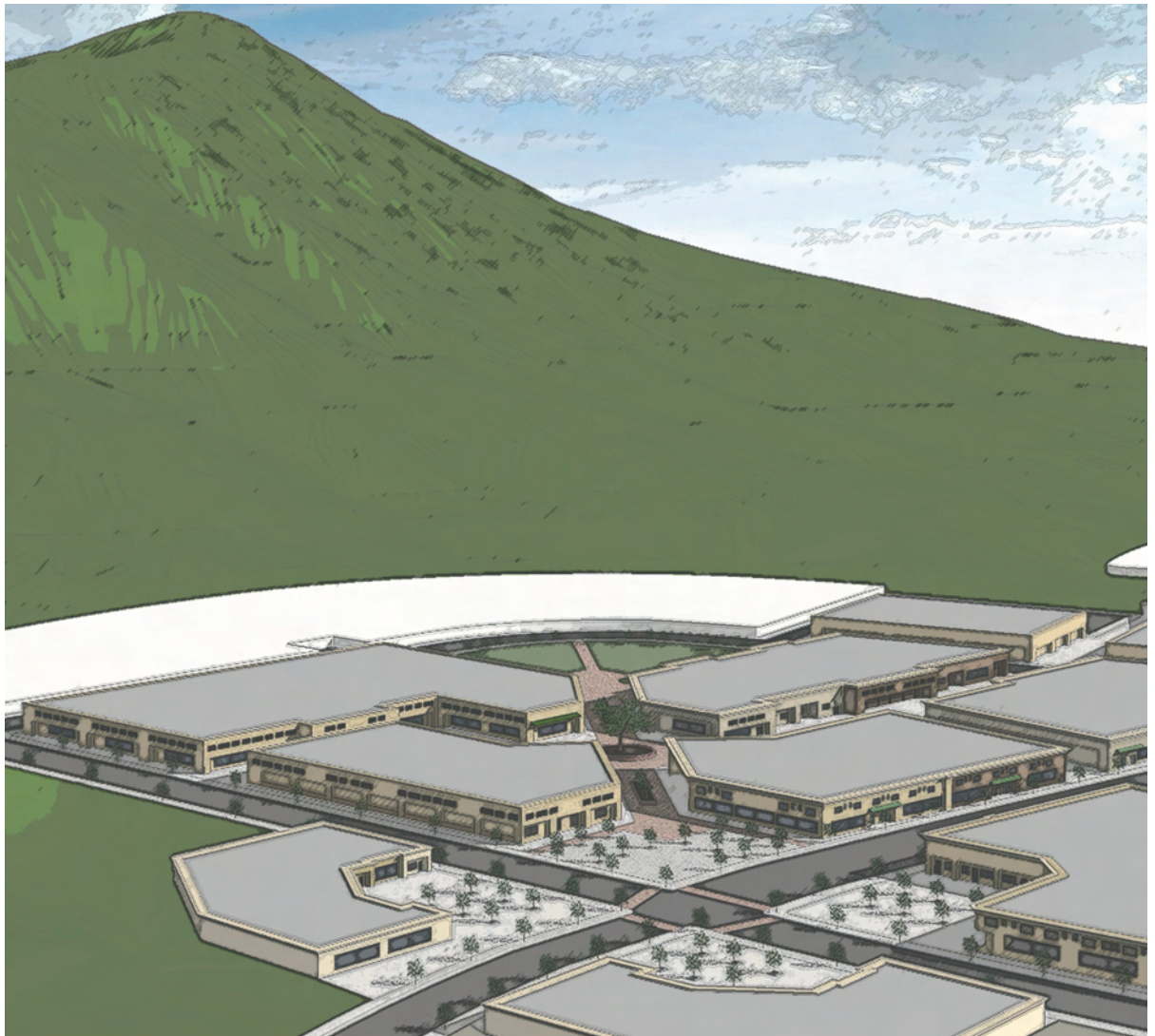


Laguna Entrada

Conceptual Specific Plan

— Cal Poly City & Regional Planning • CRP 341 • Fall 2008 • Del Rio

Justin Au • Tim Beuchat • Kelsey Farwell • Katie Nilmeier



Laguna Entrada

Conceptual Specific Plan

The purpose of this document is to provide a design for the San Luis Obispo Sphere of Influence Area 9. The area is currently located outside of the city's boundaries and is being considered for annexation. This Specific Plan shows one possible concept of how the land could be used should it become part of the city.

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Vision Statement

Laguna Entrada will be a mixed use, sustainable community that will promote healthy activity and social interaction. The site will embrace the surrounding natural environment through public parks and a network of pedestrian and bike trails.

The site being proposed for annexation is San Luis Obispo's Sphere of Influence Area 9, located on the corner of Los Osos Valley Road and Foothill Blvd. The site consists of 922 acres, 179 of which are developable. Our vision for the project is to create a mixed-use, sustainable and pedestrian-friendly environment that serves as a gateway into San Luis Obispo. The Laguna Entrada development will include a variety of housing types on the site including single family residential, multifamily residential, and mixed use residential. The project also provides a variety of other uses including commercial centers, parks, open spaces, and other public facilities within walking distance of the residential areas. The plan site offers 1080 units of housing and 12 acres of compact mixed use development, all while maintaining the General Plan's open space to development ratio requirement of 4:1.

The community will create a pleasant, small scale locale, and a comfortable environment that promotes community activity and interaction. Laguna Entrada provides adequate accessibility to the site through a variety of transportation options including automobiles, pedestrian paths, bikes, and public transit. The public plazas and parks on the site are connected by a network of paths and trails that encourage residents and visitors to drive less and walk more. Our internal shuttle system will further increase mobility and help the environment by reducing the number of auto trips within the site. The development will have several large parks and a large recreation center providing activities for the public and bringing the community together. In addition, most residential areas will have their own community parks. Laguna Entrada strives to preserve and protect the wildlife corridor, grassland habitats, and plant species on the property. Our bike paths and shuttle route across the wetlands will be elevated to provide safe passage for wildlife.

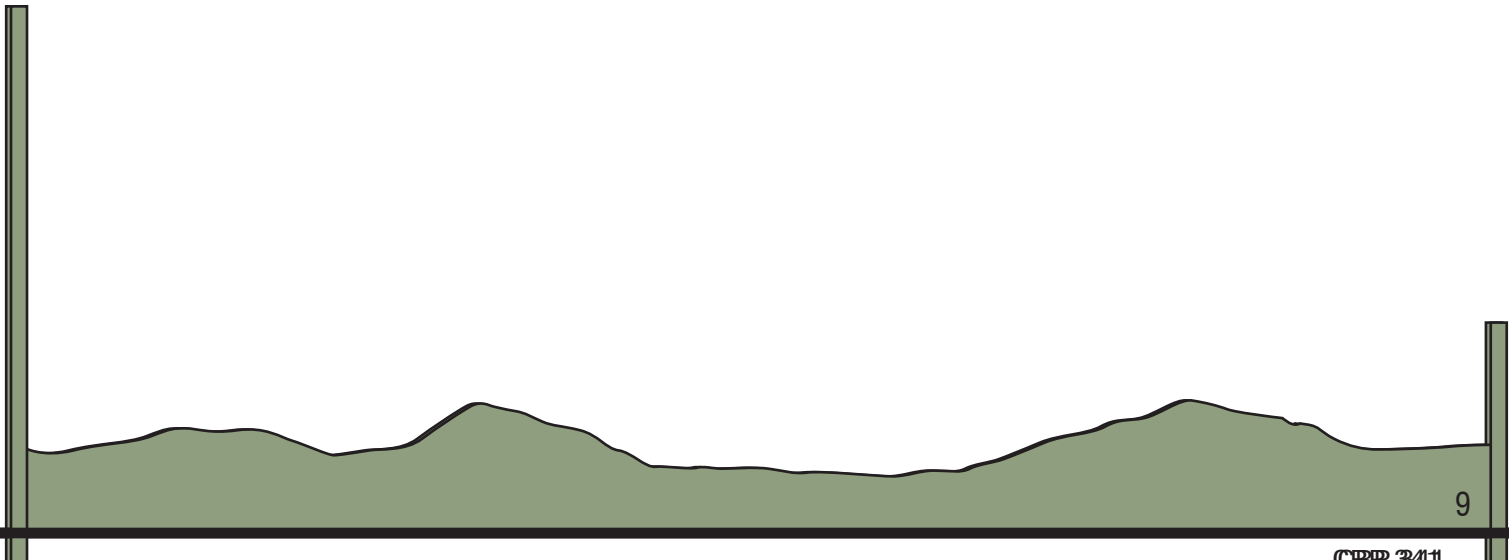
Laguna Entrada will be a welcoming site to those driving into San Luis Obispo. The entrance on Foothill Boulevard will lead into a commercial and mixed use village core, framing the view of Cerro San Luis. We plan to preserve open space on Los Osos Valley Road and Foothill Boulevard which will double as a noise buffer to both the residents and nearby neighborhoods. The project will also offer a wine-tasting exposition center, which will include a sampling from wines around the area, demonstration vineyards, and a restaurant affording pristine views of Cerro San Luis and Bishop's Peak. The wine center will be located on the corner of Foothill Blvd. and Los Osos Valley Road next to the Beth David synagogue. The project incorporates safe alternative routes for pedestrians and bicyclists along Foothill Boulevard via a scenic trail network through the site.

Part I: Site Analysis



chapter 1

Historic, Cultural, and Social Attributes



Introduction

When incorporated in 1856, San Luis Obispo was little more than a train stop for people passing between San Francisco and Los Angeles. As years passed, the area began to expand as the population grew. Today, more than 44,000 people reside within the city. The growth of the city over the last 100 years is largely attributed to the location of Cal Poly, a major university in the California State system. Home to nearly 20,000 students, the university has been the main factor for the area's economic success.

The history of San Luis Obispo dates back to 1772 when Junipero Serra built one of his 21 missions in the previously unsettled area. With the mission, San Luis Obispo had a strong point to build around, and provided developers an opportunity to expand the city. One of these developers, Alex Madonna, had a strong vision for California's central coast throughout the 1900's. As an owner of much of the land in the area, Madonna played an important role in shaping the future of San Luis Obispo. Although Madonna successfully developed large areas of his land, much of it remains undeveloped to this day.

San Luis Obispo is the economic, governmental, and residential core of San Luis Obispo County. As the size of Cal Poly and local families continue to grow, more





Legend

 Specific Plan Area

Figure 1.1 Regional Map

development will be needed in the future. This chapter addresses the historic, cultural and social attributes of the Sphere of Influence (SOI) Area 9 in order to understand the site's history and recognize the community's visual preferences for possible residential, commercial and recreational uses for the area.



Surrounding Property Owners and Developments

Encompassing the site is undeveloped land controlled by various property owners. The four property owners combined possess 922.5 acres.

One area of the site being developed is owned by Congregation Beth David, which is approximately 92.5 acres and is located on the corner of Los Osos Valley Road and Foothill Boulevard. 18.5 acres of CBD's land is available for development.

Adjacent to CBD's property is an estate of 160 acres owned by R&C Twisselman, who are also owners of the ranch located on property. Adjacent to their site is 390 acres owned by T&K Twisselman. Next to the Twisselman's property is another large property of 280 acres owned and managed by J&S Madonna, relatives of Alex Madonna.

Congregation Beth David

The newest development on the site is the Congregation Beth David, a LEED certified structure recognized throughout the central coast for being solar-heated, naturally ventilated and solar powered. Another remarkable attribute about the building is that it is



controlled by an advanced computer system which monitors interior and exterior climates. The San Luis Sustainability Group and local architects were commissioned

by the congregation to design a high-performance green building while reserving over half the site for wetlands and open space.

The building is also well recognized for its impressive landscape architecture. The area is built 10 foot berm, protecting the environment from wind and traffic noise while offering a pleasant entry to the congregation. The site began construction in June of 2005 and was completed in December of 2006. The first religious service for the Congregation was held on December 6, 2006.

The Clubhouse

The Clubhouse is a historical restaurant in San Luis Obispo County located adjacent to our site right across Foothill Boulevard. The site is a well known area that was once part of the Old Bishop Dairy. The building was originally built as a family home in 1917. It was converted to a restaurant in 1950 by Pat and Whitey Arson. Ever since then it has been owned by various proprietors, and has been remodeled and expanded several times. With a rich history of oil tycoons, World War II soldiers, and local cowboys coming in and out its doors, The Clubhouse is a local gem that continues to thrive with all kinds of visitors.

The Pacific Coast Railway

Rock, sand and gravel are necessary materials for building roads, building foundations, and railroads. In the late 1800s the most efficient way to ship this heavy, bulky material was by rail. The Pacific Coast Railway was used to transport these materials across California to wherever there was new development. The Pacific Coast Railway's primary line ran from Los Olivos to San Luis Obispo and Avila Beach. One of the spur lines used by the railroad ran through SOI Area 9 to the base of Bishop's Peak carrying quarried rock materials.

Rock for embankments and portions of the breakwater at Avila in the early years came from Bishop Peak. The Bishop Peak quarry and rail connection could still



be easily identified adjacent to Foothill Boulevard up through the 1970's. The right of way alignment and connection to the incline was located just as Foothill started its

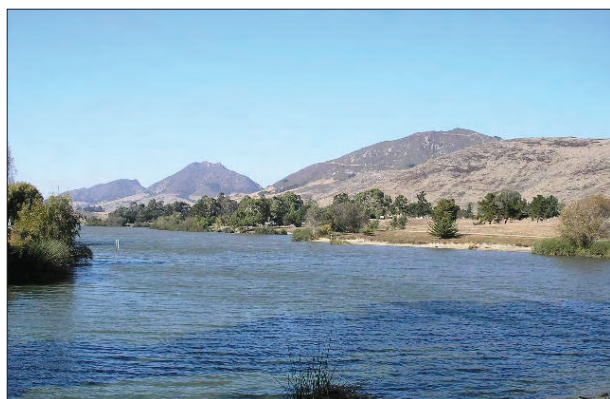


descent from the San Luis Obispo city limits toward Los Osos Valley Road just before one reached the restaurant site formerly known as "This Old House". A small steam locomotive, called a "tug", would uncouple and the loaded flatcar would be fitted with a cable from the hoist house at the left that will lower it down the hill to the main Pacific Coast spur adjacent to Foothill Boulevard. The load would then be forwarded along the 3-mile spur which traverses what is today Laguna Lake Park to the mainline

just southwest of the San Luis Obispo yard (Higuera and South St.). This quarrying operation terminated around 1908.

Laguna Lake Community

The site is surrounded by primarily low density residential (R-1). Bordering the site to the southeast is Laguna Lake Park and Natural Reserve. The park is 375 acres and features group barbeque areas, picnic tables, a sand volleyball court, a playground, restrooms and much more. Both Laguna Hills Park and Smith Park are located in the adjacent neighborhoods as well. These parks serve as an area for children and families to relax and play.



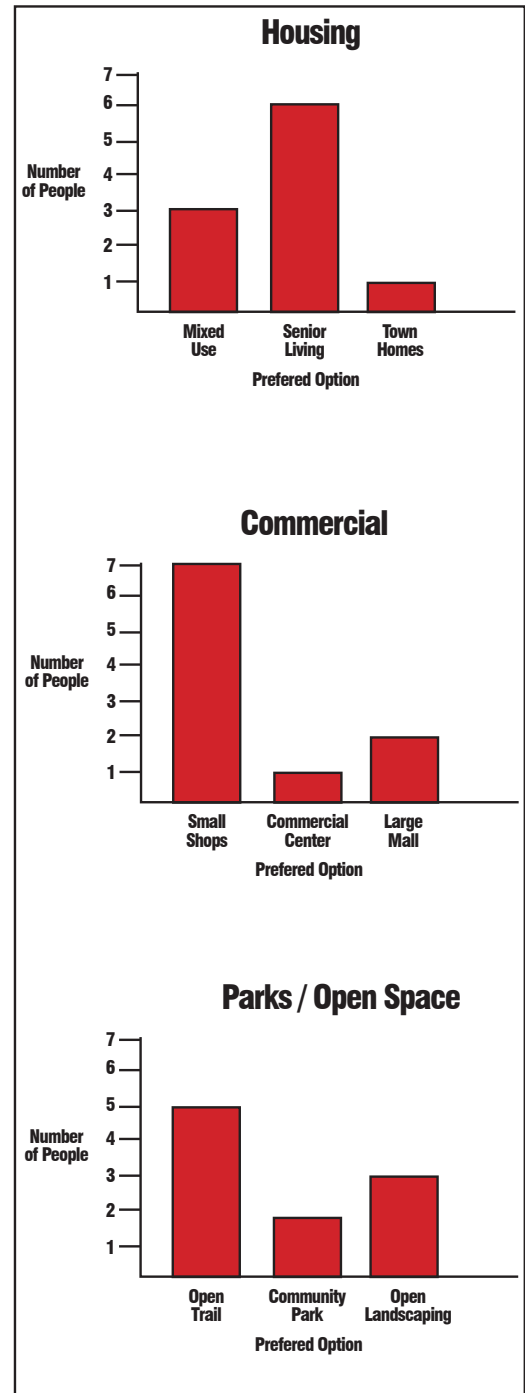
Laguna Lake Golf Course, located on Los Osos Valley Road, is a 9-hole executive length course provided as an entertainment opportunity for the entire family. C.L. Smith Elementary School and Laguna Middle School are also nearby. C.L. Smith Elementary School is approximately 2 miles from the SOI Area 9 site while Laguna Middle School is approximately 1.5 miles. Both are easily accessible from the site for both vehicles and pedestrians.

