



# Depot Park, Ajo, Arizona

INTERNATIONAL SONORAN DESERT ALLIANCE

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Top: An aerial view shows the symmetry along the central axis leading from Ajo's train depot to the top of 'A' Mountain beyond the townsite. Above: A section along the central axis shows the public spaces arranged around the spine of the townsite.



The Sonoran Desert is home to the iconic saguaro cactus, as well as a diversity of other species.

## SONORAN HISTORY

Ajo, Arizona, is a small town in the Sonoran Desert, an ecosystem that covers southeastern California, southern Arizona, and northern Mexico. The climate in Ajo is extreme, with average maximum temperatures ranging between 70 degrees in the winter and 110 degrees in the summer. Additionally, precipitation is very low, with an average of half an inch of rain over the fall and winter months. In the late summer, monsoon rainstorms bring an average of nearly an inch per month in huge events that typically cause flash flooding.

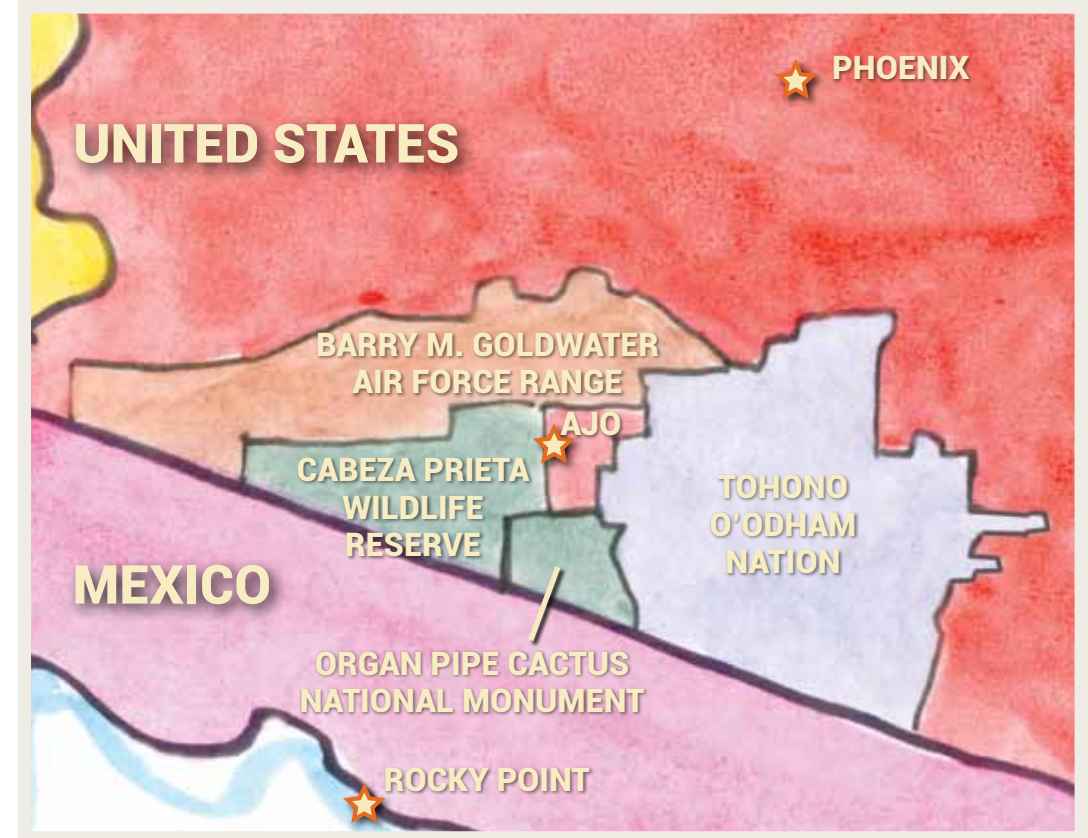
Despite all this, the Sonoran Desert features an incredibly diverse suite of plant and animal species. The iconic saguaro and the organ pipe cactus are endemic, as are several species of the viciously barbed cholla cactus. Mesquite, palo verde, and the statuesque ocotillo are important indicators of the ecosystem. A short walk through the desert will easily bring a hiker past a dozen different species of shrubs alone, a far cry from the barren wasteland the Sonoran Desert is often depicted to be.

The Tohono O'odham and their ancestors the Hohokam learned to take advantage of the desert conditions, using complex irrigation techniques and harvesting some of the most threatening-looking desert plants. The O'odham culture remains strong today, despite the presence over centuries of Spanish conquistadors and missionaries and American ranchers and miners. Their reservation, the third largest in the country, is only ten miles from Ajo, and they form an important part of the community.

## AJO TOWNSITES

The town of Ajo was established in the early twentieth century to take advantage of the copper deposits in the earth. It was a true company town, with all land and buildings built and owned by the New Cornelia Mining Company. Although the mine employed Mexican, Tohono O'odham, and Anglo workers, the town was racially segregated, with separate townsites for each culture: Mexican Town, Indian Village, and the master-planned Anglo townsite.

At its peak, the community was home to



Ajo is completely surrounded by public lands and the Tohono O'odham Nation.

over seven thousand residents in the three townsites, and featured the third largest open-pit copper mine in the country. Ajo's economic vitality was reflected in the thriving social dynamics of the town.

The social success of the town may have been due to the civic spaces included in Ajo's historic Anglo townsite. It was built on the principles of the City Beautiful movement, a late-nineteenth- and early-twentieth-century movement that held that beautiful cities would elevate the moral character of their residents. This was of great interest to John C. Greenway, who started the New Cornelia mine and built the town of Ajo. His intent was to provide his workers with inspiring, fulfilling lives in order to get the best work from them.

The historic townsite was built with strong symmetry along an axis from the train depot to a nearby mountain. On the axis were built the plaza, churches, and school—the public places where residents of any background could gather. Radiating off the axis were streets with houses for the white mine workers. Indian Village and Mexican Town were closest to the mine pit, and were destroyed in a mine expansion, leaving the Anglo neighborhood as the only original townsite.

## AROUND AJO

Ajo is fairly remote, being two hours south of Phoenix and two and a half hours west of Tucson. It is completely surrounded by public and tribal lands, including Organ Pipe Cactus National Monument, Cabeza Prieta Wildlife Reserve, Barry M. Goldwater Air Force Range, and the Tohono O'odham Nation.

Despite its isolation, nearly one million cars pass through Ajo every year, visiting the Sonoran Desert or on their way to Mexico. From Phoenix, Highway 85 brings people south to the town of Rocky Point on the Gulf of California. The warm-water sea is a popular destination for Arizonans, who frequently drive down for weekends, passing directly through Ajo's historic townsite.

Despite all the traffic and the beauty of the town, passersby rarely stop in town. Its historical nature is poorly advertised, and the amenities drivers are looking for—generally public restrooms and road snacks—aren't available in the historic townsite area.

## AJO TODAY

The mine closed in 1983 due to rising production costs and labor disputes, causing a radical shift in Ajo's character. One major change was the departure of the economic base of the community. Without the strong mining presence, other employers have come in to fill some of the economic void in the town.

Ajo's position near Mexico makes it an ideal station for Border Patrol and U.S. Customs, whose employees make up a growing portion of Ajo's population. That portion is somewhat transient, however, as Ajo functions as a "starter" station, where single agents and young families spend a couple of years before moving to a less isolated post. This pattern contributes to a weaker economy than would be expected of the government presence, and Ajo's per capita income is only \$20,000 a year, compared to the national average of \$26,000.

While Ajo continues to represent the three nations—of its 3,300 residents, 40% identify as Hispanic and 10% as Native American—its demographics have shifted. Because of the low cost of living and pleasant winters, Ajo has become a haven for retirees. Nearly half of the households in Ajo have someone over 65 living in them, and much of that population is seasonal. That fact, combined with a smaller population than the town was designed to hold, creates a lack of density that hampers the creation of a strong community feeling among residents.

While the non-operational open-pit copper mine, right, still dominates Ajo's landscape, the town is moving to build a strong economy independent of mining.



After the mine closed, services originally provided by the mining company were instead provided by various private entities. This further contributes to the lack of a feeling of community in Ajo, as central places like the company store, where everyone in town had to regularly go and see each other, no longer exist. Additionally, Freeport-McMoRan, the company which now controls the mine, still owns mineral rights and utilities throughout the town, but many formerly public spaces are now privately owned, including the historic plaza.

## ISDA IN AJO

In 1993, the International Sonoran Desert Alliance (ISDA) was formed to preserve and enrich the environment, culture, and economy of the Sonoran Desert. It represents both indigenous and non-indigenous peoples of the United States and Mexico and has had a particular impact in Ajo, where it is headquartered.

ISDA owns several of the historic public buildings in Ajo, including the plaza and original train depot. Through its residential and commercial properties, it provides spaces for residents to live, work, and contribute to the community.

As part of its efforts in this direction, ISDA obtained an "Our Town" grant from the National Endowment for the Arts (NEA). The grant focuses on "engaging design and leveraging the arts to create livable, sustainable neighborhoods with enhanced quality of life, increased creative activity,

distinct identities, a sense of place, and vibrant local economies that capitalize on existing local assets."

ISDA is using the funds from the NEA grant to draft a landscape master plan for the historic townsite. The plan will envision ways to connect the plaza to its surroundings and make Ajo a more comfortable, walkable place.

## PROJECT GOALS

The Depot Park project was initiated in conjunction with the master plan to address specific concerns brought up by residents (see sidebar) and to activate unused spaces. The focus area chosen for the project was the former train depot and its surroundings, which anchor the east side of the plaza. The space is well situated to connect to the public schools, natural areas in town, and the million people who drive by on Highway 85 each year.

As suggested in community meetings, the design for the Depot Park focuses on a few key groups. The first is children and teenagers from the nearby schools, for whom there are few gathering places in town. The second is visitors to the Chamber of Commerce, which will soon move to occupy the train depot itself.

With that in mind, the goals for the project are to:

- Design a park connecting the plaza to Ajo's schools and natural areas using local resources and public art.
- Design a space for recreation and gathering in Ajo's historic townsite, especially for Ajo's youth.
- Design a welcoming landscape for visitors to the Chamber of Commerce that will educate them about Ajo's history and ecology.



At community meetings, residents voiced their hopes and concerns for the town. Their opinions will inform a team of designers and architects drafting a landscape master plan for the historic townsite. Residents' comments included:



Improve the plaza with things for little children—water feature, playground, free train rides.

Open up the rec hall as a multi-use center where teenagers can gather after school.

People drive in and say 'What is this place?' There is nothing to draw people to plaza.

Back behind depot could be beautiful—needs help.

Provide space for public to make art.

Dangerous for kids to walk to plaza from school; they have to walk on highway.

So many people drive through this town; let's get them to stop.

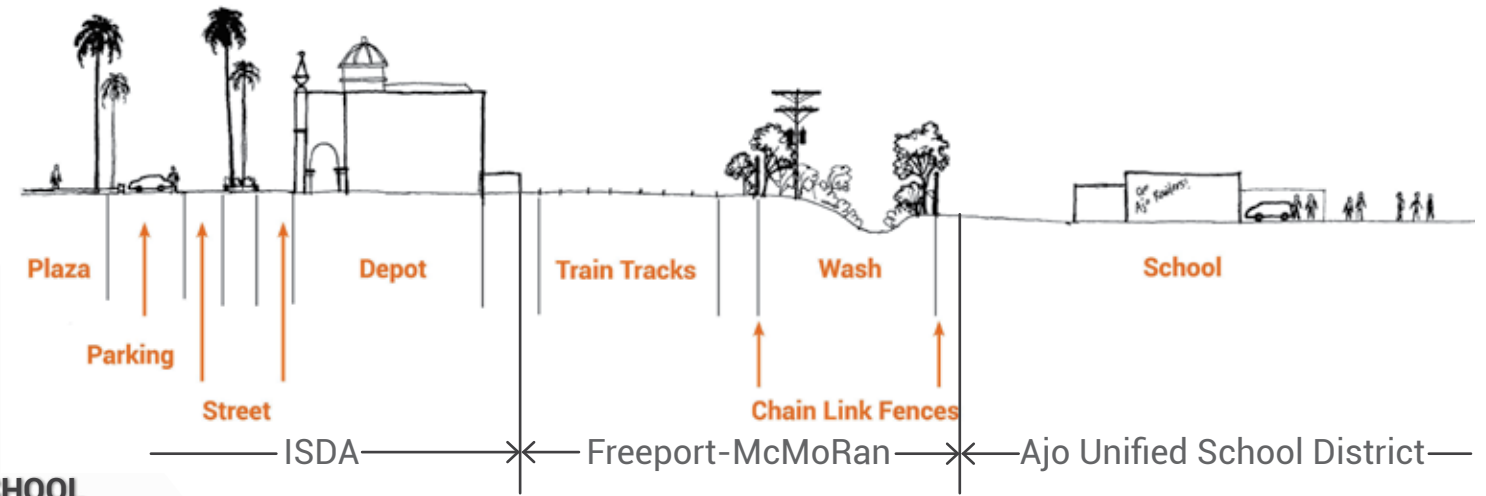
Plaza is always empty, would like to see activities.

You don't see kids here.



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# CONCEPTUAL DEPOT SECTION



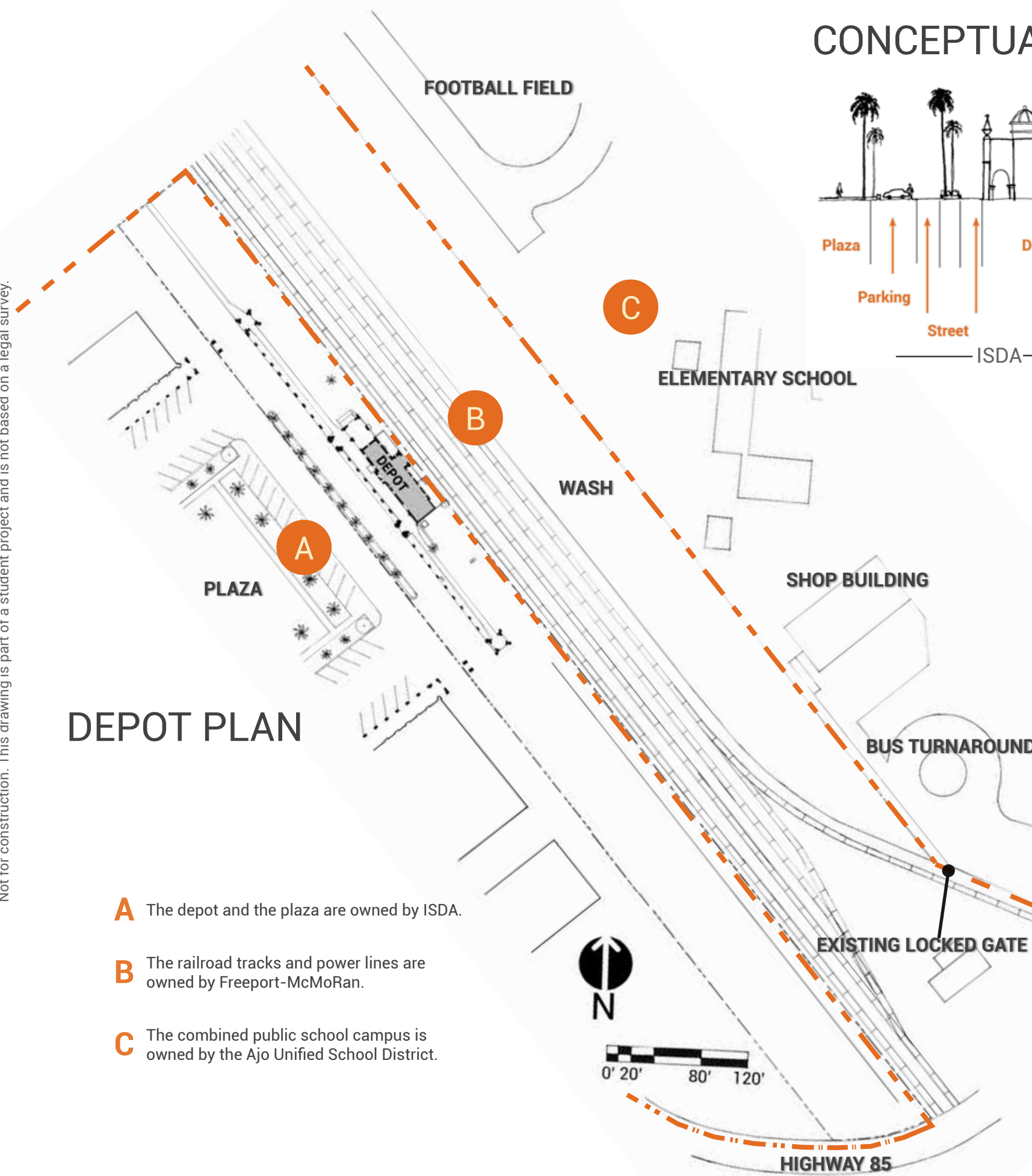
The train depot is bounded by the plaza to the southwest, Highway 85 to the southeast, and Freeport-McMoRan property to the north and east. Freeport-McMoRan's property to the east comprises four sets of unused railroad tracks and a wash through which power lines run. Together, they separate the plaza area from the combined campus of Ajo's public schools.

