1.1 CAMPUS PARKING LOT STANDARDS

1.1.1 Intent

The regulations of this section are intended to reinforce campus standards and to promote safe and attractive parking lots. The size, number, design, landscaping, and location of parking lots are regulated in order to:

(1) Minimize excessive grading operations and balance cut and fill.
(2) Integrate adequate parking spaces with surrounding facilities and existing circulation patterns.
(3) Locate parking areas convenient to building entrances.
(4) Use topography and trees to mitigate negative visual impacts.
(5) Preserve sight lines to entries and significant landscape and architectural features.
(6) Minimize negative impacts to the natural environment such as unnecessarily removing mature vegetation or degrading soil stability.
(7) Preserve and integrate existing mature trees in future parking.
(8) Maximize safety and security by providing adequate sightlines for view into the lot.

1.1.2 Parking Area Types

(A) Off-street

When siting off-street parking areas, the designer should consider:

(1) Integrating planted islands to increase aesthetics.
(2) Minimize extensive grading operations by designing to the topography.
(3) Minimizing the number of entrances and exits.
(4) Locate entrances and exits away from busy intersections.
(5) Maximizing the number of parking spaces.

(B) On-street

When on-street parking is used, the following factors must be considered:

(1) Parallel parking.
(2) Maintain a minimum distance of 50’ from on-street parking spaces to intersections and off-street parking area entrances.
(3) Break up long lines of vehicles with occasional planting island projections if appropriate.
(4) Ensure streets maintain required traffic-carrying capacities and provide safe vehicular and pedestrian passage.

1.1.3 Geometry

(A) Parking Lot Entrances / Exits

(1) Minimize parking area entrance and exit curb cuts.

(2) Provide a distance of at least 50’ between an intersection and the proposed parking area entrances and exits
(3) The radius of a parking area entry or exit curb return should be at least 13’. When significant use by buses or tractor trailers is expected, the radius should be increased to 50’.
(4) Driveway aprons shall be constructed with high-strength concrete.
(5) Incorporate the campus standard bollard at parking lot entrances to allow the area to be chained off. The bollards shall be set back from throat to avoid being hit by vehicles entering/exiting the lot.
(6) Provide detectable warnings where pedestrian paths cross driveway aprons.

(B) Drive Aisles – Interior Vehicular Circulation

(1) Aisle widths vary based on the angle chosen and if they support one-way or two-way traffic. Use the following minimum dimensions charted below.

Angle	Width (in ft.)	Curb length (in ft.)	Stall depth (in ft.)	One-way aisle width (in ft.)	Two-way aisle width (in ft.)
0° (Parallel)	8	23	8	12	20
30°	9	18	17	11	N/A
45°	9	12.5	19	13	N/A
60°	9	10.5	20	18	N/A
90° (Perpendicular)	9	9	18	24	24
Motorcycle/Scooter	4	4	7	4	8

(2) Interior radii for perimeter curbing and islands can be reduced to 7’. Care should be taken to provide an inside turning radius of at least 13’ on all internal vehicle circulation aisles. Appropriate radii to be specified according to vehicle size expected.

(C) Perpendicular Parking

The minimum standard perpendicular automobile parking space should be 18’ long and 9’ wide.

(D) Angled Parking

(1) Parking spaces may be angled (30, 45, or 60 degree) to the driving lane, or aisle.
(2) Angled spaces will conform to the current standards of space length, space width and drive lane width, based on the chart above.
(3) Back-in Angle Parking / Reverse Angle parking is not permitted.

(E) Parallel Parking

Parking spaces should be a minimum of 23’ long and at least 8’ wide.

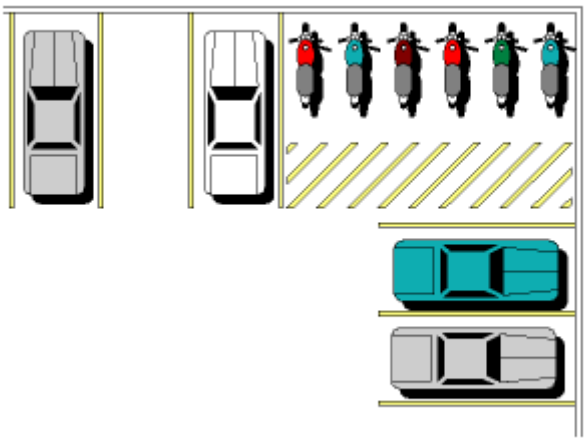
(F) Compact Parking

Compact car spaces will not be used.

(G) Motorcycle Parking

(1) Concrete is preferred over asphalt. Since motorcycles generally employ a kickstand for support when parked, a rigid surface such as concrete should be provided to ensure stability while minimizing potential pavement damage in summer months.

(2) Utilize inside corners of parking lots where possible. See diagram below.



(H) Accessible Parking

(1) Adhere to current Americans with Disabilities Act Standards for Accessible Design.

