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INITIAL STUDY

City of Chico

Environmental Coordination and Review

ROUTE TO:

- [X] City of Chico Parks Department, Dennis Beardsley
- [X] City Public Works, Engineering Division
- [X] Regional Water Quality Control Board
- [X] State Reclamation Board
- [X] State Department of Fish & Game
- [X] U.S. Fish & Wildlife Service
- [X] U.S. Army Corps of Engineers
- [X] Butte County Air Quality Management District
- [X] State Clearinghouse

1. PROJECT DESCRIPTION

- A. **Project Name:** Verbena Fields Restoration Project (ER 05-05)
- B. **Project Location:** North side of E. 1st Avenue, between Verbena Avenue and Spanish Oak Circle in east Chico (see attached Project Location Maps- **Figures 1 and 2**).
- C. **Type of Application(s):** Park Department Capital Improvement Project
- D. **Assessor's Parcel Number(s):** 045-770-017 & 015-470-900
- E. **Zoning:** 0S-1 (Primary Open Space)

General Plan Designation: Parks & Creekside Greenways

- F. **Environmental Setting:** The project site is located in the City of Chico urban area, and is bounded on the south by the adjacent East 1st Avenue, near its intersection with Verbena Avenue. To the north, the site is bounded by Lindo Channel, and to the west and east, residential homes. **Figures 1, 2 and 3** illustrate the site's proximity to Lindo Channel, a controlled distributary channel of Big Chico Creek. **Figure 3** (aerial photograph) also shows the large size of undeveloped space at the site relative to the Chico urban area.

The undeveloped 15.19-acre site is located on an alluvial fan that is abundant in riverwash gravel, and from the late 1930s to approximately 1964, the Butte Creek Rock Company operated an aggregate quarry on the site. The gravel mining operations left uneven topography, including numerous piles of concrete and building rubble, and removed most of the natural vegetation. Generally, the site sits some five or more feet below the surrounding land. The main exception to this is an approximately 40-foot swath of asphalt paving adjacent to the western edge of the site, which is near the same elevation as homes to the west. The other exception is the large high terrace/fill area near the channel. In roughly the northwest corner of the site, just east of the pavement, is a seasonal wetland and cobble pile that appears to occupy the same gravel pit as depicted in a 1965 aerial photograph of the site. This area harbors the most vegetation per unit area of the entire site. In addition, a potential Water of the U.S. occurs in the southeast quadrant of the site within a topographic depression that seasonally collects and holds water. In the extreme northwestern corner of the site is a storm drain outfall. A small (less than one-foot wide) discontinuous channel leads from the outfall toward Lindo Channel. This area is vegetated with grasses.

To date, there have been no restoration efforts onsite, but invasive and emergent plant species such as annual grasses, star-thistle, and cottonwoods are beginning to colonize the property.

Please see the Project Description below, as well as Section C (Biological Resources), Section G (Hydrology/Water Quality), and the attached "*Administrative Draft: Conceptual Design Review and Feasibility Assessment: City of Chico's First and Verbena Natural Area Proposal*" prepared by Eric Ginney, Senior Geomorphologist, with The Louis Berger Group, Inc. for further details about the project setting.

- G. **Surrounding Land Uses:** The project site is bounded a residential subdivision on the east, west and south sides and by Lindo Channel to the north (see **Figures 2 and 3**). Sierra View

Elementary School is at the intersection of Madrone Avenue and Hooker Oak Avenue less than 0.5 mile southeast of the site; Marigold Elementary School is located at the intersection of Marigold Avenue and Manzanita Avenue northeast of the project site across Lindo Channel.

- H. Project Description:** The City of Chico is proposing a joint project with the Big Chico Creek Watershed Alliance to restore floodplain and habitat on the 15.19-acre site owned by the City. From the late 1930s to approximately 1964, the Butte Creek Rock Company operated an aggregate quarry on the site. The gravel mining operations left uneven topography, including numerous piles of concrete and building rubble, and removed most of the natural vegetation.

Based on public input and the planning and investigative efforts of the City and its consultant team, a conceptual restoration design was formulated for the site. To guide the design process, the following project Goals and Objectives were developed and utilized during project planning:

Goal 1: Create and restore a mosaic of natural habitats at the site.

- Restore floodplain and riparian habitat and reinvigorate fluvial processes.
- Increase the extent and quality of existing wetland habitat.
- Restore and expand native grasslands for the benefit of terrestrial and avian species.

Goal 2: Control invasive species.

- Remove existing invasive species and establish management procedures to control their reintroduction and spread.

Goal 3: Provide opportunities for the Mechoopda Indian Tribe of Chico Rancheria to propagate vegetative species of cultural significance.

Goal 4: Provide educational opportunities and interpretive information at the site regarding floodplains, wetlands, invasive species, stormwater best management practices, and a history of disturbance at the site relative to restoration.

Based on the Project Goals and Objectives, the following actions are proposed to restore and enhance the project site (Note: this Project Description is largely excerpted from the attached *“Administrative Draft: Conceptual Design Review and Feasibility Assessment: City of Chico’s First and Verbena Natural Area Proposal”* prepared by Eric Ginney, Senior Geomorphologist, with The Louis Berger Group, Inc.):

1. Restore form and function to the left-bank floodplain of Lindo Channel through the project site.

Lindo Channel is currently constricted by sediment, asphalt-paved areas, cobble and gravel fill, and concrete rubble. Channel form and function will be reinvigorated by removing the sediment encroaching on the channel and creating a new floodplain that is lower and more accessible to the stream. This work would be conducted using heavy earthmoving equipment, load-haul-dump vehicles, and/or belly scrapers, and would also include the creation of a secondary flow channel (side channel) through the newly constructed floodplain. The design of these features would be supported by a detailed topographic survey of the channel and hydrodynamic modeling to assist in constructing these features with the proper particle size distributions, channel dimensions, and planform configuration.

Figure 4 shows the existing site conditions. **Figure 5** illustrates the area proposed for floodplain enhancement. Approximately 1,100 linear feet of stream channel would benefit from increased channel capacity and floodplain access. On average, the channel/floodplain would be increased by about 80 feet, reaching an increase in width of over 100 feet for about 150 feet of stream channel. At the narrowest part of the existing floodplain/channel the project would more than double the width of the floodway. Schematic cross sections of existing and proposed floodplain conditions are depicted in **Figures 6, 7, 8 and 9**.

Within Symbol #6 of **Figure 5**, approximately 10,000 cubic yards (CY) of material would be removed from the floodplain and/or re-contoured. In part, sediment excavated from the floodplain would be sorted to obtain finer material for specific planting applications; coarser material would be used to create the lower portions of fill for the raised trail shown as Symbol #11 in **Figure 5**. Sediment would also be placed in various topographic low areas (not specified on Figure 4) to enhance the “walk-ability” of the site and smooth the transition from existing upland areas to the small berm at the northeast corner of the site.

2. Remove asphalt paving, concrete, and sorted material piles from the floodplain of Lindo Channel and surrounding natural area.

Preliminary survey efforts yield an estimate of approximately 55,250 square feet (1.26 acres) of asphalt paved surfaces (averaging a depth of 4 inches; see Symbol #2 in **Figure 5**) on the site. In some areas this material is simply unsightly and negates vegetation growth. In the floodplain and channel the paving inhibits natural channel functions such as erosion, channel migration, and riparian recruitment and succession, locking the channel in place¹. Removal and relocation of these materials will allow for natural bank erosion and sediment transport and will improve the aesthetic qualities of the site. Asphalt paving would be removed with heavy earthmoving equipment and transferred by truck from the site for crushing and reprocessing as either road base (for lower-quality material) or new asphalt (higher-quality material). This asphalt material is the only material to be transported off site; all other material is estimated to be relocated with cut and fill match. Any concrete rubble encountered will be incorporated as fill into the base layer of raised trails throughout the site.

One large pile of cobble (see Symbol #4 in **Figure 5**) would remain on site to serve as an interpretive reminder of the site's land use history, and also serves the strategic purpose of mitigating potential channel migration into the pedestrian bridge and wetland complex. This protective measure also plays into the fact that totally unbridled channel migration cannot be allowed to occur on the site because of potential danger downstream homes.

Approximately 500 cubic yards of cobble and pre-sorted material located in existing piles (Symbol #3 and Symbol #5 in **Figure 5**) would be relocated and used on site for trails construction and wetlands enhancement.

3. Create a backwater area in Lindo Channel that, during times of higher stream stage, connects to existing seasonally inundated wetlands.

This element of the project—located in the area of Symbol #7 in **Figure 5**—provides a more-frequent and controlled linkage between the existing wetland and Lindo Channel while increasing high-velocity refugia within Lindo Channel. Final designs are to be completed as a part of the project itself; however, it is currently envisioned that the lower end of the to-be-constructed side channel will flow into a backwater area designed to function as a velocity refuge for smaller, likely juvenile, fish during times of higher flows. During these times of higher flow, this backwater area would connect to the existing wetland. The existing CMP would be removed and the berm at that location removed to create an opening approximately 16 feet wide. The crest elevation of this new opening between the wetland and the channel would be at the same elevation as the existing culvert invert elevation.

4. Install clear span bridges over wetlands and backwater area to enable trail access without creating any constriction on channel or wetland processes.

To mitigate for the loss of the existing user-defined trail running over the CMP without placing fill in the channel, a pre-fabricated clear-span bridge with a 20 foot length would be installed (western Symbol #8 in **Figure 5**). The same type of bridge would also be installed to link the propose trail (Symbol #11 in **Figure 5**) with the high terrace interpretive area (eastern Symbol #8 in **Figure 5**).

¹ For example, much of the low-water channel /thalweg are still in the same location as shown in 1965 aerial photographs.

5. Expand and improve the quality of the existing seasonally inundated wetlands; relocate cobble pile.

The existing wetland (see **Figures 4 and 5**) contains concrete rubble, a cobble pile, rusted metal, and invasive species. Furthermore, the topography of this wetland contains inconsistencies that, as stage in the wetlands recedes, could function to trap fish that entered the site at higher flows. Clearing cobble and debris and re-contouring the existing wetlands would be completed using heavy earthmoving equipment. These actions would improve the ecological function and aesthetic value of the wetlands.

Additionally, the existing low area just to the east of this wetland and the low road bisecting the site would be excavated, expanding and connecting this area to the large existing wetland with minimal grading (an estimated 925 CY). The existing wetland area that merges with the low road (near East 1st Avenue) would also be excavated and enhanced. This work would create a 480-foot-long (approximately 51,500 square feet) low wetland swale that is envisioned to increase the ecological complexity of the site, enhancing the mosaic of habitats on the site. These proposed actions would almost exactly double the amount of wetlands on site with relatively minimal excavation.

6. Construct pedestrian trails to enhance site access.

An important aspect of the “cut and fill match” for the site is the construction of the raised pedestrian trail (see symbol #11 in **Figure 5**). This 4-foot wide, crushed basalt-topped trail will cross ground that currently is riddled with concrete fragments. These fragments, along with any culled from the wetlands and/or floodplain will form the base layer of the trail. Relatively-finer floodplain material will comprise the next level of fill, with the finest available material topping the side slopes of the raised trail. The raised trail would connect with other trails to be constructed on site.

7. Provide bio-engineered improvements for existing storm drains.

The two storm drains outfalls (see Symbol #1 in **Figure 5**) that enter the site would be treated with vegetative plantings to slow and treat runoff. The outfall nearest East 1st Avenue would be treated with the installation of a bioswale. The bioswale is a low-gradient, open channel possessing a dense cover of vegetation through which all surface runoff is directed. The bioswale decreases the speed of flows and allows suspended solids to settle out. Above-ground plant parts filter particulates and their associated pollutants as runoff passes slowly and evenly through the channel. The pollutants are then incorporated into the soil where they may be immobilized and/or decomposed by plants and microbes. The bioswale is considered a creative means of controlling runoff, and has the potential to improve water quality, mitigate wetland loss, provide flood containment, and improve the aesthetics of the project site. As such, the bioswale has hydrologic, chemical, and biological functions.

