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Staff: Tiffany S. Tauber
Staff Report: May 25, 2000
Hearing Date: June 16, 2000
Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: **1-00-009**

APPLICANT: **MERCER, FRASER COMPANY**

AGENTS: Robert Brown, Streamline Planning Consultants

PROJECT LOCATION: On the Sandy Prairie landform within the lower Eel River on the west side of 12th Street (Sandy Prairie Road), west of Fortuna, Humboldt County (APNs 106-041-09; 200-352-02, -03; 200-362-01; 200-362-03, -04)

PROJECT DESCRIPTION: Seasonally extract up to 70,000 cubic yards of sand and gravel per year and install up to three temporary, seasonal channel crossings.

PLAN DESIGNATION: Agriculture Exclusive (AE), Industrial General (IG)

ZONING DESIGNATION: Agriculture Exclusive-20 acre minimum parcel size with combining zones for flood, stream and riparian, transitional agriculture land, and Natural Resource with stream and riparian combining zone (AE 20/F,R,T and NR/R)

LOCAL APPROVALS RECEIVED:	Humboldt County Vested Rights Determination and Surface Mining/Reclamation Plan (SP-07-88)
OTHER APPROVALS REQUIRED:	State Lands Commission; California Department of Fish & Game Section 1603 Streambed Alteration Agreement; U.S. Army Corps of Engineers Section 404 Permit
SUBSTANTIVE FILE DOCUMENTS:	Humboldt County LCP, Humboldt County Program Environmental Impact Report (July, 1992)

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends that the Commission approve with conditions the coastal development permit for sand and gravel extraction. The applicant proposes to extract up to 70,000 cubic yards of sand and gravel on a seasonal, but annual basis at the Sandy Prairie landform on the lower Eel River. The Commission previously granted a 5-year permit to the applicant in 1994 (CDP 1-94-35) and the current application seeks to authorize on-going, seasonal gravel extraction. As has been required of past applicants for gravel extraction projects, staff recommends that the Commission require the submittal of annual gravel extraction plans. The annual gravel extraction plans are a means of ensuring that gravel extraction each year will not exceed the annual replenishment of gravel to the site by the river, and that other potential adverse impacts of the gravel extraction operation are avoided. Staff recommends that the applicant submit the gravel extraction plans annually for the review and approval by the Executive Director and that the development be authorized only until 2004.

The proposed site contains environmentally sensitive riparian vegetation areas, as well as habitat for threatened and endangered species including anadromous fish and the Western snowy plover. To prevent disturbance of such environmentally sensitive habitat, staff recommends that the Commission require that the annual gravel extraction plan also include the submittal of annual botanical surveys, and that gravel extraction be conditioned to avoid environmentally sensitive habitat areas and other locations on the bar where gravel extraction could have adverse impacts. In recognition of the fact that some of the bar may contain very young vegetation without appreciable habitat value, and that the Coastal Act defines environmentally sensitive habitat areas in such a way as to only include riparian vegetation with habitat value, the condition does not prohibit extraction in all areas containing vegetation. Rather, the recommended conditions prohibit extraction only in those areas where the riparian vegetation has reached a size and extent generally consistent with one year's growth when it can be expected to yield appreciable habitat values for nesting, foraging, and cover for wildlife. In developing the recommended conditions, staff has considered the requirements imposed on the applicants by other regulatory agencies, including the Army Corps of Engineers, the Department of Fish & Game, and the U.S. Fish and Wildlife Service.

As conditioned, staff believes that the project is fully consistent with the Coastal Act.

STAFF NOTES:

1. Jurisdiction and Standard of Review

The proposed project is located within the Commission's area of original or retained jurisdiction. Therefore, the standard of review that the Commission must apply to the project is the Chapter 3 policies of the Coastal Act.

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. 1-00-009 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 a majority of the Commissioners present.

Resolution to Approve the 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 Attachment A.

III. SPECIAL CONDITIONS:

1. 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 lands are involved in the development; or

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

c. State 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.

2. Annual Administrative Approval to Continue Operations

COMMENCING WITH THE 2000 EXTRACTION SEASON AND PRIOR TO THE START OF EACH SEASONAL GRAVEL EXTRACTION OPERATION, the applicant shall submit for the review and approval of the Executive Director an annual report that contains the following:

a. A gravel extraction plan for the upcoming season containing cross-sections, maps, and associated calculations that accurately depict the proposed extraction area, demonstrates that the proposed extraction will be consistent with the extraction limits specified in Special Condition No. 3 below, and is prepared in conformance with Appendix C of U.S. Army Corps of Engineers, San Francisco District Letter of Permission Procedure, Gravel Mining and Excavation Activities in Humboldt County, No. LOP 96-1, dated August 19, 1996;

b. A pre-extraction aerial photo of the site taken during the spring of the year of mining at scale of 1:6000 and upon which the proposed extraction activities have been diagrammed;

c. A botanical survey prepared by a qualified biologist with experience in riparian and wetland vegetation mapping approved by the Executive Director, that maps all vegetation found in potential extraction areas of the site and highlights the location and extent of all vegetated areas containing woody riparian vegetation that is either (i) part of a contiguous riparian vegetation complex 1/16-of-an-acre or larger or (ii) one-inch-in-diameter at breast height (DBH) or greater. If the areas proposed for extraction are devoid of vegetation, the applicant may substitute the submittal of photographs (including aerial) that are sufficient in the opinion of the Executive Director to

demonstrate that no vegetation exists in the proposed extraction areas in lieu of the botanical survey.

d. A copy of the gravel extraction plan for that year approved by the County of Humboldt Extraction Review Team (CHERT), if such a plan is required by the County;

e. A post-extraction survey of the prior year's mining activities (if any) conducted following cessation of extraction and before alteration of the extraction area by flow following fall rains, that includes the amount and dimension of material excavated from each area mined and is prepared in conformance with Appendix C of U.S. Army Corps of Engineer's, San Francisco District Letter of Permission Procedure, Gravel Mining and Excavation Activities within Humboldt County, No. LOP 96-1, dated August 19, 1996;

f. The results of biological monitoring report data required by the U.S. Army Corps of Engineers as described in Appendix D of U.S. Army Corps of Engineers, San Francisco District Letter of Permission Procedure, Gravel Mining and Excavation Activities within Humboldt County, No. LOP 96-1, dated August 19, 1996.

The Executive Director shall approve the annual report if the report adequately provides the required information and if the proposed gravel extraction for the coming season is consistent with the terms and conditions of this permit, including the requirements of Special Condition No. 3 regarding seasonal extraction limits. Within 10 working days of receipt of the annual report, the Executive Director shall review the report and either approve the report as submitted or respond in writing to the applicant as to why the submittal is inconsistent with the conditions of the permit. The permittee shall not commence gravel extraction operations for the season until the Executive Director has approved the annual report in writing.

The permittee shall undertake development in accordance with the approved annual report for that year. Any proposed changes to the approved annual report shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is required.

3. Annual Extraction Limitations

Extraction of material shall be subject to the following limitations:

a. The applicant shall extract material only by gravel skimming in a manner that will maintain a sloped extraction area, except for excavation designed to improve channel depth or to create "cold water refugia" for the benefit of fish species that has been specifically approved for this purpose by the Department of Fish and Game. If trenching methods are approved by the California Department of Fish and Game, a berm shall be constructed and maintained during trenching along the entire length of the excavated area to prevent turbid

water from entering the flowing river. After completion of gravel extraction operations, the permittee shall remove the berm in several locations to prevent the creation of fish traps.

b. The applicants shall extract no more than 70,000 cubic yards of gravel from the site in any given year;

c. Excavation shall not occur in the active channel (area where water is flowing unimpeded through the river channel) and shall be limited to exposed river bar areas a minimum of one (1) vertical foot elevation above the current water surface and a minimum of six (6) feet horizontally from the current water's edge;

d. No gravel extraction shall be undertaken within 500 feet of a bridge or the length of a bridge, which ever is greater, and within 500 feet of any other structure (i.e., water intake, dam, etc.). Gravel removal may encroach within this setback, if as part of the annual mining plan to be submitted and approved by the Executive Director pursuant to Special Condition No. 2, the applicants submit written permission by owners of these structures and information demonstrating that the proposed encroachment will not adversely affect the integrity of the structures;

e. The extraction of in-stream aggregate shall be limited to those sites that have experienced sufficient replenishment to accommodate the proposed mining. Areas with sufficient replenishment are those areas that have sufficient aggraded material where mining would leave the final surface elevation of the area to be mined above the low water level of the river with a sloped extraction area that drains towards the main channel of the river;

f. Gravel extraction operations shall not disturb or remove any of the riparian vegetation on the river banks;

g. Gravel extraction operations shall not disturb or remove any of the riparian vegetation on the gravel bar that is either: (1) part of contiguous riparian vegetation complex 1/16 acre or larger, or (2) one-inch-in-diameter at breast height (DBH) or greater;

h. Gravel operations shall be designed to avoid adversely affecting any state or federally listed rare or endangered species that is discovered at the project site during the life of the permit;

i. Gravel extraction operations shall be conducted in a manner to avoid adversely affecting western snowy plover by complying with the requirements of Special Condition No. 4.

4. <u>Western Snowy Plover</u>

A. Gravel extraction operations shall be at least 1,000 feet from active plover areas. Daily plover surveys by an USFWS approved biologist shall be conducted prior to commencement of daily on-site activities, unless gravel extraction commences after September 15.

1. Gravel extraction operations shall not commence until after July 22 when the nest initiation period has been completed. If an active plover nest is within the area of planned operations or the 1,000 foot buffer area, activities within 1,000 feet of the nest shall be delayed until the nest hatches and the adult and chicks have vacated the area of concern.

2. After August 15, three consecutive days of plover surveys conducted by an approved biologist must be completed within the 1,000 foot buffer area and the area of operations with no detections before operations can proceed without daily surveys.

3. Failure to have 3 consecutive days of no plover detections within the area of operations and the 1,000 foot buffer area shall require daily surveys with gravel extraction operators at least 1,000-feet from active plover areas.

B. All pre-extraction activities conducted in suitable nesting habitat between March 1 and September 15 shall be preceded by daily plover surveys completed by a biologist approved by the USFWS prior to daily initiation of any pre-operational activities (i.e. topographic surveys). In instances where work must be completed near a nest site (i.e. within 1,000 feet of the nest) found during pre-operational surveys, the permittee shall allow the approved biologist authority to use his or her best judgement to avoid potential take of plover adults, juveniles, chicks, and eggs, and to modify or halt the activity adversely affecting the plovers. Other surveys (i.e. hydrologic and biological resources) not directly conducted in suitable habitat, but needing access through or near suitable habitat, may be conducted without intensive plover surveys so long as the USFWS is consulted first for information relevant to working in or near suitable plover habitat areas.

C. Vehicle use in suitable plover habitat shall be minimized to the maximum extent feasible during the plover nesting season (March 1 through September 15).

1. Vehicle use in suitable plover habitat on the gravel bars shall be restricted to 5 mph, unless on a haul road, where speeds shall be restricted to 15 mph.

2. Vehicle use in suitable habitat associated with gravel extraction operations shall be restricted to the daytime, between 0.5 hours before sunrise and 0.5 hours past sunset.

5. Extraction Season

Extraction shall only be performed during the period from July 22 to October 1 of each year. All regrading required by Special Condition No. 5 must be completed by October 15.

6. Seasonal Site Closure

The excavation area during any given year must be regraded before October 15. Regrading includes filling in depressions created by the mining, grading the excavation site according to

prescribed grade, sloping downward to the river channel, removing all seasonal crossings and grading out the abutments to conform with surrounding topography and removing all temporary fills from the bar.

7. Termination Date

The gravel extraction authorized by this permit shall terminate on December 31, 2004. Continued gravel operations after that date shall require a new coastal development permit.

8. Resource Protection

The gravel extraction and processing operations shall not disturb or remove any of the established riparian vegetation habitat along the banks of the river, nor any of the riparian vegetation areas on the gravel bar limited by Special Condition No. 3. No new haul roads shall be cut through the habitat. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete, oil or petroleum products, or other organic or earthen material from any gravel extraction or reclamation activities shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into river waters.

9. Permit Amendment

Any proposal to take more than the maximum permitted 70,000 cubic yards of materials, to take more than the amount of gravel sufficiently replenished by the river preceding high-flow season, to increase the size of the permitted area, to extract in a manner contrary to the extraction limitations set forth in Special Condition No. 3 or to make other changes to the proposed operation shall require an amendment to this permit.

