



# PLANNING COMMISSION

Planning & Development Services Department • 201 N. Stone Ave. • Tucson, AZ 85701

**DATE:** March 7, 2012

**TO:** Planning Commission

**FROM:** Ernie Duarte  
Executive Secretary

**SUBJECT:** Land Use Code Simplification and Reformat Project: Administrative and Technical Standards Manuals

**Issue** – This item is for discussion by the Planning Commission in a Study Session.

The Administrative and Technical Standards Manuals are components of the Land Use Code Simplification and Reformat Project.

The Administrative Manual includes application submittal requirements, development review fees, and the City Development Review Committee procedure.

The Technical Standards Manual includes the Historic Preservation Zone design guidelines and engineering-related site standards, such as solid waste collection, street design, and detention/retention standards.

NOTE: With the exception of the Solid Waste and Recycle Disposal, Collection, and Storage standards, the proposed Administrative and Technical Standards Manuals have not been significantly changed since they were last discussed by the Planning Commission on January 18, 2012. For this reason and in an effort to conserve resources, a hard copy of the proposed revisions to the Solid Waste and Recycle Disposal, Collection, and Storage standards only are attached. A draft of each manual are located online here:

[http://cms3.tucsonaz.gov/planning/prog\\_proj/projects/lucsimplication/](http://cms3.tucsonaz.gov/planning/prog_proj/projects/lucsimplication/)

**Recommendation** – Staff recommends setting the Administrative and Technical Standards Manuals for public hearing with the Planning Commission on May 2, 2012.

## **Background**

**Land Use Code Simplification and Reformat Project (Project).** The purpose of the Project is to, in general, simplify and reformat the City's LUC, Development Standards, and Chapter 23A Procedures so that they are more user-friendly. The Project's goals are to:

- Consolidate procedures;
- Clarify vagueness;
- Emphasize simplicity;
- Reduce need for cross-referencing (i.e. reduce page flipping) and redundancy;

- Use a simplified numbering system;
- Replace the development designator system with simpler dimensions by zone;
- Provide new language necessary for the transition from LUC to UDC; and,
- Acknowledge that other items may require revision during the project.

The Project requires the preparation of three separate, but interrelated documents:

Unified Development Code (UDC). The UDC establishes, among other requirements, the zoning regulations and review and approval procedures applicable to development and uses of land within the City of Tucson. Clarion Associates, the consultant contracted by the City to prepare the UDC, has completed a draft UDC. Staff is reviewing the draft and is in the process of preparing the next draft for review by the Planning Commission and the public.

Administrative Manual

*Summary:* The Administrative Manual includes application submittal requirements, development review fees, and the City Development Review Committee procedure. The contents of the Administrative Manual are primarily from the City’s Development Standards. See Attachment A for the draft table of contents.

*Significant Differences Between the Current and Proposed Requirements:*

	<b>Current Requirement</b>	<b>Proposed Requirement</b>	<b>Rationale</b>
<b>Procedure to amend the application submittal requirements</b>	Requires City Manager approval	Requires PDSB Director approval	Can be adequately administered by the PDSB Director.
<b>Modifications to application submittal requirements (at the applicants request on a per project basis)</b>	Limited to PAD applications	Expands to allow applicants to request modifications to the application submittal requirements for all application types, except those required of Protected Development Rights applications	Does not modify requirements of the applicable zone, overlay zone, and development standards. There are instances, such as the redevelopment of a midtown site, when certain information is not needed to adequately review a proposal for compliance with applicable requirements. Allowing a certain amount of flexibility can potentially save time and money in the preparation and review of applications.

<b>Rezoning application submittal requirements</b>	Multiple plans required (i.e. Preliminary Development Plan; General Site Inventory; Design Compatibility Report; Environmental Resource Report; Cluster Option Report; and Services Impact Report), redundant information required among the plans	Consolidates the number of plans to the Preliminary Development Plan (includes an introduction and policy, site analysis, and plan proposal) and the Environmental Resource Report	Consistent with the goals of the LUC Project to remove redundancy and simplify the current standards
<b>Technology/Archive Fee</b>	Varies from \$16.50 to \$16.50 or 1% of the total filing fee, whichever is greater.	Several technology/archive fees have been revised to require \$16.50 or 1% of the total filing fee, whichever is greater for consistency purposes. A tech/archive fee is proposed for CDRC Fees.	The technology/ archive fee has been added to the CDRC Fees since these are costs incurred currently by the City that, to date, has not been charged to applicants.
<b>Design Professional Fee</b> (when review of FLD Privacy Mitigation or Architectural Variation Plan required or other applications as deemed appropriate by the PDS Director)	Not included in current Development Review Fee Schedule	\$75/hour	Review by the Design Professional is currently required by the LUC of certain FLD applications, but a fee has not yet been approved (note: the Design Professional(s) is a consultant on contract with the City who works on an as needed basis). There are other instances, such as with the review of downtown projects, when review by the Design Professional is beneficial.

*Issue Requiring Further Consideration.*

SB1598 – In July 2011 the State adopted legislation that mandates all jurisdictions to revise timeframes for their development review processes. There are other provisions affecting the General Plan and inspections that are not germane to Article 3. This bill is called by its sponsors the “Regulatory Bill of Rights.” It requires local governments to set timeframes for application completeness and substantive reviews. In the case of substantive reviews, if the local government does not meet the timeframe it must return the development review fee. Staff is working to incorporate SB 1598 into the Administrative Manual and make the appropriate links to Article 3. This version of Article 3 does not show how SB 1598 will work. Staff expects to have a version of Article 3 and the Administrative Manual that addresses SB1598 by the April Commission meeting.

Technical Standards Manual

*Summary:* The Technical Standards Manual includes the Historic Preservation Zone design guidelines and engineering-related site standards, such as solid waste collection, street design, and detention/retention standards. The standards in the Technical Standards Manual are primarily from the City’s Development Standards. See Attachment B for the draft table of contents.

*Significant Differences Between the Current and Proposed Standards:* The current Development Standards (which are the basis for the standards in the Technical Standards Manual) are presently being reviewed by staff for possible proposed amendments. Proposed revisions to the current standards will be identified in the Technical Standards Manual.

	<b>Current Requirement</b>	<b>Proposed Requirement</b>	<b>Rationale</b>
<b>Procedure to Establish or Amend the Technical Standards Manual</b>	Requires minimum 30-day review period	No longer require 30-day review period	The current requirement unnecessarily delays the implementation of non-contentious, minor amendments.
<b>Pedestrian Access</b>	Includes a detailed account of when and how an accessible route must be provided.	Refers applicants to the City adopted Building Code for accessible route requirements.	Consistent with the City’s adopted Building Code
<b>Solid Waste and Recycle Disposal, Collection, and Storage standards</b>	1. In single family development, Automated Plastic Containers (APC, i.e. garbage or	1. Proposed for deletion. As a result, APCs could be located in the driveway on	1. a) in some neighborhoods, the driveway is the only place APCs can be put; b) in these neighborhoods, pickup from the driveway has occurred

	<p>recycling container) cannot be located in a driveway on pickup day;</p> <p>2. There shall be no obstruction within 5 feet of an APC in single-family development;</p> <p>3. Eight bollards required within double container enclosures; and,</p> <p>4. Six bollards required within double container enclosures.</p>	<p>pickup day;</p> <p>2. Reduced from 5 to 3 feet;</p> <p>3. Reduced from the required 8 to 6 bollards; and,</p> <p>4. Reduced from the required 6 to 4 bollards.</p>	<p>without it creating any safety or access issues;</p> <p>2. The revision does not affect the ability to pickup APCs;</p> <p>3. &amp; 4. The revision will result in cost savings when constructing the enclosures without compromising safety or protection of the enclosure.</p>
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*Issue Requiring Further Consideration.* There are no issues to report at this time.

Attachments:

Attachment A – Proposed Revisions to the Solid Waste and Recycle Disposal, Collection, and Storage Standards (March 2012 Draft – Section 4 of the Technical Standards Manual)

S:\Land Use Code Revision\UDC\Planning Commission



**ATTACHMENT A**

**SECTION 4.0: SOLID WASTE AND RECYCLE DISPOSAL  
COLLECTION AND STORAGE**

- 4-01.1.0 PURPOSE**
  - 4-01.2.0 DEFINITIONS**
  - 4-01.3.0 APPLICABILITY**
  - 4-01.4.0 ALL DEVELOPMENT**
  - 4-01.5.0 MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL DEVELOPMENT**
  - 4-01.6.0 SINGLE-FAMILY RESIDENTIAL DEVELOPMENT**
  - 4-01.7.0 SPECIAL SERVICES**
  - 4-01.8.0 LIST OF EXHIBITS AND FIGURES**
- 

**4-01.0.0 SOLID WASTE AND RECYCLE DISPOSAL**

**4-01.1.0 PURPOSE** - The following Standards have been established for solid waste and recycle materials collection, storage, and disposal. The standards shall serve as guidelines for safe and efficient solid waste and recycling service.

To enhance the City of Tucson (COT) appearance, by implementing standards for the collection and storage of solid waste and recycle containers.

Establish dimensional requirements for container enclosures, accessibility and maneuvering space for collection vehicles.

To promote the recycling of materials generated by the COT residential, commercial, and industrial communities.

**4-01.2.0 DEFINITIONS** - Definitions for words used in this Standard are found below, in the Tucson City Code (TCC) Chapter 15, in the Technical Standards Glossary, or in Article 11 of the Unified Development Code (UDC).

APC, Automated Plastic Containers

ASL, Automated Side Loading service vehicle

PAAL, Parking Area Access Lane

CC&R, Covenants, Conditions, and Restrictions

ES, Environmental Services

**4-01.3.0 APPLICABILITY** – These Standards apply to all new construction within the COT including the expansion of existing sites as specified by the COT LUC, Section 3.3.3.12.

**4-01.4.0 ALL DEVELOPMENT**

4.1 General

- A. Details from this Standard shall be shown on the plan graphically and by written notes.
- B. A note specifying the anticipated method of collection and frequency based on the calculated tonnage from Table 1 for the intended use.
- C. All solid waste and recycle metal containers storage areas shall be screened from public view, and from adjacent developments.
- D. APC's shall be allowed for solid waste and recycle collection for volumes not greater than 190 gallons per week, 95 gallons for solid waste and 95 gallons for recycle. Metal container service will be required when the waste stream calculation exceeds 190 gallons per week.
- E. Solid waste and recycle container enclosures built into property walls must comply with horizontal and vertical clearances as stated in this Development Standard.
- F. Properties without sufficient space for on-site collection and storage of solid waste and recycle containers shall be evaluated for service on a case by case basis. Examples of enclosures for metal containers are shown in the Exhibits and Figures of Section 4-01.9.0 of this Standard.
- G. Use of APC's for multi-family, commercial, or industrial development requires prior approval from ES.
- H. Each residential development as defined in TCC Chapter 15, require on-site solid waste and recycle collection services, must contact ES to establish services.
- I. Off-street parking may be reduced for existing development when solid waste and recycle enclosures are provided per Section 3.3.5.4.

**4-01.5.0 MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL DEVELOPMENT**

5.1 General

- A. New projects and the remodeling of existing sites (including mobile home parks) consisting of six (6) to twenty-four (24) shall provide centralized on-site solid waste and recycle collection service access within the tract, as

required by City of Tucson, Land use Code, Chapter-15. Utilization of individual containers (APC's) for six (6) or more new dwelling units requires approval by ES on a case by case evaluation.

- B. All containers require enclosures with gates. Containers shall be stored in their enclosure when not being serviced and containers must be leak proof.
- C. The locations of walls, fences, hedges, or landscaped buffer areas that are designed to reduce noise and enhance the aesthetics at the point of the solid waste and recycle materials collection shall be shown on the plan.
- D. Where a development is intending to provide centralized storage and collection to serve multiple buildings, tenants, or businesses, a general note must be included within the plan stating "A single property owner, property management company, or home owners association (HOA), will be responsible for the management and maintenance of the solid waste collection services and storage area(s) for all development/business occupants."

## 5.2 Enclosure Specifications

- A. Enclosure walls shall be masonry constructed as shown in Figure 2.
- B. Vertical steel pipes (bollards) are required within the enclosure as wall protection. The inside edge of the bollard shall be a minimum of one (1) foot inside the inside surface of the rear and side walls of the enclosure to prevent the container from damaging the walls of the enclosure (See Figure 3A & 3B).
- C. The enclosure shall have a minimum ten (10) foot by ten (10) foot unobstructed interior space per container within the bollards (See Figure 3A & 3B).
- D. Enclosures are to have gates with latches to prevent unauthorized access and to visually screen the container. Gates are to be mounted to a post fastened and secured on the front face of the enclosure wall(s).
- E. Enclosure gates shall be painted to match or compliment the enclosure walls.
- F. Enclosure and gates must have a minimum unobstructed opening of twelve (12) feet (See Figure 3A & 3B). The gates must be securable in both the closed and open positions.
- G. A concrete service apron shall be constructed six (6) inches thick with a minimum of two (2) percent slope away from the enclosure. To prevent storm water from collecting in front of the enclosure gates (See Figures 3A & 3B).

