

TITLE 17

**ENVIRONMENTAL RESOURCE PRESERVATION
NATIVE PLANT PROTECTION
LANDSCAPE REQUIREMENTS**

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17.01 ENVIRONMENTAL RESOURCE ZONES

PURPOSE. These regulations provide for the protection and preservation of unique and significant ridges, peaks, riparian areas, wildlife corridors, rock outcroppings, and areas of significant vegetation where they occur throughout the Town. The protection

of these unique natural areas is a priority that can be achieved through the implementation of the following procedures, requirements and standards.

17.01.01 PROTECTED RIDGES, PROTECTED PEAKS, RIPARIAN AREAS, WILDLIFE CORRIDORS AND AREAS OF SIGNIFICANT VEGETATION

All development shall be reviewed to determine to what extent the site contains unique and significant ridges, peaks, riparian areas, wildlife corridors and significant vegetation. Where it is determined, through the preparation of a Site Resource Inventory (Section 17-1-2) that unique and significant natural features occur on the subject property, measures shall be taken to protect and preserve these areas. The following information shall be required, as it may apply:

- A. The property owner shall provide the Town with a complete Site Resource Inventory (SRI) per the requirements of Section 17-1-2.
- B. Biological linkages between existing wildlife and riparian corridors shall be maintained. Animal species shall be protected within these linkages.
- C. The size and shape of riparian and wildlife corridor linkages shall be determined based on the SRI on a case-specific basis. The linkage can be further protected and enhanced by a buffer of low-density land use, such as custom home lots with delineated natural open space and/or open space or golf course. The combined linkage and buffer shall be wide enough to accommodate the wildlife species most sensitive to human encroachment known to inhabit the property based on the recommendations of the biologist and acceptance by the Town of Marana.
- D. All areas determined to include riparian or wildlife linkages and corridors shall be protected and remain undisturbed throughout the course of development and shall be fenced-off during construction. All construction documents (grading plans) shall include the location of the riparian and wildlife corridors and linkages clearly delineated and labeled as such with an added written notation "off-limits" added on the plans.
- E. Any inadvertent grading of the riparian and wildlife corridors and linkages shall be mitigated at one hundred (100) percent by revegetation with plantings chosen to match adjacent undisturbed natural areas with a minimum of five (5) years growth. Plant materials shall be introduced to closely match existing species in terms of size, massing and quality, as approved by the Planning Director.

17.01.02 SITE RESOURCE INVENTORY

The Site Resource Inventory (SRI) shall be the primary evaluative design tool upon which the site design (site plan, rezoning, subdivision plat, and/or development plan) and Native Plant Program are based. The information contained in the SRI shall be utilized for purposes of site planning and design, and shall describe and identify natural characteristics of the site, as listed below, including areas of unique and significant peaks, ridges, vegetation and rock outcroppings, riparian areas and wildlife corridors.

- A. To promote these objectives, the Town will require a Site Resource Inventory be prepared in conformance to these regulations and submitted two (2) weeks prior to the Pre-Application Meeting required for all Rezoning, Preliminary Plat and Development Plan submittals or at a minimum of one month prior to development submittal.

- B. The Site Resource Inventory shall be based on an aerial photograph of the site (scale of 1"=40') that is no older than two years from the date of submittal. The SRI shall contain the following information, clearly identified and distinguished:
1. The following information shall be graphically shown:
 - a. *Unique Significant Vegetation* shall be delineated with *heavy solid lines*.
 - b. *Riparian Areas* shall be delineated with *dashed lines*.
 - c. *Wildlife Corridors* shall be delineated with *dash-dot-dash lines*.
 - d. *Unique Rock Outcroppings* shall be delineated with *light shading*.
 - e. *Steep Hillside Slopes* shall be delineated with *hatching indicating 15 percent to 25 percent and greater slopes*.
 - f. *100-Year Regulatory Flood Limits (FEMA)* shall be delineated with *alternating dash-dash-dot-dot-dash-dash lines*.
 - g. *Property Boundaries* clearly identified and labeled with lengths of each.
 - h. *Location Map* (at a scale of 3"=1 mile) provided in the Upper right-hand corner of the sheet.
 - i. *Graphic Scale and North Arrow* of drawing clearly shown.
 2. Town review of the Site Resource Inventory shall be completed within 15 days of the SRI submittal.
- C. Unique Significant Vegetation is characterized as specific plant communities and/or unique plant occurrences and/or unique individual specimens that demonstrate through the presence of certain criteria, as listed below, areas of special value to the Sonoran Desert Ecosystem.
1. *Plant Community* is an area of vegetation dominated by one or more species. Climate, elevation, soil type and other factors ultimately determine the limits and boundaries of particular plant communities. Examples of a plant community dominated by one species are grassland and creosote bush association, or a grove of trees, for example a mesquite bosque. These communities can form almost pure stands of single species. Examples of co-dominant communities are Cottonwood-Willow and Palo Verde - Saguaro associations. Plant communities create an environment that is beneficial, unique and/or valuable to the desert ecosystem.
 2. *Unique Plant Occurrences* are areas of vegetation that exist in contrast to the majority of the surrounding vegetative community due to either microclimates or availability of water resources. Examples are stands of ironwood trees and riparian areas.
 3. *Unique Plant* refers to any native tree, shrub or cacti with extraordinary characteristics such as, but not limited to, age, size, shape, form, canopy cover or aesthetic value. An example may be crested saguaros, a rare, massive, ancient tree or specimen tree with an unusual shape.
- D. Criteria for Identifying Unique Significant Vegetation.
Due to the subjectivity involved with identifying unique significant vegetation, the following criteria and site conditions should at a minimum exist and be utilized:
1. Plant species are native to the area.
 2. Plant species composition is typical for the area.

3. Plants are generally healthy and will survive for 5 or more years.
 4. Plant density is unusually high for the conditions (soil, slope, orientation, water availability).
 5. An unusually large number of mature specimens of individual trees and/or columnar cactus species are present.
 6. Noxious/invasive species are few and not visually prominent, such as Desert Broom, Tamarisk, Mexican Palo Verde and Tree of Heaven.
 7. Grading or clearing has not substantially altered the landscape in the area.
 8. Constructed non-native landscapes do not qualify as unique significant vegetation.
- E. Preservation of unique significant vegetation should emphasize contiguous groups of natural areas and unique significant vegetation. Areas of unique significant vegetation include, but are not limited to, other natural areas protected by this code.

Definitions:

- Ridges/Peaks:** Raised land formations that are a dominant feature in the surrounding landscape or constitute a significant linking element.
1. Any parcel, lot, or project site containing slopes of fifteen (15) percent or greater, which are both longer than fifty (50) feet when measured in any horizontal direction and higher than seven and one-half (7.5) feet when measured vertically.
 2. Areas which exhibit slopes that fail to meet the aforementioned standards but contain; boulder collapse, boulder rolling, rockfalls, slope collapse, and or talus slopes shall also be considered significant and or unique, and therefore subject to the preservation standards described in Article 17-1.
- Riparian Areas:** Riparian areas contain a moderate to high density of healthy and diverse species and habitats adjacent to or occurring on or near a watercourse or drainage feature.
- Rock Outcroppings:** Land containing a diversity of rock groupings, structure types, exposed bedrock, and or any significant geomorphic formation of varying dimension and texture.
- Wildlife Corridors:** Any area or parcel of land that composes or contributes to a region where habitat is fragmented by urbanization and thereby compromises natural animal movement. Wildlife Corridors shall be established in such areas as to provide a source of connectivity between two or more isolated habitat islands. This designation is designed to increase the confluence of the natural landscape and the degree of animal mobility. Any land identified as suitable for wildlife movement must include enough native resources to temporarily sustain migrating animals.

TOWN OF MARANA, ARIZONA
LAND DEVELOPMENT CODE

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17.02 NATIVE PLANT PROTECTION

PURPOSE. These regulations provide for the preservation, protection, transplanting, and replacement of existing designated native plants including cacti, succulents, trees, and shrubs through the establishment of comprehensive procedures, requirements, and standards which protect the public health, safety, and general welfare.

17.02.01 FINDINGS

The Town of Marana has determined that:

- A. Native vegetation within the Town of Marana is a unique natural resource that promotes tourism and contributes to the economic and aesthetic well-being of the community.
- B. Native vegetation, as an integral part of the Sonoran Desert, contributes to the high property values, high quality of life, and unique lifestyle which the community enjoys.
- C. Native vegetation is important in stabilizing desert soils and providing food and protection for many types of desert wildlife.
- D. Native vegetation is more drought tolerant, requires less maintenance, and uses less water than other types of landscaping.
- E. Native vegetation is a slow-growing type of plant material that cannot always be successfully relocated. A plant of like character cannot replace certain specimen plants, because of their form, age or location.

17.02.02 APPLICABILITY

The provisions of this Regulation apply to all development as listed below:

- A. All new development.
- B. Expansions of existing development.
 - 1. If the expansion is less than twenty-five (25) percent, the requirements of this ordinance apply only to the proposed expansion area.
 - 2. If the expansion is twenty-five (25) percent or greater or if expansions after October 2, 2001, cumulatively result in a twenty-five (25) percent or greater expansion in land area, floor area, lot coverage, or vehicular use area, the requirements of this ordinance apply to the proposed expansion area and the remaining undeveloped site area.

17.02.03 EXCEPTIONS

The provisions of this Regulation do not apply to the following:

- A. A project on a site that does not contain any plant on the Protected Native Plant List, demonstrated by the applicant through photographic and/or on-site verification, subject to the Planning Department's determination. A Native Plant Permit Exception Form and supporting photographic verification must be submitted to the Planning Department for review and approval at the time of development application.
- B. Previously graded sites containing no significant native vegetation may apply for a Native Plant Permit Exception. A Native Plant Permit Exception Form and supporting photographic verification must be submitted to the Planning Department for review and approval at the time of development application.
- C. Projects for which a residential site plan, development plan or subdivision plat has been submitted or approved prior to October 2, 2001, provided that permits are obtained within one (1) year from the date this ordinance is approved.

- D. Projects on a site or parcel that maintain a minimum 30% of the gross site area as natural undisturbed open space (NUOS). The perimeter boundary of the NUOS shall be surveyed and a metes and bounds description identified and certified by the engineer of record to assure that the set-aside area equals a minimum of 30% of the gross site area.

17.02.04 PROFESSIONAL EXPERTISE

Preparation of all elements of the Native Plant Preservation Plan and on-site monitoring shall be performed by one of the following plant professionals:

- A. A landscape architect registered in the State of Arizona.
- B. An arborist certified by the International Society of Arboriculture.
- C. A horticulturist, biologist, or botanist with a minimum B.A. or B.S. in an appropriate arid environment natural resource field, or an individual based on there credential is accepted by the Planning Director.

17.02.05 NATIVE PLANT PROTECTION

No person shall destroy, mutilate, remove from the premises or relocate to another place on the premises any cacti, indigenous trees and/or shrubs which are four (4) inches or greater in caliper, any plants listed in the endangered species act as threatened, endangered, and category 1, 2 and 3 species, and any plants included in the listing of Protected Native Plants, Section 17-2-15, contained in this ordinance without first applying for and obtaining a Native Plant Permit from the Town under the terms of this ordinance.

