Indirect Effects

Indirect effects are caused by, or result from a proposed action, occur later in time, and are reasonably certain to occur.

Vernal Pool Species

The proposed action has the potential of indirectly affecting vernal pool tadpole shrimp, vernal pool fairy shrimp, California linderiella fairy shrimp, giant garter snake, and western spadefoot toad. Potential soil erosion generated from construction activities and changes in the hydrology around suitable habitat in segment 1 has the potential to harm special-status species. These indirect effects also have the potential to degrade habitat, and could result in the loss of a federally listed species. Therefore, indirect effects associated with the proposed project could adversely affect special-status species occurring in the project area. Indirect impacts to vernal pool species will occur within parcel 3 and total 0.906 acres of vernal pool habitat (**Attachment A**). Vernal pools and swales occur in parcels 2, 3, 4, 5, 7, 8, and along the east side of El Monte Avenue near the intersection with SR 23 and may incur indirect impacts from run-off and dust during construction. In these areas environmentally sensitive area (ESA) fencing and silt fencing will be installed to prevent impacts from construction and to notify construction personnel of the sensitivity of the area.

Based on topography, the area delineated by the black line east to Bruce Road is not expected to incur indirect impacts (**Attachment A**). This area is approximately 10 feet higher in elevation than the existing road; thus, there will not be a change to existing hydrology or impacts from run-off associated with construction.

Giant Garter Snake

Indirect impacts to GGS may occur due to the increase of human activities in the area. These impacts may include vehicular mortality, human intrusion, predation from domestic and wild animals associated with urban growth, and change in stream hydrology.

Butte County Meadowfoam

Indirect effects will occur to populations of BCM within parcel 3 west of the black line depicted in **Figure 6**. Some populations occur very close to the road but will still incur only indirect impacts due to protective measures such as putting up ESA and silt fencing. Indirect effects to BCM due to the widening of SR32 will total 0.183 acre.

Construction activities that could indirectly impact BCM total 0.183 acre. Indirect impacts will occur in parcel 3 west of the black line depicted in **Figure 6**. Indirect impacts to BCM may occur due to possible changes in hydrology or run-off associated with construction. No indirect impacts are expected to occur east of the black line in parcel 3 based on the following reasoning: the elevation of the area is 2 to 10 feet above the road bed where all the construction will be

taking place, all runoff from the road in this area will travel down the ditch and not into BCM populations or habitat. Any alterations in hydrology in this area will not effect the BCM or BCM habitats.

Effects of the Proposed Project

Vernal Pools

To compensate for direct effects on an estimated 0.265 acre of potential habitat for federally listed vernal pool tadpole and fairy shrimp, the City will create suitable vernal pool fairy shrimp and vernal pool tadpole shrimp habitat at a ratio of 1:1 (1 acres preserved for every 1 acre of habitat affected), for a total of 0.265 acre per the predetermined ratios set forth by the USFWS programmatic. The City proposes to purchase vernal pool creation credits from a USFWS approved mitigation bank if credits become available prior to the start of construction or create features within in a USFWS approved off-site location.

To compensate for indirect effects on an estimated 0.906 acre of potential habitat for federally listed vernal pool tadpole and fairy shrimp, the City will preserve suitable vernal pool fairy shrimp and vernal pool tadpole shrimp habitat at a ratio of 2:1 (2 acres preserved for every 1 acre of habitat affected), for a total of 1.812 acres per the predetermined ratios set forth by the USFWS programmatic. The City proposes to purchase vernal pool preservation credits from Dove Ridge Mitigation Bank or preserve features within in a USFWS approved off-site location. The actual fee paid will be that in effect at the time of payment. Mitigation credits will be purchased prior to any ground-disturbing activities in the project area, including grading, or site grubing.

Butte County Meadowfoam

To compensate for 0.0001 acre of direct impact and 0.183 acre of indirect impact to BCM and BCM suitable habitat, the City will preserve and/or create additional habitat for BCM, using compensation ratios previously approved by the USFWS or a combination of the following options as described below.