10. Seasonal Crossings

Any proposed crossing of the low flow channel or secondary channels that could be expected to maintain flow year-round shall be of the railroad flatcar variety consisting of one or two 60-foot-long rail cars placed side-by-side in a manner as to completely span the channel with a minimum clearance of three (3) feet above the water surface.

11. Streambed Alteration Agreement

PRIOR TO THE START OF EACH SEASON'S GRAVEL EXTRACTION OPERATIONS, the applicant shall submit a copy of any necessary Section 1603 Streambed Alteration Agreement or other approval required by the Department of Fish and Game for the project for that extraction season. The applicant shall inform the Executive Director of any changes to the project required by the Department of Fish and Game. 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 required.

12. Army Corps of Engineers Approval

PRIOR TO THE START OF EACH SEASON'S GRAVEL EXTRACTION OPERATIONS, the applicant shall submit a copy the permit issued by the U.S. Army Corps of Engineers granting approval for the project for that gravel extraction season, or a 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 required.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

1. Site Description

The applicant proposes to seasonally extract up to 70,000 cubic yards of riverrun sand and gravel per year and to install up to three seasonal railroad flatbed crossings across low flow channels to facilitate gravel transport and reclaim extraction areas. The proposed gravel extraction site is located on a portion of the Sandy Prairie landform within the lower Eel River, west of Fortuna, Humboldt County. The site is just west of Highway 101 and is accessed via 12th Street (81 Riverwalk Drive) (see Exhibit Nos. 1-3).

The applicant has been undertaking gravel extraction in the proposed area under a previously approved Coastal Development Permit since 1994 (CDP 1-94-35), approved by the Commission on August 9, 1994. Coastal Development Permit 1-94-35 expired on December 31, 1999.

The Sandy Prairie landform is a depositional feature with multiple channels at high flows, separated by islands. Sandy Prairie is located two miles upstream of the zone of tidal influence and is also at a transition point in the river where the channel slope decreases from points further upstream. Large quantities of sand and gravel carried in suspension in the Eel River are annually deposited at the Sandy Prairie landform due to its proximity to the zone of tidal influence and the decrease in slope. The applicant's property includes the upper portion of the Sandy Prairie landform. Two other gravel operators extract sand and gravel from the landform downstream of the applicant's property.

The total project area occupies approximately 560 acres of which 540 acres are within the coastal zone and 20 acres are outside the coastal zone. Of the 540 acres, 390 acres within the coastal zone are located below the Ordinary High Water channel of the river and are all within the Commission's retained jurisdiction. It is within this area that the applicant proposes to extract gravel. Fifty of the 150 acres to the west and outside the retained jurisdiction of the coastal zone are located below ordinary high water included as part of surface mining activities. The remaining 100 acres consists of mostly established cottonwood riparian vegetation and are located on a river

terrace that will not be part of extraction activities. Approximately 20 acres to the east, outside the coastal zone, have been developed as a gravel processing facility where processing activities, including stockpiling, aggregate crushing, washing, sorting, screening and asphalt concrete production occur.

The approximate 560-acre property is comprised of eight parcels. The extraction sites extend from on top of the terrace on the west side of the Eel River to the east bank. The extraction sites are on both sides of the low flow channel of the Eel River. Designated extraction areas include the active gravel bar overflow channels and terrace deposits. Along this part of the river, the bed of the river at bankfull discharge (+166,000 cfs) is approximately 1,600-feet-wide both upstream and downstream of the Sandy Prairie landform, increasing to almost 5,000-feet-wide at the primary extraction area. The low flow channel is approximately 50 to 300-feet-wide during the dry season. Of the total 390 acres within the coastal zone located below the ordinary high water channel of the river, approximately 240 acres may be used for gravel extraction based on the current configuration. It is not likely that more than 50 acres would be disturbed in any given year. The exact location varies each year depending on annual river conditions.

The surrounding properties to the west of the river are all devoted to agricultural grazing. U.S. Highway 101 lies adjacent to the subject property to the east, buffering the site from the developed portions of the City of Fortuna. The gravel extraction areas and processing facilities are generally not visible from the highway.

The Eel River and its tributaries are ranked among the most significant anadromous fisheries in Northern California. Chinook salmon, Coho salmon and steelhead trout are among the most important species with regard to commercial and sport fisheries. The project area and the lower Eel River are mainly important for the anadromous fish as a migration route to and from the upstream spawning grounds as an insignificant amount of spawning occurs in the lower Eel River.

The riverine habitat of the river channels (37 acres) and the occasional ponds that form under summer low water conditions provide habitat for invertebrates, fish, amphibians such as frogs and salamanders, invertebrate-eating birds and various mammals including river otters and mink and other mammals that come to the river to forage (such as deer and raccoon). The exposed cobble (275 acres) in the gravel bars adjacent to the low-flow channels provides roosting habitats for two avian species, killdeer and Western snowy plover, but otherwise represents one of the sparsest habitats in terms of wildlife diversity and numbers.

North Coast riparian scrub habitat occurs on "islands" between the low flow channels and is the most extensive plant community at the project site occupying a total of approximately 93 acres. Portions of this habitat are inundated every winter during high river flows. The vegetation growing within the North Coast riparian scrub habitat is dominated by coyote brush, which forms a dense shrub layer in some areas. The understory is comprised of weedy annual grasses and forbs. Only a sparse covering of small trees is found in the north coast riparian scrub communities (5%-25%), including black cottonwood and willows. The North Coast riparian scrub habitat of the Sandy Prairie Bar supports a variety of wildlife species, including a number of small mammals

such as raccoon, striped skunk, gray fox, rodents and rabbits, and many bird species that use the foraging, nesting and cover.

The most important of the habitat types found at Sandy Prairie is the North Coast black cottonwood forest. A total of approximately 35 acres of this habitat is found within the project area on an island within the bank full channel. Approximately 100 acres is found on the west (left) bank terrace adjacent to the river and is outside of the extraction area. This habitat type is a broad-leaved, winter deciduous forest dominated by black cottonwood with willow and red alder. The forest has a dense canopy as well as a dense shrub layer and herbaceous understory. The stands of North Coast black cottonwood forest on the applicant's property range back to 20 to 25 years old, becoming established following major flooding of the Eel River that occurred in 1964. The cottonwood forest represents the most structurally complex habitat on Sandy Prairie, which in turn supports a higher number and diversity of wildlife species than the other habitats. The North Coast black cottonwood forest provides valuable foraging, breeding, roosting, and shelter habitat for a wide variety of wildlife species, including at least nine bird species, eight mammalian species, two amphibian species, and one reptile species.

In general, the riparian vegetation lining the lower Eel River is perhaps the single-most important element for the natural environment in the area. The riparian habitat provides habitat for most of the birds and mammals in the project area. The presence of two different kinds of riparian habitat, the North Coast Scrub and the North Coast black cottonwood forest, provide habitat for a greater number of wildlife species than a more uniform and simple habitat structure would. Also, the riparian zone along the river provides migration routes for wildlife. Over 200 different species of birds and 40 different species of mammals have been observed in the Eel River Delta, most of which utilize portions of the riparian corridor. In addition to its habitat value, the riparian corridor also provides protection of water quality, stream bank stabilization through root penetration, and flood protection (see Exhibit No. 4).

The project site is used by two rare or endangered species. The Coho salmon has recently been listed by the federal government as a "threatened species" along the northern California and southern Oregon coastlines. The Western snowy plover is a federally listed "endangered species" that has been observed roosting and nesting on gravel bars on the lower Eel River. The plover sitings on the Eel River have been in the months of April through early August, during the nesting season. The plovers establish their nests on the open gravel bars rather than in trees.

The Chinook salmon and steelhead trout that use the Eel River are listed by the California Department of Fish & Game as "species of special concern." Other fish species in the river that are so listed include coastal cutthroat trout, Pacific lamprey and Green sturgeon. Special status species are those legally protected by state or federal endangered species laws, those under consideration for such protection or those of concern to state or federal resource agencies. Even though no special status species apart from the fish species mentioned above have been found at the site, the black cottonwood riparian forest areas at the site offer suitable habitat for a state listed endangered species, the willow flycatcher, and four "species of special concern," the black-shouldered kite, Cooper's hawk, yellow warbler, and yellow-breasted chat.

2. Background on Eel River Gravel Mining

The lower Eel River has been used for gravel extraction since 1911. Currently, 11 gravel operations are located along an eight mile stretch of the lower Eel River, and three additional operations are located on the lower reaches of the Van Duzen River which flows into the Eel River at Alton. The 11 operations along the Eel River are within the coastal zone. The annual maximum amount of gravel permitted to be extracted by the 14 gravel mining operations in the lower Eel and Van Duzen Rivers is estimated by the County to be approximately 1,480,000 cubic yards. Actual extraction is generally much lower and is estimated to be approximately 437,350 cubic yards for 1999.

The projects are interrelated in the sense that all of the gravel bars derive their material from the same upstream sediment sources. Brown and Ritter (1972) determined that the Eel River was a "hydraulically-limited" rather than "sediment-limited" river. This means that replenishment is more a factor of the size and duration of winter flows than the production of sediment in the watershed. This determination was based on the calculated high amounts of sediment that currently exist in active landsliding occurring in the watershed.

Thus, over-extraction by all of the projects in the lower Eel River combined with multiple low winter flow years can contribute cumulatively to erosion of the bed and banks of the river, which in turn can erode adjacent riparian and other habitat areas, interfere with fishery resources, undermine bridge supports, and cause other significant adverse impacts. However, as noted in the County Program Environmental Impact Report (PEIR), these same impacts can and have occurred when excessive deposition from high winter flow/duration events occur.

Besides the cumulative impacts resulting from river morphology changes, other significant cumulative adverse impacts resulting from the gravel mining operations can occur. The potential impacts include habitat degradation from the installation of new gravel processing operations and access roads within environmentally sensitive habitat adjacent to the exposed gravel bars, exclusion of recreational use of the river banks, and noise. These types of impacts typically do not occur if the area is properly managed.

Until 1991, there had been very little coordinated review of the combined effects of the various gravel mining operations. Permits granted in the past by the various approving agencies were site specific and granted with little knowledge of the cumulative impacts of gravel mining throughout the lower Eel River.

Gravel mining operations on the Eel River now require the approval of a number of different local, state and federal agencies. The initiation of coordinated review began to change in 1991. That year, Humboldt County considered the granting of a gravel lease from the County owned bar at Worswick. To comply with environmental review requirements under CEQA, the County decided to prepare a Program Environmental Impact Report (PEIR) to describe and analyze the potential environmental effects resulting from the 13 gravel removal operations in the lower Eel River

watershed. The document was certified in July 1992 and is intended to be incorporated by reference into future environmental documents prepared for individual gravel extraction projects in the area.

As part of that effort, the County initiated a comprehensive review of the status of County permits for each of the 13 operators to reach a final determination as to which operations were proceeding according to valid vested rights or County permits, and which ones required further review. The Department of Fish and Game also began to insist that the operators demonstrate that they had all necessary County approvals before the Department would issue annual Section 1603 Streambed Alteration Agreements.

As a result, information was documented about the significant cumulative adverse impacts of the gravel mining operations. The PEIR showed that little change in the bed occurred over the last 75 years. Annual monitoring as well as analysis of additional sources of historic bed elevations has further substantiated this. Most recently a comparison by the Corps of Engineers repeating cross sections at locations that were surveyed in 1969 showed little change in the last 30 years.

The County developed a strategy for controlling the cumulative impacts of the gravel operations on river bed degradation and bank erosion. At the heart of the strategy is an annual administrative approval of extraction plans that specifies the particular method and location of extraction. The primary mitigation measure recommended by the Program EIR is for the County to prepare a River Management Plan that includes, as a primary component, an annual monitoring program to make annual decisions on where and how much gravel can be removed from the lower Eel and Van Duzen Rivers without adversely affecting the river. As described in the Program EIR, the monitoring program was to be conducted by a consulting firm using funds provided by the gravel operators. The monitoring program would involve periodic biological surveys, creating cross-sections and thalweg profiles, and taking aerial photos and ground photos each year for each gravel operation. This information would be compiled and compared to data from previous years to determine gravel recruitment, changes in channel morphology and impacts on wildlife and fisheries. The essence of this program is currently occurring through the Army Corps of Engineer's LOP process and the Humboldt County Interim Management Program. Much of this information is being collected by consultants for the gravel operators as part of the annual monitoring requirements of permitting and reviewing agencies before the commencement of mining each season.

