Summit Colonia







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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Neighborhood Evaluation

Population Characteristics

The population of Summit Colonia differs from the population of Pima County and the overall U.S. population

- -Are more likely to be male More than two-thirds of residents are male, a substantially greater proportion than the Pima County and the U.S.
- -Are slightly younger There are fewer adults over 65 in Summit Colonia than Pima County and the U.S.
- -Live in larger household and have larger families Average household and family size are larger than the county and the nation.
- -Have lower incomes Per capita income is less than half that of the nation and about two-fifths that of Pima County.
- -Are more Hispanic Nearly half of the Summit Colonia population identifies as Hispanic or Latino (of any race) compared to 33% of those in Pima County and 13% of the U.S. population.
- -Are more likely to speak a language other than English at home Nearly half of Summit Colonia residents compared to less than one-fifth of those nationwide.

There are more homeowners than renters: 81% of housing units in Summit Colonia are owner occupied and 19% are renter-occupied.



Population: 7,804

Location: Outside of metro Tucson, about 2 miles south

of Tucson International Airport Neighborhood Boundaries:

North: E. Old Vail Connection Rd.

South: E. Blackbrush Rd. West: S. Nogales Hwy East: S. Country Club Rd.

Land area: About 1.5 sq. miles (neighborhood)

Summit Colonia's Values

Members of Summit Colonia Neighborhood were asked:

What do you like about your neighborhood?

- -Limited traffic unlike the city
- -Its ruralness
- -Large properties where I can have animals
- -That there is a park and school nearby

What changes would you like to see done?

- -Improved road conditions: possibly pave or grade rough dirt roads
- -Find ways to slow down traffic
- -Better routes in and out of neighborhood, especially during heavy rains when members become stranded due to flooded roads.
- -Trash disposal and community clean-ups.
- -Resolution to animal control issues: stray animals and animal dumpings
- -Developed transportation into or closer to the neighborhood. (The closest Sun Tran stop is approximately one mile away, which for many members is too far especially when carrying groceries.)
- -Better lighting around neighborhood
- -Closer food sources: The nearest food stores are hardly walking distance and are very expensive.













Do you grow your own food?

-Yes (15%)

-But (60%) want to grow fruits, vegetables or eggs.

Is it possible for you to produce fruits, vegetables or eggs?

-Yes (55%) -If not, why?

caliche/bad soil don't know how

it's too dirty

water is too expensive

Where do you usually buy your groceries?

-Food City

-Frys

-Walmart

(40% of residents travel at least 30-45min)

Do you walk or bike in or through your neighborhood?

-Yes: 40%

-Where do you go?

A park (92%)

Just go for a walk(46%)

Neighbor's/friend's house(38%)

School(34%)

Convenience store(31%

Walk the dog(16%)

Work(12%)

Grocery store(12%)

Fast food outlet(4%)

Bus stop(4%)

Summit Colonia's Values

Members of Summit Colonia Neighborhood were asked:

What concerns do you have about being outside?

-Garbage in the streets/sidewalks(75%)

Stray dogs (71%)

Ugly, unimproved routes (69%)

Abandoned furniture on the sidewalks(45%)

Traffic speed(44%)

Lack of sidewalks(40%)

Threatening situations (drugs/crime/harassment) (37%)

Dangerous street crossings(34%)

Gangs(26%)

Unsupervised kids(20%)

Poor Air quality(8%)

Cars parked on sidewalks(5%)

Hot, sunny, exposed routes(5%)

Too much traffic(5%)

What issues in your community are you most concerned about?

- -Need for paved/improved roads/street lights
- -Trash
- -No lighting

Top 5 Most Desired Improvements

- -Night Lighting (77%)
- -Better Flood Control (66%)
- -Cleaner Washes (58%)
- -Walking Paths / Sidewalks (50%)
- -More police (37%)













- 60% expressed that they would like to produce food at home
- 43% would like to see a community garden implemented
- **52%** would like to see a farmer's market in their community
- expressed that information and training on urban farming and raising chickens would be helpful and motivating
- of Summit Colonia residents expressed 43% their interest in information as well as classes on low-cost/ nutrition cooking using their home-produced food.

Several members of the neighborhood are already practicing home food production.

What is important to Summit Colonia?

- -Maintain intimate rural community feel.
- -Establish a neighborhood identity.

Site Analysis Comprehensive Planning

Regional Context:

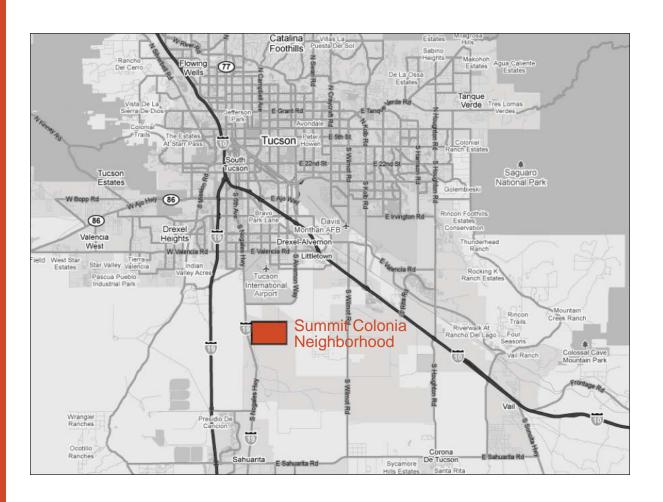
Arizona's Growing Smarter Act was passed in 1998 and expanded in 2000 with Growing Smarter Plus legislation. Growing smarter requires cities and counties to address the pressing issues of growth and development throughout Arizona by identifying growth areas and establishing policies for new growth to pay its share of the new public facilities required to serve it, identifying and planning of regionally interconnected open space, and analyzing environmental impacts of anticipated development (City of Tucson, 2001) Growing Smarter is important to the future of the Summit Neighborhood because wildcat development continues to be allowed and is contrary to the efforts of smart growth. (Bechtol 2004)

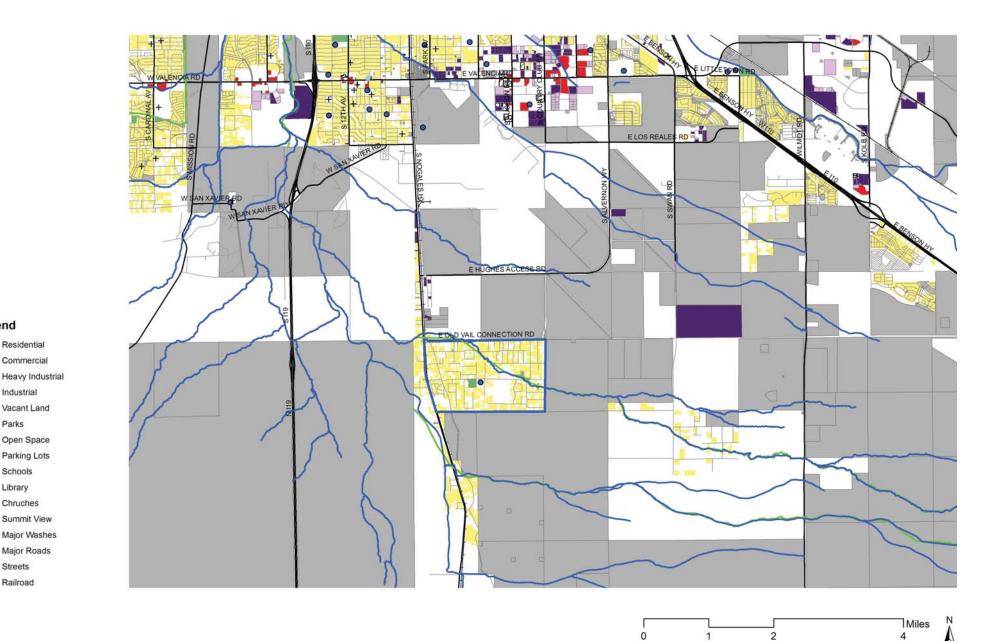
City of Tucson General Plan

The City of Tucson's General Plan includes a portion of the summit neighborhood and its larger regional area within the designated Future City Growth Area. (Bechtol 2004)

Surrounding Land Use Intensities

Property owners surrounding the Summit Neighborhood include Raytheon Missile Systems, Tucson Airport Authority, the City of Tucson, the Tohono O'Odham Nation, and the Town of Sahuarita. (Bechtol 2004)





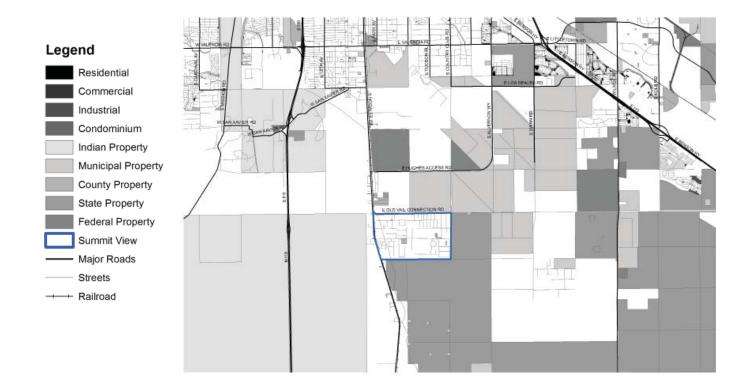
Legend

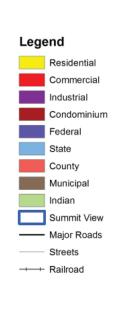
Residential Commercial

Industrial Vacant Land Parks Open Space Parking Lots Schools Library Chruches Summit View Major Washes Major Roads Streets ----- Railroad

Site Analysis Land Use

Vacant Land
The summit Colonia
neighborhood is mostly
surrounded by vacant land.









