

**LETTER OF PERMISSION PROCEDURE (LOP96-1) FOR  
GRAVEL MINING AND EXCAVATION ACTIVITIES WITHIN**

**HUMBOLDT COUNTY**

The purpose of the LOP is to streamline Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 authorizations for gravel mining and extraction activities in Humboldt County that do not pose significant adverse individual or cumulative impacts.

The LOP's to be issued under this procedure will contain limitations intended to protect the environment and natural and cultural resources. In cases where the District Engineer (DE) considers it necessary, applications will be required for individual permits.

**SCOPE OF WORK:**

Work authorized by LOP or modification (Mod) under this procedure is limited to discharges of dredged or fill material associated with gravel mining activities in waters of the United States, including navigable waters of the United States, within Humboldt County, California. Activities that may be authorized by LOP under this procedure include, but are not limited to, sand and gravel mining and work associated with these activities, such as temporary stock piling of gravel in a dry section of the stream and construction of temporary coffer dams and road crossings. Impacts to waters of the United States, including wetlands, shall be avoided or minimized through the use of practicable alternatives. Reasonable compensation for unavoidable adverse impacts to waters of the United States will be required. Work that would have unmitigatable adverse impacts on the aquatic environment or would cause a substantial reduction in the extent of waters of the United States will not be authorized by LOP. The activities authorized under this LOP procedure shall be part of a single and complete project.

**EVALUATION PROCEDURES:**

Applicants shall submit complete applications, after consulting with the CHERT (County of Humboldt Extraction Review Team), to the Corps for review to determine whether the excavation activity qualifies under this LOP procedure. CHERT, a team of riverine scientists, will help identify areas of concern and locations for cross-section monitoring. If the activity qualifies under the LOP procedure, it will be authorized for the duration of the LOP procedure. However, each permittee must also submit yearly monitoring data regarding extraction amounts, cross-sectional information, biological monitoring and aerial photos.

The Corps conducts a public interest evaluation and coordination meeting with the Environmental Protection Agency (EPA), National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), California Coastal Commission (CCC), California Department of Fish and Game (CDFG), and the California Regional Water Quality Control Board (RWQCB) to review new applications and yearly compliance data of previously authorized activities.

Should an agency or member of the public object to continuing an activity under an existing

authorization, based on evidence of non-compliance or evidence of more than minimal impacts, the Corps may suspend and/or revoke the existing authorization and require an individual permit unless the permittee can demonstrate compliance with the LOP, or reduce the future impacts of its operations to minimal impacts, and mitigate for past non-compliance.

The abbreviated general time line for the LOP process is stated below. Biological monitoring dates are listed in Appendix D.

- OCT 1            Gravel stockpiled on non Wild and Scenic river bars must be removed.
  
- OCT 15            Regrading must be completed for all gravel bars. All gravel extraction ceases on river bars, unless an approved river flow monitoring plan is enacted and a time extension granted.
  
- NOV 1-FEB 28    Plant mitigation areas. Post-extraction aerial photos are delivered to the Corps, CHERT and NOAA Fisheries.
  
- DEC 1            Post-extraction cross section data and biological monitoring data submitted to Corps and CHERT except biological monitoring data gathered in Nov and Dec.
  
- DEC 31            Mitigation monitoring reports due to Corps.  
                      Biological monitoring data gathered in Nov-Dec submitted to Corps and CHERT.

**GRAVEL EXTRACTION LIMITATIONS FOR 2003 MINING SEASON:**

Projects authorized under the modified LOP 96-1 procedure are subject to the following limitations. The limitations on gravel extraction for this modified LOP 96-1 have been expanded relative to those in the original LOP 96-1 to reflect new information and concerns of NOAA Fisheries. They also require closer coordination between the Corps, NOAA Fisheries, and CHERT in project review and approval. The Corps has the right to add or modify limitations as appropriate.

- 1. All applicants shall use the CHERT process for annual review and recommendations.**
  
- 2. Alternative extraction techniques shall be given deference over traditional skimming, which shall be minimized, in the Mad River, the Lower Eel River (from the mouth of the Van Duzen River downstream) and South Fork Eel River.**

In order to reduce the effects of gravel extraction on redd success and habitat quality and quantity, alternative extraction techniques will be considered first, in lieu of traditional skimming. In this context, extraction techniques will be considered in a hierarchy with alternative extraction techniques given primary consideration at each site. These alternative techniques include horseshoe extractions, alcoves, trenches and wetland pits. If site-specific geomorphic and biological conditions preclude the use of an alternative extraction technique, then narrow, crescent-shaped skims, for example, may be used as an alternative. Other

alternatives may be submitted provided they are consistent with reducing the impacts to spawning habitat and redds, and channel braiding and widening. Where traditional skimming is proposed on the above river reaches, documentation and rationale for this approach shall be provided that describes why alternative techniques were not suitable for the site, and how the proposal reduces impacts to spawning habitat and redds and channel braiding and widening.

Where appropriate, alternative extraction techniques, such as horseshoe extractions, alcoves, and wetland pits can each reduce the impacts to redds, and to areas with braided or wide and shallow conditions, that are associated with bar skimming.

*Horseshoe extractions:* In order for horseshoe extractions to reduce the effects of gravel extraction, they should occur on the part of the gravel bar that is downstream from the widest point of the bar, and they must be set back from the low flow channel by providing sufficient vertical offsets that will provide for the physical and ecological functions of bars over a range of flows that maintain bars, riffles and pools, and provide for infrequent inundation of the horseshoe area. Additionally, horseshoe shaped extractions shall not exceed approximately 1/3 the width of bars, nor penetrate the summer water table. The floor of horseshoe shaped extractions shall provide for uniform drainage. Side slopes shall not exceed 3 horizontal to 1 vertical and the head slope shall not exceed 6 horizontal to 1 vertical.

*Wetland pits:* In order to minimize the impacts to juvenile salmonids from wetland pits, cover must be provided at the edges of the wetland pit by vegetation, and by placing woody debris within the pit. The vegetative cover at the edges of the wetland pit may be natural and/or planted. The pre-extraction mining plan shall describe the cover that is, or will be, associated with the excavated wetland pit. In addition, the calculated flow inundation frequency of the surface that the wetland pit is located on shall be provided as part of the pre-extraction mining plan, or CHERT recommendation.

*Trenches:* In order to minimize the impacts to salmonids from trenches, vegetative cover must be provided within the trench in the form of placing woody debris within the excavated trench. The pre-extraction mining plan shall describe the cover that will be associated with the trench.