- H. The enclosure shall have a concrete slab six (6) inches thick, and the concrete shall have a design strength of 2,500 psi with No. 4 rebar reinforcement at 12-inch on centers both ways.
- I. Stationary compactor units shall be screened from adjacent properties and public right-of-way. Enclosure shall allow space to include recycle containers.
- J. Stationary roll-off compactor unit shall be placed on a pad of sufficient width to provide a two (2) foot clear area on each side of the unit. The overall length of the pad must be five (5) feet greater than the combined length of the compactor, receiving container, and recycle container. The lengths of the receiving containers will vary depending on the container's capacity.

5.3 Access and Maneuvering Standards

- A. Service access shall be from within the development.
- B. A minimum safe access and operational area of fourteen (14) feet by forty (40) feet, with a minimum vertical clearance of twenty-five (25) feet, shall be provided in front of each enclosure.
- C. An adequate and safe ingress/egress is required for the collection vehicle in each new project. On-site turnarounds for service vehicles are shown in Figure 6 and 7.
- D. Metal container locations shall be placed so that the collection vehicle does not have to back into the public right-of-way or into moving traffic.
- E. Maneuvering requirements - the minimum turning radiuses required for collection vehicle to service metal containers shall be (36) feet for the inside rear wheels radius and (50) feet for the outside front bumper as illustrated on Figure 7. At any structure or vehicle parking space there must be a minimum of three (3) feet of clearance between the collection vehicle and the maneuvering/turning radius.
- F. The maximum back-up distance for the collection vehicle shall be eighty (80) feet measured from the front of the collection vehicle.
- G. When the width and depth of the property to be developed is insufficient to provide service access from within the development, the enclosures may be located such that service access is from the adjacent public right-of-way with a forty-five (45) or thirty (30) degree angle of approach that allows service by the vehicle without the collection vehicle pulling completely off the public right-of-way. (Note: Off street service is not permitted from arterial or collector streets (See Figure 1 & 4).

- H. Service vehicle will approach in-line with the enclosure; ten (10) feet of space must be provided in front of the enclosure for a vehicle to maneuver in order to service the containers (See Figure 3A & 3B).

5.4 Location Standards

- A. Containers shall not be stored on any public right-of-way, bike lane, sidewalk or other public access.
- B. Containers and enclosures shall not obstruct traffic line-of-sight visibility.
- C. Containers and enclosures shall not obstruct or block drainage.

5.5 Operational Standards

- A. The property owner shall be responsible for keeping the collection and storage areas free from obstructions, vegetation, any liquids spilled within storage enclosures.

**4-01.6.0 SINGLE-FAMILY RESIDENTIAL DEVELOPMENT**

6.1 General

- A. Curbside service in dedicated right-of-way or a PAAL using APC's and the ASL system is preferred for Single Family and Duplex Developments.
- B. 300-gallon APC solid waste service is based on three (3) residences per container. Service availability subject to ES approval.

6.2 Access and Maneuvering Standards

- A. The collection point shall be unobstructed by any other improvements such as mailboxes, light poles, fire hydrants, fencing, street signs, or landscaping.
- B. Alley access requires approval by ES. Alley shall have a minimum twenty (20) foot wide cross section, maintained with a twelve (12) foot wide clear travel lane.
- C. A twenty-five (25) foot minimum height clearance, free of any overhead obstructions (wires, branches, etc.), will be provided above the collection area. (The alley travel lane must have a minimum of fifteen (15) foot overhead clearance).

6.3 Location Standards for APC's, 95 gallons or less<sup>1</sup>

- A. The standard collection point will be behind the curb in front of the premises in accordance with the Technical Standards contained herein.
- B. Where sidewalks exist, APCs are to be placed in the buffer area between the curb and sidewalk. Placement shall be so as to not obstruct sidewalk traffic or bike lanes. There should be no obstruction within (3) feet<sup>2</sup> of an APC set out for collection. (Common obstructions are cars, mailboxes, and light poles).
- C. For residential collection that cannot be directly placed for collection in front of the residence, specific instructions on how and where the solid waste and recycle APC's will be collected will be included in the subdivision's plat.

**6-01.7.0 Special Services** – In developments where proposed solid waste and recycle disposal service is not specified in these Standards (i.e., developments for the elderly or disabled), prior approval must be obtained from ES.

**6-01.8.0 Waste Stream Calculation Guidelines**

- A. Determine the square footage and uses for the proposed development. A separate calculation for each area that has a different use should be performed.

Calculation: Select the use that best describes the proposed usage, from Table 1 below. Then multiply the Floor Area (sq. ft) by the Annual Tons Generated for the usage selected.

Sample Calculation for Food Retail:

$$[\text{Area in sq. ft. } 3,000] \times [\text{Annual Waste Generated } 0.0057 \text{ tons/sq. ft.}] = \underline{17 \text{ Annual Tons Generated for specified usage.}}$$

Sample Calculation for an Office or Professional Services:

$$[\text{Area in sq. ft. } 2,000] \times [\text{Annual Waste Generated } 0.0013 \text{ tons/sq. ft.}] = \underline{2.6 \text{ Annual Tons Generated for specified usage}}$$

<sup>1</sup> The restriction against allowing APCs in a driveway is proposed for deletion.

<sup>2</sup> Staff recommends revising the clear space around the residential APCs from 5-feet to 3-feet.

Table 1: Annual Waste Generated Based On Proposed Usage	
1. Office, Professional Services or Small Retail Use	0.0013 tons/ sq. ft.
2. Industrial Use	0.0016 tons/ sq. ft.
3. Food Retail, Multi-Family, Large Commercial	0.0057 tons/ sq. ft.
4. Public Facility and Large Retail	0.00105 tons/ sq. ft.
5. School and Institution	0.00105 tons/ sq. ft.
6. Warehouses	0.00155 tons/ sq. ft.
(Table 1, Data is obtained from Fairfax County Virginia Solid Waste Stream Calculation Reference)	

Estimated conversion factors for solid waste 3.0 lbs/gal. and 600 lbs/ cu.yd.

- B. Determine the size and collection frequency required for the Annual Tons Generated for specified usage:

Sample Calculation for Food Retail Above: 17 Annual Tons Generated  
 $[17 \text{ tons/year}] / [52 \text{ weeks /year}] = 0.329 \text{ tons /wk.}$

$[0.329 \text{ tons/week}] \times [2000 \text{ lbs/ton}] = 658 \text{ lbs/wk.}$

Size of container,  $[658 \text{ lbs /wk}] / [3.0 \text{ lbs/gal}] = 219 \text{ gal/wk}$ , this volume is greater than an APC of 95 gal/wk. Therefore, a metal container must be selected.

Selecting a 2 cubic yard container/wk =  $[2 \text{ cu.yd./wk}] \times [202 \text{ gal/cu.yd}] = 404 \text{ al/wk.}$

Therefore, 404 gal/wk will be adequate service for a Food Retail business of 3000 sq. ft. The 2 cubic yard metal container/wk is adequate.

Sample Calculation for an Office or Professional Services Above: 2.6 Annual Tons Generated

$[2.6 \text{ tons/years}] / [52 \text{ weeks / years}] = 0.052 \text{ tons / week}$

$[0.052 \text{ tons/week}] \times [2000 \text{ lbs/ton}] = 100 \text{ lbs/wk}$

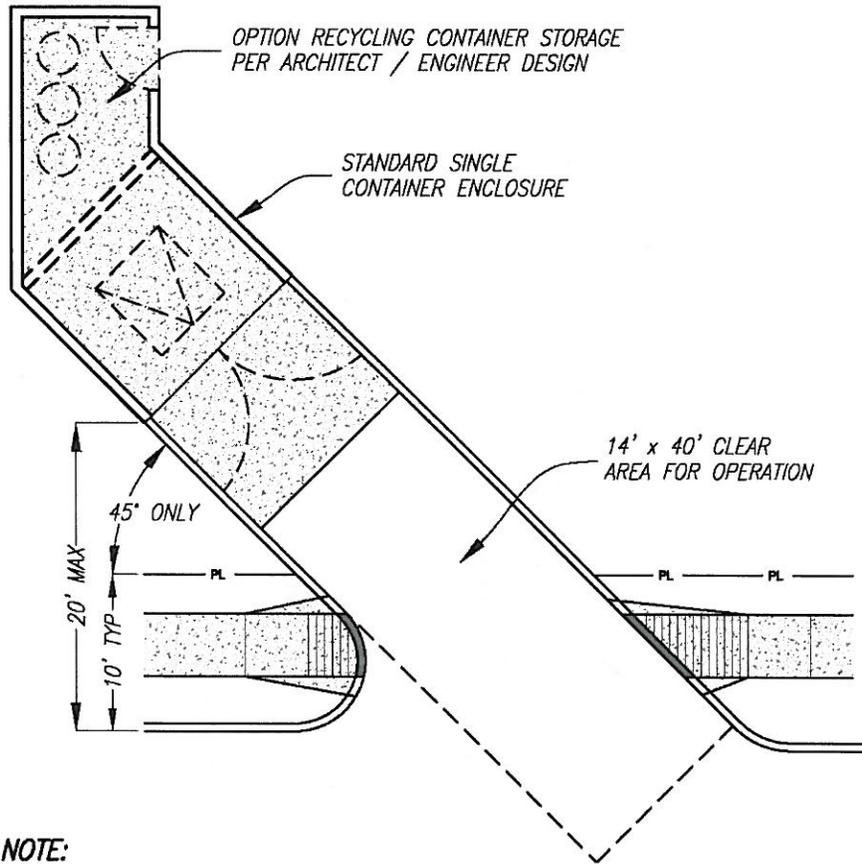
Size of container,  $[100 \text{ lbs /wk}] / [3.0 \text{ lbs/gal}] = 33.33 \text{ gal/wk}$ , this volume is less than an APC of 95 gal/wk.

Therefore, a 95 gal/wk APC container will be adequate for specified usage.

#### 6-01.9.0 LIST OF EXHIBITS AND FIGURES

- Figure 1** - 45 Degree Enclosure 'Option' Off Residential Streets
- Figure 2** - Structural Design for Enclosure Walls
- Figure 3A**- Double Metal Container Enclosure (2 to 8 cubic yards)
- Figure 3B**- Single Metal Container Enclosure (2 to 8 cubic yards)
- Figure 4** - 30 & 45 Degree Enclosures off Alleys
- Figure 5** - 30 & 45 Degree Enclosures off PAAL's
- Figure 6** - Turnaround for Service Vehicles
- Figure 7** - Turning Radii/Turnaround for Service Vehicles
- Figure 8** - Specifications for 90 Gallon APC's
- Figure 9** - Specifications for 300 Gallon APC's

## SINGLE ENCLOSURE - FOR FRONT LOADING SERVICE

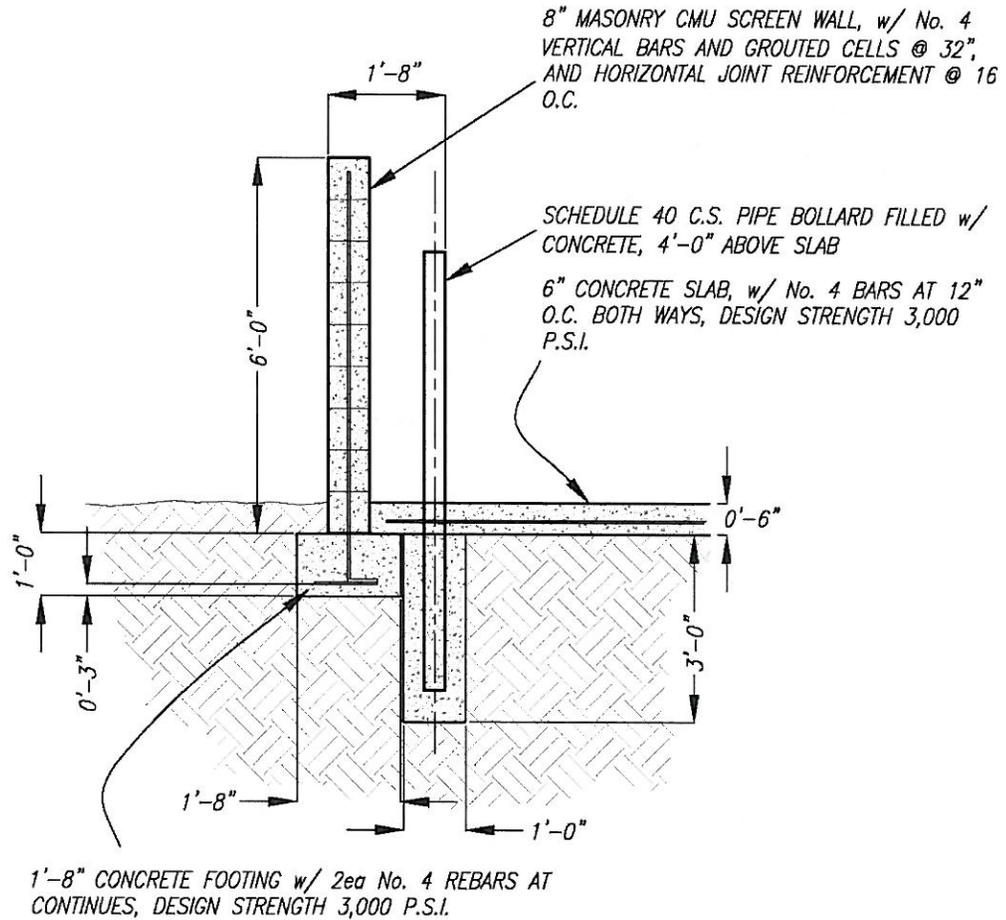


**NOTE:**

1. OPTIONS OF REFUSE PICKUP OFF NON-ARTERIAL OR COLLECTOR TYPE STREETS TO BE APPROVED PRIOR TO PLAN SUBMITTAL.
2. CURBING AND SIDEWALK PER ARCHITECT / ENGINEER DESIGN.
3. FOR DESIGN, TRUCK TURNING MOVEMENT FOR SERVICING THE CONTAINER SHOULD NOT PASS OVER THE CENTERLINE OF THE STREET.
4. SERVICE ONLY PROVIDED FOR RESIDENTIAL TYPE STREETS.
5. SERVICE ACCESS MAY BE COMBINED WITH COMPLEX ACCESS DRIVE AT ARCHITECT / ENGINEER OPTION, PRIOR APPROVAL REQUIRED.