(2) Standard Accessible Spaces shall be 9’ wide with a 5’ access aisle.

   a. Standard spaces may share the access aisle with either another standard accessible or van accessible when using the perpendicular geometry.

   b. Angled spaces can share an access aisle.

(3) Van Accessible Spaces will remain 9’ wide and have a 9’ access aisle on the passenger side of the vehicle when the vehicle is parked head in.

(4) See 3.4.4 Construction Standards (C) Grading and drainage for slope / cross slope.

(5) Sidewalk ramps shall be recessed into the adjoining sidewalk, they shall not protrude into the access aisle.

(6) Avoid locating manholes and cleanouts and other service items in the access aisle.

(7) The number of Accessible spaces within each lot to be coordinated with Transit and Parking to meet the university’s overall requirements, the dispersed total shall not be less than the minimum required by ADA.

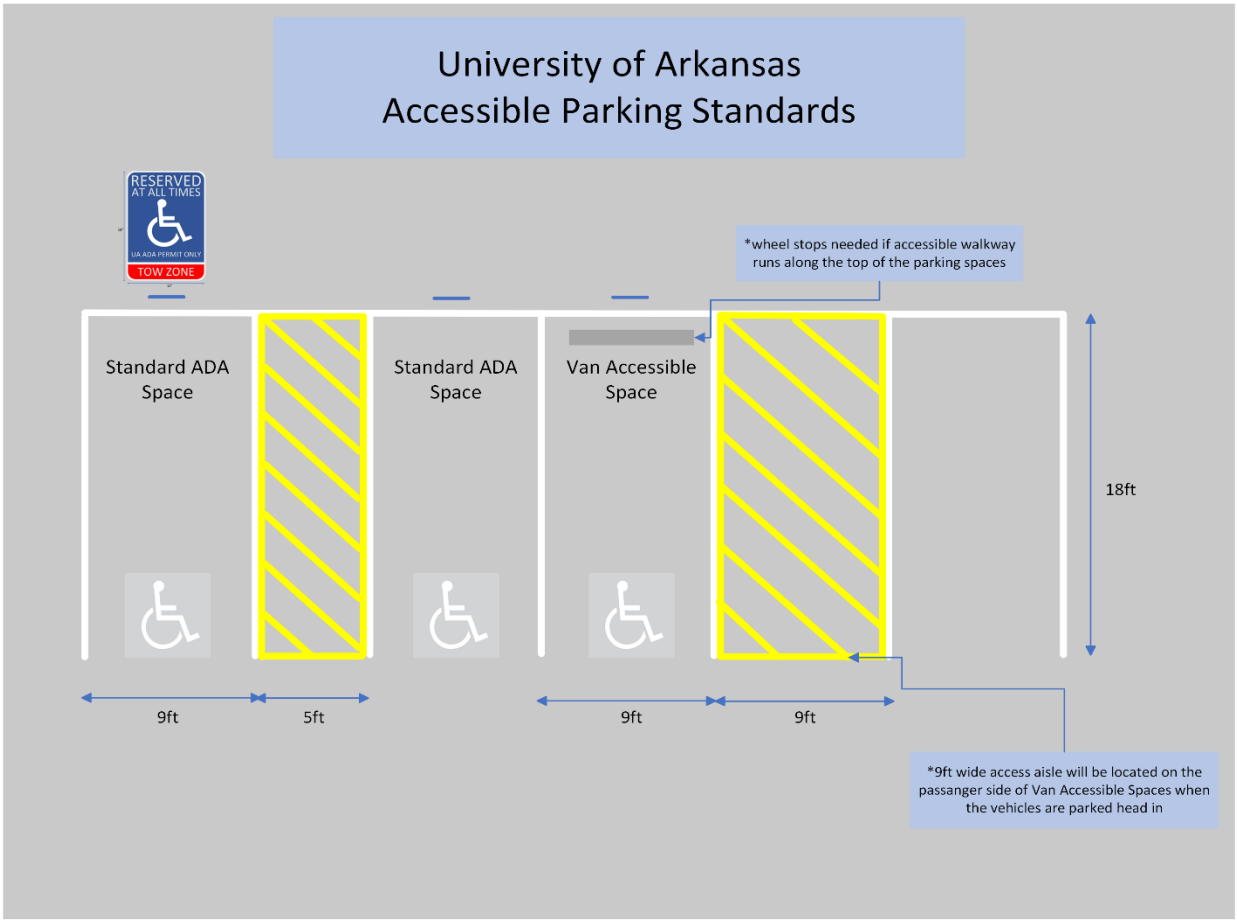
(8) Accessible parking spaces must be located on the shortest accessible route of travel to an accessible facility entrance. Where buildings have multiple accessible entrances with

adjacent parking, the accessible parking spaces must be dispersed and located closest to the accessible entrances.

a. Identify the accessible route on the plans.
b. Avoid locating the accessible route to the building entrance behind parked vehicles.
c. See also 3.4.4 Construction Standards (B)Pedestrian Access

(9) Signage and Markings

a. Each ADA space will receive a signpost. The bottom of the sign needs to be at least 60” above the finish ground surface. Signs must be unobstructed and always remain visible.
b. Accessible parking spaces should be designated as reserved by the standard university ADA sign. Such signs should be located so they cannot be obscured by a vehicle parked in the space.
c. See 3.4.4 Construction Standards (D)Striping and Marking for additional requirements.



