



Public Works Department

Solid Waste Design Standards

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1. Purpose

The City of Goodyear Solid Waste Design Standards guide developers in the early planning stages to design their projects properly and safely for solid waste disposal, collection, and storage. This document includes standards for residential, commercial, and industrial container services, vehicle access, and charts to determine the appropriate collection type and minimum levels of service and space requirements.

2. General Standards

A. Collection Route Engineering

- All solid waste/recycle collection routes must meet engineering design criteria to allow collection vehicles to safely access and lift bins without obstructions at ground or aerial levels.
- Collection vehicle route shall be a minimum of 28'-0" curb to curb.
- Minimum collection vehicle turning radius: 44'-0" outside turning radius and 28'- 6" inside turning radius.
- Collection vehicles should not have to back up more than 50' after servicing a bin for safety.

B. Vehicle Specifications

- Collection vehicle is 30'-0" long and weighs approximately 20 tons when fully loaded. Collection routes shall be engineered to support collection vehicles.

C. Route Efficiency

- Collection route through a site should ensure that the vehicle travels through the site once without backtracking. (Refer to Figure A)

D. Obstruction-Free Routes

- Routes must be clear of all obstructions. No awning or building projections are allowed in the collection vehicle route. Minimum overhead clearance of 14'-0" is required for the collection route and 25'-0" over the bin enclosure area from steel safety posts back 50'-0".
- All curbs shall align on the outside of the enclosure walls and shall not interfere with the route of the solid waste collection vehicle.

E. Tree Planting Guidelines

- For streets designated for curbside barrel collection, trees should not be planted within ten (10) feet of the curb and should be spaced to avoid creating aerial obstructions for barrel dumping at full growth dimensions.

F. Safety Considerations & Enclosure Placement

- Bin enclosures must be located away from entrances and exits to avoid creating safety hazards by blocking incoming or outgoing traffic.
- Bin enclosures should be angled no more than 30 degrees from the centerline of the collection vehicle route. (Refer to Figure B)
- Bin enclosures should be a minimum of 3'-0" from any planned or existing non-combustible structure and 5'-0" from any planned or existing combustible structure.

G. Collection Easements

- For City of Goodyear collection, a refuse collection easement will be required to be a dedicated full roadway width for any portion of the collection route not located in public right of way.

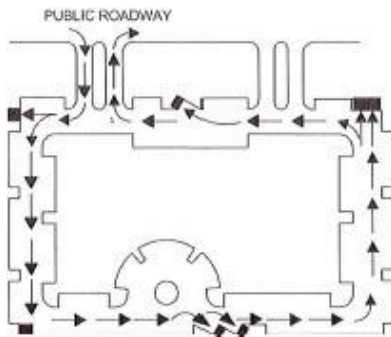


FIGURE A. ROUTE EFFICIENCY

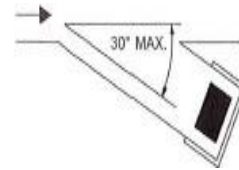


FIGURE B. MAX BIN DEVIATION

3. Containment Standards

A. Screening & Gate Requirements

- Trash and recycling bin areas must be screened with a minimum 6'-0" masonry wall as per Figures C and D. The exterior finish of walls should be architecturally integrated with the primary building.
- All enclosures shall have gates that screen the bins from public view. Gates shall be installed to provide a net enclosure opening of 12'-0" per bin. Gates, Hinges and Mounting hardware shall not project into minimum net enclosure opening. Double or triple wide enclosures need not have a demising wall between bins, but must maintain required net clear opening width for each bin to be served. (Figures C and F)

B. Enclosure Specifications

- Gates must open 90°.
- Gates, hinges, mounting hardware, and safety posts should create a minimum 9'-0" depth in the enclosure. (Refer to Figure C)

- Provide a 3'-0" pedestrian access gate into the enclosure, which may be lockable. (Refer to Figure C)
- Enclosure gates must have drop pins and holes drilled in the concrete at open and closed positions.
- Use 6" reflective engineer's tape (3M High Density Yellow Pressure Sensitive Tape or equivalent).

C. Safety Posts & Concrete Standards

- Bin enclosures should have two 4" diameter steel safety posts installed in the back. Safety posts should be a minimum of 6'-0" or equal to the height of the back screen wall and placed 4" from the wall. (Refer to Figures C and E)
- Use Class "A" concrete except as noted in the safety post detail in Figure E.
- Steel reinforcement should be grade 40.
- Steel posts should be 4" or 6" diameter, 8.5' long, schedule 40, galvanized or painted.
- Expansion joint filler should be ½" bituminous type preformed expansion joint filler per ASTM D-1751.