While the school campus is only about 50 yards from the depot and plaza, students cannot walk directly from one to the other. Chain link fences separate the wash and power lines from the school and the

railroad tracks, creating a barrier. Instead, students walk to the depot along Highway 85, which runs along the southern edge of the school campus and forms the southern and western boundaries of the plaza area.

Beyond the mining company's property to the north lies a footbridge to a natural area with mature mesquite trees where residents walk and exercise. This natural area connects the school campus to the plaza area. Building a physical connection from the campus to the plaza across the train tracks would create a loop, further encouraging residents to walk and enjoy the town's natural features.

# DEPOT PLAN

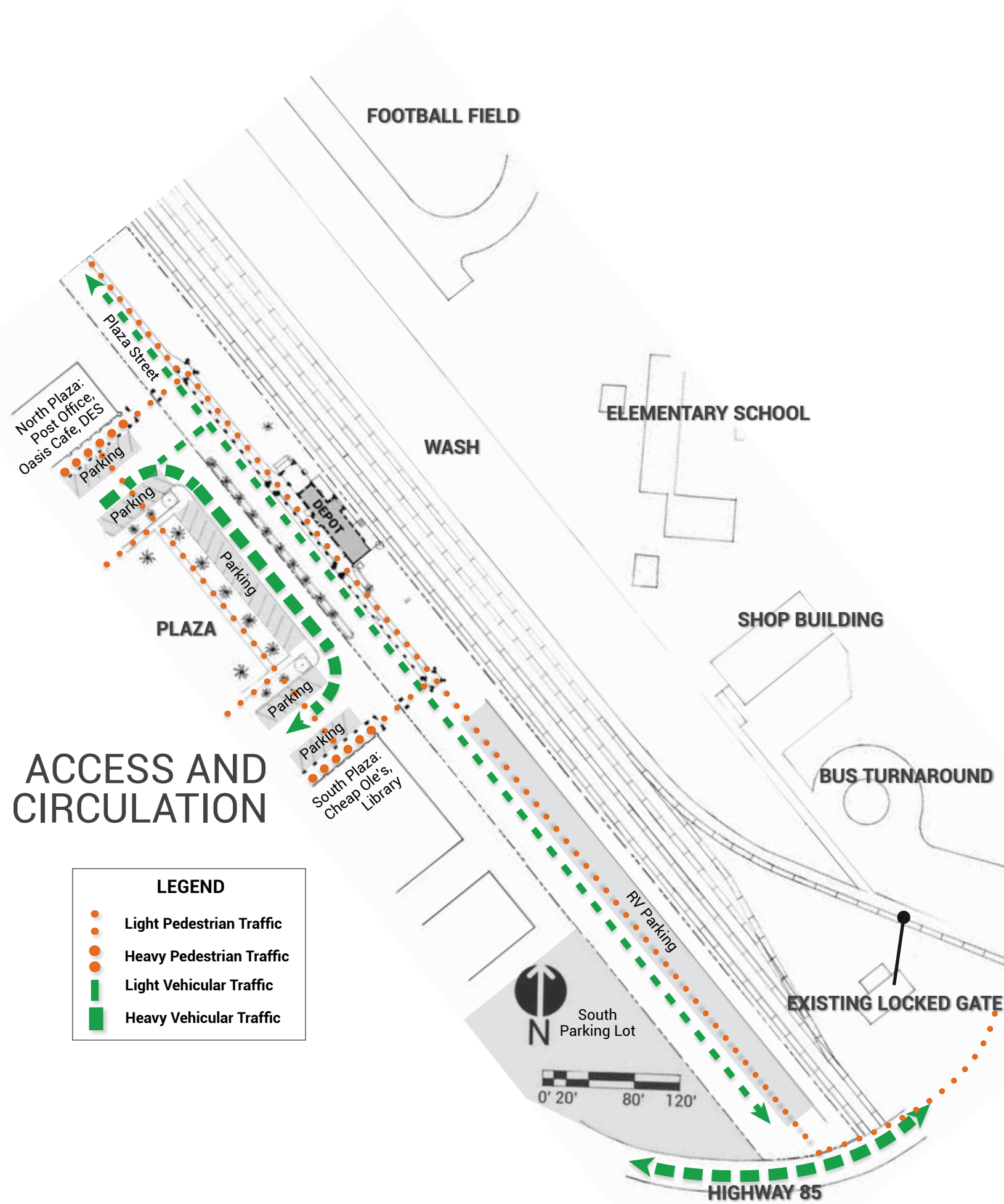


- A** The depot and the plaza are owned by ISDA.
- B** The railroad tracks and power lines are owned by Freeport-McMoRan.
- C** The combined public school campus is owned by the Ajo Unified School District.



A natural area, center top, is used by students and other residents for recreation.

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Highway 85, in red, curves around the plaza and depot property on its way through town.

## VEHICLES

Traffic circulates clockwise around the plaza, with angled parking bordering the plaza itself and the arcaded shops to the north and south. There is ample parking in the plaza for the quick trips residents make: stopping at the post office or Department of Economic Security Office, grabbing a coffee at the Oasis Cafe, or finding a great deal on groceries at Cheap Ole's.

In addition to this dominant one-way traffic pattern, there is two-way traffic along a service road, Plaza Street, on the eastern end of the plaza, which runs from Highway 85 to a neighborhood street to the north. Some residents who visit businesses on the north side of the plaza choose to turn left onto Plaza Street and connect back to the north that way, instead of continuing south around the plaza.

While there is no defined parking to the east of the depot arcades, people do occasionally park behind them on the unpaved surface. The area to the southeast of the plaza buildings is also a parking lot, with RV parking along the curb leading south, although there are no delineated spaces and it is infrequently used.

This area, known as the south parking lot, will be redesigned as part of the master plan for the "Our Town" project. As an attractive, welcoming parking area, it will be an important component of attracting more visitors to the town. Most people

who drive through Ajo are on long road trips, and many of those people are in RVs, so creating a space for them to park and enjoy their immediate surroundings would help to draw more out-of-town visitors to the plaza.

The area to the south also is important for simply getting drivers' attention. Because of the way the highway curves around the plaza, drivers are distracted from the plaza and the churches. The straight sections of the highway are prime locations to inform drivers of the plaza.

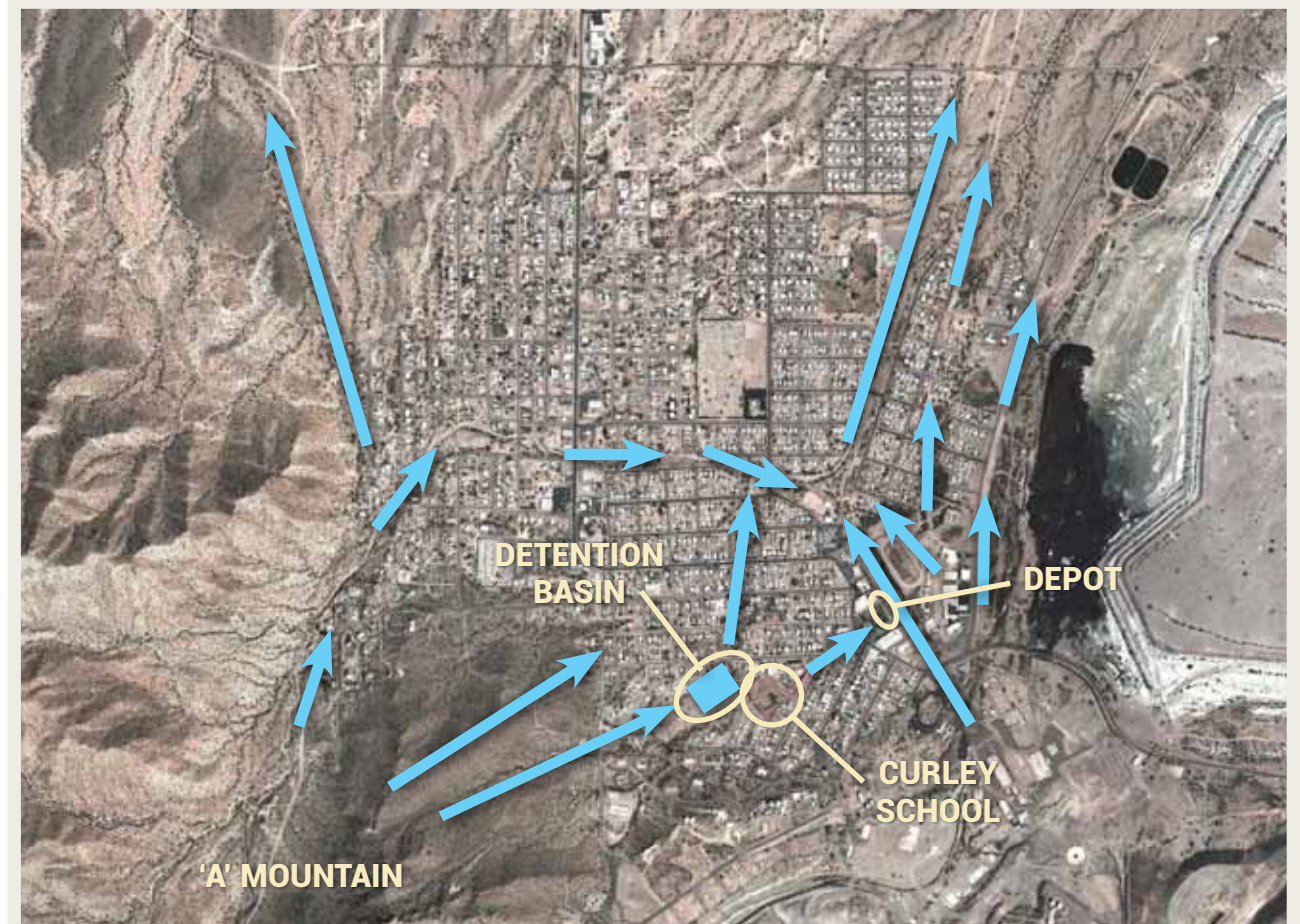
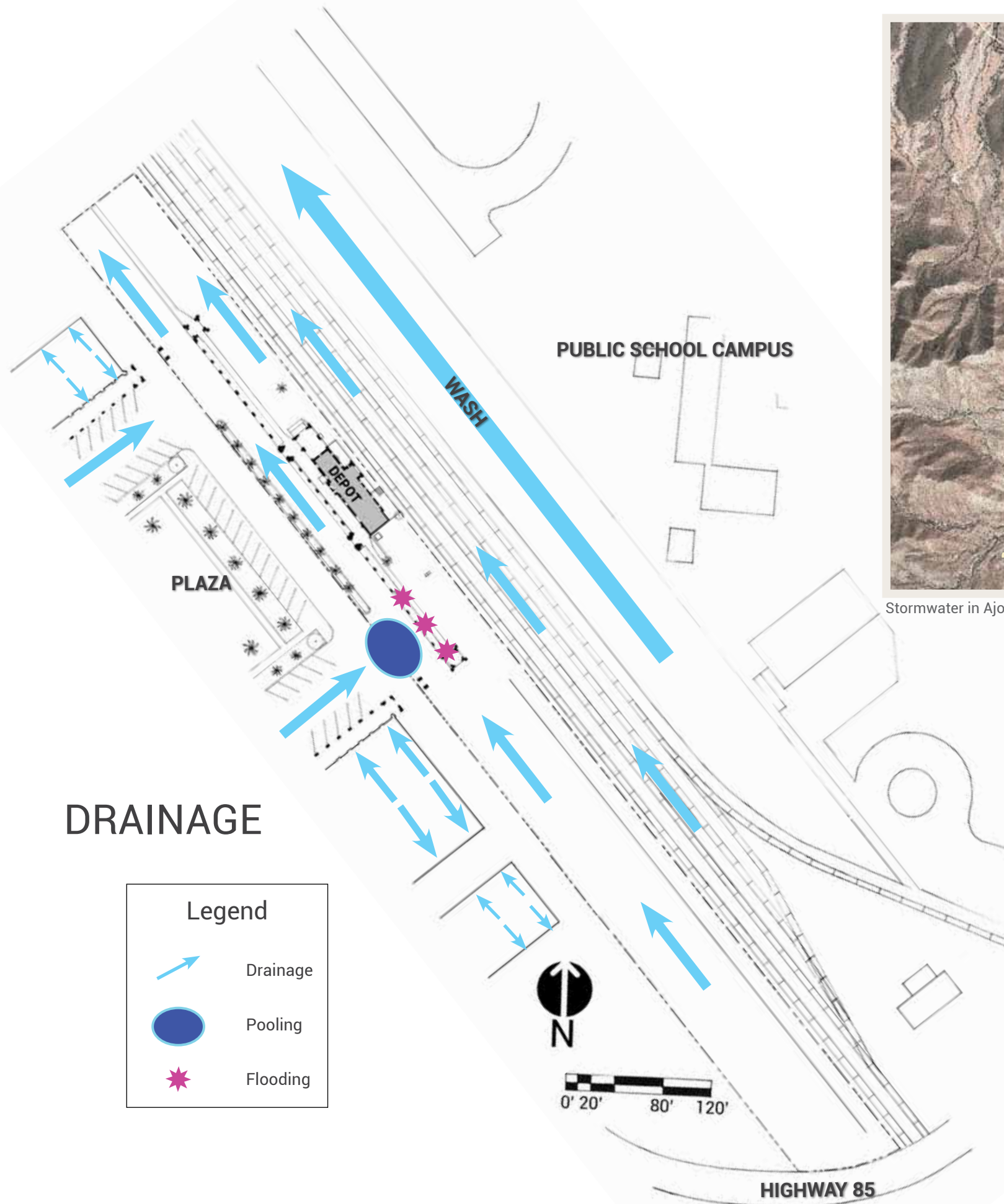
## PEOPLE

Most residents' trips to the plaza are in-and-out errands in cars, and residents rarely walk around the plaza. While there is significant foot traffic along each side of the arcade, there is much less across or in the plaza.

People are most frequently found in the plaza in the mornings, when the temperatures are cooler and the lack of shade is less of a barrier to enjoying the plaza. Residents come to visit the businesses and meet up with friends, either to sit and chat or sometimes to go for a walk around the perimeter of the plaza park.

There is also foot traffic from the public school campus east of the depot. Students often come to the plaza to visit the library or meet up with friends, but they are forced to walk along busy Highway 85 to travel between the two properties.

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Stormwater in Ajo travels through a system of washes that move down from the mountains and north through the town.

Ajo is in a very dry desert, but what rain does fall comes in sudden, heavy storms. Drainage channels, known as washes, run throughout the town and fill with water when it rains. Water moves down from the western mountains, flowing through town and continuing in a generally northward direction.

