
Appendix K2

Park Town Home Waste Management Plan



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www.trashmanage.com

Sobrato

Menlo Town Home Project

Menlo Park, CA

Trash Management Plan

Task: Design a waste and recycling system for-sale 116 townhome project (Parcel B 26 Units, Parcel C 18 Units & Parcel D 72 Units) that minimizes costs, staffing requirements and environmental impacts, while providing convenient trash disposal for the building's residents. Please note the word "trash" when used in this plan covers waste, recycling and compost.

Waste and Recycling Removal: The City of Menlo Park has granted Recology of San Mateo County a license to provide residential and commercial Waste and Recycling services to the residents and businesses located within the city. The City is a member of the South Bayside Waste Management Authority (SBWMA), a 12-city joint powers agency whose goal is to provide cost effective waste reduction, recycling, and solid waste programs to member agencies through franchised services and other recyclers to meet and sustain a minimum of 50% diversion of waste from landfill as mandated by California State Law. SBWMA owns and manages the Shoreway Environmental Center that receives all of the recyclables, organics, and garbage collected in the area. Recology provides waste, commingled recycling and compost collection services for the City of Menlo Park at rates set by the City.

Situation: The City expects at minimum that all residents will source-separate their trash into mixed recyclables and waste to meet the requirements of the State of California AB 341 and AB1826. Containers must be in position on the service day before 6 am. Under the current contract (called a "franchise agreement") the following factors are critical:

1. **Exclusivity:** Recology is the only company that can legally engage in waste disposal for properties within the city limits.
2. **Non-negotiable rates:** Waste disposal rates for commercial customers are set by the City and cannot be negotiated. These rates are typically adjusted annually.
3. **Recycling is low cost and based on number of service days per week:** This includes paper products, glass and plastic.
4. **Compacted disposal is less expensive than loose disposal:** The implicit \$0.58 per lb. for compacted waste is ~50% less than standard front load service.
5. **Recology will move loose bins 3 cubic yards on a level surface up to 200 feet from the street for an additional fee.** They will not move compacted bins or bins larger than 3 cubic yards.
6. **Recology service hours are between 6am to 6pm.**

City Mandates and Requirements: As of July 1, 2012, under Assembly Bill 341, State law requires commercial establishments (businesses, schools, and apartments) to recycle. This law was further extended by AB1826 to require organics diversion by all business with more than 4 cubic yards of waste per week and all residential properties with more than 5 units. Starting on January 1, 2022, State Law 1383 will require residential, multifamily, and commercial businesses to divert organic food waste. This means businesses and multifamily (of five units or more) are required to either subscribe to organic service collection through Recology or self-haul organic waste to specific facilities.



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Project Summary:

First, **the State of California requires recycling at all residential properties.** Food scrap diversion is required in multi-family properties, but any yard waste will need to be diverted as part of the building’s landscaping contract. Compost will be collected in 64G Toter carts that will be stored in the trash enclosure.

Second, **Valet/Concierge service as discussed below will be provided to each residence, except Parcel C.**

Third, **loose trash service using 3CY front load bins will be used for the project.**

Projected Residential Waste and Recycling Levels: The following metrics were used to project residential waste and recycling levels:

Residential Waste: 0.16 Cubic Yard (32 gallon) per week/unit. **NOTE: This is the equivalent of over 2 large kitchen garbage cans per unit week (~2.5 - 13 gallon bags).**

Residential Recycling: 0.4 Cubic Yard (80 gallon) per week/unit. **NOTE: This is the equivalent of almost 6 large kitchen garbage cans per unit week (6 - 13 gallon bags).**

Residential Compost: 0.045 Cubic Yard (9 gallon) per week/unit. **NOTE: This is the equivalent of almost 5 small compost pails per unit week.**

NOTE: Food/Green Waste from Residential Properties. Any green waste will need to be diverted as part of the project’s landscaping contract. In the likely event compost collection is required in the future, compost will be collected in 64G Toter carts that will be stored in the trash enclosure.

