

vidanueva



Acknowledgements



DRACHMAN INSTITUTE

Drachman Institute is a research and public service unit of the College of Architecture and Landscape Architecture at the University of Arizona, dedicated to the environmentally sensitive and resource-conscious development of neighborhoods and communities. The Drachman Institute dedicates its research and outreach activities to the proposition that housing is the building-block of neighborhoods, and neighborhoods are the building-blocks of communities.

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CPPW

Communities Putting Prevention to Work (CPPW) is a national initiative of the Centers for Disease Control and Prevention (CDC).

The goal is to prevent or reduce the spread of obesity and related diseases by increasing opportunities for improved nutrition and active living. The method is implementation of policy, systems and environmental change. Pima County was one of 44 communities nationwide to receive funding for the CPPW grant, part of the American Recovery and Reinvestment Act of 2009.

CPPW is being developed and administered by the Pima County Health Department, in partnership with Activate Tucson, a coalition advocating healthy eating and active living.

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Introduction

Outreach Process + Project Timeline

June 2011 Drachman Institute designers are invited to meet with Vida Nueva to discuss potential for increasing access to local produce and recreation opportunities on their property.

June - July 2011 Drachman Institute designers conduct research and prepare design concepts.

September 2011 Drachman Institute meets with Vida Nueva to discuss design recommendations.





Overall Project Goal

To promote healthful lifestyle choices by creating opportunities for site users to partake in group and individual physical activities as well as to take part in the production, harvest, and consumption of fresh produce.

Project Objectives

- Identify opportunities for local food production
- Expand facilities to offer a variety of recreation opportunities
- Enhance existing water retention basin to be a multi-purpose space that collects runoff and offers opportunities for physical activity and social gathering
- Address increased parking demand in a manner that is sensitive to environmental impacts and human comfort

Best Practices

Impacts of Expansive Pavement

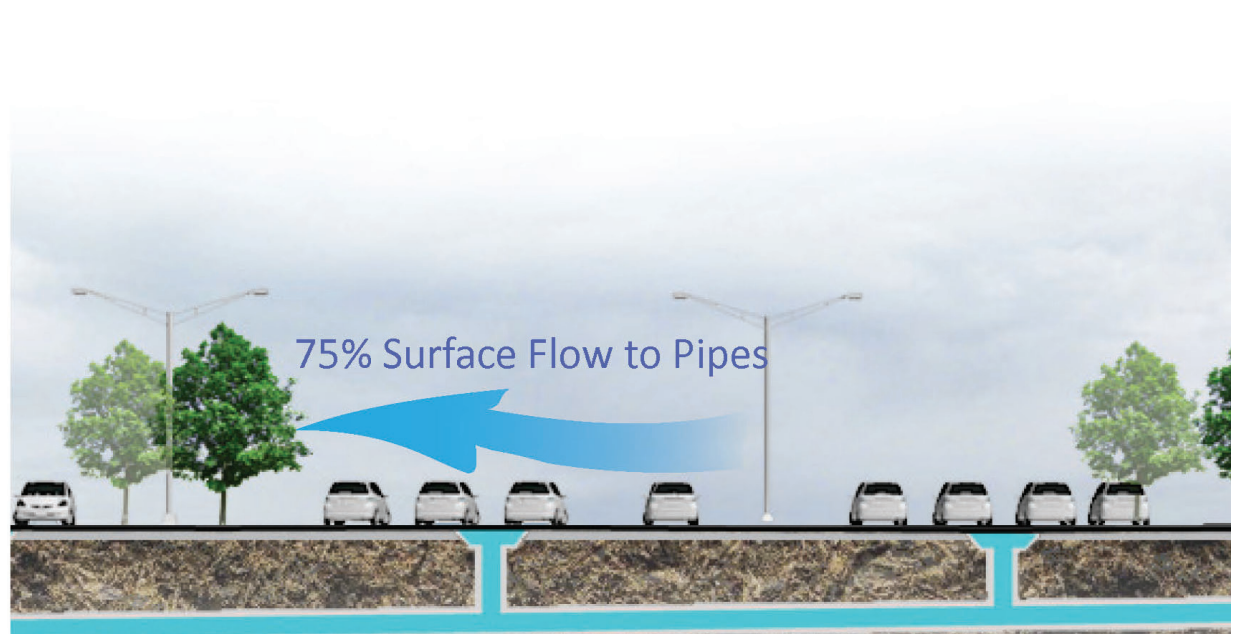
When the natural landscape is urbanized, impervious surface is created that prevents water from being absorbed at the source. Sediments and pollutants from streets, parking lots, homes, yards, and other sources are washed into pipes and water bodies. Stormwater runoff increases as more and more impervious surface is created. The high volume and velocity of stormwater runoff emptying into creeks, streams, and washes may cause flooding and erosion, damaging natural habitat. There is an alternative approach to addressing our parking needs.

San Mateo Countywide Water Pollution Prevention Program 2010. pg18

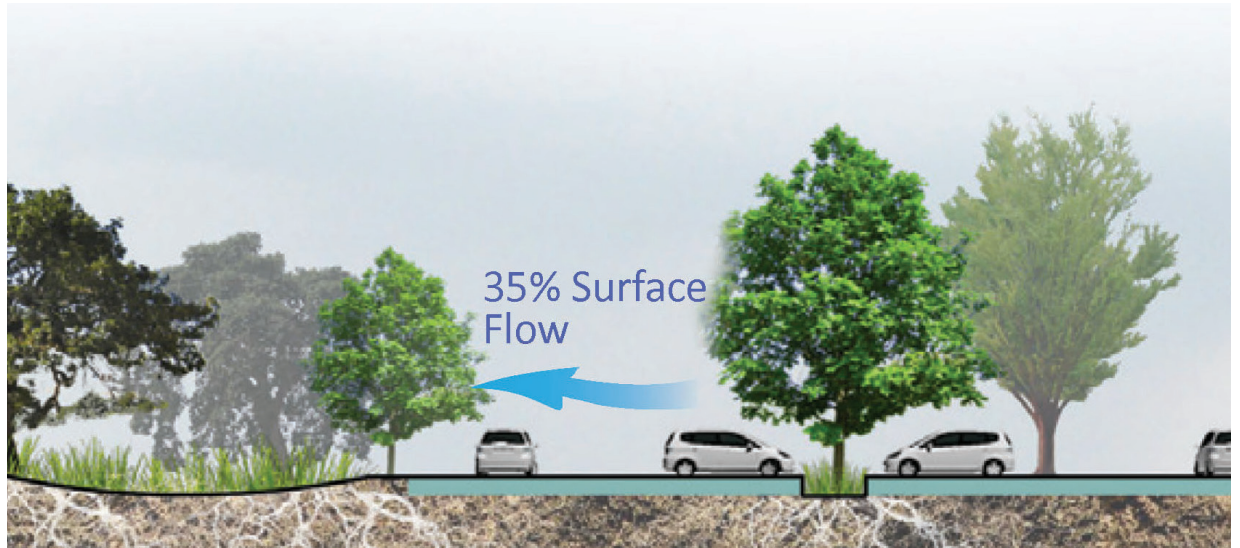
Alternative Parking Strategies

Infrastructure can be designed to minimize its impact on natural drainage systems. Our streets and parking lots can help maintain the balance of natural drainage systems by capturing, slowing, and absorbing stormwater, as well as filtering the pollutants that urban development introduces. Green infrastructure such as green streets, green parking lots, and green roofs helps increase the time it takes stormwater runoff to flow downstream. These techniques also distribute the volume of water entering water courses over a longer period of time, thereby decreasing flooding and reducing the erosive forces of the water.

San Mateo Countywide Water Pollution Prevention Program 2010. pg16



-San Mateo Countywide Water Pollution Prevention Program 2010. pg16



-San Mateo Countywide Water Pollution Prevention Program 2010. pg18



A standard curb cut allows stormwater runoff to enter a parking lot rain garden. This curb cut has 45 degree chamfered sides.
-San Mateo Countywide Water Pollution Prevention Program 2010. pg152



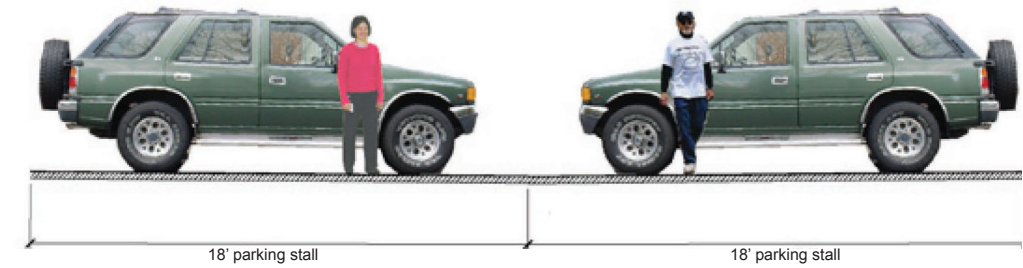
This parking lot planter uses multiple standard curb cuts to allow runoff to enter the landscape area.
-San Mateo Countywide Water Pollution Prevention Program 2010. pg155



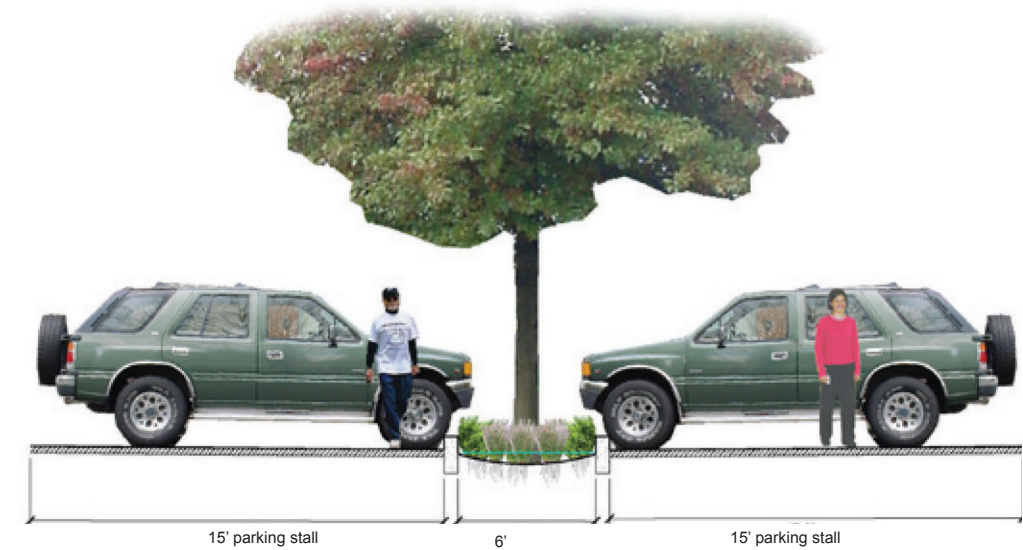
The 3 foot space in between these wheelstops allows stormwater runoff to enter a vegetated swale within a parking lot.
-San Mateo Countywide Water Pollution Prevention Program 2010. pg155

This vegetated swale in Oakland, California was retrofitted within an existing parking lot.
-San Mateo Countywide Water Pollution Prevention Program 2010. pg155

Alternative Parking Strategies



This typical cross section illustrates a conventional parking lot condition with 18 feet long parking stalls.



This cross section shows how a 15 feet parking stall can help create room for landscaping used for storm water management. Note that the parked cars in both scenarios are placed in the same place and fit within reduced length the parking stalls.
San Mateo Countywide Water Pollution Prevention Program 2010. pg36



Parking Regulations

3.3.4.3 Minimum Number of Motor Vehicle Spaces Required

- 1 space per 100 sq. ft. GFA in all combined public assembly areas or where religious services are held, whichever is applicable.

3.3.5.1 Reduction for Existing Developed Sites

- The Planning and Development Services Director (the Director) may approve a parking reduction plan using an alternate parking calculation of one (1) space for each four hundred (400) square feet of gross floor area for commercial, retail, and civic uses within existing development.

- » If Located within 1,320 feet (1/4 mile) of an existing transit stop or public parking facility.
- » If, for multiple use sites, the site can accommodate shared parking arrangements for uses with alternate hours of operation or peak use times.

- The number of off-street parking spaces may be reduced up to ten (10) percent when an existing development is modified to comply with Sec. 3.7.0 (Landscaping and Screening Regulations)

3.7.0 Landscaping and Screening Regulations

- For every three (3) non-required canopy trees provided in the vehicular use area, the motor vehicle parking requirement may be reduced by one space.