The City will preserve directly impacted BCM habitat at a ratio of 19:1, for a total of 0.0019 acres, and indirectly impacted BCM habitat at a ratio of 5:1, for a total of 0.915 acres. Direct and indirect impacts to BCM habitat will total 0.917 acres. Preservation credits must be acquired from a USFWS-approved mitigation bank or conservation area. The exact amount of impact and mitigation must be confirmed after preliminary engineering design is completed.

The following three preservation options are being considered by the City:

1) Purchase 0.917 acre of BCM credits (if available at the time of purchase) from Dove Ridge Mitigation Bank. The actual fee paid will be that in effect at the time of payment.

2) Preserve and/or create 0.917 acre of BCM at the proposed Bidwell Ranch conservation area. As part of the mitigation plan for the Chico Municipal Airport project, Bidwell Ranch has been identified by USFWS as a suitable BCM conservation area; however, a final management plan has not been developed at this time. A final management plan would be developed by the City prior to the start of construction.

3) Establish 0.917 acre of new BCM preserve within a USFWS pre-approved off-site location. The City would be responsible for developing a monitoring plan, placing the property in a USFWS conservation easement, and assuring an endowment fund would be available to protect the property for perpetuity.

Final compensation requirements and mitigation ratios for this project would be determined through consultation with USFWS. The exact cost to purchase preservation credits for project-related impacts will be determined at the time of purchase. Mitigation credits will be purchased and/or a conservation area and management plan will be established prior to any ground-disturbing activities in the project area, including grading. Future consultation will consist of requesting a consistency determination from CDFG concerning BCM and GGS.

Giant Garter Snake

The project proponent will mitigate for the loss of GGS habitat by acquiring a fee title or conservation easement for an off-site location. If an alternative location is not logistically feasible, alternative options will be investigated, such as purchasing mitigation credits in a bank (if available), or through the in-lieu species fund. Preservation of the GGS habitat may be credited against, but may not exceed, 50 percent of the aquatic habitat replacement. Actual mitigation will be dependent on the level and amount of impact per the 1997 programmatic.

Per the GGS programmatic, the project proponents will mitigate for direct impacts to GGS upland habitat at a ratio of 3:1. A total of 4.839 acres of GGS habitat will be created and/or preserved off-site. Temporary disturbances will be limited to one season, and on-site restoration in those areas will act as mitigation per the GGS programmatic. These calculations are based on 35% design. Once the project design has reached 65% design, the numbers will be recalculated and submitted to the USFWS to assess the required mitigation.

The following minimization measures will be used to prevent impacts and the need for an incidental take permit per Section 9 of the ESA.

1. The following terms and conditions implement reasonable and prudent measures for protecting GGS per the 1997 programmatic:

> **A.** All construction activity within GGS habitat shall be conducted between May 1 and October 1. This is the active period for GGS and direct impacts are lessened, because snakes are actively moving and avoiding danger. More danger is posed to snakes during their inactive period, because they are occupying underground burrows or crevices and are more susceptible to direct effects, especially during excavation. Between October 2

and April 30 contact the USFWS's Sacramento Fish and Wildlife Office to determine if additional measures are necessary to minimize and avoid take.

B. Any dewatered habitat must remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.

C. Construction personnel shall participate in a USFWS worker environmental awareness program. Under this program, workers shall be informed about the presence of GGS and habitat associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the Act. Prior to construction activities, a qualified biologist approved by the USFWS shall instruct all construction personnel about: (1) the life history of the GGS; (2) the importance of irrigation canals, marshes/wetlands, and seasonally flooded areas, such as rice fields, to the GGS; and (3) the terms and conditions of the biological opinion. Proof of this instruction shall be submitted to the Sacramento Fish and Wildlife Office.

