

DESIGN SCENARIOS

Design Scenarios translate the guidelines into applied examples that illustrate how trees, water harvesting, and shade structures work together in real-world site conditions. Using annotated graphics, this section demonstrates how shade infrastructure can be configured across a range of typical development contexts. Rather than prescribing fixed solutions, the Design Scenarios provide adaptable approaches that respond to site-specific conditions while reinforcing the overarching goals of shade provision, water efficiency, and long-term performance. Together, they provide a visual framework for understanding how Scottsdale's shade infrastructure strategies can be implemented.

Site Notes / Considerations

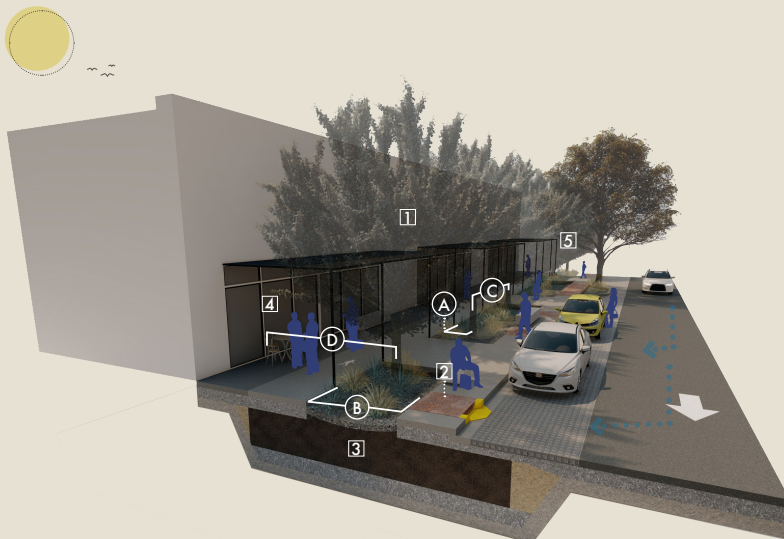
Notes highlight design specifics and where to find related items in the plan.

- 1 Tree Selection**
 - References the Site Specific Tree Lists and Guides (see pages 38 - 47)
- 2 Water Harvesting**
 - References Water Harvesting systems (see pages 66 - 75)
- 3 Soil Volumes**
 - References recommended Soil Volumes (see pages 34 - 35)
- 4 Pedestrian Focus**
 - How to provide shade to maximize pedestrian benefits
- 5 Best Practice**
 - Site-specific notes and recommendations for the space

A - B - C - D / Tree Guides

Refer to Tree Guides for detailed species attributes that inform tree selection and management.

- A** Hardscape Buffers
- B** Planter Dimension
- C** Distance Between Trees
- D** Building Distance



MEXICAN BIRD OF PARADISE

Caesalpinia mexicana

(B) Size(hwx)	10' x 10'	
Growth Rate	fast	
Shade Type	medium	
Deciduous	no, evergreen	
Flower	yes, summer	
Fruit	no	
Water	lower	
Litter	medium	
Thorns	no	
Poisonous	no	
Pool-friendly	yes	
(C) Distance Apart	8' O.C.	
(A) Min Sidewalk Dist.	4'	
(A) Min Street Dist.	8'	
(D) Min Building Dist.	4'	
Parking Lot	no	
Allergen	non-allergenic	

Figure 4-1. Building frontage with onstreet angled parking.

TREE GUIDE FOR SPECIFICS ON:

- A** HARDSCAPE BUFFERS
- B** PLANTER DIMENSION
- C** DISTANCE BETWEEN TREES
- D** BUILDING DISTANCE

SITE NOTES:

- 1 TREE LIST, NEAR BUILDING - Broad, overhead canopy with adequate clearance
- 2 WATER HARVESTING ELEMENT - Curb cut, bioswale, suspended pavement
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- 4 PEDESTRIAN FOCUS - Trees shade the primary sidewalk and building entrances
- 5 BEST PRACTICE - Combine tree, structured shade to maximize shade coverage