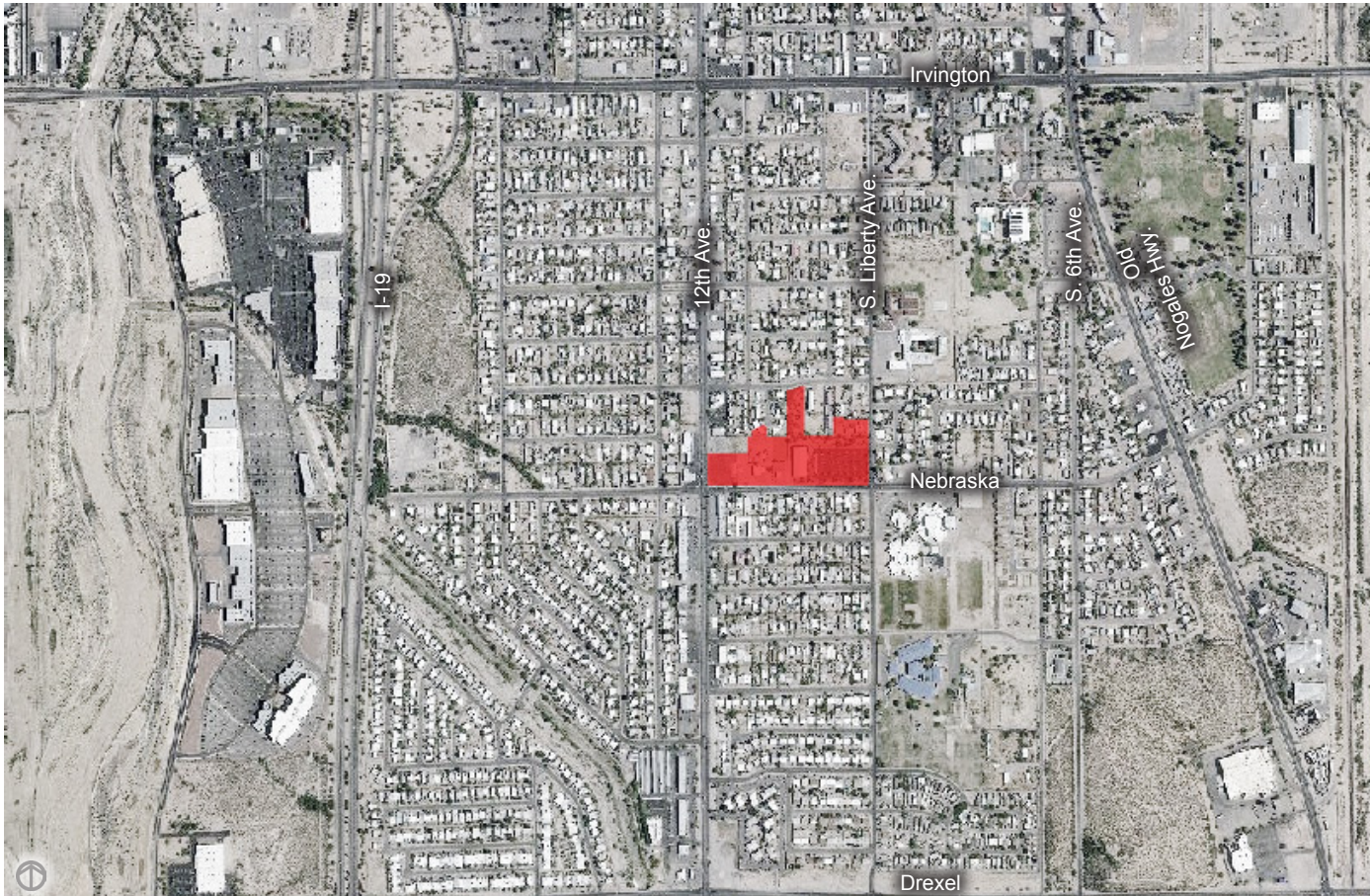
Parking Code, City of Tucson



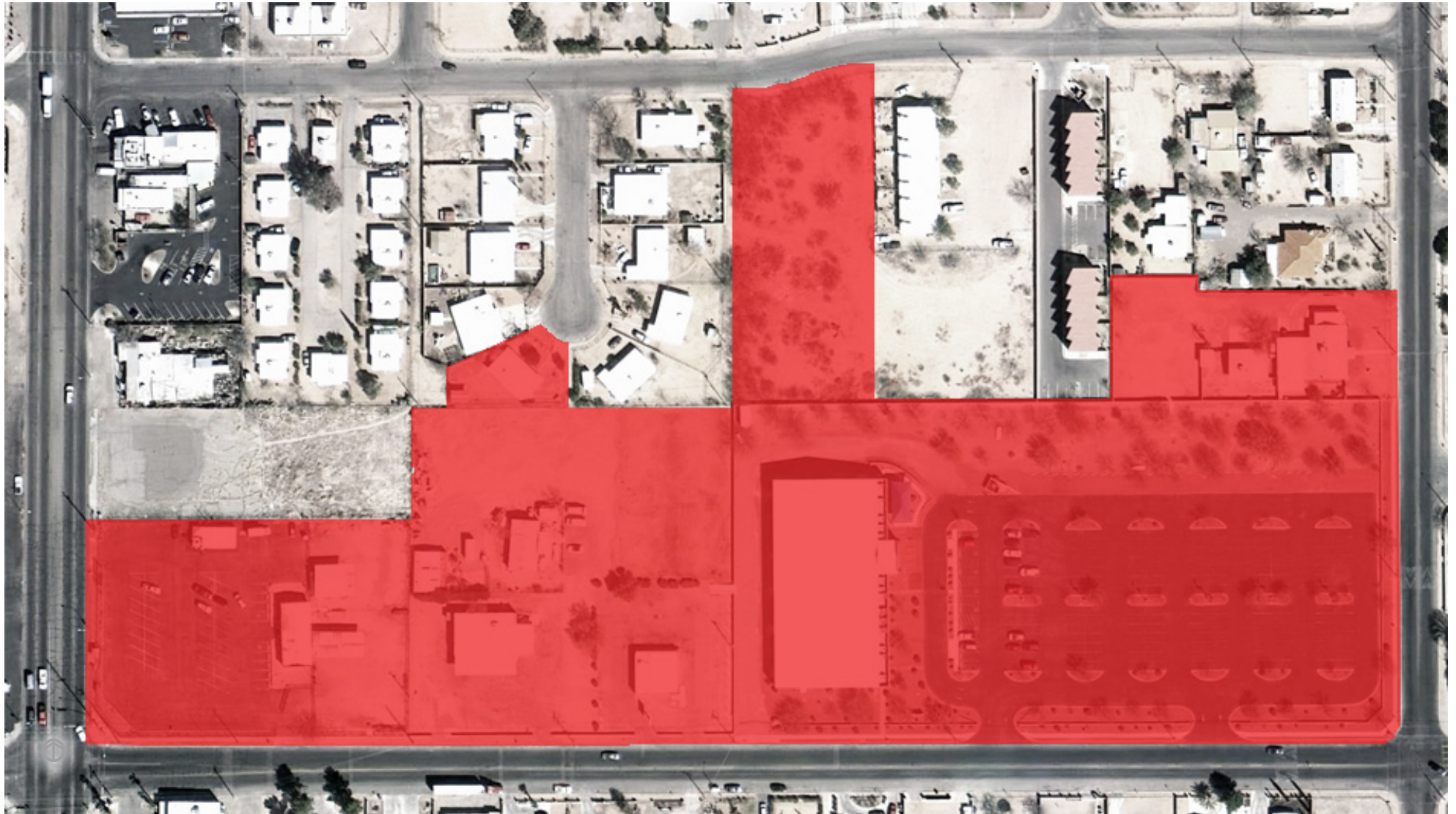
Site Inventory

Project Location

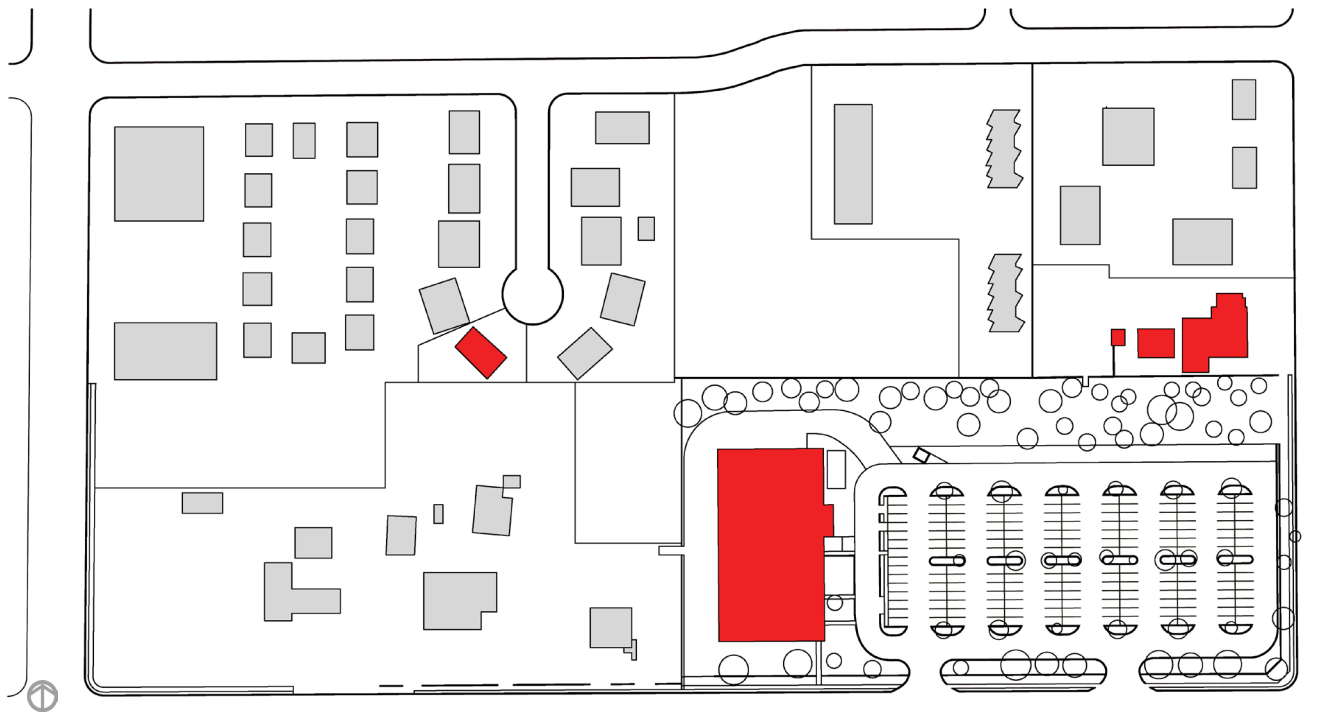
330 West Nebraska St. Tucson,
AZ 85706



Site Area



Size: 10.17acres or 442,794 sf

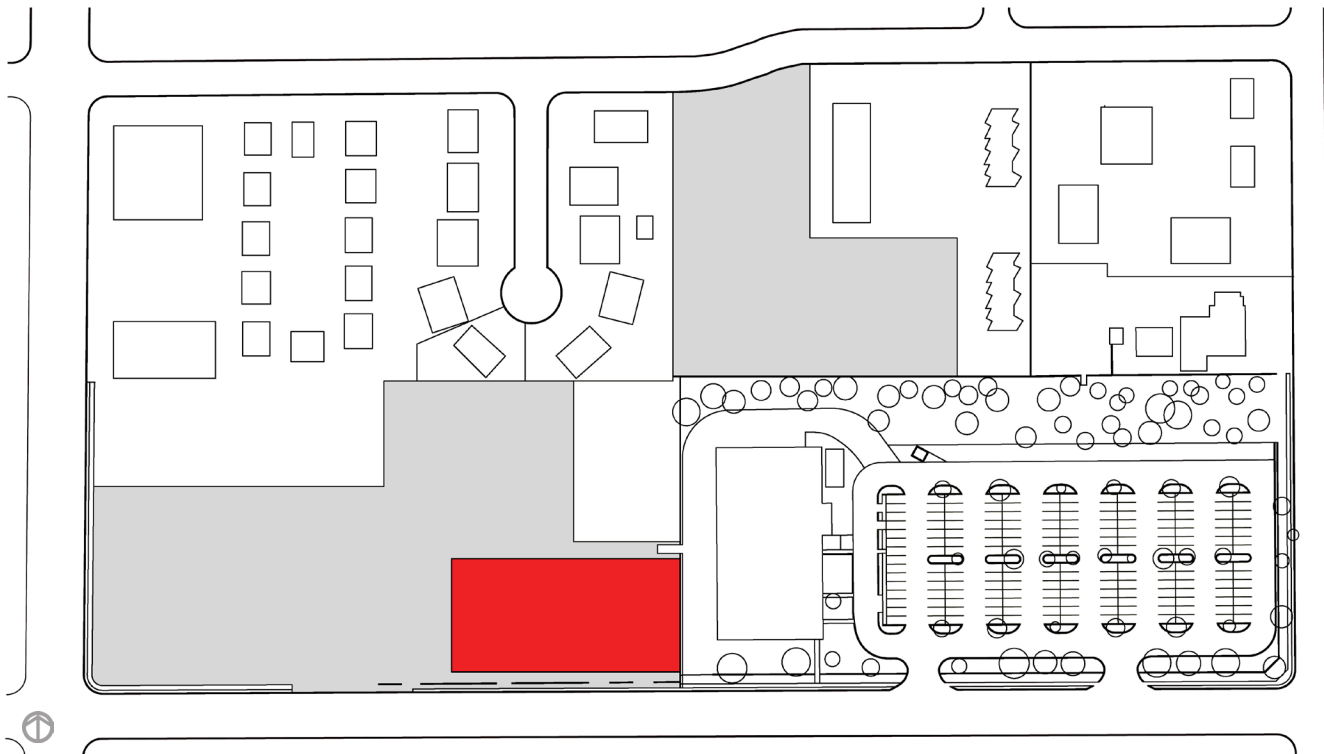


Existing Structures

The main structure is 22,000 sq ft and consist of offices, classrooms a day-care, and main gathering area. This main building and the residences towards the north are the only structures that are expected to remain once the future expansion is completed.

