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LOW-EFFECT HCP,
CALIFORNIA TIGER SALAMANDER
AND SEBASTOPOL MEADOWFOAM,
PROPOSED COMMUNITY SCHOOL SITE,
SANTA ROSA, CALIFORNIA

Prepared for:

Sonoma County Office of Education
5340 Skylane Blvd.
Santa Rosa, CA 95403
(707) 524-2600

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June 20, 2008

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SUMMARY

The Sonoma County Office of Education (SCOE) has applied for a permit pursuant to Section 10(a)(1)(B) of the Endangered Species Act of 1973 as amended (16 U.S.C. 153101544, 87 Stat. 884), from the U.S. Fish & Wildlife Service (Service) for the incidental take of the endangered California tiger salamander (CTS) (*Ambystoma californiense*) and impacts on seasonal wetland habitat, a broad class of wetlands on the Santa Rosa Plain, in which Sebastopol meadowfoam (*Limnanthes vinculans*) and other endangered plant species have limited potential to occur. The potential taking would occur incidental to construction of a proposed community school on a 4.42-acre site located in the southwest part of the City of Santa Rosa, Sonoma County, California. The project site comprises two parcels (A. P. Nos. 134-072-016 and -019) located at 3255 and 3261 Dutton Avenue, south of Bellevue Avenue.

The project site is rural residential and vacant land that provides estivation habitat for CTS and on which two adult CTS have been observed. No historic records of occurrence of Sebastopol meadowfoam are known from the proposed school site and recent previous surveys have been negative but some seasonal wetlands, i.e., vernal pools and interconnecting swales, do provide habitat for the species. Therefore, SCOE has applied for a Section 10(a)(1)(B) permit and proposed to implement the habitat conservation plan (HCP) described herein, which provides for measures for mitigating adverse effects on the CTS for activities associated with the elimination of 4.13 acres of estivation habitat, including 0.07 acres of seasonal wetland habitat necessary to construct the school facilities. SCOE requests that the Section 10(a)(1)(B) permit be issued to cover a period of five years.

This HCP summarizes information about the project and states the responsibilities of the Service and SCOE for implementing the actions described herein to benefit the CTS. The biological goal of the HCP is to replace the CTS and Sebastopol meadowfoam habitat affected by the proposed school project at a secure site, i.e., an approved CTS bank on the Santa Rosa Plain. SCOE will satisfy its mitigation requirements by acquiring 8.3 CTS credits from the Hazel Mitigation Bank and 0.15 Sebastopol meadowfoam credits from a Service-approved conservation bank. This HCP also describes measures that ensure the elements of the HCP are implemented in a timely manner as well as actions to be taken for unforeseen events, alternatives to the proposed permit action, and other measures required by the Service.

The proposed community school site abuts commercially and light industrially developed land in an area of continuing development. Adult CTS were observed on the site in 2003 but the site's continuing ecological viability is limited even over the short term. Because all seasonal wetland habitat is currently considered to provide potentially suitable habitat for listed plant species, including Sebastopol meadowfoam, the proposed school must be considered to have a potential impact on the species. The Service, however, has determined that a low-effect HCP for the proposed community school project is appropriate because:

1. Implementation of the plan would result in minor or negligible effects on federally listed species and their habitats;

2. implementation of the plan would result in minor or negligible effects on other

environmental values or resources;

3. the project is not growth-inducing, would not induce development of other projects that would result, over time, in cumulative effects on environmental values or resources that are considered significant.

Approval of this low-effect HCP would not have adverse effects on unique geographic, historic or cultural sites, involve unique or unknown environmental risks, or have significant adverse impacts on public health or safety.

The proposed community school project does not require compliance with Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), or the Fish and Wildlife Coordination Act, and it does not threaten to violate a Federal, State, local, or tribal law or requirement imposed for the protection of the environment. Finally, approval of the low-effect HCP for the proposed community school project would not establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.

The Service has, therefore, preliminarily determined approval of the low-effect HCP for the proposed community school qualifies for a categorical exclusion under the National Environmental Policy Act, as provided by the Department of Interior Manual (516 DM2, Appendix 1 and 516 DM 6, Appendix 1). Based on this preliminary determination, we do not intend to prepare further National Environmental Policy Act documentation. The Service will consider public comments in making its final determination on whether to prepare such additional documentation.

1.0. INTRODUCTION

This Habitat Conservation Plan (HCP) is for the proposed construction of a proposed community school on a small site located in a commercially developed area in southwest Santa Rosa. It has been prepared pursuant to the requirements of Section 10(a) of the Federal Endangered Species Act (ESA). The HCP is intended to provide the basis for issuance of a Section 10(a)(1)(B) permit to SCOE, the permit applicant, to authorize incidental take (see Section 6.0) of the California tiger salamander (CTS) (*Ambystoma californiense*), a federally listed threatened species, and elimination of wetland habitat that is classified as belonging to a broad class of seasonal wetland habitat with the potential to support Sebastopol meadowfoam (*Limnanthes vinculans*), a federally listed endangered species, that could potentially result from the grading and construction of the proposed facilities. The U. S. Fish and Wildlife Service (Service) has concluded that the project site is occupied CTS habitat and that the seasonal wetland habitat could provide potentially suitable habitat for Sebastopol meadowfoam. SCOE requests a permit for a period of five years commencing on the date of permit approval.

This HCP provides an assessment of the existing CTS and seasonal wetland habitat at proposed school site, evaluates the effects of the proposed project on the CTS and seasonal wetlands, and presents a mitigation plan to offset habitat losses and/or direct harm to the species that could result from grading and construction activities at the project site. The biological goal of this HCP is to mitigate for the affected CTS and seasonal wetland habitat at secure sites protected in perpetuity, i.e., approved conservation banks on the Santa Rosa Plain. The mitigation will be achieved through the acquisition of 8.3 CTS credits and 0.15 Sebastopol meadowfoam credit from a conservation bank approved by the Service.

1.1. PROJECT LOCATION

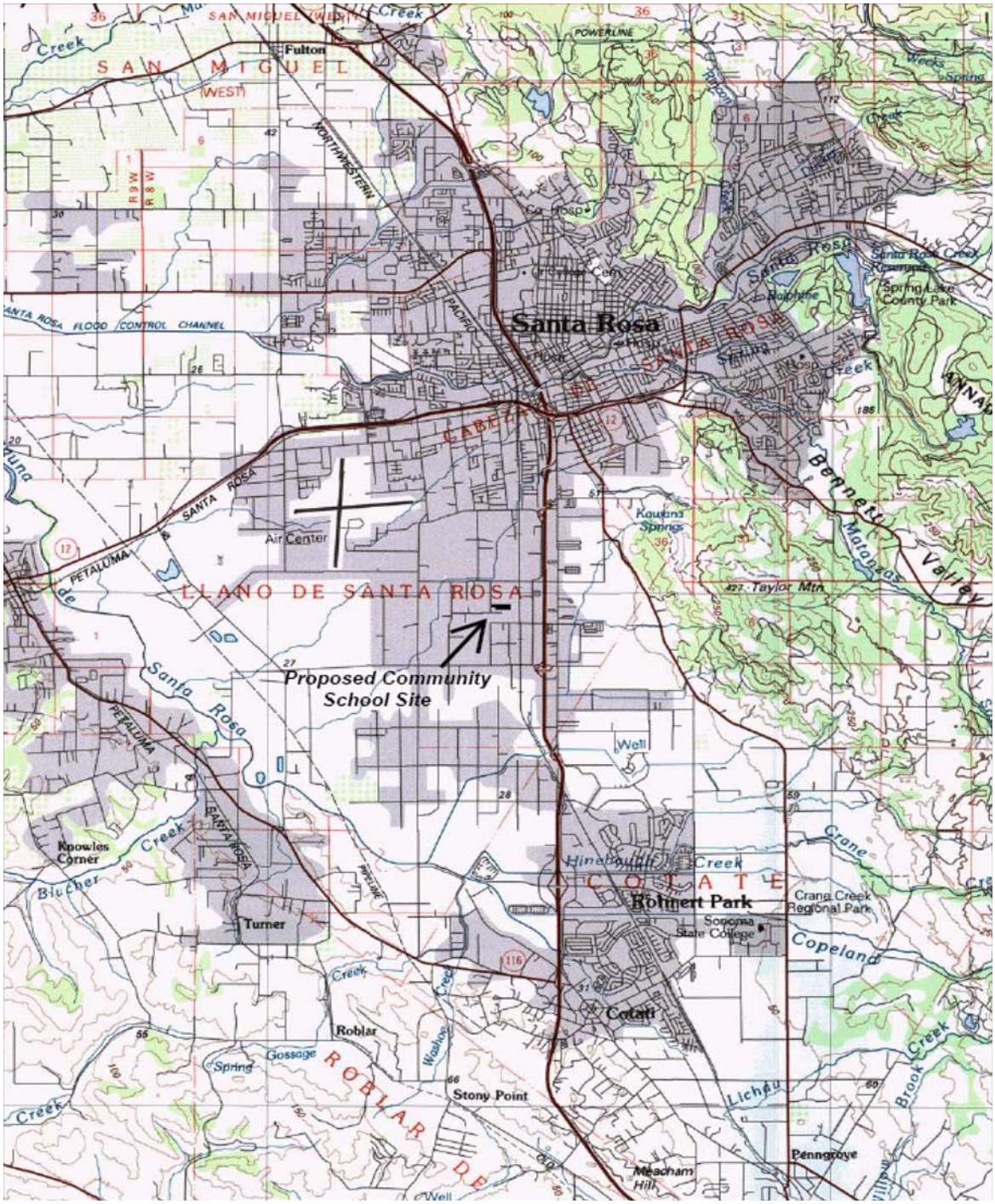
The community school project location is in the southwest part of the City of Santa Rosa (Figures 1 and 2), Sonoma County, California. The site is approximately 4.42 acres, comprising a 2.19-acre parcel (A. P. Nos. 134-072-016) and a 2.23-acre parcel (A. P. 134-072-019) located, respectively, at 3255 and 3261 Dutton Avenue, south of Bellevue Avenue.

1.2. PROJECT SITE CHARACTERISTICS

The proposed Community School site is a ruderal, non-native grassland that has been used in the past to graze horses and possibly livestock and, at one time, for orchards and poultry production. Recently, the site has been either mowed or disced annually to control fuels. Some time in the past, a deep hole was excavated along the south boundary of the site. It appears that the hole was excavated to bury debris and junk and may have been used periodically as a burn pit. Glass bottles, chunks of concrete and brick, wood, and other types of debris were encountered in pits excavated to examine the soils in the hole. The non-ornamental vegetation on the project site is a mosaic of non-native annual grassland and seasonal wetlands. The extent of wetlands is shown in Figure 3.

1.3. HCP HISTORY

None to date.



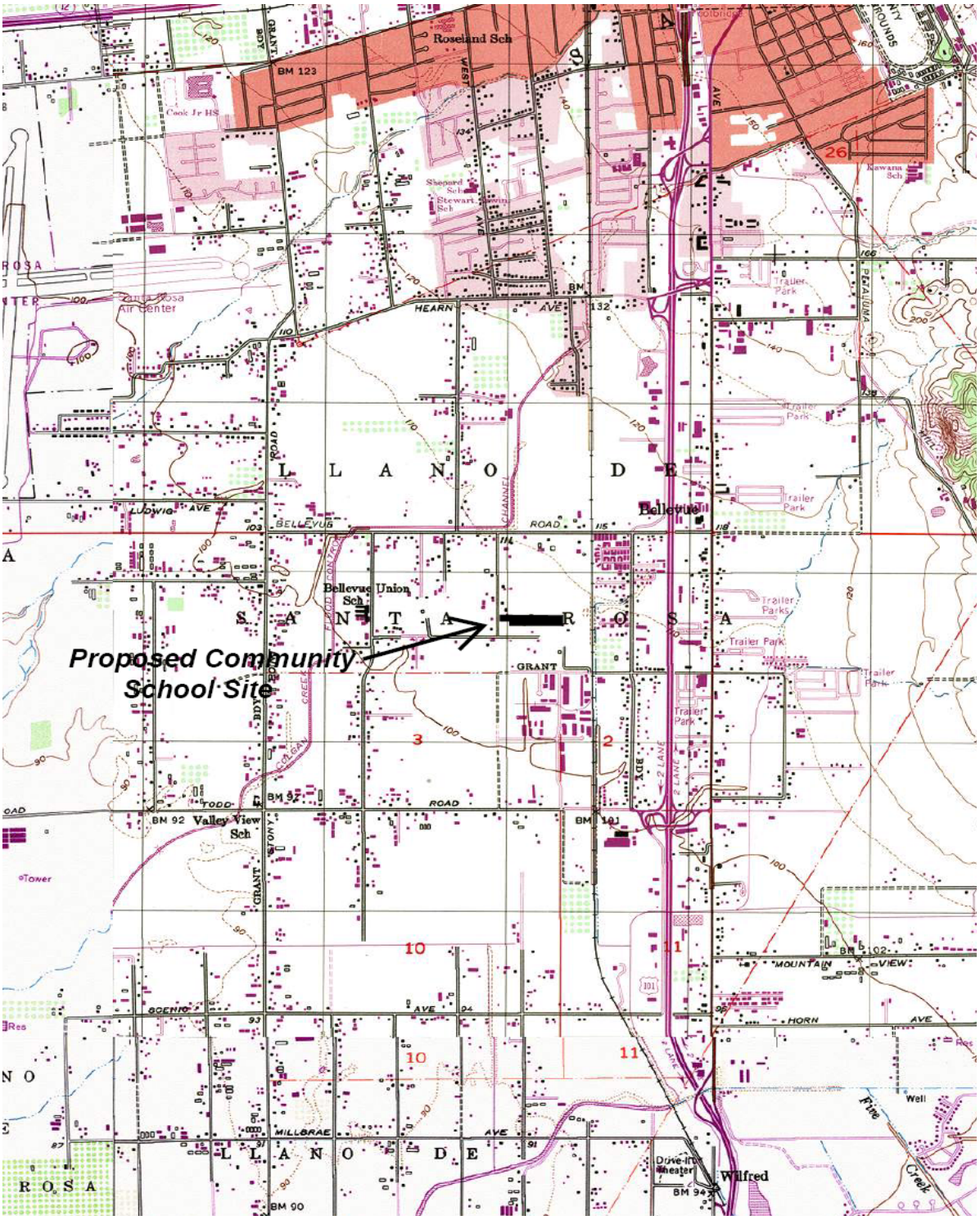
Applicant:
Sonoma County Office of Education
5340 Skylane Blvd.
Santa Rosa, CA 95403
(415-472-1086)

Project Site:
Proposed Community School Site
(A. P. Nos . 134-072-016, -019)
Santa Rosa, California

NORTH

Scale: 1:80,000

Figure 1.
Regional Location Map



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NORTH

Scale: 1:24,000

Figure 2.
Project Site Location

2.0. REGULATORY FRAMEWORK

2.1. FEDERAL REGULATIONS

2.1.1. Endangered Species Act of 1973

The Endangered Species Act of 1973 (ESA), 15 United States Code (U.S.C.) Section 1531 *et seq*., provides for the protection and conservation of various species of fish, wildlife, and plants that have been federally listed as threatened or endangered. Section 9 of the ESA prohibits the "take" of any fish or wildlife species that is listed as endangered under the ESA unless such take is otherwise specifically authorized pursuant to either Section 7 or Section 10(a)(l)(B) of the Act. Pursuant to the implementing regulations of the ESA, the take of fish or wildlife species listed as threatened is also prohibited unless otherwise authorized by the Service.