In-stream conditions may change annually and between sites. The extraction method that best reduces the effects of gravel extraction on spawning habitat and redds, and the extraction method that best reduces channel braiding and widening shall be used at each extraction site. The Corps shall forward each CHERT recommendation for the Mad River, the South Fork Eel River and the Lower Eel River to NOAA Fisheries for their review prior to authorization by the Corps. Each CHERT recommendation will describe how the extraction method(s) will reduce these effects, and it is expected that bar skimming will be infrequently recommended and authorized in spawning reaches, and braided, wide or unconfined reaches.

**3. Bar skimming shall not be used, rather alternative extraction designs shall be used in the lower 2 miles (3.6 km) of the Van Duzen River extraction reach**

Extraction techniques (i.e., bar skimming) that have contributed to the increased W/D ratio and,

by extension, poor salmonid habitat and migratory conditions found in the lower 2 miles of the Van Duzen River extraction reach shall not be used.

Alternative extraction techniques can be successfully used to minimize or avoid these impacts. Specifically, carefully designed in-channel trenching, alcoves, or wetland pits (described above) shall be used in lieu of skimming in order to avoid or minimize impacts of channel widening and migration blockage. These alternative measures will promote greater channel stability, reduced channel widening and reduced channel braiding.

In-stream conditions may change annually and between sites. The alternative extraction method that best reduces channel braiding, widening, and instability shall be used at each extraction site. To ensure that this occurs, the Corps shall forward each CHERT recommendation for the Van Duzen River to NOAA Fisheries prior to authorization by the Corps. Each recommendation will describe how the alternative extraction method will reduce the effects described above.

#### **4. Minimum head of bar buffer**

The upstream end of the bar (head of bar) shall not be mined or otherwise altered by the proposed action. The minimum head of the bar shall be defined as that portion of the bar that extends from at least the upper third of the bar to the upstream end of the bar that is exposed at summer low flow. Therefore, the upstream one-third portion of the bar as exposed at summer low flow is provided as the minimum head of bar buffer. The intent of the head of bar buffer is to provide protection of the natural stream flow steering effect provided by an undisturbed bar.

Some alternative extraction techniques, such as longer and much narrower skims adjacent to the low flow channel, have specific geomorphic objectives that may require extraction on a portion of the head of bar buffer. Variances to the minimum head of bar buffer may be considered on a case-by-case basis, if the proposed alternative provides equal or greater protection. NOAA Fisheries will inform the Corps and CHERT if a proposed variance does not comply with the terms of the Incidental Take Statement. The specific nature of the proposed variance must be described, along with sufficient biological, hydrological, and sediment transport rationale to support the recommended alternative. In addition, NOAA Fisheries may impose special requirements, including additional monitoring on approved variances to the minimum head of bar buffer to insure there is no take beyond what is allowed in the Incidental take statement of the biological opinion.

The head of bar buffer is applicable to point bars, but may also be applicable to mid-channel and alternate bars to achieve channel confinement and hydraulic control. When a different protection measure other than the minimum head of bar buffer is proposed for mid-channel and/or alternate bars, evidence will be provided to NOAA Fisheries that channel confinement and hydraulic control is provided for by the alternative protection measure.

**5. The minimum skim floor elevation shall be at the elevation of the top of the silt band, or at the elevation of the 35% exceedence flow.**

The requirement for the minimum skim floor elevation to be equivalent to the water surface elevation of the 35% exceedence flow may be phased-in during 2003. Due to the approximate correspondence of the top of the silt band and the elevation of the 35% exceedence flow, the top of the silt band, where available, may be used to set the minimum skim floor elevation as a surrogate for the elevation of the 35% exceedence flow in 2003. Further, the top of the silt band, if available, shall be surveyed at each site as part of the monitoring and extraction cross-sections in order to assess its applicability as an indicator of the 35% exceedence flow. Where the elevation of the 35% exceedence flow and the top of the silt band are unavailable, a two-foot vertical offset from the summer low flow will be used to set the minimum skim floor elevation.

To aid compliance with these setbacks the area of extraction shall be clearly flagged, painted with an environmentally benign paint, or staked. Excavated material shall be skimmed off the surface. Other methods of excavation, such as trenching, may be approved by the Corps, however, these alternative designs will be discussed with other resource agencies (e.g., NOAA Fisheries, CDFG) and CHERT prior to submitting the extraction plans in the spring.

In addition, the elevation at the top of the silt band shall be surveyed at the USGS streamflow gages used by operators to index flow and stage at mining sites. The gage height and estimated discharge rate (according to the most current USGS discharge rating curve) corresponding to the top of the silt band shall be provided to the Corps, NOAA Fisheries, and CHERT with the pre-extraction report. This will assist NOAA Fisheries in its assessment of using the top of the silt band as a surrogate for the water surface elevation that corresponds to the 35% exceedence flow.

**6. The timing of temporary channel crossing construction and removal, and the methods used to construct temporary channel crossings, shall minimize inputs of fine sediment into the wetted channel, and minimize impacts to spawning habitat**

Temporary channel crossings (bridges and culverts) have the potential to disrupt spawning and rearing habitat, cause turbidity and fine sediment deposition in the low flow channel. Therefore, size and number of temporary channel crossings (bridges, culverts) must be kept to a minimum, and the impacts associated with them must be minimized. All temporary channel crossings and associated fills must be identified and located in the submitted yearly, pre-extraction information. Although bridges will be used for most temporary channel crossings, requests for use of culverts will also be considered for special circumstances (e.g., small, secondary flowing channels). Information describing the need for culverts must be provided to NOAA Fisheries for review of salmonid impact minimization measures, and that culverts allow upstream and downstream fish passage for all life history stages. Other restrictions are described below.

*Design and construction:* All main channel crossings must be spanned to the maximum length practicable using either a flatcar or bridge span. If encroachment into the low flow channel is necessary to span the wetted channel then abutments shall be constructed from washed cobbles, brow logs, large concrete block, or other appropriate materials that can be placed and removed with minimal effects. Native gravel can be used if the bridge will completely span the wetted channel, native gravel would not enter the wetted channel, and all abutment materials will be removed from the site upon bridge removal. In order to minimize the turbidity associated with

excavating wet sediment, all wet excavated sediment must be stockpiled on the gravel bar away from the low flow channel and allowed to drain prior to hauling across the temporary channel crossing.

Heavy equipment passes across the wetted channel during temporary channel crossing construction and removal will be kept to an absolute minimum. The amount of time heavy equipment is in the wetted low-flow channel shall be minimized by limiting the number of heavy equipment crossings per each temporary channel crossing installation and removal. A maximum of two equipment passes across the channel per installation or removal shall be allowed, although one crossing is preferred when possible.