D. Within 24-hours prior to commencement of construction activities, the site shall be inspected by a qualified biologist who is approved by the USFWS's

Sacramento Fish and Wildlife Office. The biologist will provide the USFWS with a field report form documenting the monitoring efforts within 24-hours of commencement of construction activities. The monitoring biologist needs to be available thereafter; if a snake is encountered during construction activities, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. GGSs encountered during construction activities should be allowed to move away from construction activities on their own. Capture and relocation of trapped or injured individuals can only be attempted by personnel or individuals with current USFWS recovery permits pursuant to section 10(a)1(A) of the Act. The biologist shall be required to report any incidental take to the USFWS immediately by telephone at (916) 979-2725 and by written letter addressed to the Chief, Endangered Species Division, within one working day. The project area shall be re-inspected whenever a lapse in construction activity of two weeks or greater has occurred.

E. Clearing of wetland vegetation will be confined to the minimal area necessary to excavate toe of bank for riprap or fill placement. Excavation of channel for removal of accumulated sediments will be accomplished by using equipment located on and operated from top of bank, with the least interference practical for emergent vegetation.

F. Movement of heavy equipment to and from the project site shall be restricted to established roadways to minimize habitat disturbance.

G. Preserved GGS habitat shall be designated as Environmentally Sensitive Areas and shall be flagged by a qualified biologist approved by the USFWS and avoided by all construction personnel.

H. After completion of construction activities, any temporary fill and construction debris shall be removed and, wherever feasible, disturbed areas shall be restored to pre-project conditions. Restoration work may include replanting emergent vegetation.

I. All wetland and upland acres created and provided for the GGS shall be protected in perpetuity by a USFWS-approved conservation easement or similarly protective covenants in the deed. The conservation easement on the mitigation habitat shall be recorded at the county recording office within 60 days of groundbreaking. The easement/deed, including a title report for the land area, shall be reviewed and approved by the USFWS prior to recording in the appropriate County Recorders Office(s). A true copy of the recorded easement/deed shall be provided to the USFWS within 30 days after recordation. Standard examples of deed restrictions and conservation easements are available from the USFWS upon request.

J. The COE shall ensure compliance with the Reporting Requirements below.

Giant Garter Snake Reporting Requirements

The USFWS-approved biologist shall notify the USFWS immediately if GGSs are found on-site as detailed in term and condition 1D, and will submit a report including date(s), location(s), habitat description, and any corrective measures taken to protect the snake(s) found. The USFWS-approved biologist shall submit locality information to the CDFG, using completed California Native Species Field Survey Forms or their equivalent, no more than 90 calendar days after completing the last field visit of the project site. Each form shall have an accompanying scale map of the site such as a photocopy of a portion of the appropriate 7.5 minute U.S. Geological Survey map and shall provide at least the following information: township, range, and quarter section; name of the 7.5' or 15' quadrangle; dates (day, month, year) of field work; number of individuals and life stage (where appropriate) encountered; and a description of the habitat by community-vegetation type.

A post-construction compliance report prepared by the USFWS approved monitoring biologist shall be forwarded to the Chief, Endangered Species Division, at the Sacramento Fish and Wildlife Office within 60 calendar days of the completion of each project. This report shall detail (I) dates that construction occurred; (ii) pertinent information concerning the applicant's success in meeting project mitigation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on federally listed species, if any; (v) occurrences of incidental take of federally listed species, if any; and (vi) other pertinent information.

The Sacramento Fish and Wildlife Office is to be notified within three working days of the finding of any dead listed species or any unanticipated harm to the species addressed in this biological opinion. The USFWS contact person for this is the Chief, Endangered Species Division at (916) 979-2725.

Minimization Efforts

a. The City shall include a copy of the biological opinion within its construction documents making the primary contractor responsible for implementing all requirements and obligations included within the biological opinion, and to educate and inform all other contractors involved in the project as to the requirements of the biological opinion. A copy of the contract documents containing the biological opinion also will be provided to the Chief of Endangered Species (Central Valley) at the Sacramento Fish and Wildlife Service.

b. At least 30 days prior to initiating construction activities, the City shall submit the names and curriculum vitae of the biological monitor(s) for the proposed project.

