APPENDIX

GLOSSARY

#

30/20/10 Rule – A planting guideline used to promote biodiversity and reduce risks associated with monocultures by limiting plant composition to no more than 30% from a single family, 20% from a single genus, and 10% from a single species within a landscape.

A

Active Water Harvesting – Systems that collect rainwater and store it for later use, such as cisterns or gray water systems.

Air Spade – A specialized tool that uses high-pressure compressed air to loosen and excavate compacted soil to improve soil aeration, water infiltration, and root health in established landscapes.

ANSI A300 Standards – A nationally recognized set of professional standards developed by the American National Standards Institute that establish best practices for tree care.

B

Basin, Bioretention Basin – A depression filled with vegetation that collects and filters stormwater, allowing it to infiltrate into the soil, which reduces runoff and improves water quality.

Biodiversity – (1) The wildlife habitat and ecosystem value created by trees; and (2) a desired outcome advanced through intentional species diversity in planting.

Bioswale – A vegetated, sloped drainage feature that slows, filters, and absorbs stormwater, preventing runoff and allowing water to infiltrate the ground.

Built Environment – Human-made elements including, buildings, structures, roads, canals, paths, and trails, that together create the physical character of an area or community.

C

Canopy – See Tree Canopy.

Character – Unique features, qualities, and attributes that contribute to the identity of a place.

Cistern – Containers or tanks used to store rainwater collected from roofs for later use, typically for irrigation, as part of active water harvesting systems.

Context – The relationship between a location and its surrounding natural, planned, permitted, and/or built environment; the whole environment relevant to a particular building or place; the interrelated conditions in which something exists or occurs.

Covered Walkway – Shaded path or passage.

Curb Cut – Opening in street curbs that diverts stormwater from streets into green spaces, allowing water to infiltrate into the soil.

D

Deep Tilling – Loosening soil well below the surface (beyond typical grading depth) to reduce compaction, improve infiltration, and expand rootable soil for long-term tree health.

Dieback – Death of twigs, branches, or portions of the canopy, typically caused by stress (heat, drought, poor soils, pests, or improper watering), resulting in reduced shade performance.

Drip Irrigation – A low-water-use irrigation method that delivers water directly to plant roots through a network of tubes, minimizing water waste.

Durability – The ability to withstand wear, pressure, or damage.

E

Evapotranspiration – The combined process of evaporation from soil and other surfaces and transpiration from plant leaves, during which water absorbs heat as it changes from liquid to vapor.

F

Filtered Shade – Shade created by structures or trees that allow some sunlight to filter through, providing dappled light and reduced heat.

First Flush – The initial 0.5 inch of runoff from a storm event that often carries the highest concentration of sediment, trash, oils, and other pollutants.

Full Shade – An area that receives little to no direct sunlight, typically provided by dense tree canopies or overhead shade structures like canopies and pergolas.

G

Green Stormwater Infrastructure (GSI) – Nature-based stormwater practices (e.g., basins, bioswales, rain gardens, tree trenches) that capture, slow, filter, and infiltrate runoff to support vegetation, reduce runoff, and improve water quality. See also, Water Harvesting.

H

Hardscape – A built element added to a landscape area, including but not limited to concrete walkways, benches, recreation equipment, statuary and fountains.

Heat Island – The phenomenon involving elevated temperatures in urban/suburban areas as compared with outlying rural/ undeveloped surroundings. Heat islands are generally caused by reduced vegetation, solar heat absorption, material heat capacity, use of energy, and building spacing.

Horizontal Shade Structures – Overhead elements like pergolas, canopies, or tensile fabric structures that provide shade over larger open areas, reducing surface temperatures and direct sun exposure.

I

J

K

L

Linear Bioswales – Long, narrow vegetated conveyance features (commonly along streets, medians, or parking edges) designed to intercept runoff, slow flow, filter pollutants, and promote infiltration.

Low Impact Development (LID) – Refers to design and implementation practices that can be employed at the site-level to both control stormwater and replicate the pre-development hydrology of the site. This approach to water management protects, restores, or mimics the nature water cycle on a development site.

M

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P

Passive Water Harvesting – Systems that capture rainwater where it falls, allowing it to infiltrate into the soil naturally. Examples include bioswales, rain gardens, and permeable pavement.

Pavement Heaving – Upward lifting or cracking of pavement caused by roots, expansive soils, or inadequate subgrade/ soil design, often indicating insufficient root space.

Permeable Pavement – Paving materials that allow water to pass through the surface, reducing runoff and supporting groundwater recharge.

Public Realm – The environment created by the network of streets and open spaces, parks and plazas, and the pattern of uses and activity, which contribute to the character and quality of the place.

Q

R

Rain Garden – A planted depression that collects rainwater from roofs, streets, and other surfaces, allowing water to infiltrate into the soil and reduce stormwater runoff.

Right(s)-of-way – The strip of land over which certain transportation and/or other public facilities are built, including roads, sidewalks, and utility lines. A public right-of-way is typically dedicated or deeded to the public for public use and controlled by a public agency, such as the city.