Community’s Visual Preference

In order to gather information on what the community would like to see developed on the site, we distributed visual preference studies showing pictures of various ways the site could be used. The three areas being surveyed were housing, commercial areas, and parks. Each study included three images and a ranking of how appropriate each would be, -3 being least appropriate and 3 being most appropriate. The survey also included a space to write features they liked and disliked. We had ten people from the community fill out each of the three surveys and we summarized their responses below.

For housing we showed images of mixed use, senior living and town homes. Overall, the public thought the townhouses were the least appropriate. While they could potentially serve as a good neighborhood for young children, especially with an elementary school and middle school nearby, there was nothing special as far as aesthetics. People liked the mixed use but didn’t find it most appropriate; they liked the landscaping, the European architecture and the concept of mixed use, but thought it was too large scale for the site. The most appropriate type of housing was the senior living. The public thought it was a good scale for the city and site, the landscaping was a nice feature and that the environment looked welcoming.

For commercial we had pictures of small shops, a commercial center and a large mall. The small shops were thought to be the most appropriate; the scale was fitting and the architecture fit the style of the surrounding area. The community didn’t find the large mall to be suitable for the site; it appeared pedestrian friendly but was too large scale. The public strongly opposed the commercial center; it was too large scale, the parking was



unattractive and mentioned that there is already larger scale shopping located close by on Los Osos Valley Road and Madonna Road.

As far as parks we had images of a trail going through open space, a community park, and an open park. The community thought the trail going through open space was most appropriate; they thought it was best to keep the space natural. They thought the community park was a family oriented area but that there were other parks nearby that served the same purpose. For the open park, they thought it was an aesthetically pleasing space but wasn't necessarily the most appropriate for this specific site

Opportunities and Constraints

Opportunities:

- The intersection of Los Osos Valley Road and Foothill Boulevard is an area of heavy traffic flow.
- Connectivity: the site could connect to other areas of San Luis Obispo.
- Space can provide for a variety of land uses.
- Views established by General Plan are currently undisturbed
- Most vegetation on site is non-native and can be easily removed
- Potential gateway into San Luis Obispo

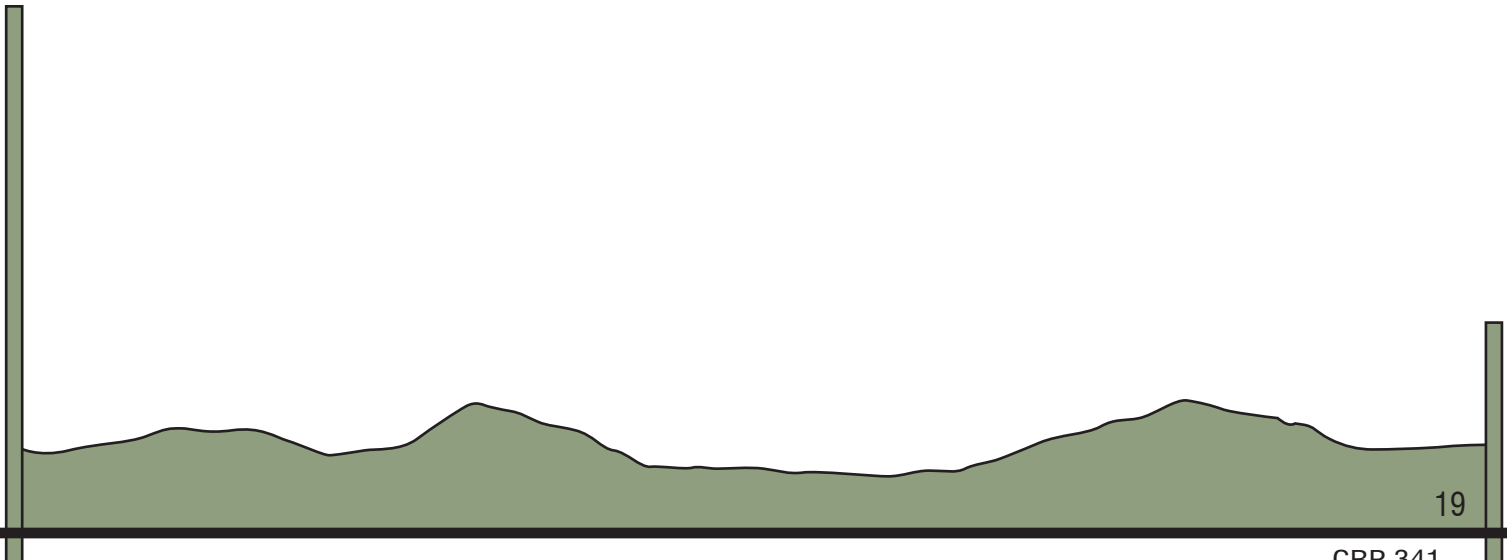
Constraints:

- Limited accessibility (Only 2 bus routes, no pedestrian access)
- Flood plain, creek and wildlife regulations
- New sewage and water system needed on site, currently outside of San Luis Obispo city limits.
- Heavy winds from the northwest
- 80% of site is a flood hazard
- Wildlife corridor needs to be preserved on site
- Large viewsheds- building can easily disturb
- Some steep slopes which require hillside development regulations



chapter 2

Existing Land Use and Circulation



Land Use and Existing Buildings

The Sphere of Influence Area 9 site is currently zoned as agricultural land by San Luis Obispo County. There is only one existing building on the site, which is the Beth David Synagogue. The site is primarily surrounded by agricultural lands and the hillside of Cerro San Luis. Directly adjacent to the south side of the site is the De Vault Ranch, which is occasionally used as a refuge for the homeless. To the north of the site along O'Connor Way are a few suburban residential and rural residential units as well as a church, Agape Christian Fellowship. Additional suburban housing is located to the southwest of the site off of Los Osos Valley Road. South of the site, along Los Osos Valley Road there is Laguna Village Shopping Center which includes several small restaurants, an Albertsons, and several service stores. Further south is Irish Hills Plaza, a large commercial district with big box retailers such as, Costco, Home Depot, and a variety of other stores. East of the site along Foothill Boulevard there is single-family housing as well as The Clubhouse, a restaurant and sports bar. Further east of the site there is a mix of single-family and multi-family housing along with several churches and public facilities.



Circulation Patterns

The main traffic circulation patterns around the Sphere of Influence Area 9 site are through the intersection of Los Osos Valley Road and Foothill Blvd. This intersection has high traffic volumes since it connects the two sides of San Luis Obispo. During the day the intersection operates with a Level of Service A, but during peak commute hours in the evening the Level of Service drops to C. Side streets





Legend

- Single Family Residential
- Schools
- Commercial
- Ranch with lakes
- Hills / Mountains
- View Corridors
- Bus Stops

Figure 2.1 Site Analysis Map

around the site receive little to no traffic since they are mostly used by residents to get to and from their homes. The intersection at Los Osos Valley Road and Foothill Blvd also connects San Luis Obispo to the town of Los Osos and other highways. The area of the site closest to the intersection could be used as a gateway to the city.

Public Transportation

The Beth David site is located adjacent to two of San Luis Obispo's City transit lines, routes 4 and 5. Both lines stop in front of the Beth David site at Valle Vista offering future inhabitants access to the Cal Poly campus and downtown San Luis Obispo. In addition, these routes offer transit stops at Blarney Avenue, located near the

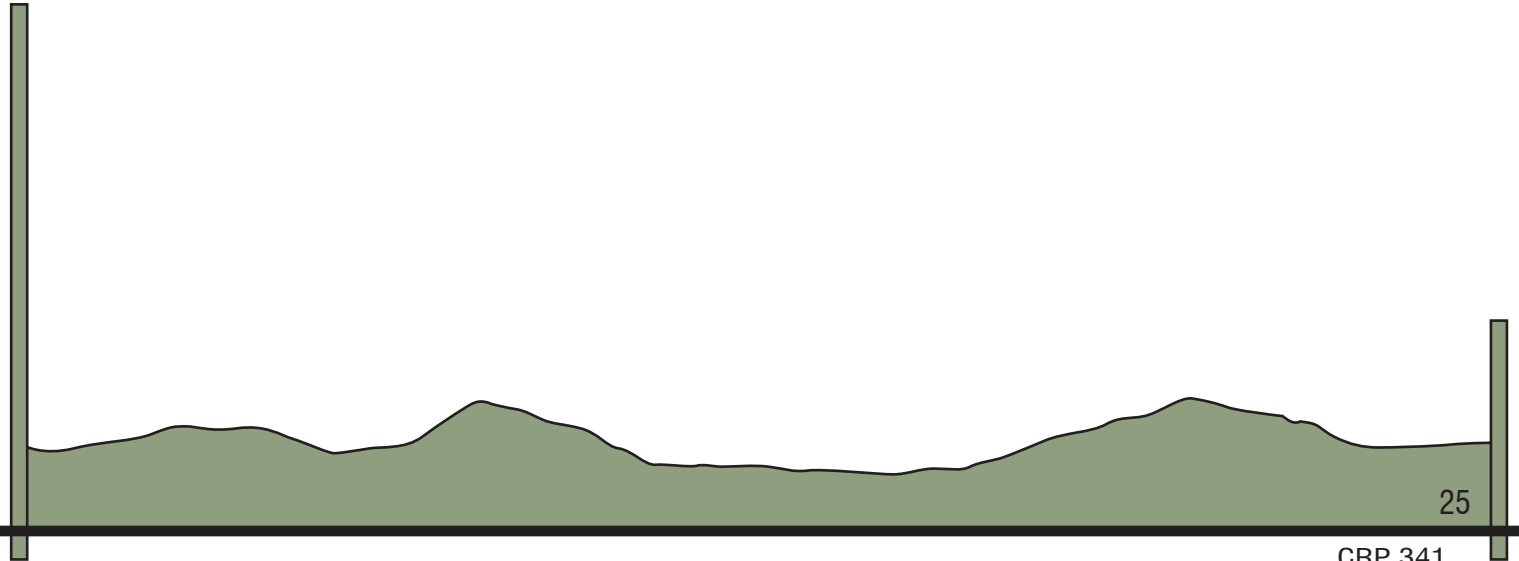
northern edge of the property. These routes provide visitors and residents of the Beth David property accessibility to the rest of San Luis Obispo in an easy and sustainable way.





chapter 3

Physical and Natural Attributes

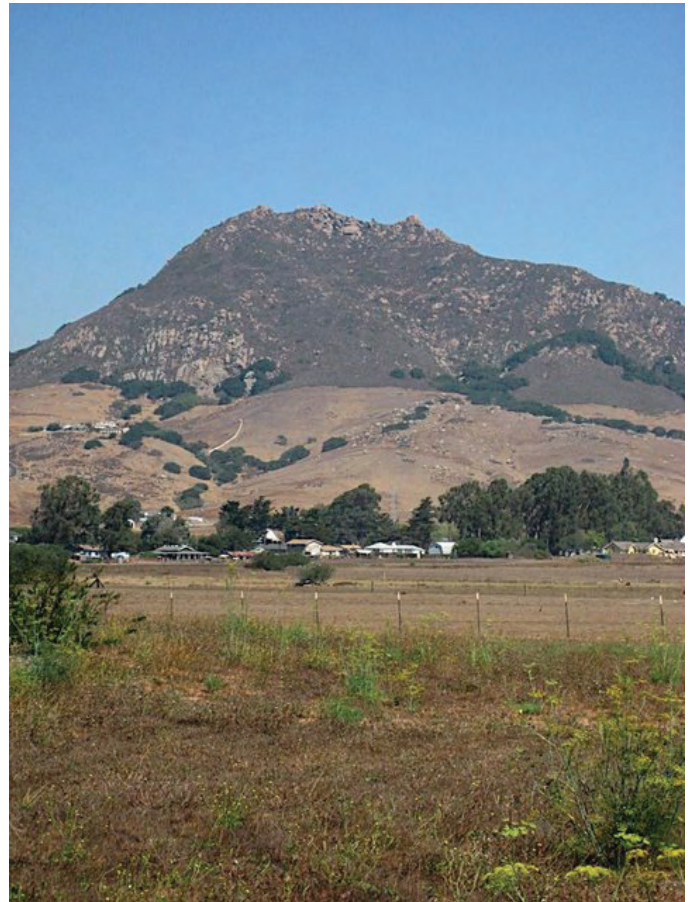


Topography

The Sphere of Influence Area 9 site is mostly covered by low sloped grazing lands. The northeastern edge of the site is bordered by the base of Cerro San Luis, a small mountain which features several steep slopes. The center of the site is fairly flat except for one small hill. Outside of the site borders there are several areas of notable topography, including Bishop's Peak to the north and the Irish Hills to the south.

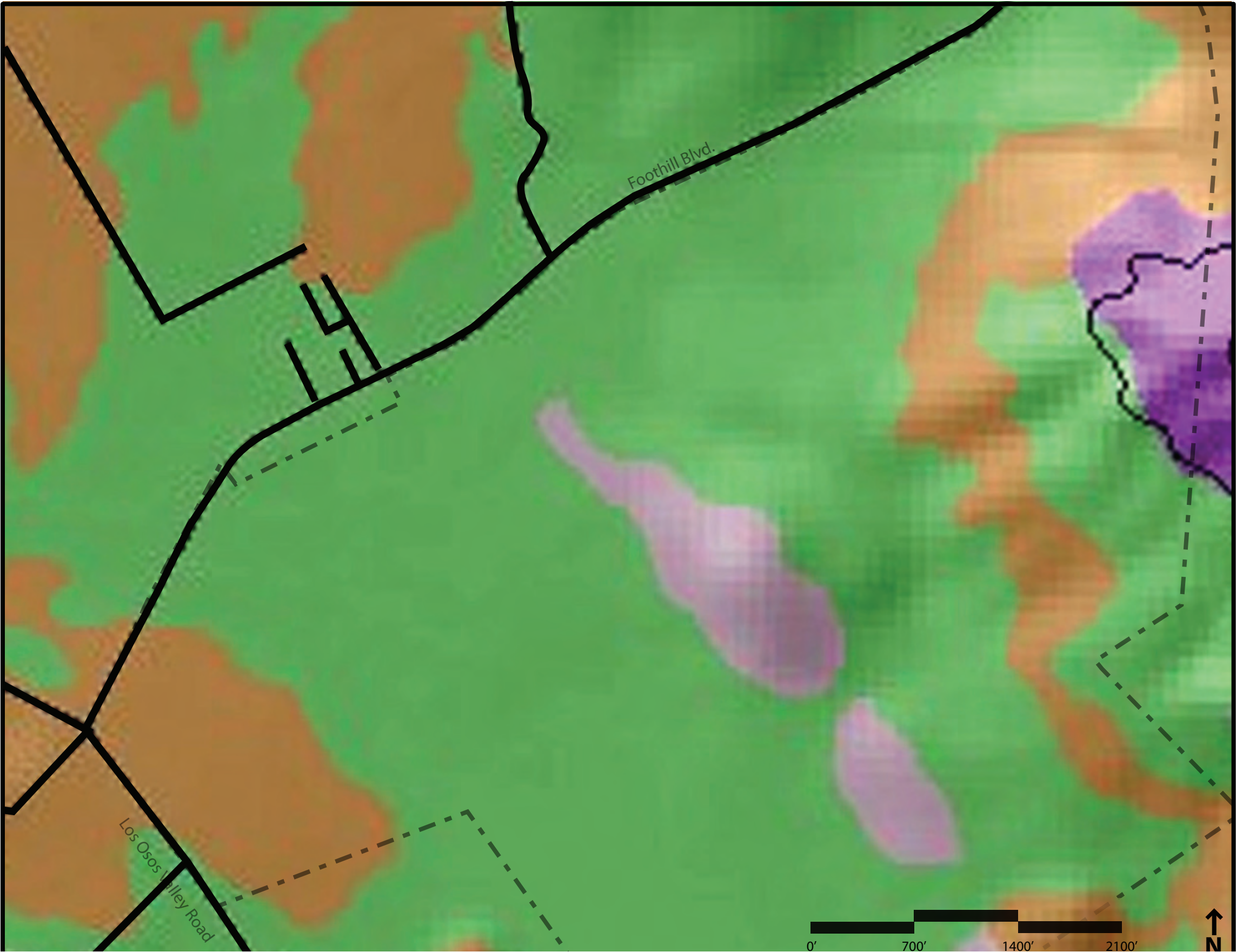
Climate and Winds

The project area has a climate similar to the rest of the city of San Luis Obispo. The site has a mild, Mediterranean like climate. Most days are sunny or partly cloudy, and the city has an annual average temperature of 70 degrees. A notable difference between the city and the project area is the presence of thick morning and evening fog that rolls in from the coast through the Los Osos Valley. In the afternoons, the strongest winds come from the northwest before continuing through the Los Osos Valley towards the San Luis Obispo County Regional airport.