The original townsite of Ajo was built with little regard for these natural drainage patterns, and has faced issues with flooding as water flows down 'A' Mountain along the central axis of the town. Over the years, the washes that run through the townsite itself have been diverted into culverts or channelized. A large detention basin was recently built behind the Curley School, sized to hold a 500-year storm.

The depot sits at the confluence of several drainage patterns in the town. Water traveling along the central axis hits the

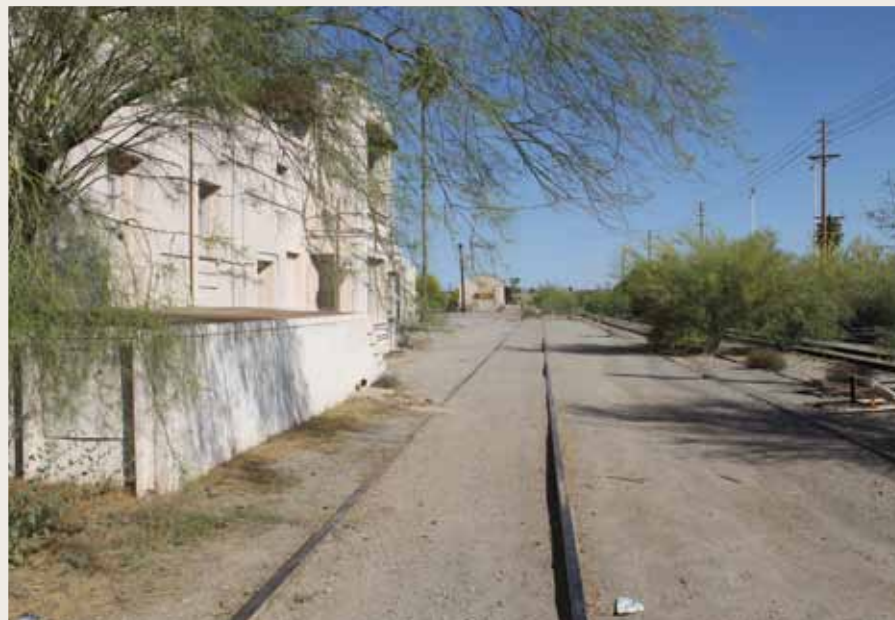
curb along the front of the depot and turns northward. There is some pooling that occurs in the process, and the water occasionally floods over the curb and into the depot property.

At the same time, the wash to the east of the depot collects water and brings it north. The water from the depot property would drain into the wash as well, but the railroad tracks create a barrier and most water flows north along them.

The site is surrounded by important drainage patterns, but when the rain stops falling, they can easily be overlooked and ignored. Bringing reminders of water to the forefront is an important educational component of the design, and can be achieved through the physical presence of water—fountains and rain gardens—or structural symbols that reflect the natural drainage patterns.



Clockwise from top left: Oleander along the depot arcades and the shadow from one of the palm trees on the site; silverleaf nightshade; a limbed up palo verde near the loading dock; desert globemallow; scrubby palo verde and mesquite along the train tracks and wash; a palo verde sapling grows among scorpionweed.



## MANAGED VS. WILD

There is little intentional vegetation around the depot, other than the oleander that are planted between each arch of the arcade. While there were originally two plants per arch, many of them are struggling or have died, disrupting their formal symmetry. There are also two palm trees that have been planted asymmetrically, one just south of the depot near the sidewalk and the other north of the depot closer to the tracks. A volunteer palo verde has grown in front of the loading dock bumper and has been limbed up and maintained as a tree, offering a little shade on the site.

Most of the vegetation on the site, however, is native shrub. The wash that runs along the east side of the railroad tracks is dominated by large palo verde and mesquite shrubs. Since the trains stopped running, these species have spread among and across the railroad tracks. In this natural state, they have dense, compact forms and offer little shade. They could potentially be limbed up, however, and trained into more shade-providing, tree-like forms, as the palo verde by the loading dock has been.

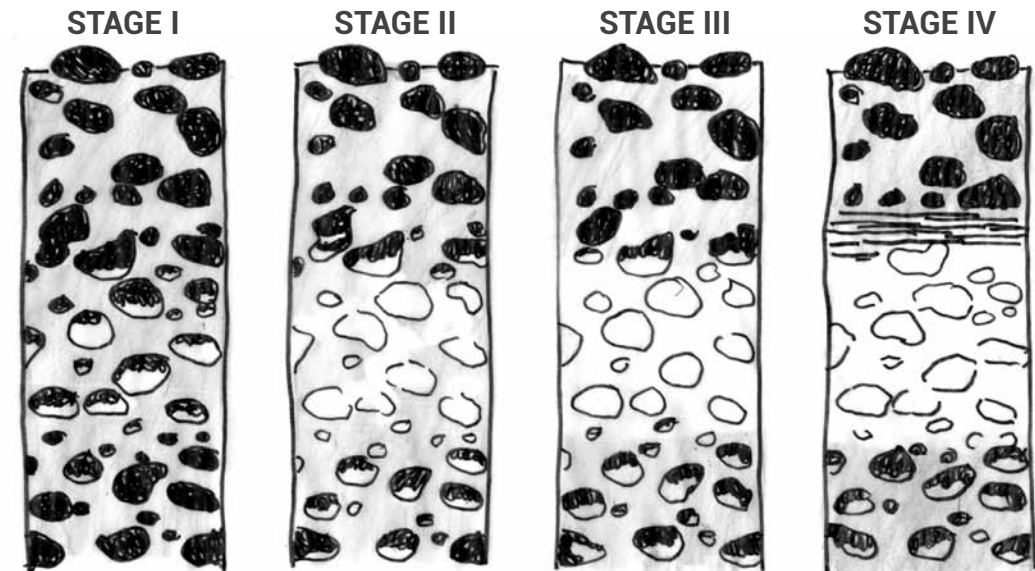
Among the volunteer plants on the site is a variety of wildflowers, including desert mallow, silverleaf nightshade, and scorpionweed. Their ability to thrive in the hot sun and parched soil indicates both the types of plants that could grow on the site and the viability of creating a

beautiful, colorful landscape with very little maintenance or irrigation.

## SOILS AND CALICHE

While the desert soils in the depot are classified as well-drained, there is actually very little infiltration into and through the soil. During the long, hot spells between rain events, the soil bakes in the sun, creating a very hard surface. When it does finally rain, the water runs across the ground unless it is held in one place long enough to infiltrate. Creating small depressions in the landscape helps to trap that water, allowing it to infiltrate into the soil where it can feed the deep roots of native plants.

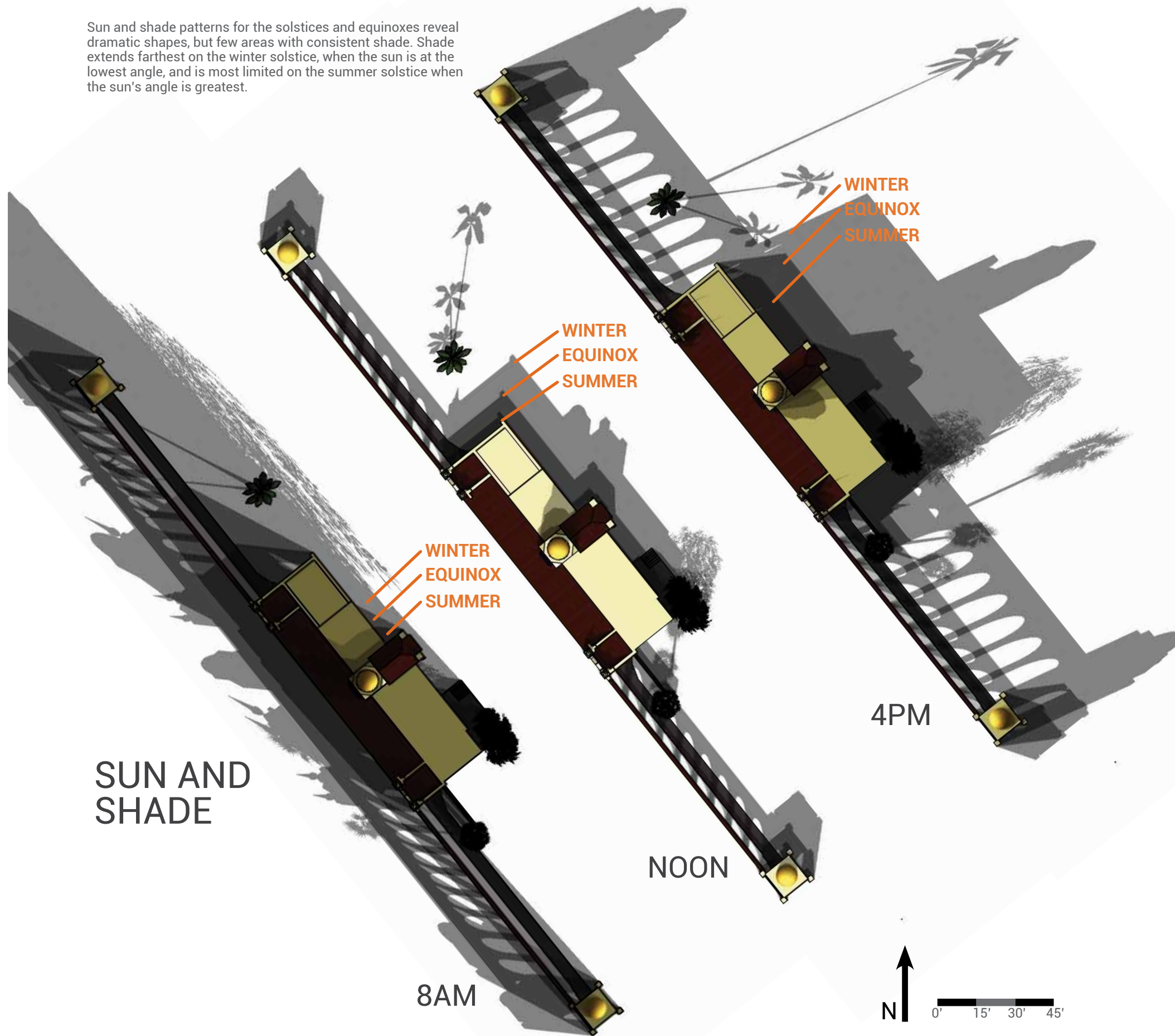
Another hindrance to the drainage in the desert is the presence of an impermeable layer of calcium carbonate, known as caliche, that often underlays the soils in the desert. Caliche is formed when rainwater dissolves calcium ions out of dust it picks up from the air. It then deposits this calcium into the soil, where it reacts with carbon dioxide released by plants' roots during photosynthesis. Caliche exists in varying levels of severity at various depths, and can present a challenge to cultivation as water sits on top of the caliche layer and drowns plants' roots. The most successful way to deal with caliche when planting is to auger through the calcium carbonate layer to encourage deeper drainage.



In caliche formation, calcium carbonate ( $\text{CaCO}_3$ ) is first deposited on the bottom of rocks in the soil (Stage I). It then accumulates in the areas between stones (Stage II), eventually creating a solid horizon of  $\text{CaCO}_3$  (Stage III) onto which further deposits of  $\text{CaCO}_3$  laminate (Stage IV).

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Sun and shade patterns for the solstices and equinoxes reveal dramatic shapes, but few areas with consistent shade. Shade extends farthest on the winter solstice, when the sun is at the lowest angle, and is most limited on the summer solstice when the sun's angle is greatest.



## SUN AND SHADE

Ajo's hot desert climate means that shade is a welcome respite. The depot, however, offers few comfortable, shaded areas. The arcades create dynamic patterns of light and shadow which are fascinating and beautiful to observe, but the shadows change too quickly and dramatically to be used as a reliable shade source.

In the mornings, the building casts shade to the north and east, creating an opportunity for shaded gathering spaces for early activities like meeting a friend for coffee. Most of the shade, however, is cast into the street in front of the depot. Shade extends farthest from the building in the winter, but milder temperatures then make it less necessary.

Year-round at noon, there is limited shade, located to the north and east of the building. Again, winter shade extends the farthest from the depot building, but there is extremely limited mid-day shade in the months when it is most needed.

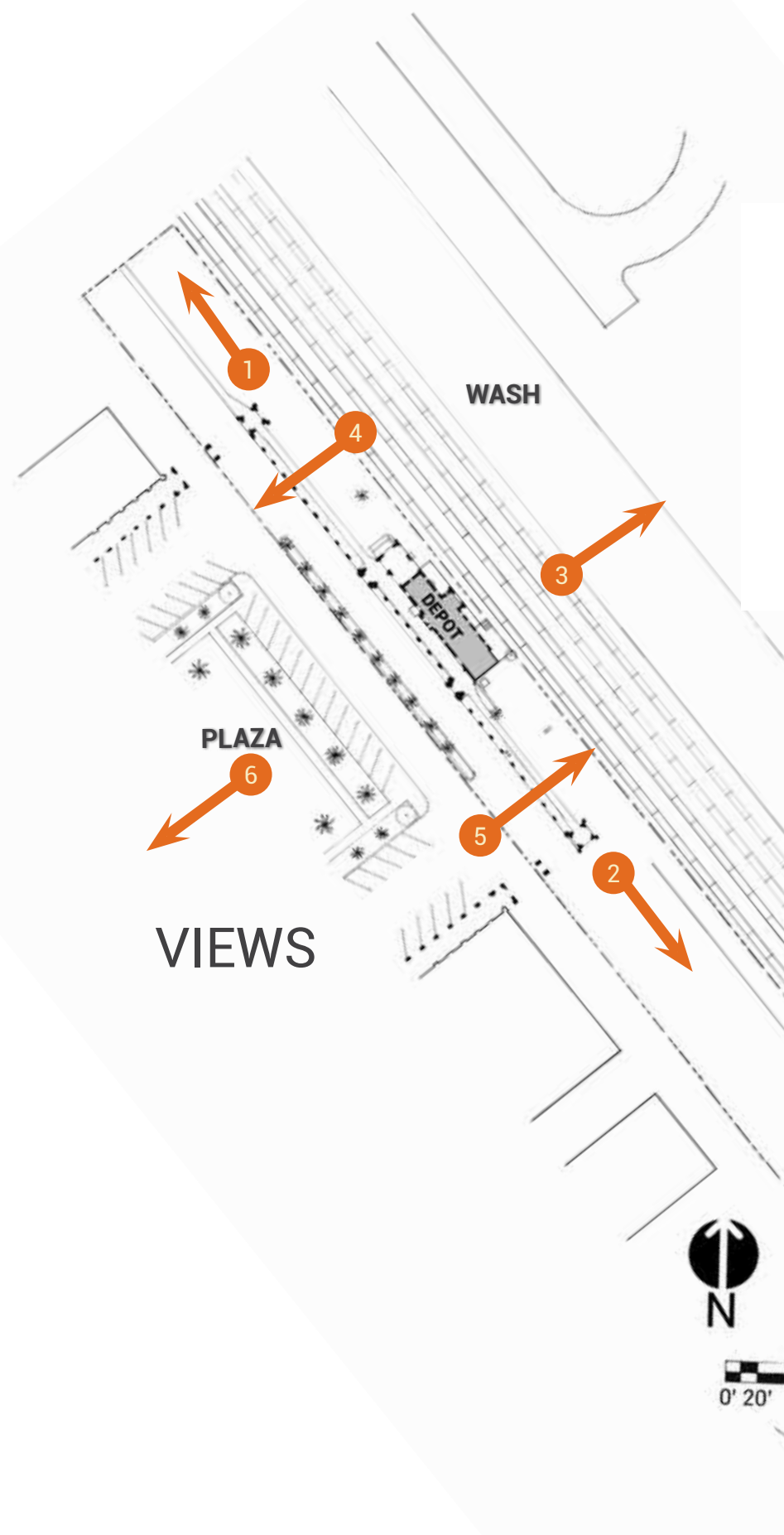
Afternoon shade is the most plentiful while the sun sinks to the southwest of the depot. The northeast side of the building sees the full benefits of the shade, with some falling to the southeast as well. The towers that cap the arcades also provide some significant areas of shade on the site. Most of this shade, however, falls onto the property owned by Freeport-McMoRan.