Below is a summary of projected LOOSE Carts trash volumes

	Units	Loose Waste Volume CY/WK	Loose Recycle Volume CY/WK	Compost Volume CY/ WK	Total # of Loose 96G Waste Carts/ WK	Total # of Loose 96G Recycle Carts/ WK	Total # of Loose Compost 64G Carts/WK
Parcel B	26	4.2	10.4	1.2	9	22	4
Parcel C	18	2.9	7.2	0.8	7	16	3
Parcel D	72	11.5	28.8	3.2	25	61	11
Total	116	18.6	46.4	5.2	41	99	18



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Below is a summary of projected LOOSE Bins trash volumes

	Units	Loose Waste Volume CY/WK	Loose Recycle Volume CY/WK	Compost Volume CY/ WK	Total # of Loose 3CY Waste Bins/ WK	Total # of Loose 3CY Recycle Bins/ WK	Total # of Loose Compost 64G Carts/WK
Parcel B	26	4.2	10.4	1.2	2	4	4
Parcel C	18	2.9	7.2	0.8	1	3	3
Parcel D	72	11.5	28.8	3.2	4	10	10
Total	116	18.6	46.4	5.2	7	17	17

“Concierge” Collection and Sorting Service Personnel will collect a 30 gallon bag of trash and a 30 gallon bag of recycling at each home one time per week. Bag will be left by the resident adjacent to their garage door on the service morning. Trash will be loaded into the appropriate containers into the trash enclosure by concierge contractors.

Concierge Collection and Sorting Service.

Concierge Collection & Sorting Service provides esthetic, environmental, quality of life, convenience and cost advantages over standard cart or dumpster service.

1. **More convenient for residents.** Instead of walking to trash enclosure, residents put their waste, recycling and compost bins in front of their home 1x per week for collection.
2. **Disposal responsibility falls on residents.** The responsibility for waste, recycling and compost falls directly on residents, who have to set out identifiable bins of trash. The Concierge contractor can tag any contaminated streams (providing a feedback loop to the residents about what and what not to divert in each stream) and reject hazardous and other non-acceptable materials. **The apartments leasing office will set out bins to collect electronic waste and batteries. The townhome residents will use these bins to place their electronic waste and batteries. Bulky items will be placed adjacent to the trash enclosure.**
3. **More diversion; cleaner loads.** The concierge contractor not only collects materials, but also inspects the bags, pulling recyclable products from waste bags and sifting out non-recyclables from the recycling stream. This leads to both more diversion and cleaner, less contaminated loads.
4. **Residents will pay for trash service as part of their HOA Fees.**



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Loose Bins + Concierge	
Collection Schedule:	All units 1-2x/week
Estimated Monthly Concierge Cost (\$25/unit):	\$2,450.00
Monthly Total Waste Disposal Cost	\$2,973.11
Total Cost Per Month	\$5,423.11
Total Cost per Unit*	\$55.34

*Parcel C not included.

Concierge Operation

Step 1: Homeowners stage trash the evening before collection: This is a 3-stream system using 32-gallon bins and 2G pails (see picture of similar system used by a town home development below).

- a. Waste is collected in a 32-gallon bag.
- b. Recycling is collected in two 32-gallon bags.
- c. Compost is collected in four 2-gallon pails with a biodegradable, compostable bag.

Step 2: Sorting and collection of recyclables by HOA Contractor: Along with collecting all bags, the HOA Contractor's trained staff will inspect and if necessary sort recyclables to ensure the quality of the recycling load. Large cardboard boxes are to be flattened and placed along with plastic bags outside the garage door of each residence one day each week for pick up by the Home Owners Association (HOA).

Step 3: Collection of waste: A pickup truck with a trailer is driven around the property, putting waste bags in the back of the pickup truck and both recycling and compost bags in separate areas in the trailer.

