DUDEK

# MEMORANDUM

| | |
|---|---|
| **To:** | Mark Slovick, County of San Diego |
| **From:** | Brian Grover, Dudek |
| **Subject:** | Newland Sierra – Project Description |
| **Date:** | January 20, 2015 |
| **cc:** | Rita Brandin, Newland |
| | Brice Bossler, Bossler Group |
| | Eric Armstrong, Fuscoe Engineering |

## 1.0 PROJECT LOCATION

The Newland Sierra Project (proposed project) is located within the unincorporated portion of the County of San Diego within the North County Metropolitan Subregional Plan area. The North County Metropolitan Subregional Plan area is comprised of many non-contiguous "island" areas interspersed among the cities of Escondido, San Diego, San Marcos, Vista, and Oceanside with the most easterly portion adjacent to Valley Center. The North County Metropolitan Subregional Plan area includes the communities of Hidden Meadows and Twin Oaks Valley. The majority of the project site is located in the community of Twin Oaks Valley. The project site is directly west of Interstate 15 (I-15), north of State Route 78 (SR-78), and south of State Route 76 (SR-76). The cities of Escondido and San Marcos are approximately 1 mile south of the site.

The project site consists of approximately 1,985 acres and is bounded by I-15 on the east, Deer Springs Road on the south, and Twin Oaks Valley Road on the west, with a small portion of the northwestern edge of the site traversed by Twin Oaks Valley Road. Gopher Canyon Road is located approximately 1.5 miles north of the site's northern boundary, and approximately 2.5 miles north of proposed site development.

## 2.0 ENVIRONMENTAL SETTING

The project site is located within the northern portion of the Merriam Mountains, a narrow chain of low mountains generally running north–south with a variety of east–west trending ridgelines and scattered peaks. These mountains originate near the northern end of the City of Escondido and are bordered by Gopher Canyon Road to the north, I-15 to the east, and Twin Oaks Valley Road to the west. Based on topography and geology, the Merriam Mountains extend from the

Vista Flume, north of Golden Circle Drive in Escondido, north to Moosa Canyon. Merriam Mountains are approximately 8.5 miles long. The project area is situated on approximately 3 miles of the northern portion of the Merriam Mountains.

The San Marcos Mountains are located northwest of the project site and are significant due to their undeveloped nature, potential to support a wide variety of native wildlife species, and the presence of rare and otherwise special-status plant species, such as tetracoccus, wart-stemmed ceanothus, and southern mountain misery. Much of the northern two-thirds of the Merriam Mountains area is considered biologically significant due to its undeveloped nature and potential to provide a major block of habitat that would contribute to regional conservation planning. The project site is located within the draft North County Multiple Species Conservation Program (NCMSCP) and is categorized by the NCMSCP regional habitat evaluation model as having mostly moderate value habitats with smaller areas of high value and very high value habitats.

Vegetation on the project site consists of large blocks of Southern Mixed Chaparral with limited patches of Diegan Coastal Sage Scrub, Live Oak Woodlands, and Southern Willow Scrub and contains relatively few sensitive plant species due its geographic location and constituent soils. Due to the dense nature of the chaparral covering most of the site, wildlife movement is generally confined to existing dirt roads. Two well-developed riparian areas exist on the site: one is west of I-15, draining into the south fork of Moosa Canyon and one is in the South Fork of Gopher Canyon, between the Merriam Mountains and the San Marcos Mountains.

Large granodiorite outcroppings and pinnacles commonly occur throughout this region and are a common occurrence on the project site. The project site contains undeveloped steep slopes and rock outcroppings that are visually prominent from the I-15 corridor. The south fork of Moosa Canyon, runs from the northern to northeastern vicinity of the site. In addition, the area is a tributary to the San Luis Rey River (to the north) through the South Fork of Gopher Canyon. The San Luis Rey River is an important riparian corridor containing extensive woodland vegetation, as well as rare and protected species. Tributaries to the San Marcos Creek are also located in the vicinity and flow southwest towards Batiquitos Lagoon.

The eastern and northern portions of the site are located within the San Luis Rey-Escondido watershed, the largest hydrologic unit in the San Diego region. The southern portion is located in the Carlsbad Hydrologic Unit and San Marcos Hydrologic Area. The project site is also within the coastal subprovince of the Peninsular Ranges Geomorphic Province.

Natural topography of the site is composed of hills and valleys dominated by significant rock outcroppings with moderate to steeply sloping terrain. On-site elevation ranges from approximately 660 feet above mean sea level (AMSL) near the northwestern limits of the project

site at Twin Oaks Valley Road to about 1,765 feet AMSL in the west central portion of the property. Approximately 52 percent of the site contains Resource Protection Ordinance (RPO)-defined steep slope lands. Prominent, generally east to west trending ridgelines divide the site into five separate drainage basins, which are tributaries to Moosa Canyon, Gopher Canyon, and San Marcos Creek. Gopher Canyon is located north of the project site and a small portion of the South Fork of Gopher Canyon Creek runs southeast to northwest through the northwestern area of the site, eventually meeting the San Luis Rey River. Both Gopher Canyon and the San Marcos Mountains show favorable attributes as habitat and corridors for larger wildlife.

**Existing Land Uses**

The project site is primarily undeveloped. A number of dirt roads and trails that provide access to each parcel and service roads for existing water infrastructure traverse the project site. Portions of the site have been and continue to be used for various unauthorized land uses, including horseback riding, hiking, mountain biking, off-roading, motorcycling, shooting, and occasional dumping. An abandoned quarry is located in the northwest portion of the site fronting Twin Oaks Valley Road and an abandoned private landing strip is located in the north central portion of the site.

Surrounding residential uses to the north, west, and south of the project site include large-lot, single-family residential development, and agricultural uses. Many of the prominent ridges and valleys surrounding the site are occupied by existing homes. Lawrence Welk Village and the community of Hidden Meadows are located to the east of the project site across I-15. South of the site is a mobile home park, the Golden Door Spa and Resort, and estate development along the border of the City of San Marcos and the unincorporated portion of the County of San Diego.

The project site includes areas designated as Mineral Resource Zone (MRZ)-2, which are considered areas where adequate information indicates significant mineral deposits are present, or where there is a high likelihood exists of their presence. Approximately 600 acres of the project site are classified as MRZ-2, of which approximately 100 acres have been designated by the State Mining and Geology Board (SMGB) as a Regionally Significant Construction Aggregate Resources Area. The remainder of the site is classified as MRZ-3, which are considered areas containing mineral deposits whose significance cannot be evaluated from available data. Due to the mountainous terrain of the project site, as opposed to an alluvial river valley, these resource designations result from the presence of crystalline and metavolcanic rocks, that when crushed to appropriate sizes could be used as aggregate for construction material.