8. Plant native vegetation and protect sensitive areas with bio-engineered erosion control measures.

Areas disturbed by excavations and earthmoving would be restored with appropriate native vegetation ranging from native grasses to riparian trees. The stream corridor would be planted with riparian species in a configuration² to mimic the riparian succession that would have occurred were the asphalt and fill not present in the channel. Additional plantings would enhance the trail corridors.

² Generically, this might include willows near the active channel, with sycamores and cottonwoods farther and higher from the channel; Valley Oaks would be planted farthest away. Site-specific conditions will ultimately determine planting designs.

The needs of the Mechoopda Indian Tribe relative to opportunities to propagate vegetative species of cultural significance would be incorporated in the final planting design. Because culturally significant species are native to this ecosystem, integration into the site design is anticipated to be relatively easy and successful.

9. Create the “high terrace” interpretive area and interpretive panels at key locations on the site.

The high terrace area in the middle of the site provides a good overview of Lindo Channel and much of the southeastern portion of the site. Included at this location would be a series of interpretive displays highlighting the history of disturbance at the site relative to restoration (reference will be made to the remnant cobble pile that is to be retained); and floodplains—their form, function, and role in maintaining water quality. Near the existing wetland a panel would explain the role of wetlands in maintaining water quality; and providing habitat. A panel on East 1st Avenue would describe native and invasive species, and mention species that are culturally significant to the Mechoopda Indians. At this same location a panel would highlight stormwater best management practices and describe the bioswale.

The restoration project involves approximately 14 acres. Improvements include grading, pathways, benches, signs, minimal (if any) irrigation, culverts, fencing, and landscaping with native material. The property will be graded in select locations to allow seasonal flooding from Lindo Channel. Approximately 6,000 cubic yards of grading and the ripping of approximately 110,000 s.f. of land area, along with the removal of asphalt from the site and burying on-site concrete which totals approximately 55,520 s.f.

Site investigation work performed by Metcalf and Eddy (1993) suggest that from the 1930s or early 1940s until approximately 1963 or 1964 the site was utilized by a commercial aggregate producer and processor (Butte Creek Rock Company) as a commercial aggregate quarry. The results of the quarrying are obvious in that the majority of the site is at least 5 or more feet lower than land surrounding the site. This has moved the land surface closer to the seasonal groundwater surface, and several wetland areas have formed as a result. For instance, Metcalf and Eddy (1993) noted that their review of a 1962 aerial photograph of the site shows a pond present in the southeast corner of the site. While the pond contained water, the late-June photograph depicted a dry Lindo Channel with no visible flow. This pond likely is the impetus for the small wetland currently located in that area.

According to interviews conducted as a part of the City’s 2001 resource assessment of Lindo Channel, Teichert harvested gravel on the site from the late 1950s to the late 1960s. The quantity of extraction was not clearly documented or determined. Of specific note, the City resource assessment states that “The site had rock-crushing capabilities and a hot batch mix plant. Teichert provided varying sizes of aggregate, as well as asphalt, for local jobs (Allredge, pers. comm., May 2001)” (Page 2-7; City of Chico, Park Department, 2001). Our review of two 1965 aerial photographs (January 1965 and July 1965) indicates that by 1965 the lateral extent of channel encroachment (seen as stock piles and a haul road pushed into the channel, controlling its southward migration and access to the floodplain) was roughly coincident with its current extent. Two larger excavations—one in the northwest corner, the other in the southeastern corner—are visible. The former is dry and includes a large pile of cobble; the later is full of water. Channel modifications upstream of the site—in the form of gravel extraction down the center thalweg of the channel, likely to both obtain aggregate material and constrain flood flows and channel migration—are clearly evident.

While it is uncertain which exact entity (Butte Creek Rock or Teichert) was performing activities on site during the period from 1950 through 1963/1964—or even until 1993 when Teichert Land Company (the owner of the site during that time) either sold or deeded EMG the parcel to the City of Chico—it is clear that major aggregate processing and production, likely including an asphalt hot patch plant, was conducted on site for several decades. Evidence to suggest that asphalt production was a major element of the site is also supported by findings of large areas of asphalt paving during site reconnaissance.

Key Benefits and Design Difficulties of the Project

The project would have considerable biological beneficial results by restoring the channel and floodplain of Lindo Channel at one of the only remaining suitable locations in the Chico urban area. This would benefit system flood capacity, allow for sediment deposition on the floodplain, and offer opportunities for juvenile fish to escape higher velocities in the side channel and backwater area. The use of inundated floodplains as rearing habitat for juvenile fish has received increased attention of late and for good reason--growth rates and health of salmonids appear to be increased as compared to similar fish in the mainstem of the river (Sommer et al., 2001; Sommer et al., 2000). Floodplains provide a selective advantage to native fish because of seasonal food availability, refuge from predators, and refuge from faster flows. Providing access to the floodplain while reducing entrapment risks clearly benefits native species.

Wetlands on site would essentially be doubled, and riparian forest establishment along the stream would be jump-started and succession enabled. Floodplain and water's edge vegetation along the south (site-side) of the stream through this reach is currently limited by the asphalt paving. Increased stream shading would be an important benefit for this south-bank project, greatly reducing the solar inputs to the channel once trees begin to mature. Combining restoration plantings with the reconnection of the floodplain will improve the habitat potential of the site and increase the habitat mosaic.

Conceptually, the project works well to find efficiencies: for example it makes strategic use of materials found on site, using concrete to foot the elevated trails and expanding wetlands to 200 percent of existing extent by simply converting the road area to wetland with minimal grading. Additionally, the floodplain excavation works well to integrate existing features such as the side channel at the upstream end of the site and the cobble pile to limit any potentially-adverse southward channel migration.

Difficulties at the site are predominantly related to soils. While formal soil pits would need to be an integral part of final designs, essentially all topsoil at the site has been removed. The remaining soils are well-drained stream alluvium with little finer constituents such as loam or clay. As a result, encouraging the growth of desirable native vegetation in certain areas of the site will be difficult. Based on reconnaissance in a very wet year, highly conducive to growth, vegetation in some areas is sparse, stunted, or nonexistent. In some areas extensive mortality is likely without soil amendments, carefully informed sorting and layering of soils from on-site, or irrigation. This fact has bearing on all plantings, including the wetland margins and streamside areas, but is particularly important for the high terrace, the grasslands, areas where asphalt is to be removed and then planted, and the raised trail. With a major visual aspect of the project being the restoration and enhancement of native vegetation (and creation of shade), this aspect of project design is quite important—far more so than for a similar site in an undisturbed location.

I. Public Agency Approvals: Required approvals from various local, state and federal agencies are summarized below.

~U.S. Army Corps of Engineers: Nationwide Permit

~U.S. Fish and Wildlife Service: Biological Opinion, or Concurrence of Not Likely to Adversely Affect, through Section 7 (ESA) Consultation (includes consultation with the National Marine Fisheries Service).

~Regional Water Quality Control Board (RWQCB), Central Valley Region: Construction Stormwater Permit; Water Quality Certificate (pursuant to Section 401 of the Clean Water Act)

~California Department of Fish and Game: Streambed Alteration Agreement, 1600 Permit

~California Reclamation Board: Encroachment Permit

~City of Chico: Park Plan approval; Grading Permit

~Butte County Air Quality Management District: Approval of Construction Emission/ Dust Control Plan; Spill Prevention Control and Countermeasure Plan

- J. **Applicant:** City of Chico
 Address: P.O. Box 3420, Chico, CA 95927; 411 Main Street, Chico
- K. **Initiated By:** Dennis Beardsley, General Services Director (530) 896-7800
 Contact: Dennis Beardsley, General Services Director (530) 896-7800
- Prepared By:** City of Chico Planning Division
 Contact: Patrick Murphy, Senior Planner (530) 879-6803

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- | | | |
|--|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Hazards /Hazardous Materials | <input type="checkbox"/> Public Services |
| <input checked="" type="checkbox"/> Air Quality | <input checked="" type="checkbox"/> Hydrology/ Water Quality | <input type="checkbox"/> Population/ Housing |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Transportation/Circulation |
| <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Utilities |
| <input type="checkbox"/> Geology /Soils | <input type="checkbox"/> Open Space/ Recreation | |

PLANNING DIRECTOR DETERMINATION:

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a potentially significant impact or have a potentially significant impact unless mitigated, but at least one effect has been adequately analyzed in an earlier document pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION including revisions or mitigation measures that are imposed upon the proposed project. No further study is required.

Signature

Date

Printed Name

For Kim Seidler, Planning Director

Figure 1. Location Map

Figure 2. Location Map 2

Figure 3. Aerial Photo



Park Plan (Existing Conditions)

Figure 4. Proposed Park Plan

Figure 5

creek cross-section #1 (existing)

Cross-section #2 existing

creek cross-section #2 (proposed)

Creek cross-section #2 (proposed)

2. EVALUATION OF ENVIRONMENTAL IMPACTS

- Responses to the following questions and related discussion indicate if the proposed project will have or potentially have a significant adverse impact on the environment.
- A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources cited in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants based on a project-specific screening analysis).
- All answers must take account of the whole action involved , including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operation impacts.
- Once it has been determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there is at least one “Potentially Significant Impact” entry when the determination is made an EIR is required.
- Negative Declaration: “Less than Significant with Mitigation Incorporated” applies when the incorporation mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less than Significant Impact.” The initial study will describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 4, “Earlier Analysis,” may be cross-referenced).
- Earlier analyses may be used where, pursuant to tiering, a program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 155063(c)(3)(D)]. Earlier analyses are discussed in Section 4 at the end of the checklist.
- Initial studies may incorporate references to information sources for potential impacts (e.g. the general plan or zoning ordinances, etc.). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list attached, and other sources used or individuals contacted are cited in the discussion.
- The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question: and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significant.

A. Aesthetics: Will the project or its related activities:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Have a substantial adverse effect on a scenic vista, including scenic roadways as defined in the General Plan, or a Federal Wild and Scenic River (Big Chico Creek)?			X	
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
3. Affect lands preserved under a scenic easement or contract?			X	
4. Substantially degrade the existing visual character or quality of the site and its surroundings including the scenic quality of the foothills as addressed in the General Plan?			X	
5. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	

DISCUSSION:

A.1-3. The project site is not located adjacent to a state scenic highway or within the City’s foothill area, nor will the construction of the park substantially damage scenic resources, including trees, rock outcroppings, or historic buildings. Also, the project site is not designated or affected by any scenic easements or contracts. The site, however, is located adjacent to Lindo Channel. The 15 acre site is identified as *Parks* on the City’s General Plan, while adjacent Lindo Channel is identified as *Creekside Greenways*. As the project involves the preparation and implementation of a natural area restoration plan which will involve significant restoration of the degraded site, including planting of trees and native vegetation, expanding wetlands, and the installation of walking paths, the aesthetics of the site will actually be enhanced. As a result, the proposed project would result in **less than significant** impacts to scenic roads, vistas, and resources.

MITIGATION: None required.

A.4. While the proposed improvements may temporarily degrade the existing visual quality of the site during the construction period as heavy construction equipment will be used for earth-moving activity, the visual impacts caused by on-site construction will be of a limited and temporary nature. Upon completion of grading activities, all exposed areas will be landscaped with native grasses, trees, and shrubs which will improve the aesthetics of the site. Therefore, the proposed project would result in a **less than significant** impact to the existing visual character or quality of the site and its surroundings.