The County established its "Lower Eel River Interim Monitoring Plan" until such time that the River Management Plan is developed. This Plan incorporated and refined the reporting and monitoring requirements that were developed in 1991. The Plan also calls for the establishment of a review team to provide the County and other oversight agencies with scientific input on the gravel operations. The Committee that was established is know as 'CHERT' (County of Humboldt Extraction Review Team) and is composed of independent fluvial geomorphologists, biologists, and botanists. CHERT has the authority for the County to review all annual mining plans and prescribe changes to those plans as deemed necessary. CHERT integrates all the monitoring data

developed by the gravel operators for geomorphic evaluations of the streambed and also evaluates and recommends practices designed to preserve and enhance vegetation and wildlife habitat.

In the fall of 1993, due to an amendment of the Army Corps of Engineers Clean Water Act Regulatory Program, the Army Corps of Engineers (Corps) became more involved in regulating gravel extraction operations. Whereas previously, the Corp's regulatory review of many instream gravel extraction operations focused mainly on the installation of channel crossings and stockpiling of material on the river bar, in 1993, the Corps began actively regulating incidental fill related to gravel mining activities themselves. In an effort to streamline the processing of Corps permits for numerous in-stream gravel operations within Humboldt County, the Corps adopted a Letter of Permission (LOP) procedure for authorizing such projects (LOP 96-1). The LOP was adopted after a series of interagency and public meetings. An applicant for a project covered by the LOP must submit yearly gravel plans and monitoring information to the Corps for approval under the procedure. The Corps incorporated the CHERT review process into its LOP procedure. In addition, the LOP process requires consultations under Section 7 of the Endangered Species Act. The National Marine Fisheries Service (NMFS) issues determinations regarding impacts of gravel extraction to the listed salmonid species. The Western snowy plover, a listed endangered species, also requires consultation with the United States Fish and Wildlife Service. As with NMFS, mitigation measures required by the Endangered Species Act are incorporated into extraction requirements. As more information is gathered, these requirements are revised as necessary.

3. Detailed Project Description

The applicant proposes to continue the on-going, seasonal extraction of up to 70,000 cubic yards of aggregate per year from the Sandy Prairie landform on the lower Eel River. The applicant also proposes to install up to three seasonal railroad flatbed crossings over low flow river channels to facilitate gravel transport and the reclamation of extraction areas. Extracted aggregate would be transported to an existing processing site outside of the Coastal Commission's jurisdiction (see Exhibit No. 5).

Mercer, Fraser Company has operated at this site for over 40 years and has a vested rights permit from Humboldt County to extract up to 70,000 cubic yards annually. The operation has historically varied with market demands and river conditions. The proposal seeks a coastal development permit for extraction of 70,000 cubic yards annually. This amount is consistent with the PEIR for the lower Eel River and is based upon evaluation of additional information as well as the data collected under the Humboldt County PEIR and Interim Management Programs. This project has been described to permit adaptive management of the project area. In any given year, project extraction volumes, locations, and methods will be submitted by the project consultants for approval by local, state and federal agencies, including the County of Humboldt, Department of Fish and Game, and the Army Corps of Engineers.

Several areas are proposed for mining. The primary activity would continue to occur adjacent to the shoreline of the river in the coastal zone. The sites adjacent to the active channel of the river

are subject to potentially frequent inundation resulting in annual replenishment. Areas adjacent to the active channel would continue to be mined using traditional and modified skimming techniques as the primary mode of extraction (see Exhibit No. 6). Wet pit or trench mining may be an option but would be subject to annual conditions and specific management purposes and would require separate approval from the Department of Fish and Game. Other locations include areas that are located west of the river on or adjacent to terraces. Some are partially outside of the coastal zone. These areas are subject to inundation only during high flows and floods and are expected to recruit gravel less frequently.

Most of the extraction area is currently west of the low flow channel of the Eel River. To allow access for extraction and hauling equipment, the applicant proposes to install up to three seasonal crossings. Each crossing would consist of two railroad flatcars placed on abutments with a minimum clearance of three feet above the water surface (see Exhibit No. 7). Approximately 200 cubic yards of gravel would be scraped from adjoining areas to form the abutments for each of the crossings. The crossings would be removed at the end of each extraction season and the abutment material would be regraded to blend in with surrounding topography.

The extraction operations would be served by processing facilities located on Mercer Fraser Company's managed properties east of the riverbank. These processing facilities have existed since prior to 1959, are outside of the coastal zone and are not included nor addressed by this coastal development permit.

No mining would occur at any location until after specific mining and reclamation plans are developed on the basis of annual environmental assessments and monitoring of the proposed project site. The proposed 70,000 cubic yards of annual gravel extraction is an upper limit. Annual assessments and site evaluations would be used to determine where aggregate can be excavated without causing long-term riverbed degradation, the levels and volume of recruitment, and appropriate extraction volumes.

The specific mining proposals are as follows:

Extraction would continue to primarily occur alongside of the active channel. The morphology of this type of site generally consists of a low elevation bar on a straight or sometimes meandering portion of the river channel. Skimming would be conducted with a loader or scraper starting generally at an elevation one foot above the low water channel and proceeding with a longitudinal slope equal to the river and/or a cross bar slope of 0% to 2%. Reclamation consists of ensuring the bar is left in a configuration so as not to increase the danger of trapping salmonids.

Wet pit mining also occurs typically adjacent to the river channel and may at times be utilized to maintain channel capacity and/or maintain the adjacent bar morphology. This method is also utilized to reduce bank erosion, create deep-water habitat and to reduce the aerial extent of extraction in order to minimize impacts to the environment. In addition resource agencies may desire wet pit options to improve fish holding and passage or other needs.

Grading may also occur along off-channel areas consisting of recent terrace deposits. Grading is proposed to increase overflow channel capacity, riparian vegetation and habitat values. Such grading will occur in a manner that does not lower the flow regime of the over flow channel, would not remove cottonwood forest vegetation, or cause depressions that would increase the danger of trapping salmonids at high flows.

4. Protection of the Riverine Environment

The proposed project involves the surface mining extraction of sand and gravel from the Sandy Prairie landform of the lower Eel River using heavy mechanized equipment for grading and dredging operations. Several Coastal Act policies address protection of the portion of the river environment below the ordinary high water mark from the impacts of development such as gravel mining. These policies include Sections 30231 and 30233. Section 30231 applies generally to any development in riverine environments and other kinds of water bodies in the coastal zone. Section 30233 applies to any diking, filling, or dredging project in a river and other coastal waters. Gravel extraction within a river bed is a form of dredging within a wetland.

Section 30231 of the Coastal Act states, in applicable part:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes... shall be maintained and, where feasible restored...*

Section 30233(a) of the Coastal Act provides as states, in applicable part:

> *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
>
> *(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
>
> *(3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subsection (b) of Section 30411, for boating facilities, including berthing areas*

turning basins, necessary navigation channels, or any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.

(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities, and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas. (emphasis added)

(7) Restoration purposes.

(8) Nature study, aquaculture, or similar resource dependent activities.

...

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary...

The above policies set forth a number of different limitations on what development projects may be allowed in rivers within the coastal zone. For analysis purposes, the limitations can be grouped into four general categories or tests. These tests are:

a. that the purpose of the filling, diking, or dredging is for one of the eight uses allowed under Section 30233;

b. that feasible mitigation measures have been provided to minimize adverse environmental effects;

c. that the project has no feasible less environmentally damaging alternative; and

d. that the biological productivity and functional capacity of the habitat shall be maintained and enhanced where feasible.

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

The first test set forth above is that any proposed fill, diking or dredging must be for an allowable purpose as specified under Section 30233 of the Coastal Act. The proposed project involves dredging for mineral extraction and the temporary and seasonal placement of fill for the installation of up to three seasonal crossing of the low flow channels to access the gravel extraction areas.

Section 30233(a)(6) allows dredging for mineral extraction, provided the activity is not undertaken in environmentally sensitive areas. Therefore, to the extent that the proposed gravel extraction will avoid environmentally sensitive areas, the proposed project is consistent with the use limitations under Section 30233(a)(6).

The proposed project also involves the temporary placement of fill for the installation of seasonal crossings of the low flow channels to access the gravel extraction areas. Each river crossing includes a total of approximately 200 cubic yards of gravel graded from the surrounding area for creation of abutments. After each extraction season, the crossing would be removed and gravel abutments would be regraded back into the surrounding topography of the area. The seasonal crossings are an essential part of the gravel extraction operation as there would otherwise be no access to portions of the gravel extraction area. Therefore, the fill required for the seasonal crossings is a necessary component of the proposed dredging for mineral extraction and is an allowable use of fill under 30233(a)(6), to the extent the seasonal crossings would avoid environmentally sensitive habitat areas.

The proposed project has the potential to affect environmentally sensitive areas. The environmentally sensitive habitat consists of various types including nesting habitat for the endangered Western snowy plover, North Coast riparian scrub habitat occurring on high points within the bankfull channel of the river, and North Coast black cottonwood forest occurring on a large island and on the left bank of the river within the project site. Descriptions of the habitats and their use by wildlife are found in the "Site Description" finding of this report.

The Coastal Commission has previously determined in numerous permit actions that most forms of riparian vegetation are environmentally sensitive. The Commission has consistently conditioned permits for development near riparian woodlands along streams and rivers to avoid disturbances of riparian areas where mature vegetation exists.

Some of the riparian coastal scrub-shrub vegetation on the gravel bar is inundated during high flows and is often uprooted and scoured by river flows. The hydrodynamics of the river can cause the channel itself to migrate over time, which in time can eliminate more stands of riparian scrub vegetation from one year to the next. As a result, much of the vegetation is young, having only grown a season or several seasons since the time of the last inundation severe enough to remove the plants previously growing there.

Given that some of this riparian vegetation is very new and underdeveloped, it may not provide habitat values sufficient enough for the areas to be characterized as environmentally sensitive.

Section 30107.5 of the Coastal Act defines "environmentally sensitive area" as:

> *Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in the ecosystem and which could be easily disturbed or degraded by human activities and developments.*

Under this definition, any area supporting a plant, animal, or habitat is environmentally sensitive if the area meets two main criteria: (1) the plant, animal, or habitat is either rare or of special value because of their unique nature or role in the ecosystem, and (2) the area could be easily disturbed or degraded by human activities and developments. The non-persistent scrub-shrub riparian areas clearly meet the second criterion in that the gravel extraction materials on the river bar, such as proposed by the applicant, can quickly obliterate any of this habitat the extraction activities comes in contact with. With regard to the first criterion, the riparian scrub-shrub vegetation is not rare, as it usually does not contain rare or endangered species and can be found extensively on the many gravel bars along North Coast waterways. In general, riparian vegetation must grow to a certain size and mass before it can begin to contribute significantly to the river ecosystem. A willow sprig growing in isolation that has just taken root and only rises a few feet out of the ground cannot provide much forage area, nesting opportunities, or much screening from predators for birds and other animals who choose to use it. As the sprig grows taller, however, and as more riparian plants colonize the surrounding area, the sprig, and the plants now growing in association with it, can start to provide forage, nesting, and cover opportunities that make it especially valuable habitat and therefore an environmentally sensitive area.

There is no clear-cut answer to the question of just when in the growth and development of riparian scrub-shrub vegetation it reaches the point where it can be considered environmentally sensitive. In discussions with California Department of Fish and Game staff, Commission staff has learned that no specific plant height and diameter, coverage, age, etc. thresholds exist for riparian vegetation that define when habitat value sufficient to categorize the vegetation as environmentally sensitive. Part of the reason for this uncertainty is that there can be tremendous variability in the values of riparian vegetation of the same size from one location to the next depending on such factors as surrounding habitat and vegetation, surrounding land uses, river configuration, etc.

One existing standard that may provide useful guidance for determining when riparian scrub-shrub vegetation reaches the point of becoming environmentally sensitive is a standard imposed in the USACE Letter of Permission (LOP) Procedure authorizing gravel mining in Humboldt County. The LOP, which was first issued in 1996, was developed by the Corps after a number of interagency meetings and consultations with representatives of various state and federal resource agencies. The LOP sets a number of restrictions on the gravel extraction projects that it authorizes. One such restriction concerns riparian vegetation. The restriction states as follows:

> All riparian and woody vegetation and wetlands must be avoided to the maximum extent possible. Any riparian vegetation or wetland that is to be disturbed must be clearly identified by mapping. Woody vegetation that is part of a contiguous 1/8-acre complex or is at least two inches in diameter breast height (DBH) must be mitigated if it is disturbed. Impacts to other woody vegetation must be described and a summary submitted to the Corps and CHERT with the gravel extraction plans. These impacts may require mitigation may require mitigation at the discretion of the Corps...

The restriction establishes a threshold for when impacts to riparian vegetation must be mitigated. The threshold is reached any time the riparian area that would be disturbed contains woody vegetation that is part of a contiguous 1/8-acre complex or is at least two inches (2") diameter at breast height.