“Take” is defined in the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Federal regulation 50 CFR 17.3 further defines the term "harm" in the “take” definition to mean any act that actually kills or injures a federally listed species, including significant habitat modification or degradation. Activities otherwise prohibited under ESA Section 9 and subject to the civil and criminal enforcement provisions under ESA Section 11 may be authorized under ESA Section 7 for actions by federal agencies and under ESA Section 10 for non-federal entities.

Section 10(a) of the ESA establishes a process for obtaining an "incidental take permit," that authorizes non-federal entities to incidentally take federally listed wildlife or fish subject to certain conditions. “Incidental take” is defined by the ESA as take that is "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." Preparation of a conservation plan, generally referred to as a habitat conservation plan (HCP), is required for all Section 10(a) permit applications. The Service and the National Marine Fisheries Service (NMFS) have joint authority under the ESA for administering the incidental take program. NMFS has jurisdiction for anadromous fish species and the Service has jurisdiction for all other fish and wildlife species.

Section 7 of the Endangered Species Act requires all federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the ESA or result in the destruction or adverse modification of its habitat. Technically, issuance of an incidental take permit is an authorization for take by a federal agency; before it issues an incidental take permit, the Service must conduct an internal Section 7 consultation on the proposed HCP. The internal consultation is conducted after an HCP has been developed by a non-federal entity, in this case the Sonoma County Office of Education, and submitted for formal processing and review. Provisions of Sections 7 and 10 of the ESA are similar, but Section 7 requires consideration of several factors not explicitly required by Section 10. Specifically, Section 7 requires consideration of the indirect effects of a project, impacts on federally listed plants, and effects on critical habitat. At the conclusion of its internal consultation, the Service prepares a Biological Opinion that includes a determination as to whether or not the HCP will result in jeopardy to any listed species or adversely modify critical habitat.

The Section 10 process for obtaining an incidental take permit has three primary phases:

1. the HCP development phase;

2. the formal permit processing phase; and

3. the post-issuance phase.

During the HCP development phase, the project applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must include the following information:

1. impacts likely to result from the proposed taking of the species for which permit coverage is requested;

2. measures that will be implemented to monitor, mitigate for, and minimize impacts;

3. funding that will be made available to undertake such measures;

4. procedures to deal with unforeseen circumstances;

5. alternative actions considered that would minimize or not result in take; and

6. additional measures the Service may require as necessary or appropriate for purposes of the plan.

The HCP development phase concludes and the permit-processing phase begins when a complete application package is submitted to the appropriate permit-issuing office of the Service. The complete application package for a low-effect HCP consists of:

1. an HCP;

2. a completed permit application; and

3. a $100 permit fee from the applicant.

The Service must publish a “Notice of Availability” of the draft HCP in the Federal Register; prepare a Section 7 Intra-Service Biological Opinion; prepare a Set of Findings that evaluates the Section 10(a)(1)(B) permit application in the context of permit issuance criteria (see below); and prepare an Environmental Action Statement, a brief document that serves as the Service's record of compliance with NEPA for categorically excluded actions (see below). An implementing agreement is not required for a low-effect HCP. A Section 10 incidental take permit is granted upon determination by Service that all requirements for permit issuance have been met. Statutory criteria for issuance of the permit are as follows:

1. the taking will be incidental;

2. the impacts of incidental take will be minimized and mitigated to the maximum extent practicable;

3. adequate funding for the HCP and procedures to handle unforeseen circumstances will be provided;

4. the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild;

5. the applicant will provide additional measures that the Service requires as being necessary or appropriate; and

6. Service has received assurances, as may be required, that the HCP will be implemented.

After receipt of a complete application, an HCP and permit application is typically processed within several months. This schedule includes the Federal Register notice and public comment.

During the post-issuance phase, the permittee and other responsible entities implement the HCP and the Service monitors the permittee's compliance with the HCP and the long-term progress and success of the HCP. The public is notified of permit issuance through publication in the Federal Register.

2.1.2 National Environmental Policy Act of 1969

The National Environmental Policy Act of 1969, as amended (NEPA), requires that federal agencies analyze the environmental impacts of their proposed actions (i.e., issuance of an incidental take permit) and include public participation in the planning and implementation of their actions. Although Section 10 of the ESA and NEPA requirements overlap considerably, the scope of NEPA also considers the impacts of the proposed action on non-biological resources, such as water and air quality and cultural resources. Depending on the scope and impact of the HCP, NEPA compliance is obtained through one of three actions:

1. preparation of an Environmental Impact Statement (EIS) (generally for high-effect HCPs);

2. preparation of an Environmental Assessment (generally for moderate-effect HCPs); or

3. a categorical exclusion (allowed for low-effect HCPs).

The NEPA process helps Federal agencies make informed decisions with respect to the environmental consequences of their actions and ensures that measures to protect, restore, and enhance the environment are included, as necessary, as a component of their actions.

Low-effect HCPs, as defined in the Service's (1996b) Habitat Conservation Planning Handbook, are categorically excluded under NEPA, as defined by the Department of Interior Manual 516DM2, Appendix 1, and Manual 516DM6, Appendix 1.

2.2. CALIFORNIA REGULATIONS

The California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 *et seq*.), is analogous at the state's equivalent to the federal NEPA. CEQA applies to projects that require approval by state and local public agencies. It requires that such agencies disclose a project's

significant environmental effects and provide mitigation whenever feasible. This environmental law covers a broad range of environmental resources. With regard to wildlife and plants, those that are already listed by any state or federal governmental agency are presumed to be endangered for the purposes of CEQA and impacts to such species and their habitats may be considered significant.

SCOE IS the lead agency for CEQA review for the proposed school. To comply with CEQA, SCOE prepared and certified a Mitigated Negative Declaration for the proposed project (Appendix A).

2.3. SANTA ROSA PLAIN CONSERVATION STRATEGY

The Santa Rosa Plain Conservation Strategy has been developed to create a long-term conservation program sufficient to mitigate potential adverse effects on and contribute to the recovery of listed species, including the California tiger salamander, as a result of future development on the Santa Rosa Plain.

The Conservation Strategy identifies 10 conservation areas, eight of which are for CTS, the others being for the combination of CTS and listed plant species [Sebastopol meadowfoam, Sonoma sunshine (*Blennosperma bakeri*), Burke's goldfields (*Lasthenia burkei*), and the many-flowered navarretia (*Navarretia pleiantha*)], or listed plant species only. These conservation areas were designated to conserve the species throughout their distributional ranges and constitute the areas within which mitigation for project-related impacts to listed species is to be directed. The proposed community school site is not located in any of the proposed conservation areas.

The Conservation Areas are areas within which Preserve establishment is encouraged through the fee title dedication or through conservation easements. A site outside the Conservation Areas may be proposed as preserve if it is contiguous to a conservation area and satisfies several preserve selection criteria. For a CTS preserve, at least one breeding pond must be preserved or created for every 20 acres. Preserves are also intended to expand the number of secure occurrences of each of the listed plant species, protecting at least five extant plant occurrences in each of the conservation areas where plants are known to occur, and establishing ten new self-sustaining plant populations of each of the listed plants within their known range on the Plain.

Habitat improvement is anticipated in the Preserves, in the form of wetland creation, wetland restoration, and enhancement of wetland and upland habitat.

Preserve management plans will be required that identify activities necessary to maintain and enhance the wildlife, plant communities and wetland habitats, including management of water, vegetation and predators.

The Conservation Strategy sets mitigation requirements for CTS as well as for the listed plant species and seasonal wetland habitat. Once the Conservation Strategy is implemented, projects within 1.3 miles of a breeding site will be required to provide two acres of conservation to each one acre of impact as CTS mitigation. In the interim period, until the Conservation Strategy is implemented, CTS mitigation will range from one acre to three acres of conservation for each one acre of impact. Mitigation for impacts to wetlands will be determined through State and Federal permitting processes. Mitigation for listed plants will be applied pursuant to the programmatic biological opinion.

The Conservation Strategy provides projects outside of 1.3 miles from a known breeding site, but with potential for presence of CTS, the option to mitigate by contributing to a species fund. The species fund will provide conservation benefits to the CTS. This will preclude the need to conduct two years of protocol level surveys in areas not known to be occupied, but within the potential range of the CTS.

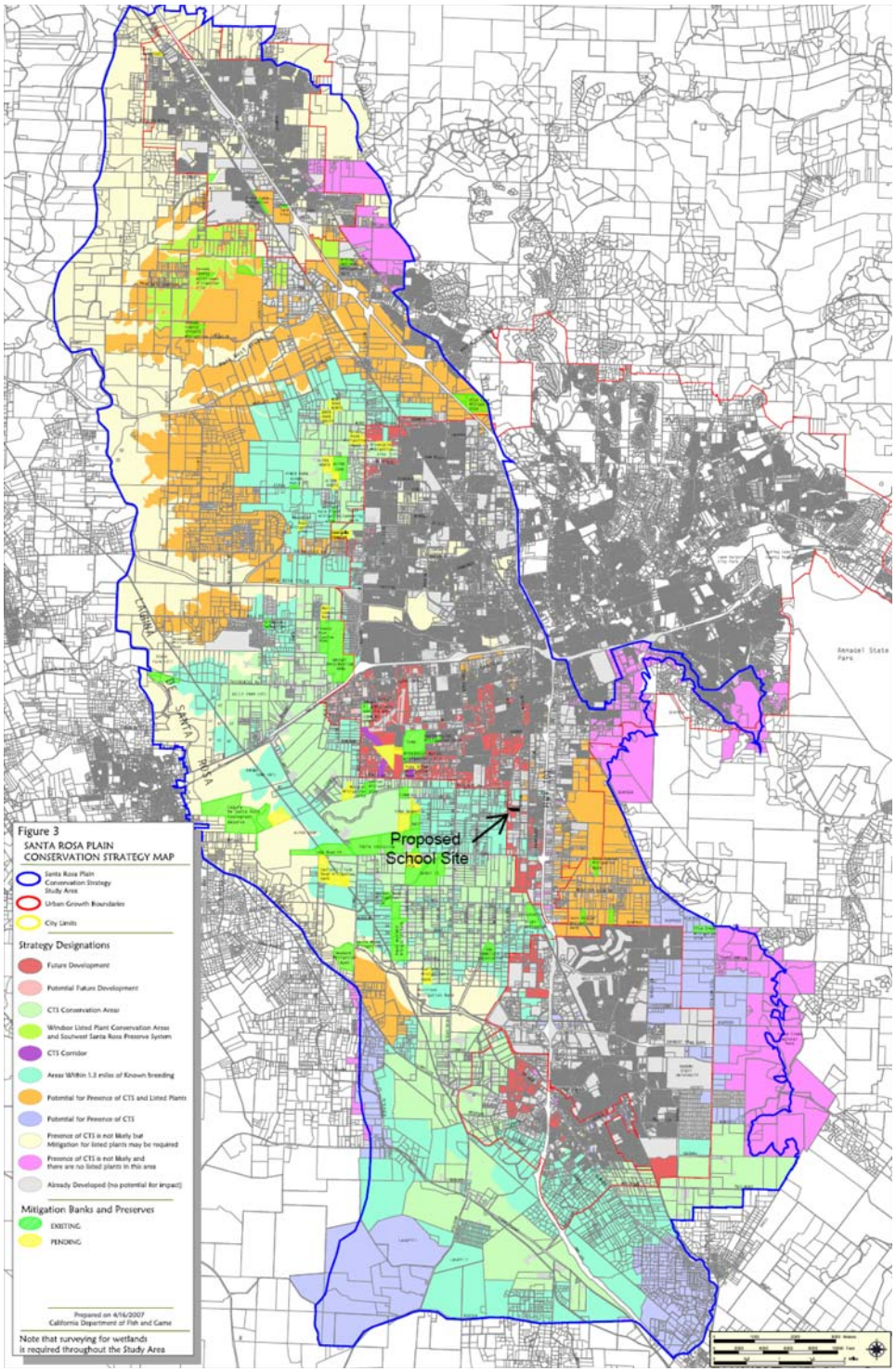
Based on the programmatic biological opinion for the Plain issued by the Service on July 17, 1998, projects filling potential endangered plant habitat must mitigate by preservation of an equal acreage of existing occupied habitat on a 1:1 ratio. For sites that have documented extant population(s) of an endangered plant, projects are required to preserve existing occupied habitat on a 2:1 basis. Generally, mitigation under the programmatic biological opinion must occur within the same conservation unit in which the impacts occur.

Under the existing programmatic biological opinion there are three plant units. The northern unit extends from the Town of Windsor to Airport Boulevard. The central unit extends from Airport Boulevard to Highway 12 and the southern unit extends from Highway 12 to Highway 116 (see Figure 1 in Appendix B of the Conservation Strategy). The proposed school site is located in the southern unit. Meeting the preservation requirement for plant mitigation is problematic due to the scarcity of potential mitigation sites for Sonoma sunshine and Burke's goldfields in the northern unit. Consequently, mitigation in the Windsor area has occurred in the central unit.

A revised programmatic biological opinion will address current conditions on the Plain and reflect research on the listed plants and CTS. In addition, the revised programmatic biological opinion will focus on restoration and/or creation of habitat for Sonoma sunshine and Burke's goldfield, both of which have much more limited distributions on the Plain than Sebastopol meadowfoam.

In January 2005, a group referred to as the Implementation Committee was formed to develop a plan to implement the Conservation Strategy. This group currently comprises representatives of local jurisdictions, the Service, California Department of Fish and Game (CDFG), and the agricultural, environmental and private landowner communities and is preparing a plan that, when adopted by the various agencies, will provide the basis for implementation of the Conservation Strategy. Implementation will require funding, the most likely and certain source being direct mitigation, i.e., private-sector establishment of preserves. Other potential sources include land acquisition grants, HCP land acquisition grants, private foundation grants, State revolving funds, Sonoma County Agriculture and Open Space Protection District funds, Legislative and Congressional appropriations, and private stewardship programs.