Key

■ buildings to remain after future expansion



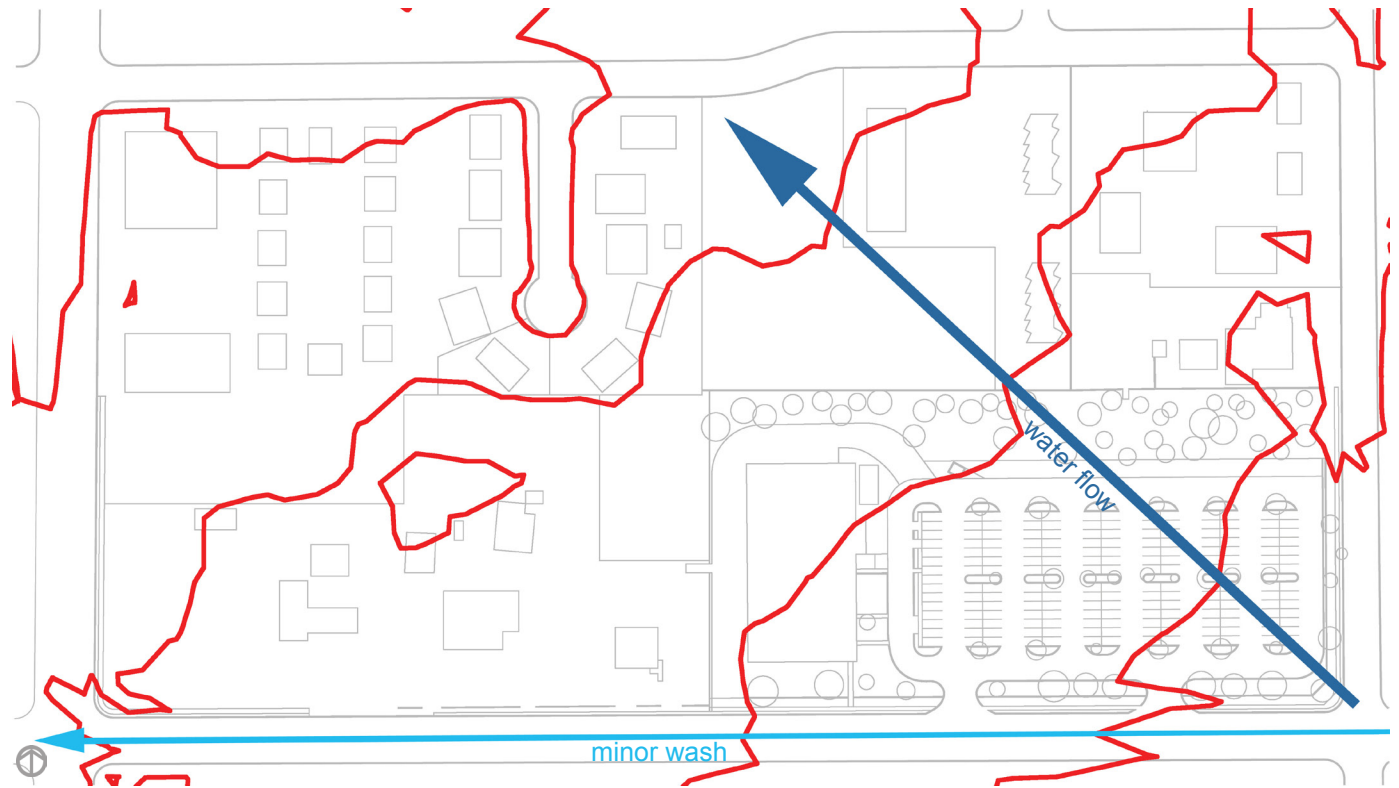
Anticipated Expansion

A new church of 26,400 sq ft will be connected to the existing building possibly through a breezeway, the remaining space is intended for parking.

The area colored in red represents the potential size of the expansion but does not represent the proposed location or configuration of the building.

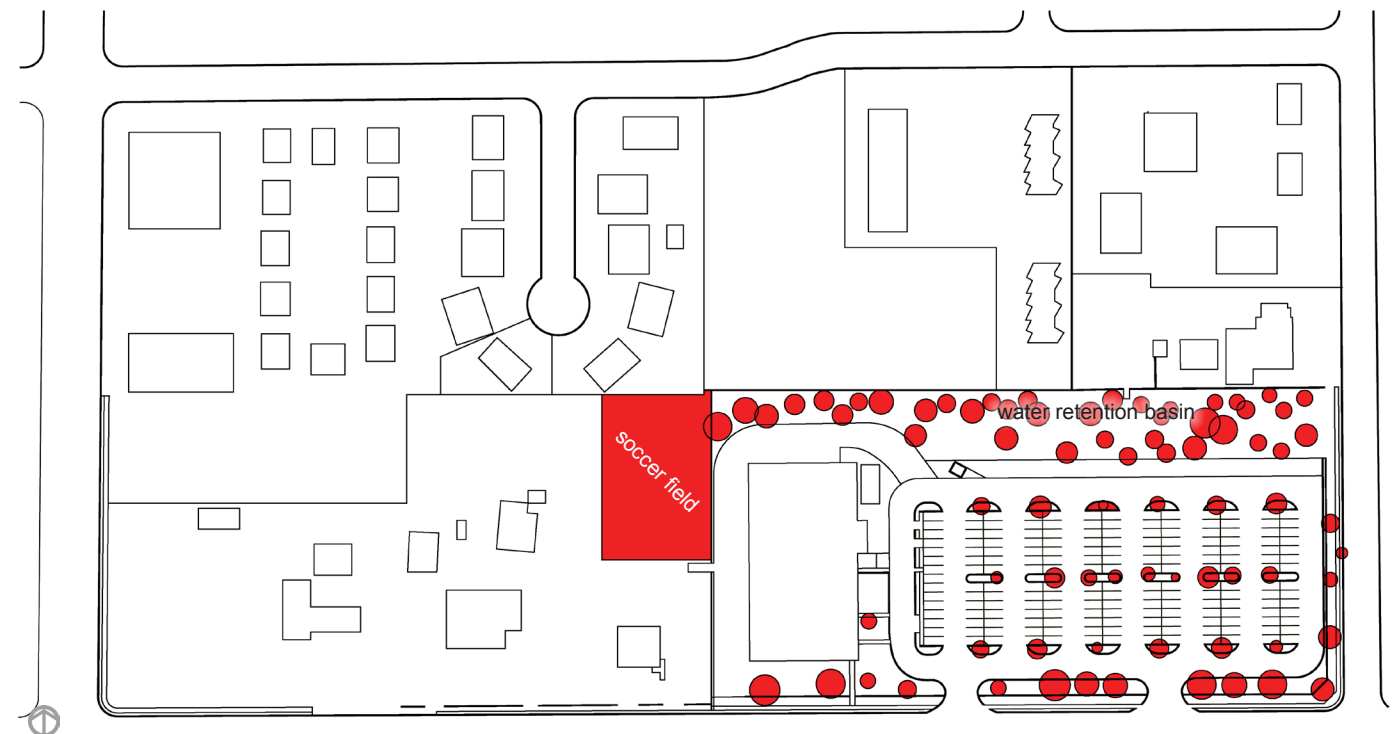
Topography

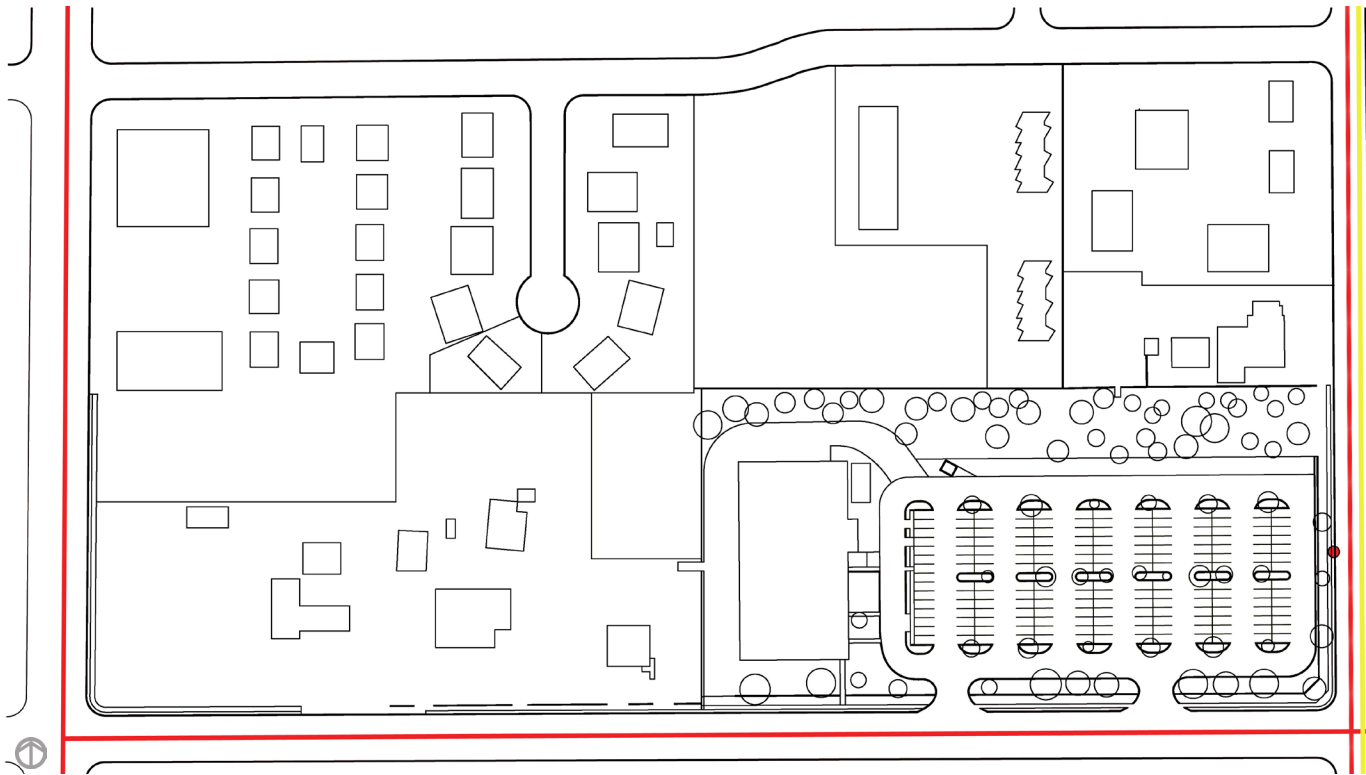
Terrain has a minor slope towards the NW, with a minor wash that flows down Nebraska St.



Existing Trees

The majority of mature trees are within the retention basin. There is also a soccer field in the center of the property.





Bus and Bicycle Routes

Suntran bus routes run along 12th Ave., Nebraska, and Liberty Ave. with a bus stop on Liberty Ave. A bike boulevard runs along Liberty Ave.

Key

- bus stop
- bus route
- bike boulevard



Existing Parking

There are at least 367 parking spaces on or adjacent to the church property.

- 182 parking spaces on the church property
- 85 parking spaces on the street along the south side of the property
- 100 parking spaces at Apollo Middle School.