MITIGATION: None required.

A.5. The project is located in an existing residential neighborhood with numerous existing night lighting sources. No lighting is proposed as part of the project and, therefore, there will be **no impact** with respect to lighting from the project.

MITIGATION: None required.

B. Air Quality: Will the project or its related activities result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Conflict with or obstruct implementation of the applicable air quality plans (e.g. Northern Sacramento Valley Air Basin 1994 Air Quality Attainment Plan, Chico Urban Area CO Attainment Plan, and Butte County Air Quality Management District Indirect Source Review Guidelines)?			X	
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.			X	
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?		X		
4. Expose sensitive receptors to substantial pollutant concentrations?			X	
5. Create objectionable odors affecting a substantial number of people?				X

DISCUSSION:

B.1-4. Construction activities associated with the proposed restoration and site improvement work may cause short-term nuisance dust, or particulate matter, during earthmoving activity and the project would contribute to cumulative air quality impacts in the region relative to particulate matter (PM¹⁰). The City’s General Plan contains the following measures to reduce nuisance dust during construction activities consistent with the Butte County Air Quality Management District (BCAQMD) criteria.

MITIGATION MEASURE B.1 (Air Quality):

To minimize fugitive dust during construction activities and ensure enforcement of General Plan policies pertaining to air quality, the following mitigation measures shall be included in all future construction plans and documents for the subject parcels:

- a. All grading operations shall be suspended when winds exceed 20 miles per hour as directed by the BCAQMD.
- b. Provide temporary traffic control during all phases of construction to improve traffic flow (e.g. flag persons) as determined appropriate by the Department of Public Works
- c. Water active construction sites at least twice daily as directed by the Department of Public Works. Frequency should be based on the type of operation, soil, and wind exposure.
- d. All trucks hauling dirt, sand, soil, or other loose materials should be covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the trailer in accordance with the requirements of CVC Section 23114). This provision is enforced by local law enforcement agencies.
- e. Sweep streets at the end of the day if visible soil materials are carried onto adjacent public paved roads (recommend water sweeper with reclaimed water).
- f. Cover inactive storage piles.
- g. Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours. The telephone number of the BCAQMD

shall also be visible to ensure compliance with BCAQMD Rule 201 & 207 (Nuisance and Fugitive Dust Emissions).

MITIGATION MONITORING B.1 (Air Quality):

Public Works Engineering Division staff, Park Division staff, and Planning Division staff will review final construction plans and documents to ensure that the above mitigation measures are included in such plans/documents prior to construction. Public Works Division staff and Park Division staff will monitor construction activities to ensure implementation of the above measures.

MITIGATION MEASURE B.2 (Air Quality):

The following General Plan Implementing Policies shall be implemented as part of the project:

- OS-I-9: Require applicants whose development would result in construction-related exhaust emissions to minimize such emissions by maintaining equipment engines in good condition and in proper tune, according to manufacturer’s specifications, and by not allowing construction equipment to be left idling for long periods during smog season (May through October).

MITIGATION MONITORING B.2 (Air Quality):

Park Division staff and Public Works Engineering Division staff will review final grading plans to ensure that the above measures are incorporated into the construction documents.

With the incorporation of Mitigation B.1. and B. 2above, air quality impacts from construction activities will be reduced to a **less than significant** level.

B.5. Implementation of the proposed project will not result in the creation of objectionable odors, and therefore there is **no impact**.

MITIGATION: None required

C. Biological Resources: Will the project or its related activities result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species as listed and mapped in the MEA or in other local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the MEA or in other local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.		X		
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		

5. Result in the fragmentation of an existing wildlife habitat, such as blue oak woodland or riparian, and an increase in the amount of edge with adjacent habitats.	X
6. Conflict with any local policies or ordinances, protecting biological resources?	X

DISCUSSION:

As discussed more fully below, the project will have beneficial impacts to the biological resources on the site by restoring the channel and floodplain of Lindo Channel at one of the only remaining suitable locations in the Chico urban area. This would benefit system flood capacity, allow for sediment deposition on the floodplain, and offer opportunities for juvenile fish to escape higher velocities in the side channel and backwater area. Floodplains provide a selective advantage to native fish because of seasonal food availability, refuge from predators, and refuge from faster flows. Providing access to the floodplain while reducing entrapment risks clearly benefits native species.

Wetlands on site would essentially be doubled, and riparian forest establishment along the stream would be jump-started and succession enabled. Floodplain and water's edge vegetation along the south (site-side) of the stream through this reach is currently limited by the asphalt paving. Increased stream shading would be an important benefit for this south-bank project, greatly reducing the solar inputs to the channel once trees begin to mature. Combining restoration plantings with the reconnection of the floodplain will improve the habitat potential of the site and increase the habitat mosaic.

The discussion below is based upon a site investigation by the City's biological consultant (Galloway Consulting, Inc.) and project team member Eric Ginney, Senior Geomorphologist, with The Louis Berger Group, Inc.

C.1. The project site is surrounded by a residential subdivision to the south, east, and west. Lindo Channel abuts the project site to the north. The site has been significantly disturbed from past gravel mining activities. A reconnaissance-level biological survey was performed for the site in January 2006 by Galloway Consulting, Inc. using meandering transects to determine the presence of sensitive biological resources within the project site and to determine if these resources have the potential of being impacted by the project. The natural habitat onsite has been significantly disturbed during past aggregate extraction operations. The ruderal grassland onsite is dominated by introduced weeds and grasses including yellow star-thistle, purple vetch, riggut brome, broadleaf filaree, and redleaf filaree. The riparian trees and shrub species found on the site are commonly found on disturbed sites adjacent to waterways such as Lindo Channel and include Fremont's cottonwood, valley oak, sandbar willow, mulefat, and Himalayan blackberry. One elderberry shrub was found within Lindo Channel, just north of the 15 acre site owned by the City (discussed more fully below).

A follow-up botanical inventory including sensitive species surveys was also conducted for the site by Galloway Consulting, Inc. in April 2006 (attached). Surveys were conducted in accordance with the U.S. Fish and Wildlife Service Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (January 2000). Based upon these guidelines, potential sensitive plant species that could occur within the site include Ferris' Milk Vetch, Fox Sedge, Pink Creamsacs, Round-leaved Filaree, and Ahart's Paronychia. None of these species was found to be present on the subject property.

Elderberry/Valley Elderberry Longhorn Beetle

The biological assessment did identify one elderberry shrub on the project site on the south side of Lindo Channel (see Figure 3 in the attached biological assessment dated January 16, 2006 by Galloway Consulting, Inc.). The elderberry shrub will remain on the site. However, any indirect disturbance of this shrub during the proposed streambed restoration work has the potential to impact Valley elderberry longhorn beetles (*Desmocerus californicus dimorphus*), a federally threatened species that uses elderberry shrubs as habitat. Based on the most recent policies of the U.S. Fish and Wildlife Service (USFWS) construction activity within 100 feet of an elderberry shrub, with stems more than 1 inch in diameter, has a potential to adversely impact Valley elderberry longhorn beetles (VELB). The subject bush does have stems exceeding one in or more in diameter. The City will be required to consult with the USFWS to establish a mitigation plan for the elderberry shrub, as some of the proposed restoration work will be within 100 feet of the shrub. Work within 20 feet of an elderberry shrub requires mitigation pursuant to the federal protocol VELB mitigation procedure. This procedure may require establishment of a mature elderberry shrub and several seedlings at an alternate riparian site if determined necessary by the USFWS. This project will be reviewed by USFWS. Any mitigation requirements pursuant to the VELB mitigation

procedure will be imposed by the USFWS prior to any project construction as set forth in Mitigation Measure C.2. below. Mitigation of the elderberry shrub may include avoidance or transplanting the bush in accordance with USFWS protocol. If avoidance is not possible, an incidental take permit may be issued by the Service upon completion of a satisfactory conservation plan.

MITIGATION MEASURE C.1. (Biological Resources- Valley Elderberry Longhorn Beetle):

Prior to any ground disturbing or construction activities within 100 feet of the identified elderberry shrub, the City shall consult with the U.S. Fish and Wildlife Service. The City shall install and maintain a 4-foot high construction fence around the perimeter of the elderberry shrub. No grading or any other ground disturbing activities shall be conducted within the fenced protected area without prior verification that the requirements of the USFWS have been satisfied including the issuance of any necessary permits.

City shall avoid and protect the VELB habitat (elderberry stalks one inch in diameter or greater) where feasible. Where avoidance is infeasible, the City shall develop and implement a VELB mitigation plan in accordance with the most current USFWS mitigation guidelines for unavoidable take of VELB habitat pursuant to either Section 7 or Section 10(a) of the Federal Endangered Species Act. The mitigation plan shall include, but might not be limited to, relocation of elderberry shrubs, planting of elderberry shrubs, and monitoring of relocated and planted elderberry shrubs.

MITIGATION MONITORING C.1. (BIOLOGICAL RESOURCES - Valley Elderberry Longhorn Beetle):

Prior to issuance of grading permits, the Park Division and Planning Division shall confirm that the required consultation with the USFWS has occurred and that all mitigation measures have been included in the final grading plans.

Giant Garter Snake

The Giant garter snake is listed as threatened under CESA and ESA (58 FR 54053, October 20, 1993). Before 2005, the U.S. Fish and Wildlife Service (USFWS) generally considered Bayless Road (approximately 7 miles southwest of the City of Chico) to be the northern limit of known giant garter snake populations (Fitzgerald pers. comm.). However, recent, confirmed sightings of giant garter snake were made at the City's Water Pollution Control Plant (WPCP) off River Road, and at the intersection of State Highway Route 32 and Bruce Road in southeast Chico. Based upon these recent sightings, the USFWS now considers all drainages and creeks in the Chico area (including Dead Horse Slough) to be potentially suitable giant garter snake habitat.

The Giant garter snake inhabits wetlands, irrigation and drainage canals, rice fields, marshes, sloughs, ponds, low-gradient streams, and adjacent uplands in the Central Valley (U.S. Fish and Wildlife Service 1999). The four essential habitat components for the giant garter snake include:

- adequate water during its active season (early spring through mid-fall);
- emergent, herbaceous wetland vegetation for foraging habitat and escape cover;
- upland habitat with grassy banks and openings in aquatic vegetation for basking; and
- upland habitat above the high-water line with burrows for overwintering (U.S. Fish and Wildlife Service 1999).

Riparian woodlands do not provide suitable habitat because potential basking areas are often shaded. Giant garter snake does not inhabit large rivers or wetlands with sand, gravel, or rock substrates (U.S. Fish and Wildlife Service 1999). It tends to stay within 61 meters (200 feet) of wetland habitat (U.S. Fish and Wildlife Service 1999). It hibernates from early October to late March in burrows located in adjacent uplands, especially grasslands high above the highwater line. The breeding season begins soon after the species emerges from hibernating burrows, from March to May, and resumes briefly during September (U.S. Fish and Wildlife Service 1999).

The biological assessment prepared for the project concludes that because Lindo Channel does not contain sufficient water during the giant garter snake's active season (May through October), the potential for occurrence within the projects area is non-existent. As a result, the project will have **no impact** on the giant garter snake.

MITIGATION: None required.

Swainson's Hawk

Although the CNDDDB (2005) does not document any active (i.e., within the past five years) Swainson's hawk nest sites within 10 miles of the project site, and none were detected during surveys, suitable nesting and foraging habitat for Swainson's hawk occurs within 0.5 mile of the site. As Swainson's hawks are a state threatened species, a CDFG-recommended protocol-level survey shall be required prior to construction to determine if nesting Swainson's hawks occur within 0.5 mile of the site, as set forth in Mitigation Measure C.2. below. As the project involves the restoration of the degraded project site with native grasses and other plantings, there will be no loss of potential foraging habitat for the Swainson's hawk.