*Timing:* Temporary crossings shall be placed after June 15 only. All crossings and associated fills must be removed after excavation ceases, but before September 15 for the Mad River and before October 15 for all other rivers. The Corps shall provide NOAA Fisheries a copy of any request for a time extension for bridge construction or removal for their review before the time extension may be authorized by the Corps, due to the sensitivity of working directly within the wetted channel during the fall migration and spawning season of CC Chinook salmon. It is not expected that extensions will be granted if CC Chinook salmon adults have entered the extraction reach.

*Location:* Bridge locations shall avoid known spawning areas. Consideration shall be given to temporary channel crossings located at riffles in order to minimize impacts to spawning sites and juvenile salmonids. The middle of riffles may provide the best location for temporary crossings, but crossing location shall be determined on a site-specific basis. The proposed location, and reasoning used to determine how the crossing location minimizes effects to salmonids, shall be included in the CHERT recommendation.

#### **7. Total extraction for 2003 in the Mad River shall not exceed 150,000 cubic yards**

Sediment budget estimates for the Mad River vary, and an analysis of the cross-sectional information for the period between 1992 and 2002 is not available at this time. A study plan for the cross-section analysis of the 1992-2002 data will be developed by Humboldt County, and implemented as part of the update to the Mad River Programmatic Environmental Impact Review( PEIR). As the study will be part of the California Environmental Quality Act (CEQA) process, all stakeholders will be involved in study plan development and review. We expect that the study will take approximately 6 to 8 months to complete. The study may help to refine the sustained yield estimate for the Mad River, and the future maximum annual extraction volume may change.

#### **8. Operational conditions**

Temporary storage of excavated material may occur on the gravel bar, but must be removed by October 1. Temporary stockpiling of gravel on bars that are on rivers listed under the Wild and Scenic Rivers Act may occur during the active work week, Monday through Saturday, but must be removed on or before Saturday of each weekend. Work on gravel bars shall be limited to

Monday through Saturday, 7:00 a.m. to 6:00 p.m. Modifications to excavation procedures may be made to increase fisheries and wildlife habitat with Corps approval. Haul roads shall follow the shortest route possible while avoiding sensitive areas such as riparian vegetation, and shall be scarified after extraction is complete to prevent compaction of the gravel bar.

## **9. Vegetation and wetlands**

All riparian 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 2 inches diameter breast height (DBH) that is disturbed must be mitigated. Impacts to other woody vegetation must be described and submitted to the Corps and CHERT with the gravel extraction plans. These impacts may require mitigation at the discretion of the Corps. Impacted areas which must be mapped consists of riparian vegetation which have driplines within 25 feet of excavation activities (excavation, stockpiling, parking, etc.) or wetlands which are filled, excavated or drained. Mitigation for impacts to woody vegetation shall not be required for pre-existing haul roads, stockpile areas and facilities (See discussion under Required Mitigation).

## **10. Structure setbacks**

Gravel removal must remain a minimum distance of 500 feet from any structure (i.e. bridge, water intake, dam, etc.) in the river. For bridges, the minimum setback distance is the length of the bridge or 500 feet, whichever is greater. Gravel removal may encroach within this setback if approval is given by owners of these structures and approved by the Corps.

## **11. Regrading**

The project area must be regraded, if necessary, before the water levels rise in the rainy season and must be completed by October 15. Regrading includes filling in depressions, grading the construction/excavation site according to the approved configuration, leaving the area in a free-draining configuration (no depressions and sloping toward the low flow channel), and removing all temporary fills from the project area. Regrading may not be necessary if extraction operations leave the extraction area free of depressions and temporary fills and meet the approved mining configuration.

## **12. Timing of extraction**

Unless the letter of permission is specifically modified, gravel extraction shall cease by October 15, 2003. Regrading, if necessary, shall be completed prior to October 15<sup>th</sup>. Requests for an extension will be reviewed on a case by case basis. The applicant, however, must have regraded the site before an extension can be authorized. Requests for an extension must include an approved CDFG Stream Alteration Agreement (SAA) extension or exemption. The Corps will coordinate with CHERT and NOAA Fisheries before a decision is made on the time extension. Also note water crossing timing restrictions described above.

### **13. Wild and Scenic Rivers**

Sections of the Eel, Klamath, Trinity and Van Duzen rivers in Humboldt County are designated recreational and scenic. For a list of these recreational and scenic river sections see Appendix B.

### **14. Endangered Species**

All applicants shall submit, as part of the application, a written assessment by a qualified biologist describing the potential effects of the project on federally threatened, endangered, or proposed species under the Endangered Species Act. This assessment shall include, at a minimum, an account of habitat suitability within a 0.25 mile radius of the project site, and pertinent sighting information from available sources including, but not limited to, wildlife sighting databases maintained by the California Department of Fish and Game and U.S. Fish and Wildlife Service.

Permittees with operations on the main stem Eel River, downstream of the confluence with the South Fork Eel River, may affect the western snowy plover. After going through informal consultation with the USFWS, it has been determined that these projects are not likely to adversely affect the western snowy plover if operators follow the conditions of Appendix E. Operators with projects on the main stem Eel River, below the confluence with the South Fork Eel River, who intend to commence operations not in accordance to Appendix E shall notify the Corps so that it can initiate consultation with the USFWS in compliance with Section 7 of the Endangered Species Act.

### **15. Habitat Enhancement and Protection**

Occasionally, gravel extraction operators propose projects that entail gravel extraction with a focus on habitat enhancement. NOAA Fisheries shall advise the Corps on any requests for potential fisheries enhancement projects.

Large woody debris (LWD) deposited in the wetted channel and on floodplains and terraces by floods is an important component of aquatic and riparian habitat. However, it is common practice for LWD to be gathered by local residents for firewood and other uses. To reduce the adverse effects of this longstanding practice, educational signing regarding the importance of LWD for salmonids shall be placed at access roads owned, controlled, or utilized by the gravel operators. In addition, in order to protect LWD deposited on mined gravel bars, all access roads owned or controlled by gravel operators shall be gated and locked to reduce access. Operators should consult with NOAA Fisheries for suggestions on the wording and design of this signing.

### **16. Special conditions**

Additional special conditions may be added to the LOP on a case by case basis to minimize adverse impacts to the aquatic ecosystem and to the scenic and recreational values of the rivers listed in the Wild and Scenic Rivers Act.



