

CITY OF TUCSON
DEVELOPMENT STANDARD NO. 2-14.0
CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

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2-14.1.0 GENERAL PROVISIONS.

- 1.1 Purpose. This Standard is intended to assist in the creation and maintenance of a built environment that will decrease the opportunity for crime, increase the perception of safety, reduce the cost of law enforcement services, and develop a sense of ownership. This concept is called *Crime Prevention Through Environmental Design* (CPTED).
- 1.2 Scope. The scope of this Standard will be implemented in two phases.
- A. The first phase will begin as a pilot program and cover limited types of occupancies, as follows.
1. City-owned residential facilities (4-unit complexes or more).
 2. Nightclubs and bars (each accommodating more than 50 occupants).
- B. Once the pilot program has been instituted and sufficient time has provided insight as to modifying this document for better implementation, the second phase will be to apply this Standard to all City and private buildings as stated in Sec. 2-14.1.2.D.1 through 2-14.1.2.D.6. The projected date for phase two to begin is January 1, 1998.
- C. There will be a reviewer assigned who will be under Development Services' supervision. The reviewer's function will be to review all plans for compliance with this Standard. No building permit will be issued without the reviewer's approval. Additional responsibilities include being part of the Community Design Review Committee (CDRC) review process. (NOTE: During the first phase of this program, the reviewer's approval will only be required on City facilities for which permits are required. However, the reviewer will provide comments for all projects within the scope of this Standard.)
- D. This Standard shall apply in the following situations.
1. When Sec. 3.3.2 (Motor Vehicle and Bicycle Parking Requirements) of the City of Tucson Land Use Code (LUC) is applicable.
 2. When Sec. 4.1.9 (Condominium, Cooperative, Community Apartment, Townhouse, Mobile Home Park Subdivision Conversions) of the LUC is applicable.
 3. When compliance with Sec. 5.3.8 (Development Plan) of the LUC is required.
 4. When an existing structure is converted from one occupancy group, as designated in the Uniform Building Code (UBC) as amended and adopted, to another occupancy group.

1.3 CPTED Concepts. (Cont'd)

B. *Natural Surveillance.* Natural surveillance is a design concept directed at keeping unintended users under observation. Designing for natural surveillance means providing ample opportunity for legitimate users, engaged in their normal activities, to observe the space around them. Areas can be designed so they are more easily observed through the following.

1. The placement and design of physical features to maximize visibility. This includes building orientation, doors and windows, site entrances and exits, walkways, parking lots, landscape trees and shrubs, the use of wrought iron, guard gates, fences and walls, signage, and any other physical obstructions.
2. The placement of persons or activities to maximize surveillance possibilities (for example, placing a receptionist's desk so that it provides a view of the approach to the front entry of an office building).
3. The use of uniform lighting standards for illumination of parking lots, walkways, entrances, exits, and related areas during both day and night hours.
4. Redesigning space to increase the perception or reality of natural surveillance.

C. *Territoriality.* Territoriality is a physical design that can create or extend a sphere of influence, so that users develop a sense of proprietorship—a sense of territorial influence, and potential offenders perceive that territorial influence. Territoriality is a concept intended to clearly delineate a space as public, semiprivate, or private and to create appropriate ownership of that space. Examples of this concept include the following.

1. Defining the ownership of a space with sidewalks, shrubs, low hedges, grade changes, or other methods in order to create a sense of "ownership," which fosters behavior that challenges abuse of that space.
2. Defining private and semiprivate space in order to create an environment where unintended users stand out and are more easily identified, which also aids natural surveillance. Persons with a vested interest in such spaces are more likely to challenge these "outsiders," which increases the perception of risk for the unintended user.
3. Providing clear border definition of controlled space.
4. Providing clearly marked transitional zones that indicate movement from public to semipublic to private space.

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1.4 Design Guidelines. (Cont'd)

- How well does the space support its current use? Its intended use?
- Is there conflict between the designed use and the intended use?