The limits of the Santa Rosa Plain as established in the Conservation Strategy and the location of the project site are shown in Figure 3 and the CTS habitat designations for the project site and surrounding lands are shown in Figure 4.



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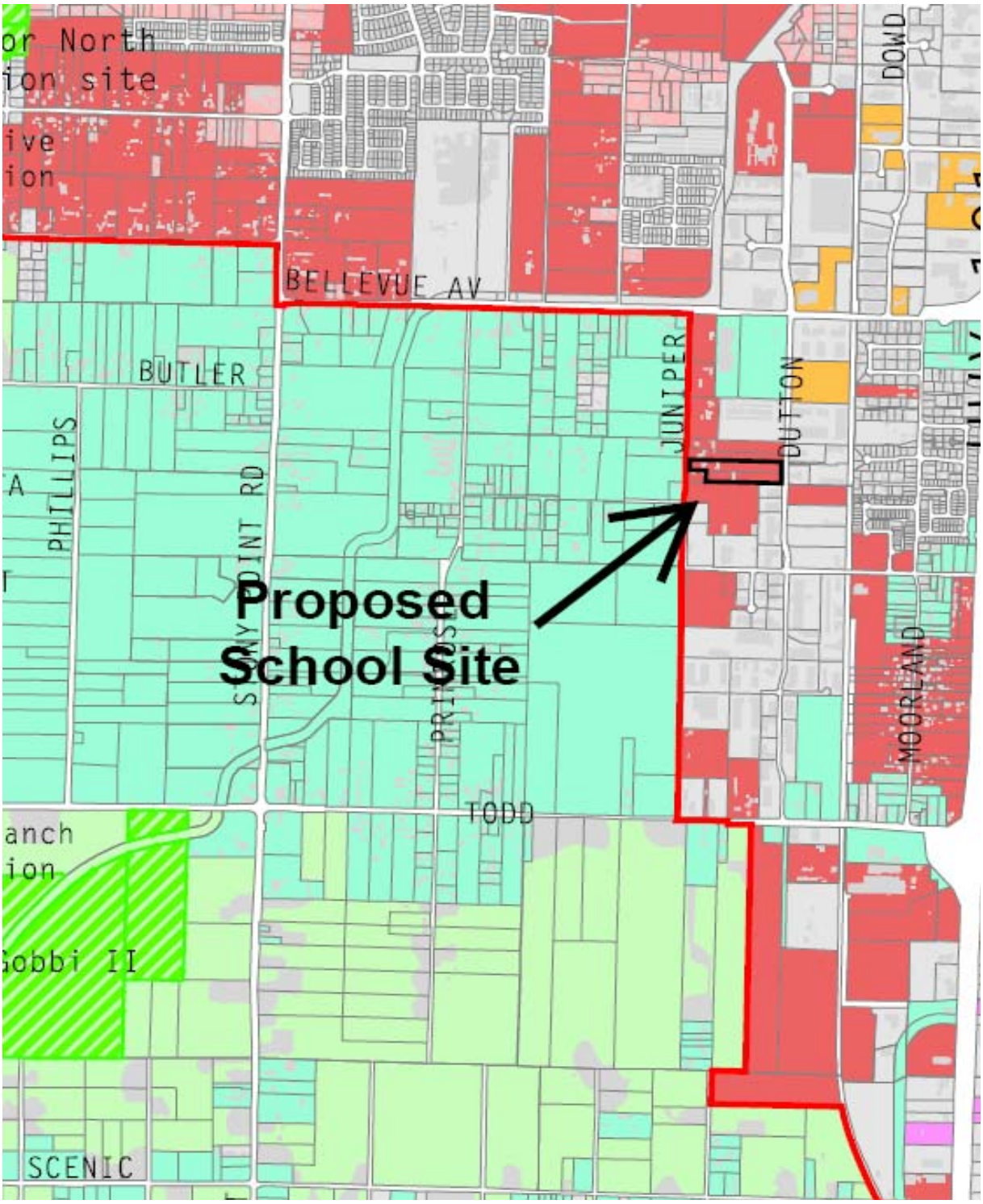
Santa Rosa, California

NORTH

Scale: 1:80,000

Figure 3.
Santa Rosa Plain Conservation Strategy Study Area and the Location of the Proposed School Project Site with Respect to the Study Area Boundaries



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Scale: 1:8,000

Figure 4.
Designated CTS Habitat Characteristics
for the Project Site
and Surrounding Lands

3.0. PROJECT DESCRIPTION

3.1. PROJECT DESCRIPTION

The proposed community school will provide an alternative learning environment for 12- to 18-year-old students that encounter difficulties in a traditional school setting and/or exhibit negative behavior patterns in either school or the community at large. The school will include 21,000 sf of buildings, play fields, and attendant facilities. The buildings will include a 1,000-sf administration building, two large classrooms with a combined area of 6,000 sf, two medium-sized classrooms with a combined area of 3,000 sf, five standard classrooms with a combined area of 5,000 sf, and a 5,700-sf multi-use room. The multi-use room will include a restroom, a kitchen, a stage and assembly area, and an indoor play area. Outdoor Play areas will include two basketball courts and a field that will serve as a combined soccer field-baseball field.

Entry access and 25 parking spaces will be provided along with car pickup-drop off areas. Figure 5 shows the proposed project.

The existing residence and warehouse/garage in the northwest quarter of the site will be retained for administrative purposes and to provide storage facilities.

SCOE plans to construct the proposed school in 2009.

3.2. PERMIT HOLDER/PERMIT BOUNDARIES

SCOE will hold the Section 10(a)(1)(B) permit. Ms. Denise Calvert, Assistant Superintendent for Business, is the contact person at Sonoma County Office of Education for this HCP. Ms. Calvert may be reached via regular mail at:

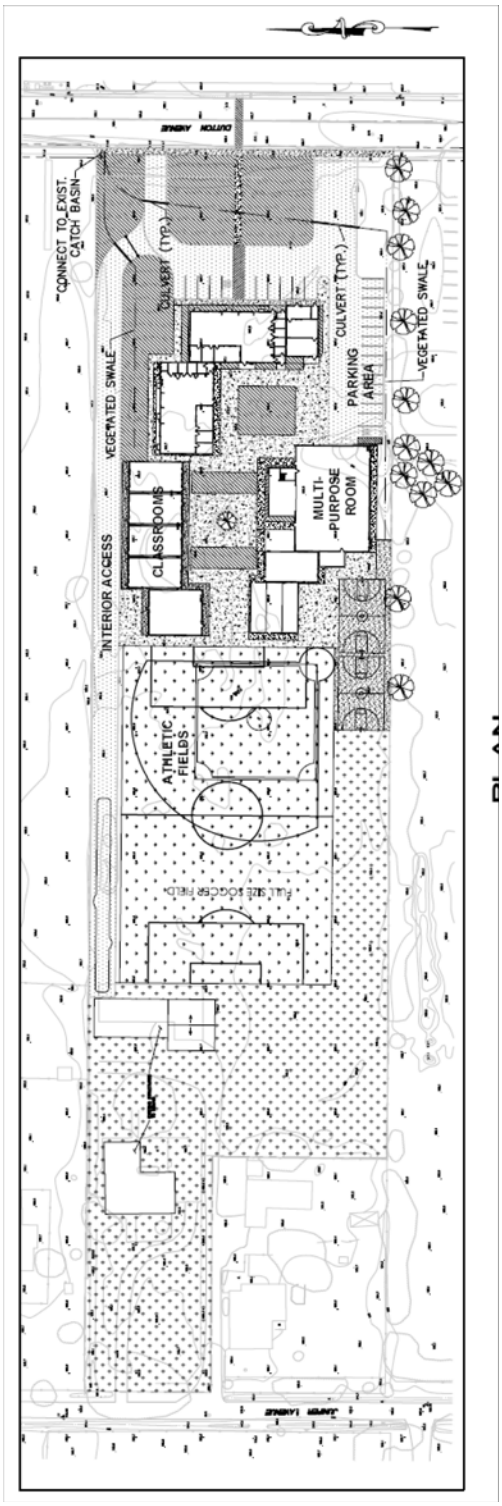
Sonoma County Office of Education
5340 Skylane Blvd.
Santa Rosa, CA 95403
(707) 524-2600

or via email at dcalvert@scoe.org.

The entire project site is included within the City of Santa Rosa.

2.3. ZONING AND SURROUNDING LAND USES

The project site is located just inside the City Limits of the City of Santa Rosa. The project site currently is zoned “IG” (General Industrial) and the land use designation is “Limited Industrial.” The current on-site land uses are approximately 20 percent scattered development (rural residential on the western third of the north parcel) and 80 percent non-irrigated agriculture (remainder of the north parcel and the south parcel). The adjacent land to the west and north is rural residential with scattered development (essentially the same as the project site, and the land along the southeast margin and east boundary are light industrial (intensely developed) (ORCO Construction Supply, CalPly Drywall and Plastering, Storage master Self Storage, Cokas-Diko Warehouse and Outlet, Shook and Waller Construction, and United Rentals all operate businesses on properties along Dutton Avenue to the north, east, and south of the school site).



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Scale: 1:2,400

Figure 5.
Project School Project

4.0. ENVIRONMENTAL SETTING

4.1. SANTA ROSA PLAIN

The project site is located in the southern half of the Santa Rosa Plain and with the Study Area for which the Santa Rosa Plain Conservation Strategy has been developed. The site is located at the extreme southern limit of the City of Santa Rosa in an area that is zoned "IG" (General Industrial) and for which the land use designation is "Limited Industrial." The adjacent land to the west and north is rural residential. Land further to the north, to the east, and to the south has been intensely developed to commercial and light industrial uses. ORCO Construction Supply, CalPly Drywall and Plastering, Storage master Self Storage, Cokas-Diko Warehouse and Outlet, Shook and Waller Construction, and United Rentals all operate businesses on properties along Dutton Avenue to the north, east, and south of the site.

4.2. ON-SITE HABITAT TYPES

The proposed school site is a ruderal annual grassland with pair of artificial, degraded, and very low-quality seasonal wetlands along the property lines. Lawn and ornamental vegetation is present around the residence in the western part of the northern of the pair of parcels.

4.2.1. Seasonal Wetlands

Two seasonal wetland areas on the site have a combined area of approximately 0.07 acres (Figure 6). Both wetlands are very degraded as a result of continual disturbance and their shapes and locations suggest that they are of artificial origin. The smaller of these wetlands (840 sf) occurs along the north site boundary. It is a linear, artificial feature along the fence line dominated by ryegrass (*Lolium perenne*) and Mediterranean barley (*Hordeum marinum gussoneanum*). Subdominant species include bristly oxtongue (*Picris echioides*) and curly dock (*Rumex crispus*). Harding grass (*Phalaris aquatica*) is becoming established in and around it and would, in the absence of continued disturbance be the dominant species within a few years. This non-depressional wetland may hold water for short periods but no evidence of inundation was observed in 2007.

The larger wetland (2,355 sf) occurs along the south property line in a hole excavated to bury debris and along a narrow extension to the west. A small, non-native willow (*Salix* sp.) tree has become established at the northern margin of the hole and common frog-fruit (*Phyla nodiflora*), manna grass (*Glyceria occidentalis*), spiny clotbur (*Xanthium spinosum*), and an unidentified grass (just beginning top growth in June) have become established throughout the bottom. No native plant species found in vernal pools were present in 2007. The hole in which this wetland has developed abuts the fence line and may receive water in the form of sheet flow from the paved area at the rear of the adjacent commercial property.

4.2.2. Upland Annual Grassland

Upland vegetation is essentially a ruderal annual grassland. The annual grassland on the site is typical of the type on disturbed areas on the Santa Rosa Plain, particularly in small-parcel, rural residential areas. The annual grassland supports the typical array of annual introduced grasses and

Applicant: Sonoma County Office of Education 5340 Skylane Blvd. Santa Rosa, CA 95403 Project Site: Proposed Community School Site (A. P. Nos . 134-072-016, -019) Santa Rosa, California	Approximate Scale: 1:2,400	Figure 6. Wetland Habitat on the Project Site

forbs. The dominant species are ryegrass, wild and slender oats (*Avena fatua* and *A. barbata*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), wild radish (*Raphanus sativus*), six-weeks fescue (*Vulpia bromoides)*, rough cat's ear (*Hypocheris radicata*), several thistle species (*Centaurea calcitrapa* and *Cirsium vulgare*), lamb's quarters (*Chenopodium album*), Harding grass, bull mallow (*Malva nicaeensis*), hare barley (*Hordeum murinum*), and fillarees (*Erodium botrys* and *E. cicutarium*).

4.2.3. Special-status Plant Species

Target special-status species were those listed in the Santa Rosa Plain Vernal Pool Ecosystem Preservation Plan (CH2M Hill 1998) and identified in California Natural Diversity Data Base records. Target species include those species whose range includes the region and which, by virtue of their known occurrence in the vicinity, were considered to have the potential to occur on the site given their habitat requirements and the types of habitat present. They are listed with their status and habitat affinities in Table 1.

Table 1. Special-status Plant Species with the Potential to Occur on the Proposed Community School Site Santa Rosa, California

Scientific Name **Common Name**	**Status**	**Habitat Affinities**	**Blooming Period**	**Notes**
Alopecurus aequalis var. *sonomensis* Sonoma alopecurus	USFWS: C2 CDFG: - CNPS: 1A	Marshes, swamps, and scrub.	Feb-Apr	No suitable habitat occurs on the site. The species was not found.
Amsinkia lunaris Bent-flowered fiddleneck	USFWS: - CDFG: - CNPS: 4	Annual grassland.	Mar-Jun	A limited area of marginally suitable annual grassland habitat is present. The species was not found.
Blennosperma bakeri Sonoma sunshine	USFWS: E CDFG: E CNPS: 1b	Vernal pools and vernal swales.	Mar-Apr	No suitable habitat is present on the project site.
Cuscuta howelliana Bogg's Lake dodder	USFWS: - CDFG: - CNPS: 4	Vernal pools.	Mar-Apr	Parasitic species on many vernal pool species, particularly Eryngium (not present). Species not found.
Downingia humilis Dwarf downingia	USFWS: - CDFG: - CNPS: 1B	Vernal pools.	Mar-Apr	No suitable habitat is present in the on-site seasonal wetlands. Species not observed.
Lasthenia burkei Burke's goldfields	USFWS: E CDFG: E CNPS: 1B	Vernal pools and vernal swales.	Mar-Apr	No suitable habitat is present in the on-site seasonal wetlands. Species not observed.
Limnanthes vinculans Sebastopol meadowfoam	USFWS: E CDFG: E CNPS: 1B	Vernal pools and vernal swales.	Mar-Apr	No suitable habitat is present in the on-site seasonal wetlands. Species not observed.

