STATE OF CALIFORNIA – THE RESOURCES AGENCY GRAY DAVIS, GOVERNOR

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Staff:	Jim Baskin
Staff Report:	October 23, 2003
Hearing Date:	November 6, 2003
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.:	**1-03-031**
APPLICANT:	**City of Arcata – Environmental Services Department**
PROJECT LOCATION:	Within the open pasture area east of Highway 101 and south of State Route 255, Arcata, Humboldt County. (APNs 501-042-07 and –14)
PROJECT DESCRIPTION:	Construct cattle exclusion fencing to enclose an 8.7-acre area along a 2,537-foot reach of lower Campbell Creek/Gannon Slough, a tributary to Humboldt Bay, and re-vegetate the enclosed area with native plants.
GENERAL PLAN DESIGNATION:	Agricultural Exclusive (A-E).
ZONING DESIGNATION:	Coastal Agricultural Exclusive (C-A-E)
OTHER APPROVALS REQUIRED:	California Department of Fish and Game CFGC Sec. 1603 Streambed Alteration Agreement.
SUBSTANTIVE FILE DOCUMENTS:	City of Arcata LCP

SUMMARY OF STAFF RECOMMENDATION

Staff recommends approval with special conditions of the proposed riparian wetland enhancement project. The project would result in substantial water quality improvement and restore the diversity of terrestrial and aquatic habitats afforded along the lower reaches of the watercourse known as lower Campbell Creek and Gannon Slough, located at the north end of Arcata Bay, within the City of Arcata in Humboldt County. The proposed project involves riparian/wetland restoration and enhancement activities, including: (1) construction of 5,652 lineal feet of electrified fencing along both sides of the creek/slough to create an approximately 8.7-acre, 150-foot-wide riparian corridor management area; (2) construction of six gated entries into the exclusion area; and (3) planting approximately 2,700 alder, willow, spruce, gooseberry, twinberry, wax-myrtle, and vine maple trees and shrubs at approximately 10- to 15-foot spacings.

The project includes wetland fill in the form of the fence posts to be placed in grazed seasonal wetlands. The project is an allowable use for dredging and filling of wetlands because it is for a restoration purpose intended to enhance wetland habitat values at the site consistent with Coastal Act Section 30233(a)(7). The proposed project is intended to benefit the environment by enhancing riparian/wetland habitat values. However, to ensure that the proposed project does not result in unintended significant adverse impacts to coastal resources and actually enhances wetland habitat values consistent with the resource protection provisions of Section 30233 and 30240, staff recommends that the Commission attach Special Condition Nos. 1-7.

These recommended conditions would require that: (1) a revised site plan be submitted for the review and approval of the Executive Director designating the particular type of fence posting to be used and noting that no exotic invasive plants shall be planted; (2) the applicant undertake necessary repair and maintenance actions on the fencing and vegetation to ensure that the goals and objectives of the enhancement project are met; (3) no construction related debris be placed in or allowed to enter coastal waters or wetlands; (4) vegetation planting activities occur only between November and March to maximize the survival of the plantings; (5) the applicant obtain any needed project approval from the State Lands Commission; (6) the applicant obtain appropriate project approval from the California Department of Fish and Game; and (7) the applicant obtain appropriate project approval from the U.S. Army Corps of Engineers.

Staff believes the proposed project as conditioned is consistent with the Coastal Act and recommends approval of the proposed project with the above-identified conditions.

STAFF NOTES

1. Jurisdiction and Standard of Review.

The proposed project is located in the Commission's retained jurisdiction. The City of Arcata has a certified LCP, but the site is within an area shown on State Lands Commission maps over which the state retains a public trust interest (see Exhibit No. 3). Therefore, the standard of review that the Commission must apply to the project is the Chapter 3 policies of the Coastal Act.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. MOTION, STAFF RECOMMENDATION, AND RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve Coastal Development Permit No. 1-03-031 pursuant to the staff recommendation.

Staff Recommendation of Approval:

Staff recommends a YES vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of the majority of the Commissioners present.

Resolution to Approve Permit:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS: See attached.

III. SPECIAL CONDITIONS:

1. Revised Site Plan

A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. A-1-MEN-03-031**, the applicant shall submit a revised site plan to the Executive Director for review and approval. The revised plans shall substantially conform with the site plan submitted to the Commission on May 8, 2003 as "Plan View – City of Arcata Campbell Creek / Gannon Slough Cattle Exclusion-Riparian Restoration Project," except that the plan shall also provide for the following changes to the project:

1) Site Plan Revisions

a. The plan shall designate the particular type of fencing posts to be erected at the project site. Fencing post materials shall be limited to either: (1) wood posts treated with ammoniacal copper quaternary (ACQ) or copper boron azole (CBA)); (2) untreated wood posts such as cedar and redwood; or (3) metal posts.

b. The plan shall include a note stating that no invasive exotic plants shall be planted at the project site.

B. The permittee shall undertake development in accordance with the approved site plan. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved site plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

2. Fencing and Revegetation Maintenance Requirement

As any of the cattle exclusion fencing, including posts, stringers, and wiring is removed or otherwise becomes damaged so to allow cattle to enter the riparian exclusion area, the fencing shall be immediately repaired to restore its function as a barrier to entry by cattle throughout the life of the development. As any of the trees or shrubs to be planted die or are removed for any reason, they shall be immediately replaced in-kind throughout the life of the development.

3. Construction Responsibilities and Debris Removal

The permittee shall comply with the following construction-related requirements:

(a) Any wooden fence posts erected within five feet of the outer edge of the stream bank on either side of Campbell Creek / Gannon Slough shall have their holes pre-dug and not be mechanically pounded into place;

(b) No construction materials, debris, or waste shall be placed or stored where it may be subject to entering waters of Humboldt Bay, Gannon Slough, or Campbell Creek; and

(c) All construction debris, including fencing materials packaging, wiring scraps, fasteners, and excess or broken fence posts, shall be removed and disposed of in an upland location outside of the coastal zone or at an approved disposal facility.

4. Timing of Revegetation Planting

Planting of riparian vegetation shall occur during the rainy season between November and March to optimize planting success.

5. State Lands Commission Review

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director a written determination from the State Lands Commission that:

a. No State or public trust lands are involved in the development; or

b. State or public trust lands are involved in the development and all permits required by the State Lands Commission have been obtained; or

c. State or public trust lands may be involved in the development, but pending a final determination an agreement has been made with the State Lands Commission for the project to proceed without prejudice to that determination.

6. California Department of Fish and Game Approval

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, applicant shall provide to the Executive Director a copy of a permit issued by the California Department of Fish and Game (CDFG), or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the CDFG. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

7. U.S. Army Corps of Engineers Approval

PRIOR TO COMMENCEMENT OF CONSTRUCTION, the permittee shall provide to the Executive Director a copy of a permit issued by the Army Corps of Engineers, or letter of permission, or evidence that no permit or permission is required. The applicant shall inform the Executive Director of any changes to the project required by the Army Corps of Engineers. Such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS AND DECLARATIONS.

The Commission hereby finds and declares as follows:

A. Site Description.

The City of Arcata proposes to restore and enhance riparian wetlands within the lower reaches of a watercourse known as Campbell Creek / Gannon Slough to provide greater habitat value and diversity for water-associated wildlife. The watercourse runs north-south for approximately ½-mile through the project site then continues southward for several hundred feet further before turning westward and passing through a tide-gated culvert beneath Highway 101, and entering Arcata Bay. The project site is situated at the southern entry to Arcata in the grazing lands lying along the eastern side of Highway 101 south of Samoa Boulevard (State Highway 255) (see Exhibit Nos. 1 and 2). The project site comprises the central nine acres of a 46.7-acre pastureland tract recently purchased by the City for stream restoration purposes (see Exhibit No. 4).