Step 4: Dumping of the materials: Concierge contractors will collect all materials and bring them to the trash enclosures. In each enclosure, they will fill the 3-Cubic Yard waste bins and 3-Cubic Yard recycling bins. In the likely event compost collection is required in the future, compost will fill 64G compost carts.

Step 5: Final Inspection: The property is fully inspected by the HOA Contractor to make sure there is no materials that need to be cleaned up.



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Parcel C Cost Service

Parcel C residents will deposit all trash into the containers in their designated trash enclosure.

Like the other enclosures, there will be 1-3CY bin for Waste, 1-3CY bin for Recycling and 1-64G cart for compost.

Loose Bins	
Collection Schedule:	All units 1-3x/week
Monthly Total Waste Disposal Cost	\$532.33
Total Cost per Unit*	\$29.57



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This project will comply with the City’s zero waste requirements and goals of 90 percent diversion by 2035 through the following guidelines:

- I. This project will have concierge service for waste, recycling and compost, except Parcel C. More details about Concierge Operation are in the following pages. The concierge contractor will be trained on the list of Recology’s acceptable materials. Parcel C residents will deposit trash directly into the containers in their designated enclosure.
- II. Compost will be collected in 64G Toter carts placed in each trash enclosure. Per Recology’s approval compost will be collected in a total of 8-64G carts which is equivalent to ~2.5 cubic yards of service.
- III. Signage will be provided by Recology given to residents to be informed on what can be diverted from the waste stream. Available in the link: www.recology.com/recology-san-mateo-county/sorting-guides-signage
- IV. The current project design provides easy access to all three streams to facilitate diversion.
- V. Building management will meet with the city’s designated recycling coordinator to take further steps towards 90 percent diversion.

Year	Pounds per Person/Day	Diversion (%)
2023	5.0	70%
2026	4.0	75%
2029	3.5	80%
2032	2.0	85%
2035	0.5	90%

ATM will work closely with the owner, architect and other stakeholders to design the optimal trash system for the development.

Note: Waste Audits will be made on a yearly basis by a City-approved waste assessor. Audits will be planned for the zero waste benchmarks in July for each year mentioned above.



AMERICAN TRASH MANAGEMENT

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Current Trash Enclosure Locations

PROJECTED COLLECTION SCHEDULE WEST APARTMENT TRASH		
SERVICE	CONTAINER VOL. / TYPE	FREQUENCY
WASTE	11.0 CY FL COMPACTED CONTAINER	WEEK
RECYCLING	11.0 CY FL COMPACTED CONTAINER	WEEK
COMPOST	20.0 GAL/IN TOTE/ CARTS	WEEK

PROJECTED COLLECTION SCHEDULE EAST APARTMENT TRASH		
SERVICE	CONTAINER VOL. / TYPE	FREQUENCY
WASTE	11.0 CY FL COMPACTED CONTAINER	WEEK
RECYCLING	11.0 CY FL COMPACTED CONTAINER	WEEK
COMPOST	20.0 GAL/IN TOTE/ CARTS	WEEK



- GENERAL NOTES:**
- ANY DECISIONS OR SOLUTIONS SHOWN IN DRAWING, EITHER DIRECT OR IMPLIED, ARE HEREBY CLARIFIED AS TENTATIVE AND SHALL NOT BE CONSIDERED COMPLETE DESIGN FOR CONSTRUCTION. THESE DRAWINGS ARE INTENDED TO SUPPLEMENT THE 3-DIMENSIONAL PACKAGES FROM ARCHITECT.
 - ANY PARTIAL INFORMATION, OBSERVATIONS, OR INCOMPLETE DESCRIPTIONS OF WORK SHOWN IN DRAWINGS, WHICH ARE NECESSARY TO PROTECT THE SCOPE OF WORK, SHALL NOT BE USED FOR THE PROTECTION FROM CONSTRUCTION OF WORK. ALL WORK SHALL BE PERFORMED TO SATISFY THE MINIMUM REQUIREMENTS OF THE CURRENTLY APPLICABLE BUILDING CODES.
 - CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO START OF CONSTRUCTION. THE ARCHITECT SHALL BE PROMPTLY NOTIFIED OF ANY INCONSISTENCIES BEFORE PROCEEDING.