OCTOBER 24, 2011 FIGURE 1 - 45 DEGREE ENCLOSURE 'OPTION' OFF RESIDENTIAL STREETS  
NOT TO SCALE

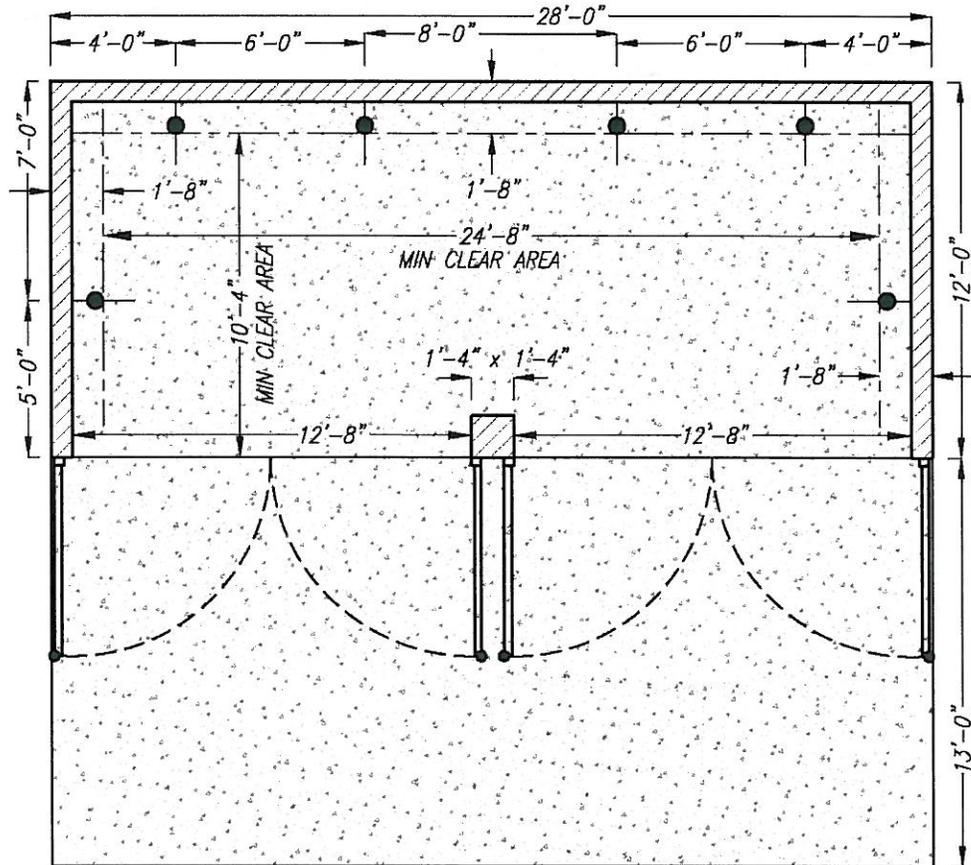
## STRUCTURAL DESIGN FOR WALL ENCLOSURE (2 to 8 CUBIC YARDS)



OCTOBER 24, 2011 FIGURE 2 - STRUCTURAL DESIGN FOR ENCLOSURE WALL (2 to 8 CUBIC YARDS)  
NOT TO SCALE

**DOUBLE CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)**

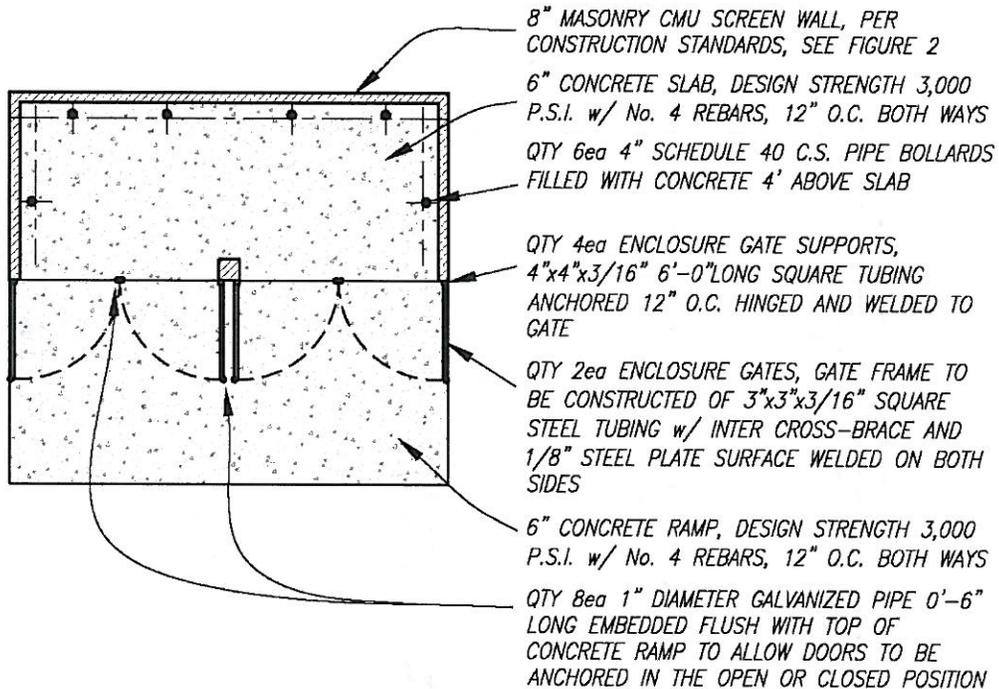
**FIGURE 3A - PAGE 1 of 2 - DIMENSION PLAN  
SEE PAGE 2 OF 2 FOR GENERAL NOTES**



OCTOBER 24, 2011 FIGURE 3A - DOUBLE METAL CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)  
SCALE: 1" = 5'

## DOUBLE CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)

FIGURE 3A - PAGE 2 of 2 - GENERAL NOTES  
SEE PAGE 1 OF 2 FOR DIMENSION PLAN



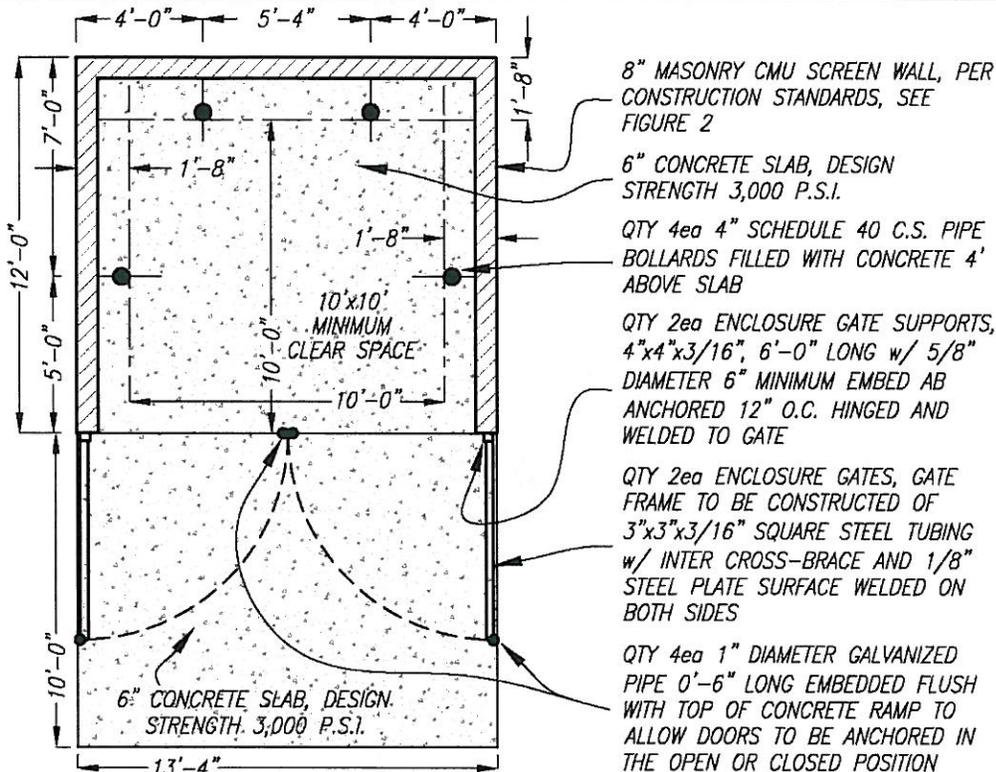
### DOUBLE CONTAINER ENCLOSURE NOTES

1. CONCRETE RAMP TO BE A MINIMUM OF 24' x 13' AND SHALL SLOPE 2% AWAY FROM ENCLOSURE.
2. CONCRETE SLAB FOR ENCLOSURE SHALL SLOPE AT 1% TO GATE OPENING.
3. THE INSIDE CLEAR WIDTH AND LENGTH SHALL NOT BE LESS THAN 10- FEET FOR EACH CONTAINER.
4. WHEN NECESSARY FOR PERSONNEL ACCESS, A 3-FOOT WIDE DOORWAY AND STEEL DOOR FRAME MAY BE PLACED AS REQUIRED BY THE APPROVED CONSTRUCTION PLAN.
5. IN FRONT OF ENCLOSURE AND/OR EACH CONTAINER A 14-FOOT BY 40-FOOT CLEAR AREA SHALL BE REQUIRED AND MUST SLOPE AWAY FROM THE ENCLOSURE AT 2%.
6. ALL RESIDENTIAL ESTABLISHMENTS MUST COMPLY WITH THE CITY OF TUCSON DEVELOPMENT STANDARDS, CHAPTER 15.

OCTOBER 24, 2011 FIGURE 3A - DOUBLE METAL CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)  
SCALE: 1" = 10'

<sup>3</sup> The standard has been revised to reduce the number of required bollards from 8 to 6.

