XXI. Development Guideline for Solid Waste Services

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CITY OF MILPITAS
DEVELOPMENT GUIDELINES FOR SOLID WASTE SERVICES
(Garbage, Tallow and Recycling Services)

These guidelines are provided to assist in the proper design and installation of solid waste facilities consistent with the City’s solid waste code, urban runoff control practices, City zoning codes and with City Franchise collection requirements. Figures 1 and 2 show minimum bin enclosure sizes. Figure 3 shows front-end truck access requirements. See text below for information on access requirements for typical side-load collection trucks which service residential areas of the city.

General information on solid waste generation and conversion factors that may be used for sizing facilities may be found in Exhibit 1. Attachment 1 shows typical generation factors for various businesses. This information is provided as a guideline and numbers should be confirmed with City staff or the City franchise hauler for specific situations. Santa Clara County requirements for compactors are shown in Exhibits 2a and 2b. Exhibit 3a provides bin dimension information.

A. SOLID WASTE SERVICE GENERAL REQUIREMENTS FOR ALL NEW DEVELOPMENTS AND RETROFITS

1. **Solid Waste Services Required.** Milpitas requires separate solid waste services per parcel unless an agreement has been recorded to provide joint use of this service for more than one parcel. Solid waste services is to consist of both garbage and recycled material collection by the City’s franchise hauler.

2. **Garbage Accumulation Limited.** In accordance with Milpitas Municipal Code section V-200-3.40 no more than one week’s accumulation of Solid Waste shall be kept or be permitted to remain upon any Premises in the City unless a Commercial Compactor is installed. However, solid Waste accumulated in a commercial compactor shall be disposed of at least once every two (2) weeks.

3. **Commercial Bin Sizing.** The applicant is alerted that tenant mix can affect size of appropriate facilities; solid waste storage overflow which can lead to nuisance or inappropriate housekeeping conditions is not permitted. The size of non-compacted recycling and compacted garbage services is based on the number of units, proposed development layout, and frequency of collection. Service levels generally require City review and discussions between applicants and the City’s franchised collection contractor for solid waste services to assure sufficient service levels are provided before garbage containers or compaction equipment is selected and approved. The City may be contacted at 586-3352 or 586-3353.

4. **Commercial Collection Options.** The type of service selected depends on the volume of material generated and pickup frequency desired. Collection bin options are:
   a) **Front End Load Bins** – These are bins which are emptied over the front of the collection vehicle and then returned for service. Bins are available between 1 cubic yard and 8 cubic yard bin sizes with varying dimensions. Push and return
services are available for specifically-sized bins. A plan view of a front-end load truck may be found in Figure 3a. Schematics of front load bins may be found in Exhibit 3b.

b) **Roll-Off Bins** – These are larger bins which are emptied by placing the entire container onto the back of the collection vehicle for hauling and disposal. The emptied bin is then returned. Bins are available between 10 cubic yard and 40 cubic yard bin sizes. No push and return services are available for these types of bins.

c) **Compactor Bins** – Front end/rear load and roll-off bins are suitable for garbage and recycle collection.
   - Front load/rear load compactors are picked up on site and deposited directly into the collection vehicle.
   - Roll-off compactors can be either stationary or self-contained.
     - Stationary roll-off compactors. The crushing unit stays on site while the container is taken to the landfill. The compactor body is bolted to the customer’s concrete pad. The design and intent of this style of compactor is for dry waste.
     - Self-contained roll-off compactors. The crushing unit (packer body) and container are welded together into a single unit. The complete unit is loaded onto the hauler’s roll-off truck and taken to the landfill and then returned. This style of compactor is designed for to handle moist waste but may also be used for dry waste. Compacted bins offer the advantage of using a lower number of garbage bins due to a higher collection volume as a result of compaction. Use may result in added convenience and/or collection cost savings.

5. **Collection truck access.** Collection trucks require a minimum 40-foot straight approach clearance and a minimum 40-foot turning radius.
   - **SINGLE-FAMILY SIDE LOAD.** Typically side-load trucks are used to service single-family residential areas which collect 64 or 96 cubic yard wheeled carts, 32-gallon cans and plastic bag setouts. The truck requires a minimum of 33 feet of turning radius (66 feet of curb to curb diameter for a 180 degree turn). Single-family services include trash, yard waste and recycled material collection.