Legend

Single Family

Multi Family

Mobile Home

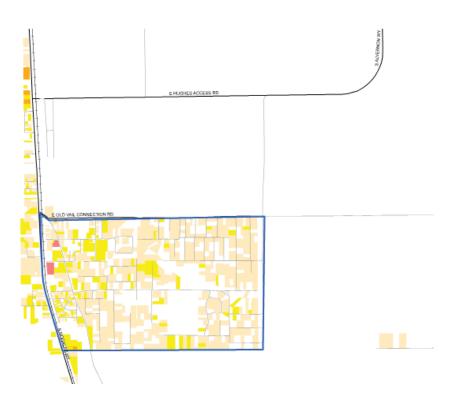
Mixed-Residential

Summit View

Major Roads

- Railroad

---- Streets



History:

Tucson International Airport opened in 1948 bringing jobs and business activity to the region south of Tucson (Sonnichsen, 1982, p221). The first subdivisions in the Summit Neighborhood were created in the 1950's in response to an increase demand for housing throughout the region. (Krause, Mahaney 2004)

Land Ownership

The summit Colonia neighborhood is surrounded between an Indian reservation on the west, and state trust land on the East

Residential Land Use

The southern half of the Summit Neighborhood is comprised almost entirely of small, oneacre lots, with the majority of these being used for residential purposes. (Krause, Mahaney 2004)

Land Use	Acres	%	#of Parcels	%
Residential	1019	40.7	876	74.6
Commercial	13	0.5	17	1.4
Industrial	16	0.6	16	1.4
Utility and Trans	25	1	23	2
Institutional	8	0.3	1	0.1
Vacant	1424	56.8	241	20.5
Total	2505	100	1174	100

Residential Type	Acres	%	#of Parcels	%
Mobile Homes	801	78.6	721	82.3
Site Built homes	219	21.5	155	17.7
Residential Totals	1019	100	876	100

Site Analysis Transportation

Road Maintenance

Summit Colonia lacks a transportation infrastructure, as many roads in the Summit Colonia neighborhood are unpaved. During the observational assessment, pedestrians were observed walking to and from the park, small markets, and to neighbors' homes. (U.S. Census Bureau)

Bike Route

A bike route runs along Old Nogales Hwy., however it is not ideal because of the high volume and speed of traffic.

Legend

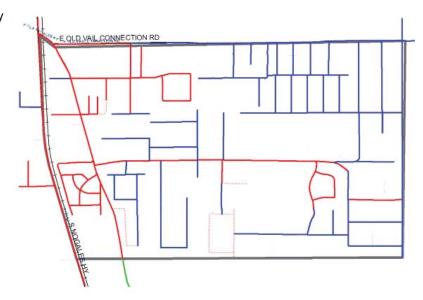
Summit View Neighborhood

Paved road maintained by the county

Road not maintained by the county

County maintained road

---- Railroad



Legend

Bike Route

- Bike Route with Striped Shoulde

- Bus/Bike Lane

Key Connecting Streets

Planned Bike Route

Residential Streets

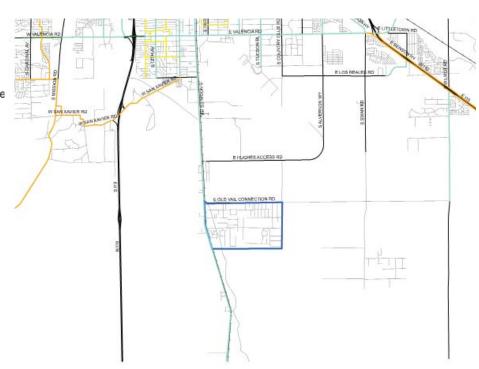
- Shared-use Path

Summit View

Major Roads

---- Streets

Railroad



Legend

Bus Routes

Express Routes

Bus Routes

Bus Stops

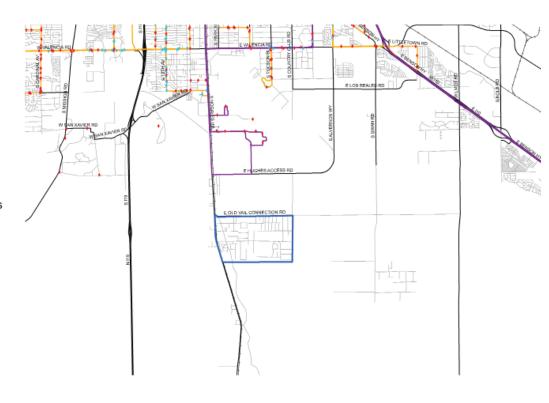
- No Shelter
- Shelter
- Park and Ride Lots

Summit View

— Major Roads

Streets

----- Railroad



Legend

Bus Routes

Express Routes

Bus Routes

Challenger Middle School Bus Stops

Schools

- Elementary School
- Middle School
- High School
- Other
- University and College

Summit View

- Major Roads

Streets

----- Railroad



Bus Stop

The closest Sun Tran stop is approximately one mile away, which for many members is too far especially when carrying groceries.

One Sun Shuttle route (Green Valley/ Sahuarita connector) connects Summit Colonia to metro Tucson. Dial-a-ride service is also available for this route. (U.S. Census Bureau)

Schools and Bus Routes

Summit View Elementary School Children and youth who reside in Summit Colonia attend schools in Sunnyside Unified School District (SUSD). One SUSD public school (Summit View Elementary) is located within the target area boundaries. Enrollment at this school is 600 students, and 89% of these students qualified for free or reduced lunch status in March 2010. (U.S. Census Bureau)

Elementary School: Summit View Middle School: Challenger

High School: Desert View

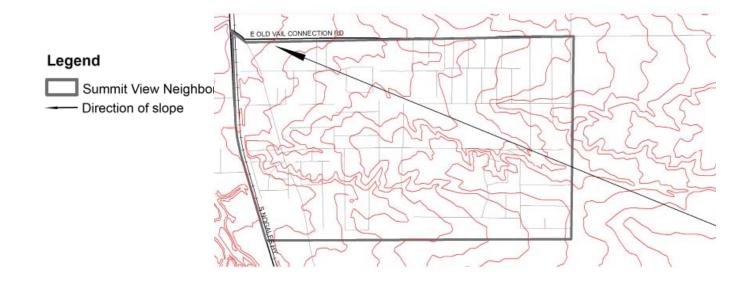
Site Analysis Natural Environment

Parks and Open Space

The nearest park after Dan Eckstrom Summit Park is 7mi away. Dan Eckstrom Summit Park is 2.5mi away from the furthest residents of the Summit Neighborhood.

TopographyThe neighborhood slopes towards the Northwest.





Legend washes Under 500 CFS 500 - 2000 CFS Over 2000 CFS Summit View - Major Roads Streets — Railroad E OLD VAIL CONNECTION Legend Hydromesoriparian Xeroriparian A Xeroriparian B Xeroriparian C Xeroriparian D Important riparian area Summit View Neighborhood Major Road Streets SUMMIT WASH. + Railroad Wash under 500CFS Wash 500-2000CFS Wash over-2000CFS

Washes

A major wash runs along the North half of the neighborhood. When flowing and flooded residents are unable to reach their homes.

Riparian Areas

Designated riparian areas are located along the washes.