Scientific Name **Common Name**	**Status**	**Habitat Affinities**	**Blooming Period**	**Notes**
Navarretia pleiantha Many-flowered navarretia	USFWS: C1 CDFG: E CNPS: 1B	Vernal pools and vernal swales.	Mar-Apr	No suitable habitat is present in the seasonal wetlands on the project site. The species was not observed.
Perideridia gairdneri ssp. *gairdneri* Gairdner's yampah	USFWS: C2 CDFG: - CNPS: 1B	Vernal pools and saturated seasonal wetland habitat.	Jun-Jul	Suitable soils are not present and because the soils are not clay. Species not observed.
Pogogyne douglasii ssp. *parviflora* Small-flowered mesamint	USFWS: C3c CDFG: - CNPS: 1B	Vernal pools and inundated seasonal wetland habitat including swales.	May-Jul	No suitable habitat is present in the seasonal wetlands on the project site. The species was not observed.
Ranunculus lobbii Lobb's aquatic buttercup	USFWS: - CDFG: - CNPS: 4	Vernal pools and ponded reaches of swales.	Feb-Apr	Marginally suitable habitat is present in the depression but the species was not observed.
Trifolium amoenum Showy indian clover	USFWS: C2* CDFG: - CNPS: 1A	Annual grassland.	Apr-Jun	The annual grassland on the site provides marginally suitable habitat but the species was not observed.

Notes:
Agencies - USFWS = U.S. Fish and Wildlife Service, CDFG = California Department of Fish and Game, CNPS = California Native Plant Society. Federal Designations: E = Listed as Endangered by the Federal Government. T = Listed as Threatened by the Federal Government. C1 = Category 1 Candidate. C1* = Sufficient data are on file to support listing but taxon presumed extinct. C2 = Category 2 Candidate. C2* = Sufficient data to support federal listing lacking, taxon presumed extinct. State Designations: E = Listed as Endangered. R = Listed as Rare. CNPS Designations: List 1A = Species presumed extinct in California. List 1B = Species rare and endangered in California and elsewhere. List 2 = Species rare and endangered in California but more common elsewhere. List 3 = Species for which additional data are needed. List 4 = Species of limited distribution.

Distributional information for the three species listed as endangered by the federal government -- Sonoma sunshine (*Blennosperma bakeri*), Sebastopol meadowfoam (*Limnanthes vinculans*), and Burke's goldfields (*Lasthenia burkei)* -- was obtained from Appendix B to the Vernal Pool Ecosystem Preservation Plan (CH2M Hill 1996). Information on distributional and habitat requirements of the upland species was obtained from flora (Mason 1975, Munz and Keck 1968), other reports and surveys conducted for special-status species on the Santa Rosa Plain and properties in the vicinity, and the California Native Plant Society's list of rare and endangered plant species in the state (Skinner and Pavlik 1994).

Surveys for special-status plant species were conducted on A. P. No. 134-072-016 in 1993 (Northen 1993) and in 2000 (Jane Valerius Environmental Consulting 2001). Three field visits were made in 1993 and the survey appears to have been conducted according to current U. S. Fish and Wildlife Service protocol requirements. Visits were also made to the site in by Valerius in 1999, 2000, and 2001. Field visits were made to A. P. No. 134-072-019 in 1999, 2000 and 2001, with one visit each year (May 14, 1999; May 26, 2000; April 8, 2001) within the appropriate window for special-status plant species that occur in wetland habitat. Target special-status species in these surveys were those listed in the draft Santa Rosa Plain Vernal Pool Ecosystem Preservation Plan in preparation for the Santa Rosa Plain Vernal Pool Task Force (CH2M Hill 1996) and identified in CNDDB records.

The results of these surveys were negative. An additional protocol-level survey for special-status plant species is proposed for the spring of 2008.

4.2.4. Special-status Mammal and Amphibian Species

Special-status wildlife species on the Santa Rosa Plain include the California tiger salamander (*Ambystoma tigrinum californiense*) (CTS), the California freshwater shrimp (*Syncaris pacifica*), the California red-legged frog (*Rana aurora draytonii*), the western pond turtle (*Clemmys marmorata marmorata*), and the California linderiella (*Linderiella occidentalis*).

4.2.4.1. California tiger salamander. Adult-juvenile surveys for CTS were conducted in the winter of 2003 (Jon Winter & Associates 2003). Two adult males were captured in pitfall traps along the north project site boundary but no larvae were observed in the pond. The deep hole may be inundated for a sufficient period to provide CTS breeding habitat and the annual grassland habitat provides potential estivation habitat; no gopher mounds were observed and whether or not the grassland functions as estivation habitat depends heavily upon the availability of estivation sites, many of which would be eliminated as part of an annual discing process to control fuels.

Other CTS observations have been made almost directly west of the Community School Site between Juniper and Primrose Avenues, and directly to the south approximately 300 feet south of West Robles Avenue. The proposed Community School site is within 2,200 feet of each of these off-site observations.

The total area of the project site is approximately 4.42 acres. Approximately 0.29 acres is hardscape, i.e., an existing residence, driveway and turn-around areas, and a large warehouse. Therefore, the area of CTS habitat is estimated to be approximately 4.23 acres.

4.2.4.2. Other special-status species. According to a study conducted in support of the Huichica Creek (Napa County) Stream Assessment report (U.S.D.A. Soil Conservation Service no date) for Huichica Creek, the California freshwater shrimp occurs in sandy and gravelly reaches of streams, typically inhabiting pools found below undercut banks and exposed tree roots. No creek habitat occurs on the proposed Community School site and, therefore, no suitable habitat is present.

The California red-legged frog is a pond frog that inhabits primarily marshes, streams, lakes, reservoirs, ponds, and other permanent water bodies but can use ephemeral water sources as well. No suitable habitat occurs on the proposed Community School site. Furthermore, according to the Vernal Pool Ecosystem Preservation Plan, there are no known occurrences of the California red-legged frog on the Santa Rosa Plain as it was defined in the Plan (CH2M Hill 1996).

The western pond turtle inhabits areas with permanent or semi-permanent water, i.e., marshes, streams, drainage canals, and irrigation ditches. They require basking sites such as partially submerged logs, vegetation mats, rocks, or mud banks. No suitable habitat for the pond turtle occurs on-site. The seasonal wetlands on the site are unlikely to pond water into June. The deep artificially excavated basin may provide suitable habitat for vernal pool fairy shrimp.

No surveys for special-status invertebrates have been conducted and no listed invertebrate species are known to occur on the Santa Rosa Plain according to the Vernal Pool Task Force's Vernal Pool Ecosystem Preservation Plan (CH2M Hill 1996).

4.3. COVERED SPECIES: CALIFORNIA TIGER SALAMANDER

The species addressed in this HCP and covered by the HCP's associated Section 10(a)(1)(B) permit

includes one federally listed animal, the California tiger salamander, which is known to occur at the project site.

4.3.1. Conservation Status

The Sonoma County Distinct Population Segment of the CTS was emergency listed as endangered on July 22, 2002 (67 FR 47726). The CTS was listed as endangered on March 19, 2003 (68 FR 13497). The CTS was listed as threatened on August 4, 2004 (69 FR 47212). This latter listing changed the status of the Santa Barbara and Sonoma county populations from endangered to threatened. On August 10, 2004, the Service proposed 47 critical habitat units in 20 counties. No critical habitat was proposed for Sonoma County. On October 13, 2004, a complaint was filed in the U.S. District Court for the Northern District of California (Center for Biological Diversity and Environmental Defense Council v. U.S. Fish and Wildlife Service *et al*.).

On February 3, 2005, the District Court required the Service to submit for publication in the Federal Register, a final determination on the proposed critical habitat designation on or before December 1, 2005. On August 2, 2005, the Service noticed in the Federal Register a proposed critical habitat designation (70 FR 44301). On August 19, 2005, a court order was filed on the above complaint, which upheld the section 4(d) rule exempting grazing from Section-9 prohibitions, but vacated the downlisting of the Santa Barbara and Sonoma populations and reinstated their endangered distinct population segment status. On December 14, 2005, (70 FR 74138), the Service made a final determination to designate and exclude approximately 17,418 acres of critical habitat for the Sonoma CTS population.

Based on interim conservation strategies and measures being implemented by those local governing agencies with land use authority over the area and because of economic exclusions authorized under Section 4(b)(2) of the Act, no critical habitat was designated for the CTS Sonoma County Distinct Population Segment.

The Santa Rosa Plain Conservation Strategy has been developed and finalized (Santa Rosa Plain Conservation Strategy, December 2005) by representatives from the Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, CDFG, Sonoma County and local Cities, North Coast Regional Water Quality Control Board, local governmental agencies, the Laguna de Santa Rosa Foundation, environmental community, and private landowners. The Conservation Strategy provides strategies to conserve and enhance enough habitat for the CTS in Sonoma County and the listed endangered plants including the Sonoma sunshine (*Blennosperma bakeri*), Burke's goldfields (*Lasthenia burkei*), Sebastopol meadowfoam, and many-flowered navarretia (*Navarretia leucocephala* ssp. *plieantha*) to provide long-term conservation and aide in the recovery of these species.

The County of Sonoma, the Cities of Santa Rosa, Cotati, Rohnert Park, the Town of Windsor, Service, and CDFG have commenced a process to develop a plan for implementing the Conservation Strategy. An implementation committee has been formed that is comprised of elected and staff representatives of the local jurisdictions, staff representatives of Service and CDFG, and representatives of the agricultural, development, and environmental communities. The implementation plan is expected to provide a mechanism for applying the Conservation Strategy to cover public and private projects, agricultural activities, and residential and commercial development. The implementation planning process is proposed to be complete and in place within

approximately two years, after which the local agencies and participating State and Federal agencies will take action regarding implementation of the Conservation Strategy.

As of November 4, 2005, there were approximately 597 acres of *existing* preserves, compensation sites and open space that support tiger salamander habitat in Sonoma County. There were also approximately 462 acres of *pending* mitigation banks, conservation banks, and compensation sites anticipated to be protected in perpetuity to offset impacts on CTS, Sonoma sunshine, Sebastopol meadowfoam, and Burke's goldfields.

4.3.2. Taxonomy and Description

The CTS is an amphibian in the family Ambystomatidae. It is a large, stocky, terrestrial salamander with a broad, rounded snout. Adult males are about eight inches long, and adult females are a little less than seven inches long.

As adults, California tiger salamanders tend to have the creamy yellow to white spotting on the sides with much less on the dorsal surface of the animal, whereas other tiger salamander species have brighter yellow spotting that is heaviest on the dorsal surface. The belly varies from almost uniform white or pale yellow to a variegated pattern of white or pale yellow and black. The salamander's small eyes protrude from their heads. They have black irises.

Males can be distinguished from females, especially during the breeding season, by their swollen cloacae, a common chamber into which the intestinal, urinary, and reproductive canals discharge. They also have more developed tail fins and, as mentioned above, larger overall size.

Larvae require significantly more time to transform into juvenile adults than other amphibians such as the western spadefoot toad (*Scaphiopus hammondii*) or the Pacific tree frog (*Pseudacris regilla*).

4.3.3. Geographic Distribution

Historically, the CTS inhabited low elevation grassland and oak savanna plant communities of the Central Valley, and adjacent foothills, and the inner coast ranges in California (Jennings and Hayes 1994, Storer 1925, Shaffer *et al*. 1993). The species has been recorded from near sea level to approximately 3,900 feet (1189 meters) in the Coast Ranges and to approximately 1,600 feet (488 meters) in the Sierra Nevada foothills (Shaffer et al. 2004). Along the coast ranges, the species occurred from the Santa Rosa area of Sonoma County, south to the vicinity of Buellton in Santa Barbara County. The historic distribution in the Central Valley and surrounding foothills included northern Yolo County southward to northwestern Kern County and northern Tulare County.

The Sonoma County Distinct Population Segment of the CTS is discrete in relation to the remainder of the species. The population is geographically isolated and separate from other California tiger salamanders. The Sonoma County population is widely separated geographically from the closest populations, which are located in Contra Costa, Yolo, and Solano counties. These populations are separated from the Sonoma County population by the Coast Range, Napa River, and the Carquinez Straits, at a minimum distance of approximately 45 miles (72 kilometers). There are no known records of the CTS in the intervening areas (D. Warenycia, CDFG, personal communication with the Service, 2002). We have no evidence of natural interchange of individuals between the Sonoma County population and other tiger salamander populations.

Sonoma County Distinct Population Segment of the CTS inhabits low-elevation (below 300 feet [91 meters]) vernal pools and seasonal ponds, associated grassland, and oak savannah plant communities. The historic range of the Sonoma County population also may have included the Petaluma River watershed, as there is one historic record of a specimen from the vicinity of Petaluma from the mid-1800s (Borland 1856, as cited in Storer 1925).

4.3.4. Ecology and Habitats

The CTS has an obligate biphasic life cycle (Shaffer *et al*. 2004). Although the larvae develop in the vernal pools and ponds in which they were born, they are otherwise terrestrial and spend most of their postmetamorphic lives in widely dispersed underground retreats (Shaffer *et al*. 2004, Trenham *et al*. 2001). Subadult and adult tiger salamanders spend the dry summer and fall months of the year in the burrows of small mammals, such as California ground squirrels (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) (Storer 1925, Loredo and Van Vuren 1996, Petranka 1998, Trenham 1998a). Because they spend most of their lives underground, CTS are rarely encountered, even in areas where they are abundant.

CTS may also use landscape features such as leaf litter or desiccation cracks in the soil for upland refugia. Burrows often harbor camel crickets and other invertebrates that provide likely prey for tiger salamanders. Underground refugia also provides protection from the sun and wind associated with the dry California climate that can cause excessive drying of amphibian skin. Although CTS are members of a family of "burrowing" salamanders, they are not known to create their own burrows. This may be due to the hardness of soils in the California ecosystems in which they are found. CTS typically use the burrows of ground squirrels and gophers (Loredo *et a*l. 1996, Trenham 1998a). However, Cook (Sonoma County Water Agency, personal communication with the Service, 2001; Cook, Stokes, Trenham, and Northen *in press*) found that pocket gopher burrows are most often used by CTS in Sonoma County. CTS depend on persistent small mammal activity to create, maintain, and sustain sufficient underground refugia. Burrows are short-lived without continued small mammal activity and typically collapse within approximately 18 months (Loredo *et al*. 1996).