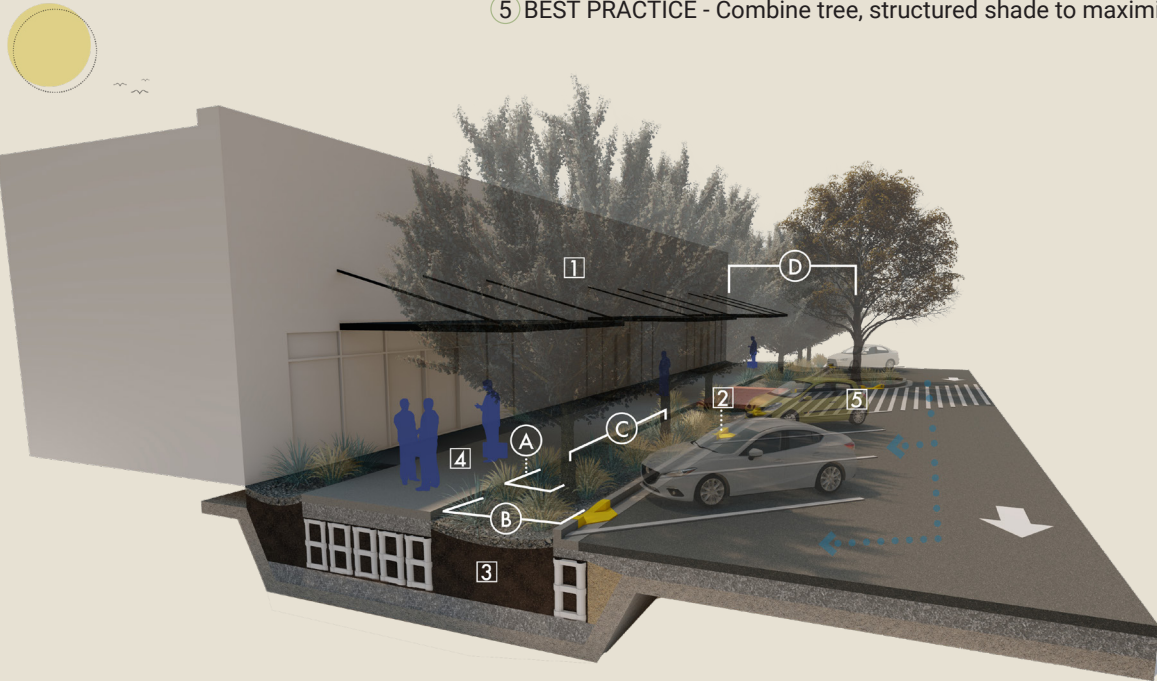


Figure 4-2. Building frontage with on-street parallel parking.

TREE GUIDE FOR SPECIFICS ON:

- A** HARDSCAPE BUFFERS
- B** PLANTER DIMENSION
- C** DISTANCE BETWEEN TREES
- D** BUILDING DISTANCE

SITE NOTES:

- 1 TREE LIST, NEAR BUILDING - Broad, overhead canopy with adequate clearance
- 2 WATER HARVESTING ELEMENT - Permeable pavement, curb cut, pedestrian bridge
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with structural soil
- 4 PEDESTRIAN FOCUS - Prioritize shade where people exit vehicles
- 5 BEST PRACTICE - Use continuous planting strips and structural soil beneath pedestrian and parking areas to expand shared rooting volume

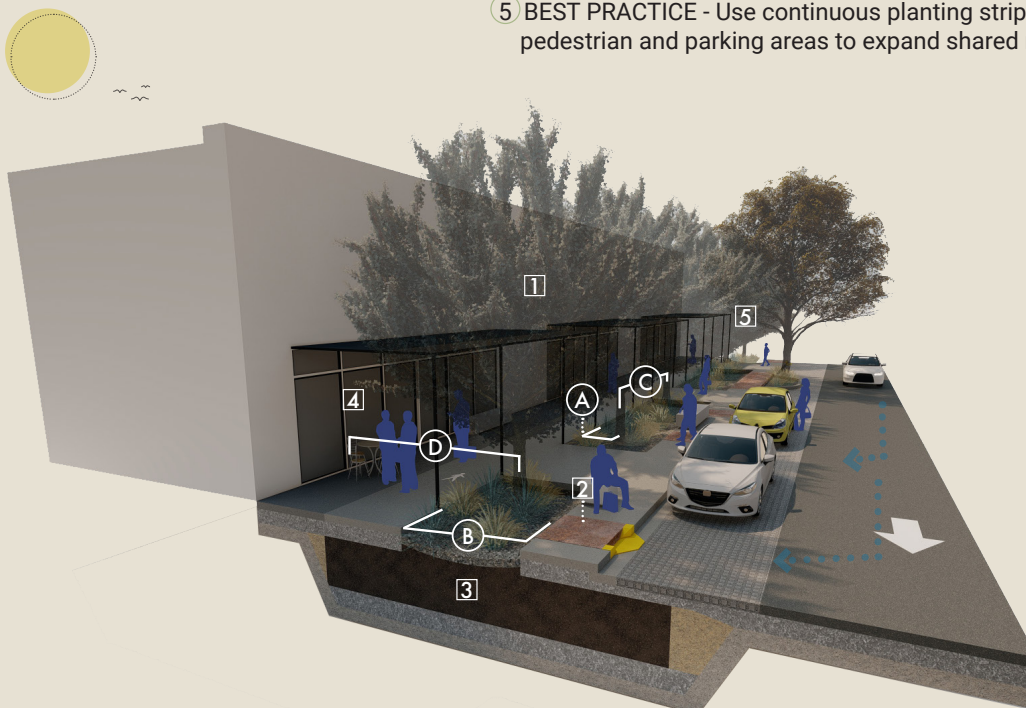


Figure 4-3. Building frontage and parking lot.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