Site Analysis Summit View Elementary School

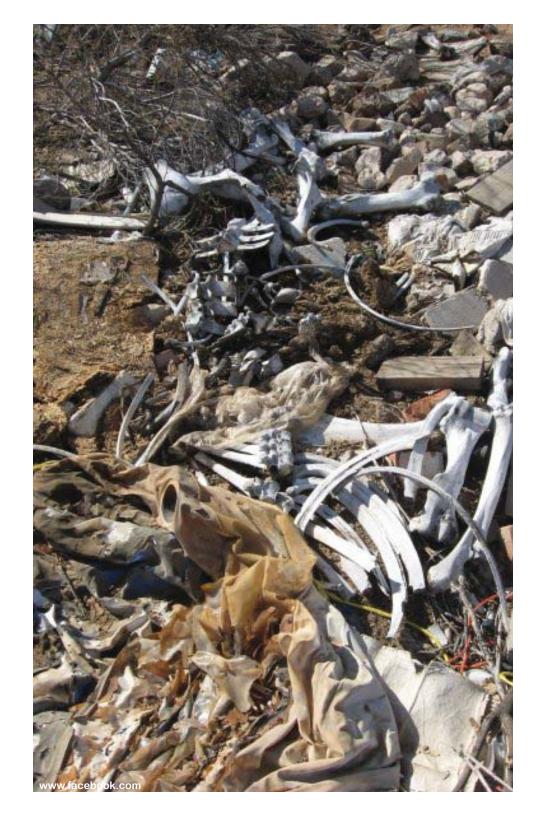






Site Analysis Issues of Concern: Dogpatch

The animal cops call it Dogpatch. This is not said with malevolence, nor to demean the humans who reside in this stretch of unincorporated Pima County for a variety of reasons, ranging from poverty to streaks of ramshackle independence. Rather, it is said simply because Dogpatch is filled with free-roaming canines. The corrective ways of government hold little sway in Dogpatch, a place where property lines are a mishmash of desperate intentions and midnight deal-making, where dwellings are as likely to be two stitched-together mobile homes as a traditional house. There's a spot in Dogpatch, I'm told, where feral dogs feast on the corpses of other dead animals in a routine, grisly orgy. You can look down your nose at Dogpatch—but you might not want to look too far down, because in enough ways to make you squirm, the folks of Dogpatch are just like the rest of us. They just don't have the money to hide it. (Vanderpool -Tucson Citizen)









A place around Tucson known as "Dogpatch" is certainly not a cutesy cartoon. In fact, L'il Abner would probably vomit if she saw what this Dogpatch is reportedly all about. This area, a swatch south of town around Old Vail Road Connection, has been known to double as an animal wasteland.

Dogs, cats even horses or cattle have been cruelly dumped in this area. Some are still alive. Some are barely alive, like one dog with paralyzed hind legs that was shown in a KVOA News 4 video scooting its bottom across the ground. Some animals are dead and rotting. Others are long dead and reduced to a pile or two of bones.

(Rynski -Tucson Citizen)

Two weak puppies sat on a couch on the front porch that spanned the length of the Southwestern-style, one-story home, struggling to keep their heads upright.

On an adjacent couch, flies swooped over the body of a dead puppy. Welcome to an area south of Tucson near Old Vail Connection Road and the Old Nogales Highway, a place some people call "Dogpatch." It's an area where small houses and trailers on dirt roads spread across the desert, and where residents own a lot of animals. It's also a place some people come to abandon animals they no longer want or dump carcasses. (Angels www.TucsonSentinel.com)

Site Analysis Issues of Concern: Illegal Dumping and Litter

The Summit residents have no trash collection service. Many of them store their trash and then take it to the landfill while others dispose of it in washes or burn it. This area is also littered by non-residents "wildcat dumping."

"Wildcat dumping, which is defined as any illegal dumping, is a blight on our communities and natural resources. It is dangerous to our wildlife and livestock who can die from eating discarded poisonous plant clippings or plastic bags. Old tires, paint, insecticides, antifreeze and appliances can pollute our soil, water and air. And besides, it's just plain ugly!" (Pinal County Online)

Littering comes in many forms. It may be as simple as discarding a paper wrapper or a dirty diaper out the window of the car. It can also be as large as truckloads of waste being dumped on private or public land. In all cases, littering, big and small, is illegal and subject to prosecution and fines.

Illegal dumping is defined as "an act when one throws, places, drops or permits to be dropped on public property or property of another which is not a lawful dump, any litter, destructive or injurious material."

(Pinal County Online)

- 1. Wash crossing along Old Vail Road. Old tires litter the entire neighborhood including washes
- 2. Illegal trash dumping in wash
- 3. Illegal trash dumping site
- 4. Trash being disposed of by being burned
- 5. Illegal trash dumping
- 6. Broken concrete dumped













The Summit Neighborhood requires intervention and education to restore the desert landscape and riparian areas.

State Laws: ARS 13-1601, ARS 13-1602, ARS 13-1603 "Litter" includes any rubbish, refuse, waste material, offal, paper, glass, cans, bottles, organic or inorganic trash, debris, filthy or odoriferous objects, dead animals, or any foreign substance of whatever kind or description, including junked or abandoned vehicles, whether or not any of these items are of value.

Penalties for above laws: A class 1 misdemeanor is punishable by a jail sentence of up to six months in the county jail. A fine may be imposed of up to \$2,500. A Class 6 felony is punishable by prison time of up to two years to the Department of Corrections. A fine may be imposed of up to \$150,000. Other

Any amount of commercial dumping and 300 pounds or more of private dumping constitutes a felony offense.

(Pinal County Online)

Arizona's NRCDs are mandated by law to "...provide for the restoration and conservation of lands and soil resources of the state, the preservation of water rights and the control and prevention of soil erosion, and thereby to conserve and restore this state's rivers and streams and associated riparian habitats, including fish and wildlife resources that are dependent on those habitats, and in such manner to protect and promote the public health, safety and general welfare of the people." (Pinal County Online)

Litter Lasts This Long...

Orange and banana peels up to 2 years

Cigarette butts 5 years

Aluminum cans and tabs 80-100 years

Plastic six-pack holders 100 years

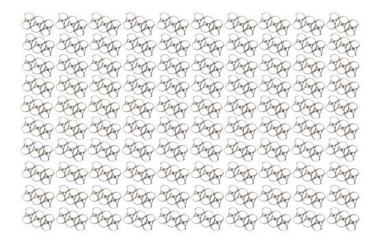
Plastic bottles indefinitely

Glass bottles 1 million years















Site Analysis Issues of Concern: Illegal Dumping and Litter

Reporting

If you happen to observe someone dumping garbage illegally, do not confront the dumper. Try to write down their license plate number and a description of their vehicle. Try to remember or record any other details of what you saw. Take pictures if you have a camera. Record the date and time. (Pinal County Online)

Resolvement Strategies

Issues of Concern: Illegal Dumping and Litter

Intervention Restoration

Recycling and Creative Re-use

Recycling has become an integral part of waste management in most parts of the country. Recycling by definition is the **reuse of materials**, either pre-consumer or post-consumer, that would ordinarily be considered waste. Recycling helps lessen the amount of waste that goes into landfills, helps reduce the amount of toxic chemicals absorbed into the earth and, in some cases, significantly reduces manufacturing costs and energy consumption (http://www.earth911.org).

Finding innovative ways to re-use objects can give purpose to the discarded materials such as tires, lumber, and broken concrete found throughout the neighborhood.

- -Recycling one aluminum can saves the energy equivalent of one cup of gasoline.
- -Recycling one aluminum can saves enough energy to light a 100-watt light bulb for 3.5 hours (210 minutes).
- -Each person generates about five pounds of garbage per day.





Composting

In a time when landfill space has become scarce and expensive, composting is an excellent way to recycle your organic household kitchen and yard wastes by converting them into a valuable resource for your home and garden. Composting (the natural decomposition of organic materials) results in a rich, earthy material that can be used in your potted plants or to enrich your garden soil. (Pinal County Online)

What is compost?

Compost is a dark, crumbly, earthy- smelling form of decomposed organic matter that can be easily made at home.

Why compost?

- -Almost 30% of all refuse taken to our landfills is some type of organic waste. These materials do not decompose in landfills because air and water are excluded.
- -We can create a quality soil conditioner while helping our community in its waste reduction efforts.
- -Humus, a component of compost, when mixed with water, becomes Humic Acid which converts nutrients, minerals, and trace elements into a form more available to plants.
- -Compost, when added to soil, retains water, adds valuable nutrients, and neutralizes the alkalinity of desert soils.

How can I use compost?

- -As a soil amendment for flowers and vegetable gardens, trees, and house plants.
- -As part of a seed-starting mix.
- -As a liquid fertilizer by brewing a tea of compost in warm water for a day.
- -Larger woody pieces can be used as a mulch. Because it is rich and holds water so well, compost should be used sparingly around native plants.

Resolvement Strategies Issues of Concern: Illegal Dumping and Litter Intervention Restoration

What can I compost?

Anything that was once a plant can be composted. The key to successful composting is a mix of 4 parts carbon material to 1 part nitrogen material. This can vary up to a 50/50 mix. DO NOT use more than 50% green materials.

Carbon-Rich

(Brown and dry)

- -Straw
- -Pine needles
- -Small branches
- -Dryer lint
- -Dry grass clippings
- -Dried plant materials
 (trimmings, leaves, vin
- (trimmings, leaves, vines)
- -Sawdust
- -Shredded newspaper

Nitrogen-Rich

(Green and moist)

- -Wet grass trimmings
- -Fresh plant clippings
- -Vegetable and fruit wastes
- -Barnyard manures and beddings
- -Alfalfa pellets
- -Tea bags
- -Coffee grounds and filters
- -Hair, fur, feathers

Do NOT compost these things!