D. Soil Compaction

- Soil below the wall footer and concrete pad must be compacted to a depth of 6 inches and to a minimum dry density of 90% per ASTM D-2922 and D-3017 after rock correction.

E. Site Appurtenances

- Site appurtenances like landscaping control boxes and lighting may be placed on the outside of enclosure walls.

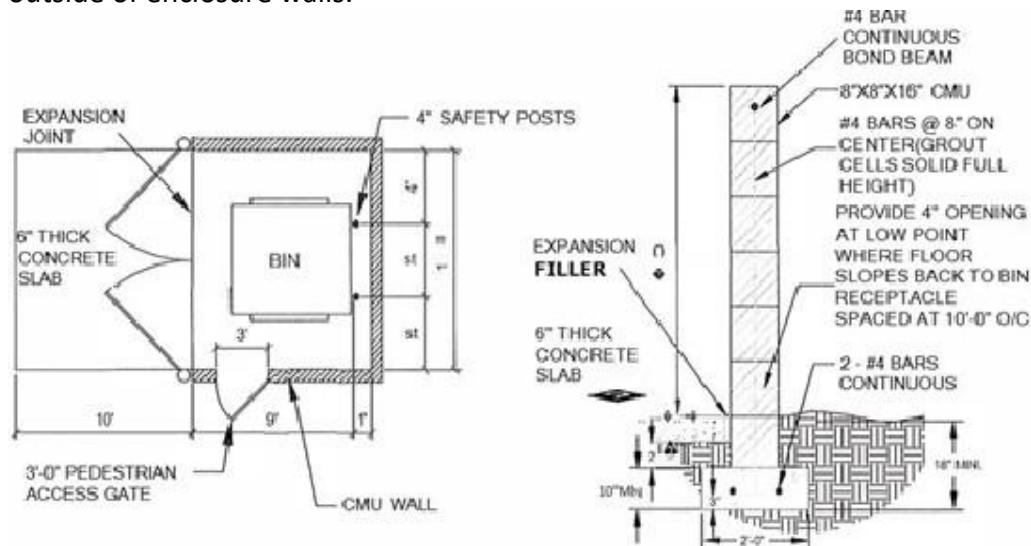


Figure C: Enclosure Specifications

Figure D: CMU Wall Specifications

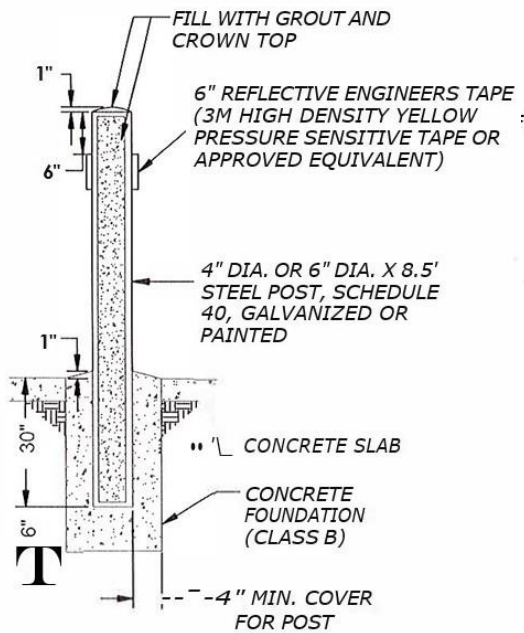


FIGURE E

Figure E: Safety Post Specifications

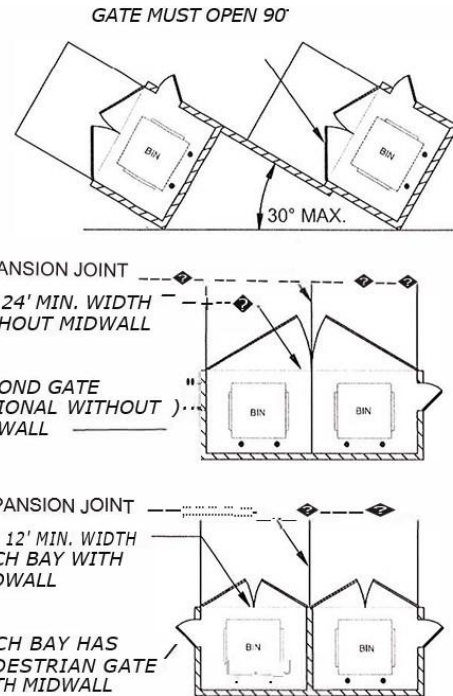


FIGURE F

Figure F: Gate Specifications

4. Use Specific Requirements

A. Restaurants

- Restaurants must provide a separate enclosed area for their grease trap, which must not interfere with trash/recycling collection.
- Single pad restaurants should have a minimum of one refuse enclosure.