The subject pasturelands are situated on former tidelands that made up the eastern third of the Arcata Bay lobe of Humboldt Bay prior to its reclamation in the late 1800s. Over time, this former salt marsh intertidal channel conveying flows from the Campbell Creek watershed has become more of a stream. Depending upon the phase and intensity of the tides and the proper functioning of the tidegate, this waterway may contain and convey fresh, brackish, and/or saltwater. As a result of this dynamic hydrology and the presence of cattle along and within the banks of the watercourse, much of the vegetation along the slough has been denuded, save for scattered remaining outgrowths of salt-tolerant Lyngbye's sedge (Carex lyngbyei), a California Native Plants Society "List 2" rare plant species. Much of the water channel is choked with cattails (Typha sp.), water parsley (Oenanthe sarmentosa), and other ruderal aquatic vegetation. There are no other rare, threatened, endangered or special-status plants within the project area.

In addition to the readily recognizable riparian wetlands within the creek and slough banks, the adjoining pasturelands are considered seasonal wetland, exhibiting a combination of wetland hydrology, hydric soils, or hydrophytic vegetation indicators.

The restoration/enhancement site is situated along the channelized stream course at elevations ranging from approximately +4 to +6 feet above mean sea level (msl) referenced from the National Geodetic Vertical Datum (NGVD).

Arcata Bay, its feeder creeks and the surrounding agricultural, public facility, and open space lands provide habitat for a diversity of wildlife. The project area is habitat for a wide variety of resident and migratory waterfowl, shorebirds, wading birds, songbirds, and raptors. A smaller number of mammals, amphibians and reptiles also inhabit the area. Several species of fish have been found in Campbell Creek / Gannon Slough, including the *coho* salmon (Oncorhynchus kisutch), listed as endangered federally and as a threatened species in California, steelhead (Oncorhynchus mykiss) a state-listed threatened species, and coastal cutthroat trout (Oncorhynchus clarki), a California species-of-special-concern. Numerous avian species are also known to commonly forage at the site include the northern harrier (Circus cyaneus), white-tailed kite (Elanus leucurus), Great blue heron (Ardea herodias), and Snowy egret (Egretta thula).

The project site is surrounded by a mixture of agricultural, private recreation, and public facility uses, taking the form of grazing pastures and paddocks, Little League baseball playing fields, a California Highway Patrol station, a freeway, and a state highway. The Highway Patrol station and ball fields lie approximately 500 feet to the northeast of the project area. The site is approximately 1,000 feet south of State Highway 255. U.S. Highway 101 lies approximately 100 to 300 feet to the west of the proposed fencing and revegetation areas.

The subject property is designated Coastal Agricultural Exclusive with Wetlands and Creeks Protection Combining Zone (C-A-E:WCP). With the exception of Highway 101's Class II bike lanes and the paved roadside walkways and Class III bike lanes along SR 255, there are no coastal access and recreational amenities for hiking, cycling, bird-watching, and boating in the immediate project vicinity. However, numerous such activities centered around Arcata Bay and its saltwater tidal margins are available nearby at the Arcata Marsh and Wildlife Sanctuary, the Butcher Slough Restoration Project, the Arcata Marsh Interpretative Center, and the Department of Fish and Games Mad River Slough Restoration Area, across Highway 101 to the west and south of SR 255, along the northern shoreline of bay.

B. Project Description.

The City of Arcata proposes to restore and enhance the lower reaches of the Campbell Creek / Gannon Slough watercourse. Campbell Creek is a Class II, first-order coastal stream that has been significantly culverted, and channelized along its approximately 1½-

mile length over the last century. As a result, much of the original streamside riparian canopy has been removed and major portions of the creek lie in closed culverts beneath Highway 101 and underneath the mixed single- and multi-family residential neighborhoods of east-central Arcata. Despite this history of impacts, the habitat potential of the Campbell Creek watershed, along with that of the other urban creeks within the northern Humboldt Bay region, have been recognized by numerous public resource agencies and non-government organizations alike that have expressed a common interest to restore the creek. In 1986, the City significantly re-contoured and revegetated previously culverted, channelized, and denuded sections of the creek above the project site. Similar efforts to restore or "daylight" other sub-surfaced urban creeks within the City have been ongoing since the mid-1980's.

The restored portions of Campbell Creek north of the project site alongside the City's Sports Complex now consist of a series of meandering channels and alcoves flanked by over-flow plains and shaded by a developing riparian corridor vegetation complex with a canopy of willows (Salix sp.) and red alder (Alnus rubra) interspersed with an understory of native shrubs. However, the subject slough and creek reach effectively remains a narrow, denuded, relatively straight drainage channels with little hydrologic complexity and affording only a minimum of fish and wildlife habitat.

Project's Habitat Restoration and Enhancement Objectives

As part of its ongoing efforts to preserve and protect fish and wildlife habitat, with assistance and funding from a California Department of Fish and Game and its Wildlife Conservation Board, the City of Arcata has acquired and began to actively manage the streamside and grassland portions of the 46.7-acre parcel through which the waters of lower Campbell Creek / Gannon Slough flow. The central goal of the City's stream rehabilitation project is to protect and restore riparian habitat to benefit anadromous fish species, migratory and resident waterfowl, shorebirds, waders, Passeriformes, and raptors. The City also wishes to foster compatible scientific and educational uses within the area. These efforts are being undertaken both as implementation of the city-wide Arcata Creeks Management Plan as well as being alongside other resource agency, conservation group, and watershed association projects throughout the Humboldt Bay region.

One of the most straightforward methods for improving degraded stream habitat is to return the watercourse as closely as practicable back to its pre-modified conditions. Depending upon the specific modifications that have been made, the creek or slough can be improved by a combination of techniques. Specific to the project site, appropriate techniques would include restoring over-bank and floodplain areas lost to channelization, returning hydrologic complexity to the stream by increasing channel sinuosity on artificially straightened reaches and creating off-channel refugia alcoves, replacing large wood vegetation cover elements within the stream channel and along the banks, and re-establishing the native riparian corridor vegetation on denuded reaches or those dominated by invasive, exotic plants.

The applicant proposes to conduct such work alongside Campbell Creek / Gannon Slough as part of the stream habitat restoration project. The proposed project would entail some the above-listed enhancements and improvements to the watercourse along a major segment of its tidal slough portion, and would represent the next phase of the City's ongoing creek restoration work for this watershed. For the subject site, however, pursuing all of these restoration methods simultaneously would be either inappropriate for the site conditions present, economically or environmentally infeasible to carry out, or a premature measure at this particular time.

For example, artificially increasing the channel sinuosity or reconfiguring the stream's cross-section to add complexity to the in-water habitat and flow regime may not be suitable on a reach that, other than having undergone reclamation impoundment that has removed the area from direct tidal influence, doesn't appear to have undergone extensive artificial straightening or entrenchment.

Additionally, complete "restoration" of the site back to the estuarine tidal salt marsh conditions that existed prior to the reclamation of the eastern side of Arcata Bay would entail extensive construction of diking around the perimeter of the site to be restored and tying back into levees running along the bayfront to form an enclosed embayment. This structure would need to be engineered to withstand the hydraulic forces associated with full tidal bore inundation and direct storm surge exposure, and may require extensive modifications to portions of the Highway 101 roadway to ensure its protection from coastal erosion, a prohibitively costly and environmentally risky undertaking.

Similarly, there would be little benefit to the target salmonid fish species resulting from placing any in-channel structural habitat improvements, such as large woody debris, before the more basic deleterious conditions along the watercourse are corrected. These deleterious conditions include elevated water temperatures associated with lack of canopy and elevated sediment levels, exposure to predators, and eutrophication. These conditions can be corrected through the exclusion of water quality-impacting cattle and reestablishing the solar-shading and predatory screening riparian vegetation canopy.

For this initial restoration phase, the proposed project under application has only two components: (1) constructing an electrical fence to exclude cattle from a roughly 150-foot-wide by ½-mile-long area comprising approximately 8.9 acres along the slough to create a riparian vegetation restoration area; and (2) replanting the streamside restoration area with a variety of freshwater and transitional saltwater plant species (see Exhibit Nos. 4, 5, and 6).