Hydrology and Drainage

The site is a part of the San Luis Creek watershed. Flooding has been known to occur in and around the site after heavy rain storms. Because the site is in a valley, water from the surrounding hills flows into the site before moving towards the bay. Laguna Lake lies at the southwestern portion of the site. When the lake level rises, a seasonal creek is formed and drains through the site out to Morro Bay.



Legend

- - - Specific Plan Boundary
- Streets
- Loam
- Clay Loam
- Clay

Figure 3.1 Soils Map

Soils and Geology

The soil and geology types found on the site determine the types of buildings that can be placed in each area. Loamy clay soils dominate the low lying wetland areas. Serpentine rocks are present along the lower portions of the Cerro and smaller hills while dacite, a volcanic rock formation covers the peak of the mountain.

Concepcion loam: Building sites and most other engineering practices often require special design considerations because of the high shrink-swell potential, low strength and hardness to pack of the subsoil. This soil is well suited to pond reservoir areas.

Cropley clay: The natural vegetation is mainly annual and perennial grasses. This soil is well suited to rangeland. However, the clay texture increases the hazard of

compaction. This can be reduced by grazing when the surface layer is moderately dry. The high available water capacity of this soil influences a rather long, slow growing forage season. Foundation and footing designs need to compensate for the high shrink-swell potential and low strength. Septic tank absorption fields do not function properly because of the slow permeability.

Diablo clay: Areas are irregular in shape and mainly annual grasses and forbs. This soil is increasingly important for urban development.

The soil is hard to pack because of the high clay content. These limitations can require special design considerations for urban development and most other engineering practices. Septic tank absorption fields do not function properly because of the slow permeability and depth to rock.



Wildlife and Vegetation

Because of the pristine condition of the site, there are several bird, amphibian, and mammal species that call this site home. The site is an important wildlife corridor for these wildlife species and much of it should remain undisturbed. There are three predominant vegetation habitats on the site; the Coast Live Oak Woodland, coastal

scrub, and grassland communities. The Coast Live Oak and coastal scrub habitats preside on the higher slopes of Cerro San Luis while the grassland and wetland vegetation species are found on the lower slopes throughout the rest of the site.

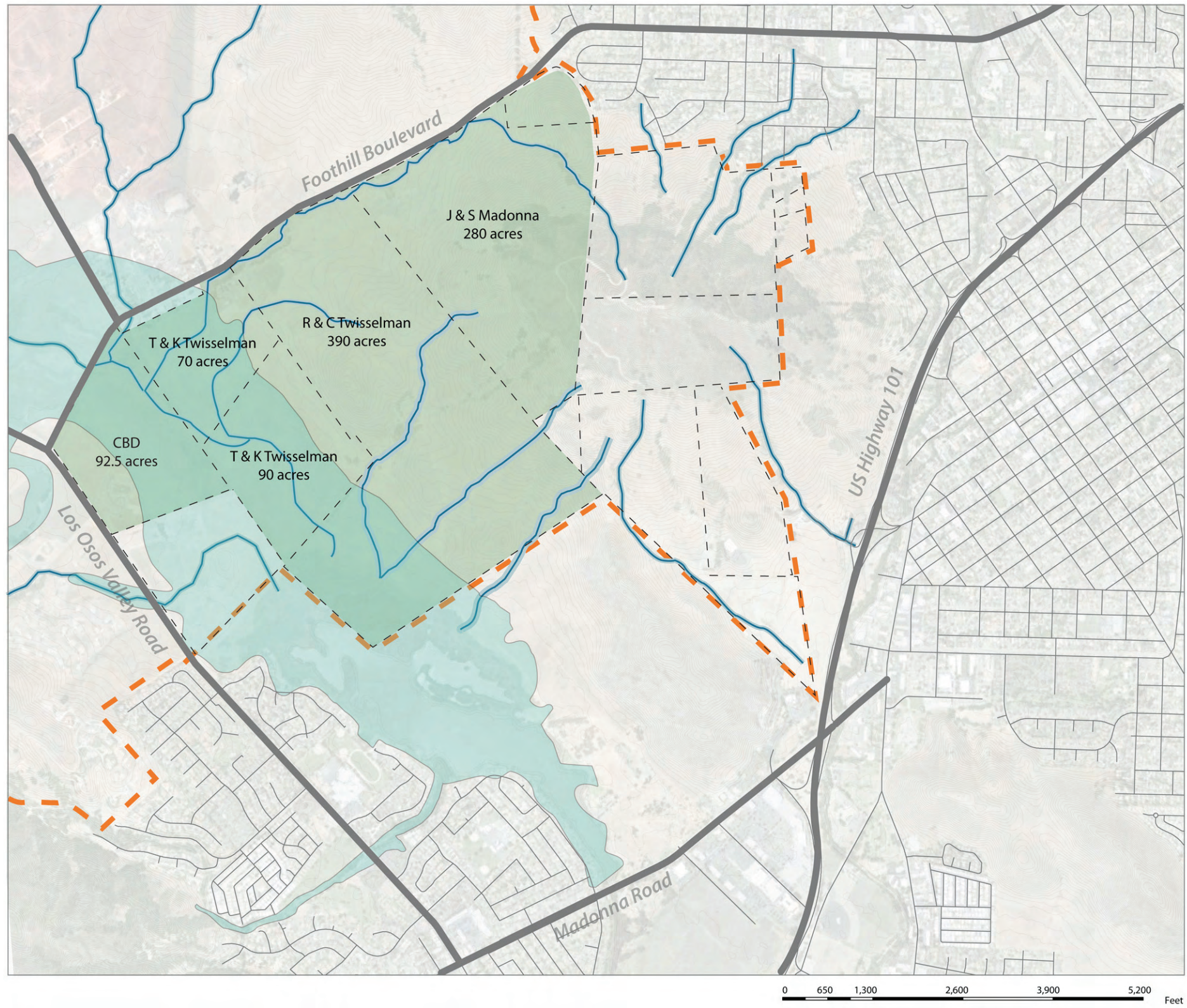
Cerro San Luis Natural Reserve

The northern half of the CSLNR is vegetated with a mosaic of grassland, coastal scrub, oak woodland, and introduced trees. Grassland habitat occupies nearly two thirds of the site (64 percent). Roughly sixteen percent of the CSLNR supports a varying coastal scrub community and nine percent is vegetated with coast live oak woodland. The remainder of the site consists of vegetation growing beneath the canopy of introduced trees or in areas occupied by a plant community dominated by the introduced cactus (5.5 and 4.8 percent, respectively).

Grassland Habitat

Grassland habitat is present on the middle and lower slopes of Cerro San Luis, occupying a combined area of approximately 76 acres within the Reserve boundaries. The plant assemblage within grassland areas is dominated by introduced annual grasses and forbs, but includes a mixture of native grasses and herbs. Generally, the composition of plant species found in grassland habitat within the CSLNR is typical of sites that have sustained





Legend

- City Boundary
- Property Lines
- Proposed Annexation
- Creeks with Setbacks
- Floodplain

Figure 3.1 Site Analysis Map

years of use as rangeland for cattle.

Coast Live Oak Woodland Habitat

These woodland areas are relatively open and typically support undergrowth comprised of plant species from surrounding coastal scrub habitat. Common species identified within coast live oak woodland include coast live oak, poison oak, coffeeberry, hummingbird sage, and bracken fern. Coast live oak woodlands provide important nesting, roosting, and foraging habitat for a great number of bird species including titmice, woodpeckers, and wrens. Habitat features such as logs and rocks that

are situated in the leaf litter beneath closed canopy oak woodlands offer shelter and a rich foraging environment for small mammals, reptiles, and amphibians.

In addition to oaks, the canopy trees in this area include western sycamore, black cottonwood, and introduced species such as the Monterey cypress and blue gum. Understory vegetation in the vicinity of the seeps is more diverse than in other oak woodland areas and includes

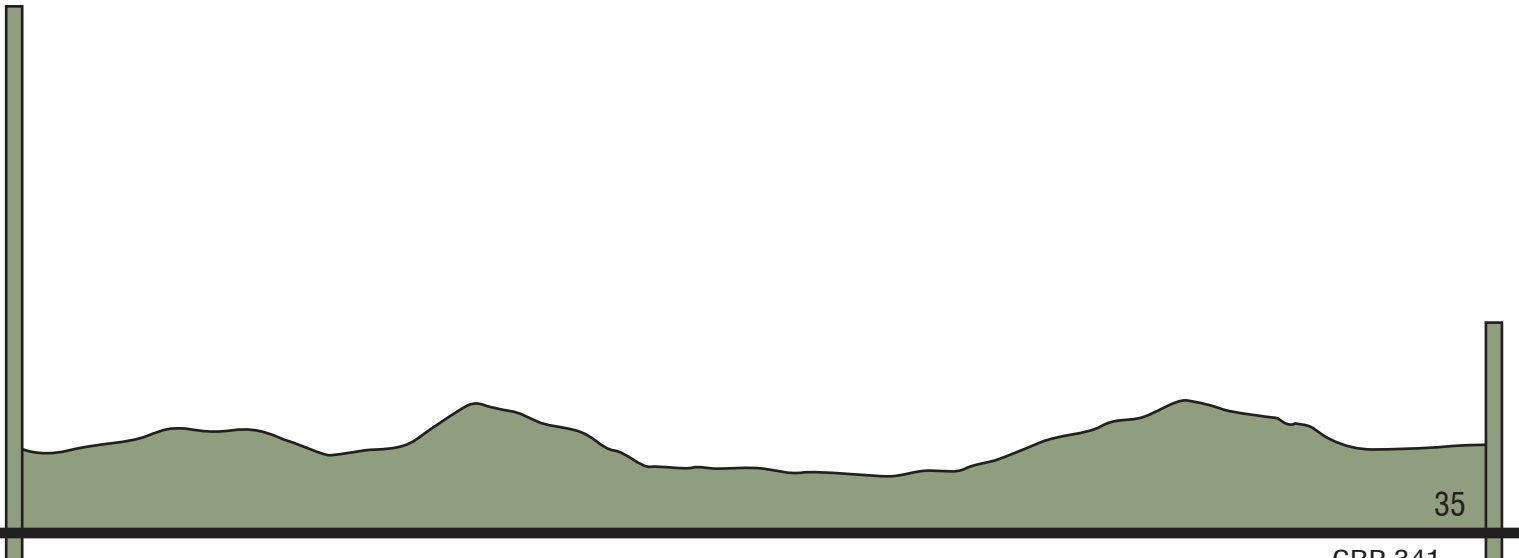


a mixture of native and introduced shrubs, trees, and herbaceous species.



chapter 4

Land Use



Introduction

One of the main design objectives for the site was to provide a variety of land uses in one space. We wish to provide a new area in the San Luis Obispo community that enhances the city's quality of life by giving an example of an alternative to suburban sprawl. After we conducted a visual preference survey, we gained an understanding of the community's preferences and opinions in regards to what should be present on the site. The design is very environmentally sensitive and offers a variety of transportation options. It provides several bike paths and is pedestrian friendly. Public transit stops are also located on site. The project includes mixed use, single and multi family housing, a commercial district, parks and recreational areas as well as a school and community center. The plan protects the surrounding view sheds and unique natural setting.

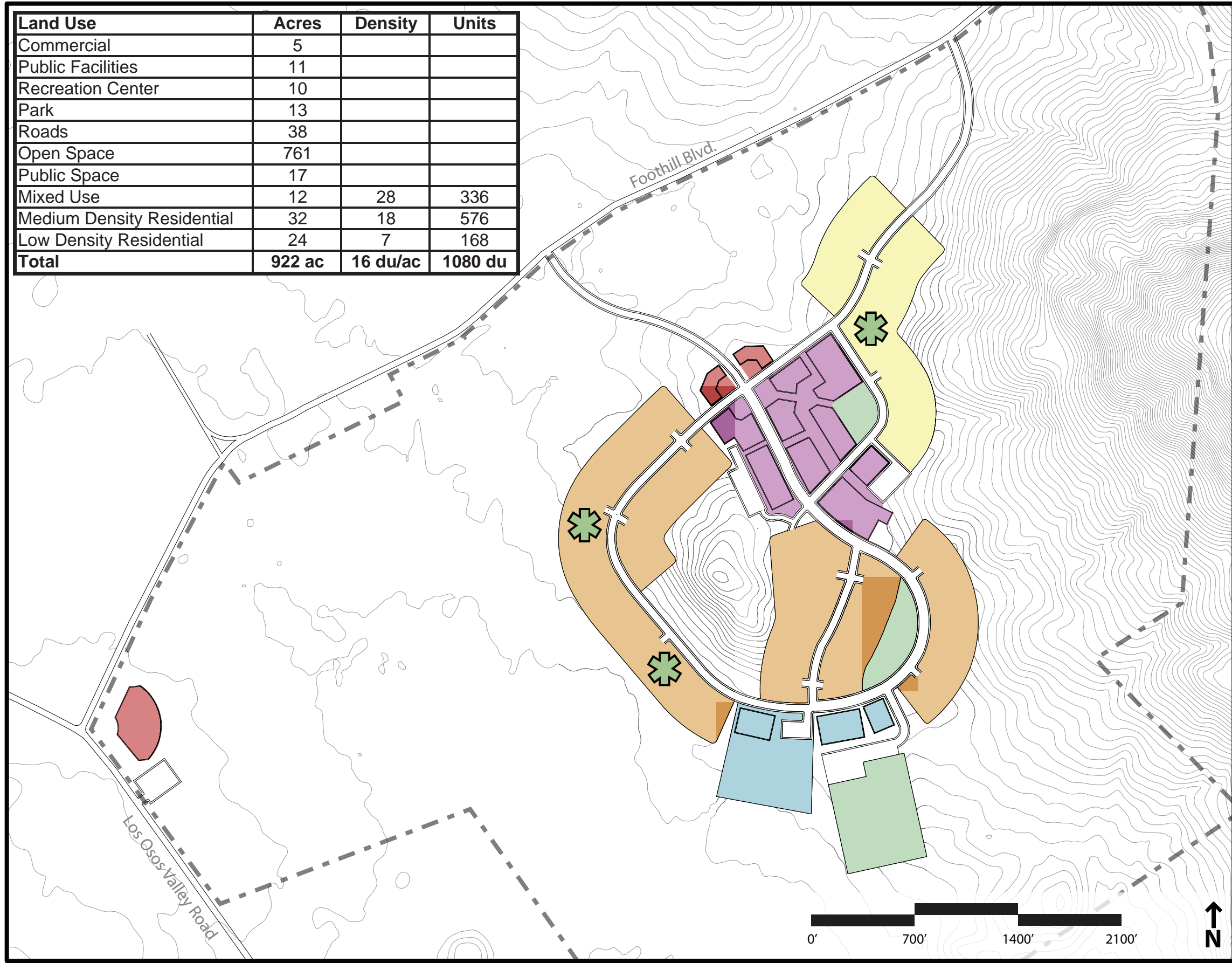
Nearby floodplains and wetlands were also conserved. As stated in the San Luis Obispo General Plan, the city must protect and enhance the natural environment while restoring natural landforms and features. Our site is located between Cerro San Luis and rolling hills. We will also ensure that when the site is built, construction will be sensitive to the nearby slopes.



Residential

The single and multi family housing developments are low-density and are designed for residents who intend to use the school, community center, commercial district, parks, and sports complex located on site. 24 acres of land was designated as low density residential, with 32 acres at medium density. We intend that the City will work with residents to prepare neighborhood plans in order to develop an identity and sense of place for the area. These neighborhoods will also promote social interaction.