17.02.06 NATIVE PLANT PERMIT

A Native Plant Permit, required by this ordinance, shall only be issued upon submittal of a complete Native Plant Permit application and written approval by Planning Staff. All permits are subject to the provisions of this ordinance and are not intended to replace, modify or circumvent the requirements of any other State, Federal or local agency. A Native Plant Permit application shall include an approved Site Resource Inventory (SRI) per the requirements of Section 17-1-2 and an approved Native Plant Program per the requirements of Section 17-2-10 and shall be signed by the property owner of record. In the event an application for a Native Plant Permit is for all or part of a proposed development which requires Town Planning Commission or Town Council approval, the permit shall not be issued until the necessary development approvals have been secured.

17.02.07 APPROVAL/DENIAL NATIVE PLANT PERMIT

Applications may be approved, approved conditionally, or denied. Where the Planning Director determines that the application is in conformance with the provisions of this ordinance a permit shall be issued with such conditions and assurances attached as necessary to insure that the Site Resource Inventory and Native Plant Program are successfully accomplished. Where it is determined that the application is not in conformance with the provisions of this ordinance, the application shall be denied. To modify, alter or amend an approved Native Plant Permit or Native Plant Program requires reapplication for a Native Plant Permit. Every permit issued by the Town under the provisions of this article shall

expire and become null and void if the work authorized under the provisions of this article is not commenced within six (6) months from the date of issuance unless otherwise specified as a condition of the permit approval. Before such work can be recommenced, a new permit shall be obtained pursuant to the provisions of this article. The Planning Director shall have the authority to grant a single time extension not to exceed one-hundred eighty (180) days, for completion of the work upon written request of the applicant. Failure to comply with the time limitation without an extension authorized by the Town shall require application for a new permit pursuant to the provisions of this Article.

17.02.08 APPEALS

- A. Once the Planning Director has rendered a written decision per this Title or issued a notice of action per this Title, the aggrieved person may appeal the decision or action of the Planning Director by submitting a written appeal to the Planning Commission within ten (10) days of the decision or action of the Planning Director. The Planning Commission will act and render a decision on this appeal within forty-five (45) days. If no appeal is made within ten (10) days, the decision or action of the Planning Director shall be final.
- B. Either the aggrieved person or the Planning Director may appeal the decision of the Planning Commission to the Town Council. Such appeal must be made in writing to the Town Clerk within five (5) working days of the decision by the Planning Commission. When such a notice of appeal has been submitted to the Town Clerk, it will be brought before the Town Council at the Town Council's next available regular meeting as a regular agenda item, classified as new business. The Town Council may then confirm or modify or reverse the decision of the Planning Commission. Any motion to modify or reverse the decision of the Planning Commission shall contain the explicit reasons therefore. If the Town Council takes no action on the matter, the decision of the Planning Commission shall be final.

17.02.09 FEES

Fees are payable to the Town of Marana in accordance with the fee schedule adopted by Town Council Resolution.

17.02.10 NATIVE PLANT PROGRAM

The Native Plant Program is a plan, which specifies the proposed treatment of the Protected Native Plants (per Section 17-2-15), which are being disturbed. The Planning Director shall review the Native Plant Program presented as part of the Native Plant Permit application and may approve, conditionally approve, or deny an application based upon compliance with and in consideration of the criteria contained herein.

17.02.11 NATIVE PLANT INVENTORY METHODOLOGIES

Any combination of at least one or more of the following three methodologies shall be utilized to prepare a Native Plant Program for Protected Native Plants on the project site. The applicant shall conform with all requirements of the applicable Set Aside Methodology, Plant Inventory Methodology or the Plant Appraisal Methodology.

- A. *Set Aside Methodology.* The preservation and mitigation requirements of this Section shall be satisfied by the set aside of an area of the site as undisturbed natural desert area in conformance with the following requirements. The provisions of this section may be combined, or used in conjunction with the provisions of other plant protection methodologies of this section. A minimum of thirty (30) percent of the site shall be set aside in perpetuity as Natural Undisturbed Open Space (NUOS). The NUOS set aside area shall consist of the area(s) with the highest resource value as determined by the Site Resource Inventory (SRI), Section 17-1-2. Boundaries of all NUOS set aside areas shall be clearly delineated on an aerial photograph and site plan, development plan, or subdivision plat and fenced for the duration of any construction activities.
- B. *Plant Inventory Methodology.* The Plant Inventory Methodology is based upon a Native Plant Inventory of all Protected Native Plants (Section 17-2-15). The Criteria set forth in Section 17-2-14 shall be used to determine the viability and transplantability of Protected Native Plants as well as to determine the numbers and locations of plants required for preservation-in-place (PIP) or transplanted-on-site (TOS). The minimum number of Protected Native Plants required for PIP and/or TOS is based upon a percentage of the viable and transplantable Protected Native Plants inventoried on-site.
 - 1. The minimum standards for the preservation of Protected Native Plants in the Plant Inventory Methodology shall be satisfied as follows:
 - a. *Endangered Species and "Crested" Saguaros.* One hundred (100) percent of Federal Endangered Species and Crested Saguaros shall be preserved-in-place or salvaged and transplanted on-site.
 - b. *Saguaros and Ironwoods.* At least fifty (50) percent of all Viable Saguaros and Ironwood trees shall be preserved-in-place or salvaged and transplanted on-site.
 - c. *Other Protected Native Plants.* At least thirty (30) percent of each genus and species of other Viable and Transplantable Protected Native Plants shall be preserved-in-place or salvaged and transplanted on-site.
- C. *Plant Appraisal Methodology.* The preservation and mitigation requirements of this Section shall be satisfied when the monetary replacement value is determined for each genus and species of Protected Native Plant which is removed from the site, damaged, or destroyed. The provisions of this subsection may be combined, or used in conjunction, with other Plant Preservation Methodologies specified in this Section.
 - 1. *Site Appraisal.* A plant appraisal shall be prepared which shall identify and state the financial value of each Protected Native Plant

- which is proposed to be removed from the site, damaged, or destroyed and shall be keyed to the Native Plant Inventory of the Native Plant Program. The monetary value of these plants shall be paid into an Escrow Account of the Town's choosing, to be used for Public Works Landscaping Projects within the Town of Marana. The plant appraisal shall be conducted by a recognized Plant Professional according to the most current methods and procedures accepted by the Council of Tree and Landscape Appraisers.
2. *Expiration of Appraisals.* Appraisals shall be current within six (6) months of submittal of the Native Plant Program and shall be valid for a period of two (2) years after the Plan approval date. A revised appraisal value shall be required for development which does not proceed before the two (2) year time limit of the appraisal has expired.
 3. *Amendment of Appraisals.* Where any Protected Native Plant is removed from the site, damaged, or destroyed and is not identified on the appraisal prepared in conformance with the Native Plant Program, the Protected Native Plants shall be appraised pursuant to this section, and the appraisal shall be amended to include all additional Protected Native Plants removed and their financial value.
- D. *Preservation and Mitigation Requirements.* Protected Native Plants which are proposed to be or are removed from the site, damaged, or destroyed during development shall be replaced by plants of the same genus and species. The Native Plant Preservation Plan shall detail the size and value of replacement plants to demonstrate that the monetary value of replacement plants shall be equal to the monetary value of each genus and species of Protected Native Plant which is removed from the site, damaged, or destroyed.

17.02.12 GENERAL PROVISIONS AND SUBMITTAL REQUIREMENTS.

The following General Provisions and Submittal Requirements shall apply to the submittal of all Native Plant Programs and Native Plant Permits:

A. Submittals Required

1. The Native Plant Program shall consist of the following information. Additional information may also be required by the Planning Director in order to insure that the findings of this ordinance are fulfilled.
 - a. Native Plant Inventory, containing:
 - (1). Aerial photograph and site plan overlay at a minimum scale of 1" = 100' showing the location of all protected native plants within the proposed affected area and within 10' of any construction limits.
 - (2). List of the number, species, size, general condition, and salvage status of all protected native plants within the proposed affected area that are to be either transplanted on or off-site or preserved in-place. This inventory shall be based upon the Criteria set forth in Section 17-2-14 of this Code.
 - (3). The Native Plant Inventory Methodology selected from Section 17-2-11, shall include the proposed location of all protected native plants to be relocated within the proposed affected area.

- (4). Native Plant Holding Nursery site location where plant material is to be stored.
2. If the Plant Appraisal Methodology is selected, a plant appraisal based on a Native Plant Inventory for each plant to be removed from the site shall be submitted.
3. If the Set Aside Methodology is selected; no grubbing, grading, construction, or salvaging of any plants on the site shall take place prior to the submittal and approval. Protected Native Plants designated shall not be destroyed, damaged, salvaged, transplanted, or removed from the site except in accordance with the approved Plan.

17.02.13 PLANT DISPOSITION

The Native Plant Preservation Plan shall indicate the disposition of Protected Native Plants in excess of those needed to meet the requirements of this Code and other applicable regulations. It is encouraged that all Protected Native Plants that are not proposed to remain on-site be salvaged and transplanted off-site. The Plan shall indicate conformance with the requirements of the Federal Endangered Species Act and the Arizona Native Plant Law. The Planning Department shall be provided with verification of required salvage permits from the U.S. Fish and Wildlife Service for the applicable Endangered and Threatened genus and species and verification of required notification to the Arizona Department of Agriculture prior to the issuance of a grading permit.

17.02.14 CRITERIA

Protected Native Plants shall not be destroyed, mutilated, or removed from the premises, or relocated on the premises except in accordance with an approved Native Plant Program required in conjunction with the issuance of Native Plant Permit. No Native Plant Program shall be approved until it has been demonstrated that the following Criteria have been met:

- A. The density/intensity of the development for the approved land use shall be an important element in the determination of the base requirements for plant retention and salvage. A Site Resource Inventory (Section 17-1-2) shall be submitted and approved prior to submittal element of the Native Plant Program. The Native Plant Program shall provide reasonable plant salvage, protection, and storage and shall insure consistency with existing neighborhood character.
- B. The site plan shall be consistent with the Site Resource Inventory and be designed to protect and incorporate significant on-site natural amenities (i.e. unique and significant vegetation, unique and significant rock outcroppings, significant riparian habitats and wildlife corridors, etc.) and minimize the number of salvageable plants which need to be removed to allow reasonable construction on the site. These relationships shall promote and enhance the character of the native environment rather than contrast or domesticate it.
- C. A vegetation inventory and analysis shall provide a clear, comprehensive review and listing of plant materials, their condition and physical relationships on-site so as to aid the site planning and determination of plant salvageability. The native plant viability and transplantability status shall be determined for each native plant of the

minimum size and shall be used to determine the numbers and locations of plants required for preservation. The following plant viability and transplantability criteria shall be used:

1. *Plant Viability Criteria.* Plant viability is based upon plant health, age and form. Plants rated Low are not considered Viable and are not required to be assessed according to the Transplantability Criteria. Plants rated Medium or High are considered Viable and shall be further assessed under the Transplantability Criteria.
 - a. *High.* A high plant viability rating shall be assigned to plants meeting the following criteria
 - (1). *Health:* plant is good to excellent with no major infestations of insects or apparent diseases.
 - (2). *Age:* plant age is young or mature with likely chance of long survival.
 - (3). *Form:* plant is relatively undamaged with a healthy branching habit.
 - b. *Medium.* A medium rating shall be assigned to plants which do not meet all of the criteria for a High rating but have sufficient merit to warrant preservation, in the opinion of the qualified plant professional conducting the inventory.
 - c. *Low.* A low plant viability rating shall be given to plants meeting any one or more of the following:
 - (1). *Health:* plant health is poor. Generally the result of severe infestations of pests or diseases or lack of water over time.
 - (2). *Age:* Plant is in a state of decline, suggesting a low probability of lengthy survival.
 - (3). *Form:* plant form and character is severely damaged. For trees, this may include new branches from large, old, dead trunks or weak branching habit.
2. *Plant Transplantability Criteria.* Plant Transplantability is based upon plant genus and species, size, soils, context and topography. The following five (5) categories shall be inventoried to determine the ability to salvage the viable plants, which will not be preserved-in-place. Plants rated Low for Transplantability should not be considered for salvage and transplant. Plants rated Medium to High that are not preserved-in-place should be considered for salvage and transplant on-site or off-site.
 - a. *High.* A high rating for Transplantability shall be assigned to Viable plants which also meet the following criteria:
 - (1). *Genus and Species:* has a high survival rate for reestablishment after transplant.
 - (2). *Size:* Overall plant dimensions are suitable for transplanting based upon the genus and species.
 - (3). *Soils:* can be excavated, are cohesive, and seem capable of supporting the rootball system.
 - (4). *Topography:* Permits access with the appropriate equipment needed to remove plants and their rootball systems.
 - (5). *Context:* adjacent plants do not possess a likely interference with root systems or interfere with plant removal.
 - b. *Medium:* A medium Transplantability rating shall be assigned to plants which do not meet all of the criteria for a High rating but

- do have sufficient merit, in the opinion of the qualified plant professional conducting the inventory, to warrant transplanting.
- c. *Low*: A low rating shall be assigned to plants which meet the following criteria:
- (1). *Genus and Species*: has a low survival rate for re-establishing after transplant.
 - (2). *Size*: overall plant dimensions are not suitable for transplanting based upon the genus and species.
 - (3). *Soils*: too rocky, sandy, or shallow to excavate a cohesive rootball system.
 - (4). *Topography*: seriously limits access to the specimen by the appropriate equipment (i.e., steep slopes, rock barriers).
 - (5). *Context*: adjacent plants interfere with removal or present likely conflicts with the rootball system.
- D. Areas of the site shall be inventoried to estimate representative numbers of protected native plants. Areas of the site must be inventoried by sampling typical identifiable areas for each genus and species and estimating representative plant numbers per square acre of the total site area. The samples must be representative of the viable species found on site and shall not be less than 20% of the total site. If different plant communities (upland, riparian, valley floor, etc.) are found on one site, then a sample of not less than 20% of each defined community, shall be inventoried.
- E. All plants which are salvaged and transplanted on-site shall be rated as Viable and Transplantable prior to relocation.
- F. All Protected Native Plants shall be properly tagged and/or permitted in accordance with the Federal Endangered Species Act, the Arizona Native Plant Law, and this Article, as applicable.
- G. Once the inventory by sampling is complete, then the field tagging and protection of those plants to be preserved-in-place (PIP) or transplanted-on-site (TOS) can take place.
- H. All PIP plants must be identified on an aerial photo and fenced for protection prior to subsequent grading of the site and construction activities. Plants within a designated natural undisturbed open space, under any method, do not require individual tagging since their boundaries will be fenced.
- I. Plants to be TOS may be identified and included in a TOS 'pool'. A summary report shall be prepared that identifies all TOS plants by quantity, genus and species. This summary shall be located on the Native Plant Program plan and any associated Landscape Plan. The selection of specific TOS plants may vary according to field conditions and therefore, final selection will be made by the "Plant Professional" and the salvage contractor. Once the total numbers of plants to be TOS have been identified in the field, they must be field tagged for TOS.
- J. All protected native plants scheduled to remain in place (except those scheduled to remain in place as part of a NUOS area) or authorized for relocation by the approved Native Plant Permit must be tagged with an embossed metal inventory number which cross references to the inventory list and aerial photograph submitted as part of the Native Plant Program, so that the disposition of each plant can be easily identified. Tags required by this article shall be affixed in a visible location on the plant, preferably on the north side of each plant, whenever possible. Once affixed, the tags

shall not be removed until the plants are removed or relocated in compliance with the Native Plant Permit and a final inspection has been made.

- K. All protected native vegetation to remain in-place as part of a NUOS area shall be adequately protected during grading and construction through placement of a fence barrier surrounding the entire NUOS area. NUOS plants that are to remain in-place as part of a NUOS area, do not require tagging.
- L. A conceptual analysis and design of the site vegetation and/or landscaping shall insure that the character of the project be consistent with the natural density, distribution, and maturity of vegetation on adjacent properties.
- M. Should the conceptual analysis and design reveal an excess supply of on-site salvageable plants, the relocation program shall designate alternative projects within areas of suitable habitat, in Municipal, County, State and Federal Reclamation and Revegetation Projects in addition to off-site privately owned properties.
- N. In order to assure full implementation and completion of the approved plans and permits, the Town will require a mutual consent agreement between the Town and the applicant signed and guaranteed by cash or a bond acceptable to the Town Attorney in an amount set by the Town Manager to guarantee performance of the provisions of the mutual consent agreement.
- O. On-site monitoring of all aspects of site clearing, grading, plant protection, preservation, salvage, and mitigation shall be provided during project construction, at the expense of the developer, for all residential development that is over five (5) acres and for all commercial and industrial development that is over one (1) acre. The monitoring shall be performed by an individual who is qualified in arid lands native plant resource identification and protection as specified in Section 17-2-4. The monitor shall provide periodic progress reports to the developer outlining the status of work accomplished and any problems encountered. The Town shall receive a copy of these reports for the project file.
 - 1. The monitor shall be responsible for an assessment of the condition of the site's plants one (1) year after the final inspection has been performed on the site. The monitor shall visit the site and prepare a report on plant status, including general plant condition, the identification of plants under stress and the appropriate method to relieve the stress, and recommendations for replacement of plants that are dead or dying. Dead or dying plants shall be replaced with the same size plant at a one-to-one (1:1) ratio of like genus and species. Copies of the report shall be submitted to the site owner/developer and to the Planning Department. The owner shall respond to the plant needs as outlined in the status report within ninety (90) days of report submittal or within a shorter period if required to improve the health of stressed plants and prevent plant loss.

17.02.15 PROTECTED NATIVE PLANT LIST

All Sites proposed for development shall be inventoried for each of the following Protected Native Plants:

A. CACTI

Common Name	Latin Name
Fishhook Barrel	Ferocactus wislizenii
Compass Barrel	Ferocactus acanthodes
Blue Barrel Cactus	Echinocactus horizonthalonius var. Nicholii
Saguaro	Carnegiea gigantea
Crested or Fan-top Saguaro	Carnegiea gigantea "Crested"
Ocotillo	Fouquieria splendens
**Pima Pineapple Cactus	**Coryphantha scheeri var. robustipina
*Chain Fruit Cholla	*Opuntia fulgida var. fulgida
*Engelmann Prickly-Pear	*Opuntia phaeacantha var. discata
**Desert Night-Blooming Cereus	**Peniocereus greggii

* The total number of Prickly-Pear and Cholla may be estimated based on a sample inventory, submitted by the applicant and approved by the Planning Director. If an abundance of Prickly-Pear and/or Cholla exist, the Planning Director may determine the percentage required of these plants.

** Denotes plants listed as Endangered or Threatened under the Federal Endangered Species Act (ESA) as of March 24, 1997. Any plants designated by the ESA, as amended, shall be subject to the applicability of this ordinance.

B. TREES OF A MINIMUM SIZE OF FOUR (4) INCH CALIPER

Common Name	Latin Name
Whitethorn Acacia	Acacia constricta
Catclaw Acacia	Acacia greggii var. arizonica
Crucifixion Thorn	Castela emoryi
Desert Hackberry	Celtis pallida
Net Leaf Hackberry	Celtis reticulata
Blue Palo Verde	Cercidium floridum
Foothills Palo Verde	Cercidium microphyllum
Desert Willow	Chilopsis linearis
Arizona Ash	Fraxinus velutina var. velutina
Arizona Black Walnut	Juglans major
Ironwood	Olneya tesota
Screwbean Mesquite	Prosopis pubescens
Velvet Mesquite	Prosopis velutina
Western Soapberry	Sapindus saponaria var. drummondii
Soaptree Yucca	Yucca elata

C. SHRUBS OF A MINIMUM SIZE OF THREE (3) FEET IN HEIGHT

Common Name	Latin Name
Catclaw Acacia	Acacia greggii var. arizonica
Desert Hackberry	Celtis pallida
Desert Willow	Chilopsis linearis
Greythorn	Ziziphus obtusifolia var. canescens
Kearney	Condalia warnockii var. kearneyana
Whitethorn Acacia	Acacia constricta

17- 3 LANDSCAPE REQUIREMENTS

17.03.01 PURPOSE

The purpose of this Title is to provide landscaping requirements and standards, which reflect the character and enhance the image of the community. These standards are meant to minimize the potential adverse impacts associated with adjacent or abutting land uses of varying intensities. The intent is to provide the landowner, developer, or designer with flexibility while protecting the public interest.

17.03.02 INTENT AND OBJECTIVES

- A. This Title will utilize landscaping to achieve the following goals and objectives:
1. Conserve groundwater resources in conformance with the Arizona Groundwater Code, Arizona Revised Statutes Title 45, Chapter 2, by:
 - a. Specifying the use of xeriscape design principles and standards;
 - b. Helping control and utilize storm water runoff;
 - c. Specifying xeriscape plant materials from approved lists; and
 - d. Encouraging the use of reclaimed water.
 2. Protect the general public health, safety, and welfare by incorporating the following design guidelines:
 - a. Minimize noise, air, water, dust and visual pollution;
 - b. Screen and buffer incompatible land uses;
 - c. Preserve property values and the character of neighborhoods;
 - d. Reduce the heat and glare absorbed and radiated by development;
 - e. Conserve energy resources;
 - f. Control soil erosion;
 - g. Control growth of noxious, invasive plants; and
 - h. Increase traffic safety.
 3. Reduce the negative impacts between potentially incompatible uses and zones by buffering or screening.

17-3-3 LANDSCAPE PLAN REQUIREMENT

An approved landscape plan including a planting plan, irrigation plan, and maintenance plan is required prior to approval of the development plan, tentative plat and final plat or issuance of building permits. All landscape plans shall be sealed by a Registered Landscape Architect.

17.03.04 APPLICABILITY

- A. The provisions of this Title shall apply to all new development, including:
1. All new development plans and tentative plats.
 2. Additions to buildings which increase the gross building area by twenty-five (25) percent or more shall conform to the landscaping standards specified in this Title or to the extent possible as determined by the Planning Director.
 3. All off-street parking areas and landscape buffers shall conform to the landscaping requirements of this Title.

B. Exceptions:

1. Individually owned residential lots;
2. Additions of less than twenty-five (25) percent of total floor area of buildings zoned Commercial or higher;
3. The provisions of this Title shall not apply to any tentative plats and development plans submitted prior to the effective date of this Title.