MITIGATION MEASURE C.2 (Biological Resources- Swainson's hawk):

A CDFG-recommended protocol-level survey shall be required prior to construction to determine if nesting Swainson's hawks occur within 0.5 mile of the site. If Swainson's hawks are found nesting within 0.5 mile of the BSA appropriate mitigation per the *Staff report regarding mitigation for impacts to Swainson's hawks (Buteo swainson) in the Central Valley* (CDFG 1994) will be required.

MITIGATION MONITORING C.2 (Biological Resources- Swainson's hawk):

Prior to construction, Planning Division staff and Park Division staff will verify that the protocol-level survey has been conducted and appropriate mitigation measures identified by Fish and Game protocol are implemented.

Other Nesting Raptors

The project site also provides suitable nesting and foraging habitat for other raptors and nesting and wintering white-tailed kites have been known to occupy the project area. As the project involves the restoration of the degraded project site with native grasses and other plantings, there will be no loss of potential foraging habitat for raptors.

The existing trees on the site do provide potential habitat for nesting raptors. Nesting raptors are protected under the California Fish and Game Code, Section 3503.5. In addition, migratory birds are protected under the Migratory Bird Species Act. Unless project-specific surveys can demonstrate the absence of protected bird species, potential disturbance of active nest territories for raptors and other migratory birds is considered to be a potentially significant impact. As set forth below in Mitigation Measure C.3. below, a pre-construction field survey shall be conducted in and adjacent to the project area for nesting raptors prior to the removal of any tree or the issuance of any grading permit on the project site during breeding season. With the incorporation of this mitigation measure into the project, impacts to nesting raptors would be **less than significant**.

MITIGATION MEASURE C.3. (BIOLOGICAL RESOURCES - Other Nesting Raptors):

The City shall be required to hire a qualified biologist or ornithologist to conduct preconstruction field surveys in and adjacent to the project area for nesting raptors prior to any tree removals and prior to issuance of a grading permit (or grading permits for sequential, phased grading activities). Surveys shall be conducted during the season immediately preceding tree removal and grading operations when birds are building and defending nests or when young are still in nests and dependent on the parents. If no raptor nests are found during the surveys, grading and tree removal may proceed unconstrained by conflicts with raptors. If raptor nests are found, construction activities including tree removal shall not be conducted within 300 feet of the nest(s) until after the raptor breeding season (February to the end of August). The City may prevent impacts on nesting raptors by delaying issuance of a grading permit for an area where raptor nests have been found until the birds have left the nest. The time of the bird's departure must be determined by a qualified biologist.

MITIGATION MONITORING C.3. (BIOLOGICAL RESOURCES - Other Nesting Raptors):

The City Planning Division will coordinate with the City Park Division to ensure the timely submittal of raptor nest surveys from qualified biologists or ornithologists. If raptor nests are discovered through these surveys, the Planning Division staff and Park Division staff will not allow grading to proceed until such time as determined to be appropriate according to the consulting biologist/ornithologist.

Burrowing Owls

Implementation of the restoration project could result in the loss of burrowing owl nesting habitat, although no burrows have been identified on the site to date. This is considered a potentially significant impact. Burrowing owls and their nests are protected under the Migratory Bird Treaty Act and California Fish and Game Code. Historically they occurred from North America to South America, but within California they are currently known to occur in the Sacramento and Central Valley. Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers. Agriculture, urbanization, rodent poisoning and widespread introduction of dogs and cats have reduced burrowing owls and their habitat to the extent that they are being considered for federal listing (although not officially proposed, as yet). Burrowing owls occupy ground burrows all year long and commence with their nesting activities in February and go through July when the young disperse from the nest site. Nesting habitat for burrowing owls is potentially suitable in Lindo Channel. There is only one recorded (CNDDDB) nest site in Butte County, 0.2 mile east of Hicks Lane and 0.25 mile north of Sycamore Creek, southwest of Chico airport.

Construction activity associated with the restoration work could cause direct mortality to owls, by crushing under heavy equipment, or burial in burrows, or indirectly affect them through increased disturbance and cause nest abandonment. Under Fish and Game Code Section 3503.5, nest abandonment, injury, or harm to the adults or eggs would be prohibited unless specifically permitted. The CDFG recommends specific measures to avoid, minimize and compensate for impacts to burrowing owls. These measures include pre-construction surveys, closure of unoccupied burrows, placement of artificial burrows or burrow enhancement to provide additional locations for nesting owls, and monitoring to ensure that mitigation measures are successful. Implementation of the following mitigation measures would reduce this impact to a **less-than-significant** level.

MITIGATION MEASURE C.4. (Biological Resources- Burrowing Owl):

A pre-construction breeding-season survey (approximately April 15 through July 15) during the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified biologist to determine if any burrowing owls are nesting on or directly adjacent to any proposed project site. If the above survey does not identify any nesting burrowing owls on the project site, then no further mitigation would be required. However, should any burrowing owls be found nesting on the project site, then the following mitigation measure shall be required.

- During the construction stage, the City of Chico in consultation with the CDFG, shall avoid all burrowing owl nest sites potentially disturbed by project construction during the breeding season while the nest is occupied with adults and/or young, between March 1st through July 15th. The occupied nest site shall be monitored by a qualified biologist to determine when the nest is no longer used. Avoidance shall include the establishment of a 300-foot to 400-foot diameter non-disturbance buffer zone around the nest site. Disturbance of any nest sites shall only occur outside of the breeding season and when the nests are unoccupied based on monitoring by a qualified raptor biologist. The buffer zone shall be delineated by highly-visible temporary construction fencing.
- Based on approval by CDFG, pre-construction and pre-breeding season exclusion measures may be implemented to preclude burrowing owl occupation of the project site prior to project-related disturbance. Burrowing owls can be passively excluded from potential nest sites in the construction area, either by closing the burrows or placing one-way doors in the burrows according to current CDFG protocol. Burrows shall be examined not more than 30 days before construction to ensure that no owls have recolonized the area of construction. For each burrow destroyed, a new burrow shall be created (by installing artificial burrows at a ratio of 2:1 on protected lands nearby).

MITIGATION MONITORING C.4 (Biological Resources- Burrowing Owl):

Prior to grading, Park Division staff and Planning Division staff will verify that the required survey is conducted between February 1 through August 31.

C.2 & C.5 As discussed in the Project Description, areas disturbed by excavations to restore the site would be replanted with appropriate native vegetation ranging from native grasses to riparian trees, and as approved by the various regulatory agencies (i.e., Fish and Game, U.S. Fish and Wildlife Service, Army Corps of Engineers).

The stream corridor would be planted with riparian species in a configuration¹ to mimic the riparian succession that would have occurred were the asphalt and fill not present in the channel. Additional plantings would enhance the trail corridors. The needs of the Mechoopda Indian Tribe relative to opportunities to propagate vegetative species of cultural significance would also be incorporated in the final planting design. Because culturally significant species are native to this ecosystem, integration into the site design is anticipated to be relatively easy and successful.

The City will be required to obtain applicable permits from the Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game (CDFG) for all restoration work, including the replanting efforts. The Streambed Alteration Agreement, issued by CDFG, shall include, but not be limited to, definition of a limited time period for construction, provisions for notification and cleanup of any accidental spills, stream bank revegetation requirements, construction debris and materials removal, and inspection procedures. The final plans will be required to be approved by these regulatory agencies prior to the issuance of a grading permit or commencement of site clearing or construction, and shall provide for revegetation with native species to a natural state, including an approved monitoring and maintenance program to ensure success. With the implementation of the project in accordance with approved permits and plans approved by the various regulatory agencies as required as part of Mitigation Measure C.2. below, project impacts on the riparian and streamside vegetation on the site will be **less than significant**.

MITIGATION: see Mitigation Measure C.5. below for replanting plan and permitting requirements.

C.3. A preliminary wetland delineation for the project site was conducted by Gallaway Consulting in January 2006 which identified a total of 0.82 acres of wetlands within the limits of the subdivision (which included the project site). A jurisdiction wetland occurs in the northwest quadrant of the site and a potential Water of the U.S. occurs in the southeast quadrant of the site within a topographic depression that seasonally collects and holds water. The existing wetland (see **Figure 4**) contains concrete rubble, a cobble pile, rusted metal, and invasive species. Furthermore, the topography of this wetland contains inconsistencies that, as stage in the wetlands recedes, could function to trap fish that entered the site at higher flows. The wetland areas would be retained on site and enhanced as part of the project. Clearing cobble and debris and re-contouring the existing wetlands would be completed using heavy earthmoving equipment. These actions would improve the ecological function and aesthetic value of the wetlands.

The U.S. Army Corps of Engineers will be asked to verify the wetland delineation. No wetland filling is proposed so there would be no actual loss of existing wetlands. While proposed work would trigger the need for consultation and a Nationwide permit from the USACE, mitigation for the disturbance of existing wetlands is anticipated to be met through the creation of new wetlands on site (see the attached site plan). The project will be consistent with City of Chico General Plan Policy OS-G-9 requires no net loss of wetlands.

Additionally, the existing low area just to the east of this wetland and the low road bisecting the site would be excavated, expanding and connecting this area to the large existing wetland with minimal grading (an estimated 925 cubic yards)- see **Figure 5**. The existing wetland area that merges with the low road (near East 1st Avenue) would also be excavated and enhanced. This work would create a 480-foot-long (approximately 51,500 square feet) low wetland swale that is envisioned to increase the ecological complexity of the site, enhancing the mosaic of habitats on the site. These proposed actions would almost exactly double the amount of wetlands on site with relatively minimal excavation.

MITIGATION C.5 (Biological Resources- Wetlands):

No grading or any other ground disturbing activities shall be conducted within the fenced protected areas without prior verification that the requirements of the U.S. Army Corps of Engineers (Section 404 permit) and U.S. Fish & Wildlife Service (Section 7 Consultation) have been satisfied with regard to the restoration within, and expansion of, the existing wetland in the northwest quadrant of the site.

A formal wetland delineation shall be conducted for the proposed restoration work and shall be submitted to the Corps for verification. Prior to any grading or site work on the site, the wetland delineation for the site shall be

¹ Generically, this might include willows near the active channel, with sycamores and cottonwoods farther and higher from the channel; Valley Oaks would be planted farthest away. Site-specific conditions will ultimately determine planting designs.

submitted to the Corps and the appropriate Section 404 permit shall be obtained. A Regional Water Quality Control Board Section 401 water quality certification or waiver shall also be obtained prior to grading. Any wetlands that would be disturbed shall be restored in accordance with the Corps' mitigation guidelines.

Prior to grading, a Streambed Alteration Agreement shall be obtained from the California Department of Fish and Game pursuant to Section 1600 of the California Fish and Game Code for all activities proposed within the banks of Lindo Channel.

MITIGATION MONITORING C.5 (Biological Resources- Wetlands):

Prior to issuance of a grading permit, Planning Division staff and Parks Division staff will verify that appropriate permits/clearances have been obtained from the U.S. Army Corp of Engineers and USFWS.

MITIGATION C.6 (Biological Resources- Wetlands):

Prior to any ground disturbing activities including implementation of any grading and/or improvement plans on the subject site, the applicant shall install and maintain a 4-foot high construction fence around the perimeter of the identified wetland/vernal pool areas to remain on the project site at a minimum of 100 feet away from its boundary, unless a lesser distance is approved by the Army Corps of Engineers. Planning Division staff and Park Division staff shall conduct a pre-construction (pre-ground disturbance) site meeting with the supervising contractor prior to construction to verify that all protective fencing has been installed.