Land Use	Acres	Density	Units
Commercial	5		
Public Facilities	11		
Recreation Center	10		
Park	13		
Roads	38		
Open Space	761		
Public Space	17		
Mixed Use	12	28	336
Medium Density Residential	32	18	576
Low Density Residential	24	7	168
Total	922 ac	16 du/ac	1080 du



Legend


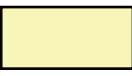






-  Specific Plan Boundary
-  Low Density Residential
-  Medium Density Resider
-  Parks / Recreation
-  Public Facilities
-  Commercial
-  Mixed Use
-  Community Park

Figure 4.1 Land Use Map

Mixed Use and Commercial

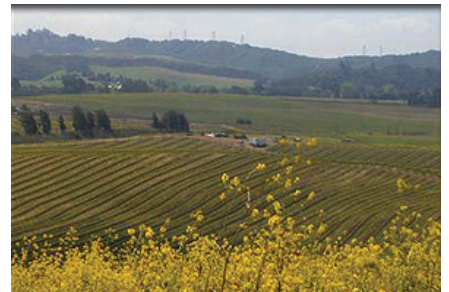
Our mixed use portion of the plan will be two story buildings with commercial/office space on bottom and 1,000 sq. ft. studio style apartments on top. Its size is at approximately 12 acres. This use is centrally located in relation to every other land use on site. Our commercial district, using five acres of space, is located right off of Foothill Boulevard and was designed to provide a variety of needs for all residents of the site. It will include a low scale grocery store, drug store, retail space and specialty shops. This district also provides an entrance into the mixed use area of our site. It is also located where the natural slope of the land is less than ten percent, following General Plan guidelines.



One of the highlights of the site is a proposed wine center on the corner of Foothill Boulevard and Los Osos Valley Road. The area, located directly next to the Beth David Synagogue, will consist of nearly 8 acres. The proposal includes a portion of the site dedicated to including a small restaurant with views towards Bishops Peak and Cerro San Luis. The main purpose of this center is to showcase wines from all the major wineries of the Central Coast. Another portion of the site would be dedicated to having demonstration vineyards located behind the restaurant.

Parks and Recreation

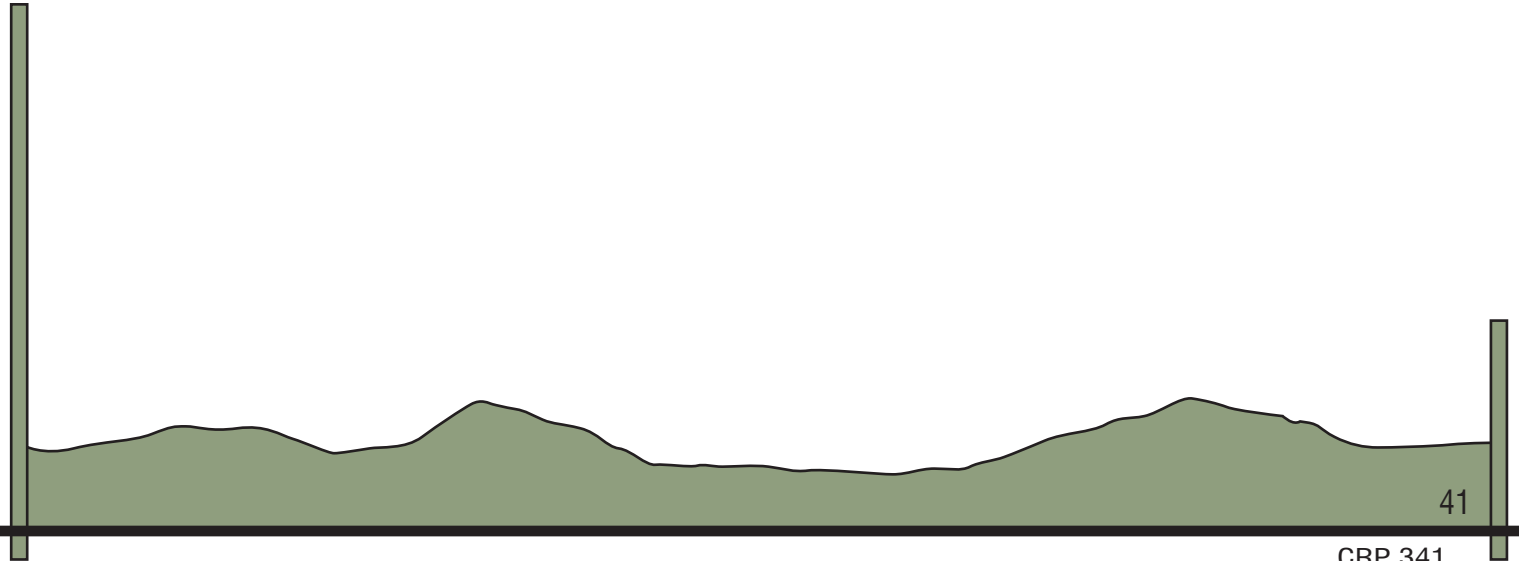
The recreation portion of our site includes a 10 acre recreation complex and 13 acres of community parks. The recreation center includes basketball and tennis courts, soccer and baseball fields, sand volleyball courts, and children's playgrounds. Our community parks include low scale athletic fields, gardens, as well as barbeque areas with picnic tables and benches. All recreational areas will be safe, well-landscaped environments that promote physical activity and social interaction among neighbors and members of the community.





chapter 5

Open Space and Recreation





Introduction

San Luis Obispo boasts a pristine, diverse, and naturally beautiful environment that all residents work passionately towards protecting. When developing our design, we maintained an open space ratio of 4:1. 761 acres is designated open space, which is approximately 82% of our property. We preserved possibly productive agricultural land around our site as well. We included adequate public access to open space through a network of trails that can be used by bicyclists and pedestrians. Conservation of valuable natural resources located on site is included in our project as well. The recreation areas will be environmentally sensitive and help protect existing natural resources.

Open Space

Conservation of natural resources is also an important issue. Nearby floodplains, wetlands and creeks will remain untouched. Listed species and natural habitats will also be reserved and protected. Activities close to open space resources within or outside the urban area will be protected by buffers that are required by the city of San Luis Obispo. These buffers will provide setbacks through adequate landscaping and wildlife-compatible fencing. In reference to the General Plan of San Luis Obispo, our urban development which is





Legend

- Specific Plan Boundary
- * Community Park
- Public Park
- Recreation Center

Figure 5.1 Parks and Recreation

located adjacent to the Urban Reserve Line (URL), we provided a transition area to open space through our use of public parks and network of trails.

Recreation

The community of San Luis Obispo has strongly voiced its preference for active recreational spaces. The sports complex will provide soccer and baseball fields, tennis courts, sand volleyball court and playgrounds. A large park is also located outside of the mixed-use portion

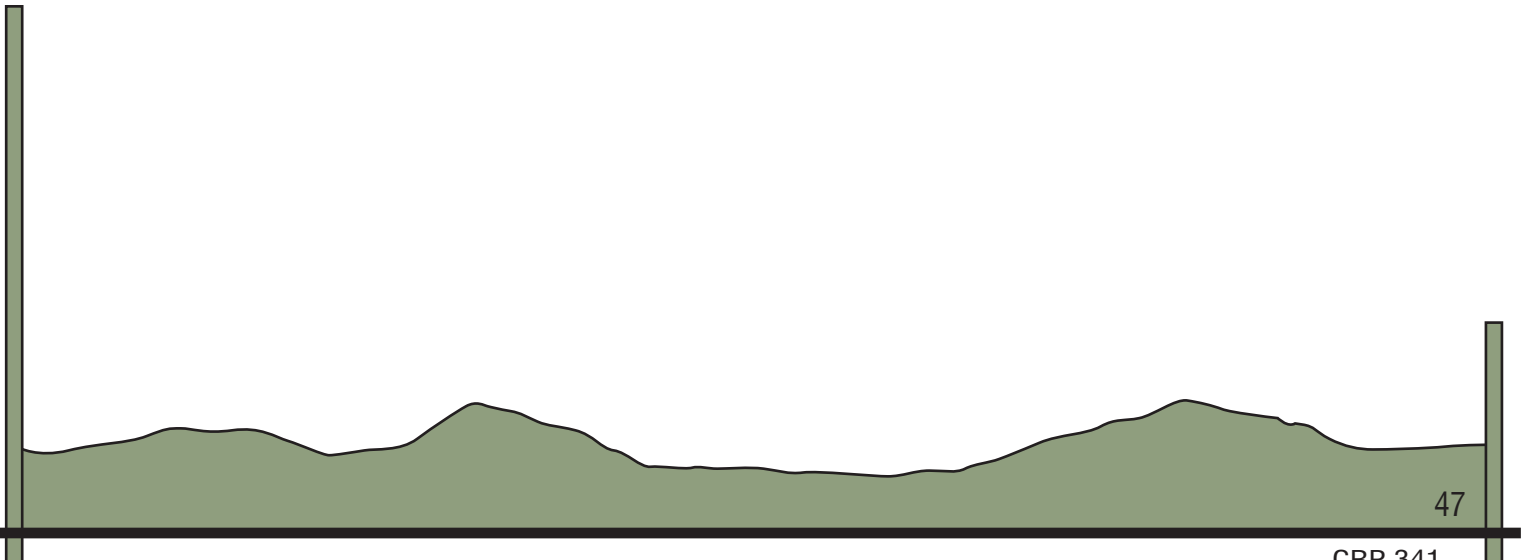


of our project. This park includes picnic tables, benches, children’s playground and an athletic field. Three smaller community parks are also located on site within the residential neighborhoods. These parks include small gathering places, gardens, barbeque areas, and low-scale athletic fields. All parks included in our design offer views of Cerro San Luis and Bishop’s peak. They will also be easily accessible by foot, bicycle and automobile. All parks are designed to be safe, well-landscaped environments that offer nearby residents and families a place to socialize and relax.



chapter 6

Circulation



Introduction

One of the main priorities for the site is to create a seamless and sustainable circulation system that maximizes pedestrian, bicycle, and transit mobility. The proposed community will not only work to support the General Plan's policies, but also strive to foster and exceed the policies identified. When complete, Laguna Entrada will be one of the most accessible, pedestrian-friendly communities on the central coast.



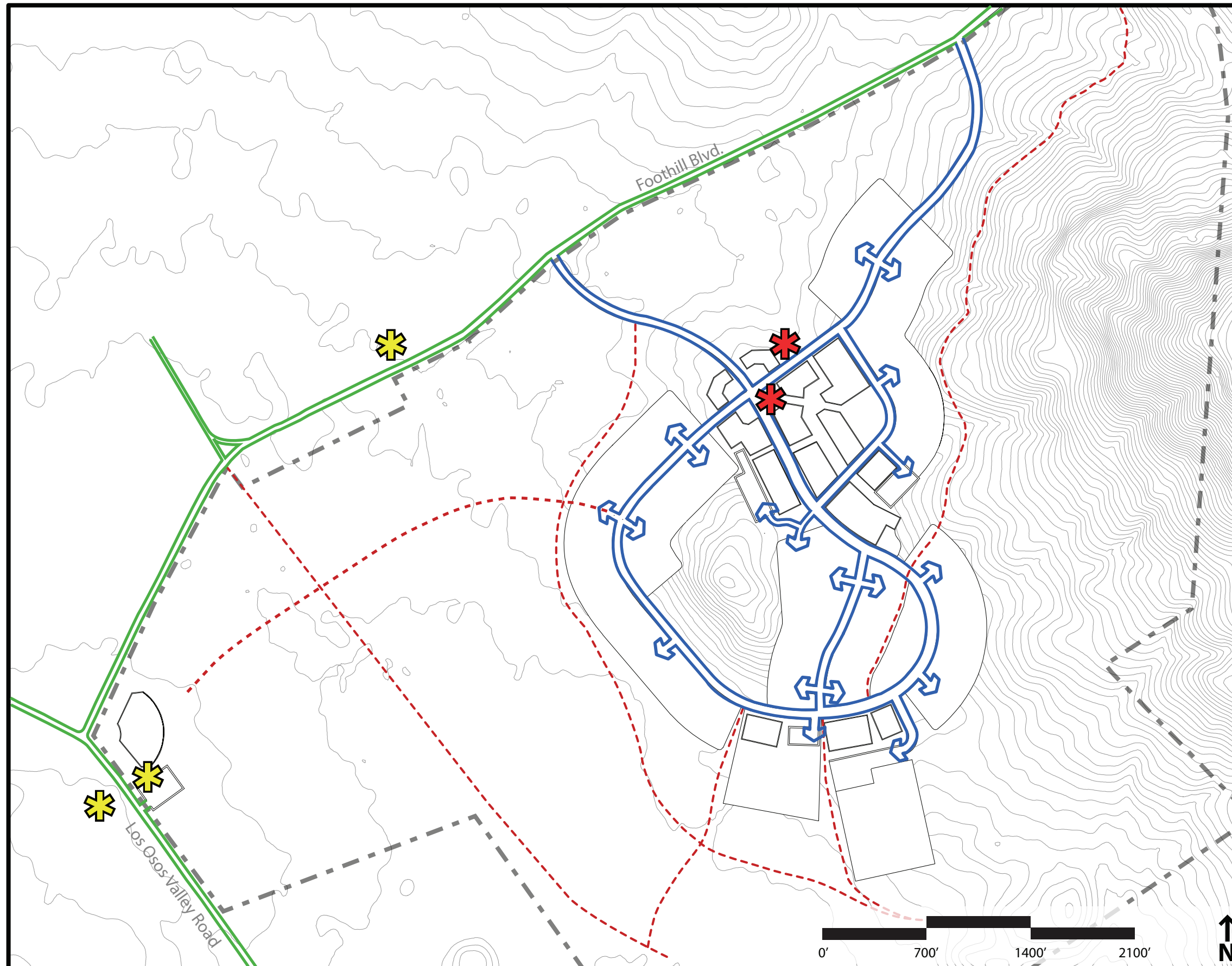
Pedestrian and Bicyclists

Smaller tree-lined streets will be implemented to have a calming effect on traffic and make crossings safer for pedestrians. The public plazas and parks on the site are connected by a network of paths and trails that encourage residents and visitors to drive less and walk more. Commercial centers, public facilities, and parks will all be located within walking distance from residential areas and public transit. Laguna Entrada will also integrate bikes onto the street, rather than create a separate framework.



Autos and Parking

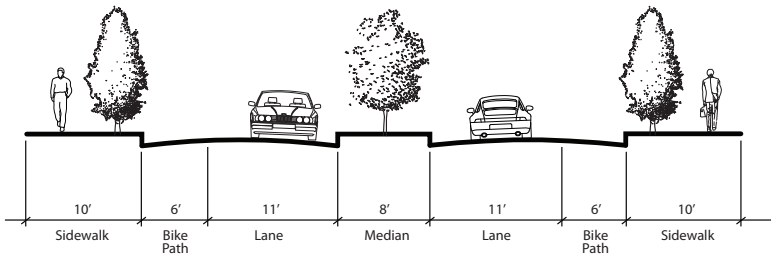
Although one of the goals is to reduce the number of auto trips made within the site, we must also not create extra congestion by neglecting the need for efficient auto access. The site will be accessible by two entrances off of Foothill Blvd. Whenever possible, parking lots will be placed to the rear of buildings with entries and windows fronting the street and sidewalks. The townhome garages will also be placed to the rear, emphasizing a shared open area between home fronts. This promotes better and more frequent community interaction and bonding.