17.03.05 FORM, SUBMISSION AND FILING FEE

- A. Copies of the Landscape and Irrigation Plans and supporting data, prepared in accordance with the requirements set forth in this Title, shall be filed with the Planning and Zoning department as part of any subdivision tentative plat or development plan submittal. Copies of the Landscape and Irrigation Plans shall be reproduced in the form of blue line or black line prints on a white background. Scheduling of the Landscape Plan for review by the Planning Department staff will be dependent upon data presented and completion of processing.
 1. Three (3) full sized copies of the Landscape and Irrigation Plans, folded to 8 1/2" x 11", must be submitted for review, and one reduced set.
 2. For all resubmittals, previous review sheets and a copy of a response letter shall be submitted. In addition to resolving review comments on plan sheets, revisions shall be summarized in letter form.
 3. On all proposals involving State rights-of-way, copies of Arizona Department of Transportation approval letters shall be submitted to the Town Engineer prior to approval.
- B. The submittal will be checked by the Planning and Zoning staff for completeness. If found to be incomplete as to those requirements set forth in this Title, the submittal will be rejected and the applicant notified within ten (10) working days of the date the plans were received.
- C. A filing fee, as determined by a fee schedule adopted by the Town Council, to cover costs of examining and processing of Landscape and Irrigation Plans and field inspection related thereto, shall be paid by the applicant at the time of filing.

17.03.06 LANDSCAPE PLAN CONTENT AND STANDARDS

- A. All improvements and site information shall be readable on the submitted plans and be identical in scale and layout to the submitted base plan (site plan, tentative plat, or development plan).
- B. Plans must be drawn to a scale at which all necessary details are clearly shown (one inch equals forty feet preferred) on sheets measuring 24" x 36". Scale to be the same for all sheets. Larger sheet size or smaller scale may be approved by the Planning Director.
- C. Plans and details shall follow industry standard drafting guidelines and use, at minimum, 12 point text.
- D. The following shall be shown on landscape plans:
 1. Adjacent right-of-way widths and locations of existing or planned roadways;
 2. Property lines, project limits and zoning of the project site and all adjacent properties;

3. Any related Specific Plans, covenants, waivers, restrictions, and/or phase lines shall be referenced by case number if appropriate and indicated in the general, or otherwise, notes.
4. Topographic lines and elevations;
5. North arrow, graphic scale, and location map. Location map shall be placed in the upper right corner of the sheet and shall show the subject area centered in an approximately 3 mile square area;
6. In the lower right corner of the sheet, the following information shall be shown:
 - a. Name, address and phone number of the preparer and owner;
 - b. Project name and reference number as supplied by the Planning Department
 - c. Contour interval
 - d. Date (revised plans should show date of all revisions)
 - e. Brief legal description, i.e. "Portion of Section____, T____S, R____E, G&SRB&M, Town of Marana, Pima County, Arizona
7. Plant materials shall be graphically delineated on the plan with written information in list format on the plan, that includes genus and species name, common name, size and quantity;
8. Proposed location of all new and salvaged plant materials.
9. All inorganic materials such as crushed rock or decomposed granite groundcovers, paving materials, boulders, benches, fountains, water features, sculpture, and trash receptacles shall be shown graphically and include information regarding size, quantity, color, and location.
10. Water harvesting, detention/retention basins, and berms used for water collection shall be graphically shown on the plan and shall include a written explanation of their purpose and anticipated runoff collection. Water harvesting from parking areas is discouraged.
11. Irrigation plans shall show size and location of all equipment needed to irrigate the site to industry standards. Calculation for the longest run shall be provided.
12. Site visibility triangles, per Pima County Standards and roadway design speed shall be included in notes.
14. One hundred foot stationing shall be indicated along all roadway/linear park center lines.
15. Underground or overhead utilities, including but not exclusively, sewer manholes, sewer, electric, gas, telephone, cable, communication, and water.
- E. A copy of any referenced Plant Salvage Plan shall be included in submittal package.
- F. When proposed development falls within a Specific Plan the landscape guidelines for that plan shall be adhered to. If the plan does not provide guidelines for any standard as defined in this ordinance, this ordinance shall override the Specific Plan. If the Specific Plan landscape design guidelines are less restrictive than related guidelines in the ordinance, the more restrictive of the two shall be adhered to.
- G. Plants must conform to the Town of Marana Official Regulatory Plant List, Table 7-2, available at the end of this Title. If a designer wishes to use a plant not found on the list a written request must be made. The request shall state the plant's characteristics which make it compatible with the regulations.

- H. The landscape design shall be consistent with the environmental context of the development site. Preservation of native on-site vegetation shall be a primary objective of site planning and development. Specimen plants shall be given particular consideration for retention on site.
- I. Any part of a development site which has been disturbed and is not required for buildings, structures, private residential yards, loading and vehicular access ways, streets, paved parking and utility areas, pedestrian walks and hard-surfaced activity areas shall be landscaped.
- J. Natural undisturbed desert is an acceptable form of landscaping. Wherever the undisturbed natural desert landscape cannot be preserved, landscape design and construction shall promote the use of transplanted on-site desert plants, container-grown native plants, seeded desert plants and inorganic groundcover.
- K. Xeriscape design principles and plant selection based on function, water requirement and most suitable environmental exposure of the plant materials shall be included in all proposals.
- L. Turf applications for parks, recreational facilities, golf courses, school grounds, institutions and cemeteries are regulated by the Arizona Department of Water Resources and are not covered in this Title. All other building uses are covered in Section 17-3-2.
- M. Landscape designs shall be in harmony with the environmental context of the development site.
 - 1. Plants shall be selected from the plant lists contained in Table 7-2 at the end of this Title.
 - 2. Trees and shrubs.
 - a. Trees shall be at least fifteen-gallon size at planting time.
 - b. Shrubs shall be at least one-gallon size at planting time.
 - c. Trees and shrubs shall be planted so that at maturity they do not interfere with overhead or underground service lines, traffic sight lines and the property rights of adjacent property owners.
 - d. Trees with invasive roots which are planted near public sidewalks or curbs shall be installed with suitable root diverters to minimize heaving of those improvements.
 - e. Plants shall be grouped, clustered or unevenly spaced to prevent an unnatural landscape appearance.
 - 3. Groundcover.
 - a. Inorganic groundcover shall be used in combination with trees and shrubs and shall not exceed two-thirds (2/3) of the total landscaped area, devoted to groundcover.
 - b. All unpaved landscape areas shall be planted with shrubs, accents or vines, or covered with appropriate organic or inorganic groundcover.
 - 4. Irrigation and water features.
 - a. All water use for landscape irrigation and enhancement shall conform to the Arizona Groundwater Code, Arizona Revised Statutes Title 45, Chapter 2.
 - b. Irrigation plans shall indicate how each introduced planting is served by a water-conserving, underground irrigation system. Storm water harvesting and drip irrigation are recommended

methods. Irrigation shall be designed to avoid watering hardscape areas and built structures.

- c. Reclaimed water irrigation shall be encouraged for all landscaped and turf areas. Turf areas greater than five (5) acres shall have reclaimed water irrigation. For turf areas greater than five (5) acres, a written statement of reclaimed water use feasibility shall be included on landscape plans indicating the cost-effectiveness, potential sources and availability. If not available, reclaimed water lines shall be installed for future irrigation.
 - d. Landscape designs shall be integrated with hydrology, grading and earthwork plans for the site and shall make maximum use of site stormwater run-off for irrigation purposes.
 - e. Water design features, such as ponds and fountains, shall be at a scale and design compatible with the desert environment.
5. Natural and built features.
- a. Earth berms shall be designed with a reverse curve at the base to allow a natural transition to existing grades. They shall not exceed a slope of 3:1 and shall be adequately covered with plant material, groundcover or rip-rap to control erosion. Planted berms shall be designed to retain irrigation water. A zero contour shall be shown and placed a minimum of 12" from any hardscape element.
 - b. Walls, fences, signs, landscaping and other potential obstructions shall be located to minimize sight line or view limitations.
 - c. If boulders are used one third of the approximate volume shall be buried to provide a natural appearance.
 - d. Spans of walls or fence shall not exceed 20 feet without a variation in distance from property line. Walls and fences may be curvilinear or staggered to achieve this goal.
 - e. Any wall used for screening purposes shall be kept clean of graffiti. Graffiti shall be removed through cleaning or repainting, whichever is appropriate. Unpainted walls that are painted to cover graffiti shall be painted a color to match existing material. Vines or other landscape screening material may be supplemented as an additional deterrent from graffiti. Town Personnel will issue a forty-eight (48) hour notice to remove graffiti. After that time, the property owner, agent or other responsible party shall be liable for fines of One Hundred Dollars (\$100) per day until the graffiti is removed or covered.
6. Oasis Exception.
- a. An oasis area is a zone of planting where non-drought tolerant plant materials and turf are allowed. Turf use shall not exceed twenty (20) percent of the total landscaped area. This area must be located near an area of high pedestrian use such as an entry, a recreation area, break area, clubhouse, courtyard, seating or dining area. Consideration will be made for areas developed as special focal points. There are two methods of determining the allowed oasis area. The calculation must be shown on the plans.

1. Multifamily uses: Multiply net site area by 5%

2. All other uses: Multiply net site area by 2.5%

NOTE: If a site is being phased, only that phase or area presented for development will be considered a part of the net site area.

17.03.07 LANDSCAPE BUFFER STANDARDS

PURPOSE: Landscape Buffers provide the following four distinct functions:

- Serve as landscape screens to mitigate visual impacts;
 - Provide a landscape setback to reduce noise;
 - Physically separate incompatible adjacent land uses; and
 - Provide an aesthetic transition between adjacent compatible land uses.
- In addition, Landscape Buffers function to eliminate or minimize potential nuisances such as dirt, litter, noise, glare of lights, and signs. They also visually soften and screen unsightly buildings or parking areas. Landscape Buffers are also designed to ensure a desired character along public streets and roads.
- A. A Landscape Buffer may be used for passive recreation. It may contain pedestrian, bike and equestrian trails. Where appropriate, linkages shall be encouraged within or along a Landscape Buffer as long as the total width of the buffer is maintained, and all other regulations of the Code are met. Swimming pools, tennis courts, sports fields, golf courses, parking lots, or other uses requiring structures or removal of vegetation shall not be permitted within a Landscape Buffer.
- B. Landscape Buffers shall be located on the outer perimeter of a lot or parcel, extending to the property or boundary lines and shall be determined as follows:

TABLE 7-1
Landscape Buffers

Landscape Buffer plant requirements shall be determined by a comparison of zone and/or existing land use (whichever is most restrictive). Once the zones are determined, the appropriate formula to determine plant requirements must be applied per the following landscape buffer matrix:

BUFFERYARD MATRIX								
Symbol	PROPOSED DEVELOPMENT	EXISTING ZONING/ DEVELOPMENT				STREET FRONTAGE		
		A	B	C	D	Front	Side or Rear	Street
A	AG, R-144, R-36, R-16, R-8, R-7, R-6 Agriculture, Low Density Residential	1	2	3	4	5	3	3
B	R-2, R-1, RV, MHP, MHS High Density Residential	2	1	1/2 +	1/3 +	5	3	3
C	CO, NC, VC, RC, SC, VRC Commercial	3	2	1	2/3 +	5	3	3
D	CBC, LI, HI Industrial	4	4	3	2+	4	4	4

+ Use this code if existing development occurred previous to buffer requirements.

Code	Depth of Buffer	Plant Count
1	6' minimum	1.5 per 100 sq. ft.
2	10' minimum*	1.5 per 100 sq. ft.
3	15' minimum*	2.0 per 100 sq. ft.
4	25' minimum**	1.5 per 100 sq. ft.
5	10' minimum	1.0 per 100 sq. ft.
	15'	0.8 per 100 sq. ft.
	20'	0.6 per 100 sq. ft.

