

An aerial view of a city skyline at sunset, with a colorful square graphic (green, blue, yellow, pink) overlaid on the text.

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Aurora, IL

Smart Waste & Recycling Solution 2023

BUSINESS CHALLENGE

The City of Aurora seeks a comprehensive waste management solution that incorporates modern IoT technology to streamline waste collection, monitoring, and removal. Project leaders plan to initially deploy "smart" garbage bins at Phillips Park, the Golf Course, and Zoo, before expanding their footprint throughout the City depending on need & success.

PROJECT BACKGROUND

City leaders originally evaluated connected garbage bins in 2019 and early 2020, but the pandemic and shifting internal priorities led to that project being placed on hold. In advance of summer, with full utilization of public spaces, this project has been given new priority.

Currently, Aurora maintains standard waste management infrastructure at Phillips Park. During peak months Phillips Park hosts nearly 100 customer-facing 50-gallon garbage drums with open-air tops, leaving them exposed to weather and pests. These are emptied 4 times per week regardless of time of year, event schedules, and nearby activities at substantial cost to the City. Fluctuating customer levels and uneven use of the available garbage bins means that set pick-up schedules are not perfectly responsive to need.

Project Overview (2/3)



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Process Sequence:

- Created Market Landscape with approximately 20 companies.
- Drafted RFQ document based on Aurora Public Facilities needs and industry best practices.
- Based on the market landscape and City Stakeholder review, publicly posted and distributed the [Opportunity and Scope Document](#) for vendors to complete in order to be included in the reporting and selection process.
 - It was posted and distributed on 3/3/23 and closed 3/24/23.
- There were 3 responses completed by the deadline – [Raw Data File Here](#)

Summary of Initial Proposals



	Solution	Connected Garbage Bins Questions				Waste Management Portal		WiFi Network Support Questions	Experience	Pricing	Implementation
Company	Solution Narrative	Do your proposed Bins have: (Red indicates unselected by Vendor)	Detection Method	Can Aurora leaders make customized fill-level alerts?	Image of connected garbage bin hardware	Do you provide mobile notifications:	Please upload a sample of the user interface of your solution.	Your connected garbage bin inventory can provide:	Extracted References from Template	Please upload any standard pricing documentation.	Simplified Implementation Timeline
Big Belly Solar LLC	Solution Narrative	Message Panels Foot Pedals for depositing material Solar Panels as sole source of power A Separate compartment for Recycling	Ultrasound	Yes	Images	Through a dedicated Mobile App Through SMS Text Through Email Only	User Interface	Wi-Fi Network to Phillips Park 5G telecommunications support	<ul style="list-style-type: none"> City of Philadelphia Chicago Park District City of Newton University of Illinois – Chicago Village of Glen Ellyn 	Pricing Documentation	16 - 20 Weeks
Nordsense Inc.	Solution Narrative	A Separate compartment for Recycling Message Panels Foot Pedals for depositing material Solar Panels as sole source of power	Optical Laser	Yes	Images	Through a dedicated Mobile App Through SMS Text Through Email Only	User Interface	5G telecommunications support Neither - just the IoT Garbage Bin network Wi-Fi Network to Phillips Park	•San Francisco	Pricing Documentation	At least 1 - 2 Weeks
Wastequip	Solution Narrative	Message Panels Foot Pedals for depositing material Solar Panels as sole source of power A Separate compartment for Recycling	Other	Yes	Images	Through a dedicated Mobile App Through SMS Text Through Email Only	User Interface	Wi-Fi Network to Phillips Park 5G telecommunications support	<ul style="list-style-type: none"> Amsterdam Basel Hamburg Tesla Motors Europe Brussels 	Pricing Documentation	"quick delivery time frame"