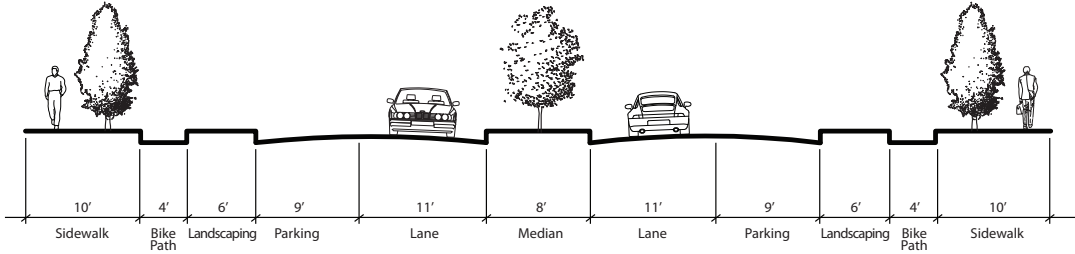
Legend

- Specific Plan Boundary
- Existing Roads
- Proposed Roads
- Class I Bike Path
- Existing Transit Stop
- Proposed Transit Stop

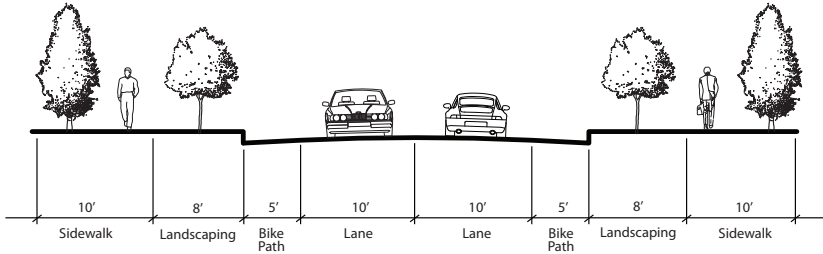
Figure 6.1 Master Circulation



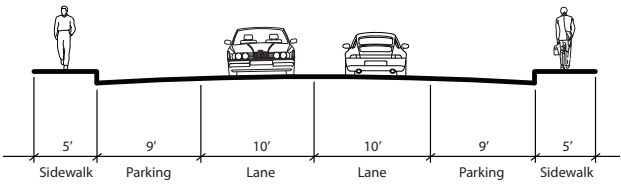
Street Section 1: Site Entrance



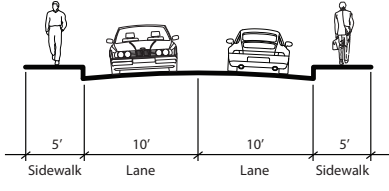
Street Section 2: Main Road



Street Section 3: Loop



Street Section 4: Residential

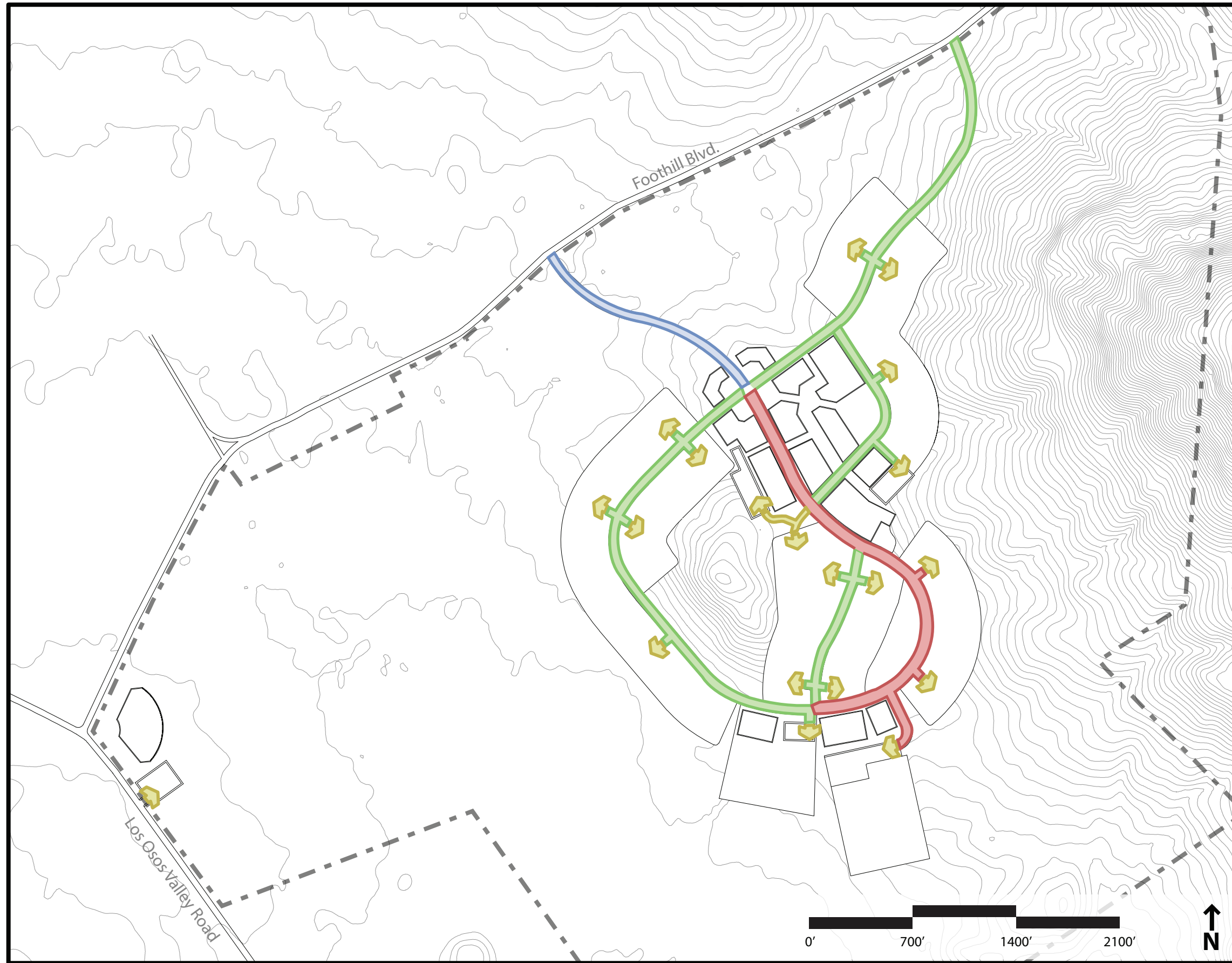


Street Section 5: Alley

Transit

Our internal shuttle system will further increase mobility and help the environment by reducing the number of auto trips within the site. This shuttle will also serve the regional wine center planned on the corner of Los Osos Valley Road and Foothill Boulevard. Additionally, one new bus stop is being proposed near the entrance of the site. This would lead to direct transit connections to Cal Poly, Cuesta College, downtown, and important destinations in between.





Legend

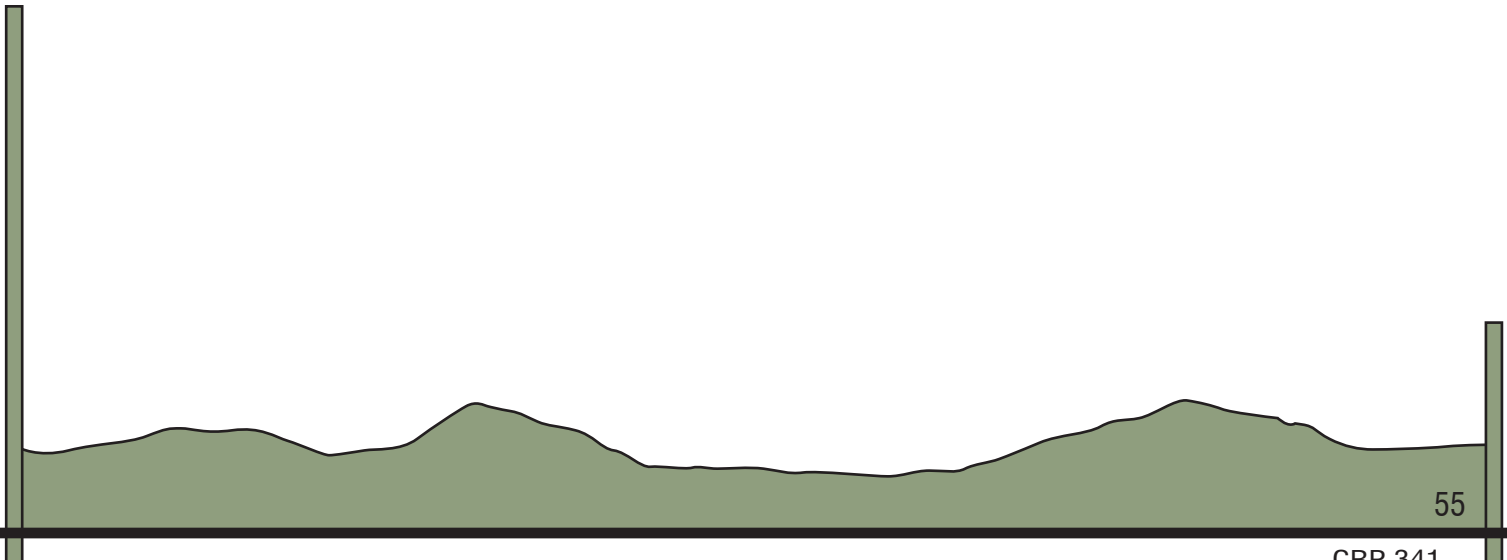
- Specific Plan Boundary
- Blue box Main Entrance
- Red box Main Road
- Green box Loop
- Yellow box Access Points

Figure 6.2 Street Hierarchy



chapter 7

Public Facilities



Introduction

The public realm is comprised of public facilities onsite along with public facilities and safety services provided by the City of San Luis Obispo. Public facilities and services are critical in order to create the character of the development envisioned by the specific plan. The city, county and other governmental agencies provide a broad range of public services. They are citywide services provided for the protection, health, and safety of the community's individuals. The Laguna Entrada site will provide a variety of public facilities including a library, an elementary school and a community center. All three of these buildings will be located in the same area, allowing them to easily serve one another.

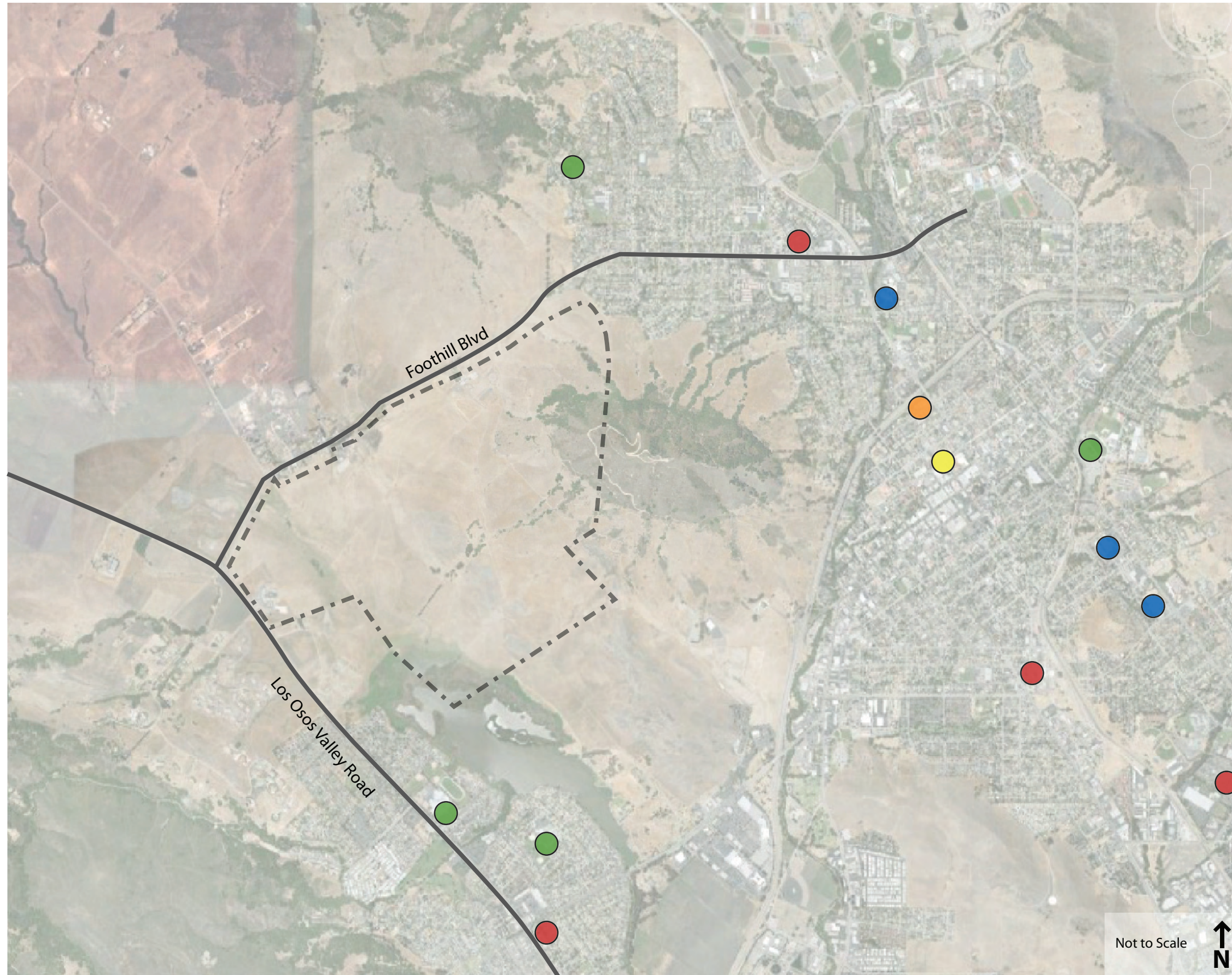
Fire Services

There are currently four fire stations in San Luis Obispo. Fire Station One, located at 2160 Barbara Avenue, cost \$3.2 million to build and was designed to support the fire department into the next century. Fire protection to the site is provided by Fire Station Number Four located at 1395 Madonna Road, the intersection of Madonna Road and Los Osos Valley Road. The station is approximately 2.4 miles away and staffed by a 3-person paramedic engine company. Because Fire Station One was built to withstand growth for the fire department, one can assume that very little development for new fire stations would have to be done for Laguna Entrada. The only precautions that would have to be taken for new development in the project area would include the hiring of more fire fighters and paramedic crews.



Police Services

The San Luis Obispo Police Department, located at 1042 Walnut St, serves all of San Luis Obispo. The police department is approximately 3.1 miles from our project site and consists of 87 employees, 61 of which are sworn police officers. The estimated response time for a call from the site if a vehicle is dispatched from the department is somewhere in the neighborhood of 15 minutes; response times may



Legend

- Specific Plan Boundary
- School
- Fire Station
- Medical Facility
- Police Station
- Library

Figure 7.1 Public Facilities

be faster if there are patrol cars in the vicinity. Another branch of law enforcement in San Luis Obispo is the Highway Patrol, located at 4115 Broad St. The Highway Patrol Office is approximately 4.9 miles from the proposed site.

Medical Facilities

There are two major hospitals in San Luis Obispo. There is the French Hospital which is located off of Johnson Avenue and Lizzie Street, approximately 4.2 miles away. The other hospital, The Sierra Vista Regional Medical Center, is much closer being located on Murray Street, approximately 2.9 miles away; Sierra Vista Regional Medical Center can hold 165 patients at a time. Even closer to our site is an urgent care type center called Medical Stop. In the past year, this facility saw approximately 20,000 patients, and can take about 5,000 more patients a year totaling 25,000 patients.



Proposed Public Facilities

The specific plan area is served by the San Luis Coastal Unified School District. The four existing public schools that are closest to our project site are: C.L. Smith Elementary School and Bishop's Peak Elementary School, Laguna Middle School, and San Luis Obispo High School. The elementary schools are close to their maximum capacity and would not be able to accommodate the future residents of our site area. In response, there will be an elementary school built on the site that will serve grades K-6.