Design

Conceptual Site Plan

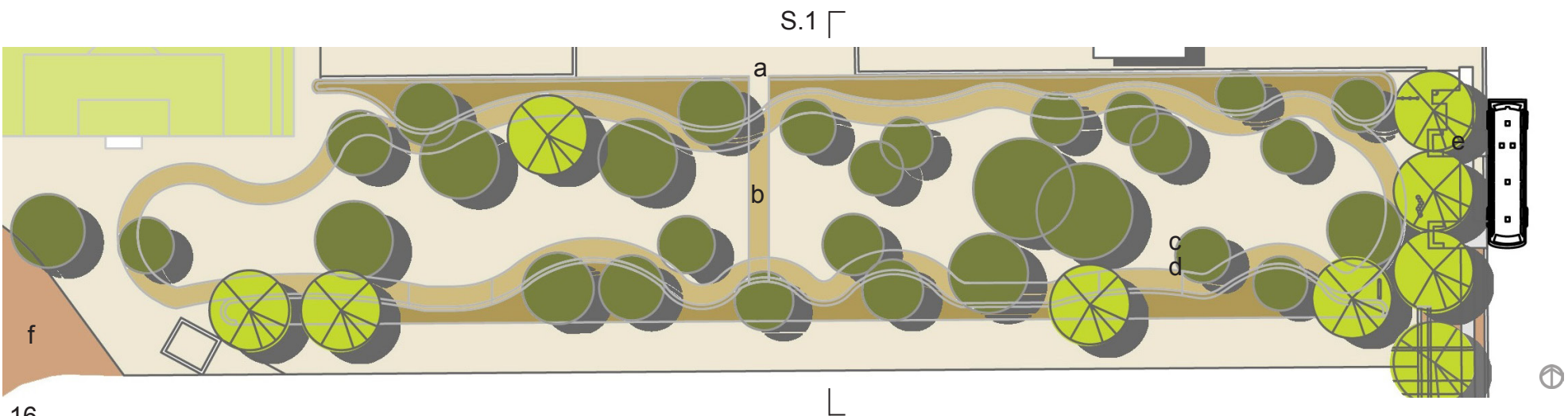
- a- future expansion (26,400sf) connected to the existing building directly or possible breezeway
- b- sustainable parking lot
- c- fire and pedestrian access road
- d- water retention basin expansion
- e- open lot to meet any additional needs
- f- volley ball court
- g- soccer field
- h- basketball court with access to water retention basin trail and pocket park
- i- day-care
- j- playground for the day-care
- k- water retention basin trail
- l- bus stop and pocket park
- m- parking lot
- n- fruit orchard
- o- courtyard
- existing trees
- new trees

Conceptual Site Plan

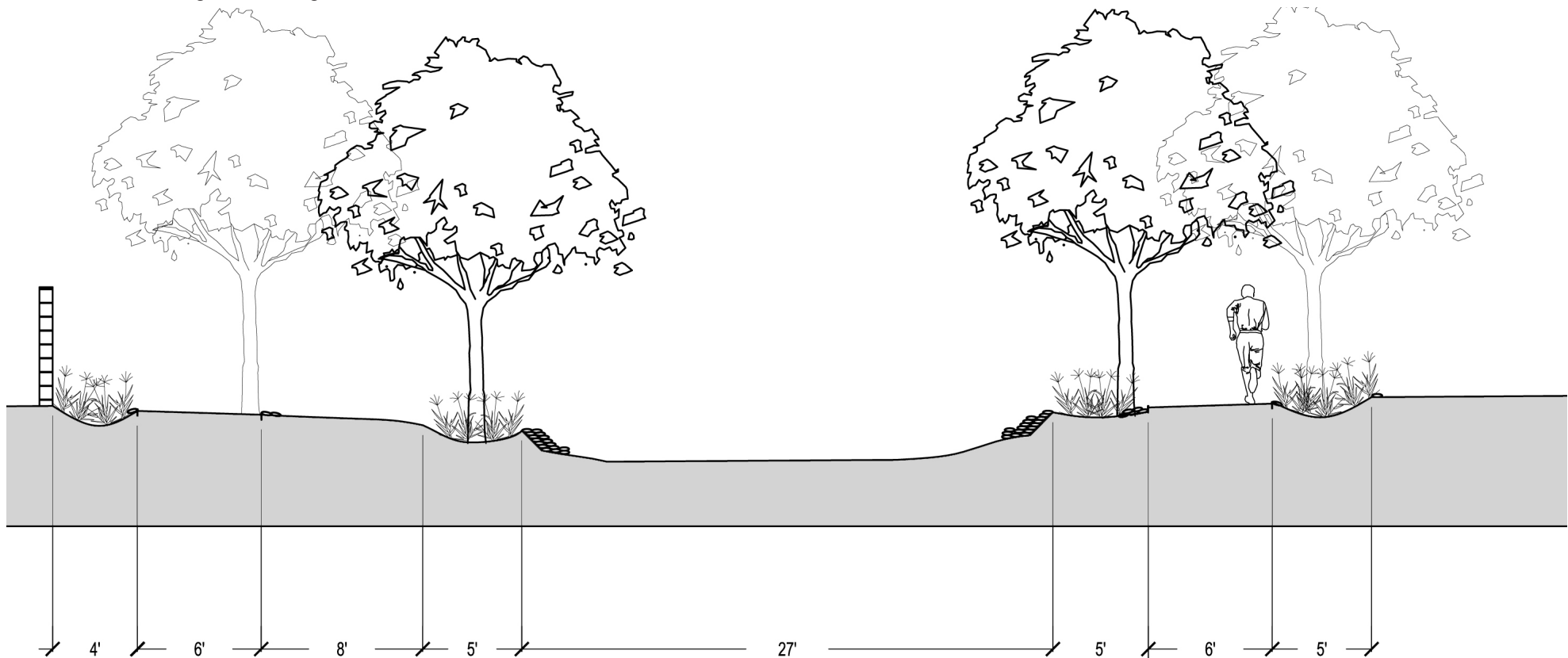


Enhanced Water Retention Basin

Members of the Vida Nueva community expressed interest in establishing a walking route along the existing water retention basin. The basin already supports a number of mature shade trees and is an enjoyable space to spend time. With the addition of a walking path, more trees, seating, and some erosion mitigation techniques, the basin will be an alluring place for recreation and socialization.



S.1 - Section looking East through enhanced water retention basin



- a- acces point to the proposed daycare
- b- check dam pedestrian crossing
- c- trail
- d- intermidient retention basin
- e- proposed pocket park/bus stop
- f- fire access road
- existing trees
- new trees

The water retention basin can be easily transformed into a more inviting place for walking by defining a trail. The trail could be composed of backfill compacted soil topped with stabilized decomposed granite and could be lined with rip rap on the inside to control erosion. The outer sides of the trail could be lined with smaller basins that would filter the runoff from the parking lot over the trail and into the larger catchment area.



The basin offers a great opportunity to establish a natural walking trail around the perimeter and provides an opportunity for employees, church members, and the community to exercise.

Enhanced Water Retention Basin



existing basin looking West



existing access point to the NE property



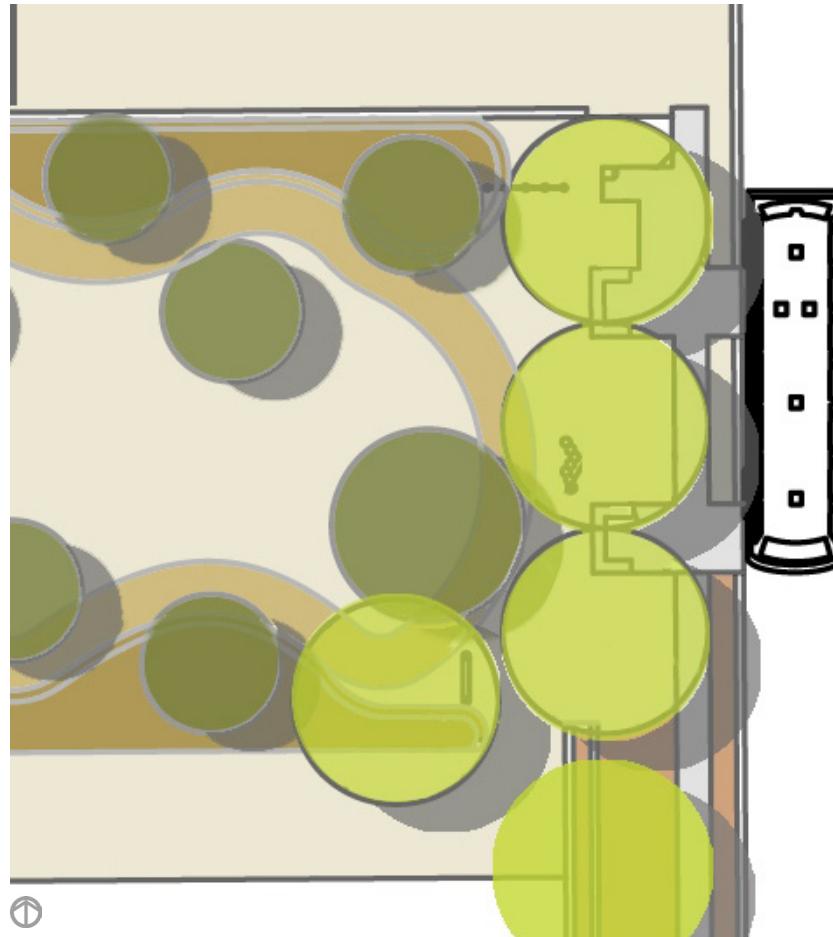
existing basin looking East



existing erosion control

Pocket Park

There is an existing bus stop on Liberty towards the Northeast corner of the parking lot. There are no benches and minimal shade. Also the Liberty Bike Boulevard runs along the east side of the property. Taking these factors into consideration, the east side of the property is an appropriate place to creating an area for rest and leisure that serves both the church community as well as the surrounding neighborhood. It might encourage church members to take public transportation to church and even promote biking while providing an asset for the community. The pocket park would consist of two seating areas a water fountain and exercise equipment placed along the proposed basin trail.



Plan of proposed pocket park



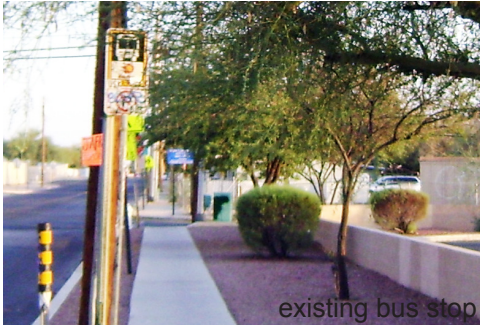
Perspective of proposed pocket park + bus stop, looking northwest



existing condition



bus users



existing bus stop



Alternative Parking Opportunities



Studies show that people will walk 1/4 mile or further to reach a destination if the route is pleasing. In our arid climate shade and water are two of the most important amenities for encouraging active transportation, such as walking and biking. People will also be more willing to park on the street and walk to the buildings if there is adequate shade.

On-site and adjacent parking options include:

- on lot: 433 spaces
- on street: 147 spaces
- shared: 100 spaces
- **Total: 680 spaces**





existing sidewalk condition along Nebraska



sidewalk with curb cuts and water retention basins

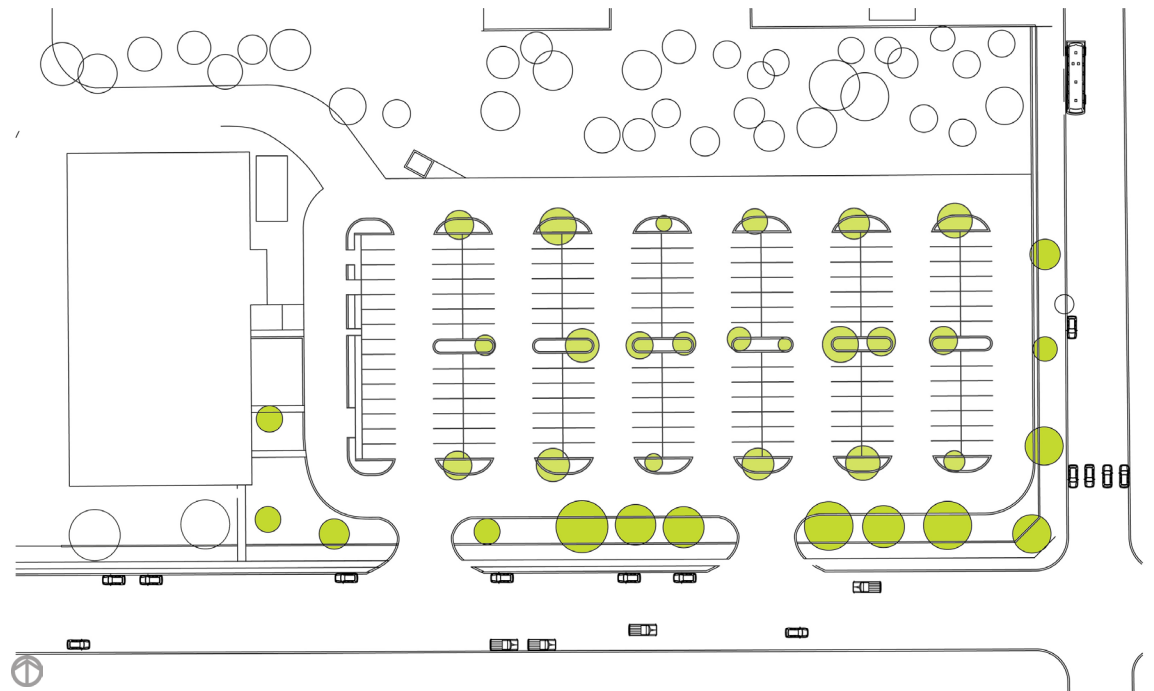
Street Trees

One way to increase shade along streets and sidewalks is to implement curb-cuts paired with basins, which harvest water from the street that helps support shade trees.