Cattle Exclusion Fencing Construction

To curtail the impacts to the water quality of Gannon Slough associated with entry of cattle and their wastes into the waterway, and help ensure the success of the riparian corridor habitat restoration efforts, cattle currently under a long-term lease to graze the

47.6-acre project parcel will first need to be kept out of the immediate area around the waterway. The City proposes to install 5,652 lineal feet of electric fencing around a 2,537-foot reach of Gannon Slough. The fencing would exclude cattle from coming within 75 feet of the waterway and prevent the plant starts from being grazed upon. A 20-foot-wide lateral corridor through the fencing to allow the grazing lessee to move their cattle between the east and west sides of the creek would also be provided. Thus, cattle access to the water will be limited to only one point, reducing the amount of disturbance in and along the creek.

The particular fencing materials proposed to be used consist of either approximately 120 6-inch-diameter (on 50-foot centers) or 570 2-inch-diameter (on 10-foot centers), 7-foot CCA (Chromated Copper Arsenate) pressure-treated wooden posts, or approximately 240 metal "t-posts" (on 25-foot centers) strung with single-strand 12.5-gauge electric "hot" wire, and powered by a 10-watt solar-powered battery unit, secured near the fencing area. A second, back-up battery pack would also be installed at the site.

Revegetation

Once all of fencing is in-place, the area along the creek behind the fencing would be revegetated with a variety of North Coast riparian species, including 750 red alders (Alnus rubra), 750 willows (Salix sp.), 500 Sitka spruce (Picea sitchensis), 200 Red-flowering currant (Ribes sanguinium), 200 twin-berry (Lonicera involucrate), 200 California bay-laurel Myrica californica), and 100 vine maples (Acer circinatum). In addition to stabilizing the areas disturbed by past grazing, the revegetated areas would provide a more diverse riparian canopy, help stabilize the stream banks, and provide shade for the creek.

The proposed restoration and enhancement work is being pursued as one of a number of the City's efforts to improve the fish and wildlife habitat and water quality within the Campbell, Fickle Hill, Little Fickle Hill, Grotzman, and Beith Creek watersheds along the City's south-east side. Although comprehensive project plans have not yet been finalized, preliminary plans envision further such cattle exclusion and revegation projects, in the channels along lower Beith Creek and the recently City-acquired lands flanking Jacoby Creek, downstream of where these creeks cross Samoa Boulevard and Old Arcata Road, respectively.

C. Protection of the Wetland Environment.

The proposed project involves development within wetlands consisting of the placement of fill in the form of the fence posts and the planting activities along the existing watercourse channel and stream banks. Once the project has been completed, a total of approximately 8.7 acres of emergent scrub-shrub riparian wetlands will have been re-established and/or enhanced from their current state as non-native perennial grasslands.

(1) Allowable Use for Dredging and Filling of Coastal Waters

The first test set forth above is that any proposed filling, diking or dredging must be for an allowable purpose as specified under Section 30233 of the Coastal Act. One of the allowable purposes for diking, filling, or dredging, under Section 30233(a)(7) is "restoration purposes." As discussed in detail above, the proposed project intends to restore and enhance approximately 1,600 lineal feet freshwater/saltmarsh transitional wetlands along the lower reaches of Campbell Creek / Gannon Slough.

The Commission finds that wetland enhancement projects, where the purpose of the project is to improve wetland habitat values, to constitute "restoration purposes" pursuant to Section 30233(a)(7). For example, the Commission concurred with a consistency determination for a wetland enhancement project proposed by the U.S. Fish and Wildlife Service at the Humboldt Bay National Wildlife Refuge (CD No. 33-92). This project similarly involved filling of wetlands to create and enlarge shallow ponds and sloughs and replace water control structures and was approved as a "restoration purpose" under Section 30233(a)(7). Another similar wetland enhancement project approved by the Commission as a "restoration purpose" under Section 30233(a)(7) involved the excavation of six acres of Doran Park Marsh to create a new tidal pond wildfowl foraging area at the southeast end of Bodega Harbor, Sonoma County (CDP No. 1-93-04).

The Commission has found wetland enhancement projects to be for an allowable restoration purpose both in cases where such enhancement projects have been undertaken to restore an area of the bay to the salt marsh conditions that existed prior to European settlement as well as to freshwater habitat enhancement projects more typical of the post-reclamation setting. The Commission approved the wetland enhancement projects proposed by the Department of Fish and Game involving excavation of slough channels to create freshwater ponds at the Mad River Slough Wildlife Area adjacent to Arcata Bay several miles to the northwest of the subject site (CDP No. 1-99-063) and on the Fay Slough Wildlife Area (CDP No. 1-00-025). The Commission also approved a restoration project conducted by the City of Arcata, on the lower Jolly Giant / Butchers Slough interface on the former Little Lake Industries mill site (CDP No 1-02-020). All of these projects are located on former salt marsh tidal flats.

The Commission thus finds that the proposed project, solely intended to restore and enhance wetland habitat values on the lower reaches of Campbell Creek is for a "restoration purpose" and is allowable under Section 30233.

This finding that the proposed diking, filling, and dredging constitutes "restoration purposes" is based, in part, on the assumption that the proposed project will be successful in increasing wetland habitat values. Should the project be unsuccessful at increasing wetland habitat values, or worse, if the proposed filling impacts of the project actually result in long term degradation of the habitat, the proposed filling would not actually be for "restoration purposes." To ensure that the project achieves the wetland enhancement

objectives for which the project is intended, the Commission attaches Special Condition No. 2. Special Condition No. 2 requires the applicant to repair and maintain both the fencing and the revegetated areas. Fencing is to be promptly repaired if it should be damaged in a manner that allows cattle to enter the riparian vegetation restoration exclusion area. Similarly, should any of the scheduled restoration plants die or otherwise be removed, the plants shall be replaced at a 1:1 ratio.

The Commission finds that as conditioned, the proposed filling in coastal wetlands for the proposed restoration and enhancement of riparian tidal slough habitat falls into the category of "restoration purposes," and therefore is an allowable use pursuant to Section 30233(a)(7) of the Coastal Act.

(2) Adequate Mitigation Measures

The second test set forth by Section 30233 is that adequate mitigation must be provided for adverse environmental impacts. Potential significant adverse impacts that could result from the proposed dredging or filling along Campbell Creek / Gannon Slough include: (1) the removal or coverage of streambank habitat; and (2) impacts to fish and wildlife habitat from water pollution in the form of sedimentation or debris entering coastal waters. Overall, the project would enhance wetland habitat values and would produce generally only beneficial environmental effects. However, the proposed project has been conditioned to ensure that habitat enhancement results and potentially significant adverse impacts are minimized.

a) Removal of Streambank Habitat Area

A potential significant adverse impact resulting from filling in wetlands is the coverage or removal of streamside habitat. As discussed in the Project Description Finding, the proposed project would involve the erection of either 570 2-inch-diameter or 120 6-inch-diameter CCA pressure-treated fence posts, resulting in an aggregate areal amount of fill of roughly 12.5 to 25 square feet of seasonal pasture wetland coverage. Alternately, approximately 240 metal "t-posts" with an aggregate coverage area of approximately 1½ square feet could be used to string the hot wire and form the gating.

The vegetation along the Campbell Creek / Gannon Slough watercourse is comprised of a mixture of ruderal species that are generally found along disturbed streams, including salt grass (Distichlis spicata), Himalayan blackberry (Rubus discolor), creeping buttercup (Ranunculus repens), coyote brush (Baccharis pilularis), pampas grass (Cortaderia jubata), and rushes (Juncus sp.). Given the dominance of invasive pioneering plant species and the near-absence of fish and wildlife species normally found along coastal streams of this size, the current habitat value of this streambank area can be considered to be severely degraded.

