D. Conservation Strategy

1. Summary of Conservation Strategy

The City of Carlsbad is located in a highly urbanized area and is approximately 65% developed. Because of existing patterns of development and continued agricultural use, there is a high degree of habitat fragmentation. Also, several large areas of the City have previously been granted take permits by the wildlife agencies under Sections 7 and 10(a) of the Endangered Species Act. Given these facts, the HMP proposes to preserve the diversity of natural communities and protect sensitive biological resources by establishing a preserve system that:

- builds on existing levels of dedicated open space and conservation;
- conserves larger, remaining blocks or cores of habitat capable of sustaining threatened, listed or sensitive species over time (HMP cores);
- provides linkages that ensure connectivity to HMP cores within the City and to natural communities in adjoining jurisdictions and the region, while also preserving additional habitat;
- protects Special Resource Areas (SRAs) outside of the core and linkage areas which are defined herein as vernal pools, significant populations of listed plant species, and movement corridors for large mammals; and
- provides for participation in conserving a habitat core in the county area southeast of Carlsbad (MHCP core).

There are approximately 8,800 acres of remaining habitat in the City. The strategy is to establish a preserve system of approximately 6,400 acres, consisting of existing hardline preserve areas (existing dedicated open space), proposed hardline preserve areas (proposed open space) and standards areas (planned open space). The strategy also includes participation in the conveyance of lands in the MHCP Core Area. The preserve system is intended to provide adequate conservation and coverage specifically for the species listed on the HMP Species List (Table 2).

2. Preliminary Biological Planning For the Preserve System

Based on existing distribution of vegetation communities and sensitive species, Focus Planning Areas (FPAs) were identified. The FPAs were further broken down into HMP cores, linkages and Special Resource Areas which are shown and identified on Figure 4. These areas include eight core FPAs that are connected to one another and to habitat areas outside the City by a variety of linkages and wildlife movement corridors. These areas served as a basis for biological planning for the establishment of the proposed preserve system and do not represent exact boundaries. A description of the biological resources in the identified areas is provided below. Table 3 indicates the existing habitat types by acreage in the core and linkage areas.

A. Core 1 FPA

The Core 1 FPA, approximately 206 acres in area, consists of Buena Vista Lagoon and adjoining wetland and upland habitats in northwest Carlsbad. This Core FPA is dominated by open water and riparian habitats. The lagoon is primarily an estuarine system west of Interstate 5 and a freshwater system east of the freeway. It is surrounded by development, with small patches of coastal sage scrub and other upland habitats on the adjacent banks.

Important habitats associated with Buena Vista Lagoon include areas of freshwater marsh that skirt the edges of the lagoon and large areas of disturbed wetland that dominate the lagoon's eastern half. The lagoon provides habitat for critical populations of the California least tern, western snowy plover, light-footed clapper rail, American peregrine falcon, California brown pelican, and white-faced ibis.

Core 1 is connected to Core 2 via Buena Vista Creek, which is partially outside of Carlsbad in the City of Oceanside. Although the creek is channelized in the approximately 0.5-mile stretch connecting these two Cores, a continuous strip of riparian scrub remains, except where El Camino Real crosses the creek. This extremely narrow strip of riparian habitat may function as a wildlife movement corridor for some birds and mammals, including coyotes, but it is not considered a landscape level linkage.

B. Core 2 and Linkage FPAs

The FPA for Core 2 is located in the northeastern portion of the City and is approximately 352 acres in area. It contains major grassland and riparian habitats with scattered patches of chaparral and coastal sage scrub. The patches of coastal sage scrub probably support 6-10 pairs of gnatcatchers, although complete survey information is lacking. Buena Vista Creek borders the northern edge of Core 2 and supports riparian scrub and freshwater marsh habitats. Least Bell's vireo are known to occupy the riparian scrub. Although recent survey information is lacking for this area, the extent and quality of the riparian vegetation suggest that this may represent a major population area for the vireo.

Core 2 has linkages to Core 3 (Linkage Area A), Core 4 (Linkage Area B), and the City of Oceanside. The portion of Linkage Area A connecting Cores 2 and 3 is a short stepping-stone linkage of approximately 24 acres dominated by coastal sage scrub. It is considered critical for gnatcatchers because it is the primary connection between Core 3, containing approximately 20-30 pairs of gnatcatchers, and areas north of the City. This linkage is probably also used by other birds and some mammals, including coyote and bobcat.

The portion of Linkage Area B connecting Cores 2 and 4 is dominated by grassland and coastal sage scrub. It is approximately 1 mile in length and about 300-400 feet wide, on average. Three roads, including El Camino Real, cross this linkage. With some revegetation and enhancement of coastal sage scrub, this linkage should be moderately effective for birds and mammals.

Core 2 also provides the only linkage from Carlsbad into Oceanside. Dispersing gnatcatchers moving between Carlsbad and Oceanside must utilize this Core. Coastal sage scrub patches apparently supply breeding habitat for the species, and the riparian habitats may help facilitate dispersal and winter foraging by the species.

C. Core 3 and Linkage FPAs

The Core 3 FPA (approximately 1,164 acres) contains large areas of coastal sage scrub that support critical populations of California gnatcatcher and thread-leaved brodiaea. Major stands of chaparral and grassland are also present. The northern portion of Core 3 contains open water, freshwater marsh, and riparian scrub habitats that are associated with Lake Calavera. Oak woodland, riparian forest, and riparian scrub occur in the southern section of this Core. Core 3 has linkages to Core 2 (Linkage Area A; see above), Core 4 (Linkage Area B), and Core 5 (Linkage Area C).

The portion of Linkage Area B between Cores 3 and 4 supports grassland and coastal sage scrub communities that are surrounded by agricultural lands. The linkage is approximately 3,000 feet long and is probably moderately effective for birds and mammals. There are significant opportunities for enhancement and restoration within this linkage.

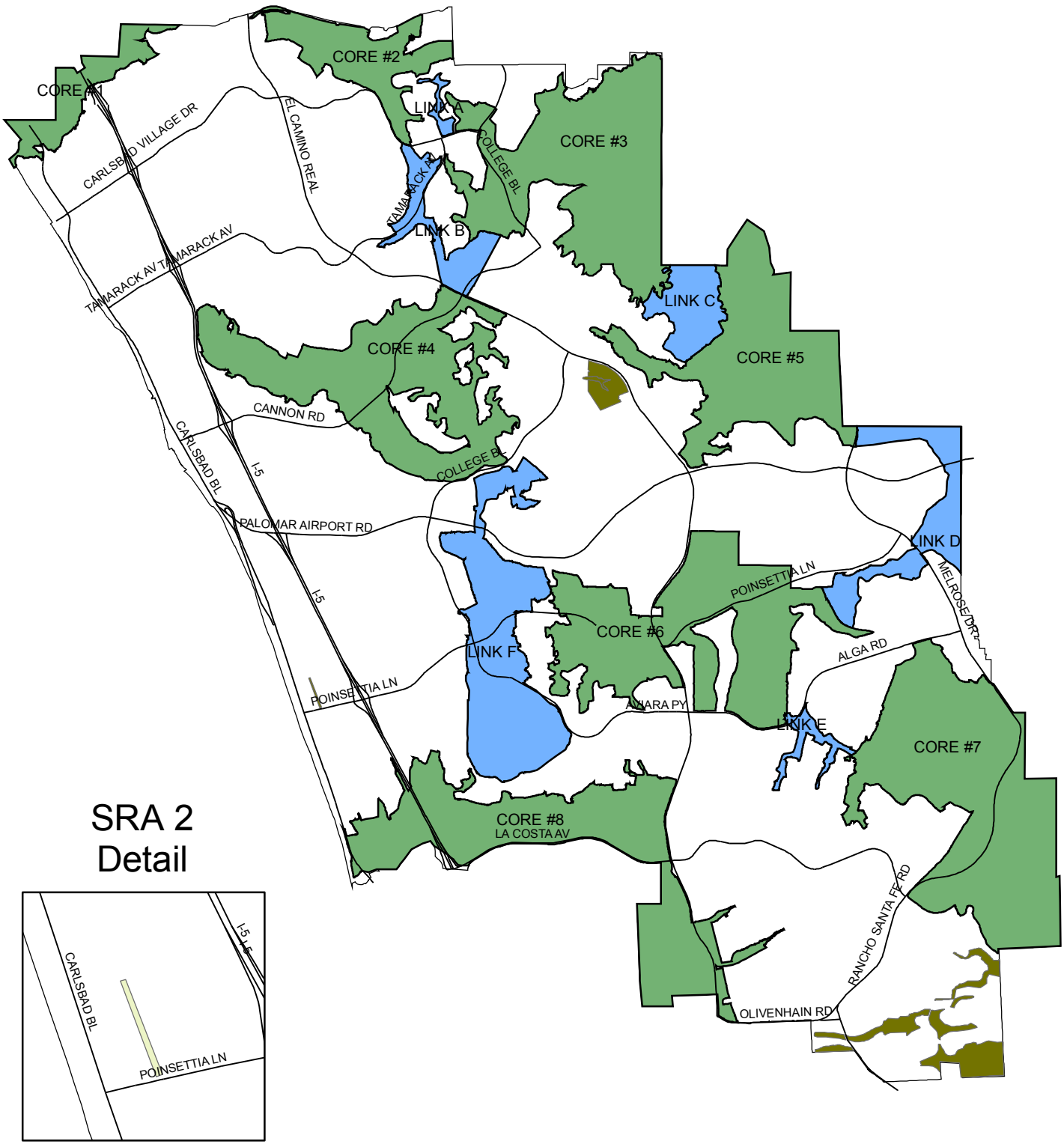

Figure 4
Focus Planning Areas
Generalized Boundaries Only

HMP Core
Linkages
Special Resource Area

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Linkage Area C, between Cores 3 and 5, is a classic stepping-stone linkage; it is approximately 0.5 mile long and contains small fragments of coastal sage scrub surrounded by agricultural lands. A wide variety of birds and mammals are expected to move across this large, open area. At least one gnatcatcher was observed in the eastern portion of the linkage during 1997 (D. Levine, pers. comm.). There are significant opportunities for enhancement and restoration within this linkage.

D. Core 4 and Linkage FPAs

The Core 4 FPA, (approximately 1,063 acres), located in west-central Carlsbad, includes Agua Hedionda Lagoon and upland habitats immediately east of the lagoon. Critical vegetation communities within this Core include saltmarsh, freshwater marsh, and riparian scrub. Major areas of coastal sage scrub are also present, as are small patches of grassland, southern maritime chaparral, southern mixed chaparral, and coastal sage scrub/chaparral. Critical populations of saltmarsh skipper butterfly, light-footed clapper rail, western snowy plover, California least tern, and Belding's Savannah sparrow occur in the estuarine habitats associated with Agua Hedionda Lagoon. This coastal wetland is also critical for American peregrine falcon and California brown pelican. A major population of wart-stemmed ceanothus is associated with southern maritime chaparral east of the lagoon. Core 4 has linkages to Core 2 (Linkage Area B, see above), Core 3 (Linkage Area B, see above), Core 6 (Linkage Area F), and Core 8 (Linkage Area F).

The portion of Linkage Area F between Cores 4 and 6 is an approximately 1.5-mile stepping-stone linkage containing moderately fragmented coastal sage scrub and grassland habitats. Although this is probably an effective linkage for gnatcatchers and other bird species, Palomar Airport Road bisects this linkage, limiting its utility for reptiles and mammals.

The portion of Linkage Area F between Cores 4 and 8 is a stepping-stone linkage through west-central Carlsbad containing fragmented patches of coastal sage scrub, grassland, and chaparral, but also a significant amount of existing development. The linkage is approximately 2.5 miles long and is bisected by Palomar Airport Road. It is probably most effective as a dispersal corridor for birds. Coastal sage scrub patches within the linkage area support a number of nesting gnatcatcher pairs.

E. Core 5 and Linkage FPAs

The Core 5 FPA is approximately 884 acres in area and is located along the eastern border of Carlsbad in the central section of the City. This area supports critical stands of riparian forest and southern maritime chaparral. It also supports a large upland area of chaparral, chaparral/coastal sage scrub, coastal sage scrub, southern maritime chaparral, and grassland. Critical populations of Del Mar manzanita and Nuttall's scrub oak as well as a major population of summer holly occur in the southern maritime chaparral. Core 5 has linkages to Core 3 (Linkage Area C, see above), Core 6 (Linkage Area D), and Core 7 (Linkage Area D).

The portion of Linkage Area D between Cores 5 and 6 is approximately 3.0 miles long and includes coastal sage scrub, chaparral, grassland, and riparian habitats. Disturbed areas in this linkage, especially in the vicinity of the Carlsbad Raceway, should be evaluated for potential restoration. Portions of this linkage include habitats in the neighboring city of San Marcos. In its current configuration, this linkage is probably a moderately effective corridor for birds and mammals.

The portion of Linkage Area D between Cores 5 and 7 is approximately 3.0 miles long and contains coastal sage scrub, chaparral, and grassland habitats. The southern portion of this

linkage includes areas in the neighboring city of San Marcos. The northern section of this linkage includes the disturbed areas near Carlsbad Raceway that should be evaluated for potential restoration. This section of Linkage Area D should be a moderately effective corridor for birds and mammals. It is an important linkage for dispersing gnatcatchers moving between the two gnatcatcher core populations within Carlsbad.

F. Core 6 and Linkage FPAs

The Core 6 FPA, (approximately 1,134 acres), contains a critical stand of southern maritime chaparral and a major stand of grassland. It also has several vernal pools. The coastal sage scrub in this area supports approximately 12 gnatcatcher pairs. Additional habitats include chaparral, open water, disturbed wetland, oak woodland, eucalyptus woodland, and riparian forest. A critical population of Del Mar manzanita and a major population of summer holly are associated with the southern maritime chaparral in this Core. Core 6 has linkages to Core 4 (Linkage Area F, see above), Core 5 (Linkage Area D, see above), Core 7 (Linkage Area E), and Core 8 (Linkage Area F).

Linkage Area E connects Cores 6 and 7 and is a grassland corridor approximately 0.5 mile long and 300-400 feet wide with narrow north-south canyons vegetated with coastal sage scrub. This relatively short, narrow corridor is probably moderately effective for dispersing gnatcatcher and other birds and mammals.

The portion of Linkage Area F connecting Cores 6 and 8 is a stepping-stone linkage primarily for birds. It is approximately 1 mile long and consists of coastal sage scrub and chaparral habitat patches.

G. Core 7 and Linkage FPAs

Core 7 is located along the eastern border of Carlsbad in the southeast section of the City and is approximately 1,429 acres in area. A critical population of approximately 40 gnatcatchers pairs is supported by the large blocks of coastal sage scrub that dominate this Core. Other habitats in Core 7 include grassland, riparian scrub, and major stands of chaparral. Critical populations of sticky dudleya and San Diego goldenstar occur in this Core. Core 7 has linkages to Core 5 (Linkage Area D, see above), Core 6 (Linkage Area E, see above), and areas southeast of Carlsbad.

The linkage between Core 7 and natural lands southeast of the City contains large areas of chaparral and gnatcatcher-occupied coastal sage scrub. It is likely an effective regional landscape linkage for a wide range of species.

In addition to landscape linkages, two wildlife movement corridors connect Core 7 to Core 8. Coastal sage scrub, grassland, and channelized riparian areas along the southern border of Carlsbad and the La Costa Country Club Golf Course probably allow some birds and mammals, particularly coyotes, to move between these two Cores.

H. Core 8 and Linkage FPAs

The Core 8 FPA, located in the southwest corner of Carlsbad, includes Batiquitos Lagoon and Green Valley. It is approximately 1,129 acres in area. Critical vegetation communities in the area are maritime succulent scrub, saltmarsh, and southern maritime chaparral. The southern maritime chaparral located in Green Valley supports critical populations of Del Mar manzanita and Encinitas baccharis as well as major populations of wart-stemmed ceanothus and Del Mar Mesa sand aster. Batiquitos Lagoon is an estuarine system with a fringe of wetland and upland habitats largely surrounded by development. Batiquitos Lagoon supports

critical populations of Nuttall's lotus, saltmarsh skipper butterfly, white faced-ibis, light-footed clapper rail, western snowy plover, California least tern, and Belding's Savannah sparrow. The lagoon is also a critical foraging area for American peregrine falcon and California brown pelican. Core 8 has linkages to Core 4 (Linkage Area F, see above) and Core 6 (Linkage Area F, see above). Two additional wildlife movement corridors, not considered to be landscape-level linkages, connect Core 8 to Core 7 (see above).

I. Special Resource Areas

Certain naturally vegetated areas in the City are too small, edge-effected, or isolated to be considered biological Cores or linkage areas, but are nonetheless important to preserve design or the conservation of particular species. Three such areas are described here as SRAs.

1) SRA 1

SRA 1 lies between El Camino Real, Faraday Avenue, and College Boulevard within Zone 5. It comprises slopes covered by grasslands and small patches of coastal sage scrub. This area is known to support a major population of a Narrow Endemic plant species (*Brodiaea filifolia*) and may support additional Narrow Endemic species. Although SRA 1 is isolated from biological core and linkage areas, conservation of Narrow Endemic plant populations within the SRA is considered important for species conservation.

2) SRA 2

SRA 2 comprises the Poinsettia Lane vernal pools and their watershed. Although isolated from biological core and linkage areas by urban development, this location is critical to the conservation of several Narrow Endemic plant and fairy shrimp species.

3) SRA 3

SRA 3 comprises those portions of Encinitas Creek and its tributaries that are within Zone 11, including the natural vegetation adjacent to the drainages. The primary biological function for this SRA is maintenance of wildlife movement between Batiquitos Lagoon (Core 8) and more inland biological Cores (e.g., Core 7 and undeveloped areas in the unincorporated County). Maintaining access to Batiquitos Lagoon by large mammals, including coyotes and bobcats, is considered essential to ecosystem balance within lagoon habitats; and Encinitas Creek is considered the best remaining wildlife movement corridor to the lagoon.

Table 3

HABITAT IN HMP CORE AND LINKAGE FPA

	Coastal Sage Scrub	Chaparral	Southern Maritime Chaparral	Oak Woodland	Riparian	Marsh	Grassland	Eucalyptus Woodland	Agri-culture	Disturbed	Developed	Totals
Core #1	10	0	0	0	4	137	0	14	0	30	11	206
Core #2	41	18	0	0	81	25	184	3	0	0	0	352
Core #3	712	189	0	12	32	46	129	1	17	23	3	1,164
Core #4	318	40	27	0	105	357	126	2	19	48	22	1,064
Core #5	354	169	72	0	128	0	126	0	2	14	19	884
Core #6	201	103	219	12	25	38	346	15	29	32	114	1,134
Core #7	860	243	0	0	34	2	156	12	0	99	23	1,429
Core #8	57	25	111	0	78	561	18	50	110	68	50	1,128
Link A	22	0	0	0	0	0	0	0	0	2	0	24
Link B	56	0	0	0	1	0	42	9	48	0	20	176
Link C	42	0	0	2	1	11	2	0	117	20	2	197
Link D	79	13	0	3	26	6	49	0	13	71	31	291
Link E	34	0	0	0	0	0	16	0	0	3	6	59
Link F	205	77	2	0	3	0	77	26	4	7	325	726
Subtotal	2,991	877	431	29	518	1,183	1,271	132	359	417	626	8,834
Outside Cores & Linkages	359	127	17	1	87	182	615	125	1,529	881	12,169	16,092
CITY-WIDE TOTAL	**3,350**	**1,004**	**448**	**30**	**605**	**1,365**	**1,886**	**257**	**1,888**	**1,298**	**12,795**	**24,926**

Note: Acreage figures may vary somewhat between tables due to rounding.

3. Preserve Components and Assembly

Using the Focus Planning Areas as a foundation, the HMP has identified a preserve system that consists of the components described below:

A. Existing Hardline Preserve Areas

These areas include both publicly owned land and privately owned land that has been committed to habitat conservation as a result of existing open space regulations, past development approvals or other actions. This includes the City's three coastal lagoons and wetlands, the Dawson Los Monos Reserve, as well as preserve areas in Aviara, Villages of La Costa, Carrillo Ranch, Calavera Heights, and other development areas. Total acreage of existing hardline areas equals approximately 4,459 acres, or approximately 69% of the 6,449 acre preserve system.

There are a number of projects in the City which have obtained permits or approvals from the federal and state wildlife agencies to impact listed species or their habitats and which have agreed to conserve other habitat areas. The proposed conservation areas of these projects are also included in the existing hardline portions of the preserve system, as described below:

- Calavera Heights (LFMZ 7), Villages A to D, E-2, F, G, I, J, L-1, M, N, O, P-1, Q, and T, which have been developed or which have approved tentative or final maps, and the Calavera Heights Mitigation Site approved by the City in 1993. A new master plan update must be approved by the City for the development of Villages E-1, H, K, L-2, R, U and W to Y.

- Ranch Carrillo (southern portion of LFMZ 18), which has a 1996 permit from ACOE with Section 7 consultation with the USFWS.

- Rancho Verde (a portion of LFMZ 11), which has a 1995 permit from ACOE with Section 7 consultation with the USFWS.

- Villages of La Costa (LFMZs 10, 12 and a portion of 11), which has a habitat conservation plan (HCP) approved by the USFWS and CDFG in 1995.

There is one existing mitigation bank included in the existing hardline component of the preserve system. A mitigation or conservation bank is land that is permanently conserved and managed for its natural resource values, with the intent of selling mitigation credits to private or public entities requiring mitigation. The one conservation bank in operation in the City is the Carlsbad Highlands Conservation Bank, located in the northern portion of LFMZ 15 and approved by the USFWS and CDFG in 1995. This bank contains 263 acres of primarily upland habitats, including coastal sage scrub.

The existing hardline component of the preserve system is shown on Figure 5 and the levels of conservation achieved by this component by habitat type and by LFMZ are provided in Table 4.

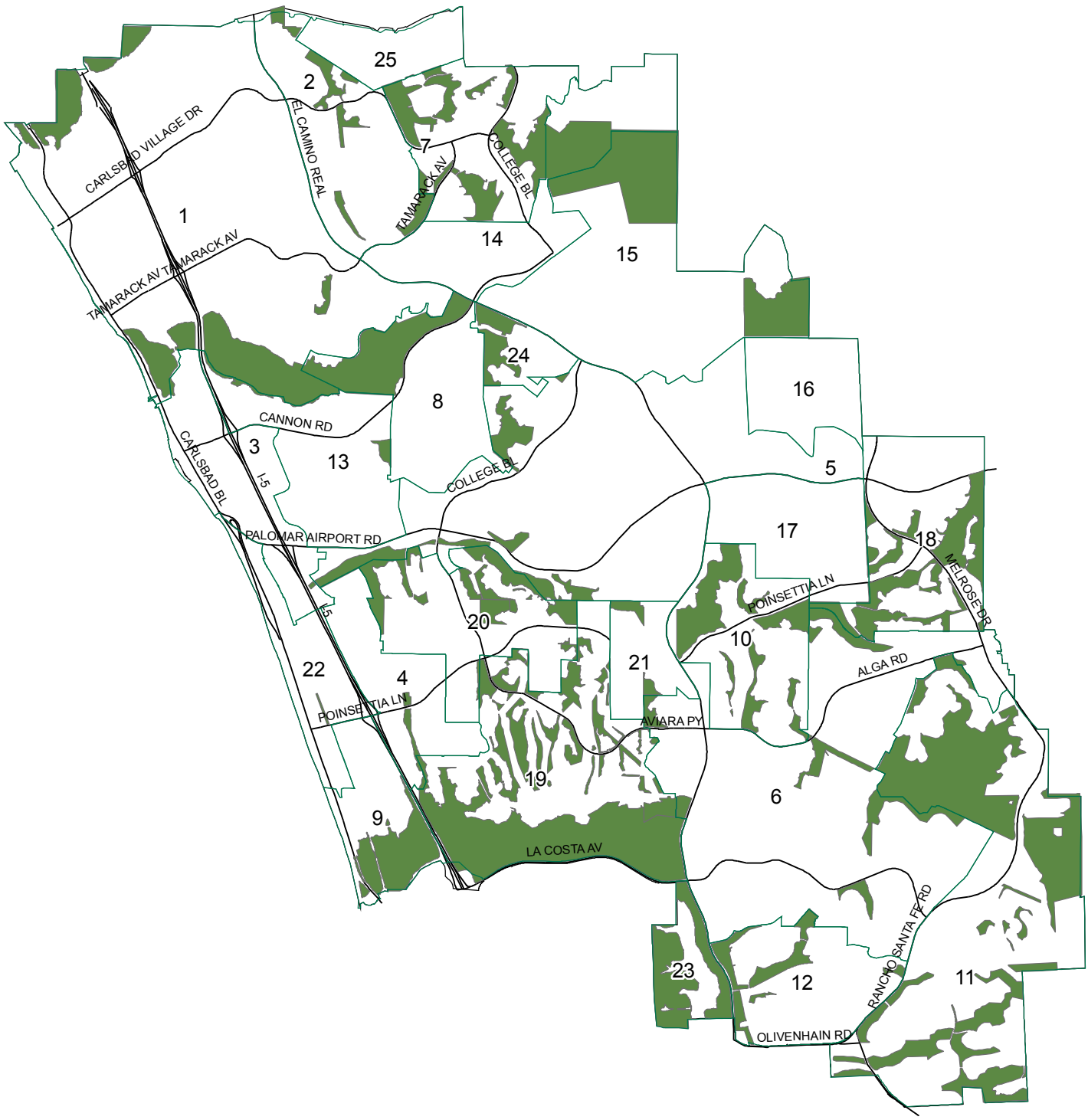

Figure 5
Existing Hardline Conservation Areas

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Table 4

Existing Hardline Conservation Areas (Acres)

	Natural Habitats							*Disturbed Habitats*				
LFMZ	Coastal Sage Scrub	Chaparral	Southern Maritime Chaparral	Oak Woodland	Riparian	Marsh	Grassland	Eucalyptus Woodland	Agriculture	Disturbed	Developed	Totals
1	12	0	0	0	0	378	0	0	1	1	3	395
2	19	0	0	0	1	9	19	1	0	3	18	70
3	0	0	0	0	0	2	0	0	0	0	1	3
4	12	0	0	0	0	12	0	0	0	0	3	27
5	43	29	4	0	10	21	2	5	0	12	22	148
6	75	24	9	0	9	3	12	0	0	4	10	146
7	90	15	0	0	5	0	31	3	0	13	61	218
8	42	2	10	0	62	122	7	0	1	8	2	256
9	13	0	0	0	0	135	0	0	0	4	1	153
10	41	1	81	0	18	12	41	2	0	7	4	207
11	444	144	15	0	34	7	99	11	0	39	35	828
12	7	21	0	0	18	0	30	1	1	4	10	92
13	11	0	0	0	0	1	2	0	1	1	0	16
14	66	36	0	0	1	0	2	0	0	2	0	107
15	173	76	0	0	24	0	89	0	23	1	4	390
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	87	25	0	3	21	2	46	0	12	19	35	250
19	63	80	5	0	16	411	2	73	5	31	61	747
20	83	209	0	1	1	9	11	0	3	1	23	152
21	0	0	19	0	0	0	0	0	0	1	0	20
22	0	0	0	0	0	0	0	0	0	2	0	2
23	0	0	111	0	43	7	1	0	8	3	2	175
24	9	20	1	0	6	10	7	0	0	0	8	61
25	0	0	0	0	0	0	0	0	0	0	0	0
Totals	**1,281**	**493**	**255**	**4**	**269**	**1,141**	**401**	**96**	**55**	**156**	**303**	**4,454**

Note: Acreage figures may vary somewhat between tables due to rounding.

B. Proposed Hardline Preserve Areas

A number of proposed public and private projects have submitted proposed hardline design for inclusion in the HMP and the preserve system. Upon approval of the HMP, these proposals will obtain the same conservation status as the existing hardline areas and the City's General Plan will be amended to designate them as open space. Take of habitat will be authorized for the remaining portions of the projects. These projects include the City's municipal golf course, Lake Calavera, Veteran's Memorial Park, Hub Park, the Zone 19 park, Manzanita Properties, SDG&E south shore properties, Bressi Ranch, Carlsbad Oaks North Business Park, Holly Springs, Kelly Ranch, South Coast and the Raceway Property. The general location of the proposed hardline areas are shown on Figure 6, while detailed boundaries are shown for the individual projects on Figures 7 through 19. The proposed hardline boundaries on Veterans Memorial Park which provide a corridor between the City's Municipal Golf Course and properties to the north, constitutes mitigation for the development of the remaining portion of Veterans Memorial Park. A pedestrian trail, park road and five individual and two group passive picnic areas will be permitted in the corridor. The City is proposing to include the 266 acre public property at Lake Calavera as a public project mitigation bank for municipal projects such as the City golf course and the major roads shown on the City's Circulation Plan. The other City projects which could be covered by the City mitigation bank are identified in Appendix B. One of the key objectives of the HMP is permitting for City public facility projects mandated by the Growth Management Plan. The purpose of a public mitigation bank will be mitigation of unavoidable impacts to biological resources resulting from these public facilities projects. The mitigation credits available in the Lake Calavera mitigation bank are shown in the following table. There are 266.1 total acres at the bank. There are two pairs of gnatcatchers at the bank which are being preserved as partial mitigation for the City's municipal golf course. 20 acres are deducted to reflect the two gnatcatcher pairs. Deductions have been made for development in the portion of Hub Park not being conserved as a hardline preserve area (10 acres). Deductions have also been made for approved future improvements on the property which consists of a police shooting range (10 acres) and Water District projects (22 acres) and for a 100 ft. wide fire break along the northerly portion of the property (17.55 acres).

TABLE 5
Lake Calavera Public Mitigation Bank

TOTAL ACREAGE	**266.1**
DEDUCTIONS	**ACRES**
Approved Mitigation for Existing Projects	30
Future Improvements	32
100 ft. wide fire break	17.55
Sub-Total	79.55
TOTAL REMAINING CREDITS (ACRES)	**186.55**

The remaining credits at Lake Calavera will mitigate for habitat impacts of City projects on an acre-for-acre basis regardless of the type of habitat being impacted except for impacts to gnatcatcher occupied coastal sage scrub, southern maritime chaparral, maritime succulent scrub and wetlands. It is appropriate for City projects to mitigate out-of-kind at the Lake Calavera mitigation bank because the objective is to build the preserve system by combining small mitigation requirements into a larger, contiguous area.

In addition to mitigation credits at Lake Calavera, 10 acres of coastal sage scrub and two gnatcatcher pair mitigation credits for future City projects will be given for the conservation provided at Hub Park as a hardline preserve area.

The levels of conservation achieved by the proposed hardline component of the preserve system by habitat type and by LFMZ are provided in Table 6. The total acreage of conserved habitat resulting from proposed hardline conservation areas is 1,437 acres or approximately 22% of the preserve system.