- -Meats, grease, fats and oils
- -Dairy products, especially cheese
- -Dog and cat feces
- -Diseased or invasive plants or roots of Bermuda grass
- -Oleander, eucalyptus and tamarisk (salt cedar). These contain toxins that inhibit plant growth and should be used sparingly.
- -Herbicides and pesticides are neutralized during the composting process. However, compost should be well aged.

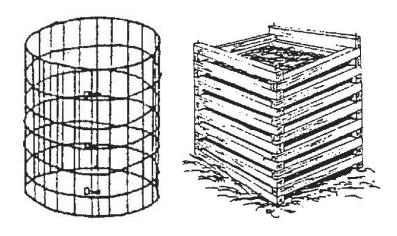
How do I start?

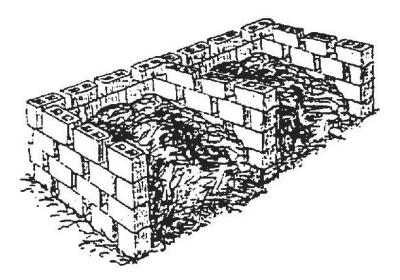
First, select a place in the yard, preferably in the shade, out of the wind, and within reach of water.

Next, you'll need to assemble a bin to contain your composting organic matter. For little or no cost, a bin can be made from a ring of heavy mesh wire, old pallets, or concrete blocks.

To ensure successful composting, it is a good idea to make your bin a minimum of 30 inches in each direction. This size insulates itself while allowing air to penetrate.

Should you choose not to build a bin, commercially made composting bins offer an easy and attractive way to recycle organic matter at home. (Pima County Government Arizona)





1. Shred or chop all materials into as small as possible pieces to expose the most surface area for the microbes to work on.

- 2. Loosen 2" of soil where the bin will stand. Add a 6-12" layer of finger-sized branches to allow air to enter from below.
- 3. Provide a mixture of about 4 parts brown or woody material (carbon-rich) to one part green or moist (nitrogen-rich). Up to a 50/50 mix can be used.
- 4. Layer green and brown materials alternately, not more than 4" thick. Occasionally sprinkle in soil and/or manure. If using food waste, be sure to cover it with plenty of carbon material.
- 5. Ensure pile is very wet. During periods of heavy rain, cover with a tarp or scrap of carpet.
- 6. Once your container is full, top off the pile with 2" of manure or carbon material.
- 7. As decomposition takes place, the pile will begin to heat up. Interior heat can reach 165 degrees and can be checked by inserting a metal rod or your hand into the pile.
- 8. Before the pile cools down to outside temperature, reactivate it by turning the material into a second bin, or use a pitchfork to thoroughly mix the pile. Water and/or green material can be added at this time.
 - NOTE: Step 8 ensures compost in 2 or 3 months. You can turn your pile less often, but it will take longer for finished compost.
- 9. Repeat these steps as needed until the mixture is soft, dark, and crumbly.
- 10.To use the finished compost, sift on a 1/2" screen to remove large pieces. Return these to the bin for further breakdown. (Pima County Government Arizona)

Resolvement Strategies

Issues of Concern: Illegal Dumping and Litter

Intervention Restoration

What action to take: Education

Custer was a vocal critic of illegal dumping and the lack of bureaucratic response for years before the county hired him to coordinate the effort to stop it. "The progress comes through education," he said. "Part of that education is nailing people." (Carli-Tucson Citizen)

Illegal Dumping Prevention

Communities lacking a contract with a waste hauler and standardized billing (by which waste removal is integrated into a water or sewer charge) may have problems with residents who refuse to pay a waste hauler for service on their own. EPA's document titled "Solid Waste Contract Negotiation Handbook" (EPA220-B-92-004) provides suggestions for establishing contracts with waste management companies, and a "Pay-as-You-Throw Toolkit" (EPA530-R-96-013) is available for communities considering volume-based disposal programs.

Preliminary research shows that communities with "payas-you-throw" or unit-based disposal programs do not experience continuing dumping problems. Although such a community may initially experience increased illegal dumping when new programs are launched, once the public understands the system, the problem diminishes. Maintaining educational programs is important to avoid an ongoing problem.



Clean Up Efforts

Sites must be cleaned up before a threat to public health and safety develops. State and federal cleanup programs, such as Superfund, may support urgent projects where a defined health or environmental threat exists.

A plan must be developed to remove any dumped materials and keep sites clean. Such a plan should be developed before a cleanup to ensure that the effort is not wasted.

Phoenix, Arizona. The city established an illegal dumping prevention program in 1990 that involves public education, citizen involvement, dedicated local prosecution, convenient waste drop-off sites, and free disposal for small residential waste loads. Project HALT (Help Attack Littering and Trashing) uses citizen volunteers to monitor high-frequency dumping areas and aid in reporting and prosecuting illegal dumpers. In 1996 and 1997, the program cleaned up over 15,000 tons of waste, and officers issued over 165 citations.

Contact Juan Martin, Public Works Department, (602) 256-5600.





Keeping Sites Clean

Many illegal dumping areas continue to experience problems after being cleaned up. Signs, lighting, and barriers can reduce or eliminate continued dumping in a given area. In addition, a plan needs to be in place to maintain the area and to promptly remove any materials that are dumped.

Signs

Some residents may be unaware that dumping is illegal and punishable by fines or prosecution. Use of "No Dumping" signs can be effective in preventing dumping and creating awareness of ordinances. Signs placed in a high-incidence area can specify fines and penalties or indicate that the area is under surveillance. The area around such signs must be kept clear of debris.

Lighting

Lighting can be an effective preventive measure in poorly lit or remote areas that experience "midnight dumping." Lighting increases the visibility of the crime and the chances of the offender's being caught. Installing lighting requires an investment in electrical service and equipment.



Barriers

Barriers that limit access are critical for reducing and eliminating dumping in areas with a single point of entry. Fences, posts, berms, and concrete highway dividers prevent vehicle access. However, such barriers must not limit legal or emergency access to residences or buildings. In some cases, offenders may continue to dump at or over barriers instead of inside the restricted area.

Landscaping and Beautification

Landscaping and beautification efforts range from simply cutting grass and pulling weeds to establishing parks with benches, walkways, trees, picnic tables, grills, or playgrounds. Other efforts include painting murals, "nuisance alleys and signing them over to residents for establishing gardens and flower beds, or converting sites use as parks. Over 13 alley conversions have taken into natural areas. Local schools and university place at an average cost of \$12,000 each

Site Analysis Issues of Concern: Inaccessible Roads

There are few formal roadways in Dogpatch—officially called the Old Nogales Highway Colonia—and those that do exist are subject to obliteration when monsoon floods rip down the huge wash trailing Old Vail Connection Road. This means that cops and ambulances are habitually slow to arrive, if they arrive at all.

Vanderpool -Tucson Citizen

The community has expressed a strong concern for improved roadways, mainly across the washes since when flooded they prevent the residents from getting or leaving home. This has even led to the residents making there own culverts. Also, the dirt roads are in a rough state that require proper grading. Residents have attempted to grade the road themselves but have been fined by the county for doing so. Intervention and education is necessary.

The majority of the roads are unmaintained dirt roads that are in need of maintenance. However asphalting all of those roads isn't necessarily the only solution. The dirt roads add to the charm and ruralness of the neighborhood.

Contacting pima county is encouraged to express their concerns about inadequate and unsafe road crossings.

- 1. Unmaintained dirt road
- 2. Culvert made by resident
- 3. Maintained and unmaintained roads
- 4. Unmaintained dirt road with hole filled in by residents
- 5. Road cross that gets flooded
- 6. Proper dirt road section











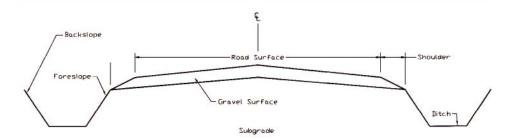


Figure 1: The components of the roadway cross section.

It is very rural; it does not look like it is part of the U.S. It is calm and quiet, there are no traffic lights and it is very dark...

(U.S. Census Bureau)

Maintenance

In order to maintain a gravel road properly, operators must clearly understand the need for three basic items: a crowned driving surface, a shoulder area that slopes directly away from the edge of the driving surface, and a ditch. The shoulder area and the ditch of many gravel roads may be minimal.

This is particularly true in regions with very narrow or confined right-of-ways. Regardless of the location, the basic shape of the cross section must be correct or a gravel road will not perform well, even under very low traffic.

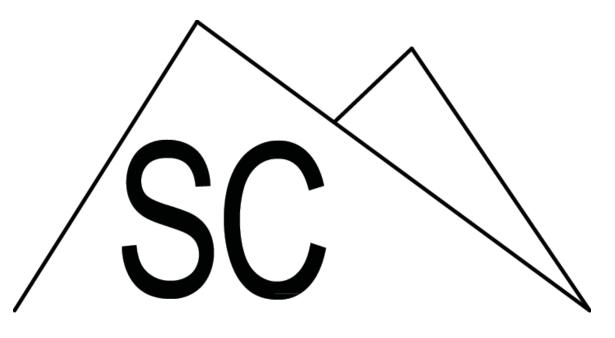
Obviously, the whole idea here is to keep water drained away from the roadway. Standing water at any place within the cross section (including the ditch) is one of the major reasons for distress and failure of a gravel road.