B. Multifamily Development

- Solid waste requirement is $\frac{1}{4}$ cubic yard per dwelling unit serviced twice per week. Flexible design options are available to reduce recycling contamination. Developer must receive written authorization from the Public Works Director for any variations from the standard requirements.

C. Compactors

- Compacting equipment can be used if employees load and activate it. Customer-accessible compactors are not approved. Screening is required to the highest point of the equipment.

D. Recycling Requirements

- Equal recycling capacity is required for commercial and multifamily developments.

E. Commercial Property Design

- Provide a refuse enclosure for every 20,000 square feet of building space.

5. Residential and Commercial Container Dimensions

SIZE	HEIGHT	WIDTH	LENGTH	FOOTPRINT
				(rounded)
35-gallon cart	38.50 inches	18.88 inches	22.50 inches	3 sq. feet
65-gallon cart	42.12 inches	25.25 inches	26.38 inches	5 sq. feet
96-gallon cart	46.50 inches	26.38 inches	33.62 inches	6 sq. feet
2- yard front-load bin	41.50 inches	29.50 inches	72.00 (*) inches	15 sq. feet
3- yard front-load bin	50.50 inches	34.50 inches	72.00 (*) inches	17 sq. feet
4- yard front-load bin	57.00 inches	41.50 inches	72.00 (*) inches	21 sq. feet
6- yard front-load bin	71.00 inches	58.00 inches	72.00 (*) inches	29 sq. feet
8- yard front-load bin	89.00 inches	58.00 inches	72.00 (*) inches	29 sq. feet
10-yard roll-off box	3.25 feet	8.00 feet	12.00 feet	96 sq. feet
20-yard roll-off box	4.00 feet	8.00 feet	18.00 feet	144 sq. feet
30-yard roll-off box	5.50 feet	8.00 feet	20.00 feet	160 sq. feet
40-yard roll-off box	7.25 feet	8.00 feet	20.00 feet	160 sq. feet

6. Small Lot/Shared Driveway Collection

A. Barrel Locations & Parking

- Predetermined location for at least 2 barrels per unit where street parking is prohibited. Locations must be shown on site plan.
- Barrels should be placed within 100 feet of the parcel and not near cluster mailbox locations.

- Barrel collection locations must be included in the homeowner's associations conditions, covenants, and restrictions.

B. Tree & Structure Restrictions

- Trees should be planted at least ten (10) feet from the barrel location to avoid aerial obstructions.
- No structure should be within 4' horizontal of barrel collection locations.

C. Garage or Storage Areas

- Garages or storage areas must accommodate one 90-gallon refuse container and one 90-gallon recycling container.
- Gates or doors must allow for container passage approximately 33 inches in width.

D. Sidewalk Encroachment

- Barrel collection areas must not encroach onto sidewalks.

E. Street Width & Service Areas

- Streets must be a minimum of 28' from face of curb to face of curb for curbside collection. (Asphalt minimum 24' width).
- Barrels must remain on the same street.
- Barrel service location must be at least 34' from any community exit gate when opened or closed.
- Two-barrel collection locations per residential unit are required, split between the shared driveway.

F. Sign Adjustments

- No parking sign locations may need adjustment for fire hydrants, mailboxes, intersections, or other obstructions.

7. Small Lot/Shared Access Residential Collection

A. Purpose and Applicability

- This Section establishes design and operational standards for residential developments where conventional curbside automated collection cannot be provided by the City of Goodyear due to site design, frontage limitations, circulation constraints, or shared access configurations.
- These standards apply to any residential development that, in the sole determination of the City of Goodyear's Public Works Director ("City"), does not provide standard independent, compliant curb frontage and safe automated collection access for each dwelling unit, individually.
- Compliance with this Section shall be a condition of development approval.