   - **SCOUT TRUCK.** These specially-sized vehicles allow bin collection to occur on sites with constrained space limitations in residential and/or commercial sites. These vehicles transfer bins from confined spaces to areas that collection trucks can access. Scout trucks require:
     - Minimum of 8 feet vertical clearance (9 feet is preferred) and 9 feet horizontal clearance.
     - Minimum of 12 feet of unobstructed straight approach. Truck length is 25 feet with fork extended.
     - Maximum bin size is 4 cubic yards. Bin load may be compacted or non-compacted.
Designation of an area where scout trucks may place bins for front-end load collection truck pickup. Area pad shall be designed to provide sufficient bin space, access and load capacity for collection truck (see Figure 3).

B. SOLID WASTE ENCLOSURES

1. GENERAL

a) Drainage. Per Milpitas Municipal Code section XI-16-7 solid waste enclosures shall be designed to limit the accidental discharge of any prohibited material or other wastes into the storm drain system. The City of Milpitas stormwater permit requires that all new solid waste enclosures shall drain to the sanitary sewer. Enclosure(s) for food establishments shall include installation of pretreatment devices. In certain circumstances, it may be necessary to retrofit drains to discharge into the sanitary sewer. Contact the City Engineer (or designee) for determination. All other enclosures shall be located 25 feet or more from any storm drain inlet.

b) Slope Required. The applicant shall install a slope at enclosure entrance, with a minimum gradient of 2% but no greater than 4%, to prevent outside stormwater runoff from entering the enclosure. Stormwater inside enclosure(s) shall drain into the sanitary sewer.

c) Wall Protection. The applicant shall install a minimum ten-inch wide, three-inch height curb along interior walls or six-inch diameter bollards to prevent wall damage.

d) Gate. A double, swinging gate with bollards or J-hooks shall be installed at front of enclosure to provide a minimum of 120-degree swing area and a minimum, unobstructed INSIDE opening of 12 feet. J-hooks shall be installed to securely fasten open gate.

e) Site Layout Required. Location, plan and elevation drawings of solid waste enclosure shall be shown on plans and submitted to the City for review and approval.

2. ENCLOSURES FOR FRONT LOAD SERVICES ONLY

a) Enclosure Dimension. Refer to Figure 1 for enclosure dimensions; minimum INSIDE dimensions are 18.5 feet by 10.5 feet.

b) Concrete Pad. Six (6) inch thick minimum, reinforced concrete pads shall be installed to accommodate no less than 40,000 pounds.

c) Ceiling or Trellis Covers. Ceilings and trellises lower than 15-feet severely limit service access and may increase collection contractor’s service charges. Coordinate with Planning for visual impacts of planned ceilings or trellises.

3. ENCLOSURE FOR ANY COMBINATION OF THE FOLLOWING SERVICES: COMPACTOR, OPEN TOP ROLL-OFF SERVICES, AND/OR FRONT LOAD.

a) Enclosure Dimensions. Refer to Figure 2 for enclosure dimensions; minimum INSIDE dimensions are 16 feet by 17 feet.
b) **Power Supply.** When required, electrical power shall be provided for equipment in conformance with the National Electric Code.

c) **Concrete Pad.** Eight (8) inch thick minimum, reinforced concrete pads shall be installed to accommodate not less than 60,000 pounds, which is the combined weight of trucks and compactor(s)/open-top roll-off container(s).

d) **Ceiling and Trellis Covers.** Ceilings and trellises lower than 15-feet severely limit service access and are not recommended, except where required to reduce visual impacts.