The impact of the small amount of structural fill associated with the project on habitat value of the area would be mitigated by the revegetation of areas within 75 feet of either side of the stream banks by a mixture of multi-layered riparian tree and shrub species. The newly created replacement wetlands would provide increased habitat area for water-associated fish and wildlife including, salmonid fish species, shorebirds, wading birds, perching songbirds, and raptors, and small mammals such as stripped skunk and raccoons. To ensure that the habitat characteristics intended to be re-established and improved by the project do not over time through deterioration of either the cattle exclusion fencing or loss of the riparian vegetation, the Commission attaches Special Condition No. 2. Special Condition No. 2 requires that the applicant repair and maintain the fencing to ensure that cattle do not enter the restoration area and promptly replace any of the planted vegetation as it dies or is otherwise removed.

b) Sedimentation Impacts to Aquatic Habitat and Water Quality

The subject wetland areas that would be filled by the placement of fence posts consist of the brackish riparian areas adjacent to the roughly four- to ten-foot-wide channel of the lower Campbell Creek / Gannon Slough watercourse. The watercourse provides cover and forage to a variety of fish species such as the *coho* salmon (Oncorhynchus kisutch), a federally-listed endangered species, listed as endangered federally, threatened in California, steelhead (Oncorhynchus mykiss) a state-listed threatened species, and coastal cutthroat trout (Oncorhynchus clarki). Numerous other arthropods, and other burrowing aquatic insects Although the majority of the fencing would occur parallel to and 75 feet away from the outer edge of the slough's banks, construction of perpendicular fenced corridor to allow for cattle to ford the creek and graze the pasture on either side of the slough would result in fence posting being erected within close proximity of this environmentally sensitive area.

Potential adverse impacts to fish habitat and water quality could occur in the form of sedimentation or debris from project filling (i.e., soils disturbed during the placement of the exclusion fencing) especially in the area along the creek ford corridor in close proximity to the top of the stream banks. Although the project description states that such impacts would be prevented and minimized by conducting the ground-disturbing work during dry weather, other than indicating that the fence posts will be "pounded into the ground," the application provides no further detail as to precisely how this fill would be placed relative to the potential for causing stream bank soil materials to enter into the creek/slough during the erection of the fence posts at the tops of the banks.

Depending upon the particular contractor bid accepted by the City, the fencing posts could be as large as six inches in diameter. The erection of poles of such size by directly driving the post into the ground without first excavating a guide hole or utilizing special-order taper-ended posts, would require significant mechanical force to penetrate the relatively dense soils underlying the project site, likely requiring the use of heavy equipment such as a truck-mounted portable pile driver. Given the necessity for fence

posts along the fording corridor to be placed right up to the top of the stream banks to prevent cattle from entering the streamside vegetation restoration area, such mechanized pile driving could result in portions of the stream banks calving-off into the watercourse. To ensure that adverse impacts to water quality do not occur from fencing construction along the immediate stream bank margins, the Commission includes within Special Condition No. 3 a requirement that the holes for any wooden fencing posts be located within five feet of the tops of the stream banks, be pre-dug and the resulting soils materials tamped in around the posts or removed from the building site.

The Commission finds that the proposed wetland enhancement project is a permitted use under Section 30233 of the Coastal Act, and that as conditioned, all potential adverse impacts have been minimized to the maximum extent feasible.

(3) Alternatives Analysis

The third test set forth by Section 30233 is that the proposed fill project must have no feasible less environmentally damaging alternative. In this case, the Commission has considered the various alternatives presented by the applicant and determines that there is no feasible less environmentally damaging alternative to the project as conditioned by Special Conditions No. 1-6. A total of possible alternatives to the proposed project have been identified including: (1) eliminating the cattle exclusion fencing portion of the project and limiting restoration to replanting riparian vegetation alongside the slough banks; and (2) the "no project" alternative.

a) Restoration of Riparian Vegetation Only

As discussed previously, the subject watercourse provides habitat to a variety of federal- and state-listed threatened, endangered, or otherwise noteworthy of concern plant and animal species. One method to minimize impacts to these areas would to avoid any enhancement work that involved the construction of physical structures such as the exclusion fencing. In this way, the environmental impact to aquatic habitat and water quality associated with the leaching of fencing materials into the surrounding agricultural soils, groundwater on into coastal waters or the introduction of sediment from disturbed ground near to the creek associated with erection of the fence posts could be prevented.

However, this alternative would likely compromise the success of the project's riparian vegetation restoration component. Without the fencing, cattle would be continue to have uncontrolled access to and across the full length of the lower waterway. In addition, the plantings placed along the stream banks would inevitably be grazed upon and never allowed to become an established vegetated riparian corridor.

There is also no assurance that construction of the proposed cattle exclusion fencing would not result in greater impacts to coastal resources. Therefore, limiting restoration to stream bank replanting is not a feasible less environmentally damaging alternative.

b) No Project

The "no project" alternative would leave the lower reaches of Campbell Creek / Gannon Slough in their current condition with no restoration or enhancement actions being taken. The "no project" alternative would eliminate the opportunity for increased habitat diversity and increased species abundance within a degraded anadromous fish-bearing coastal stream. Therefore, the no project alternative is not a less environmentally damaging feasible alternative as it would not accomplish the project objectives of enhancing wetland habitat values within City creeks.

Based on the alternatives analysis above, the Commission concludes that the proposed: (1) construction of an electrical fence to exclude cattle from a roughly 150-foot-wide by ½-mile-long area comprising approximately 8.7 acres along the slough to create a riparian vegetation restoration area; and (2) replanting the streamside restoration area with a variety of freshwater and transitional saltwater plant species is the least environmentally damaging feasible alternative for protecting and enhancing wetland habitat values at the site and is consistent with Section 30233.

(4) Maintenance and Enhancement of Biological Productivity and Functional Capacity

The fourth general limitation set forth by Section 30233 is that any proposed dredging or filling in coastal wetlands must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

The proposed expansion and enhancement of the watercourse would enhance the biological productivity and functional capacity of the watercourse habitat. The project would result in only a negligible net decrease in wetland area (10 to 25 square feet), as small portions of the degraded wetland areas are covered by fencing to exclude cattle and thus foster re-establishment of potentially more productive wetland habitat on the site. The current denuded and eroding stream banks would be enclosed to exclude the cattle who currently have direct access to the stream areas where anadromous fish could hold and rest during migration. The re-planting of the stream banks would restore a riparian character to the watercourse, providing additional shade and cover for fish, and tree- and shrub-covered habitat for other terrestrial organisms.

Furthermore, as discussed above in the section of this finding on mitigation, the conditions of the permit would ensure that the project would not have significant adverse impacts on existing wetland habitats or on the water quality of Campbell Creek / Gannon Slough or Arcata Bay. Thus, the proposed project would maintain the diversity of wetland habitats at the site. For all of the above reasons, the proposed project will maintain and enhance the biological productivity and functional capacity of the wetlands consistent with the requirements of Section 30233 of the Coastal Act.

(5) Conclusion

The Commission thus finds that the proposed fill is for an allowable use, that there is no feasible less environmentally damaging alternative, that feasible mitigation is required for potential impacts associated with the dredging and filling of coastal wetlands, and that the biological productivity and functional capacity of the wetland habitat affected by the dredging and filling will be maintained and enhanced. Therefore, the Commission finds that the proposed development, as conditioned, is consistent with Sections 30231 and 30233 of the Coastal Act.

D. Restoration of Marine Resources and Coastal Wetlands Where Feasible.

Coastal Act Section 30230 states as follows:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Coastal Act Section 30231 states as follows:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Coastal Act sections 30230 and 30231 require in part, that marine resources and coastal wetlands be maintained, enhanced, and restored where feasible. These policies call for restoration of coastal wetlands and marine resources where feasible. Restoration in the strictest sense generally refers to the reestablishment of wetland functions and characteristics that existed prior to human disturbance. The watercourse through the subject site was historically subject to the tidal influence of Humboldt Bay. Since being reclaimed behind the dikes built along the bay margins, the subject site now functions as a combination of brackish-freshwater riparian wetlands. The proposed project would involve reestablishing and enhancing the vegetated riparian character of the watercourse, resulting in the enhancement of the aquatic habitat within these brackish-freshwater riparian wetlands.