## 3.0 PROJECT DESCRIPTION

The Sierra project site is composed of 1,985 acres and would include seven neighborhoods (also referred to as planning areas for planning purposes) with a total of 2,135 residential units. The proposed project would include a variety of housing types – some of which would be designed with grade-adaptive architecture – to meet the varied needs of the anticipated residents. Grade adaptive architecture results in minimized site grading impacts by incorporating one or more steps in the ground floor that conform to the underlying slope of the site. Development of the project site would be focused into seven planning areas designed to promote land stewardship and avoid the most sensitive biological, cultural, and topographical resources. Taking inspiration from the property's unique landscape character and distinct landforms, the proposed project consists of a series of neighborhoods that individually respond to their unique topographical settings.

The framework of the entire community is influenced by the prominent landforms, watershed patterns, boulder outcroppings, and important biological resources found within the property. The location and design of the planning areas strategically preserve natural areas and provide for wildlife movement and connectivity throughout the site. The proposed project is designed to be consistent with accepted preserve design principles by preserving a large block of open space, including the northern and northwestern portions of the site. In addition, off-site regional linkages are provided between off-site lands in the San Marcos Mountains to the west and north along Gopher Canyon and to the San Luis Rey River.

The natural character and protected open space will be promoted as an amenity of the community. A community-wide linear park and trail network acts as the connective thread that unites the various neighborhood parks and community trails, creating a link to open space trails as well as a sense of walkability throughout the community. This network includes approximately 19 total linear miles of trails that extend throughout the neighborhoods and the open space preserve (see Section 4.0, Sustainable Planning and Design, for more detailed trail information). The linear greenbelts will often contain drainage conveyance creeks or swales to provide both water quality treatment as well as aesthetic appeal. Along community trails, parks, and within open space, key landforms and boulders would be identified at scenic vistas and trail rest points to increase the public's connection to the natural features found throughout the site.

Park amenities have been placed to serve each neighborhood, community, and the public at large. The proposed project includes approximately 24 acres of public parks and 13 acres of private parks throughout the project site. Open space for active recreation is included at the community park and at the joint-use school field. Several neighborhood-scale parks and pocket parks, including both public and private, are proposed and include amenities such as open lawn

areas, multi-use courts, picnic areas, children's play areas, pools, a community garden, and an equestrian staging area.

The landscape character of the development will be informed by the natural terrain and boulder outcroppings. Numerous unique boulders will be salvaged during grading operations and reused to provide visual identity within the community landscape. Low water use, native and naturalizing plant materials will make up the community plant palette. Low fuel volume plant materials will be included in compliance with the Fire Protection Plan. In addition, to provide a productive component to the landscape, vineyards will be planted on selective high visibility slopes. The vineyards will be professionally managed and will be planted with several varieties of wine grapes.

The design of the proposed project is also informed by the unique cultural resources on the site. Several permanent displays would be erected in public viewing areas to provide information on the cultural sensitivity of the area, including descriptions of Native American and historic occupants. These displays would include appropriate imagery and text as a method of public outreach to enhance appreciation of the diversity that has characterized the region.

**Sierra Town Center**

The Sierra Town Center would be located off of Deer Springs Road, east of the main entry road in the southernmost portion of the project site. The Town Center would include commercial retail space, townhomes, and a school. The Town Center would provide employment opportunities for future residents as well as for the surrounding area. The Town Center would be compact and walkable, as well as visually appealing and compatible with surrounding development. The Sierra Town Center would include a total of 95 residential units, 81,000 square feet of commercial space, a 6-acre school site, and approximately 5 acres of parks. Table 1 below outlines the proposed land uses for the Sierra Town Center.

**Table 1**
**Sierra Town Center**

| Land Use | Description | Area (Acres) | Dwelling Units |
|---|---|---|---|
| General Commercial | 81,000 SF | 10.8 | - |
| Row Townhomes | 2- and 3-story* | 7.8 | 95 |
| School | - | 6.0 | - |
| **Total Residential Units** | **-** | - | **95** |

*Limited to 35 feet in total height

### Sierra Terraces

The Sierra Terraces would be located directly north of the Sierra Town Center on the west side of the Main Entry Road in the southern portion of the project site. This planning area will range in elevation between approximately 1,200 feet AMSL and 1,350 feet AMSL. The Sierra Terraces would include a total of 458 residential units and approximately 0.8 acres of parks. Table 2 below outlines the proposed land uses for the Sierra Terraces planning area.

**Table 2**
**Sierra Terraces**

| Land Use | Description | Area (Acres) | Dwelling Units |
|---|---|---|---|
| Townhomes/Grade Adaptive | 2- and 3-story* | 7.9 | 56 |
| Townhome Cluster 1 | 2- and 3-story* | | 96 |
| Townhome Cluster 2 | 2- and 3-story w/ Tandem Garages* | 7.8 | 138 |
| Townhome Cluster 3 | 2- and 3-story w/ Tandem Garages* | 14.5 | 168 |
| **Total Residential Units** | **-** | **-** | **458** |

*Limited to 35 feet in total height

### Sierra Valley

The Sierra Valley planning area is located northwest of the Sierra Terraces, and south of the Sierra Knoll. This planning area is composed of condominiums, townhomes and small single family lots ranging in size from 3,500 SF to 4,000 SF. The average elevation for the Sierra Valley planning area would be approximately 900 feet AMSL. The Sierra Valley would include a total of 505 residential units and approximately 5.4 acres of parks. Table 3 below outlines the proposed land uses for the Sierra Valley planning area.

**Table 3**
**Sierra Valley**

| Land Use | Description | Area (Acres) | Dwelling Units |
|---|---|---|---|
| Row Townhomes | 2- and 3-story* | 10.5 | 155 |
| Townhomes with Carriage | 2- and 3-story* | | 60 |
| Paseo Clusters | Detached Condo | 6.4 | 95 |
| Small Lots | 3,500 SF | 6.4 | 71 |
| Small Lots | 4,000 SF | 3.8 | 38 |
| Small Lots | 3,900 SF | 5.7 | 86 |
| **Total Residential Units** | **-** | **-** | **505** |

*Limited to 35 feet in total height

**Sierra Hillside**

The Sierra Hillside planning area is located north of the Sierra Terraces planning area and east of the Main Entry Road in the southeastern portion of the project site. Sierra Hillside would be composed of lots ranging in size from 4,500 SF to 5,000 SF. The Sierra Hillside would include a total of 241 residential units and approximately 2.3 acres of parks. Table 4 below outlines the proposed land uses for the Sierra Hillside planning area.

