

## **4.5 BIOLOGICAL RESOURCES**

This section discusses biological resources that occur or have the potential to occur in the Specific Plan area and evaluates impacts on those resources that would result from its implementation.

Sources of information used to prepare this section include a preliminary biological assessment prepared by Zander Associates in 1998 (Appendix D-1) and a preliminary wetland delineation prepared by consulting ecologist Diane Renshaw in 1999 (Appendix D-2). Table 1 in Appendix D-3 is a list of plant species observed at Specific Plan Subarea 3 by Zander Associates on March 19, 1998, and plant species observed by Diane Renshaw on November 23, 1999. EDAW biologists reviewed these reports for technical and CEQA adequacy and updated the information as needed, based on information collected by EDAW biologists during a May 28, 2003 reconnaissance-level field survey, before incorporating it into this Revised Draft EIR.

### **4.5.1 EXISTING SETTING**

#### **REGIONAL SETTING**

The Specific Plan area is near a number of areas that support biological resources of statewide importance. San Francisco Bay is approximately 1 mile to the east of the Specific Plan area, and tidally influenced Corte Madera Creek, which flows into the San Francisco Bay estuary, is approximately 0.25 mile to the north (Exhibit 2-1). The San Francisco Bay estuary is the largest and most significant estuary on the west coast of the United States. Corte Madera Creek is the largest creek in Marin County and is an important component of the San Francisco Bay estuary. Corte Madera Creek's history parallels that of San Francisco Bay with a large percentage of the historic tidal marshes that once lined its shores now lost to filling or diking (Salzman, pers. comm., 2002). Mt. Tamalpais State Park, an extensive, undeveloped open space, is approximately 0.75 mile west of the Specific Plan area.

#### **LOCAL SETTING**

The Specific Plan area is surrounded by roads, schools, residences, and other urban development. The majority of Subarea 3 consists of developed and disturbed areas, including abandoned greenhouses and other facilities used for nursery operations, and the Sloat Garden Center. Although all of the Specific Plan area has been developed at one time or another, the major portion of Subarea 3 has been inactive for a number of years and would likely be redeveloped following the adoption of the Specific Plan. The remainder of the Specific Plan area is currently developed and in active use, and does not support any important biological resources. For this reason, the discussion of biological resources focuses on the 16.8-acre Subarea 3.

Larkspur Creek, a tributary to Corte Madera Creek and San Francisco Bay, borders the south and southeast portions of Subarea 3. The creek, which has been rerouted and channelized into a linear ditch, runs along the southern edge of Subarea 3 before making an abrupt right-

angle turn at the southeast corner of the parcel and then heads north along the eastern edge of the property to the Doherty Drive bridge at Piper Park. Larkspur Creek flows into Corte Madera Creek approximately 0.5 mile downstream of the Doherty Drive bridge. The engineered banks of Larkspur Creek are roughly 10 to 15 feet high and stable.

## **General Biological Resources**

### ***Vegetation***

Most of the upland portion of Subarea 3 consists of previously graded and filled areas dominated by non-native grasses and other herbaceous plant species, many of which are considered invasive (Exhibit 4.5-1). Trees and shrubs, most of which are non-native, are also present at scattered locations within the interior portion of Subarea 3. A row of sweet gum (*Liquidambar* sp.) has been planted along the fence line on the northern boundary of the property. Subarea 3 does support scattered patches of native trees and shrubs. A group of large redwoods (*Sequoia sempervirens*) and a number of native oak trees (*Quercus garryana*, *Q. lobata*) are located above the bank of Larkspur Creek on the southwestern edge of Subarea 3. A small patch of native California bay trees (*Umbellularia californica*) and native willow trees (*Salix lasiandra*) are located on the north side of Meadowood Drive, near the southern boundary of Subarea 3. There are also a few small scattered oaks and California bay trees in the upland portion of Subarea 3.

On the Specific Plan area side, the banks of Larkspur Creek are heavily vegetated with a mix of non-native shrubs and grasses. French broom (*Genista monspessulana*) interspersed with other exotic species (e.g., fennel [*Foeniculum vulgare*], oleander [*Nerium oleander*]) dominates much of the upper creek bank along the eastern boundary of Subarea 3 (Exhibit 4.5-1). The creek bank adjacent to the southern boundary supports similar vegetation and a dense stand of acacia (*Acacia decurrens*). During the May 2003, survey, EDAW biologists noted that much of the non-native vegetation had been removed from the bank opposite the Specific Plan area and replaced with native saplings, shrubs, and grasses. The restoration areas were well maintained and most of the plantings appeared to be in good health. Although most of the trees and shrubs were less than a few feet tall, some of the plantings may have been at least 5 years old. In a letter to the City from Friends of Corte Madera Creek Watershed (dated September 4, 2002) in response to the earlier Draft EIR (Gulldman, pers. comm., 2002), it was noted that restoration efforts with native plants have been ongoing since 1996. It was also noted during the May 2003 survey that a dirt pedestrian trail near the southern boundary of the Specific Plan area was located immediately adjacent to the top of the bank located at the opposite side from the Specific Plan area. At this location, the absence of a setback between the trail and creek limits the restoration area to the side of the bank and increases the potential for soil erosion into the creek (Exhibit 4.5-2).