## **LOCATION OF WORK:**

An LOP issued under the provisions of this procedure shall apply to work in waters of the United States, including navigable waters of the United States, within Humboldt County, California and also any projects that straddle the county lines.

## **AUTHORIZATION FROM OTHER AGENCIES:**

The permittee is responsible for obtaining any and all additional federal, state, tribal, or local permits that may be required, which include, but are not limited to:

1. **STATE WATER QUALITY CERTIFICATION:** California's Regional Water Quality Control Board's (RWQCB) certification is required for work within the state of California, except for work within the boundaries of a Federally recognized Indian Reservation (See #5 below). The State has adopted water quality standards including implementation measures which avoid and mitigate adverse impacts and prohibit discharges which pollute waters of the State. Gravel mining extraction activities authorized under this LOP procedure are activities for which the State has waived site specific prescriptive regulation so long as the activity complies with specific conditions and does not violate the standards. Since the RWQCB has waived prescription of waste discharge requirements, the State will take no further action on requests for "401 Certification" for activities that fall within the scope of the waiver. The State, however, retains full authority to enforce its standards.

The state of California has adopted general National Pollution Discharge Elimination System (NPDES) permits to cover those mining activities which must obtain permits to discharge stormwater associated with industrial activity - as defined in 40 CFR Section 122.26(b)(14). For information about NPDES requirements, applicants can contact the RWQCB, North Coast Region, at 5550 Skylane Boulevard, Suite A, Santa Rosa, CA 95403.

2. When streambed materials such as sand and gravel are to be disturbed or removed from waters in the state of California, the permittee must obtain a Stream Alteration Agreement from the CDFG, except when working within the boundaries of a Federally recognized Indian Reservation (See #5 below). The permittee can contact the CDFG at California Department of Fish and Game, Region 1, 601 Locust Street, Redding, California 96001.

3. All gravel and mining operations must either be permitted by or exempted by the California Department of Conservation Division of Mines and Geology's Lead Agency (Lead Agency), except for work within the boundaries of a Federally recognized Indian Reservation (See #5 below). The Lead Agency for Humboldt County is: Humboldt County Department of Community Services, 3015 H Street, Eureka, California 95501. Failure to provide proof of a conditional use permit, vested rights or exemption letter will preclude use of the LOP procedure.

4. Sand and gravel extraction and other development activities located within the Coastal Zone may require a Coastal Development Permit and a Coastal Zone Management Act

Consistency Concurrence from either the California Coastal Commission located at 45 Fremont Street, Suite 2000, San Francisco, California 94105-2219, or the County of Humboldt Planning and Building Department located at 3015 H Street, Eureka, California 95501.

5. Activities within the boundaries of a Federally recognized Indian Reservation need to obtain Water Quality Certification from the EPA or from the Indian Reservation (if it is authorized by the EPA to grant water quality certification). In addition, there may be other permits required by the Indian Reservation that are not listed here. The applicant shall contact the appropriate Indian Reservation for more information.

6. Activities that occur below the mean high water mark on tidal waterways and below the ordinary high water mark on non-tidal waterways may have to obtain easements from or pay fees to the California State Lands Commission (SLC). The SLC can be contacted at 100 Howe Avenue, Suite 100 South, Sacramento, California 95825-8202, or reached at (916) 574-1800.

#### **CONDITIONS OF THE LETTER OF PERMISSION:**

In addition to limitations discussed above, projects authorized by LOP are subject to the general conditions contained in Appendix A and any special conditions that may be added.

#### **APPLICATION PROCEDURES:**

Applications shall be divided into two categories based on quantity of material removed from the river basins. The two categories are: Class A projects: Projects which remove 5,000 cubic yards of material per year or more; and Class B projects: Projects which remove less than 5,000 cubic yards per year of material. All new projects (See #7 under General Restrictions on Page 3) must submit a notice of intent to mine gravel to the Corps, Eureka Field Office, by February 1 of that year.

Before mining, a pre-extraction report (mining proposal) must be submitted that contains information described below. Following completion of extraction, a post-extraction report must be submitted (also described below). Copies of all pre- and post-extraction information, including cross sections, aerial photos, and other information shall be provided to the Corps, NOAA Fisheries, and CHERT at about the same time. Once pre-extraction report has been submitted, a site review will be scheduled for all Class A operations. A mutually agreeable date shall be scheduled between CHERT, the Corps and NOAA Fisheries for site reviews, or a five working day notice of when the site review is scheduled to occur shall be provided to NOAA Fisheries.

At the discretion of the operator, a preliminary site review may be requested to discuss preferred mining alternatives before a pre-extraction report is prepared. This can often save costs of unnecessary surveying and plan preparation, as well as time, by narrowing the scope of mining design alternatives to one that is likely to meet the restrictions set forth herein. Should operators desire a preliminary review, a mutually agreeable date shall be scheduled between CHERT, the

Corps and NOAA Fisheries for site reviews, or a five working day notice of when the site review is scheduled to occur shall be provided to NOAA Fisheries.

In all cases an application for authorization of work under this LOP procedure must include a written description of the project, proposed work schedule, the address and telephone number of a point of contact who can be reached during working hours, an 8.5 by 11 inch vicinity map, and an 8.5 by 11 inch site or location map showing all the boundaries of all work to be done (maps and figures can also be on 11 by 17 inch paper). The information may be submitted on an Application for Department of the Army Permit form (ENG Form 4345) or in any other form which will clearly supply the information in a concise manner. In general, projects that remove more than 250,000 cubic yards per year will not be considered eligible for authorization under this permit. Projects will also be considered in relation to other extraction operations.

**I Class A Projects:** Projects that remove 5,000 cubic yards or more per year of material from the river basin. Project submittal must include a description of the project and at least the following information, unless modified by the Corps, on a yearly basis. :

I. A pre-extraction report shall be submitted to the Corps, CHERT, and NOAA Fisheries at least two weeks prior to excavation. Pre-extraction reports shall include:

A. Cross-section Surveys: Monitoring and Extraction cross-section surveys shall be done according to Appendix C (attached), unless modified by CHERT and approved by the Corps. Each year spring surveys shall be submitted to CHERT for review. Applicants shall submit gravel extraction plans meeting CHERT recommendations to the Corps for approval prior to commencing gravel extraction operations;

B. A Stream Alteration Agreement (SAA) or any extension signed by the CDFG, or a Riparian Protection and Surface Mining Permit signed by a Federally recognized Indian Reservation. Permits may be obtained concurrently with the Corps permit;

C. A pre-extraction vertical aerial photo of the location. Photos shall be taken the spring of each year and shall include the entire project reach (extraction zone reach of the project site and immediate upstream and downstream reaches within one half length of the extraction zone reach of the project, as measured along the thalweg (the bottom of the low-flow channel). Pre-extraction photos must be vertical photos at a scale of 1:6000 and shall diagram proposed extraction activities as described in Appendix C;

D. A mitigation report containing the mapped areas that are impacted (riparian vegetation and wetlands) and the mitigation proposed to minimize these impacts;

E. For new projects, the applicant must submit to the Corps and the consulting regulatory agencies participating in the March Meetings, by February 1 of the initial gravel mining year, copies of the environmental documentation required by the Lead Agency when requesting a conditional use permit, vested right or exemption. The

Corps may also require additional information.