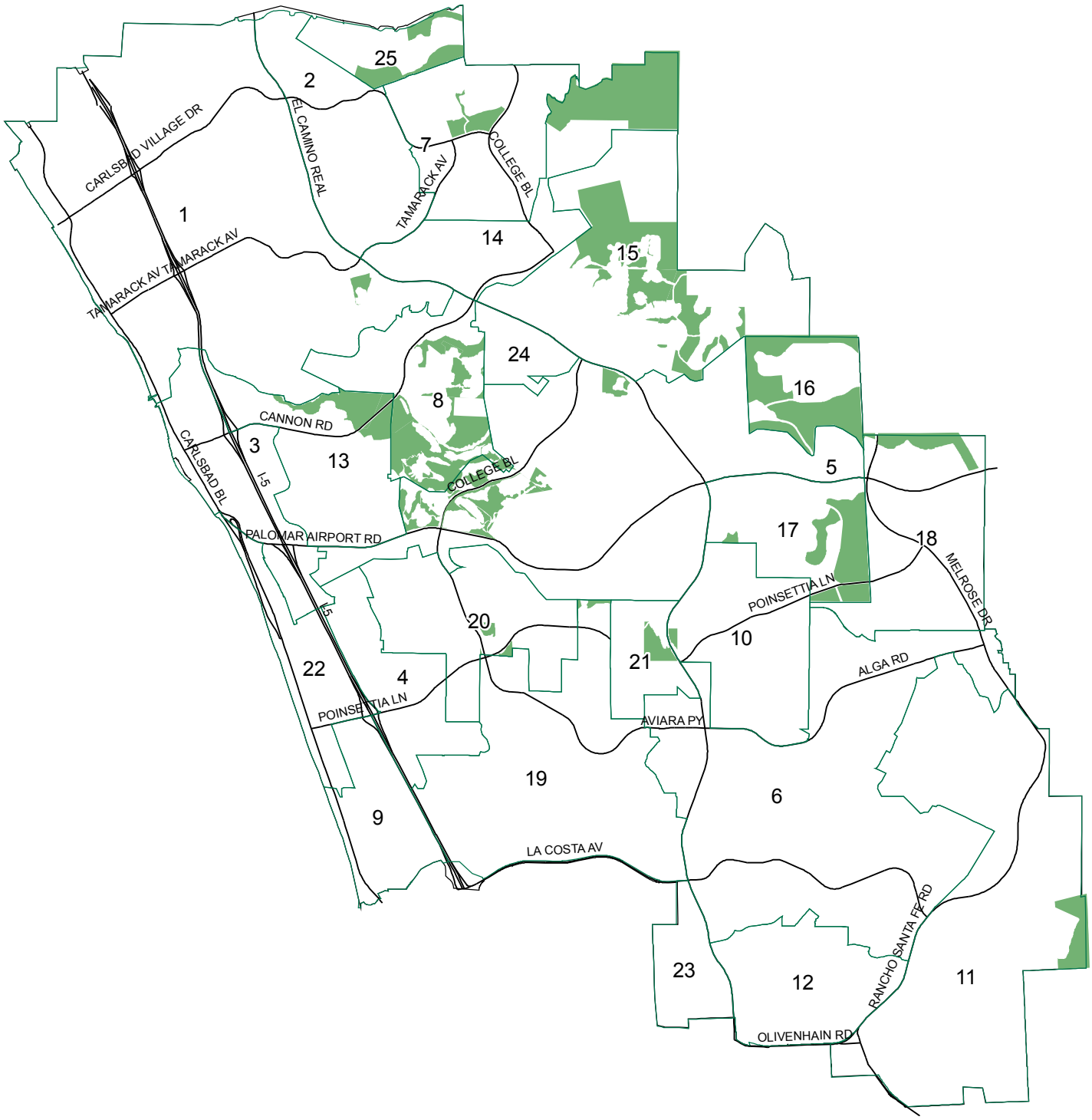

Figure 6
Proposed Hardline Conservation Areas

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- Eucalyptus Woodland
- Disturbed Wetland
- Agriculture
- Maritime Succulent Scrub
- Coastal Sage Scrub
- Chaparral
- Southern Maritime Chaparral
- Coastal Sage-Chaparral Scrub
- Grassland
- Southern Coastal Salt Marsh
- Salt Water Marsh
- Alkali Marsh
- Freshwater Marsh
- Riparian Scrub
- Riparian Forest
- Riparian Woodland
- Oak Woodland
- Coast Live Oak Woodland
- Open Water
- Disturbed Land
- Urban / Developed
- Proposed Preserve System

Figure 7
Vegetation Legend for Proposed Hardline Areas

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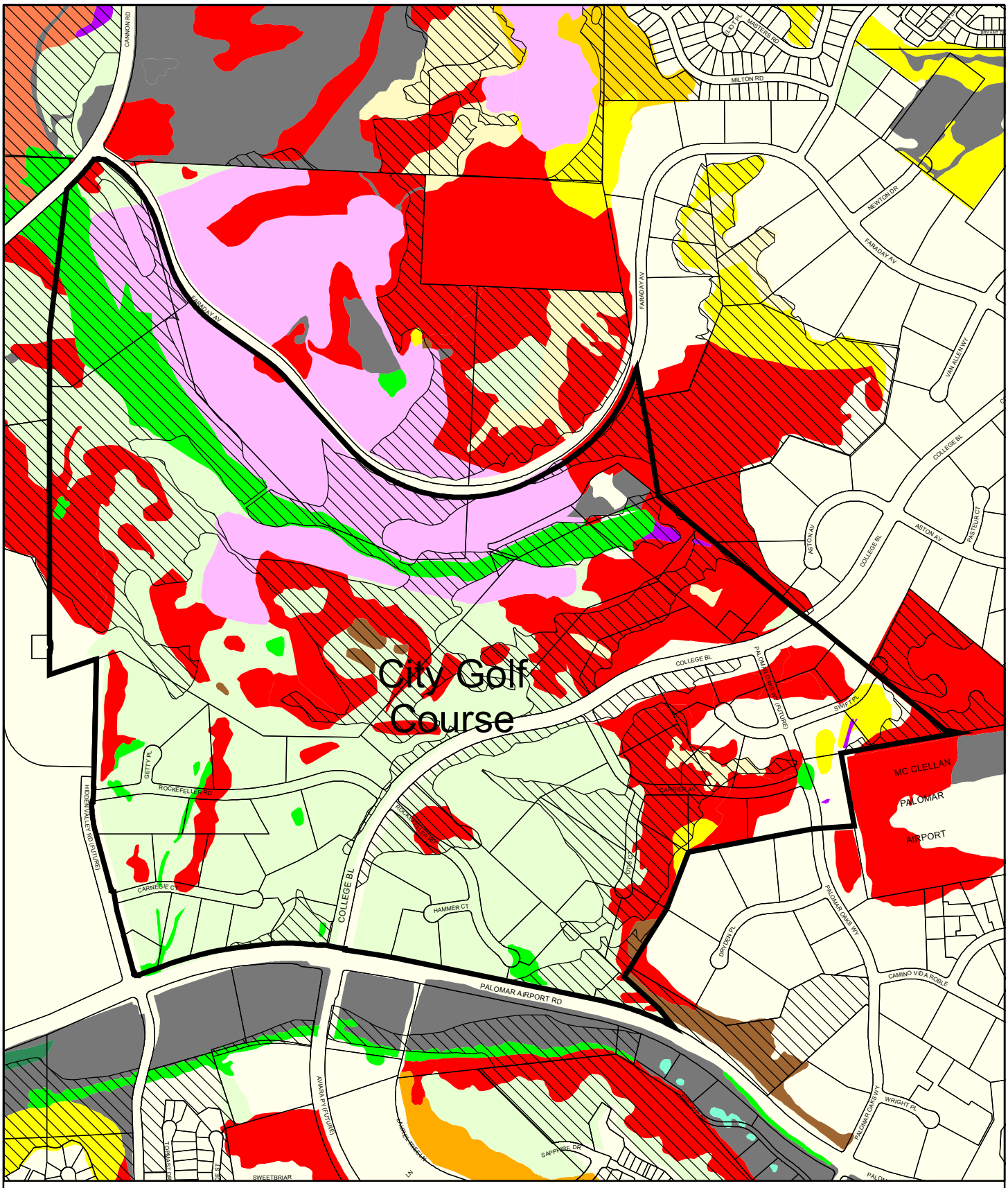

Figure 8 - Revised City Golf Course

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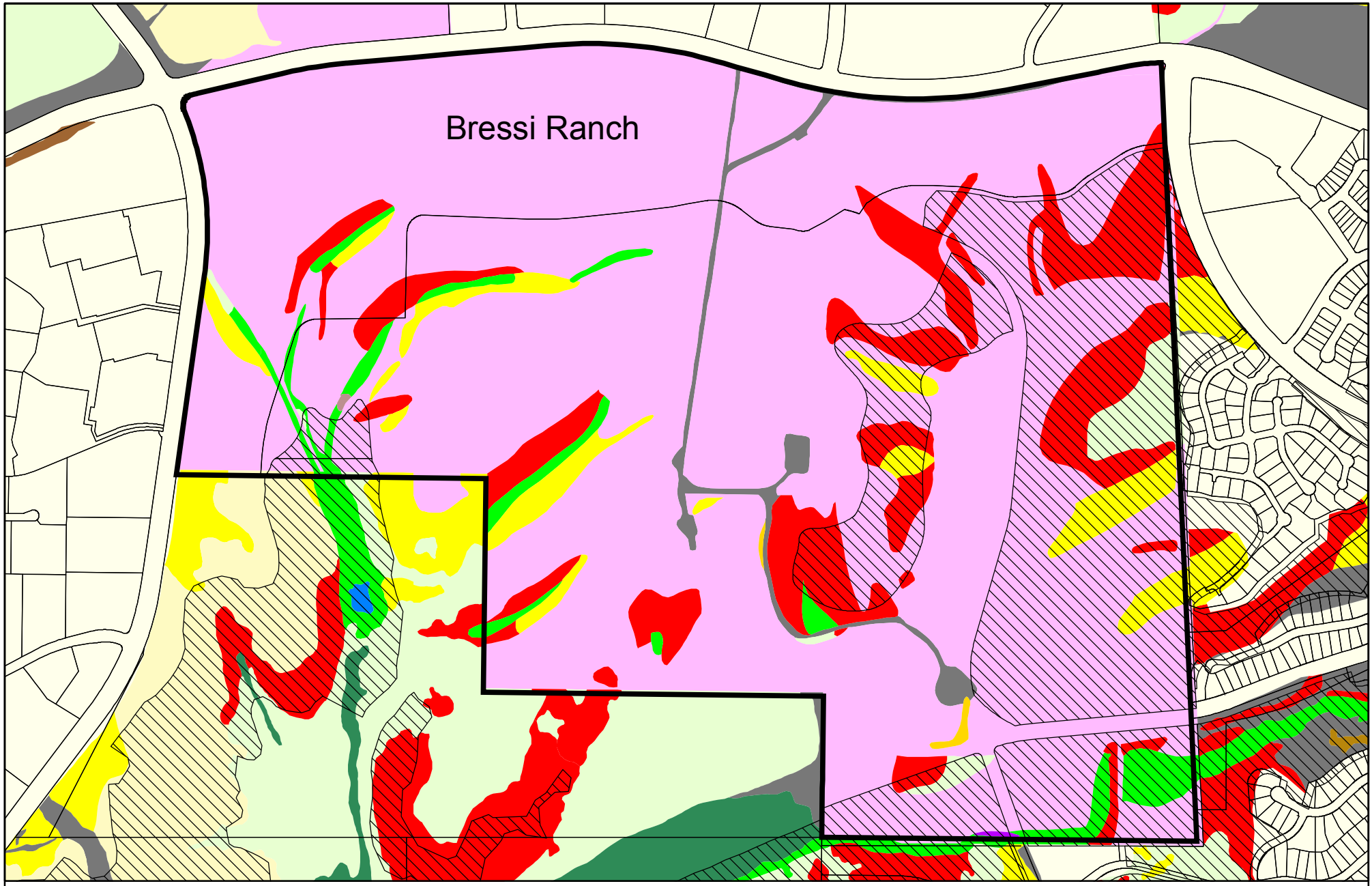

Figure 9
Bressi Ranch

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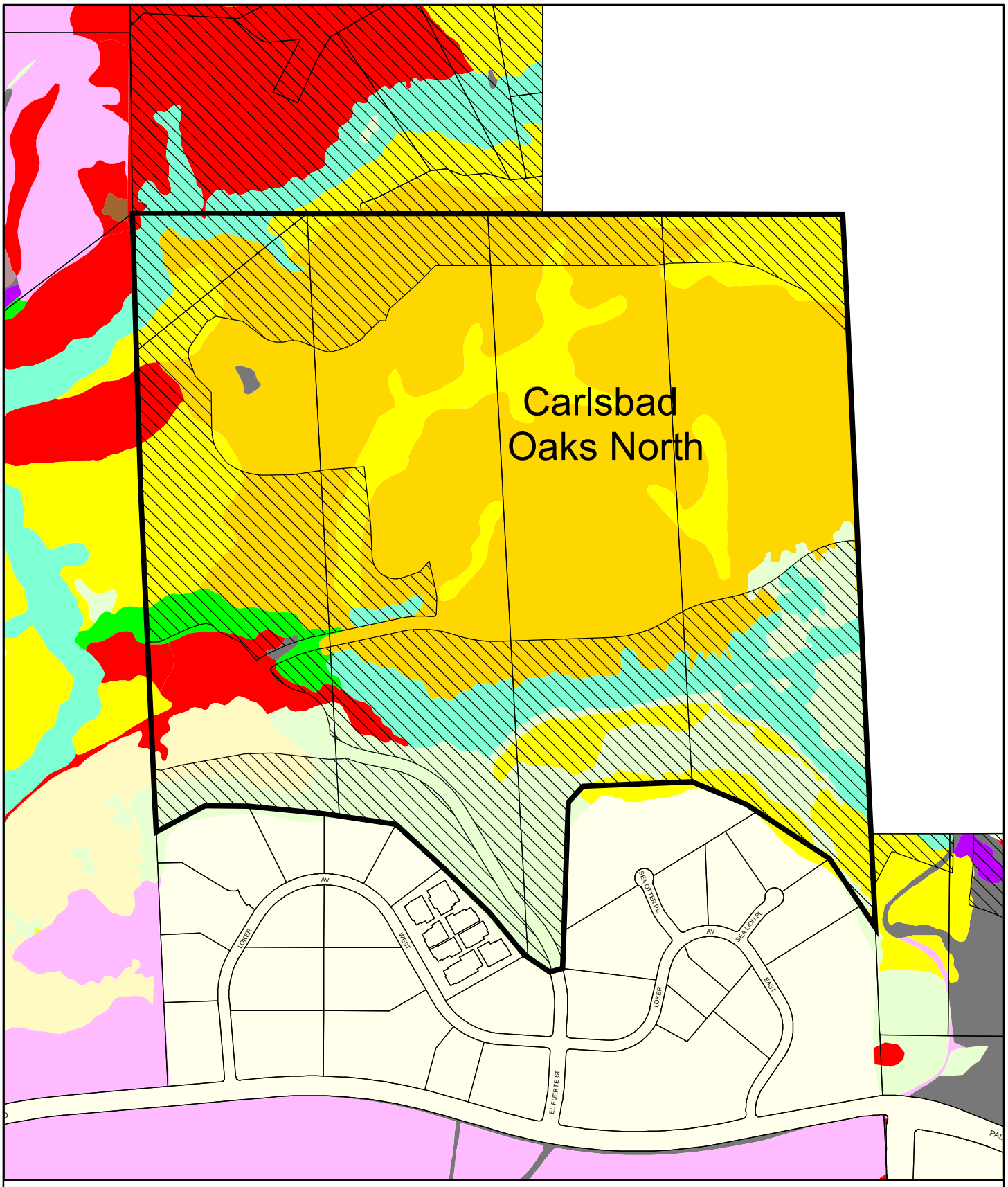

Figure 10
Carlsbad Oaks North

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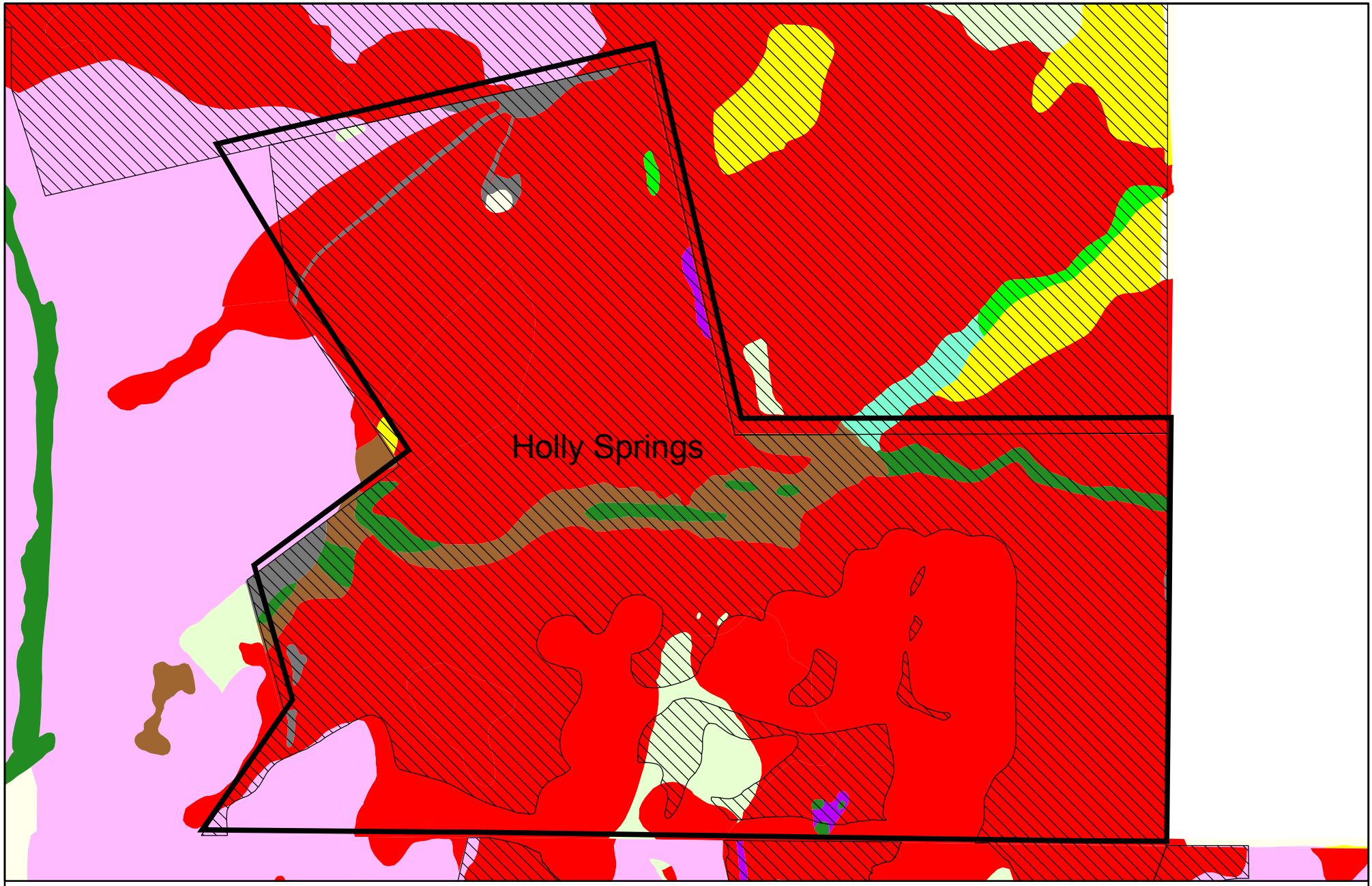

Figure 11
Holly Springs

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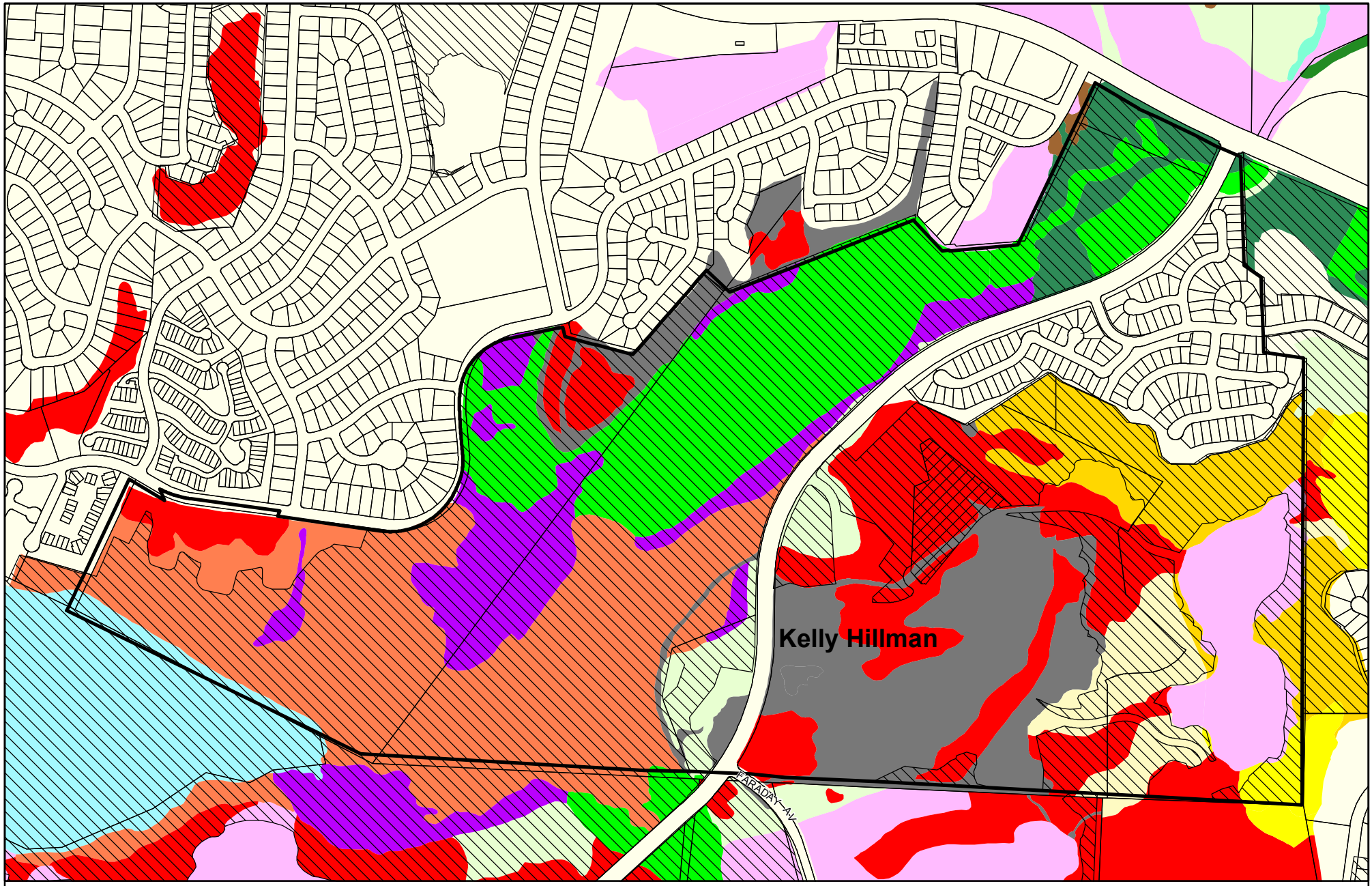

Figure 12 - Revised
Kelly Hillman Property

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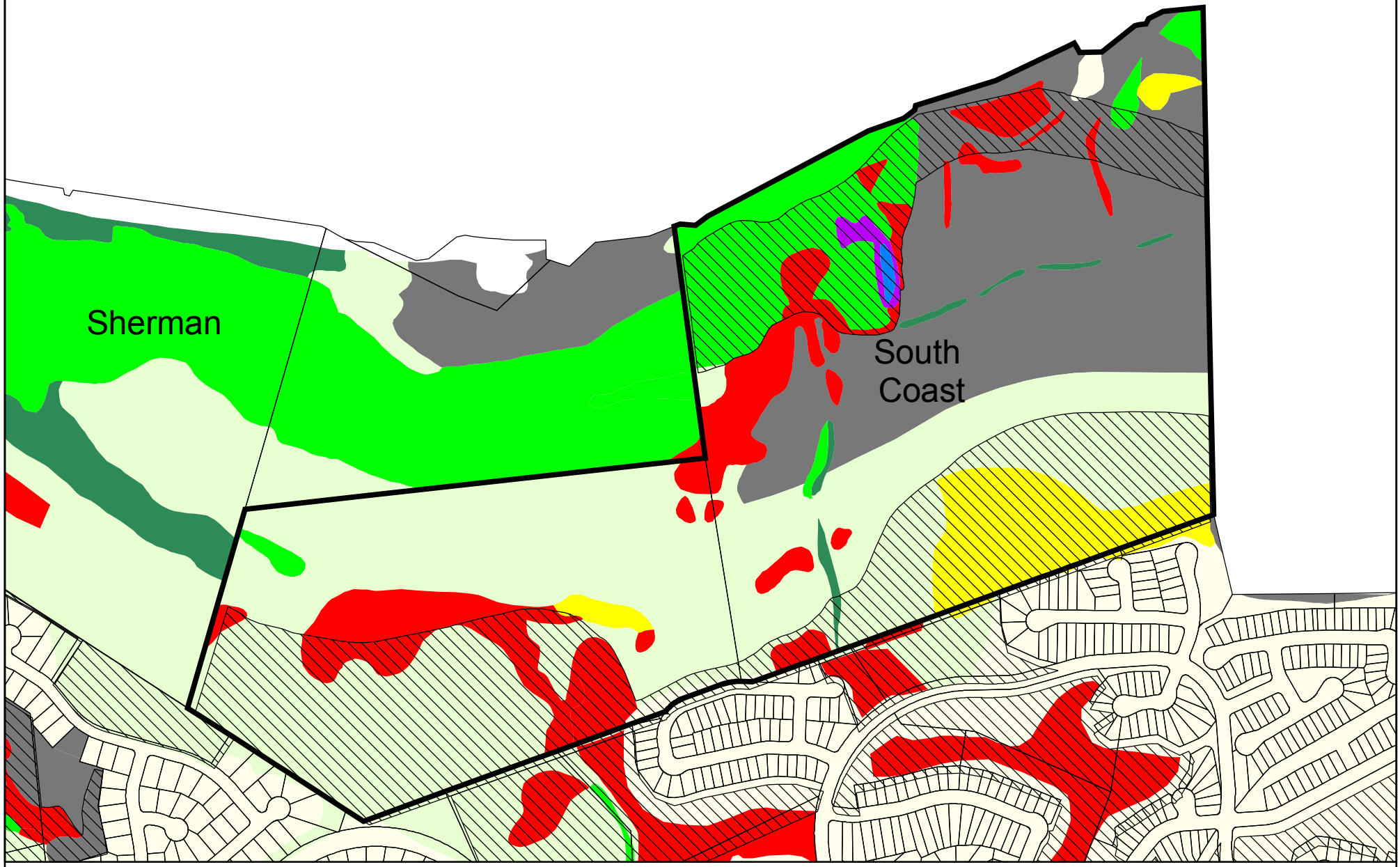

Figure 13
South Coast

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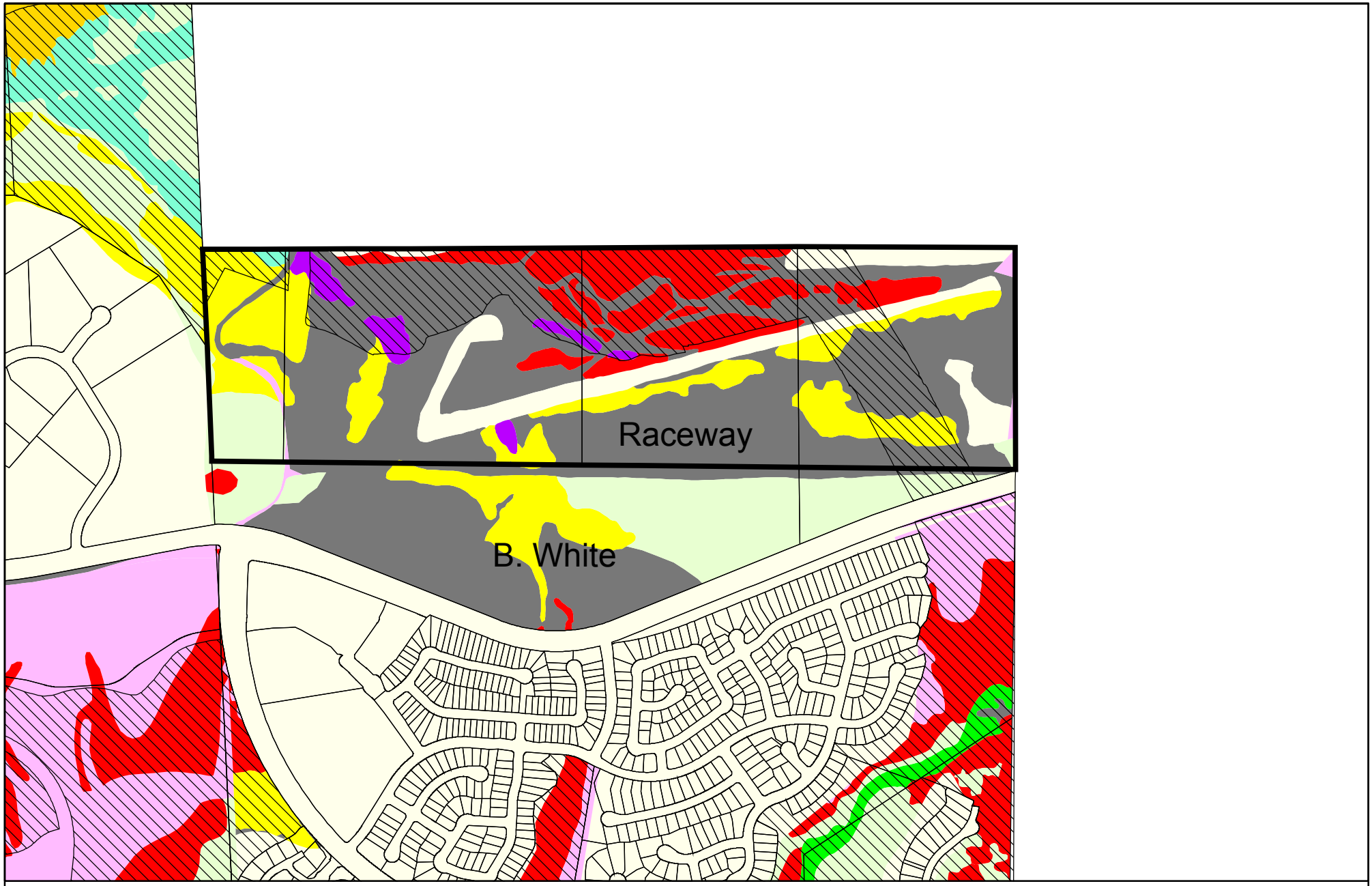