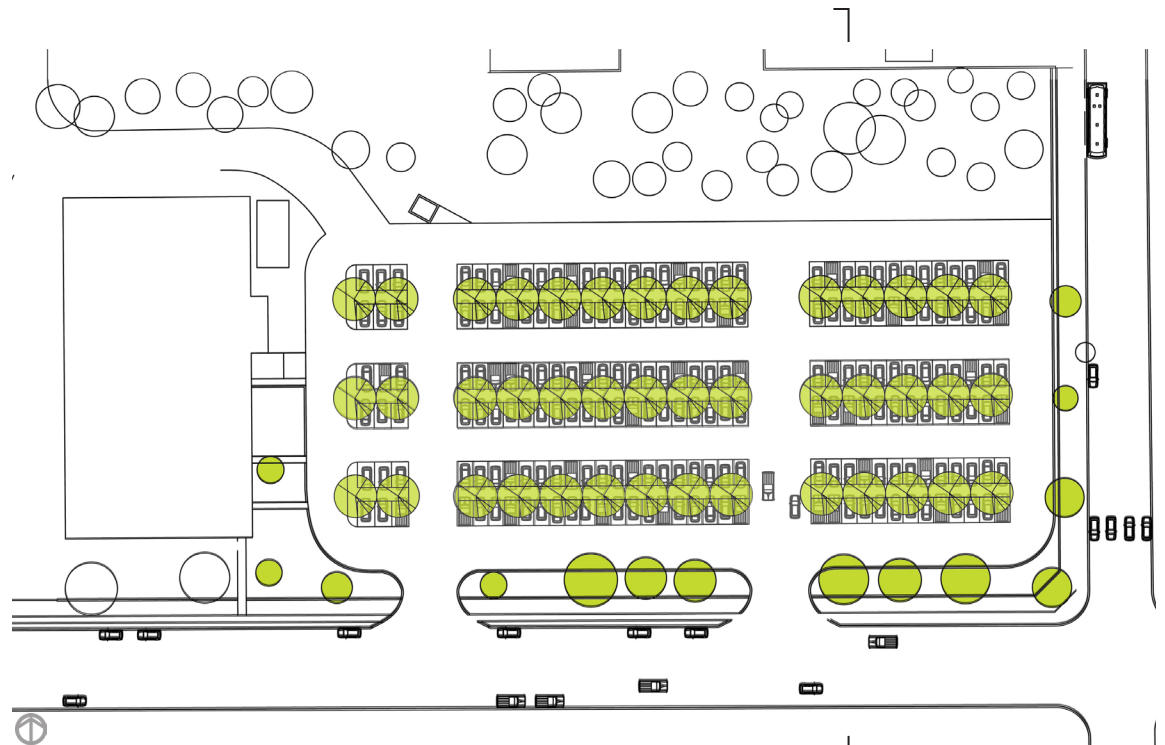
Parking Stall Configuration

This study shows that by reorienting the parking stalls, 28 parking stalls can be gained. This may be too costly for the existing parking lot, but it is something to be considered in the planning of the new parking lot.

The bottom plan also demonstrates that by shortening the parking stall length to 15' from 18' there is a gain of 6' to be used for trees and shrubbery. The rain water from the parking lot drains into the intermittent retention basins and ultimately into the principal basin along the north side of the site. This technique could be applied to both the existing and new parking lots.

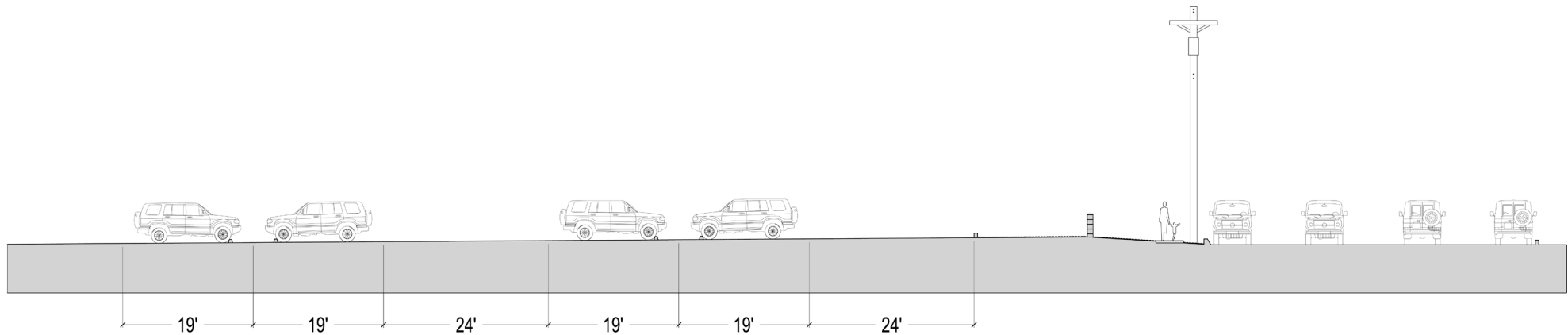


existing parking spaces 182

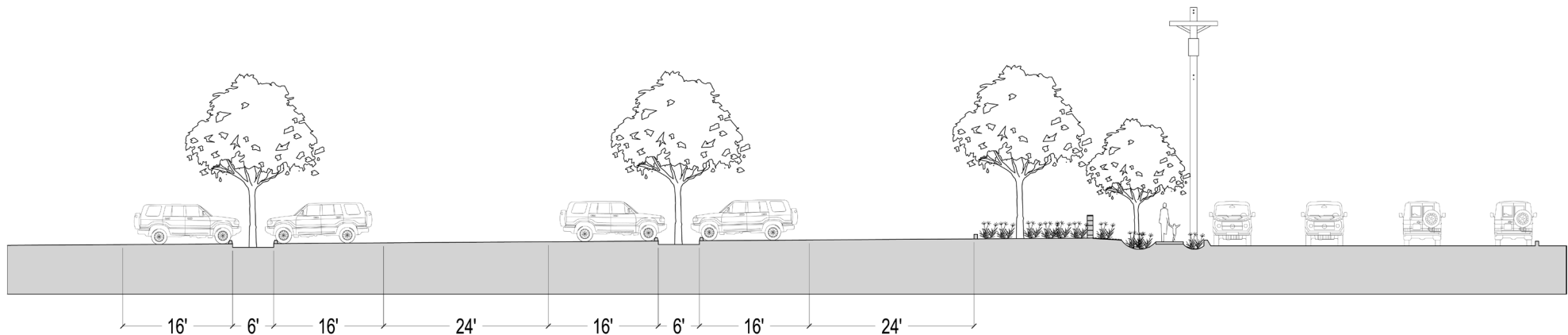


redistributed parking spaces 210

Parking Stall Re-Configuration



Section looking East through existing street/sidewalk condition and parking lot without trees



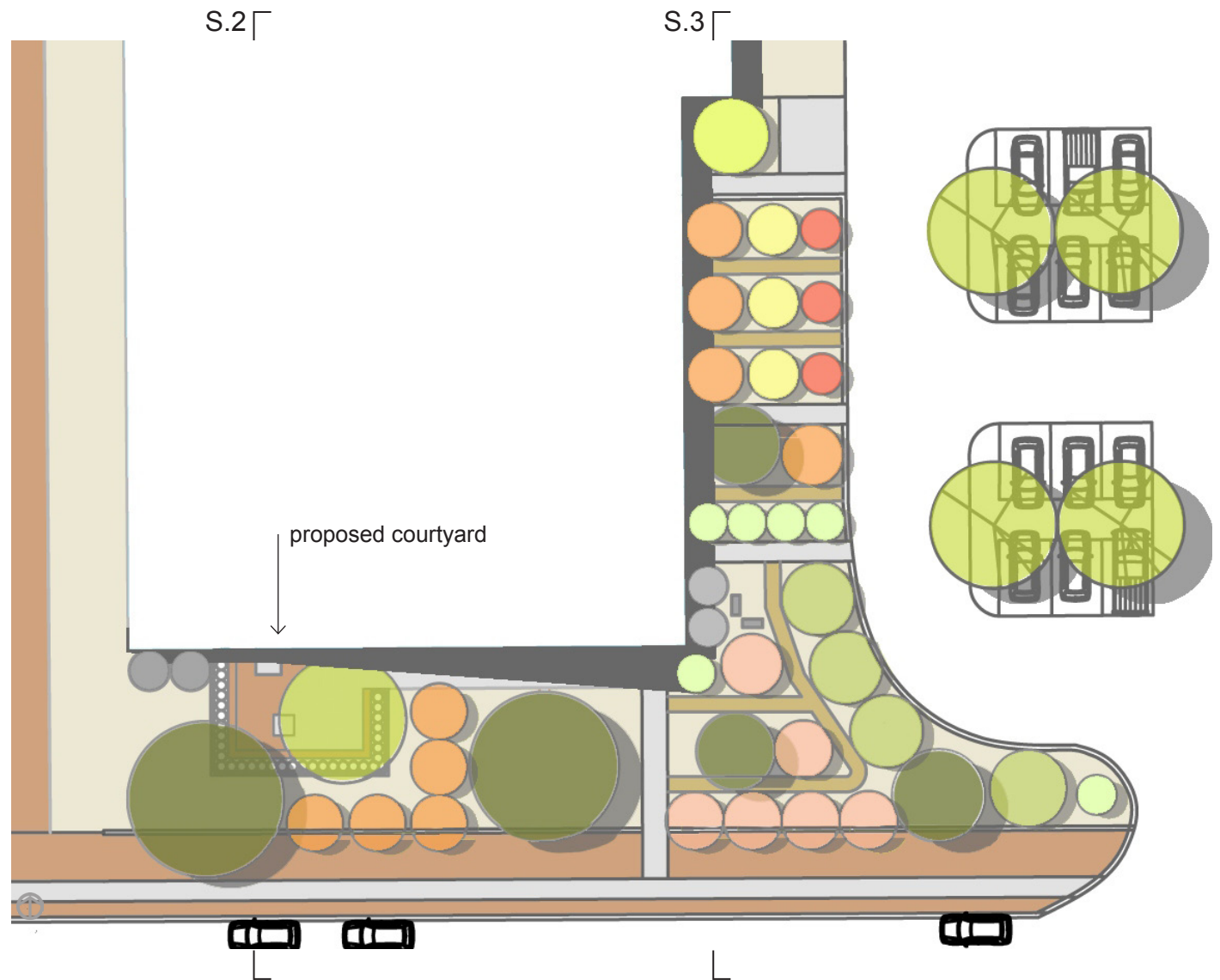
Section looking East through enhanced parking lot and street

Fruit Orchard and Courtyard

The landscape on the East side of the building is covered with rock and three small trees with a few minor shrubs. This area would be an ideal location to provide a source of local food by placing a fruit bearing orchard. The roof would be able to collect 105,600 gallons per year and could potentially supply the water needed for these trees. It would consist of water cisterns and fruit bearing trees that do well in our desert climate including:

- 5 Mission Fig Trees
- 9 Semi-Dwarf Orange Trees
- 3 Peach Trees
- 3 Pomegranate Trees
- 6 Lime Trees
- 6 Grapefruit Trees

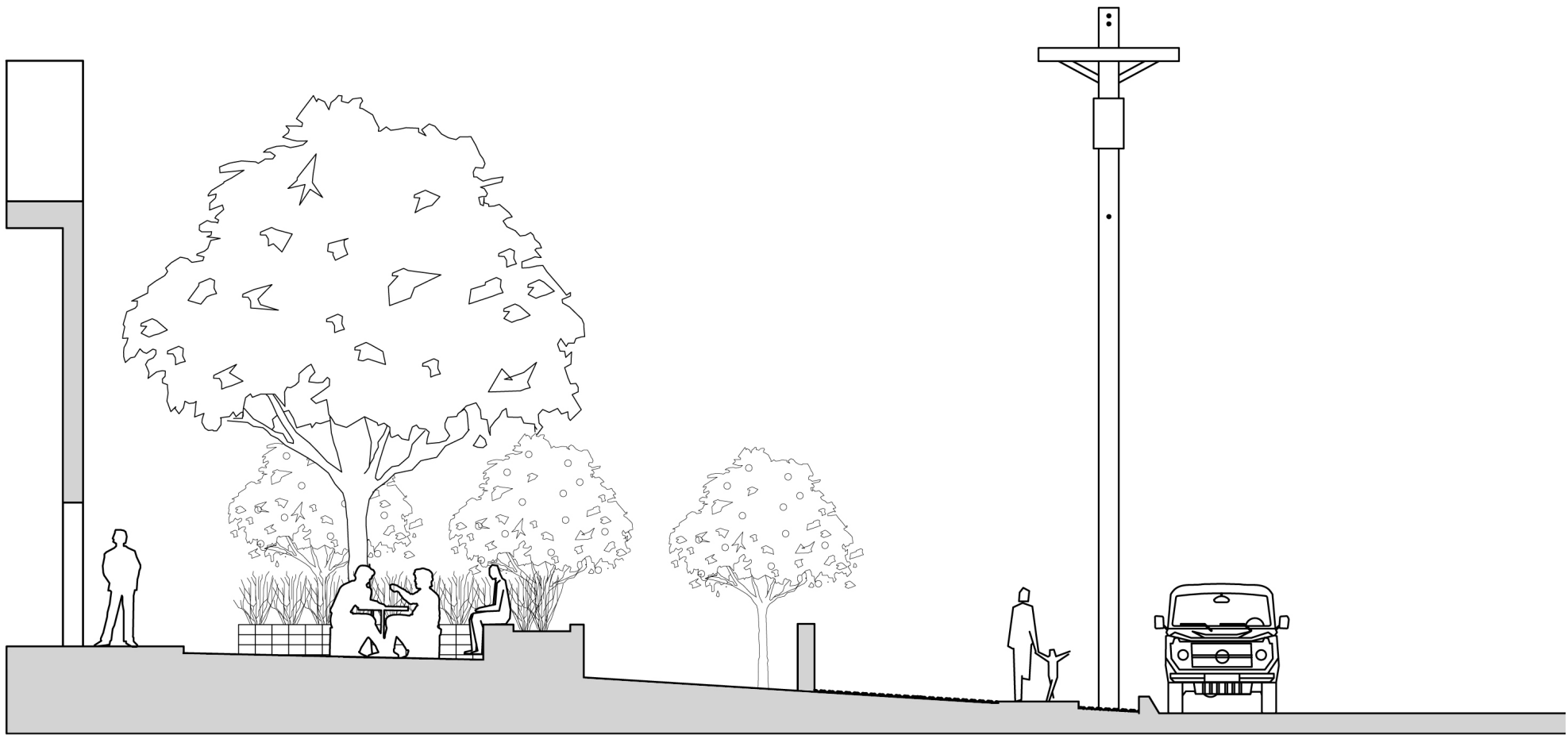
On the South side of the building there is also an opportunity to create a gathering area that could be used by employees on their breaks or it could be used to hold small meetings. It would consist of an open patio surrounded by an adobe planter with native grasses and shrubs to screen the street and create a sense of privacy.