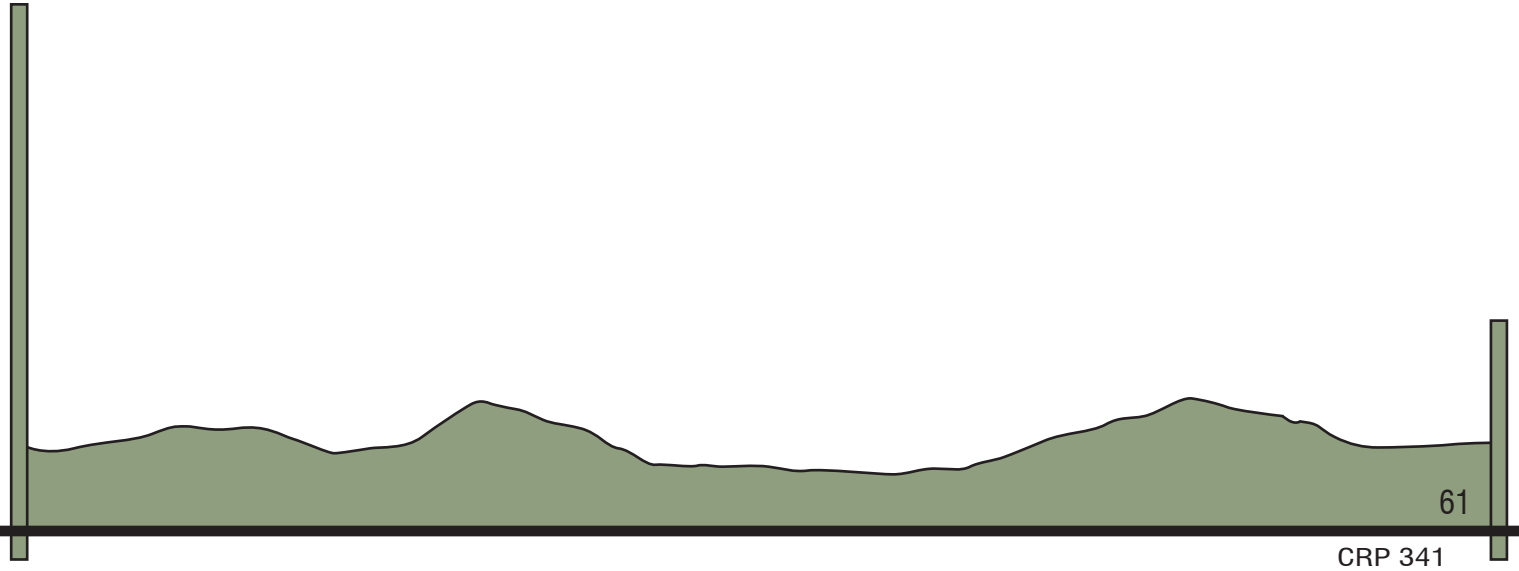


There will be a small public library built on the site adjacent to the elementary school, for convenient access by students as well as the surrounding community. Existing library services are provided by the San Luis Obispo Library, located at 995 Palm Street. Next to the library there will be a community center. The community center will be used for recreation classes and city events and will also be available for private rental.



chapter 8

Village Center





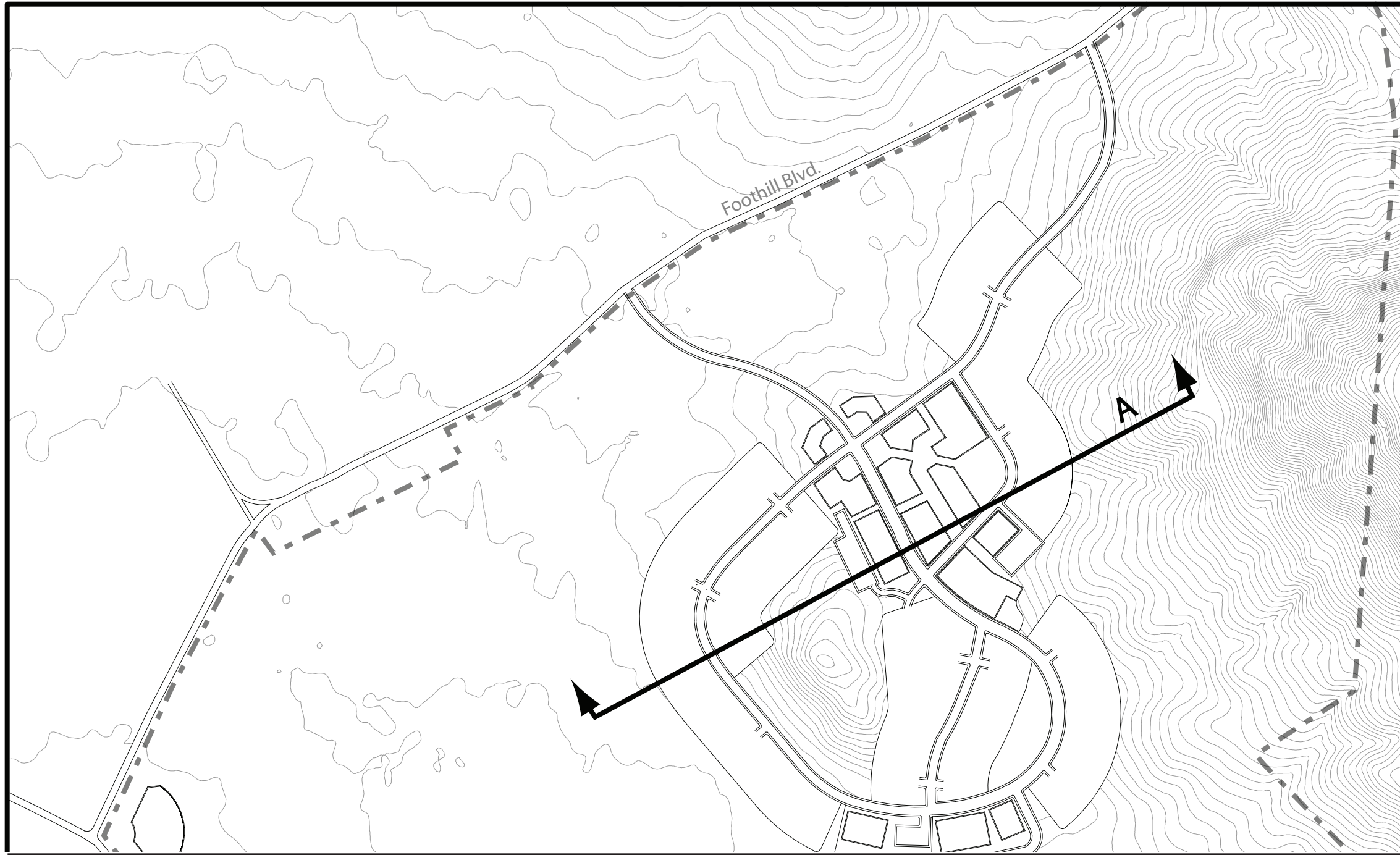
Introduction

The Village Center is envisioned as the heart and primary focus of the Specific Plan. It provides a true interactive mixed-use neighborhood. Retail, office, public spaces and parks are integrated with a variety of housing types. The mix, density and boundary between these uses create an environment that is pedestrian friendly. The Village Center is a core feature and a unique place within the Specific Plan. It is influenced by the concepts embedded in traditional small town urban villages and smart growth principles such as a mix of uses, compact development form, a variety of housing opportunities and a pedestrian-friendly environment. Pedestrian amenities are a main focus; the Village Center includes a variety of pedestrian pathways, mid-block crosswalks, streetscape improvements and a public park. Included are a blend of higher density residential types, commercial and service uses and public spaces. The increased density of development and spatial relationship between uses promote diversity, activity and pedestrian orientation. The Village Center will have a noticeable presence in the community and create a destination where residents may live, shop, eat and recreate. Interaction and socialization are primary goals.

The village core will be a small scale, comfortable environment which promotes activity and community interaction. Sustainable materials will be used for sidewalks,



Figure 8.1 Illustrative Site Plan



Legend

--- Specific Plan Boundary

Section A

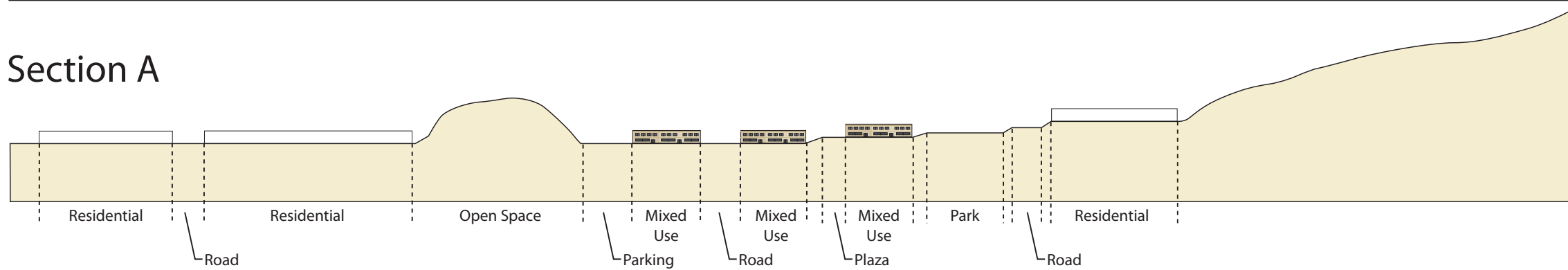


Figure 8.2 Site Section



roadways and buildings. It will serve as a community focal point through its attractively designed mix of retail, office and housing. It will provide a location for public activities and a gathering place for residents to enjoy their downtown environment. The village center will have a cohesive design which unifies its appearance with the rest of the development and has a positive visual impact on the main corridors.

Location

Laguna Entrada's Village Center is offset from Foothill Boulevard. This is to buffer the area from the noise and traffic Foothill creates. Within the development the village core is central to the housing, for convenience and to reduce vehicular use.

Mixed Use and Commercial

The village core will be made up mostly of two-story mixed use with commercial on the first floor and residential units on the second floor. This will provide the highest density housing on the site. Mixed use reduces the dependency on automobiles and promotes walking which is vital and necessary for a healthy urban area. Some of the buildings in the village core will also serve as parking structures by providing parking on the second floor versus housing.



Plazas and Public Space

There are many plazas throughout the village center. Public space and public life go hand in hand. The major factors in creating a successful plaza are: function, character, ideal layout, sitting space, environmental factors, and access and circulation. The largest plaza area is comprised of four different plazas, located on each of the four corners. Also included in our design is a creek side plaza, where people can relax and enjoy the natural scenery. The walkways within the core serve as public plaza areas as well.



chapter 9

Phasing and Implementation

Introduction

It is not expected that Laguna Entrada will be developed all at once. Rather, the site will be divided into individual phasing areas. This chapter is to summarize the plans for implementing the Laguna Entrada Specific Plan. These are only recommendations and future decision makers may choose to implement these ideas in whole or in part, based on the demands of the city.

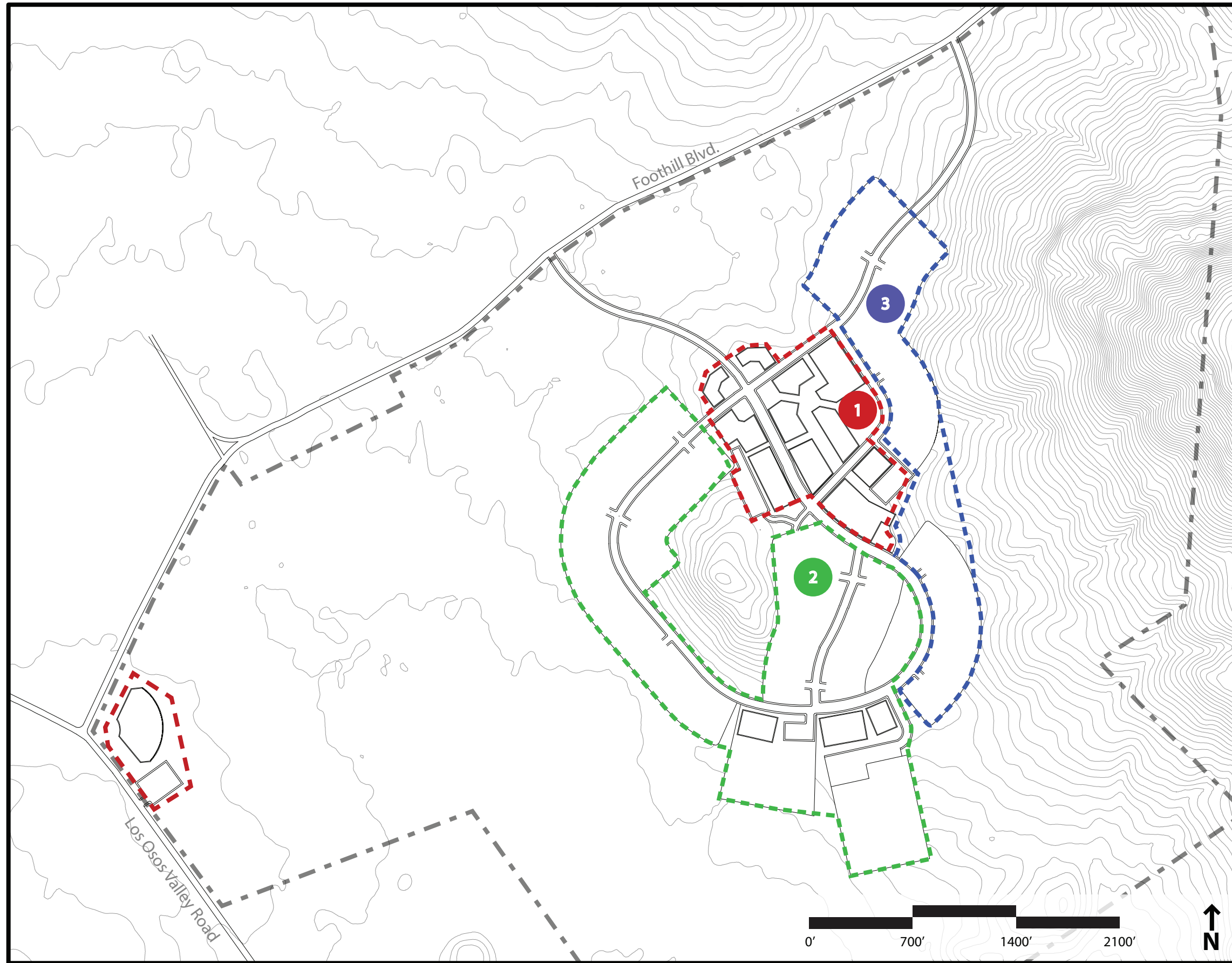
Laguna Entrada identifies separate development phases within the study area. Phasing is based on analysis and consideration of key market information. The phasing plan provides an analysis of development opportunities and constraints within the Laguna Entrada site. It is driven by the presence of existing and proposed infrastructure, and can be used as a guide for future infrastructure planning.



Phasing Areas

The plan identifies three phasing areas. These areas are based on the opportunities and constraints each area presents. Area 1 covers approximately 28 acres which contains the mixed use. The mixed use is a high density portion of the development that will bring in most of the revenue to the site. This area is considered to be the first phase of development in Laguna Entrada. The second phasing area covers approximately 79 acres and consists of multi family housing and public facilities. The public facilities include a community center, elementary school, and library. The third and final area covers approximately 31 acres and is comprised of single family housing. Phasing of housing is based on price with the least expensive housing generally being built first. More expensive homes are typically harder sell, especially when the surrounding area hasn't been built up yet. Since single family housing is more expensive compared to multi family housing it is therefore the final phase.





Legend

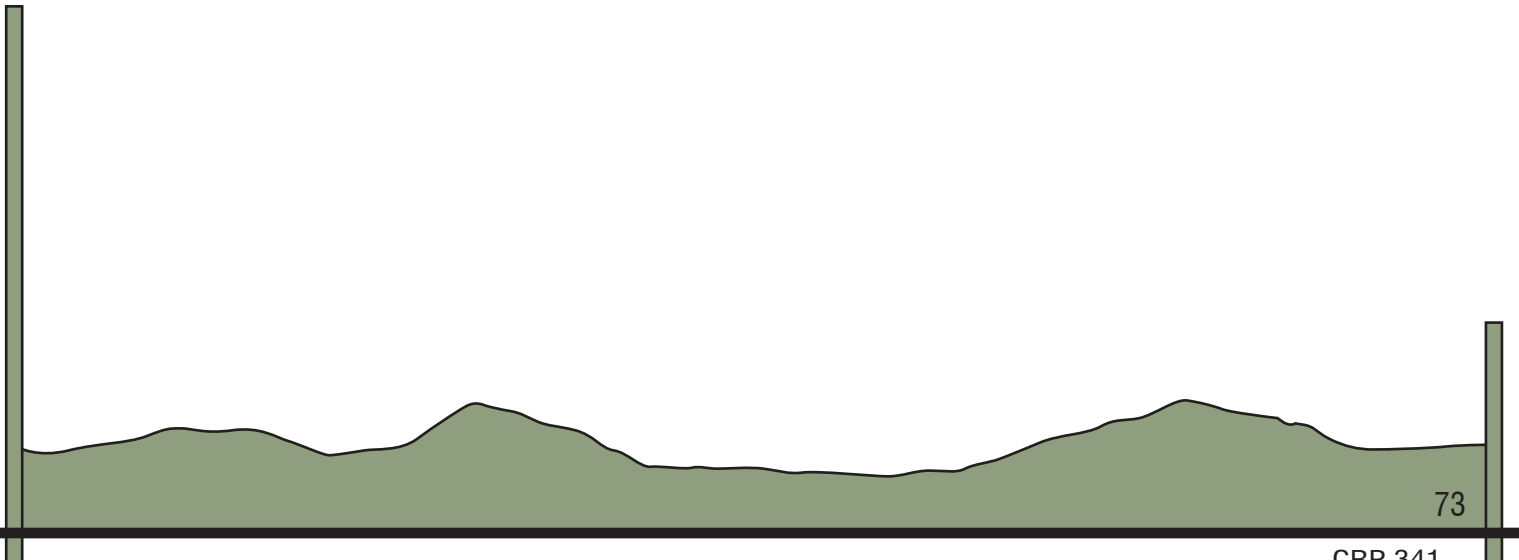
- — — Specific Plan Boundary
- — — Phase I
- — — Phase II
- — — Phase III

Figure 9.1 Project Phasing



chapter 10

LEED Analysis



Introduction

The LEED for Neighborhood Development (LEED-ND) criteria was designed as a ratings system to determine how sustainable a new planned community would be. If the project meets certain requirements typically found in sustainable developments, points are earned toward the project's LEED accreditation. The four levels of accreditation are Certified, Silver, Gold, and Platinum. The criteria is divided up into three main categories of requirements—Smart Location & Linkage (SLL), Neighborhood Pattern & Design (NPD), and Green Construction and Technology. A fourth category, Innovation & Design Process, also provides the opportunity for a few bonus points. In each section there are several points that are required by LEED in order for the site to become accredited. After this, points are awarded based on how well the project fulfills each credit.