Figure 14
Raceway

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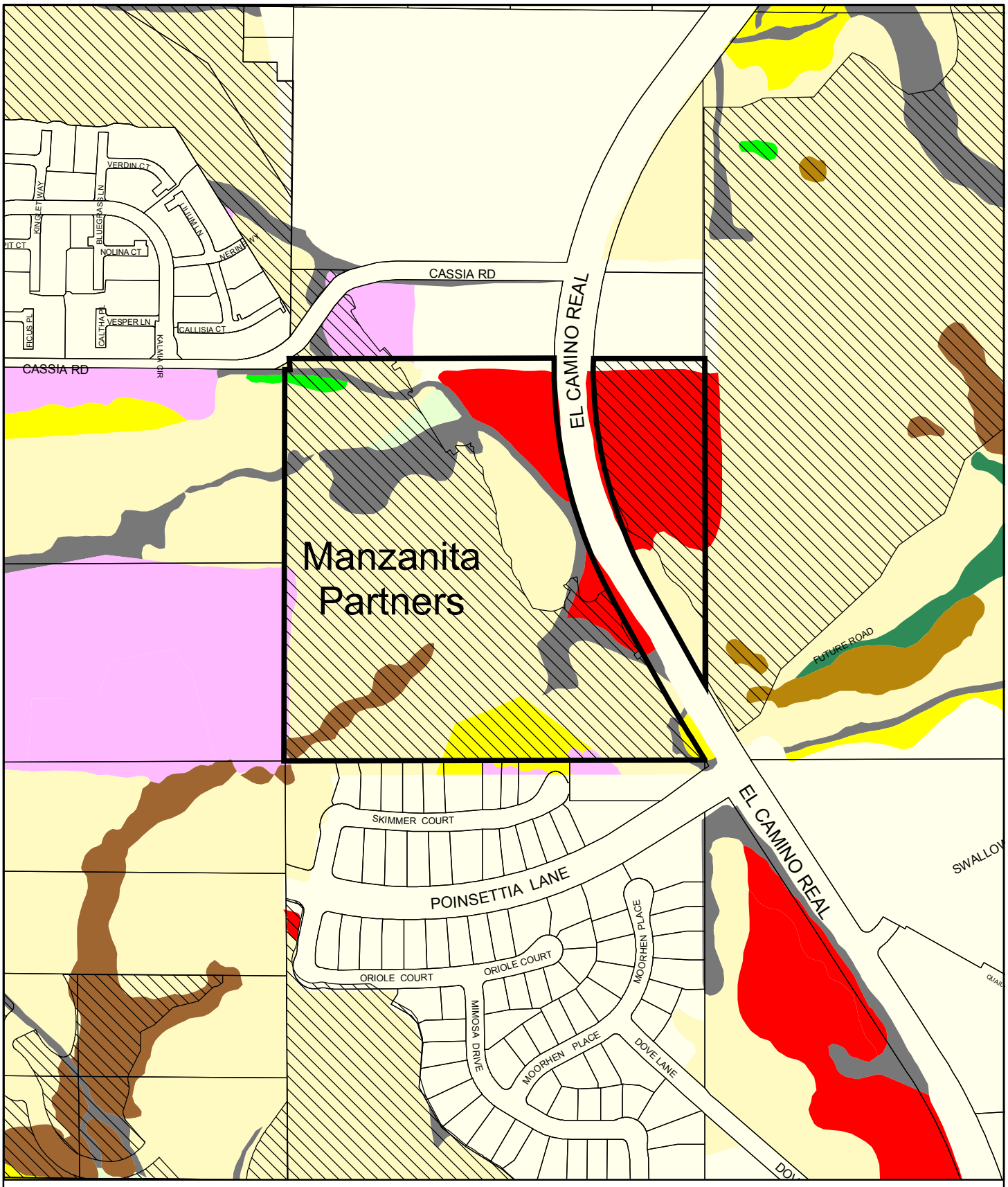

Figure 15
Manzanita Partners

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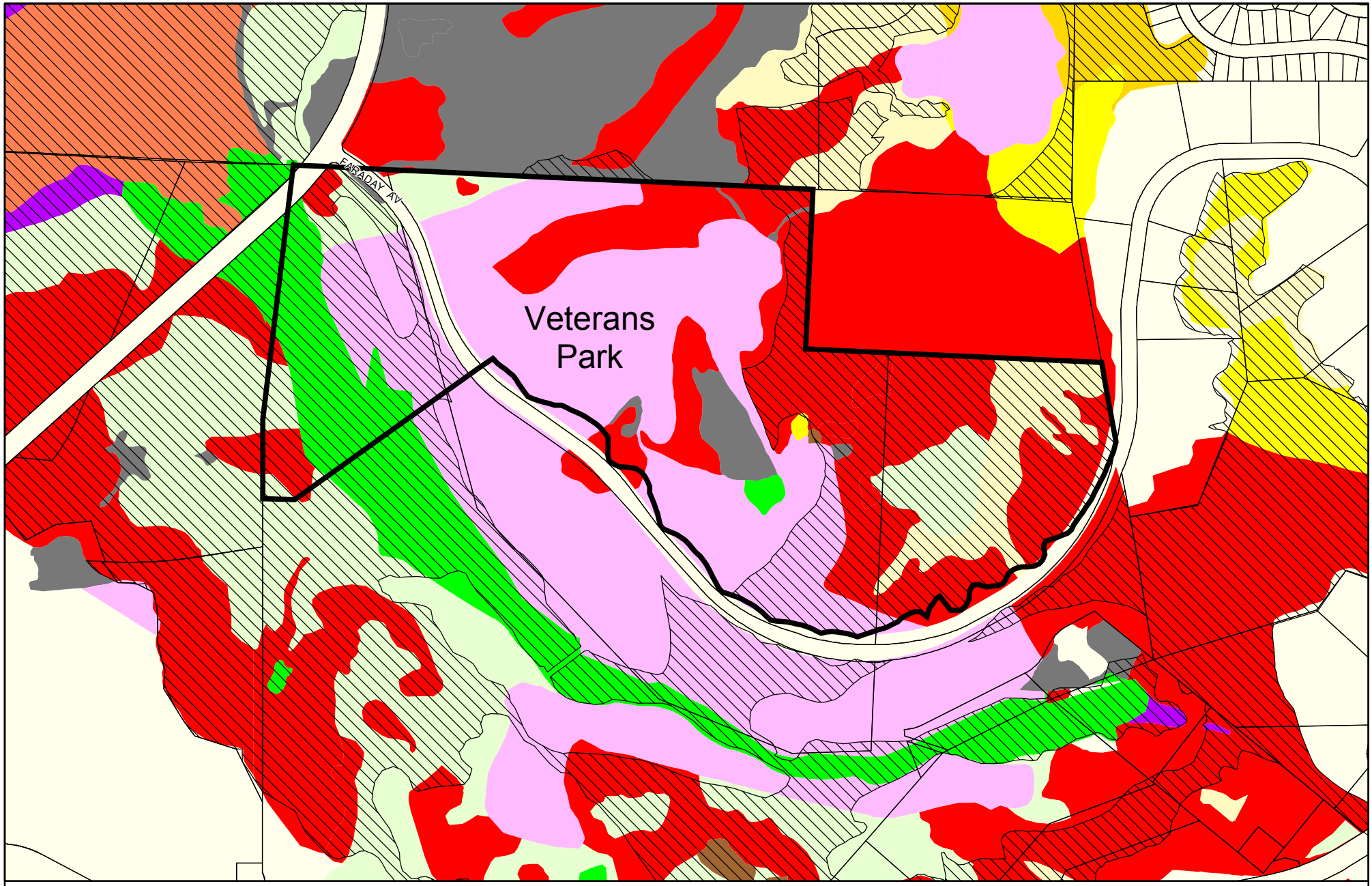

Figure 16
Veterans Memorial Park

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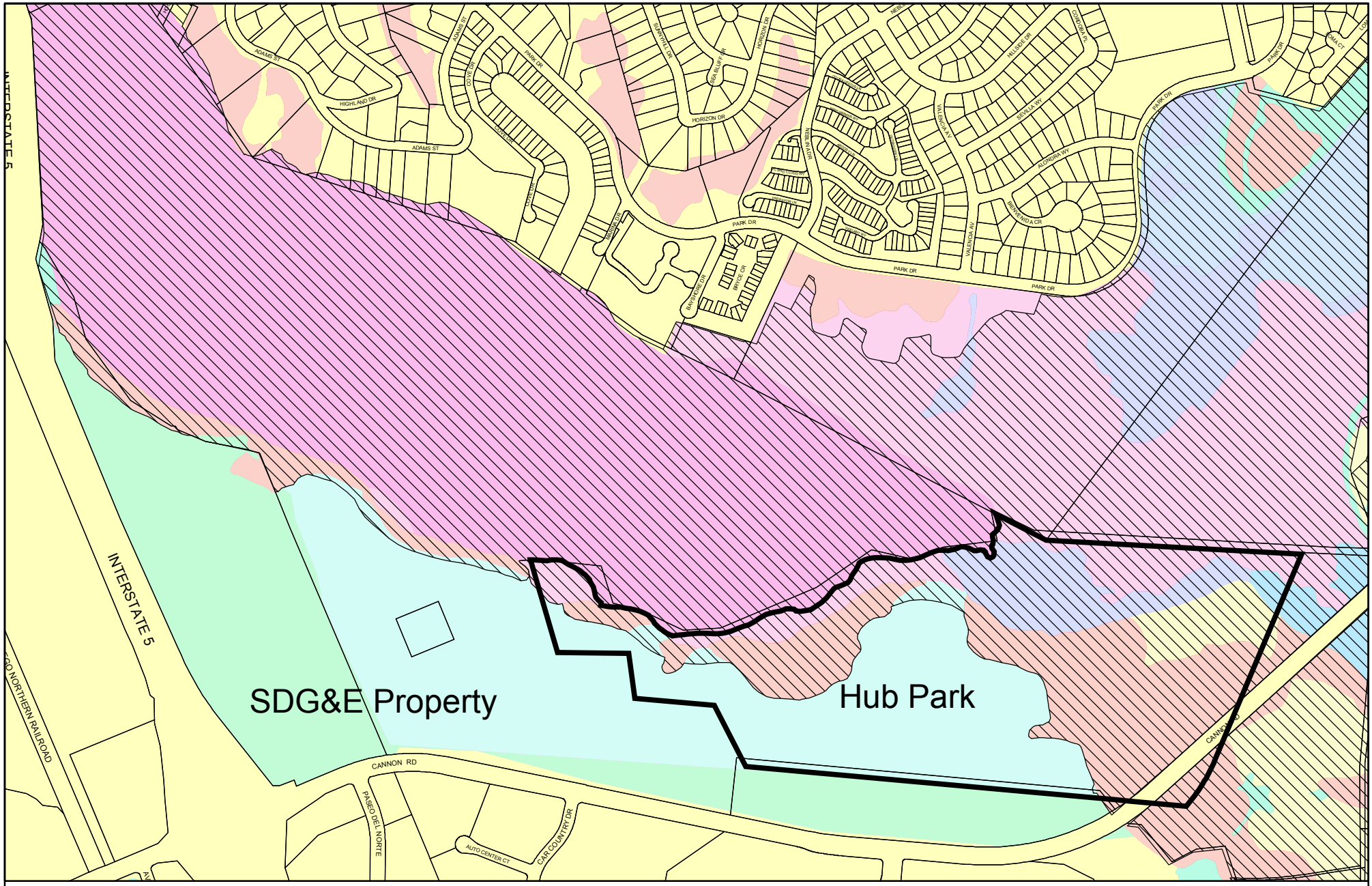

Figure 17 - Revised
Hub Park and SDG&E Property

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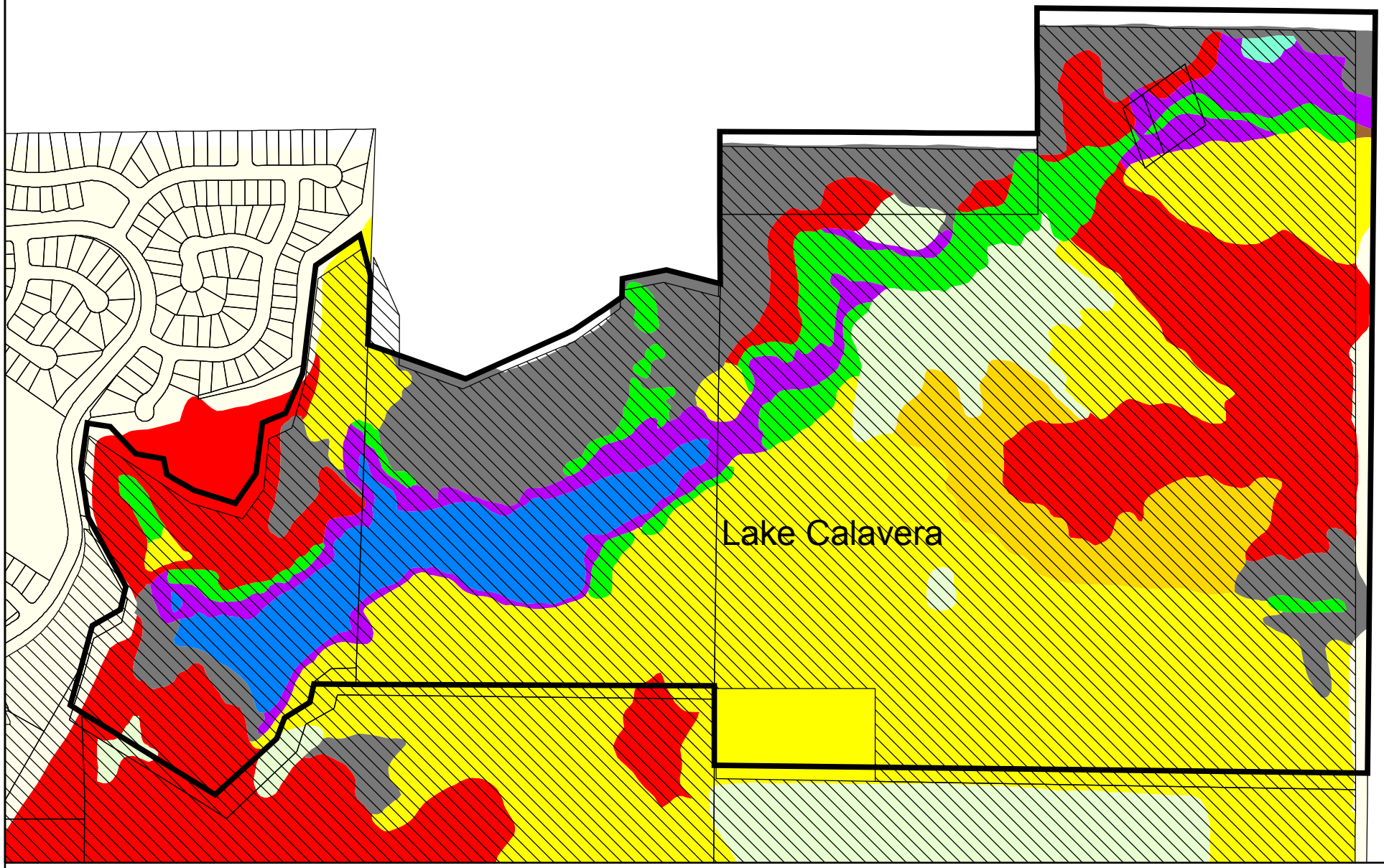

Figure 18
Lake Calavera

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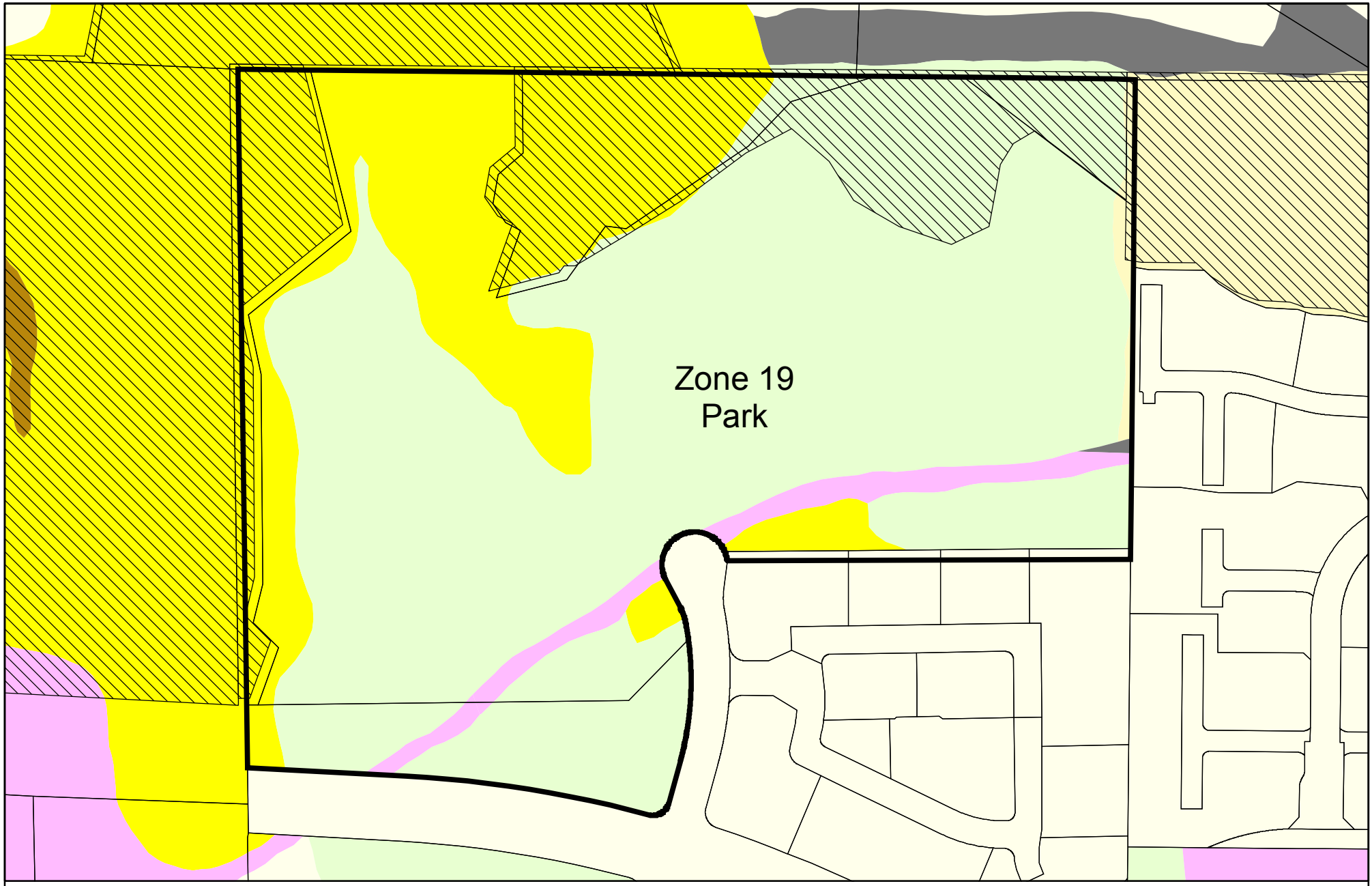

Figure 19
Zone 19 Park

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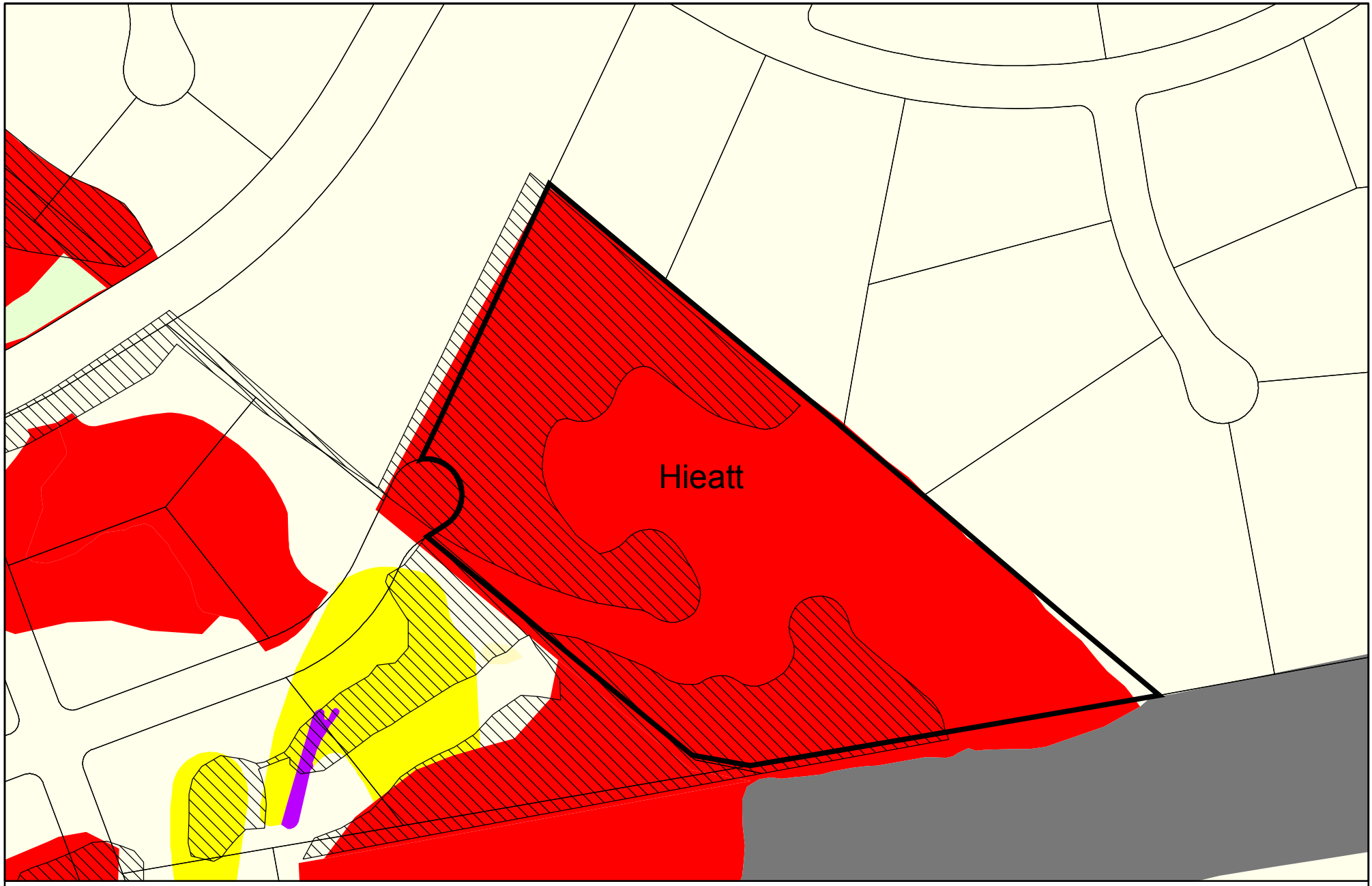

Figure 20
Hieatt

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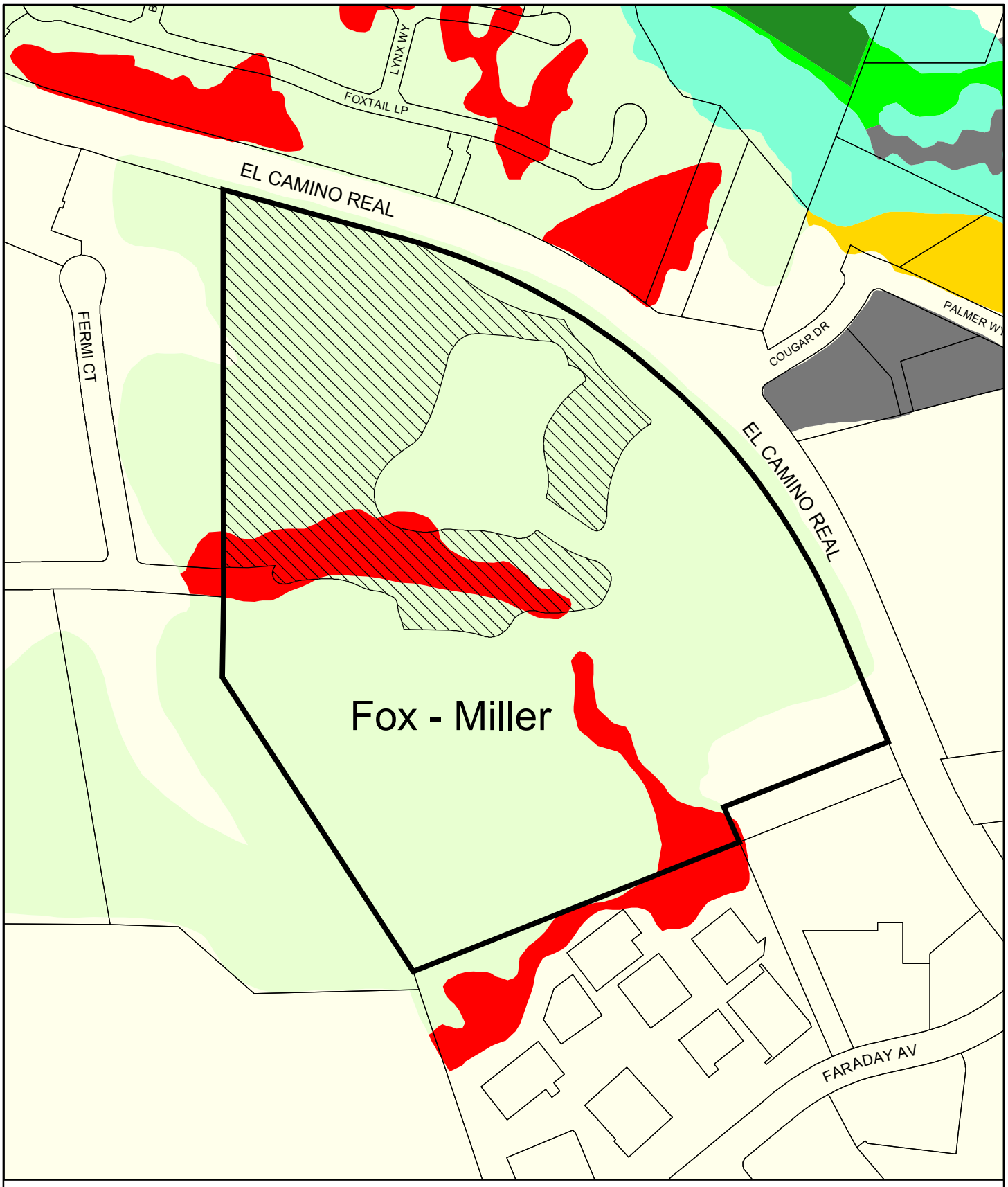

Figure 21
Fox - Miller

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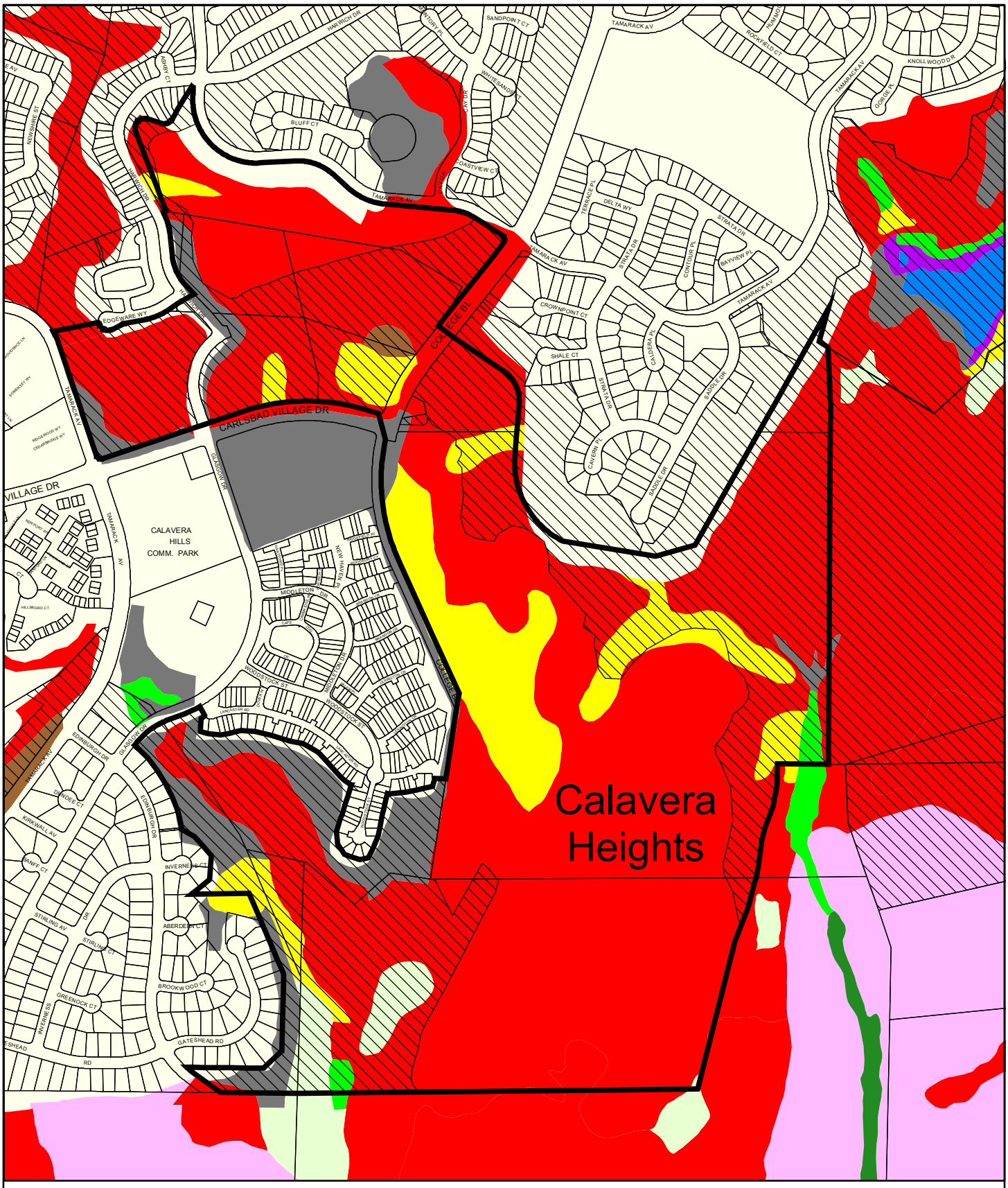