The only native plant community identified in the Specific Plan area is a narrow band of tidal marsh vegetation that grows at the base of the banks along the edges of Larkspur Creek. The band of vegetation varies in width from a few feet to an estimated maximum of 25 feet, depending on channel and bank configuration and flow characteristics. The upper limit of the

Exhibit 4.5-1

Exhibit 4.5-2

tidal marsh is roughly defined by the mean high-water mark. Dominant plants at the downstream end of Larkspur Creek, near the Doherty Drive bridge, include species typically associated with salt marsh habitat including cordgrass (*Spartina foliosa*), marsh lavender (*Limonium californicum*), pickleweed (*Salicornia virginica*), and frankenia (*Frankenia salina*). Approximately 300 feet upstream of the Doherty Drive bridge the salt marsh vegetation begins to transition into a more brackish marsh vegetation type. The primary indicator species of this change is salt marsh bulrush (*Scirpus maritimus*). Salt marsh and brackish marsh species occur with decreasing frequency further upstream. Where Larkspur Creek enters Subarea 3 at the south end of the Specific Plan area, the gravel creekbed is mostly unvegetated (Exhibit 4.5-2). Salt and brackish marsh habitat associated with Larkspur Creek is discussed in more detail below under Sensitive Biological Resources.

### ***Wildlife***

Wildlife use of Subarea 3 is typical for urban and suburban areas in Marin County. Because human access to much of Subarea 3 is restricted by permanent fencing, some common wildlife species that prefer large areas of open space with relatively low levels of use by humans (e.g., black-tailed deer [*Odocoileus hemionus*]) are more abundant here than in surrounding areas. Birds observed in Subarea 3 include northern mockingbird (*Mimus polyglottus*), American crow (*Corvus brachyrhynchos*), and house sparrow (*Passer domesticus*). Mammals inhabiting the Specific Plan area in addition to black-tailed deer include raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and opossum (*Didelphis virginia*).

Wildlife along Larkspur Creek is not expected to differ substantially from that found on surrounding uplands because the aquatic and associated marsh habitat is too narrow and is not of sufficient quality (i.e., as compared to the habitat found at the large wetland area along Corte Madera Creek) to support most animals that are typically associated with brackish and salt marsh habitat.

### **Sensitive Biological Resources**

Sensitive biological resources include those identified as such by CDFG, the California Native Plant Society (CNPS), and the U.S. Fish and Wildlife Service (USFWS). Sensitive biological resources for the Specific Plan also include those afforded protection under the City's General Plan.

### ***Special-Status Species***

Special-status species include plants and animals in the following categories:

- < species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA);
- < species considered as candidates for listing as threatened or endangered under ESA or CESA;

- < wildlife species identified by CDFG as California species of special concern and by USFWS as federal species of concern;
- < animals fully protected in California under the California Fish and Game Code;
- < plants listed as endangered or rare under the California Native Plant Protection Act; and
- < plants on CNPS's List 1B (plants rare, threatened, or endangered in California and elsewhere) or List 2 (plants rare, threatened, or endangered in California but more common elsewhere). The CNPS lists are used by both CDFG and USFWS in their consideration of formal species protection under ESA or CESA.

The California Natural Diversity Database (CNDDDB) was used as the primary source to identify previously reported occurrences of special-status species and sensitive habitats. The CNDDDB is a statewide inventory, managed by CDFG, that is continually updated with the location and condition of the state's rare and declining species and habitats. Although the CNDDDB is the most current and reliable tool for tracking occurrences of special-status species, it contains only those records that have been submitted to CDFG, and is not always completely up to date. A copy of the CNDDDB report for the USGS San Rafael quadrangle, which includes the entire Specific Plan area, is provided in Appendix D-4.

### Special-Status Plants

The CNDDDB (CNDDDB 2003) was queried using Geographic Information Systems (GIS) to identify special-status plant occurrences documented within a 2-mile radius of the Specific Plan area (Exhibit 4.5-3). Special-status plant species identified in the search include white-rayed pentachaeta (*Pentachaeta bellidiflora*), Marin knotweed (*Polygonum marinense*), and Point Reyes bird's-beak (*Cordylanthus maritimus palustris*). White-rayed pentachaeta, federally listed as endangered, was reported most recently in 1991 approximately 0.5 mile southwest and 0.5 mile north of the Specific Plan area (CNDDDB 2003). White-rayed pentachaeta is found in valley and foothill grasslands on open, dry, rocky slopes, often on soils derived from serpentine bedrock. Marin knotweed, a federal species of concern, was reported most recently in 1994 in saltgrass and pickleweed habitat along Corte Madera Creek north of the Specific Plan area (CNDDDB 2003). Marin knotweed occurs in coastal salt and brackish marshes. Point Reyes bird's-beak, a federal species of concern, was reported approximately 1 mile east of the Specific Plan area at the shore of San Francisco Bay. Point Reyes bird's-beak is restricted to coastal salt marsh. None of these special-status plant species have been reported within the Specific Plan area and none were observed during previous studies. None are expected because of the absence of suitable habitat.

### Special-Status Wildlife

Wildlife species listed as threatened or endangered that have been documented within a 2-mile radius of the Specific Plan area include California clapper rail (*Rallus longirsolatum obsoletus*),

Exhibit 4.5-3

California black rail (*Latterallus jamaicensis coturniculus*), and salt-marsh harvest mouse (*Reithrodontomys raviventris*). All three species are associated with tidal salt marsh and brackish marsh habitat.