- PLAN CHECK NOTES:**
- MANAGEMENT OF TRAFFIC SHALL PROVIDE DESIGNATED TRUCKS AND RECEIPTABLES IN MAIN ROADWAY FOR RESIDENTIAL DISPOSAL OF UNWANTED WARE, AS WELL AS A DESIGNATED TRUCK RECEIPTABLE FOR ANY TRUCKS HAVE FULCRUMWAY WARE, OR ANY OTHER HAZARDOUS MATERIAL BANNED FROM LANDFILL THAT REQUIRES SPECIAL HANDLING.
 - MANAGEMENT OF TRAFFIC SHALL PROVIDE SUFFICIENT IN-PAVEMENT STAGING THAT EXPLICITLY DETAILS PROPER DISPOSAL OF WASTE, RECYCLING, AND COMPOST.

LEGEND:

STAIR PATH OF TRAVEL FROM TRASH ROOMS TO TRASH STAGING AREA

PROJECTED COLLECTION SCHEDULE: PARCEL B TRASH ENCLOSURE		
SERVICE	CONTAINER VOL. / TYPE	FREQUENCY
WASTE	11.0 CY FL COMPACTED CONTAINER	WEEK
RECYCLING	11.0 CY FL COMPACTED CONTAINER	WEEK
COMPOST	20.0 GAL/IN TOTE/ CARTS	WEEK

PROJECTED COLLECTION SCHEDULE: PARCEL C TRASH ENCLOSURE		
SERVICE	CONTAINER VOL. / TYPE	FREQUENCY
WASTE	11.0 CY FL COMPACTED CONTAINER	WEEK
RECYCLING	11.0 CY FL COMPACTED CONTAINER	WEEK
COMPOST	20.0 GAL/IN TOTE/ CARTS	WEEK

PROJECTED COLLECTION SCHEDULE: PARCEL D TRASH ENCLOSURE		
SERVICE	CONTAINER VOL. / TYPE	FREQUENCY
WASTE	11.0 CY FL COMPACTED CONTAINER	WEEK
RECYCLING	11.0 CY FL COMPACTED CONTAINER	WEEK
COMPOST	20.0 GAL/IN TOTE/ CARTS	WEEK

TRASH ROUTE / STAGING PLAN
 LEVEL 1

SCALE: 1/4" = 1'-0"



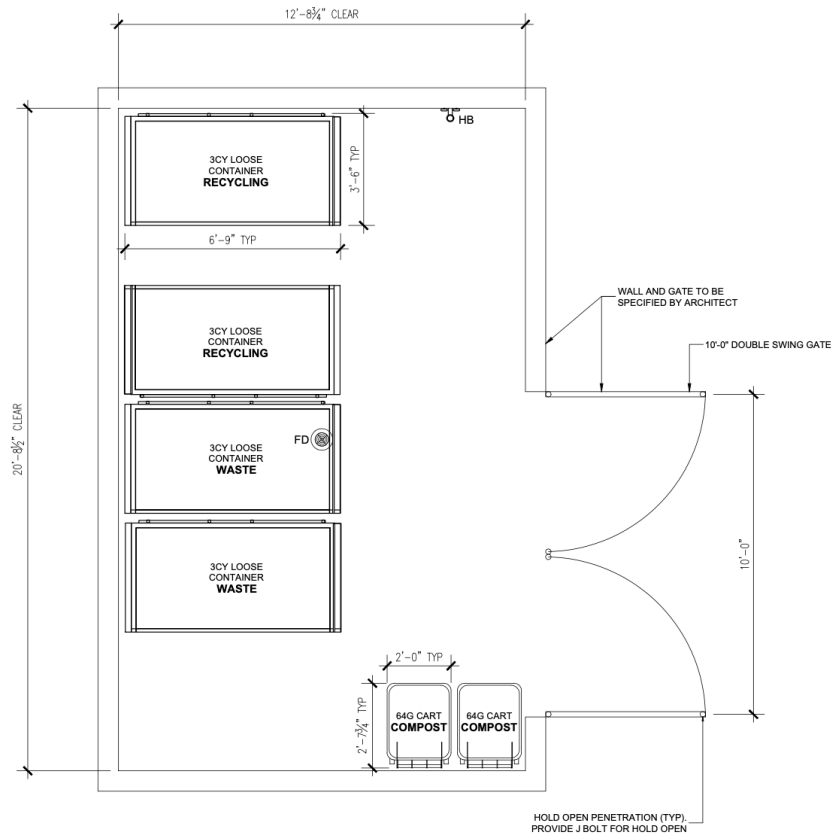
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Concierge Service Loose Bin Enclosure Layouts