2. Definition.

- How is the space defined?
- Is it clear who owns or controls it?
- Where are its borders?
- Are there social or cultural definitions that affect how the space is used?
- Are the legal or administrative rules for operation (businesses) clearly set out and reinforced in a written policy?
- Are there signs stating the ownership of property, defining the permitted uses of areas, or indicating appropriate conduct?
- Is there conflict or confusion between the designated purpose and definition?

3. Design.

- How well does the physical design support the intended function?
- How well does the physical design support the definition of the desired or accepted behaviors?
- Does the physical design conflict with or impede the productive use of the space or the proper functioning of the intended human activity?
- Is there confusion or conflict in the manner in which the physical design is intended to control behavior?

B. The following guidelines are intended to provide direction for implementing CPTED concepts in site and building design and are supported by the detailed standards which follow.

1. Encourage the use of curbs, sidewalks, and landscaped trails to define public, semipublic, and private areas.
2. Use screening that allows visibility and surveillance of the development and/or creates an effective barrier around the property.
3. In areas adjacent to doors and windows, select plant material of such height as to retain visibility of building openings from the street or from other development (e.g., less than thirty [30] inches or with a greater than six [6] foot space between the ground and the canopy). Where possible, thorny or spiny plant material should be used.

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1.6 Alternate Materials and Methods of Construction. (Cont'd)

The enforcing authority may approve any such alternate, provided it finds the proposed design to be satisfactory and the material and method of work is at least equivalent to that prescribed in these standards in quality, strength, effectiveness, burglary resistance, durability, and safety.

It is recognized that new materials and devices will be available as technology develops. Further research may reveal important findings concerning existing requirements as well. This Section allows the enforcing authority to grant necessary exceptions or blanket approvals without having to restructure the Standard each time a significant development occurs.

1.7 Plan Requirements. The following information must be provided for all building permit plans, site landscape plans, development plans, and tentative plats that require approval.

- A. The designated use of the site.
- B. If the project is a reuse of an existing site, the original designated use of the site.
- C. Limits of public, semipublic, and private space on the site (graphic).
- D. In addition to the above requirements, the site plan must comply with Development Standard 2-02.0.

EXCEPTION: If the plan is being submitted for a CPTED review only, Sec. 2.1.A.15, .16, .17, .22, .24, .33, .34, .36, .37 and .C and Sec. 2.2.A, .B, and .C of Development Standard 2-02.0 will not be required on the plans. The plans must be marked "For CPTED Review Only."

1.8 Definitions. Unless defined below, all definitions applicable to this Standard are listed in Article VI of the LUC, the UBC, or the Uniform Building Security Code. Where terms are not defined, they shall have their ordinary accepted meanings in the context within which they are used. Webster's 3rd New International Dictionary of the English Language, unabridged 1986.

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ADA - Americans with Disabilities Act.

intended / unintended user

ANNEALED GLASS - The most common of glass in its raw form with the ability to be cut to virtually any size, shape, or configuration; commonly known as windowpane glass.

ANSI - American National Standards Institute.

ASTRAGAL - A metallic, wooden, or plastic cover strip closing the space between double doors, where they meet.

ABNORMAL-USER - PERSONS whom you do NOT desire to see or unintended user THAT SPACE

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1.8 Definitions. (Cont'd)

DOOR STOP - The projection along the top and side of a door jamb that checks the door's swinging action.

DOUBLE CYLINDER DEAD BOLT - A dead bolt lock that can be activated only by key, both on the interior and exterior sides.

ENFORCING AUTHORITY - The agencies having the responsibility for enforcing the provisions of this Standard: The Development Services Center, the Planning Department, the Parks and Recreation Department, and the Tucson Police Department shall be the enforcing authorities.

EVERGREEN - Plants that retain their foliage year-round.

FOOT-CANDLE - A unit of measure for lighting. It is equal to the amount of light produced by one (1) candle on a surface one (1) foot away from the candle. It is not a measure of the brightness of a light source; it is a measure of light at a specified distance from the source.