California clapper rail is state and federally listed as endangered. It is also fully protected under §3511 of the California Fish and Game Code. This species prefers salt marshes intersected by numerous tidal channels and dominated by cord grass, pickleweed, and salt grass (USFWS 1984, Shuford 1993). California clapper rails have been reported in the vicinity of the Specific Plan area at Corte Madera Ecological Reserve and at the Muzzi Marsh which is approximately one mile from the Specific Plan area. A relatively stable population of breeding clapper rails is present in the reserve, which was included in the *Salt Marsh Harvest Mouse and California Clapper Rail Recovery Plan* (USFWS 1984) as an area to be managed for preservation and increase of existing rail populations. In 1987, approximately 30 breeding pairs were present, including 20–22 pairs in the northern portion of the reserve and eight pairs at Muzzi Marsh; in 1992, there were approximately eight pairs in the northern portion and four pairs at Muzzi Marsh. More recent systematic breeding season surveys have not been conducted, but 17 rails were recorded at Muzzi Marsh in 1999 (Evens, pers. comm., 2001). California clapper rail is not expected to occur in the Specific Plan area because the habitat requirements are not found in the portion of Larkspur Creek adjacent to the Specific Plan area. The tidal marsh vegetation in the adjacent Larkspur Creek is not of sufficient size or quality that would provide adequate cover, foraging habitat, or breeding habitat for this species. For instance, important factors for breeding (e.g., extensive cord grass stands, intertidal mudflats) do not exist adjacent to the Specific Plan area (Shuford 1993).

California black rail is state listed as threatened and is a federal species of concern. The California black rail is fully protected under §3511 of the California Fish and Game Code. Black rails prefer tidal marshes with dense pickleweed cover, but they also occur in brackish and freshwater marshes (Shuford 1993). Black rails are known to occur at the Corte Madera Ecological Reserve in winter, but they are scarce and irregular at this location during the breeding season. The most recent breeding record for California black rail is a territorial male in the northern portion of the reserve in 1982 (Evens, pers. comm., 2001). California black rail is not expected to occur in the Specific Plan area because the habitat requirements are not found in the adjacent portion of Larkspur Creek. The tidal marsh vegetation adjacent to the Specific Plan area is not of sufficient size or quality that would provide adequate cover, foraging habitat, or breeding habitat for the California black rail. For instance, important factors for breeding (e.g., dense growth of *Salicornia*, grasses, sedges, or other marsh vegetation) do not exist adjacent to the Specific Plan area (Shuford 1993).

Salt-marsh harvest mouse is state and federally listed as endangered and given fully protected status under §4700 of the California Fish and Game Code. Salt-marsh harvest mice inhabit salt marshes with dense cover dominated by pickleweed. Salt-marsh harvest mouse is known to occur at the Corte Madera Ecological Reserve, which contains the Muzzi Marsh. The *Salt Marsh Harvest Mouse and California Clapper Rail Recovery Plan* (USFWS 1984) states that the Corte Madera Ecological Reserve should be managed for the preservation and increase of

existing harvest mouse populations. Several salt-marsh harvest mice were captured in the northern portion of the reserve in 1975; surveys conducted in the late 1970s and 1980s did not result in any captures. The reserve was not considered a productive area for harvest mice when the *Salt Marsh Harvest Mouse and California Clapper Rail Recovery Plan* was developed. The most recent occurrence of salt-marsh harvest mouse on the reserve was documented in 1990 when one individual was captured in Marta's Marsh in the southern portion of the reserve. No systematic surveys have been conducted on the reserve in the past decade (Botti, pers. comm., 2001), but given the very small number of captures during earlier trapping efforts, salt-marsh harvest mouse appears to be rare in the area. Salt-marsh harvest mouse is not expected to occur in the Specific Plan area because suitable habitat does not exist in the adjacent Larkspur Creek. The salt-marsh harvest mouse inhabits the middle to upper levels of dense pickleweed stands in tidal and diked coastal salt marshes (Biosystem 1994), and this habitat does not exist adjacent to the Specific Plan area.

Several nonlisted special-status species (i.e., species of special concern) could occur in the Specific Plan area including salt marsh common yellowthroat (*Geothlypis trichas sinuosa*) and San Pablo song sparrow (*Melospiza melodia samuelis*). Salt marsh common yellowthroat and San Pablo song sparrow are both California species of special concern and federal species of concern. During the May 2003 survey, two song sparrows were observed along Larkspur Creek by EDAW biologists. The sparrows were not identified to subspecies but were presumed to be San Pablo song sparrows given that most wintering and transient subspecies would not be present at this time. Tidal marsh habitat associated with Larkspur Creek provides potential nesting habitat for both San Pablo song sparrow and salt marsh common yellowthroat.

### Special-Status Fish

The only special-status fish reported to the CNDDDB within a 2-mile radius of the Specific Plan area is tidewater goby (*Eucyclogobius newberryi*). Although not identified in the CNDDDB search results, federally listed anadromous fish including Coho salmon (*Oncorhynchus kisutch*) and steelhead (*O. mykiss*) are known to occur in nearby Corte Madera Creek, which is fed by Larkspur Creek.

Tidewater goby is federally listed as endangered and a California species of special concern. The tidewater goby was collected at Corte Madera Creek at the Kentfield bridge in 1961; the CNNDDB lists this occurrence as extirpated. Suitable habitat for the tidewater goby is limited to brackish water in the uppermost region of larger estuaries and coastal lagoons; this type of habitat is not present in the Specific Plan area.

Coho salmon and steelhead are federally listed as threatened; Coho salmon is also state listed as endangered. Both species are anadromous fish that spend their adult lives in the ocean and return to freshwater to spawn. Corte Madera Creek and its tributaries provide suitable habitat for both Coho salmon and steelhead, and both species may use the colder tributaries of Corte Madera Creek as spawning habitat; the most recent (1969) CDFG survey found more than 30,000 juvenile steelhead in the creek and its tributaries (Friends of Corte Madera Creek Watershed 2003). Corte Madera Creek was included by the National Marine Fisheries Service

(NMFS) in the San Francisco Bay unit of critical habitat for Coho salmon (USFWS 1999) and steelhead (USFWS 2000).