MITIGATION MONITORING C.6 (Biological Resources- Wetlands):

Prior to any on-site construction within 100 feet of the on-site wetland, Planning Division staff, Building Division staff, and Public Works Division staff will verify that construction fencing has been installed and that the applicant has obtained all necessary permits from the U.S. Army Corp of Engineers and U.S. Fish & Wildlife Service pursuant to the Clean Water Act and Endangered Species Act.

C.4. The proposed temporary construction work include physical changes to the bed and bank of Lindo Channel and removal of some streamside vegetation. Lindo Channel in the area provides potentially suitable spawning and rearing habitat for several special-status anadromous fish species, including Spring-run chinook salmon and Central Valley steelhead trout (EIP Associates, February 2000). According to the City of Chico's EIR for the Storm Drainage Master Plan, steelhead trout and fall, late-fall and spring-run chinook salmon are known to have used this area (EIR, 2000). However, gravel recruitment is poor because of reductions caused by flood control. In addition, a lack of flushing flows has resulted in armoring, compaction, and siltation of spawning gravel in the channel. Water quality impacts such as turbidity, or fish entrapment are not deemed to be potential impacts in Lindo Channel if work is conducted during dry stream conditions

This segment of Lindo Channel is currently constricted by sediment, asphalt-paved areas, cobble and gravel fill, and concrete rubble. Channel form and function will be reinvigorated by removing the sediment encroaching on the channel and creating a new floodplain that is lower and more accessible to the stream. This work would be conducted using heavy earthmoving equipment, load-haul-dump vehicles, and/or belly scrapers, and would also include the creation of a secondary flow channel (side channel) through the newly constructed floodplain. The design of these features would be supported by a detailed topographic survey of the channel and hydrodynamic modeling to assist in constructing these features with the proper particle size distributions, channel dimensions, and planform configuration. **Figure 5** illustrates the area proposed for floodplain enhancement. Approximately 1,100 linear feet of stream channel would benefit from increased channel capacity and floodplain access. On average, the channel/floodplain would be increased by about 80 feet, reaching an increase in width of over 100 feet for about 150 feet of stream channel. At the narrowest part of the existing floodplain/channel the project would more than double the width of the floodway. Schematic cross sections of existing and proposed floodplain conditions are depicted in **Figures 6, 7, 8 and 9**.

Within Symbol #6 of **Figure 5**, approximately 10,000 cubic yards (CY) of material would be removed from the floodplain and/or re-contoured. In part, sediment excavated from the floodplain would be sorted to obtain finer material for specific planting applications; coarser material would be used to create the lower portions of fill for the raised trail shown as Symbol #11 in **Figure 5**. Sediment would also be placed in various topographic low areas (not specified on Figure 4) to enhance the "walk-ability" of the site and smooth the transition from existing upland areas to the small berm at the northeast corner of the site. Water quality and riverine fish habitat could be

impacted by excavation and grading activities associated with the proposed project. Standard erosion control practices (BMPs) would be followed to minimize the potential for sediment discharge. Since most of the construction work is proposed to be conducted during the dry season and the slope throughout the site is relatively shallow, the risk of sediment discharges and impacts to fish habitat is expected to be rather minor. However, because of the potential presence of special status fish species in Lindo Channel, mitigation measures are included, as described in Section E. *Geology/Soils* and Section G., *Hydrology/Water Quality*, to avoid and minimize the potential for erosion and sediment resulting from construction activities associated with the proposed action.

Identifying the potential for fish entrapment involves an analysis of the timing and magnitude of flood events, the physical conditions at the site, and the life history and behavior of the species. In the case of this project, portions of two of these three variables are under the control of project design. The frequency of flow into the wetland area can be controlled based on configuration of the channel inlet (i.e. only the larger, less-frequent flows with higher instream velocities that can stress juvenile fish would be allowed to enter the inundated floodplain area), and the physical conditions of the wetland area can be controlled such that 1) there are no topographic “traps” in the inundated floodplain area, and 2) the site is contoured such that it drains with the receding limb of the hydrograph, encouraging juvenile fish to move back to the main channel.

The project would have considerable beneficial results by restoring the channel and floodplain of Lindo Channel at one of the only remaining suitable locations in the Chico urban area. This would benefit system flood capacity, allow for sediment deposition on the floodplain, and offer opportunities for juvenile fish to escape higher velocities in the side channel and backwater area. Floodplains provide a selective advantage to native fish because of seasonal food availability, refuge from predators, and refuge from faster flows. Providing access to the floodplain while reducing entrapment risks clearly benefits native species.

MITIGATION MEASURE C.7 (Biological Resources- Anadromous Fish):

As required by federal regulation, the City of Chico shall consult with the National Marine Fisheries Service (NMFS) and USFWS in conjunction with the Clean Water Act Section 404 permitting and shall implement measures necessary to protect special-status fish species, which shall include, but not be limited to, the following:

- Construction shall occur between July 1 and October 1 (or a period requested by the NMFS) to work outside of the season in which juvenile or migrating salmonids are present in the system.

MITIGATION MONITORING C.7 (Biological Resources- Anadromous Fish):

Prior to construction, the City will be responsible for conducting the Section 7 consultation with the NMFS and developing the mitigation plan and any measures required by the National Marine Fisheries Service.

C.6. As conditioned, the project will not conflict with any local policies or ordinances relating to protecting biological resources because the project will enhance the biological resources on the site.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
D. Cultural Resources: Will the project or its related activities:				
1. Cause a substantial adverse change in the significance of an historical resource as defined in PRC Section 15064.5?			X	
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to PRC Section 15064.5?		X		
3. Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?			X	
4. Disturb any human remains, including those interred outside of formal cemeteries?			X	

DISCUSSION:

D.1-4. The project site contains no historical buildings or resources. The entire project site has been disturbed from past construction activities on the site (former gravel mining operation). A cultural resources assessment was conducted for the project site by Jensen and Associates (1993). This assessment consisted of a records search, pedestrian field survey, and findings report. The report concluded that there was no evidence of prehistoric or early historical use and that evidence of contemporary materials such as concrete and asphalt does not represent significant cultural data. No other archaeological treatments were recommended unless cultural materials are encountered during construction, the possibility of which is unlikely because of the disturbed nature of the site. Although no resources are known to exist on the subject site, it remains possible that subsurface historic or prehistoric resources could be encountered during construction activities on the project site. Therefore, the following mitigation measure shall be implemented to address this possibility.

MITIGATION MEASURE D.1 (Cultural Resources):

Park Division staff and Planning Division staff shall require that a note be placed on all grading and construction plans which informs the construction contractor that -- "If any bones, pottery fragments or other potential cultural resources are encountered during ground disturbing activities, all project operations shall be halted within the area of the find pending an examination of the site and materials by a professional archaeologist. The professional archaeologist shall assess the significance of the find and prepare appropriate mitigation measures for review by the Planning Director. All mitigation measures determined by the Planning Director to be appropriate for this Project shall be implemented pursuant to the terms of the archaeologist's report."

MITIGATION MONITORING D.1 (Cultural Resources):

Prior to construction, Park Department staff and Planning Division staff will ensure that the above note is incorporated into all construction contracts/documents/plans to ensure contractor knowledge and responsibility for the proper implementation of this mitigation measure. Should cultural resources be encountered, the supervising inspector shall be responsible for reporting any such findings to the Planning Division, and a qualified archaeologist will be contacted to conduct meetings with on-site employees and to monitor the referenced mitigation measures.

With incorporation of Mitigation D.1 above, impacts to historical, archaeological or paleontological resource will be reduced to a **less than significant** level.

E. Geology/Soils: Will the project or its related activities:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
b. Strong seismic ground shaking?				X
c. Seismic-related ground failure, including liquefaction?				X
d. Landslides?				X
2. Result in substantial soil erosion or the loss of topsoil?			X	
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water, or is otherwise not consistent with the Chico Nitrate Action Plan or policies for sewer service control?				X

DISCUSSION:

E.1a-d., E. 3. & E. 4. The improvements proposed at this site will not expose people or structures to potential substantial adverse effects, including the risk or loss, injury or death. The project involves the restoration of a degraded site. No structures are proposed as part of the project. The proposed project site is not located within an Alquist-Priolo Earthquake Fault Zone and the proposed project will not expose people or structures to harm, loss, injury or death resulting from rupture of a known earthquake fault, strong seismic groundshaking, seismic-related ground failure, including liquefaction or collapse, lateral spreading, subsistence, or on-site or off-site landslides. There is, therefore, no impact for these resource issues.

MITIGATION: None required.

E.2. Construction activities will result in limited disturbance to the site’s existing grade. All construction activities will be required to comply with the City of Chico’s Grading Ordinance, which requires site-specific erosion control measures to be incorporated into project activities to control erosion and sedimentation. The proposed project will also be required to implement Best Management Practices (BMPs) as specified in the City’s adopted Storm Drainage Master Plan (2000) to limit erosion and sedimentation impacts to a less than significant level. As a result of compliance with the City of Chico’s Grading Ordinance, impacts to soil erosion or loss of topsoil will be less than significant. The project will also be subject to any mitigation measures or design criteria imposed by U.S. Army Corps of Engineers, California Department of Fish and Game, and/or the Bureau of Reclamation. The project is also subject to the requirements of a general construction activity permit of the Central Valley

Regional Water Quality Control Board because it could result in discharges into a beneficial waterway of the state. This permit requires the preparation and implementation of a stormwater pollution prevention plan (SWPPP) emphasizing the use of best management practices (BMPs) during construction phases of a development project.

MITIGATION: None required.

E.4-5. No septic tanks or waste disposal systems are proposed or will be affected by project-related activities. Therefore, there is no impact to these resource issues.

MITIGATION: None required.

F. Hazards/ Hazardous Materials: Will the project or its related activities:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
2. Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
5. For a project located within the airport land use plan, would the project result in a safety hazard for people residing or working in the project area?				X
6. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

DISCUSSION:

F.1-3. Construction activity typically involves the use of some volatile substances (fuel for vehicles, etc.); however, these materials are handled according to state standards. The project does not involve any hazardous materials, nor is the project site located within one-quarter mile of an existing or proposed school. Impacts are considered to be less than significant.

A Phase I Environmental Assessment was conducted for the project site in June 1993 by Metcalf and Eddy, Inc. The objective of this assessment was to evaluate the physical conditions of the property and to identify any past or present environmental impairment liability which may be associated with the site. As stated in the report, in

the early part of the 20th century the property was owned and operated by the Annie E.K. Bidwell Orchards Company, Inc. From approximately the late 1930s or early 1940s to approximately 1963 or 1964, the Butte Creek Rock Company operated an aggregate quarry on the property. A site inspection revealed numerous piles of concrete and bituminous building rubble were scattered around the site. The material appeared to be clean and inert without substantial additives. In addition, a sizable quantity of fill appears to have been removed from the site as the existing grade of the majority of the site is three to five feet below surrounding grade.

The gravel mining operations left uneven topography, including numerous piles of concrete and building rubble, and removed most of the natural vegetation. To date, there have been no restoration efforts onsite, but invasive and emergent vegetation such as annual grasses, star-thistle, and cottonwoods have colonized the property. The attached site plan identifies the general areas of debris on the project site.

The former access roads through the center and along the northern and western boundaries are faintly visible. Scattered rubble is visible in the south-central, north-central and western portions of the site. Based upon the review of all potential and verified hazardous water source areas, the property is not recognized as a potential for verified hazardous waste source area. Additionally, no properties immediately adjacent to the site are recognized as potential or verified hazardous waste source areas. Based upon the information obtained and presented in the Phase I environmental assessment, no further environmental investigation is deemed warranted nor recommended. The site conditions have not changed since the time the report was prepared, as the site has remained in public open space.