- 1 TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
- 2 WATER HARVESTING ELEMENT - Curb cut, bioswale, rain garden, suspended pavement
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- 4 PEDESTRIAN FOCUS - Trees shade the primary sidewalk and building entrances
- 5 BEST PRACTICE - Combine tree, structured shade to maximize shade coverage

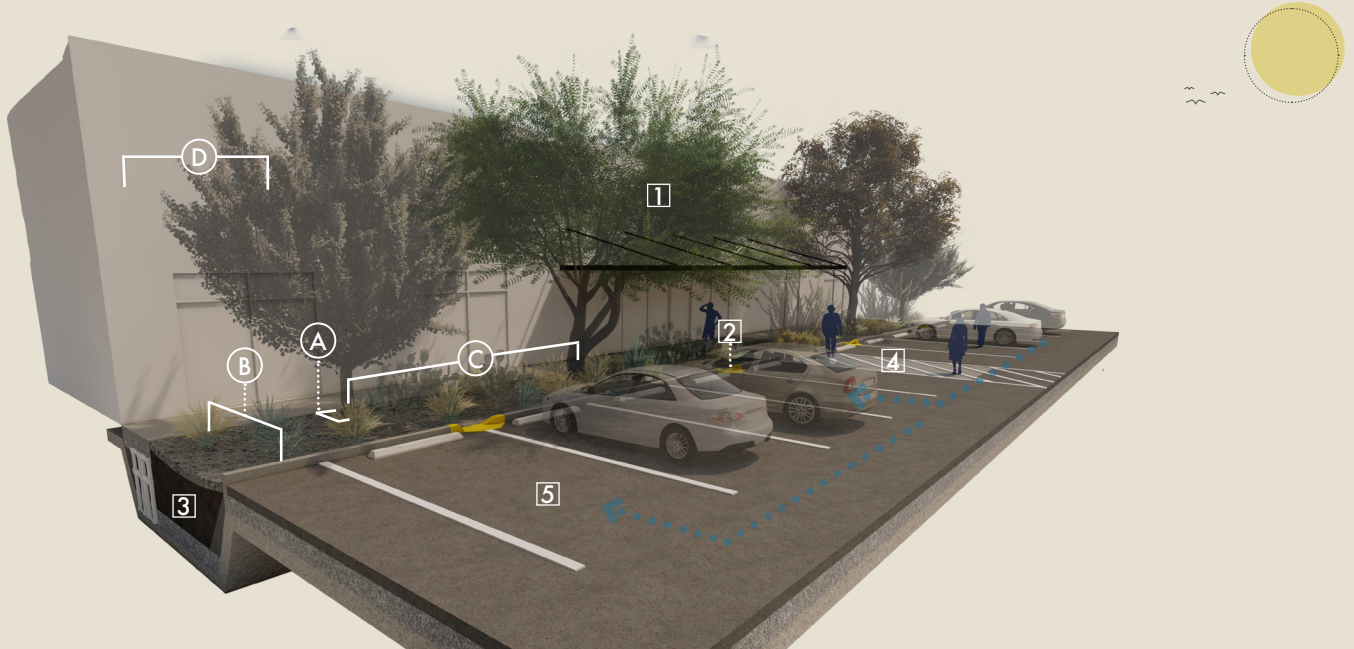


Figure 4-4. Pedestrian path.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

- 1 TREE LIST, PATH/SIDEWALKS - Broad, overhead canopy with adequate clearance
- 2 WATER HARVESTING ELEMENT - Bioswale, suspended pavement
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- 4 PEDESTRIAN FOCUS - Prioritize shade where people exit vehicles
- 5 BEST PRACTICE - Avoid planting trees in lawn areas. Sprinkler irrigation discourages deep root growth



Figure 4-5. Roadway trees back of curb.

TREE GUIDE FOR SPECIFICS ON:

- A** HARDSCAPE BUFFERS
- B** PLANTER DIMENSION
- C** DISTANCE BETWEEN TREES
- D** BUILDING DISTANCE

SITE NOTES:

- ① TREE LIST, STREET, BACK OF CURB - Prioritize clearance above travel lanes and signage
- ② WATER HARVESTING ELEMENT - Curb cut, bioswale, suspended pavement
- ③ SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- ④ PEDESTRIAN FOCUS - Separate pedestrian areas from vehicular traffic
- ⑤ BEST PRACTICE - Use continuous planting strips, furnishings, or low edges to reinforce the separation from traffic while maintaining clear sightlines at driveways and intersections



Figure 4-6. Roadway trees separated by pedestrian path

TREE GUIDE FOR SPECIFICS ON:

- A** HARDSCAPE BUFFERS
- B** PLANTER DIMENSION
- C** DISTANCE BETWEEN TREES
- D** BUILDING DISTANCE

SITE NOTES:

- ① TREE LIST, STREET, BACK OF SIDEWALK - Larger trees in wide, back-of-sidewalk planter
- ② WATER HARVESTING ELEMENT - Curb cut, bioswale, rain garden, suspended pavement
- ③ SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- ④ PEDESTRIAN FOCUS - Pedestrian shade prioritized by tree location
- ⑤ BEST PRACTICE - Use continuous planting strips, furnishings, or low edges to reinforce the separation from traffic

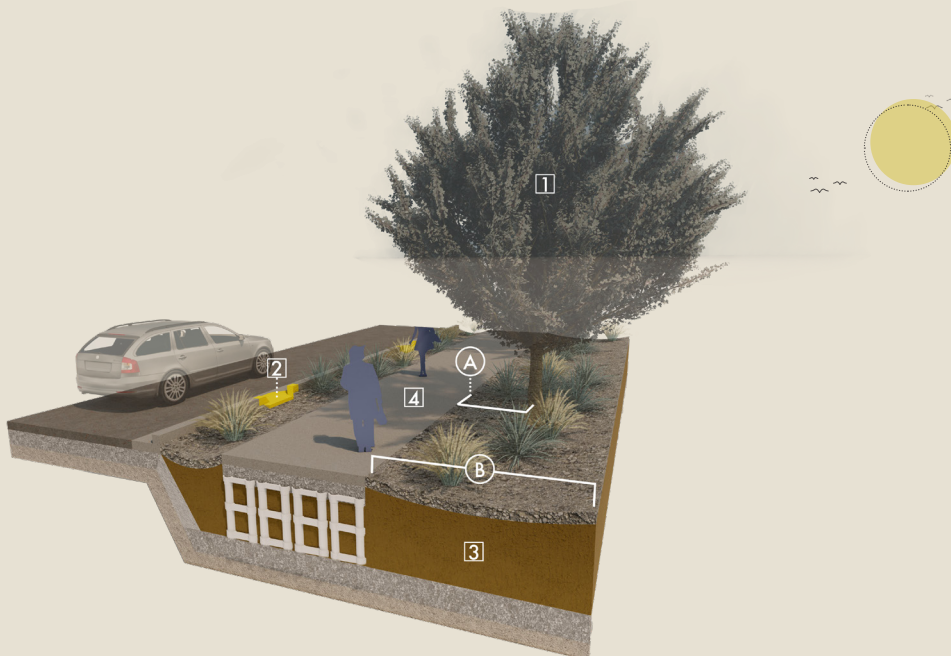


Figure 4-7. Pedestrian trail.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

- 1 TREE LIST, PATH/SIDEWALKS - Broad, overhead canopy with adequate clearance
- 2 WATER HARVESTING ELEMENT - Bioswale, rain garden, suspended pavement
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- 4 PEDESTRIAN FOCUS - Continuous shade along high-use trail segments, at rest areas
- 5 BEST PRACTICE - Use low, desert-adaptive understory plantings that preserve sight lines

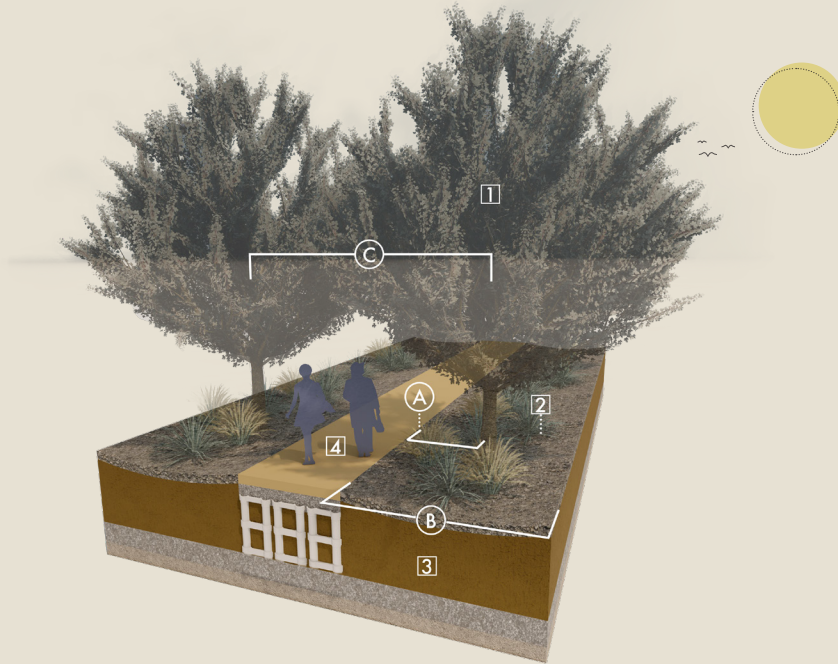


Figure 4-8. Pedestrian path adjacent to roadway and utilities.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

- 1 TREE LIST, STREET, BACK OF CURB - Prioritize clearance above travel lanes and signage
- 2 WATER HARVESTING ELEMENT - Curb cut, bioswale, suspended pavement
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- 4 PEDESTRIAN FOCUS - Prioritize pedestrian shade while keeping clear of utilities
- 5 BEST PRACTICE - Coordinate tree placement with utility providers; maintain recommended clearances from boxes, vaults, and poles



Figure 4-9. Parking near a pedestrian path.