Notes:

1. For every 3 shrubs planted, one 15 gallon tree shall be planted.
Example using Code 1: a one thousand square foot landscape buffer area would need fifteen (15) plants: twelve (12) one gallon shrubs and four (4), fifteen (15) gallon trees. Earth berms of a minimum size of two cubic yards (approximately 8'W x 4.5'L x 1.5'H) may be used in lieu of three (3) shrubs not to exceed 25% of shrubs.
2. Ground cover plants are required in addition to above plants. Ground cover equal to 20% of the total number of trees and shrubs will be located in the landscape buffer area.

ADDITIONAL LANDSCAPE BUFFER OPTIONS

- A. **Landscape Buffer Agreements:** Property owners may enter into agreements, subject to the approval of the Planning Director, with abutting landowners to use adjoining land to provide some or all of a required landscape buffer. The total size and plant quantities of the landscape buffer requirements shall remain as required with this Title.
- B. **Reduction of Landscape Buffer Requirements:** The landscape buffer requirement may be reduced if a six (6) foot high decorative masonry wall is constructed and the wall requirement is noted on the approved subdivision plat and landscape plan. If a wall is used as part of the landscape buffer requirement, the calculations for plant materials shall be reduced by one-third (1/3). Any wall used for screening purposes shall be kept clean of graffiti. Graffiti shall be removed through cleaning or repainting, whichever is appropriate. Unpainted walls that are painted to cover graffiti shall be painted a color to match existing material. Vines or other landscape screening material may be supplemented as an additional deterrent from graffiti. Town Personnel will issue a forty-eight (48) hour notice to remove graffiti. After that time, the property owner, agent or other responsible party shall be liable for fines of One Hundred Dollars (\$100) per day until the graffiti is removed or covered.
- C. **All Landscape Buffers are required to be landscaped:** The landscape buffers shall contain the following minimum planting materials; six (6) - 15 gallon trees, fifteen (15) - 1 gallon shrubs and ten (10) - 1 gallon ground cover / accent plants per 1500 square feet of area. Existing natural desert may be utilized to meet or exceed these planting requirements. Where the number of existing natural desert plants do not meet the minimum landscape buffer planting requirement of this Section, the natural desert plants shall be supplemented with additional native plants transplanted from on-site or from nursery plants. The applicant is encouraged to utilize on-site native plants within the landscape buffers where possible.
- D. **Natural drainage ways and existing natural vegetation:** Natural drainage ways and existing natural vegetation may be used for screening if approved, in writing by the Planning and Zoning Director, provided such uses are consistent with the regulations contained in Title 21 of this Code. Natural drainage ways and existing vegetation used for this purpose shall be a minimum of twenty (20) feet wide.

17.03.08 LANDSCAPING STANDARDS FOR OFF-STREET PARKING AREAS

All off-street parking areas are required to comply with the following regulations:

- A. **Minimum Requirements.** A minimum of fifteen (15%) percent of the gross parking area (includes all paved access and parking areas) shall be devoted to amenity landscaping as follows:
 - 1. All landscape areas within ten (10') feet of the perimeter of the gross paved parking area may be included in the 15% gross parking area calculation.
 - 2. Any off-street parking area for five (5) or more vehicles shall include a ten (10) foot minimum width landscape buffer between the parking area and the public right-of-way. This area shall include a minimum three (3') foot tall decorative masonry wall and/or a three (3') foot

tall-landscaped berm adjacent to parking stalls to screen the parked cars from the public right-of-way.

3. At a minimum, every group of ten (10) parking spaces shall be separated with a raised curb landscape planter island measuring a minimum five (5') feet in width (from inside of curb to inside of curb) by the length of the parking stall, containing a minimum of one (1) canopy tree and two (2) groundcover plants per planter island.
4. Plant materials, shall be chosen so that within five years of installation, planting materials shall achieve a forty (40) percent shading of the asphalt areas.
4. Landscaping materials shall not obstruct sight distances or vehicle turning movements.
5. The use of decorative paving materials to indicate pedestrian crossings and paths within the parking area is encouraged.
6. For every one-hundred fifty (150) square feet of landscaped area, a minimum of one (1) tree, five (5) shrubs and groundcover plants as required.
7. Landscaped areas in parking lots are encouraged to utilize any combination of decorative paving, inert groundcover, berms and additional plant materials.
8. Planters, walls and fences adjacent to the parking areas shall have a protective six (6) inch curb to shield against damage to plants and irrigation heads. Appropriate paving should be used where pedestrians are likely to cross landscaped areas.
9. Protective concrete curbs and standard concrete wheel stops are required where walls and fences abut driveways and parking stalls.

17.03.09 ROADWAY LANDSCAPE STANDARDS

The primary purpose of this section is to promote the safety of those people using Marana roadways, vehicular and bicycle traffic as well as maintenance workers and pedestrians. Sight visibility and plant material selection and location are important factors. This section also is intended to promote the harvesting of water within the landscape area.

- A. Hardscape shall be designed to deter materials from washing onto sidewalks and the roadway. The toe of slopes with decomposed granite shall be located 12" minimum from walls and curb, and shall end in reverse curves.
- B. Boulders shall have a maximum 18" exposed above grade.
- C. Bullnoses or any median three feet or less in width shall not be planted.
- D. All sight visibility triangles shall be indicated on plans. No mature plants over 18" or tree canopies growing lower than six feet shall be allowed in these zones.
- E. Shrubs shall be placed so that when the mature size is reached, the edge of the shrub is one foot from the curb.
- F. Tree trunks shall be located a minimum of seven feet from median curb and nine feet from right-of-way curb.
- G. Planting of tree materials which shall overhang into roadway at maturity is discouraged. Overhanging branches are a hazard to bicyclists and have the potential of being injured or destroyed by high profile automobiles.

17.03.010 MAINTENANCE PROVISIONS

- A. Continuous maintenance provisions shall be provided on the landscape plan. Maintenance shall include a plan, which accommodates the following:
1. The irrigation system should be designed to assure consistent water coverage of newly planted areas, regular watering of non-native species and specific watering schedule per plant type or xeriscape zone.
 2. Pruning methods shall allow maximum shading while preventing obstruction into walkways, curb areas, drives, and line of sight triangles. Tree clearance for pedestrian and automobile passage shall be a minimum of seven (7) feet once the tree has reached maturity. Pruning shall be consistent with the natural growth pattern or characteristic form of the plant. Opaque hedges are permitted.
 3. Ornamental landscaping shall require regular fertilizing, aerating and mulching schedules to encourage plant growth and water conservation.
 4. General landscape maintenance such as the clearing of debris, litter and weeds shall be included on a regular maintenance schedule.
 5. Any plant material in areas of required landscaping that does not survive shall be replaced with an equivalent size and species within thirty (30) days on an ongoing basis.
 6. Irrigation shall be routinely tested and shall be repaired and replaced as necessary to prevent excess spray or water to planted areas, curbs and pavement, clogged emitters at each plant, and flooding of low lying areas.
 7. Architectural and built structures, sculpture or decorative features, and exterior furnishings (benches, trash receptacles, etc.) shall be maintained to prevent injury, maintain access, and prevent defacement.

TOWN OF MARANA, ARIZONA
LAND DEVELOPMENT CODE

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17-4 ENFORCEMENT

17.04.01 COMPLIANCE

- A. Failure to comply with the requirements of the approved native plant program shall cause immediate suspension of all inspection activity. Inspection(s) shall not resume until a sum of money is paid to the Town for the purpose of replacing and maintaining protected native plant materials as required in the approved Native Plant Program.
- B. The Planning Commission shall determine the sum of money to be paid to the Town from the following schedule:
 - 1. Protected native trees - three hundred dollars (\$300.00) per caliper inch (measured one-foot above ground level).
 - 2. Protected native cacti - two hundred dollars (\$200.00) per foot.
 - 3. Maximum per plant - ten thousand dollars (\$10,000.00).
 - 4. Determination of the sum of money to be paid to the Town pursuant to this section shall be based upon the type, size, density, distribution, and condition of plant materials that existed on the property prior to the violation, or upon inspection of the remains of destroyed plant materials or other physical evidence as may be available.
- C. The sum of money required by this subsection shall be used to replace removed or damaged plant materials whose retention was required by this ordinance and to maintain replacement plant materials for a period of three (3) years. Additionally, fifteen (15) percent of the total amount payable shall be kept by the Town as payment for the enforcement of these regulations and administration of the agreement specified below.
- D. Prior to issuance of any permits for development of the property on which the violation occurred, the property owner shall enter into an agreement with a landscape installation and maintenance service and the Town to ensure replacement and three (3) years maintenance of the replacement plant materials, to provide disbursement of the sum of money for the purposes of replacement and to pay administrative costs. The sum of money paid to the Town in excess of the amounts specified in the agreement shall be refunded.
- E. An on-site visit will be conducted by Staff at the time of final installation to approve compliance with the Native Plant Program and Permit and the approved Landscape Plan prior to authorizing a certificate of occupancy. The zoning inspector may recommend correction of non-compliance items that will need to be corrected. Re-evaluation shall be made within an agreed upon time frame. Prior to receiving a certificate of approval or occupancy, all non-compliance items shall be completed to specification in this Title. The property owner, agent or other authorized personnel will be notified in writing of the non-compliance items by Planning Department staff.
- F. The Planning Department staff will periodically spot-inspect all native plant salvage projects and all landscape installations for compliance with the approved Native Plant Program and Permit and

the approved Landscape Plans and on-going maintenance as required in this Title.

17-4-2 APPEALS

Decisions made by the Planning Commission may be appealed in writing to the Town Council. The approval, with or without conditions, or denial by the Planning Commission of an application shall be final unless within twelve (12) days from the date of the Commission's decision, an appeal in writing to the Town Council is received by the Town Clerk. The appeal shall indicate where, in the opinion of the applicant, the Commission was in error. The Town Clerk shall schedule the appeal for a Town Council agenda and the Town Council at its meeting shall uphold, modify, or overrule the decision of the Commission. The decision of the Town Council shall be final.

17.04.03 VIOLATIONS AND ENFORCEMENT

A. Violations:

1. It shall be a Class 1 Misdemeanor for any person to violate any of the provisions of this title. Each and every day during which the violation continues shall constitute a separate offense.
2. Any powers granted the Town herein to enforce the provisions of this title are cumulative and in addition to any other powers the Town might have, to enforce the same.

B. Enforcement:

The provisions of this Title shall be enforced by Town Staff. When any condition which would constitute a violation of the provisions of this ordinance exist, a notice thereof shall be served upon the owner, lessee, or other person in control of the premises, specifying the nature of the violation and a reasonable period to correct the conditions specified. Permits for any aspect of the development project may be delayed until remedial actions occur.

17.04.04 PLAN APPROVAL PRIOR TO PERMITTING

The Native Plant Preservation Plan shall be submitted to the Planning Department prior to or concurrently with any plan(s) and applicable fees required for development approval, including a grubbing/grading plan, landscape plan, site plan, development plan, or tentative plat. No permits shall be issued prior to submittal and approval of the Native Plant Program.

17.04.05 ASSURANCES

A. Native Plant Assurances. Implementation and compliance with the approved Native Plant Preservation Plan shall be guaranteed by assurances, such as performance bonds, a letter of credit from a financial institution, or a third party trust acceptable to the Town of Marana, as determined by Town policy and regulation.