C. **ADDITIONAL REQUIREMENTS FOR SPECIFIC TYPES OF DEVELOPMENTS**

1. **FOOD ESTABLISHMENTS (Includes grocery stores, industrial sites with cafeterias, restaurants and take-out establishments)**

   a) **Services Required.** Per Milpitas Municipal code section V-200-3.40, solid waste facilities shall be sized for adequate garbage service. Generally a minimum of two (2) 4-yard front-load recycling containers shall be provided (Figure 1). Pretreatment devices and tallow bins are required for food establishments. Tallow bins shall be placed within the enclosure when possible; however, if enclosures are not sized to include the tallow bin(s), then a separate dedicated enclosure with drainage to the sanitary sewer for tallow bins shall be provided.

   b) **Compactor Use To Be Considered.** Developments with food establishments shall consider and be evaluated for compactor garbage service. Proper compactor design can result in control of spills and result in potential overall cost savings due to a decrease in pickup and transport frequencies.

   c) **Pretreatment Device Required.** Pretreatment devices(s) and installation of hot and cold water through a mixing faucet with vacuum breaker shall be provided for compactor enclosures used by food establishments, as required by the County Health Department (See Exhibit 2).

   d) **Bin Type Requirement.** Allied type “C” bins (containing internal liner) shall be used.

2. **COMMERCIAL AND INDUSTRIAL DEVELOPMENTS**

   a) **Bin Sizing.** Per Milpitas Municipal Code section V-200-3.40, commercial and industrial developments shall be sized for adequate garbage service. Generally, commercial and industrial developments with large volume and those adjacent to residential housing should consider use of compactor services for recycling and garbage. The applicant is alerted that compactors often require less frequent collections and transport resulting in potential overall cost savings.

   b) **Recycling Required.** Industrial/manufacturing/retail tenants can generate large amounts of recyclable packaging materials. Per Milpitas Municipal code section XI-10-54.15, applicant shall include enclosure space for recycling services.
o Retail tenants generally require a minimum of two (2) 3-yard front-load recycling containers and space for a minimum of two (2) 3-yard front load garbage containers should be provided. Additional containers may be required for larger users.

o Industrial/manufacturing customers should be evaluated on a case-by-case basis.

3. **Multi-Level, Multi-Family Developments**

a) **Recycling Service Area Required.** Per Milpitas Municipal Code section XI-10-54.15, multi-family developments (equal to or greater than 5 units) shall have recycling container service areas.

b) **Chutes.** Chutes, if provided for on-site collection of material, shall comply with the following guidelines:

   i. **Application.** Contact City engineering department if recycled material chutes are proposed since special care must be taken to assure material does not hang up in chutes and to minimize contamination by trash. In addition, a property manager shall be available to monitor the chute daily (including weekends) to check operations, maintain bins and chutes, and avoid nuisance conditions.

   ii. **Adequate Designated Recycled Area Required.** Provide adequate area for separate recycled material collection adjacent to chute area; property management to transport recycled material to central location for pickup.

   iii. **Chute Design.**
   1. Provide 16 inch square chute doors (which is smaller than the 24 inch chute diameter) to preclude dumping of large items which may hang up in chute.
   2. Provide chute doors with side panels to avoid hands being caught in doors.
   3. Provide temporary “shut-off door” at end of chute to prevent disposal when receiving trash bins are being changed.
   4. Provide insulation around chute to reduce noise.
   5. Provide sanitary systems to minimize nuisance conditions:
      - Placement of the manufacturers optional, built-in water cleaning system, where appropriate
      - Use of the deodorizer device, where appropriate
      - Include positive, mechanical air ventilation of at least six (6) room volumes per hour or as designed for specific use by registered engineer. Fan switch shall be located at a convenient location near trash bins.
   6. Provide individual slide-out refuse cabinet with 15 pound plastic bag holder in each residential kitchen for plastic, tie-top disposal bags to be used for disposal into chutes.
   7. For chutes in excess of three floors, a baffle system to reduce the drop impact of material shall be included.

   iv. **Others.**
   1. Adhere to fire code (City Fire Department will review).
   2. Conform to all Equipment Manufacturer's requirements.
4. **Single-family developments**

a) **Services.** Single-family style service consists of weekly setouts by residents for curb-side pickup at single-family, duplex and triplex units. Pickups are provided for trash, yard waste and recycled material, each of which is described below.