According to information from the U.S. Fish and Wildlife Service (USFWS), in the Humboldt Bay region it is estimated that between 7,000 and 8,700 acres of salt marsh were present prior to human development. Since the mid-1800's, most of what was likely to have been historic salt marsh has been diked or filled and has been reduced to a total area of around 900 acres, a reduction of at least 87%. In general, restoring areas that have historically supported tidal salt marsh is preferable when the physical conditions of a site present such an opportunity. The USFWS for example, has indicated that restoration of salt marsh habitats around the Bay is a high priority, as salt marsh restoration is important for the protection, enhancement, and restoration of native fish, wildlife, and plant communities, some of which are dependent on salt marsh for their existence.

Coastal Act sections 30230 and 30231 call for the restoration of coastal wetlands and marine resources "where feasible." Restoring the project site entirely to tidal salt marsh is not feasible due to the watercourse's minimal tidal connection to Humboldt Bay. The stream area to be restored is upstream of a functioning tidegate. In addition, restoring the entire length of Gannon Slough that was historically subject to tidal action to tidal marsh would require extensive grading or removing existing dikes and tide gates which would result in extensive flooding of adjacent private development and Highways 101 and 255. Therefore, the Commission finds that the proposed wetland enhancement project that does not involve restoring the entire site to salt marsh is consistent with Coastal Act Sections 30231 and 30230 because complete salt marsh restoration is not feasible. Nonetheless, the proposed project would enhance coastal wetlands and maintain and increase the biological productivity of the coastal wetlands consistent with Section 30230.

E. Conversion of Agricultural Lands.

The Coastal Act sets forth policies that relate to the protection of agricultural land and limit the conversion of agricultural lands to non-agricultural uses. Sections 30241 and 30242 address methods to be undertaken to maintain the maximum amount of prime agricultural land in production and to minimize conflicts between agricultural and urban land uses.

Coastal Act Sections 30241 and 30241.5 set a series of standards for reviewing new development to insure that agricultural lands are not unduly converted or otherwise adversely impacted. In addition to other provisions, Section 30241 requires that the maximum amount of prime agricultural land be maintained in agricultural production to assure the protection of the area's agricultural economy, and that conflicts be minimized between agricultural and urban land uses. Among the methods to be used to ensure such protections and conflict resolution are:

- Establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses;

- Limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses or where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development;

- Permitting the conversion of agricultural land surrounded by urban uses only where the conversion of the land would be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources;

- Developing available lands not suited for agriculture prior to the conversion of agricultural lands; and

- Assuring that public service and facility expansions and nonagricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality

Coastal Act Section 30242 continues on to state that:

> *All other lands suitable for agricultural use shall not be converted to nonagricultural uses unless (l) continued or renewed agricultural use is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250.*[1] *Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.*

Prior to the City's acquisition of the site in 2001, the site was a ranch used for agricultural purposes, mainly as grazing land. In addition, according to information submitted by the City, based on Soils of Western Humboldt County, California (McLaughlin and Harradine, 1965) the Bayside 0-3 soils are graded 1 through 6. Soils in the 1 and 2

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[1] Coastal Act Section 30250 in applicable part stipulates that, "*New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.*"

grades are considered very good soils and are identified as prime agricultural soils. Soils in grades 5 and 6 are considered poor agricultural soils. The soils on the MRSWA (Bayside 2 soil series) have a grade of 4. They are heavy bay-formed silty clay loams with poor drainage, identified as having some of the slowest percolation rates in the county. These soils are therefore, not prime agricultural soils. Since acquiring the property, the City has continued to lease the property for seasonal agricultural grazing on an annual basis. The acquisition of the property by the City did not require a coastal development permit.

The proposed project would not result in significant coverage of the project site with permanent structures. The construction of the cattle exclusion fencing, would cover only a very minor 1.5-25 square feet of the 8.7-acre area. Furthermore, the proposed fencing and trees are improvements that could be easily removed should an absolute need to conduct agricultural operations within the proposed restoration area arise in the future. Moreover, with respect to the severity of the project's effect on other agricultural operations in the surrounding area, the proposed exclusion of cattle from 8.7 acres would in actuality involve the deprival of grazing from an approximate four-acre area of pasture outboard of the stream banks. Based on an analysis by U.C. Cooperative Extension Farm Advisor Gary Markegard, based upon a carrying capacity of 3 acres per animal-unit (a 1,000-pound cow) for this low-lying, poorly drained, saltwater intruded, and flood-prone area, an estimated reduction in grazing capacity of 1.3 animal-units would result from the project (see Exhibit No. 6). Mr. Markegard considers this amount of lost grazing opportunity to be a relatively inconsequential amount from a regional perspective, and not likely to significantly adversely affect the viability of existing agricultural grazing lands or operations within the North Bay / Arcata Bottom area.

According to the City of Arcata's certified LCP, the subject site is planned and zoned for Agriculture Exclusive uses. Section 1-0207.1(a) of the City's Land Use and Development Guide recognizes "wildlife habitat management --- including fisheries... and related temporary structures" as one of the "rural uses" allowed by-right within the C-A-E zoning district. However, the site is within the Commission's retained jurisdiction and therefore, the standard of review is the Coastal Act rather than the LCP. Nonetheless, as the above-stated analysis concludes, although a portion of the 46.7-acre site is proposed to be managed for fish and wildlife habitat rather than for agriculture, the proposed project does not constitute a conversion of agricultural land as no significant permanent structural coverage of the site would occur that would result in the future agricultural use of the site being rendered infeasible. The City plans to continue grazing on a remaining 38-acre portion of the site as a means of managing short-grass habitat. In addition, with only the grazing opportunities for slightly more than one head of cattle being curtailed, the effects on other agricultural lands and operations in the area would be *de minimis*. Furthermore, the restoration of wetland habitat values over portions of the site and the general improvements to water quality would, as proposed and conditioned, be compatible with agricultural uses on surrounding lands.

Therefore, the Commission finds that the proposed project does not constitute a conversion of agricultural lands and is consistent with Sections 30241 and 30242 of the Coastal Act.

F. State Waters.

The project site is located in an area subject to the public trust. Therefore, to ensure that the applicant has the necessary authority to undertake all aspects of the project on these public lands, the Commission attaches Special Condition No. 4, which requires that the project be reviewed and where necessary approved by the State Lands Commission prior to the issuance of a permit.

G. Other Agency Approvals.

The project requires review and approval by the U.S. Army Corps of Engineers. Pursuant to the Federal Coastal Zone Management Act, any permit issued by a federal agency for activities that affect the coastal zone must be consistent with the coastal zone management program for that state. Under agreements between the Coastal Commission and the U.S. Army Corps of Engineers, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit. As part of the Army Corps permit process, the City is required to undergo formal Federal Endangered Species Act Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Additionally, the project requires a Section 1600 Streambed Alteration Agreement from the California Department of Fish and Game (CDFG). To ensure that the project ultimately approved by the CDFG and by the Corps in consultation with the USFWS and the NMFS is the same as the project authorized herein, the Commission attaches Special Condition Nos. 5 and 6 which require the City to submit to the Executive Director evidence of these agencies' approval of the project prior to the issuance of the permit and prior to the commencement of construction, respectively. The conditions require that any project changes resulting from these other agency approvals not be incorporated into the project until the applicant obtains any necessary amendments to this coastal development permit.