Figure 22
Calavera Heights

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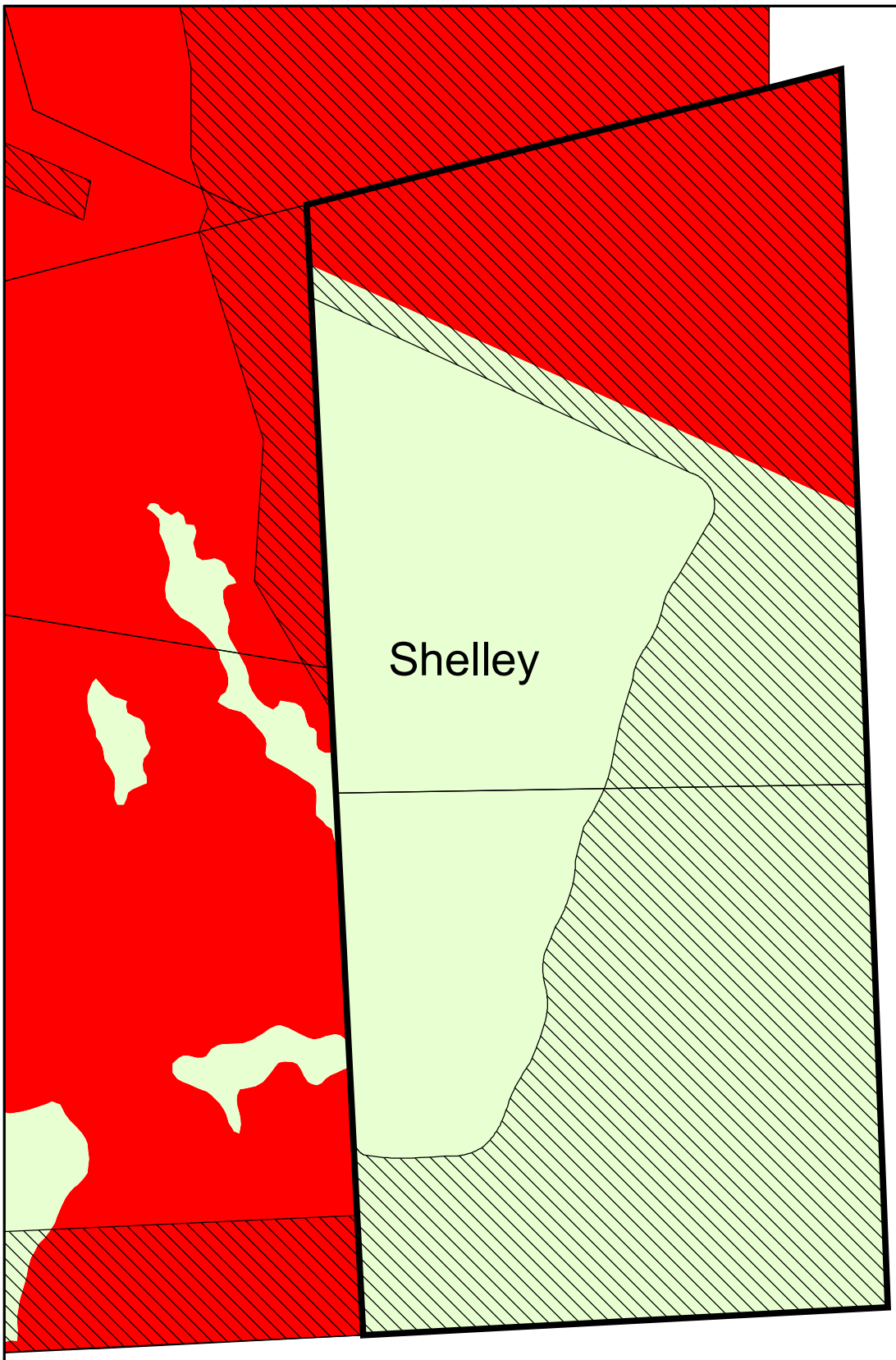

Figure 23
Shelley Property

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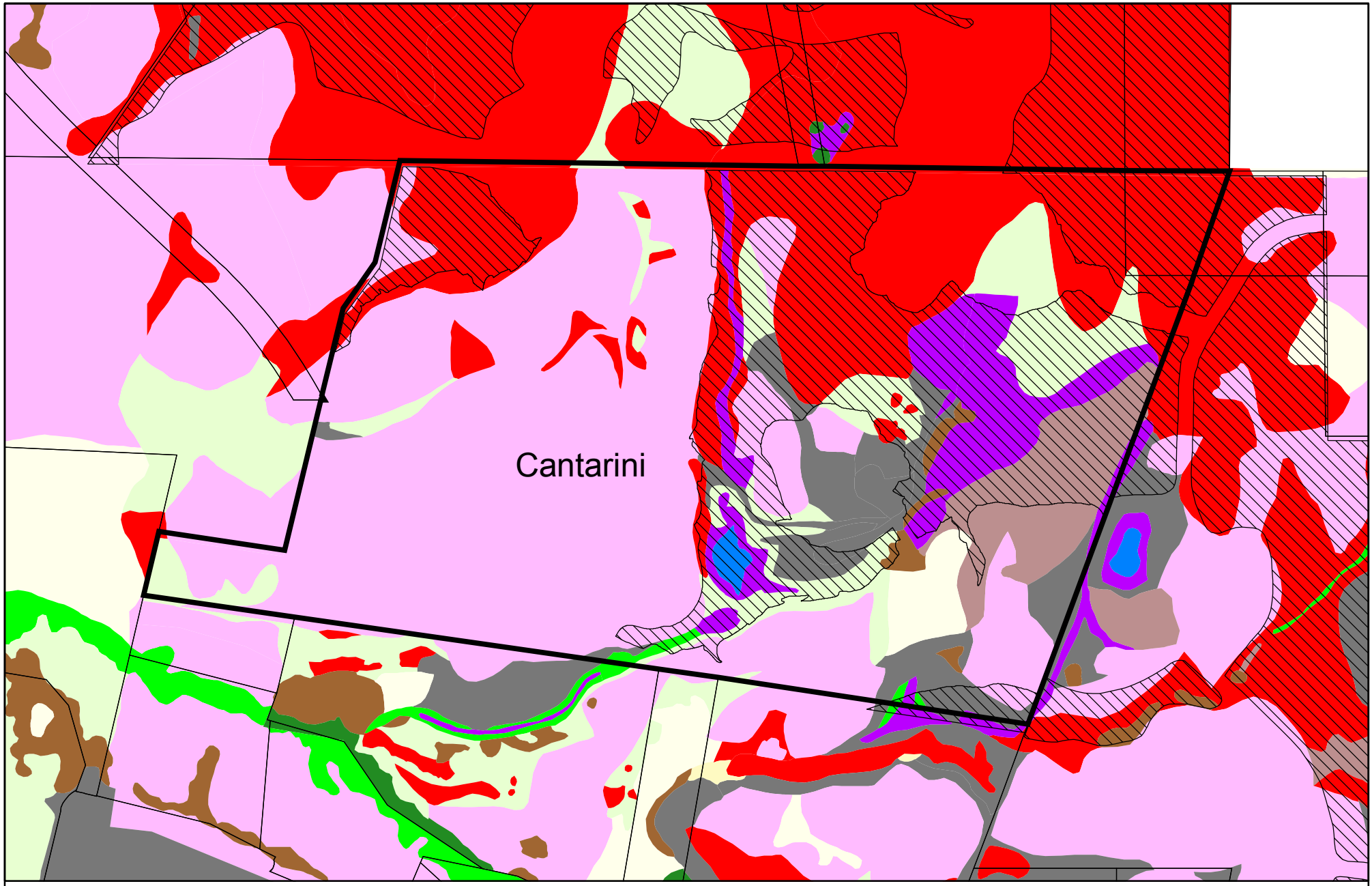

Figure 24
Cantarini

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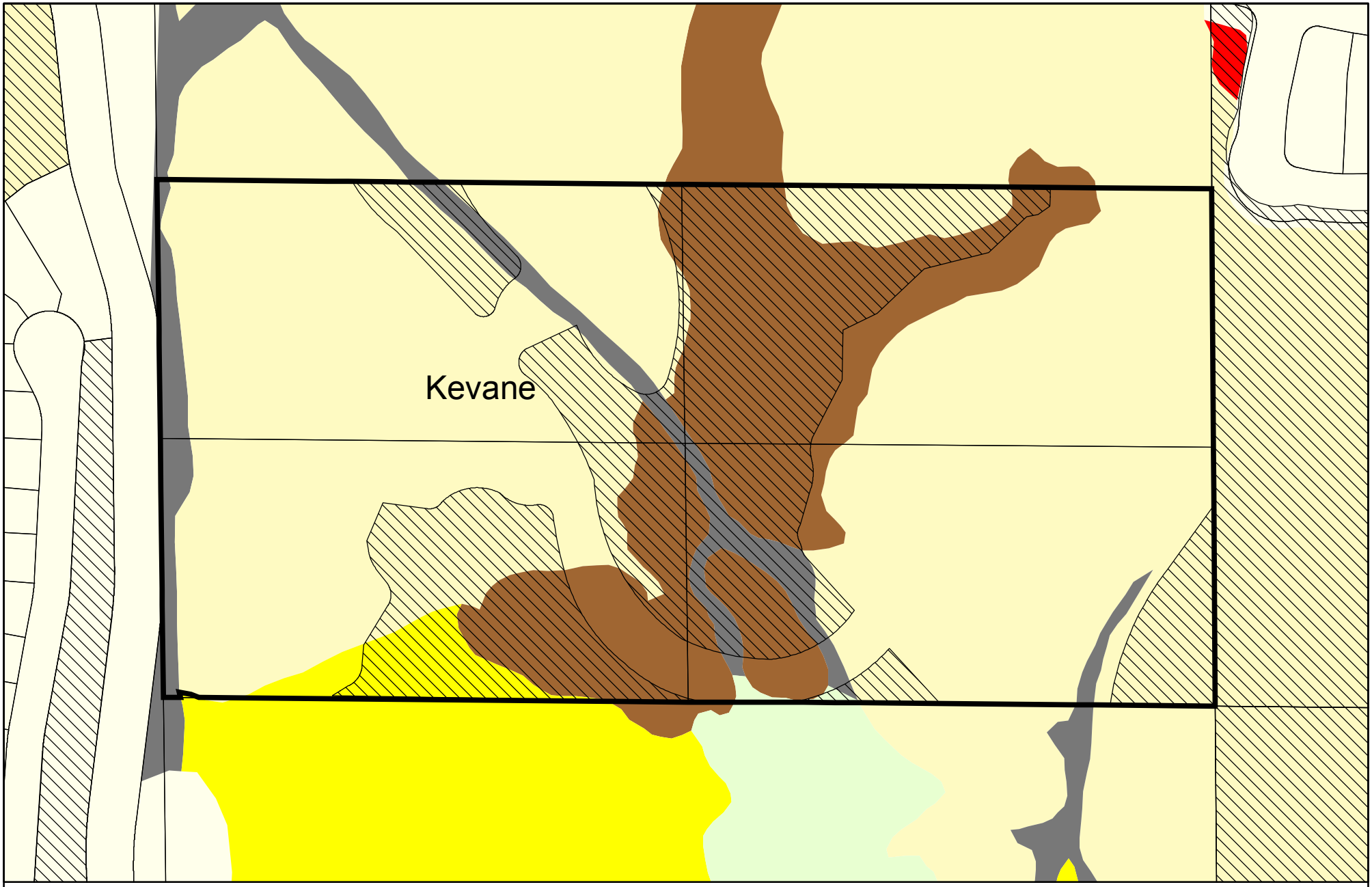

Figure 25
Kevane

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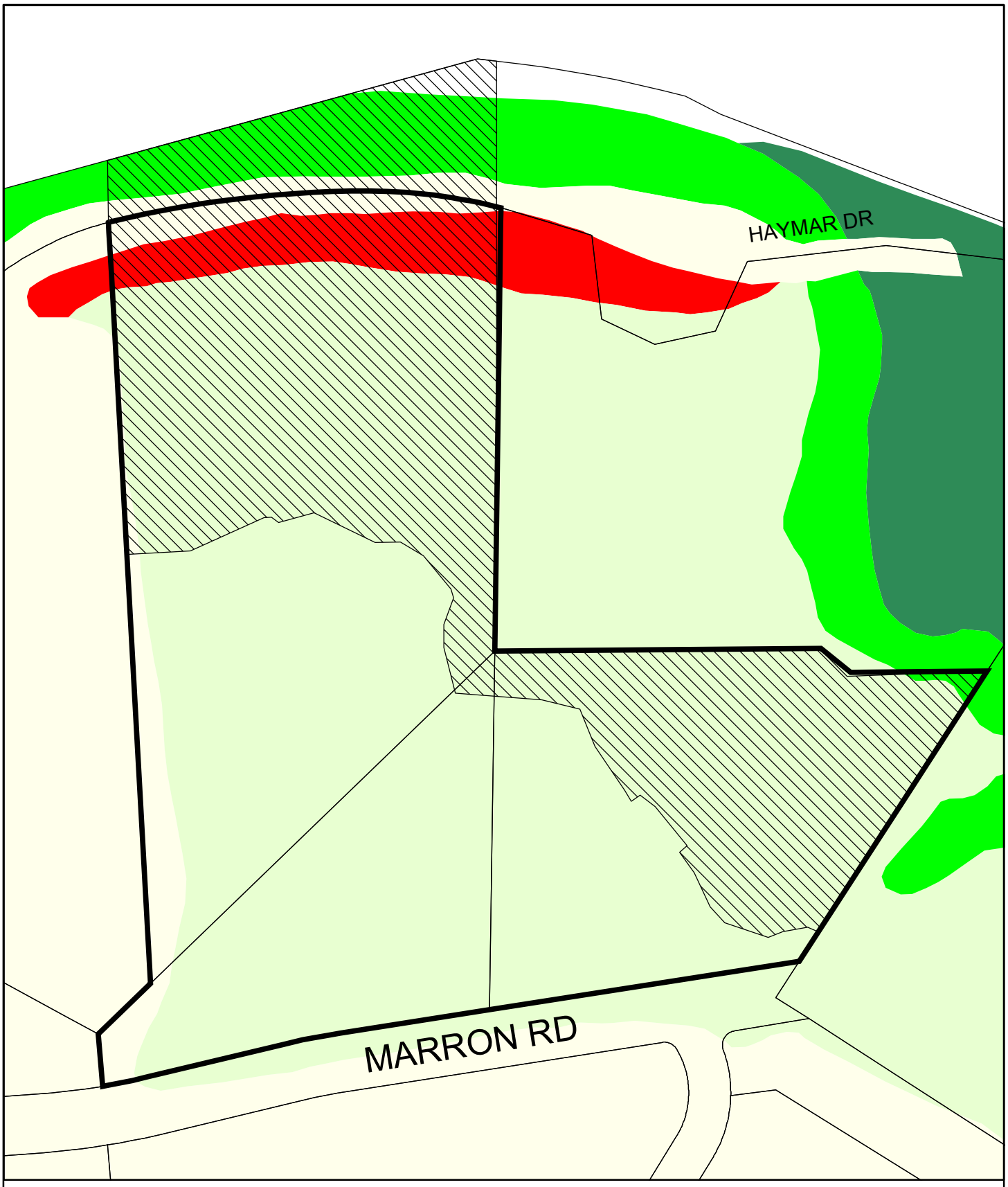

Figure 34
Summit at Carlsbad Property

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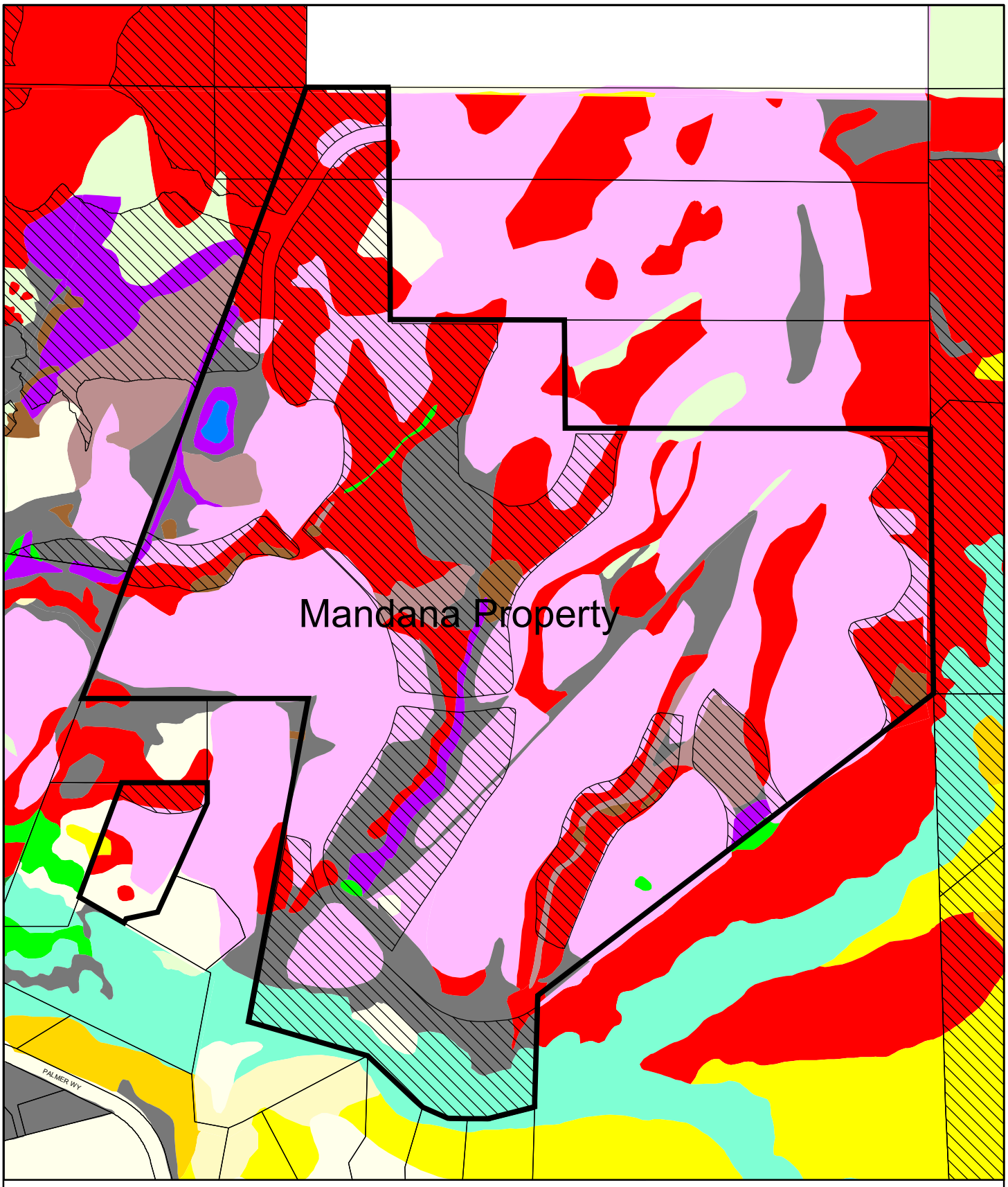

Figure 35
Mandana Property

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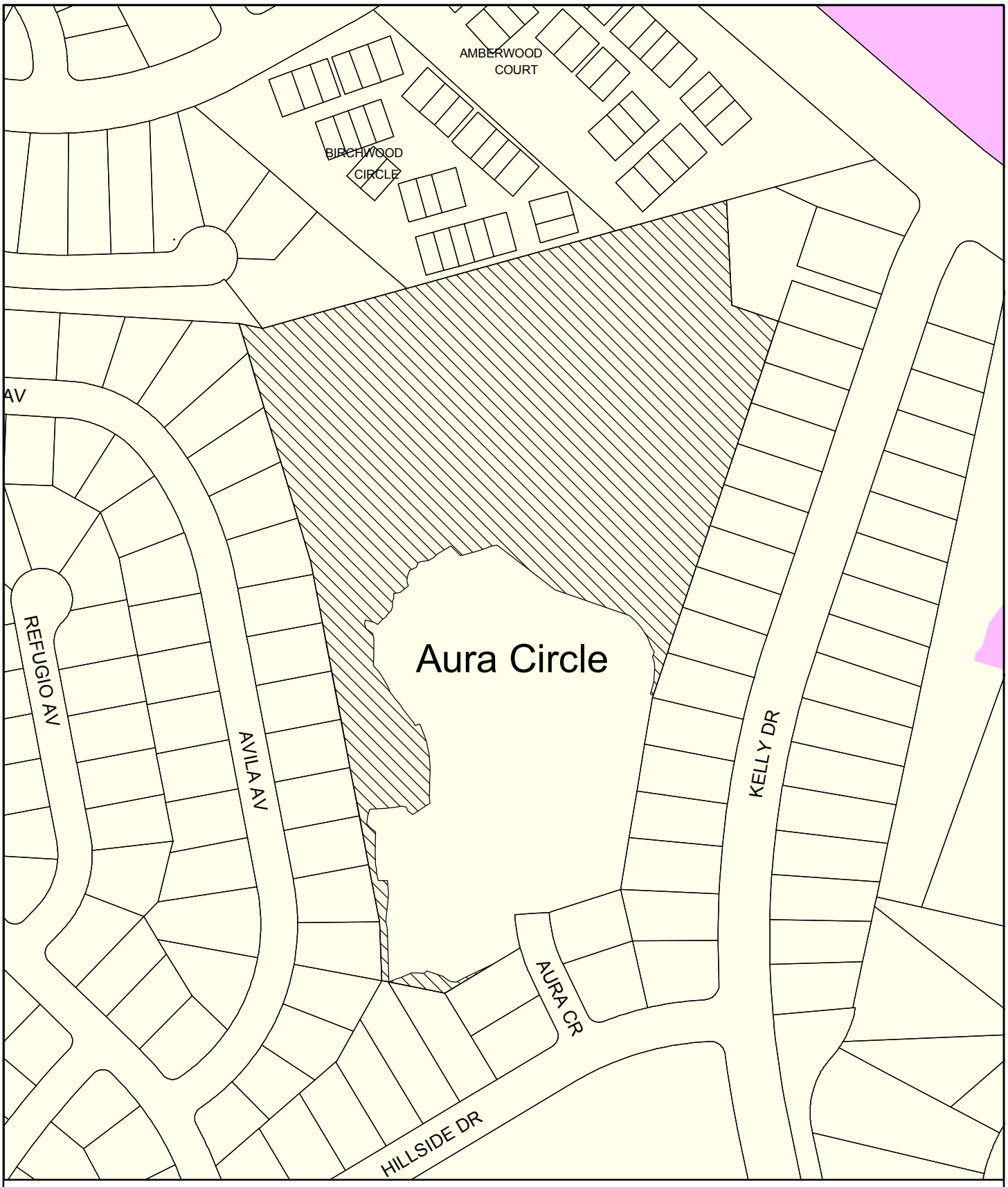

Figure 36
Aura Circle

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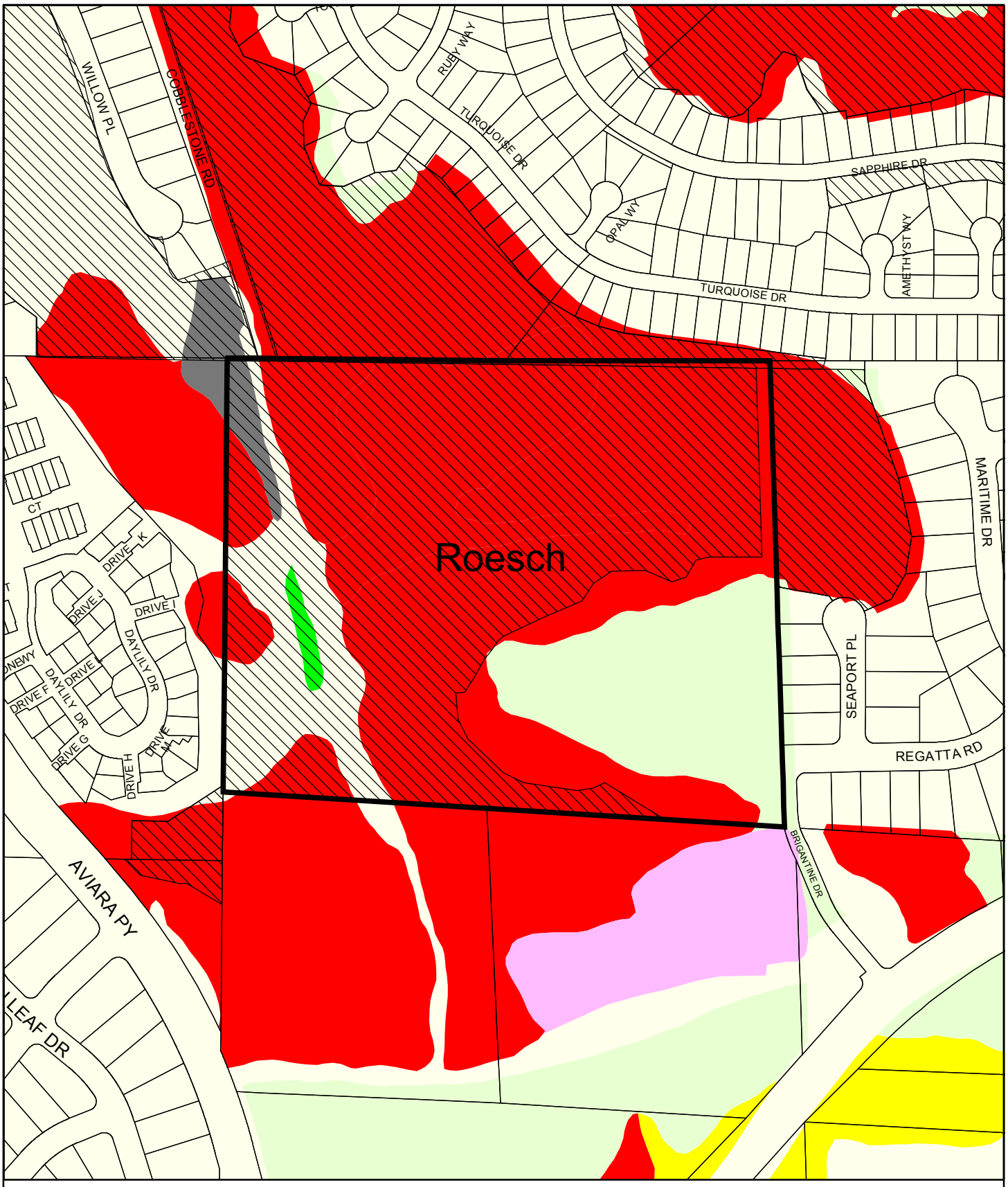

Figure 37
Roesch

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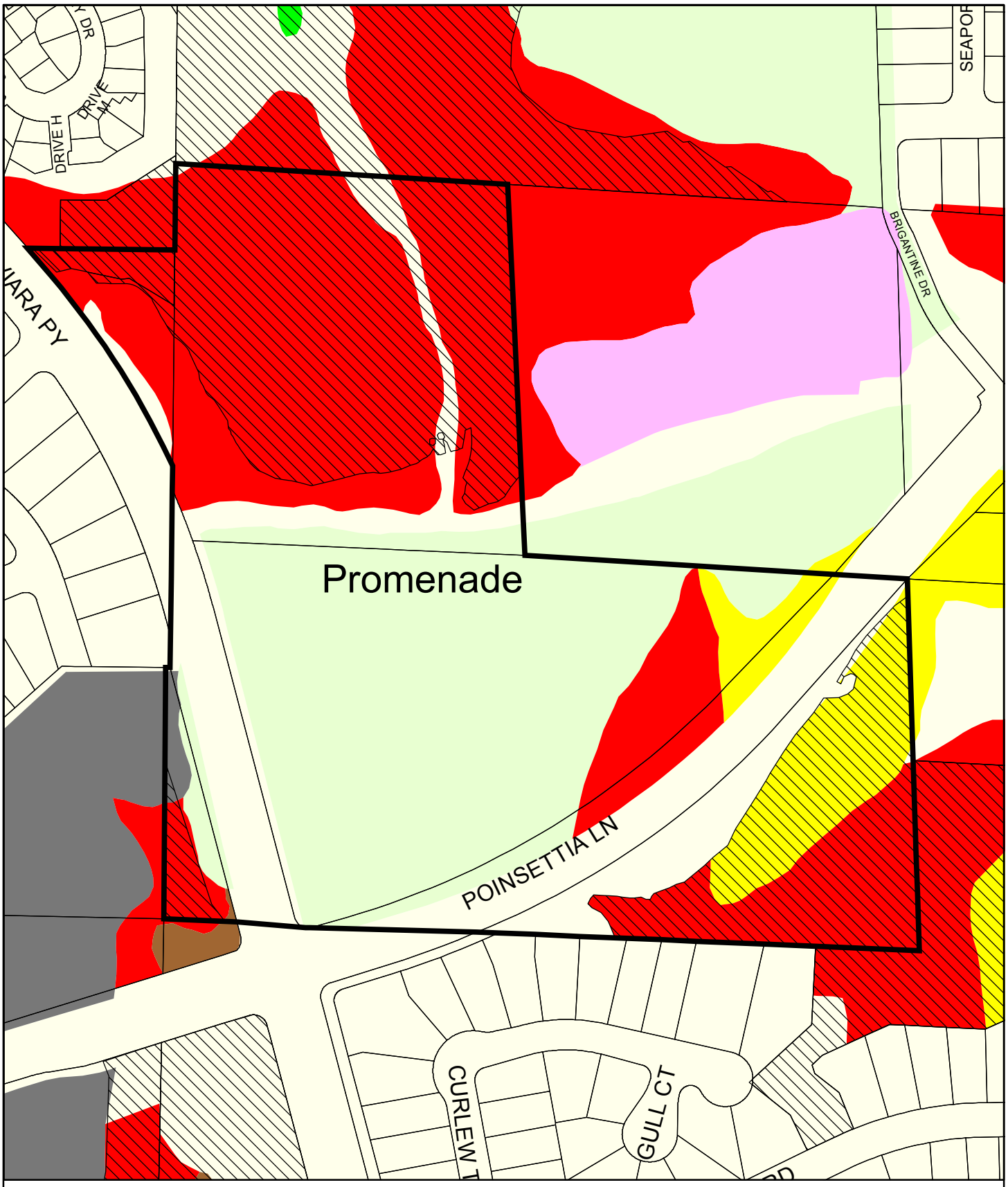