In 2002, the U.S. District Court for the District of Columbia approved a consent decree in *National Association of Home Builders, et al. V. Evans, et al.* withdrawing the designations of critical habitat for 19 listed Pacific Coast salmon and steelhead populations. Critical habitat for steelhead migrating through San Francisco Bay was vacated but critical habitat for Coho salmon was unaffected. The decree was in response to litigation challenging the process by which NMFS established critical habitat. This “critical habitat” designation had included all river reaches and their tributaries accessible to the protected species. A new critical habitat proposal is currently under development, but the biological importance of these habitat areas has not changed.

Although the Specific Plan area is located approximately 0.5 mile upstream of the confluence of Corte Madera Creek and Larkspur Creek, the Specific Plan is not considered important habitat for Coho salmon or steelhead. It is unlikely that either species enters Larkspur Creek, except for possibly short durations, because the creek does not provide spawning or migratory habitat or linkage to spawning habitat. Coho salmon and steelhead spawn in clear, cool, freshwater streams with gravel streambeds and well-oxygenated water. Brackish water such as that found in the lower reach of Larkspur Creek is not suitable spawning habitat for either species. The shallow, warm freshwater at the southern end of the Specific Plan area is also unsuitable for spawning.

## **Sensitive Habitat**

### ***Larkspur Creek***

Larkspur Creek is considered a sensitive habitat because it supports tidal marsh vegetation and an aquatic environment under the regulatory jurisdiction of CDFG and the USACE. A narrow but clearly defined band of tidal marsh vegetation lines both shorelines of Larkspur Creek for roughly 900 feet upstream of the Doherty Drive bridge (Gulman, pers. comm., 2002). Northern coastal salt marsh, a plant community type described by Holland (1986), grows along both banks of Larkspur Creek, up to a point roughly 300 feet upstream of the Doherty Drive bridge, at which point the salinity levels appear to drop and the plant community begins to intergrade with coastal brackish marsh (Appendix D-2). Both vegetation types are ranked by CDFG as high-priority community types, worthy of special consideration as sensitive or rare.

Although the tidal marsh vegetation associated with Larkspur Creek qualifies as a sensitive biological resource, its importance to native plant and wildlife species typically associated with this habitat is limited. Tidal marsh in the Specific Plan area is limited in extent, and degraded from non-native invasive plant species and human activity (e.g., trash dumping, soil erosion).

Larkspur Creek has been identified as a protected water of the United States. In November 1999, Diane Renshaw conducted a preliminary delineation of jurisdictional wetlands and other waters of the United States using the Routine Method and technical criteria specified in the

1987 USACE Wetlands Delineation Manual. Ms. Renshaw determined that Larkspur Creek and its adjacent linear wetlands meet the definition of “other waters of the United States” and come under USACE jurisdiction. Larkspur Creek is also under CDFG jurisdiction because it meets that agency’s definition of a stream regulated under §1600 of the California Fish and Game Code. Ms. Renshaw determined that there are no wetland areas or other waters of the United States on the upland portion of the Specific Plan area.

## **REGULATORY SETTING**

Important regulations that protect biological resources and are applicable to the biological resources in the Specific Plan area are discussed below.

### **Federal Regulatory Issues**

#### ***Federal Endangered Species Act***

Pursuant to ESA, USFWS and National Oceanic and Atmospheric Administration–Fisheries (NOAA Fisheries, formerly NMFS) have authority over projects that may affect the continued existence of a federally listed (threatened or endangered) species. Section 9 of ESA and federal regulations prohibit the take of federally listed fish or wildlife species (16 United States Code [USC] §1538[a][1][B]). Take is defined under ESA, in part, as killing, harming, or harassing (16 USC §1539[19]). Under federal regulations, take is defined further to include habitat modification or degradation where it actually results or is reasonably expected to result in death or injury to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

The take prohibition of ESA §9 applies only to listed species of fish and wildlife. Section 9(a)(2)(B) describes federal protection for endangered plants. In general, ESA does not protect listed plants located on nonfederal land (i.e., areas not under federal jurisdiction), unless such species are already protected by state law.

Section 7 of ESA outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat. Section 7(a)(2) requires federal agencies to consult with USFWS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat identifies specific areas that have the physical and biological features that are essential to the conservation of a listed species, and that may require special management considerations or protection.

For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under §10(a) of ESA. This section allows USFWS to permit the incidental take of listed species if such take is accompanied by a Habitat Conservation Plan (HCP) that includes components to minimize and mitigate impacts associated with the take.

ESA requires the development of recovery plans for listed species. Restoring endangered or threatened animal and plant populations to the point where they are again secure and self-sustaining is a primary goal of USFWS. Recovery plans describe the actions considered necessary for the conservation of listed species, establish criteria for downlisting or delisting listed species, and estimate time needed and costs associated with implementing the necessary recovery measures. USFWS has no specific legislative mandate to require federal, state, or local agencies or private entities to implement tasks for endangered and threatened species recovery; however, the implementation schedule, which is included in the recovery plan, indicates potentially “responsible parties” that may be interested in carrying out particular recovery tasks.