H. California Environmental Quality Act.

Section 13906 of the Commission's administrative regulation requires Coastal Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. As discussed above, the proposed project has been conditioned to be consistent with the policies of the Coastal Act. The findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. Mitigation measures that will minimize or avoid all significant adverse environmental impacts have been required. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act to conform to CEQA.

EXHIBITS:

1. Regional Location Map
2. Vicinity Map
3. Excerpt, City of Arcata Post-Certification Jurisdictional Boundary Map
4. Project Area Site Map
5. Project Description Narrative
6. Review Agency Correspondence

APPENDIX A

STANDARD CONDITIONS

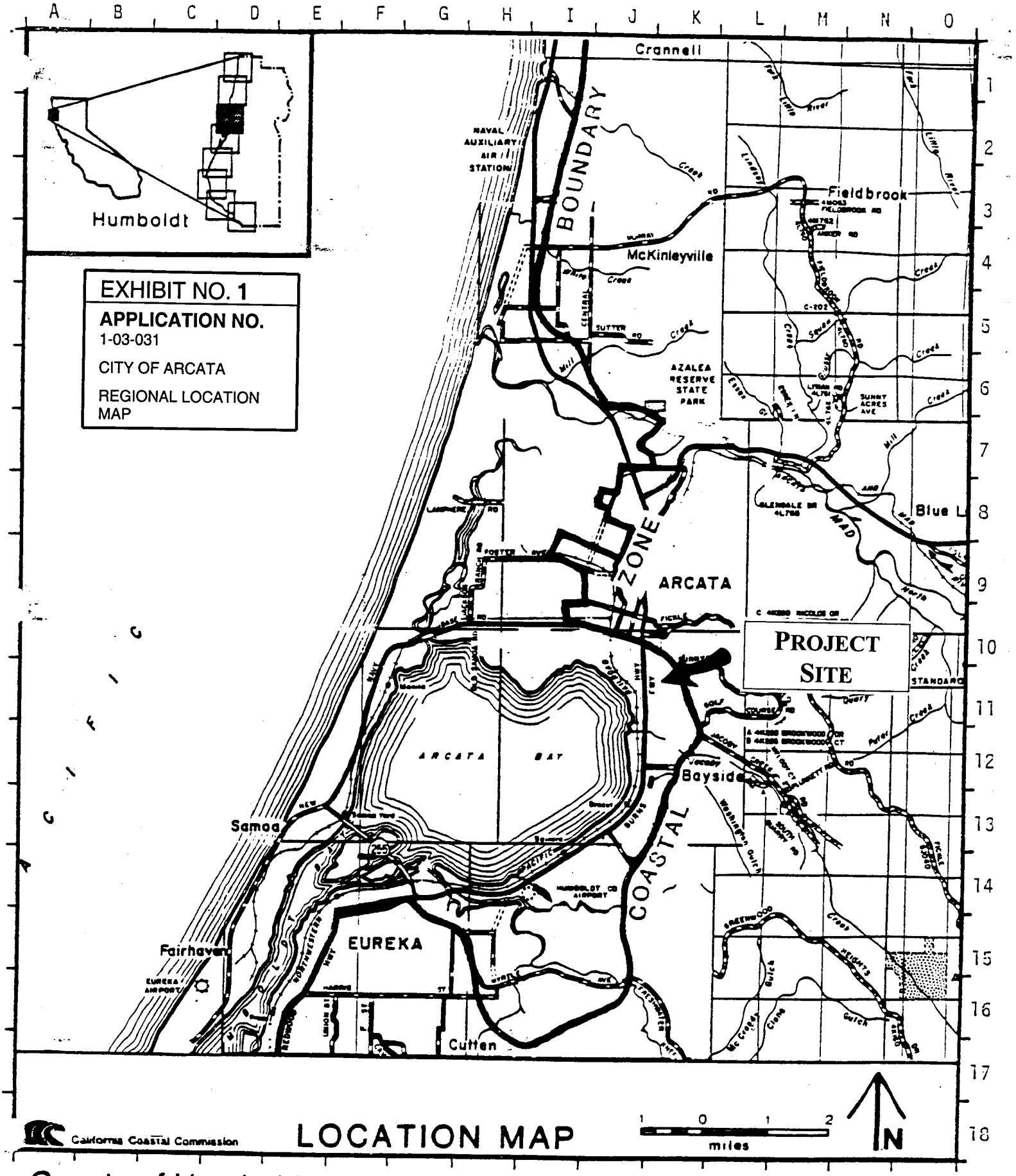
1. Notice of Receipt and Acknowledgement. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable amount of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director of the Commission.

4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.



California Coastal Commission

LOCATION MAP

County of Humboldt

PLAN VIEW

CITY OF ARCATA

CAMPBELL CREEK/GANNON SLOUGH CATTLE EXCLUSION-RIPARIAN RESTORATION PROJECT

USGS 7.5 Minute Topographic Map: Arcata South Quad

Sections 32 & 33 of T6N, R1E and Section 4 of T5N, R1E of H. B. & M.

40° 51' 24.06" N, 124° 4' 46.49"W

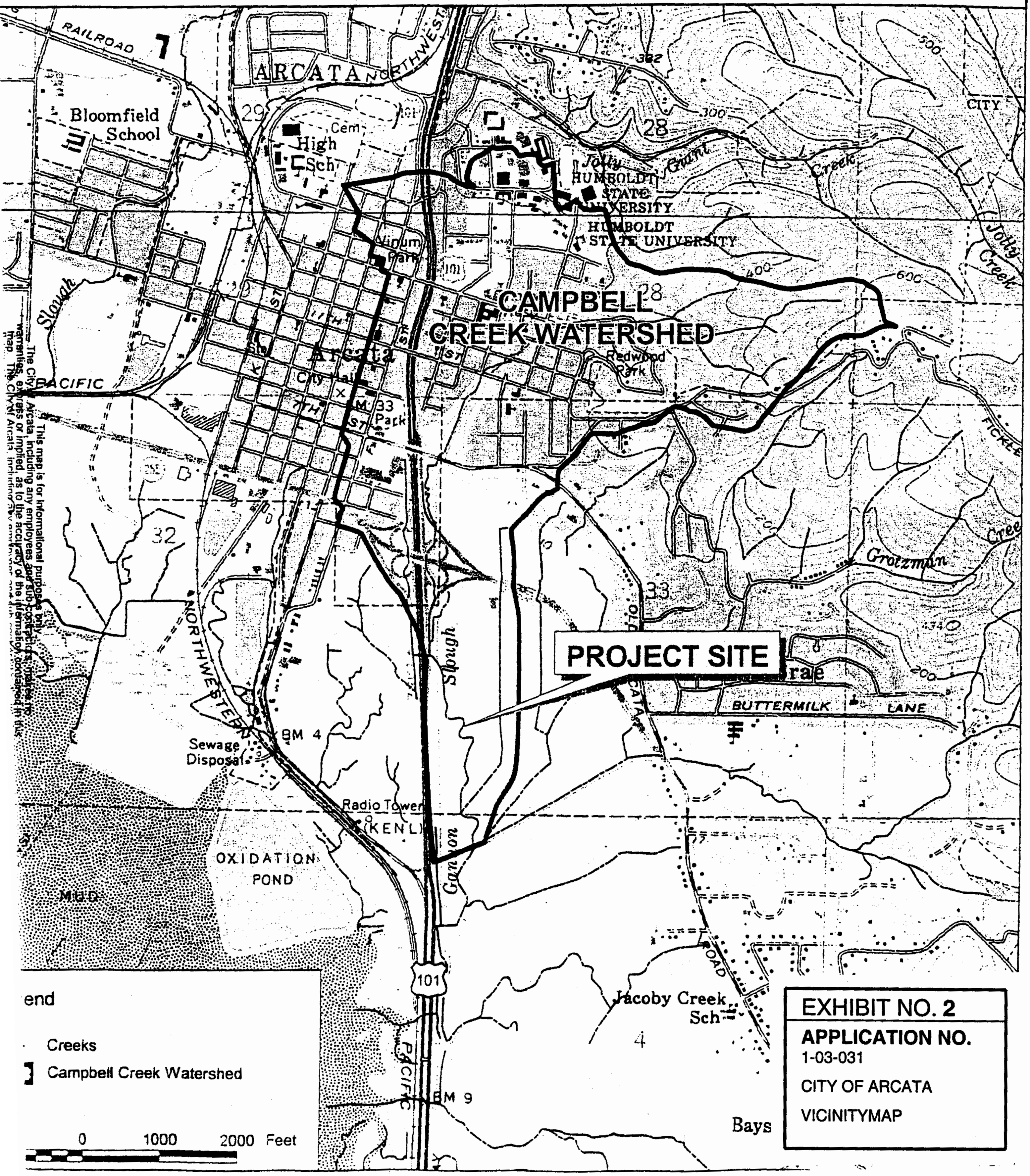


EXHIBIT NO. 2

APPLICATION NO.