TREE GUIDE FOR SPECIFICS ON:

- A** HARDSCAPE BUFFERS
- B** PLANTER DIMENSION
- C** DISTANCE BETWEEN TREES
- D** BUILDING DISTANCE

SITE NOTES:

- ① TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
- ② WATER HARVESTING ELEMENT - Bioswale, rain garden, suspended pavement
- ③ SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- ④ PEDESTRIAN FOCUS - Trees shade walking routes, access points, and seating areas
- ⑤ BEST PRACTICE - Use the outer planting strip to frame the path and complete a continuous shaded edge

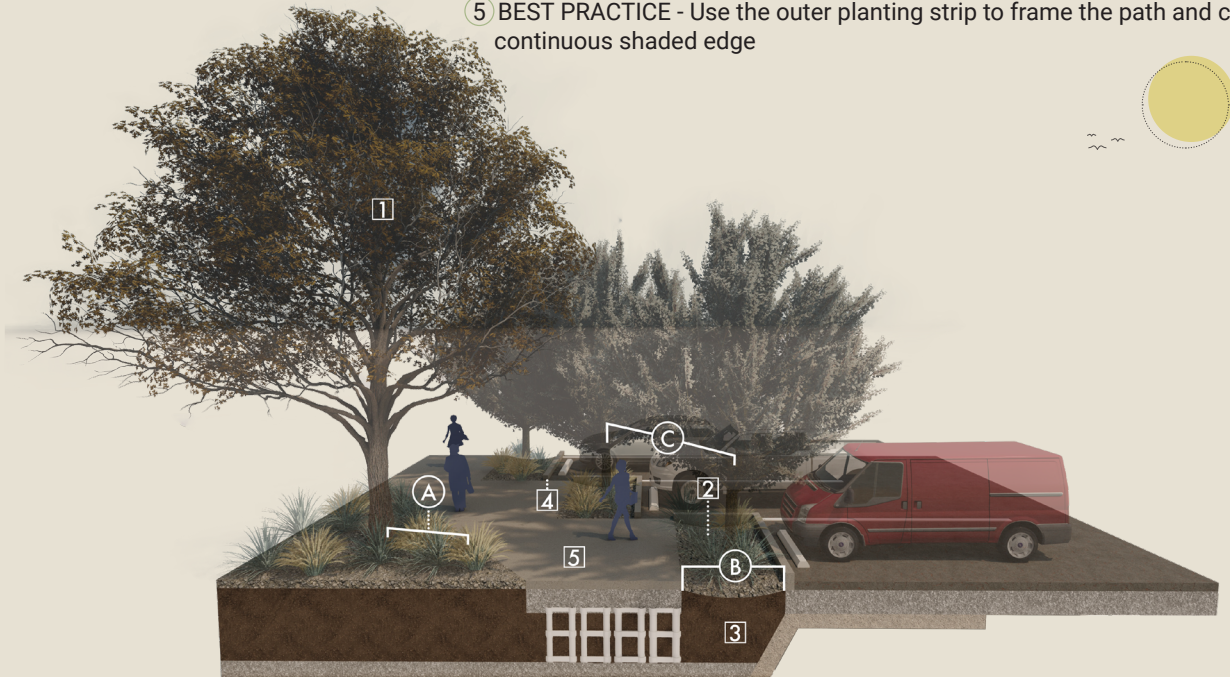


Figure 4-10. Planter in a parking area.

TREE GUIDE FOR SPECIFICS ON:

- A** HARDSCAPE BUFFERS
- B** PLANTER DIMENSION
- C** DISTANCE BETWEEN TREES
- D** BUILDING DISTANCE

SITE NOTES:

- ① TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
- ② WATER HARVESTING ELEMENT - Curb cut, bioswale, structural soil
- ③ SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with structural soil
- ④ PEDESTRIAN FOCUS - Prioritize shade where people exit vehicles
- ⑤ BEST PRACTICE - Use continuous planting strips and structural soil to link individual islands where possible



Figure 4-11. Parking dogbone.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

- 1 TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
- 2 WATER HARVESTING ELEMENT - Curb cut, bioswale, rain garden, structural soil
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with structural soil
- 4 PEDESTRIAN FOCUS - Prioritize shade where people exit vehicles
- 5 BEST PRACTICE - Place dogbone islands at regular intervals to break up long rows of parking and form a continuous shaded spine