**SINGLE CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)**



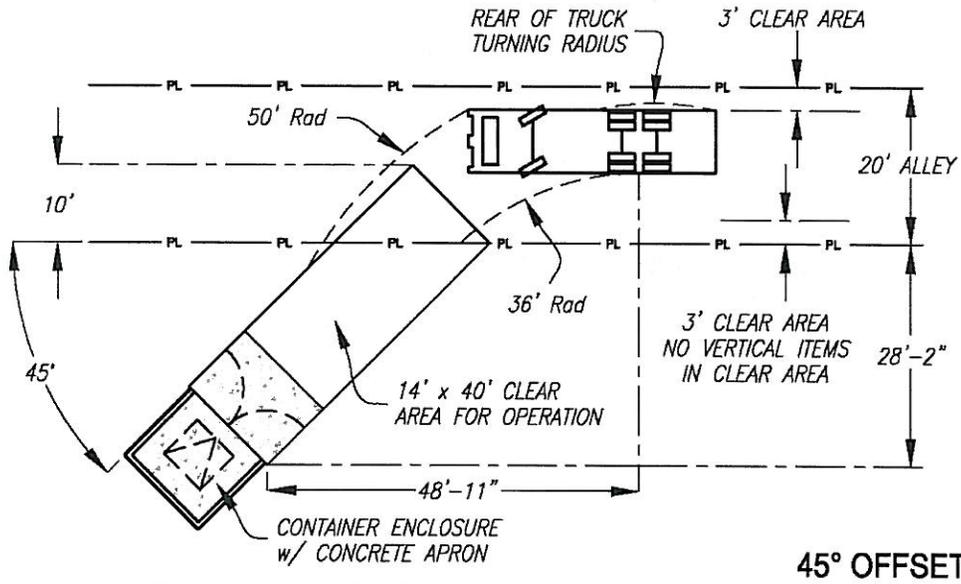
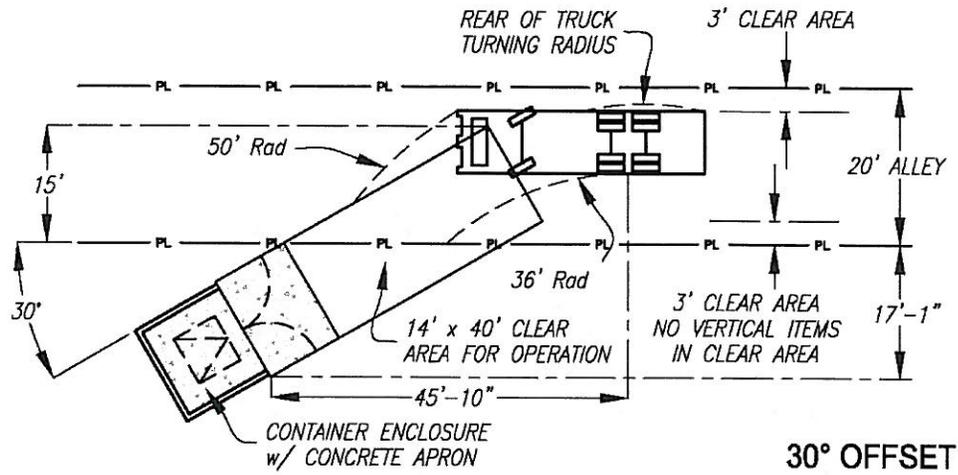
**SINGLE CONTAINER ENCLOSURE NOTES**

1. CONCRETE RAMP TO BE A MINIMUM OF 24' X 13' AND SHALL SLOPE 2% AWAY FROM ENCLOSURE.
2. CONCRETE SLAB FOR ENCLOSURE SHALL SLOPE AT 1% TO GATE OPENING.
3. THE INSIDE CLEAR WIDTH AND LENGTH SHALL NOT BE LESS THAN 10- FEET.
4. FOR CONSTRUCTION OF MULTIPLE CONTAINER ENCLOSURES, THE CLEAR WIDTH OF 10- FEET IS REQUIRED FOR EACH CONTAINER.
5. WHEN NECESSARY FOR PERSONNEL ACCESS, A 3- FOOT WIDE DOORWAY AND STEEL DOOR FRAME MAY BE PLACED AS REQUIRED BY THE APPROVED CONSTRUCTION PLAN.
6. IN FRONT OF ENCLOSURE A 14- FOOT BY 40- FOOT CLEAR AREA SHALL BE REQUIRED AND MUST SLOPE AWAY FROM THE ENCLOSURE AT 2%.
7. ALL RESIDENTIAL ESTABLISHMENTS MUST COMPLY WITH THE CITY OF TUCSON DEVELOPMENT STANDARDS, CHAPTER 15.

OCTOBER 24, 2011 FIGURE 3B - SINGLE METAL CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)  
SCALE: 1" = 5'

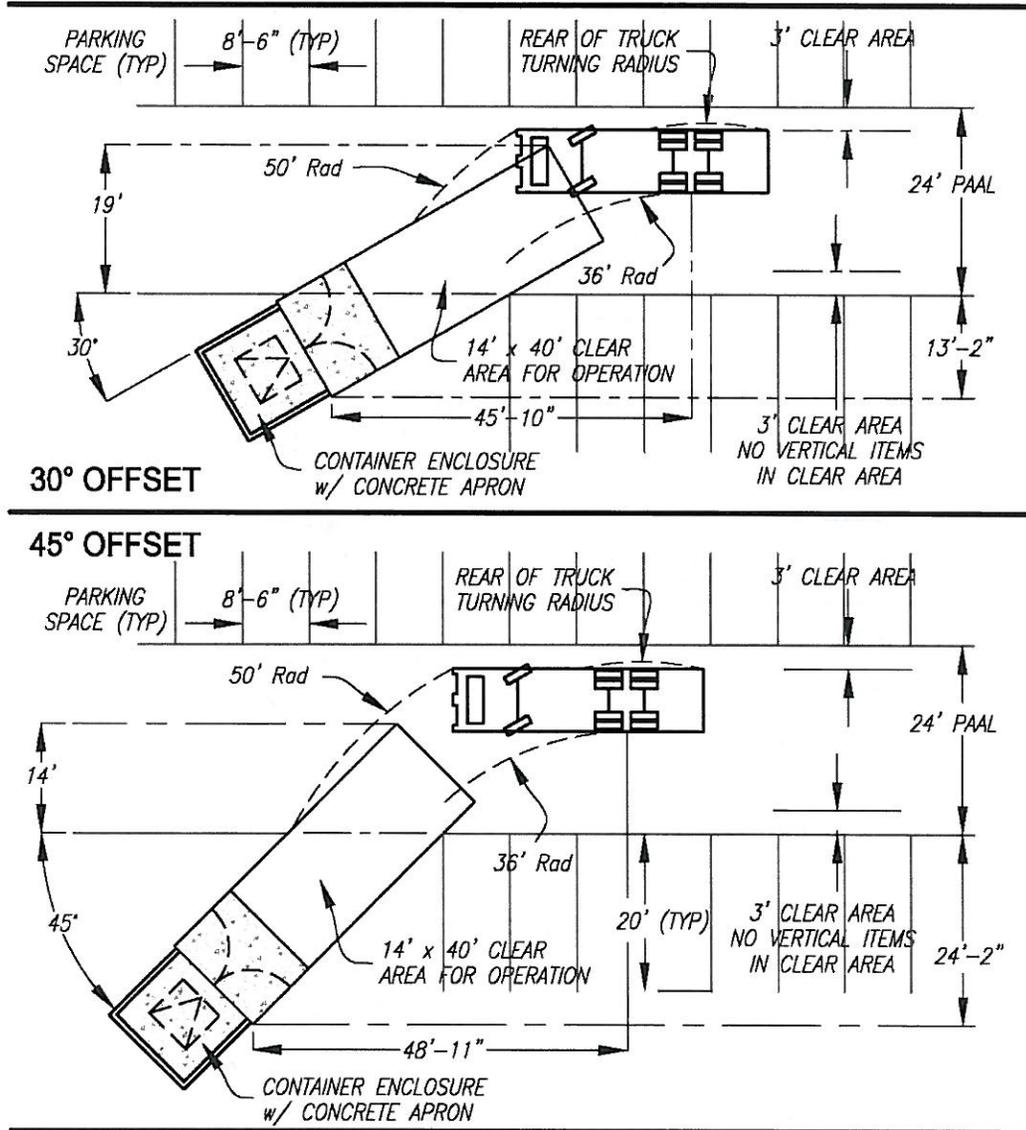
<sup>4</sup> The standard has been revised to reduce the number of required bollards from 6 to 4.

### 30 & 45 DEGREE ENCLOSURES OFF ALLEYS



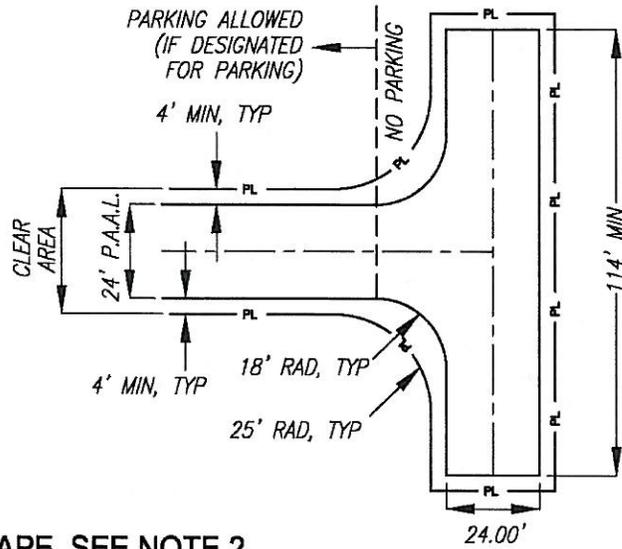
OCTOBER 24, 2011 FIGURE 4 - 30 & 45 DEGREE ENCLOSURES OFF ALLEYS  
SCALE: 1" = 20'

### 30 & 45 DEGREE ENCLOSURES OFF PAAL'S



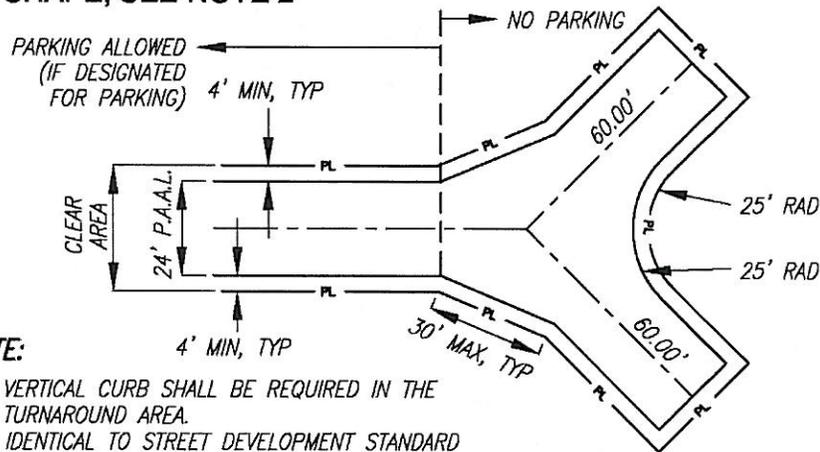
OCTOBER 24, 2011 FIGURE 5 - 30 & 45 DEGREE ENCLOSURES OFF PAAL'S  
SCALE: 1" = 20'

## TURNAROUND FOR SERVICE VEHICLES



"T" SHAPE, SEE NOTE 2

"Y" SHAPE, SEE NOTE 2



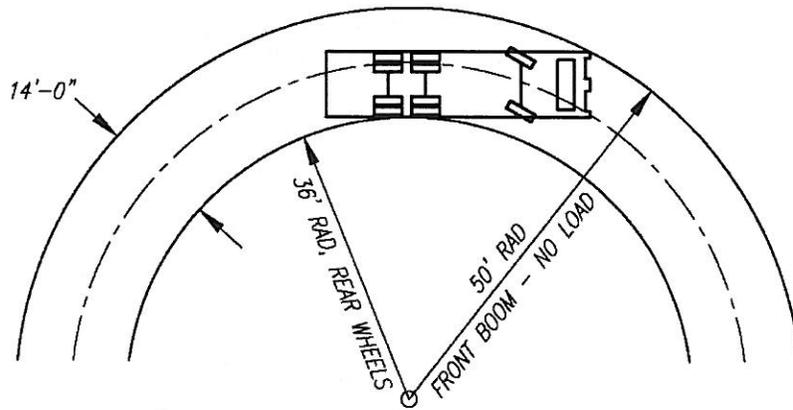
**NOTE:**

1. VERTICAL CURB SHALL BE REQUIRED IN THE TURNAROUND AREA.
2. IDENTICAL TO STREET DEVELOPMENT STANDARD 3.01.0, FIGURE 23.