### ***Clean Water Act***

USACE regulates the placement of fill into waters of the United States under CWA §404. Waters of the United States include lakes, rivers, streams, and their tributaries, and wetlands. Wetlands are defined under §404 as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support (and do support, under normal circumstances) a prevalence of vegetation typically adapted for life in saturated soil conditions. Activities that require a permit under §404 include placing fill or riprap, grading, mechanized land clearing, and dredging. Any activity that would result in the deposit of dredge or fill material within the “ordinary high-water mark” (OHWM) of waters of the United States usually requires a permit, even if the area would be dry at the time the activity takes place.

The CWA and guidelines outlined in a memorandum of agreement (MOA) between EPA and USACE dated November 15, 1989, set forth a goal of restoring and maintaining existing aquatic resources. This MOA directed USACE to strive to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources, and for wetlands, to strive to achieve a goal of no overall net loss of values and functions. While focusing the no-net-loss policy on wetlands, the MOA also noted the value of other waters of the United States, such as streams, rivers, and lakes. Under the guidelines, all waters of the United States are afforded protection, including requirements for appropriate and practicable mitigation based on values and functions of the aquatic resources that will be affected.

In 2001, the U.S. Supreme Court ruled in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* that USACE has jurisdiction only over wetlands that are adjacent to navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction could affect interstate or foreign commerce, or tributaries to any of these waters. This ruling reversed roughly 2 decades of agency claims of jurisdiction over “isolated” water and substantially weakened federal protection over nontidal wetlands that are not part of, or adjacent to navigable waters of the United States. USACE is currently evaluating its jurisdiction over isolated wetlands on a case-by-case basis.

## **State Regulatory Issues**

### ***California Endangered Species Act***

Pursuant to CESA, a permit from CDFG is required for projects that could take a species that is state listed as threatened or endangered (California Fish and Game Code §2050 et seq.). Under CESA, take is defined as an activity that would directly or indirectly kill an individual of a species. The definition does not include “harm” or “harass” as in the federal act. As a result, the threshold for take under CESA is higher than under ESA (i.e., habitat modification is not necessarily considered take under CESA). The take of state-listed species incidental to otherwise lawful activities requires a permit, pursuant to §2081(b) of CESA. The state has the authority to issue an incidental take permit under California Fish and Game Code §2081, or to coordinate with USFWS during the §10(a) process to make the federal permit consistent with CESA.

As under federal law, listed plants have considerably less protection than fish and wildlife under California state law. The California Native Plant Protection Act (California Fish and Game Code §19000 et seq.) allows landowners to take listed plant species, provided that the owner first notifies CDFG and gives the agency at least 10 days to come and retrieve (and presumably replant) the plants before they are plowed under or otherwise destroyed.

### ***Section 1600 of the California Fish and Game Code***

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFG, pursuant to §§1600–1603 of the California Fish and Game Code. The Code states that it is unlawful for any person or agency to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFG, or to use any material from the streambeds, without first notifying CDFG of such activity. The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFG’s jurisdiction within altered or artificial waterways is based upon the value of those waterways to fish and wildlife. A CDFG Streambed Alteration Agreement must be obtained for any project that would result in impact on a river, stream, or lake.

### ***Fully Protected Species under the California Fish and Game Code***

Four sections of the California Fish and Game Code (Fish and Game Code §§3511, 4700, 5050, and 5515) list 37 fully protected species. These statutes prohibit take or possession at any time of fully protected species. CDFG is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species. CDFG has informed nonfederal agencies and private parties that they must avoid take of any fully protected species in carrying out projects.

## Local Laws and Ordinances

### *City of Larkspur General Plan*

The Environmental Resource Chapter of the City's General Plan includes the following goals and action programs:

**Goal 1.** Preserve and enhance a variety of open space features including the wetlands along the Bay and the creeks, wildlife habitats, view corridors, and other amenities which contribute to a sense of openness in Larkspur.

*Action Program [7].* If a development proposal requires the removal of trees or other vegetation of significant resource value or adversely impacts a wetlands area (as defined in implementing ordinances), require the developer to replace the lost resources.

*Action Program [8].* Avoid development in areas which contain rare or endangered species of plants or animals.

*Action Program [12].* Provide a buffer zone between natural habitats and human use areas (such as paths), and clearly mark the boundaries. Place restrictions on access to these sensitive areas by pets.

**Goal 4.** Protect open space and shoreline/marsh conservation areas from degradation as a result of public facility needs such as roads, sewers, or flood control.

### *Trees Protected by the City of Larkspur*

The City's Municipal Code regulates the removal of trees that meet the City's definition of mature or "heritage" trees. Under Chapter 12.16 of the Municipal Code, heritage trees are defined as either of the following:

- < a live tree or grove of live trees of historical significance specifically designated by official action of the City Council; or
- < any live tree that has a trunk with a circumference of 50 inches or more, measured at 24 inches above the natural grade.

Removal of a heritage tree or the excessive pruning of a heritage tree that causes the death of the tree is prohibited, unless a permit is obtained from the City Manager or his/her designee. Chapter 12.16 also specifically mentions that native trees such as redwood, oak, and madrone are especially important to the community. The City provides a Master Tree List, which encourages the planting of native trees, to be used as a guide when trees are planted on private property.

In the Specific Plan area, heritage trees are located along the western edge of Subarea 3, adjoining the former railroad right-of-way. For the Specific Plan, it is assumed that all heritage

trees would be required to be retained and incorporated into the design of the redeveloped areas as mandated by Policy 66 (Heritage Trees) in Chapter 7, Community Design and Community Design Standard 68, Trees to be Retained.