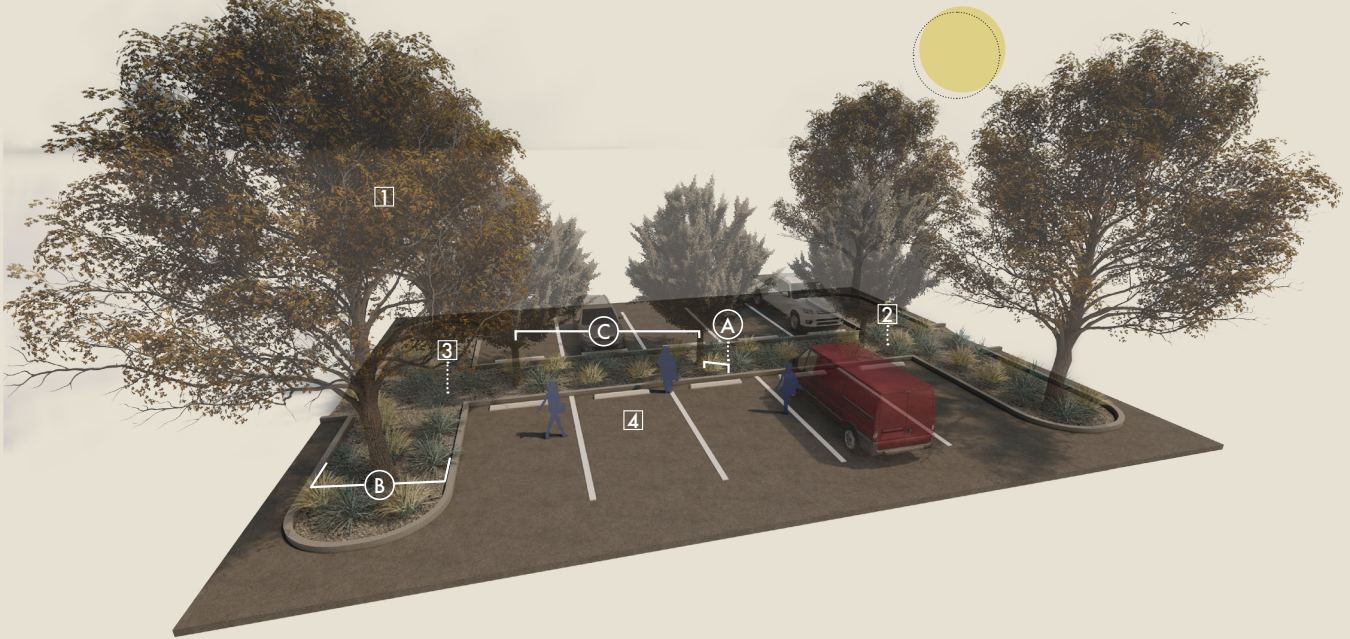


Figure 4-12. Planter islands in a parking area.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

- 1 TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
- 2 WATER HARVESTING ELEMENT - Bioswale, suspended pavement
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- 4 PEDESTRIAN FOCUS - Prioritize shade where people exit vehicles and pedestrian paths
- 5 BEST PRACTICE - Space planter islands so no stall is far from a tree, creating a more continuous canopy along parking rows



Figure 4-13. Parking with alternating planter islands

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

- 1 TREE LIST, PARKING LOTS - Broad canopy with adequate clearance and minimal litter
- 2 WATER HARVESTING ELEMENT - Curb cut, bioswale, suspended pavement
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- 4 PEDESTRIAN FOCUS - Locate trees to shade typical walking routes between parked cars
- 5 BEST PRACTICE - Stagger planter islands so trees alternate from side to side, creating overlapping canopies and reducing unshaded gaps along the parking rows