The U.S. Army Corps of Engineers administers its permit program under Section 404 of the Clean Water Act (and the related Section 10 of the Rivers and Harbors Act of 1899). This administration does not limit mineral extraction in coastal wetlands and other coastal water bodies to the same extent that Coastal Act Section 30233 does. As previously stated, Section 30233(a)(6) only allows the dredge or fill of open coastal waters for mineral extraction if the mineral extraction occurs outside of environmentally sensitive areas. Thus, although the Corps can allow mineral extraction in an environmentally sensitive area so long as mitigation is provided, the Commission cannot allow mineral extraction within an environmentally sensitive area at all.

Thus, the Corp's purpose in determining when mitigation should be required is not the same as determining when riparian vegetation reaches a level of growth and development such that it should be considered environmentally sensitive.

By requiring mitigation whenever a riparian vegetation area that is to be disturbed contains woody vegetation that is part of a contiguous 1/8-acre complex or is at least 2 inches DBH, the Corp's LOP indicates that vegetation at this level already is providing habitat value. Otherwise, if the vegetation were not providing habitat value there would be no need for mitigation. Therefore, the Commission finds that the riparian vegetation must reach a form of growth and development where it provides important habitat values at some point before the Corps threshold is reached. Acknowledgement of this fact is contained in the rest of the Corps standards which indicate that impacts to other woody vegetation not rising to the threshold level must also be described and submitted to the Corps and may require mitigation at the discretion of the Corps.

In discussions with CDFG staff, Commission staff has discerned that under average growing conditions, a willow tree that is one inch (1") in DBH or part of a contiguous 1/16-acre complex would likely have survived for one growing season. Given that riparian vegetation is only becoming established during the first growing season, the vegetation may not provide significant habitat value at this point. On the other hand, vegetation that has survived more than one growing season would be established and likely to be used by wildlife. Therefore, the Commission finds that the riparian scrub-shrub vegetation should be characterized as an environmentally sensitive

area when the vegetation contains woody vegetation that is part of a contiguous complex of 1/16-acre or larger or is 1" or larger in DBH. In addition, by restricting extraction in vegetated areas that are essentially half as developed as the riparian vegetation for which mitigation is indicated under the Corps' LOP, the Commission will minimize the chances that any riparian vegetation providing significant habitat value will be disturbed by the proposed gravel extraction.

To ensure that mineral extraction proposed by the applicant each year is not performed within an area of environmentally sensitive riparian vegetation, thereby remaining an allowable use under Coastal Act Section 30233(a)(6), the Commission attaches Special Condition No. 2 which establishes an annual administrative review process to occur prior to each year's extraction operation. The condition requires under subsection (c), that the applicants submit for the review and approval by the Executive Director an annual gravel extraction plan for the upcoming season together with a botanical survey prepared by a qualified biologist or other professional that maps all vegetated areas found in potential extraction areas of the site and highlights the location and extent of all vegetation containing woody vegetation meeting the above-described aerial and growth habit criteria for environmentally sensitive areas. The condition requires that the plan be consistent with the extraction limits set forth in Special Condition No. 3, including the restriction of subsection (ġ) which states that gravel extraction operations shall not disturb or remove any area of riparian vegetation growing on the gravel bar meeting either the aerial extent or plant girth criteria discussed above.

Another third form of environmentally sensitive areas that can potentially be found at the site are seasonal nesting sites of the Western snowy plover. As noted previously, the Western snowy plover is a federally listed endangered species which in the past has been observed nesting on gravel bars of the lower Eel and Van Duzen Rivers during April through early August. As the Commission considers the habitat of rare and endangered species to be environmentally sensitive areas, the Commission finds any areas utilized by the Western snowy plover during the nesting season when the birds are present constitute environmentally sensitive habitat areas. Therefore, the Commission has included among the extraction limitations contained in Special Condition No. 3, the restriction of subsection (i) which requires all extraction operations be conducted consistent with Special Condition No. 4. Special Condition No. 4 requires that gravel extraction operations avoid western snowy plover habitat by either not commencing until after the nesting season, or commencing only after July 22nd and after a biologist approved by the USFWS has surveyed the site and either found no plover nests, or has found some but will conduct daily surveys to ensure a 1,000-foot buffer area is maintained around the nests that are found. Furthermore, Special Condition No. 4 requires daily surveys prior to pre-extraction activities occurring in suitable habitat and restricts vehicle use to prevent adverse impacts to plovers. This condition is consistent with the recommendations of the USFWS to avoid disturbance of the endangered bird species. The requirement of Special Condition No. 2 that the applicant submit for the review and approval of the Executive Director an annual gravel extraction plan consistent with the limitations of Special Condition No. 3 for the upcoming season will establish a process that will ensure that mineral extractions will not impact Western snowy plover nesting sites during the time of nesting when such areas constitute environmentally sensitive areas.

Therefore, as conditioned herein, the proposed gravel extraction operation is consistent with the use limitations of Section 30233 of the Coastal Act on dredging in coastal water bodies as the mining operation is for mineral extraction in areas that are not environmentally sensitive, consistent with Section 30233(a)(6).

(b) Feasible Mitigation Measures

The second test set forth by Section 30231 and 30233 is whether feasible mitigation measures have been provided to minimize adverse environmental impacts.

Depending on the manner in which the gravel operation is conducted, the portions of the proposed project to be conducted below the ordinary high water mark could have five potential significant adverse effects on the natural environment of the lower Eel River. These impacts include: (1) alteration of the riverbed and increased bank erosion; (2) impacts to fisheries; (3) impacts to environmentally sensitive riparian vegetation; (4) impacts to Western snowy plover and other rare and endangered species; and (5) impacts to the water quality of the river. The potential impacts and their mitigation are discussed in the following six sections:

1) River Morphology

As discussed above, a potential major impact of gravel mining operations is degradation of the riverbed and erosion of the riverbanks. Such impacts can occur if the amount of gravel extracted from a particular part of the river over time exceeds the amount of gravel deposited on the site through natural recruitment, or the downstream movement of sand and gravel materials. Bed degradation and bank erosion can also result from the manner in which gravel is extracted. For example, if gravel bars have been skimmed too close to the low-water surface or are left with a very shallow slope, at higher flow stages the river will tend to spread across the bar, reducing the depth of flow. This spreading may cause the channel to both migrate rapidly and break into a number of shallow channels or threads. This is also true of stream reaches where aggradation of materials is a problem. Such sites will tend to trap gravel that would otherwise move downstream, potentially trapping or impeding fish migrating up and down the river.

The applicant proposes to extract a maximum of 70,000 cubic yards of sand and gravel annually from the site. Although this amount is small relative to the overall permitted gravel mining activity along the lower Eel and Van Duzen Rivers (up to 1,480,000 cubic yards annually), extraction without consideration of replenishment of the site could cause bed degradation and riverbank erosion.

Therefore, to ensure that the mineral extraction proposed by the applicant does not exceed the natural replenishment of gravel, degrade the riverbed, or induce bank erosion, the Commission attaches Special Condition No. 2 which establishes an annual administrative review process to occur prior to each year's extraction operation. The condition requires, in part, that the applicant submit for the review and approval by the Executive Director, an annual gravel extraction plan for the upcoming season together with field surveys and annual assessments that will determine the

levels and volume of gravel recruitment over the preceding high-flow season and identify areas where mining can occur without causing bed degradation. The condition requires that the plan be consistent with the extraction limits set forth in Special Condition No. 3, including the restriction of subsection (e) which states that gravel extraction operations shall be limited to those sites that have experienced sufficient replenishment to accommodate the proposed mining.

Other limitations imposed by Special Condition No. 3 will also ensure that the amount and location of mining will not lead to adverse bed degradation. Subsection (a) of the condition states that the applicants shall extract material only by gravel skimming in a manner that will maintain a sloped extraction area, except for excavation to improve channel passage or create cold-water refugia for the benefit of fish species that has been specifically approved by the Department of Fish and Game. Leaving the bar with a prescribed slope (usual 2-3%) will encourage future gravel recruitment and minimize bed degradation. Subsection (c) of the condition states that the excavation shall not occur in the active channel (except for the above-referenced permissible enhancement trenching authorized by CDFG) and shall be limited to areas that are a minimum of one (1) vertical foot elevation above the current water surface and a minimum of six (6) feet horizontally from the current water's edge. This requirement will ensure that disturbance of the active channel will be avoided. To further minimize the chances of bed degradation and stream bank erosion and its consequences to existing structures along the river, subsection (d) of the condition states that no gravel extraction shall be performed within 500 feet of a bridge or any other structure (i.e., water intake, dam, etc.). This restriction will reduce to a level of insignificance any potential impacts to bridges and other public facilities that might exist in the area.

The applicants propose to take gravel using the trenching method if recommended by the CDFG in its annual CF&GC Section 1603 Streambed Alteration Agreement. The trench would vary in size and location from year to year, depending on bar conditions and what limitations the operator negotiates with the CDFG. If the trenching method is used, the applicant is required by Special Condition No. 3, to construct and maintain a berm along the entire length of the excavated area to prevent turbid water from entering the flowing river. The applicants typically begin excavation on the downstream end of the bermed gravel bar and excavate in an upstream direction that is parallel to the river, with the depth and width of the trench determined by the CDFG prior to the start of operations. After completion of gravel extraction operations, the applicant would allow the sediment to settle in the excavated trench area and be required by Special Condition No. 3 to breach the berm in several locations to prevent the creation of fish traps.

The Commission finds that the annual mining plan and monitoring procedures imposed by Special Condition No. 2, together with the above-described extraction limitations imposed by Special Condition No. 3, will avoid river bed degradation impacts from the project.

2) Fisheries

As noted previously, the Eel River and its tributaries are ranked among the most significant anadromous fisheries in Northern California and include the Coho salmon, listed in 1997 as a

"threatened" species under the federal Endangered Species Act. The project area and the lower Eel River are mainly important to anadromous fish as a migration route to and from the upstream spawning grounds, as an insignificant amount of spawning actually occurs in the lower Eel River.

As proposed, extraction of gravel limited to only the summer months will not adversely affect fisheries. However, gravel mining operations need to be out of the river bed before the rainy season to prevent impacts to fisheries, as the runs of the various species of anadromous fish up and down the river increase in the fall with the rise in river water levels and remain at high levels through the early spring.

In recent Section 1603 Streambed Alteration Agreements issued for gravel extraction at the project site, the Department of Fish and Game has limited gravel extraction operations to June 1 through October 15 each year, which corresponds to the period when potential impacts to fisheries is lowest. Therefore, the Commission attaches Special Condition No. 5 which requires mining and all post-extraction bar grooming work and equipment removal, to be performed during the summer months and ending October 1 of each year, with reclamation activities to be completed by October 15 to ensure no disturbance to anadromous fish.

The installation of culverted fill crossings in the low flow channel or major secondary channels could also affect fisheries. Culverted fill crossings are prone to being blocked by debris in ways that can inhibit fish passage. Another crossing method commonly used in gravel extraction on Northcoast rivers and elsewhere is to create a crossing using 60-foot-long railroad flatcars placed side by side in a manner that completely spans the channel and does not require the placement of fill or culverts in the channel. Therefore, the Commission attaches Special Condition No. 10 that requires any proposed seasonal crossing of the low flow or secondary channel that can be expected to maintain flow year round (and thus receive significant use by fish) shall be of the railroad flatcar variety with a minimum clearance of three (3) feet above the water surface. This condition further requires the crossing(s) to be removed at the completion of the extraction season and gravel used for creating abutments is be regraded to be consistent with the topography of the area.

The Commission finds that the limitations of Special Conditions Nos. 5 and 10 will ensure that the project will not adversely affect fisheries.

3) Riparian Vegetation

As discussed previously under Findings Section IV(4)(a) above, the project site contains North Coast riparian scrub habitat and North coast black cottonwood forest. North Coast riparian scrub habitat occurs on "islands" between the low flow channels and is the most extensive plant community at the project site, occupying a total of approximately 93 acres. Approximately 100 acres of North Coast black cottonwood forest is found on the west (left) bank terrace adjacent to the river outside of the extraction area, as well as 35 acres found within the project area on an island within the bankfull channel. Thus, the proposed project has the potential to adversely affect environmentally sensitive riparian vegetation at the Sandy Prairie site.