Plan of proposed fruit orchard and courtyard



- FRUIT TREE KEY**
- Mission Fig
 - Semi-Dwarf Orange
 - Peach
 - Pomegranate
 - Dwarf Lime
 - Grapefruit



S.2 - Section looking East through courtyard



S.3 - Section looking East through fruit orchard



Perspective of proposed courtyard, looking West



Perspective of proposed courtyard, looking southeast



LOW DESERT CITRUS VARIETIES

Issued April 1998 by:

Michael Maurer, Agent
Fruits Crops
Lucy Bradley, Agent
Urban Horticulture

When choosing a variety of citrus to plant in your yard consider: what you like to eat; when you want to harvest; and how cold it gets in your yard.

- & Each of us has individual taste and the variety that you prefer may not be what someone else prefers. Do you want a seedless fruit? Is it important that the skin be easy to peel, or that the fruit be low in acid? These are all personal preferences. Evaluate the fruit characteristics that are important to you and choose a fruit to meet your needs.
- & Harvest time can have a significant impact on fruit flavor. Citrus fruit will not ripen once removed from the tree. However, if the fruit is left on the tree it will continue to sweeten as the season progresses. For example, grapefruit is palatable in September, but most people prefer them in March or April when they are sweeter and have less acid. If you are only here in the winter, you will want to choose a variety that is sweet while you are here.
- & Some fruit trees are more frost sensitive than others. Kumquats and Mandarins tend to be the most cold hardy, followed by grapefruit, orange, lemon and lime. If you live in some of the colder parts of the Valley you may want to select cold tolerant varieties. (While trees may be somewhat cold hardy, the fruit is not)

When purchasing citrus be sure to select a tree that is clearly identified. It is not enough to simply be identified as an orange, grapefruit or mandarin. There are many varieties of each species of citrus, each with its own characteristics. Be sure the tree has a tag which identifies both the variety and the rootstock, i.e., 'Fukumoto' navel orange on a 'Carrizo' citrange rootstock.

Listed below are some of the most popular varieties of citrus available in Maricopa County. This is not an all-inclusive list, but includes varieties that are often available at your local nursery.

Navel Oranges

Navel oranges are the premium fresh-eating orange, because they are seedless and moderately easy to peel. Navels can also be juiced, but the juice can not be stored, as navel oranges have a compound called limonin which produces a bitter taste.

At a Glance:

Select varieties that:

- & meet your needs regarding flavor, ease of peeling, number of seeds, acidity, and color
- & ripen at a convenient time
- & have adequate cold hardiness
- & are clearly identified as to variety and rootstock

Pigmented navel ‘Cara Cara’ or red navel is the only pigmented navel orange with a crimson flesh similar to red grapefruit. The flavor and peel color of the ‘Cara Cara’ is similar to other navel orange varieties. Fruit segments are attractive in salads due to its crimson color.

- * **‘Fukumoto’** an early-season, medium-sized navel which should be harvested by the end of October or early November. Currently being evaluated for Arizona, this variety has performed well in California trials. Due to its early maturity it may not have full orange peel color at the time of harvest although it is ready to eat. ****‘Beck Early’** should be harvested about the same time as the ‘Fukumoto’. Depending on climatic conditions, this navel tends to be more oblong in shape than most navels. This variety also is being evaluated for Arizona.
- * **‘Lane Late’** is one of many new Australian late season navels. These are often called summer navels; however, here in Arizona they can be harvested beginning in January. There are over 13 different varieties of late navels with the ‘Lane Late’ being one of the most promising. It is currently being evaluated for Arizona conditions. Other varieties include **‘Autumn Gold’**, **‘Barnsfield’**, **‘Chislett’**, **‘Powell’**, and **‘Summer Gold’**.

‘Parent Washington’ is probably the most popular navel grown in the Salt River Valley. This mid-season navel variety produces a large fruit which has good quality. Harvest beginning around Thanksgiving or the first of December. Other mid-season navels include **‘Atwood’**, **‘Fisher’**, **‘Newhall’**, **‘Robertson’**, **‘Spring’**, and **‘Thompson Improved’**.

Sweet Oranges

“Arizona Sweets,” refers to any one of a number of sweet orange varieties. The sweet oranges are good for both juice and eating fresh.

‘Diller’ originated in Arizona and is a small-to-medium-size sweet orange with comparatively few seeds. This variety has been popular here in the Salt River Valley due to its productivity. This variety produces the largest yield and is excellent for home use if juice is the main interest.

‘Hamlin’ is an early-season sweet orange which has done well here in Arizona. The fruit is medium in size with 0-6 seeds per fruit.

‘Marrs’ is another early-season, semi-dwarf tree, sweet orange. The fruit is medium to large in size and is moderately seedy with 7-10 seeds per fruit. It reaches maturity early in the season, and is best when it fully ripens in November.

‘Pineapple’ produces fruit which is medium in size and seedy with 15-25 seeds per fruit. It is very productive; however, it tends to alternate bear.** The name ‘Pineapple’ came about as some people thought the tree had the flavor or smell of a pineapple.

‘Trovita’ is an excellent sweet orange and produces well here in Arizona. The fruit is medium-to-large in size with 6-10 seeds per fruit.

Valencia oranges

Valencia Oranges are known for their high-quality juice, which has a deep orange color and high sugar content. However, the fruit does not reach maturity until about March. The fruit is medium in size with few seeds (0-6). Two popular varieties which have performed well in the Salt River Valley are the **‘Campbell’** and **‘Olinda’**. Two newer varieties which are seedless are the **‘Delta’** and **‘Midnight’**.

Pigmented or Blood Oranges

In cool climates blood oranges are characterized by the dark red internal color they develop, hence the name “blood oranges.” The red color may even be observed on the peel of some varieties. However, in the warm climate of Arizona many of the blood oranges fail to develop the typical deep red internal color. In the Salt River Valley, the **‘Salustiana’** variety produces the most consistent dark red internal color. Other varieties of blood oranges which may or may not develop dark red internal color, depending on the climate, are **‘Moro’**, **‘Ruby’**, **‘Sanguinelli’**, and **‘Tarroco’**.

Mandarins (Tangerines)

Mandarins are popular because most of the varieties are easy to peel and section well. The fruit has a thin peel which when ripe may “plug” (a section of the peel where the stem was attached is removed if the fruit is pulled from the tree). If you are going to store mandarins it may be necessary to “clip” the stem of the fruit from the tree to prevent “plugging” that otherwise may lead to desiccation or decay.

‘Algerian’ (‘Clementine’) is an early-season mandarin ripening in November. Fruit size is small to medium. If the tree is self-pollinated it will produce fewer seeds, but also fewer fruits. Cross-pollination will increase fruit production, but will also result in fruit with more seeds.

‘Daisy’ is an excellent early season, very sweet, red/orange mandarin. Fruit size is medium to large. 0 - 5 seeds.

‘Dancy’ is harvested beginning in December. Fruit is medium in size with 6-20 seeds. Like many mandarins ‘Dancy’ tends to be alternate bearing**.

‘Fairchild’ is a popular early-season commercial variety in the Salt River Valley. The fruit is medium in size and ripens in November about the same time as the ‘Algerian’. The trees tend to produce more fruit with cross-pollination, but this makes the fruit seedy. Alternate bearing** is a problem with this variety.

‘Kinnow’ is a popular late-season mandarin maturing in January here in the Salt River Valley. The fruit is medium in size and has numerous seeds depending on cross-pollination. Like other mandarins, but even more pronounced, they tend to be alternate bearing**. This variety is very sweet when ripe and has the flavor characteristic of many mandarin beverages.

Tangelos

Tangelos are hybrids resulting from the cross of mandarin and grapefruit or mandarin and pummelo.

‘Minneola’ is a hybrid of ‘Duncan’ grapefruit and ‘Dancy’ mandarin. Fruit is mature beginning in January. The bright, orange red fruit is large and pear-shaped and typically have a fairly prominent neck; however, not all fruit exhibits this characteristic. The fruit has 7-12 seeds. Cross-pollination is recommended for regular production. ‘Dancy’, ‘Algerian’ and ‘Kinnow’ mandarins provide satisfactory pollen.

‘Orlando’ is the result of the same cross as the ‘Minneola’ but is distinctly different. The fruit is medium in size but without the neck. It is harvested in November. Seediness depends on cross-pollination (0-35). Cross-pollination is recommended with ‘Algerian’, ‘Dancy’ or ‘Kinnow’ for regular and good production. This is one of the best juicing fruits available.

Grapefruit

Grapefruit varieties can be divided into two natural categories: white or red. There is a common misconception that the red grapefruit is sweeter than the white; however, this is not true. Although the demand is greater for red grapefruit, the white grapefruit are just as sweet if allowed to fully ripen.

‘Duncan’ is one of the oldest grapefruit varieties and, according to many, the best-tasting grapefruit. However, it is very seedy (30-70) and lost popularity as a fresh fruit when the Marsh was introduced.

‘Marsh’ is the most common and widely planted white grapefruit in the Salt River Valley. Although the fruit is ready to harvest in December, if left on the tree the fruit will continue to mature and become sweeter with time. Fruit is typically best from March through May after acid levels in the fruit have declined. The fruit is large in size with only a few seeds (0-6).

The following is a list of red grapefruit varieties, progressing from lightest-to-darkest-colored flesh.

‘Redblush’ (‘Ruby Red’), popular here in the Salt River Valley, was one of the first pigmented grapefruit varieties. It has large fruit with few seeds (0-6). The internal color is a light pink. The fruit is picked beginning in December, but becomes better the longer it remains on the tree. Interior fruit color becomes golden in spring.

‘Flame’ is a new release from Florida which produces large fruit with few seeds (0-6). The fruit is mature beginning in December. ‘Flame’ is still being evaluated for the low desert.

‘Rio Red’ produces a large fruit with few seeds (0-6). The flesh is one the darkest and the peel can develop a red tint as well. Fruit is picked beginning in December, however, fruit will stay on trees as late as July.

‘Texas Star Ruby’ produces the darkest flesh color of any variety. However, it is not recommended for this area. The trees are sensitive to our hot summers and leaves will sunburn more readily than other citrus trees. High temperatures above 115 degrees may kill ‘Star Ruby’ trees.

Grapefruit x Pummelo Hybrids

‘Troyer’ or ‘Carrizo’ rootstocks should be used for these hybrids.

- * **‘Melogold’** has retained more of the pummelo characteristics. The fruit is large and has a distinctive taste with a high sugar content. It is less acidic than grapefruit. The peel is thick.
- * **‘Oro Blanco’** has retained more of the grapefruit characteristics. The fruit is about the size of a grapefruit with a slightly thicker peel. The fruit is lower in acid and higher in sugar than grapefruit and has more of the pummelo flavor.

Lemons

Lemons are typically treated with ethylene gas by commercial growers to develop the yellow color early in the season. They can be harvested when green and used well before the rind turns yellow at maturity.

‘Eureka’ is generally more ridged, usually with a rougher rind surface and a smaller or less pronounced nipple. The tree is thornless and more frost sensitive.

‘Lisbon’ fruit is medium in size and characterized by a prominent nipple. The rind is generally smoother than the ‘Eureka’.

‘Meyer’ is illegal (and therefore not available) in the State of Arizona. This variety is known to harbor the Citrus Tristeza Virus (CTV), which is a devastating disease of citrus. Meyer is not a true lemon, but likely a hybrid of a sweet orange and lemon.

‘Ponderosa’ is most likely the hybrid of a lemon and citron. The ‘Ponderosa’ is more characteristic of the citron than a lemon and is often grown as a garden ornamental. The fruit is the size of grapefruit and has a thick peel.

Limes

Limes are extremely frost sensitive and need to be planted in warm areas or protected from frost.

‘Mexican Lime’ (‘Key Lime’) ripens in September and the fruit is small. The fruit is prized for the flavor, used in pies and for other culinary purposes.

‘Tahiti’ (‘Bearss’, ‘Persian’) is believed to be a hybrid between the small acid lime and possibly the citron. The fruit ripens in June and is larger than the ‘Key Lime’.

