PIMA COUNTY DEVELOPMENT SERVICES • PLANNING DIVISION

Native Plant Preservation Manual

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A RESOLUTION OF THE PIMA COUNTY BOARD OF SUPERVISORS TO ADOPT A NATIVE PLANT PRESERVATION MANUAL TO PROVIDE STANDARDS AND PROCEDURES FOR IMPLEMENTING THE REQUIREMENTS OF THE PIMA COUNTY ZONING CODE; CHAPTER 18.72, NATIVE PLANT PRESERVATION.

BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF PIMA COUNTY:

SECTION 1. That a Native Plant Preservation Manual is hereby adopted and that this Manual is referenced by Chapter 18.72 Native Plant Preservation of the Pima County Zoning Code:

NATIVE PLANT PRESERVATION MANUAL

18.72.S00 Purpose

The purpose of this Manual is to provide standards and procedures for implementing the requirements of the Pima County, Arizona Zoning Code; Chapter 18.72, Native Plant Preservation.

18.72.S01 Scope

This Manual provides Standards and procedures for implementing the requirements of the Pima County, Arizona Zoning Code; Chapter 18.72, Native Plant Preservation. Reference materials, guidelines, and administrative procedures for this Manual are available at the planning division.

18.72.S02 Definitions

The following definitions in addition to the definitions in Chapter 18.03 will apply to this Manual:

CALIPER
A measurement of diameter taken on a circular tree trunk at twenty four (24) inches above the highest natural grade at the tree trunk base; for a noncircular specimen, use the average of the shortest and longest measurements of diameter twenty four (24) inches above the highest natural grade at the tree trunk base and for a multi-trunked specimen, use the sum of the measurements of diameter of the two (2) largest trunks twenty four (24) inches above the highest natural grade at the tree's multi-trunk base.

DAMAGED
The condition of a viable inventoried Native Plant previously identified on the approved Native Plant Preservation Plan as a preserved-in-place, salvage and transplant, replacement, or supplemental plant, which has little chance of survival in a healthy and attractive manner due to injury, infestation or, disease as confirmed by the monitor or the county.

DESTROYED OR DESTRUCTION
The condition of an existing plant after it has been demolished or eliminated as shown on the approved Native Plant Preservation Plan.

DEVELOPMENT
Any permitted or no-permitted human alteration to land and its vegetation, soil, geology, drainage, hydrology and surface features; changing the appearance and character of land; and including but not limited to the acts of grubbing, clearing, and grading of land, and placing improvements on the land such as buildings, structures, signs, paving, vegetation, and outdoor use areas.

DRIP LINE
For cacti: an area around the plant that overlays the mature root system. For trees and shrubs: an area under the undisturbed canopy of the tree or shrub.

ENDANGERED SPECIES ACT OF 1973
A Federal law enacted for the protection of endangered and threatened species in the Continental United States, also referred to in this chapter as "An Endangered Species Act".

MITIGATION
The replacement of an inventoried plant(s) rated medium to high viability, also referred to as a specimen(s), that is destroyed or removed from the site as shown on the approved Plant Preservation Plan with a plant(s) of the same genus and species from off site in good physical condition with a high rating for health, age, and form.

NATIVE PLANT PRESERVATION PLAN
A plan for the preservation of protected Native Plants prepared and submitted in conformance with this chapter, also referred to as "Preservation Plan".

NATIVE PLANT PRESERVATION MANUAL
The standards and procedures for implementing the requirements of Chapter 18.72, Native Plant Preservation, also referred to as "Preservation Manual", or "Manual".

PLANT COMMUNITY
A biologic grouping of vegetation frequently found under natural conditions due to their common soils, moisture, climate and orientation requirements; also means a plant association.

PRESERVATION-IN-PLACE
No disturbance of one or more plants and the associated under story plants, or no disturbance of a plant community as in the Set-aside Method. Preservation-in-place is promoted by site planning and design that retains existing plant genus and species in their current location, grade, and configuration and promotes their future health and growth.

PROPERTY OWNER, DEVELOPER, APPLICANT
Means the person(s) or legal entity that has fee title to the site or a legal right to control development of the site, or a designated representative on the property owner's behalf.