Figure 38
Promenade

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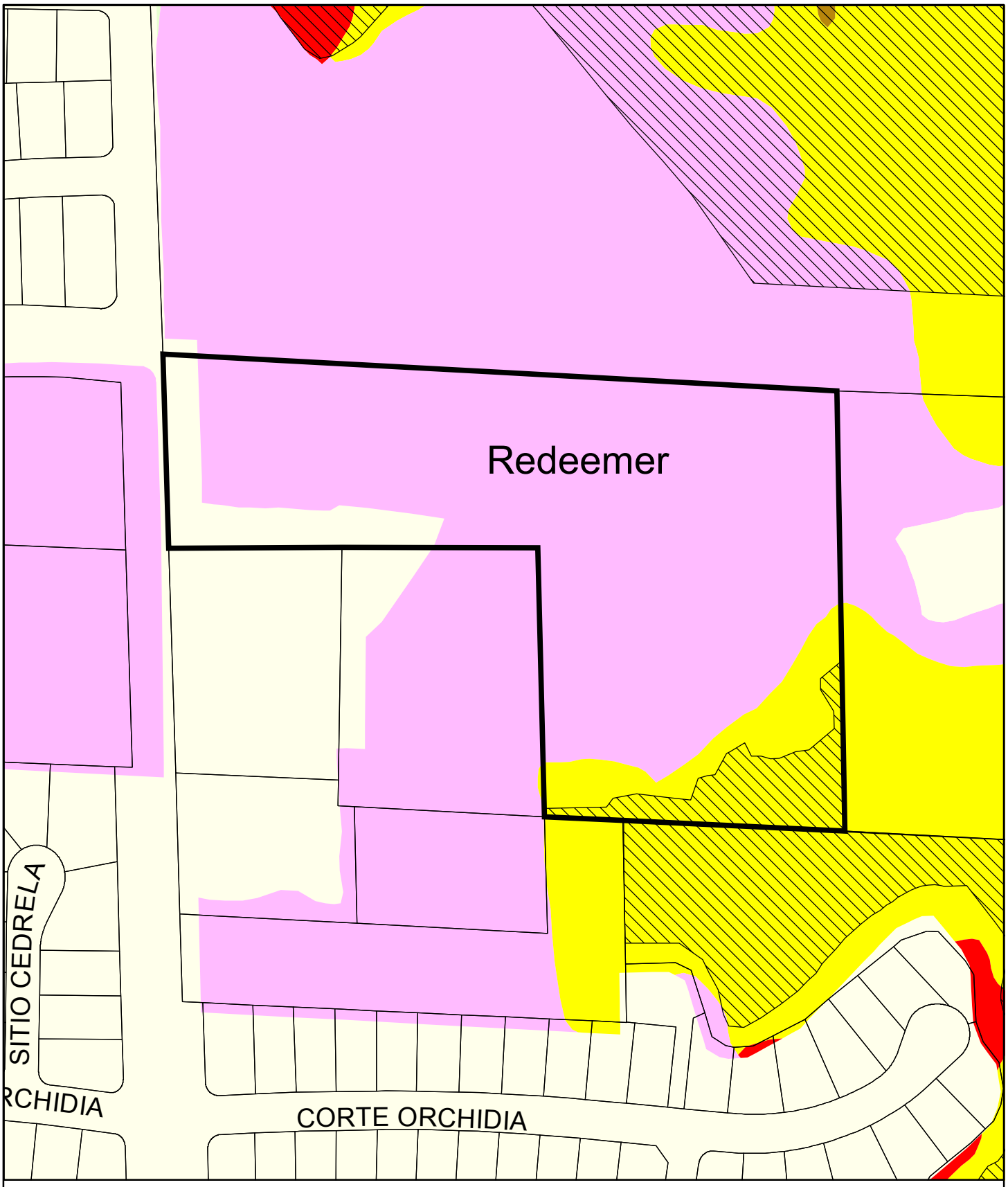

Figure 39
Redeemer by The Sea

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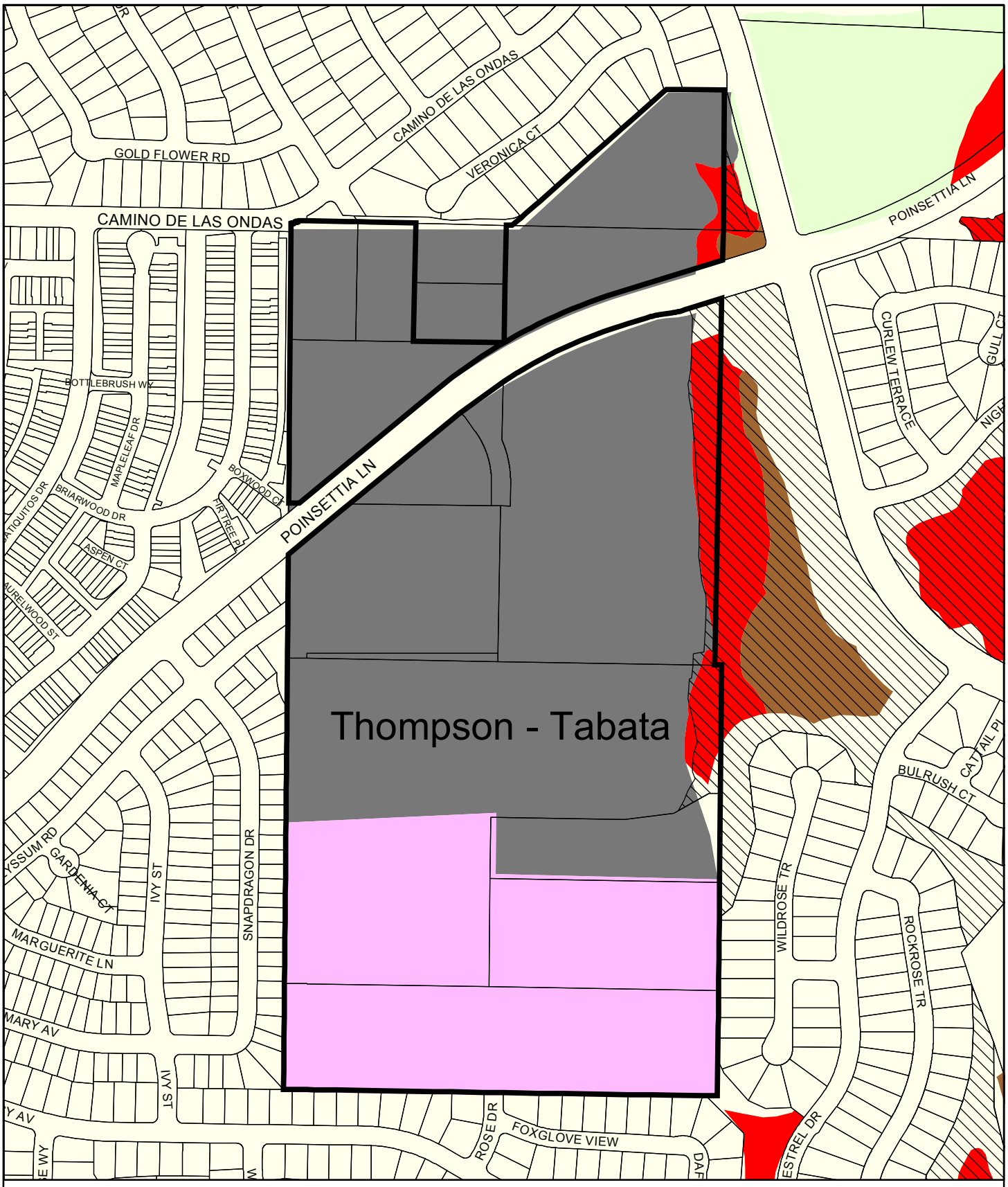

Figure 40
Thompson - Tabata

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Table 6

Proposed Hardline Conservation Areas (Acres)

	Natural Habitats							Disturbed Habitats				
LFMZ	Coastal Sage Scrub	Chaparral	Southern Maritime Chaparral	Oak Woodland	Riparian	Marsh	Grassland	Eucalyptus Woodland	Agriculture	Disturbed	Developed	Totals
1	13	0	0	0	0	5	0	0	0	0	0	18
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	33	0	2	0	3	0	42	1	0	3	3	87
6	0	0	0	0	0	0	0	0	0	0	0	0
7	26	3	0	0	0	0	2	1	0	3	2	37
8	53	0	7	0	25	1	30	1	23	1	0	141
9	0	0	0	0	0	0	0	0	0	0	0	0
10	4	0	1	0	0	0	0	0	0	0	0	5
11	18	0	0	0	0	0	39	0	0	0	0	57
12	0	0	0	0	0	0	0	0	0	0	0	0
13	48	0	0	0	5	17	19	0	2	1	0	92
14	63	91	0	0	17	31	13	0	0	37	5	257
15	176	0	0	11	6	15	10	0	8	7	0	233
16	75	47	4	0	43	0	54	0	0	0	0	223
17	35	9	0	0	6	0	7	0	96	0	0	153
18	17	4	0	0	0	3	1	0	0	27	2	54
19	0	3	0	0	0	0	2	0	0	0	0	5
20	9	20	0	0	0	0	0	0	0	0	0	11
21	4	2	19	4	0	0	0	0	1	3	0	30
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	11	9	0	0	10	1	33	0	0	6	1	71
Totals	**585**	**170**	**33**	**12**	**115**	**73**	**252**	**3**	**130**	**88**	**13**	**1,474**

Note: Acreage figures may vary somewhat between tables due to rounding.

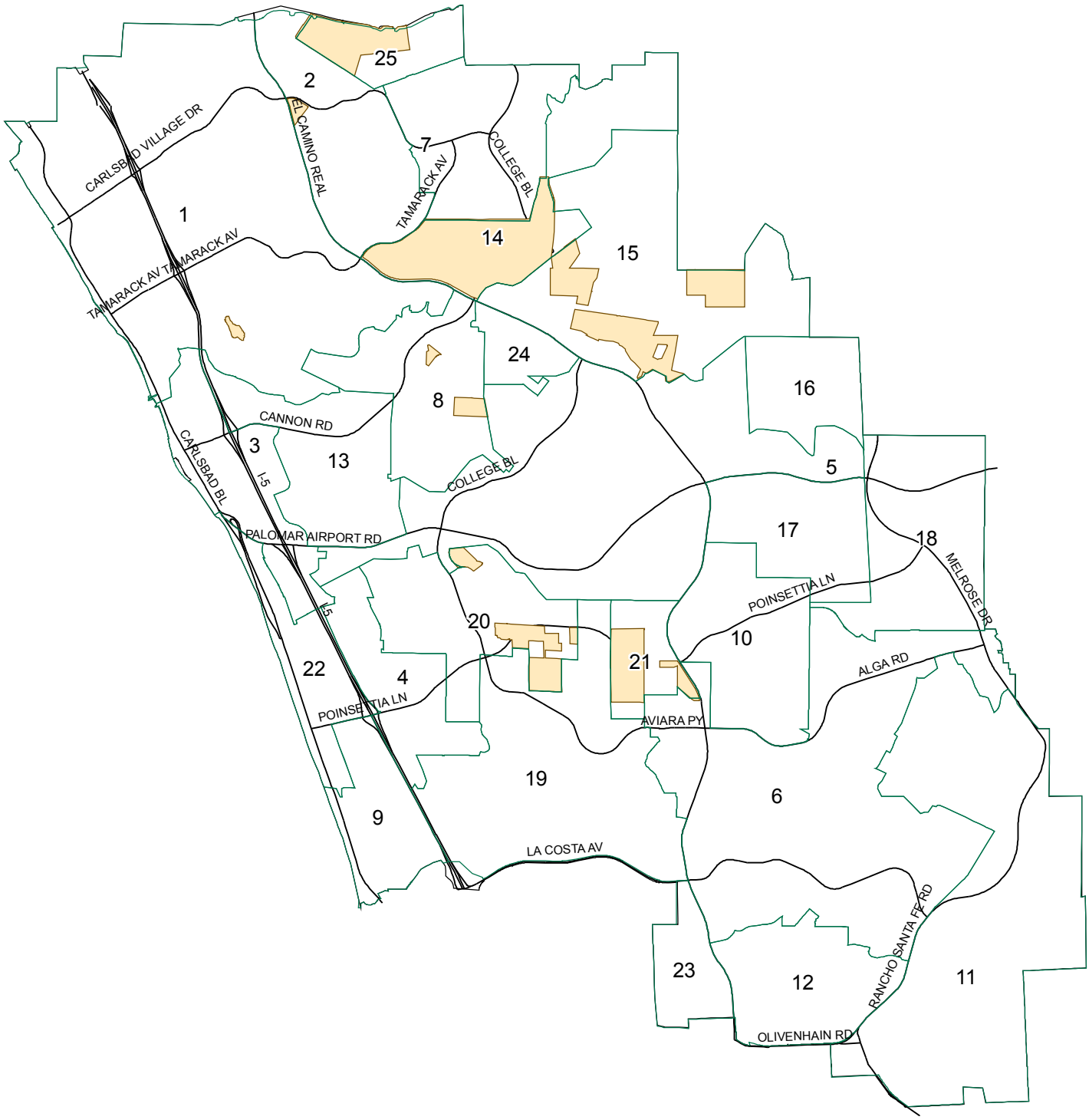

Figure 26 - Revised Proposed Standards Areas

Previously included in Addendum No. 2

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C. Standards Areas

For some key properties within the City which have not submitted proposed hardline designs for inclusion in the preserve system at this time, the HMP includes conservation goals and standards which will apply to future development proposals in these areas. The goals and standards have been arranged according to the Local Facilities Management Zones (LFMZs) to which they apply. Figure 20 shows the LFMZs, the areas of the City and individual properties covered by the standards areas.

The standards apply only to those areas within the LFMZs not already covered by existing and proposed hardline areas, existing take authorizations or areas shown as development areas on the HMP map. They are focused geographically using the 25 Local Facilities Management Zones (LFMZs) defined by the City's Growth Management Plan (GMP). The GMP requires that each zone have a local facilities management plan approved by the City Council before development applications can be accepted or processed for that zone. The HMP requires that each plan demonstrate how the goals and objectives of the HMP will be achieved for that zone. This planning should ensure that viable biological open space will be comprehensively planned for the zone, rather than having open space areas planned piece-meal for each parcel within the zone. If individual properties are proposed for development within a zone, the property owner must show how the standards will be met. Standards are identified for properties in zones 1, 2, 8, 14, 15, 20, 21 and 25.

The planning standards are based on biological issues defined specifically for each zone based on existing biological conditions and preserve design considerations. These issues are translated into HMP conservation goals, which in general focus on conserving and maintaining major and critical populations of HMP species, major and critical habitat patches within core areas, and landscape linkages and movement corridors between core areas as well as with adjoining jurisdictions.

The discussion of biological issues and goals is followed by recommended standards for planning new developments within each zone. These planning standards are intended to achieve the zone-specific biological goals based on zone-specific conditions and constraints. They would be used during the land use planning and review process by the City as described in Sections D and E, to identify conservation priorities and compliance options for new projects. Although the standards will ultimately result in determining preserve boundaries, the standards as well as the mitigating measures and ratios contained in Tables 9 and 11 of the document apply to all projects in the zone whether they are within or outside the preserve boundaries. (See page D-91or further discussion of Citywide minimization and mitigation requirements.)

There are several properties within the standards areas which are extremely important to planning a viable preserve system because of their geographical location (e.g., linkage) or the habitat type occurring on the property. In order to allow reasonable economic use of these properties, the standards allow at least 25% of the property to be developed, in the least environmentally damaging location, while 75% will be conserved.

Protection of coastal sage scrub is of particular importance in these remaining unplanned areas of the city. Therefore, 67% of coastal sage scrub shall be conserved overall within the Standards Areas, as well as 75% of gnatcatchers. Some zones may conserve more or less than these percentages due to parcel size, location, resources, or long-term conservation potential. The procedures detailed in Section E of this plan will be implemented in the processing of any application for development entitlements for the Standards Areas. Implementation of Section E will ensure that the acreage goals and species preservation goals outlined for the Standards Area will be achieved.

The following contains the specific standards by LFMZ.

Zone 1

1. Biological Resource Issues

Zone 1, which is almost entirely developed, contains scattered fragments of natural vegetation, including major and critical stands of riparian, as well as some scattered patches of coastal sage scrub, non-native grassland, maritime succulent scrub, saltmarsh, and freshwater marsh. Some coastal sage scrub areas support California gnatcatchers. Much of the remaining vegetation is on slopes adjoining Buena Vista and Agua Hedionda lagoons, thus contributing to the biological value of the lagoon watersheds. Buena Vista and Agua Hedionda lagoons support major or critical populations of southwestern pond turtle, white-faced ibis, western snowy plover, and California least tern. The lagoons also provide foraging habitat for the American peregrine falcon and California brown pelican.

2. HMP Conservation Goals

Conserve the majority of sensitive habitats in or contiguous with biological core areas, including no net loss of wetland habitat, and preserve, coastal sage scrub and maritime succulent scrub adjacent to the lagoons. Retain and manage natural habitats adjacent to lagoons to buffer wetland resources from adverse effects and provide upland nesting habitat for pond turtles and other HMP species.

3. Planning Standards

There are two specific areas within Zone 1 to which specific standards are being applied; several vacant lots on the north shore of Agua Hedionda Lagoon and a larger, vacant in-fill lot located to the southwest of El Camino Real and Kelly Drive.

Avoid removal of maritime succulent scrub and any patches of coastal sage scrub in or contiguous with biological core areas. Preserve at least 50% of coastal sage scrub with preference for avoidance of any areas that contain gnatcatchers. If impacts to native habitats cannot be avoided, mitigate by creation or enhancement of like habitats adjacent to lagoons, or by offsite compensation or restoration within biological core and linkage areas. Maximize the preservation of habitat adjacent to the lagoon.

Zone 2

1. Biological Resource Issues

Zone 2 is almost entirely developed with some very small patches of coastal sage scrub native and non-native grassland. The northern end of the zone comprises part of the regional north-south linkage for gnatcatchers.

2. HMP Conservation Goals

Establish, enhance and maintain a habitat linkage from Core Area #2 to the city limits with Oceanside to ensure Carlsbad's portion of regional connectivity for gnatcatchers. Restoration of habitat is required in the northern portion of this zone, adjacent to Highway 78. Allow no net loss of riparian and other wetland habitats.

3. Planning Standards

There are only two properties within this zone where specific standards apply. The first is at the northeastern edge of this zone and is identified on the HMP map as the Kelly/Bartman property. It is approximately 20 acres in size. Approximately 50% of this property, which is primarily grassland, shall be conserved, while allowing development to occur on the least environmentally sensitive portion of the property. The conserved area must form a continuous corridor from the southeast corner of the property to the northern edge with a minimum habitat linkage width of 500 ft. at the southeast and

northwest portions of the property. The conserved area shall be revegetated as a mosaic of grassland and coastal sage scrub in order to facilitate gnatcatcher movement through the regional linkage with Oceanside. Allow no net loss of any riparian and other wetland habitats.

Avoid removal of coastal sage scrub or grassland habitats within this area, and restore or enhance sage scrub habitat, as necessary, to achieve coastal sage scrub contiguity. Restoration of this area is highly desirable. Allow no net loss of any riparian and other wetland habitats.

The second property is an infill lot located off the southeast corner of El Camino Real and Carlsbad Village Drive and is known as the Spyglass property. Although this property is not contiguous to any other habitat and would not provide a link or corridor for habitat connectivity purposes, a majority of the property contains native grasslands. Any grasslands impacted on this property shall be required to do offsite mitigation at a 2:1 ratio.

Zone 8

1. Biological Resource Issues

Most of Zone 8 is comprised of existing or proposed hardline preserve areas. The habitats in Zone 8 comprise much of Core Area 4, and link to other cores to the northeast (via Linkage Area B), southeast (via Linkage Area F), and west (Agua Hedionda Lagoon). This zone supports a variety of sensitive habitats, including critical salt marsh, freshwater marsh, and riparian scrub habitats as well as a major stand of coastal sage scrub. A small patch of southern maritime chaparral is located in and adjacent to agriculture, non-native grassland, southern mixed chaparral, and disturbed land. Marsh habitats associated with Agua Hedionda Lagoon support critical populations of California least tern, western snowy plover, Belding's Savannah sparrow, light-footed clapper rail, and potentially salt marsh skipper. Riparian habitats support breeding least Bell's vireos and potentially southwestern willow flycatchers. California gnatcatchers inhabit most of the sage scrub in this zone, and Del Mar manzanita occurs in the southern maritime chaparral.

2. HMP Conservation Goals

Ensure no net loss of wetland habitats and minimize loss of sensitive upland habitats within Core Area 4, especially occupied coastal sage scrub. Conserve major and critical populations of HMP species and populations of Narrow Endemic species. Maintain contiguity between upland and wetland habitats within the zone, as well as continuity of sensitive upland habitats across the zone from southeast to northwest.

3. Planning Standards

There are two properties within this zone that are designated as standards areas; the Kirgis property and the Callaghan property. Both properties are required to avoid impacts to any identified Narrow Endemic plant populations. Impacts to coastal sage scrub and southern maritime chaparral habitats shall also be avoided, with impacts limited to smaller fragments, edges, lower quality areas, and areas devoid of sensitive species. The Kirgis property shall be allowed a maximum of 25% of the parcel for development purposes. The Callaghan property shall be allowed a maximum of 50% of the parcel for development purposes. Both properties shall place their development on the least environmentally sensitive portion of the property.

Zone 14

1. Biological Resource Issues

Zone 14 is divided into two biologically distinct portions. The northeastern portion of Zone 14 contains critical coastal sage scrub and riparian habitats, as well as major stands of chaparral, which are contiguous with other large open-space areas. This area also supports California gnatcatchers and forms a part of Core Area 3 (which includes Lake Calavera and Calavera Heights). The southern portion of this zone is dominated by agricultural fields, with scattered areas of non-native grassland and coastal sage scrub on slopes. A narrow sycamore riparian woodland also runs north-south through the agricultural fields. Remnant habitats in the southern section of this zone likely serve as wildlife movement corridors and habitat linkages, particularly connecting Core Area 3 to Core Area 4 via Linkage Area B. Large mammals using these connections are needed to maintain ecosystem balance at Agua Hedionda Lagoon.

2. HMP Conservation Goals

Establish, enhance, and maintain viable habitat linkages across Linkage Area B to ensure connectivity for gnatcatchers and other HMP species between Core Areas 3 and 4. Allow no net loss of wetlands and conserve through preservation, restoration or enhancement, 67% of coastal sage scrub.

3. Planning Standards

Areas of upland habitat outside of the designated linkage B may be taken in exchange for restoration and enhancement inside the linkage, as long as the result is conservation of at least 67% of coastal sage scrub and the associated gnatcatcher population within the southern portions of the zone. Creation of the linkage must utilize patches of existing habitat within the identified alignment. Maintain and enhance the wildlife movement potential between core areas using sensitive design of any road or utility crossings of Linkage B (e.g., bridging, undercrossing). Conserve all riparian habitats onsite, and prohibit fill or development within the existing flood plain except where required for Circulation Element roads, Drainage Master Plan facilities, or other essential infrastructure. Conserve any Narrow Endemic plant populations identified during planning. When conversion of agricultural lands to other uses is proposed, set back all development impacts at least 100 feet from existing wetland habitats and require habitat restoration or enhancement in the riparian and buffer areas.

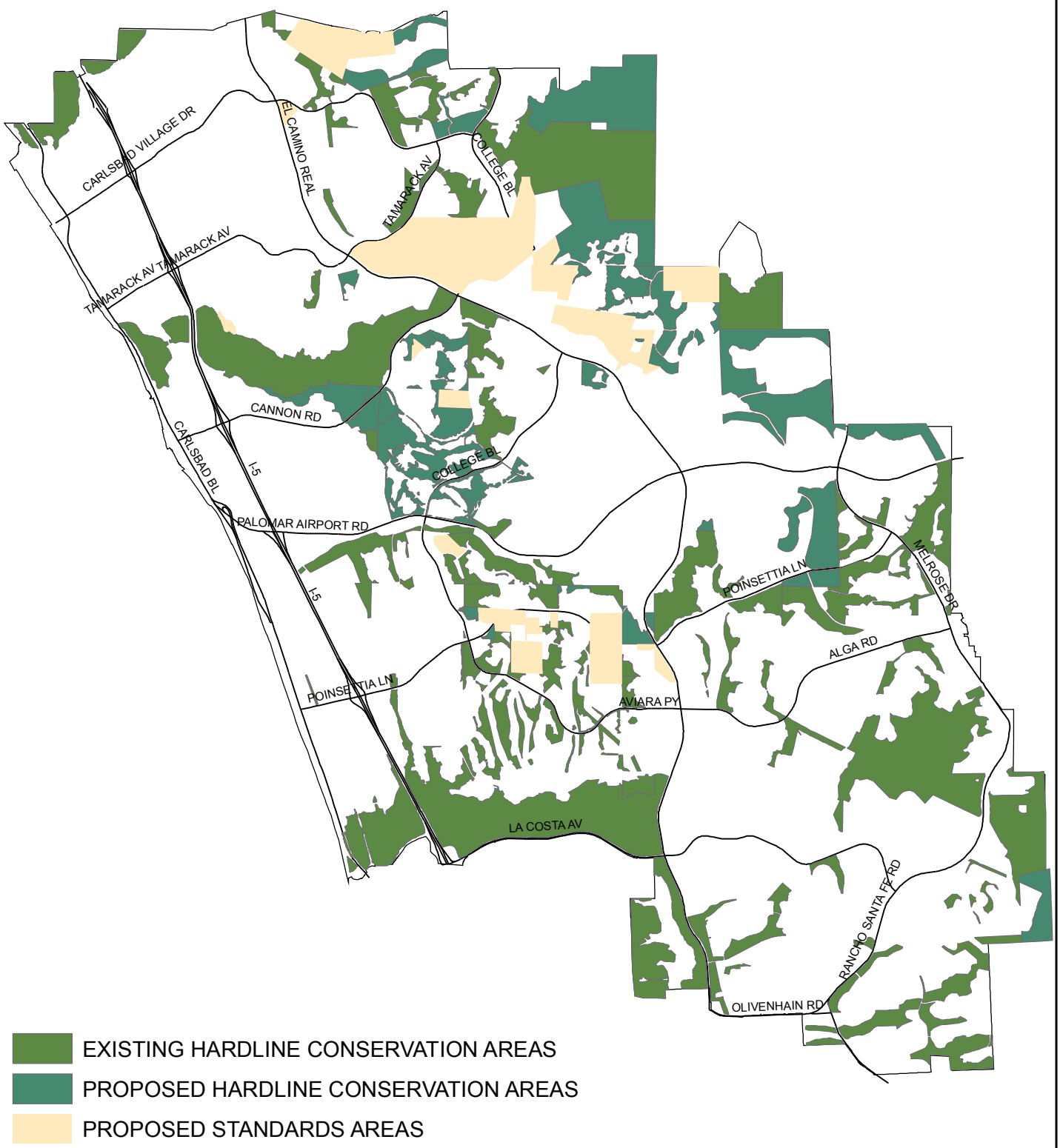

Figure 27 - Revised Conservation Components Map

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Zone 15

1. Biological Resource Issues

Important core and linkage habitats comprise much of Zone 15. The northern portion of the zone includes much of Core Area 3, which is already largely existing and proposed hardline open space. Critical blocks of coastal sage scrub in this area are densely occupied by a critical population of California gnatcatchers and other sensitive species. Most of the California gnatcatchers in the northernmost core population are in this block of habitat. It connects to core population areas on Camp Pendleton via core and linkage areas in Zones 7, 25, and 2 and the City of Oceanside, and to core population areas in southeast Carlsbad via stepping-stone Linkage Areas C and D, Core Area 5, and southwest San Marcos. This area also supports a critical population of thread-leaved brodiaea. Riparian scrub and oak riparian woodlands cross the large block of coastal sage scrub in the northern part of the zone and also border the zone's southern boundary. The southern portion of the zone, which includes multiple property ownerships, is a mosaic of coastal sage scrub, non-native grassland, and chaparral. Some of the natural habitat patches border the southern drainage (Agua Hedionda Creek) and add to its value as a wildlife movement corridor. Agricultural areas north of Agua Hedionda Creek support a mosaic of disturbed coastal sage scrub patches on rocky hills and ridges, along with a variety of wetland communities. These remnant natural habitat patches, surrounded by active agricultural fields, comprise part of a stepping-stone linkage (Linkage Area C) for gnatcatchers and other species. The Dawson-Los Monos Reserve in the eastern portion of the zone supports relatively undisturbed sage scrub, chaparral, and riparian communities.

2. HMP Conservation Goals

Establish, enhance, and maintain a viable habitat linkage across Linkage Area C to ensure connectivity for gnatcatchers and other HMP species between Core Areas 3 and 5. Conserve the majority of sensitive habitats in or contiguous with biological core and linkage areas, including no net loss of wetland habitats and coastal sage scrub within Core Area 3 and Linkage Area C.

3. Planning Standards

Maintain and enhance a habitat linkages across Linkage Area C and adjoining portions of Core Areas 3 and 5 that averages between 500 and 1,000-feet wide, with a minimum width of no less than 500 feet. Emphasis should be on improving gnatcatcher habitat within the linkage. Areas of upland habitat outside of the designated linkage Area C may be taken in exchange for restoration and enhancement inside the linkage, as long as the result is no net loss of coastal sage scrub and the associated gnatcatcher population within the southern portion of the zone. Creation of linkage should utilize patches of existing habitat to the maximum extent practicable. Creation of the linkage must utilize patches of existing habitat within the identified linkage alignment. Maintain and enhance the wildlife movement potential between core areas using sensitive design of any road or utility crossings of Linkage C. Conserve all riparian habitats onsite, and prohibit fill or development within the existing flood plain except where required for Circulation Element roads, Drainage Master Plan facilities, or other essential infrastructure. Conserve any Narrow Endemic plant populations identified during planning. When conversion of agricultural lands to other uses is proposed, set back all development impacts at least 100 feet from existing wetland habitats and require habitat restoration or enhancement in the riparian and buffer areas.

Zone 20

1. Biological Resource Issues

Much of this zone is already developed and much of the remainder is agricultural land. Coastal sage scrub, maritime succulent scrub, southern mixed chaparral, and southern maritime chaparral in this

zone support a variety of HMP species, including California gnatcatcher, Del Mar manzanita, orange-throated whiptail, and San Diego thorn-mint. There is insufficient survey information for some portions of this zone. Habitats in Zone 20 are part of a stepping-stone linkage (Linkage F) that connects cores areas 4, 6, and 8.

2. HMP Conservation Goals

Establish, enhance, and maintain a viable habitat linkage across Linkage Area F to ensure connectivity for gnatcatchers and other HMP species between Core Areas 4 and 6. Conserve the majority of sensitive habitats in or contiguous with biological core and linkage areas, including no net loss of wetland habitats, southern maritime chaparral, maritime succulent scrub, and coastal sage scrub within Core Area 6 and Linkage Area F.