i. **Trash Service.** Collection of putrescible and non-putrescible nonhazardous solid, semi-solid and liquid discarded material. Trash may be placed into 96 or 64 (seniors) gallon wheeled carts, 32-gallon trash cans, or in plastic bags for curbside setout. Carts may be rented from BFI/Allied.

ii. **Yard Waste Service.** Collection of all plant debris, including grass clippings, leaves, pruning, weeds, branches, brush and tree trunks, as well as other forms of organic waste generated from landscapes and gardens. Yard waste is placed in 96-gallon wheeled carts.

iii. **Recycled Material Service.** Collection of material which may be returned to the economic mainstream in the form of raw material for new, reused or reconstituted products. Materials include newspapers, white paper, mixed paper, corrugated cardboard, glass, polyethylene terephthalate (PET), high density polyethylene (HDPE), polystyrene foam, wood, bi-metal cans, aluminum cans, ferrous metals, non-ferrous metals, motor oil, or other materials as may be identified from time to time by the City. Recycled material is placed in 96 or 64-gallon wheeled carts provided by the City. Special 32-gallon wheeled carts are available upon request within areas that have limited cart storage space including high-density developments (condominiums, town homes) and mobile home parks, and for senior citizens responsible for paying bills.

b) **Design Considerations**

i. **Access.** Adequate access for carts should be provided between the curbside setout location and the storage area. Cart sizes are as follows: 32-gallon, 24 ¼ inches in length by 19 ¼ inches in width by 35 ½ inches in height; 64-gallon, 30 inches in length by 27 ½ inches in width by 40 inches in height; 96-gallon, 34 ½ inches in length x 29 ¼ inches in width x 46 ¾ inches in height. The 32-gallon cart holds a 112 pound load; the 64-gallon cart holds a 200 pound load; the 96 gallon holds up to 300 pounds.

ii. **Storage.** Carts and trash cans must be placed in a location that cannot be seen from the street. Screening of storage areas shall be provided.

iii. **Coordination.** Designs shall clearly show proposed storage locations and access route for setouts and setbacks of carts and cans.

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* Required for commercial, multi-family bin services. The City’s franchised collection contractor for a solid waste service provides review assistance for enclosure dimensions and location(s) to assure proper is for service access, type and frequency for intended development. Coordination with the Planning division is necessary to assure consistency with City planning requirements and guidelines.

** Water cleaning system recommended with over 150 units; water system flow to flush inside chute walls shall discharge to wheeled bucket adequately designed to contain the flushed amount. (Consider installation of sanitary sewer in ground floor trash rooms.)

*** Deodorizers with over 100 units.
Figure 1
Front Load Service Enclosure

19.5' INSIDE enclosure width

10.5' INSIDE enclosure depth

Front load bins not drawn to scale

10-inch wide curb with 3-inch height along interior wall

Note: Install 6-inch dia. bollards (not required if 10-inch interior curbs are in place.)

Suggested container enclosure wall height up to 9'-0' (may be combination of wall and open screening/lattice)

1'-0' corner wall on enclosure front

120 degree swing minimum

12' minimum unobstructed opening

Roof clearance should be 15-feet minimum to avoid additional service charge.

This enclosure suggestion provides enough space to house the largest front load containers. It allows for growth in retail business and ensures sufficient space is available to keep the containers inside the enclosure.

Franchised collection contractor will provide information for service level and frequency.

Gate

Install gate bollard or J-hooks (recommended)
Figure 2
Combined Services Enclosure
Roll-Off/Front Load Compactor(s) and/or Front Load Open Top Services

[Diagram showing layout with annotations]

Note: Installing 6-inch dia. bollards (not required if 10-inch interior curbs are in place.)
Install 10-inch wide curb with 3-inch height along interior wall.
Maintain 18-inch clearance from enclosure wall to compactor.
Suggested container enclosure wall height up to 8'-0" (may be combination of wall and open screening/fill area).

Front load bins and compactor not drawn to scale.