Parcel B

ATM recommends a hose bib for cleaning the enclosure in the general vicinity and a roof or trellis over the enclosure to hide the bins from the homes efficient loading.

The hauler needs ~50' adjacent to the enclosure to empty the containers. This area should be designed to support a 60,000 trash truck.



PARCEL B TRASH ENCLOSURE PLAN

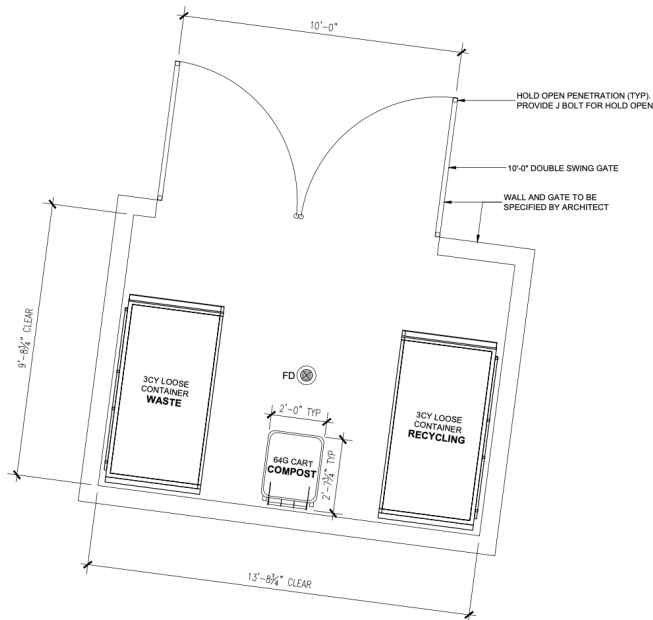
LEVEL 1

SCALE: 3/8" = 1'-0"

Parcel C

ATM recommends a hose bib for cleaning the enclosure in the general vicinity and a roof or trellis over the enclosure to hide the bins from the homes efficient loading.

The hauler needs ~50' adjacent to the enclosure to empty the containers. This area should be designed to support a 60,000 trash truck.



PARCEL C TRASH ENCLOSURE PLAN

LEVEL 1

SCALE: 3/8" = 1'-0"