1.1.4 Construction Standards

(A) General Requirements

(1) Eliminate dead-end parking areas.
(2) The designer should observe proper setbacks in designing parking areas according to campus planning guidance.
(3) Use rectangular parking areas to minimize land area requirement.
(4) Incorporate Low Impact Development features where appropriate

(B) Pedestrian Access

(1) Provide convenient access points and crosswalks from parking areas to facility entries.
(2) Integrate parking area walkways with existing installation pedestrian and transit network. Extend the accessible route to adjacent bus stops when feasible.
(3) Wheel stops shall be provided where parked vehicles could overhang or otherwise obstruct any sidewalk, accessible route, or egress route.
(4) Minimize the number of vehicle circulation aisles pedestrians must cross to enter adjacent facilities. Provide separated pedestrian walkways whenever possible and integrate with planted, curbed islands.
(5) Incorporate the campus standard bollard at building exits in loading zones where parked or stacked vehicles would prevent the full swing of the egress door or otherwise obstruct egress from the building.

(C) Grading and drainage

Parking areas must be properly sloped and drained to take care of runoff. Apply the following minimums:

(1) Ideal slope for all parking area pavements is 2%
(2) Longitudinal pavement slope should be between 1%-5%
(3) Pavement cross slope should be between 1%-10%
(4) Accessible parking spaces and access aisles shall have no more than a 1:48 inch (2.08%) slope in all directions.
(5) Storm water should be collected on the perimeter of parking areas with a minimum of 2% slope along concrete curb and gutter.
(6) Subsurface materials shall encourage water drainage. Locate French drains at perimeter and locations as needed determined by soil testing.

(D) Striping and Marking

(1) All pavement striping should be 4 inches in width.
(2) Parking spaces, including motorcycle parking, will be marked by white traffic paint.
(3) On-street parking will be striped with thermoplastic.
(4) ‘No Parking’ areas will be marked by yellow stripes or crosshatching.
(5) Access Aisles serving accessible parking areas will be marked by yellow stripes.
(6) Accessible parking spaces will be marked with an approved white international symbol of accessibility on the lot surface, blue backgrounds will not be used. Painted symbol shall not exceed 36” x 36”.

a. Perpendicular and Angled Parking Spaces will receive the symbol at the bottom of the space.
b. Parallel ADA Parking Spaces will receive the symbol in the center of the space, oriented in the direction of the parked car.

(7) Fire Lane striping to be coordinated through Transit and Parking and the Fire Marshall

(E) Planting Materials

(1) Use plant materials to improve appearance of parking areas.
   a. Provide curbs to protect trees and landscape material.
   b. Tree Islands, where provided, should be at least 8' wide.
   c. See university campus landscape manual "Landscape Character Zones" for approved plant list.
   d. Provide irrigation or irrigation sleeves as coordinated with Facilities Management.

(2) Line of Sight
   a. Minimize the use of medium to tall shrubs on internal curbed tree islands; use only low shrubs or ground cover to maintain visibility
   b. Integrate campus standard groundcovers and small shrubs at island ends to add interest while maintaining visibility of pedestrians and vehicles
   c. Trees should be tall enough that the limbs and leaves do not block a drive's view at intersections within the lot and at the entrances/exits

(3) Trees and Lighting in parking lots should be deconflicted to eliminate dark areas.

(F) Lighting

(1) Lighting should not disturb nearby residential areas.
(2) Lighting should enhance safety and security within the parking lot and associated pedestrian pathways.
   a. .5 foot-candles minimum with a 1 foot-candle average. Consistent lighting with Max to Min ratio
   b. Avoid creating glare from overly bright, high contrast conditions.
(3) Light poles should be located in islands or on the perimeter of the parking lot when possible.
(4) Light poles located outside islands within the parking area will be mounted on concrete bases marked with reflective material.
(5) Refer to the U of A campus standards for parking lot lighting poles and fixtures. Full cut off fixtures required.

(G) Refuse Haulers

(1) Confirm dumpster size and type with Facilities Management.
(2) Dumpster pads as well as the wheel area of the refuse vehicle wheels closest to the dumpster shall be high-strength concrete.
(3) Coordinating grade requirements within dumpster areas in addition to overall parking area grading

(4) Locate storm inlets to protect from dumpster leakage.
(5) Screen all dumpsters with fences, walls, or planting materials.
(6) Providing protection with concrete-filled pipes or bollards for fences and walls from damage caused by vehicle operations. Utilize UA standard bollard.

END OF SECTION

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