PROTECTED NATIVE PLANT
Any living plant on the Protected Native Plants list found in Section 18.72.040 Protected Native Plants List. For the purpose of this chapter, also referred to as "Native Plant(s)".

REGULATED RIPARIAN HABITAT AREAS
Also referred to as "riparian habitat" shall mean riparian habitat areas identified on the County's Riparian Habitat Maps as established by Article X of the "Pima County Floodplain and Erosion Hazard Management Ordinance".

RIPARIAN REGULATIONS
When used will mean Article X of the "Pima County Floodplain and Erosion Hazard Management Ordinance", entitled "Watercourse and Riparian Habitat Protection and Mitigation Requirements" which includes approved Hydroriparian, Mesoriparian, and Xeroriparian plant and seed lists.

SAFEGUARDED PLANTS
Shall mean all species listed in the highly safeguarded category of the Arizona Native Plant Law, A.R.S. §3-901 et seq.; also referred to as "safeguarded species".

SET-ASIDE
A method of plant preservation identified in this chapter; shall also mean the permanent protection of land and all vegetation within an area designated as a set-aside area in an undisturbed state.

SITE
Refers to a single lot or a combination of contiguous lots (or parcels), or a leased area on a lot that meets the minimum zoning standards of the applicable zone.

SPECIMEN or SPECIMEN PLANT
Means a single inventoried Native Plant or Safeguarded Plant, rated medium to high viability.

TRANSPLANTABILITY
The relative ability of a Native Plant to be successfully transplanted.

VIABLE PLANT, also a VIABLE INVENTORIED PLANT
An inventoried Native Plant in good physical condition with a medium or high rating for health, age and form, but which may or may not meet the "transplantability" standards of this chapter.

18.72.S03
Plant Inventory Standards and Criteria

A. The plant inventory map will be prepared in conformance with the following criteria and standards:

   1. An aerial photograph base map with a map scale the same as the map scale of the Native Plant location/preliminary site plan. The aerial photograph will be no more than three years old. If the aerial is more than one year old, verification will be provided that there has been no significant change in vegetation on the site from the date of the aerial photograph until the date of the Preservation Plan.

   2. The following labeled and mapped elements will be added to the aerial photograph base map:

      a. The site and site boundaries; site areas to remain undis turbed, to be graded, to be designated as undisturbed, set-aside, and natural open space, and riparian habitat; and dedications, all in conformance with the correspond ing boundaries on the tentative plat, development plan, and grading plan for the subject site.

      b. The location and keyed identification number for each plant required by Section 18.72.100 A.

B. The plant inventory list shall include:

   1. A list showing the name, number, size, and viability/transplantability (in conformance with 18.72.S04 Viability and Transplantability Rating) of all specimens by species within the proposed site boundaries that meet the requirements of section 18.72.100 A.

   2. A plant identification key for all existing specimens by species included in subparagraph B.1. above.

   3. Plant group inventory:

      a. Areas of the site which contain plant communities with seventy five percent (75%) or more of the Native Plants with low plant viability rating, as in the case of plants damaged by fire, frost, flood, insects, disease, or other natural damage, may be inventoried by sampling a typical, identifiable area for each genus and species and estimating representative numbers of specimens for each genus and species per one hundred (100) square feet of undisturbed

area. These areas will be clearly delineated and annotated on the inventory map.

b. Areas of the site which will be left undisturbed, excepting set-aside areas, may be inventoried by sampling a typical, identifiable area for each genus and species and estimating representative numbers of specimens for each genus and species per one hundred (100) square feet of undisturbed area. These areas will be clearly delineated and annotated on the inventory map as undisturbed areas.

18.72.S04
Viability and Transplantability Rating of Inventoried Plants

A. VIABILITY. In the opinion of the qualified professional:

1. HIGH—the following standards are met:

   Health: The health of the plant is good to excellent with no major infestations or apparent diseases.

   Age: The plant is young enough to suggest a likely chance of long survival.

   Form: The plant form and character is representative of its species and has only minor damage.

2. MEDIUM—the plant does not meet all of the standards for a high rating but has sufficient merit to warrant preservation.