Since there is so little shade in the hot months when it is needed most, more will need to be created to provide comfortable gathering spaces. Adding trees will help to make the space more inviting, but man-made shade structures might be necessary until trees are mature enough to shade the space.

While the sunlight in Ajo creates challenges for the proposed park, it also creates an opportunity to incorporate public art into the design. The depot's architecture already creates beautiful patterns of light and shadow, and incorporating additional shade structures or sculptures that make use of the sunshine would be an opportunity for the artists in the community to showcase their art.



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1  
Freeport-McMoRan still owns an unused baggage building north of the train depot.



2  
An unmaintained, undifferentiated landscape leads from the depot to Highway 85.



3  
The public school campus is visible past the railroad tracks, powerlines, and wash.



4  
The arcades provide a clear view to the plaza and beyond.



5  
The area behind the arcades is visible from the plaza.



6  
Ajo's central axis leads out from the plaza.

Around the depot, views are in general very open. To the north (1), a former baggage storage building still owned by Freeport-McMoRan provides an interesting focal point, but the open landscape gives visitors no indication of where they should and should not go. Views to the south (2) are similarly confusing, and abandoned construction materials mar the landscape.

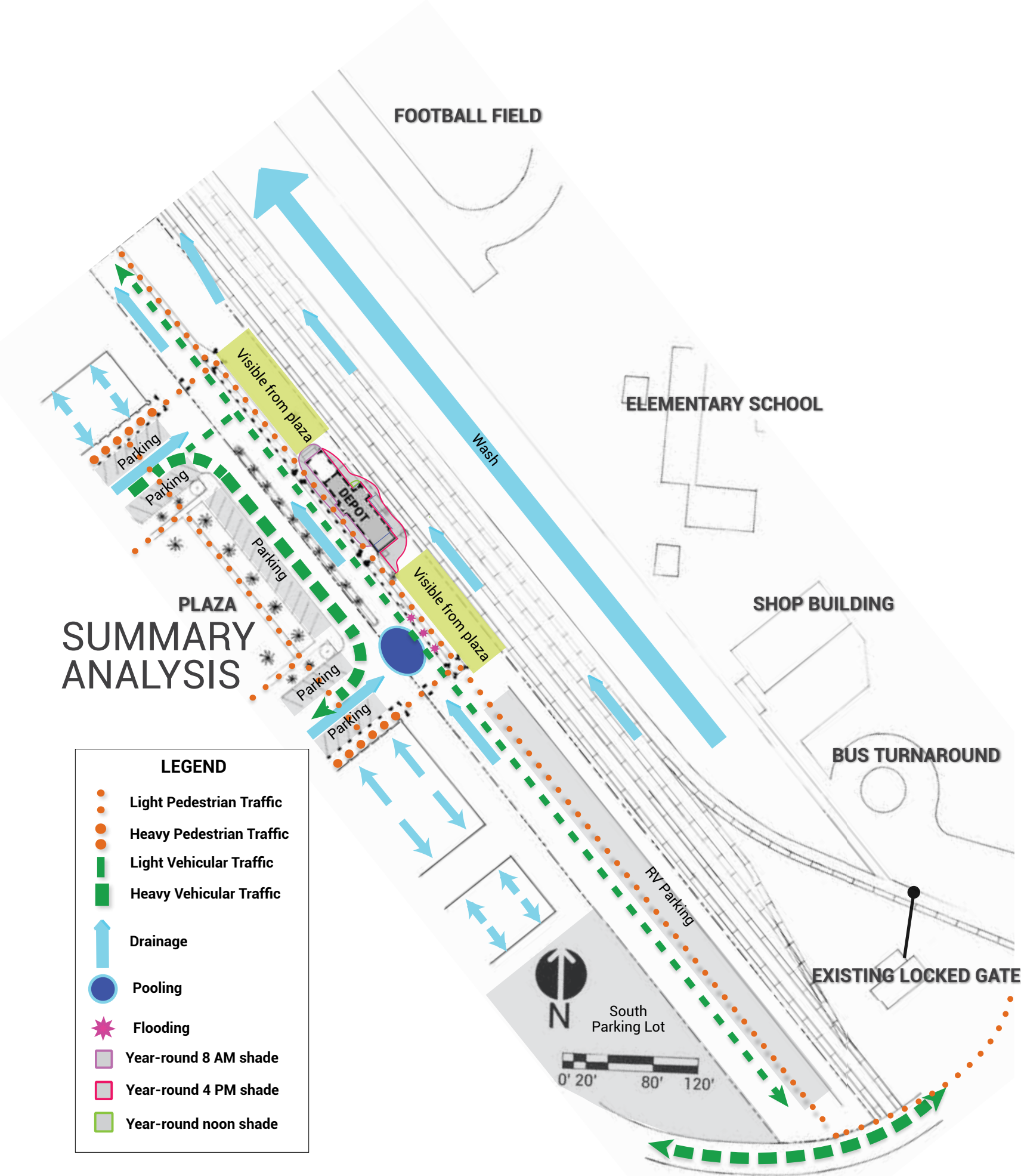
The wash running along the eastern edge of the property is separated from it by a chain link fence, which is partially screened by vegetation (3). The powerline easement that runs through the wash has been recently maintained by clearing out brush and laying down new gray gravel that is incongruous with its surroundings.

The arcades provide a visually permeable barrier that indicates the depot's separation from the plaza while maintaining a strong visual connection. Looking out through the arcades (4) gives an attractive view of the plaza and town beyond. Those views are partially blocked by oleander, which will continue to grow and may obscure the view. Additionally, some of the oleander are stressed or missing entirely, contributing to the sense of neglect around the depot.

Views into the depot area from the plaza (5) are also clear and direct. Maintaining these sightlines when creating areas for children around the depot would allow parents on the plaza to keep an eye on children in the depot area, as well as provide "eyes on the street" to discourage negative activities in the space.

The depot is also at the head of the view down the central axis through town (6), an iconic view of Ajo. Presenting this view to visitors and residents alike would provide a connection to Ajo's past and show them the important cultural legacy of the town.

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## PEOPLE & CARS

Residents of Ajo frequently visit the businesses on the plaza, but tend to drive there, park, and stay on one side of the plaza or the other, rarely crossing the plaza. The area around the depot also sees little pedestrian traffic, with people occasionally walking up to the natural area to the north. More shaded gathering areas might encourage people to utilize more of the plaza and strengthen its function as a center of community life.

Although many out-of-town cars travel along Highway 85, which goes past the plaza and the southern end of the site, they rarely stop at the plaza itself. The southern end of the depot property could be used to catch drivers' attention and attract them to the plaza.

The highway also serves as a conduit for students and staff to walk between the public school campus and the plaza area. Despite the proximity of the two properties, there is no direct path between them. Students instead walk along the busy highway to access the plaza. Creating a route connecting the two locations would provide a safer passage for both students and staff and bring Ajo's young people into the plaza.

With students potentially using the depot area more in the future, the open arcades could provide a visual connection to the plaza, helping to discourage negative activities that have troubled the plaza in the past. This visibility would also benefit families who come to relax on the plaza and wish to keep an eye on children near the depot.

## WATER

Water moves through the townsite from the west towards the plaza, and then in a generally northward direction into the washes, including the wash that borders the depot area. In the southeast corner of the plaza, water pools during rainstorms and occasionally overtops the curb and

floods into the depot area. The depot itself has five downspouts that collect water from the roof. Water then moves across the site and drains into the wash, continuing northward.

Ajo's monsoon-season rainstorms bring large volumes of water very quickly, and designs for the site could capitalize on that unpredictable supply by slowing and capturing rainwater that flows through the depot area and possibly incorporating rainwater into public art features. Ajo's rainwater itself is ephemeral, but water could be a constant presence in the park.

## SHADE

Shade around the depot is extremely limited, with only a few areas that are consistently shaded throughout the year. Existing vegetation is largely small shrubs and palm trees, neither of which are capable of shading large areas of ground. While new trees would certainly increase the amount of shade, temporary, supplementary structures may be necessary for several years until the trees mature.

The weather in Ajo is extremely hot most of the year, which discourages residents from spending time outside in the hottest months. Creating shaded public gathering spaces would allow for more chance encounters among residents and help restore the plaza's function as a true center of the community.

## MOVING FORWARD

Residents and visitors to Ajo generally stay in their cars and don't experience the historic plaza area as it was intended. The area around the depot could help to bring back the plaza's purpose as a hub of community activity by connecting to its surroundings and providing safe, comfortable gathering spaces. Getting people out of their cars and into the landscape is critical to the success of Ajo's plaza.

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# SONORAN WALK

In this alternative, hardy native plants and local materials keep costs and maintenance low. Forms mimic the natural ecosystem and educate visitors about the Sonoran Desert.

## 1. SHADE RAMADAS

Gathering spaces near the new patio area by the Chamber of Commerce are shaded by Tohono O'odham style wattos, ramadas made of locally harvested wood. The wattos will provide shade for visitors to the Chamber of Commerce while the trees on the site establish themselves and could be moved or removed entirely as desired.

## 2. RAIN GARDEN

A sunken rain garden is created to slow and infiltrate runoff in the area with occasional flooding. Although stormwater typically runs across the sun-baked soil, the depression holds it in one place long enough to soften the soil and allow deep infiltration, providing plants with a water source that will not evaporate as quickly.

## 3. PLAY AREA

More ramadas shade a sand pit with boulders for self-directed climbing, playing, and gathering by people of all ages. The boulders are locally sourced, possibly from the rock piles surrounding the mine. The play area is clearly visible from the plaza to enhance safety for children.

## 4. BRAIDED PATHS

Pathways wind through the park, dividing and merging in the same manner as the

washes that run throughout the Sonoran Desert. This reflects the surrounding landscape and offers an opportunity for ecological education throughout the park as the paths wind through native Sonoran plants.

## 5. PATH TO SCHOOL

A shaded gathering area creates a gateway to and from the school, while plants delineate a path across the train tracks. The pathway would lead to the currently locked gate that exists in the chainlink fence near the bus turnaround.

## 6. PICNIC AREA

Shaded picnic tables provide a space for visitors on road trips to stop and take a break, as well as for residents to get food from shops in the plaza and enjoy it in a natural setting. It also serves as a place for young people to comfortably sit and hang out.

## 7. HIGHWAY SIGN

A new sign announces the plaza's offerings to passersby, and a long, shaded path connects the south parking lot to the plaza area. The path provides a comfortable walk for visitors who park in the south parking lot, and also presents beautiful plants and trees as a welcome respite from their long drive.

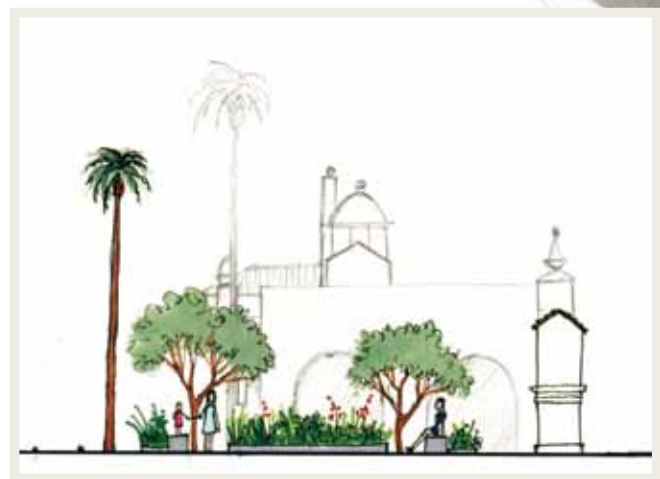


Ramadas provide shade for gathering near the Chamber of Commerce in the depot.

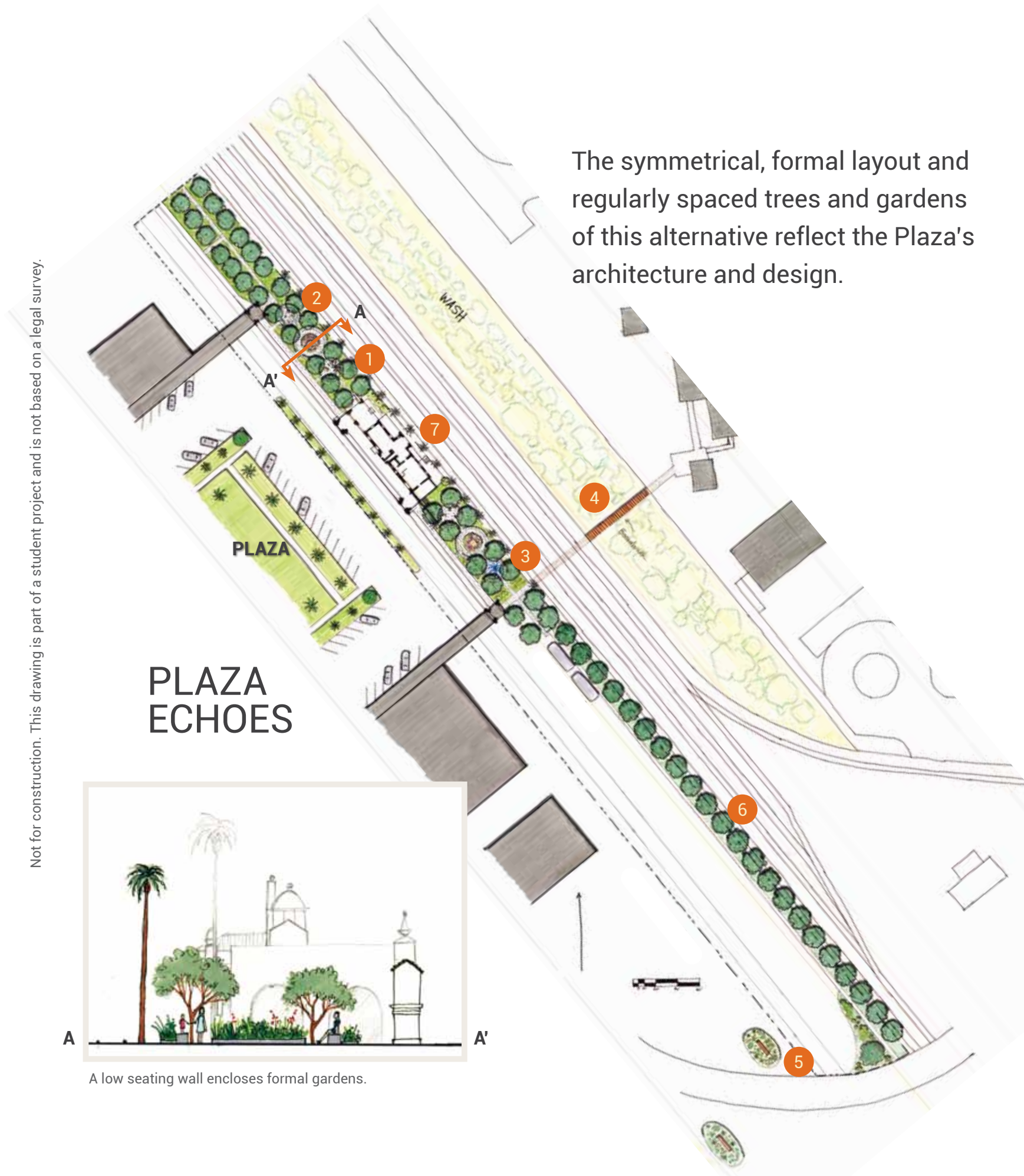
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# PLAZA ECHOES

The symmetrical, formal layout and regularly spaced trees and gardens of this alternative reflect the Plaza's architecture and design.



A low seating wall encloses formal gardens.



## 1. GATHERING AREA

The gathering area near the Chamber of Commerce is shaded by trees and encircled by low seating walls. Cafe tables offer a place to eat snacks or enjoy food from restaurants in the plaza in a shaded, natural environment rather than the concrete sidewalk under the plaza arcades. The gathering area creates a welcoming landscape to visitors to Ajo.