B. Authority and Service Classification

- The City retains the sole authority over final determination of the appropriate solid waste collection method for any residential development.
- Service classification shall be based solely on functional site design, access configuration, and operational safety and feasibility, and as approved by the Public Works Director.
- Classification shall not be determined by any of the following criteria:
 - Zoning designation
 - Density classification
 - Ownership structure (including fee simple, condominium, townhome, cooperative, or similar)
 - Marketing terminology
 - Recorded plat language
 - Any alternative residential product description

The City's determination shall control for purposes of solid waste service delivery.

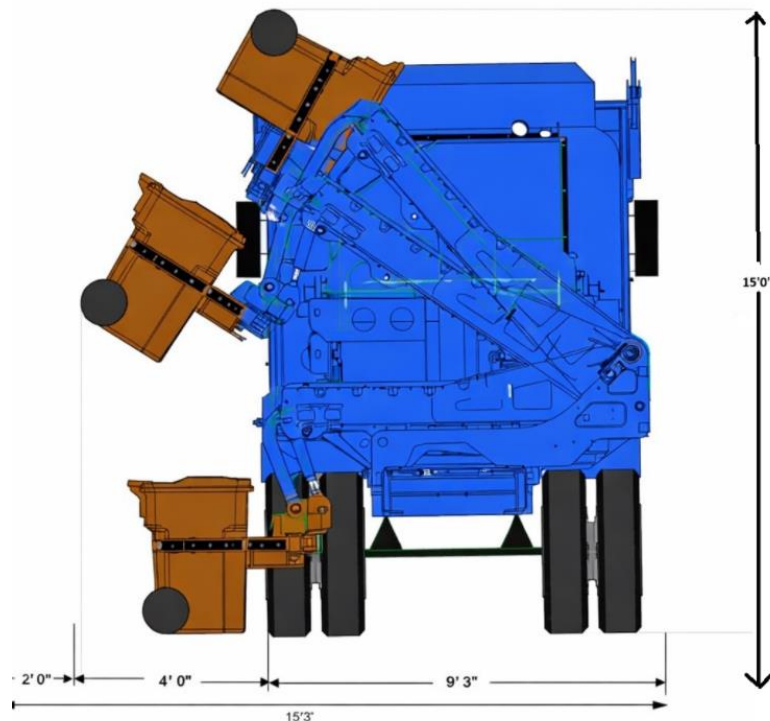
C. Functional Triggers for Small Lot / Shared Access Classification

- A residential development shall be classified as Small Lot / Shared Access Collection if one or more of the following conditions exist:
 - Two or more dwelling units share driveway access to a public or private street.
 - Individual dwelling units lack independent curb frontage meeting the minimum collection route standards identified in Section 2.
 - Collection vehicles cannot safely service containers directly adjacent to each dwelling unit without unsafe backing, excessive maneuvering, or operational conflict.
 - Private streets, alleys, motor courts, hammerhead configurations, courtyard layouts, gated entries, or similar designs restrict safe automated side-load access.
 - Street width, parking configuration, traffic calming devices, geometric features, or gated controls interfere with safe collection operations.
 - Lot width, depth, or frontage prevents safe placement and servicing of containers directly in front of the dwelling unit.
 - Any portion of the collection route fails to meet the engineering or access standards required in Section 2.
 - Developments meeting any of the above criteria shall comply with all provisions of this Section.

D. Design and Operational Requirements

- **Barrel Staging Locations & Parking**
 - A predetermined staging location accommodating a minimum of two (2) containers per dwelling unit shall be provided.
 - Staging locations shall be clearly identified on approved site plans.

- Staging areas shall be located on streets meeting the minimum width requirements established in Section 2.
 - Staging areas shall not be located within 100 feet of cluster mailbox facilities.
 - Staging areas shall not encroach upon sidewalks, ADA access routes, drive aisles, fire lanes, or traffic circulation.
 - Barrels shall remain on the same street as the assigned staging location.
 - In gated communities, staging locations shall be positioned no less than thirty-four feet (34') from any entry or exit gate, measured from the gate position creating the greatest obstruction.
 - No-parking restrictions shall be established and enforced where necessary to maintain safe and unobstructed collection access. Required no-parking zones shall be depicted on approved civil engineering plans. Sign locations may require adjustment to avoid conflicts with fire hydrants, mailboxes, intersections, or other obstructions.
- o **Tree and Structure Restrictions**
- Trees shall not be planted within ten feet (10') of designated staging locations and shall be spaced to prevent aerial obstruction at full maturity. Use a height of 15 feet for a typical solid waste collection truck.
 - No permanent structure, wall, or obstruction shall be located within four feet (4') horizontally, of a staging area.
 - Diagram below for visual reference.