To prevent disturbances to riparian habitat, Special Condition No. 2 requires in part, that the applicant submit for the review and approval of the Executive Director an annual gravel extraction plan for the upcoming season together with a botanical survey prepared by a qualified biologist that maps all vegetation found on potential extraction areas of the site and highlights the location and extent of all vegetation that meets the criteria discussed in Finding 3(a). The condition requires that the plan be consistent with the extraction limits set forth in Special Condition No. 3, including the restrictions of subsection (g) that states that gravel extraction operations shall not disturb or remove any area of environmentally sensitive vegetation growing on the gravel bar. In this manner, disturbance to all of the environmentally sensitive riparian vegetation on the bar will be avoided.

4) Western Snowy Plover and Other Rare and Endangered Species

As noted previously, the western snowy plover has been observed nesting on the gravel bars of the lower Eel River from April through August in recent years, with the potential to be present as early as March and as late as September. Because the plover is on the federal list of endangered species, the responsibility for protecting the species rests with the U.S. Fish and Wildlife Service (USFWS). The Service's Arcata Fish and Wildlife Office coordinates with the U.S. Army Corps of Engineers (Corps) to provide guidance and regulatory review to private gravel extraction operators and the County of Humboldt on the lower Eel River. The USFWS continues to gather data about the plovers and their nesting and brooding patterns along the Eel River and more information about the plovers on the Eel River has become available since the 5-year gravel extraction permit was originally issued in 1994. The Service has submitted a summary of this information entitled "Western snowy plovers on Eel River Gravel Bars: Measures Required to Minimize Potential Adverse Impacts," dated July 6, 1999 which sets forth recommendations for plover protection based on current data. These recommendations have been incorporated as Special Condition No. 4 and are outlined below.

According to information provided by the US Fish and Wildlife Service, the current population status of the western snowy plover on the north coast of California is reflected in its recent reproductive performance. Of eleven plover nests found in Humboldt and Del Norte counties during 1998 surveys of ocean beaches and Eel River gravel bars, nine were found on Eel River gravel bars. Although only two of these nine successfully hatched, neither of the two nests found on ocean beaches successfully hatched. Despite higher intensity of survey efforts during recent years as compared to the past, fewer nests are being found on ocean beaches. These data indicate the significance of Eel River gravel bars for the overall productivity of plovers along the north coast.

Western snowy plover adults, nests, and chicks are very cryptic, largely because of their ability to blend in with their surroundings as a defense strategy. All life stages of the plover are susceptible to death or injury by humans driving, operating equipment, and otherwise using occupied plover habitat. Disturbance from noise and activity associated with gravel extraction, vehicle use, and pre-gravel extraction activities may adversely affect western snowy plovers by altering their

feeding and breeding behavior, reducing the suitability of nesting habitat, masking essential warning signs of predators, and attracting potential scavengers/predators.

According to the USFWS, data from other portions of the western snowy plover's range suggest that activity and vehicle use in nesting and chick rearing habitat during low light and night conditions likely increases the risk of vehicle strikes to plovers, including adults. Activities associated with gravel extraction (including surveys for engineering, hydrology and biological resources) often need to be conducted prior to the initiation of gravel extraction activities. Because these pre-extraction activities require vehicular use and human presence in potential nest areas during the nest season, a potential exists to adversely affect the western snowy plover through direct harm or harassment. To minimize disturbance to the plovers from vehicle use and pre-extraction activities, the Commission attaches Special Condition No. 4(B) and 4(C). Special Condition No. 4(B) requires that daily plover surveys be conducted by a biologist approved by the USFWS prior to daily initiation of any pre-extraction activities that occur in suitable plover habitat and that the surveys be submitted to the Executive Director. Should pre-extraction activities be required to occur near a nest within the 1,000-foot buffer, Condition No. 4(B) requires the surveying biologist to modify or halt activities as needed to prevent adverse impacts to the plover. Special Condition No. 4(C) restricts vehicle use on the gravel bars and haul roads to necessary uses, to minimum speeds, and to times of the day when there is sufficient daylight to prevent impact to the plovers.

In addition, Special Condition No. 4(A) requires that gravel extraction operations avoid Western snowy plover habitat by either not commencing until after the nesting season (September 16), or commencing only after July 22nd and after a biologist approved by the USFWS has surveyed the site and either found no plover nests, or has found some but will conduct daily surveys to ensure a 1,000-foot buffer area is maintained around the nests that have been found. USFWS recommends this protocol to avoid disturbance of the Western snowy plover, and the Commission incorporates the protocol into the extraction limitations referred to in Special Condition No. 3, subsection (i) and as further outlined in Condition No. 4, subsection (A). The requirement of Special Condition No. 2 that the applicant submit for the review and approval of the Executive Director, an annual gravel extraction plan consistent with the limitations of Special Condition Nos. 3 and 4 will establish a process that will ensure that gravel operations will not be performed in Western snowy plover nesting sites or otherwise disturb this endangered species.

Although no other threatened or endangered species are known to exist on the gravel bar, it is possible that threatened or endangered species could colonize the site in future years. To ensure that gravel mining plans submitted pursuant to Special Condition No. 2 in future years will be designed to avoid any new habitat of threatened or endangered species that colonize the site in future years, the Commission includes in the list of extraction limitations imposed through Special Condition No. 3, subsection (h). The subsection states that gravel extraction shall be designed to avoid adversely affecting any other state or federally listed rare or endangered species that is discovered at the project site during the life of the permit.

5) Water Quality

The principal potential impact of the Mercer, Fraser Company gravel extraction and processing operation on water quality occurs from the processing operations located adjacent to the east bank of the river in an area outside of the coastal zone. Water quality can be affected by stormwater runoff from the asphalt plant in addition to potential discharge of dissolved petroleum products and admixtures in stormwater. As the impacts are generated outside of the coastal zone, the Commission does not have permit jurisdiction to address these impacts. The processing facility has been subject to a Waste Discharge Requirements Order adopted by the California Regional Water Quality Control Board (RWQCB) in 1984. The site has been maintained to address RWQCB concerns.

If properly managed, the proposed gravel extraction operations themselves should not adversely affect the water quality of the river. However, excessive or careless gravel extraction could adversely impact water quality and ultimately the biological productivity and fishery resources of the river. For example, pushing gravel materials into the water could degrade water quality and biological productivity by increasing the turbidity of the water. Similarly, allowing muddy water to enter the river due to inappropriate gravel trenching operations could cause similar impacts.

To prevent such impacts, the Commission attaches Special Condition No. 8 that requires that gravel extraction not push any material into the river.

7) Conclusion

The Commission finds, as conditioned herein, the proposed gravel extraction operation is consistent with the requirements of Section 30233 of the Coastal Act, in that feasible mitigation measures have been provided to minimize adverse environmental effects. The gravel extraction limitations imposed through Special Condition No. 3 that are designed to prevent impacts to river morphology, riparian vegetation, threatened and endangered species, and water quality together with the requirements of Special Condition Nos. 5 and 8 to limit the extraction season and avoid placement of material into the active channel will ensure that the proposed gravel extraction operation will avoid adverse impacts to the Eel River. Therefore, the proposed project as conditioned is consistent with the requirements of Section 30233 of the Coastal Act.

(c) Alternatives

The third test set forth by the Commission's dredging and fill policies is that the proposed dredge or fill project must have no feasible less environmentally damaging alternative. In this case, the Commission has considered the various identified alternatives, and determines that there are no feasible less environmentally damaging alternatives to the project as conditioned by Special Condition Nos. 1-11. A total of four possible alternatives have been identified, including: (1) the "no project" alternative; (2) obtaining sand and gravel from quarry operations; (3) obtaining sand and gravel from terrace deposits in the Eel River floodplain; and (4) modifying the proposed

project. As explained below, each of these alternatives are infeasible and/or more environmentally damaging than the proposed project.

(1) No Project Alternative

The no project alternative means that no gravel extraction would occur at the site. Without extraction from the site, an equivalent amount of sand and gravel materials would be obtained from other sources to meet regional demand for cement and concrete aggregate products for the construction of roads, buildings, and other development. Increasing production from other river bar extraction operations would have environmental impacts similar to or greater than the proposed project.

The proposed project is located in an area where gravel has historically been accumulated and mined. Mining in many other parts of the river where gravel does not accumulate could lead to changes in river geomorphology which, in turn, could cause a variety of adverse impacts such as increased sedimentation, the undermining of bridge supports, and bank erosion resulting in the loss of environmentally sensitive riparian habitat areas and/or adjacent agricultural lands.

As discussed below, obtaining additional sand and gravel terrace deposits from the valley floors of local rivers would also create environmental impacts similar to or greater than the proposed project. The Commission therefore finds that the "no project" alternative is not a less feasible environmentally damaging alternative to the project as conditioned.

(2) Obtaining Sand and Gravel from Quarry Operations

Excavation from the river could be avoided if an equivalent amount of sand and gravel could be obtained from upland quarries. As discussed in the Final Program EIR on Gravel Removal from the Lower Eel River, certified by Humboldt County in 1992, there are few quarries in the vicinity where it would be economically feasible to obtain material of sufficient quality and quantity to that available at the project site. The substrate of nearby areas of Humboldt County are composed mostly of the Franciscan formation that is comprised of large masses of greywacke and sandstone interspersed with less competent (for construction applications) clay and silt materials. This composition of material generally does not lend itself to quarrying. The quarries that are found in the region are generally located in remote areas with limited water supplies and where no nearby processing facilities are available. The unprocessed materials would need to be transported greater distances resulting in associated traffic and air quality impacts. The Commission therefore finds that substituting gravel extracted from quarry operations is not a feasible less environmentally damaging alternative.

(3) Obtaining Sand and Gravel from Terrace Deposits

Excavation from the river could be avoided if an equivalent amount of sand and gravel products could similarly be obtained from terrace deposits in the floodplain of the lower Eel, Van Duzen, or Mad Rivers. The floors of these river valleys are underlain by substantial amounts of gravel

deposited over thousands of years and provide upland rock quarries. However, commencing gravel extraction from these terrace deposits would create its own environmental impacts. Much of the undeveloped valley floor of each of these rivers is developed to agricultural and timber production uses. Converting productive coastal agricultural lands or forest lands to grave extraction or other uses would not be consistent with Coastal Act policies which call for the maintenance of lands suitable for agriculture and timber production in those uses. Most of the remaining undeveloped areas of these river valleys are currently covered with riparian habitat and other environmentally sensitive habitats. Extracting gravel from such areas would result in far more impact to environmentally sensitive habitat than extraction at the project site as conditioned by the permit to avoid all riparian habitat. Therefore, the Commission finds that substituting gravel extracted from terrace deposits in local river valleys is not a feasible less environmentally damaging alternative.

(4) Modifying the Proposed Project as Conditioned

Various modifications to the project as proposed and conditioned could be made in an attempt to reduce the environmental effects. One such modification would be to mine in different locations at the project site. However, this modification would not result in less impact than the project as conditioned under this permit. As discussed previously, the proposed project has been conditioned to restrict mining to areas that would avoid adverse impacts to coastal resources. Therefore, modifying the proposed gravel extraction project to require mining in different locations at the project site could result in greater impacts to coastal resources and would not create an environmentally less damaging alternative.

Another modification would be to mine in some but not all of the proposed extraction areas. The project has been designed to provide a variety of mining options to correspond with the spatial variability of gravel replenishment. Limiting the size or number of potential extraction areas would reduce the flexibility provided in the project design as conditioned by this permit to assign subsequent season's gravel mining to those areas having the least impact to the geomorphology and ecology of the river system. Consequently, more environmental impact is likely to result.

No other feasible modification to the proposed extraction scheme has been identified. Therefore, the Commission finds that modifying the proposed gravel extraction project as conditioned is not a feasible less environmentally damaging alternative.

(d) Maintenance and Enhancement of Estuarine Habitat Values

The fourth general limitation set by Sections 30231 and 30233 is that any proposed dredging or filling project in coastal waters must maintain and enhance the biological productivity and functional capacity of the habitat, where feasible.

As discussed in the section of this finding on mitigation, the conditions of the permit will ensure that the project will not have adverse impacts on water quality, riparian vegetation, rare and endangered species, stream morphology, fisheries, or other coastal resources. By avoiding impacts

to coastal resources, the Commission finds that the project will maintain the biological productivity and functional capacity of the habitat consistent with the requirements of Sections 30231 and 30233 of the Coastal Act.

The Commission thus finds that the project is an allowable use, that there is no feasible less environmentally damaging alternative, that no mitigation is required for the insignificant impacts associated with the dredging of coastal waters, and that estuarine habitat values will be maintained or enhanced. Therefore, the Commission finds that the proposed development, as conditioned, is consistent with Sections 30231 and 30233 of the Coastal Act.

5. Protection of Environmentally Sensitive Habitat Areas

Section 30240 of the Coastal Act states that environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values and that development in areas near such sensitive habitat areas shall be sited and designed to prevent significant adverse impacts to these areas.