3. Planning Standards

Conserve habitats in a continuous configuration through Linkage Area F, from Core Area 6 to where Linkage Area F crosses Palomar Airport Road. This configuration is intended to allow for continued animal movement between core areas 4 and 6, particularly for gnatcatchers and other birds. The objective is to create continuous habitat connectivity and wildlife movement across the zone with a minimum constriction of 500 feet. However, in no case shall this standard deny a property owner some reasonable use of their property. Areas of coastal sage scrub and maritime succulent scrub outside of the designated Linkage F may be taken in exchange for restoration and enhancement inside the linkage, as long as the result is no net loss of these habitats or the associated gnatcatcher population within the standards portions of the zone. Southern maritime chaparral outside of core and linkage areas may also be taken unless it supports significant populations of Narrow Endemic plants. Creation of linkage F must utilize patches of existing habitat within the identified alignment. Where consistent with creation of Linkage F, avoid removal of natural habitats that are contiguous with open space on adjacent parcels. Maintain and enhance the wildlife movement potential between core areas using sensitive design of any road or utility crossings of Linkage F. Conserve all riparian habitats onsite, and prohibit fill or development within the existing flood plain except where required for Circulation Element roads, Drainage Master Plan facilities, or other essential infrastructure. When conversion of agricultural lands to other uses is proposed, set back all development impacts at least 100 feet from existing wetland habitats and require habitat restoration or enhancement in the riparian and buffer areas. Mitigation for any allowed impacts shall be as stated in Table 11 on Page D-113.

Zone 21

1. Biological Resource Issues

The majority of Zone 21 is covered by these standards and consists of multiple property owners. The zone contains a critical stand of southern maritime chaparral that supports a critical population of Del Mar manzanita, a major population of summer holly, and other Narrow Endemic plant species. Vernal pools, coastal sage scrub, and oak riparian forest also occur and likely support HMP species, including California gnatcatcher. Zone 21 contains most of the habitats comprising the western half of Core Area 6, which is the primary link between the eastern and western halves of the City. Scattered agricultural fields are also located within this zone. There is insufficient survey information for some portions of Zone 21.

2. HMP Conservation Goals

Conserve the majority of remaining natural habitats and ensure a net loss of no more than 10% of coastal sage scrub and southern maritime chaparral. Ensure no net loss of wetland habitats, vernal pools, and oak woodlands within the zone. Conserve habitats in a continuous configuration across

the zone to allow for continued east-west connectivity and animal movement between El Camino Real (Zone 10) and Linkage Area F (Zones 19 and 20). Conserve Narrow Endemic plant populations.

3. Planning Standards

Additional field surveys at the appropriate time of year are needed in this zone to determine the extent and location of sensitive species. Major areas for development should be restricted to agricultural areas and disturbed habitat. Avoid removing maritime succulent scrub, southern maritime chaparral, and any Narrow Endemic plant populations identified during planning. Minimize removal of coastal sage scrub and southern maritime chaparral; avoid impacts within the watersheds of vernal pools and to oak riparian forest. Ensure continuous habitat connectivity and wildlife movement east-west across the zone with an average habitat width of 500 feet to 1,000 feet and a minimum constriction of 500 feet (where narrower constrictions don't already exist). However, in no case shall this standard deny a property owner some reasonable use of their property. If impacts to natural habitats cannot be avoided, they must be limited to disturbed, low quality portions of the site. Areas of highly disturbed, low quality southern maritime chaparral and coastal sage scrub may be mitigated by a combination of onsite enhancement and offsite mitigation in locations of higher quality habitat. Mitigation for any allowed impacts shall be as stated in Table 11 on Page D-113.

Zone 25

1. Biological Resource Issues

Zone 25 comprises a large proportion of Core Area 2, which supports critical riparian and other wetland habitats, as well as grasslands with scattered coastal sage scrub patches. The riparian habitats along Buena Vista Creek support least Bell's vireos, and coastal sage scrub patches support approximately 6-10 pairs of California gnatcatchers. One or more ponds in the area may potentially support pond turtles. This zone represents a critical portion of the regional California gnatcatcher corridor from northern Carlsbad across Oceanside to Camp Pendleton. Linkage Areas A and B connect Zone 25 to Core Areas 3 and 4, respectively. The eastern portion of the zone includes proposed hardline open space. The western portion of the zone is subject to these standards.

2. HMP Conservation Goals

Conserve the majority of remaining natural habitats, and allow no net loss of coastal sage scrub and riparian and other wetland habitats. Retain upland habitats adjacent to riparian habitats to provide potential nesting habitat for pond turtles, to buffer impacts of development on riparian species, and to maximize gnatcatcher use of riparian areas for dispersal through the regional corridor system. Maintain and enhance sufficient nesting habitat to reliably support some nesting pairs of gnatcatchers within the zone in most years.

3. Planning Standards

Conservation of approximately 75% of the Sherman property is required to provide adequate connectivity within the regional gnatcatcher corridor. The percentage of conservation can be modified with the concurrence of the wildlife agency as long as conservation planning goals can be achieved. Mitigation for any allowed impacts shall be as stated in Table 11 on Page D-113. Align future Marron Road to minimize impacts to sensitive biological resources and disruption of wildlife movement. Conserve wetland habitats and set development back at least 100 feet. Avoid and minimize removal of coastal sage scrub and maintain a continuous linkage of sage scrub, chaparral, and grassland averaging 800 feet to 1,000 feet wide along the southern and western portion of the zone with a minimum constriction of 500 feet where narrower constrictions do no already exist. Mitigate any removal of natural habitat by onsite restoration or enhancement of coastal sage scrub to improve gnatcatcher breeding habitat within the zone. Conserve any Narrow Endemic plant populations. Conserve and enhance riparian vegetation along Buena Vista Creek with 200-foot buffers supporting natural vegetation between wetland habitats and development. Prohibit fill or development within the existing 100 year flood plain except where required for Circulation Element roads, Drainage Master

Plan facilities, or other essential public infrastructure. Use sensitive design of any road or utility crossing of Buena Vista Creek.

The above standards would be applied to the specified areas at the time of application for development entitlements. The process for compliance with the standards is contained in Section E of the HMP.

The City's projection of levels of conservation within the preserve system achieved by future compliance with the conservation standards by habitat type and by LFMZ are provided in Table 7. The total estimated acreage of conserved habitat resulting from the proposed standards areas is 553 acres or approximately 9% of the preserve system. It should be noted that the acreage figures are an estimate based on the information currently available. Precise figures for any specific area will not be known until completion of the review and approval process described above.

The procedures detailed in Section E will ensure that the conservation goals for the Standards Areas overall will be achieved.

Table 7

Proposed Standards Areas (Acres)

	Natural Habitats							Disturbed Habitats				
LFMZ	Coastal Sage Scrub	Chaparral	Southern Maritime Chaparral	Oak Woodland	Riparian	Marsh	Grassland	Eucalyptus Woodland	Agriculture	Disturbed	Developed	Totals
1	1					4						5
2					1		14					15
8	19											19
14	74				8	2	19					103
15	120		2	3	42	12						179
19							3					3
20	49	13		1								63
21	7		52	4								63
25	3				59	20	18					100
TOTALS	**273**	**13**	**54**	**8**	**110**	**38**	**54**	**0.0**	**0.0**	**0.0**	**0.0**	**550**

NOTE: Acreage figures may vary somewhat between tables due to rounding.

4. The Preserve System and Resulting Levels of Conservation

The combination of the preserve and assembly components described previously will result ultimately in a preserve system of 6,449 acres. Figure 27 generally shows these conservation components combined on one map. The HMP map, Figure 28, located in the back of the HMP, graphically shows the entire preserve system and includes the existing hardline areas, proposed hardline areas, standards areas and the areas subject to existing take agreement (Fieldstone/Carlsbad HCP). Table 8 provides the total resulting levels of conservation achieved by the HMP, based on these components of the preserve system. The preserve system has been designed, to the maximum extent feasible, to ensure that species addressed by the HMP continue to survive in healthy and thriving populations within Carlsbad.

Table 8 also shows the conservation levels excluding the area covered by the Fieldstone HCP take permit. Although this area has not developed yet, the Fieldstone HCP was approved and legal agreements with the property owners and wildlife agencies were entered into prior to the completion of the HMP. The City does not have the authority to require additional conservation on the properties covered by the HCP. The level of conservation is higher in the remainder of the City and resultant take of HMP species is lower if the Fieldstone HCP is separated out.

As identified on Table 8, implementation of the HMP will result in the preservation of 65% of the remaining habitat in the City including 64% of the remaining coastal sage scrub habitat. By adding other land to the preserve system (e.g., disturbed habitat) and creating a system 6,449 acres, the overall conservation level is 74%. When adjusted for the existing Fieldstone HCP take permit, 71% of the remaining habitat is preserved, and 68% of the coastal sage scrub habitat, and the actual conservation level is increased to 78%.

5. MHCP Participation by City

As a result of the biological analysis associated with the preparation of the North County Subregional Multiple Habitat Conservation Plan (MHCP), it has been determined that a large (approximately 500 acre), biological core area primarily for supporting a core population of gnatcatchers is needed in the south, central portions of the MHCP and including the unincorporated area to the southeast of Carlsbad in the general area as shown on Figure 29. The initial biological analysis for the HMP also identified the need to enhance conservation levels, particularly for coverage of the gnatcatcher. In addition, as part of the approval of the Fieldstone HCP, the City was required to take a lead position in identifying the location and potential funding sources for 240 acres in this same general area. In order to satisfy its participation in the MHCP core area, increase conservation levels for the gnatcatcher in the HMP and fulfill its responsibilities under the Fieldstone HCP, the City will effectuate the conservation and conveyance of 307.6 acres of land within the MHCP core area consisting of the following components:

A. Bank of America (VLC) onsite (increased coastal sage scrub preservation within the Villages of La Costa)	12 acres
B. Fieldstone HCP offsite (the difference between additional onsite preservation identified above and the 240 acre need identified in the Fieldstone HCP)	228 acres
C. Rancho Carrillo offsite conservation (mitigation funds previously paid by Rancho Carrillo Master Plan to be used for offsite acquisition in the MHCP Core Area)	16 acres
D. Municipal Golf Course offsite conservation (partial mitigation for development of the City golf course. This acreage contains habitat occupied by five pairs of Gnatcatchers)-	51.6 acres
TOTAL	**307.6 acres.**

The funding for acquisitions required to effectuate the conveyance of the above described 307.6 acres is identified later in this section of the Plan. The proposed conservation and conveyance of this land shall: a) be considered as an increase to the overall, resulting conservation levels in Carlsbad; b) constitute the full participation of the City in any MHCP land acquisitions in the core area; c) complete Carlsbad's obligations under the Fieldstone HCP regarding the 240 acres of offsite mitigation; and d) allow the HMP to be severable from the MHCP.

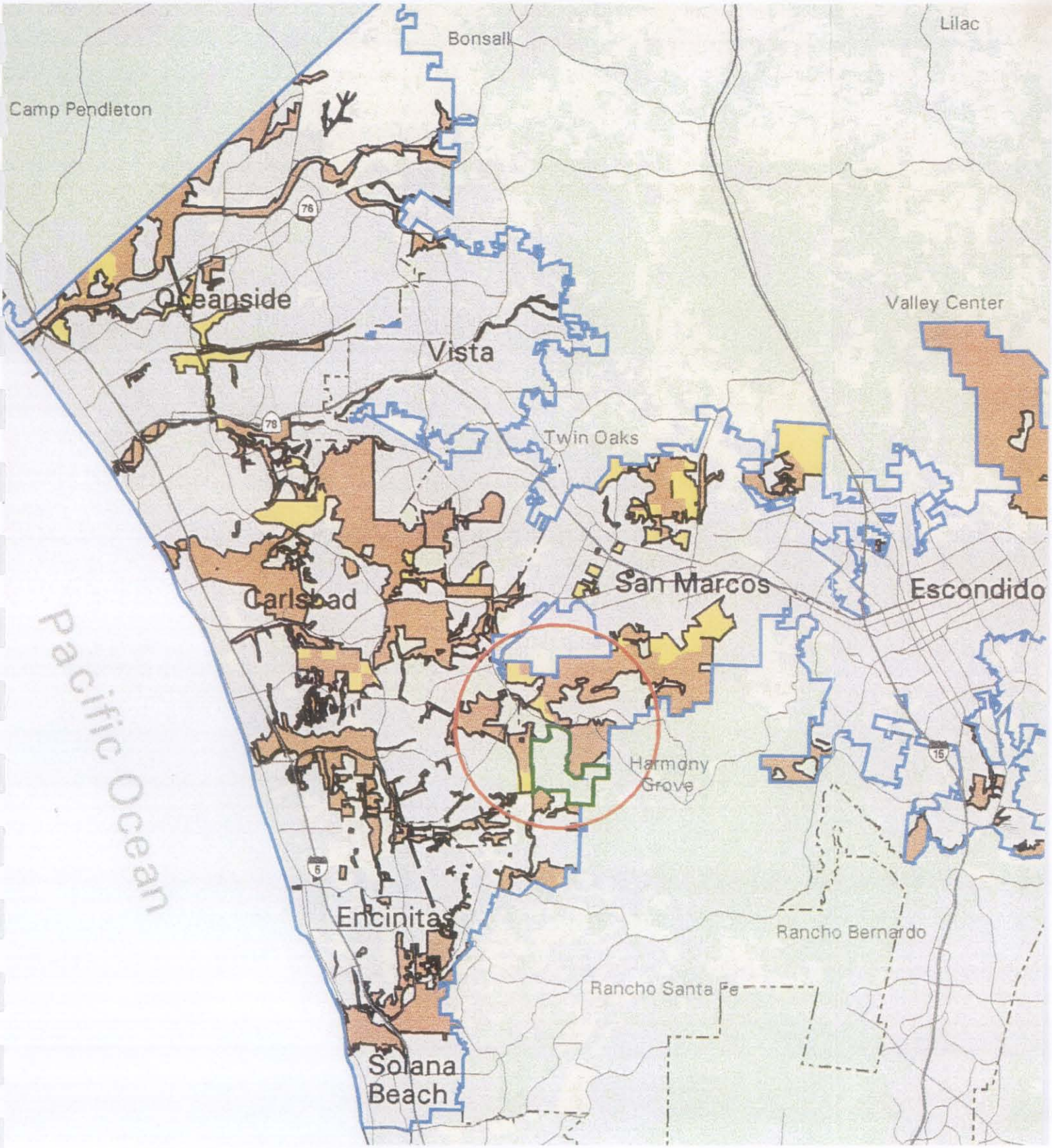

Fig. 29 MHCP Core Area

Table 8
HMP Conservation Levels

	Existing Habitat Acres Citywide (1)	Acres Conserved in Existing Hardline Areas	Acres Conserved in Proposed Hardline Areas	Projected Acres Conserved in Standards Areas	Total Estimated Acres Conserved	Total Conserved as % of Existing	Existing Habitat Acres Citywide Adjusted for VLC (2)	Total Estimated Acres. Conserved Adjusted for VLC (3)	Adjusted % Conserved (4)	Potentially Impacted/ Developed (Based on the HMP) Acres	%
Estimated Total Acres	8,758	3,940	1,243	550	5,733	65%	6,997	4,983	71%	3,025	35%
Coastal Sage Scrub	3,315	1,281	585	273	2,139	65%	2,288	1,581	69%	1,176	35%
Chaparral	968	492	168	16	676	70%	791	639	81%	292	30%
Southern Maritime Chaparral	392	255	33	54	342	87%	296	266	90%	50	13%
Oak Woodland	29	4	12	8	24	83%	23	22	96%	5	17%
Riparian (5)	574	269	115	110	494	100%	513	449	100%	80	0%
Marsh (5)	1,366	1,141	73	38	1,252	100%	1,370	1,273	100%	114	0%
Grassland	1,856	401	252	54	707	38%	1,464	654	45%	1,149	62%
Eucalyptus Woodland	258	96	3	0	99	38%	252	99	39%	159	62%
Additional Conservation on Disturbed Lands		514	231		745			491			
Total Conservation within Carlsbad		4,454	1,474		6,478	74%		5,427	78%		
Conserved Parcels within MHCP Core Area	308				308						
Total Conservation within Carlsbad plus MHCP Core Area Parcels	9,066				6,786	75%					

Table 8 (continued)

HMP Conservation Levels

Notes:
(1) Existing Acres Citywide excludes 567 acres designated as "Not A Part"
(2) Existing Citywide Acres Adjusted for VLC deducts all vacant land within Villages of La Costa
(3) Total Estimated Acres Conserved Adjusted for VLC deducts all open space due to Fieldstone HCP
(4) Adjusted % Conservation reflects conservation levels excluding Villages of La Costa
(5) Potential impacts to wetland habitat types are shown because some wetland areas fall outside of defined preserve areas. These numbers do no reflect actual expected impacts to wetlands because avoidance of impacts will be the first priority both inside and outside of preserve areas. Actual conservation of wetlands will be 100% due to application of the policy of "no net loss of wetlands". Any projects allowed to impact wetlands will be required to comply with the "no net loss" policy in addition to complying with all applicable federal and state wetland permitting requirements.

6. Measures to Minimize Impact on HMP Species and Mitigation Requirements

The primary mitigation for impacts to HMP Species under the Plan is the conservation and management of habitat for the species in the preserve system. In addition, in compliance with the ESA requirements that the impacts of incidental take be minimized and mitigated to the maximum extent practicable, measures to avoid and reduce impacts will apply citywide on a project level basis. These measures are applicable to projects both within and outside the preserve system boundaries.

Conservation goals and measures to avoid, minimize, and mitigate impacts to HMP species on a project basis are summarized in Table 9. These measures will be applied citywide to all public and private projects regardless of whether the project is located within or outside of the preserve system. Detailed information about the measures for HMP Species is included in Appendix C, together with an analysis of the effects of take and plan implementation on the HMP species.

Narrow Endemic Species

In addition to the requirements that apply to Types A-F, projects that would affect lands occupied by narrow endemic species must meet the following conservation standards. If the land is within the proposed preserve system, 100% conservation of the narrow endemic population(s) is required. If the land is outside the proposed preserve system, at least 80% conservation of the narrow endemic population(s) is required. As defined herein, narrow endemic species are populations of native species that 1) have restricted geographic distribution, soil affinities, and/or habitats, 2) occur in the City, and 3) the substantial loss of which might jeopardize the long-term survival of the species. The conservation goals and measures for such species within the City are indicated in Table 9; a composite list of the Narrow Endemics covered by this Plan is provided in Table 10.

All future projects, including public projects, shall also mitigate impacts to habitat based on the mitigation requirements provided in Table 11. Again, these mitigation ratios apply whether a project is located inside or outside the preserve system. Projects which conserve at least 67% of habitat onsite shall not be subject to offsite mitigation. Habitat conserved onsite shall be credited toward mitigation. After determining the amount of acreage needed for mitigation based on the mitigation ratios, the acres of onsite conserved habitat shall be subtracted from the required acres of mitigation. Mitigation shall occur within the City principally in the focus planning areas unless the City Council authorizes mitigation outside the City. For habitat Groups D, E and F as identified on Table 11, a mitigation fee shall be paid to the City in lieu of offsite mitigation in an amount to be determined by the City Council. The amount of the fee shall be adequate to cover the cost of any acquisition of land in the MHCP core area which is the responsibility of the City of Carlsbad and for which funding has not previously been provided for. The fee may also be used to provide for overall management and maintenance of the preserve system. This fee is discussed in more detail in Section E of the HMP document. City public facility and improvement projects shall provide mitigation based on the ratios shown in Table 11. Mitigation banks may be approved by the City and the wildlife agencies, subject to the issuance by the City of a conditional use permit as required by the Carlsbad Municipal Code. City projects will mitigate at the same ratios as private projects. However, City projects will use the Lake Calavera Mitigation Bank for impacts to unoccupied coastal sage scrub, mixed chaparral, and annual (non-native) grasslands.

Analysis of proposed impacts to wetlands shall consist of a three-step process. The first step involves determining whether the impacts are avoidable or unavoidable. Secondly, for unavoidable impacts, the allowable amount of encroachment must be determined. The final step involves determining the mitigation for unavoidable impacts.

All projects that would affect Type A Habitats (riparian and wetland habitats, including vernal pools) must demonstrate that the impacts: 1) cannot be avoided by a feasible alternative, 2) have been minimized to maximum extent possible, and 3) will be mitigated in ways that assure no net loss of habitat value or function. This demonstration will occur as part of the CEQA review for the project, will require documentation and analysis of impacts and alternatives, and must include an evaluation of the

value and function of the affected habitat. The evaluation of habitat function and value will consider the rarity of the habitat type, presence of listed and sensitive species, proportion of native to exotic vegetation, existing levels of habitat disturbance, connection to or isolation from natural habitats and preserves, groundwater and water quality issues, potential for restoration, feasibility of long-term management, and other relevant ecological factors. Road or utility projects that must cross a wetland must demonstrate that the crossing will occur at the narrowest and/or least sensitive location and that all feasible minimization measures have been employed. In making this determination, alignment planning must consider whether avoidance of wetland impacts would result in more significant upland impacts. Private projects that would impact a wetland must demonstrate that the impact is essential to the feasibility of the project and that no feasible alternative would eliminate or minimize the impact. For all projects affecting Type A Habitat, habitat replacement ratios and the specific location of mitigation lands will be determined in consultation with the Service, Corps, and Department as appropriate in accordance with the requirements of the federal Clean Water Act, federal wetland policies, and the California Fish and Game Code. All mitigation lands for impacts to vernal pools, riparian and wetland habitats will be in the City or MHCP plan area.

In addition to the above, the following species-specific measures will be required of any project that may impact the habitat of those species:

A) **LEAST BELL'S VIREO (LBV)**

1) Survey by qualified biologist using approved survey protocol all areas containing suitable habitat. Surveys shall occur prior to any proposed impact as part of the project review process (e.g., CEQA process) both within and outside of the FPA. Surveys shall be conducted when impacts could occur as a result of indirect impacts by placement of the project in or adjacent to occupied habitat or through creation of suitable conditions for brown-headed cowbirds (e.g., agricultural fields, livestock presence, woodland parks, roadsides).

2) Any take both inside and outside of the FPA shall be consistent with the conditions outlined herein.

3) Projects having direct or indirect impacts to the LBV within the HMP shall adhere to the following measures to avoid or reduce impacts:

a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with Section D-6 of the HMP. Deviations from these guidelines shall require written concurrence of USFWS and CDFG. For temporary impacts, the work site shall be returned to pre-existing contours and revegetation with appropriate native species. All revegetation for temporary and permanent impacts shall occur at the ratios specified in applicable permits (e.g., 404 or 1603). Revegetation specifications shall ensure creation and restoration of riparian woodland vegetation to vireo quality. All revegetation plans shall be prepared and implemented consistent with Section F-2 (Habitat Restoration and Revegatation) and shall require written concurrence of USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

b) Projects shall be carried out consistent with the - Standard Best Management Practices, provided at the end of this section.

c) Projects shall to the maximum extent practicable avoid impacts during the breeding season of the LBV (generally March 15 - September 15). Projects that cannot be conducted without placing equipment or personnel in or adjacent to sensitive habitats

shall be timed to ensure that habitat is removed prior to the initiation of the breeding season (generally before March 15).

d) Construction noise levels at the riparian canopy edge shall be kept below 60 dBA Leq (Measured as Equivalent Sound Level) from 5 a.m. to 11 a.m. during the peak nesting period of March 15 to July 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a one-hour period on an A-weighted decibel (dBA)(i.e., 1 hour Leq/dBA). Noise levels shall be monitored and monitoring reports shall be provided to the jurisdictional city, USFWS, and CDFG. Noise levels in excess of this threshold shall require written concurrence from USFWS and CDFG and may require additional minimization/mitigation measures.

e) Brown-headed cowbirds and other exotic species which prey upon LBV shall be removed from the site. For new developments adjacent to preserve areas that create conditions attractive to brown-headed cowbirds, jurisdictions shall require monitoring and control of cowbirds.

f) Biological buffers of at least 100 feet shall be maintained adjacent to occupied LBV habitat, measured from the outer edge of riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of written request for concurrence by the local jurisdiction.

4. LBV populations within the FPA shall be managed consistent with Conservation Goals of the Species Evaluation for this species (Appendix C). Projects shall include measures to provide appropriate successional habitat, cowbird control, and protection against detrimental edge effects. Projects that impact LBV populations outside the FPA shall be required to ensure sufficient management to maintain these populations.

5. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and deposition).

6. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County MSCP North Segment and City of San Diego MSCP Subarea Plan.

B) **SOUTHWESTERN WILLOW FLYCATCHER**

1. Survey by qualified biologist using approved survey protocol all areas containing suitable habitat (riparian woodlands and forests). Surveys shall occur prior to any proposed impact as part of the project review process (e.g., CEQA process) both within and outside of the FPA. Surveys shall be conducted when impacts could occur as a result of indirect impacts by placement of the project in or adjacent to occupied habitat or through creation of suitable conditions for brown-headed cowbirds (e.g., agricultural fields, livestock presence, woodland parks, roadsides),

2. Nesting Southwestern Willow Flycatchers shall be treated consistent with the Critical Population Policy. Wintering localities and confirmed vagrants shall be treated consistent with the Narrow Endemics Policy - Section D-6.

3. Occupied habitat within the FPA shall be managed consistent with Conservation Goals of the Species Evaluation for this species (Appendix C). Area-specific management directives shall include measures to provide appropriate successional habitat, cowbird control, and specific measures to protect against detrimental edge effects. Projects that

impact Flycatcher populations outside the FPA shall be required to ensure sufficient management to maintain these populations.

4. Projects having direct or indirect impacts to the Southwestern Willow Flycatcher shall adhere to the following measures to avoid or reduce impacts:

   a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with, Section D-6 of the HMP. Deviations from these guidelines shall require written concurrence of USFWS and CDFG. For temporary impacts, the work site shall be returned to pre-existing contours and revegetated with appropriate native species. All revegetation for temporary and permanent impacts shall occur at the rations specified in applicable permits. (e.g., 404 or 1603). Revegetation specifications shall ensure creation and restoration of riparian woodland vegetation to vireo quality. All revegetation plans shall be prepared and implemented consistent with Section F-2 (Habitat Restoration and Revegetation) and shall require written concurrence of USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

   b) Projects shall be carried out consistent with the Standard Best Management Practices, provided at the end of this section.

   c) Projects shall to the maximum extent practicable avoid impacts during the breeding season of the Flycatcher (May 1 to August 31). Projects that cannot be conducted without placing equipment or personnel in or adjacent to sensitive habitats shall be timed to ensure that habitat is removed prior to the initiation of the breeding season.

   d) Construction noise levels at the riparian canopy edge shall be kept below 60 dBA Leq (measured as Equivalent Sound Level) from 5 a.m. to 11 a.m. during the peak nesting period of March 15 to July 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a 1-hour period on an A-weighted decibel (dBA) (i.e., 1 hour Leq/dBA). Noise levels shall be monitored, and monitoring reports shall be provided to the jurisdictional city, USFWS, and CDFG. Noise levels in excess of this threshold shall require written concurrence from USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction and may require additional minimization/mitigation measures.

   e) Brown-headed cowbirds and other exotic species which prey upon the flycatcher shall be removed from the site. For new developments adjacent to preserve areas that create conditions attractive to brown-headed cowbirds, jurisdictions shall require monitoring and control of cowbirds.

   f) Biological buffers of at least 1oo feet shall be maintained adjacent to occupied Flycatcher habitat, measured from the outer edge of riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction.

5. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and depositions).

6. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County MSCP North Segment and City of San Diego MSCP Subarea Plan.

C) HARBISON'S DUN SKIPPER BUTTERFLY

1. Survey by qualified biologist using approved survey techniques all areas containing suitable habitat ()oak woodlands and riparian areas, especially those supporting Carex spissa). Surveys should occur prior to any proposed impact as part of the project review process (e.g., CEQA process) both within and outside of the FPA.

2. Projects within the FPA shall ensure conservation consistent with the Subarea Plan including restricting activities that could degrade Harbison's dun skipper habitat by modifying stream flow, degrading water quality, or introducing nonnative plants into riparian systems.

3. Projects having direct or indirect impacts to the Harbison's Dun Skipper butterfly shall adhere to the following measures to avoid or reduce impacts:

   a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with Section D-6 of the HMP. Deviations from these guidelines shall require written concurrence of USFWS and CDFG. For temporary impacts, the work site shall be returned to pre-existing contours and revegetated with appropriate native species. All revegetation shall occur at the ratios specified in applicable permits (e.g., 404 or 1603). All revegetation plans shall be prepared and implemented consistent with Section F-2 (Habitat Restoration and Revegetation) and shall require written concurrence of USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

   b) Projects shall be carried out consistent with the Standard Best Management Practices, provided below.

   c) Biological buffers of at least 100 feet shall be maintained adjacent to occupied Harbison's dun skipper habitat, measured from the outer edge of oak woodland or riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction.

4. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and deposition).

5. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County MSCP North Segment and City of San Diego MSCP Subarea Plan.

Standard Best Management Practices

- Do not allow land uses within 200 ft. of estuarine areas that would contribute to degraded water quality, changes in surface water or groundwater hydrology, or increased runoff, erosion, and sedimentation.

- Require that "best management practices" (BMP) be used to prevent pollution generated by agricultural and urban development activities from entering surface and groundwater. BMPs should also ensure that non-stormwater discharges (e.g. sewage, industrial wastes) are not discharged into stormwater drainage systems. BMPs may include:

  a. Regulatory measures such as erosion control ordinances and floodplain restrictions

  b. Structural measures such as detention or retention basins, filters, weirs, check dams, or drainage diversions

  c. Vegetative controls that reduce runoff volume and accomplish pollutant removal by a combination of filtration, sedimentation, and biological uptake

  d. Maintenance of pump stations, sewer lines and stormwater conveyance systems

  e. Cultural practices such as restrictions on pesticide and fertilizer applications, storage or disposal of toxic chemicals, or washing of vehicles or equipment in areas that can drain to the estuary

  f. Public education programs that educate residents about proper disposal of oil or chemicals and that provide opportunities (e.g. designated locations) for residents to properly dispose of contaminants.

- For clearing, grading, and other construction activities with the watershed, ensure that proper irrigation and stormwater runoff mitigation measures are employed to reduce sediment loads and to prevent contamination from pesticides, fertilizers, petroleum products, and other toxic substances.

- Restrict or limit recreational or other activities within 200 ft. of important foraging, breeding, and roosting areas.

- Require attenuation measures for activities that generate noise levels greater than 60 dB if occurring within 200 ft. of important breeding habitat during the nesting season.

The HMP does not anticipate that any substantial areas of vernal pool habitat occur in Carlsbad in addition to those known and documented herein. However, should additional vernal pools be discovered, there would be a strong priority given to preservation (avoidance), followed by mitigation for any unavoidable impacts. Any loss of vernal pool habitat would need to receive the concurrence of the wildlife agencies and would be subject to the Federal Clean Water Act Section 404 permit process. Impacts to highly degraded vernal pool habitat lacking sensitive species may be acceptable if the pools are isolated from other vernal pool complexes, lack sensitive vernal pool sensitive species, exhibit low native vernal pool species diversity, have low restoration potential, or would be infeasible to manage effectively. In these cases mitigation would need to provide no-net-loss of vernal pool area and vernal pool habitat value, and mitigation would need to occur in the City of Carlsbad.