## 2. PLAY AREA

The play area is similarly shaded and circled by seating walls in order to give children a comfortable play space and parents a cool place to sit and watch. The whole area is visible from the plaza to allow parents to keep an eye on their children from a distance.

## 3. FOUNTAIN

A splash-pad water feature balances the play area on the other side of the depot and provides a cooling, fun experience, while avoiding pools of water that would quickly evaporate in the desert air. Jets of water could be activated by movement in the space or programmed for periodic displays. It is visible through the arcades for the enjoyment of those on the plaza, as well as for easy supervision by parents.

## 4. FOOTBRIDGE

A new footbridge connects to the school directly across the train tracks and wash, providing an easy, safe route of about fifty yards to and from school. An on-campus area creates a defined entrance and exit to the school.

## 5. HIGHWAY GARDEN

Eye-catching gardens along the highway create a gateway into the south parking lot and draw passersby. In addition to beautiful desert plants, the gardens could be used to showcase local artists' sculpture and other artwork.

## 6. FRUIT TREES

The park is filled with regularly spaced shade trees, some of which provide an opportunity for food production in areas of the park. A drip irrigation system waters citrus, nut, or pomegranate trees, which are integrated into the educational program of the schools or the Chamber of Commerce.

## 7. PALM TREES

New palm trees are planted along the length of the depot and arcades, framing the space and integrating it with the plaza. As the palm trees grow taller, they will become visible to cars approaching the plaza, creating a visual landmark for drivers on Highway 85.

Not for construction. This drawing is part of a student project and is not based on a legal survey.



In this alternative, the park is a lively, bustling space full of activities, including a solar-powered farmer's market, to draw residents and visitors into the area.

### 1. PLAY AREA

A large play area is covered by a shade sail to create a comfortable place for children and families. Play structures use natural materials and are designed to fit in with the overall landscape. The area is surrounded by a low seating wall, but the visual connection to the plaza is maintained. The play area's location also separates small children from the busy market area.

### 2. SCULPTURE AREA

A sculpture garden provides a fixed venue for local artists to display their work. It makes use of a difficult corner with limited visibility from the plaza and a large air conditioning unit, turning the dead space into an attractive feature. The condensate from the air conditioning unit could be used to water plants or as part of a sculpture.

### 3. MOSAIC WALLS

The area around the depot building is enclosed by mosaic walls, providing a canvas for public art as well as shielding views to the defunct railroad tracks. The walls are decorated by the students from the public schools across the wash, giving them a sense of ownership and respect for the space.

### 4. PLATFORMS

Moveable platforms on the tracks create a space to sit and gather. They are especially targeted towards preteens and teenagers from the schools, who mostly need a place to hang out and engage in a casual, mindless activity. The platforms also provide a dynamic experience that would change with each visit to the park.

### 5. MARKET STALLS

Permanent farmer's market stalls create an attraction for both residents coming

from the plaza and visitors coming from the highway and south parking lot. They make use of the narrow space between the train tracks and the curb and bridge the plaza area and the southern parking lot. Solar panels mounted on top of the stalls would create energy to power the stalls themselves and other buildings on the plaza.

### 6. GAME COURTS

A bocce court and horseshoe pitch provide space for group activities that all ages can enjoy. Equipment is managed by the Chamber of Commerce and is available to check out. The game courts help attract visitors into the park from the south parking lot and RV parking located nearby.

### 7. HIGHWAY SIGNS

New highway signs and gardens on both sides of the highway create a gateway experience and attract drivers to the plaza area. This is important for visitors from the south, for whom this area is one of their first sights in Ajo. It is also a chance to catch visitors who have driven past the plaza from the north and were not inspired to turn in.

### 8. NEW TREES

A row of new trees along the northeast corner of the plaza buildings and south parking lot add shade to the area and delineate the space around the depot. This creates a comfortable walking loop connecting the depot area, the highway, the south parking lot, and the plaza.

### 9. PATH TO SCHOOL

The connection to the school is shaded by trees and ramadas, which both delineate the path and offer comfortable spots to stop and rest.



A large shade sail provides a comfortable microclimate for the play area.

Not for construction. This drawing is part of a student project and is not based on a legal survey.



## SONORAN WALK

### BENEFITS

Design draws from cultural and ecological history of Ajo with O'odham wattos and native plants.

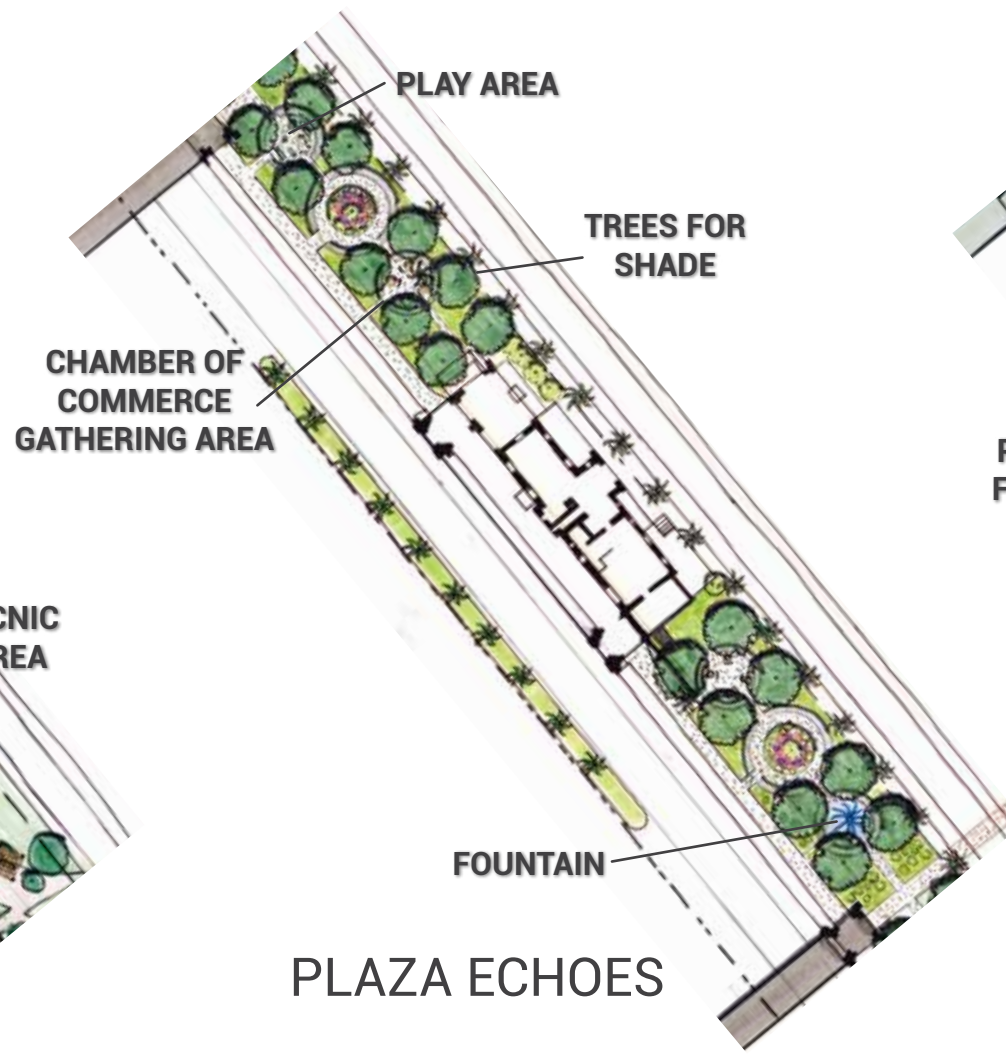
A variety of gathering spaces welcome a wide array of people.

Native plants and local materials keep construction and maintenance costs low.

### DRAWBACKS

Informal sonoran landscape contrasts with the symmetrical design of the plaza park.

Residents and visitors may not find the park as exciting or special as a more exotic or formal landscape.



## PLAZA ECHOES

### BENEFITS

Fits with the architectural style and formal, symmetrical design of the plaza.

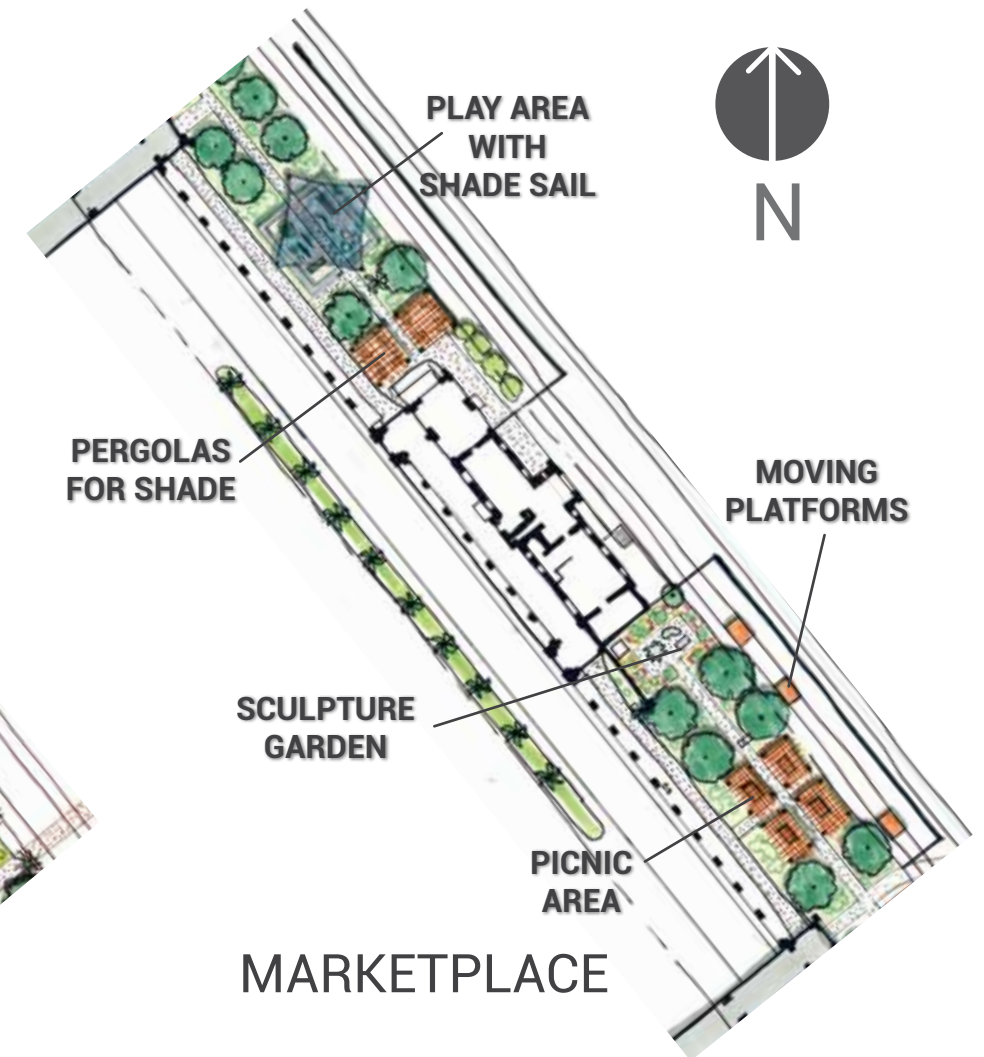
Provides a consistent view through the arcades when viewed from the plaza park.

### DRAWBACKS

Construction of the hardscape could be costly.

The footbridge to the school relies on the use of Freeport-McMoRan's property.

All trees must be planted at one time instead of in phases because different stages of growth would weaken the formal arrangement. Similarly, the feel of the design would be greatly altered if the trees sickened and died in the future as a new tree would not match the existing.



## MARKETPLACE

### BENEFITS

Provides activities for all ages of residents and visitors, with recreational spaces geared towards specific age groups as well as intergenerational activities.

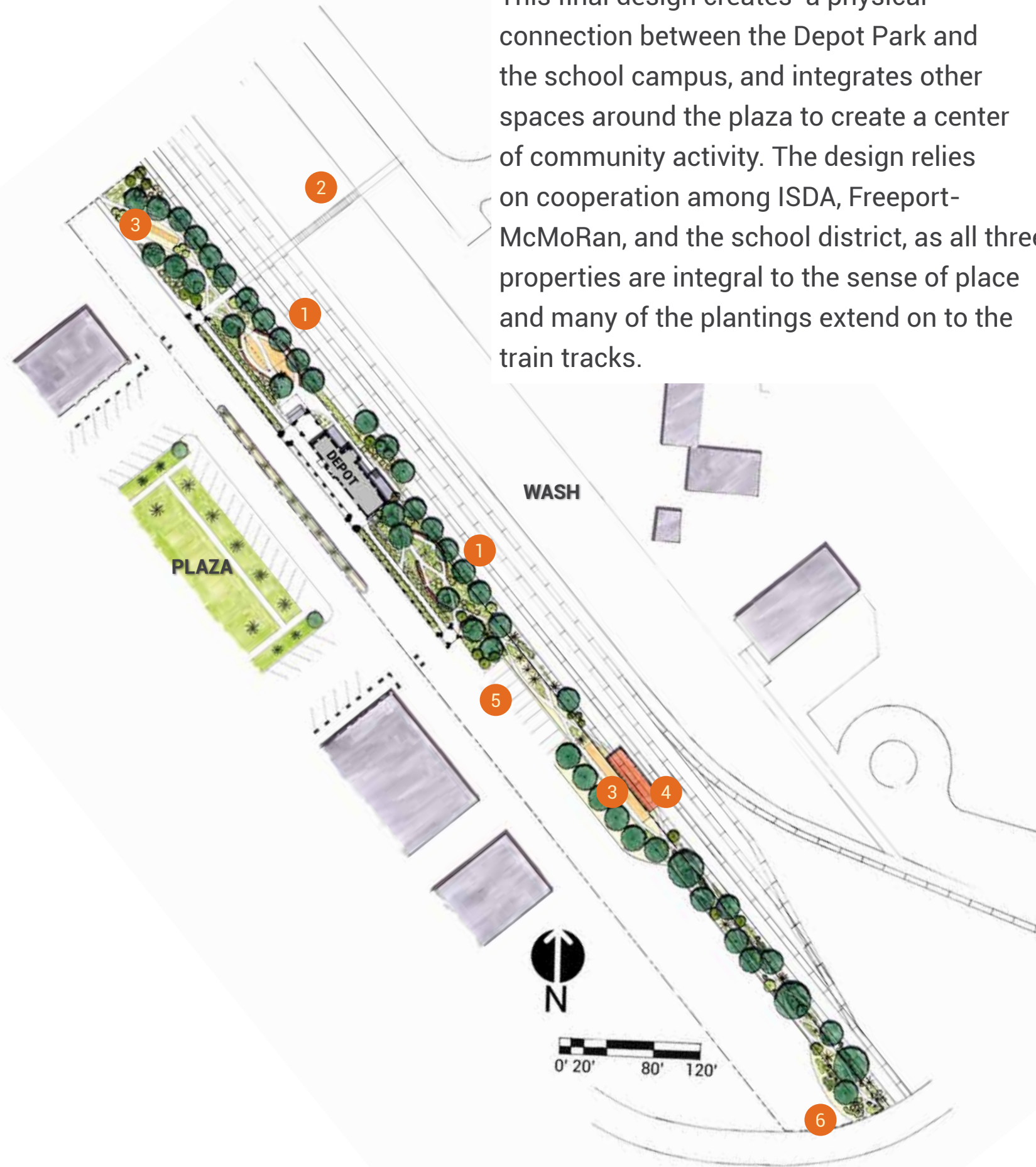
Creates a strong draw for passersby on Highway 85 with farmer's market and recreation opportunities.

### DRAWBACKS

Diversity of spaces could lack cohesion on the ground.

The variety of built structures could make the view through the arcades from the plaza park busy and may conflict with the plaza experience.

Relies on Freeport-McMoRan's property for integral parts of the design.



This final design creates a physical connection between the Depot Park and the school campus, and integrates other spaces around the plaza to create a center of community activity. The design relies on cooperation among ISDA, Freeport-McMoRan, and the school district, as all three properties are integral to the sense of place and many of the plantings extend on to the train tracks.