As discussed above, the proposed project will not adversely affect environmentally sensitive habitat outside of the bankfull channel of the river. None of the riparian habitat along the banks of the river will be disturbed by the extraction operation itself. In addition, existing haul roads through the riparian areas will be used to truck gravel from the bar to the stockpiling and processing facility. No new haul roads are proposed to be cut through the riparian woodland. To ensure that no new haul roads are created through riparian woodland, the Commission attaches Special Condition No. 8 that requires that the proposed project not disturb or remove any of the established riparian vegetation at the site and prohibits the cutting of new haul roads through the habitat.

As conditioned, the Commission finds that the project is consistent with Section 30240 of the Coastal Act, as the project will avoid significant adverse impacts to the environmentally sensitive habitat area found on the site.

6. Visual Resources

Section 30251 of the Coastal Act provides in applicable part that the scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall: (a) be sited and designed to protect views to and along the ocean and scenic coastal areas, and (b) be visually compatible with the character of surrounding areas.

The gravel extraction area and processing facilities are generally not visible from Highway 101 or any other public coastal viewing areas. The extraction operation has existed at the site for many years, and the proposed project will not be any more prominent than the gravel extraction that has occurred at the site in the past. Therefore, the Commission finds that the proposed project is visually compatible with the character of the area as gravel extraction operations here and in the vicinity have long been a part of the view shed.

To ensure that the Commission would have the opportunity to review any future proposals by the applicant to change other aspects of the project that could affect visual resources and their conformity with Coastal Act Section 30251, the Commission attaches Special Condition No. 9. The condition states that any substantial changes to the proposed operation shall require an amendment to the coastal development permit.

Therefore, the Commission finds that, as conditioned, the proposed project is consistent with the visual resource policies of Section 30251 of the Coastal Act, as the project is compatible with the visual character of the surrounding area and will not block views to and along the coast.

7. Public Access

Coastal Act Section 30210 requires in applicable part that maximum public access and recreational opportunities be provided when consistent with public safety, private property rights, and natural resource protection. Section 30211 requires in applicable part that development not interfere with the public's right of access to the sea where acquired through use (i.e., potential prescriptive rights or rights of implied dedication). Section 30212 requires in applicable part that public access from the nearest public roadway to the shoreline and along the coast be provided in new development projects, except in certain instances, such as when adequate access exists nearby or when the provision of public access would be inconsistent with public safety.

The project site is located between the first public road (Highway 101) and the sea (the Eel River is considered to be an arm of the sea in this area). Accordingly, a public access finding is required for the project.

In applying Sections 30211 and 30212, the Commission is limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to avoid or offset a project's adverse impact on existing or potential public access.

Recreational use of the river in this particular section of the river is very limited, largely because there are very few access points to the river. The principal public access use of the project site that does occur is by fishermen who use the river channel for recreational fishing. Other public access and recreational uses of this stretch of the river include canoeing and recreational boating. The prime fishing season occurs in the spring before the gravel extraction season begins. To the extent that canoeists and boaters do use the river channel during the extraction season, the Commission attaches Special Condition No. 10 which will ensure that any truck crossings of the channel installed by the applicants will not block passage down the river. The condition requires that any proposed seasonal crossing of the low flow or secondary channels that can be expected to maintain flow year round shall be of the railroad flatcar variety rather than culverted fill crossings. The condition also requires that the flatcar crossing be installed in such a manner that a minimum three-foot vertical clearance is maintained above the surface of the water. Canoes and kayaks would be able to pass through such a crossing.

Thus, the project will not significantly affect the fishermen, canoeists or other recreational boaters. Furthermore, gravel extraction operations have been occurring at the site for many years. The continued extraction authorized by this permit will not create any additional burdens on public access than have existed in the past. The project will not create any new demands for fishing access or other public access use.

Therefore, the proposed project would not have an adverse affect on public access that would be significant enough to warrant requiring public access. The Commission finds that the project, as proposed without new public access, is consistent with the public access policies of the Coastal Act.

8. Permit Termination

As noted in the Background finding of this report, regulation of gravel mining operations along the Eel River has been evolving rapidly over the last few years and is likely to continue to evolve in the future. The development of a river management plan is called for in the Program EIR for the gravel mining operations along the lower Eel River. Therefore, to enable the Commission to review future mining at the site in light of new information and changed circumstances that may develop over the next few years, the Commission attaches Special Condition No. 7, which states that the authorization for gravel extraction shall terminate on December 31, 2004.

The Commission notes that it may be necessary for the applicant to amend the authorization even before the expiration of the permit. The Eel River is a dynamic environment that can change dramatically in the course of a single winter due to the forces of high water flows. Standard Condition No. 2 requires that the project adhere to the project plans submitted with the application, as modified by the conditions of the permit. In the event that changes in the riverine environment necessitate changes to the extraction and/or reclamation plans for the project, such changes will require further review by the Commission.

9. State Lands Commission Review

The project is located in the bed of the Eel River, a navigable river, between the ordinary high water marks. As such, the State of California may hold a public trust easement and other property interests at the site. Any such property interest would be administered by the State Lands Commission. An application has been submitted to the State Lands Commission for consideration of approval of a general lease. To assure that the applicant has a sufficient legal property interest in the site to carryout the project and to comply with the terms and conditions of this permit, the Commission attaches Special Condition No. 1 which requires that the applicant submit evidence that any necessary authorization from the State Lands Commission has been obtained prior to issuance of the permit.

10. Department of Fish and Game Review

The project requires an annual Section 1603 Streambed Alteration Agreement from the California Department of Fish and Game. The applicant has not yet received an agreement for the 2000 gravel extraction season. Therefore, to ensure that the project area reviewed by the Department of Fish and Game is the same project area that was reviewed under this permit by the Commission, and to ensure that extraction does not exceed the seasonal extraction limits established under Special Condition No. 3, the Commission attaches Special Condition No. 11 which requires that prior to commencing each gravel season, the applicant submit a copy of the Section 1603 agreement obtained from the Department of Fish and Game that is valid for that season.

11. U.S. Army Corps of Engineers Review

The project is within and adjacent to a navigable waterway and is subject to review by the U.S. Army Corps of Engineers (USACE). Pursuant to the Federal Coastal 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 USACE, the Corps will not issue a permit until the Coastal Commission approves a federal consistency certification for the project or approves a permit. To ensure that the project ultimately approved by the Corps is the same as the project authorized herein, the Commission attaches Special Condition No. 12 that requires the applicant prior to commencing each gravel extraction season, to demonstrate that all necessary approvals from the USACE for the proposed gravel extraction to be performed that season have been obtained.

12. California Environmental Quality Act

Section 13906 of the California Code of 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, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Public Resources Code Section 21080.5(d)(2)(A) (CEQA) prohibits a proposed development from being approved if there are any feasible alternatives or feasible mitigation measures available, which would significantly lessen any significant effect that the activity may have on the environment.

As discussed above, the proposed project has been conditioned to be found consistent with the policies of the Coastal Act. As specifically discussed in these above findings which are hereby incorporated by reference, mitigation measures which will minimize or avoid all significant adverse environmental impact have been required. These required mitigation measures include requirements that: (1) limit extraction to avoid environmentally sensitive habitat areas, rare and endangered species, migratory fish, and limit extractions that could lead to changes in river morphology; and (2) call for the preparation of annual gravel extraction plans that meet extraction limitations to be reviewed by the Commission and other agencies. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity would 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 and to conform to CEQA.

EXHIBITS:

1. Regional Location Map
2. Project Location
3. Site Map
4. Vegetation Types
5. Typical Extraction Areas
6. Typical Extraction Cross-Section
7. Typical Stream Crossing
8. USFWS Western snowy plover Recommendation

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 f 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. Compliance. All development must occur in strict compl-iance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

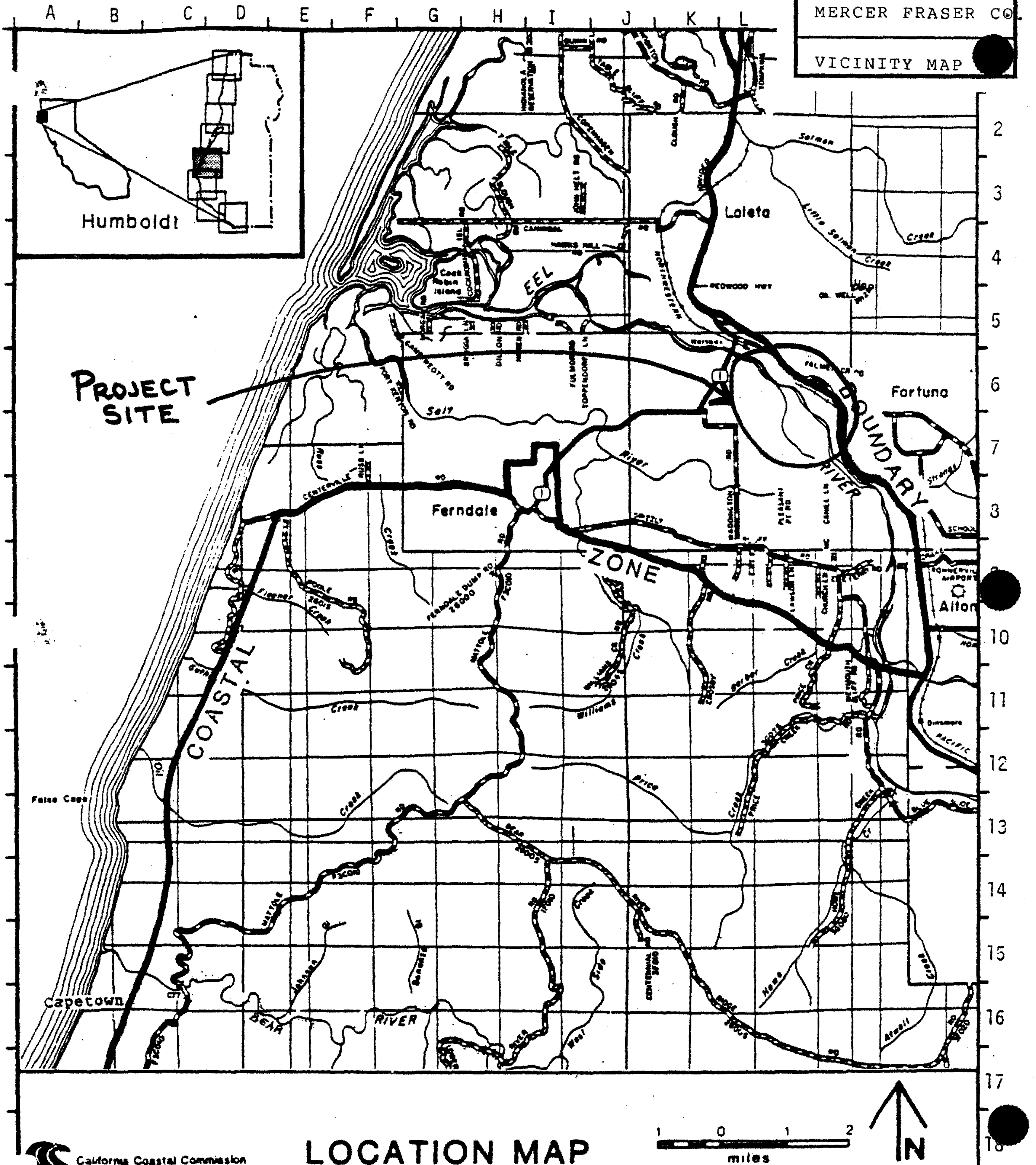
4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director of the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.

6. 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.

7. 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.