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- There were 3 responses completed by the deadline – [Raw Data File Here](#)
 - Upon review of the submissions, two vendor proposals provide comprehensive waste bin solutions, while the third (Nordsense) provides sensors that are installed inside the existing bins to measure & report their fill levels.
 - At this time, project leaders seek to focus on comprehensive solutions with new integrated bins, which led to demonstrations with Big Belly & Wastequip.
 - After demonstration, Wastequip was asked to provide follow-up documentation on maintenance plans/schedules, which can be [found here](#).
- Project leaders submitted scoring based on submitted proposals, demonstrations, and follow-up documentation. Full Compiled Scoring Template [found here](#).
- Despite both Big Belly & Wastequip indicating in their proposals that they could provide a public outdoor Wi-Fi network to Phillips Park, further discussion indicated this was outdated or required 3rd-party tools. Big Belly retired this product line after years of poor results.
- [Full Project documentation found here](#).

Scoring Overview

Scoring Criteria		Vendor Evaluation	
		Big Belly	Wastequip
Capabilities / Solution	25%	8.33	5.67
Experience and Qualifications	20%	7.67	6.33
Approach, Services, Implementation Methodology	10%	7.33	4.67
Pricing and Contract Model	20%	5.33	3.33
Additional Services / Innovation	25%	6.00	4.67
Weighted Scoring		6.92	4.98

Summary & Final Recommendation – Big Belly

After several rounds of review, Aurora project leaders have selected Big Belly as their Smart Waste & Recycling partner due to their state-of-the-art, well-tested solution. Beyond high-quality hardware and full lifecycle support services, their connective software solution enables real-time monitoring capabilities. Given the physical footprint involved at Phillips Park, stakeholders have selected an 8-Year term to take advantage of quantity discounts and reduce installation turnover.

Decisions Factors

Comprehensive Solution: Big Belly is a market-leading solution for smart waste and recycling management. Their completely-enclosed bins eliminate overflow, windblown litter, and pest access. Compaction functionality in the Smart Max models increases capacity and pickup-cycle longevity, ideal for busy points at Phillips Park. The self-powered, sensor-equipped stations communicate their fill-levels in real-time, streamlining collections efficiency.

CLEAN Management Software: Easy-to-use management console provides real-time insights along with robust reporting & analysis features. GPS & Mapping overlays will improve city-wide cleanliness programs. Automated system diagnostics and alerts supports maximum responsiveness to the park and public. Licensing includes mobile application access for field work.

Installation & Service: Big Belly's standard of service makes them an ideal partner for Aurora. Beyond on-site installation, Big Belly will provide annual station cleaning and inspections, as well as full hardware warranty for the duration of the term.

Sustainable: Big Belly's solar-powered product line supports renewable energy initiatives, while also easing placement in an outdoor setting. Double stations with recycling bins enable multi-stream waste collection.

Contract Details

CONTRACT TYPE

Solution as a Service

CONTRACT DURATION

8 Years (96 Months)

PRICING SUMMARY

\$8,185.01 / month

One-Time Fees:

-Shipping: \$8,280.00

-Specialized Garbage Bags: \$1,064.80

CONTRACT DOCUMENTS

[Big Belly Quote & Contract Services Agreement](#)

An aerial photograph of a city skyline at sunset. The sky is a warm orange and yellow, and the city buildings are silhouetted against the light. The text "Marketplace.city" is overlaid in the upper right corner, with a colorful square border around the word "city".

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Appendix

Big Belly Inventory Examples

All models will be connected and managed by Big Belly's CLEAN software. Smart Max models provide compaction, while the Smart models do not. More information on hardware configurations can be [found here](#).

Smart Max



Fully enclosed, CLEAN™ connected, solar-powered compacting bin (150 Gal / 570 L)

- 21x Smart Max Double Stations
- 22x Smart Max Double Stations with Hopper pull-down receptacle

Smart



Fully enclosed, CLEAN™ connected bin (50 Gal / 240 L)

[View Product](#)

- 9x Smart Single Stations
- 1x Smart Double Stations

Bin Locations Map



- White dots indicate current bin locations as of 8/4/23.
- New bin locations will largely mirror current installation scheme.