Upland burrows inhabited by CTS have often been referred to as "estivation" sites. However, "estivation" implies a state of inactivity, while most evidence suggests that tiger salamanders remain active in their underground dwellings. A recent study has found that CTS move, feed, and remain active in their burrows (Van Hattem 2004). Because CTS arrive at breeding ponds in good condition and are heavier when entering the pond than when leaving, researchers have long inferred that tiger salamanders are feeding while underground. Recent direct observations have confirmed this (Trenham 2001, Van Hattem 2004). Therefore, "upland habitat" is a more accurate description of the terrestrial areas used by CTS.

Once fall or winter rains begin, the salamanders emerge from the upland sites on rainy nights to feed and to migrate to the breeding ponds (Stabbing 1985, Stabbing 1989, Shaffer *et al*. 1993). Adults mate in the breeding ponds, after which the females lay their eggs in the water (Twitty 1941, Shaffer *et al*. 1993, Petranka 1998). Historically, CTS used vernal pools, but the animals now also breed in deeper stockponds. Females attach their eggs singly, or in rare circumstances, in groups of two to four, to twigs, grass stems, vegetation, or debris (Storer 1925, Twitty 1941). In ponds with no or limited vegetation, they may be attached to objects, such as rocks and boards on the bottom (Jennings and Hayes 1994). After breeding, adults leave the pool and return to the small mammal burrows (Loredo *et al*. 1996, Trenham 1998), although they may continue to come out nightly for

approximately the next two weeks to feed (Shaffer *et al*. 1993). In drought years, the seasonal pools may not form and the adults cannot breed (Barry and Shaffer 1994).

CTS larvae typically hatch within 10 to 24 days after eggs are laid (Storer 1925). Peak metamorph emergence occurs typically between mid-June to mid-July (Loredo and Van Vuren 1996, Trenham *et al*. 2000). The larvae are totally aquatic and range in length from approximately 0.45 to 0.56 inches (1.14 to 1.42 centimeters) (Petranka 1998). They have yellowish gray bodies, broad fat heads, large feathery external gills, and broad dorsal fins extending well up their back. The larvae feed on zooplankton, small crustaceans, and aquatic insects for about six weeks after hatching, after which they switch to larger prey (Anderson 1968). Larger larvae have been known to consume the tadpoles of Pacific treefrogs (*Pseudacris regilla*), Western spadefoot toads (*Spea hammondii*), and California red-legged frogs (*Rana aurora draytonii*) (Anderson 1968, Anderson 1968). CTS larvae are among the top aquatic predators in seasonal pool ecosystems. When not feeding, they often rest on the bottom in shallow water but are also found throughout the water column in deeper water. Young salamanders are wary and typically escape into vegetation at the bottom of the pool when approached by potential predators (Storer 1925).

The CTS larval stage usually lasts three to six months, as most seasonal ponds and pools dry up during the summer (Petranka 1998). Amphibian larvae must grow to a critical minimum body size before they can metamorphose (change into a different physical form) to the terrestrial stage (Wilbur and Collins 1973). Individuals collected near Stockton in the Central Valley during April varied from 1.88 to 2.32 inches in length (Storer 1925). Feaver (1971) found that larvae metamorphosed and left the breeding pools 60 to 94 days after the eggs had been laid, with larvae developing faster in smaller, more rapidly drying pools. The longer the ponding duration, the larger the larvae and metamorphosed juveniles are able to grow, and the more likely they are to survive and reproduce (Pechmann *et al*. 1989, Semlitsch *et al*. 1988, Morey 1998, Trenham 1998b). The larvae will perish if a site dries before metamorphosis is complete (Anderson 1968, Feaver 1971). Pechmann *et al*. (1989) found a strong positive correlation with ponding duration and total number of metamorphosing juveniles in five salamander species. In Madera County, Feaver (1971) found that only 11 of 30 pools sampled supported larval CTS and five of these dried before metamorphosis could occur. Therefore, out of the original 30 pools, only six (20 percent) provided suitable conditions for successful reproduction that year. Size at metamorphosis is positively correlated with stored body fat and survival of juvenile amphibians, and negatively correlated with age at first reproduction (Semlitsch *et al*. 1988, Scott 1994, Morey 1998). In the late spring or early summer, before the ponds dry completely, metamorphosed juveniles leave them and enter upland habitat. This emigration occurs in both wet and dry conditions (Loredo and Van Vuren 1996, Loredo *et al*. 1996). Unlike during their winter migration, the wet conditions that California tiger salamanders prefer do not generally occur during the months when their breeding ponds begin to dry. As a result, juveniles may be forced to leave their ponds on rainless nights. Under these conditions, they may move only short distances to find temporary upland sites for the dry summer months, waiting until the next winter's rains to move further into suitable upland refugia. Once juvenile tiger salamanders leave their birth ponds for upland refugia, they typically do not return to ponds to breed for an average of 4 to 5 years. However, they remain active in the uplands, coming to the surface during rainfall events to disperse or forage (Trenham and Shaffer 2005).

Lifetime reproductive success for CTS and other tiger salamanders is low. Trenham *et al*. (2000) found the average female bred 1.4 times and produced 8.5 young that survived to metamorphosis per reproductive effort. This resulted in roughly 11 metamorphic offspring over the lifetime of a

female. Two reasons for the low reproductive success are the preliminary data suggests that most individuals of the tiger salamanders require two years to become sexually mature, but some individuals may be slower to mature (Shaffer *et al*. 1993); and some animals do not breed until they are four to six years old. While individuals may survive for more than 10 years, many breed only once, and in some populations, less than five percent of marked juveniles survive to become breeding adults (Trenham 1998). With such low recruitment, isolated populations are susceptible to unusual, random natural events and human activities that reduce breeding success and individual survival. Factors that repeatedly lower breeding success in isolated pools can quickly extirpate a population.

Dispersal and migration movements made by tiger salamanders can be grouped into two main categories: breeding migration, and interpond dispersal. Breeding migration is the movement of salamanders to and from a pond from the surrounding upland habitat. After metamorphosis, juveniles move from breeding ponds into the surrounding areas, where they live for several years. In Monterey County, most individuals returned to their natal pond to breed, while 20 percent dispersed to other ponds (Trenham *et al*. 2001). Following breeding, adult CTS return to upland habitats, where they may live for one or more years before breeding again (Trenham *et al*. 2000).

CTS are known to travel large distances from breeding ponds into upland habitats. Maximum distances moved are generally difficult to establish for any species, but CTS in Santa Barbara County have been recorded to disperse 1.3 miles from breeding ponds (Sweet *in litt.* 1998). Tiger salamanders are known to travel between breeding ponds; one study found that 20 to 25 percent of the individuals captured at one pond were recaptured later at ponds approximately 1,900 and 2,200 feet away (Trenham *et al*. 2001). In addition to traveling long distances during migration to or dispersal from ponds, tiger salamanders may reside in burrows that are far from ponds.

Although the observations above show that CTS can travel far, typically they stay closer to breeding ponds. Evidence suggests that juvenile CTS disperse further into upland habitats than adults. A trapping study conducted in Solano County during winter of 2002/2003 found that juveniles used upland habitats further from breeding ponds than adults (Trenham and Shaffer 2005). More juvenile salamanders were captured at distances of 328, 656, and 1,312 feet from a breeding pond than at 164 feet. Large numbers, approximately 20 percent of total captures, were found 1,312 feet from a breeding pond. Fitting a distribution curve to the data revealed that 95 percent of juvenile salamanders could be found within 2,099 feet of the pond, with the remaining five percent being found at even greater distances. Preliminary results from the 2003-04 trapping efforts detected juvenile tiger salamanders at even further distances, with a large proportion of the total salamanders caught at 2,297 feet from the breeding pond (Trenham *et al*. 2005). During post-breeding emigration, radio-equipped adult CTS were tracked to burrows 62 to 813 feet from their breeding ponds (Trenham 2001). These reduced movements may be due to adult CTS having depleted physical reserves post-breeding, or also due to the drier weather conditions that can occur during the period when adults leave the ponds.

In addition, rather than staying in a single burrow, most individuals used several successive burrows at increasing distances from the pond. Although the above studies provide an approximation of distances CTS regularly move from breeding ponds, upland habitat features will drive the details of movements in a particular landscape. Trenham (2001) found that radio-tracked adults favored grasslands with scattered large oaks over more densely wooded areas but that adults do not favor certain habitat types as movement corridors (Trenham 2001). In addition, at two ponds completely

encircled by drift fences and pitfall traps, captures of arriving adults and dispersing new metamorphs were distributed roughly evenly around the ponds. Thus, it appears that dispersal into the terrestrial habitat occurs randomly with respect to direction and habitat types.

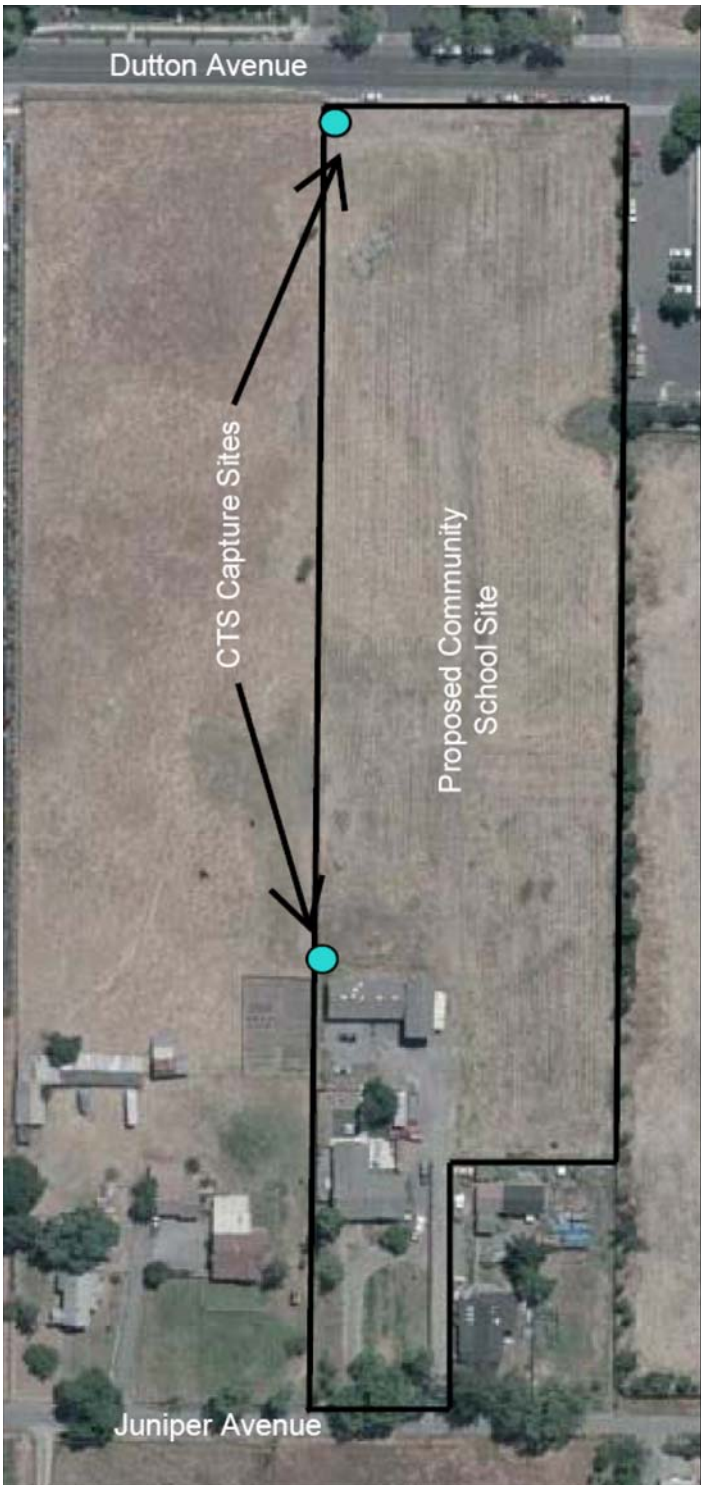
Several species have either been documented to prey or likely prey upon the CTS including coyotes (*Canis latrans*), raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), egrets (*Egretta species*), great blue herons (*Ardea herodias*), crows (*Corvus brachyrhynchos*), ravens (*Corvus corax*), bullfrogs (*Rana catesbeiana*), mosquito fish (*Gambusia affinis*), and crayfish (*Procrambus* species).

CTS are imperiled throughout its range by a variety of human activities (U. S. Fish and Wildlife Service 2004). Current factors associated with declining populations include continued degradation and loss of habitat due to agriculture and urbanization, hybridization with non-native eastern tiger salamanders (*Ambystoma tigrinum*) (Fitzpatrick and Shaffer 2004, Riley *et al*. 2003), and introduced predators. Fragmentation of existing habitat and the continued colonization of existing habitat by non-native tiger salamanders (*Ambystoma tigrinum* and other species) may represent the most significant current threats to tiger salamanders, although populations are likely threatened by more than one factor. Habitat isolation and fragmentation in many watersheds have precluded dispersal between sub-populations and jeopardized the viability of metapopulations (broadly defined as multiple subpopulations that occasionally exchange individuals through dispersal, and are capable of colonizing or "rescuing" extinct habitat patches). Other threats are predation, competition from introduced exotic species; commercial overutilization; disease; various chemical contaminants; road-crossing mortality; and certain unrestrictive mosquito and rodent control operations.

Between 2001 and 2002, five CTS breeding sites were destroyed. Loss of real and potential CTS breeding sites, upland refugia, dispersal, and foraging habitat continues on the Santa Rosa Plain. Eleven biological opinions (BO) by the Service have authorized the incidental take of CTS over 337.75 acres of habitat since the emergency listing on July 22, 2002. The BOs for the Hazel Mitigation Bank and the Slippery Rock Conservation Bank address adverse and beneficial effects associated with the construction of seasonal wetlands and creation of breeding habitat and establishment of Sebastopol meadowfoam and Sonoma sunshine. Temporary disturbance at these Banks was approximately 139.06 acres. Therefore, there has been 198.69 acres of permanent CTS habitat loss permitted by the Service through Section 7 consultations with the Corps. The other nine BO's have contained proposals to conserve 223.48 acres of CTS habitat at Service-approved locations in Sonoma County via purchase of mitigation or conservation credits, recording conservation easements, or offering fee title to the CDFG or another Service-approved entity.