- o **Garage or Storage Capacity**
- Each dwelling unit shall provide enclosed storage space sufficient to accommodate:
- One (1) 96-gallon refuse container; and

- One (1) 96-gallon recycling container.
- o Garage doors, gates, or access openings shall provide a minimum clear width of thirty-three inches (33") to permit container movement.

E. Homeowners' Association Requirements

- o Where a homeowners' association (HOA) is established, recorded Conditions, Covenants, and Restrictions (CC&Rs) shall require compliance with all City solid waste staging, parking, and access standards.
- o The HOA shall be responsible for:
 - Maintaining designated staging areas
 - Enforcing required parking restrictions
 - Preventing obstructions that interfere with collection access

F. Non-Circumvention and Reclassification

- o Development design elements shall not be utilized to avoid or reinterpret the service classification triggers identified in Section 6.3.
- o Any residential development that functionally operates as shared-access, reduced-frontage, constrained-access, or circulation-limited shall comply with this Section regardless of legal description or residential product type.
- o Requests for alternative service classification must be submitted in writing and receive approval from the Public Works Director. Approval shall be considered only upon demonstration of operational safety and feasibility.

G. Enforcement and Remedies

- o Failure to comply with approved solid waste design standards, access requirements, or staging provisions may result in one or more of the following:
 - Withholding of development approvals, permits, or Certificates of Occupancy.
 - Modification of collection method, including relocation of staging areas to centralized or perimeter locations.
 - Suspension of collection within noncompliant private drives or accessways.
- o Assessment of additional service fees for non-standard collection operations as established by City Ordinances. Requirement that the property owner or HOA secure private collection service at its expense if public collection standards cannot be safely met.
- o The City shall not be required to provide collection service in a manner that creates unsafe operating conditions for personnel or equipment.

H. Alternative Service Options for Residential Developments

- o For residential developments that are unable to meet the minimum design requirements for standard curbside solid waste collection, the City may allow alternative service configurations, subject to review and approval. These options are intended to ensure safe, efficient, and reliable waste collection while accommodating site constraints.
- o **Approved Alternative Service Options**
 - Developments that cannot accommodate standard service requirements may utilize one of the following:

1. Front-Load Dumpster Service

- Centralized front-load containers located throughout the development.
- Containers must be placed in accessible, code-compliant enclosures with adequate approach, clearance, and turning radius for collection vehicles.
- Service frequency and container quantity must be sufficient to prevent overflow and maintain sanitary conditions.

2. Compactor Service with Concierge Collection

- Installation of a centralized compactor unit.
- Residents do not directly dispose of waste into the compactor. Instead, on-site staff (e.g., maintenance or concierge services) are responsible for collecting waste from residents and properly depositing it into the compactor.
- This approach is strongly recommended to reduce safety risks and contamination associated with direct resident use of compactors.

o Capacity and Service Guidelines

- All alternative service configurations shall be designed using the following baseline standard:
- **Waste Generation Rate:** ¼ cubic yard of solid waste capacity per dwelling unit
- **Service Frequency Basis:** Twice-weekly service minimum
- Adjustments to service frequency or container capacity may be required based on actual generation rates, site-specific conditions, or operational considerations, as determined by the City.

o Example – 190 Single-Family Units

The following example illustrates how alternative service options may be applied:

- **Front-Load Option:**
 1. Approximately **14 eight-yard front-load containers**
 2. Serviced **three (3) times per week**
- **Compactor Option:**
 1. **One (1) 40-yard compactor**
 2. Serviced **two (2) to three (3) times per week**
 3. On-site staff recommended to manage waste disposal and operate the compactor

o Additional Design Considerations

- All container and compactor locations must comply with applicable enclosure, screening, drainage, and accessibility standards.
- Adequate space must be provided to safely stage, service, and maneuver collection vehicles without obstructing traffic or creating safety hazards.
- Developments must ensure ongoing maintenance of waste areas to prevent litter, illegal dumping, and nuisance conditions.
- Final determination of service type, container quantity, and service frequency is subject to City approval.