B. Landscape Maintenance Assurances. An approved site plan, development plan, or final plat shall require covenants or assurances which:

1. Ensure the continued maintenance of required landscaping, buffering and associated irrigation systems;

2. Assign responsibility of maintenance to the property owner, lessee, heirs, assigns, agent, a homeowner's association or other liable entity;
3. Require future building pads within a phased development to be maintained in a dust-free condition by paving or applying mulch or native groundcover materials; and
4. Ensure that any plant materials included in an approved landscape plan that do not survive after installation are replaced with plant material(s) of the same or like species of equal size within thirty (30) days of the plant's demise. Failure to replace dead plant material within the specified time period shall constitute a zoning violation and be subject to fines.
5. Improper irrigation system maintenance which results in pooling or runoff of excess water shall result in a warning. If the problem is not resolved within thirty (30) days a fine shall be imposed.

Town of Marana

OFFICIAL REGULATORY PLANT LIST

LOW WATER USE / DROUGHT TOLERANT PLANT LIST

The plants on this list can be grown with moderate to no supplemental irrigation once they are established. Occasionally, for good appearance, supplemental irrigation may be applied during the growing season. In addition to the cacti on this list, any cacti salvaged and tagged in compliance with state agricultural and horticultural regulations may be used.

All of the plants on the Plant List meet the Arizona Department of Water Resources (ADWR) standard for low consumption.

Some plants on the list may fall under more than one plant type category (e.g. *Acacia constricta* can be grown as a tree or a shrub depending upon the growth habit that is preferred).

Applications for additions, deletions or exceptions to the list may be submitted to the Zoning Administrator.

Key to symbols:

A - Accent Plant

***** - Toxic; may be harmful if eaten. (For more information call Arizona Poison Control Center at (520) 626-6016.)

C - Cactus

Gc - Groundcover

I - Invasive -- may spread and intrude into natural areas.

Gr - Ornamental Grass

sh - Semi-hardy -- some dieback in a hard frost

S - Shrub

(t) - Tender (may be severely damaged or killed in a hard frost)

Sc - Succulent (other than cacti)

- Exceptions to the nomenclature in Hortus III.

T - Tree

an - Annual

V - Vine

p - Perennial

cl - Seasonal Color (showy flowers, fall color or berries).

CD - Chihuahuan Desert Region - (broadly interpreted to include a large area of north central and northwest Mexico, southwest Texas, southern New Mexico and extreme southeast Arizona.)

SD - Sonoran Desert Region - (broadly interpreted to include the arid and semi-arid areas of northwest Mexico, southeast California and most of Arizona south of the Mogollon Rim.)

(Note: Chihuahuan and Sonoran Desert Regions annotated by Matt Johnson, Native Plant Society.)

Approximate Watering Needs (depending on soil and climate conditions)

1 - No supplemental irrigation once established.

2 - Once a month during the growing season once established.

3 - Twice a month during the growing season once established.

4 - Once a week during the growing season once established.

TOWN OF MARANA, ARIZONA
LAND DEVELOPMENT CODE

TABLE 7-2
Town of Marana
OFFICIAL REGULATORY PLANT LIST

BOTANICAL NAME	COMMON NAME	STATUS	ORIGIN	NEEDS	HARDY
<i>Abronia villosa</i>	Sand verbena	Gc, an	SD	1	
<i>Acacia abyssinica</i>	Abyssinian Acacia	T	Africa	3	(sh)
<i>Acacia aneura</i>	Mulga	T	Australia	2	(sh)
<i>Acacia angustissima</i>	White Ball Acacia	S	SD	2	(sh)
<i>Acacia berlandieri</i>	Guajillo	S,T	CD	3	
<i>Acacia constricta</i>	Whitethorn Acacia, Mescat	T,S*	SD, CD	1	
<i>Acacia crasspedocarpa</i>	Waxleaf Acacia	T,S	Australia	1	
<i>Acacia cultriformis</i>	Knife-Leaf Acacia	T,S	Australia	2	(sh)
<i>Acacia greggii</i>	Cat's Claw Acacia	T,S	SD, CD	1	
<i>Acacia minuta (smallii)</i>	Southwestern Sweet Acacia	T,S,cl	SD, CD	2	
<i>Acacia notabilis</i>	Acacia	S	Australia	2	
<i>Acacia redolens</i>	Prostrate Acacia	S,Gc	Australia	2	
<i>Acacia rigidula</i>	Black Brush Acacia	S,T	CD	3	
<i>Acacia salicina</i>	Weeping Wattle	T,cl	Australia	2	(sh)
<i>Acacia saligna</i>	Wattle Tree	T	Australia	1-2	(sh)
<i>Acacia schaffneri</i>	Twisted Acacia	T	CD	1-2	
<i>Acacia stenophylla</i>	Pencilleaf Acacia	T	Australia	1-2	
<i>Acacia willardiana</i>	Palo Blanco	T	SD	1-2	(sh)
<i>Agave americana</i>	Century Plant	Sc	CD	1-2	
<i>Agave colorata</i>	Agave	Sc	SD	1	
<i>Agave filifera</i>	Agave	Sc	CD	1-2	
<i>Agave huachuensis</i>	Huachuca Agave	Sc	SD	1-2	
<i>Agave lophantha (univittata)</i>	Agave	Sc	CD	2	
<i>Agave ocahui</i>	Ocahui Agave	Sc	SD	1-2	
<i>Agave palmeri</i>	Palmer Agave	Sc	SD	1	
<i>Agave victoriae-reginae</i>	Victoria Regina Agave	Sc	CD	1-2	
<i>Agave vilmoriniana</i>	Octopus Agave	Sc	SD	1-2	(sh)
<i>Aloe barbadensis</i>	Barbados Aloe	Sc,cl	Africa	2-3	(sh)
<i>Aloe ferox</i>	(sh) Cape Aloe	Sc,cl	Africa	2-3	
<i>Aloe saponaria</i>	Mediterranean Aloe	Sc,cl	Africa	2-3	(sh)
<i>Aloysia gratissimma</i>	Fragrant Bush, Bee Brush	S	SD, CD	2	
<i>Aloysia wrightii</i>	Wright's Oregano, Lemon Verbena	S	SD, CD	2	
<i>Ambrosia (Franseria)</i>	Triangle-leaf	S	SD		

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BOTANICAL NAME	COMMON NAME	STATUS	ORIGIN	NEEDS	HARDY
deltoidea	Bursage				
Ambrosia (Franseria) dumosa	White Bursage	S	SD	1	
Anisacanthus thurberi	Desert Honeysuckle	S	SD	2	
Antigonon leptopus	Queen's Wreath	V,cl	SD	2-3	(t)
Aristida purpurea	Purple Three-Awn	Gr,cl	SD, CD	1	
Asclepias linaria	Pine-Leaf Milkweed	S	SD, CD	2	
Asclepias subulata	Desert Milkweed	A	SD	2	(sh)
Aster bigelovii	Aster	an	SD	1	(t)
Aster tanacetifolius	Aster	an	SD, CD	1	(t)
Atriplex canescens	Four-Wing Saltbush	S	SD, CD	1	
Atriplex lentiformis	Quail Bush	S	SD	1	
Atriplex lentiformis breweri	Brewer Saltbush	S	SD	1-2	
Atriplex nummularia	Old Man Saltbush	S	Australia	1	
Atriplex polycarpa	Desert Saltbush	S	SD	1	
Atriplex semibaccata	Australian Saltbush	S	Australia	2	
Baccharis sarothroides (male plants only)	Desert Broom	S,l	SD	1-2	
Baccharis sarothroides 'Centennial'	Centennial	S,Gc	SD	2-3	
Bahia absinthifolia	Desert Daisy	p,cl	SD	2	
Baileya multiradiata	Desert Marigold	p,cl*	SD, CD	1-2	
Berberis harrisoniana	Barberry	S	SD	3	
Berberis trifoliata	Agritos	S	SD	3	
Bothriochloa barbinodis	Cane Beardgrass	Gr,cl	SD, CD	1	
Bougainvillea spp.	Bougainvillea	V,S,cl	Brazil	3	(t)
Bouteloua chondrosioides	Sprucetop Grama	Gr	SD, CD	2	
Bouteloua curtipendula	Sideoats Grama	Gr,cl	SD, CD	2	
Bouteloua eriopoda	Black Grama	Gr,cl	SD	3	
Bouteloua gracilis	Blue Grama	Gr	SD, CD	2	
Bouteloua hirsuta	Hairy Grama	Gr	SD	2	
Bouteloua rothrockii	Rothrock Grama	Gr	SD, CD	1	
Brachychiton populneus	Bottle Tree	T	Australia	2-3	
Brahea (Erythea) armata	Mexican Blue Palm	T	SD	2-3	
Buchloe dactyloides	Buffalo Grass	Gr	CD	2-3	
Buddleia marrubifolia	Wooly Butterfly Bush	S,cl	CD	2-3	
Caesalpinia (Poinciana) mexicana,	Mexican Bird of Paradise (yellow)	S,cl*	CD	2	

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Caesalpinia (Poinciana) gilliesii	Yellow Bird of Paradise	S,cl*	Argentina	1-2	
Caesalpinia pulcherrima	Red Bird of Paradise	S,cl*	Caribbean	3	(sh)
Calliandra californica	Red Fairy Duster, Baja Fairy Duster	S,cl	SD	2-3	
Calliandra eriophylla	Fairy Duster, False Mesquite	S,cl	SD	1	
Calliandra peninsularis	Red Calliandra, Baja Fairy Duster	S,cl	SD	2-3	(sh)
Callistemon citrinus	Lemon Bottlebrush	T,S,cl	Australia	3	(sh)
Calylophus hartwegii	Calylophus	Gc,cl	CD	3	
Campsis radicans	Common Trumpet Creeper	V,cl	SD, CD	2-3	
Carnegiea gigantea	Saguaro	C	SD	1	
Carpobrotus edulis	Ice Plant	Gc,Sc,cl,	Africa	3	(t)
Cassia artemisioides	Wormwood Senna, Feathery Cassia	S,cl	Australia	2-3	(sh)
Cassia nemophila (eremophila)	Green Cassia	S,cl	Australia	2	
Cassia phyllodinea	Silvery Cassia	S,cl	Australia	2-3	
Casuarina cunninghamiana	Australian Pine	T	Australia	3	
Casuarina stricta	Coast Beefwood	T	Australia	2-3	
Cathostecum erectum	False Grama	Gr,cl	SD	1	
Celtis pallida	Spiny or Desert Hackberry	S	SD, CD	1-2	
Celtis reticulata	Netleaf or Western Hackberry	T	SD, CD	2	
Centaurea cineraria	Dusty Miller	p,cl	Mediterranean	3	
Cephalophyllum 'Red Spike'	Red Spike Ice Plant	Gc,Sc,cl		2	
Ceratonia siliqua	Carob, St. John's Bread Tree	T	Mediterranean	3	(sh)
Cercidium floridum	Blue Palo Verde	T,cl	SD	2-3	
Cercidium microphyllum	Littleleaf or Foothill Palo Verde	T,cl	SD	1	
Cercidium praecox	Palo Brea	T,cl	SD	2	(sh)
Cercidium sonorae	Sonoran Palo Verde	T,cl	SD	1-2	
Cercis canadensis var. mexicana	Mexican Redbud	T,S	CD	3	
Cereus peruvianus 'Monstrosus'	Peruvian Cereus	C	South America	1-2	(sh)
Chamaerops humilis	Mediterranean Fan Palm	T	Spain	2-3	
Chilopsis linearis	Desert Willow	T,S,cl	SD, CD	2-3	