Trees provide shade and enclose the park, creating a comfortable refuge in the desert.

## 1. FORMAL TREES

Through the arcades of the plaza, a row of regularly spaced trees harmonizes with the plantings of the plaza. Not only does it continue the formal theme into the depot area, it delineates the space and creates a more attractive backdrop than the overgrown chain link fence. If Freeport-McMoRan had to once again run trains on the tracks near the depot, these trees would have to be removed and the space would lose its definition.

## 2. FOOTBRIDGE

The new footbridge connects directly to the football field for the public schools. This creates a loop of activity, incorporating the existing footbridge across the wash to the north, the natural mesquite area north of the school campus, the school's track, and the new footbridge and Depot Park.

## 3. GAME COURTS

A bocce court and horseshoe pitch provide activities that all ages can enjoy. Equipment is managed by the Chamber of Commerce and is available to check out. The bocce court helps attract visitors from the south parking lot and RV parking

located nearby, while the horseshoe pitch draws circulation to the north of the depot.

## 4. BOCCE DECK

A new deck hugs the bocce court, creating an amphitheater-like feel. The path transitions into the deck with long ramps, making it universally accessible. The side facing the bocce court steps down to create space to sit and watch the game. An arbor over the top is planted with vines to create more shade.

## 5. NEW PARKING

New parking spots are designated for Chamber of Commerce staff, volunteers, and visitors. While there is currently sufficient parking on the plaza, the Chamber of Commerce is interested in reserved spaces for the future when the plaza is at full capacity and has much more vehicle traffic.

## 6. HIGHWAY GARDEN

Eye-catching gardens along the highway create a gateway into the south parking lot and draw passersby. In addition to beautiful desert plants, the gardens could be used to showcase local artists' sculpture and other artwork.



A finer-scale view of the design shows details of the gathering areas and gardens around the depot.



Shade is created with a combination of built structures and vegetation, including vine-covered pergolas, shade sails, and trees.

### 1. PERGOLAS

Metal and wood pergolas provide shade along the arcades and on either side of the depot building. The metal frame's strength allows for a visually lightweight design. The pergolas provide immediate protection from the sun while vines planted along the structures will grow up and provide further coverage. An architect or engineer would need to be consulted about the design and construction of the pergolas.

### 2. SEATING WALLS

Low seating walls delineate paths and provide opportunities for people to gather. While curved to match the sinuous paths, from the plaza they appear as low, symmetrical bands, consistent with the formal arrangement of the plaza. The walls are broken into irregular lengths to allow vegetation to fill in among them and create a sense of enclosure.

### 3. PLAY AREA

A children's play area is visible from the plaza through the arcades so parents can supervise their children from a distance. It is shaded by a shade structure until surrounding trees grow enough to create a comfortable microclimate. The play area contains structures designed for open, imaginative play and that fit with the overall design of the landscape.

### 4. RAIN GARDENS

Sunken rain gardens slow and infiltrate runoff in the area of occasional flooding. Although stormwater typically runs across the sun-baked soil, the depression holds it in one place long enough to soften the soil and allow infiltration. Plants within the gardens can handle both prolonged drought and temporary inundation.



Not for construction. This drawing is part of a student project and is not based on a legal survey.



The park is designed to have integrity wholly within ISDA's property lines without necessarily including plantings along the railroad tracks, in the event that Freeport-McMoRan cannot allow building or planting on their property.



Shaded gardens to the south of the depot are comfortable gathering spaces for Ajo's visitors and residents.



The new play area north of the depot is visible through the arcades and integrates the trees into the play space.

The Self-Contained Design incorporates many of the same design elements as the Cooperative Design. Some key differences are in the formal rows of trees, the area around the bocce court, and the path to the school.

### 1. FORMAL TREES

Through the arcades of the plaza, a row of regularly spaced trees harmonize with the plantings of the plaza. They are integrated into the area contained by the benches and paths, but create a backdrop for the park when viewed from the plaza. An additional row of trees could be planted within the train tracks and behind the depot if permission is obtained in the future to further enclose the space.

### 2. SCHOOL GATEWAY

Rather than a path across Freeport-McMoRan's property, a vegetated gathering area creates a gateway to and from the existing gate on the school campus. With the opening of the gate, students can walk directly to the plaza, rather than walking along the highway.

### 3. GAME COURTS

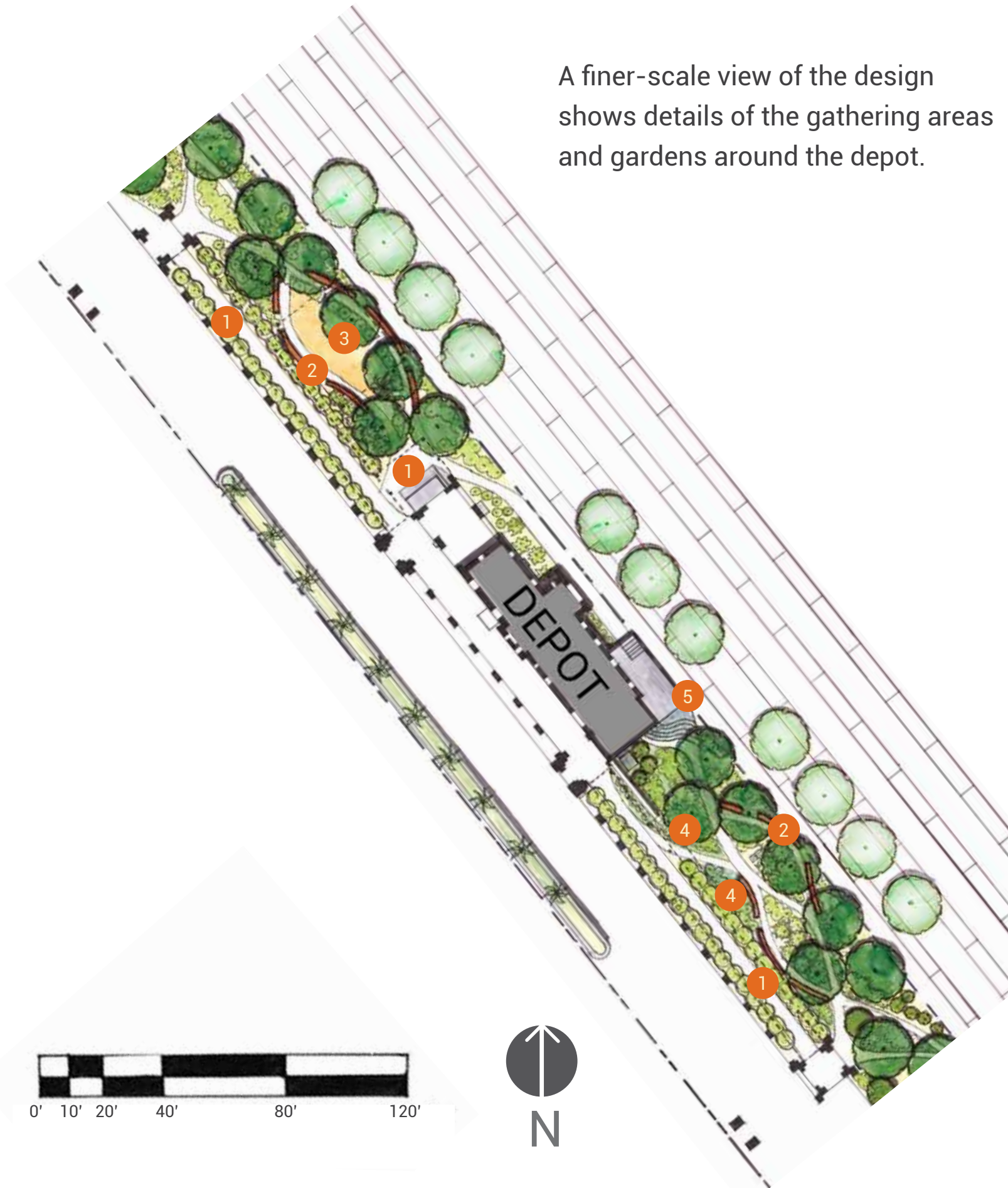
A bocce court and horseshoe pitch provide activities that all ages can enjoy. Equipment is managed by the Chamber of Commerce and is available to check out. The bocce court helps attract visitors from the south parking lot and RV parking located nearby, while the horseshoe pitch draws circulation to the north of the depot. A regulation-sized bocce court fits within the property boundaries, and a deck could be built alongside it if permission is obtained in the future.

### 4. HIGHWAY GARDEN

Eye-catching gardens along the highway create a gateway into the south parking lot and draw passersby. In addition to beautiful desert plants, the gardens could be used to showcase local artists' sculpture and other artwork.

### 5. NEW PARKING

New parking spots are designated for Chamber of Commerce staff, volunteers, and visitors. While there is currently sufficient parking on the plaza, the Chamber of Commerce is interested in reserved spaces for the future when the plaza is at full capacity and has much more vehicle traffic.



A finer-scale view of the design shows details of the gathering areas and gardens around the depot.



The arcades are lined with new pergolas to provide shade. Vines planted along them will grow and cover the top, providing denser shade.

The Self-Contained Design incorporates many of the same design elements as the Cooperative Design. Some key differences are in the play area and the treatment of the loading dock.

### 1. PERGOLAS

Metal and wood pergolas provide shade along the arcades and on either side of the depot building. The metal frame's strength allows for a visually lightweight design. The pergolas provide immediate protection from the sun while vines planted along the structures will grow up and provide further coverage. An architect or engineer would need to be consulted about the design and construction of the pergolas.

### 2. SEATING WALLS

Low seating walls delineate paths and provide opportunities for people to gather. While curved to match the sinuous paths, from the plaza they appear as low, symmetrical bands, consistent with the formal arrangement of the plaza.

### 3. PLAY AREA

A children's play area is visible from the plaza through the arcades so parents can

supervise their children from a distance. It is shaded by a shade structure until the trees within and surrounding the area grow enough to create a comfortable microclimate. The play area contains structures designed for open, imaginative play, rather than offering a prescriptive experience. Rather than delineating the space, the back row of trees form an integral part of the play area.

### 4. RAIN GARDEN

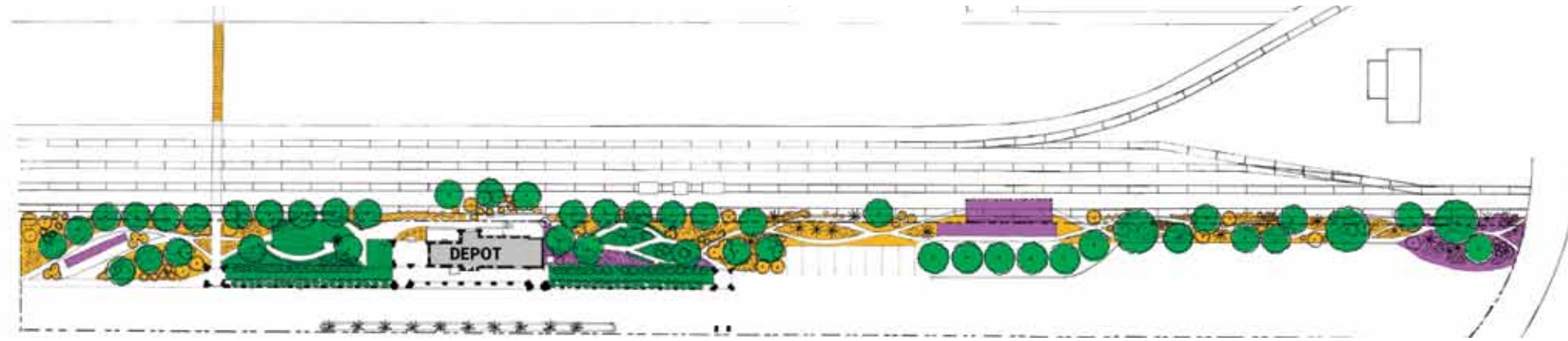
A sunken rain garden slows and infiltrates runoff in the area of occasional flooding. Although stormwater typically runs across the sun-baked soil, the depression holds it in one place long enough to soften the soil and allow infiltration. Plants within the garden can handle both prolonged drought and temporary inundation.

### 5. LOADING DOCK

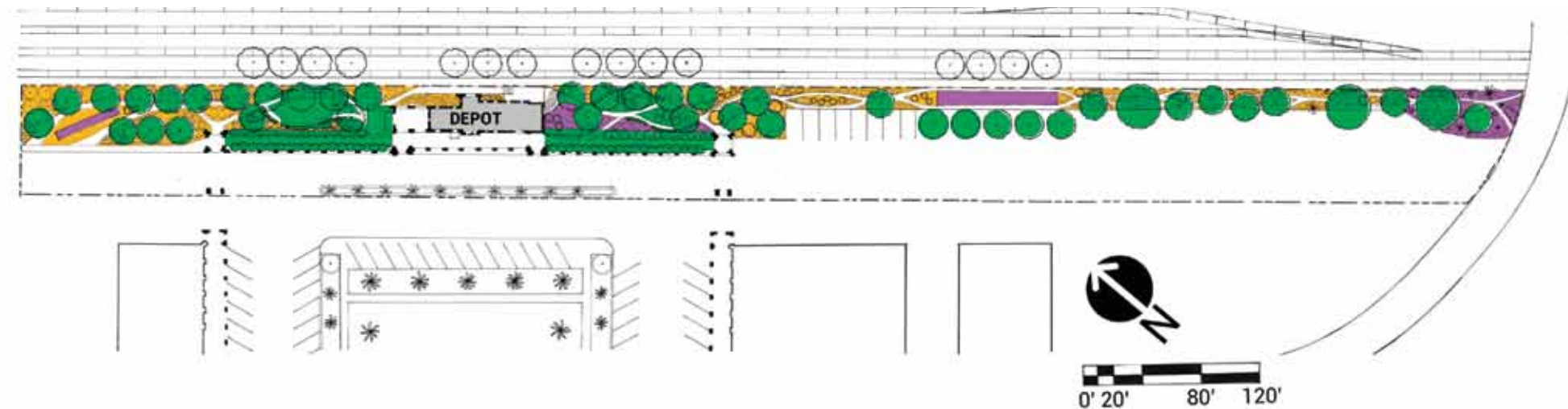
To create a path behind the depot, stairs are constructed on the south side of the loading dock. The concrete pads behind the depot are removed and planted.

Not for construction. This drawing is part of a student project and is not based on a legal survey.

## COOPERATIVE FINAL DESIGN



## SELF-CONTAINED FINAL DESIGN



**Legend**

- Phase One
- Phase Two
- Phase Three

Phasing the designs is a practical solution for ISDA to build the park with limited funds. In both designs, phasing can be very similar.

### PHASE ONE

The priority for the park is creating spaces that bring Ajo's residents together and help rebuild a strong sense of community in the town. A welcoming gathering area adjacent to the depot for the Chamber of Commerce invites everyone to come and enjoy the park, as well as presenting visitors with a beautiful first impression of Ajo. The gardens on the other side of the depot are also part of the first phase, in order to create the symmetry that will echo that of the plaza. Shade structures are built to make the space comfortable, and trees are planted so that they will provide shade for future phases.