MITIGATION: None required.

F.4. The site is not included on Hazardous Waste and Substances Site List (Cortese List) compiled pursuant to Government Code Section 65962.5 and, as a result, there will be no impact with respect to creating a significant hazard to the public or the environment.

MITIGATION: None required.

F.5-7. The project site is not located within any compatibility zones for an airport. Construction activities on the project site would not interfere with an adopted emergency response plan or emergency evacuation plan. As a result, there would be no impacts with respect to these issues.

MITIGATION: None required.

F.8. The proposed project site is located in an urbanized area of the City of Chico on the valley floor. The project site is surrounded by a residential subdivision on the three sides. As such, the project site is not susceptible to wildland fires.

MITIGATION: None required.

G. Hydrology/ Water Quality: Will the project or its related activities result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Violate any water quality standards or waste discharge requirements?			X	
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?)			X	

3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	X
4. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	X
5. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	X
6. Otherwise substantially degrade water quality?	X
7. Place real property within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	X
8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	X
9. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	X
10. Inundation by seiche, tsunami, or mudflow?	X

DISCUSSION:

BACKGROUND INFORMATION

Lindo Channel Hydrology and Geomorphology Prior to Flood Control

The majority of the City of Chico is located atop a large (~5 miles wide) coalesced alluvial fan (City of Chico, Park Department, 2001), formed at the canyon mouths of Butte, Big Chico, and Little Chico creeks. The fan is dissected by its parent streams, and, prior to Euro-American disturbance, with distributary channels leaving the main streams (Ginney, 2000). As previously mentioned, Lindo Channel is a distributary of Big Chico Creek, leaving Big Chico Creek in the area currently defined as the Five Mile Recreation Area.

Lindo Channel was originally called Sandy Gulch, a name that likely better describes the pre-disturbance physical characteristics of the stream. Before alteration by Euro-Americans, Lindo Channel was a natural, intermittent overflow channel. The relatively-rapid diminishment of stream gradient and decreased confinement of Big Chico Creek as it flowed out onto the valley floor allowed for deposition of sediments, formation of distributary channels, channel shifts and the typical instabilities associated with alluvial fans (City of Chico, Park Department, 2001). One such distributary was Sandy Gulch (Lindo Channel), which acted as a flood overflow channel, or distributary, and reduced flows in Big Chico Creek, the main channel. While a contemporary controversy has questioned whether Big Chico Creek or Sandy Gulch (Lindo Channel) was the dominant channel during lower, base flows¹ at the time of Euro-American settlement, the point is rather irrelevant: across recent geologic time (say, the last 12,000 to 15,000 years) both channels—as well as other channels no longer directly visible upon the landscape—have worked their way across the Chico alluvial fan. In so doing, each of these channels deposited coarse sediment and over the top spread a layer of finer sediment that has evolved into the high-quality soils that have made the area famous for horticultural operations. These distributary channels played an important role in dispersing stream energy across the fan, reducing the confinement of flood flows and minimizing any resultant channel incision. Ecologically, despite the fact that they did not offer perennial flow, these distributary channels increased the hyporheic zone of the fan stream system, offered refugia to juvenile fish from potentially higher

¹ Recent research (City of Chico, Park Department, 2001) suggests that Big Chico Creek was the main channel, with Lindo Channel receiving overflows.

velocities in the main channel, may have offered opportunistic spawning habitat, and certainly increased the important riparian corridors leading from the Sacramento River to the foothill canyon areas.

Lindo Channel Aggregate Mining

Mining of aggregate from Lindo Channel has been documented back as far as at least the 1930s (Metcalf and Eddy, 1993; City of Chico, Park Department, 2001), and in all likelihood existed prior to that time. Alluvial deposits of gravel were mined using instream techniques² for construction aggregate for use in concrete, asphalt, road base and sub-base, for fill, and for landscaping.

The City of Chico Park Department (2001) conducted a resource assessment of Lindo Channel (Sandy Gulch) and determined that formal instream gravel mining operations were conducted by several entities, including the Butte County Public Works Department, Baldwin Contracting (previously Butte Creek Rock), Teichert Land Company, and a consortium of contractors known as Graff, Vickory, Dubach, Wenchel & Schmall. The formal mining operations were generally located between Longfellow Avenue and Manzanita Avenue, which includes the proposed project site. According to Butte County Public Works Director Stuart Edell, gravel mining was popular in this stretch because the bed material is self-sorted by the stream, so that the most-useful gravel was deposited in that reach (Edell, pers. comm., April 2001, as cited in City of Chico, Park Department, 2001).

Past Mining on the Project Site

Site investigation work performed by Metcalf and Eddy (1993) suggests that from the 1930s or early 1940s until approximately 1963 or 1964 the site was utilized by a commercial aggregate producer and processor (Butte Creek Rock Company) as a commercial aggregate quarry. The results of the quarrying are obvious in that the majority of the site is at least 5 or more feet lower than land surrounding the site³. This has moved the land surface closer to the seasonal groundwater surface, and several wetland areas have formed as a result. For instance, Metcalf and Eddy (1993) noted that their review of a 1962 aerial photograph of the site shows a pond present in the southeast corner of the site. While the pond contained water, the late-June photograph depicted a dry Lindo Channel with no visible flow. This pond likely is the impetus for the small wetland currently located in that area.

According to interviews conducted as a part of the City's 2001 resource assessment of Lindo Channel, Teichert harvested gravel on the site from the late 1950s to the late 1960s. The quantity of extraction was not clearly documented or determined. Of specific note, the City resource assessment states that "The site had rock-crushing capabilities and a hot batch mix plant. Teichert provided varying sizes of aggregate, as well as asphalt, for local jobs (Alldredge, pers. comm., May 2001)" (Page 2-7; City of Chico, Park Department, 2001). Our review of two 1965 aerial photographs (January 1965 and July 1965) indicates that by 1965 the lateral extent of channel encroachment (seen as stock piles and a haul road pushed into the channel, controlling its southward migration and access to the floodplain) was roughly coincident with its current extent. Two larger excavations—one in the northwest corner, the other in the southeastern corner—are visible. The former is dry and includes a large pile of cobble; the later is full of water. Channel modifications upstream of the site—in the form of gravel extraction down the center thalweg of the channel, likely to both obtain aggregate material and constrain flood flows and channel migration—are clearly evident.

While it is uncertain which exact entity (Butte Creek Rock or Teichert) was performing activities on site during the period from 1950 through 1963/1964—or even until 1993 when Teichert Land Company (the owner of the site during that time) sold or deeded the parcel to the City of Chico—it is clear that major aggregate processing and production, likely including an asphalt hot patch plant, was conducted on site for several decades. Evidence to suggest that asphalt production was a major element of the site is also supported by findings of large areas of asphalt paving during our site reconnaissance.

² Instream gravel mining involves the physical removal of gravel from the streambed utilizing heavy equipment. These deposits are particularly desirable as aggregate because river transport eliminates weak materials by abrasion and attrition and the resulting deposits are of high quality: durable, rounded, well-sorted, and relatively free of interstitial clay (Kondolf, 1991).

³ The exception to this is the north side of the parcel where the currently-active Lindo Channel is lower than the upland portion of the site.

The Corps' Flood Control Project

In 1965, in response to increased urbanization and calls to eliminate the nearly yearly flooding of downtown Chico by Big Chico Creek (BCC), the U. S. Army Corps of Engineers (USACE) completed the Chico, Mud, and Sandy Gulch Channel Improvement and Levee Construction Project as part of the Sacramento River and Major and Minor Tributaries Project. This project is currently in operation and substantially effects Lindo Channel.

Located within the Five-Mile Recreation Area, the flood control system consists of gated dam structures, an overflow weir, and a stilling basin. Structures are located at the head of Big Chico Creek, near the head of Lindo Channel, and a weir at the head of the Sycamore Diversion Channel, an artificial flood control channel constructed to shunt flows in excess of the desired capacities of BCC and Lindo Channel into to the “south branch” of Sycamore Creek⁴.

Simply stated, the flood control system is designed to create a pool in the stilling basin, thereby metering controlled discharge into BCC and Lindo Channel. During times of low flow, all water runs through BCC. At times of flows higher than 1,500 cubic feet per second (cfs), water backs up behind the structure on BCC, fills the stilling basin, and feeds into Lindo Channel. At still higher flows, the structure at Lindo Channel limits discharge down that channel to a design capacity of 6,000 cfs, and water stage in the stilling basin increases, flowing over the concrete weir into the Sycamore Creek Diversion Channel. During high flows, water may overtop the weir and flow north in the diversion channel to the “south branch” of Sycamore Creek. Thus, flows in Lindo Channel are “flashier” than those in BCC, cutting off to essentially zero once flows no longer spill from the stilling basin into the channel. During summer months, there is little or no flow in Lindo Channel.

Flood Control Maintenance and Effects on Lindo Channel

The purpose of the flood control project was, and remains, to carry potentially damaging peak flood flows around the central portion of the City of Chico. The flood control structures are operated and maintained by Butte County in conjunction with the California Department of Water Resources (DWR).

During high flow periods, BCC leaves its relatively narrow foothill canyon carrying substantial bedload. When the stream encounters the relatively broad, lower-gradient stilling basin, the velocity bedload-mobilizing capacity is significantly reduced, causing deposition of sediment just upstream of the Five-Mile Area flow control structures.

Historically, in order to maintain flood conveyance, approximately every three years the gravel bar that formed at the bifurcation of Big Chico and Lindo Channel (within the stilling basin) was removed, or the channel reshaped to maintain “proper flow” (EIP, 2000, as cited in City of Chico, Park Department, 2001). According to Butte County’s former Public Works Director, Jim Schultz, from the 1960s through the 1970s, after water levels receded, Lindo Channel between Manzanita Avenue and Longfellow Avenue (which includes the reach by the project site) was cleared of large woody debris and the channel was straightened, flattened, and recontoured (Schultz, pers. comm., April 2001, as cited in City of Chico, Park Department, 2001).

The yearly clearing was performed to maximize water conveyance and ensure stream capacity. In addition, Schultz maintains that prior to the formal 1965 flood control improvements, Lindo Channel between Manzanita Avenue and Longfellow Avenue was dragged with scrapers to straighten and flatten the channel. Additionally, informal levees were “pushed up”, giving this portion of the stream the configuration it has today (Schultz, pers. comm., April 2001, as cited in City of Chico, Park Department, 2001). As a result, much of Lindo Channel’s current configuration, including the raised banks in the upper channel, are a reflection of the early instream work conducted by the Butte County Public Works Department during these two decades.

In summary, because of flood control operations (which quickly shunt large volumes of water into Lindo Channel—potentially with less bedload because of deposition in the stilling basin), as well as the aforementioned maintenance activities and gravel mining effects, Lindo Channel is now deeper, more confined, and in terms of channel complexity⁵, simplified, compared to pre-disturbance conditions. Hence, controlled flood flows metered into Lindo Channel from the flood control project are contained within a relatively narrow channel. No longer do

⁴ A tributary to Sycamore Creek, a separate stream system located on the north side of the Chico alluvial fan.

⁵ Channel complexity refers to the amount or degree to which a stream channel includes heterogeneous bank configurations (undercuts, slumps, point bars), large woody debris, mid-channel bars, and a good mix of pools, riffles and runs. A channel containing many of these features would be said to have “high channel complexity:” a trapezoidal channel with no vegetation would be said to have “low channel complexity.”

side and overflow channels remove flow and disperse it across the floodplain and alluvial fan. Instead, flood flow velocities and depths are relatively high and the channel is constricted. This is quite different from pre-disturbance conditions where flood flows were able to disperse, providing ecological benefits to fish and wildlife.