**Table 4**
**Sierra Hillside**

| Land Use | Description | Area (Acres) | Dwelling Units |
|---|---|---|---|
| Family Lots | 4,800 SF | 18.5 | 148 |
| Age Targeted Lots | 4,500 SF | 5.8 | 55 |
| Age Targeted Lots | 5,000 SF | 5.1 | 38 |
| **Total Residential Units** | **-** | **-** | **241** |

**Sierra Knoll**

The Sierra Knoll planning area is located south of Sierra Summit, southwest of Sierra Mesa, and north of Sierra Valley. This planning area would be composed of lots ranging in size from 4,500 SF to 5,000 SF and include a total of 360 residential units as well as approximately 9.6 acres of parks. The topography of this planning area has some of the highest elevations throughout the entire project area. Elevations range from 1,175 feet AMSL up to 1,400 feet AMSL. There are a number of viewing points scattered throughout this planning area as well. The Sierra Knoll planning area contains family lots and clusters that are designed to preserve the primary knolls in the area. Table 5 below outlines the proposed land uses for the Sierra Knoll planning area.

**Table 5**
**Sierra Knoll**

| Land Use | Description | Area (Acres) | Dwelling Units |
|---|---|---|---|
| Family Lots | 4,500 SF | 17.5 | 103 |
| Family Lots | 5,000 SF | 11.3 | 88 |
| Family Lots | 4,800 SF | 16.9 | 139 |
| Family Clusters | Detached Condo | 4.9 | 30 |
| **Total Residential Units** | **-** | **-** | **360** |

**Sierra Mesa**

The Sierra Mesa planning area is located north of Sierra Hillside, east of Sierra Knoll, and southeast of Sierra Summit. This planning area is composed of lots ranging in size from 3,000 SF to 6,000 SF. Average elevation in the Sierra Mesa planning area ranges from 1,250 feet AMSL and 1,350 feet AMSL. The Sierra Mesa planning area contains single-family lots and clusters that are geared towards active adults and are centered on a neighborhood park. The Sierra Mesa would include a total of 325 residential units and approximately 3.7 acres of parks. Table 6 below outlines the proposed land uses for the Sierra Mesa planning area.

**Table 6**
**Sierra Mesa**

| Land Use | Description | Area (Acres) | Dwelling Units |
|---|---|---|---|
| Active Adult Clusters | 4,500 SF | 6.1 | 60 |
| Active Adult Lots | 3,600 SF | 4.8 | 51 |
| Active Adult Lots | 4,000 SF | 5.4 | 48 |
| Active Adult Lots | 5,000 SF | 6.3 | 47 |
| Active Adult Lots | 6,000 SF | 6.8 | 37 |
| Active Adult Lots | 3,000 SF | 6.6 | 82 |
| **Total Residential Units** | **-** | **-** | **325** |

**Sierra Summit**

The Sierra Summit planning area is the northernmost area of development, located just north of Sierra Knoll and northwest of Sierra Mesa. This planning area is composed of the largest lots proposed throughout the development with lots ranging in size from 6,000 SF to 7,500 SF. Only 151 dwelling units and approximately 2.0 acres of parks are proposed for this planning area. The highest elevations in the project area occur in this planning area. Average elevations range from 1,390 feet AMSL up to 1,600 feet AMSL. There will be a trail leading up to the highest point in the planning area where a lookout will be located. The Sierra Summit planning area proposes the least dense development out of all the planning areas. The Sierra Summit planning area contains grade adaptive luxury large lots and clusters that are designed to maximize views. Table 7 below outlines the proposed land uses for the Sierra Summit planning area.

**Table 7**
**Sierra Summit**

| Land Use | Description | Area (Acres) | Dwelling Units |
|---|---|---|---|
| Large Lots – Downslope | 7,500 SF | 2.8 | 14 |
| Family Lots – Upslope | 7,000 SF | 7.4 | 32 |
| Family Lots | 6,000 SF | 9.5 | 55 |
| Luxury Clusters | Detached Condo | 14.9 | 50 |
| **Total Residential Units** | **-** | **-** | **151** |

## 4.0 LAND USE

The proposed project has been designed to promote health and sustainability by focusing on a compact pattern of development. The project integrates a range of housing types and densities while at the same time conserving open space and natural resources.

### General Plan Amendment/Zoning

The proposed project would include a General Plan Amendment that would allow a greater intensity of clustered development beyond current planned land uses. The site lies within the North County Metropolitan Plan area and the Bonsall Community Planning area. The General Plan Land Use Element Regional Category for the proposed project is Rural Lands in the Bonsall Community Planning area and Village, Semi-Rural and Rural Lands in North County Metropolitan Plan area. The General Plan Amendment proposes to amend the Regional Land Use Element Map to change the Regional Category Designation from Rural to Semi-Rural for a portion of the project site in the North County Metropolitan Plan area. The boundary of the Village area in North County Metropolitan Plan area will be modified slightly to accommodate the proposed project; however, the acreage designated as Village will remain unchanged. No changes in Regional Category are proposed for the Bonsall Community Planning area.

The existing Community Plan Land Use Designations include General Commercial (C-1), Office-Professional (C-2), Semi-Rural 10 (SR-10) and Rural Lands 20 (RL-20). The proposed Community Plan Land Use Designations are Village Core Mixed Use (C-5), Semi-Rural 1 (SR-1) and 10 (SR-10), and Open Space Conservation (OS-C).

The existing zoning on the project site includes General Commercial (C36), Office Professional (C30), Rural Residential (RR), Limited Agriculture (A70), Extractive (S82), and General Rural (S92). The proposed zoning would include General Commercial/Residential (C34), Single Family Residential (RS), Limited Agriculture (A70), and Open Space (S80).

The County of San Diego's adopted General Plan emphasizes sustainable community design principles within its Goals and Policies. By locating the proposed project near existing and planned infrastructure, services, and jobs in a compact pattern of development, while at the same time promoting health and sustainability among its residents, the project has been designed around the guiding principles of the General Plan. Consistent with the County's Community Development Model, the most dense neighborhoods on the site, the Town Center and Terraces, consist of a range of commercial uses that are supported by a dense network of local roads containing bicycle lanes and walkways linking the neighborhoods with parks, a proposed school, and public areas. Spanning out from the Town Center and Terraces planning areas that are within the area designated as Village, the proposed project's Semi-Rural areas would contain lower-density residential neighborhoods. Further out, the neighborhoods would be surrounded by Rural Lands characterized by open space, habitat conservation, recreation, and other uses associated with rural areas. Developing the proposed project in this manner meets the critical objectives for compliance with the mandates of AB 32 as well as SB 375, and is key to meeting the County's land use goals.