c. The contractor will be responsible for providing a Worker Environmental Awareness Training Program for construction personnel shall be conducted by a USFWS-approved biologist for all construction workers, including contractors, prior to the commencement of construction activities. The program shall provide workers with information on their responsibilities with regard to BCM, GGS and vernal pool crustaceans, an overview of the life-history of these species, information on take prohibitions, protections afforded these species under the ESA, and an explanation of the relevant terms and conditions of the biological opinion. Written documentation of the training must be submitted to the Sacramento Fish and Wildlife Service within 30 days of the completion of training. As needed, training shall be conducted in Spanish for Spanish language speakers.

d. The contractor will be responsible for hiring a USFWS-approved biologist shall inspect construction-related activities at the proposed project site to ensure that no unauthorized take of federally-listed species or destruction of their habitat occurs. The biologist shall be available for monitoring throughout all phases of construction that may result in adverse effects to BCM or vernal pool crustaceans.

e. The contractor will be responsible for understanding and following the guidelines set forth in the Section 404 permit, Section 401 water quality certification, and Section 1602 streambed alteration agreement.

f. The contractor will avoid and minimize potential construction-related water quality impacts through compliance with the RWQCB by preparing and submitting the following water quality permits and plans.
    i. A National Pollutant Discharge Elimination System (NPDES) storm water permit for general construction activities.
    ii. A Notice of Intent to obtain proper coverage under the State Construction General Permit.

g. The contractor will be responsible for understanding and following the guidelines set forth in the Caltrans Storm Water Quality Handbook, Construction Best Management Practices (BMPs) Manual, March 2003 or latest edition. Measures consistent with the current Caltrans' Construction Site BMPs Manual, including the Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Manuals, will be implemented to minimize effects to listed species during construction.

h. The contractor will prepare a site-specific SWPPP for the project to protect receiving waters from pollution. The SWPPP will include standard sediment and erosion control measures which will include limiting soil disturbances during the winter rainfall season. Given the site-specific conditions of the project area, the SWPPP for this project will generally include limiting soil disturbances during the winter rainfall season of October 15 through April 15 and fully stabilizing disturbed areas prior to December 1. Standard sediment erosion control measures, such as silt fencing, straw bale barriers, sediment traps, or other measures could also directly reduce the offsite transport of sediment from disturbed slopes. Existing vegetation that can be preserved will be identified and flagged or fenced to avoid disturbance. Erosion in disturbed areas will be controlled through the use of grading operations that eliminate direct routes for conveying runoff to drainage channels and use of soil stabilization BMPs, such as mulching, erosion control fabrics, and/or reseeding with grass or other plants where necessary. Standard staging area practices for sediment tracking reduction also will be identified where necessary including vehicle washing and street sweeping. Temporary concentrated flow conveyance systems also will be considered, such as berms, ditches, and outlet flow-velocity dissipation devices to reduce erosion from newly disturbed slopes.

i. The biological monitor will regularly inspect and maintain the BMPs in good working order.

j. The City will incorporate permanent post-construction BMPs in the project design to avoid or minimize long-term water quality impacts, pursuant to the NPDES storm water permit. Appropriate BMPs for the project site could include stabilization measures such as preservation of existing vegetation, concentrated flow conveyance systems (ditches, berms, drains, flared culvert end sections, outlet protection, and flow-velocity dissipation), and slope roughening or terracing for new cut-and-fill slopes as deemed necessary by the project engineer. Slope protection measures will be implemented to control erosion such as reducing the length of disturbed slopes, reducing the gradient of slopes, and preventing concentrated flow over slope soils. The City will be responsible for long-term inspection and maintenance of the permanent BMPs to ensure that they are maintained in good working order.

k. The contractor will be responsible for complying with all work windows in regards to special-status species. Work windows for this project include:

    i. Working in Dead Horse Slough during the dry season (generally June 1 through October 30; however, work may start earlier if the creek is dry) when no habitat is present for anadromous fish. This window also encompasses GGS who hibernate during the colder months of the year and are not able to escape danger from heavy machinery smashing their winter dens.

    ii. Prohibiting the removal of trees during the raptor nesting season (generally March 1 through September 15), or removing necessary trees prior to the nesting season after a pre-construction raptor survey. And no construction will occur within 250 feet of active raptor nests.