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BOTANICAL NAME	COMMON NAME	STATUS	ORIGIN	NEEDS	HARDY
<i>Cissus incisa</i>	Desert Grape Ivy	V,I	CD	1-2	
<i>Cissus trifoliata</i>	Desert Grape Ivy	V	SD	1-2	
<i>Condalia warnockii</i> var. <i>kearneyana</i>	Condalia	S	SD, CD	1	
<i>Convolvulus cneorum</i>	Bush Morning Glory	S,Gc,cl*	Mediterranean	1-2	
<i>Convolvulus mauritanicus</i>	Ground Morning Glory	Gc,cl	Africa	3	(sh)
<i>Cordia boissieri</i>	Anacahuita, Texas Olive	T,S,cl	CD	2-3	(sh)
<i>Cordia parvifolia</i>	Littleleaf Cordia	S,cl	SD, CD	1-2	
<i>Cortaderia selloana</i>	Pampas Grass	Gr	Argentina	3	
<i>Cupressus arizonica</i>	Arizona Cypress	T	SD, CD	2	
<i>Cupressus glabra</i>	Smooth Bark Cypress	T	SD	2-3	
<i>Dalbergia sissoo</i>	Rosewood	T	India	3	(sh)
<i>Dalea bicolor</i> var. <i>argyrea</i>	Silver Dalea	S	SD	2-3	
<i>Dalea frutescens</i>	Black Dalea	S,cl	CD	2-3	
<i>Dalea greggii</i>	Trailing Indigo Bush	Gc	CD	2-3	
<i>Dalea pulchra</i>	Indigo Bush	S,cl	SD	2-3	
<i>Dalea versicolor</i> var. <i>sessilis</i>	Indigo Bush, Dalea	S,cl	SD	3	
<i>Dasyilirion acrotriche</i>	Green Desert Spoon	A	CD	1	
<i>Dasyilirion wheeleri</i>	Sotol, Desert Spoon	A	SD, CD	1	
<i>Datura wrightii</i>	Sacred Datura	Gc,p,cl*	SD	3	(sh)
<i>Digitaria californica</i>	Arizona Cottontop	Gr	SD, CD	1	
<i>Dimorphotheca sinuata</i>	African Daisy, Cape Marigold	an,cl	South Africa	4	
<i>Dodonaea viscosa</i>	Hopbush	S	SD, CD	1-2	(sh)
<i>Dyssodia acerosa</i>	Dogweed	Gc,p,cl,S D,CD	SD, CD	2-3	
<i>Dyssodia pentachaeta</i>	Dyssodia	Gc,an,p,c l	SD,CD	2-3	
<i>Echinocactus grusonii</i>	Golden Barrel	C,cl	SD	1-2	
<i>Echinocereus</i> spp.	Hedgehog, Rainbow Cactus	C,cl	SD, CD	1	
<i>Echinopsis</i> spp.	Easter Lily, Sea Urchin Cactus	C,cl	So. America	1	
<i>Encelia californica</i>	California Brittlebush (green)	S,cl	SD	1-2	(sh)
<i>Encelia farinosa</i>	Brittlebush	S,cl	SD	1-2	(sh)
<i>Ephedra nevadensis</i>	Ephedra	S	SD	3	
<i>Eragrostis intermedia</i>	Plains lovegrass	Gr	SD, CD	1	
<i>Eremophila decipiens</i>	Emu Bush	S,cl	Australia	1	

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<i>Erioneuron pulchellus</i>	Fluffgrass	Gr	SD, CD	1	
<i>Eschscholtzia californica</i>	California Poppy	an,cl	SD	2-3	
<i>Eschscholtzia mexicana</i>	Mexican Gold Poppy	an,cl	SD	3	
<i>Eucalyptus camaldulensis</i>	Red River Gum	T	Australia	2	
<i>Eucalyptus campaspe</i>	Silver Gimlet	T	Australia	2-3	(sh)
<i>Eucalyptus formanii</i>	Eucalyptus	T	Australia	2	
<i>Eucalyptus leucoxylon</i> (rosea)	White Iron Bark	T,cl	Australia	2	
<i>Eucalyptus microtheca</i>	Tiny Capsule Eucalyptus	T	Australia	1-2	
<i>Eucalyptus polyanthemos</i>	Silver Dollar Gum	T	Australia	2	
<i>Eucalyptus rudis</i>	Desert Gum	T	Australia	2	
<i>Eucalyptus spathulata</i>	Swamp Mallee	T	Australia	3	
<i>Euphorbia antisyphilitica</i>	Wax Plant, Candelilla	S	CD	1	
<i>Euphorbia myrsinites</i>	Euphorbia	Gc		2	
<i>Euphorbia rigida</i> (biglandulosa)	Gopher Plant	A,Sc,cl* Africa	Africa	2	
<i>Feijoa sellowiana</i>	Pineapple Guava	T,S,cl	So. America	3	
<i>Ferocactus</i> spp.	Barrel Cactus	C,cl	SD, CD	1	
<i>Fouquieria splendens</i>	Ocotillo	A,cl	SD, CD	1	
<i>Gaillardia pulchella</i>	Fire Wheel, Blanket Flower	an,cl	CD	3	
<i>Gazania rigens</i> 'Copper King'	Copper King Gazania	Gc,cl	Africa	3-4	
<i>Gazania rigens</i>	Treasure Flower Gazania	Gc,cl	Africa	3-4	
<i>Gazania rigens leucolaena</i>	Trailing Gazania	Gc,cl	Africa	3-4	(t)
<i>Geoffreyia</i> (Gourleia) <i>decorticans</i>	Chilean Palo Verde	T,cl	So. America	1	
<i>Gossypium harknessii</i>	Gossypium	S,cl	SD	2	(t)
<i>Haplopappus</i> (Ericameria) <i>laricifolius</i>	Turpentine Bush	S,cl	SD, CD	1	
<i>Hesperaloe funifera</i>	Giant Hesperaloe	A	CD	1-2	
<i>Hesperaloe parviflora</i>	Red Yucca, Red Flowered Hesperaloe	A,cl	CD	1-2	
<i>Hetropogon contortus</i>	Tanglehead	Gr	SD	3	
<i>Hibiscus coulteri</i>	Yellow Hibiscus, Coulter's Hibiscus	S	SD, CD	2	
<i>Hilaria berlanderii</i>	Curly Mesquite	Gr	SD, CD	2	
<i>Hilaria mutica</i>	Tobosa Grass	Gr	SD, CD	1	
<i>Hilaria rigida</i>	Big Galleta Grass	Gr	SD, CD	2	

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BOTANICAL NAME	COMMON NAME	STATUS	ORIGIN	NEEDS	HARDY
Hyptis emoryi	Desert Lavendar	S	SD	3	(sh)
Jatropha cardiophylla	Limberbush	S	SD	1	
Jatropha dioica	Jatropha	S,cl	CD	1	(t)
Juniperus chinensis	Juniper (many cultitvars)	T,S	Asia	3	
Juniperus deppeana	Alligator Bark Juniper	T	SD, CD	3	
Juniperus sabina 'Arcadia'	Arcadia Juniper	S		3	
Justicia (Beloperone) californica	Chuparosa	S,cl	SD	2-3	
Justicia candicans	Red Jacobinia	S,cl	SD	3	(sh)
Justicia spicigera	Mexican Honeysuckle, Firecracker Bush	S,cl	SD	3	(sh)
Lantana camara	Bush Lantana (many cultivars)	S,cl*	No. America	3-4	(t)
Lantana montevidensis	Trailing Lantana	Gc,cl* S. Am.	So. America	3-4	(t)
Larrea tridentata (divaricata)	Creosote Bush, Greasewood	S,cl	SD, CD	1	
Leptochloa dubia	Green Sprangle-Top	Gr	CD	3	
Leucaena retusa	Golden Leadball	T,S,cl	CD	1-2	
Leucophyllum spp.	Texas Ranger (all cultivars)	S,cl	CD	2	
Linum grandiflorum 'Rubrum'	Scarlet Flax	Gc,an,cl		3	
Linum lewisii	Blue Flax	an,cl	SD, CD	3	
Lupinus arizonicus	Lupine	an,cl	SD	1	
Lupinus sparsiflorus	Desert Lupine	an,cl	SD	1	
Lupinus succulentus	Arroyo Lupine	an,cl	SD	1	
Lycium exsertum	Lycium	S	SD	1	
Lycium fremontii	Wolfberry	S	SD	1	
Lysiloma thornberi	Feather Tree	T,S	SD	2-3	(sh)
Macfadyena unguis-cati	Cat's Claw Vine	V,cl	America	2-3	
Malephora crocea	Croceum, Ice Plant	Gc,Sc,cl		2-3	
Mamillaria spp.	Mamillaria Cactus	C,cl	SD, CD	1-2	
Mascagnia lilacina	Lavender Orchid Vine	V,cl	CD	2-3	
Mascagnia macroptera	Yellow Orchid Vine	V,cl	SD, CD	2-3	(sh)
Maytenus phyllanthoides	Mangle Dulce	S	SD, CD	2	

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BOTANICAL NAME	COMMON NAME	STATUS	ORIGIN	NEEDS	HARDY
Melampodium leucanthum	Blackfoot Daisy	Gc,p,cl SD,CD	SD, CD	2	
Merremia aurea	Yellow Merremia	V,cl	SD	2-3	(t)
Mimosa dysocarpa	Velvetpod	S,cl	SD	2	
Muhlenbergia dumosa	Bush Muhlenbergia, Bamboo Muhly	Gr	SD	3-4	
Muhlenbergia emersleyi	Bullgrass	Gr,cl	SD	1	
Muhlenbergia porteri	Bush Muhly	Gr,cl	SD, CD	1	
Muhlenbergia rigens	Deer Grass	Gr	SD	3	
Muhlenbergia rigida	'Nashville' TM	Gr,cl	SD	3	
Myoporum parvifolium	Myoporum	Gc	Australia	3	
Myrtus communis	True Myrtle, Roman Myrtle	S	Mediterranean	3	
Myrtus communis 'Boetica'	Twisted Myrtle	S#	Mediterranean	3	
Myrtus communis 'Compact'	Dwarf Myrtle	S	Mediterranean	3	
Nandina domestica	Heavenly Bamboo (many cultivars)	S,cl		3	
Nerium oleander	Oleander (many cultivars)	S,cl*	Asia	2-3	
Nolina bigelovii	Beargrass	A	SD	1-2	
Nolina matapensis	Tree Beargrass	A,T	SD	1-2	
Nolina microcarpa	Beargrass	A	SD	1-2	
Nolina parryi	Parry's Beargrass	A	SD	1-2	
Oenothera berlandieri (speciosa childsii)	Mexican Evening Primrose	Gc,cl	CD	3	
Oenothera caespitosa	Tufted Evening Primrose	p,cl	SD	2-3	
Oenothera stubbei	Chihuahuan Primrose, Baja Primrose	Gc,cl	CD	2-3	
Olea europaea 'Swan Hill'	Swan Hill Olive	T	Mediterranean	3	
Olneya tesota	Desert Ironwood, Tesota	T	SD, CD	1	(sh)
Opuntia spp.	Prickly Pear, Cholla	C	SD, CD	1	
Oryzopsis hymenoides	Indian Ricegrass	Gr	SD, CD	3	
Osteospermum fruticosum	Trailing African Daisy	Gc,cl	Africa	3-4	(sh)
Pappophorum mucronulatum	Pappusgrass	Gr	SD	1	
Parkinsonia aculeata	Mexican Palo Verde	T,I,cl	SD, CD	1-2	