Required Permitting

Streambed Alteration Agreement

Perennial and intermittent streams are under the jurisdiction of the California Department of Fish and Game (CDFG) pursuant to Sections 1601 through 1603 of the Fish and Game Code (Streambed Alteration Agreements). CDFG jurisdiction over work within the stream zone includes, but is not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake. These sections of the code prohibit alterations of any streams, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG. The limit of CDFG jurisdiction is, subject to the judgment of the Department, up to the 100-year flood level. This would apply to any channel modifications that would be required to meet drainage or stormwater management objectives of the project.

Clean Water Act Section 404 Permit

Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (Corps) has authority to regulate activities that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. Perennial and intermittent creeks are considered waters of the United States and are within the regulatory jurisdiction of the Corps. The City of Chico will require a permit or authorization from the Corps for work in jurisdictional wetland areas and Waters of the U.S.

City of Chico Grading Permit

Grading activities are regulated by the City of Chico Municipal Code, Title 16R, Chapter 16R.22. While construction activities undertaken by the City are exempted from this ordinance, the City adheres to the regulations contained therein. Individual development projects are explicitly required to comply with applicable standards. The regulations contained in this chapter reduce the potential water quality impacts of grading by controlling runoff and the amount of sediment released off the site, protecting exposed slopes through revegetation, requiring the proper disposal of cleared material and fill, and requiring the proper handling of excavated materials. All projects must also comply with the City's adopted Storm Drainage Master Plan (2000).

In accordance with the requirements of the Chico General Plan, a Best Practices Manual (BPM) and Best Practices Technical Manual (BPTM) have been prepared by the City. These manuals are a compilation of existing City guidelines, codes, policies, programs, and standardized mitigation measures pertaining to General Plan policies that are best implemented via the documents included in these manuals (e.g., storm drainage systems). The manuals also incorporate the regulatory standards of other federal, State, and regional agencies, as appropriate. Regulations, guidelines, and standards specific to storm drainage include: General Plan policies, Standard Mitigation and Monitoring Program, Best Management Practices (Water Quality), Grading Standards, Erosion Control Standardized Notes, Pertinent CalTrans Contract Specifications, and CVRWQB Construction Stormwater Permit. For the purposes of the analysis in this initial study, it is assumed that relevant requirements set forth in the above-listed documents would be implemented during the proposed project, as well as any other conditions imposed by the regulatory agencies.

Project activities would involve earthmoving activities (e.g., trenching, excavation, grading, and contouring) that could expose soil to erosion at an accelerated rate during storm events. Sediment from erosion can have both short- and long-term effects on water quality/beneficial uses. Short-term effects can include increased turbidity, which could result in adverse impacts on fish and wildlife habitat, reduced water pump life due to abrasion, and impaired recreation and aesthetic value. Long-term effects can include increased flooding hazard from reduced channel capacities, increased irrigation system maintenance, and increased dredging costs. Sediments can also carry other pollutants such as pesticides and heavy metals from adjacent agricultural or urban land uses. As a result, construction of the proposed project could introduce new contaminants to surface water or exacerbate existing surface water or groundwater quality conditions.

PROJECT ACTIONS & IMPACTS

G.1.-G.3. As outlined in the Project Description above, one of the main project objectives is to restore form and function to the left-bank floodplain of Lindo Channel through the project site. Lindo Channel is an ephemeral stream that formed as a natural channel on the Chico Fan but was historically modified for flood control purposes.

Flow to Lindo Channel is controlled by a concrete sill that in some flood years is covered with gravel deposits. Runoff diverted from Big Chico Creek flows into Lindo Channel/Sycamore Creek diversion channel for approximately 1,400 feet before encountering two adjoining diversion structures. In addition to overflow from Big Chico Creek, Lindo Channel conveys runoff from the urban area. Lindo Channel flows into Big Chico Creek west of the City. Flood flows have occurred in Lindo Channel for many decades. However, the installation of the high-flow bypass from Big Chico Creek-Lindo Channel into Sycamore/Mud Creek has essentially “capped” the flows that can enter Lindo Channel. Flows in excess of 1,500 cfs are diverted into Lindo Channel, which can accept flows ranging from 4,000 to 6,000 cfs. The design capacity is 6,000 cfs, and there are gates that limit inflows to ensure capacity is available for urban area runoff. Because Lindo Channel is a flood overflow channel, it does not receive late season flows emanating from the Big Chico Creek watershed. This probably reduces the potential to support riparian vegetation within the channel itself, such that overall, it has less bank stability than does Big Chico Creek. While landscape irrigation is probably an offsetting factor, it is still not as effective as streamflow in establishing woody vegetation in the channel. The California Department of Fish and Game (CDFG) allows diversion of Big Chico Creek flow into Lindo Channel only if flows in Big Chico Creek are maintained at 75 cfs or greater, in order to maintain fish habitat. The City has at times manipulated gravels at the fork of the two waterways to direct some water into Lindo Channel, consistent with CDFG policy, during late spring and early summer. Usually, surface flows into Lindo Channel cease in June or July, either as result of natural conditions or because the 75 cfs criterion cannot be met.

Lindo Channel is currently constricted by sediment, asphalt-paved areas, cobble and gravel fill, and concrete rubble. Channel form and function will be reinvigorated by removing the sediment encroaching on the channel and creating a new floodplain that is lower and more accessible to the stream. This work would be conducted using heavy earthmoving equipment, load-haul-dump vehicles, and/or belly scrapers, and would also include the creation of a secondary flow channel (side channel) through the newly constructed floodplain. The design of these features would be supported by a detailed topographic survey of the channel and hydrodynamic modeling to assist in constructing these features with the proper particle size distributions, channel dimensions, and planform configuration. Schematic cross sections of proposed floodplain conditions are depicted in **Figures 6, 7, 8 and 9.**

Figure 5 illustrates the area proposed for floodplain enhancement. Approximately 1,100 linear feet of stream channel would benefit from increased channel capacity and floodplain access. On average, the channel/floodplain would be increased by about 80 feet, reaching an increase in width of over 100 feet for about 150 feet of stream channel. At the narrowest part of the existing floodplain/channel the project would more than double the width of the floodway.

Within Symbol #6 of **Figure 54**, approximately 10,000 cubic yards (CY) of material would be removed from the floodplain and/or re-contoured. In part, sediment excavated from the floodplain would be sorted to obtain finer material for specific planting applications; coarser material would be used to create the lower portions of fill for the raised trail shown as Symbol #11 in **Figure 5**. Sediment would also be placed in various topographic low areas (not specified on Figure 5) to enhance the “walk-ability” of the site and smooth the transition from existing upland areas to the small berm at the northeast corner of the site.

The two storm drains outfalls (see Symbol #1 in **Figure 5**) that enter the site would be treated with vegetative plantings to slow and treat runoff. The outfall nearest East 1st Avenue would be treated with the installation of a bioswale. The bioswale is a low-gradient, open channel possessing a dense cover of vegetation through which all surface runoff is directed. The bioswale decreases the speed of flows and allows suspended solids to settle out. Above-ground plant parts filter particulates and their associated pollutants as runoff passes slowly and evenly through the channel. The pollutants are then incorporated into the soil where they may be immobilized and/or decomposed by plants and microbes. The bioswale is considered a creative means of controlling runoff, and has the potential to improve water quality, mitigate wetland loss, provide flood containment, and improve the aesthetics of the project site. As such, the bioswale has hydrologic, chemical, and biological functions.

As noted above, Implementation of the restoration project will result in the disturbance of approximately 15 acres of presently undeveloped land. There is a potential for short-term impacts on water quality due to erosion and sedimentation from construction activities on the site. The Central Valley Regional Water Quality Control Board (RWQCB) develops and enforces water quality objectives and implementation plans which safeguard the quality of water resources in the region. As implementation of the proposed project will disturb an area in excess of one acre, it is subject to a Non-point Discharge Elimination System (NPDES) permit. The City Public Works Department will require the preparation of a Storm Water Pollution Prevention Plan (SWPPP) to implement the NPDES requirements. The SWPPP will utilize Best Management Practices (BMPs) as specified in the City’s adopted Storm Drainage Master Plan (2000) to limit erosion and sedimentation impacts. As a result of

compliance with the City of Chico's Grading Ordinance, the City's adopted Storm Drainage Master Plan, and the State's NPDES requirements, potential impacts will be reduced to a **less than significant** level.

The project does not propose any paved surfaces and will not effect drainage capacity, groundwater recharge, or water quality. The final grading plan will be reviewed by the City Engineering Division in accordance with City standards. Impacts, therefore, are considered to be **less than significant**.

G.3, 5, & 6. As noted above, implementation of the City's standard BMPs as required by the City's adopted Storm Drainage Master Plan (2000) will ensure that there is not an increase in the rate or amount of surface runoff in a manner which would result in flooding on-or off-site, nor a degradation in water quality. Also, implementation of the proposed project would not exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This represents a **less than significant** impact.

MITIGATION: None required.

G.4. As part of the project, a connection of the flow-through channel to the wetland will be created. The potential for Lindo Channel to drastically change course and flow through the project area as a result of this connection is essentially impossible because, while water at high stage could back its way into the wetland leading south toward East 1st Avenue, because this wetland area is still higher than the channel invert immediately downstream of the flow-through there is no physical reason or "advantage" for the channel to begin flowing into the site. Instead, flood flows will continue downstream and the wetland area will receive temporary increases in inundation but no flood velocity.

With respect to the potential for the side channel migrating toward homes downstream of the site, because site modifications still leave substantial "high ground"—at existing elevations—on the left bank of the stream, as well as increase floodway capacity which would decrease flood stage and velocities, the potential for southward channel migration to threaten these homes is very minimal and deemed to be a **less than significant** impact.

MITIGATION: None required.

G. 7-10. The area within Lindo Channel is located within a 100-year floodplain, however, no structures are proposed as part of the proposed project. As discussed above, the proposed project will have no impact to property or structures in terms of flood protection. The proposed project will not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam or inundation by seiche, tsunami, or mudflow. As a result, these impacts are considered **less than significant**.

MITIGATION: None required.

H. Land Use and Planning: Will the project or its related activities be inconsistent with:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. General Plan or Specific Plan policies, or zoning regulations?			X	
2. Physically divide an established community?				X
3. Conflict with any applicable Resource Management or Resource Conservation Plan?			X	
4. Result in substantial conflict with the established character, aesthetics or functioning of the surrounding community?			X	
5. Be a part of a larger project involving a series of cumulative actions?				X
6. Result in displacement of people or business activity?				X
7. Conversion of viable prime agricultural land and/or land under agricultural contract to non-agricultural use, or substantial conflicts with existing agricultural operations? (Viable agricultural land is defined as land on Class I or Class II agricultural soils of 5 acres or greater, adjacent on no more than one side to existing urban development.)				X

DISCUSSION:

H.1-7. The project site has a land use designation of *Parks* on the City General Plan Diagram and is also identified as a *Creekside Greenway*. The site has a zoning classification of *OS-1 (Primary Open Space)*. The project proposes to restore the project site to create a natural area with a passive recreational component (trails, benches, interpretative signage, etc.), which is similar to which was envisioned and identified in the General Plan. Because the proposed project is consistent with all applicable plans, there would be a **no impact** with respect to land use as envisioned by the General Plan.

MITIGATION: None.

H.4. As mentioned in Impact Discussion A.1-4 above, the proposed improvements will not result in any long-term degradation of the existing visual character or quality of the site and its surroundings. There is a **less than significant** impact on the existing visual character and quality of the site.

MITIGATION: None.