3. LOW—one or more of the following standards are met:

   Health: The plant is in poor health, generally the result of severe disease or lack of water over time. Mistletoe infection does not result in a low health rating for an otherwise medium to high health plant.

   Age: The plant is old and in a state of decline, suggesting a low probability of long and continuing survival.

   Form: The plant form and character is severely damaged. For trees, this may include large old dead trunks and branches or a weak branching habit.

B. TRANSPLANTABILITY. In the opinion of the qualified professional:

1. HIGH—the following standards are met:

   Size: Overall plant dimensions meet industry standards for salvage and transplanting.

   Soils: Soils can be excavated, are cohesive, and appear capable of supporting a boxed or ball and burlapped rootball, where important to the health of the plant.

   Topography: Surrounding topography permits access with the appropriate equipment needed to salvage and transplant the plant.

   Context: Adjacent plants do not pose a likely interference with root systems, and do not pose interference with plant removal.

2. MEDIUM—Assigned to plants which do not meet all of the standards for a high rating but have sufficient merit to warrant transplanting.

3. LOW—one or more of the following standards are met:

   Size: For trees, trunk caliper at the tree base is excessive as a result of unpruned growth or from old, dead trunks.

   Soils: Soils are too rocky, sandy or willow to excavate a cohesive root ball.

   Topography: Local topography (i.e., steep slopes, rock barriers) seriously limits access to the specimen with the appropriate salvage and transplanting equipment.

   Context: Adjacent plants interfere with removal or present likely conflicts with the rootball system.

18.72.S05
Native Plant Allocation/Preliminary Site Plan Requirements

All Native Plant location/preliminary site plans will include:

A. A map scale of one inch (1") = fifty feet (50') or sixty feet (60')

B. The following mapped elements:

1. Limits of set-aside areas, riparian habitat areas and areas to remain undisturbed to include natural open space areas;

2. Limits of all areas to be graded consistent with the grading plan;

3. The location of each inventoried plant with an identification key for each;

4. A code attached to the identification key of each specimen to be preserved-in-place, salvaged and transplanted-on-site, or destroyed or removed from site, and the general location of transplanted on-site, replacement and supplemental plants;

5. Location of existing and proposed roads, rights-of-way, utility

easements, structures, buildings, streets, parking areas, on-site trails, paths, sidewalks and the location of off-site streets, trails, paths, and sidewalks at the site boundary;

6. Existing topographic contours and any proposed new contour lines (at two foot maximum contour intervals);

7. Location of a temporary holding nursery to be used for transplanted and removed plants;

8. Location of fencing or barricades required by 18.72.S05 E.8.

C. Text and data elements which include the following:

1. A list of all inventoried plants by genus and species and the viability rating, transplantability rating, disposition and color-coding of each inventoried plant—disposition refers to preserved-in-place, transplanted on-site, removed from site, or destroyed;

2. A summary total by species of all inventoried specimens and the proposed disposition per species according to the following categories: preservation in place, transplanted-on-site, and mitigation (destroyed or removed from site);

3. Summary (estimated representative) count of inventoried plants to remain in place within the undisturbed areas;

4. The proposed general transplanting location of specimens relocated on-site; and a note regarding the proposed off-site location for plants to be salvaged and stored or transplanted off-site;

5. Mitigation calculations which show compliance with the minimum requirements of Chapter 18.72 to include:

   a. A summary calculation showing the total number of specimens by genus, species and size proposed for removal or destruction and the corresponding number of replacement plants by genus, species, and size.

   b. The general location of replacement plants on-site; or if the Plant Appraisal Method is chosen, then the genus, species, size, and appraised value of each removed from the site will be listed. Appraisal values will be determined according to the most current techniques and procedures accepted by the Council of Tree and Landscape Appraisers.

6. A narrative element which summarizes the information required in this Manual and integrates the requirements and findings of Chapter 18.72.