OCTOBER 24, 2011    FIGURE 6 – TURN AROUND FOR SERVICE VEHICLES  
SCALE: 1" = 40'

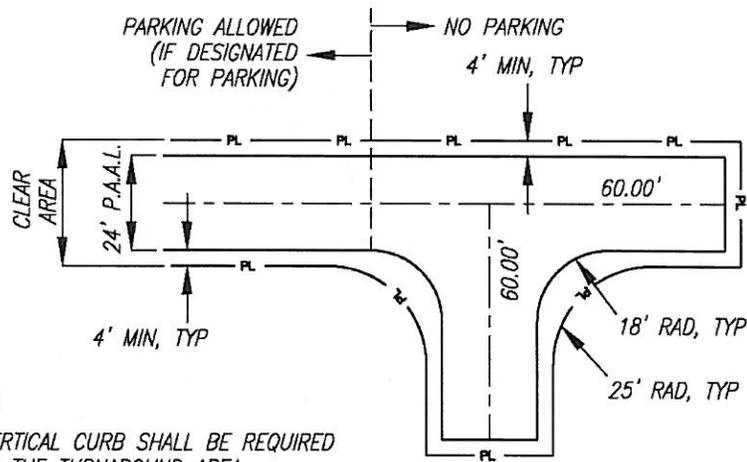
## TURNING RADII / TURNAROUND FOR SERVICE VEHICLES

SCALE: 1" = 20'



## INDUSTRY STANDARD TURNING RADII FOR SERVICE VEHICLES

### ON-SITE TURNAROUND - "L" SHAPE



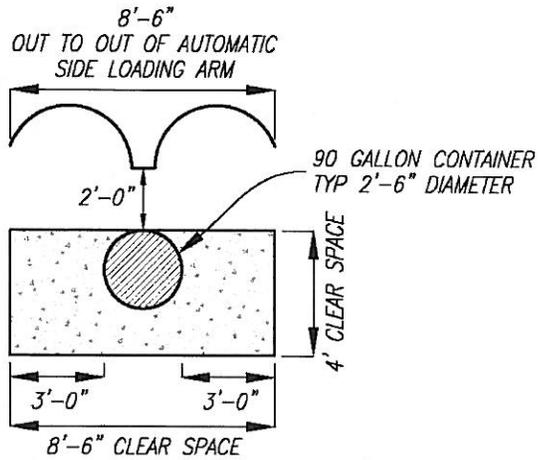
**NOTE:**

1. VERTICAL CURB SHALL BE REQUIRED IN THE TURNAROUND AREA.

SCALE: 1" = 40'

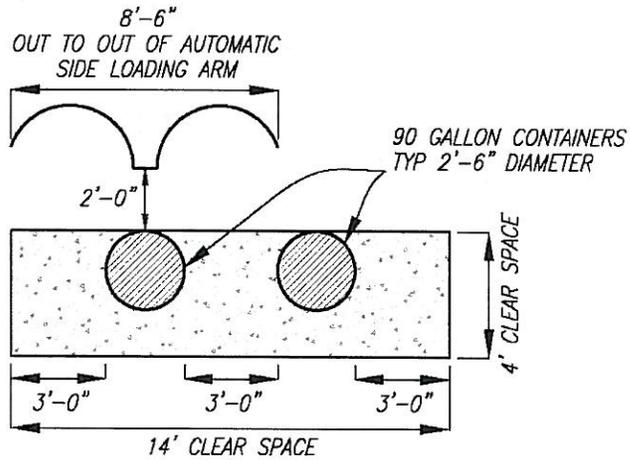
OCTOBER 24, 2011 FIGURE 7 - TURNING RADII / TURNAROUND FOR SERVICE VEHICLES

## 90 GALLON APC (AUTOMATED PLASTIC CONTAINER)



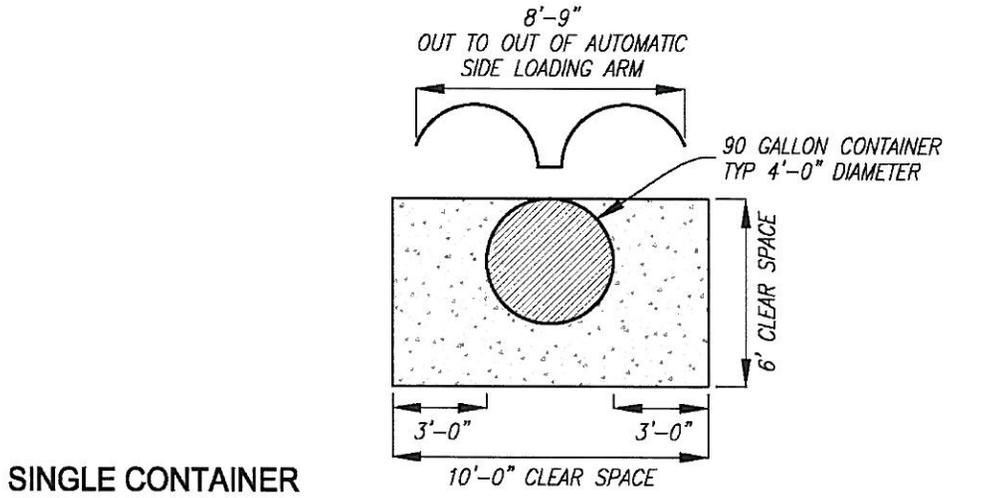
### SINGLE CONTAINER

### DOUBLE CONTAINER

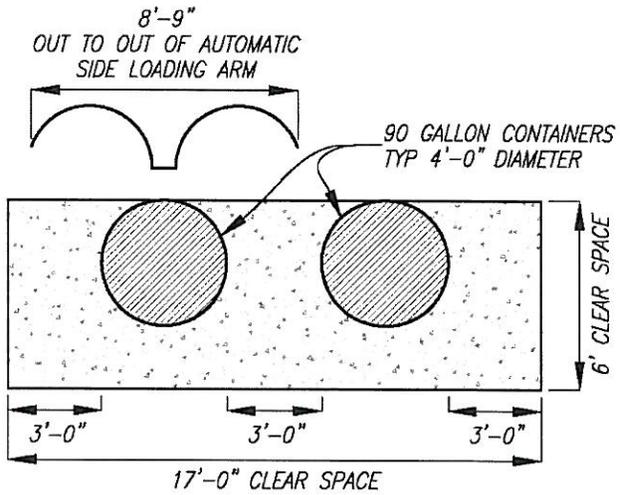


OCTOBER 24, 2011 FIGURE 8 - 90 GALLON APC (AUTOMATED PLASTIC CONTAINER)  
SCALE: 1" = 5'

### 300 GALLON APC (AUTOMATED PLASTIC CONTAINER)



### DOUBLE CONTAINER



OCTOBER 24, 2011 FIGURE 9 - 300 GALLON APC (AUTOMATED PLASTIC CONTAINER)  
SCALE: 1" = 5'



**ATTACHMENT A**

**SECTION 4.0: SOLID WASTE AND RECYCLE DISPOSAL  
COLLECTION AND STORAGE**

- 4-01.1.0 PURPOSE**
  - 4-01.2.0 DEFINITIONS**
  - 4-01.3.0 APPLICABILITY**
  - 4-01.4.0 ALL DEVELOPMENT**
  - 4-01.5.0 MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL DEVELOPMENT**
  - 4-01.6.0 SINGLE-FAMILY RESIDENTIAL DEVELOPMENT**
  - 4-01.7.0 SPECIAL SERVICES**
  - 4-01.8.0 LIST OF EXHIBITS AND FIGURES**
- 

**4-01.0.0 SOLID WASTE AND RECYCLE DISPOSAL**

**4-01.1.0 PURPOSE** - The following Standards have been established for solid waste and recycle materials collection, storage, and disposal. The standards shall serve as guidelines for safe and efficient solid waste and recycling service.

To enhance the City of Tucson (COT) appearance, by implementing standards for the collection and storage of solid waste and recycle containers.

Establish dimensional requirements for container enclosures, accessibility and maneuvering space for collection vehicles.

To promote the recycling of materials generated by the COT residential, commercial, and industrial communities.

**4-01.2.0 DEFINITIONS** - Definitions for words used in this Standard are found below, in the Tucson City Code (TCC) Chapter 15, in the Technical Standards Glossary, or in Article 11 of the Unified Development Code (UDC).

APC, Automated Plastic Containers

ASL, Automated Side Loading service vehicle

PAAL, Parking Area Access Lane

CC&R, Covenants, Conditions, and Restrictions

ES, Environmental Services

**4-01.3.0 APPLICABILITY** – These Standards apply to all new construction within the COT including the expansion of existing sites as specified by the COT LUC, Section 3.3.3.12.

**4-01.4.0 ALL DEVELOPMENT**

4.1 General

- A. Details from this Standard shall be shown on the plan graphically and by written notes.
- B. A note specifying the anticipated method of collection and frequency based on the calculated tonnage from Table 1 for the intended use.
- C. All solid waste and recycle metal containers storage areas shall be screened from public view, and from adjacent developments.
- D. APC's shall be allowed for solid waste and recycle collection for volumes not greater than 190 gallons per week, 95 gallons for solid waste and 95 gallons for recycle. Metal container service will be required when the waste stream calculation exceeds 190 gallons per week.
- E. Solid waste and recycle container enclosures built into property walls must comply with horizontal and vertical clearances as stated in this Development Standard.
- F. Properties without sufficient space for on-site collection and storage of solid waste and recycle containers shall be evaluated for service on a case by case basis. Examples of enclosures for metal containers are shown in the Exhibits and Figures of Section 4-01.9.0 of this Standard.
- G. Use of APC's for multi-family, commercial, or industrial development requires prior approval from ES.
- H. Each residential development as defined in TCC Chapter 15, require on-site solid waste and recycle collection services, must contact ES to establish services.
- I. Off-street parking may be reduced for existing development when solid waste and recycle enclosures are provided per Section 3.3.5.4.

**4-01.5.0 MULTI-FAMILY, COMMERCIAL, AND INDUSTRIAL DEVELOPMENT**

5.1 General

- A. New projects and the remodeling of existing sites (including mobile home parks) consisting of six (6) to twenty-four (24) shall provide centralized on-site solid waste and recycle collection service access within the tract, as

required by City of Tucson, Land use Code, Chapter-15. Utilization of individual containers (APC's) for six (6) or more new dwelling units requires approval by ES on a case by case evaluation.

- B. All containers require enclosures with gates. Containers shall be stored in their enclosure when not being serviced and containers must be leak proof.
- C. The locations of walls, fences, hedges, or landscaped buffer areas that are designed to reduce noise and enhance the aesthetics at the point of the solid waste and recycle materials collection shall be shown on the plan.
- D. Where a development is intending to provide centralized storage and collection to serve multiple buildings, tenants, or businesses, a general note must be included within the plan stating "A single property owner, property management company, or home owners association (HOA), will be responsible for the management and maintenance of the solid waste collection services and storage area(s) for all development/business occupants."

## 5.2 Enclosure Specifications

- A. Enclosure walls shall be masonry constructed as shown in Figure 2.
- B. Vertical steel pipes (bollards) are required within the enclosure as wall protection. The inside edge of the bollard shall be a minimum of one (1) foot inside the inside surface of the rear and side walls of the enclosure to prevent the container from damaging the walls of the enclosure (See Figure 3A & 3B).
- C. The enclosure shall have a minimum ten (10) foot by ten (10) foot unobstructed interior space per container within the bollards (See Figure 3A & 3B).
- D. Enclosures are to have gates with latches to prevent unauthorized access and to visually screen the container. Gates are to be mounted to a post fastened and secured on the front face of the enclosure wall(s).
- E. Enclosure gates shall be painted to match or compliment the enclosure walls.
- F. Enclosure and gates must have a minimum unobstructed opening of twelve (12) feet (See Figure 3A & 3B). The gates must be securable in both the closed and open positions.
- G. A concrete service apron shall be constructed six (6) inches thick with a minimum of two (2) percent slope away from the enclosure. To prevent storm water from collecting in front of the enclosure gates (See Figures 3A & 3B).

- H. The enclosure shall have a concrete slab six (6) inches thick, and the concrete shall have a design strength of 2,500 psi with No. 4 rebar reinforcement at 12-inch on centers both ways.
- I. Stationary compactor units shall be screened from adjacent properties and public right-of-way. Enclosure shall allow space to include recycle containers.
- J. Stationary roll-off compactor unit shall be placed on a pad of sufficient width to provide a two (2) foot clear area on each side of the unit. The overall length of the pad must be five (5) feet greater than the combined length of the compactor, receiving container, and recycle container. The lengths of the receiving containers will vary depending on the container's capacity.

5.3 Access and Maneuvering Standards

- A. Service access shall be from within the development.
- B. A minimum safe access and operational area of fourteen (14) feet by forty (40) feet, with a minimum vertical clearance of twenty-five (25) feet, shall be provided in front of each enclosure.
- C. An adequate and safe ingress/egress is required for the collection vehicle in each new project. On-site turnarounds for service vehicles are shown in Figure 6 and 7.
- D. Metal container locations shall be placed so that the collection vehicle does not have to back into the public right-of-way or into moving traffic.
- E. Maneuvering requirements - the minimum turning radiuses required for collection vehicle to service metal containers shall be (36) feet for the inside rear wheels radius and (50) feet for the outside front bumper as illustrated on Figure 7. At any structure or vehicle parking space there must be a minimum of three (3) feet of clearance between the collection vehicle and the maneuvering/turning radius.
- F. The maximum back-up distance for the collection vehicle shall be eighty (80) feet measured from the front of the collection vehicle.
- G. When the width and depth of the property to be developed is insufficient to provide service access from within the development, the enclosures may be located such that service access is from the adjacent public right-of-way with a forty-five (45) or thirty (30) degree angle of approach that allows service by the vehicle without the collection vehicle pulling completely off the public right-of-way. (Note: Off street service is not permitted from arterial or collector streets (See Figure 1 & 4).

- H. Service vehicle will approach in-line with the enclosure; ten (10) feet of space must be provided in front of the enclosure for a vehicle to maneuver in order to service the containers (See Figure 3A & 3B).

5.4 Location Standards

- A. Containers shall not be stored on any public right-of-way, bike lane, sidewalk or other public access.
- B. Containers and enclosures shall not obstruct traffic line-of-sight visibility.
- C. Containers and enclosures shall not obstruct or block drainage.