Sanitary Sewer

16' minimum INSIDE enclosure width

17' minimum NSIDE enclosure length

Front load Garbage Bin

Front load Recycling Bin

Gate

16' x 17' allows enough space for smaller compactors or multiple front load containers for trash and recycling.
Franchised collection contractor will provide information for service level and frequency.

120 degree swing minimum

12" minimum unobstructed opening

Installation bollard or J-hooks (recommended)

For compactors*, enclosure depth minimums are:
1. Self-contained roll-off compactor:
   20yd** use 19'
   30yd use 22'-5"
   30yd use 22'-5"
   30yd use 22'-5"
2. Stationary roll-off compactor:
   15yd use 19'
   23yd use 22'-5"
   23yd use 22'-5"
   23yd use 22'-5"

*Includes 18" clearance from enclosure wall to compactor. Depth requirements vary depending on capacity and manufacturer.
**Curved panes.
Figure 3
Front End Load Collection Truck Access
(see notes (a) and (b) for side load and roll off trucks)

BFI Truck Dimensions
Width = 8'-10"
Height = 13.5 ft., with approximate 5 ft. lift
Overhead clearance required at loading point is 20 feet.
Length = 35 ft.

Note: Drawing not to scale
(a) For single family side load trucks, minimum outside turning radius is 38 feet
(b) For roll off bin trucks, minimum outside turning radius is 38 feet.
Exhibit 1
TYPICAL SOLID WASTE GENERATION AND CONVERSION FACTORS (a)

(A) REFUSE GENERATION FACTORS:

Single Family Residential Unit Generation: 41 pounds/week
Multi-Family Residential Unit Generation: 34 pounds/week
Senior Citizen Apartment/Studio Generation: 27 pounds/week

Commercial/Industrial Disposal – Size as required (b)

(B) RECYCLE GENERATION FACTORS:

Single Family Residential Unit Generation: 10 pounds/week
Multi-Family Residential Unit Generation: 7 pounds/week
Senior Citizen Apartment/Studio: 3 pounds/week
Yard Clippings Residential Unit Generation: 14.5 pounds/week

(C) DENSITY FACTORS:

Bin Waste Density (uncompacted): 100 pounds/cubic yard
Bin Recycle Density (uncompacted): 45 pounds/cubic yard
Bin Volume Compaction ratio: 3 volumes uncompacted to 1 volume compacted

(a) Provided as general guidelines: Site Specific Generation information may vary depending on type of development. Additional guidance may be obtained by calling the City of Milpitas at (408) 586-3353.
(b) Depending on type of business; confirm with city; also see Attachment 1 for commercial/industrial solid waste generation estimates.
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TO: FOOD OPERATORS, CONTRACTORS, and DESIGNERS

FROM: PLAN REVIEW AND CONSTRUCTION UNIT
CONSUMER PROTECTION DIVISION
DEPARTMENT OF ENVIRONMENTAL HEALTH

DATE: MARCH 25, 2002

SUBJECT: OUTDOOR GARBAGE COMPACTORS

Outside garbage compactors may be installed at retail food establishments under the following conditions:

1. The installation has been approved by the local Building and Planning Departments.

2. The entire compactor and storage bin is completely fly, maggot, and rodent-proof, i.e., all doors, covers, and access panels are provided with gaskets and are tight-fitting.

3. Compactors are installed on concrete pads that slope to a sanitary sewer drain. The concrete pad and sewer drain must be accessible for cleaning and designed as follows:
   a) Only the concrete slab under and immediately around the compactor unit is to be tributary to the sanitary sewer drain.
   b) All contiguous parking or walkway areas must drain away from the slab to appropriate storm sewer drains.
   c) Rainwater must not drain into the sanitary sewer drain. Installation of a roof system over the area may be necessary. In this case the local Building Department may require a fire suppression system in this structure. Check with your local Building or Fire Department representative for the current requirements.

4. Hot and cold water, through a mixing-type faucet, and outfitted with an approved anti-siphon device is required.

5. The appropriate refuse collection company removes compacted garbage at intervals that comply with local ordinances and this department's requirements.