Arizona's NRCDs are mandated by law to "...provide for the restoration and conservation of lands and soil resources of the state, the preservation of water rights and the control and prevention of soil erosion, and thereby to conserve and restore this state's rivers and streams and associated riparian habitats, including fish and wildlife resources that are dependent on those habitats, and in such manner to protect and promote the public health, safety and general welfare of the people." (Pinal County Online)

Neighborhood Identity Branding

Branding: Will set an emphasize on Summit Colonia as a neighborhood. It will also allow the residents to have a sense of pride in their community and motivate them to improve their properties and neighborhood. This in turn will deter illegal dumping from residents and outside visitors.

Goal: To capture and celebrate the ruralness of the neighborhood for that is what makes this community unique.





Neighborhood Identity Built Elements

The neighborhood is officially called the Old Nogales Hwy Colonia but is most commonly known as Summit or Summit View neighborhood. Therefore the new proposed name **Summit Colonia** embraces the colnia status while combining with the more commonly known summit name.

Summit Colonia Logo: represents the two mountain ranges surrounding the neighborhood. The Catalinas to the North and Santa Ritas to the East.

Entrance Sign

This entrance signs immediately identifies the neighborhood at the main entrance from Nogales Hwy. It is made from board formed concrete and local stone or broken concrete for the gabion wall. (To be placed at Nogales Hwy/ Old Nogales Hwy intersection before the train tracks)

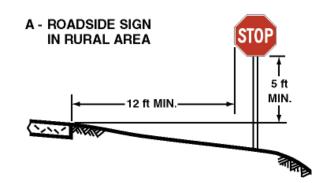
Neighborhood Identity Built Elements

Street Signs

The roads lack street name signage, this create confusion for visitors. The new signs will allow people to navigate more easily and also help establish this area as a neighborhood.

No Dumping Signs
Will warn people of the
consequences for dumping
and motivate the community
to report it. These are to be
posted along the areas where
dumping is a problem







NO DUMPING

PUNISHIBLE BY UP TO 2 YEARS IN PRISON AND FINE OF 150,000

VIOLATORS WILL BE PROSECUTED PURSUANT TO A.R.S. 13-1603







Dan Eckstrom Summit Colonia Park

Education Signs

These are able to educate and inform the public about various plants, animals, and habitats around the parks and trails.

Park Signs

Theses signs will be made from gabion baskets filled with recycled broken concrete. They will contribute to establishing an identity for the neighborhood.

Summit Colonia Parks Parks Precepts

- -Restore disturbed riparian habitats while providing the opportunity for their visitors to learn the Sonoran Desert.
- -Use recycled materials as much as possible to reduce our impact on the earth, reducing the carbon footprint and allowing for a reduced cost in implementation.





The parks will become the main community gathering areas.



Summit Colonia Parks Precepts Habitats

Most of the land in the summit neighborhood has been disturbed and stripped of the natural habitats for desert life. However there are vital designated riparian areas throughout the neighborhood. Therefore it is crucial that those habitats be reestablished.

The parks will serve as learning centers where people will be able to observe and learn about desert life. In turn it is hoped that the community members will be inspired and attempt to restore and create more habitats on their properties, streets, and throughout the washes.

Native Xeroriparian Landscape
Plants native to the Sonoran
Desert

Legend

Hydromesoriparian

Xeroriparian A

Xeroriparian B

Xeroriparian C

Xeroriparian D

Important riparian area

Summit View Neighborhood

Major Road

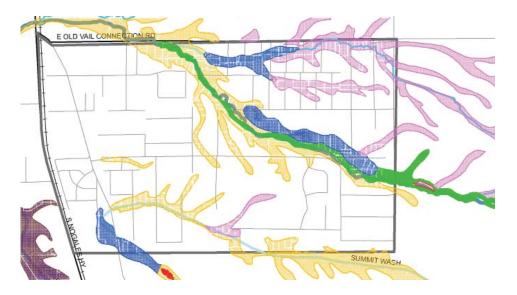
Streets

---- Railroad

Wash under 500CFS

Wash 500-2000CFS

Wash over-2000CFS

















Song Bird Garden
Trees and plants that will attract
native song birds (see Appendix A)





Cactus + Succulent Garden
Cati and succulents
(see Appendix A)











Humming Bird Garden Flowers and shrubs that attract native humming birds (see Appendix A)

Butterfly Garden Flowers and shrubs that attract butterflies (see Appendix A)

Summit Colonia Parks Precepts Recycled Materials

There is a great emphasis on reusing old discarded materials in new innovative ways. This will reduce waste in landfills and benefit our environment as well as greatly reduce the cost of implementation.

Throughout the whole neighborhood these discarded materials can be reused for improvements and building the new parks such as:

- -old lumber can be used for mulch in tree basins
- tires can be cleaned and used in various ways as playground equipment
- -old broken concrete can be used as pervious paving material for paths and can also be used for the gabion wall in fill.



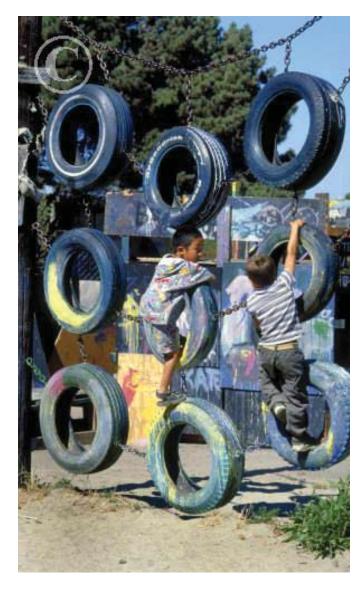
Recycle

















Summit Colonia Parks Precepts Playground Elements

Goals: The playground intends to be a place where the children's senses can be stimulated and where equipment motivates and challenges them to develop their motor skills.



Flower Gardens

Educate on the various flower species and stimulate the visual and olfactory senses.

Tree TunnelOffers a fun spatial sensation.











Public Art and Sculpture
Made from recycled materials such
as old tile and rebar they create a
fun environment that stimulate the
visual senses.





Boulders and Interactive furniture
Children find a direct connection and enjoy playing on large boulders. A bench could be made out of rocks in various shapes such as this snake. The kids are also able to use it for play.

Summit Colonia Parks Precepts Playground Elements

Path Materials

The different ground materials offer diversity and affects the auditory, and tactile senses.





Instruments and Stage
Allows the children to learn
about performing arts and
gives them an opportunity to
participate in them.





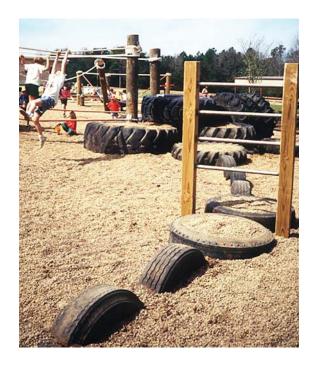




Balance Beams







Stepping Trunks and Tire Walks

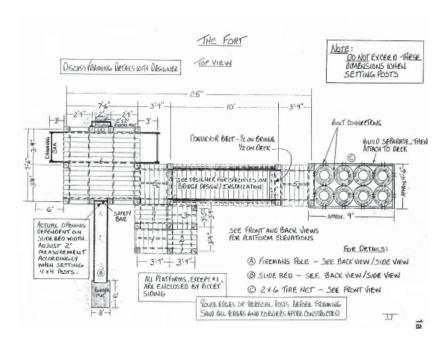
Summit Colonia Parks Precepts Playground Elements

Tires in Playgrounds

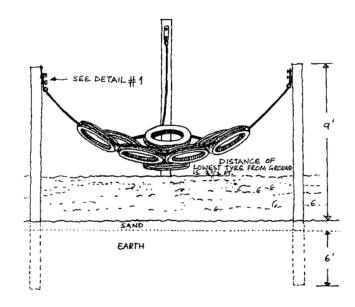
The abundance, durability, and versatility of tires make them a desired playground material. The tires for the playground can be brought from the dumping sites in the neighborhood and after cleaning them, they can be reused.

Tire Fort



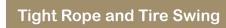


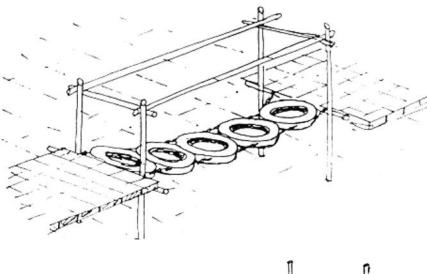


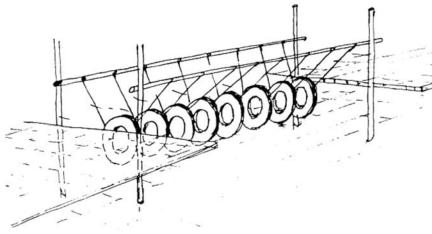


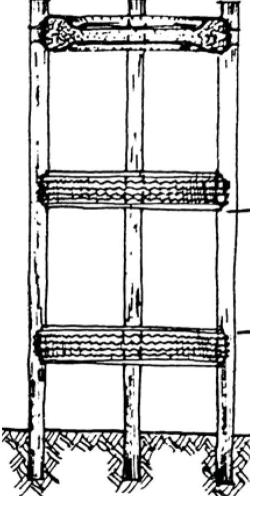












Design Elements Summit Colonia Parks

Objective: Enhance existing and create new parks that fulfill the needs of the residents, while encouraging healthy lifestyles by providing spaces for exercise, outdoor recreation, and spontaneous interaction thereby contributing to creating a healthy neighborhood.