LEED ND Criteria

The first section, Smart Location & Linkage, awards sites based on where they are located and how well they can be integrated into the surrounding area. Issues such as avoiding habitat and wetlands, building on brownfields, preserving prime agricultural land, and building near existing infrastructure are rewarded in the ratings system. LEED also encourages sites to be located near areas that will decrease vehicle miles traveled. More points are awarded to sites located a short distance from schools, jobs, bike paths, parks, and retail centers.

The second section, Neighborhood Pattern & Design, deals more with the design of the proposed site. This is the section that promotes smart growth and active living. The LEED-ND ratings system encourages sites to include several land uses, such as residential, commercial, and public use, within walking distance of each other. The main reason this is rewarded is that it decreases the vehicle miles traveled in and around the site. The NPD section also promotes developments to include bike paths and walking trails which provide inner connections on the site, as



well as connections to the surrounding areas. The project earns more points towards accreditation based on how many jobs are located within walking distance from the residences. This is also the section where LEED rewards developments for compact development and high density housing in order to reduce sprawl.



The third section, Green Construction & Technology, addresses the issues of the site actually being built. This is where LEED recognizes sites that are efficient in both their energy and water usage. Several points are also available for the type of construction that is used during the building process. This section deals less with the design of the site, but is arguably one of the most important parts of how sustainable the site will be.

Laguna Entrada Results

When tested through the first two sections of the LEED ND criteria, Laguna Entrada receives approximately 32 of the 69 available points in Smart Location & Linkage and Neighborhood Pattern and Design. The project makes most of these points in the Neighborhood Pattern and Design portion, which is based more on the layout of the site plan. The development loses the most points in the Site Location and Linkage section. This is mostly due to the site being isolated from other major developments. The project does, however, have an opportunity to make up these points in the Green Construction and Technology Section. Points from this section depend largely on the way the site is built during construction. Based on these numbers it is feasible for the site to reach LEED accreditation status of Certified (40-49 points) or Silver (50-59 points).

Categories		Points Possible	Laguna Entrada Points
<u>Smart Location and Linkage</u>			
Prerequisite 1	Smart Location	Required	Complete
Prerequisite 2	Proximity to Water and Wastewater Infrastructure	Required	Complete
Prerequisite 3	Imperiled Species and Ecological Communities	Required	Complete
Prerequisite 4	Wetland and Water Body Conservation	Required	Complete
Prerequisite 5	Farmland Conservation	Required	Complete
Prerequisite 6	Floodplain Avoidance	Required	Complete
Credit 1	Brownfield Redevelopment	2	0
Credit 2	High Priority Brownfield Redevelopment	1	0
Credit 3	Preferred Location	10	0
Credit 4	Reduced Automobile Dependence	8	3
Credit 5	Bicycle Network	1	1
Credit 6	Housing and Jobs Proximity	3	0
Credit 7	School Proximity	1	1
Credit 8	Steep Slope Protection	1	1
Credit 9	Site Design for Habitat or Wetlands Conservation	1	1
Credit 10	Restoration of Habitat or Wetlands	1	1
Credit 11	Conservation Management of Habitat or Wetlands	1	1
Total SLL		30	9
<u>Neighborhood Pattern and Design</u>			
Prerequisite 1	Open Community	Required	Pass
Prerequisite 2	Compact Development	Required	Pass
Credit 1	Compact Development	7	1
Credit 2	Diversity of Uses	4	2
Credit 3	Diversity of Housing Types	3	1
Credit 4	Affordable Rental Housing	2	1
Credit 5	Affordable for Sale Housing	2	1
Credit 6	Reduced Parking Footprint	2	2
Credit 7	Walkable Streets	8	7
Credit 8	Street Network	2	0
Credit 9	Transit Facilities	1	1
Credit 10	Transportation Demand Management	2	2
Credit 11	Access to Surrounding Vicinity	1	0
Credit 12	Access to Public Spaces	1	1
Credit 13	Access to Active Public Spaces	1	1
Credit 14	Universal Accessibility	1	1
Credit 15	Community Outreach and Involvement	1	1
Credit 16	Local Food Production	1	1
Total NPD		39	23
Total SLL and NPD		69	32



appendix

- Case Studies
- Visual Preference Survey

Introduction

In this chapter we began with some outside research to help ourselves develop the appropriate design approach to take with Laguna Entrada. To start, our group did some research to develop a criteria with which to evaluate two different case studies. Each team member researched a different resource and summarized their guidelines. As a group we discussed each of those guidelines and came up with one comprehensive theoretical framework with which to evaluate our case studies. Our case studies consisted of Ladera Ranch and The Irvine Ranch, both in Orange County, California.



Group Resources

- People + Places + Places: A design guide for urban New Zealand, Ministry for the Environment.
- The Next Metropolis, Peter Calthorpe
- Katie's Resource
- Kelsey's Resource

Theoretical Framework

Commercial

Commercial districts must create a true town center. It is necessary to have a concentration of civic, institutional, and commercial activity in a specific neighborhood, not isolated in a single-use complex. The location of a commercial center is key to its success. They require a larger service area so they must be near main streets and large roadways. Community by Design by Kenneth B. Hall and Gerald A. Porterfield, describes several different types of commercial centers that could fit into any type of community. The strip center is, just as its name suggests, a straight line of shops adjacent to usually a large parking lot. The cluster design is meant to reflect purely a pedestrian space. The interior space resembles a small village of a downtown district. The generic mall is centered on a cluster design but it is indoor for

weather protection. Most customer parking is located within 300 feet of the building so it is essential that parking flows with circulation patterns as well. The success of commercial districts in a community is essential for the local economy and must be easily accessible to all residents.

Public Spaces

Public spaces, parks and recreation are all vital parts in creating a successful community. They are the nodes of a city that bring the public together building a stronger community. There are three categories of public spaces: paths, portals and places. Paths are ways of moving from place to place or the circulations. Portals can be described as transition and transformation, and a place is a destination. Human activity is what shapes cities, along with climate and geography. Good public spaces are defined by definition, significance, identity, connectedness, character, sensuality, beauty and habitability. You can look at public space as a container;

think of it as a volume defined by boundaries. Within those boundaries, activity and ambience are found. Activity is the movement within or the circulation, and ambience is the mood, atmosphere and its feeling.



Parks

Parks more specifically are fundamental parts of urban design. They enhance the quality of life and conserve our natural and developed environment for current and future generations. A successful park can be defined by five traits: accessibility, activities, comfort, image and sociability. Accessibility is the connections to surroundings, both visual and physical. Activities are the building blocks of any place; it's best to have a variety of activities for a variety of ages. Creating a comfortable space includes safety, cleanliness and providing seating. The hardest of the traits to achieve is sociability. Creating a sociable place isn't something anyone can just design or build. You must have a successful place with a tight knit community

Housing

Communities shall provide a wide range of affordable housing opportunities and choices- brings together people of diverse ages, races, and incomes into daily interactions, strengthening the personal and civic bonds essential to an thriving community. This also means that communities should not cluster areas into single uses. Instead, neighborhoods should be interconnected, where the distinction between homes and incomes is blurred by creating subtle transitions between them. Mixed-use and live-work should be most concentrated in and around the core area. A certain portion must be affordable for low income people. (ex: 15% of all rental units must be priced for households of 50% of the median income; 30% for 80% of median income, etc...)

For any non-residential buildings and multifamily residential buildings that are part of the project, locate all off-street surface parking lots at the side or rear of buildings, leaving building frontages and streetscapes free of surface parking lots.

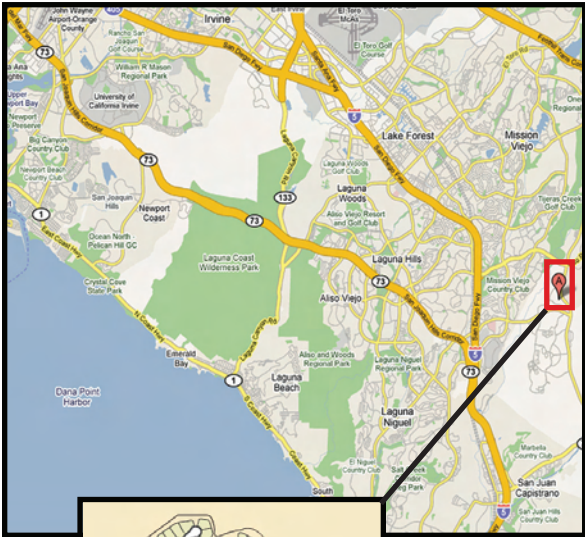
Environmental

Humans are the number one factor in climate change. Communities shall aim to contribute the smallest amount of impact on the environment as possible. Implementation of Low Impact Development can preserve natural water flow and protect the wildlife. Examples include, but are not limited to permeable pavers in parking zones, crosswalks, swales integrated in the street designs... Site should preserve the wetlands, view sheds, and respect the flood zones. Developments shall also implement practices to reduce auto- use to, from, and within the development. Design energy-efficient, LEED certified structures that cut down on energy consumption. Recycle as much as possible, on-site energy generation if possible, and minimize light pollution. Use vegetation buffers, instead of solid walls where practical.

Ladera Ranch

Site Location and Context

Ladera Ranch is a 4,000 acre planned community in Laguna Hills, CA. Construction of the community began in 1998 and was complete in 2006. The



site includes single-family detached residential, town center, open space, retail, office, live/work, apartments and condominiums. More specifically, there are 1,800 homes and 1 million square feet of commercial space. Ladera Ranch was one of the nation’s most innovative master planned communities in 1999.

Ladera Ranch was built on portions of the 23,000-acre Rancho Mission Viejo cattle ranch. The site is located in Orange County and is bordered on the west by the City of Mission Viejo, on the south by the City of San Juan Capistrano, on the north by the community of Las Flores, and on the east by the remaining portions of the Rancho Mission Viejo.

Commercial

There is a diversity of activities within the Ladera Ranch community. It is amenity rich with parks, pool, village clubs and more. There is an urban activity center featuring commercial, business and public facilities, a neighborhood commercial center, and a town center consisting of commercial, retail, office and restaurants. The design of the community features an activity spine providing a linear park linking all of the Villages to community uses and open space areas, schools and community parks. Residents are given a Ladera Ranch access card which serves as a ticket to all the amenities Ladera Ranch has to offer. Resident’s cards are needed to get into the six pools and four clubhouses.

In Ladera Ranch, there are three main commercial centers: Bridge Park Plaza located on the west end, and Mercantile West (Fig. 2.1) and East Shopping Centers both located on the east side. Other commercial spots include the Terrace Shops, Urban Activity Center, Front Street, and Banister Street. These include a long list of restaurants, grocery shopping, cafes and other retail conveniences. All of them are near main roads and have ample parking, since most residents must drive there. Some of them incorporate live-work and mixed-use with housing on the upper levels.

Circulation

Ladera Ranch is served by the Orange County Transportation Authority (OCTA) route 82, which has stops serving the development along Crown Valley and Antonio Parkways. 82 runs from Foothill Ranch to Laguna Niguel (in both directions) via Portola Pkwy, Santa Margarita Pkwy, Antonio Pkwy, and Crowne Valley Pkwy (Fig. 2.2). This route is designed primarily with the commuter taking Metrolink (Fig. 2.3) in mind, but is frequent enough to appeal to those living in Ladera Ranch- that is if the residents can even easily access the road by foot or bike.

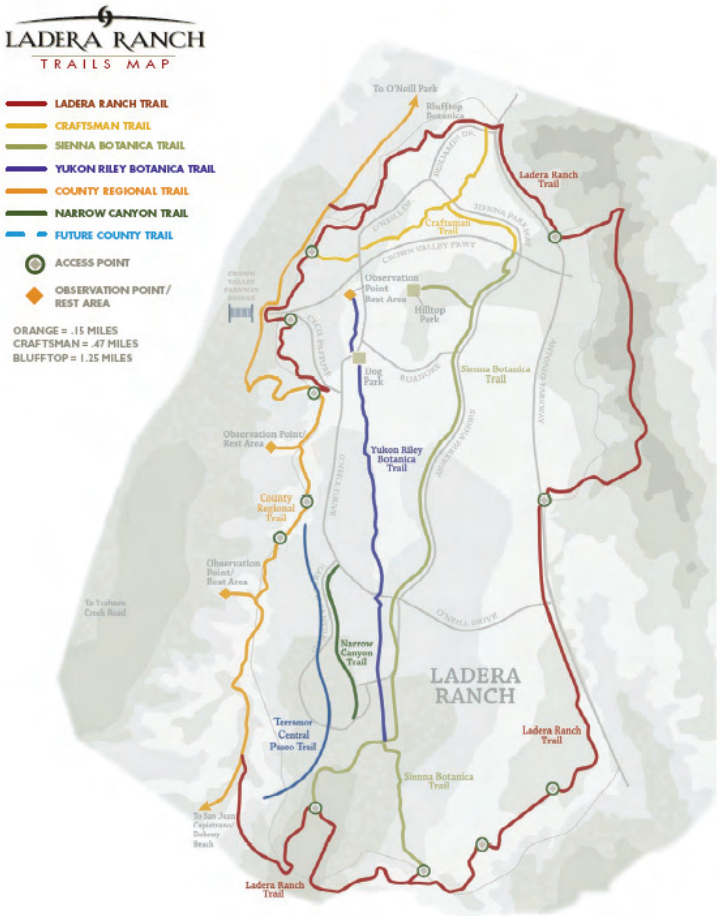
The street pattern of Ladera Ranch is not conducive to smart growth principles. There are a lot of clusters of curvilinear streets that dead end, offering no direct or alternative ways through. All these curvilinear street clusters funnel into one collector that connects to the main road network of the development. This also discourages walking for activities outside the development. Overall, the external connectivity is poor. Most would have to drive to train station or ride their bike to catch the bus to the train station. However, the internal trail/path network is adequate enough so that a good portion of residents can easily walk to nearby shops and restaurants located within in the development.

Although Ladera Ranch is designed primarily autos, its street are pedestrian and bike friendly. The streets have segregated pedestrian paths running in front of the houses. Additionally, Ladera has a good internal recreational trail network. The streets are narrow enough so that traffic speeds are more accommodating of bicyclists, and there are also landscaped street medians and roundabouts that serve as speed-reducing measures.



Recreation and Parks

Each 900- to 1,400-home Village contains a core comprising a village club along with other public facilities including a childcare center, school, library, and village green. Between the villages are a four-mile-long promenade, open space, and activity corridor that links residents with community facilities in their own and other



villages.

Of the 4,000 acres of land, 1,600 of that area is natural open space. Ladera Ranch has seven trails, with connections to the County Regional Trail System (Fig. 2.4). There are also 16 diverse parks. All homes are located within two blocks of a neighborhood park or open space. Founder’s Park has nine acres of soccer fields, baseball diamonds, two sand volleyball courts, barbecue grills, picnic tables, two playgrounds and restrooms. Terramor Skate Park has restrooms, open grass area and skateboard bowls, rails and other obstacles. Terramor Aquatic Park has a pool with beach type entry, two-story play structure with many different water features, restrooms, picnic tables, barbecue grills and a little kid bike course. Wagsdale Park has a large dog area, small dog area, shade structures, bench seating, restrooms and lower sports field.

Housing

There are 8,100 homes within the Ladera Ranch community. These include a variety of residential types at a variety of prices; there are rental apartments, stacked condominiums, townhomes, live/work units, single-family detached homes, semi-custom homes and large, estate-sized custom homes. Ladera Ranch reflects the aesthetic charm and neighborhood structure reminiscent of traditional Southern California towns. Ladera Ranch is organized into villages. These villages are then broken into districts, which are then broken into individual neighborhoods. Physical features and public amenities define each. The Ladera Ranch Village of Terramor



has one of the largest concentrations of green-oriented designed and constructed homes in the nation.

This planned community is a breakthrough model for sustainable, green-building practices. It is the nation's largest solar community, and one of the largest concentrations of green-designed and –constructed homes in the United States. The community's tow villages, Terramor and Covenant Hills, have incorporated a wide range of pioneering green building techniques. A central bio-filtration system collects and naturally treats low-flow storm water runoff, and centralized computer system tightly controls irrigation, reducing water use.