EXHIBIT NO.	1
APPLICATION NO.	1-00-009
MERCER FRASER CO.	
VICINITY MAP	



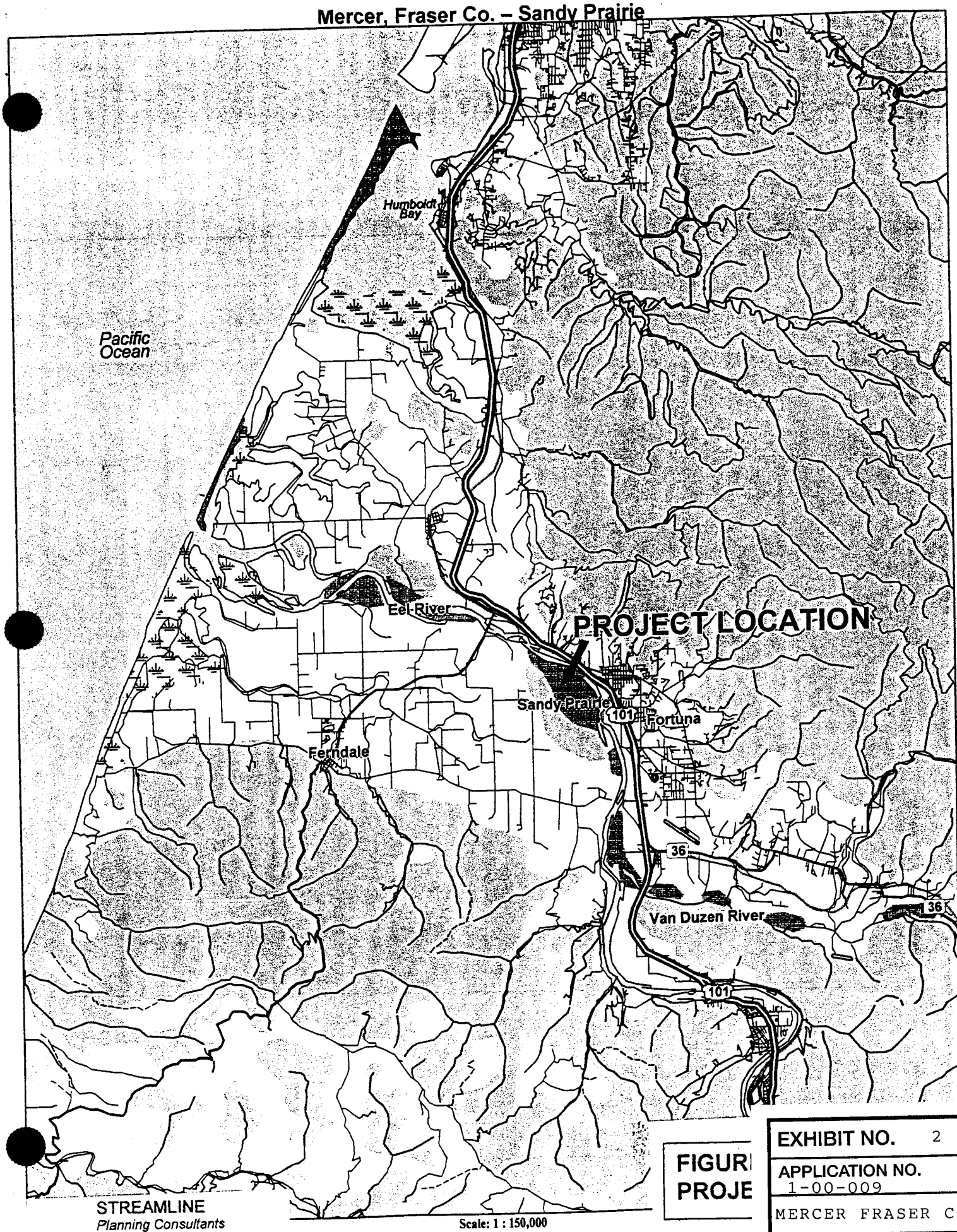
California Coastal Commission

LOCATION MAP

County of Humboldt

[redacted]

Mercer, Fraser Co. – Sandy Prairie



STREAMLINE
Planning Consultants

Scale: 1 : 150,000

FIGUR
PROJE

EXHIBIT NO. 2
APPLICATION NO. 1-00-009
MERCER FRASER CO.
PROJECT LOCATION

Mercer, Fraser Co. – Sandy Prairie

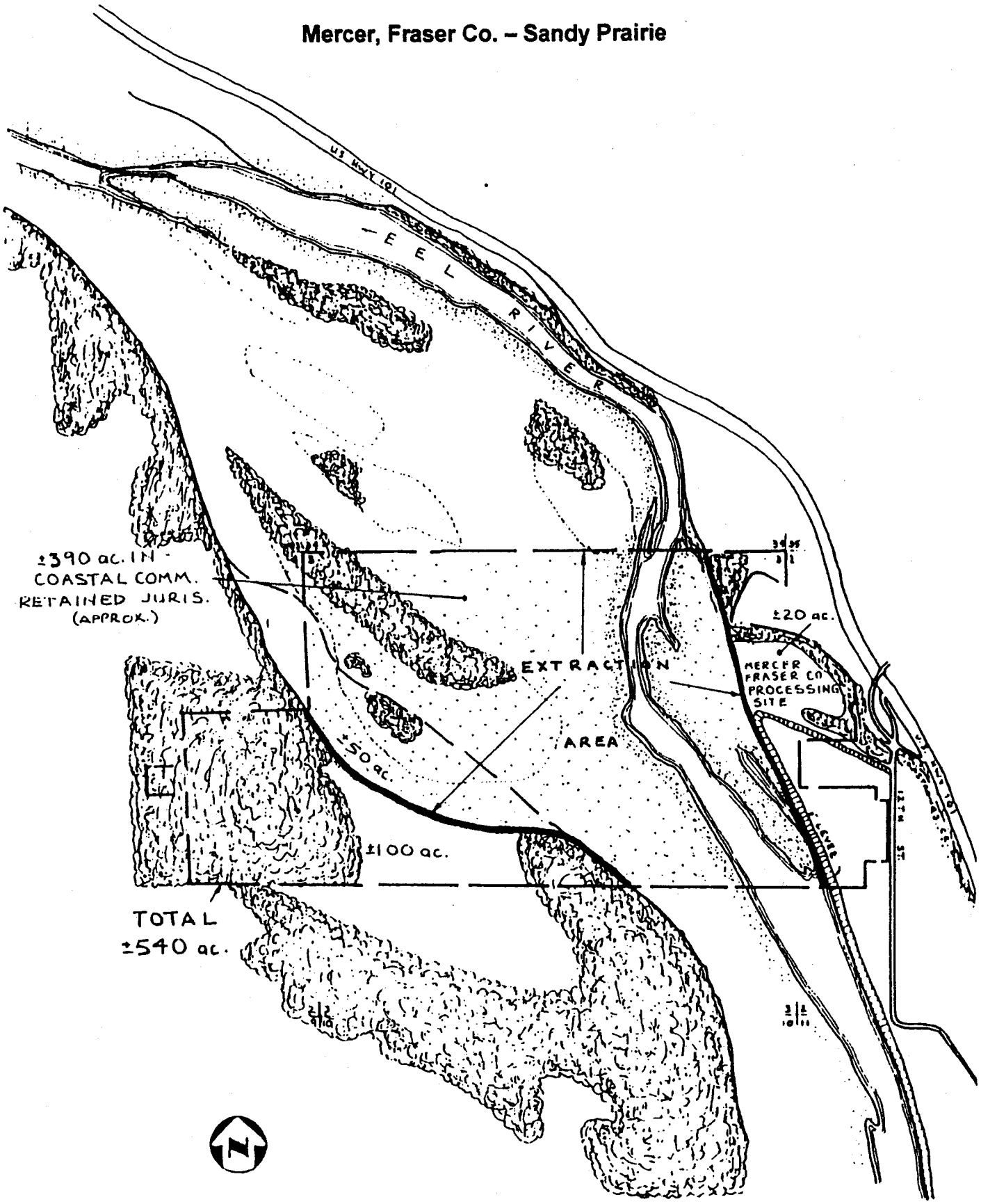
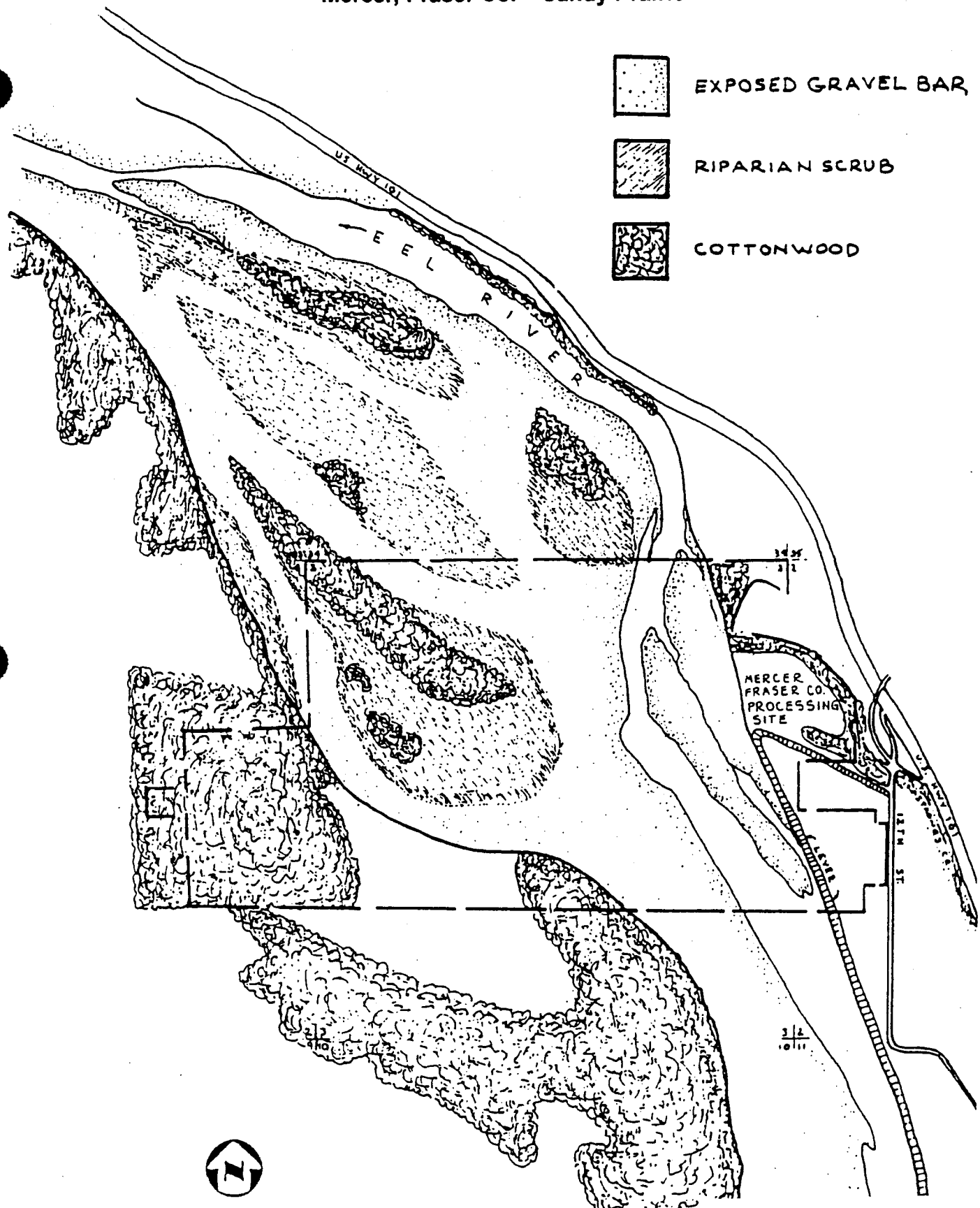


