

ADOT Vegetation Management Guidelines – Native Plant Salvage

1.0 Purpose of Native Plant Salvage

Salvaging protected native plants prior to roadway construction or maintenance earthwork helps to preserve valuable natural resources. The benefits of incorporating salvaged plants into the right-of-way vegetation include:

- Mature specimens of plants that take many years to develop from seed are saved, such as saguaros and barrel cacti
- Visual quality is improved
- Habitat is provided for pollinators and other wildlife
- Diversity of vegetative life stages is increased

1.0	PURPOSE
2.0	PLANNING
3.0	COORDINATION
4.0	BEST PRACTICES
5.0	EQUIPMENT



Transplanted, braced saguaro in revegetation area

2.0 Planning to Salvage Native Plants

Costs vs. Benefits

Mature cacti and succulents, such as saguaro, barrel, and yucca, may be costly to purchase from a nursery, so salvaging them from the right-of-way may be the most cost-effective approach. If the plants can be salvaged using a “move-once” process, the cost of transplanting and the potential stress to the plants may be less than if the salvaged plants are stored in a temporary nursery before being replanted.

In certain situations, native trees with excellent health and form may warrant salvage by boxing, but in general, smaller nursery-grown trees are a better choice for revegetation.

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Seasonality

Cacti and other succulents can generally be salvaged during any time of the year, if handled properly. The greatest success in plant salvage may be influenced by the following factors:

- Transplanting during late spring and early summer, prior to monsoon season, is the least desirable time due to the combination of extreme heat and low rainfall
- Cool temperatures and increased moisture during the winter rainy season may promote decay in fresh transplants
- Often mistaken for a cactus, ocotillo is a spiny, woody shrub that is best transplanted in the spring
- Trees native to the desert regions typically have the best transplant survivability when salvaged during the warm season, generally April through September

3.0 Activity Coordination

Intra-agency Coordination

Due to seasonal considerations related to some native plants, the DEC should be consulted at least six months and preferably one year, prior to construction or maintenance earthwork in areas where protected native plants occur.

Compliance with Arizona Native Plant Law

Cacti, agaves, yuccas, and many other native plants are protected by the Arizona Native Plant Law. The DEC should be contacted to assist with preparing a Notice of Intent to Clear Land (NOI), if protected native plants occur within the area where earthwork is planned.

Information needed for the NOI form includes:

- Property description and location
- Number of acres to be cleared, which determines the length of notice period required (20, 30, or 60 days)
- ADOT's intention for disposition of the plants
- Approximate starting date of earthwork

4.0 Best Practices for Native Plant Salvage

When salvaging native plants, the highest success rate will be achieved by following these best practices:

- Mark the north side of saguaros and barrel cacti, and replant at the same orientation
- Excavate the lateral roots of cacti and succulents by starting to dig three (3) feet out from the plant base
- Roots greater than three (3) inches in diameter should be a minimum length of 24 inches
- Roots between one (1) inch and three (3) inches in diameter should be a minimum length of 12 inches
- Roots less than one (1) inch in diameter should be a minimum length of three (3) inches
- Damaged roots should be clean cut with a lopping shears or similar tool, and dusted with sulfur
- Limit the size of the disturbed area

FOR MORE INFORMATION:

Lists of protected plants may be accessed at <https://agriculture.az.gov/protected-native-plants-categories>

Additional guidance on plant salvage may be obtained from ADOT's Roadside Development Section

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- Determine if runoff from the site can enter a watercourse or storm drain, and if so, install the necessary protection prior to commencing activities
- Cuttings of prickly pear pads (*Opuntia* species) or cholla stems (*Cylindropuntia* species) may be taken as an alternative to digging the entire plant
- Trees or other plants to be boxed shall be side-boxed, allowed to remain in place for two to three weeks, and then bottom-boxed
- Replant at the same depth as the plant was growing naturally, or in the case of large saguaros, no more than three (3) inches deeper
- Provide bracing in a triangulated configuration using wood or rope for saguaros eight (8) feet and taller
- Following transplanting of bare-root cacti and succulents, withhold irrigation for two weeks, then irrigate as necessary depending on temperature, soil type, plant type and size, and other factors
- Boxed plants shall be irrigated from the time of side-boxing through replanting, and until establishment
- Adequately prepare seedbed and reseed disturbed areas and temporary nursery as soon as possible after completion of salvage activity
- Projects on which plants were salvaged during the construction phase should have a Salvage Plan, which can provide additional information about best practices



Salvaged cacti in a temporary nursery

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5.0 Equipment

- Salvage of smaller plants may be accomplished with standard equipment, such as pickup (1/2 ton) and trailer
- Specialized equipment such as hydraulic lifts or cranes will be necessary for transplanting large saguaros and trees; typically this equipment is provided by a contractor specializing in plant salvage