The proposed project was designed to be consistent with both the Guiding Principles and the individual Goals and Policies of the General Plan. This is further discussed below.

**Sustainable Planning and Design**

The proposed project would promote sustainability through sensitive site design that conserves energy, water, open space, and other natural resources. The Town Center creates a central core, or village, in Twin Oaks Valley. A neighborhood grocery is anticipated at the Town Center which will serve both the Twin Oaks Valley and the Sierra communities. On the north end of the Town Center, a K-8 charter school is planned which will include a joint-use field open to the public during weekends and after school hours during weekdays. The Town Center is within close proximity to the school and to 553 new residential dwelling units and is linked via bicycle lanes and multi-use trails to all of the remaining neighborhoods within the community. An electric bike share program is planned for the development to further link the neighborhoods to one another and to reduce motorized vehicle trips. Park and ride facilities will be expanded for enhanced ride sharing and public transit expansion opportunities.

Site planning for the proposed project takes into account existing landforms and topography by concentrating development between and away from ridge lines. Prominent ridges and landforms were mapped, and each neighborhood has been designed to minimize disturbance to prominent peaks and landforms. Each neighborhood is designed to be compact and clustered, reducing the impact of development on open space. Where possible, streets are designed to parallel topography and are inspired by watershed patterns on the site. Existing landforms and ridges

north of Deer Springs Road provide a buffer which minimizes the proposed project's visibility from Deer Springs Road, as well as properties immediately adjacent.

Each neighborhood has been designed with an enhanced parkway that includes landscaping, a trail, and often a decorative "dry creek" drainage swale that further enhances the rural character of the community. These greenbelts include a multi-use trail that will include equestrian uses and will provide connectivity between the equestrian facility at Walnut Grove Park and an equestrian staging area that is proposed on Camino Mayor. Internally within neighborhoods, these open space greenbelts include a loop trail and are widened in some areas to accommodate integrated water quality basins. These basins provide a buffer between the residence and streets, reinforcing the uniqueness of each neighborhood. A designated park or open space is within 0.25 mile from each residence, recognizing the importance of walkable access to open space for community health and well-being. The project includes approximately 4.7 miles of bike lanes, an extensive trail system including: 7.1 miles of multi-use pathways along the main road; 8.7 miles of internal trails within neighborhoods; 2.0 miles of multi-purpose trails through the open space area; and, 1.3 miles of secondary trails through the open space area.

The community's homes and neighborhoods will be crafted to represent a broad diversity of housing types in each planning area to respond to the needs of anticipated residents, reflect the rural architectural character, maximize the natural resources of the site with indoor/outdoor living opportunities, and use density as a tool to reinforce place-making within the Town Center and other neighborhoods.

As part of the proposed project, a hardline agreement is proposed that would ensure approximately 1,202 acres of biological open space to be restored (where appropriate) and preserved (refer to Section 6.0, Conservation and Open Space, for more details). Many areas within the proposed biological open space have been severely damaged and disturbed by off-road vehicles. These landscapes will be restored to native habitat, and trails will be consolidated to reduce human impact. No motorized vehicles will be permitted. Design principles were defined at the project onset to reinforce the function and value of the preserve area. Design principles include conserving target species, creating contiguous habitat (with links to habitat to the south), and creating larger, more diverse preserves.

**Landscape**

The surrounding open space inspires and informs the landscape proposed for development. Boulders will build a distinctive landscape identity throughout the community, reflecting the surrounding landscape character. A large number of natural, rounded boulders will be stockpiled during grading operations for use in the newly-landscaped areas on site.

Drought-tolerant plant species will be selected to create a distinctly native character. This allows a softer visual blend with the surrounding landscape and visually draws it into the community, while also serving the needs of fuel modification zones. Street trees will be required along all internal neighborhood streets. The community loop road will also be planted with street trees but with a natural, uneven spacing that allows views and connection to the natural open space.

Water conservation will be a primary focus of the landscape design. State regulations, as well as the County of San Diego's Water Conservation Landscape Ordinance, require that landscapes meet a 0.7 ET adjustment factor or better. The irrigated landscape within the proposed project will be designed for a 0.5 ET adjustment factor, 29% lower than regulations for water conservation. Certain species will be regulated, such as turfgrass which will be prohibited from use in any front yard landscapes. Turfgrass will only be used in park areas for functional active and passive use and will not be specified in any other community landscape treatments. In addition, certain species will be prohibited from use on site including species that have invasive characteristics.

Community agriculture will be promoted through the creation of a community garden. Garden plots will be rented or reserved by the public, with first priority given to community residents. This will promote locally-grown organic food sources for community residents and provide a link to the region's agricultural heritage. Additionally, vineyards will be planted and maintained throughout the project site, primarily on high-visibility slopes. These productive landscapes will be professionally maintained and will add to the aesthetic appeal of the community. Additional detail on the vineyards is noted below.

**Slopes**

It is anticipated that significant rock will be encountered during grading operations, and cut slopes will expose underlying rock formations. Slope grading will be intentionally rough to create uneven slopes. Where large monolithic rock is exposed, it will be treated with a permanent stain (e.g. Permeon) to give the stone an aged appearance. Where practical, grading will be blended with adjacent contours through contour grading. In more highly visible areas, a certain portion of the slopes will be planted with productive wine grape vineyards. These vineyards will include a variety of species of grapes that thrive in the local microclimate. The grape species are extremely drought-tolerant. The vineyards will be professionally managed and are expected to produce three to four tons of grapes per acre. Goals of the vineyard plantings include creating agricultural lands within the community that are consistent with the agricultural history of the region, and providing highly effective Zone 1 brush management species that are low fuel volume (refer to Section 8.0, Fire Safety, for more details). In certain areas, vineyards extend into Zone 2 for visual continuity, which further enhances fuel modification by increasing

the irrigated area. Vineyards create a favorable aesthetic character and visual identity for the community. To separate commercial activity from residents, vineyards will be located no closer than 80 feet from roads and 100 feet from any residential property. Vineyards will include corten or dark painted steel posts for trellis structures that are rustic in character. On slopes where no vineyard planting is proposed, slopes will be planted with native plant material that will meet or exceed all fire protection plan goals, objectives, and specifications.

**Stormwater**

Stormwater treatment will be achieved using biofiltration, which is a Low Impact Development (LID) feature that provides a medium to high removal rate for all pollutants. The network follows the main roads throughout the community. Harvested crushed rock and boulders will be used to create bioswales/biobasins that are an aesthetic feature of the site. Pervious pavement will be utilized in public parks, open space, and for the majority of the on-site and off-site trail network, which will be predominantly decomposed granite.