D. Salvaging, Transplanting, and Maintenance standards and procedures in specification form which includes the following:

1. The schedule of site grubbing, clearing, grading, salvage and transplanting and including the timing and phasing of all harvesting, tree boxing, tree and cacti salvage and irrigation to take place on-site;

2. The method and schedule for providing irrigation to specimens transplanted-on-site and to specimens salvaged and placed in temporary on-site nurseries;

3. The method for protecting designated natural open space, undisturbed and set-aside areas, and preserved-in-place specimens and understory vegetation located inside grading areas from encroachment and damage during the development process. Specify fence, gate, and barricade materials used and methods for controlling access to the designated natural open space areas and set-aside areas;

4. The following standards and procedures, as applicable, for specimens except Saguaro and cacti: salvage and transplanting variables based on the season of the year, pruning before and after transplant, appropriate box size for salvaged specimens based on trunk diameter and plant type, root zone and root ball preparation and protection, trenching and excavation, plant spading, boxing to include trunk diameter to box size ratios and box construction, support and protection during transport, specimen maintenance in a temporary nursery, final location transplanting techniques, and long-term maintenance, irrigation and protection;

5. The following standards and procedures, as applicable, for specimen Saguaros and cacti: transplanting variables based on the season of the year, orientation of the plant at the original site location and in the holding nursery, root zone and rootball preparation and protection, trenching and excavation, support and protection during transport, final location transplanting techniques, maintenance in temporary nursery, and long-term maintenance, irrigation and maintenance.

E. The following notes and standards will be added to the plan or specifications:

1. Paint marking and tags required by the Plant Preservation Manual will be applied or attached in a consistent and visible location on each plant. An inspection to confirm conformance with the approved Preservation Plan will be performed by the on-site monitor when marking and tagging is completed;

2. All salvage and transplanting operations will be performed by a landscape contractor licensed in the State of Arizona.

3. Professional standards and professional practices for the Salvaging and Transplanting of protected Native Plants will be followed.

4. Only boxed field grown plants that have been hardened in place before removal and nursery-grown plants will be used as replacement plants.

5. All transplanted specimens will be in good health and condition, planted in association with nurse plants when required to assure survivability, and irrigated and maintained to ensure their survival and health for the duration of any stay in a temporary holding area and in their permanent location on-site. Preserved-in-place plants may serve the function of nurse plants.

6. On-site storage of salvaged specimens will be provided in a holding nursery in conformance with the requirements of this Manual.

7. Containerized plants used to meet the requirements of Chapter 18.72 will be protected with browse control cages or other techniques proven effective in deterring herbivores as approved by the County.

8. Protective fencing and barricades: For the duration of the development project, temporary physical barriers, minimum six foot (6') high wood or chain link fence, will be erected around all site grading boundaries, around all set-aside areas and natural open space areas, riparian habitat areas, and around preserved-in-place and transplanted specimens, and replacement plants identified in this subparagraph 8 regardless of whether or not a bonus credit is claimed. The purpose of the fencing and barriers is to provide protection against ground disturbance and damage from the impacts of construction activity and the development process. Grading will not encroach inside the fenced and barricaded areas. The property owner will maintain this "no disturbance" area, from which no plants will be removed. Physical barriers so erected will extend beyond the drip line of specimens inside grading areas and specimens located on the boundary of set-aside and grading areas for a distance equal to or greater than one-quarter (1/4) of the width of the specimen tree or specimen shrub and equal to or greater than one-quarter (1/4) of the height of a specimen cactus, ocotillo, shrub, or other cacti. Preserved-in-place and replacement specimen trees with a caliper greater than twelve inches (12") and preserved-in-place and replacement saguaro greater than ten feet (10') in height located inside grading areas will be protected during the development process by fencing erected in conformance with the requirements of this subparagraph 8. Fencing and barricades required by this subparagraph 8 will remain throughout the construction and development process.

9. Understory grade protection: Protection of the understory grade will extend, at a minimum, beyond the drip line of preserved-in-place and transplanted specimens, and replacement plants for a distance equal to one-quarter (1/4) of the width of the specimen tree or specimen shrub and one-quarter (1/4) of the height of a specimen saguaro, other cacti, or ocotillo, shrub.

10. Young Saguaros, less than three feet in height, will be trans planted below "nurse" plants (i.e. mature mesquite, palo verde or acacia trees) such that the overlapping tree canopy provides partial shade and protection. Provide artificial shade for a season, or plant under a tree or shrub unless the cactus or saguaro three feet or greater in height was originally growing in full sun. All salvaged Saguaros and cacti will be transplanted with the same sun orientation as their original location.