EXHIBIT NO. 3
APPLICATION NO. 1-00-009
MERCER FRASER CO.
SITE MAP

STREAMLINE
Planning Consultants

Mercer, Fraser Co. – Sandy Prairie



STREAMLINE
Planning Consultants

EXHIBIT NO. 4
APPLICATION NO. 1-00-009
MERCER FRASER CO.
VEGETATION TYPES

Mercer, Fraser Co. – Sandy Prairie

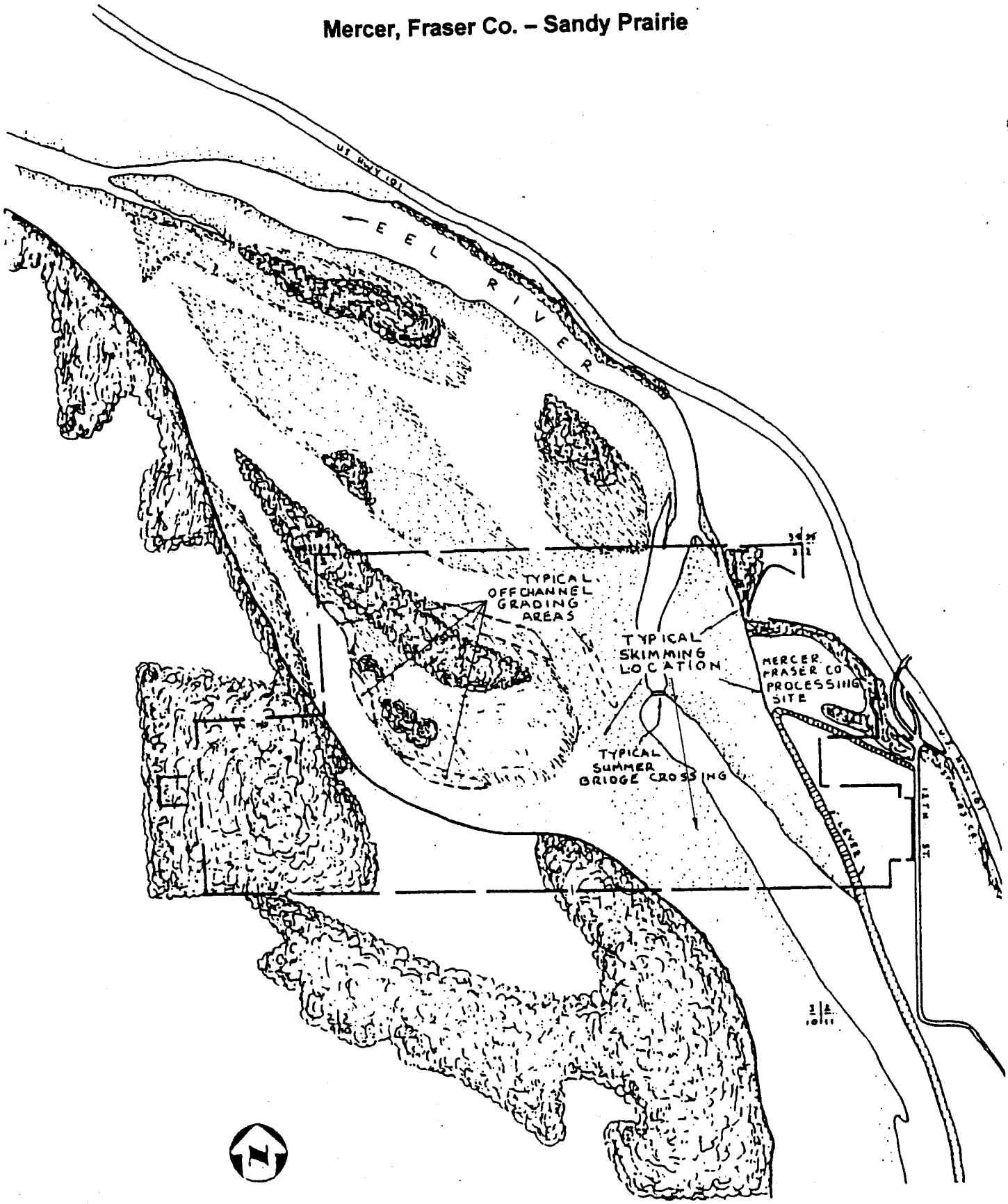
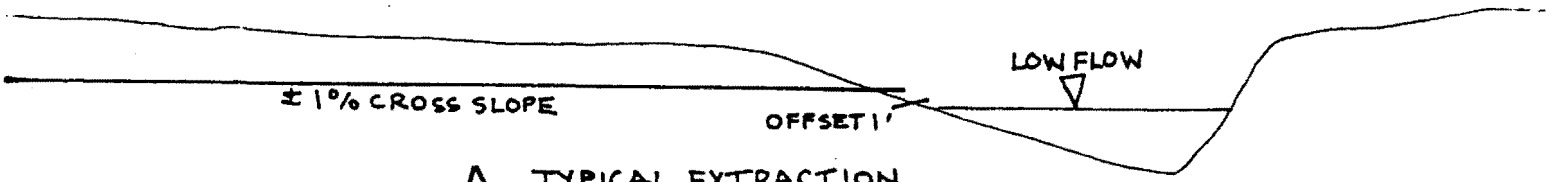
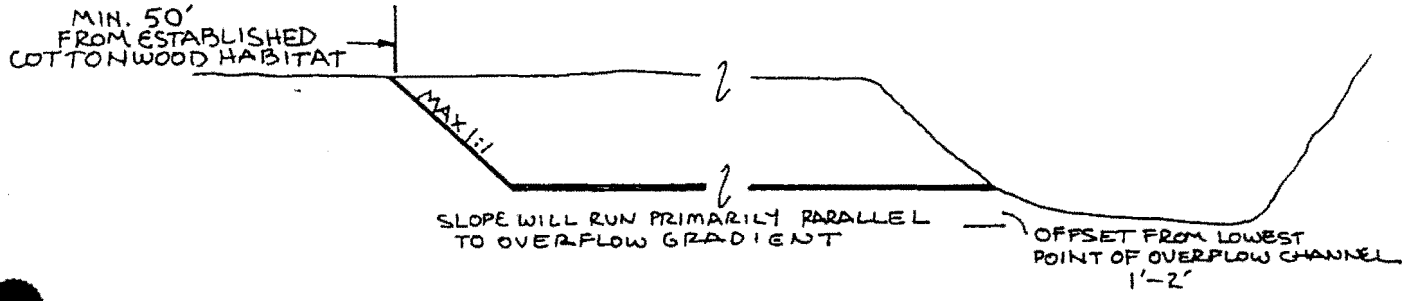


EXHIBIT NO. 5
APPLICATION NO. 1-00-009
MERCER FRASER CO.
TYPICAL EXTRACTION AREAS

STREAMLINE
Planning Consultants



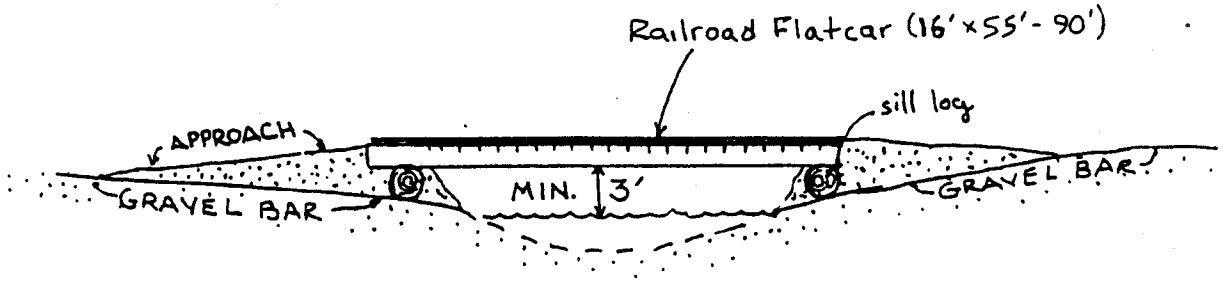
A. TYPICAL EXTRACTION BY SKIMMING
NTS



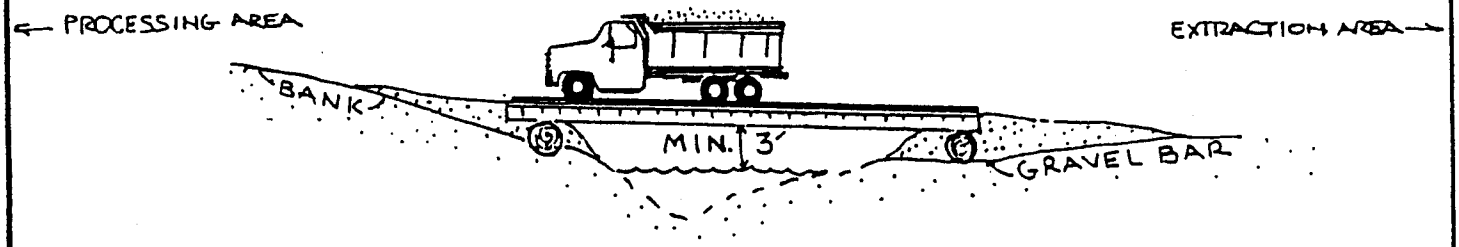
B. TYPICAL OFF CHANNEL GRADING
NTS

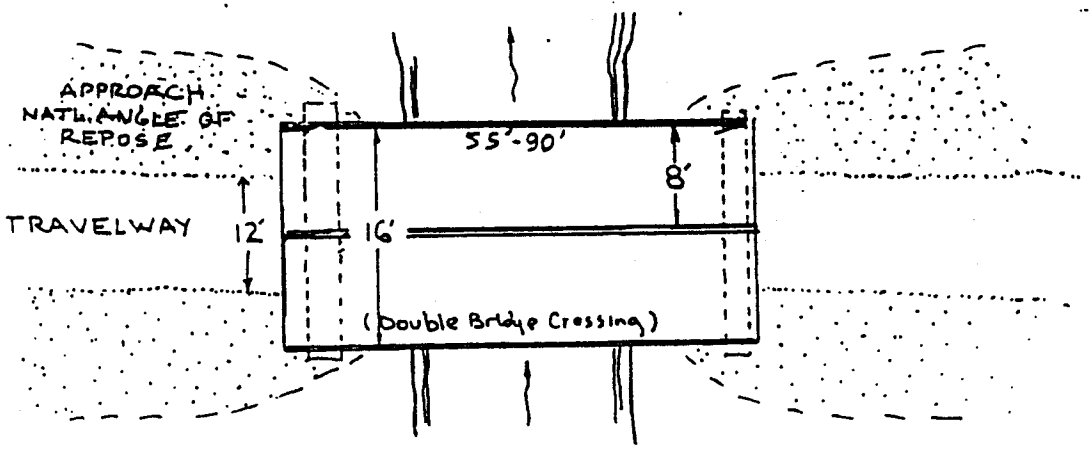
STREAMLINE
Planning Consultants

EXHIBIT NO. 6
APPLICATION NO. 1-00-009
MERCER FRASER CO.
EXTRACTION CROSS-SECTION (TYPICAL)



SECTIONAL VIEWS





PLAN VIEW

EXHIBIT NO. 7
APPLICATION NO. 1-00-009
MERCER FRASER CO
STREAM CROSSING (TYPICAL)

STREAMLINE
Planning Consultants

Narrative Flow Chart

Avoidance of Adverse Effects:

In order to avoid adverse effects to reproducing western snowy plovers, the AFWO believes that gravel extraction activities (including pre-extraction activities such as topographic surveys and biological surveys) need to commence after completion of the breeding, nesting, and chick rearing periods (September 16).

Minimization of Adverse Effects:

To minimize the potential effects of gravel extraction on the Eel River gravel bars from adversely affecting reproducing western snowy plovers, the AFWO believes that the management measures presented as guidance to the Corps need to be fully implemented. Those measures, in summary, are presented below.

1. If practicable, avoid adverse effects as stated above by extracting gravel outside of the breeding, nesting, and chick rearing periods. When avoidance of the reproductive season is not practicable, conduct as many activities as possible after August 15, the date when most nests are predicted to have hatched.

2. All pre-extraction activities need to be preceded by daily plover surveys conducted by a biologist approved by the Service. The approved biologist must have the authorization to avoid potential take of plover adults, juveniles, chicks, and eggs, and in their best judgement, modify activities to minimize adverse effects. Pre-extraction activities should be initiated as late as possible in the season. Operators are encouraged collect breeding data throughout the season, and to share plover survey information to facilitate on-site planning and management.

3. Vehicle use in suitable plover habitat should be avoided when practicable.

   a. Vehicle use in suitable habitat shall be restricted to 5 mph, unless on a haul road, where speeds shall be restricted to 15 mph.

   b. Vehicles use in suitable habitat associated with gravel extraction operations shall be restricted to the period 0.5 hour before sunrise and 0.5 hour past sunset.

   c. Vehicle use shall be minimized to that necessary to effect the immediate job. Examples are carpooling, reducing the number of trips, parking and staging in non-suitable habitat.

4. Gravel extraction operations need to be at least 1,000 feet from active plover areas. Daily plover surveys by an approved biologist shall be conducted prior to commencement of daily on-site activities.

EXHIBIT NO. 8
APPLICATION NO. 1-00-009
MERCER FRASER CO. (pg. 1 of 2)
USFWS SNOWY PLOVER RECOMMENDATION

a. Gravel extraction operations shall not commence until the nest initiation period has been completed (July 22). If an active plover nest is within the area of planned operations or the 1,000 foot buffer area, activities within 1,000 feet of the nest must be delayed until the nest hatches and the adult and chicks have vacated the area of concern.

b. After August 15, three consecutive days of plover surveys conducted by an approved biologist must be completed within the 1,000 foot buffer area and the area of operations with no detections before operations can proceed without daily surveys.

c. Failure to have 3 consecutive days of no plover detections within the area of operations and the 1,000 foot buffer area shall require daily surveys and avoidance of plovers. Operators are encouraged to survey beyond the 1,000 foot buffer area and exchange data with other operators to plan for the potential of plovers moving into their area of concern.

EXHIBIT NO. 8
APPLICATION NO. 1-00-009
MERCER FRASER CO. (pg. 2 of 2)
USFWS SNOWY PLOVER RECOMMENDATION