**Additional Sustainable Features**

All street lights will be powered by photovoltaic panels, removing this portion of electrical demand from the grid. Photovoltaic panels will also be utilized on all public buildings to offset electrical use. The site grading has been designed to balance, which will reduce off site truck trips during construction of the proposed project. Rock may be crushed on site to produce all road base, utility backfill materials, paving aggregate, etc. All community open space will be designed to meet the standards found in Leadership in Energy and Environmental Design (LEED) equivalent and/or Sustainable Sites Initiative. This includes, but is not limited to, the use of recycled and repurposed materials, locally-grown nursery stock where practical, low water use and native plant material with highly efficient drip irrigation, and weather-based irrigation controls with moisture sensors and real time weather data.

## 5.0 MOBILITY

As mentioned in Section 4.0, Land Use, the proposed project has been designed to promote health and sustainability by focusing on a compact pattern of development. This compact pattern of development in turn allows for and supports a multi-modal transportation network that enhances connectivity and supports community development patterns.

**Access Points and Internal Circulation**

The project site would have two main access roads along Deer Springs Road at Mesa Rock Road and Sarver Lane, with an additional access point at Camino Mayor off of Twin Oaks Valley

Road to the north. The main access road at Mesa Rock Road would be a four lane entry road with median that transitions into a four lane undivided road further into the project site. On-site roadways would be constructed within and between the different planning areas where development would occur. These roadways would primarily consist of main roads with a pavement width of 34 feet that mostly travel between the developed planning areas, residential streets that are approximately 36 to 40 feet wide and generally traverse within a planning area, and private paseo roads that typically end at smaller clusters of residential units within a planning area. As mentioned previously, an electric bike share program is planned for the development to further link the neighborhoods to one another and to reduce motorized vehicle trips. Additionally, the project includes bike lanes, an extensive trail system consisting of roadside pathways within the linear greenbelts, and multiuse trails. With incorporation of these internal circulation features, the project will provide residents the opportunity to access employment, education, recreational, and commercial uses via multiple modes of transportation.

**Off-Site Roadway Improvements**

***Deer Springs Road***

The proposed project includes two scenarios for improving Deer Springs Road. Option A would reclassify Deer Springs Road from a 6.2 Prime Arterial (6-lane) to a 4.1A Major Road with Raised Median (4-lane) and a 2.1B Community Collector with Continuous Turn Lane (2-lane) in the Mobility Element of the General Plan. Under this option, the project would construct the segment of Deer Springs Road between Sarver Lane and Mesa Rock Road as a 2.1B Community Collector (2-lane), which would have higher capacity than the existing condition, and would improve the road to be consistent with County standards for this Mobility Element. The segments of Deer Springs Road south of Sarver Lane and east of Mesa Rock Road would be constructed as a 4.1A Major Road (4-lane) with auxiliary lanes as necessary, and a centerline realignment would be applied to the existing Deer Springs Road alignment in order to ensure a minimum of 750-foot turning radii along the entire alignment.

Option B would not reclassify Deer Springs Road; the roadway would remain as a 6.2 Prime Arterial (6-lane) in the Mobility Element of the General Plan. Under this option, the project would construct the segment of Deer Springs Road from I-15 to 1,500 feet west of Mesa Rock Road as a 4.1A Major Road (4-lane), but would grade to the ultimate 6-lane configuration. The project would also construct the segment of Deer Springs Road from 1,500 feet west of Mesa Rock Road to just south of Sarver Lane as a 4.1A Major Road (4-lane); however, grading associated with this segment would not be to the ultimate 6-lane configuration, but rather to a 4-lane configuration.

The applicant's preferred option for Deer Springs Road is Option A. Traffic modeling conducted for the proposed project has shown that by constructing the east and west legs of Deer Springs Road to four lanes and keeping the center leg between Mesa Rock Road and Sarver lane at two lanes, the levels of service for all sections of Deer Springs Road fall into an acceptable range, except for the center two-lane segment. The center two-lane segment would remain at its current failing level of service during peak hours, as it is today. However, there is a significant reduction in cut through trips since traffic on I-15 would be discouraged from using Deer Springs Road during peak hours. The added benefits include a reduction in environmental impacts (biological resources, cultural resources, traffic, aesthetics) as well as the preservation of the rural character of this segment. This approach is consistent with General Plan Goal M-2 (and, more specifically, Policy M-2.1), which is intended to address roadways where adding capacity can induce additional traffic and growth, which would not be consistent with County Global Climate Change strategies. This approach is also consistent with Policy M-2.1 in that it addresses a marginal deficiency where only a short segment of a road would operate at a deficient level of service, and operational improvements would be applied to improve traffic flow.

***Twin Oaks Valley Road***

No improvements are planned for the segment of Twin Oaks Valley Road north of Deer Springs Road, thus maintaining the rural character of north Twin Oaks Valley. Intersection improvements will be made to the intersection of Twin Oaks Valley Road and Camino Mayor to maintain proper sight distance requirements. South of Deer Springs Road, in the City of San Marcos, Twin Oaks Valley Road will be improved to the 4-lane Special Major Arterial standard (City of San Marcos) with a raised median.

***Mesa Rock Road***

The Mesa Rock Road intersection at Deer Springs Road will be signalized and is proposed to be 102 feet wide at the intersection to provide two northbound lanes and five south southbound lanes, transitioning to a width of 58 feet, and then to a width of 34 feet with no parking within the project. All of Mesa Rock Road will include an enhanced parkway with a multi-use pathway.

***Sarver Lane***

The Sarver Lane intersection at Deer Springs Road will be signalized and is proposed to be 52 feet wide at the intersection to provide one northbound lane and two southbound lanes, transitioning to a width of 40 feet of pavement, then transitioning to a width of 34 feet with no parking within the project. All of Sarver Lane will include an enhanced parkway with a linear

greenbelt and multi-use trail. Existing pavement widths on Sarver Lane vary from 28 feet along the Catholic Church property to 16 feet north of the Church.

***I-15 Interchange/Park-and-Ride Improvements***

A Project Study Report (PSR) is being prepared to study alternatives for improving the I-15/Deer Springs Road interchange. These alternatives include southbound hook ramps at Mesa Rock Road south of Deer Springs Road, an eastbound to northbound loop ramp, a roundabout at the southbound ramps/Mesa Rock Road, and other potential configurations. The purpose of these alternatives is to increase the intersection spacing in order to eliminate queue spillover between intersections, thus reducing congestion. Removal of the existing southbound off-ramp will allow for expansion of the existing park-and-ride lot in the northeast quadrant of Deer Springs Road/Mesa Rock Road. The expanded park-and-ride lot will allow for enhanced ride sharing and public transit expansion opportunities.