II. A post-extraction report shall be submitted to the Corps, CHERT, and NOAA Fisheries by December 1 of each year. Post-extraction reports shall include:

A. A post-extraction survey, which shall be conducted following cessation of extraction and before alteration of the extraction area by flow following fall rains, preferably before October 15. Post-extraction reports shall include the amount and dimensions of material excavated from each area mined. See Appendix C for post-extraction requirements;

B. Stereoscopic photo coverage of the project reach. Photo coverage shall be taken in the low-flow periods and be at a scale no larger than 1:12000. Photos shall be taken from a fixed or vertical oriented (i.e. belly-mounted) camera. Stereoscopic photo coverage shall be taken in late September or early (first week) October;

C. A longitudinal profile view of the thalweg for the active channel line along the project reach based on the monitoring cross-sections and additional thalweg survey points taken at dominant riffle crests and pool bottoms;

D. The results of required biological monitoring information, as described in Appendix D (attached), are due Jan 1 of the following year.

**I Class B Projects:** Projects that remove less than 5,000 cubic yards per year of material from the river basin. Class B projects must be physically separated from other gravel operations to be considered separate projects. Projects cannot be located on the same gravel bar, or on the same parcel number as other projects, and be considered as separate projects. The Corps reserves the right to elevate a Class B project to Class A status.

Project submittal must also include a description of the project and at least the following information, unless modified by the Corps, on a yearly basis:

I. A pre-extraction report, submitted by May 15 of the gravel year, that includes:

A. A site map showing project and extraction area boundaries and cross sections on 8.5 by 11 inch or 11 by 17 inch paper. Drawings shall be labeled with approximate scale and quantities of material removed from the site. Plan views must also map any known salmonid spawning sites;

B. A minimum of one monitoring cross-section and five extraction cross-sections per extraction site (See Appendix C for cross-section details);

C. A copy of the SAA signed by the CDFG, or a Riparian Protection and Surface Mining Permit signed by the Federally recognized Indian Reservation. Permits may be obtained concurrently with the Corps permit;

D. Photos of the mining area before excavation. The point(s) from which the photos are taken shall be shown on a site map along with the direction of the photos.

E. Mapping and description, including size, species and number, of any riparian vegetation that will be removed, cut, or within 25 feet of excavation, stockpiling or trafficking of gravel and any wetland that will be impacted. Also included in submittal shall be a mitigation plan to minimize any unavoidable impacts.

II. A post project report, due by December 1 of extraction year, which shall include:

A. Post-extraction data for extraction and monitoring cross-sections according to Appendix C.

B. Photos of the mining area after excavation. Photos shall be taken from the same location as pre-project photos and be of similar coverage, quality and scale.

### **REQUIRED MITIGATION:**

Each permittee shall mitigate impacts to wetlands and riparian zones in the following manner: avoidance of the impact; minimization of the impact, rectifying the impact, reducing or eliminating the impact over time, and finally compensating for impacts. For all unavoidable impacts a mitigation plan shall be submitted with applications for all projects that will adversely affect wetlands and riparian vegetation. Mitigation must consider the size and age of the vegetation removed or adversely impacted. All vegetative mitigation must be planted between November 1 and February 28 of the year following excavation and must have an approved survival rate over three growing seasons. Failure to obtain a three-year survival rate shall require replanting. Annual reports depicting the survival of vegetation shall be due by Dec. 31 each year for three growing seasons after planting year.

### **SITE VISITS:**

Site visits will be conducted before and after gravel extraction operations at all Class A operations. Additional site visits can be made upon request by the operator or when otherwise deemed necessary by the Corps, NOAA Fisheries, CHERT, or other participating agencies. Pre-extraction visits will be done as part of the review and approval process. Post-extraction visits will be as soon as possible following completion of operations **and** prior to site inundation by rising river stages in the fall. To help ensure this occurs in a timely manner, project owners must notify the Corps, NOAA Fisheries, and CHERT by email, phone, or fax within two business days of project completion.

### **SUBMITTALS:**

Project submittals (pre-extraction and post-extraction) should be mailed to the following agency representatives (note that you may also be required to mail submittals to other agencies, such as

Humboldt County, Calif. Dept. of Fish and Game, Calif. Coastal Comm., Calif. State Land Comm., US Fish and Wildlife Service, etc.):

U.S. Army Corps of Engineers  
Regulatory Branch, Eureka Field Office  
P.O. Box 4863, Eureka, California 95502  
Attention: Mr. Kelly Reid

National Marine Fisheries Service  
Arcata Field Office  
1655 Heindon Road  
Arcata, CA 95521  
Attention: Ms. Irma Lagomarsino

Dr. Douglas Jager, CHERT  
349 Stagecoach Road  
Trinidad, CA 95570

If you have any questions you can telephone the Corps' Eureka Office at (707) 443-0855 or send an email to: [Kelley.Reid@spd02.usace.army.mil](mailto:Kelley.Reid@spd02.usace.army.mil)

Work may not proceed until the District Engineer has issued an LOP. For projects which have obtained the LOP, the activity may not begin each year until a confirmation letter (Letter of Modification, or LOM) has been issued by the Corps. The Corps will attach the NOAA Fisheries Incidental Take Statement (ITS) to all LOMs issued the modified LOP 96-1 procedure to aid in compliance with terms and conditions by the applicants.

It is the applicant's responsibility to insure that the authorized project meets the terms and conditions set forth herein; failure to abide by them will constitute a violation of the Clean Water Act and/or the Rivers and Harbors Act of 1899.

The Corps is responsible for determining compliance with this LOP. The Corps may take actions to rectify projects which are not in compliance. These actions may include, but are not limited to, the following:

- A. Permit revocation.
- B. Permit suspension.
- C. Project and habitat site restoration.
- D. Reduction of authorized gravel extraction amounts per year.