Design Elements Dan Eckstrom Summit Colonia Park









Dan Eckstrom Summit Colonia Park

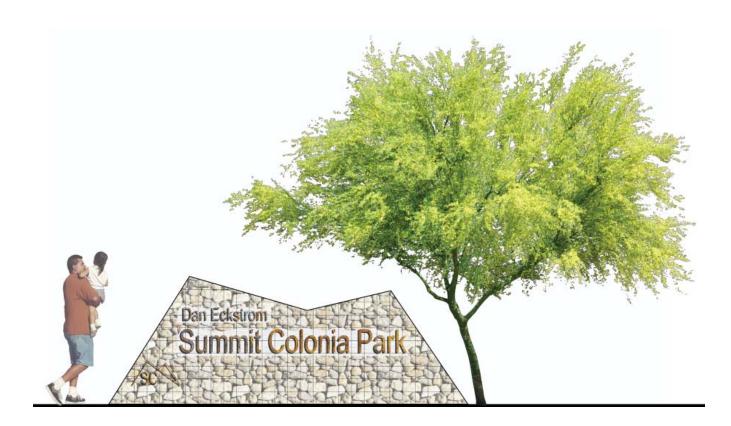
reduction added trees also help picnic areas, and playground. the various dumping sites in the

Entrance Sign

Is made using gabion baskets filled with recycled broken concrete and local rock. The sign helps established a neighborhood identity.









Conceptual Park Enhancement Site Plan

- **a-** existing multiuse field
- **b-** existing unshaded playground
- c- reduced street with and tree planting
- d- existing basketball court expanded to full court
- e- volleyball court
- f- horseshoe pits
- **g-** spectator benches
- **h-** native shrubs garden
- i- playground expansion
- i- songbird garden
- k- cactus garden
- **I-** humming bird garden
- m- butterfly garden
- n- stabilized natural path
- existing trees
- new trees

Dan Eckstrom Summit Colonia Park





Playground Elements

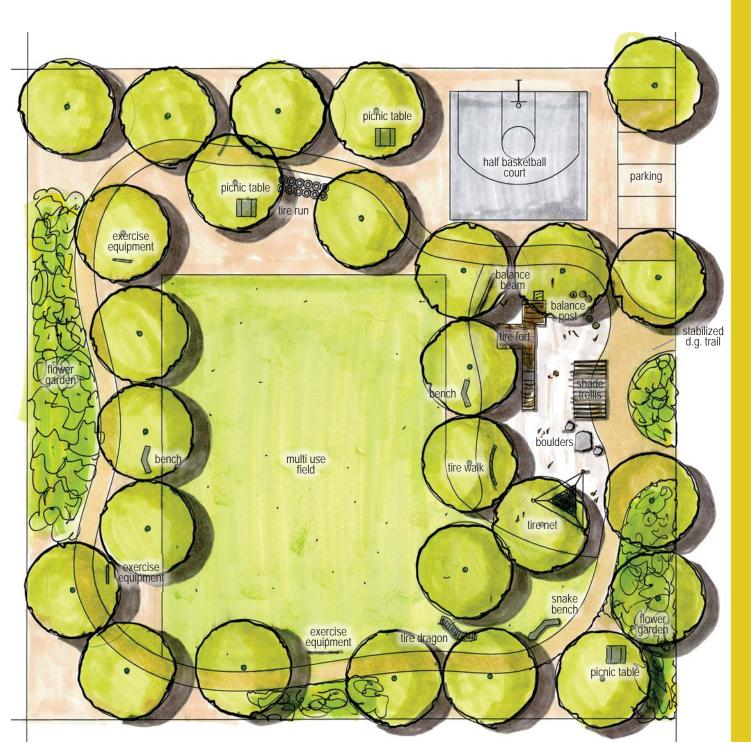
- a- boulders
- **b-** tire walk
- **c-** palo brea tree tunnel
- d- balance tree trunks
- **e-** tire rur
- f- tire net
- g- stepping trunks
- **h-** bridge with climbing wal
- i- climbing wal
- i- shade trellis
- k- cactus garden
- exising trees
- new trees

Design Elements North Summit Colonia Park

The North Pima County owned parcel offers a great opportunity to be turned into a park serving the northern half of the community. It is approximately 1.5miles away from the Dan Eckstrom Park.

Pima county parcel #######





Conceptual Park Site Plan

- existing trees
- new trees

Design Elements Summit Colonia Equestrian Park

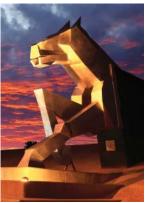
The Summit Colonia community Once the wash is established as

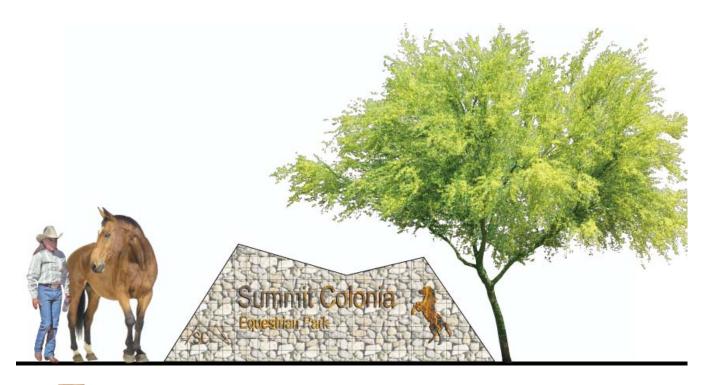
Horse Facilities
horse arena
horse drinking troff with shade
hitching post
park and wash horse trail.







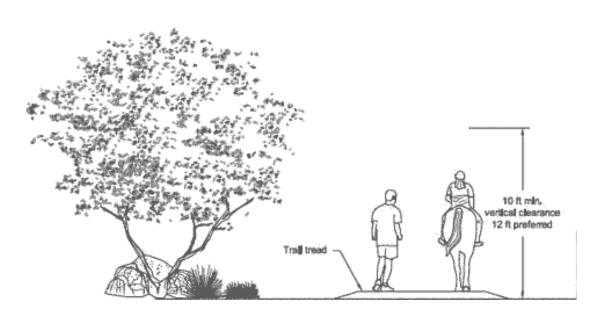




Entrance Sign

Is made using gabion baskets filled with recycled broken concrete and local rock. The sign helps established a neighborhood identity.





Horse Trail

Park trail is to be raised and cleared from any over head branches. Signs are to be posted along park and wash trail

Summit Colonia Equestrian Park

Conceptual Equestrian Park Site Plan

a- 8' wide horse trail .33mi

b- 5' wide pedestrian trail

c- half basketball court

d- playground

e- flower garden

f- horse arena 300'x150'

g- restored desert landscape

h- wash/horse trail

i- horse rest stop

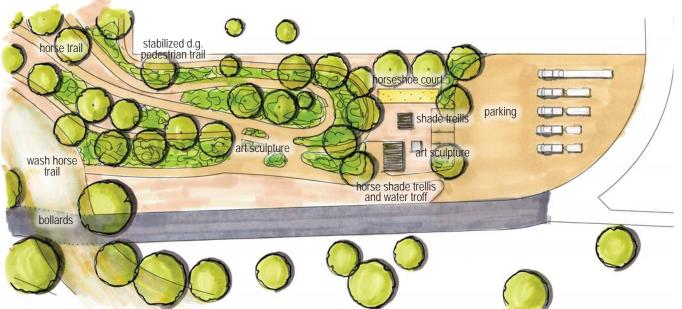
- parking

existing trees

new trees









Design Elements Summit View Elementary Design Suggestions

Summit View Elementary has established itself as a hub for community interaction. It is a place established for education and therefore has the responsibly to educate its students as well as the greater community.