## 4.5.2 ENVIRONMENTAL IMPACTS

### THRESHOLDS OF SIGNIFICANCE

Implementation of the Specific Plan would have a significant impact if it were to result in:

- < a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS;
- < a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFG or USFWS;
- < a substantial adverse effect on federally protected wetlands as defined by CWA §404 (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- < substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impediment to the use of native wildlife nursery sites;
- < any conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- < any conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP; or
- < a substantial reduction of habitat for a fish or wildlife species, reduction in a fish or wildlife species population below self-sustaining levels, threat of elimination of a plant or animal community, or a reduction in the number or range of an endangered, rare, or threatened species.

### PROJECT-LEVEL IMPACTS

Impact  
4.5-1

**Loss of Habitat for Common Plant and Wildlife Species.** *Development of Subarea 3 would remove vegetation that currently supports a number of common plant and wildlife species. Many of the animals inhabiting the area would be displaced. Some displaced animals would be expected to successfully relocate to similar habitat elsewhere in the vicinity of the Specific Plan area, but some mortality would also be expected. Disturbed habitat similar to that which would be removed is abundant in Marin County. The Specific Plan would not substantially reduce the population of any plant or wildlife species. This impact is considered **less than significant**.*

The majority of the Specific Plan area consists of developed and disturbed areas, including commercial buildings such as the Sloat Nursery in Subarea 3 and parking areas. While some development, including several large greenhouses has occurred in Subarea 3, parts of the subarea are currently undeveloped and provide habitat for a number of common plant and wildlife species.

Grading and construction on vacant and undeveloped lands within the Specific Plan area would remove habitat for a number of common (i.e., nonsensitive) plant and wildlife species. Vegetation that would be cleared would be limited primarily to disturbed weedy plant species, but some small native trees and shrubs would also be removed; it is assumed that no mature trees would be removed and that all trees that meet the definition of heritage trees and trees identified in Specific Plan Community Design Standard 68 (Trees to be Retained) would be protected. Some animals may successfully relocate to nearby parcels with similar habitat, but some mortality is expected, and the local populations of some species in the Specific Plan area would be reduced.

Remaining open space would not be sufficient to accommodate the number of black-tailed deer currently inhabiting the site, and it is likely that the deer population would eventually be eliminated from the Specific Plan area. However, black-tailed deer are abundant through much of Marin County and are not considered sensitive by CDFG, USFWS, or the City. Development of the Specific Plan is not expected to substantially reduce the regional population of black-tailed deer.

Wildlife would also be adversely affected following buildout of the Specific Plan area by an increased population of people and their domestic animals. Domestic dogs would disturb wildlife along pedestrian trails and in the buffer area. Birds within the buffer area would be subjected to increased predation by domestic cats. These indirect impacts would further reduce some native and non-native wildlife populations. However, because wildlife affected in the Specific Plan area is, and would remain, common throughout Marin County, these impacts would be less than significant.

Soil contaminants, such as those described in Section 4.12, Hazards and Hazardous Materials, of this Revised Draft EIR, are present in the Specific Plan area and can also pose risks to plant and wildlife species through root uptake, foraging, and other activities. Development projects in the Specific Plan area may involve construction activities that would excavate and store contaminated soils on ground surface, increasing the risk of exposure of plants and animals to hazardous materials. However, the presence of contaminants, including lead, in Subarea 3 does not pose a significant threat to any plant or wildlife species; given that the exposure time to these contaminants is expected to be very limited, contaminant levels do not exceed those that would result in mortality or injury to wildlife. (See Section 4.12, Hazards and Hazardous Materials, for more information on potential impacts associated with contaminants.)

Impact  
4.5-2

**Effects on Larkspur Creek.** *Larkspur Creek supports salt and brackish marsh habitat, as well as fresh water habitat, considered sensitive by CDFG. Larkspur Creek also receives federal protection as a water of the United States and state protection as a stream as defined by §1600 of the California Fish and Game Code. The anticipated increase in urbanization and population could have both direct and indirect impacts on the biological resources associated with Larkspur Creek. This impact is considered **potentially significant**.*

Northern coastal salt marsh and coastal brackish marsh habitats are both located along the Larkspur Creek channel adjacent to (but not within the boundaries of) Specific Plan Subarea 3. Both habitats are ranked by CDFG as high-priority community types, worthy of special consideration as sensitive or rare. The freshwater habitat associated with the upper reach of Larkspur Creek is also considered sensitive habitat.

Several policies and standards from Chapter 4, Land Use, Chapter 6, Utilities, and Chapter 7, Community Design, of the Specific Plan apply to the sensitive habitat along Larkspur Creek. Objective LU-7 directs the City to retain and enhance open land with special natural habitats and/or scenic value. Community Design Policy 64 (Habitat Enhancement) states that the applicant should undertake a cooperative effort with the City and local environmental interests to enhance the natural habitat value of Larkspur Creek and adjoining protected open space. Possible enhancement actions include regrading of the northern portion of the creek to expand the wetland area. Community Design Standard 65 (Creek Setback) requires that a setback be maintained along Larkspur Creek to protect water quality and natural habitat. The setback standards include:

- < A buffer at least 50 feet wide from the top of the bank on the north/south reach of the creek at the eastern edge of the Specific Plan area. No building may be located closer than 50 feet from the top of the bank.
- < A buffer at least 25 feet wide from the top of the bank on the east/west reach of the creek at the southern edge of the Specific Plan area. No building may be located closer than 25 feet from the top of the bank.