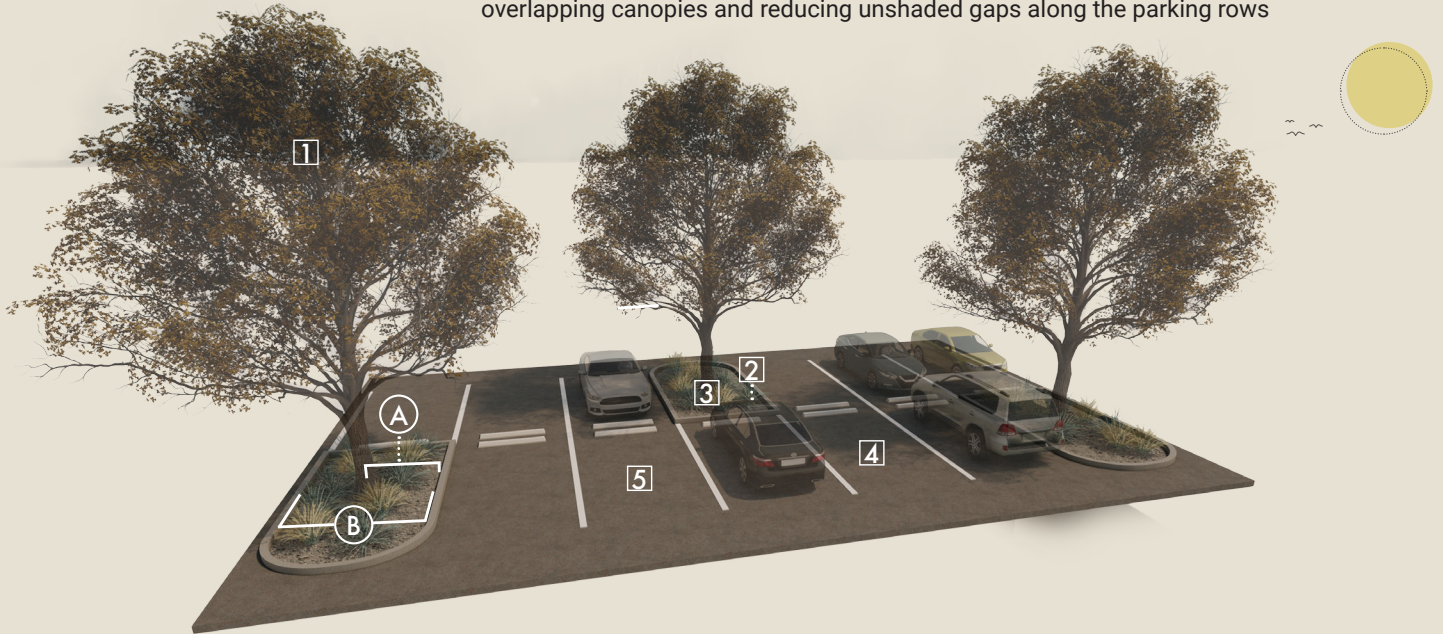


Figure 4-14. Gathering spaces and playgrounds.

TREE GUIDE FOR SPECIFICS ON:

- A HARDSCAPE BUFFERS
- B PLANTER DIMENSION
- C DISTANCE BETWEEN TREES
- D BUILDING DISTANCE

SITE NOTES:

- 1 TREE GUIDE, LARGE TREES - Broad canopy, non-thorny trees shade seating and playground
- 2 WATER HARVESTING ELEMENT - Bioswale, rain garden suspended pavement
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with suspended pavement
- 4 PEDESTRIAN FOCUS - Prioritize shade along paths, seating areas, and near play equipment
- 5 BEST PRACTICE - Combine shade structures with trees to provide reliable overhead coverage while extending shade beyond the play area, cooling surrounding hardscape, and offering long-term canopy

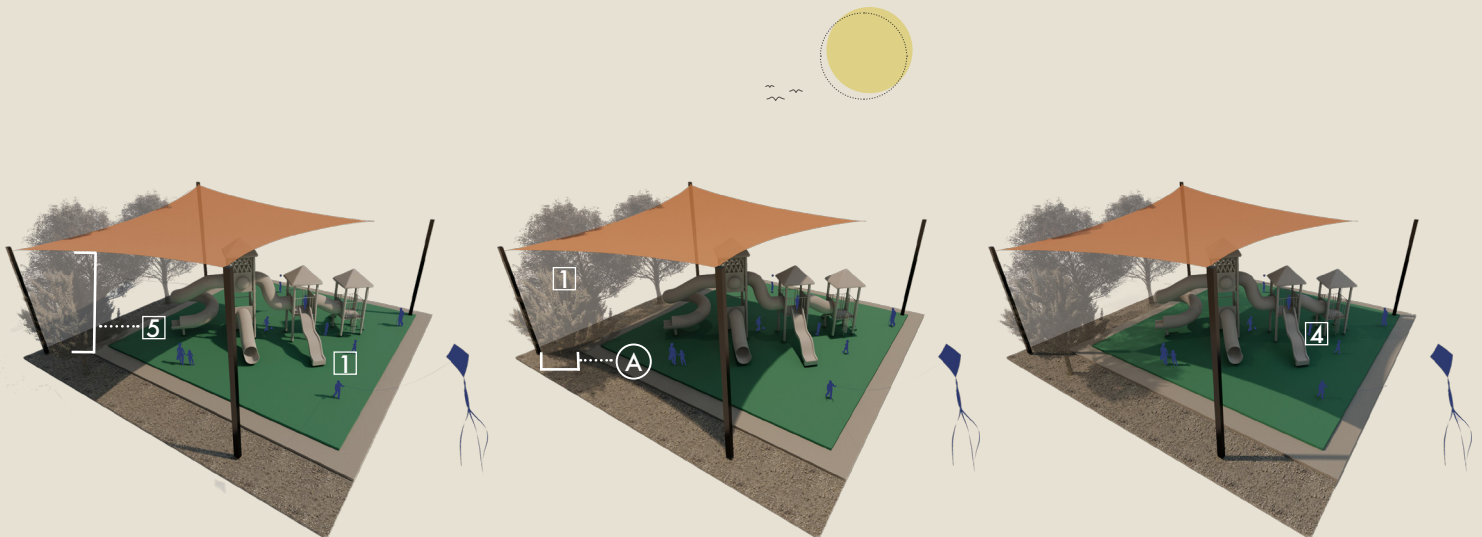


Figure 4-15. Shade structures and trees.