1-03-031

CITY OF ARCATA

VICINITYMAP

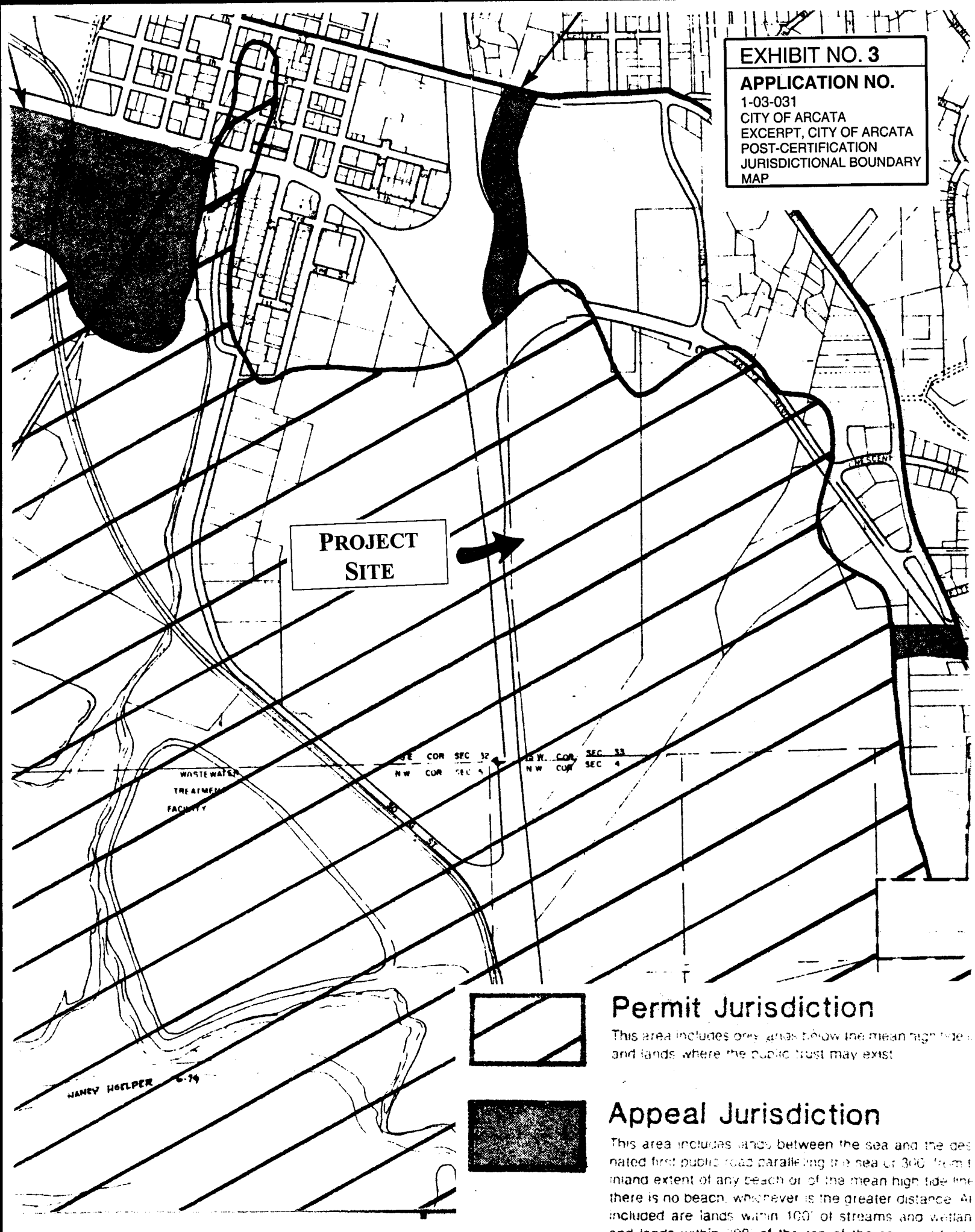


EXHIBIT NO. 3
APPLICATION NO.
1-03-031
CITY OF ARCATA
EXCERPT, CITY OF ARCATA
POST-CERTIFICATION
JURISDICTIONAL BOUNDARY
MAP
PROJECT SITE
WASTE WATER
TREATMENT
FACILITY
NANCY HOELPER 6-79
Permit Jurisdiction
This area includes ore areas below the mean high tide
and lands where the public trust may exist
Appeal Jurisdiction
This area includes lands between the sea and the des
nated first public road paralleling the sea or 300 feet
inland extent of any beach or of the mean high tide line
there is no beach, whichever is the greater distance. Al
included are lands within 100' of streams and wetlan
and lands within 300' of the top of the seaward face
coastal bluff

PLAN VIEW

CITY OF ARCATA

CAMPBELL CREEK/GANNON SLOUGH CATTLE EXCLUSION-RIPARIAN RESTORATION PROJECT

USGS 7.5 Minute Topographic Map: Arcata South Quad
Sections 32 & 33 of T6N, R1E and Section 4 of T5N, R1E of H. B. & M.
40° 51' 24.06" N, 124° 4' 46.49"W