GLAZING - The method or technique by which glass is placed into a frame or opening made of wood, metal, or any material.

I.E.S. - Illuminating Engineering Society of America.

JAMB - The vertical members of a door frame to which the door is secured.

LAMINATED GLASS - Two pieces of annealed glass placed together and secured by an adhesive-type material; once placed together they cannot be separated.

LATCH OR LATCH BOLT - A beveled, spring activated bolt that may or may not have a deadlocking device.

LOCK OR LOCKSET - A keyed device complete with cylinder, latch or dead bolt mechanism, and trim, such as knobs, levers, thumb turns, escutcheons, etc., for securing a door in a closed position. For the purposes of this Standard, a lock does not include the strike plate.

LOCKING DEVICE - A part of a window assembly that is intended to prevent movement of the moveable sash, which may be the sash lock or sash operator.

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OPEN PARKING GARAGE - A structure with uniformly distributed openings on two (2) or more sides. The area of such openings in exterior walls on a tier must be at least twenty-five (25) percent of the total perimeter wall area of each tier. Interior wall lines and column lines shall be at least twenty-five (25) percent open with uniformly distributed openings. Open parking garages shall be used exclusively for the parking or storage of private or pleasure-type motor vehicles.

OBSERVER - Those persons who have to be in that space to see the human function

1.9 Incentives for Compliance (option; for comment and review). (Cont'd)

- A. Expedited plan review.
- B. Recognition from the City through an award program for meeting CPTED standards.
- C. Possible reductions in infrastructure fees for developers.
- D. Tax reduction program in sales or property taxes.
- E. Reduced insurance rates.
- F. Waiving of the Crime Prevention Fee.

2-14.2.0 **SITE STANDARDS.**

- 2.1 Street and Building Identification Requirements. Street numbers and other identifying data for buildings shall be displayed in accordance with the Pima County Zoning Code, Section 18.83, adopted on January 19, 1988, as amended. The purpose of the addressing standards is to provide for uniformity in street names and addresses and to facilitate emergency vehicle response by establishing a uniform system for street names and address numbers, street name standards, display standards, and addresses (Ord. 1988-2 & 1 [part], 1988).

Addresses shall be displayed and clearly visible from both directions of approaching vehicular travel. Addresses shall be of a color which contrasts with the building.

Below is a brief overview of the address display requirements.

- A. *Residential.*
 - 1. Buildings less than fifty (50) feet from the curb require a minimum of three (3) inch high numbers displayed on the structure.
 - 2. Buildings more than fifty (50) feet from the curb require a minimum of three (3) inch high numbers displayed a minimum of thirty-six (36) inches above ground at the primary access point.
- B. *Apartments.*
 - 1. Entrance numbers shall be a minimum of twelve (12) inches high.
 - 2. Building numbers shall be a minimum of fifteen (15) inches high.

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2.1 Street and Building Identification Requirements. (Cont'd)

5. If the building is adjacent to an alley, the number shall also be placed on or adjacent to the rear gate accessing the alley.
6. For commercial structures, the name of the occupant shall be displayed on the rear entrance of the building.
7. Properties occupied by more than one dwelling unit shall have an illuminated diagrammatic representation (map) of the complex that shows the location of the viewer and the unit designations within the complex. The number and location of maps must be approved by the enforcing authority based on the site layout.
8. For buildings with recessed entryways of over two (2) feet in depth, an additional lighted address must be placed at the entryway to the recessed area. If the recessed area provides access to more than one dwelling unit, each unit number shall be displayed.
9. Each principal building shall display the number or letter assigned to that building on each corner the building. Additional display of numbers/letters shall be required at the midpoint of the building for buildings between one hundred twenty (120) and two hundred (200) feet in length. For structures over two hundred (200) feet in length, additional numbers/letters shall be placed every one hundred (100) feet. Any modification of this criterion must be approved by the enforcing authority.