5.5 Operational Standards

- A. The property owner shall be responsible for keeping the collection and storage areas free from obstructions, vegetation, any liquids spilled within storage enclosures.

**4-01.6.0 SINGLE-FAMILY RESIDENTIAL DEVELOPMENT**

6.1 General

- A. Curbside service in dedicated right-of-way or a PAAL using APC's and the ASL system is preferred for Single Family and Duplex Developments.
- B. 300-gallon APC solid waste service is based on three (3) residences per container. Service availability subject to ES approval.

6.2 Access and Maneuvering Standards

- A. The collection point shall be unobstructed by any other improvements such as mailboxes, light poles, fire hydrants, fencing, street signs, or landscaping.
- B. Alley access requires approval by ES. Alley shall have a minimum twenty (20) foot wide cross section, maintained with a twelve (12) foot wide clear travel lane.
- C. A twenty-five (25) foot minimum height clearance, free of any overhead obstructions (wires, branches, etc.), will be provided above the collection area. (The alley travel lane must have a minimum of fifteen (15) foot overhead clearance).

6.3 Location Standards for APC's, 95 gallons or less<sup>1</sup>

- A. The standard collection point will be behind the curb in front of the premises in accordance with the Technical Standards contained herein.
- B. Where sidewalks exist, APCs are to be placed in the buffer area between the curb and sidewalk. Placement shall be so as to not obstruct sidewalk traffic or bike lanes. There should be no obstruction within (3) feet<sup>2</sup> of an APC set out for collection. (Common obstructions are cars, mailboxes, and light poles).
- C. For residential collection that cannot be directly placed for collection in front of the residence, specific instructions on how and where the solid waste and recycle APC's will be collected will be included in the subdivision's plat.

**6-01.7.0 Special Services** – In developments where proposed solid waste and recycle disposal service is not specified in these Standards (i.e., developments for the elderly or disabled), prior approval must be obtained from ES.

**6-01.8.0 Waste Stream Calculation Guidelines**

- A. Determine the square footage and uses for the proposed development. A separate calculation for each area that has a different use should be performed.

Calculation: Select the use that best describes the proposed usage, from Table 1 below. Then multiply the Floor Area (sq. ft) by the Annual Tons Generated for the usage selected.

Sample Calculation for Food Retail:

$$\text{[Area in sq. ft. 3,000]} \times \text{[Annual Waste Generated 0.0057 tons/sq. ft.]} = \underline{17 \text{ Annual Tons Generated for specified usage.}}$$

Sample Calculation for an Office or Professional Services:

$$\text{[Area in sq. ft. 2,000]} \times \text{[Annual Waste Generated 0.0013 tons/sq. ft.]} = \underline{2.6 \text{ Annual Tons Generated for specified usage}}$$

<sup>1</sup> The restriction against allowing APCs in a driveway is proposed for deletion.

<sup>2</sup> Staff recommends revising the clear space around the residential APCs from 5-feet to 3-feet.

<b>Table 1: Annual Waste Generated Based On Proposed Usage</b>	
1. Office, Professional Services or Small Retail Use	0.0013 tons/ sq. ft.
2. Industrial Use	0.0016 tons/ sq. ft.
3. Food Retail, Multi-Family, Large Commercial	0.0057 tons/ sq. ft.
4. Public Facility and Large Retail	0.00105 tons/ sq. ft.
5. School and Institution	0.00105 tons/ sq. ft.
6. Warehouses	0.00155 tons/ sq. ft.
(Table 1, Data is obtained from Fairfax County Virginia Solid Waste Stream Calculation Reference)	

Estimated conversion factors for solid waste 3.0 lbs/gal. and 600 lbs/ cu.yd.

- B. Determine the size and collection frequency required for the Annual Tons Generated for specified usage:

Sample Calculation for Food Retail Above: 17 Annual Tons Generated  
 $[17 \text{ tons/year}] / [52 \text{ weeks /year}] = 0.329 \text{ tons /wk.}$

$[0.329 \text{ tons/week}] \times [2000 \text{ lbs/ton}] = 658 \text{ lbs/wk.}$

Size of container,  $[658 \text{ lbs /wk}] / [3.0 \text{ lbs/gal}] = 219 \text{ gal/wk}$ , this volume is greater than an APC of 95 gal/wk. Therefore, a metal container must be selected.

Selecting a 2 cubic yard container/wk =  $[2 \text{ cu.yd./wk}] \times [202 \text{ gal/cu.yd}] = 404 \text{ al/wk.}$

Therefore, 404 gal/wk will be adequate service for a Food Retail business of 3000 sq. ft. The 2 cubic yard metal container/wk is adequate.

Sample Calculation for an Office or Professional Services Above: 2.6 Annual Tons Generated

$[2.6 \text{ tons/years}] / [52 \text{ weeks / years}] = 0.052 \text{ tons / week}$

$[0.052 \text{ tons/week}] \times [2000 \text{ lbs/ton}] = 100 \text{ lbs/wk}$

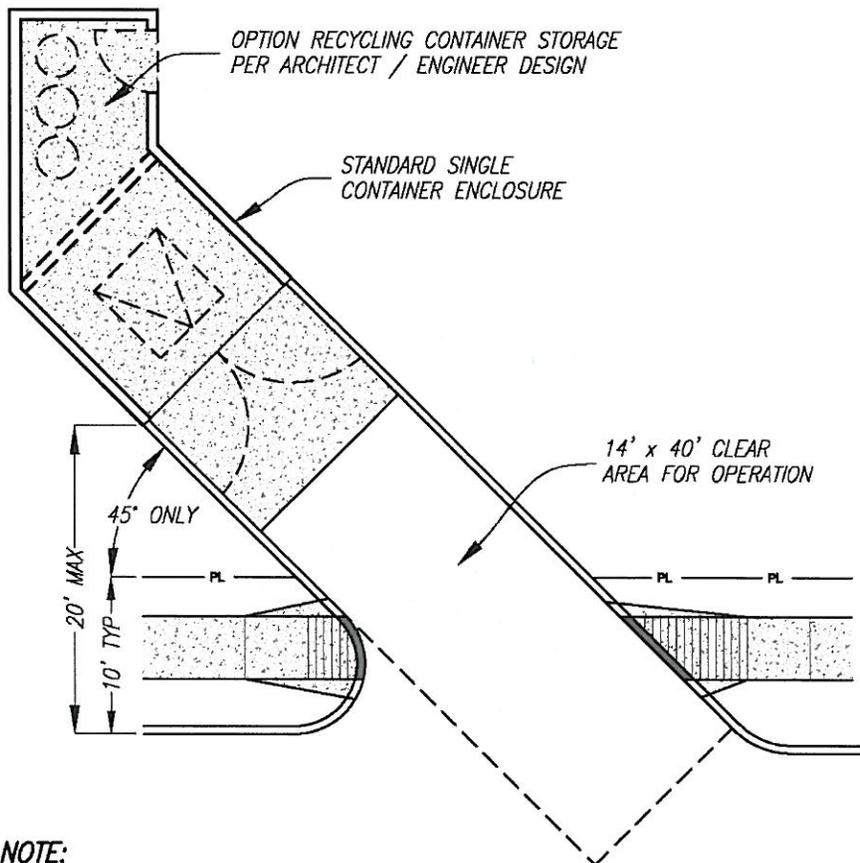
Size of container,  $[100 \text{ lbs /wk}] / [3.0 \text{ lbs/gal}] = 33.33 \text{ gal/wk}$ , this volume is less than an APC of 95 gal/wk.

Therefore, a 95 gal/wk APC container will be adequate for specified usage.

#### 6-01.9.0 LIST OF EXHIBITS AND FIGURES

- Figure 1** - 45 Degree Enclosure 'Option' Off Residential Streets
- Figure 2** - Structural Design for Enclosure Walls
- Figure 3A** - Double Metal Container Enclosure (2 to 8 cubic yards)
- Figure 3B** - Single Metal Container Enclosure (2 to 8 cubic yards)
- Figure 4** - 30 & 45 Degree Enclosures off Alleys
- Figure 5** - 30 & 45 Degree Enclosures off PAAL's
- Figure 6** - Turnaround for Service Vehicles
- Figure 7** - Turning Radii/Turnaround for Service Vehicles
- Figure 8** - Specifications for 90 Gallon APC's
- Figure 9** - Specifications for 300 Gallon APC's

### SINGLE ENCLOSURE - FOR FRONT LOADING SERVICE

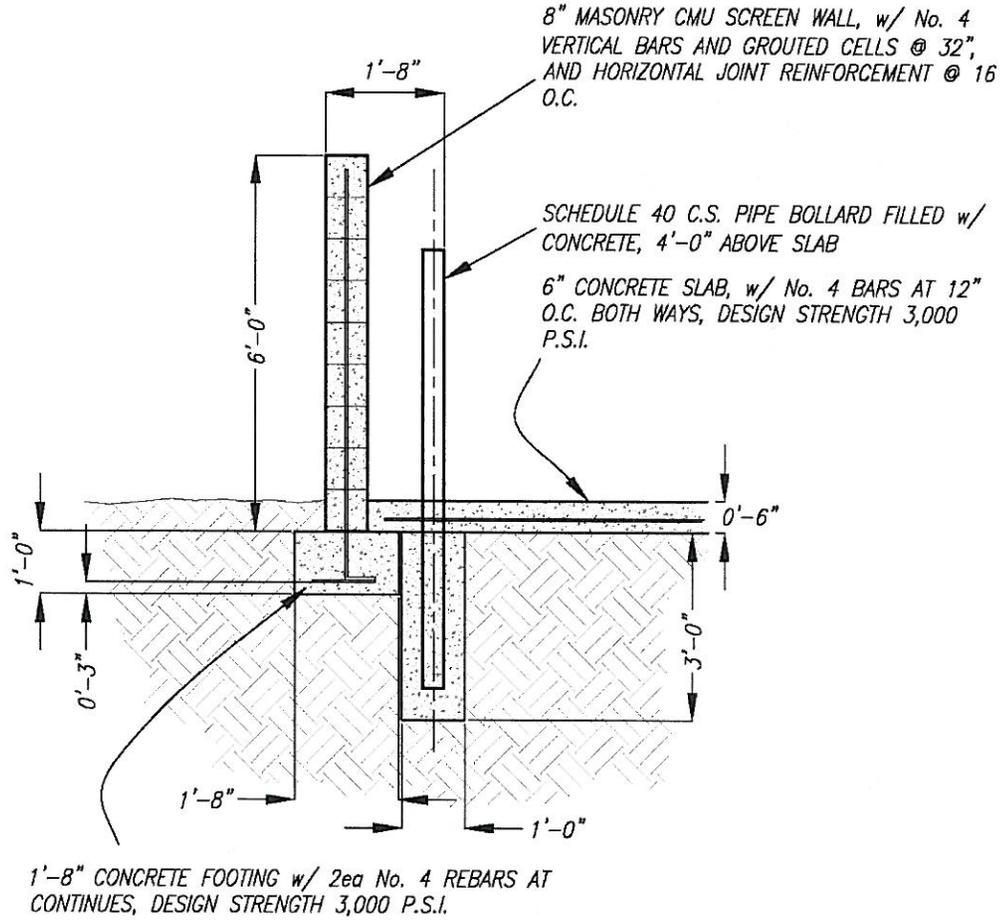


**NOTE:**

- 1. OPTIONS OF REFUSE PICKUP OFF NON-ARTERIAL OR COLLECTOR TYPE STREETS TO BE APPROVED PRIOR TO PLAN SUBMITTAL.
- 2. CURBING AND SIDEWALK PER ARCHITECT / ENGINEER DESIGN.
- 3. FOR DESIGN, TRUCK TURNING MOVEMENT FOR SERVICING THE CONTAINER SHOULD NOT PASS OVER THE CENTERLINE OF THE STREET.
- 4. SERVICE ONLY PROVIDED FOR RESIDENTIAL TYPE STREETS.
- 5. SERVICE ACCESS MAY BE COMBINED WITH COMPLEX ACCESS DRIVE AT ARCHITECT / ENGINEER OPTION, PRIOR APPROVAL REQUIRED.