l. Prior to the commencement of construction activities, a qualified biologist hired by the contractor will determine the location of high visibility fencing will be erected around the habitats of the federally listed species to identify and protect these Environmentally Sensitive Areas (ESAs) from encroachment of personnel and equipment. These areas will be avoided by all construction personnel. The fencing shall be inspected before the start of each work day and maintained by the contractor until completion of the project. The fencing may be removed only when the construction of the project is completed.
    i. Fencing will be established 2 feet from the edge of pavement or a minimum distance of 50 feet from the suitable vernal pool crustacean habitat.
    ii. Fencing will be established 2 feet from the edge of pavement from the suitable BCM habitat.
    iii. Fencing will be established around Dead Horse Slough to minimize the amount of disturbance (heavy equipment movement, vehicle movement) to the creek channel.

m. Signs will be posted every 100 feet along the edge of the ESAs. The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction. The signs will have the following information:
    "This area is habitat of federally-threatened and/or endangered species and must not be disturbed. These species are protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines and imprisonment"

n. During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed project activity will be limited to the minimum necessary. Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the project site will be restricted to established roadways to minimize habitat disturbance.

o. During construction operations, stockpiling of construction materials, portable equipment, vehicles and supplies will be restricted to the designated construction staging areas and exclusive of the ESAs.

p. After construction activities are complete, any temporary fill or construction debris shall be removed and disturbed areas restored and revegetated to their pre-project conditions. An area subject to "temporary" disturbance includes any area that is disturbed during the project, but that, after project completion, will not be subject to further disturbance and has the potential to be re-vegetated.

q. The contractor shall ensure that activities that are inconsistent with the maintenance of the suitability of vernal pool crustacean habitat and the associated on-site watershed are prohibited. These include, but are not limited to:
    i. the alteration of existing topography that may alter hydrology into habitat for Federally-listed vernal pool crustaceans;
    ii. the placement of any equipment within suitable habitat;
    iii. dumping, burning, and/or burying of rubbish, garbage, or any other wastes and fill materials; and
    iv. the use of pesticides or other toxic chemicals.

r. The contractor will develop and implement a spill prevention and control program to minimize the potential for—and effects from—spills of hazardous, toxic, or

petroleum substances during construction of the project. The program would be a component of the SWPPP. If a spill is reportable under federal, state, or local regulations, the contractor would notify the City of Chico, Butte County Environmental Health and California Department of Toxic Substances Control, which has spill response and cleanup ordinances to govern emergency spill response. A written description of reportable releases would be submitted to the RWQCB. This submittal would include a description of the release, including the type of material and an estimate of the amount spilled; the date of the release; an explanation of why the spill occurred; and a description of the steps taken to prevent and control future releases. The releases would be documented on a spill report form.

s. The following minimization measures will be used to prevent impacts and the need for an incidental take permit per Section 9 of the ESA.

1. The following terms and conditions implement reasonable and prudent measures for protecting GGS per the 1997 programmatic:

A. All construction activity within GGS habitat shall be conducted between May 1 and October 1. This is the active period for GGS and direct impacts are lessened, because snakes are actively moving and avoiding danger. More danger is posed to snakes during their inactive period, because they are occupying underground burrows or crevices and are more susceptible to direct effects, especially during excavation. Between October 2 and April 30 contact the USFWS's Sacramento Fish and Wildlife Office to determine if additional measures are necessary to minimize and avoid take.

B. Any dewatered habitat must remain dry for at least 15 consecutive days after April 15 and prior to excavating or filling of the dewatered habitat.

C. Construction personnel shall participate in a USFWS worker environmental awareness program. Under this program, workers shall be informed about the presence of GGS and habitat associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the Act. Prior to construction activities, a qualified biologist approved by the USFWS shall instruct all construction personnel about: (1) the life history of the GGS; (2) the importance of irrigation canals, marshes/wetlands, and seasonally flooded areas, such as rice fields, to the GGS; and (3) the terms and conditions of the biological opinion. Proof of this instruction shall be submitted to the Sacramento Fish and Wildlife Office.