2.2 Landscaping, Walls, and Screening. The positioning, location, and type of plant material, screening, and other landscape elements should allow for natural surveillance of the outdoor spaces from within buildings, from outdoor locations on site, and from adjacent buildings, sites, and rights-of-way. Landscaping and screening should complement efforts to define public, semipublic, and private spaces. Security is enhanced when entrances and exits to buildings or open spaces around buildings, including pedestrian walkways, are open and in view of the surrounding neighboring or adjacent sites. The more open the view of a space is, the less likely that space will be used for the commission of offenses.

- A. Shrubs and ground cover located within six (6) feet of the edge of a walkway shall not exceed two (2) feet in height. Shrubs and ground cover located more than six (6) feet but less than twelve (12) feet from the edge of a walkway shall not exceed three (3) feet in height. Trees located less than twelve (12) feet from the edge of a walkway shall be trimmed to a minimum six (6) foot canopy height. Use of barrier plants in these areas adjacent to walkways is recommended.
- B. Trees shall be trimmed to create a minimum six (6) foot high clear area from the ground.

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- 2.3 Lighting. This Standard is to be used in conjunction with the Late Night Retail Establishments Ordinance (No. 8066, 1993) and the Tucson/Pima County Outdoor Lighting Code, (1993 ed.) (Exhibit A to Ord. No. 8210, 1994). If there is any conflict between any of these codes or standards, then the most restrictive shall apply.

Lighting should be sufficient to provide for security and to allow for natural observation of both enclosed and semienclosed structures (such as parking structures) and outdoor spaces. Lighting is necessary in enclosed and semienclosed structures during both day and night hours. More lighting must be provided in enclosed and semienclosed structures during day hours to compensate for eyes that are habituated to natural outdoor lighting conditions. A well-lighted space is less likely to be used for commission of a crime.

- A. Open parking lots, carports, and refuse areas shall be illuminated to a medium level of activity, as specified in the I.E.S. Lighting Handbook, 1987 application volume, which is a minimum level of 0.6 foot-candle of light at ground level between sunset and sunrise. See Ord. 8066, Sec 7-412.A.2 (Fig. 14-27), for specific requirements.
- B. Aisles, passageways, pedestrian walkways, and recessed areas related to and within a building, a building complex, or providing access to a building or building complex from a parking lot or right-of-way shall be illuminated with a minimum uniformly maintained minimum level of 0.6 foot-candle of light between ground level and six (6) vertical feet between sunset and sunrise.
- C. All exterior entrances shall be illuminated with a uniformly maintained minimum level of five (5) foot-candles of light between ground level and six (6) vertical feet within a minimum radius of fifteen (15) feet from the center of the entrance between sunset and sunrise.
- D. Parking structures and covered parking lots or covered portions of parking lots shall be illuminated with a uniformly maintained minimum level of five (5) foot-candles of light between ground level and six (6) vertical feet between sunset and sunrise.
- E. Enclosed or partially enclosed parking structures or parking lots shall be illuminated with a uniformly maintained minimum level of ten (10) foot-candles of light between ground level and six (6) vertical feet between sunrise and sunset (daylight hours).
- F. Postal Service "gang boxes" (group postal boxes used in residential and commercial development) shall be located within twenty (20) feet of public street lighting or shall be illuminated with a uniformly maintained minimum level of five (5) foot-candles of light between ground level and six (6) vertical feet between sunset and sunrise.

2.4 Parking Structures. (Cont'd)

- F. Blind corners will be provided with shatterproof convex mirrors to improve visibility for both operators of vehicles and pedestrians.

2-14.3.0 BUILDING STANDARDS.

Reserved.

2-14.4.0 MAINTENANCE.

4.1 Lighting.

Reserved.

4.2 Landscaping.

Landscaping must be maintained to the above prescribed standards.

4.3 Building Maintenance.

Reserved.

2-14.5.0 EXHIBITS.

I. Barrier Plants

Reserved.

II. Safety Glazing