## 6.0 CONSERVATION AND OPEN SPACE

As mentioned previously, the location and design of the planning areas strategically preserve natural areas and provide for wildlife movement and connectivity throughout the site. The proposed open space design consists of two large continuous blocks of key biological resources situated within the northern half, and along the eastern boundary of the project site, as well as a large third block of open space in the center of the proposed development which connects the abovementioned blocks of open space to open space located east and south of the project area. In total, the project would preserve approximately 1,202 acres of open space.

The majority of the proposed open space design will be located within the northern half of the project site. The northern half of the site has previously been described as having the greatest potential to support wildlife due to the east–west connection with the San Marcos Mountains. In addition, the northern half of the project site is positioned to take maximum advantage of interconnected blocks of habitat. The northern portion of the proposed open space design provides a diverse representation of the natural and environmental conditions that occur within the larger project area. Open space will also be designated along the eastern boundary of the project site adjacent to I-15 which serves as important habitat for California gnatcatcher and many other wildlife species, as well as internal to the project site which would enhance connectivity to the south.

The proposed open space design includes a diverse array of environmental features including ridgetops, hill tops, and rocky outcrops. Although the majority of this area consists of dense chaparral, this area also incorporates a diverse representation of the vegetation communities that

occur on site and in the vicinity including, riparian forest and scrub, coastal sage scrub, non-native grassland, and oak woodland. The two largest riparian areas located within the project site will be included in the open space: the South Fork of Gopher Canyon and the South Fork of Moosa Canyon. The South Fork of Gopher Canyon, which is located along Twin Oaks Valley Road, holds water part of the year. The topography in this area of the open space is highly diverse and includes elevations from approximately 700 feet AMSL to 1,750 feet AMSL.

Overall, the entire open space area contains a diversity of environmental characteristics including representative populations of special-status plant and animal species observed on site; existing dirt trails and canyon bottoms currently used by wildlife for movement across the site; and the north–south-trending tributary to Gopher Canyon along Twin Oaks Valley Road, which provides linkage opportunities to the San Marcos Mountains.

The proposed project's open space design is in direct application with the basic preserve design principles, as detailed below.

**Keep Habitat Contiguous**

It is preferable for preserve habitats to maintain a contiguous block of habitat as opposed to fragmented landscapes. The proposed open space design is both internally and externally consistent with this principle. Internally, three large blocks of habitat will be included within the open space. Most of the boundaries of this open space will be contiguous with Pre-Approved Mitigation Areas (PAMA) located directly north, to the northwest, south, and east of the open space. Preserving the northern section of habitat, as well as that located to the east, would provide a contiguous block of habitat surrounding mostly undeveloped and dedicated lands. The northwestern portion of the open space will be located adjacent to the San Marcos Mountains (designated as PAMA). The northern and southern sections of open space will be boarded PAMA lands. To the east, the open space will be situated by PAMA directly across I-15.

**Create Larger Preserves**

For preserve design, it is preferable to have large blocks of habitat containing large populations of target species. Within the proposed open space populations, four of the five special-status plant species observed on site will be conserved. Overall, the majority of special-status plant species observed within the site will be preserved within the proposed open space. In addition, habitat to support the 16 special-status wildlife species observed on site will be conserved. The majority of these observations have occurred within the northern and eastern portions of the project site. Therefore, this open space has been designed to preserve areas of the project site directly associated with large populations of sensitive species.

The proposed open space has similar habitat characteristics to that of the greater landscape. As such, the open space is creating large blocks of habitats of similar habitat components. The adjacent habitat consists of a similar chaparral structure. The chaparral habitat that characterizes this open space is a habitat preference to all six special-status reptile and all three special-status mammal species detected on site. As such, it is anticipated that each of these species would utilize the adjacent and conjoining habitats that surround the open space. The remaining eight special status avian species detected on site have a more varying habitat preference, unique habitat components which also characterize this open space (e.g., riparian, oak woodlands, grasslands, coastal sage scrub). Due to the high mobility of avian species, it is anticipated that they would also readily use neighboring preserves provided they also contain important habitat requirements of the species. Of special interest is the coastal California gnatcatcher. Coastal California gnatcatchers have been detected on site both within the southeastern most section of the project site and adjacent to the abandoned airstrip. In addition, numerous occurrences of this species have been documented throughout the vicinity of the project site located within PAMA, particularly to the north and south of the project site. Coastal sage scrub of particular interest to this species will be preserved within the eastern and northern locations of the site. The I-15 corridor has been identified as a potential stepping-stone corridor for California gnatcatcher. The open space design provides a wide area for California gnatcatcher to move and hold territories along I-15. Gnatcatchers on site are able to cross over the southern interior road into a large block of habitat, and from there may cross to the south into additional off-site habitat. In addition, an area in the northwestern portion of the site which had California gnatcatcher in June 2013 will be preserved as open space. Although a single gnatcatcher was only detected once during other focused surveys, it shows that this species can, and does, use the surrounding landscape to move. This should allow for moving gnatcatchers to find adequate paths to other habitat to the west, north, and south. Revegetation of some of the old deserted roads and trails with coastal sage scrub species will also help provide linkages to other coastal sage scrub patches to the west and east.

The preservation of these blocks of open space combine with other areas outside of the site, but within the PAMA to form much larger blocks of contiguous open space. Overall, the preservation of the northern and eastern sections of the project site will contribute to the preservation of large populations of those target species already detected on site. The adjacent landscapes also provide habitat for many of these species, and the combined incorporation of this open space would provide large blocks of habitat containing larger numbers of target species.

**Keep Preserve Areas Close**

Another preserve design principle is to maintain close blocks of habitat. As described above, the open space will be situated directly within a framework of larger preserves, PAMA, and other open

spaces. Preserving the northern, central–southern, and eastern areas of the project site have maximized the area that is directly adjacent to, or nearly adjacent to, potential preserve areas thereby keeping in accordance with this preserve design. Short, long, or multigenerational wildlife movement, which is dependent on species scale, are all possible with this open space design.