No authorization will be granted under a LOP for any excavation or grading that is for the primary purpose of river engineering, channel or river capture, channel realignment or for a project that is likely to result in the above, unless approved by the Corps. Projects outside the scope of this LOP will be considered for authorization by individual permit.

This permit shall become effective on the date of the signature of the District Engineer, or his authorized representative, and will automatically expire on December 31, 2003, unless the permit is modified, revoked, or extended before that date. Activities authorized under this permit that have commenced (i.e. are under operation), or are under contract to commence in reliance on this permit, will remain authorized provided the activity is completed within twelve months of the expiration, modification, or revocation of the permit, unless discretionary authority has been exercised by the Corps on a case-by-case basis to modify, suspend, or revoke the authorization. Prior to expiration, a public notice seeking public comment will be reissued within five years from the date of signature of this LOP procedure. The public notice will supply a summary of past actions and may also seek reauthorization of the this LOP procedure.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:  
FOR THE DISTRICT ENGINEER:

*Calvin C. Fong* for Sept. 2, 2003  
Michael McCormick  
Lieutenant Colonel, Corps of Engineers  
District Engineer

## APPENDIX A

### CONDITIONS OF LETTERS OF PERMISSION ISSUED UNDER "Gravel Mining and Excavation Activities in Humboldt County"

#### GENERAL CONDITIONS:

1. The Department of the Army has relied in part on the information provided by the permittee. If, subsequent to issuing this permit, such information proves to be false, incomplete, or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part.
2. Permittees whose projects are authorized by this LOP shall comply with all terms and conditions herein. Failure to abide by such conditions invalidates the authorization and may result in a violation of the law, requiring restoration of the site or other remedial action.
3. An LOP should not be considered as an approval of the design features of any authorized project or an implication that such is considered adequate for the purpose intended. A Department of the Army permit merely expresses the consent of the Federal Government to the proposed work insofar as public rights are concerned. This permit does not authorize any damage to private property, invasion of private rights, or any infringement of federal, state or local laws or regulations. Nor does it relieve the permittee from the requirement to obtain a local permit from the jurisdiction within which the project is located and to address all non-encroachment restrictions within a floodway of such local jurisdiction as identified by the Federal Emergency Management Agency.
4. This LOP procedure may be modified or suspended in whole or in part if it is determined that the individual or cumulative impacts of work that would be authorized using this procedure are contrary to the public interest. The authorization for individual projects may also be summarily modified, suspended, or revoked, in whole or in part, upon a finding by the District Engineer that immediate suspension of the project would be in the public interest.
5. Any modification, suspension or revocation of the District Engineer's authorization shall not be the basis for any claim for damages against the United States.
6. This permit does not authorize the interference with any existing or proposed Federal project, and the permittee shall not be entitled to compensation for damage or injury to the structures or activities authorized herein which may result from existing or future operations undertaken by the United States in the public interest.
7. No attempt shall be made by the permittee to prevent the full and free public use of all navigable waters of the United States, at or adjacent to the project authorized herein.
8. There shall be no unreasonable interference with navigation by the existence or use of the permanent and temporary structures authorized herein.



9. The permittee shall make every reasonable effort to conduct the activities authorized herein in a manner that will minimize any adverse impact of the work on water quality, fish and wildlife, and the natural environment, including adverse impacts to migratory waterfowl breeding areas, spawning areas, and riparian areas.
10. The permittee shall allow the District Engineer and his authorized representative(s) to make periodic inspections at any time deemed necessary to assure that the activity being performed under this authorization is in accordance with the terms and conditions prescribed herein.
11. The impact of activities authorized by LOP using this procedure on cultural resources listed, or eligible for listing, in the National Register of Historic Places (NRHP), shall be taken into account by the U.S. Army Corps of Engineers (Corps) prior to the initiation of work. If previously unknown cultural resources are encountered during work authorized by this permit, the San Francisco District shall be notified and the sites avoided until the Corps can assess their eligibility for listing in the NRHP. Sites determined to be eligible for listing in the NRHP shall require consultation between the Corps and the State Historic Preservation Office and/or the Advisory Council on Historic Places. Cultural resources include prehistoric and historic archeological sites, and areas or structures of cultural interest which occur in the permit area.
12. All temporary fills within waters of the U.S. shall be removed in their entirety.
13. All extraction activities in the vicinity of federal projects shall be coordinated for required setback distances with the Corps office prior to application for a permit.
14. Heavy equipment working in wetlands shall be placed on mats, or other measures shall be taken to minimize disturbances to soil.
15. No authorization will be granted under this LOP procedure for any activity that is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Endangered Species Act, or that is likely to destroy or adversely modify the critical habitat of such species. Permittees shall notify the District Engineer if any listed species, proposed species or critical habitat might be affected by, or is in the vicinity of, the project, and shall not begin work until notified by the District Engineer that the requirements of the Endangered Species Act have been satisfied and that the activity is authorized.
16. The project shall not significantly disrupt the movement of those species of aquatic life indigenous to the water body or those species that normally migrate through the project area.

**APPENDIX B**

**WILD AND SCENIC RIVER SECTIONS  
IN HUMBOLDT COUNTY, CA**

Waterway: section	River Value
Eel River: Humboldt County Line to the Pacific Ocean	Recreational
South Fork Eel: Humboldt County Line to the confluence with the Eel River	Recreational
Klamath River: Humboldt County Line to the Pacific Ocean	Recreational
Trinity River: Confluence with South Fork Trinity River to west boundary of Section 2 T8N R4E	Recreational
Trinity River: West boundary Sect. 2 T8N R4E to confluence of Klamath River	Scenic
South Fork Trinity: Humboldt County line to Todd Ranch in Sect. 18 T5N R5E	Wild
South Fork Trinity: Todd Ranch in Sect. 18 T5N R5E to confluence of Trinity River	Scenic
Van Duzen River: From Dinsmore Bridge to power line crossing above Little Larabee Creek	Scenic
Van Duzen River: From the power line crossing above Little Larabee Creek to the confluence with the Eel River	Recreational

## APPENDIX C

### PHYSICAL MONITORING AND SUBMITTAL PREPARATION GUIDELINES FOR GRAVEL EXTRACTION IN HUMBOLDT COUNTY

Ground surveys and aerial photography provide the primary basis for physical monitoring of extraction areas in Humboldt County. They are also essential for project planning, proposal preparation, field reviews, project modification, and compliance verification. Although technological advancements in recent years have lowered the costs and increased the accuracy of digital terrain modeling (DTM), the more conventional cross section surveys are still in common use by Humboldt County's mining industry. Consequently, the guidelines below focus on conventional cross section surveys. However, use of DTM-based monitoring information is encouraged and should provide much of the same information (e.g., elevations of the water surface, top of silt band, etc.) mentioned below.