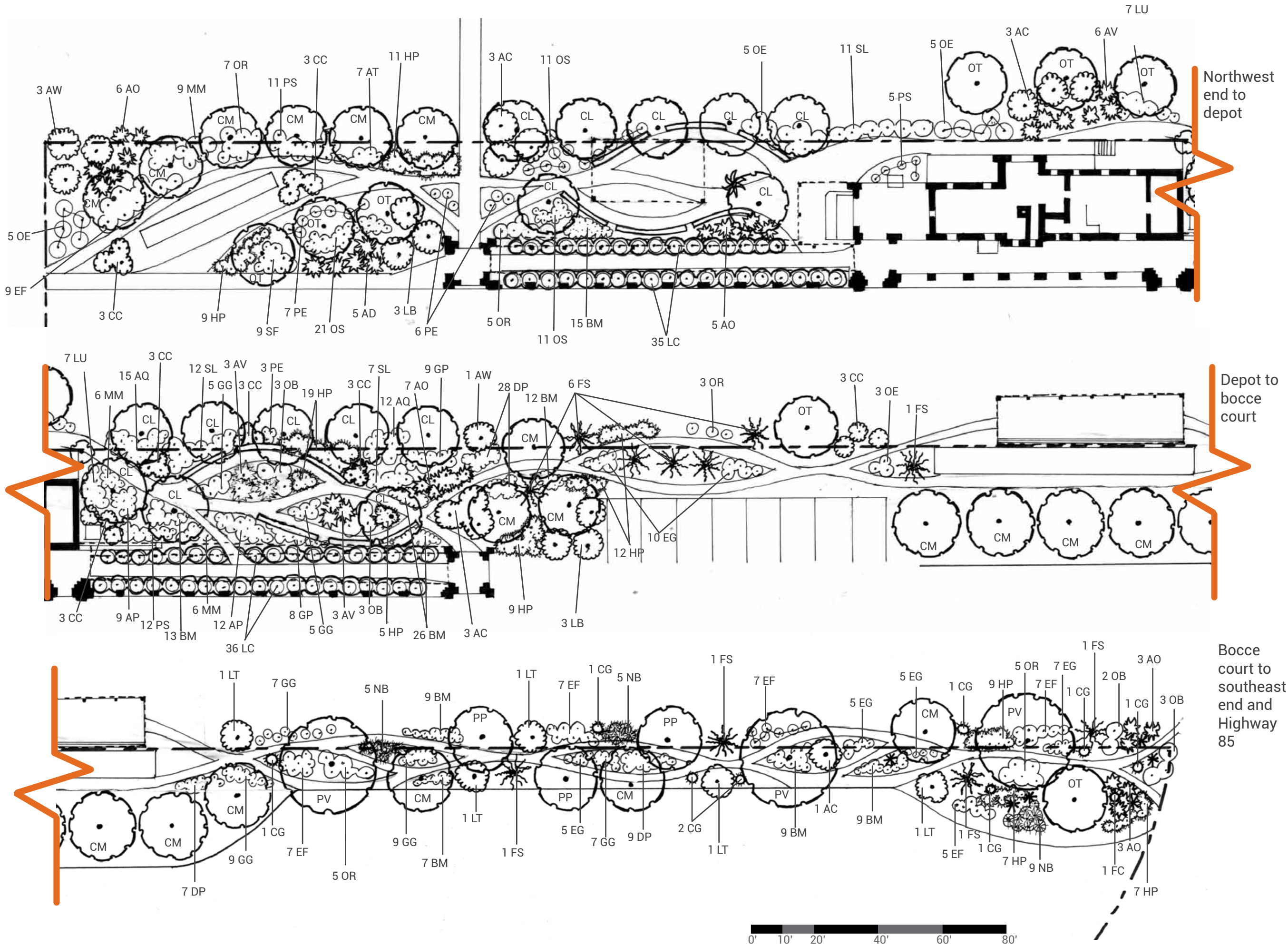
### PHASE TWO

The second phase of construction brings in activities and feature gardens, making use of the entire depot property. The horseshoe and bocce pits are built to create new recreational options in center of the historic townsite. The rain garden brings ecological management into the area, while the highway garden attracts drivers passing through town.

### PHASE THREE

The final phase fills in plantings across the park and creates a strong connection among all of the spaces. A potential footbridge to the school's football field closes a loop started with the footbridge and natural area north of the depot property. The park is a lush, inviting space where residents come to have fun and enjoy the company of their neighbors; visitors are shown what a vibrant community Ajo really is.

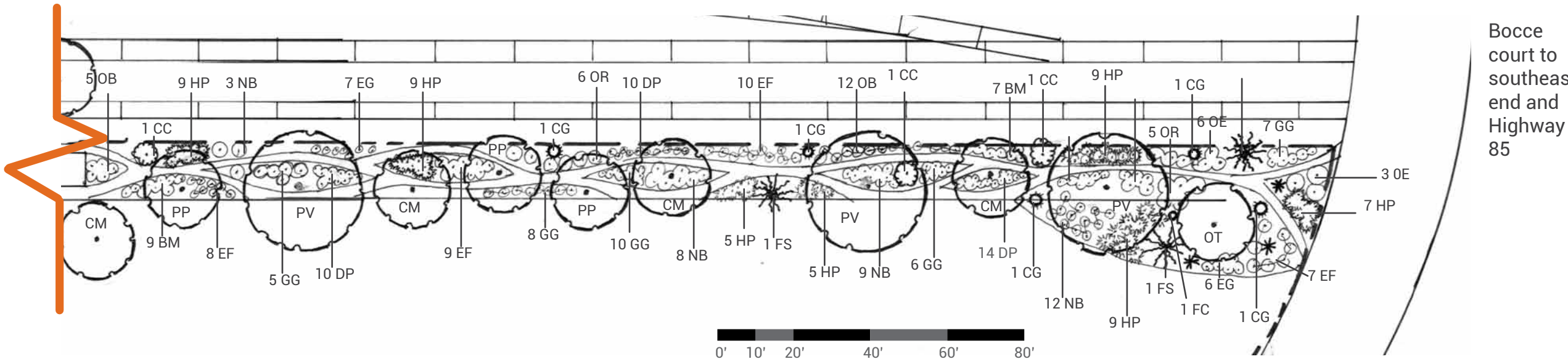
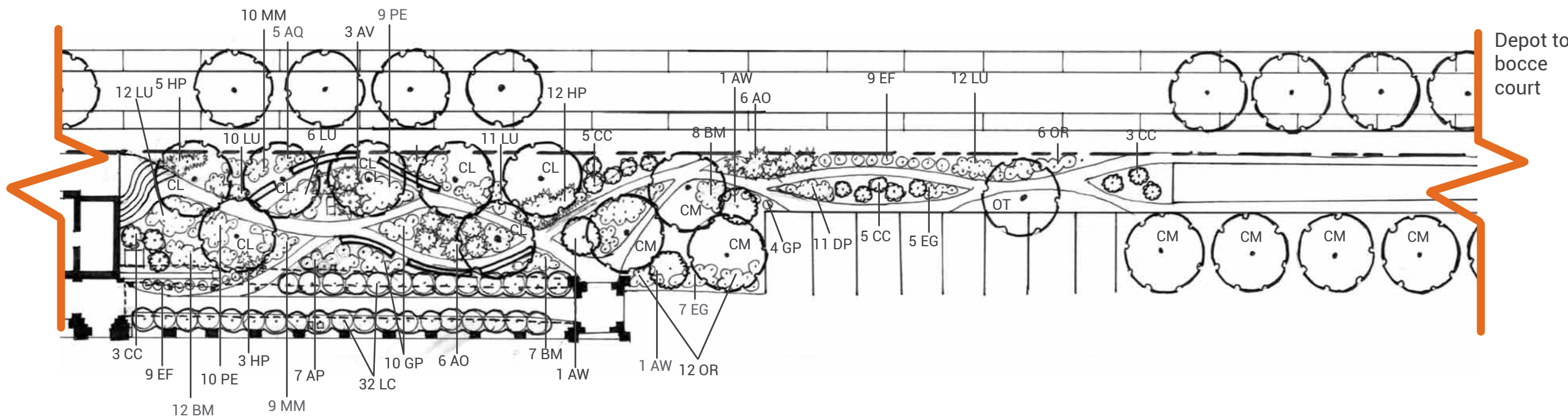
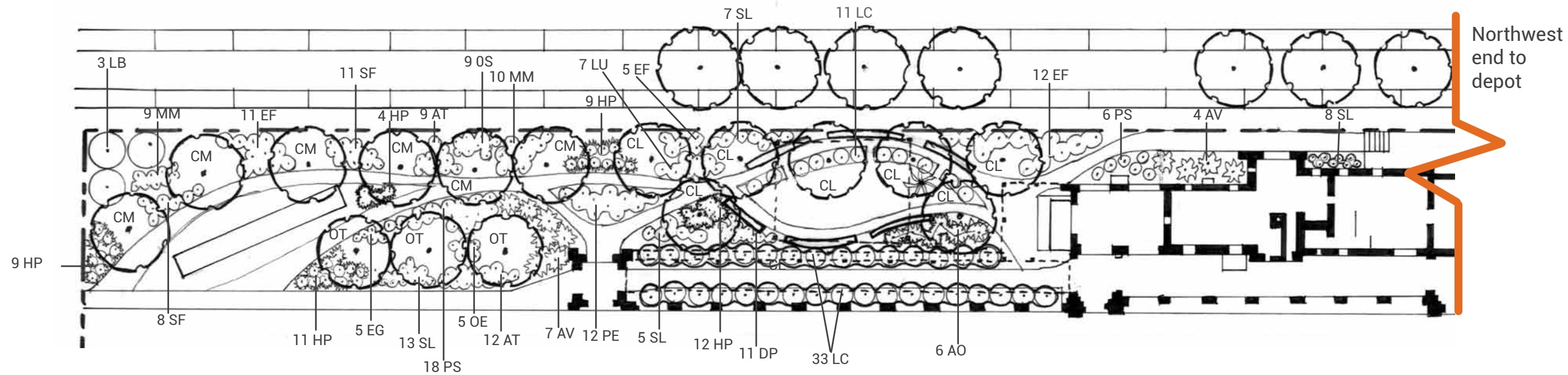
Not for construction. This drawing is part of a student project and is not based on a legal survey.



# COOPERATIVE PLANTING PLAN

DEPOT PARK | AJO, ARIZONA | SPRING 2012  
Prepared for the International Sonoran Desert Alliance  
Seana Cullinan & Katrina Manis | The Conway School

Not for construction. This drawing is part of a student project and is not based on a legal survey.



**SELF-CONTAINED PLANTING PLAN**  
**DEPOT PARK | AJO, ARIZONA | SPRING 2012**  
Prepared for the International Sonoran Desert Alliance  
Seana Cullinan & Katrina Manis | The Conway School  
**20/24**

Not for construction. This drawing is part of a student project and is not based on a legal survey.

Planting Code	Botanical Name	Common name	Plant Type				Growth				Notes	Water Usage When Established			Range		Special Use/Restrictions				Number in Cooperative plan	Price per plant	Total Price	Number in Self-Contained plan	Price per plant	Total Price
			Succulent	Evergreen	Semi-Evergreen	Deciduous	Perennial	Height	Spread	Bloom Color		Bloom Season	None	Minimal	Moderate	Sonoran Desert	SW/US/NW/MX	Rain Garden	Wildlife Plant	Butterfly						
Cactus and Agave	AD	<i>Agave deserti</i>	X				1'-2'	2'-3'	Yellow	End of life cycle	Dies after flowering	X			X						5	15.00	75.00	0	15.00	0.00
	AO	<i>Agave ovatifolia</i>	X				3'-5'	4'-6'	Greenish yellow	End of life cycle	Dies after flowering	X			X						19	24.00	456.00	18	24.00	432.00
	APT	<i>Agave parryi var. truncata</i>	X				2'-3'	2'-3'	Yellow	End of life cycle	Dies after flowering	X			X				X		5	24.00	120.00	0	24.00	0.00
	AV	<i>Agave vilmoriniana</i>	X				4'	6'	Yellow	End of life cycle	Dies after flowering	X			X						12	30.00	360.00	14	30.00	420.00
	CG	<i>Carnegiea gigantea</i>	X				40'-60'	1'-5'	White	Late spring	Slow-growing	X			X						8	55.00	440.00	5	55.00	275.00
	EG	<i>Echinocactus grusonii</i>	X				1'-3'	1'-3'	Yellow	Summer	Critically endangered in wild	X			X						32	35.00	1120.00	18	35.00	630.00
	HP	<i>Hesperaloe parviflora</i>	X				4'	2'-3'	Red, yellow	Spring-summer			X		X			X			81	3.00	243.00	127	3.00	381.00
	OB	<i>Opuntia basilaris</i>	X				2'	6'	Red to purple	Spring		X			X			X			11	12.00	132.00	17	12.00	204.00
	OE	<i>Opuntia engelmannii</i>	X				5'	5'	Yellow to red	Spring		X			X			X			15	12.00	180.00	14	12.00	168.00
	OR	<i>Opuntia santa-rita</i>	X				4'	5'	Yellow to red	Spring	Purple pads when stressed	X			X			X			25	12.00	300.00	29	12.00	348.00
Trees and Shrubs	AC	<i>Acacia constricta</i>		X			10'	10'	Yellow	Late spring, late summer	Leaves drop when stressed		X		X				X		10	2.50	25.00	0	2.50	0.00
	AW	<i>Acacia willardii</i>		X			20'	10'	Creamy white	Spring	Peeling white bark	X			X			X	X		7	40.00	280.00	3	40.00	120.00
	CC	<i>Calliandra californica</i>		X			5'	5'	Red to pink	Early summer			X		X			X	X	X	18	10.00	180.00	19	10.00	190.00
	CM	<i>Cercidium microphyllum</i>			X		25'	25'	Yellow	Late spring	Slow-growing, green bark	X			X						18	50.00	900.00	17	50.00	850.00
	CL	<i>Chilopsis linearis</i>			X		15'-25'	15'-25'	Purple	Spring, fall		X			X			X	X		17	35.00	595.00	13	35.00	455.00
	FC	<i>Fouquieria columnaris</i>			X		60'	2'	Creamy yellow	Summer-fall	Honey-scented flowers	X			X			X			1	25.00	25.00	1	25.00	25.00
	FS	<i>Fouquieria splendens</i>			X		10'-12'	8'-10'	Red to orange	Spring	Leafs out after rainfall	X			X			X	X		10	20.00	200.00	2	20.00	40.00
	LT	<i>Larrea tridentata</i>			X		4'-8'	4'-8'	Yellow	Spring-summer		X			X						5	15.00	75.00	0	15.00	0.00
	LB	<i>Lyceum berlandieri</i>		X			2'-8'	5'-10'	Blue, purple, white	Spring-fall		X			X			X	X	X	6	25.00	150.00	3	25.00	75.00
	OT	<i>Olneya tesota</i>	X				20'-30'	20'-30'	Purple-pink and white	Spring		X			X						8	40.00	320.00	5	40.00	200.00
	PP	<i>Prosopis pubescens</i>		X			20'	20'	Creamy yellow	Late spring-summer		X			X				X		3	40.00	120.00	2	40.00	80.00
	PV	<i>Prosopis velutina</i>			X		20'	30'	Greenish yellow	Spring, late summer	Has spines	X			X			X	X	X	3	35.00	105.00	3	35.00	105.00
Perennials, Subshrubs, Pollinators	AQ	<i>Aquilegia chrysantha</i>		X		X	1'-3'		Yellow	Spring-late summer	Shade/part shade		X		X			X			27	3.00	81.00	5	3.00	15.00
	AP	<i>Aristida purpurea</i>			X	X	2'	2'			Native grass; can spread	X			X	X					21	2.75	57.75	7	2.75	19.25
	AT	<i>Asclepias tuberosa</i>		X			1'-2'		Orange	Late spring-summer			X		X			X	X		7	5.00	35.00	21	5.00	105.00
	BM	<i>Baileya multiradiata</i>			X	X	1'-2'	1'-2'	Yellow	Spring-fall	Short-lived	X			X	X		X			100	2.75	275.00	43	2.75	118.25
	CA	<i>Callaenum macropterum</i>	X				2'	20'	Yellow	Spring-summer	Fast-growing vine		X		X			X			23	12.00	276.00	23	12.00	276.00
	DP	<i>Dyssodia pentachaeta</i>	X				1'	1'	Yellow	Spring-summer	Short-lived		X		X			X			26	2.25	58.50	56	2.25	126.00
	EF	<i>Encelia farinosa</i>		X		X	1'-3'	1'-3'	Yellow	Spring		X			X						35	2.25	78.75	80	2.25	180.00
	GP	<i>Gaillardia pinnatifida</i>			X	X	2'		Yellow and red	Spring			X		X	X			X		17	5.00	85.00	19	5.00	95.00
	GG	<i>Glandularia gooddingii</i>	X		X		2'	3'	Purple	Spring	short-lived, flowering depends on moisture		X		X						42	2.75	115.50	31	2.75	85.25
	LC	<i>Leucophyllum candidum</i>	X		X	X	2'-4'	2'-4'	Purple	In response to rainfall		X			X						71	5.00	355.00	76	5.00	380.00
	LU	<i>Lantana urticoides</i>		X			1'-3'		Orange to red	Late spring-early fall	Good groundcover		X		X	X		X	X		14	5.00	70.00	58	5.00	290.00
	MM	<i>Mirabilis multiflora</i>	X		X		3'	3'	Purple	Spring-early fall	Partial shade, good groundcover	X			X			X	X		21	5.00	105.00	38	5.00	190.00
	NB	<i>Nolina bigelovii</i>	X		X		6'-12'	2'-4'	Green	Summer	Grass-like	X			X						19	5.00	95.00	32	5.00	160.00
	OS	<i>Oenothera speciosa</i>		X		X	1'-2'		Pink to purple and yellow	Late winter-summer	Good groundcover		X		X						43	2.25	96.75	9	2.25	20.25
	PE	<i>Penstemon eatonii</i>		X		X	2'-3'	3'-4'	Red	Late spring-summer	Partial shade		X		X	X		X	X		16	2.75	44.00	22	2.75	60.50
	PS	<i>Penstemon superbus</i>			X	X	4'-6'	1'-2'	Pink	Spring			X		X			X	X		28	2.75	77.00	24	2.75	66.00
	SF	<i>Salvia farinacia</i>			X	X	1'-3'	1'-2'	Purple to blue	Spring-fall	Dies to the ground in winter		X		X			X			7	2.75	19.25	26	2.75	71.50
	SL	<i>Salvia leucantha</i>	X		X		3'	3'	Purple, white	Late summer-early fall	Part shade		X		X			X	X		30	2.75	82.50	26	2.75	71.50