Community Standard 67 (Creek Setback Ownership) requires that land lying within the Larkspur Creek setback be retained in common ownership to ensure appropriate management of the habitat and watercourse buffer. Policy 11 (Pollutants) in the Utilities Element directs the City to minimize discharge of surface pollutants to Larkspur Creek and Corte Madera Creek, and Policy 12 (Subarea 3 Drainage Improvements) directs the City to receive stormwater in detention areas before it is discharged into Larkspur Creek. Specific Plan Community Design Standards 73 (Grassy Swales) and 74 (Stormwater Detention) would allow water treatment and stormwater detention ponds in the buffer area.

Although the policies and standards in the Specific Plan would reduce impacts on sensitive biological resources associated with Larkspur Creek, impacts would remain potentially significant. Development of Subarea 3 would affect sensitive habitat associated with Larkspur Creek and the Specific Plan area if future development would result in the degradation of

water quality and tidal wetland vegetation during grading and construction from soil erosion caused by nearby construction activity. However, the preparation and implementation of Storm Water Pollution Prevention Plans (SWPPPs) would be required for future development proposals involving more than 1 acre of construction area prior to the issuance of building permits. SWPPPs require the use of Best Management Practices to reduce the release of sediments and other pollutants into Larkspur Creek (see Section 4.3, Geology and Soils, and Section 4.4, Hydrology and Water Quality, for further discussion). As such, construction and operational activities are not expected to result in substantial degradation of water quality and tidal wetland vegetation for some construction activities in the Specific Plan area. However, a SWPPP is not required for all construction activities; sensitive habitat could be directly and indirectly degraded. This is a potentially significant impact.

The Specific Plan calls for preservation of habitat associated with Larkspur Creek. However, the Specific Plan policies appears to less restrictive than General Plan Action Program 12, which directs the City to provide a buffer zone between natural habitat and human use areas. Specific Plan Community Design Policy 9 (Creek Resources) directs the City to make the creekside corridor accessible for passive use by the entire community, and Specific Plan Community Design Policy 10 (Open Space Network) suggests that the creek and creekside vegetation should be integrated with a system of pedestrian and bicycle routes, which would introduce human use into the buffer zone. These Specific Plan policies would reduce the potential to enhance habitat along Larkspur Creek and would allow development in Subarea 3 that could result in significant degradation of the existing sensitive habitat associated with the creek. For the reasons described above, this impact is considered potentially significant.

Impact  
4.5-3

**Effects on Terrestrial Special-Status Species.** *Eight special-status species have been recorded in the vicinity of the Specific Plan area. Development of Subarea 3 would not substantially reduce the amount or quality of potential habitat for any special-status species. This impact is considered **less than significant**.*

Special-status species known to occur in the vicinity of the Specific Plan area include California clapper rail, California black rail, salt-marsh harvest mouse, salt marsh common yellowthroat, San Pablo song sparrow, white-rayed pentachaeta, Marin knotweed, and Point Reyes bird's-beak.

Several of the special-status plants and animals known to occur in this region of Marin County are restricted to tidal wetlands. In the Specific Plan area, tidal wetland vegetation is confined to a narrow strip along the lower reach of Larkspur Creek. The salt marsh vegetation associated with this section of the creek is connected to more extensive and higher quality salt marsh habitat associated with Corte Madera Creek and the Corte Madera Ecological Reserve. The reserve is known to support three state and federally listed species: California clapper rail, California black rail, and salt-marsh harvest mouse. However, these species are not expected to occur in the Specific Plan area. This conclusion is based on the results of three separate habitat evaluations. Zander Associates (1998) determined that no suitable habitat for California clapper rail, California black rail, and salt-marsh harvest mouse exists in, or adjacent to, the Specific Plan area. Consulting Ecologist Diane Renshaw concluded (see Appendix D-2) that it

is possible that individuals of these species might at some time occur along Larkspur Creek but that, in general, the marsh is too small and its quality is dissimilar to the quality of the large wetland area along Corte Madera Creek to provide good habitat for any of these species. EDAW biologists concurred with the findings of Zander Associates and Renshaw, and concluded that California clapper rail, California black rail, and salt-marsh harvest mouse are not expected in the Specific Plan area and none of these species was identified in the Specific Plan area. Special-status species that may inhabit the Specific Plan area include salt marsh common yellowthroat and San Pablo song sparrow. No special-status plants are expected in the Specific Plan area because suitable habitat is absent.

Grading and construction activity associated with development of Subarea 3 would not have a substantial effect on any terrestrial special-status species. Indirect effects of new urban development on special-status species, including increased use of the subarea by residents and visitors, would also have a less-than-significant impact on terrestrial special-status wildlife species. The only special-status species that may inhabit the Specific Plan area are salt marsh common yellowthroat and San Pablo song sparrow. Habitat for both species is limited primarily to the tidal marsh vegetation located immediately adjacent to Larkspur Creek. Impacts on the tidal marsh area and adjacent upland habitat would not significantly reduce the amount of potential nesting or foraging habitat for salt marsh common yellowthroat or San Pablo song sparrow. This impact is considered less than significant.