**Link Blocks of Habitat**

Preserve designs stress that interconnected blocks of habitat serve conservation better than isolated blocks, and that corridors function better when the habitat within resembles habitat that is preferred by target species. As stated above, this open space design takes maximum opportunities to directly connect to nearby preserves and PAMA in the surrounding landscape. Corridors, connect the three blocks of habitat both internally and to open space outside the project area. Wildlife have a few opportunities to cross I-15. In addition, the areas incorporated into the open space (northern and eastern sections) have many characteristics that are preferred by sensitive species including cliff faces, coastal sage scrub, riparian habitats, rock outcrops, ridge tops, and trails for wildlife movement. Rock outcrops serve as important refuge for a variety of wildlife species including snakes and as potential roosting locations for several species of bats. Lastly, ridge tops and trails provide important locations for refuge or wildlife movement for many species.

**Create Diverse Preserves**

In accordance with this principle, there is representative diversity that will be present within the open space. A variety of vegetation communities, some of which may be considered County RPO, have been mapped on site and include chaparral, coastal sage scrub, riparian forest and scrub, freshwater marsh, non-native grassland, and oak woodland. Non-native grasslands serve as important foraging habitats for raptors and other open-field birds. Chaparral serves as important habitat for many sensitive species including birds, reptiles, and small mammals. The riparian habitat on site may serve as breeding areas for obligate riparian species (e.g., least Bell's vireo, southwestern willow flycatchers, or yellow warblers). In addition, research has found that riparian habitat and other vegetation types that provide horizontal cover are desirable features in corridors for cougar. The remaining habitat types, including riparian, provide high habitat diversity and are considered to be high in wildlife value.

**Protect Preserves from Encroachment**

An important aspect of preserve principles is to protect preserves from encroachment. Ideally, preserves would establish blocks of habitat without road access or inaccessible to human disturbance. As noted above, much of the area is encompassed by dense chaparral. In such habitat, unmaintained dirt roads on site may serve as important wildlife corridors for large

mammals, including mule deer, coyotes, gray foxes, and bobcats. These species may be sensitive to human disturbance and/or presence. Currently the habitat sees much human use, particularly in the southeast and northwest portions of the site. In addition, the revegetation of some of the roads and trails to be abandoned with CSS and chaparral species will help provide habitat expansion and linkages.

In order to protect the open space, and control human encroachment, designated public access trails will need to be established using signage and designated trail routes. It is also important to protect large patches of habitat that do not currently contain trails. The proposed trails are predominantly located along pre-existing dirt roads and trails. The use of these trails would be monitored and reinforced by a preserve manager who would visit the site on a semi-weekly basis to document and subsequently reinforce these efforts.

Management of the open space areas will keep the many current trespassers from dumping trash, camping, off-road vehicle use, boulder graffiti/tagging and other illegal activities. In many areas, the portion of fuel modification zone directly adjacent to buildings will consist of vineyards. These will provide a sense of ownership that will deter trespassing. This will also provide wildlife with a visual screen from development and might facilitate wildlife movement. In addition, the zone between the vineyard and natural open space will be thinned to varying degrees. Since much of the habitat on site is overly mature, making movement for large ground-based wildlife difficult except for dirt trails and dirt roads, the thinned fuel modification zone may provide additional travel avenues for larger ground-based wildlife.

**Conserve Target Species throughout the Plan Area**

Target species well-distributed across their range is a key component of this preserve principle. The proposed open space design provides a great opportunity to connect habitat containing coastal sage scrub with that of the greater area. Coastal sage scrub within the open space will be located along the eastern boundary and four separate locations within the northern section of the habitat. As noted above, this vegetation type, as well as additional sensitive communities, will be conserved so as to conserve the species within the open space. Additional revegetation of coastal sage scrub and chaparral habitat will help expand and enhance these resources. All of the other species also will be conserved through the protection of the open space.

**Maintain Natural Processes**

The maintenance of natural processes will be pursued through the management and maintenance of the proposed open space. In order for the open space to maintain native biodiversity, human access into the open space will be reduced by limiting human encroachment as previously described. The open space will not be developed and human use will be limited to passive

recreation along designated trail areas and or staging areas. Although this site currently possesses diverse habitats and wildlife, opportunities are available to improve the landscape through mitigation/revegetation activities and to encourage wildlife use and accessibility. For example, there may be opportunities to restore disturbed habitat areas to functioning natural areas. Areas that may greatly benefit from restoration efforts include the old rock quarry, the abandoned airstrip area, various eucalyptus groves west of Twin Oaks Valley Road, and selected dirt roads and trails. These areas may benefit from restoration efforts aimed at specific target species and the expanded enhanced habitats listed above. Overall the proposed open space design contains mature vegetation, and the preservation of these areas will in turn maintain natural processes.

## 7.0 HOUSING

The project site includes seven planning areas, each representing a unique neighborhood consisting of a variety of housing types, lot sizes and suitable amenities in order to provide housing for a broad range of age groups, family formations and income levels.

A consumer survey completed by the applicant vetted buyer preferences and demand by consumer life stage in order to inform the mix of residential product proposed in each neighborhood. An average of 80% of consumers surveyed in each life stage indicated a preference for a traditional detached single-family home. However, there was a wide range of home sizes preferred, dependent on family make-up and income levels, as well as a wide range of lot sizes preferred depending on preferences related to yard sizes, outdoor space and price range. Although a traditional detached single-family home appealed to most consumers, 37% of those surveyed indicated that they would consider an attached home, preferring multi-story townhomes to traditional condominiums.

In addition, there was a strong demand for age-qualified living, especially for those buyers over the age of 50, who indicated that, given the choice, they would prefer to live in an age-restricted community with dedicated amenities as well as access to community recreation and programs. Being close to everyday services like grocery stores was important to these buyers, as well as living in a community with ample amounts of natural open space and walking, hiking and biking trails, and other recreational opportunities.

These results from the buyer survey informed the project applicant's land planning for the neighborhoods, resulting in a mix of housing types as outlined in Tables 1 through 7. The broad range of lot sizes and housing types will provide significant options for North County buyers. Additionally, the project is conveniently located at the Deer Springs Road interchange with direct access to I-15, providing excellent regional access to existing job centers in Rancho Bernardo, Escondido, and Poway. Lastly, the site is located in close proximity to Cal State San

Marcos and Palomar College. Commuting options for residents of the project are enhanced with proximity to three Sprinter stations within six miles of the project site – the San Marcos Civic Center Sprinter Station, the Buena Creek Station, and the Palomar College Station.

## 8.0 FIRE SAFETY

The proposed project was located, designed, and will be constructed in a manner that provides wildfire defensibility and minimizes the risk of structural loss. Due to the terrain and topography on the project site, special attention was paid to locate neighborhoods and structures such that the likelihood of wildfire spread and encroachment would be minimized. An additional access road (Camino Mayor) is proposed in order to provide both residents and emergency access vehicles with sufficient access to the project site. Fire response travel times on the proposed project site meet the County General Plan standard of 5 minutes or less for all structures. Lastly, fuel modification zones have been conservatively sized (250 feet on either side of development – almost 4 times the modeled flame length).