4.3.5. Occurrence at the Project Site

Jon Winter & Associates conducted adult-juvenile and larval surveys for CTS in the winter of 2003 (Jon Winter & Associates 2003). Two adult males were captured in pitfall traps located at near the northeast corner of the large warehouse in the western half of the northern parcel and at the northeast corner of the site (Figure 7). No CTS larvae were observed in the depression along the southern project site boundary. The deep hole may be inundated for a sufficient period to provide CTS



Applicant:
Sonoma County Office of Education
5340 Skylane Blvd.
Santa Rosa, CA 95403
Project Site:
Proposed Community School Site
(A. P. Nos . 134-072-016, -019)
Santa Rosa, California

NORTH

Approximate
Scale: 1:2,400

Figure 7.
Locations at Which CTS
Were Captured on the Project Site

breeding habitat and the annual grassland habitat provides potential estivation habitat. No gopher mounds were observed in 2007 but discing may have obscured or eliminated many holes.

4.4. COVERED SPECIES: SEBASTOPOL MEADOWFOAM

In addition to the CTS, this HCP and its associated Section 10(a)(1)(B) permit also includes one plant, the Sebastopol meadowfoam. The take prohibition for federally listed plants under the ESA is more limited than for listed animals (Sections 7(b)(4) and 7(o)(2) of the ESA), and cannot be authorized under a Section 10(a)(1)(B) permit. The Sebastopol meadowfoam is proposed to be included on the incidental take permit in recognition of the conservation benefits provided for it under the HCP. Assurances provided under the No Surprises Rule at 50 CFR 17.3, 17.22(b)(5), and 17.32(b)(5) extend to all species named on the incidental take permit.

4.4.1. Conservation Status

Sebastopol meadowfoam was listed as an endangered plant species by the federal government on December 2, 1991. The species had previously been listed was listed as an endangered plant species by the California Department of Fish and Game in November of 1979. The California Native Plant Society has placed it on List 1B (rare or endangered throughout its range).

As with Burke's goldfields and Sonoma sunshine, Sebastopol meadowfoam has been and continues to be threatened by habitat loss, habitat degradation, and small population size. Causes of habitat loss include agricultural conversion, urbanization, and road maintenance. Habitat degradation is caused by excessive grazing by livestock, alterations in hydrology, and competition from non-native species (in some cases, exacerbated by removal of grazing), off-highway vehicle use, and dumping (U. S. Fish and Wildlife Service 1991, Patterson *et al.* 1994, CH2M Hill 1996, CNDDB 2002).

4.4.2. Taxonomy and Description

Sebastopol meadowfoam is an annual herb with weak, somewhat fleshy, decumbent stems up to 30 centimeters (11.8 inches) long. The seedlings are unusual among *Limnanthes* species in that they have entire leaves. Leaves of mature plants are up to 10 centimeters (3.9 inches) long and have 3 to 5 leaflets that are narrow and unlobed with rounded tips. The leaves are borne on long petioles; petiole length, like stem length, appears to be promoted by submergence. Sebastopol meadowfoam has fragrant, white flowers that are borne in the leaf axils during April and May. The flowers are bell-shaped or dish-shaped, with petals 12 to 18 millimeters (0.47 to 0.71 inch) long. The sepals are shorter than the petals. The petals turn outward as the nutlets mature. The nutlets are dark brown, 3 to 4 millimeters (0.12 to 0.16 inch) long, and covered with knobby pinkish tubercles (Patterson *et al*. 1994).

Sebastopol meadowfoam is an annual species. The seeds germinate after the first significant rains in fall, although late initiation of rains may delay seed germination. Sebastopol meadowfoam plants grow slowly underwater during the winter, and growth rates increase as the pools dry. Repeated drying and filling of pools in the spring favors development of large plants with many branches and long stems. Sebastopol meadowfoam begins flowering as the pools dry, typically in March or April. The largest plants can produce 20 or more flowers. Flowering may continue as late as mid-June, although in most years the plants have set seed and died back by then (Patterson *et al.* 1994). Each plant can produce up to 100 nutlets (Patterson 1994).

Nutlets of Sebastopol meadowfoam likely remain dormant in the soil, as they do for other species of *Limnanthes* (Patterson 1994). One case presents strong circumstantial evidence for persistent, long-lived seed banks in this species. In the late-1980's and early 1990's, a site in Cotati remote from other Sebastopol meadowfoam colonies was surveyed for several years by independent qualified botanists, none of which observed Sebastopol meadowfoam on the site. Conditions of the pools on the site were highly degraded by wallowing hogs (*Sus scrofa*) and subsequent eutrophication of the pools. Following several years of negative surveys 12 Sebastopol meadowfoam plants emerged in one pool one year following hog removal, expanded to 60 plants the next year, and increased in subsequent years. Long-distance dispersal is an improbable explanation for the emergence of multiple plants at one location, so seed banks are implicated in this case as well. This example also indicates that lack of Sebastopol meadowfoam during periods of adverse conditions (drought, heavy disturbance, etc.) does not necessarily signal extirpatation.

4.4.3. Geographic Distribution

Historically, Sebastopol meadowfoam was known from 40 occurrences in Sonoma County and a single occurrence (occurrence 39) in Napa County, at the Napa River Ecological Reserve. In Sonoma County, all but two occurrences were found in the central and southern portions of the Santa Rosa Plain. Occurrence 20 occurred at Atascadero Creek Marsh west of Sebastopol, and the second (occurrence 40) occurred in the vicinity of Knights Valley northeast of Windsor (California Natural Diversity Database (CNDDB 2001).

Prior to the listing as an endangered species by the federal government, the condition of numerous Sebastopol meadowfoam occurrences had been unclear, because many had not been visited in more than five years. The southern cluster of occurrences extends approximately three miles from Stony Point Road west to the Laguna de Santa Rosa, and is bounded by Occidental Road to the north and the Town of Cotati to the south. The central cluster stretched 1.5 miles on either side of Fulton Road extending northwards from Occidental Road to River Road in the vicinity of Fulton. Patterson *et al.* (1994) estimated that the Santa Rosa Plain occurrences represent only 10 hydrologically separate populations of Sebastopol meadowfoam. At least one occurrence (21) had been extirpated from the Santa Rosa Plain (CNDDB 2002). More recent field surveys found that all three occurrences outside of the Santa Rosa Plain had probably been extirpated (CNDDB 2002).

Continued surveys for all of the endangered plant species as part of protocol surveys required for development projects and to establish baseline conditions at mitigation and conservation banks have produced additional observations of Sebastopol meadowfoam. Sebastopol meadowfoam has also become established at several mitigation and conservation bank sites, among them the Gobbi Mitigation Site, the Gobbi II Mitigation Site, the Carinalli Todd Road Mitigation Bank, and most recently the Hazel Mitigation Bank and the Slippery Rock Conservation Bank (Stromberg 2005, Stromberg 2006a, Stomberg 2006b, Stromberg personal observations); several hundred thousand Sebastopol meadowfoam have become established in vernal pools and swales at the Carinalli Todd Road Mitigation Bank site alone since 2002.

4.4.4. Ecology and Habitats

Sebastopol meadowfoam grows in Northern Basalt Flow and Northern Hardpan vernal pools (Sawyer and Keeler-Wolf 1995), wet swales and meadows, on the banks of streams, and in artificial habitats such as ditches (Wainwright 1984; CNDDB 2002). The surrounding plant communities

range from oak savanna, grassland, and marsh in Sonoma County to riparian woodland in Napa County (CNDDB 2002).

On the Santa Rosa Plain, Sebastopol meadowfoam grows in both shallow and deep areas, but is most frequent in pools 25 to 51 centimeters (10 to 20 inches) deep (Patterson *et al.* 1994). The species is most abundant in the margin habitat at the edge of vernal pools or swales (Pavlik *et al.* 2000, 2001). Most confirmed occurrences of Sebastopol meadowfoam on the Santa Rosa Plain grow on Wright loam or Clear Lake clay soils (Patterson *et al.* 1994, CNDDB 2002). A few occurrences are on other soil types, including Pajaro clay loam, Cotati fine sandy loam, Haire clay loam (Patterson *et al.* 1994) and Blucher fine sandy loam (Wainwright 1984).

4.4.5. Occurrence at the Project Site

Sebastopol meadowfoam is not known to occur on the project site. No historic records of occurrence exist and surveys conducted to date have produced negative results. The surveys were not conducted according to the Service-approved protocol, the general characteristics of the wetlands do not suggest that they could be occupied or that protocol-level surveys would change the findings to date.

Although the pair of wetlands on the site belong to the class of seasonal wetlands which includes vernal pools and connecting swales that do have the potential to provide suitable habitat for Sebastopol meadowfoam, the seasonal wetland habitat present on the site is not suitable. The wetlands are dominated by a suite of plant species with which Sebastopol meadowfoam and the other listed plant species are not known to occur.

5.0. IMPACTS AND ENVIRONMENTAL COMPLIANCE

5.1. DIRECT AND INDIRECT EFFECTS

Urban and rural growth on the Santa Rosa Plain spans more than one hundred years. In the last two to three decades, urban growth has encroached into areas inhabited by the CTS and has eliminated or modified a considerable area of vernal pools and connecting swales that provide potentially suitable habitat for Sebastopol meadowfoam and the other listed plant species; activities that modified the hydrologic function of the habitat supporting the latter included ditch excavation, road construction, land leveling, partial and complete filling, and other activities associated with rural residential development. Agricultural practices have also disturbed CTS estivation habitat and seasonal wetland hydrologic characteristics although some agricultural practices, such as irrigated or grazed pasture, have protected habitat from intensive development.

Historic records indicate that CTS occurred in the area immediately surrounding the project site. Observations were made at other sites within 3,000 feet of the proposed school site. Commercial and light industrial development of properties to the north, east, and south have eliminated habitat and truncated migratory pathways across the site.

Past rural residential development of the two parcels that make up the project site resulted in the on-site elimination of 0.29 acres of estivation habitat by the construction of hardscape features, i.e., residences, outbuildings, a driveway and parking and turn-around areas.

The proposed project will eliminate 4.23 acres of estivation and migratory habitat and further truncate migratory corridors across the site. However, migration to the east, south, and north into the surrounding lands result, with the exception of the adjacent property to the north and a parcel "kitty-corner" to the southeast on the east side of Dutton Avenue, in CTS moving into habitat that is not considered suitable. Although CTS can take refuge in debris piles and estivation sites can exist in landscaped areas, with the exception of this single property, the surrounding areas are predominantly impervious surfaces that provide no habitat and can also function as "mortality traps." Observations have shown that CTS that get caught in streets and are unable to mount vertical-sided sidewalks can be carried by flowing water into the underground storm drain system. Vehicular traffic on the streets, parking areas, and access driveways on the commercial and light industrial sites surrounding the project site can also account for CTS mortality.

5.2. CUMULATIVE EFFECTS

Cumulative effects on CTS and seasonal wetlands on the Santa Rosa Plain, some of which provides potentially suitable habitat for Sebastopol meadowfoam, include the effects of future federal, state, local, and private actions certain to occur in the region. Cumulative impacts on CTS will arise from continuing and future conversion of suitable breeding, foraging, sheltering, and dispersal habitat resulting from urban development. Additional urbanization can result in road widening and increased traffic on roads that bisect breeding and estivation sites, thereby increasing road-kill while reducing in size and further fragmenting remaining habitats.

CTS probably are exposed to a variety of pesticides and other chemicals throughout their range. CTS also could die from starvation by the loss of their prey base. Hydrocarbon and other

contamination from oil production and road runoff; the application of numerous chemicals for roadside maintenance; urban/suburban landscape maintenance; and rodent and vector control programs may all have negative effects on tiger salamander populations. Although the properties surrounding the project site are mostly non-residential, CTS may also be harmed through collection by local residents.

A commonly used method to control mosquitoes, used in Sonoma County (Marin/Sonoma Mosquito and Vector Control District, internet website 2002), is the application of methoprene, which increases the level of juvenile hormone in insect larvae and disrupts the molting process. Lawrenz (1984) found that methoprene (Altosid SR 10) retarded the development of selected crustacea that had the same molting hormones (i.e., juvenile hormone) as insects, and anticipated that the same hormone may control metamorphosis in other arthropods. Because the success of many aquatic vertebrates relies on an abundance of invertebrates in temporary wetlands, any delay in insect growth could reduce the numbers and density of prey available (Lawrenz 1984).

Threats to Sebastopol meadowfoam and the other plant species listed as endangered by the state and federal governments include unauthorized fill of wetlands, urbanization, increases in non-native species (particularly Harding grass, which can become established and develop almost complete cover in vernal pools and shallower seasonal wetlands), and expanded irrigation of pastures with recycled wastewater discharge. These activities are likely to continue with concomitant adverse effects by virtue of habitat loss and degradation, increasing isolation of populations (exacerbating the disruption of gene flow patterns), and further reductions in the reproduction, numbers, and distribution, the results of which include a decrease in the species' abilities to respond to stochastic events.

Cumulative effects on CTS and Sebastopol meadowfoam on the santa Rosa Plain as a whole could increase in the future if the current application of the Corp's regulatory authority under the Clean Water Act changes following the Supreme Court's Rapanos decision, which will further reduce federal authority over wetland habitat that includes vernal pools and isolated CTS breeding ponds. Reduced application of the Corps' regulatory authority and subsequent lack of consultation with the Service on projects that may affect such isolated wetlands could result in increased impacts to federally listed species in the Santa Rosa Plain from future actions.

As stated in the Conservation Strategy, urban and rural growth on the Santa Rosa Plain has taken place for more than one hundred years, and for the past twenty years urban growth has encroached into areas inhabited by CTS and Sebastopol meadowfoam. The loss of seasonal wetlands caused by development on the Santa Rosa Plain has led to declines in the CTS populations and all four of the listed plant species. Voters in the cities of Cotati, Rohnert Park, Santa Rosa, and Sebastopol, and the Town of Windsor have established urban growth boundaries for their communities to accomplish city-centered growth, resulting in rural and agricultural land uses being maintained between the urbanized areas. Therefore, rural land uses can be expected to continue into the foreseeable future. Areas of publicly owned property and preserves located in the Santa Rosa Plain will further protect against development. Some of the areas within these urban growth boundaries, however, include lands inhabited by CTS and the listed plant species. Agricultural practices have also disturbed seasonal wetlands, CTS and listed plant habitat on the Santa Rosa Plain. Some agricultural practices, such as irrigated or grazed pasture, have protected habitat from intensive development.

The Conservation Strategy was designed to plan for future cumulative effects from federal and non-federal actions on CTS and Sebastopol meadowfoam habitat within the Santa Rosa Plain. The Conservation Strategy and the interim guidelines are intended to benefit the CTS and the listed plants by providing a consistent approach for mitigation vital to habitat preservation and the long-term conservation of the species. They are also intended to provide more certainty and efficiency in the project review process. The Conservation Strategy and the interim guidelines focus mitigation efforts on preventing further habitat fragmentation and to establish, to the maximum extent possible, a viable preserve system that will contribute to the long-term conservation and recovery of these listed species.