Table 9
MEASURES FOR HMP SPECIES

Species	Habitat and Population/Location Conservation Goals	Management Recommendations and Impact Avoidance/Minimization Measures
Acanthomintha ilicifolia (San Diego Thorn-mint) Narrow Endemic	• Conserve vernal pool habitat and grassland habitat within preserve areas. • Conserve 4 of 5 major populations and 9 of 13 mapped localities within the City through existing or proposed hardline conservation areas or within a standards area. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, control access, limit disturbance, limit chemical use within immediate vicinity, control non-native competitive species, and maintain hydrology and water quality. • Enhance small populations by introduction of appropriate plant materials as necessary.
Acanthamintha ilicifolia. Conditions for coverage - This species is on the HMP list of Narrow Endemics. Because it is a cryptic species of extremely limited range, surveys shall be conducted for this species in all Proposed Hardline Areas and Standards areas, and any areas outside of the Focus Planning Areas, containing suitable habitat. The long-term preserve management plan shall provide area specific management directives for the 13 known populations of San Diego Thorn-mint in Carlsbad, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts and other direct and indirect impacts.		
Ambrosia pumila (San Diego Ambrosia) Narrow Endemic	• If found in Carlsbad, conserve consistent with the standards for Narrow Endemic.	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires. • Enhance small populations by introduction of appropriate plant materials as necessary.
Ambrosia pumila. Conditions for coverage - This species is on the HMP list of Narrow Endemics. There currently are no known locations in Carlsbad. If any populations are found through subsequent surveys, the long-term preserve management plan shall provide area specific management directives, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts. Coastal sage scrub revegetation projects should consider including this species, where appropriate, in order to expand its range.		
Arctostaphylos glandulosa* ssp. *crassifolia (Del Mar Manzanita) Narrow Endemic	• Conserve approximately 300 acres of southern maritime chaparral mostly in existing or proposed hardline conservation areas, including a substantial proportion (80% and 92% respectively) of the two major populations in the vicinity of Agua Hedionda Lagoon and Green Valley/Olivenhain in core areas #6 and #8. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires.

Species	Habitat and Population/Location Conservation Goals	Management Recommendations and Impact Avoidance/Minimization Measures
• *Arctostaphylos glandulosa* ssp. *crassifolia.* Conditions for coverage - This species is on the HMP list of Narrow Endemics. The long-term preserve management plan shall provide area specific management directives for the two major populations of Del Mar Manzanita (and all conserved minor populations) in Carlsbad, including specific measures to address the autoecology and natural history of the species and to reduce the risk of catastrophic fire. Adaptive management measures to accomplish this may include prescribed fire.		
Baccharis vanessae (Encinitas Baccharis) Narrow Endemic	• Conserve approximately 300 acres of southern maritime chaparral and 700 acres of other chaparral types. • Conserve the major population on the slopes above Green Valley within an existing hardline conservation area. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires. • Enhance small populations by introduction of appropriate plant materials as necessary. • Ensure that preserved populations retain appropriate ratios of male and female plants.
• *Baccharis vanessae.* Conditions for coverage - This species is on the HMP list of Narrow Endemics. The long-term preserve management plan shall provide area specific management directives for the 1 known major population of Encinitas Baccharis in Carlsbad, including specific measures to address the autoecology and natural history of the species, reduce the risk of catastrophic fire, and maintain an appropriate ration between male and female plants. Adaptive management measures to accomplish this may include prescribed fire.		
Brodiaea filifolia (Thread-leaved Brodiaea) Narrow Endemic	• Conserve vernal pool habitat and grassland habitat within preserve areas. • Conserve the four major populations at Calavera Heights, Carlsbad Highlands, Rancho Carrillo, and Fox property, as well as smaller populations at Newton Business Center, and Fieldstone Northwest. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, control access, limit disturbance, limit chemical use within vicinity, control nonnative competitive species, and maintain hydrology and water quality. • Enhance small populations by introduction of appropriate plant materials as necessary. • Outside of preserve areas, conduct focused surveys during the appropriate season on habitats that may support this species, (grasslands on clay soils).
Brodiaea filifolia. Conditions for coverage - This species is on the HMP list of Narrow Endemics. The long-term preserve management plan shall provide area specific management directives for the 5 known major populations (and all conserved minor populations) of Thread-leaved Brodiaea in Carlsbad, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		

Species	Habitat and Population/Location Conservation Goals	Management Recommendations and Impact Avoidance/Minimization Measures
Brodiaea orcuttii (Orcutt's Brodiaea) Narrow Endemic	• Conserve vernal pool habitat within preserve areas in conjunction with the City's no net loss of wetlands policy and application of the zone-specific guidelines. • Conserve the major population in the vernal pools near Poinsettia Lane. • Conserve other populations found in the City through designation of the species as a Narrow Endemic. • The population at Manzanita Partners (2 plants) is proposed to be taken.	• Manage preserve areas to minimize edge effects, control access, limit disturbance, limit chemical use within immediate vicinity, control non-native competitive species, and maintain hydrology and water quality. • Enhance small populations by introduction of appropriate plant materials as necessary. • Conserve adjacent watershed habitat containing pollinators.
Brodiaea orcuttii. Conditions for coverage - This species is on the HMP list of Narrow Endemics and is a vernal pool species. The long-term preserve management plan shall provide area specific management directives for the 1 known major population of Orcutt's Brodiaea in Carlsbad, including specific adaptive management measures to protect vernal pools and their watersheds against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Ceanothus verrucosus (Wart-stemmed Ceanothus)	• Conserve approximately 300 acres of southern maritime chaparral and approximately 700 acres of other chaparral habitats within the City. • Conserve substantial percentages of the major populations in the vicinity of Agua Hedionda Lagoon (approximately 95%), Green Valley (approximately 95%) and Palomar Airport Road (approximately 78%) in Core area #6, Linkage F and Core area #8.	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires.
Ceanothus verrucosus. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the 3 known major populations of Wart-stemmed Ceanothus in Carlsbad, including specific measures to address the autoecology and natural history of the species and to reduce the risk of catastrophic fire. Adaptive management measures to accomplish this may include prescribed fire. Revegetation of any chaparral areas should consider use of this species.		
Chorizanthe orcuttiana (Orcutt's Spineflower) Narrow Endemic	• Conserve approximately 300 acres of southern maritime chaparral. • Conserve any populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires. • Consider experimental reintroduction into preserve areas as appropriate.
Chorizanthe orcuttiana. Conditions for coverage - This species is on the HMP list of Narrow Endemics. Because it is a cryptic species of extremely limited range, focused surveys shall be conducted for this species in all Standards Areas, and any areas outside of the Focus Planning Areas that contain suitable habitat. If any populations are found, the long-term preserve management plan shall provide area specific management directives, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		

Species	Habitat and Population/Location Conservation Goals	Management Recommendations and Impact Avoidance/Minimization Measures
Comarostaphylis diversifolia* ssp. *diversifolia (Summer Holly)	• Conserve approximately 300 acres of southern maritime and approximately 700 acres of other chaparral habitats within the City. • Conserve at least 75% of the major population in the vicinity of Agua Hedionda Lagoon within Core area #6 and Linkage F.	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires.
Comarstaphylis diversifolia ssp. *diversifolia.* Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the 1 known major population and any other conserved populations of Summer Holly in Carlsbad, including specific measures to address the autoecology and natural history of the species and to reduce the risk of catastrophic fire. Adaptive management measures to accomplish this may include prescribed fire. Revegetation of any chaparral are as should consider restoration of this species.		
Corethrogyne filaginifolia* var. *linifolia Del Mar Mesa Sand Aster Narrow Endemic	• Conserve approximately 300 acres of southern maritime chaparral, including the two major populations in the vicinity of Agua Hedionda Lagoon and Green Valley/Olivenhain. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires. • Enhance small, or restore, extirpated populations by introduction of appropriate plant materials as necessary. • Use in revegetation program where appropriate.
Corethrogyne filaginifolia var. *linifolia.* Conditions for coverage - This species is on the HMP list of Narrow Endemics. The long-term preserve management plan shall provide area specific management directives for the 1 known major population and any other conserved populations of Del Mar Mesa Sand Aster in Carlsbad, including specific measures to address the autoecology and natural history of the species and to reduce the risk of catastrophic fire. Adaptive management measures to accomplish this may include prescribed fire.		
Dudleya blochmaniae* ssp. *blochmaniae (Blochman's Dudleya) Narrow Endemic	• Conserve the small population identified on the Hieatt property (considered critical because it represents the southern-most known location for the species) as stated in the conservation standards for Zone 5. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, prevent disturbance, present trampling, and protect against frequent or catastrophic fires. • Enhance small populations by introduction of appropriate plant materials as necessary.
Dudleya blochmaniae ssp. *blochmaniae.* Conditions for coverage - This species is on the HMP list of Narrow Endemics. Because it is a cryptic species of very limited range, surveys shall be conducted for this species in all Proposed Hardline Areas and Standards Areas, and any areas outside of the Focus Planning Areas, containing suitable habitat. The long-term preserve management plan shall provide area specific management directives for the one known population of Blochman's Dudleya and any newly discovered populations in Carlsbad, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		

Species	Habitat and Population/Location Conservation Goals	Management Recommendations and Impact Avoidance/Minimization Measures
Dudleya viscida (Sticky Dudleya)	• Conserve the major population along San Marcos Creek within an existing hardline conservation area.	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires.
Dudleya viscida. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the 1 known major and critical population of Sticky Dudleya and any newly discovered populations in Carlsbad, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Eryngium aristulatum* var. *parishii (San Diego Button-celery) Narrow Endemic	• Conserve vernal pool habitat per the City's wetland policy. • Conserve the major population in the vernal pools near Poinsettia Lane. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, control access, limit disturbance, limit chemical use within immediate vicinity, control nonnative competitive species, and maintain hydrology and water quality. • Conserve adjacent watershed habitat containing pollinators.
Eryngium aristulatum var. *parishii.* Conditions for coverage. This species is on the HMP list of Narrow Endemics and is a vernal pool species. The long-term preserve management plan shall provide area specific management directives for the one known major population of San Diego Button-celery in Carlsbad, including specific adaptive management measures to protect vernal pools and their watersheds against detrimental edge effects from adjacent development, recreational impacts, and other indirect and indirect impacts.		
Euphorbia misera (Cliff Spurge)	• Conserve coastal sage scrub and coastal bluff scrub habitats. • Conserve the one reported population in an existing hardline conservation area.	• Manage preserve areas to minimize edge effects, control access, limit disturbance, limit chemical use within vicinity, control nonnative competitive species. • Use in coastal bluff revegetation where appropriate.
Euphorbia misera. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the 1 known population of Cliff Spurge and any newly discovered populations in Carlsbad, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Ferocactus viridescens (San Diego Barrel Cactus)	• Conserve approximately 300 acres of southern maritime chaparral, as well as 700 acres of other chaparral habitats and 2,000 acres of coastal sage scrub	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires. • Salvage plants from impact areas where the impact cannot be avoided, and transplant into appropriate habitat.
Ferocactus viridescens. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the 1 known population of San Diego Barrel Cactus and any newly discovered populations in Carlsbad, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, unauthorized collecting, and other direct and indirect impacts.		
Hazardia orcuttii (Orcutt's Hazardia) Narrow Endemic	• Conserve approximately 300 acres of southern maritime chaparral. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires.

Hazardia orcuttii. Conditions for coverage - This species is on the HMP list of Narrow Endemics. There currently are no known locations in Carlsbad. If any populations are found through subsequent surveys, the long-term preserve management plan shall provide area specific management directives, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Iva hayuseiana (San Diego Marsh Elder)	• Conserve approximately 1,000 acres of cismontane alkali marsh, freshwater marsh, and disturbed wetlands and assure no net loss of these types within the City. • Conserve an estimated 70% of the two major populations along San Marcos Creed and Encinitas Creek within existing hardline conservation areas.	• Manage preserve areas to minimize edge effects, control access, limit disturbance, limit chemical use within vicinity, control nonnative competitive species, and maintain hydrology and water quality. • Use in wetland revegetation programs where appropriate.
Iva hayuseiana. Conditions for coverage - This is a wetland species. The long-term preserve management plan shall provide area specific management directives for the 2 known major and critical populations of San Diego Marsh Elder and any newly discovered populations in Carlsbad, including specific adaptive management measures to protect wetlands against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts. This species should be considered for use in wetland restoration projects where soil and water conditions are appropriate.		
Muilla clevelandii (San Diego Goldenstar) Narrow Endemic	• Conserve native grassland habitat and grassland habitat on clay soils within the preserve areas. • Conserve 6 of 17 mapped locations of a critical population west and east of Rancho Santa Fe Road in the Village of La Costa, per the Villages of La Costa HCP. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to reduce encroachment by alien plants, minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires. • Where feasible, salvage corms from impact areas and transplant into appropriate habitat.
Muilla clevelandii. Conditions for coverage - This species is on the HMP list of Narrow Endemics. Because the one known population in Carlsbad will be reduced as a result of a previously approved take authorization, management shall include transplantation of the corms from the impact area to conserved area(s) with appropriate soils, and management of both the conserved site and transplantation site(s). The long-term preserve management plan shall provide area specific management directives to maintain or increase the population of this species in Carlsbad, including specific adaptive management measures to protect against detrimental edge effects from adaptive management measures to protect against detrimental edge effects from adaptive development, recreational impacts, and other direct and indirect impacts.		
Myosurus minimus* ssp. *apus (Little Mousetail) Narrow Endemic	• Conserve vernal pool habitat per the City's wetland policy. • Conserve the population near Poinsettia Lane. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, control access, limit disturbance, limit chemical use within immediate vicinity, control nonnative competitive species, and maintain hydrology and water quality. • Conserve adjacent watershed habitat containing pollinators.
Myosurus minimus ssp. *apus.* Conditions for coverage - This species is on the HMP list of Narrow Endemics and is a vernal pool species. This long-term preserve management plan shall provide area specific management directives for the one known major population of Little Mousetail in Carlsbad, including specific adaptive management measures to protect from adjacent development, recreational impacts, and other direct and indirect impacts.		

Navarreita fossalis (Prostrate Navarreita) Narrow Endemic	• Conserve vernal pool habitat per the City's wetland policy. • Conserve the single known population near Poinsettia Lane. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, control access, limit disturbance, limit chemical use within immediate vicinity, control nonnative competitive species, and maintain hydrology and water quality. • Conserve adjacent watershed habitat containing pollinators.
Navarreita fossalis. Conditions for coverage - This species is on the HMP list of Narrow Endemics and is a vernal pool species. The long-term preserve management plan shall provide area specific management directives for the one known major population of Prostrate Navarreita in Carlsbad, including specific adaptive management measures to protect vernal pools and their watersheds against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Orcuttia californica (California Orcutt Grass) Narrow Endemic	• Conserve vernal pool habitat per the City's wetland policy. • Conserve the one major population of this plant located south of the Poinsettia Commuter Rail Station. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, control access, limit disturbance, limit chemical use within immediate vicinity, control nonnative competitive species, and maintain hydrology and water quality. • Conserve adjacent watershed habitat.
Orcuttia californica. Conditions for coverage - This species is on the HMP list of Narrow Endemics and is a vernal pool species. The long-term preserve management plan shall provide area specific management directives for the one known major population of California Orcutt Grass in Carlsbad, including specific adaptive management measures to protect vernal pools and their watersheds against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Pinus torreyana* ssp. *torreyana (Torrey Pine)	• Conserve approximately 300 acres of southern maritime chaparral mostly in existing or proposed hardline conservation areas within the City.	• Manage preserve areas to monitor for insect infestations.
Pinus torreyana ssp. *torreyana.* Conditions for coverage - None.		
Quercus dumosa (Nuttall's Scrub Oak)	• Conserve approximately 300 acres of southern maritime chaparral. • Conserve 100% of the two major populations in proposed hardline conservation areas. • Conserve approximately 60% of the other small populations mapped within the City.	• Manage preserve areas to minimize edge effects, prevent disturbance, and protect against frequent or catastrophic fires.
Quercus dumosa. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the two known major populations and any other conserved populations of Nuttall's Scrub Oak in Carlsbad, including specific measures to address the autoecology and natural history of the species and to reduce the risk of catastrophic fire. Adaptive management measures to accomplish this may include prescribed fire. Revegetation of any chaparral areas should consider restoration of this species.		

Quercus engelmannii (Engelmann Oak)	• Conserve oak woodland and assure no net loss of oak woodland in the City. • Conserve 4 of 5 mapped individuals in the City.	• Manage preserve areas to protect against disturbance and fires.
Quercus engelmannii. Conditions for coverage - None.		
Euphyes vestris harbisoni (Harbison's Dun Skipper)	• Conserve approximately 25 acres of oak woodland and approximately 490 acres of riparian habitat within the City (total 87% conservation estimated). • Assure no net loss of riparian and oak woodland habitats within the City per the City's wetland policy.	• Manage preserve areas to minimize edge effects, control non-native plants, maintain hydrology and water quality, and protect habitats from physical disturbances. • Restrict human activities in occupied habitat. • Ensure that impacts to any population found constitute less than 87% of the population. Mitigation for any unavoidable impacts should include translocating any individuals by transplanting whole San Diego sedge plants to appropriate habitat. Translocation should be supervised by a qualified biologist.
Euphyes vestris harbisoni. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the host plant (*Carex spissa*), including specific adaptive management measures to protect riparian areas against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts. *Carex spissa* should be considered for use in wetland restoration projects where soil and water conditions are appropriate to increase the population of Harbison's Dun Skipper.		
Lycaena hermes (Hermes Copper) Narrow Endemic	• Conserve approximately 2,000 acres of coastal sage scrub. • Maintain regional linkages. • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserve areas to minimize edge effects, prevent livestock overgrazing, and restrict human disturbance. • Prepare and implement a fire management program for preserve areas as part of the detailed management plan. • Where opportunities arise, enhance and restore coastal sage scrub within preserve areas. • Conduct focused surveys in appropriate habitat. Avoid impacts to any populations to the maximum extent feasible. Mitigate unavoidable impacts by conserving another population elsewhere.
Lycaena hermes. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the host plant (Rhamnus crocea), including specific adaptive management measures to protect populations of Rhamnus crocea against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts. Rhamnus crocea should be considered for use in chaparral restoration projects where soil and aspect are appropriate to increase the population of Hermes Copper.		
Streptocephalus woottoni (Riverside Fairy Shrimp) Narrow Endemic	• Conserve the one known major/critical population in the City (Poinsettia Lane Commuter Rail Station pools). • Conserve vernal pool habitat in conjunction with the City's no net loss of wetlands policy.	• Manage preserves areas to minimize edge effects. • Prohibit introduction of pesticides and other pollutants into vernal pools and vernal pool watersheds. • Protect vernal pools from off-road vehicles and other activities that can crush eggs and destroy vernal pool habitat. • Manage surrounding watershed to maintain water quality and vernal pool hydrology.

Streptocephalus woottoni. Conditions for coverage - This species is on the HMP list of Narrow Endemics and is a vernal pool species. The long-term preserve management plan shall provide area specific management directives for the one known major population of Riverside Fairy Shrimp in Carlsbad, including specific adaptive management measures to protect vernal pools and their watersheds against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Panoquina errans (Saltmarsh Skipper Butterfly)	• Conserve Saltmarsh habitat at Buena Vista, Agua Hedionda, and Batiquitos Lagoons consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh habitat within the City.	• Manage preserve areas to minimize edge effects, control invasive non-native plants, maintain Saltmarsh hydrology and water quality, and protect Saltmarsh habitat from physical disturbances. • Where opportunities arise, restore and enhance habitat in preserve areas. Control exotic plants. • Preserve habitat adjacent to the lagoons to the maximum extent possible.
Panoquina errans. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for salt marsh habitats, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Branchinecta sandiegoensis (San Diego Fairy Shrimp) Narrow Endemic	• Conserve known vernal pool habitat containing fairy shrimp. • Conserve the only known major/critical population in the planning area (Poinsettia Lane pools). • Conserve other populations found in the City through designation of the species as a Narrow Endemic.	• Manage preserved areas to minimize edge effects. • Prohibit introduction of pesticides and other pollutants into vernal pools and vernal pool watersheds. • Protect vernal pools from off-road vehicles and other activities that can crush eggs and destroy vernal pool habitat. • Manage surrounding watershed to maintain water quality and vernal pool hydrology.
Branchinecta sandiegoensis. Conditions for coverage - This species is on the HMP list of Narrow Endemics and is a vernal pool species. The long-term preserve management plan shall provide area specific management directives for the one known major population of San Diego Fairy Shrimp in Carlsbad, including specific adaptive management measures to protect vernal pools and their watersheds against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Cnemidophorus hyperythrus beldingi (Orange-throated Whiptail)	• Conserve approximately 2,000 acres of coastal sage scrub, 700 acres of chaparral and 350 acres of southern maritime chaparral where this species may occur. • Maintain linkages between populations in Core Area 7 and areas to the southeast.	• Manage preserve areas to restrict activities that would degrade habitat; control predators. • If opportunities arise, consider establishing a relocation program (possibly in Core Area 3 or 7) to initiate new populations or enhance and maintain existing populations. • Provide management measures which facilitate movement between populations within the City as well as to regional linkages.
Cnemidophorus hyperythrus beldingi. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for known or likely locations of Orange-throated Whiptail, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		

Falco peregrinus anatum (American Peregrine Falcon)	• Conserve Saltmarsh habitat (i.e., foraging) at Buena Vista, Agua Hedionda and Batiquitos Lagoons and in SRAs consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh habitat within the City.	• Manage conserved areas to minimize edge effects, control invasive non-native plants, maintain Saltmarsh hydrology and water quality, protect Saltmarsh habitat from physical disturbances and control predators. • Where opportunities arise, restore and enhance habitat in preserve areas. • Habitat adjacent to the lagoons will be preserved to the maximum extent possible.
Falco peregrinus anatum. Conditions for coverage - None.		
Passerculus sandwichensis beldingi (Belding's Savannah Sparrow)	• Conserve Saltmarsh habitat at Buena Vista, Agua Hedionda, and Batiquitos Lagoons and in SRAs consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh habitat within the City. • Conserve all major populations of this species at Agua Hedionda and Batiquitos Lagoons.	• Manage conserves areas to minimize edge effects, control invasive non-native plants, maintain Saltmarsh hydrology and water quality, protect Saltmarsh habitat from physical disturbances, and control predators. • Where opportunities arise, restore and enhance habitat in preserve areas. • Habitat adjacent to the lagoons will be preserved to the maximum extent possible.
Passerculus sandwichensis beldingi. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the major nesting areas at Agua Hedionda and Batiquitos Lagoons, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Speotyto cunicularia hypugaea (Burrowing Owl)	• Conserve approximately 650 acres of grassland habitat.	• Manage preserve areas to minimize edge effects, prevent livestock overgrazing, and restrict human disturbance. • Prepare and implement a fire management program for preserve areas as part of the detailed management plan. • Where opportunities arise, enhance and restore native grassland within preserve areas, with priority given to creation of suitable Burrowing Owl conditions..
Speotyto cunicularia hypugaea. Conditions for coverage - Protocol surveys for Burrowing Owl shall be conducted in all Standards Areas and any areas outside of the Focus Planning Areas that contain suitable habitat,. If the species is present, the following mitigation measures shall be implemented. Development shall avoid direct impacts to the nest site to the maximum extent practicable. If impacts are unavoidable, any impacted individuals shall be relocated to a conserved area of suitable size and characteristics, using passive or active methodologies approved by the wildlife agencies. In addition, mitigation for impacts to occupied habitat must be provided according to established protocol standards. The long-term preserve management plan shall provide area specific management directives for any known or likely Burrowing Owl locations, including enhancement of known, historical and potential burrowing owl habitat. The long-term management plan also shall include monitoring of burrowing owl nest sites to determine use and nesting success, predator control, and establishing a 300 ft. wide avoidance area around occupies burrows within the preserve.		

Pelecanus occidentalis californicus (California Brown Pelican)	• Conserve Saltmarsh and estuarine habitats at Buena Vista, Agua Hedionda, and Batiquitos Lagoons consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh and estuarine habitats within the City.	• Manage preserved areas to minimize contamination by pesticides, oil, and other pollutants; reduce disturbances at important foraging and roosting areas, and maintain lagoon hydrology and water quality (e.g.; 100 foot setback from existing wetland habitats).
Pelecanus occidentalis. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the major resting areas at Agua Hedionda, Buena Vista and Batiquitos Lagoons, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Sterna antillarum browni (California Least Tern)	• Conserve Saltmarsh and estuarine habitats at Buena Vista, Agua Hedionda, and Batiquitos Lagoons (considered critical locations) consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh and estuarine habitats within the City.	• Manage preserved areas to minimize edge effects, control non-native plants, maintain hydrology and water quality, protect habitats from physical disturbances, control predators, and maintain vegetation to provide optimal conditions for breeding. • Where opportunities arise, restore and enhance habitat in preserved areas and preserve habitat adjacent to the lagoon. • Manage nesting sites at Batiquitos Lagoon.
Sterna antillarum browni. Conditions for coverage - The major and critical population at Batiquitos Lagoon shall be managed by the California Department of Fish and Game to control predators, control weed growth on nesting areas, and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts. Incidental take of the species or occupied habitat during the breeding season is prohibited except as specifically authorized on a case-by-case basis. The long-term management plan shall address enhancement of other potential Least Tern nesting areas, such as Buena Vista Lagoon, including nesting sites and water quality.		
Polioptila californica californica (Coastal California Gnatcatcher)	• Conserve approximately 2,000 acres of coastal sage scrub. • Conserve mapped Gnatcatcher locations within conserved habitat. • Maintain regional linkages.	• Manage preserve areas to minimize edge effects, control cowbirds and predators, prevent livestock overgrazing, and restrict human disturbance. • Prepare and implement a fire management program for preserve areas as part of the detailed management plan. • Where opportunities arise, enhance and restore coastal sage scrub within preserve areas, with priority given to creation of Gnatcatcher breeding opportunities within constrained linkages.
Polioptila californica californica. Conditions for coverage - Within Standards Areas, 75% of gnatcatchers shall be conserved. The long-term preserve management plan shall provide area specific management directives for all conserved gnatcatcher locations and any other potential habitat, including specific measures to address control of domestic pets, to reduce other edge effects, to minimize disturbance during the nesting season, and to reduce the potential for habitat degradation due to unplanned fire. Adaptive management may include measures to maintain or improve overall habitat quality, including vegetation structure. No clearing of occupied habitat may occur between March 1 and August 15.		
Accipiter cooperii (Cooper's Hawk)	• Conserve approximately 525 acres of breeding and primary foraging habitat and approximately 3,500 acres of secondary foraging habitat. • Assure no net loss of wetland habitats.	• Manage preserve areas to minimize disturbances in breeding habitat, restrict removal of oak trees and riparian vegetation, restrict building of trails or roads immediately adjacent to or through breeding areas, and restrict introduction of pesticides or other contaminants. • To the extent practicable, design project to maintain appropriate distances between development and nest sites. • Protect documented nest sites during breeding season. • Where appropriate, enhance oak and riparian woodland habitats.

Accipiter cooperii. Conditions for coverage - In Proposed Hardline Areas and Standards Areas with oak woodlands or oak riparian forest, surveys shall be conducted for nesting Cooper's Hawks. If the species is present, no direct impacts to oak woodland or oak riparian forest shall be allowed in the nesting season, and a 300 ft. impact avoidance area around active nest sites shall be maintained. The long-term preserve management plan shall provide area specific management directives for oak woodlands and oak riparian forest, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Sterna elegans (Elegant Tern)	• Conserve Saltmarsh and estuarine habitats at Buena Vista, Agua Hedionda, and Batiquitos Lagoons consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh and estuarine habitats within the City.	• Manage preserved areas to minimize edge effects, control non-native plants, maintain hydrology and water quality, protect habitats from physical disturbances, control predators, and maintain vegetation to provide optimal conditions for breeding. • Where opportunities arise, restore and enhance habitat in preserved areas. • Habitat adjacent to the lagoons will be preserved to the maximum extent possible.
Sterna elegans. Conditions for coverage - The long-term preserve management plan shall provide area specific directives to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts. Incidental take of the species during the breeding season is prohibited except as specifically authorized on a case-by-case basis by the wildlife agencies. The long-term management plan shall address enhancement of other potential Elegant Tern nesting areas, such as Buena Vista Lagoon, including nesting sites and water quality.		
Passerculus sanwichensis rostratus (Large-billed Savannah Sparrow)	• Conserve approximately 99% of Saltmarsh habitat at Buena Vista, Agua Hedionda, and Batiquitos Lagoons. • Assure no net loss of Saltmarsh habitat within the City.	• Manage conserved areas to minimize edge effects, control invasive non-native plants, maintain Saltmarsh hydrology and water quality, protect Saltmarsh habitat from physical disturbances, and control predators. • Where opportunities arise, restore and enhance habitat in preserve areas. • Habitat adjacent to the lagoons will be preserved to the maximum extent possible.
Passerculus sandwichensis rostratus. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for the potential nesting areas at Agua Hedionda and Batiquitos Lagoons, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Vireo bellii pusillus (Least Bell's Vireo)	• Conserve approximately 495 acres (86%) of riparian habitats. • Assure no net loss of riparian scrub within the City. • Conserve 95% of known point locations for Least Bell's Vireo within preserve areas.	• Manage preserve areas to minimize activities that would degrade riparian habitats, restrict the alteration or clearing of riparian vegetation, control exotic invasive vegetation, control cowbirds and predators, and maintain hydrology and water quality in riparian habitats. • Restrict activities in Vireo-occupied habitat during the breeding season, including no clearing of habitat (April 15 to September 15). • Where appropriate, restore or enhance riparian habitat suitable for vireos and other sensitive riparian species.
Vireo bellii pusillus. Conditions for coverage - Incidental take of the species or occupied habitat during the breeding season (March 15 to September 15) is prohibited except as specifically authorized on a case-by-case basis. The long-term preserve management plan shall provide area specific management directives for known or potential Least Bell's Vireo nesting areas, including specific adaptive management measures to control brown-headed cowbirds, provide appropriate successional habitat, provide upland buffers for known populations, minimize night lighting, minimize noise impacts, and protect riparian areas against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		

Rallus longirostris levipes (Light-footed Clapper Rail)	• Conserve Saltmarsh habitat at Buena Vista, Agua Hedionda, and Batiquitos Lagoons consistent with the City's wetlands policy. • Conserve freshwater marsh used by Rails during the fall and winter. • Assure no net loss of Saltmarsh or freshwater marsh habitats within the City.	• Manage preserve areas to control non-native plants, maintain hydrology and water quality, control predators, and restrict physical disturbances. • Where opportunities arise, restore and enhance habitat in preserved areas. • Restrict human activity near nesting habitat during the breeding season (April 1 through August 31). • Where appropriate, introduce Clapper Rails into suitable, unoccupied habitat. • Pursue experimental cordgrass reintroduction at Batiquitos Lagoon.
Rallus longirostris levipes. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for known or potential nesting areas at Agua Hedionda, Batiquitos and Buena Vista Lagoons and upstream freshwater marsh habitats, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Pandion haliaetus (Osprey)	• Conserve habitat within Buena Vista, Agua Hedionda, and Batiquitos Lagoons (areas are considered critical locations for the species) consistent with the City's wetlands policy. • Assure no net loss of wetland habitats within the City.	• Manage preserve areas to maintain lagoon hydrology and water quality and restrict activities that would disturb nesting. • Consider provision of nesting platforms adjacent to foraging areas as part of detailed management plan.
Pandion haliaetus. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for foraging are4as at Agua Hedionda, Batiquitos and Buena Vista Lagoons and upstream freshwater marsh habitats, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Aimophila ruficeps canescens (Southern California Rufous-crowned Sparrow)	• Conserve known locations within proposed and existing hardlined conservation areas. • Conserve approximately 2,000 acres of coastal sage scrub. • Maintain regional linkages.	• Manage preserve areas to minimize edge effects, control cowbirds and predators, prevent livestock overgrazing, and restrict human disturbance. • Prepare and implement a fire management program for preserve areas as part of the detailed management plan. • Where opportunities arise, enhance and restore coastal sage scrub within preserve areas, with priority given to creating of breeding opportunities within constrained linkages.
Aimophila ruficeps canescens. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for known or likely locations of Rufous-crowned Sparrow, including specific adaptive management measures to protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Empidonax traillii extimus (Southwestern Willow Flycatcher)	• Conserve approximately 495 acres of riparian habitats. • Assure no net loss of riparian habitats within the City. • Conserve 95% of any new populations.	• Manage preserve areas to minimize activities that would degrade riparian habitats, restrict the alteration or clearing or riparian vegetation, control exotic invasive vegetation, control cowbirds and predators, and maintain hydrology and water quality in riparian habitats. • Restrict human activities in Willow Flycatcher habitat during the breeding season, including no clearing of habitat (May 1 to September 15). • Where appropriate, restore or enhance riparian habitat suitable for Willow Flycatchers and other sensitive species.