A Fire Protection Plan (FPP) has been prepared for the proposed project. The FPP evaluates and identifies the potential fire risk associated with the proposed project's land uses and identifies requirements for water supply, fuel modification and defensible space, emergency access, building ignition and fire resistance, fire protection systems, and wildfire emergency pre-planning, among other pertinent fire protection criteria. The purpose of the FPP is to generate and memorialize the fire safety requirements of the Deer Springs Fire Protection District (DSFPD) and the San Diego County Fire Authority (SDCFA) along with project-specific measures based on the site, its intended use, and its fire environment.

The proposed project will meet or exceed all applicable Code requirements with the exception of a minor fuel modification area adjacent to three lots that will be modified. Here, an alternative form of protection that provides the same protection level as fuel modification will be provided. The recommendations and conditions provided in the FPP are also consistent with the lessons learned from After Fire Action Reports from numerous fires occurring over the last 20 years, including the 2003 and 2007 San Diego County fires.

As determined during the analysis of this site and its fire environment, the site in its current condition is considered to include characteristics that, under certain conditions, have the potential to facilitate fire spread. Under extreme conditions, wildfires on the site could burn erratically and aggressively and result in significant ember production. Once the project is built, the on-site fire potential will be lower than its current condition due to conversion of wildland fuels to managed landscapes, extensive fuel modification areas, improved accessibility to fire personnel, and structures built to the latest ignition-resistant codes.

It is important to note that the fire safety requirements that will be implemented on this site were integrated into the code requirements based on the results of post-fire assessments, similar to the After Action Reports that are now prepared after large fire events. These include ignition resistant construction standards, along with requirements for water supply, fire apparatus access, fuel modification and defensible space, interior fire sprinklers and 5 minute or less fire response travel times. When it became clear that specifics of how homes were built, how fire and embers ignited homes, what effects fuel modification had on structure ignition, how fast firefighters could respond, and how much (and how reliable) water was available, were all critically important to structure survivability, the Fire and Building codes were revised appropriately. DSFPD and San Diego County now boast some of the most restrictive codes for building within Wildland Urban Interface (WUI) areas that focus on preventing structure ignition from heat, flame, and burning embers.

The entire project site has been designed with fire protection as a key objective. The site improvements are designed to facilitate emergency apparatus and personnel access throughout the site. Driveway and road improvements with fire engine turnouts and turnarounds provide access to within 150 feet of all sides of every building. Water availability and flow will be consistent with DSFPD requirements including fire flow and hydrant distribution. These features along with the ignition resistance of all buildings, the interior sprinklers, and the pre-planning, training and awareness will assist responding firefighters through prevention, protection and suppression capabilities.

Early evacuation for any type of wildfire emergency on the project site is the preferred method of providing for resident safety, consistent with the DSFPD's current approach for other communities and neighborhoods within the District. As such, the project's Homeowner's Association will formally adopt, practice, and implement a "Ready, Set, Go!" approach to site evacuation. The "Ready, Set, Go!" concept is widely known and encouraged by the state of California and most fire agencies. Pre-planning for emergencies, including wildfire emergencies, focuses on being prepared, having a well-defined plan, minimizing potential for errors, maintaining the site's fire protection systems, and implementing a conservative (evacuate as early as possible) approach to evacuation and site uses during periods of fire weather extremes. In addition, an evacuation plan that includes a regional approach rather than a project-specific approach will be prepared. The evacuation planners will coordinate with the DSFPD and will dovetail the plan with existing County evacuation plans, such that potential evacuation impacts from the project are mitigated and existing resident evacuation planning is enhanced.

## 9.0 UTILITIES

### Water Service

The project site is located within the Vallecitos Water District (VWD) for water service. There exists an extensive network of water mains within the project site ranging in size from 8 inches to 16 inches. There is one existing 1.3 million gallon water reservoir within the project site that serves the project area as well as provides service to adjacent properties.

The proposed project would result in increased demand for water and would require the relocation of some existing water mains, the construction of new water mains for the project site, and the construction of two new water reservoirs to serve the project. The project water supply would be provided by VWD, and does not require annexation into the district. Establishment of this water supply would occur through the expansion/extension of existing supply pipelines and reservoirs located within and adjacent to the project. The applicant will work closely with VWD to determine the ultimate sizes and locations of water facilities.

### Wastewater Service

The project is located within the boundaries of the VWD for sewer service. The majority of the project will require annexation into a sewer improvement district prior to sewer service being available. This is an internal process for VWD and does not require LAFCO approval. There is an existing 8-inch public sewer main owned by VWD that is approximately one-quarter mile south of the project boundary in Sarver Lane. The proposed project would result in increased demand for sewer treatment. There are few existing sewer facilities in the vicinity of the project, and offsite sewer facilities will be needed to serve the project. A number of offsite sewer improvements may be required to accommodate additional flows from the project. Onsite improvements include 8-inch to 15-inch gravity sewers. The applicant will continue to work with VWD to ensure that adequate facilities are constructed to convey and treat all sewage flows from the project.

### Stormwater Facilities

The existing project site is not developed and does not have any substantial existing stormwater drainage systems. The proposed project will incorporate stormwater facilities to manage stormwater quality, hydromodification impacts, and peak flow attenuation. Stormwater quality and hydromodificiation impacts will be addressed through a system of bioretention swales and bioretention basins that have been integrated into the project design, along with additional LID features such as roadside swales. These features will provide high quality stormwater treatment and mitigate flows to pre-development levels for storm events which contribute to the

hydromodification of receiving channels. To eliminate potential flooding impacts during peak storm events, stormwater detention will be provided prior to runoff exiting the project site. Drainage improvements will also be constructed for the offsite road improvements.

**Natural Gas and Electricity**

Natural gas and electricity in the project area are provided by the San Diego Gas & Electric Company (SDGE). The project area is serviced by both electric lines and underground gas lines. Overhead electric lines and an underground gas line that feed the local businesses and residences in the project area are located along Deer Springs Road and Mesa Rock Road. The project site is generally undeveloped and would result in increased demand for natural gas and electricity and would require the extension of those utilities to the site in order to provide service for the proposed development. The project proposes utility easements for power and natural gas services to be located within the proposed roadways. Based on coordination with local service providers, including SDGE, the project would be sufficiently served with electricity and natural gas. The proposed use of these utilities and services for the proposed project would not significantly affect current use of these systems or cause substantial burdens on the local providers. The project would not create a need for new utility system or supplies, or cause substantial alterations to current conditions of utilities and service providers.