The school has the opportunity to educate the students who can in turn involve and teach their families on how they can contribute to living in an era where sustainability must become a priority. The community has already expressed a strong interest in gardening and raising small animals for food. The school could therefore become a demonstration station where the lessons learned at school could be transferred directly to the neighborhood. This includes amenities such as vegetable gardens, fruit orchards, outdoor classrooms, chicken coops and habitat laboratories













Schoolyard Habitats

Schoolyard habitats are supervised outdoor classrooms which are often separated from play areas. The lessons about nature occur primarily through the guidance of teachers. It is important, however, to provide students of all ages with natural places where they can freely explore and play on their own. Sunrise Drive Elementary School in Tucson, Arizona, offers students a large natural desert area in which to play. Children sit in the low crotches of mesquite trees, arrange rocks in territorial circles, sweep the desert floor with desert broom, Baccharis sarothroides, create dirt tunnels, and engage in many other cooperative and individual play activities. Roger Hart (1973, 69), who has spent many years observing children at play, sites another school situation where children spontaneously built "Dams, bridges, tunnels, islands, and waterfalls [within] elabo¬rate stream systems."

Children place high value on these natural places for play and personal investigation, as revealed by Lisa Schicker (1987). In a study involving 39,000 children, she discovered that their least favorite play spots were, in fact, playgrounds. Her observations of children playing indicated that fifty percent of all outdoor activity directly involved collecting, observing, and experimenting with wildlife. Children are drawn to unkempt landscapes ones that might include piles of dirt or sand, discarded materials, and overgrown plants. Places such as construction sites, alleyways, and empty lots offer attractive places for play.

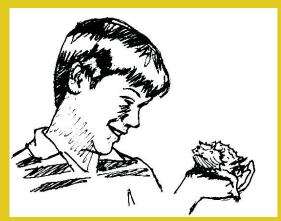
Schoolyard habitats, as defined by Heidi Vasiloff (1997, 6), of the Arizona Game and Fish Department, "are places where young people and wildlife connect. Built and planted with native vegetation to provide a home for wildlife, they serve as outdoor classrooms where students learn about our natural environments. Schoolyard habitats are rooted in communities; in students, teachers, parents, and business people. They require work and commitment, and they establish a lifelong connection with wildlife."

Why Schoolyard Habitats?

In 1993 the Arizona legislature passed into law,ARS (Arizona Revised Statute) 15-706, which states, "All school districts shall develop and implement programs which integrate environmental education into the general curriculum. The environmental education program shall include curricula to increase awareness of the environment and to promote knowledge of environmental concepts, develop positive attitudes and values toward the environment and encourage civic and social responsibility toward environmental issues." (Arizona Department of Education, 1993). While the law was repealed the following year, its brief existence represented a recognized need within the state to educate our youth about the natural world. (School Yard Habbitat

Design. University of Arizona)







Design Elements Summit View Elementary Design Suggestions

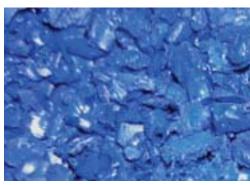
Playground Ground Cover

Over the the playground that has a shade structure wood chips where previously used as an impact attenuation material. These had to be removed due to mold being found and grubs living underneath them. They have now been replaced with sand. The faculty has expressed a concern for sand since it easliy gets tracked into the school and classroom.

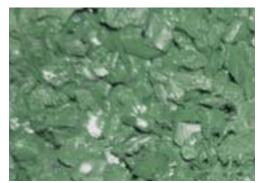
Recylced Rubber Mulch
An alternate material to be considered is rubber mulch.
It has a high durability, nontoxic, does not attract insects, mold and rot resistant, and is maintnace free. Price quoted on 8/24/2011 from Arizona Rubber Mulch.com would be 3000sf @ 4" deep, we estimate that you will need 12 tons of mulch @ \$555/ton = \$6,660 + \$1870/freight = \$8,530

This does not include unloading and instalation. However the greenskeepers and maintance workers could easily handle this task.

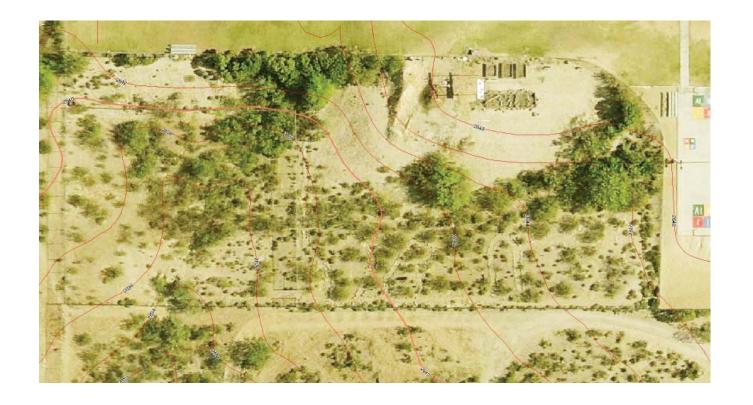














Schoolyard Habitats

Sonoran Desert Labratory and Nature Playground
On the South end of the campus there are .89acres of desert landscape it has a drop in topography of about ten feet going southwest. By cleaning up the litter, adding more native trees and shrubs, and establishing a small walking path this could become an ideal schoolyard habbitat labratory. Children would be able to learn about wildlife and native plants. They could even restore some of the native plants and learn how to cultivate them for food production, such as prickley pear fruit jelly, or mesquite bean flour.'

"Imagination is more important than knowledge." — Albert Einstein

Design Elements Summit View Elementary Design Suggestions

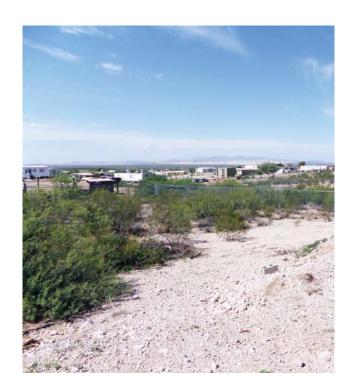
Sonoran Desert Laboratory and Nature Playground

The northeast corner of this portion of the site should become a vegetable garden and fruit tree orchard. This will present a valuable opportunity to educate in proper gardening methods, composting, and nutrition for the students and parents.

"Every child should have mud pies, grasshoppers, water bugs, tadpoles, frogs, mud turtles, elderberries, wild strawberries, acorns, chestnuts, trees to climb. Brooks to wade, water lilies, woodchucks, bats, bees, butterflies, various animals to pet, hayfields, pine-cones, rocks to roll, sand, snakes, huckleberries and hornets. And any child who has been deprived of these has been deprived of the best part of education."

 Luther Burbank (American horticulturalist and botanist, 1849 – 1926)











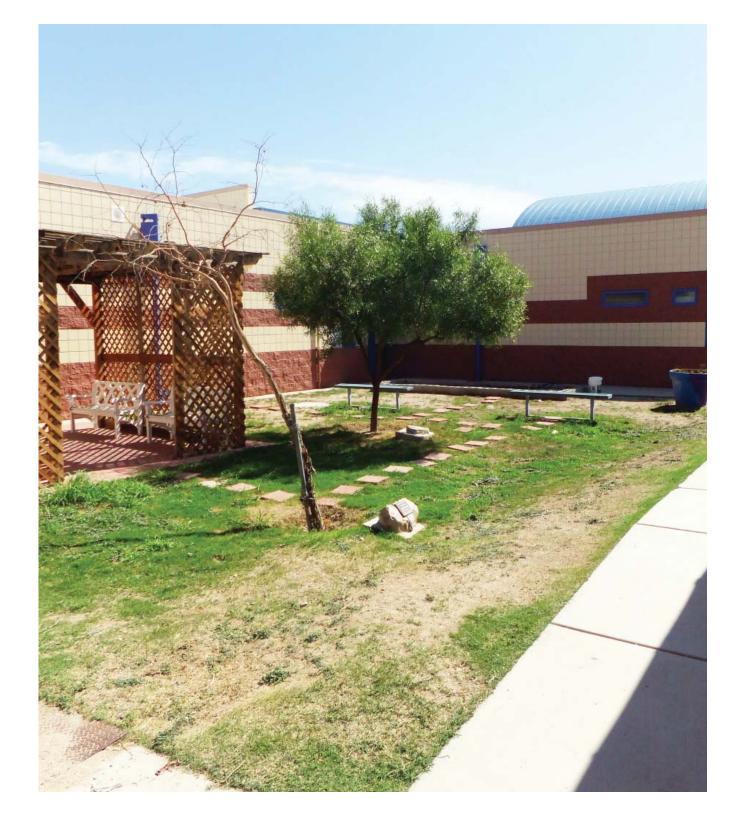
Schoolyard Habitats

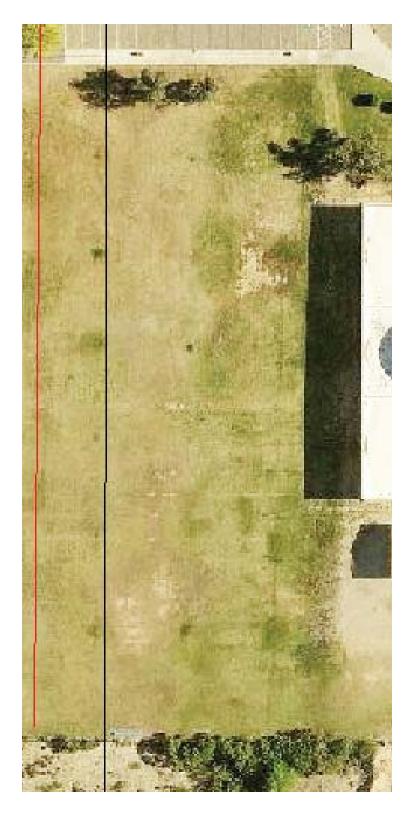
There is a growing body of research data about the multiple positive impacts of nature play on children's social, emotional, intellectual, and physical well-being. Richard Louv has done a great job of reviewing these benefits in his best-selling book, Last Child in the Woods: Saving Our Children from Nature Deficit Disorder.