Right Tree/Structure, Right Place – A performance-based planning and design principle that matches tree species and/or shade structure type, size, and placement to site conditions and intended shade outcomes—prioritizing south and west exposures for afternoon relief, using site-specific shade diagrams, and accounting for constraints such as utilities, soil volume, hardscape conflicts, and water availability so shade elements can thrive and function long-term.

Root Flare – The natural widening at the base of the trunk where major roots begin; it should be visible at or slightly above finished grade to avoid trunk rot and instability.

Root Zone – The soil volume where a tree's roots grow and function (water, oxygen, nutrients); protecting and expanding this zone supports canopy growth and shade longevity.

S

Safe-to-touch – A performance benchmark indicating that a surface is suitable for short-duration contact under expected hot-weather conditions. For this Plan, the benchmark assumes brief contact (about 5 seconds) and is generally met when surface temperatures are at or below approximately 140°F during peak summer conditions.

Sediment Forebay – A small, dedicated pretreatment pool located at the inlet of a basin area that slows incoming runoff so coarse sediment and debris settle out in an accessible location, protecting downstream infiltration media and reducing long-term maintenance demands.

Sediment Trap – A pretreatment feature installed at stormwater entry points (such as curb cuts, inlets, or grate openings) that captures sediment, trash, and debris before runoff enters basins, bioswales, rain gardens, or other water-harvesting features to help prevent clogging, protect infiltration performance, and simplify maintenance.

Shade Goals – Targets established within the Scottsdale Shade & Tree Plan to increase the percentage of shade coverage throughout the city, with specific goals for different land uses, such as parks, streetscapes, and commercial areas.

Shade Infrastructure – An interconnected system of trees, shade structures, and water-harvesting practices.

Soil Fracturing – Targeted loosening of compacted soils to restore pore space, improve infiltration, and reduce root stress without major excavation.

Structural Soil – Engineered soil designed to support both plant growth and pavement weight, allowing tree roots to grow and breathe in compacted urban areas.

Suspended Pavement – A pavement-support system that carries sidewalks, plazas, or parking areas on a structural deck, frame, or cell system so that soil beneath remains largely uncompacted and usable for tree roots and stormwater infiltration.

T

Tensile Fabric – A durable, UV-stable shade fabric installed under tension (e.g., shade sails) that provides immediate shade, typically used where trees are not feasible or need supplemental coverage.

Treatment Train – A sequence of stormwater features used together to improve performance, typically combining pretreatment with infiltration/filtration practices to capture, slow, filter, and infiltrate runoff.

Tree Canopy, Tree Crown – The top part of a tree, containing its branches, leaves, flowers, and fruits, extending from where the main branches emerge from the trunk, responsible for photosynthesis, transpiration, and overall energy production for the tree.

Tree Guying – Stabilizing a tree using guy wires/straps anchored to the ground, typically for larger-caliper trees or windy sites; adjusted to avoid bark damage and removed after establishment.

Tree Staking – Temporary supports used to stabilize a newly planted tree during establishment while allowing enough movement to develop trunk strength; removed once the tree is self-supporting.

U

Ultraviolet (UV) – Invisible radiation from sunlight that can be harmful; effective shade reduces UV exposure in outdoor spaces and improves comfort, especially during peak sun hours.

V

Vertical Shade Structures – Shade structures like screens or louvers installed vertically to block sunlight from west- or south-facing areas. Often used in narrow spaces, these structures typically maintain 60% transparency for safety and visibility.

Volunteer Tree – A self-established tree that was not intentionally planted. Volunteer trees may be desirable or undesirable and are evaluated for retention or removal based on site conditions.

W

Water Harvesting – The practice of collecting and using rainwater for landscape irrigation or other non-potable uses, either passively (e.g., through bioswales and rain gardens) or actively (e.g., through cisterns and gray water systems).

X

Y

Z

RELATED PLANS & POLICIES

A

- Arizona Department of Water Resources Low Water Use and Drought Tolerant Plant List

B

C

- Commercial Solar Guidelines (2020)

D

- Design Standards and Policies Manual (2018)
- Drought Management Plan (2021)

E

- Environmentally Sensitive Lands Ordinance (1991 + amendments)

F

- Frank Lloyd Wright Streetscape Design Guidelines (1991)

G

- Greater Phoenix Green Infrastructure Handbook: Low Impact Development (LID) Details for Alternative Stormwater Management (2019)
- Green Building (LEED™) Policy for New City Construction and Remodels (2005)
- Green Building Design Principles
- Green Building Program and Guidelines

H

I

- Identifying Strategies for a Cooler Scottsdale (2020)
- Integrated Water Resources Master Plan (2022)
- International Energy Conservation Code (IECC) for Commercial and Residential Projects
- International Green Construction Code (IGCC) For Commercial Projects

J

K

L

M

- MAG Complete Streets Guide (2011)
- MAG Desert Spaces Environmentally Sensitive Development Areas Policies and Design Guidelines (2000)
- MAG Desert Spaces Plan (1995)
- MAG Pedestrian Policies and Design Guidelines (2005)
- McDowell Road Design Guidelines (2003)
- McDowell Sonoran Preserve Access Area Design and Site Standards (1999)