Monitoring cross-sections are permanent, monumented cross sections whose purpose is to document yearly and long-term changes in river channel elevation and morphology at extraction sites and adjacent reaches. They also aid in extraction planning, field reviews, and, in some cases, estimation of volumes extracted.

Extraction zone cross-sections are temporary, seasonal cross-sections used for the planning an extraction, for estimation of the actual volume extracted, and for evaluating compliance with approved gravel plans. The extraction zone is the total area that will be extracted and/or graded as a result of gravel extraction activities.

Cross-sections, maps, and associated calculations (such as replenishment and extraction volumes) must be prepared by or under the direction of a State of California Licensed Land Surveyor or an authorized Professional Engineer and certified as to content and accuracy.

The guidelines below were modified from those in the original LOP 96-1. Additionally, NOAA Fisheries shall receive copies of all electronic cross sections.

#### **I. Standards for Monitoring Cross-Sections**

A. Number and layout of required cross sections for an extraction project to follow the guidelines below. Please consult with CHERT for assistance or clarification as needed.

1. A hypothetical center line for the 'frequently scoured' river channel, measured equidistant from both banks and delineating the zone of frequent bedload movement (annual scour and deposition) must first be established to determine the high flow channel direction and the along-channel length of the project reach. This zone is typically devoid of large trees and excludes low floodplains and terraces

2. If the radius of curvature is less than ten times larger than the average frequently scoured channel width of the project reach, the reach is considered a bend. If the radius of curvature is more than ten times larger than the average actively scoured channel width of the project reach, the reach is considered straight.

3. Cross-sections shall be oriented perpendicular to the center line.

4. Cross-sections shall be no more than 400 feet apart on bends and 500 feet apart in straight reaches. If the length of the project reach is not evenly divisible by 400 or 500 feet, the number of cross-sections should be rounded to the next larger number. Longer distances between cross sections or abandonment and replacement of cross sections may be allowed on a case-by-case basis.

5. The first cross-section shall extend across the channel at the upstream limit of the project reach (entire project site); the last cross-section shall extend across the channel at the downstream limit of the project reach.

B. Cross-sections must extend completely across the river channel (so as to include all actively scoured channel width) and to terminate on the 100-year floodplain or equivalent surface.

C. Two bench marks (permanent monuments) shall be established for each bar above the watercourse's active banks and in positions such that they will not be eroded away by all but the most destructive flood events. Bench marks to be tied to a common vertical and horizontal control datum, the 1988 North American Vertical Datum (NAVD88) and to the 1983 North American Datum (NAD), among all extraction sites.

D. Cross-sections to be tied to a common vertical and horizontal control datum among all extraction sites. This is specified as the 1988 North American Vertical Datum (NAVD) and 1983 North American Datum (NAD) elevation for sea level.

E. Cross-section endpoints and benchmarks shall be clearly monumented and labeled in the field and accurately located on current air photos and maps. A common color of flagging, or environmentally benign painting to be used to mark cross-sections at all sites.

F. Cross-section endpoints must be placed far enough away from eroding banks that they will not be removed by relatively frequent flows (e.g., by floods smaller than the 10-year event).

G. Cross-sections must be resurveyed from the same endpoints each year. New cross-sections may be added as necessary (e.g., major shifts in the river's course) and should be oriented approximately normal to the channel center line.

H. Pre-extraction cross-section surveys need only include those portions of each cross-section inundated by the previous winter's highest flow, but plots must include accurate representations of all ground topography between endpoints and clearly label where older (previous survey) data are used. This is included as a cost saving measure for areas where it is clear no scour or deposition has occurred since the previous survey.

I. If the cross-section becomes inundated by late-season high flows after the pre-extraction survey is completed, the cross-section must be resurveyed (at a minimum, the inundated portions, as described above).

J. All monitoring cross-sections should be surveyed each spring, regardless of whether extraction took place in them in the previous year. If flow conditions make below-water portions of the cross section unsafe to survey, those sections may be completed later in the year as conditions allow, but prior to fall rains.

K. Post-extraction surveys need only be resurveyed through those portions of the cross-section altered by extraction, temporary stockpiles, road construction, or other types of ground disturbance.

L. Stake or spray paint the following points on the ground in each cross-section at time of survey (to facilitate the CHERT relating the cross-section at time of survey to the ground during field review):

1. water's edge on both sides of river; or if this is not practicable (e.g., steep, unstable slope), stake at 10 ft offset (measured along ground surface) from water's edge. Position of stake to be included in survey.

2. the top of the silt band, if visible.
3. the 35% flow exceedence level, if available.
4. on both sides of river, one hub (2 inch by 2 inch wooden stake), painted brightly and labeled, shall be driven in nearly flush with the ground at the survey point closest to midway between water's edge and cross-section endpoint. Exception: this is not required if it would put the stake in a steep, unstable bank.
5. Stakes should be labeled with cross-section and station number (horizontal distance from left end point).

M. Maximum distance between any two elevational points along a cross-section shall be 50 feet, including wetted portion. Exception: if ground outside wetted channel is essentially level for a distance of 500 feet, distance between points can be increased to 100 feet. All obvious breaks in slope must still be included.

N. Net cross-sectional area change pre-extraction to post-extraction (gravel removal), or post-extraction to next year's pre-extraction (replenishment), as appropriate, should be calculated for each cross-section and presented in tabular form. Measurements and calculations should be included.

O. The survey data for each cross section should be provided to the CHERT on a 3.5" diskette, 'zip' disk, or CD as a digital file in ascii text format (alphanumeric, tab-delimited). A paper printout of the data should also be supplied. The data should be grouped by cross-section and organized from L bank to R bank, using the format below:

<i>XS 20+78, Smith Bar, Duke Ready Mix Site, Big River</i>			
Point No.	Horizontal Distance	Elevation	Description
1	0	154.9	Ground at LB rebar
2	45.3	149.3	BIS (break in slope)
3	73.3	147.1	Top scarp
4	79.1	142.6	Base scarp
etc.	etc.	etc.	etc.

P. Monitoring cross-sections to be used for planning/designing extractions should be surveyed at least several weeks prior to the desired beginning date of operations to allow sufficient time for the review and approval process. Cross-sections following mining (including any parts of cross sections not surveyed pre-mining due to unsafe flow conditions and parts of cross sections affected by mining operations) are to be surveyed and submitted with the other post-extraction materials as soon as practicable after mining ends, and definitely before winter high flows occur.