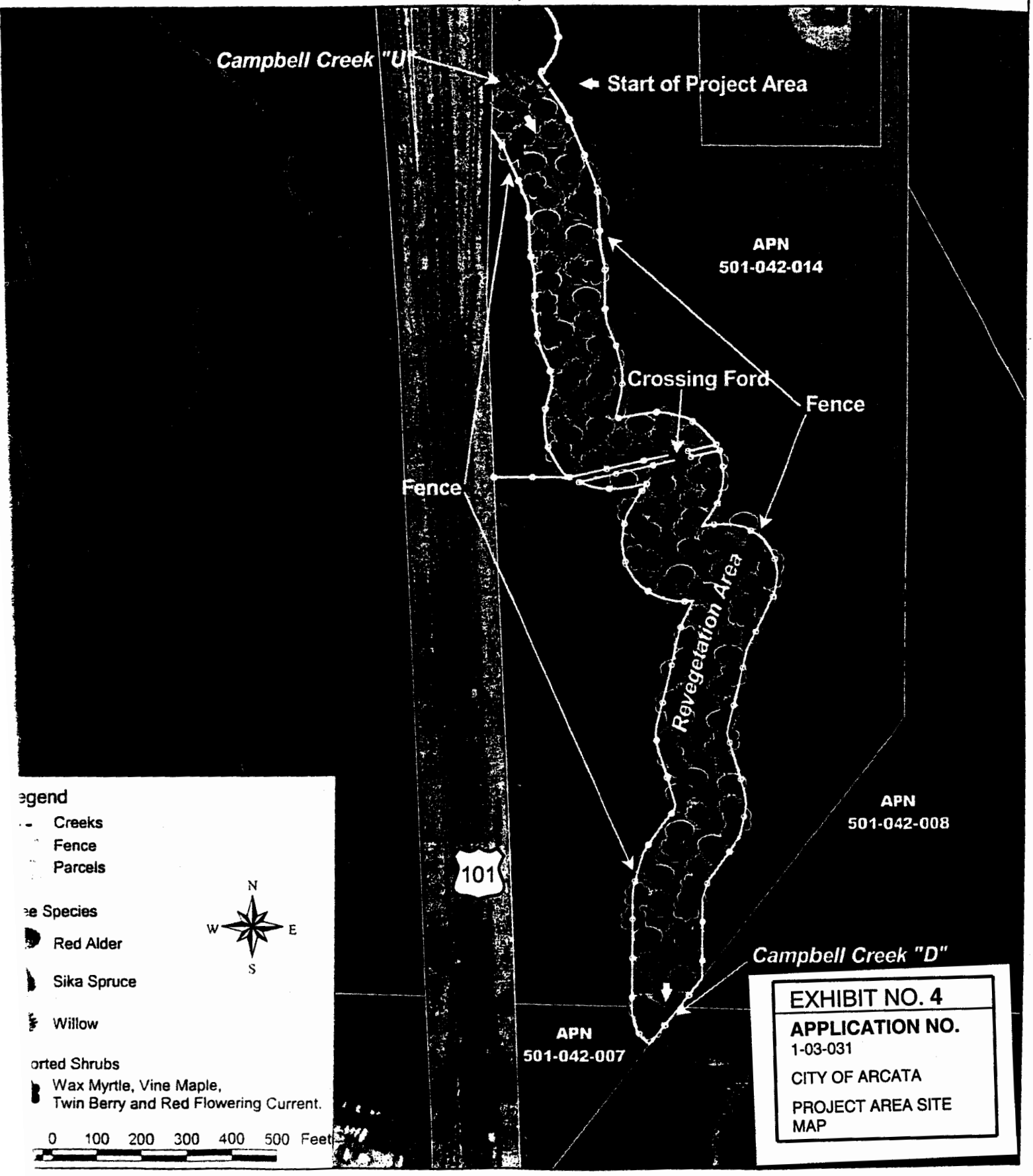


EXHIBIT NO. 4

APPLICATION NO.
1-03-031

CITY OF ARCATA

PROJECT AREA SITE MAP

CITY OF ARCATA – CAMPBELL CREEK/GANNON SLOUGH CATTLE EXCLUSION- RIPARIAN RESTORATION PROJECT

EXHIBIT NO. 5
APPLICATION NO.
1-03-031
CITY OF ARCATA
PROJECT DESCRIPTION NARRATIVE (1 of 2)

Prospective Permittee:

City of Arcata – Environmental Services Department
736 F Street
Arcata, CA 95521
Attn: Mark Andre –Environmental Services Deputy Director

Project Location: The City of Arcata will improve riparian and creek habitat for coastal cutthroat, steelhead and coho in a down stream reach of Campbell Creek and Gannon Slough a tributary to Humboldt Bay. This reach is situated east of Highway 101 on Parcel Numbers 501-042-014 and 501-042-007. The project is in Arcata located in Humboldt County— Arcata South 7.5 " Quad Section 32 & 33 T6N, R1E, and Section 4 T5N, R1E H.B.&M. – 40 degrees 51' 24.06" North, 124 degrees 4' 46.49" West. Maps are attached.

Background:

Campbell Creek/Gannon Slough is a small coastal stream, which drains to north Humboldt Bay. Campbell Creek flows out of the Arcata Community Forest, through a residential section of the City to low gradient agricultural ranch lands and into Gannon Slough. Studies done the during the mid 90's by Humboldt State University students reported coastal cutthroat trout (*Oncorhynchus clarki clarki)*, coho salmon (*Oncorhynchus kisutch),* and steelhead (*Oncorhynchus mykiss*) in Campbell Creek. A section of Campbell Creek located upstream of the project reach was restored by the City in 1986 to provide both cover and habitat complexity for fish and other aquatic species. The City recontoured the creek, installed cover structures and planted riparian vegetation. Salmonids have been documented in the restored area. The restoration project has helped to reverse an earlier trend of cumulative adverse impacts to the Campbell Creek/Gannon Slough aquatic ecosystem.

The project reach is located south of Samoa Boulvard and east of Highway 101. The creek flows through diked former tidelands that have been actively used to graze cattle. The reach is devoid of riparian cover and cattle have free access to the creek/slough. Much of the creek channel is choked with cattails, water parsley and other aquatic vegetation. Lack of cover and complexity in this reach of the creek/slough limits habitat value for salmonids. The City recently purchased this parcel with funds from the Wildlife Conservation Board as part of the Jacoby Creek/Gannon Slough Enhancement area. The Jacoby Creek/Gannon Slough Enhancement Area is adjacent to the Arcata Marsh and Wildlife Sanctuary (AMWS) and U.S Fish and Wildlife Service Humboldt Bay Wildlife Refuge lands in Humboldt Bay.

Proposed Land Use:

City acquisition of this land has made it possible for the City to improve riparian habitat along Campbell Creek/Butchers Slough. The City's natural resource management goals

for the riparian area include: protection and restoration of the riparian habitat and long term habitat management to benefit anadromous fish species, water fowl, shorebirds, wading birds, and raptors. The City also encourages scientific and educational use. Existing City general plan policies and programs including the Arcata Creeks Management Plan will ensure the long-term investment in habitat projects will be maintained and monitored over time.

Objectives:

This project will establish riparian habitat for juvenile and adult coho, steelhead and coastal cutthroat trout in this section of creek by fencing out livestock and establishing an 8.9 acre riparian area with 2700 native trees and shrubs. The remainder of the acre parcel will continue to be used for cattle grazing.

Project Description:

The City of Arcata, under the direction of the department of Fish and Game, will improve riparian habitat conditions for coho salmon, steelhead trout and coastal cutthroat trout on a 2,537 foot reach of Campbell Creek/Gannon Slough, a tributary to Humboldt Bay by installing cattle exclusion fencing and revegetating the area with native trees and shrubs.

The City proposes to install 5,652 linear feet of high tensile single stand fencing to create a 75 foot riparian setback on both sides of the creek/slough and to revegetate this area (8.9 acres) with 1200 native trees and shrubs. The fence will be kept hot using a solar /battery power system. Trees and shrubs will include the following species: *Alnus rubra (750), Salix sp.*(750), *Picea sitchensis(500), Ribes sanguinium(200), Lonicera involucrate(200), Myrica californica(200)* and *Acer Circinatum(100)*. Trees and shrubs will be planted on a 10 – 15 foot spacing. City staff will provide long-term management for both the fence and the vegetation. City sponsored volunteer work days will provide additional maintenance and education opportunities.

The City will prevent negative environmental impacts by undertaking the fencing work in late summer and revegetating the area during the winter dormancy period (late December - January) The project will be completed under a plan and design approved by DFG.

SCHEDULE

Work on the fence will be conducted during late summer when the field is dry and the slough is in a low flow condition. It is estimated that the fencing project will require 4 days to complete. The City expects to undertake the fencing work during the month of September in 2003. The City will revegetate the area in the winter of 2003-2004. The planting will take two weeks.

September 2003 – Install exclusion fencing

December 2003- January 2004 – Replant the newly fenced riparian area.

Juli Neander
City Of Arcata

October 2, 2003

Dear Juli:

This letter is in answer to your request about excluding cattle from a creek in the Arcata Bottoms. We describe grazing capacity of pasture land in terms of animal units (a.u.); an animal unit is a 1000 pound cow. The carrying capacity of the pasture you described to me would be 3 acres per animal unit, which means that 3 acres of pasture would provide enough forage for a 1000 pound cow for one year.

You had mentioned the total acreage to be excluded by the fence is 8 acres. Of this you thought 3 acres was in the creek and about an acre in blackberries. This would give about 4 acres available for grazing; this would provide enough forage for 1.3 animal units for the year.

If you have any questions, please give me a call.

Sincerely,

Gary Markegard
Farm Advisor
UC Cooperative Extension