D. Within 24-hours prior to commencement of construction activities, the site shall be inspected by a qualified biologist who is approved by the USFWS's

Sacramento Fish and Wildlife Office. The biologist will provide the USFWS with a field report form documenting the monitoring efforts within 24-hours of

commencement of construction activities. The monitoring biologist needs to be available thereafter; if a snake is encountered during construction activities, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. GGSs encountered during construction activities should be allowed to move away from construction activities on their own. Capture and relocation of trapped or injured individuals can only be attempted by personnel or individuals with current USFWS recovery permits pursuant to section 10(a)1(A) of the Act. The biologist shall be required to report any incidental take to the USFWS immediately by telephone at (916) 979-2725 and by written letter addressed to the Chief, Endangered Species Division, within one working day. The project area shall be re-inspected whenever a lapse in construction activity of two weeks or greater has occurred.

E. Clearing of wetland vegetation will be confined to the minimal area necessary to excavate toe of bank for riprap or fill placement. Excavation of channel for removal of accumulated sediments will be accomplished by using equipment located on and operated from top of bank, with the least interference practical for emergent vegetation.

F. Movement of heavy equipment to and from the project site shall be restricted to established roadways to minimize habitat disturbance.

G. Preserved GGS habitat shall be designated as Environmentally Sensitive Areas and shall be flagged by a qualified biologist approved by the USFWS and avoided by all construction personnel.

H. After completion of construction activities, any temporary fill and construction debris shall be removed and, wherever feasible, disturbed areas shall be restored to pre-project conditions. Restoration work may include replanting emergent vegetation.

I. All wetland and upland acres created and provided for the GGS shall be protected in perpetuity by a USFWS-approved conservation easement or similarly protective covenants in the deed. The conservation easement on the mitigation habitat shall be recorded at the county recording office within 60 days of groundbreaking. The easement/deed, including a title report for the land area, shall be reviewed and approved by the USFWS prior to recording in the appropriate County Recorders Office(s). A true copy of the recorded easement/deed shall be provided to the USFWS within 30 days after recordation. Standard examples of deed restrictions and conservation easements are available from the USFWS upon request.

J. The COE shall ensure compliance with the Reporting Requirements below.

Giant Garter Snake Reporting Requirements

The USFWS-approved biologist shall notify the USFWS immediately if GGSs are found onsite as detailed in term and condition 1D, and will submit a report including date(s), location(s), habitat description, and any corrective measures taken to protect the snake(s) found. The USFWS-approved biologist shall submit locality information to the CDFG, using completed California Native Species Field Survey Forms or their equivalent, no more than 90 calendar days after completing the last field visit of the project site. Each form shall have an accompanying scale map of the site such as a photocopy of a portion of the appropriate 7.5 minute U.S. Geological Survey map and shall provide at least the following information: township, range, and quarter section; name of the 7.5' or 15' quadrangle; dates (day, month, year) of field work; number of individuals and life stage (where appropriate) encountered; and a description of the habitat by community-vegetation type.

A post-construction compliance report prepared by the USFWS approved monitoring biologist shall be forwarded to the Chief, Endangered Species Division, at the Sacramento Fish and Wildlife Office within 60 calendar days of the completion of each project. This report shall detail (I) dates that construction occurred; (ii) pertinent information concerning the applicant's success in meeting project mitigation measures; (iii) an explanation of failure to meet such measures, if any; (iv) known project effects on federally listed species, if any; (v) occurrences of incidental take of federally listed species, if any; and (vi) other pertinent information.

The Sacramento Fish and Wildlife Office is to be notified within three working days of the finding of any dead listed species or any unanticipated harm to the species addressed in this biological opinion. The USFWS contact person for this is the Chief, Endangered Species Division at (916) 979-2725.

Interrelated and/or Interdependent Effects From Other Projects Within the Vicinity

Interrelated actions are those that are part of a larger action and depend on the larger action that is under consideration. Interdependent actions are actions having no independent utility apart from the proposed action (50 CFR 402.02). No interdependent or interrelated actions were identified for this project.