The County of Sonoma, the above-mentioned cities, the Service, and CDFG have commenced a process to develop a plan for implementing the Conservation Strategy. An implementation committee has been formed that is comprised of elected and staff representatives of the local jurisdictions, staff representatives of the Service and CDFG, and representatives of the agricultural, development, and environmental communities. The implementation plan is expected to provide a mechanism for applying the Conservation Strategy to cover public and private projects, agricultural activities, and residential and commercial development. The implementation planning process is proposed to be complete and in place within approximately two years, after which the local agencies and participating State and Federal agencies will take action regarding implementation of the Conservation Strategy.

Local cumulative impacts on CTS, those associated with the immediate surroundings of the project site, are likely to be minimal because of the surrounding land uses. Many of the surrounding properties are developed and currently in commercial and light industrial land use. Because of its proximity to developed sites, the project would not be a “leap-frog development” type of project that would fragment open contiguous CTS habitat. Impacts on Sebastopol meadowfoam habitat are considered to be negligible because the on-site wetlands do not provide suitable habitat and, because the wetlands are hydrologically isolated from other habitat in the immediately surrounding area that might provide suitable habitat, project development will not have any indirect watershed impacts that could be construed as having impacts on off-site Sebastopol meadowfoam colonies.

5.3. EFFECTS ON CRITICAL HABITAT

No critical habitat has been designated for the Sonoma County Distinct Population Segment of the CTS or Sebastopol meadowfoam. Therefore, the project will not affect critical habitat for these species.

6.0. TAKE OF THE COVERED SPECIES

Because CTS spend most of their lives underground, they are rarely encountered even as adults and it is not possible to determine the exact number of CTS that could be taken as a result of the development of the site. Thus, the incidental take permit associated with this HCP will authorize all such take of CTS due to earthwork and construction of facilities at the proposed school site. The maximum levels of take of CTS are assumed to occur under the HCP, and hereby authorized by its associated Section 10(a)(1)(B) permit, are as follows:

1. any CTS that may be taken (killed, injured, harmed, or harassed) within the boundaries of the 4.42-acre project site during the following covered activities;

2. any grading and construction operations including, but not limited to use of equipment, vegetation removal, trampling of vegetation, compaction of soils, ground disturbance, grading, or creation of dust;

3. any permanent loss of habitat as a result of development of infrastructure including, but not limited to buildings, sidewalks, roads, installation of utilities, drainage, and irrigation systems; and

4. any activities to manage or enhance habitat including but not limited to leveling ground, creating bare ground, planting vegetation, watering vegetation, or removal of exotic plant species.

These incidental take limits are subject to full implementation of all mitigation measures, as described in Section 7.0. If any of these take limits are exceeded, the Sonoma County Office of Education shall cease all grading and construction operations and contact the Service immediately.

No listed plant species have been observed on the site and the habitat is unsuitable for Sebastopol meadowfoam and other vernal pools species. In the unlikely event that any Sebastopol meadowfoam seed is present, it would not be collected and be buried.

The Sebastopol meadowfoam is proposed to be included on the incidental take permit in recognition of the conservation benefits provided for it under the HCP. Assurances provided under the No Surprises Rule at 50 CFR 17.3, 17.22(b)(5), and 17.32(b)(5) extend to all species named on the incidental take permit.

7.0. MITIGATION MEASURES

7.1. SERVICE CONSERVATION GUIDELINES

The Service (1999) has established guidelines and accepted procedures for mitigating impacts on CTS and the listed plant species, including Sebastopol meadowfoam. These guidelines are stated in the existing programmatic biological opinion for the Plain issued by FWS on July 17, 1998, and in the Conservation Strategy.

7.2. MITIGATION PLAN

Sonoma County Office of Education will compensate for unavoidable impacts on wetlands, potentially suitable habitat for endangered plant species (Sebastopol meadowfoam), and CTS habitat through the acquisition of credits from agency-approved mitigation and conservation banks on the Santa Rosa Plain. The credit acquisition would be as follows:

1. acquisition of 0.1 credit as 1:1 mitigation for impacts on 0.07 acres of seasonal wetland habitat;

2. acquisition of either 0.1 or 0.15 credits for impacts on 0.07 acres of Sebastopol meadowfoam habitat (depending upon U. S. Fish and Wildlife Service requires 1:1 or 2:1 mitigation; and

3. acquisition of 8.3 credits for impacts on 4.13 acres (total project site area less hardscape) of CTS habitat.

7.3. MINIMIZATION MEASURES

7.3.1. CTS Passive Relocation

Because construction of the proposed community school is considered to take place in what is considered to be occupied CTS habitat, passive salvage operations will be undertaken in the winter prior to construction to exclude CTS from the site and work area. The location and layout will be approved by the Service. The installed fences and ramps will remain in place into the following spring or until no water remains in the nearest known breeding pond.

7.3.2. Biological Monitor

A biological monitor will be available to be on-site any day for the entire period during which school is under construction and earthwork is in progress on the site. The biological monitor will inform the Service and CDFG if any CTS are encountered and request a location for release. The biological monitor will prepare a report summarizing the entire operation for submittal to the Service and CDFG.

A training session will be given by the biologist to all construction workers before work is started on the project. After initial training, all new personnel will be given the training as well. The training session will provide pictures of the CTS, information on their biology, measures required to protect these species, relevant Federal and state regulations, penalties to harming or harassing the

CTS, and what to do if CTS are found.

If a CTS is observed on the site by a worker, the worker will immediately inform the monitor. The monitor will notify the biologist immediately. All work will halt and machinery turned off within 100 feet of the animal until a biologist can capture and remove the CTS from the work area. Service-approved biologists are the only persons allowed to handle CTS. CTS found in the work area will be relocated to pre-approved locations within one hour of capture.

The monitor and the biologist have the authority to halt work activities at any time to prevent harming special status species or when any of these protective measures have been violated. Work will only commence when authorized by the monitor or biologists.

Before the start of work each morning, the monitor will check for animals under any equipment such as vehicles and stored pipes. The monitor will also check all excavated steep-walled holes or trenches greater than one foot deep for any wildlife. A record of all CTS observed and the outcome of that observation will be submitted to the Service.

7.3.3. Storm Water Pollution Prevention Plan (SWPPP)

A Storm Water Pollution Prevention Plan (SWPPP) will be developed for the proposed school project to prevent project construction impacts on a habitat and waters draining off the project site and outside the work area. Erosion control will be accomplished using conventional techniques suitable for local conditions (soil type, slope, etc.). Applicable protection measures, such as barrier and/or silt fencing and regular on-site monitoring, will be used to protect against inadvertent impacts to areas outside the project impact area during construction.

A Storm Water Quality Management Plan designed to treat post-construction storm water runoff according to the standards promulgated by the Regional Water Quality Control Board (Regional Board) and implemented through the City of Santa Rosa has been submitted to the Regional Board and City of Santa Rosa for approval.

7.3.4. Dust Control

The applicant will carry out a dust control program during all active on-site grading operations. The program is intended to minimize the amount of dust leaving construction areas that could be deposited on nearby residences or sensitive habitat. It will consist of continuous use of water trucks during active grading operations. Equipment will be allocated based on weather and wind conditions, and the soil conditions encountered during construction operations.

7.3.5. Other Minimization Measures

Additional minimization measures include the following:

1. Staging and work areas will be limited to the project site only.

2. All foods and food-related trash items, such as lunch bags, plastic sandwich bags, fast food containers, foods of any type, candy wrappers, chip packages, drink bottles and cans, etc., will be enclosed in sealed trash containers and removed completely from the site once every

three days.

3. No pets are allowed anywhere in the project site during construction.

4. A speed limit of 15 mph will be maintained in the western third of the site.

5. All equipment will be maintained such that there will be no leaks of automotive fluids such as gasoline, oils, or solvents.

6. Hazardous materials such as fuels, oils, solvents, etc., will be stored in sealable containers in a designated location that is at least 200 feet from aquatic habitats on the property to the north.

8.0. PLAN IMPLEMENTATION

8.1. BIOLOGICAL GOALS AND OBJECTIVES

The biological goals of this HCP are to assist with the implementation of the Santa Rosa Plain Conservation Strategy, by contributing to the following:

1. Establish listed plant preserves to maintain genetic diversity of listed plants throughout their known range on the Plain and maintain in these preserves, at least 10 occurrences of both Sonoma sunshine and Burke's goldfields throughout their known range on the Plain. The Sonoma County Office of Education will acquire credits from a conservation bank in which populations of Sebastopol meadowfoam has been maintained and/or established.

2. Expand the number of secure extant occurrences and established populations of each of the listed plant species and establish the Preserves in such a manner that they provide interconnected habitat for listed plant species. The Sonoma County Office of Education will acquire credits from a conservation bank which is part of the initial array of sites that will eventually be interconnected.

3. Assure that preservation occurs in proportion to the effect of CTS and CTS habitat loss, applying either the interim mitigation requirements until the Conservation Strategy is implemented or the long-term mitigation requirements thereafter, and implementing the CTS habitat preservation requirements of the Conservation Strategy. The Sonoma County Office of Education will mitigate in a manner consistent with the interim mitigation requirements of the Conservation Strategy and will acquire credits from a conservation bank at which CTS habitat has been preserved and CTS breeding habitat has been created.

8.2. RESPONSIBILITIES

As specified in the Service Habitat Conservation Planning Handbook (1996b), an Implementing Agreement (IA) is not required for low-effect HCPs unless requested by the permit applicant. Sonoma County Office of Education understands that it is responsible for implementing this HCP in accordance with the specifications for mitigation and funding.

Sonoma County Office of Education will purchase CTS and Sebastopol meadowfoam credits from Service-approved banks. The bank sponsors have assumed all responsibilities for management, annual monitoring and reporting as described in their respective conservation bank agreements or bank enabling instruments and management plans.

The Sonoma County Office of Education' responsibilities will terminate when the credits have been acquired and documentation is provided to the Service that the required mitigation credits have been paid in full. Copies of the completed sales agreements are contained in Appendix B.

8.3. SCOPE

The project area is 4.42-acre project site, as described in Section 2.0 of this HCP. The mitigation sites are the Service-approved banks from which the credits are acquired.

8.4. PLAN DURATION

Sonoma County Office of Education seeks a five-year permit from the Service to cover those activities associated with the construction of the proposed school. The permit will expire once Sonoma County Office of Education has fulfilled all of its responsibilities as described in Section 8.2.

8.5. MONITORING

No monitoring is necessary other than during construction.

Sonoma County Office of Education has purchased mitigation credits at a conservation bank and therefore, no other monitoring is required.

8.6. FUNDING

Mitigation credits will be acquired prior to project development and CTS will be passively excluded from the project site prior to the start of work. The SWPPP will be implemented during construction as will dust control and observation by the biological monitor. No other funding is necessary. Minimization and mitigation costs are shown in Table 2.

Table 2. Costs of Minimization and Mitigation Measures for The Proposed Community School Project

Mitigation and Minimization Activities	**Unit Cost**	**Total Cost**
Mitigation Activities:		
Acquisition of 8.3 CTS credits	$125,000/credit	$1,037,500
Acquisition of 0.15 LIVI credit	$150,000/credit	$22,500
Subtotal Mitigation Costs		**$1,060,000**
Minimization Activities:		
CTS Exclusion Fence	$16,000	$16,000
Stormwater Pollution Plan (SWPPP)	$12,000	$12,000
Biological Monitor	$8,000	$8,000
Dust Control Measures	$3,500	$3,500
Subtotal Minimization Activities		**$39,500**
Total Cost		**$1,099,500**

9.0. CHANGED AND UNFORESEEN CIRCUMSTANCES

Section 10 regulations [50 CFR 17.22 (b)(2)(iii)] require that an HCP specify the procedures to be used for dealing with unforeseen circumstances that may arise during the implementation of the HCP. In addition, the Habitat Conservation Plan Assurances ("No Surprises") Rule [50 CFR 17.21 (b)(5)-(6) and 17.22(b)(5)-(6); 63 F.R. 8859] defines "unforeseen circumstances" and "changed circumstances" and describes the obligations of the permittee (Sonoma County Office of Education) and the Service.

The purpose of the Assurances Rule is to assure non-federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee. “Changed circumstances” means changes in circumstances affecting a species or geographic area covered by the conservation plan that can reasonably be anticipated by plan developers and the Service and that can be planned for (e.g., the listing of a new species, or fire or other natural catastrophic events in areas prone to such events). The policy defines "unforeseen circumstances" as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and the Service at the time of the plan's negotiation and development and that result in a substantial and adverse change in status of the covered species.

In determining whether any event constitutes an unforeseen circumstance, the Service shall consider the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the Service determines that the unforeseen circumstance will affect the outcome of the HCP, additional conservation and mitigation measures may be necessary. Where the HCP is being properly implemented and an unforeseen circumstance has occurred, the additional measures required of the permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands or waters that are already set aside in the HCP's operating conservation program. Additional conservation and mitigation measures shall not involve the commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under the original terms of the HCP without the consent of the permittee. Resolution of the situation shall be documented by letters between the Service, Sonoma County Office of Education, and the conservation bank operator(s).

Therefore, in the event that unforeseen circumstances adversely affecting the CTS AND Sebastopol meadowfoam occur during the term of the permit, Sonoma County Office of Education would not be required to provide additional financial mitigation or implement additional land use restrictions above those measures specified in the HCP, provided that the HCP is being properly implemented. This HCP expressly incorporates by reference the permit assurances set forth in the Habitat Conservation Plan Assurances ("No Surprises") Rule adopted by the Service and published in the

Federal Register on February 23, 1998 (50 CFR Part 17). Except as otherwise required by law or provided for under the HCP, including those provisions regarding changed circumstances, no further mitigation for the effects of the proposed project on the CTS and Sebastopol meadowfoam may be required from a permittee who is properly implementing the terms of the HCP and the permit. The HCP will be properly implemented if the commitments and provisions of the HCP and the permit have been or are being fully implemented by the permittee and the conservation bank operator(s).