11. All saguaros will be planted away from the sphere of influence of any irrigation designed for a nurse plant.

12. All listed plants will be planted in locations able to support their long term health and survival and in densities and configurations to approximate the site's preconstruction vegetation characteristics.

13. Mistletoe infections will be removed from specimens before transplanting.

F. Supplementary Information: The Planning Official may require additional information to reasonably insure that the purpose of this chapter is fulfilled.

18.72.S06
Color-coding and Tagging Standards

A. Color-coding and tagging is required for all specimens and all plants except for the following:

1. Plants within set-aside areas and areas inventoried as a group due to low viability.

2. Plants proposed for harvesting or destruction.

B. Color-coding and tagging standards:

1. Each Specimen tag will be keyed with an identification number and wash-away color-coded paint on both sides of the tag so

that the status and planned disposition of each specimen can be easily identified and confirmed for compliance with the location, status and planned disposition of its corresponding specimen on the plant inventory and the Native Plant Location/Preliminary Site Plan. Wash-away color-coded paint may be applied sparingly to the trunk surface of the specimen.

2. The north side of all Saguaro and barrel cacti to be transplanted will be marked with wash-away color-coded paint prior to transplanting. The same color-code paint marking may serve both disposition and orientation functions.

3. Wash-away color-coded paint required by this section will be applied in a consistent and visible location on each plant. An inspection to confirm conformance with the approved Preservation Plan will be performed by the on-site monitor when marking is completed.

4. Once applied, the paint will not be removed until the Preservation Plan is implemented and a final inspection by the on-site monitor has certified compliance with Chapter 18.72 and this Manual.

C. Color code legend: Wash-away paint will be applied to specimens in conformance with the following color code legend except for non-color coded specimens identified in paragraph A.1. and A.2. above:

1. White Paint: Proposed for preservation in place;

2. Blue Paint: Proposed for transplanting on-site;

3. Yellow Paint: Proposed for transplanting to another site;

4. Red Paint: At the property owner's discretion, all specimens not otherwise color-coded that are to be preserved-in-place, salvaged and transplanted, or exempt from the harvesting process.

D. The color-code legend will be given to each crew supervisor and displayed on posters in at least three prominent locations on the site for viewing by the public and construction crew personnel. Sign permits will not be required for this purpose.

18.72.S07
Administrative Exceptions

Property owners claiming an exception per Section 18.72.050C. will submit a written request for an administrative exception and include one or more of the following required documents:

A. An aerial photograph delineating the site boundaries and other pictorial evidence that clearly shows the absence of Native Plants within the site boundaries or an aerial photograph and other pictorial evidence and a site plan or development plan at the same scale as the aerial photograph that clearly shows that construction will not impact any Native Plants. Aerial photos and plans will be at the same scale; a minimum of one inch (1") equals one hundred feet (100'). The photograph will be no more than three (3) years old. If the photograph is more than one (1) year old, verification will be provided that there has been no appreciable change in the on-site vegetation since the date the photograph was taken.

B. A signed and dated statement from a plant professional who meets the qualifications in Section 18.72.070 of the Pima County Zoning Code and who visited the subject site and verified the absence of viable, listed plants on the subject site.

C. Other documentation acceptable to the Planning Official, which clearly indicates that the site does not contain or the project will not impact specimen plants. Such documentation includes but is not limited to photographs of the site and a signed statement from the property owner that specimen plants are not located on the subject site.

18.72.S08
Amendments

This Manual may be amended by resolution of the Board of Supervisors after a noticed public hearing.

SECTION 2. This resolution will become effective thirty-one (31) days from and after its adoption.

SECTION 3. If any provision of this resolution, or the application thereof to any person or circumstance is invalid, the invalidity will not affect other provisions or applications of this resolution which can be given meaning without the invalid provision.

Pima County Board of Supervisors:
Richard Elías, Chairman, Supervisor, District 5; Ann Day, Supervisor, District 1; Ramón Valadez, Supervisor, District 2; Sharon Bronson, Supervisor, District 3; Raymond J. Carroll, Supervisor, District 4;

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