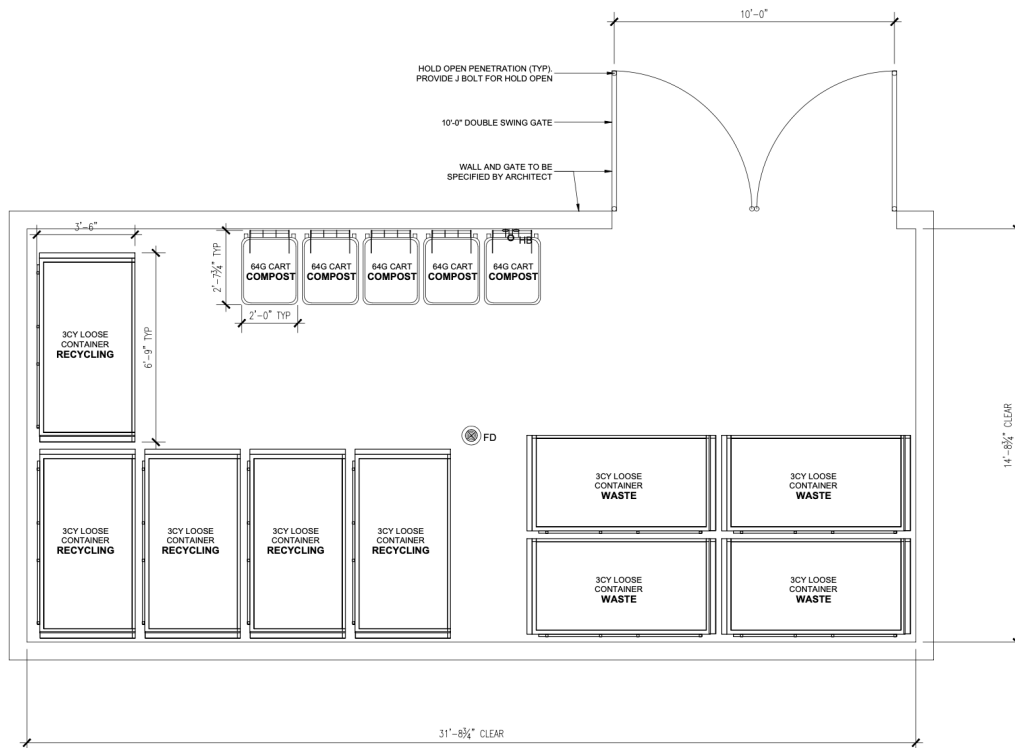


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Parcel D

ATM recommends a hose bib for cleaning the enclosure in the general vicinity and a roof or trellis over the enclosure to hide the bins from the homes efficient loading.

The hauler needs ~50' adjacent to the enclosure to empty the containers. This area should be designed to support a 60,000 trash truck.



PARCEL D TRASH ENCLOSURE PLAN

LEVEL 1

SCALE: 3/8" = 1'-0"

Front Load Bins

1-yard



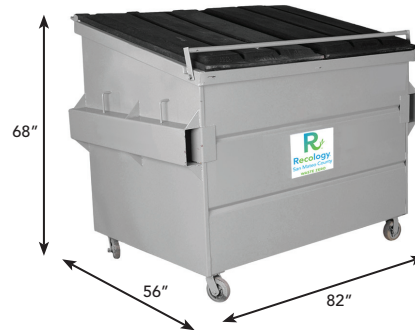
2-yard



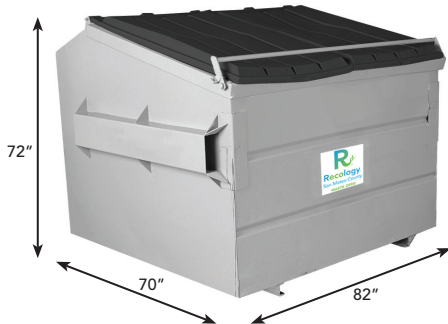
3-yard



4-yard



6-yard



8-yard



Dimensions may vary slightly. Measurements shown are exterior dimensions.
 Not all bins are available with wheels.



Compost Collection Carts



96 GALLON EVR® II UNIVERSAL / NESTABLE

Part Number:
79296

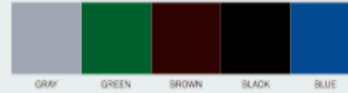
Description
96 GALLON EVR® II CART

Size (l x w x h)
35.25" X 29.75" X 43.25"

Load Rating
335 LBS/151.9 KG

Wheel Diameter
10"

STANDARD COLORS



UPSCALE GRANITE COLORS AVAILABLE



64 GALLON EVR® II UNIVERSAL / NESTABLE

Part Number:
79264

Description
64 GALLON EVR® II CART

Size (l x w x h)
31.75" X 24.25" X 41.75"

Load Rating
224 LBS/101.6 KG

Wheel Diameter
10"



32 GALLON EVR® II UNIVERSAL

Part Number:
76532*

Description
32 GALLON EVR® II CART

Size (l x w x h)
24.25" X 19.25" X 38.50"

Load Rating
112 LBS/50.8 KG

Wheel Diameter
10"

* 32 gallon is original EVR design and does not nest fully assembled.