If a new species that is not covered by the HCP but that may be affected by activities covered by the HCP is listed under the ESA during the term of the Section 10 permit, the Service may consider this to be a changed circumstance. In such case, the Section 10 permit will be reevaluated by Service and the HCP-covered activities may be modified, as necessary, to ensure that the activities covered under the HCP are not likely to jeopardize or result in take or adverse modification of any designated critical habitat of the newly listed species. The Sonoma County Office of Education shall implement the modifications to the HCP covered activities identified by the Service as necessary to avoid the likelihood of jeopardy to or take or adverse modification of the designated critical habitat of the newly listed species. The Sonoma County Office of Education shall continue to implement such modifications until such time as they have applied for and Service has approved an amendment of the Section 10 permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species, or until the Service notifies Sonoma County Office of Education in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of jeopardy or adverse modification of designated critical habitat of the newly listed species.

As to other potential changed circumstances (e.g., fire, flood, insect infestation, plant diseases, earthquake or other natural disaster), the short duration of the permit (i.e., five years) makes the occurrence of any such circumstance within the permit period unlikely. Furthermore, it would not be possible to address the problem on site because this HCP contemplates the complete removal of potential habitat, not continued on-site management of the species.

10.0. PERMIT AMENDMENT/RENEWAL PROCESS

10.1. PERMIT AMENDMENTS

At this time there is no reason to expect that an amendment to the take permit will be needed to complete the development of the proposed community school. However, during the specified permit period an amendment of the Section 10(a) permit for the project would be required for any change in the following:

1. significant revision of the permit area boundary;

2. the listing under the ESA of a new species not currently addressed in the HCP that may be taken by project activities;

3. modification of any important project action or mitigation component under the HCP, including funding, that may significantly affect authorized take levels, effects of the project, or the nature or scope of the mitigation programs; and

4. any other modification of the project likely to result in significant adverse effects to CTS or Sebastopol meadowfoam not addressed in the original HCP and permit application.

Amendment of the Section 10(a) permit would be treated in the same manner as an original permit application. Permit amendments typically require a revised HCP, a permit application form and application fee, an Implementing Agreement, a NEPA document, and a 30-day public comment period. However, the specific documentation needed in support of a permit amendment may vary, depending on the nature of the amendment. If the permit amendment qualifies as a low-effect HCP, an Implementing Agreement and NEPA document would not be needed.

10.2. HCP AMENDMENTS

This HCP may, under certain circumstances, be amended without amending the associated permit, provided that such amendments are of a minor or technical nature and that the effect(s) the amendment(s) would have on the species involved and the levels of take do not differ significantly from those described in the original HCP. Examples of minor amendments to the HCP that would not require permit amendment include, but are not limited to:

1. minor revisions to the HCP's plan area or boundaries;

2. minor changes to conservation bank planting site(s) and site preparation; and

3. minor changes to survey, monitoring, or reporting protocols.

To amend the HCP without amending the permit, Sonoma County Office of Education must submit to the Service, in writing, a description of:

1. the proposed amendment;

2. an explanation of why the amendment is necessary or desirable; and

3. an explanation of why Sonoma County Office of Education believes the effects of the proposed amendment would not be significantly different from those described in the original HCP.

If the Service concurs with Sonoma County Office of Education' proposal, it shall authorize the HCP amendment in writing and the amendment shall be considered effective upon the date of the Service's written authorization.

10.3. PERMIT RENEWAL

Provided that biological circumstances and other pertinent factors affecting CTS or Sebastopol meadowfoam are not significantly different from those described in the original HCP, the Sonoma County Office of Education may renew the permit through a written request to the Service at least 30 days before the permit is due to expire.

In writing, the Sonoma county Office of Education must:

1. request to renew the permit;

2. refer to the original permit number;

3. certify that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct, and inclusion of a list of changes;

4. describe any take that has occurred under the existing permit; and

5. describe any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

If the Service concurs with the information provided in the request, it shall renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If the Sonoma County Office of Education files a renewal request and the request is on file with the issuing Service office at least 30 days prior to the permit's expiration, the permit shall remain valid while the renewal is being processed, provided the existing permit is renewable. However, the Sonoma County Office of Education may not take listed species beyond the quantity authorized by the original permit.

If Sonoma County Office of Education fails to file a renewal request within 30 days prior to permit expiration, the permit shall become invalid upon expiration. Sonoma County Office of Education and the conservation bank operator must have complied with all annual reporting requirements to qualify for a permit renewal

10.4. PERMIT TRANSFER

Although the sale or transfer of ownership of the property prior to construction of the proposed project is not expected to occur during the life of the permit, should it occur, a new permit

application, permit fee, and an Assumption Agreement will be submitted to the Service by the new owner(s). The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of this HCP unless otherwise specified in the Assumption Agreement and agreed to in advance with the Service.

11.0. ALTERNATIVES CONSIDERED

The impacts of three alternatives were considered in this HCP: the no-action Alternative, the Reduced-Take Alternative, and the Proposed Project.

11.1. NO-ACTION ALTERNATIVE

Under the No-Action Alternative, the proposed school would not be constructed and the Sonoma County Office of Education would not implement this HCP or receive a Section 10(a) incidental take permit from the Service. The project site would remain undeveloped and the existing CTS estivation habitat and the pair of seasonal wetlands would remain intact.

The approximately three-acre property at 3270 Dutton Avenue southeast of the site, across Dutton Avenue, and the four-acre property directly to the north are undeveloped. Neither site provides breeding habitat. In the case of the parcel east of Dutton Avenue, curbs on both sides of the street physically impair possible migratory connections through the proposed school site to any breeding habitat to the west of the project site. The remaining properties to the north, east, and south are partially or completely developed. The natal breeding pond for the CTS observed on the project site is unknown but the nearest breeding pond is located to the west between Juniper and Primrose Avenues or to the south (south of West Robles Avenue). Migratory pathways between the project site and any breeding site is at least partially blocked, in part by structures on the project site (i.e., a residence, warehouse/garage, and fences at the west end of the north parcel) of off-site on adjacent properties or nearby properties, including the property directly west of the south parcel.

In assessing existing conditions around the project site, the Service has mapped the properties to the north, east, and south as “developed” or, recognizing the current trend, “future development.” In the absence of the proposed project, CTS habitat conditions on and around the site will continue to decline because of the fragmented character of the habitat. Therefore, the No-Action Alternative is not likely to yield long-term benefits to the CTS.

Because of the quality and condition of the pair of seasonal wetlands, the No-Project Alternative would not benefit Sebastopol meadowfoam or the other listed plant species on the Santa Rosa Plain. Because of their size and isolated positions with respect to other wetlands in the area that do provide potentially suitable habitat for Sebastopol meadowfoam and the other listed plant species, and because of the lack of hydrologic connections with these other seasonal wetlands, the seasonal wetlands on the project site are not ecologically viable candidates for either preservation or enhancement.

SCOE explored possibilities of constructing the proposed community school at 29 alternative sites in Sonoma County. All of the sites were rejected because:

1. local governments had existing plans for the sites;

2. conditions did not satisfy requirements set by the School Facilities Planning Division (SFPD) of the California Department of Education;

3. the site was too large (and, therefore, too expensive); or

4. landowner(s) refused to sell their land.

Consistent with SFPD requirements, several sites were rejected due to proximity to power lines, airport runways (two-mile distance requirement from school buildings), roads that carry high volumes of traffic, railroad tracks or railroad track easement, or high-pressure transmission lines, or a freeway (U. S. Highway 101) that poses safety problems or generates sound unacceptable levels. Other sites were rejected because of their proximity to other alternative-education schools.

For these reasons, alternative locations for the proposed community school are not available. Therefore, the No-Action Alternative for the proposed community school site on Dutton Avenue does not leave SCOE with an alternative.

The No-Action Alternative does not offer an ecologically superior alternative to the proposed project and the minimal impacts cannot be reduced by siting the school at an alternative location.

11.2. REDUCED-TAKE ALTERNATIVE

When a school district is planning to acquire a site for a school, the State of California requires that it consider an array of criteria. The SFPD has developed a process by which districts use governing criteria to identify candidate sites for consideration, conduct evaluations, and select a site from among the candidates. The criteria are consistent with the California Education Code, California Code of Regulations, Title 5, California Public Resources Code, and the California Department of Education policies and guidelines.

Among the criteria that must be considered is the area of the site. The site must be large enough to provide room for required facilities, i.e., classrooms and support facilities, play areas and open space, access and areas for staff and other parking, and bus loading. The site must also be large enough to permit future expansion (to accommodate a larger student population in an urbanizing area). If a site has less than the minimum usable area, the district may be unable to provide students with an adequate educational program, including physical education. A site should also be roughly proportionate in dimensions to the projected layout of buildings, fields, and other facilities, so that the time required to reach classes is kept reasonable. If 30 percent of a site is unusable, that reduction in utility makes the site unsuitable based on State requirements.

The Reduced-Take Alternative would necessarily reduce the area available for constructing required facilities. The site is small and the existing residence and warehouse/garage in the northwest quarter of the site will be retained for administrative purposes and to provide storage facilities, and available space for the necessary facilities is limited. Facilities have their respective minimum-size requirements and no facilities can be left from the plan and satisfy state requirements.

The project will have unavoidable, direct impacts on CTS estivation habitat and on seasonal wetland habitat that has extremely limited potential to support Sebastopol meadowfoam. School facilities could be massed more closely together to reduce the total area of CTS estivation habitat eliminated and to physically avoid the wetlands at the north and south property boundaries. The result would permit a straightforward and easily quantifiable reduction in direct impacts.

The indirect impacts of the project are more difficult to quantify. CTS that may persist on the undeveloped parcel north of the proposed school site cannot currently access breeding habitat to the

south (i.e., south of West Robles Avenue) because of existing barriers to migration; construction of the school facilities would not block migration to the west by CTS estivating on this adjoining parcel. Furthermore, migratory pathways across the site from are already partially blocked by on-site structures, fences that at least, in part, offer no pathways beneath them, and by curbs along Dutton Avenue (Figure 8). Retained CTS estivation habitat around newly constructed facilities and paved surfaces would provide little value to the species because the fragments would be further isolated by barriers to migratory movement.

The seasonal wetlands, which provide potentially suitable Sebastopol meadowfoam habitat solely because of their designation as seasonal wetlands, would not be sufficiently buffered by retained surrounding upland habitat, they would not possess effective ecological connections with other wetlands and types of habitat, and they would not have the hydrologic "support system" necessary to maintain the existing water balance. The areas containing the avoided wetlands would not be large enough to be internally resistant to the demographic and genetic events that cause extinctions (eliminate species populations) and, via those eliminations, reduce community diversity and the associated wetland functions.

Any avoided habitat would be ecologically non-viable. Ecologists believe that smaller populations are more vulnerable to intrinsic (i.e., inbreeding, genetic drift, random fluctuations in population size) and extrinsic (i.e., drought, flood, changes in management, natural or human-induced environmental variations) causes of extinction than larger populations (May 1974, Shaffer 1981, Soule and Simberloff 1986). Habitat fragmentation, i.e., a pattern of small, scattered preserves, is believed to isolate species populations and lead to their decline (Diamond and May 1976, Sullivan and Shaffer 1975, Wilcox and Murphy 1985, Janzen 1986), particularly where the natural-land fragments are distributed among or surrounded by substantially different types of land, i.e., residentially and commercially developed lands.

The Vernal Pool Task Force (CH2M Hill 1996) recognized that small preserves in urbanized settings are likely to experience loss of functions and values, that surrounding upland habitat is required to buffer a wetland preserve, and that large preserves are better than small preserves. Although the Conservation Strategy does not clearly establish minimum preserve size, a fragmented combination of avoided areas on the project site would by necessity be considerably less than four acres. For CTS, such habitat fragments would not be ecologically viable. The Conservation Strategy does state that "preserves should be of adequate size to maintain the hydrology of the wetlands/swale complexes" by capturing the entire (vernal) pool watersheds, be internally buffered from surrounding properties, and (be large enough to be feasibly managed. At least in the Windsor Plant Conservation Area, plant preserves should be between 25 and 100 acres. On-site avoidance would fall far short of these requirements. Full watershed protection would not be feasible and internal buffering from surrounding properties is not physically possible because the wetlands occur along the site's boundaries.

Mitigation Banks sufficiently removed from the direct and immediate influence of urban land uses offers a much preferable alternative to avoidance that leaves patchwork arrays of small ("postage stamp" is a common descriptor) preserves (CH2M Hill 1996) stranded as islands within developed or urbanized landscapes, islands in which the preserved values cannot be expected to persist. Avoidance of the seasonal wetlands in whole or in part, would yield little in terms of long-term preservation of wetland functions and values, regardless of the manner in which the latter are defined.

Photo Descriptions: Upper right and left photos and the center left photo show portions of the fence that is not passable to CTS. Boards contact the ground surface and leave no openings at the base through which CTS can pass. These photos show the condition typical at the west end of the north parcel. The center right photo shows a section of fence typical of the condition at the west end of the south parcel. The lower right photo shows the six-inch curb along both sides of Dutton Avenue broken by driveways. The proposed school site is visible in the background.

Applicant: Sonoma County Office of Education 5340 Skylane Blvd. Santa Rosa, CA 95403 Project Site: Proposed Community School Site (A. P. Nos . 134-072-016, -019) Santa Rosa, California	No Scale	Figure 8. Barriers to Migration On and Adjacent to the Project Site

The overall direct impacts would be reduced but the wetlands could not be properly managed. No entity would accept a conservation easement or management responsibilities over the avoided areas. The avoided wetlands would gradually no longer function in the manner necessary to retain the current values, however compromised they already are. Preservation of the CTS habitat and seasonal wetlands and their functions would be ecologically improbable.

The Reduced-Take Alternative would also introduce unacceptable site development constraints and result in unnecessary economic burdens to the applicant without accomplishing ecological benefit. The Service would also require CTS mitigation for all non-hardscape area of a proposed development site whether or not some fragments are left undeveloped (Cay Goude, personal communication with Dr. Ted Winfield). For these reasons, the Reduced-Take Alternative was rejected.

11.3. PROPOSED PROJECT (PERMIT ISSUANCE)

Under the Proposed-Action Alternative, Sonoma County Office of Education would develop the proposed community school as described in Section 2.0. The Proposed-Action Alternative would require the issuance of a Section 10(a)(1)(B) permit to allow development of the office building. The project would result in the net loss of 4.13 acres of CTS estivation and migratory habitat and 0.07 acres of low-quality seasonal wetland that, although an element of a general habitat type that includes wetlands that do provide suitable habitat for Sebastopol meadowfoam, do not support the species and are not suitable. Impacts on CTS and Sebastopol meadowfoam will be minimal due to the low-quality of onsite habitat and the location of the project site in a commercially and industrially developing area. Therefore, the Proposed Action is the preferred alternative.

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APPENDICES

APPENDIX A.
CEQA DOCUMENT

APPENDIX B
MITIGATION CREDIT PURCHASE AGREEMENTS
(TO BE PROVIDED)