Empidonax traillii extimus. Conditions for coverage - Incidental take of the species or occupied habitat during the breeding season (May 1 to September 15) is prohibited except as specifically authorized on a case-by-case basis by the wildlife agencies. The long-term preserve management plan shall provide area specific management directives for known or potential Willow Flycatcher nesting areas, including specific adaptive management measures to control brown-headed cowbirds, provide appropriate successional habitat, provide upland buffers for known populations, minimize night lighting, minimize noise impacts, and protect riparian areas against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		
Charadrius alexandrinus nivosus (Western Snowy Plover)	• Conserve Saltmarsh and estuarine habitats at Buena Vista, Agua Hedionda, and Batiquitos Lagoons consistent with the City's wetlands policy. • Assure no net loss of Saltmarsh and estuarine habitats within the City. • Conserve all major populations within the City, i.e., at Agua Hedionda and Batiquitos Lagoons. • Assure no direct impacts to nesting areas.	• Manage preserve areas to minimize edge effects, control non-native plants, maintain hydrology and water quality, protect habitats from physical disturbances, and control predators. • Where opportunities arise, restore and enhance habitat in preserved areas. • Restrict activities near nesting habitat during the breeding season (April 1 through August 31). • If populations are present during the non-breeding season, implement access control measures if warranted.
Charadrius alexandrinus nivosus. Conditions for coverage - The major and critical population at Batiquitos Lagoon shall be managed by the California Department of Fish and Game to control predators, control weed growth on nesting areas, and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts. Incidental take of the species or occupied habitat during the breeding season (April 1 through August 1) is prohibited except as specifically authorized on a case-by-case basis. The long-term management plan shall address enhancement of other potential Snowy Plover nesting areas, such as Buena Vista Lagoon, including nesting sites and water quality.		
Plegadis chihi (White-faced Ibis)	• Conserve approximately 1,150 acres of marsh, water, and estuarine habitat within preserve areas and assure no net loss of these habitats within the City. • Conserve populations at Buena Vista and Batiquitos Lagoons, including a critical breeding population at Buena Vista Lagoon.	• Manage preserve areas to minimize edge effects, control non-native plants, maintain hydrology and water quality, and protect habitats from physical disturbances. • Restrict human activities in occupied habitat during the breeding season (March to June). • Enhance habitat to increase breeding and wintering populations.
Plegadis chihi. Conditions for coverage - The long-term preserve management plan shall provide area specific management directives for foraging areas at Agua Hedionda, Batiquitos and Buena Vista Lagoons and upstream freshwater marsh habitats, including specific adaptive management measures to address water quality and protect against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		

Icteria virens Yellow-breasted Chat)	• Conserve riparian habitat within preserve areas, and assure no net loss of riparian habitats within the City.	• Manage preserve areas to minimize activities that would degrade riparian habitats, restrict livestock overgrazing and the alteration or clearing of riparian vegetation, control exotic invasive vegetation, control cowbirds and predators, and maintain hydrology and water quality in riparian habitats. • Restrict human activities in occupied habitat during the breeding season. • Where appropriate, restore or enhance riparian habitat suitable for this and other sensitive species.
Icteria virens. Conditions for coverage - Incidental take of the species or occupied habitat during the breeding season is prohibited except as specifically authorized on a case-by-case basis. The long-term preserve management plan shall provide area specific management directives for known or potential Yellow-breasted Chat nesting areas, including specific adaptive management measures to control brown-headed cowbirds, provide upland buffers for known populations, and protect riparian areas against detrimental edge effects from adjacent development, recreational impacts, and other direct and indirect impacts.		

Table 10
Narrow Endemic Species

Scientific Name	Common Name
Acanthomintha illicifolia	San Diego Thorn-mint
Ambrosia pumila	San Diego Ambrosia
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar Manzanita
Baccharis vanessae	Encinitas Baccharis
Brodiaea filifolia	Thread-leaved Brodiaea
Brodiaea orcuttii	Orcutt's Brodiaea
Chorizanthe orcuttiana	Orcutt's Spineflower
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa Sand Aster
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's Dudleya
Eryngium aristulatum var. *parishii*	San Diego Button-celery
Hazardia orcuttii	Orcutt's Hazardia
Muilla clevelandii	San Diego Goldenstar
Myosurus minimus ssp. *apus*	Little Mousetail
Navarretia fossalis	Prostrate Navarretia
Orcuttia californica	California Orcutt Grass
Lycaena hermes	Hermes Copper
Streptocephalus woottoni	Riverside Fairy Shrimp
Branchinecta sandiegoensis	San Diego Fairy Shrimp

Table 11
Mitigation Ratios for Impacts to HMP Habitats

Habitat Group and Type	Mitigation Ratio/Requirement by Type of Impacted Habitat
A. Coastal salt marsh, alkali marsh, freshwater marsh, estuarine, salt pan/mudflats, riparian forest, riparian woodland, riparian scrub, vernal pools, disturbed wetlands, flood channel, fresh water Engelmann oak woodland, coast live oak woodland (1)	No net loss goal (mitigation ratio varies by type of replacement habitat)
B. Beach, southern coastal bluff scrub, maritime succulent scrub, southern maritime chaparral, native grass	3:1 (2)
C. Gnatcatcher - Occupied coastal sage scrub	2:1 (3)
D. Unoccupied coastal sage scrub, coastal sage/chaparral mix, chaparral (excluding southern maritime chaparral)	1:1 (4)
E. Annual (non-native) grassland	0.5:1 (4)
F. Disturbed lands, eucalyptus, agricultural lands	Mitigation Fee (4)

Footnotes:

1. Group A habitats are associated with wetlands. Impacts to these habitat types are subject to review under Section 404 of the federal Clean Water Act or Section 1600 of the California Fish and Game Code.

2. It is assumed that all habitat types in Group B will be included in the proposed preserve system. Small, isolated patches of low quality southern maritime chaparral may be located outside a preserve area and maximum avoidance and onsite conservation is preferred.

3. Maximum avoidance and onsite conservation of Group C habitat is encouraged.

4. Offsite mitigation for habitat in this group which is not conserved or mitigated onsite, shall pay a per acre in lieu mitigation fee in an amount to be determined by the City Council. This fee is discussed in more detail in Section E of the Plan.

5. City projects that impact Type D, E, and F habitats will not pay the fee and will mitigate at the Lake Calavera Mitigation Bank. These projects may mitigate out-of-kind because the objective is to build the preserve system by combining small mitigation requirements into a larger, contiguous area. City projects that impact Type A, B, and C habitats must mitigate in-kind at the ratios stated above

7. Additional Conservation Standards To Be Applied To Properties in the Coastal Zone.

7-1 Environmentally Sensitive Habitat Areas (ESHA)

Pursuant to Section 30240 of the California Coastal Act, environmentally sensitive habitat areas, as defined in Section 30107.5 of the Coastal Act, shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

7-2 Coastal Sage Scrub

Coastal Sage Scrub is a resource of particular importance to the ecosystems of the Coastal Zone, due in part to the presence of the Coastal California gnatcatcher (Federal Threatened) and other species. Properties containing Coastal Sage Scrub located in the Coastal Zone shall conserve a minimum 67% of the Coastal Sage Scrub and 75% of the gnatcatchers onsite. Conservation of gnatcatchers shall be determined in consultation with the wildlife agencies.

7-3 Oak Woodland

An oak woodland is a closed to relatively open stand of trees within which a dominant tree species is a species of oak. In coastal southern California, that species is generally Coast Live Oak (Quercus agrifolia), which is commonly found on slopes and riparian situations. Shrubs vary from occasional to common, and the herb layer is often continuous and dominated by a variety of annual grasses.

7-4 Streams

A stream is a topographical feature with a clear bed and bank that periodically conveys water.

7-5 Ephemeral Drainages and Ephemeral Streams

Ephemeral drainages and ephemeral streams are topographic features that convey water, but only during and shortly after rainfall events in a typical year.

7-6 Wetlands

Pursuant to California Public Resources Code Section 30121 and Title 14, California Code of Regulations Section 13577(b), 'wetland' means lands within the coastal zone, which may be covered periodically, or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens. Wetland shall include land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. A preponderance of hydric soils or a preponderance of wetland indicator species shall be considered presumptive evidence of wetland conditions.

Wetlands in the Coastal Zone shall be delineated following the definitions and boundary descriptions in Section 13577 of the California Code of Regulations.

Pursuant to California Public Resources Code Section 30233, no impacts to wetlands shall be allowed in the Coastal Zone except as provided in that Section.

7-7 Wetland Mitigation Requirements

If impacts to a wetland are allowed consistent with Policy 7-6 above, mitigation shall be provided at a ratio of 3:1 for riparian impacts and 4:1 for saltwater or freshwater wetland or marsh impacts.

7-8 No Net Loss of Habitat

There shall be no net loss of Coastal Sage Scrub, Maritime Succulent Scrub, Southern Maritime Chaparral, Southern Mixed Chaparral, Native Grassland, and Oak Woodland within the Coastal Zone of Carlsbad.

Mitigation for impacts to any of these habitat types, when permitted, shall include a creation component that achieves the no net loss standard. Substantial restoration of highly degraded areas (where effective functions of the habitat type have been lost) may be substituted for creation subject to the consultation and concurrence of the U.S. Fish and Wildlife Service and the California Department of Fish and Game (wildlife agencies). The Coastal Commission shall be notified and provided an opportunity to comment upon proposed substitutions of substantial restoration for the required creation component. Development shall be consistent with Policy 7-1 of this subsection, unless proposed impacts are specifically identified in the HMP; these impacts shall be located to minimize impacts to Coastal Sage Scrub and maximize protection of the Coastal California gnatcatcher and its habitat.

7-9 Upland Habitat Mitigation Requirements

Where impacts to the habitats stated in 7-1 are allowed, mitigation shall be provided as follows:

a. The no net loss standard shall be satisfied as stated in 7-8. Typically this will consist of creation of the habitat type being impacted (or substantial restoration where allowed) at a ratio of at least 1:1 as provided in the HMP.

b. Onsite preservation is not eligible for mitigation credit in the coastal zone. Onsite or off-site open space preserve areas may be utilized to satisfy required mitigation for habitat impacts associated with development if the preserve areas are disturbed and suitable for restoration or enhancement, or they are devoid of habitat value and therefore suitable for the 1:1 mitigation component requiring creation or substantial restoration of new habitat. Substantial restoration is restoration that has the effect of qualitatively changing habitat type and may meet the creation requirement if it restores habitat type that was historically present, but has suffered habitat conversion or such extreme degradation that most of the present dominant species are not part of the original vegetation. Substantial restoration contrasts with enhancement activities, which include weeding, or planting within vegetation that retains its historical character, and restoration of disturbed areas to increase the value of existing habitat which may meet other mitigation requirements pursuant to the HMP.

c. Impacts to Coastal Sage Scrub shall be mitigated at an overall ratio of 2:1, with the creation component satisfying half of the total obligation. The remainder of the mitigation obligation shall be satisfied pursuant to the provisions of the HMP.

d. Impacts to Southern Maritime Chaparral or Maritime Succulent Scrub shall be mitigated at an overall ratio of 3:1, with the creation component satisfying one-third of the total obligation. The remainder of the mitigation obligation shall be satisfied pursuant to the provisions of the HMP.

   Impacts to Southern Mixed Chaparral, Native Grassland, and Oak Woodland shall be mitigated respectively at ratios of 1:1, 3:1, and 3:1, with the creation component satisfying the obligation or one-third of the total obligation. The remainder of the mitigation obligation shall be satisfied pursuant to the provisions of the HMP.

Mitigation for impacts within the coastal zone should be provided within the coastal zone if possible, particularly the 1:1 creation component, in order to have no net loss of habitat within the coastal zone. Mitigation measures on land outside the Coastal Zone may be acceptable if such mitigation would clearly result in higher levels of habitat protection and value and/or would provide significantly greater mitigation ratios, and the mitigation area is part of the HMP. Land area inside and outside the coastal zone which serves as mitigation for habitat impacts in the coastal zone shall be permanently retired from development potential and secured as part of the HMP preserve management plan as a condition of development approval.

g. Habitat mitigation requirements other than the creation or substantial restoration component may be partially or wholly fulfilled by acquisition of existing like habitat and/or retirement of development credits on existing like habitat with permanent preservation as part of the HMP preserve management plan.

h. All mitigation areas, onsite and offsite, shall be secured with a conservation easement in favor of the wildlife agencies. In addition, a preserve management plan shall be prepared for the mitigation areas, to the satisfaction of the City, the wildlife agencies, and the Coastal Commission. Phase 1 of the preserve management plan shall be incorporated into the Implementation Program of the LCP through an LCP amendment within one year of Commission certification of the HMP as part of the certified LCP. Phase 2 of the preserve management plan shall be incorporated into the Implementation Program in the same manner within three years of Commission certification of the HMP as part of the certified LCP. The preserve management plan shall ensure adequate funding to protect the preserve as open space and to maintain the biological values of the mitigation areas in perpetuity. Management provisions and funding for mitigation required to address habitat impacts shall be in place prior to the impacts for which the mitigation is required. At a minimum, monitoring reports shall be required as a condition of development approval after the first and third year of habitat mitigation efforts.

i. If any conflict should arise between the provisions of the HMP and the policies of the LCP, the LCP shall take precedence.

7-10 Highly Constrained Properties

There are properties in the Coastal Zone that are entirely or almost entirely constrained by environmentally sensitive habitat area (ESHA). In these cases, one of the following additional standards shall apply:

a. If more than 80% of the property by area is covered with ESHA at least 75% of the property shall be conserved, OR

b. If the City, with the concurrences of the wildlife agencies and the Coastal Commission through an LCP amendment, approves a Hardline preserve boundary for any of these properties as part of the HMP, then the amount of onsite preservation as identified in the Hardline boundary shall apply.

7-11 Buffers and Fuel Modification Zones

Buffers shall be provided between all preserved habitat areas and development. Minimum buffer widths shall be provided as follows:

a. 100 ft. for wetlands

b. 50 ft. for riparian areas

c. 20 ft. for all other native habitats (coastal sage scrub, southern maritime chaparral, maritime succulent scrub, southern mixed chaparral, native grassland, oak woodland).

Buffer widths shall be measured from the edge of preserved habitat nearest the development to the closest point of development. For wetlands and riparian areas possessing an unvegetated bank or steep slope (greater than 25%), the buffer shall be measured from the top of the bank or steep slope rather than the edge of habitat, unless there is at least 50 ft. between the riparian or wetland area and the toe of the slope. If the toe of the slope is less than 50 feet from the wetland or riparian area, the buffer shall be measured from the top of the slope.

Any proposed reductions in buffer widths for a specific site shall require sufficient information to determine that a buffer of lesser width will protect the identified resources. Such information shall include, but is not limited to, the size and type of the development and/or proposed mitigation (such as planting of vegetation or the construction of fencing) that will also achieve the purposes of the buffer. The California Department of Fish and Game, the U.S. Fish and Wildlife Service, and the Coastal Commission staff shall be consulted in such buffer determinations.

No development, grading, or alterations, including clearing of vegetation, shall occur in the buffer area, except for:

a. Fuel modification Zone 3 to a maximum of 20 ft. for upland and non-riparian habitat. No fuel modification shall take place within 50 ft. of riparian areas, wetlands, or oak woodland.

b. Recreation trails and public pathways within the first 15 feet of the buffer closest to the development, provided that construction of the trail or pathway and its proposed use is consistent with the preservation goals for the adjacent habitat, and that appropriate measures are taken for physical separation from sensitive areas.

Buffer areas that do not contain native habitat shall be landscaped using native plants. Signage and physical barriers such as walls or fences shall be required to minimize edge effects of development.

7-12 Grading and Landscaping Requirements

In addition to the requirements of the model grading ordinance in the Carlsbad Master Drainage Plan, permitted new development shall also comply with the following requirements:

a. Grading activity shall be prohibited during the rainy season: from October 1st to April 1st of each year.

b. All graded areas shall be landscaped prior to October 1st of each year with either temporary or permanent landscaping materials, to reduce erosion potential. Such landscaping shall be maintained and replanted if not well-established by December 1st following the initial planting.

c. The October 1st grading season deadline may be extended with the approval of the City Engineer subject to implementation by October 1st of special erosion control measures designed to prohibit discharge of sediments off-site during and after the grading operation. Extensions beyond November 15th may be allowed in areas of very low risk of impact to sensitive coastal resources and may be approved either as part of the original coastal development permit or as an amendment to an existing coastal development permit.

d. If any of the responsible resource agencies prohibit grading operations during the summer grading period in order to protect endangered or rare species or sensitive environmental resources, then grading activities may be allowed during the winter by a coastal development

permit or permit amendment, provided that appropriate best management practices (BMPs) are incorporated to limit potential adverse impacts from winter grading activities.

7-13 City Owned Lands Adjacent To Macario Canyon and Veterans Memorial Park

The City of Carlsbad owns approximately 521 acres in and adjacent to Macario Canyon, a portion of which is located in the Coastal Zone. A municipal golf course has been proposed for a portion of the property, and a public park is planned for another portion. Development of the property shall be subject to the following policies regarding protection of habitat:

a. The impact and conservation areas for the municipal golf course are shown as a Hardline design in the HMP (Figure 8 Revised) and, which shall serve as the standard of review for determining areas in which development may occur in the future. Areas shown for conservation shall not be impacted or disturbed except for revegetation, restoration, and other similar activities related to mitigation. Areas shown for impact may be fully developed with appropriate mitigation.

b. Any impacts to Coastal Sage Scrub shall be mitigated by on-site creation at a ratio of 2:1 in compliance with the no net loss standard stated in 7-1. Onsite revegetation or restoration may be done on agricultural, disturbed or non-native grassland areas. For impacts to the Coastal California gnatcatcher, additional mitigation shall be provided by acquisition and preservation at a 1:1 ratio of land supporting gnatcatchers. Impacts to dual criteria slopes shall not exceed 10%.

c. In order to provide a viable north-south wildlife corridor across Macario Canyon, the area shown on the HMP Hardline map as "Veterans Memorial Park Wildlife Corridor" shall be conserved concurrent with any impacts to the Macario Canyon property. No development shall occur within the Wildlife Corridor except a designated trail and rest areas along the trail.

d. Protection and management of all mitigation areas shall be consistent with 7-9(f) and (h).

e. The area shown as "Veterans Memorial Park Development Area" is designated for public recreational use. It is the intent of this policy that the public park area be developed so as to maximize public access and provide a variety of recreational opportunities. Development within steep slopes and/or native vegetation shall be limited to passive recreational facilities, such as recreational trails and picnic areas. Within the proposed development areas, grading of steep slopes with native vegetation shall be limited to the minimum amount necessary to allow such uses.

f. Segments of the Citywide Trail System viewpoints, and other opportunities for public access shall be incorporated into the development areas.

g. In the riparian area of Macario Canyon Creek, two crossings shall be allowed, as shown in the HMP Hardline exhibit. Crossing #1 shall utilize the existing farm road. Crossing #2 shall utilize a bridge span structure. No riparian impacts shall occur for either crossing.

h. The design of riparian buffers shall be as shown in the HMP. Buffers shall be landscaped with appropriate native, non-invasive plants to provide a natural transition between recreational areas and riparian habitat, as well as to discourage human intrusion into the riparian area. Appropriate signing and fencing will also be utilized.

7-14 Other Parcels – Specific Habitat Protection Standards

The following standards apply to those parcels in Zones 20 and 21 shown on Exhibit A (page 121) which are located within the biological core and linkage areas designated in the MHCP. They are in addition to the applicable, general conservation standards contained in 7-1 through 7-11 of the

HMP. The standards are intended to direct development to existing disturbed areas to the maximum extent feasible, limit impacts to native vegetation, and establish viable core and linkage areas as designated in the HMP. In general, each property shall be allowed to develop at least 25% of the site with appropriate mitigation as specified in 7-8 through 7-11. When individual properties are proposed for rezoning or development, detailed biological information will be required to determine whether the proposal is consistent with the HMP, subsection 7 and the standards below, based upon the actual type, location and condition of onsite resources, and the appropriate locations of development and preservation areas. One or more wildlife crossings under Poinsettia Lane of a sufficient size for larger species shall be provided if recommended by the wildlife resource agencies.

a. Assessor's Parcel No. 212-120-33 (Hieatt) – No impact to vernal pools. Minimize impact to vernal pool watersheds.

b. Assessor's Parcel No. 212-010-3 (Kirgis) – Preserve 75% of property with development clustered immediately adjacent to Kelly Ranch.

c. Assessor's Parcel No. 215-070-38 (Fernandez) – Cluster development on disturbed areas to the maximum extent feasible. Maximum 10% impact on CSS and SMC for access purposes.

d. Assessor's Parcel No. 215-040-03 (Muroya) – Cluster development on disturbed areas to the maximum extent feasible. Maximum 10% impact on CSS and SMC for access purposes.

e. Assessor's Parcel No. 212-040-50 (Emerald Point) – Development limited to disturbed non-native grassland areas. No impacts to native habitat allowed.

f. Assessor's Parcel No. 215-020-06 (RWSB) – Development shall be limited to a maximum of 25% of the property, not including Poinsettia Lane construction, and shall be clustered to the maximum extent feasible along disturbed portions of the property adjacent to Cassia Road and the future Poinsettia Lane extension. Impacts to the SMC habitat shall be minimized. A wildlife corridor linkage oriented generally north-south shall be provided on the eastern portion of the property and designed to connect to neighboring properties with existing or potential wildlife corridor linkages. Impacts to native habitat shall require onsite mitigation through restoration and/or creation of habitat within the designated corridor linkage, in addition to any other required mitigation.

g. Assessor's Parcel No. 215-020-07 (Maldonado) –Development shall be concentrated along the Poinsettia Lane extension and shall be limited to the western half of the property. No impacts to the coast oak woodland and riparian area except for Poinsettia Lane extension. The eastern half of the property is recommended for offsite mitigation for other properties in Zone 21; however, at a minimum, a wildlife corridor linkage oriented generally north-south shall be provided on the eastern half of the property and designed to connect to neighboring properties with existing or potential wildlife corridor linkages. The corridor linkage shall include any onsite coast oak woodland area.

h. Assessor's Parcel No. 215-050-21 (Namikas) – Development shall be limited to a maximum of 25% of the property, not including Poinsettia Lane construction, and shall be clustered on the western portion of the property. No impacts to coast oak woodland, riparian areas or wetlands except for Poinsettia Lane extension. A wildlife corridor linkage oriented generally north-south shall be provided on the eastern portion of the property, including the onsite coast oak woodland area, and be designed to connect to neighboring properties with existing or potential wildlife corridors linkages. Impacts to native habitat shall require onsite mitigation through restoration and/or creation of habitat within the designated corridor linkage, in addition to any other required mitigation.

i. Assessor's Parcel No. 215-050-22 (Sudduth) - Development shall be limited to a maximum of 25% of the property, not including Poinsettia Lane construction, and shall be clustered on the western portion of the property. No impacts to coast oak woodland, riparian areas or wetlands except for Poinsettia Lane extension. A wildlife corridor linkage oriented generally north-south shall be provided on the eastern portion of the property including the onsite coast oak woodland area and be designed to connect to neighboring properties with existing or potential wildlife corridor linkages. Impacts to native habitat shall require onsite mitigation through restoration and/or creation of habitat within the designated corridor linkage, in addition to any other required mitigation.

j. Assessor's Parcel No. 215-050-44, 45, 46, 47 (Kevane) - Development shall be limited to a maximum of 25% of the property and shall be clustered on the western portion of the property. No impacts to coast oak woodland, riparian areas or wetlands shall be allowed. A wildlife corridor linkage oriented generally north-south shall be provided on the eastern portion of the property, including the coast oak woodland, and be designed to connect to neighboring properties with existing or potential wildlife corridor linkages. Impacts to native habitat shall require onsite mitigation through restoration and/or creation of habitat within the designated corridor linkage, in addition to any other required mitigation.

k. Assessor's Parcel No. 215-050-12 (Reiter) - Development shall be limited to a maximum of 25% of the property, and shall be clustered on the western portion of the property. No impacts to coast oak woodland, riparian areas or wetlands shall be allowed. A wildlife corridor linkage oriented generally north-south shall be provided on the eastern portion of the property, including the coast oak woodland, and be designed to connect to neighboring properties with existing or potential wildlife corridor linkages. Impacts to native habitat shall require onsite mitigation through restoration and/or creation of habitat within the designated corridor linkage, in addition to any other required mitigation.

l. Assessor's Parcel No. 215-050-73 (Levatino) – Maximum 25% development clustered on the southern portion of the property. Buffer widths may be reduced and/or additional impacts may be allowed to the extent necessary to obtain site access, and/or to accommodate Circulation Road improvements as identified in the certified LCP.

The parcel specific standards listed above are adopted because hardline preserve boundary lines were not established at the time of preparation of the HMP. The purpose of the standards is to ensure that future development is sited to preserve the maximum amount of ESHA within the coastal zone, and to establish a viable habitat corridor and preserve area in Zones 20 and 21. If the City, with the concurrence of the wildlife agencies and the Coastal Commission through an LCP amendment, subsequently approves a Hardline preserve boundary for any of the above-described properties as part of the HMP, then the onsite preservation included in the Hardline preserve boundary shall apply.

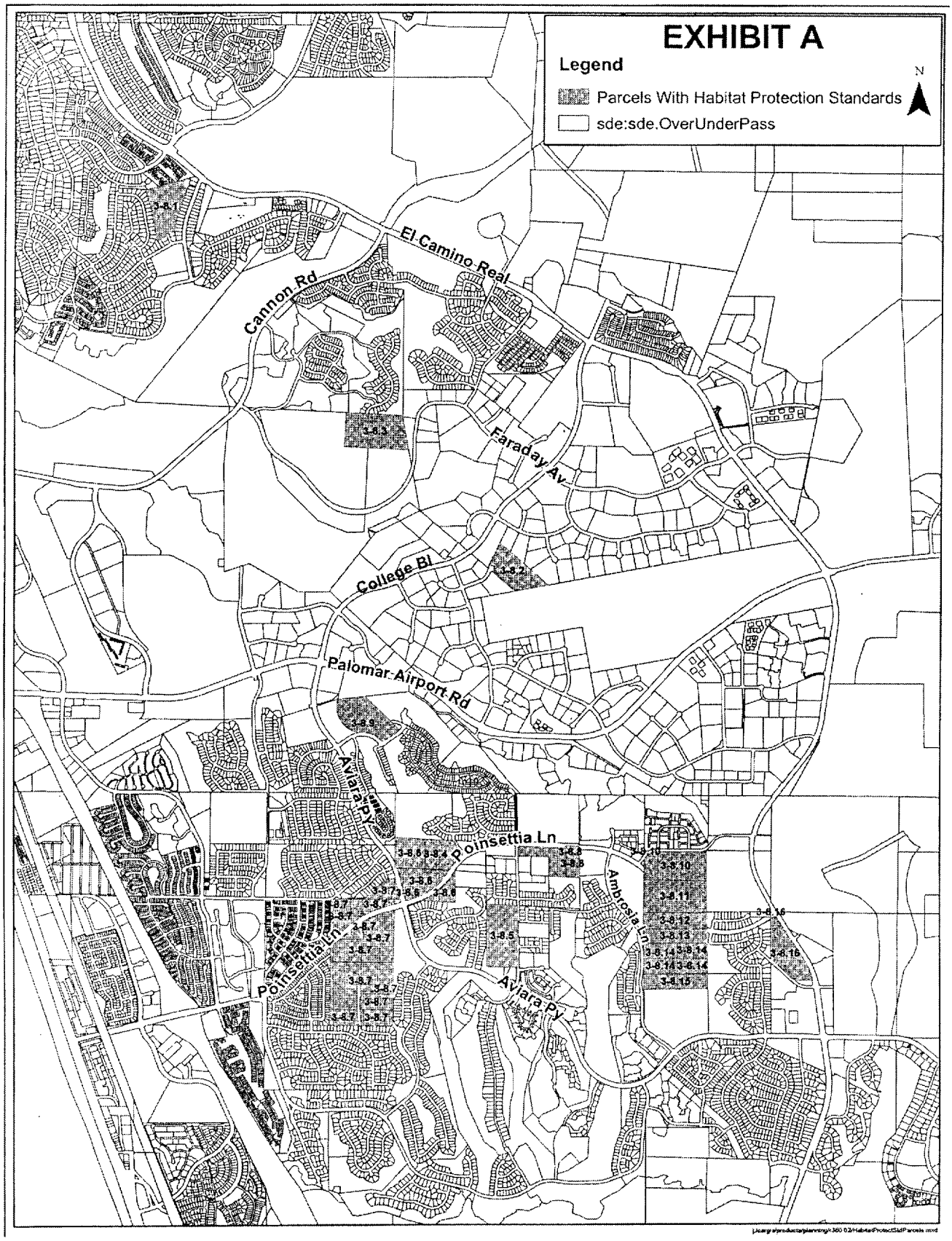
EXHIBIT A
Legend
Parcels With Habitat Protection Standards
sde:sde.OverUnderPass
N
El Camino Real
Cannon Rd
Faraday Av
College Bl
Palomar Airport Rd
Aviara Py
Poinsettia Ln
Ambrosia Ln
3-8.1
3-8.2
3-8.3
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