Environment: Ladera Ranch LEED Analysis

Regarding the smart location, the Ladera development only satisfies one of the options. The development satisfies option 3 of Smart Location. Neighborhood shops, services, and facilities are located within and nearby the community. In the linkages section, water is provided by the Santa Margarita Water District. The project is not located around any plains, and does not encroach upon any prime agricultural land or contaminated brown-field sites. They do make an effort to preserve the seasonal wetlands around the site. Located off the eastern portion of the Ladera Ranch Trail are two Vernal Pools, seasonal wetlands that pond water following winter and spring storms. The pools are habitat for the two federally listed endangered animals: The Riverside

fairy and the San Diego fairy shrimp. It is also home to a rare plant, the Mud Nama, once thought to be extinct from Southern California but recently found in the Chiquita Ridge Pools. Ladera



does not score highly in the preferred locations section, because the area around it is not infill (mostly sprawling suburban housing). Ladera also earns minimum points in reducing automobile dependence due to its clustered curvilinear street pattern (however the streets themselves are very pedestrian friendly). It fulfilled the minimum level for the transit option, because the development is built along a county bus route (however the frequencies are inconsistent and inadequate for the majority

of non-commuters. Ladera does do well in the bicycle network section. Ladera has a fairly good internal trail network that also provides connectivity externally. Ladera makes an effort in the housing and jobs proximity section, but fails both options. There are only a few live-work, mixed-use plazas in the entire project, and due to the external contexts, there are not a lot of jobs nearby. Ladera has several elementary and schools inside of the development, satisfying the school



linkage. Unfortunately, Ladera does not protect all of their steep slopes. Some of them are covered with homes or backyards.

Ladera does very well in the open community aspect of LEED. Ladera's layout, path network, numerous parks, and schools, help strengthen community bonds and interaction. Ladera's development is fairly compact with many lots in a limited area, but the homes are HUGE, so Ladera fails the compact development prerequisite. Ladera does have a diversity of uses located nearby the residents. There is quite a bit of variety in the housing designs, but no diversity in housing types. You will find no affordable homes in Ladera Ranch, period. Ladera tries to reduce the amount of surface parking. In most cases, homes have garages facing the street, but some have parking located in the back or off to the side. Transit facilities again, are very minimal. By the looks of satellite images, there are no bus shelters to protect riders from the elements. External connectivity is not great, unless you drive. Access to

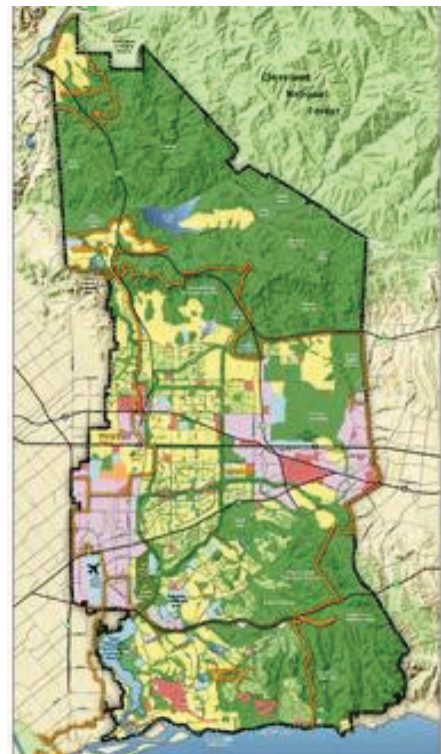
public and active spaces is plentiful and within walking distance of most homes. Universal Access is fully satisfied, with ADA fully compliant structures and paths. Ladera also has local food production through their weekly Farmers' Markets.

Green Construction and Technology is one of the few elements where Ladera Ranch excels in. Ladera plans to encompass a new community of 1,260 green-designed and green-constructed homes, all built to exceed California's energy-efficiency requirements by 20%. Destined to become the largest residential solar and "e-car" site in the nation, the builders at Terramor will install photovoltaic panels on rooftops and electrical-vehicle recharging stations in every garage. Additionally, all new homebuyers in Terramor will receive vouchers of up to \$1,000 off the purchase of each new GEM zero-emission electric car via a partnership formed by Terramor's master developer, Rancho Mission Viejo, Global Electric Motorcars (GEM), a DaimlerChrysler Company, and Tuttle-Click Dodge in Irvine, Calif. Terramor homes will showcase green landscaping and water-wise irrigation techniques, energy-efficient appliances and lighting, in-kitchen recycling centers, low formaldehyde carpeting and fiberglass insulation, as well as environmentally preferable architectural material such as recycled and arsenic-free lumber, cork or bamboo flooring and much more.

Despite this noteworthy performance in Green technology and construction, Ladera fails in numerous other requirements and prerequisites involved in the LEED certification checklist.

Irvine Ranch Site Location and Context

Irvine Ranch is a 94,000 acre planned development located across south Orange County, California. The land was bought by James Irvine in 1864 from Spanish land grants, and was incorporated as the Irvine Company in 1894. Today the ranch includes areas of several cities including Irvine, Laguna Beach, Anaheim, Newport Beach, Orange, and Tustin. The Irvine Company is a real estate development group that owns



44,000 acres of the ranch for development. Although the area is in high demand for development, a majority of the land has been designated as permanent open space.

One of the reasons Irvine has been so successful is that the new communities have been planned around a major university and large industrial areas. The University of California Irvine is centrally located on the ranch, which provides both jobs and educations to people in the surrounding areas. The Irvine Ranch also includes many large industrial centers which bring in commuters from all over southern California. Directly across from the Irvine Business Complex is the John Wayne Orange County

Airport, which serves as a gateway to Orange County.

Housing

The Irvine Ranch is mostly made up of individual neighborhoods, or villages, which provide a diverse range of housing choices. Each village includes areas of attached housing, such as townhomes and apartments, as well as single family detached housing. By incorporating a wide variety of housing types for people of different incomes, the community helps to bring people together of diverse ages and

racess. Although the villages provide many options for housing, they lack any kind of connection which would bring the neighborhoods together. One new housing addition to the Irvine Ranch is the use of high-rise apartments. Located near the Irvine Business Complex and John Wayne Airport, The Plaza consists of two towers each containing over 100 units. With the addition of these towers, Irvine has created a denser and more urban living environment. Located on only 2.3 acres, this development provides housing for a much larger group of people per acre than traditional single family developments. High rise developments are becoming a quickly accepted trend in Orange County, and it is projected that half a million residents of the area could be living in high rise apartments 20 years from now.



Circulation

Transportation throughout the Irvine Ranch is largely dependent on automobiles. With the I-5 and I-405 passing directly through the area, Irvine serves as the central core for travelers going anywhere in southern California. As a result the area has seen a large growth in traffic congestion over recent years. To help deal with this problem toll roads were added to provide a quicker and easier way to commute. Many people in the area have also decided to use the Amtrak line which runs through the city. This line serves people commuting to work in both the Los Angeles and San Diego regions. Another alternative people have chosen is the Orange County Transit Authority, or OCTA. This bus line runs to all the major areas in the Irvine Ranch.

Commercial

The Irvine Ranch provides several major commercial areas which serve as town centers for the local neighborhoods. The Irvine Spectrum Center, owned by the Irvine Company, is the entertainment and retail center of the Irvine Ranch. With parking lots and structures located around the development, the interior space resembles a small village or traditional downtown. The walkways running through the site with shops on both sides create the feeling of an automobile-free street. With its wide variety of shops and restaurants The Spectrum can provide hours of entertainment. Another of these centers is Fashion Island, located at the center of Newport Beach. Similar to The Spectrum, this outdoor shopping district features many unique shops and restaurants. Adjacent to Pacific Coast Highway, Fashion Island is easily accessible from all areas of Orange County. Within each neighborhood on the Irvine Ranch are smaller shopping centers which serve the people of that community. These shopping centers provide the basic stores to accommodate the public's needs.



Parks and Recreation

The Irvine Ranch has 50,000 acres of permanently protected parks and wildlands. This makes up over half of the property area. This land is mostly managed by the Irvine Ranch Conservancy. This ranch is maintained by local governments, private owners, public agencies, as well as small non-profit organizations. The land is home to many native plants and animals, and is known for its vast mountains, peaceful meadows and sandy beaches. 37,000 acres of the site were recently named a National Natural Landmark, which recognizes its value to the entire nation. This



section of the land is valued for its biological diversity and Mediterranean climate. It is also inhabited by large coastal sage brush communities that feature grasslands, oak woodlands, stream corridors, and populations of endangered plants and animals. The site also features several hiking and bike trails that are accessible to the public. The larger parks on property are the Limestone Canyon Wilderness Area and Fremont Canyon Wilderness Area. Crystal Cove State Park, also

included in the property, includes three and a half miles of beach and 2,790 acres of wooded canyons and bluffs. The Irvine Land Conservancy works hard with landholders and planners toward exceptional conservation management and public access to the area.

Irvine Ranch offers a balance between work and leisure. While the area is primarily the business hub of Orange County, it still provides a place for 230,000 people to call home. Its attention to the preservation of open space has given Irvine Ranch a unique reputation as it continues to grow into a highly industrialized, urban space. Because of its reputation, Irvine Ranch is considered one the largest and most successful urban master-planned communities in the United States.

Environment: Irvine Ranch LEED Analysis

When compared to the LEED-Neighborhood Development criteria the Irvine Ranch meets many of the requirements stated in the document. Although LEED-ND was created for smaller individual projects, many of the principles still apply to the entire Irvine Ranch. Irvine was developed in a smart location in that it was in an area which could support large amounts of growth in a short amount of time. The project would



also receive points in the LEED criteria its preservation of habitat. Over 50,000 acres of the 94,000 acre site have been designated as permanent wildlife areas. This is important because it keeps the area from becoming over-developed. Irvine would also receive points for its efficient public transportation systems. Several bus lines run throughout the city, and two train stations are located on the Irvine Ranch.

The Neighborhood Pattern and Design section of the criteria contains more information on the actual design of a project. In this section many of the communities would fail the criteria based on the first pre-requisite. This requires communities to be open, but many neighborhoods in Irvine have gated entries, meaning they could not get LEED certification. One of the main points of this section is compact design and smart growth. Based on the traditional single family neighborhoods Irvine has built in the past, the area would not do well in the LEED criteria. However, the city has begun building high density residential towers which take up little land area. Irvine would also receive points for providing a large diversity of uses. The area is full of residential, commercial, and industrial land. One point where Irvine would not do well is in affordable housing. Very little housing in Orange County is considered to be affordable.

The third section, Green Construction and Technology, deals mainly with the

construction of a site and less with the actual design. Irvine would receive several points in these areas for its efficient storm drains and wastewater management programs. Because many of the communities in Irvine are quite old, little information is available about their construction processes, making it difficult to analyze the site from a LEED-ND perspective. Even though LEED-ND would not be used to critique such a large site like the Irvine Ranch, many of the basics of sustainable development still apply.



Commercial

City and Regional Planning Department

Visual Preference Study

Interviewer: _____ Location: _____ Interview # _____

This is a class assignment for CRP-341 (Community Design) at Cal Poly's City and Regional Planning Department. Our class is developing a concept plan for the area of 922 acres between LOVR, Foothill Rd., Cerro San Luis, and the Laguna Lake Park. We would like to gather your aesthetic preferences for which developments would be best suited for the site. Please take a minute to look at each of the images below, and make a circle around the value that best expresses your opinion for the area, and comment on their features.

There are no "right" or "wrong" answers to these questions

We appreciate your help and time in responding to this interview. Thank you!



Less appropriate -3 -2 -1 1 2 3 More appropriate

Features you like: _____

Features you dislike: _____



Less appropriate -3 -2 -1 1 2 3 More appropriate

Features you like: _____

Features you dislike: _____



Less appropriate -3 -2 -1 1 2 3 More appropriate

Features you like: _____

Features you dislike: _____



Housing

City and Regional Planning Department

Visual Preference Study

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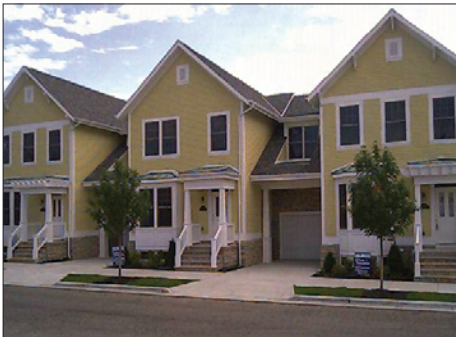
Features you dislike: _____



Less appropriate -3 -2 -1 1 2 3 More appropriate

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Parks

City and Regional Planning Department

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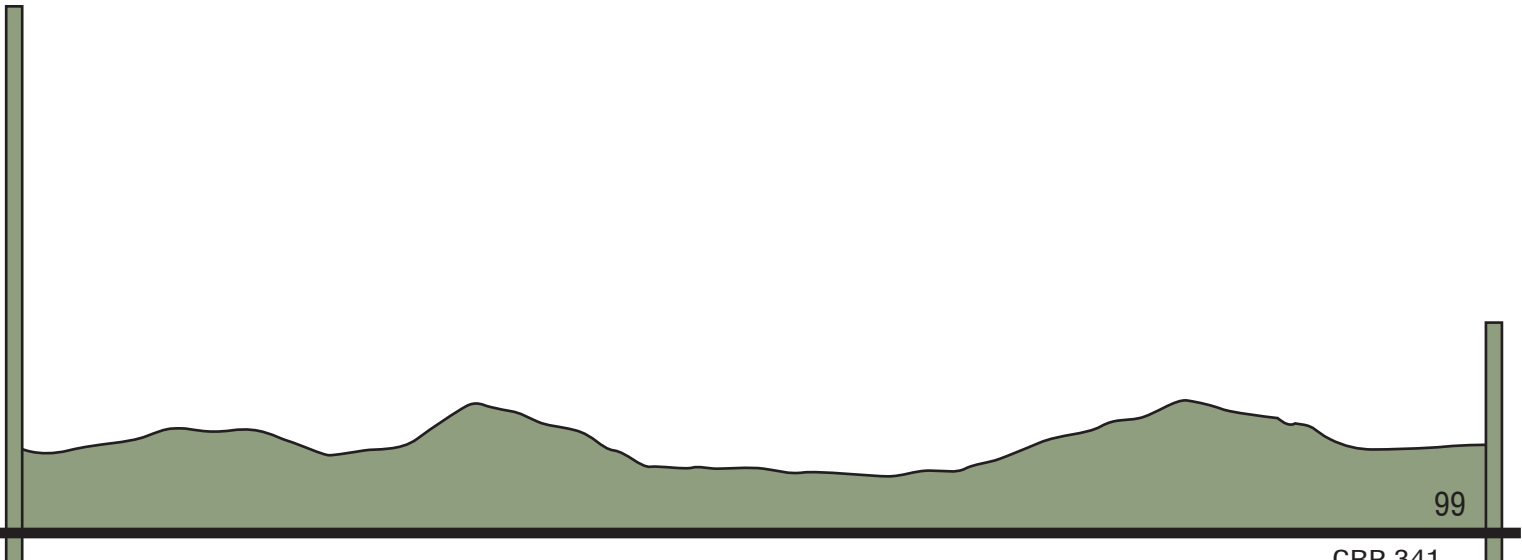
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bibliography_



Theoretical Framework Criteria

- People + Places + Places: A design guide for urban New Zealand, Ministry for the Environment.
- The Next Metropolis, Peter Calthorpe

Documents:

Cerro San Luis Obispo Natural Reserve Conservation Plan City of San Luis Obispo, CA

<http://www.ci.san-luis-obispo.ca.us/naturalresources/download/cslconplan.pdf>

USDA: Soil Survey of San Luis Obispo County, California Coastal Part

<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

General Plan City of San Luis Obispo

<http://www.slocity.org/communitydevelopment/generalplan.asp>

LEED for Neighborhood Development Rating System

<http://www.usgbc.org/ShowFile.aspx?DocumentID=2845>

Zoning Regulations 2008 City of San Luis Obispo, CA.

<http://www.ci.san-luis-obispo.ca.us/communitydevelopment/download/zoneregs.pdf>

Bicycle Transportation Plan 2007 City of San Luis Obispo, CA.

<http://www.ci.san-luis-obispo.ca.us/publicworks/documents/bikeplan/plan051507.pdf>

Laguna Lake Park Master Plan 2005 City of San Luis Obispo, CA.

http://www.ci.san-luis-obispo.ca.us/parksandrecreation/download/lagunalake_masterplan05.pdf

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