Kumquats

‘Fukushu’ has small bright orange entirely edible fruit. Small symmetrical tree with attractive dark, green leaves. Beautiful landscape or container specimen

‘Meiwa’ has round fruit with spicy sweet peel and pulp. The fruit is used for preserves and candied fruit. Similar to the Nagami, the trees are used in home and commercial landscaping and are cold hardy.

‘Nagami’ is more oblong than the ‘Meiwa’, more acid in taste, and a brighter orange color. The ‘Nagami’ trees are used in home and commercial landscaping and are quite cold hardy.

Limequats

‘Tavares’ is a hybrid (East Indian lime x oblong kumquat). The fruit is characteristic of the kumquat but has a small neck. The trees are popular in home landscaping, and the fruit may substitute for lime as a condiment. The limequat is not as cold hardy as the kumquat.

* Currently under evaluation for growing in the Salt River Valley.

** Alternate Bearing: Tree alternates between heavy production one year to fewer fruit the next.

URL:

<http://ag.arizona.edu/extension/pubs/garden/az1001.pdf>

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THE UNIVERSITY OF ARIZONA COOPERATIVE EXTENSION, MARICOPA COUNTY
Citrus Harvesting Calendar for the Low Desert

Citrus Variety	Harvest Dates																							
	Jan		Feb		Mar		April		May		June		July		Aug		Sept.		Oct.		Nov.		Dec.	
	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
Navel Oranges																								
Cara Cara	■	■																					■	■
Fukumoto																				■	■	■	■	■
Lane Late	■	■	■	■	■	■																		
Parent Washington	■	■																			■	■	■	
Sweet Oranges																								
Diller	■	■	■	■																			■	■
Hamlin	■	■																			■	■	■	■
Marrs	■	■	■																		■	■	■	■
Pineapple	■	■	■	■																			■	■
Trovita	■	■	■	■																			■	■
Valencia Oranges																								
Campbell			■	■	■	■	■	■	■	■														
Delta			■	■	■	■	■	■	■	■														
Midnight			■	■	■	■	■	■	■	■														
Olinda			■	■	■	■	■	■	■	■														
Pigmented/Burgundy Oranges																								
Moro	■	■	■	■																		■	■	■
Ruby	■	■	■	■																				
Salustiana	■	■	■	■																				
Sanguinelli	■	■	■	■	■	■																		
Tarroco	■	■	■	■																				
Mandarins/Tangerines																								
Algerian: (Clementine)																					■	■	■	■
Daisy	■	■																					■	■
Dancy	■	■																					■	■
Fairchild																					■	■	■	■
Kinnow	■	■	■	■																				■

Citrus Variety	Harvest Dates																								
	Jan		Feb		Mar		April		May		June		July		Aug		Sept.		Oct.		Nov.		Dec.		
	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	
Tangelos																									
Minneola	■	■	■	■																				■	
Orlando	■																				■	■	■	■	
Grapefruit - White																									
Duncan	■	■	■	■	■	■	■	■	■	■													■	■	
Marsh	■	■	■	■	■	■	■	■	■	■												■	■	■	
Grapefruit - Pink (Lightest-to darkest flesh color)																									
Flame	■	■	■	■	■	■	■	■	■	■													■	■	■
Redblush	■	■	■	■	■	■	■	■	■	■													■	■	■
Texas Star Ruby	■	■	■	■	■	■	■	■																	
Grapefruit x Pummelo Hybrids																									
Melogold	■	■																					■	■	
Oro Blanco	■	■																				■	■	■	
Lemons																									
Eureka	■	■	■	■												■	■	■	■	■	■	■	■	■	■
Lisbon	■	■	■	■												■	■	■	■	■	■	■	■	■	■
Ponderosa	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Limes																									
Mexican Lime: (Key Lime)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Tahiti: (Bearss, Persian)	■	■														■	■	■	■	■	■	■	■	■	■
Kumquats = may have fruit year-round																									
Fukushu	■	■	■	■	■	■														■	■	■	■	■	■
Meiwa	■	■	■	■	■	■														■	■	■	■	■	■
Nagami	■	■	■	■	■	■														■	■	■	■	■	■
Limequats																									
Tavares	■	■	■	■	■	■															■	■	■	■	■

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ISSUED MARCH, 2002

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Former Agent,
Fruit Crops

ag.arizona.edu/
pubs/garden
/az1269.pdf

This information
has been reviewed by
university faculty.

Deciduous Fruit & Nuts for the Low Desert

For optimum fruit production in the low desert, choose deciduous fruit tree varieties that have low "chilling requirements," early maturing fruit, and are self pollinating.

- Most deciduous fruit and nut trees from temperate climates require a genetically determined amount of cold weather (chill hours) to set fruit. While there is still some disagreement in the scientific community around how to precisely calculate chill hours, a good rule of thumb is to count the number of hours between November 1st and February 15th that are between 32° and 45° F. These hours are cumulative and need not be continuous. The most benefit is derived from chilling hours occurring in December and January. Daytime temperatures above 60° F during this period may negatively affect the cumulative total. Most areas of Maricopa County average between 300 to 400 chilling hours per year. By selecting varieties of fruit that require around 250 hours of chilling to set fruit you can be sure of a full crop almost every year.
- Select varieties which mature before the hot summer temperatures arrive and avoid sunburning fruit.
- If space is a consideration, choose a self-fruitful/self-pollinating variety. Many deciduous fruit trees require cross pollination to bear fruit. Thus, it is necessary to have two varieties of the same type of fruit in order for either tree to bear abundant fruit. A self-pollinating variety will have good fruit set even with only one tree.

The rootstock onto which a fruit tree is grafted can impact the tree in a variety of ways:

- provide disease resistance or tolerance for pathogens such as Root-Knot Nematodes, Oak Root Fungus, and Phytophthora;
- improve performance in a particular soil type, i. e. some rootstocks perform well in clay soils, others in sandy soils;
- control growth rate and mature size;
- increase drought tolerance;
- increase salt tolerance; and
- modify fruit quality including taste, texture, size and yield.

Your local nursery should offer fruit trees that are grafted onto appropriate rootstocks for your area.

The following is a list of low-chill deciduous fruit trees which should do well in the low desert and are available at local nurseries. This is not an all-inclusive list and many of these varieties are still untested in the low desert of Arizona. In addition, many new varieties are developed every year. Use the three criteria identified above when selecting fruit trees for your yard.

Apples



- ✓ **Anna:** Remarkable fruit for mild-winter climates in Southern Arizona. Heavy crops of sweet, crisp, flavorful apples even in low desert. Fresh or cooked. Keeps 2 months in refrigerator. Chilling requirement 200 hours. Self-fruitful or pollinated by Dorsett Golden or Ein shemer.
- ✓ **Beverly Hills:** Produces a pale yellow medium sized fruit. Chilling requirement 300 hours. Self-fruitful.
- ✓ **Ein shemer:** Heavy-bearing, very low chilling requirement of 100 hours. Sweet yellow apples in early summer (June in the low desert). Excellent pollenizer for Anna. Self-fruitful.
- Fuji:** Recently introduced from Japan, has quickly become California's favorite apple. Sweet, very crisp and flavorful, excellent keeper. Dull reddish-orange skin, sometimes russeted. Chilling requirement listed as 600

At a Glance

Select deciduous fruit tree varieties that:

- require less than 400 hours chilling;
- produce early maturing fruit;
- are self pollinating (if space is premium).

✓=Varieties which have been evaluated and performed well in the Low Desert

hours, but preliminary testing in the low desert indicate that it may be less. Self-fruitful.

Gala: Wonderful dessert apple from New Zealand. Crisp, nice blend of sweetness and tartness, rich flavor. Skin reddish-orange over yellow. Chilling requirement listed as 500-600 hours, preliminary testings suggest it maybe less. Self-fruitful.

✓**Golden Dorsett:** Outstanding sweet apple for warm winter areas. Firm, very flavorful, sweet like Golden Delicious. Productive throughout the low desert. Good early season sweet apple. Chilling requirement of 100 hours. Self-fruitful.

✓**Gordon:** Produces a reddish-green fruit for fresh use and cooking. Chilling requirement, 400 hours. Self-fruitful.

Apricots



Castlebrite: Firm and juicy. Good flavor when fully ripe, otherwise somewhat tart. Good size. Bright orange with red blush. 450 chill hours. Self-fruitful.

Gold Kist: Excellent backyard apricot for warm winter climates. Freestone, very good quality. Heavy bearing. Early harvest, late May to early June. Requires 300 chill hours. Self-fruitful.

✓**Katy:** Large, all purpose flavorful freestone. Tree ripe fruit is subacid (not tart). A favorite apricot for warm-winter climates. Early harvest, late May to early June. Requires 400 chill hours. Self-fruitful.

Modesto: Commercially grown for shipping. 300-400 hours chilling. Self-fruitful.

✓**Patterson:** A vigorous tree. Fruit are medium to large in size with good firm, modestly flavorful flesh. Good for freezing, drying, and canning. Requires 500 chill hours. Self-fruitful.

Royal Rosa: Extremely vigorous, more disease tolerant than other apricots. Bears young and heavy. Especially nice fruit: sweet, low acid, fine flavor. Very early harvest (early-to-mid May). Excellent backyard apricot. Requires 500 chill hours. Self-fruitful.

Figs



✓**Black Mission:** Popular and flavorful for eating fresh or dried. Medium to large pear-shaped fruit has skin which is black-purple and strawberry-colored flesh. Tree is large and long lived. Well adapted to elevations below 2,000 feet.

✓**Brown Turkey:** Sweet tasting and best eaten fresh. Bell shaped medium to large fruit has brownish-purple skin with pink flesh. Tree is large and best adapted to 2,000 - 3,000 feet. Not as prolific as Mission.

✓**Conadria (White):** Mild and sweet with whitish-pink flesh. Large fruit with cream to light green colored skin. Good, eaten fresh or dried. Tolerates heat well.

✓=Varieties which have been evaluated and performed well in the Low Desert

✓**White Kadota:** Good, fresh or dried, suitable for canning. Fruit is medium sized with yellow skin. Flesh is amber with few seeds. Hot weather aids in ripening.

Peaches



✓**Bonanza Miniature:** Popular yellow freestone - large fruit is sweet, low in acid, with a mild, refreshing flavor. Mid-to-late May in low desert climates. Five- to six-foot tree. Chilling requirement very low, 250 hours or less. Self-fruitful.

August Pride: Large, all-purpose yellow freestone for mild-winter climates. Sweet, aromatic, rich flavor, one of the best. Chilling requirement less than 300 hours. Self-fruitful.

✓**Babcock:** Long-time favorite white-fleshed freestone. Sweet and juicy, aromatic, low in acid. Very high-scoring in taste test. Chilling requirement of 250-300 hours. Self-fruitful.

✓**Desert Gold:** Very early ripening: mid-May in Arizona. Tree-ripened fruit has good flavor and sweetness for such an early variety. Yellow Clingstone. Heavy bearing. Chilling requirement of 250 hours. Self-fruitful.

✓**Desert Red:** An excellent quality, firm cling peach that has good color. Produces large fruit when thinned and girdled. Chilling requirement of 200-300 hours. Self-fruitful.

✓**Earligrande:** Medium size, low-chill peach from Gulf Coast Texas. Yellow semi-freestone. Very early (May). Successful in Arizona and similar climates. Chilling requirement of 275 hours. Self-fruitful.

Eva's Pride: Delicious, fine-flavored peach with very low-chilling requirement. Medium- to large-sized yellow freestone. Ripens early-to-late May. Chilling requirement of 100-200 hours. Self-fruitful.

Flordaking: High quality early season peach. Large, firm, flavorful semi-freestone, very sweet when fully ripe. Mid-May in warm winter climates. Chilling requirement 450 hours or less. Self-fruitful.

✓**Flordaprince:** From Florida, successfully grown in Arizona. Yellow, semi-cling, larger fruit than Desert Gold, more tolerant of desert heat. Ripens late April to early May in Arizona. Very good quality when tree-ripe. Chilling requirement of 150 hours. Self-fruitful.

Flordagrande: Excellent yellow-fleshed semi-freestone peach. Flesh will have some red coloration at maturity. Requires less than 100 chill hours.

May Pride: Very early-ripening, semi-freestone peach for warm winter climates. Ripens in May with Desert Gold. Delicious, sweet and tangy fruit. Very large for such an early peach. Large, showy pink blossoms. Chilling requirement 175 - 200 hours. Self-fruitful.

Mid-Pride: Best yellow freestone for warm winter climates. Mid-season peach. Chilling requirement of 250 hours. Self-fruitful.

- ✓**Tropic Beauty:** Excellent quality yellow flesh, firm freestone peach. Produces a large fruit when thinned and girdled properly. Chilling requirement of 100-200 hours. Good for the low desert. Self-fruitful. Ripens early May.
- ✓**Tropic Snow:** Medium-sized fruit. Skin is white with red blush. White sweet flesh. Good flavor. Freestone. Ripens early May. Chilling requirement 175-200 hours. Self-fruitful.
- ✓**Tropic Sweet:** Good quality freestone, yellow-fleshed peach. Fruit are very large when thinned and girdled properly. Ripens just after Tropic Beauty. Chilling requirement of 100-200 hours. Self-fruitful. Ripens mid-May.