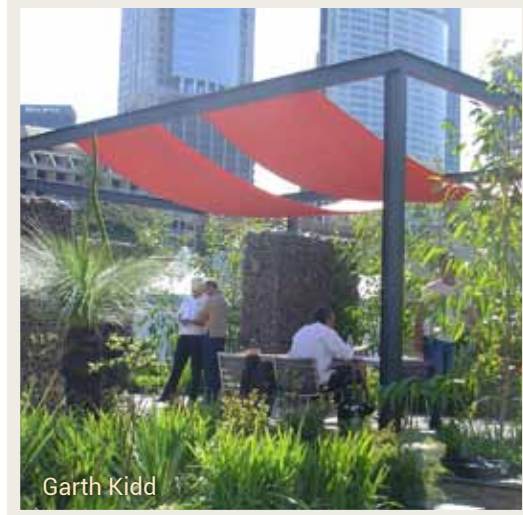
Prices in black from Mountain States Wholesale Nursery. Prices in red are retail estimates for plants MSWN does not carry. Total plant cost: 8408.00 Total plant cost: 7327.50



## SHADE SAILS

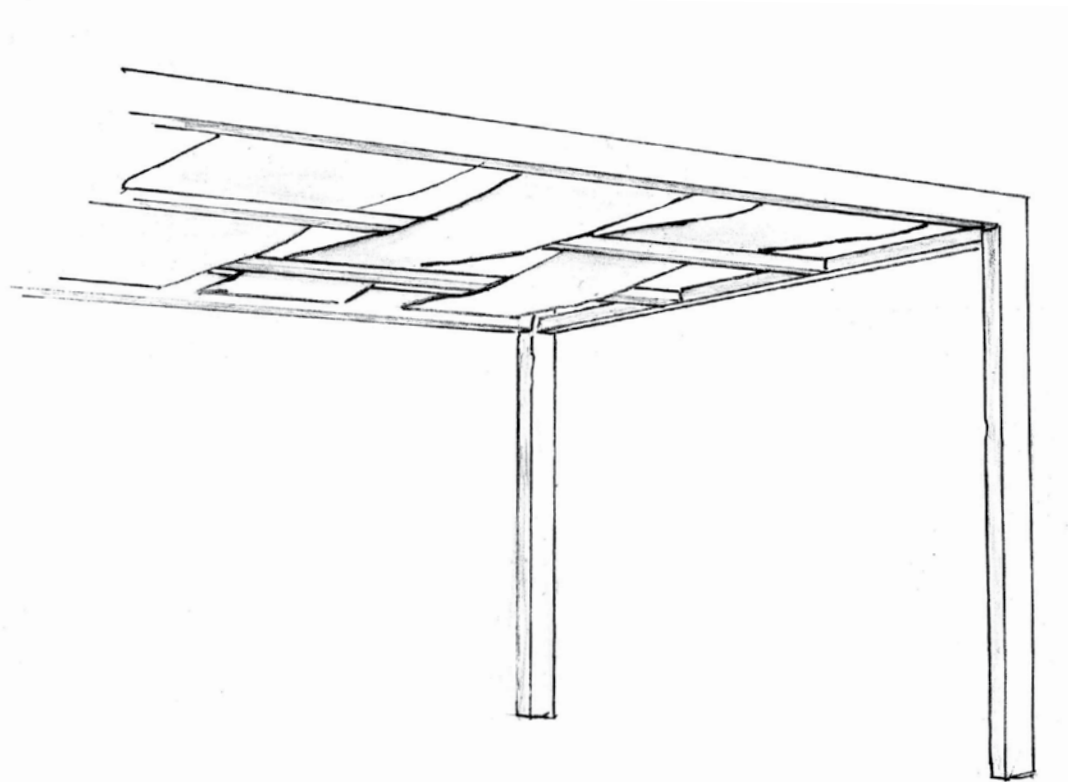


Flickr user Vlasta2



Garth Kidd

Drawing on the basketry traditions of the O'odham, canvas ribbons are woven through a metal and wood frame to provide shade for the play area. The structure distributes the weight and tension of the sails, allowing for more graceful and lightweight supports.



## PERGOLAS



A powder-coated metal frame supports dark wood slats. The metal frame provides strength with less bulk than wood, while the wooden top absorbs and radiates less heat throughout the day than metal. The pergola posts are planted with climbing vines, which will eventually grow across the wooden slats and provide fuller shade. The same wood and metal structure is used for the shade sails over the play area.



Jeremy Levine Designs

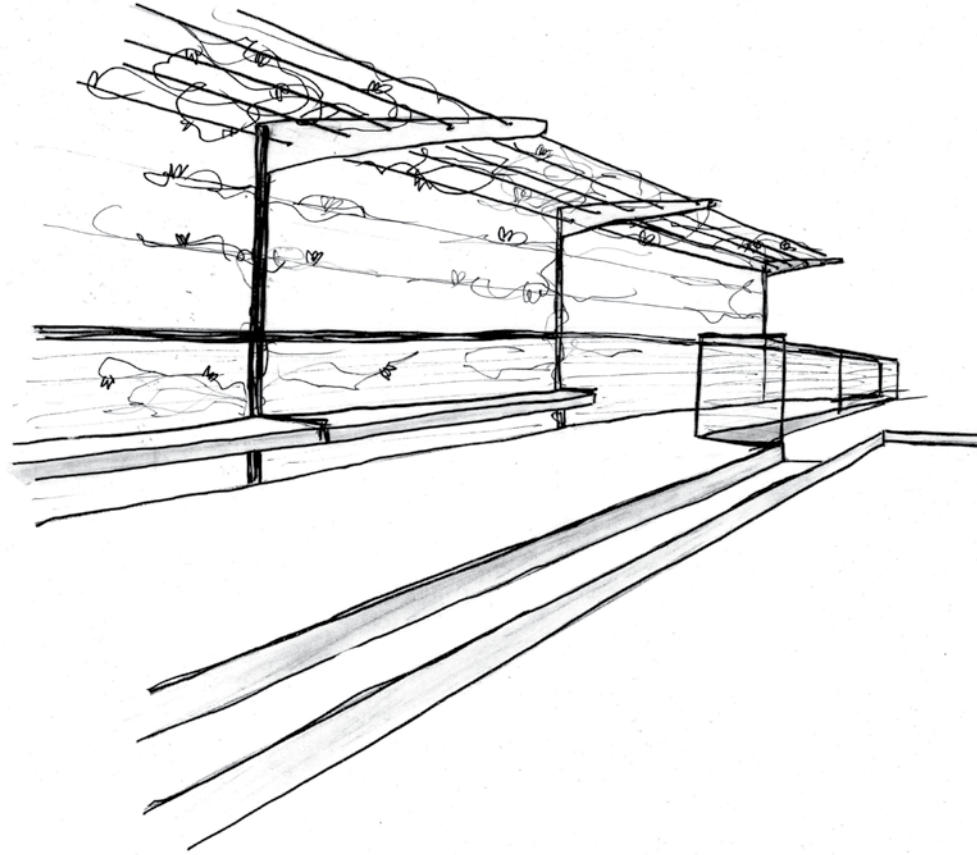


Garth Kidd



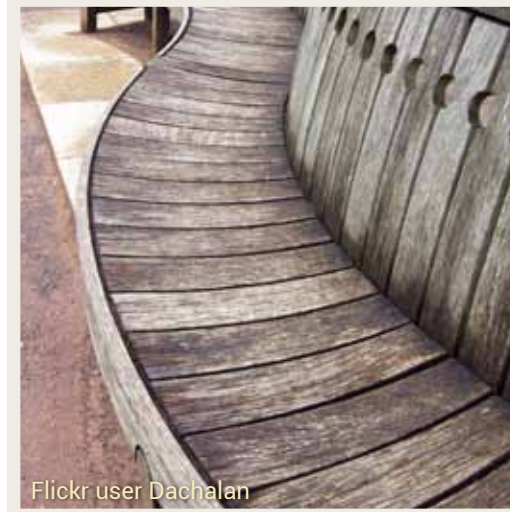
Anthony Citrano

### BOCCE DECK



A wooden deck borders the bocce court, with low seating steps and a long bench offering a gathering space to enjoy games. The deck is integrated into the pathways with ramps on each end and shaded with vine-covered cable trellises, which define the space without closing it off.

### SEATING WALLS



Flickr user Dachalan



Garry Knight

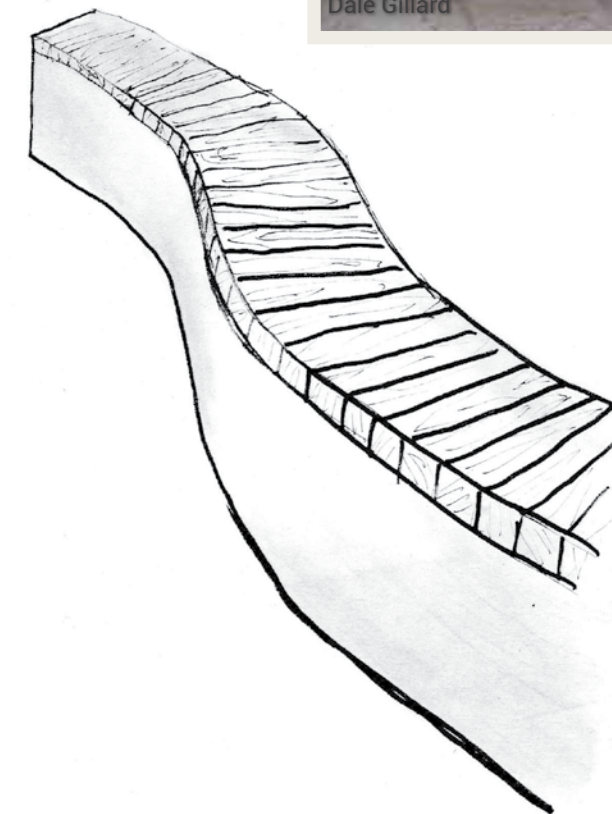


Jan Krutisch

Sinuuous masonry or stucco seating walls flank the depot, creating visual unity in the park when viewed from the plaza, as well as comfortable gathering space in the park. The walls are topped with wood for comfortable sitting even on hot, sunny days.



Dale Gillard



Gerry Balding



Flickr user ryc



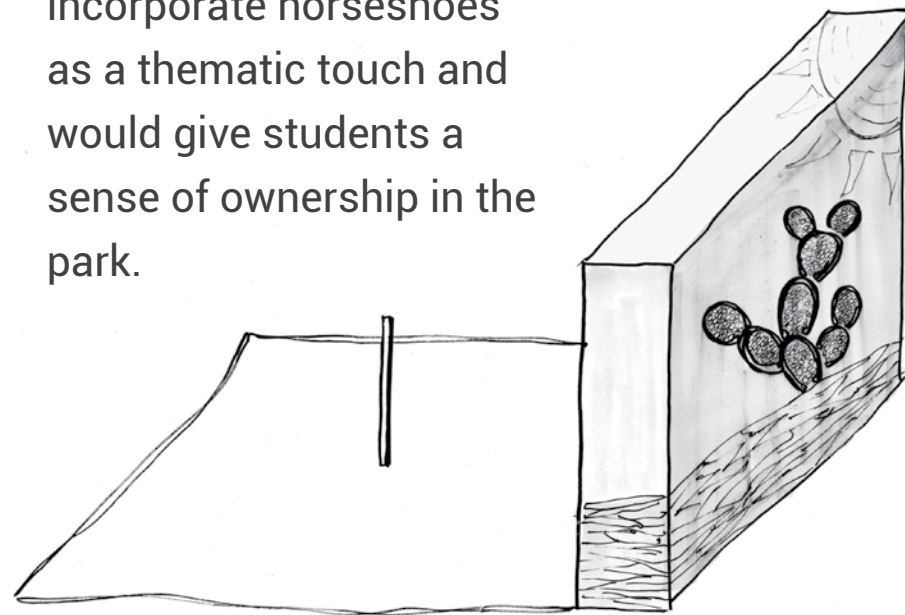
Flickr user horsepunchkid



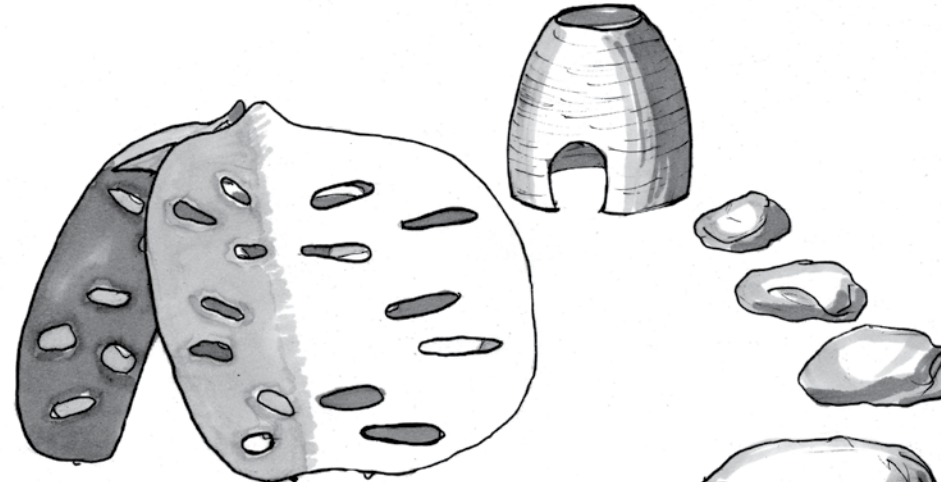
## HORSESHOE PIT



A backstop will help keep errant tosses from flying through the landscape. Concrete or cinder block are the most durable choices and provide a canvas for students to create mosaics on the back. The mosaics could incorporate horseshoes as a thematic touch and would give students a sense of ownership in the park.



## PLAY AREA



Commercial playground equipment would be out of place when viewed from the plaza. Instead, natural materials such as boulders, stumps and sand give children an opportunity to direct and invent their own play. Sculptural climbing and fort elements provide attractive views for visitors and residents while adding more opportunities for children to explore and use their imaginations.