Cumulative Effects

Cumulative effects are those impacts of future state, local and private actions affecting endangered and threatened species that are likely to occur in the action area (USFWS 1996). Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the Act.

Due to the fact that the special-status vernal pool species covered in this report, including vernal pool tadpole shrimp and vernal pool fairy shrimp, are endemic to vernal pools in the Central Valley, coastal ranges and a limited number of sites in the transverse range and Santa Rosa plateau of California, the USFWS anticipates that a wide range of activities will be determined to

effect these species (USFWS 1996). Such activities include, but are not limited to, urban, water, flood control, highway and utility projects, as well as conversion of vernal pools to agricultural use. Many of these activities will be reviewed under Section 7 of the ESA as a result of the federal nexus provided by FHWA funding or issuance of a COE permit. The USFWS is currently unaware of any state, local, or private actions which, when considered in conjunction with the known environmental baseline for these species, would be likely to preclude the survival and recovery of listed vernal pool invertebrates (USFWS 1996).

There are no state, local, or private actions known in the project area that would not require Section 7 consultation; thus, all the proposed projects in the area are expected to go through Section 7 consultation. No known state, local, or private actions, other than those described in this BA are expected to occur; therefore, no cumulative effects are expected to occur within the action area.

Growth Inducing Impacts

Growth-inducing effects result when the development associated with a project directly induces population growth or the construction of additional developments within the same geographic area. These effects may impose burdens on a community or encourage new local development, thereby triggering subsequent growth-related effects. This often occurs with the extension of infrastructure facilities that can provide service to new development.

A project is typically considered to be growth-inducing if it fosters economic or population growth. Typical growth inducements might be the extension of urban services or transportation infrastructure to a previously unserved or under served area or the removal of major barriers to development.

All current and future development proposals within the City would be reviewed and approved by the City, independently of review and approval of this Biological Assessment. Land use designations and zoning classifications have been applied to all parcels within the City and have programmatically been accounted for in the General Plan's Environmental Impact Report.

The project is being proposed to serve existing development and future population growth/development as identified in the General Plan under buildout conditions. Implementation of the roadway widening project alternatives would not result in access to areas that were once undevelopable due to lack of infrastructure. In addition, implementation of the alternatives would not increase accessibility to areas where access was considered constrained, thereby deterring development. Overall, the project is not considered growth inducing, and is expected to have a less than significant effect on growth in the area.

Beneficial Effects

Potential beneficial impacts from this project include reducing existing congestion and improving connectivity between the neighborhoods on either side of SR 32. There are existing

operational and safety concerns at the SR 99/SR 32 Interchange, which can be expected to be impacted if the intersections of the two state highway facilities are not looked at concurrently. The project will reduce traffic and wait times reducing air pollution. Additionally, widening the road and improving the intersections will reduce traffic collisions and increase safety for pedestrians.

DETERMINATION

Based on the analysis as documented in this BA, the SR32 Widening Project:

- "is likely to adversely affect" special-status vernal pool invertebrates. As part of project implementation the City will implement measures to compensate for indirect impacts to vernal pools; and avoid and minimize impacts to vernal pool species including preserving vernal pool habitat at a ratio of two acres preserved to each acre indirectly impacted and one acre created for every acre directly impacted
- "is likely to adversely affect" Butte County meadowfoam. As part of project implementation, the City will implement measures to compensate for the direct impacts to BCM; and avoid and minimize impacts to BCM, including preserving BCM habitat at a ratio of 19 acres preserved to each acre directly impacted and 5 acres preserved to each acre indirectly impacted,
- "no affect" on listed fish species or Essential Fish Habitat because construction would occur when the slough is dry and fish do not typically occur in Dead Horse Slough
- "may affect, but is not likely to adversely affect" GGS because, as part of project implementation the project proponent will implement measures to avoid and minimize impacts to these species including completing all construction between May and October 1, when GGS are active and the slough is dry and compensating for habitat loss through the appropriate mitigation.

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