I. Noise: Will the project or its related activities result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Exposure of residents in new hotels, motels, apartment houses, and dwellings (other than single-family dwellings) to interior noise levels (CNEL) higher than 45 dBA in any habitable room with windows closed?			X	

2. Exposure of sensitive receptors (residential, parks, hospitals, schools) to exterior noise levels of 60 dBA L or higher?	X
3. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	X
4. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	X
5. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	X
6. For a project located within the airport land use plan, would the project expose people residing or working in the project area to excessive noise levels?	X
7. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	X

DISCUSSION:

I.1-5. The project involves the restoration of a degraded public property to create a natural area with passive recreational uses (walking paths, benches, and educational kiosks). No sensitive noise receptors, including schools, residences, or hospitals, exist in close proximity to the project site. The use of the site for these purposes will not generate significant amounts of noise and will actually be less than if the site were to be developed as a typical neighborhood park with play fields, basketball courts, children’s play equipment, etc.

Implementation of the proposed action would create temporary construction noise in the project area during the operation of equipment such as backhoes, excavators, scrapers, and dump trucks. Since project construction would occur in an area adjacent to residences, construction noise may disturb nearby residents (although noise levels are not anticipated to be substantial). The City’s Noise Ordinance regulates temporary and periodic noise associated with construction, and among other things, stipulates that construction activities shall be limited to the hours of 7:00 am to 9:00 pm. With the adherence to the City’s Noise Ordinance, temporary construction noise will be less than significant.

MITIGATION: None required.

I.6 & I.7. See discussion under Section F., Hazards/Hazardous Materials.

MITIGATION: None required.

J. Open Space/Recreation: Will the project or its related activities:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Affect lands preserved under an open space contract or easement?				X
2. Affect an existing or potential community recreation area?			X	
3. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X

4. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	X
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DISCUSSION:

J. 1-4. The site is not under an open space contract or easement. It is identified as *Parks* on the City General Plan land use diagram, with a zoning classification of *OS-1 (Primary Open Space)*. The intent of the proposed project is to restore the project site to create a natural area with passive recreational trails and interpretive signs, which will increase recreational opportunities in the project vicinity. Aside from temporary construction-related impacts affecting air quality and noise there will be no adverse effect on the environment. As a result, there would be a **less than significant** impact with respect to these issues.

MITIGATION: None required.

K. Public Services: Will the project or its related activities have an effect upon or result in a need for altered governmental services in any of the following areas:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Fire protection?			X	
2. Police protection?			X	
3. Schools?			X	
4. Parks and recreation facilities? (See Section J Open Space/Recreation)			X	
5. Maintenance of public facilities, including roads, canals, etc.?			X	
6. Other government services?			X	

DISCUSSION:

K.1- 6. The intent of the proposed project is to improve the site to create a new recreation facility which would increase passive recreational opportunities for the neighborhood. Once completed, the project will require routine maintenance to be performed at the site in order to maintain the facility. Other than facility maintenance, no ongoing public services are anticipated to be required. Because the City has the resources necessary to provide for the operation and maintenance of the facility without compromising maintenance of other facilities, this impact is considered **less than significant**.

MITIGATION: None required.

L. Population and Housing: would the project or its related activities:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X

3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	X
4. Conflict with General Plan population growth rates for its planning areas in conjunction with other recently approved development?	X

DISCUSSION:

L.1-4. The proposed project will not induce growth, but will provide a passive recreation facility (walking paths) to an existing neighborhood, on land designated for a public park. No housing will be displaced with the project. As a result, there will be no impact on population and housing.

MITIGATION: None required.

M. Transportation/Circulation Factors: Will the project or its related activities result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Traffic volumes which exceed established Level of Service (LOS) standards on roadway segments or at intersections, or which do not meet applicable safety standards? Based on General Plan policies, significant impacts would generally result if traffic exceeded LOS C on residential streets, LOS D on arterial and collector streets/intersections, and (under specific circumstances) LOS E in built-out areas served by transit.			X	
2. The absence of bikeway facilities in the general locations identified in the General Plan, consistent with guidelines in the Chico Urban Area Bicycle Plan, or failure to meet applicable design requirements and safety standards?			X	
3. Travel characteristics which are not consistent with standards established in the Butte County Congestion Management Plan (CMP), or other General Plan policies related to Transportation Systems Management (TSM)?				X
4. Substantial impact on existing or proposed public transit systems including rail and air traffic?				X
5. Effects on existing parking facilities or demand for new parking not provided for by the project?			X	
6. Increase traffic hazards to motor vehicles, bicycles, pedestrian or other traffic?			X	
7. A change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X

DISCUSSION:

M.1-2. The project site is designated for improvement as a neighborhood park. Neighborhood parks are partially defined on page 5-4 of the City of Chico General Plan PARKS, PUBLIC FACILITIES, AND SERVICES Element as being “located within walking and bicycle distance [of the residences it is intended to serve]”. As discussed above in Section H. LAND USE AND PLANNING and Section J OPEN SPACE/RECREATION, the proposed project is consistent with what has been considered, analyzed, and adopted through the City’s General Plan and

related environmental review processes, which determined that a neighborhood park at this location would not create traffic volumes exceeding LOS standards. The project site will not be developed with any ballfields or high use facilities. As a result, it can be expected that impacts will be even less than a traditional neighborhood park. No new or additional impacts are anticipated as the proposed project design is generally consistent with the City park standards considered in previous analyses. Therefore, impacts are considered to be **less than significant**.

MITIGATION: None required.

M.3-4. The proposed project is the design and construction of a park that has been considered, analyzed, and adopted through the City’s General Plan and related environmental review processes. Therefore, it can be assumed that there will be no significant increases in traffic generation or use of public transit systems, and as such no changes in travel characteristics which would conflict with the Butte County Congestion Management Plan or other General Plan policies related to Transportation Systems Management. Therefore there will be no impact.

MITIGATION: None required.

M.5. The project site is designated for improvement as a neighborhood park, which is partially defined on page 5-4 of the City of Chico General Plan PARKS, PUBLIC FACILITIES, AND SERVICES Section as being “located within walking and bicycle distance [of the residences it is intended to serve]”. It goes to note that off-street parking is not usually provided. As discussed above in Section H. LAND USE AND PLANNING and Section J OPEN SPACE/RECREATION, the proposed project is consistent with what has been considered, analyzed, and adopted through the City’s General Plan and related environmental review processes, which determined that a neighborhood park at this location would not create significant effects on existing parking facilities or demand for new parking not provided for by the project. Therefore, impacts are considered to be less than significant.

The City of Chico has not have any parking standards for neighborhood parks. Because neighborhood parks are mainly used by residents in the area, most people travel to the park by walking or bicycling rather than driving. Providing too many vehicle parking spaces would not only detract from the green space of the park, but may also encourage people to drive instead of other modes. On-street parking is available in front of the park site on East First Avenue. A bus turnout will in front of the park site will also be installed as part of the project.

MITIGATION: None required.

N. Utilities: Will the project or its related activities have an effect upon or result in a need for new systems or substantial alterations to the following utilities:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Water for domestic use and fire protection?			X	
2. Natural gas, electricity, telephone, or other communications?				X
3. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
4. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
5. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
6. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	

7. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	X	
8. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	X	
9. Comply with federal, state, and local statutes and regulations related to solid waste?		X

DISCUSSION:

N.1-2. The proposed project site is in an urbanized area. Water is provided by the California Water Service Company. Proposed improvements include turf, shrub, and tree plantings that would require irrigation, which would increase demand for domestic water supply, though not significantly. The project does not propose any significant increases in electric consumption; therefore there will be less than significant impacts to water and energy facilities.

MITIGATION: None required.

N.3-4. The project would not include any restroom facilities. As a result, there will no impact to wastewater treatment facilities as a result of the project.

N.5. see the drainage discussion in Section G (Hydrology/Water Quality) of this Initial Study.

MITIGATION: None required.

N.6. As described in section N.1-2, there is a less than significant relating to water supplies.

MITIGATION: None required.

N.7. As described in Section N.3-4. of this Initial Study, the project will generate any wastewater, as there are no restroom facilities proposed as part of the project.

MITIGATION: None required.

N.8. Patrons of the proposed park would generate minor amounts of solid waste. The City of Chico Park Department has a contract with North Valley Disposal Waste Management for the services related to collection of solid waste from parks and recreation facilities, and same or similar services are anticipated at this facility. Additionally, the Neal Road Landfill has sufficient capacity to handle any solid waste generated by users of the park. Generation of solid waste as a result of this project would be less than significant.

MITIGATION: None required.

N.9. No impact would occur with respect to Federal, State, and local statutes and regulations related to solid waste.

MITIGATION: None required.

3. MANDATORY FINDINGS OF SIGNIFICANCE

Pursuant to Section 15382 of the State EIR Guidelines, a project shall be found to have a significant effect on the environment if any of the following are true:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
1. The project has the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.				X
2. The project has possible environmental effects which are individually limited but cumulatively considerable. (Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current and probable future projects.		X		
3. The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.				X

DISCUSSION:

1. Construction activities could contribute to fugitive dust and air quality degradation. Proposed mitigation consistent with the Butte County Air Quality Management District (BCAQMD) criteria would reduce this potential impact to a level of less than significant. Mitigation is also provided to address the potential impacts to potential cultural resources from construction activities.

All construction activities will be required to comply with the City of Chico's Grading Ordinance, which requires site specific erosion control measures to be incorporated into project activities to control erosion and sedimentation. The proposed project will also be required to implement Best Management Practices (BMPs) as specified in the City's adopted Storm Drainage Master Plan (2000) to limit erosion and sedimentation impacts to a less than significant level, and the project will be subject to the review and approval by various State and Federal regulatory agencies for work adjacent to wetlands and within Lindo Channel. Therefore, after incorporation of mitigation measures, impacts to mandatory findings of significance issues are less than significant.

2. The project is independent from other projects and, therefore, is not contingent upon the approval of any other project.

3. The Project will not have a substantial adverse effect on human beings, either directly or indirectly, and therefore is less than significant.

4. REFERENCES:

Butte County Airport Land Use Commission. 2000. Butte County Airport Land Use Compatibility Plan.

Butte County Air Quality Management District. 1997. Indirect source review guidelines. Chico, CA.

California Department of Fish and Game, California Natural Diversity Data Base Map.

California Department of Water Resources, April 1975, Vegetative Water Use In California, 1974, Bulletin 113-3.

City of Chico, Bidwell Park Master Management Plan. January 2, 1990.

City of Chico General Plan, 1994.

City of Chico, Municipal Code, 1999.

City of Chico Master Environmental Assessment, Blaney Dyett/Michael Brandman Associates, January 1994.

City of Chico, Draft Environmental Impact Report for the Storm Drainage Master Plan, 2000. (EIP Associates).

Jones & Stokes Associates, Inc., Initial Study/Mitigated Negative Declaration East First Avenue and Verbena Avenue Park and Residential Site, February 1994.

Metcalf & Eddy, Inc., Phase I Environmental Assessment Butte County Assessor's Parcel Nos. 045-038-025, 045-038-026, 045-038-027, and 045-038-028 East First Avenue and Verbena Site, June 1993.

Gallaway Consulting, Inc., Preliminary Biological Assessment for the Proposed E. 1st Avenue/Verbena Park, January 2006.

Gallaway Consulting, Inc., Botanical Assessment for the East 1st Avenue/Verbena Park Biological Survey Area (BSA) in Chico, California, April 2006.

Eric Ginney, Senior Geomorphologist, with The Louis Berger Group, Inc, Administrative Draft: Conceptual Design Review and Feasibility Assessment: City of Chico's First and Verbena Natural Area Proposal" (April 2006).

Note: The above referenced information is available for public review at the City of Chico Planning Division, 411 Main Street, Chico, California.