N

O

- Old Town Scottsdale Urban Design and Architectural Guidelines (2024)

P

- Parks and Recreation Master Plan (2024)
- Phoenix Cool Pavement Program
- Phoenix Cool Corridor Program

Q

R

- Residential Solar Guidelines (2016)

S

- Scenic Corridor Design Guidelines (2004)
- Scottsdale General Plan 2035 (2021)
- Scottsdale i-Tree Analysis (2024)
- Scottsdale Road Streetscape Design Guidelines (2008)
- Scottsdale Water Strategic Plan (2025 - 2030)
- Sensitive Design Principles (2001)
- Shea Boulevard Streetscape Design Guidelines (1994)
- Stormwater Management Plan (2022)

T

- Transportation Action Plan (2022)

U

V

- Via Linda Streetscape Design Guidelines (1994)

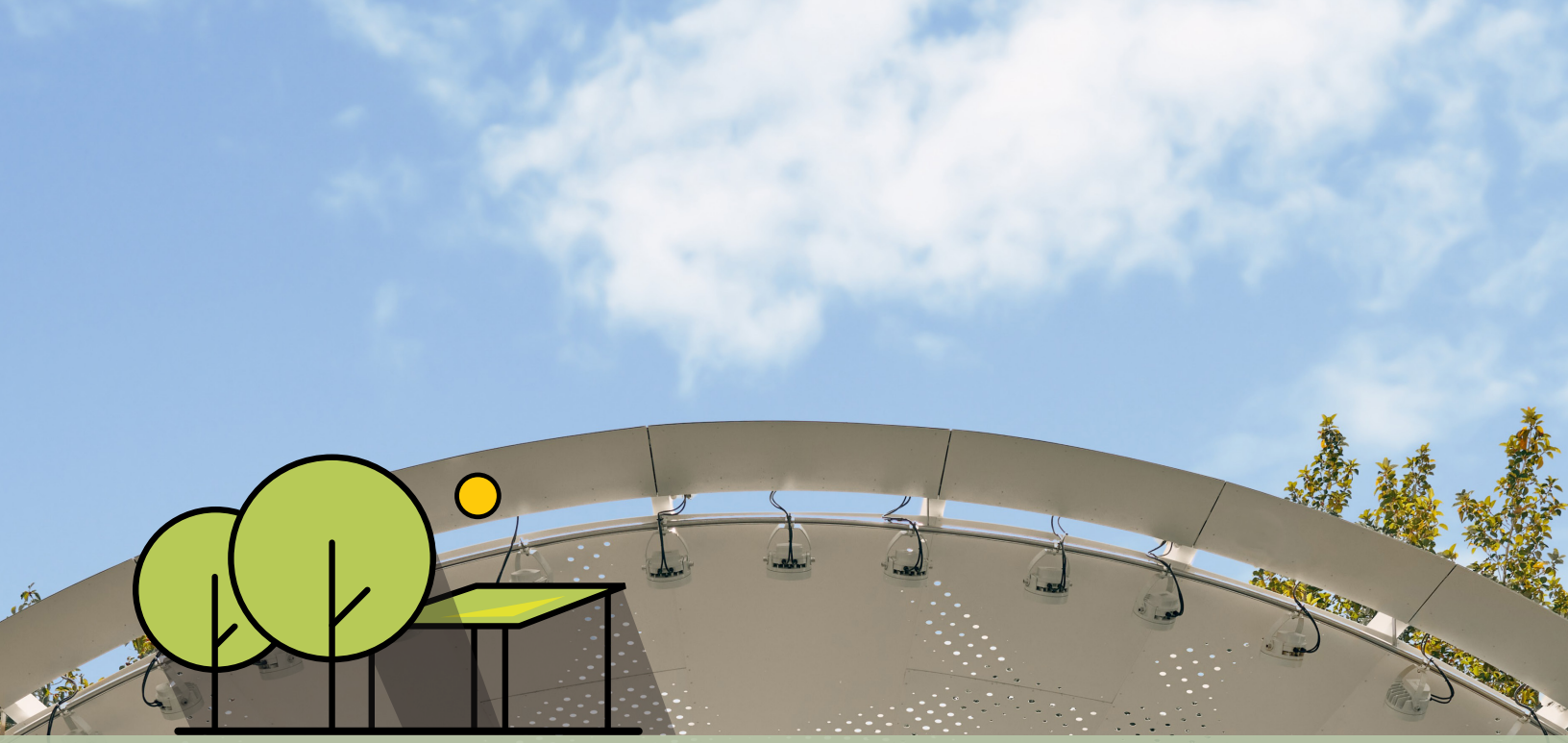
W

X

Y

Z

- Zoning Ordinance



SHADE & TREE PLAN FOR THE BUILT ENVIRONMENT

Development Review Board Resolution No. 10, Adopted May 7, 2026

CITY OF SCOTTSDALE