6. A schedule of cleaning and maintenance is provided at the time of building clearance.

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1 Compactor units that are entirely self-contained, e.g., the crushing unit and container are welded together, and are removed as a unit to the landfill for dumping will be exempted from the sanitary sewer drain requirements.

2 Not needed if the compactor design prevents leakage as noted above.
March 24, 2002

City of Milpitas
Attention: Darryl Wong
455 E Calaveras Bl
Milpitas CA 95035-5479

Dear Mr. Wong,

After careful review of your request to exempt certain compactor designs from the hot and cold water supply requirement, this Department agrees with your request. Food facilities that install self-contained roll-off compactors that are designed to be removed as one unit to the landfill for dumping, and are the type that are designed to hold wet waste, will no longer be required to install hot and cold water supply lines. Our handout material has been modified to allow for this design installation.

The modification to our long-standing policy does not come lightly. We are concerned that strip shopping centers that are currently served by stationary roll-off compactors may at some time in the future attract food facilities that generate liquid waste material. As you have noted in your letter, these compactors are unsuitable for that use.

Your planning and zoning departments must be aware of the shopping center’s waste removal system and act accordingly to require the installation of the proper compactor design. Waste containers that leak their contents to storm drains would be in violation of RWQCB Storm Water Discharge Permits. This Department does not want to find itself in a situation where we must deal with leaking compactors and center management is unable to properly clean up the leakage without an available water supply in the compactor area.

For additional information or assistance, please feel free to contact me at (408) 299-6564 or by e-mail at richard.fuchs@deh.co.scl.ca.us.

Sincerely,

[Signature]
Richard J Fuchs, MPH, REHS
Environmental Health Program Manager
Consumer Protection Division
Department of Environmental Health

Cc: CPD Plan Check Unit
Kurt Fisher, Supervising Environmental Health Specialist
## EXHIBIT 3

### FRONT-END LOADING CONTAINERS

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<td></td>
<td>C. LENGTH</td>
<td>WIDTH</td>
<td>HEIGHT</td>
</tr>
<tr>
<td>One</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two</td>
<td>6’ - 0”</td>
<td>3’ - 0”</td>
<td>3’ – 4 ¼”</td>
</tr>
<tr>
<td>Three</td>
<td>6’ - 0”</td>
<td>3’ – 6”</td>
<td>4’ – 0 ½”</td>
</tr>
<tr>
<td>Four (Top Loading)</td>
<td>6’ - 0”</td>
<td>4’ – 6”</td>
<td>4’ – 0 ½”</td>
</tr>
<tr>
<td>Four (Apartment)</td>
<td>6’ - 0”</td>
<td>3’ – 6”</td>
<td>5’ – 3”</td>
</tr>
<tr>
<td>Five (Top &amp; End Loading)</td>
<td>6’ - 0”</td>
<td>4’ – 6”</td>
<td>5’ – 0 ¾”</td>
</tr>
<tr>
<td>Six (Low Top &amp; End Loading)</td>
<td>6’ - 0”</td>
<td>5’ – 6”</td>
<td>5’ – 0”</td>
</tr>
<tr>
<td>Six (High Top &amp; End Loading)</td>
<td>6’ - 0”</td>
<td>4’ – 6”</td>
<td>6’ – 0 ½”</td>
</tr>
<tr>
<td>Eight (Top &amp; End Loading)</td>
<td>6’ - 0”</td>
<td>5’ – 6”</td>
<td>6’ – 8”</td>
</tr>
<tr>
<td>Ten (Top &amp; End Loading)</td>
<td>6’ - 0”</td>
<td>6’ – 0”</td>
<td>7’ – 8”</td>
</tr>
</tbody>
</table>

**NOTE:** Concrete pad shall be designed to withstand 10,000 #/wheel axle load.
Front Loading Containers

BFI . . .
Your Friendly Garbage Company

AT YOUR DISPOSAL

- Commercial Container Service
- Roll-Off Boxes (Temporary/Permanent)
- Compaction Systems
- Residential Service

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We reserve the right to change designs and specifications without notice.
NOTE: Please add 10" to the width to include side pocket dimensions. Please add 7" to the height for containers with casters.