OCTOBER 24, 2011 FIGURE 1 - 45 DEGREE ENCLOSURE 'OPTION' OFF RESIDENTIAL STREETS NOT TO SCALE

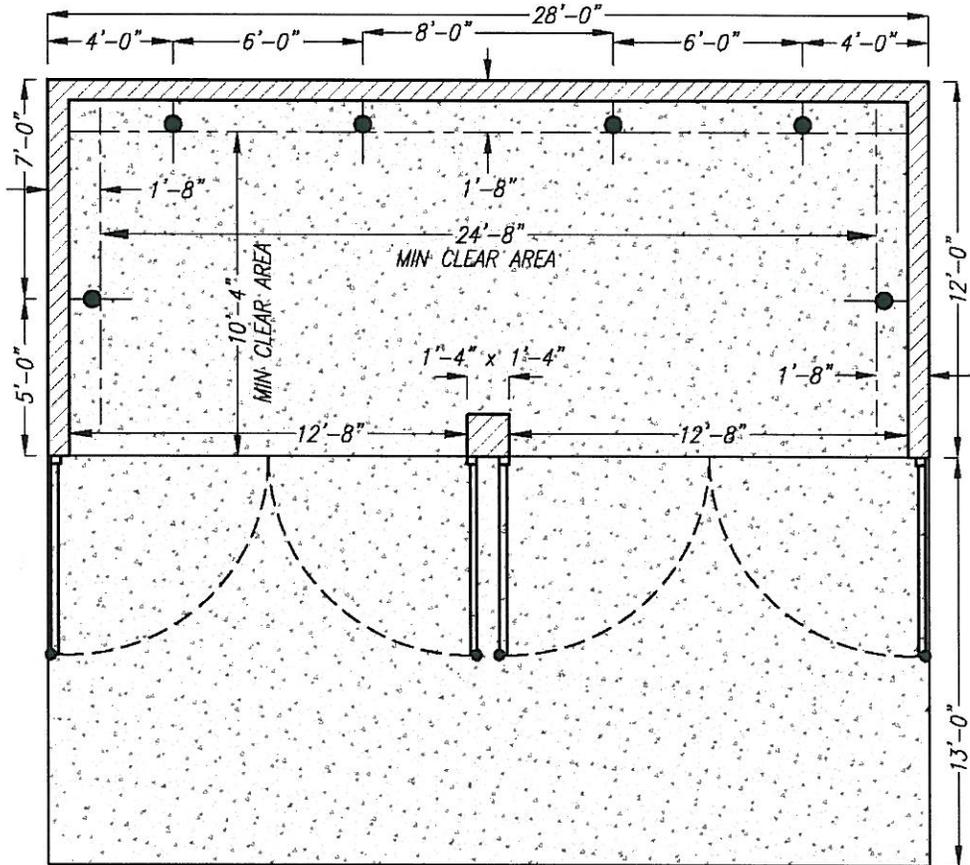
**STRUCTURAL DESIGN FOR WALL ENCLOSURE (2 to 8 CUBIC YARDS)**



OCTOBER 24, 2011 FIGURE 2 - STRUCTURAL DESIGN FOR ENCLOSURE WALL (2 to 8 CUBIC YARDS)  
NOT TO SCALE

**DOUBLE CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)**

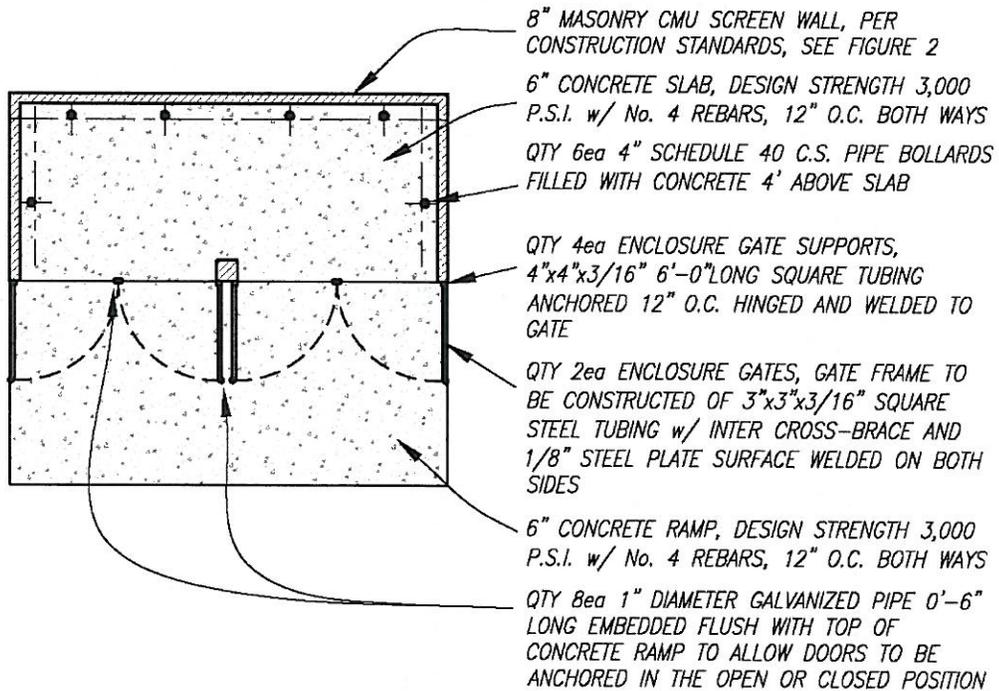
**FIGURE 3A - PAGE 1 of 2 - DIMENSION PLAN  
SEE PAGE 2 OF 2 FOR GENERAL NOTES**



OCTOBER 24, 2011 FIGURE 3A - DOUBLE METAL CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)  
SCALE: 1" = 5'

**DOUBLE CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)**

**FIGURE 3A - PAGE 2 of 2 - GENERAL NOTES  
SEE PAGE 1 OF 2 FOR DIMENSION PLAN**



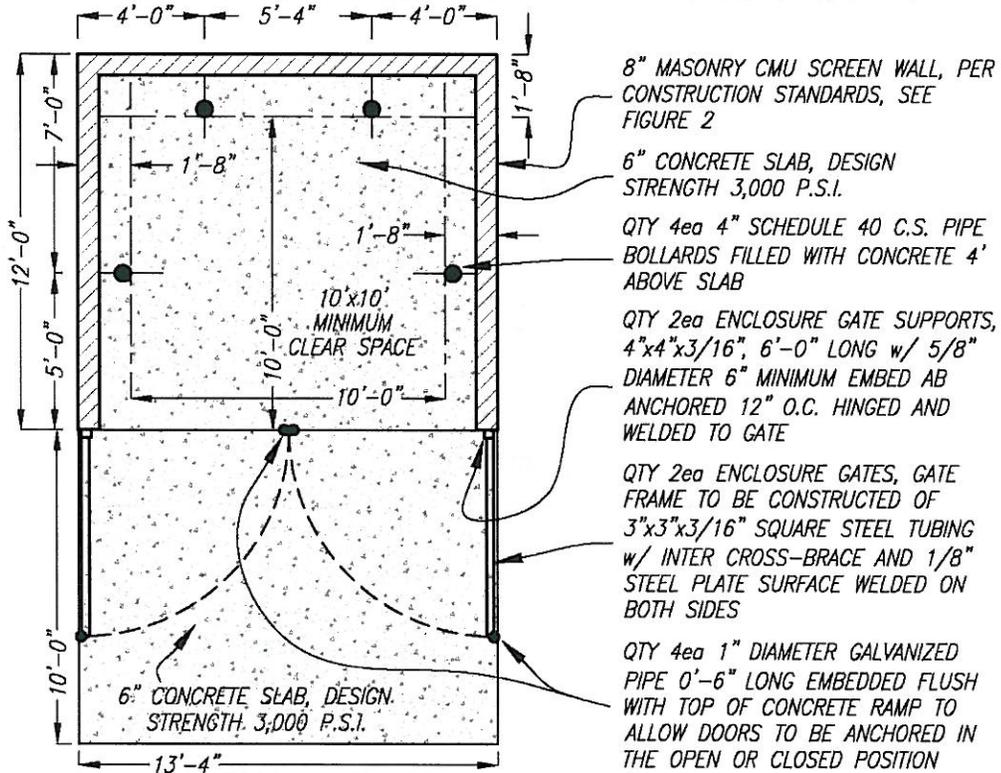
**DOUBLE CONTAINER ENCLOSURE NOTES**

1. CONCRETE RAMP TO BE A MINIMUM OF 24' x 13' AND SHALL SLOPE 2% AWAY FROM ENCLOSURE.
2. CONCRETE SLAB FOR ENCLOSURE SHALL SLOPE AT 1% TO GATE OPENING.
3. THE INSIDE CLEAR WIDTH AND LENGTH SHALL NOT BE LESS THAN 10- FEET FOR EACH CONTAINER.
4. WHEN NECESSARY FOR PERSONNEL ACCESS, A 3-FOOT WIDE DOORWAY AND STEEL DOOR FRAME MAY BE PLACED AS REQUIRED BY THE APPROVED CONSTRUCTION PLAN.
5. IN FRONT OF ENCLOSURE AND/OR EACH CONTAINER A 14-FOOT BY 40-FOOT CLEAR AREA SHALL BE REQUIRED AND MUST SLOPE AWAY FROM THE ENCLOSURE AT 2%.
6. ALL RESIDENTIAL ESTABLISHMENTS MUST COMPLY WITH THE CITY OF TUCSON DEVELOPMENT STANDARDS, CHAPTER 15.

OCTOBER 24, 2011 FIGURE 3A - DOUBLE METAL CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)  
SCALE: 1" = 10'

<sup>3</sup> The standard has been revised to reduce the number of required bollards from 8 to 6.

## SINGLE CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)



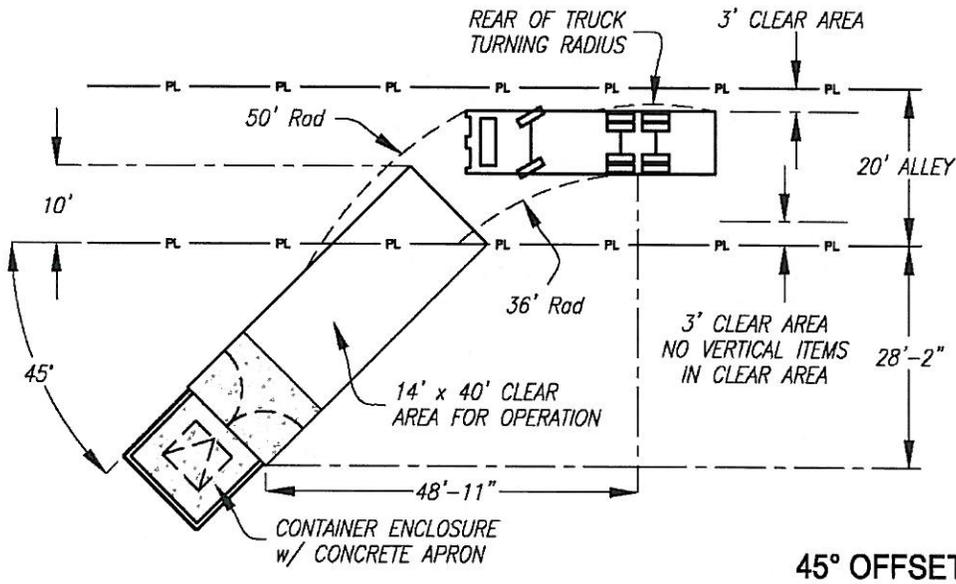
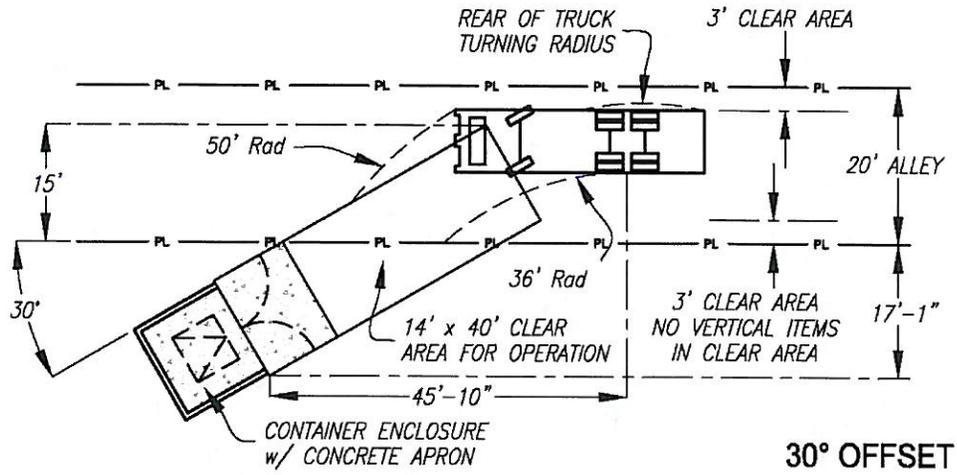
### SINGLE CONTAINER ENCLOSURE NOTES

1. CONCRETE RAMP TO BE A MINIMUM OF 24' X 13' AND SHALL SLOPE 2% AWAY FROM ENCLOSURE.
2. CONCRETE SLAB FOR ENCLOSURE SHALL SLOPE AT 1% TO GATE OPENING.
3. THE INSIDE CLEAR WIDTH AND LENGTH SHALL NOT BE LESS THAN 10- FEET.
4. FOR CONSTRUCTION OF MULTIPLE CONTAINER ENCLOSURES, THE CLEAR WIDTH OF 10- FEET IS REQUIRED FOR EACH CONTAINER.
5. WHEN NECESSARY FOR PERSONNEL ACCESS, A 3- FOOT WIDE DOORWAY AND STEEL DOOR FRAME MAY BE PLACED AS REQUIRED BY THE APPROVED CONSTRUCTION PLAN.
6. IN FRONT OF ENCLOSURE A 14- FOOT BY 40- FOOT CLEAR AREA SHALL BE REQUIRED AND MUST SLOPE AWAY FROM THE ENCLOSURE AT 2%.
7. ALL RESIDENTIAL ESTABLISHMENTS MUST COMPLY WITH THE CITY OF TUCSON DEVELOPMENT STANDARDS, CHAPTER 15.