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<i>Passiflora foetida</i>	Passion Flower	V	SD	3	(sh)
<i>Pedilanthus macrocarpus</i>	Slipper Flower	A,Sc,cl*	SD	2	
<i>Pennisetum setaceum</i> 'Cupreum'	Purple Fountain Grass	Gr	Africa	1-2	
<i>Penstemon baccharifolius</i>	Cutleaf Penstemon	p,cl	CD	1	
<i>Penstemon barbatus</i>	Beardtongue Penstemon	p,cl	SD, CD	1	
<i>Penstemon eatoni</i>	Eaton's Penstemon	p,cl	SD	1	
<i>Penstemon parryi</i>	Parry Penstemon	p,cl	SD	1	
<i>Penstemon pseudospectabilis</i>	Canyon Penstemon, Mohave Beardtongue	p,cl	SD	1	
<i>Penstemon superbus</i>	Superb Penstemon	p,cl	CD	1	
<i>Pentzia incana</i>	Karoo Bush	Gc	Africa	1-2	
<i>Phacelia campanularia</i>	Desert Canterbury Bells	an,cl	SD	2-3	
<i>Phacelia tanacetifolia</i>	Tansy Phacelia	an,cl	SD	2-3	
<i>Phoenix canariensis</i>	Canary Island Date Palm	T		3	
<i>Phoenix dactylifera</i>	Date Palm	T	Asia	3	
<i>Phyla nodiflora</i>	Lippia	Gc,cl		3-4	
<i>Pinus edulis</i>	Piñon Nut Pine	T		2-3	
<i>Pinus eldarica</i>	Afghan Pine	T#	Asia	2	
<i>Pinus halepensis</i>	Aleppo Pine	T	Mediterranean	2	
<i>Pinus monophylla</i>	Singleleaf Piñon Pine	T	Mojave	2	
<i>Pinus pinea</i>	Italian Stone Pine	T	Mediterranean	2-3	
<i>Pinus roxburghii</i>	Chir Pine	T	Asia	3	
<i>Pistacia atlantica</i>	Mt. Atlas Pistache	T	Africa	2	
<i>Pistacia chinensis</i>	Chinese Pistache	T,cl	Asia	3	
<i>Pistacia terebinthus</i> x <i>integerrima</i>	Pistache hybrid <i>terebinthus</i> x <i>integerrima</i>	T,cl		3	
<i>Pistacia vera</i>	Pistachio	T	Asia	2-3	
<i>Pithecellobium flexicaule</i>	Texas Ebony	T	CD	2	(sh)
<i>Pithecellobium mexicanum</i>	Mexican Ebony	T	SD	3	
<i>Pithecellobium pallens</i>	Tenaza	T	CD	2	(sh)
<i>Pittosporum phillyraeoides</i>	Willow Pittosporum	T	Australia	2	
<i>Plantago</i> spp.	Indian Wheat	an	SD, CD	1-2	

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BOTANICAL NAME	COMMON NAME	STATUS	ORIGIN	NEEDS	HARDY
Prosopis (So. Am. hybrid)	Thornless Mesquite (So. Am. hybrid)	T#	So. America	2	
Prosopis alba	Argentine Mesquite	T#	So. America	2	
Prosopis chilensis	Chilean Mesquite	T#	So. America	2	
Prosopis glandulosa glandulosa	Honey or Texas Mesquite	T#	CD	2	
Prosopis pubescens	Screwbean Mesquite	T	SD, CD	2	
Prosopis velutina	Velvet Mesquite	T#	SD	2	
Psilostrophe cooperi	Paper Flower	p,cl	SD, CD	2	
Punica granatum	Pomegranate	S,T,cl	India	2-3	
Pyracantha (red berried types)	Pyracantha (many cultivars)	S,cl		3	
Quercus arizonica	Arizona White Oak	T	SD, CD	3	
Quercus emoryi	Emory Oak	T	SD, CD	3	
Quercus ilex	Holly Oak	T		3	
Quercus suber	Cork Oak	T*	Mediterranean	2	
Quercus virginiana 'Heritage'	Heritage Live Oak	T	SE U.S.A.	3	
Rhus lancea	African Sumac	T,l	Africa	2	
Rhus microphylla	Littleleaf Sumac	S,cl	CD	2	
Rhus ovata	Sugar Bush, Sugar Sumac	S	SD	2	
Rhus virens	Evergreen Sumac	S,cl	CD	2	
Rosa banksiae	Lady Banks Rose, Tombstone Rose	S,Gc,V		3	
Rosmarinus officinalis	Bush Rosemary	S,cl	Mediterranean	2-3	
Rosmarinus officinalis 'Prostratus'	Dwarf or Trailing Rosemary	Gc,cl	Mediterranean	2-3	
Ruellia californica	Ruellia	S,cl	SD	3	(t)
Ruellia peninsularis	Ruellia	S,cl	SD	3	(t)
Ruschia uncinatus	Ruschia	Sc,Gc		2	
Salvia chamaedryoides	Blue Sage	S,p,cl	CD	2-3	
Salvia clevelandii	Cleveland Sage	S,cl		3	
Salvia columbariae	Chia	an,cl	SD	3	
Salvia farinacea	Mealy Blue Sage	S,cl	CD	3-4	
Salvia greggii	Texas Red Salvia, Autumn Sage	S,cl	CD	2-3	
Salvia mohavensis	Mohave Sage	S,cl	SD	2	
Sambucus mexicana	Mexican Elderberry	T	SD, CD	2	
Santolina chamaecyparissus	Lavendar Cotton	S,Gc	Mediterranean	2-3	

TOWN OF MARANA, ARIZONA
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BOTANICAL NAME	COMMON NAME	STATUS	ORIGIN	NEEDS	HARDY
<i>Santolina virens</i>	Green Santolina	Gc,S,cl Medit.	Mediterranean	3-4	
<i>Sapindus saponaria</i>	Soapberry	T*	SD, CD	3-4	
<i>Schinus molle</i>	California Pepper Tree	T	So. America	2-3	
<i>Senecio cineraria</i>	Dusty Miller, Silver Plant	p,cl*		3	
<i>Senna covesii</i>	Desert Senna	p,cl	SD	1-2	
<i>Senna lindheimeriana</i>	Senna	S	CD	4	(sh)
<i>Senna wislizenii</i>	Cassia, Shrubby Senna	S,p,cl	SD, CD	2	
<i>Sesuvium verrucosum</i>	Sea Purslane, Ice Plant	Gc	Africa	2	(t)
<i>Setaria macrostachya</i>	Plains Bristle Grass	Gr	SD, CD	3	
<i>Simmondsia chinensis</i>	Jojoba, Goat Nut	S	SD	1-2	
<i>Sophora secundiflora</i>	Mescal Bean, Texas Mountain Laurel	S,T,cl*	CD	2-3	
<i>Sphaeralcea</i> spp.	Globe-Mallow	p,cl	SD, CD	1	
<i>Sporobolus airoides</i>	Alkali Sacaton	Gr	SD, CD	3	
<i>Sporobolus contractus</i>	Spike Dropseed	Gr	SD, CD	1	
<i>Sporobolus cryptandrus</i>	Sand Drops	Gr	SD, CD	3	
<i>Sporobolus flexuosus</i>	Mesa Dropseed	Gr	SD, CD	2	
<i>Sporobolus wrightii</i>	Sacaton	Gr	SD, CD	1	
<i>Stenocereus (Lemaireocereus) thurberi</i>	Organ Pipe Cactus	C	SD	1	
<i>Stipa neomexicana</i>	New Mexico Feathergrass	Gr	SD, CD	2	
<i>Tagetes lemmoni</i>	Mountain Marigold	p,cl	SD	3-4	
<i>Tamarix aphylla</i>	Athel Tree, Tamarisk	T	Asia	1	
<i>Tamarix parviflora or chinensis</i>	Spring Flowering Salt Cedar	T,S,l	Asia	2	
<i>Tecoma stans</i> var. <i>angustata</i>	Trumpet-Bush	S,cl	SD, CD	2-3	(sh)
<i>Tecomaria capensis</i>	Cape Honeysuckle	S,cl	Africa	4	(sh)
<i>Teucrium chamaedrys (prostratum)</i>	Prostrate Germander	Gc,p	Mediterranean	2-3	
<i>Teucrium fruticans</i>	Bush Germander	S		3	
<i>Trucklers crinita</i>	Two-feather Trichloris	Gr	SD, CD	2	
<i>Trichocereus</i> spp.	Trichocereus Cactus	C		1-2	
<i>Tridens muticus</i>	Slim Tridens	Gr	SD, CD	2	

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<i>Ungnadia speciosa</i>	Mexican Buckeye	T,cl	CD	3	
<i>Vauquelinia californica</i>	Arizona Rosewood	S,T#	SD	2	
<i>Verbena gooddingii</i>	Goodding Verbena	p,cl	SD	3-4	
<i>Verbena peruviana</i>	Peruvian Verbena	p,cl	So. America	4	
<i>Verbena tenuisecta</i> (<i>pulchella</i>)	Moss Verbena, Fineleaf Verbena	p,cl	So. America	3	
<i>Verbesina encelioides</i>	Crown Beard	an,cl	SD, CD	2	
<i>Viguiera deltoidea</i>	Golden Eye	p,cl	SD	2	
<i>Vitex agnus-castus</i>	Chaste Tree, Monk's Pepper	T,S,cl		2	
<i>Washingtonia filifera</i>	California Fan Palm	T	SD	2	
<i>Washingtonia robusta</i>	Mexican Fan Palm	T	SD	2-3	(sh)
<i>Xylosma congestum</i>	Xylosma	T,S	China	3-4	
<i>Yucca aloifolia</i>	Spanish Bayonet Yucca	A	SD	1	
<i>Yucca baccata</i>	Banana Yucca	A	SD, CD	1	
<i>Yucca brevifolia</i>	Joshua Tree	A	CD	1	
<i>Yucca carnerosana</i>	Giant Dagger Yucca	A	CD	1	
<i>Yucca elata</i>	Soaptree Yucca	A	SD, CD	1	
<i>Yucca glauca</i>	Small Soapweed Yucca	Sc	U.S.A.	1	
<i>Yucca recurvifolia</i> (<i>pendula</i>)	Pendulous or Curveleaf Yucca	A	U.S.A.	2	
<i>Yucca rigida</i>	Blue Dagger Yucca	A,cl	CD	1	
<i>Yucca rostrata</i>	Beaked Yucca	A	CD	1	
<i>Yucca schottii</i>	Mountain Yucca	Sc	SD	1	
<i>Yucca treculeana</i>	Tree Yucca	A	CD	1	
<i>Yucca whipplei</i>	Our Lord's Candle	A	SD	1	
<i>Zauschneria californica</i>	Hummingbird Trumpet	Gc,cl	SD	3	
<i>Zinnia acerosa</i>	Desert Zinnia	p,cl	SD, CD	1	
<i>Zinnia grandiflora</i>	Rocky Mountain Zinnia	p,cl	CD	2	
<i>Zizyphus jujuba</i>	Chinese Date	T,l	Asia	2	

List Sorted Alphabetically by Botanical Name