Design Elements Summit View Elementary Design Suggestions

Reading Garden

This courtyard is intended to be used by the children for reading. However it is lacking maintenance, improving this are would further motivate students to come into contact with nature while developing there reading skills.







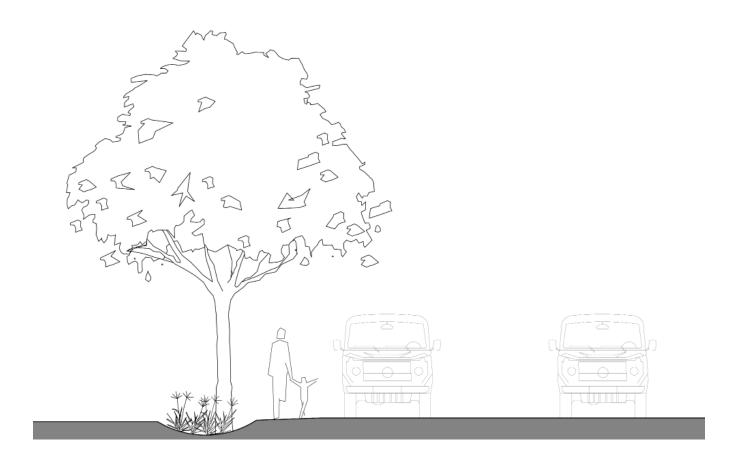


Schoolyard Habitats

The sports field is currently used for various sports and as a track for exercise where children do laps. They also use the park to the west for cross country practice. This filed severely lacks shade and there is no relief from the sun for the students. Also the East facade becomes overheated due to the direct solar exposure. Therefore trees should be planted around the perimeter of the field and recycled concrete could be laid around them as seat walls.

Design Elements Street Treatments Tree Planting

The long roads in the Summit Colonia have an extremly limmited number of trees in the right of way. These added trees would inmensly help offer shaded paths for walking, inceased habbitat, clean the air and beautify the streets. These trees should be placed along the roads with basins dug around them to collect stret runoff water, native shrubs and grasses can then be planted around them to help retain moisture.











Culverts and Earth Bridges

Appendix A: Plant Suggestions

Song Bird Garden

Trees

Olney tesota ironwood

Parkinsonia florida blue palo verde

Prosopis velutina native velvet mesquite

Shrubs

Acacia constricta white thorn acacia

Celtis pallida desert hackberry

Atriplex canescens fourwing saltbush

Encelia farinosa brittlebush

Ericameria laricifolia terpentine bush

Eriogonum fasciculatum v. polifolium flattop buckwheat

Lycium fremontii wolfberry

Cacti

Carnegiea gigantea saguaro

Opuntia engelmannii Engelmann's prickly pear

Cactus + Succulent Garden

Trees

Parkinsonia florida blue palo verde

Prosopis velutina native velvet mesquite

Shrubs

Larrea tridentata creosote

Viguiera deltoidea golden eye

<u>Cacti</u>

Carnegiea gigantea saguaro

Echinocereus engelmannii Englemann's hedgehog

Opuntia acanthocarpa buckhorn cholla

Opuntia engelmannii Engelmann's prickly pear

Opuntia santa-rita purple prickly pear

Succulents

Agave parryi
Parry's agave

Fouquieria splendens ocotillo

Dasylirion wheeleri desert spoon

Humming Bird Garden

Trees

Chilopsis linearis desert willow

Parkinsonia florida blue palo verde

Prosopis velutina native velvet mesquite

Shrubs

Anisacanthus quadrifidus v. wrightii flame honeysuckle

Calliandra eriophylla pink fairy duster

Justicia californica chuparosa

Justicia candicans red justicia

Tecoma stans v. angustata Arizona yellow bells

Succulents

Fouquieria splendens ocotillo

Butterfly Garden

<u>Trees</u>

Parkinsonia florida blue palo verde

Prosopis velutina native velvet mesquite

Shrubs

Aloysia gratissima bee brush

Buddleia marrubifolia woolly butterfly bush

Anisacanthus quadrifidus v. wrightii flame honeysuckle

Dalea pulchra bush dalea

Succulents

Asclepias subulata desert milkweed

httpfriendsofanimalrescue.comwp-contentuploads201010BbjJ.jpg

httpwww.seaverfranks.comimagescommercial-portfolioeducationSummit3.jpg http://www.mysecuritysign.com/img/lg/K/Neighborhood-Watch-Program-Sign-K-1069.gif

http://www.pe.com/imagesdaily/2010/10-19/flu19slc_31x0irjkj_400.jpg Health clinic

http://thisgot.com/cara/imx/Clinic.jpg

doctor

http://www.huridocs.org/wp-content/uploads/2010/06/library1.jpg

http://www.arlingtonva.us/departments/HumanServices/images/image73479.jpg child care

http://www.ci.knoxville.tn.us/images/housholdgarbagepickup.jpg

http://www.bozo.coop/sites/default/files/imagecache/270w/images/blog/handsand-veggies_0.jpg

http://cdn.wn.com/ph/img/0c/b7/8537f970f5edc7f41e83767dad73-medium.jpg strays

http://farm3.static.flickr.com/2472/3772896672 8603c16ce3.jpg pothole repair

http://www.seaverfranks.com/images/commercial-portfolio/education/Summit 1.jpg shade 3 and 1.jpg shaschool1

http://www.dyess.af.mil/shared/media/photodb/web/101022-F-7837S-006.JPG tirerun

http://www.bisonstrength.com/blog/wp-content/uploads/2010/06/tire.jpg tire1

http://www.sanfernandosun.com/sanfernsun/images/stories/1115/041411_SF_ ExercisePark_004.jpg

exercise2

http://www.varley.net/Pages/Varley Yarns/Route% 2066/Rt% 2066% 20 images/ Varley%20at%20exercise%20park%20-%20Rt%2066%20Part%206.jpg exercise park1

http://www.zentastic.com/blog/wp-content/uploads/2009/06/high-park-tireswing.jpg

http://tuffplayusa.com/Blog/upload/4_playscapes.jpg natural1

http://www.springzaad.nl/fotoalbum/album 137.jpg

veggies

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edible2

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http://i572.photobucket.com/albums/ss161/HogRider357/

Architectural/ShadeStructure-32509.jpg

http://www.arnielillo.com/images/2007%20items/Horseshow%20Archway007. JPG

http://1.bp.blogspot.com/ w1BrWfOP08A/TTWCn-c7IHI/AAAAAAAAEi0/ Dc2phlUsmJU/s1600/olivewood-gardens-tire-planters.jpg

Neighborhood park concept

School concept page

http://www.bostonpublicschools.org/files/content_images/Carter%20

http://api.ning.com/files/Io0RnOUUuDf45-IHY1GEtReZdhkPnmyicGDtxlqI BGSzyA2ZHgiAGhwkToswxpUaGi8IQu-ui8McyFMgnCXn-jUF1Vbs03JB/	garden.jpg heal1
DSC03981.JPG	http://www.berkeleyside.com/wp-content/uploads/2010/01/4-ways-look-
shadepark2	ing-at-garden-03-ss.jpg
http://farm3.static.flickr.com/2151/244129283 <mark>0_0831877216_z.jpg</mark>	edible1
vvvv bench in shade	http://www.ashcombe.com/kid%27s%20garden%201.jpg
http://www.j2design.us/wp-content/gallery/tolleson-veterans/tol1_0.jpg	heal3

http://brooklynroofgarden.files.wordpress.com/2010/04/photo.jpg container1

http://st.houzz.com/simages/58133_0_8-8800-eclectic-exterior.jpg tire1

http://images.landscapingnetwork.com/pictures/images/500x500Max/ site_8/d-patrick-lewis_569.jpg

labyrinth

http://uploads.cycleapp.com/florg7j0962i1s/635x340 crop.jpg class2

http://russiantortoise1.files.wordpress.com/2008/12/desert_ tortoise_090603_41.jpg

http://sanmiguel4u.com/images/mesquiteTreesLarge.jpg

http://continentalvistas.org/images/mexican_bird_of_paradise_in_cv_ lg.jpg

http://www.mulchhold.com/images/xeriscapes.jpg

shadepark3

http://www.playahead.org.uk/wp-content/uploads/Hex-Tree-Seat1.jpg

http://www.different-kinds-of-plants.com/images/desertplants.jpg lowater2

http://www.hotgardens.net/Cactus_garden_Las_Vegas.JPG trails

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