OCTOBER 24, 2011    FIGURE 3B – SINGLE METAL CONTAINER ENCLOSURE (2 to 8 CUBIC YARDS)  
SCALE: 1" = 5'

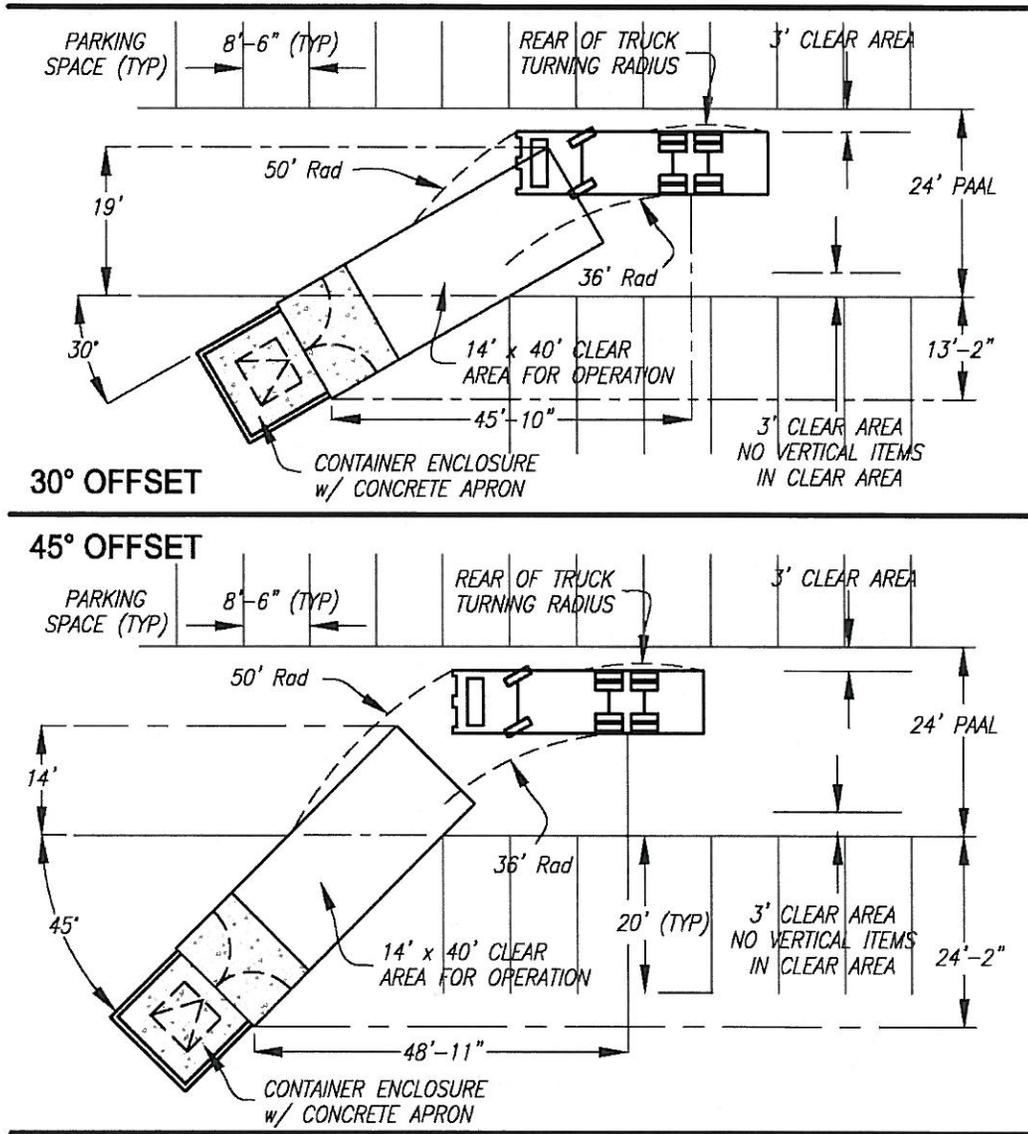
<sup>4</sup> The standard has been revised to reduce the number of required bollards from 6 to 4.

### 30 & 45 DEGREE ENCLOSURES OFF ALLEYS



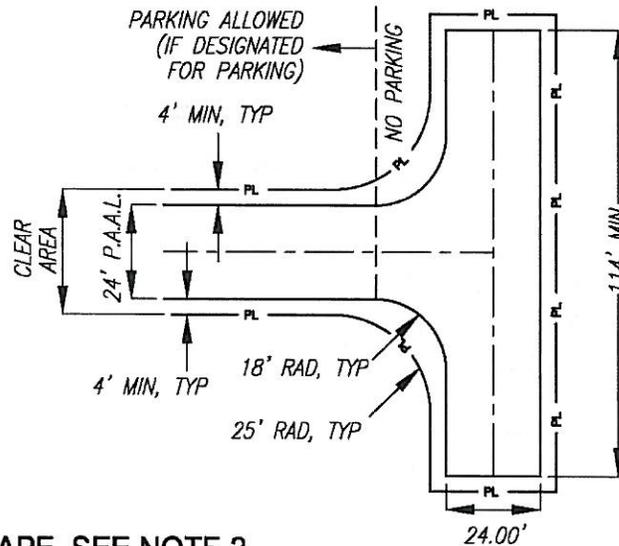
OCTOBER 24, 2011 FIGURE 4 - 30 & 45 DEGREE ENCLOSURES OFF ALLEYS  
SCALE: 1" = 20'

### 30 & 45 DEGREE ENCLOSURES OFF PAAL'S



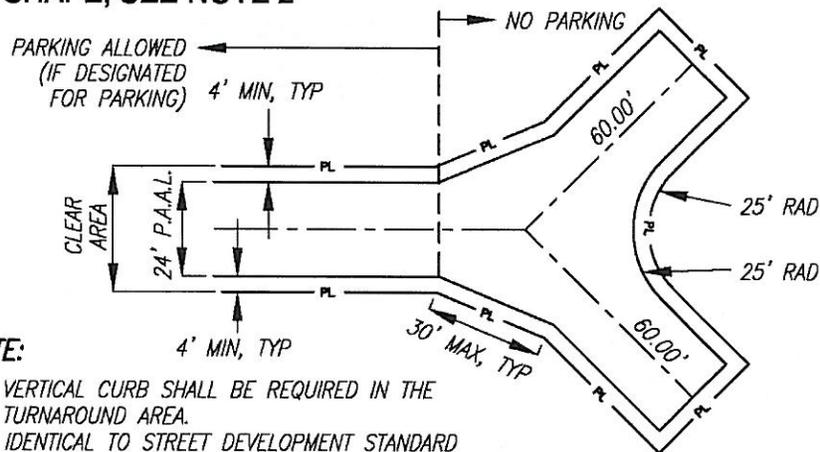
OCTOBER 24, 2011 FIGURE 5 - 30 & 45 DEGREE ENCLOSURES OFF PAAL'S  
SCALE: 1" = 20'

## TURNAROUND FOR SERVICE VEHICLES



"T" SHAPE, SEE NOTE 2

"Y" SHAPE, SEE NOTE 2



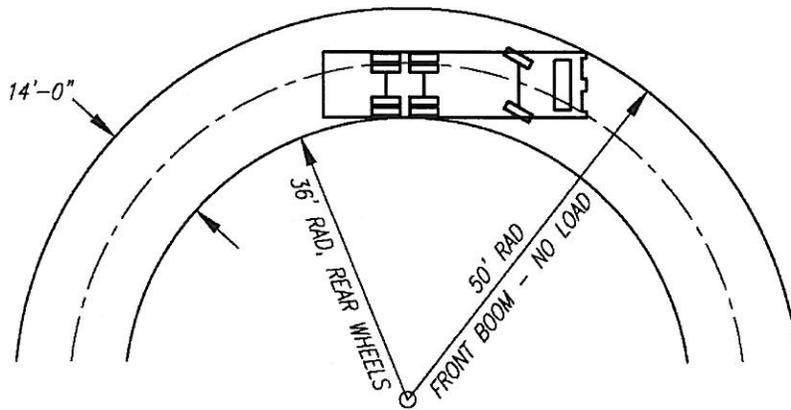
**NOTE:**

1. VERTICAL CURB SHALL BE REQUIRED IN THE TURNAROUND AREA.
2. IDENTICAL TO STREET DEVELOPMENT STANDARD 3.01.0, FIGURE 23.

OCTOBER 24, 2011    FIGURE 6 – TURN AROUND FOR SERVICE VEHICLES  
SCALE: 1" = 40'

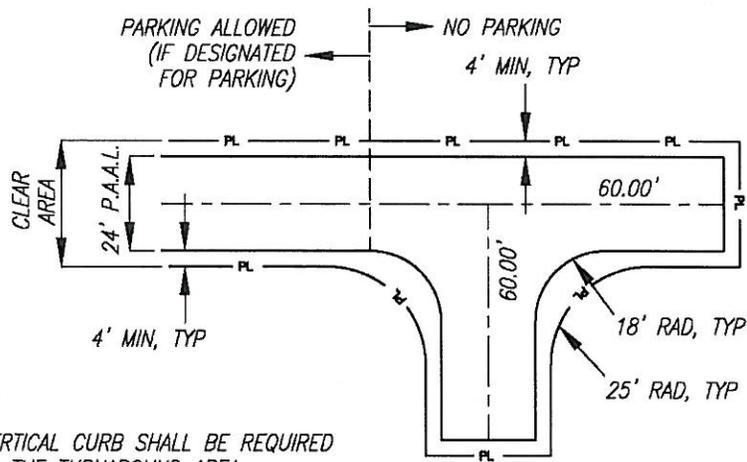
**TURNING RADII / TURNAROUND FOR SERVICE VEHICLES**

SCALE: 1" = 20'



**INDUSTRY STANDARD TURNING RADII FOR SERVICE VEHICLES**

**ON-SITE TURNAROUND - "L" SHAPE**

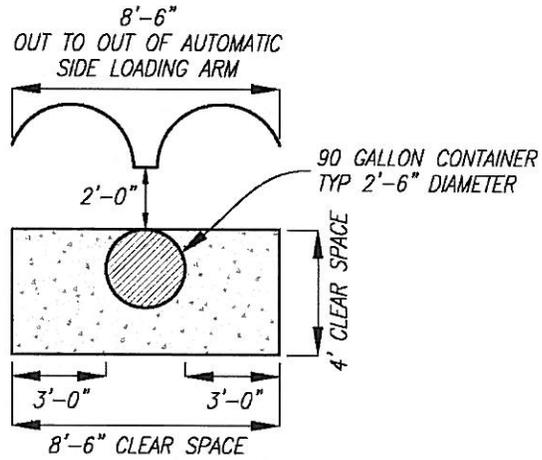


**NOTE:**

1. VERTICAL CURB SHALL BE REQUIRED IN THE TURNAROUND AREA.

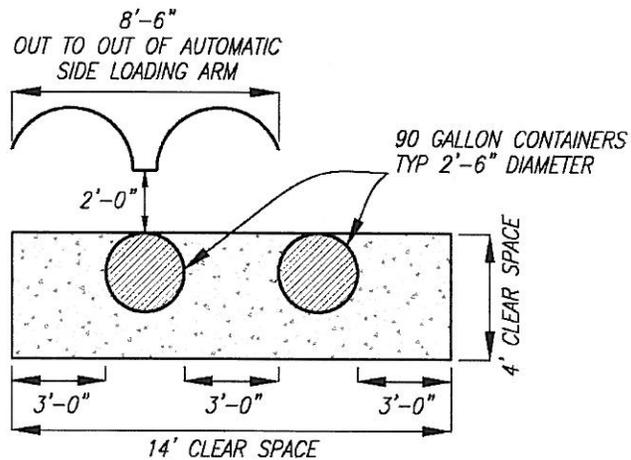
SCALE: 1" = 40'

## 90 GALLON APC (AUTOMATED PLASTIC CONTAINER)



### SINGLE CONTAINER

### DOUBLE CONTAINER



OCTOBER 24, 2011 FIGURE 8 - 90 GALLON APC (AUTOMATED PLASTIC CONTAINER)  
SCALE: 1" = 5'