TREE GUIDE FOR SPECIFICS ON:

- A** HARDSCAPE BUFFERS
- B** PLANTER DIMENSION
- C** DISTANCE BETWEEN TREES
- D** BUILDING DISTANCE

SITE NOTES:

- 1 TREE GUIDE, LARGE TREES - Broad canopy, non-thorny trees shade seating areas
- 2 WATER HARVESTING ELEMENT - Rain garden, basin, structural soil
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with structural soil
- 4 PEDESTRIAN FOCUS - Align trees to shade approach paths, gathering zones
- 5 BEST PRACTICE - Coordinate tree spacing, column layout, and roof overhangs so tree canopy and structure work together: structures supply reliable core shade, and trees extend shade into surrounding pavement

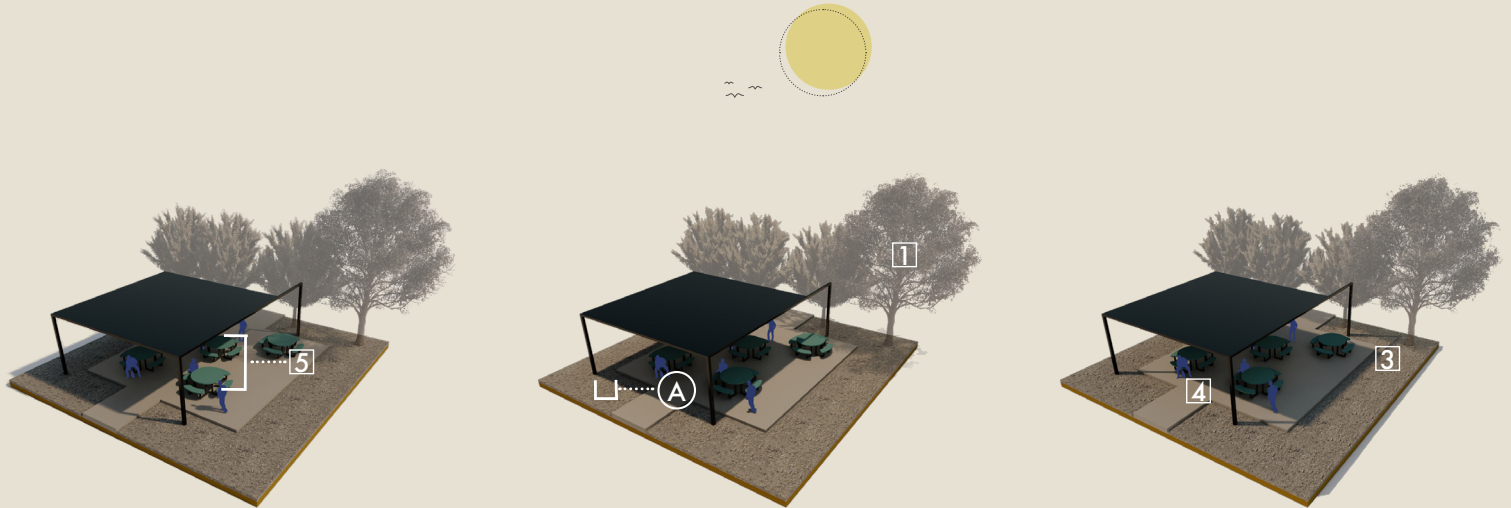


Figure 4-16. Shade structures or trees.

TREE GUIDE FOR SPECIFICS ON:

- A** HARDSCAPE BUFFERS
- B** PLANTER DIMENSION
- C** DISTANCE BETWEEN TREES
- D** BUILDING DISTANCE

SITE NOTES:

- 1 TREE LIST, STREET, BACK OF CURB - Prioritize clearance above travel lanes and signage
- 2 WATER HARVESTING ELEMENT - Curb cut, bioswale, structural soil
- 3 SOIL VOLUMES - 500 cu ft Min., 1,000 cu ft with structural soil
- 4 PEDESTRIAN FOCUS - Align trees or structures so shade falls along pedestrian route
- 5 BEST PRACTICE - Use trees as the preferred long-term shade solution wherever adequate width, soil volume, and utility clearances exist, and rely on shade structures in street locations where utilities, hardscape constraints, or limited planting space make tree installation impractical



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