Vallegrande: This is an excellent quality, semi-freestone, yellow-fleshed peach. Flesh is firm and ripens to 60% blush at maturity. Flesh becomes red as fruit matures. Chilling requirement of 100-200 hours. Self-fruitful. Ripens early May.

Pears



Flordahome: Very nice quality, sweet, smooth-textured, juicy, flavorful. Early bloom. Chilling requirement less than 400 hours. Partly self-fruitful.

Kieffer: Medium to large late season fruit. Canning/cooking. Sprightly flavor, coarse texture. Resists fireblight, tolerates hot climates. Dependable crops. 350 hours. Self-fruitful.

Asian Pears



Shinseiki: Juicy, sweet, refreshing, crisp like an apple. Easy to grow. Keeps well. Harvest June in the desert. Bright yellow skin. Vigorous, heavy bearing. Chilling requirement of 350-400 hours. Self-fruitful.

Yakumo: Early harvest, before Shinseiki. Slight tapered neck, instead of round shape of other Japanese pears. Very nice quality - sweet, juicy, refreshing. Crisp like apple when ripe. Chilling requirement of 450 hours. Pollenizer required.

Persimmons



Fuyu (Jiro) ("Apple Persimmon"): Medium size, flat shape, still hard when ripe, non-astringent. Cool or hot climate. Hardy, attractive tree, practically pest free. Chilling requirement 200 hours. Self-fruitful.

Giant Fuyu: Larger, not so flat as Fuyu. Crunchy when ripe like Fuyu. Sweet, flavorful, non-astringent. Easy to grow, cool or hot climates. Chilling requirement of 200 hours. Self-fruitful.

Izu: Very sweet, tasty, non-astringent. Fruit ripen about three weeks before Fuyu. Medium to large size, round shape. Relatively small tree, good choice for backyard persimmon. Sometimes difficult to start from bareroot. Chilling requirement of 100 hours. Self-fruitful.



Plums

Beauty: Sweet, flavorful plum. Red over yellow skin, amber flesh streaked red. Chilling requirement of 250 hours. Self-fruitful.

✓**Gulf Gold:** Green-skinned plum which turns yellowish when ripe. Juicy, sweet, yellow flesh. Chilling requirement of 250 hours. Self-fruitful.

✓**Gulf Ruby:** Sweet, juicy plum, with reddish-purple skin and amber flesh. Chilling requirement of 250 hours. Self-fruitful.

Methley: Juicy, sweet, red flesh, mild flavor. Reddish purple skin. Attractive tree, heavy bearing and vigorous. Chilling requirement of 250 hours. Self-fruitful.

✓**Santa Rosa:** Most popular plum in California and Arizona. Juicy, tangy, flavorful. Reddish-purple skin, amber flesh tinged red. Chilling requirement of 300 hours. Self-fruitful.

Quince



Orange Quince: Large, round, bright yellow fruits often exceed 1 lb. Flavorful, aromatic, used for cooking. Early harvest. Old variety. Cold hardy, yet low chilling requirement of 300 hours. Self-fruitful.

Pineapple Quince: Heavy crops of large, tart fruit used in baking, jams, and jellies. Profuse, ornamental bloom. Cold hardy, yet low chilling requirement of 300 hours. Self-fruitful.

Almonds



✓**All-in-One (semi-dwarfing):** Medium to large. Soft shelled with good quality sweet kernels. Classified semi-dwarf to 15 feet. Chilling requirement of 500 hours (may not be suited for Salt River Valley). Self-fruitful. Number 1 almond for home orchards.

✓**Garden Prince Genetic Dwarf:** Compact, lushly foliated 10-12 foot tree. Soft shell, kernels especially sweet and tasty. Bears young and heavy. Chilling requirement of 250 hours. Self-fruitful.

✓=Varieties which have been evaluated and performed well in the Low Desert

Pecans



- ✓**Neplus Ultra:** Large soft-shelled nut, long broad flat kernel. Chilling requirement of 250 hours. Needs pollinizer. Best pollinizer: Nonpareil.

Nonpareil Almond: No. 1 commercial almond, the standard of quality. Inter-fruitful with All-In-One and Neplus. Chilling requirement 400 hours. Pollinizer required.

- ✓**Cheyenne:** Bears heavy and early. Nuts are medium size, soft shell, with excellent kernel quality. Tree is somewhat susceptible to limb breakage; slow growing tree.
- ✓**Choctaw:** Tree is vigorous and is an excellent producer. Moderately precocious. Produces pecans of outstanding quality. Shells are thin and cracks into half kernels very easily.
- ✓**Comanche:** Medium to large sized nuts, nearly round, thin shelled. Good producer, nut quality is excellent. Nuts tend to sprout.
- ✓**Sioux:** Good producer with small to medium sized nuts with outstanding kernel quality. A little slow to begin producing, moderately precocious.
- ✓**Western Schley (Western):** Easy to grow, nut long, tapered, medium sized, thin-shelled, good kernel quality. Self-fruitful. Early bearing 4 to 5 years. Recommended for single tree planting in home garden. Less affected by zinc deficiency than other cultivars. Prolific. Tendency for nuts to sprout (pregerm) in the low desert.

- ✓**Wichita:** Highly flavored, medium to large sized nuts are well-filled, soft shell. Plump, rich, distinctively flavored kernel. Bears heavy at young age. Pollinators are Cheyenne or Western Schley. Prone to zinc deficiency. Strong tendency for nuts to sprout (pregerm) in the low desert.

Grapes



- ✓**Cardinal:** Clusters large to medium in size. Very large, seeded, cherry red berries become reddish black with maturity. Use for arbor or summer house. Spur pruned.
- ✓**Exotic:** Berries are black, large, seeded, crisp and sweet. Berry irregular to oval in shape and has large clusters. Ripen in July. Spur pruned.
- ✓**Fantasy:** Large, black, seedless berry used for table or raisin. Excellent flavor. Ripens in July. Cane pruned.
- ✓**Flame seedless:** light red, seedless, crisp, sweet berry. Cool nights are required for full color development. Ripens June - July. Spur pruned.

✓=Varieties which have been evaluated and performed well in the Low Desert

- ✓**Perlette:** Pale green, round, crisp, juicy seedless medium sized berry. Larger than Thompson, unique flavor - mild aromatic in flavor. Spur pruned, ripens in June.

- ✓**Ruby seedless:** Dark red, sweet, crisp, excellent fresh or raisin. Ripens after Thompson seedless. Chilling requirement of 100 hours, self-fruitful. Ripens in June. Spur pruned.

- ✓**Thompson seedless:** Most popular grape. Green, seedless berry, fresh or raisin. Very sweet. Self-fruitful. Chilling requirement of 100 hours. Ripens mid June - July. Cane pruned.

Kiwi



Tomari Male: Pollinizer for Vincent Female. Does not bear fruit. One male can pollinate up to eight Vincent females.

Vincent Female: Low chilling required, which is adapted to Southern California. Tasty, well-regarded fuzzy skinned fruit. Pollinated by Tomari male.

Blackberries






- ✓**Brazos:** Very vigorous, thorny, erect plant which produces an abundance of large high quality berries. Berries are large, attractive appearance and heavy yields, tart acid flavor.
- ✓**Rosborough:** Vigorous moderately upright canes which produces well in a wide variety of soil and climatic conditions. Fruit are large, attractive in appearance and have a sweeter flavor than Brazos.



Strawberries










- ✓**Camerosa:** Plants are large and vigorous. Fruit are large, firm wedge shaped berries of good quality.
- ✓**Chandler:** Plant is large and vigorous. Produces nice berries which are smaller than Camerosa, but tend to be sweeter.
- ✓**Sequoia:** Produces a big vigorous plant. Fruit are large, wedge shaped of high quality, but soft when ripe.
- ✓**Tioga:** This plant is very large and vigorous with big, dark green glossy leaves. Fruit are very large, firm wedge shaped berries of medium quality.




Deciduous Fruit and Nut Chart and Harvesting Calendar for the Low Desert

DECIDUOUS FRUIT VARIETY	Chilling Hours	Fruit Color	Heavy Bearing	Alternate Bearing	Cross Pollination	Free Stone	JAN		FEB		MAR		APRIL		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC	
							1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
Apples 																														
Anna	200	Y	✓		✓												▲	▲												
Beverly Hills	300	Y	✓														▲	▲												
Ein Shemer	100	Y															▲	▲												
Fuji	600	R																		▲	▲									
Gala	500	O																		▲	▲									
Golden Dorsett	100	Y															▲	▲												
Gordon	400	Y															▲	▲												
Apricots 																														
Castlebrite	450	O	✓												▲	▲														
Gold Kist	300	O	✓			✓										▲	▲													
Katy	400	O				✓										▲	▲													
Modesto	400	O	✓													▲	▲													
Patterson	500	O															▲	▲												
Royal Rosa	500	O																												
Figs 																														
Black Mission		Bl	✓																	▲	▲	▲	▲	▲	▲					
Brown Turkey		Br																		▲	▲	▲	▲	▲	▲					
Conadria (White)		W																		▲	▲	▲	▲	▲	▲					

DECIDUOUS FRUIT VARIETY	Chilling Hours	Fruit Color	Heavy Bearing	Alternate Bearing	Cross Pollination	Free Stone	JAN		FEB		MAR		APRIL		MAY		JUNE		JULY		AUG		SEPT		OCT		Nov		DEC	
							1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
White Kodata	100	Y																			▲	▲	▲	▲	▲	▲				
Peaches 																														
Bonanza	250	Y				✓									▲	▲														
August Pride	300	Y				✓													▲	▲										
Babcock	250	W				✓											▲	▲												
Desert Gold	250	Y	✓												▲	▲														
Desert Red	200	Y											▲	▲																
Earligrande	275	Y												▲	▲															
Eva's Pride	200	Y				✓								▲	▲															
Flordaking	450	Y				✓							▲	▲																
Flordaprince	150	Y											▲	▲																
May Pride	200	Y													▲	▲														
Mid-Pride	250	Y				✓											▲	▲												
Tropic Beauty	200	Y				✓									▲	▲														
Tropic Snow	200	W				✓									▲	▲														
Tropic Sweet	200	Y				✓									▲	▲														
Vallagrande	200	Y													▲	▲														
Pears 																														
FlordaHome	400	Y															▲	▲												

DECIDUOUS FRUIT VARIETY	Chilling Hours	Fruit Color	Heavy Bearing	Alternate Bearing	Cross Pollination	Free Stone	JAN		FEB		MAR		APRIL		MAY		JUNE		JULY		AUG		SEPT		OCT		Nov		DEC	
							1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
Keifer	350	Y															▲	▲												
Asian Pears 																														
Shinseiki	400	Y	✓														▲	▲												
Yakumo	450	Y			✓												▲	▲												
Persimmons 																														
Fuyu/Jiro/Apple Persimmon	200	R																					▲	▲						
Giant Fuji	200	R																					▲	▲						
Izu	100	R																					▲	▲						
Plums 																														
Beauty	250	R													▲	▲														
Gulf Gold		Y																▲	▲											
Gulf Ruby		P																▲	▲											
Methley	250	P													▲	▲														
Santa Rosa	300	R															▲	▲												
Quince 																														
Orange	300	Y																				▲	▲							
Pineapple	300	Y																				▲	▲							
Almonds 																														
All-in-One (semi dwarfing)	500																					▲	▲							

DECIDUOUS FRUIT VARIETY	Chilling Hours	Fruit Color	Heavy Bearing	Alternate Bearing	Cross Pollination	Free Stone	JAN		FEB		MAR		APRIL		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC	
							1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
Garden Prince (Genetic Dwarf)	250																				▲	▲								
Neplus Ultra	250																				▲	▲								
Nonpareil Almond	400																				▲	▲								
Pecans 																														
Cheyenne	200		✓	✓																					▲	▲				
Choctaw	200			✓																					▲	▲				
Comanche	200			✓																					▲	▲				
Sioux	200			✓																					▲	▲				
Western Schley	200			✓																					▲	▲				
Wichita	200		✓	✓																					▲	▲				
Grapes 																														
Cardinal	100	R															▲	▲												
Exotic	100	B															▲	▲												
Fantasy	100	B																	▲	▲										
Flame seedless	100	R															▲	▲												
Perlette	100	G													▲	▲														
Ruby seedless	100	R															▲	▲												
Thompson seedless	100	G															▲	▲												

DECIDUOUS FRUIT VARIETY	Chilling Hours	Fruit Color	Heavy Bearing	Alternate Bearing	Cross Pollination	Free Stone	JAN		FEB		MAR		APRIL		MAY		JUNE		JULY		AUG		SEPT		OCT		NOV		DEC	
							1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
Kiwi 																														
Tumari Male		N/A																									▲	▲		
Vincent Female		G																									▲	▲		
Blackberries 																														
Brazos		B	✓										▲	▲																
Rosborough		B											▲	▲																
Strawberries 																														
Camrosa		R									▲	▲	▲	▲	▲	▲	▲	▲	▲	▲										
Chandler		R									▲	▲	▲	▲	▲	▲	▲	▲	▲	▲										
Sequoia		R									▲	▲	▲	▲	▲	▲	▲	▲	▲	▲										
Tioga		R									▲	▲	▲	▲	▲	▲	▲	▲	▲	▲										

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