waste collection billing be based upon water meter readings and change to a billing system based upon dwelling units per location. For each dwelling unit at a meter location the property will be billed \$12.50 per month for solid waste collection which will reflect the estimated cost of service to the property. The billing rate and amount will be reflected on the periodic bills issued by SUEZ on behalf of the JCMUA for water and sewer but will now have a line on the bill for solid waste collection which will show the rate for that service and the amount due by multiplying the rate by number of dwelling units at that location.

Based upon the 2021 budget shown above the amount to be raised for solid waste collection services is \$16,100,000. As indicated earlier in this report we will be using a total citywide dwelling count of 107,500 as the user base. Using this unit count as the benchmark JCMUA will require a rate of \$12.50 per dwelling unit per month which equals \$150 per dwelling unit per year (\$0.4110 cents per day for billing day count purposes) to pay for the expenses of the solid waste collection budget in 2021.

This is a fair and equitable rate and has a strong correlation to trash production based upon dwelling unit count and thus solid waste collection costs. In the event any accounts billed for solid waste service are not beneficiaries of the collection contract then, upon notice from the account and proper investigation, the account in question will

have the bill adjusted and future billing terminated as appropriate.

Rate establishment is governed by the need to meet operating and contractual costs and maintain reserve funds. The Authority's solid waste utility objectives are as follows:

- **Meeting Net Revenue Requirements:** The Authority's solid waste utility has a projected net revenue requirement in 2021 of \$16.1 million.
- **Building and Maintaining Reserve Funds:** The Authority shall build and maintain sufficient reserves; this analysis assumes reserves will be gradually built over time with the intent of reaching recommended target reserve fund target balances.
- **Operating Reserve** is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures. Typical industry practices are to maintain 90 days (or 25 percent) of the Utility's budgeted annual operating expenses.
- **Rate Stabilization Fund** is designed to further promote financial stability when there are fluctuations in rate revenue. The target fund balance is typically set to 30 days of the Utility's budgeted annual operating expenses.

c. COST-OF-SERVICE ANALYSIS

The second component of a solid waste rate study is the cost-of-service analysis whereby annual revenue requirements are fairly and equitably allocated to customer classes.

A key component of any solid waste system rate study is the development of the cost of solid waste collection in relationship to solid waste generation by the user. We have determined that billing for solid waste collection based upon per dwelling unit count provides a fair and equitable approach to charging users with a close correlation to the amount of solid waste per location to be collected.

In considering the collection cost for the JCMUA and its customers the cost is determined by allocating both the operating cost and the capital cost for all expenses/investment related to solid waste collection.

Summary of Solid Waste Revenue Requirements

Cost of Service

Solid Waste Utility Revenue Requirement	2021
Operating Expenses	
Administrative	\$ 500,000
Non Administrative	\$ 200,000
Collection Contract	\$ 15,100,000
Reserves	\$ 300,000
Total Cost of Service	\$ 16,100,000

Meeting Net Revenue Requirement

Initial Rate Requirement	2021
Revenues	
Rate Revenue	\$ 16,100,000
Delinquent Payment Interest	\$ 20,000
Interest Earnings	\$ 10,000
Total Revenues	\$ 16,130,000
Sewer Revenue Requirement	\$ 16,100,000
Surplus (Deficiency) before rate increase	\$ 30,000

Charge for Solid Waste Utility

JCMUA

Per Unit Rate Charges

Charges Required	\$ 16,100,000
Citywide Dwelling Units	107,500
Annual Charge per Dwelling Unit	\$ 150.00
Monthly Charge per Dwelling Unit	\$ 12.50
Daily Charge per Dwelling Unit	\$ 0.4110