48 GALLON EVR® II UNIVERSAL / NESTABLE

Part Number:
79248

Description
48 GALLON EVR® II CART

Size (l x w x h)
28.75" X 23.50" X 37.50"

Load Rating
168 LBS/76.3 KG

Wheel Diameter
10"



24 GALLON EVR® II UNIVERSAL

Part Number:
79224*

Description
24 GALLON EVR® II CART

Size (l x w x h)
24.00" X 19.75" X 34.50"

Load Rating
84.0 LBS/38.1 KG

Wheel Diameter
10"

* 24 gallon does not nest fully assembled.



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Trash Service Days

Loose Bins Service

Service	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
3CY Waste Concierge Collection			6			
3CY Recycle Concierge Collection	7				7	
64G Compost Concierge Collection	7				7	
Total	14	0	6	0	14	0

*Parcel B & D only

Loose Bins Service

Service	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
3CY Waste Collection			1			
3CY Recycle Collection	1		1		1	
64G Compost Collection	1		1		1	
Total	2	0	3	0	2	0

*Parcel C only



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WASTE AND RECYCLING RATES (PARTIAL) CURRENT RATES - 2020

City: Menlo Park
Franchisee: Recology

Multi-Family/Commercial Waste Front Load Rates:

Frequency/Size: x/wk-CY Size	2 CY LOOSE	3 CY LOOSE	4 CY LOOSE	2 CY COMP
1	\$249.39	\$374.08	\$498.78	\$1,025.22
2	\$508.73	\$797.04	\$1,062.71	\$2,050.44
3	\$812.67	\$1,219.00	\$1,659.91	\$3,075.67
4	\$1,104.38	\$1,691.81	\$2,255.76	\$4,100.89
5	\$1,406.53	\$2,154.69	\$2,872.90	\$5,126.11
6	\$1,755.67	\$2,633.50	\$3,584.50	\$6,151.32
7	\$2,085.51	\$3,193.45	\$4,257.93	\$7,176.55

Multi-Family/Commercial Recycle Front Load Rates:

Frequency/Size: x/wk-CY Size	2 CY LOOSE	3 CY LOOSE	4 CY LOOSE	2 CY COMP*
1	\$5.11	\$5.11	\$5.11	\$5.11
2	\$10.22	\$10.22	\$10.22	\$10.22
3	\$15.33	\$15.33	\$15.33	\$15.33
4	\$20.45	\$20.45	\$20.45	\$20.45
5	\$25.56	\$25.56	\$25.56	\$25.56
6	\$30.68	\$30.68	\$30.68	\$30.68

Recycling rates are projected to increase yearly through 2020

*Compacted recycling rates are not published. Per the Recology Zero Waste Coordinator, compacted pricing is the same as loose

Multi-Family/Commercial Organics Loose Cart Rates:

Frequency/Size: x/wk-CY Size	64G Cart	96G-Cart
1	\$46.24	\$60.70
2	\$93.87	\$123.47
3	\$142.92	\$188.30
4	\$193.36	\$255.22
5	\$245.19	\$324.22
6	\$298.44	\$395.30
7	\$353.06	\$468.46

Single Family Loose Cart Rates:

Frequency/Size: x/wk-CY Size	20G Cart	32G-Cart	64G Cart	96G-Cart
1	\$22.81	\$31.14	\$63.73	\$91.46

Approximate Equipment Cost

Chute Fed Compactor Cost	\$23,440.00	A500, 3-2CY Towable bins-tax, ship Install
Chute Fed Compactor Cost	\$20,960.00	A500, 2-2CY Towable bins-tax, ship Install