Impact  
4.5-4

**Effects on Special-Status Fish.** *Three special-status fish species have been recorded in the vicinity of the Specific Plan area. Development of Subarea 3 would not substantially reduce the amount or quality of potential habitat for any special-status fish. This impact is considered less than significant.*

Special-status fish known to occur in the vicinity of the Specific Plan area include Coho salmon, steelhead, and tidewater goby. Tidewater goby is not expected in the Specific Plan area because suitable habitat is absent. Larkspur Creek provides low-quality habitat for Coho salmon and steelhead. Development of Subarea 3 is not expected to substantially affect habitat for Coho salmon and steelhead. The low-quality habitat in Larkspur Creek would be adequately protected by the proposed buffer and by other Specific Plan policies and standards intended to minimize impacts on Larkspur Creek. Mitigation Measure 4.3-3, Prepare and Implement Stormwater Pollution Prevention Plan of this Revised Draft EIR, if implemented would help to minimize impacts on salmon and steelhead in Larkspur Creek and downstream. However, due to the lack of high quality or suitable habitat, this impact is considered less than significant.

Impact  
4.5-5

**Effects on Fish and Wildlife Movement.** *Movement by terrestrial wild animals across the Specific Plan area would become more difficult as buildout of the Specific Plan progresses. Development would not affect any important migratory corridors or the long-distance movement of any wildlife across Subarea 3, as much of the parcel is fenced and the parcel is surrounded by existing development. Movement by resident and anadromous fishes in Larkspur Creek would not be affected. This impact is considered less than significant.*

Movement by terrestrial wildlife species across the Specific Plan area is currently limited to short-distance movements, as opportunities for long-distance movement is restricted by roads and other development surrounding the area. Subareas 1 and 2 are currently developed with urban uses and a park surrounded by urbanized uses; as such, further development of these two subareas would not affect wildlife movement. Development of Subarea 3 would eliminate much of the existing open space and thus restrict opportunities for wildlife movement across upland portions of the subarea, but this impact would only affect species that are considered common in Marin County. The Specific Plan area does not provide linkages between areas of important wildlife habitat or any recognized migratory corridors.

Larkspur Creek is connected to higher quality habitat downstream, including salt marsh habitat associated with Corte Madera Creek. This linkage would not be substantially affected, since the Specific Plan does not allow uses that would obstruct the flow of water in Larkspur Creek and would establish a buffer adjacent to the creek. As such, opportunities for wildlife movement would be preserved between Larkspur and Corte Madera creeks. Movement by resident and anadromous fish in Larkspur Creek would not be impeded. This impact is considered less than significant.

#### **CUMULATIVE IMPACTS**

As under project conditions (see Impact 4.5-2), the anticipated increase in urbanization and population under cumulative conditions could have both direct and indirect impacts on the biological resources associated with Larkspur Creek. The creek supports salt and brackish marsh habitat considered sensitive by CDFG. Therefore, this impact is considered cumulatively significant. There would be no other cumulative impacts related to biological resources as a result of implementation of the Specific Plan.

#### **4.5.3 MITIGATION MEASURES**

##### **PROJECT-LEVEL MITIGATION MEASURES**

**No mitigation measures are required for the following less-than-significant impacts.**

- 4.5-1: Loss of Habitat for Common Plant and Wildlife Species
- 4.5-3: Effects on Terrestrial Special-Status Species
- 4.5-4: Effects on Special-Status Fish
- 4.5-5: Effects on Fish and Wildlife Movement

The following mitigation measures are recommended for potentially significant impacts.

Impact  
4.5-2a, b  
mitigation

**Effects on Larkspur Creek.**

**Protect Sensitive Salt Marsh Habitat Associated with Larkspur Creek**

The City shall include the following new policies in the Specific Plan to protect and enhance habitat on the banks of Larkspur Creek and in the buffer area.

New Policy: The developer of Subarea 3 shall prepare and the City shall approve a native plant restoration plan for upland habitat for the Larkspur Creek buffer area. The restoration plan shall be developed by a qualified restoration ecologist, and shall include the following components: proposed methods to eliminate non-native, invasive species; a native plant planting and irrigation plan that considers and is compatible with any water treatment and stormwater detention ponds; a description of a proposed monitoring schedule; and performance standards to ensure that the restoration effort is successful. Target species for removal shall include French and Spanish broom, oleander, Himalayan blackberry, pampas or jubata grass, and fennel. Recommended replacement species include but are not limited to arroyo and Pacific willow, coyote bush, native bunchgrasses, toyon, and coast live oak. Implementation of the native plant restoration plan shall be a condition of any project approvals in Subarea 3. Monitoring reports prepared by a qualified restoration ecologist shall be submitted to the City annually for 5 years. The first report shall be due to the City 12 months following the start of implementation of the restoration plan.

New Policy: To minimize soil erosion and other secondary impacts on wildlife by pedestrians and cyclists, no bikeways or footpaths will be constructed within the Larkspur Creek buffer area. Permanent fencing designed to discourage people and their pets from entering restored habitat in the buffer area shall be installed along the outside edge of the buffer.

New Policy: Less than 12 months following the start of implementation of the restoration plan, signage that includes interpretive displays shall be posted on bikeways and footpaths alerting visitors to the nearby sensitive habitat and explaining the importance of protection of these areas. Signs shall also be posted requiring that all dogs be on leashes and kept out of the setback area.

**(b) Implement Mitigation Measure 4.3-3**

The City shall implement Mitigation Measure 4.3-3, Prepare and Implement an Erosion Control Plan.

## **CUMULATIVE MITIGATION MEASURES**

To protect sensitive salt marsh habitat associated with Larkspur Creek, which could be affected under cumulative as well as project conditions (see Impact 4.5-2), the City shall include in the Specific Plan the new policies described in Mitigation Measure 4.5-2 above. There would be no other cumulative impacts related to biological resources as a result of implementation of the Specific Plan; therefore, no further mitigation measures are required.

### **4.5.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION**

Following implementation of the above mitigation measures, no significant impacts on biological resources would remain.