## **II. Standards for Extraction Zone Cross-Sections**

A. Number and layout of extraction cross sections for an extraction project to follow the guidelines below:

1. A hypothetical center line for the proposed extraction, located equidistant from both edges of the extraction zone and extending down its long axis must be established.
2. A minimum of 5 equally-spaced extraction cross-sections to be surveyed in each extraction zone or

area.

3. Cross-sections shall be oriented perpendicular to the extraction center line.

B. Extraction cross-sections to be surveyed prior to extraction, and used to design extraction, calculate extraction volume, and review extraction proposals.

C. Extraction cross-sections to be resurveyed after extraction is complete. Extraction cross-sections need not be resurveyed in subsequent years.

D. Extraction cross-sections require temporary (seasonal) monuments at each end, such as stakes or rebar, which can be relocated after extraction is complete.

E. Extraction cross-sections should be clearly staked and marked on the ground so that the CHERT can readily locate them in the field.

### III. Preparation of Cross-Sections Plots

All Cross-Sections shall be prepared according to the following criteria:

A. Plots should denote the position and elevation (to the nearest 0.1 foot) of the following points:

1. end points and hubs
2. the top of the silt band adjacent to the low flow channel, if visible
3. the 35% flow exceedence level, if available.
4. the water's edge at time of survey
5. edge of vegetation stands
6. any other features useful for field orientation and review.

B. Cross-sections at all sites to be plotted at the same simple, usable vertical and horizontal scales and . All cross-sections must have a vertical exaggeration of 10. Scales to use for cross-sections are as follows:

<u>Cross Section Width</u>	<u>Paper Size</u>	<u>Horizontal Scale</u>
≤ 500 ft.	8 ½" x 11"	1 in. = 100 ft.
500 ft. - 1200 ft.	8 ½" x 14"	1 in. = 100 ft.
≥ 1200 ft. - 1600 ft.	8 ½" x 14" or 11" x 17"	1 in. = 100 ft.
≥ 1600 ft.	8 ½" x 14" or 11" x 17"	1 in. = 100 ft.

C. Cross-sections can be cut and stacked so that whole cross-sections can be placed on one page. Cross-sections that are cut and stacked must be consistently presented each year.

D. Cross-sections to be surveyed and drafted consistently so that the right bank (RB) of the river as you face downstream is at the right side of the drafted cross-section. Zero (0) distance in cross-sections to be at the left (LB) endpoint as you face downstream.

E. Cross sections to be plotted on gridded paper, where the grid logically corresponds to the scale at which

the cross-section is plotted. We suggest a grid of 10 squares to the inch. Grid to be visible in the reproduced paper copies provided to the CHERT.

- F. Cross sections to have clearly labeled vertical and horizontal axes. Each cross section should have its own horizontal axis to facilitate measurement of distances (rather than a single set of axis labels at bottom of page). Each cross-section should have its origin on a heavy grid line.
- G. Any vertical or horizontal datum or endpoint changes should be clearly noted along with the length and direction of change(s) on the cross section plots.

H. All monitoring cross sections shall also include:

1. Where discernible, elevation and position of high-water marks for previous winter's flow (floodmarks); these should be consistently determined among cross-sections.

2. Water-surface elevation and location (both banks) at time of survey

3. Cross-sections to include the river bottom (especially location of the thalweg) as well as the water surface. Water surface elevation alone is insufficient; the bed must be included.

4. Elevation and location of top of silt band ("bathtub ring") if visible at time of survey

5. Location of major vegetation breaks, e.g., edge of willows or riparian forest

6. Water discharge at time of survey (from nearest USGS gage) to be shown in cross-section legend.

7. Floodmarks, top of silt band, water's edge, monuments, CHERT reference stakes should all be clearly labeled in the cross-section and their elevations indicated.

8. Spring cross-section data all monitoring cross-sections shall include the current year's spring cross-section overlain on the previous year's spring and fall (if any) cross-sections. The area of actual extraction should be lightly shaded or hatched. Water-surface should be shown with a dotted line, and its date clearly indicated.

9. For pre-extraction survey, total volume change since the previous year's post-extraction survey (i.e., replenishment) should be calculated using double end-area or computer generated digital terrain models. All measurements and calculations should be included and verified by a California Licensed Land Surveyor or appropriately authorized engineer.

10. For post extraction cross-section data, all monitoring cross-sections which overlap the extraction area shall include the current year's post extraction cross section data overlain on the current year's pre-extraction cross-section data and the previous year's post extraction cross-section data and the original prescription recommended by the CHERT. The post-extraction cross-section should be shown with a solid line, the pre-extraction with a dashed line. The actual area of extraction should be lightly shaded or hatched.

I. All Extraction Cross-Sections shall also include:

1. Spring extraction cross-sections shall include the pre-mining cross-section data overlain onto the proposed mining configuration. The proposed area of extraction should be lightly shaded or hatched. Should changes be required for project approval, extraction cross sections shall be re-submitted with the approved mining configuration replacing the proposed configuration prior to commencement of mining.

2. Post extraction cross-sections shall include the post-mining cross-section data overlain on the previous year's post extraction (if any) and the current year's pre extraction cross-section data and the approved mining configuration. The actual area of extraction should be lightly shaded or hatched.

3. All plotted configurations should be clearly distinguishable from one another and clearly labeled.
4. The net cross-sectional area change pre-extraction to post-extraction should be calculated for each cross-section. Total volume extracted should be computed, using double end area or computer generated digital terrain models. All measurements and calculations should be included in tabular form and verified by a California Licensed Land Surveyor or appropriately authorized engineer.

#### **IV. Preparation of Maps**

A. All pre-extraction site maps are to be prepared on a color air photo of good quality from current year (see exception below). Site maps should show the entire project area, the proposed extraction area, and other pertinent features at a scale of approximately 1:6000 (1 in = 500 ft). This may require reduction or enlargement of original air photos.

B. Pre-extraction photos should be taken when the river is low enough to see the channel. Earlier photos may be used for preliminary planning so long as they reasonably reflect current conditions, but a current set is required for final project approval.

C. All monitoring and extraction cross-sections should be accurately located and labeled on the site map. In particular, the end points of each cross-section must be located as close as possible to their true positions.

D. The horizontal limits of both the approved and actual extraction areas (if they are different) should be accurately shown on a site map included with the post-extraction submittal, along with cross section as described above. Only current year air photos shall be used for post-extraction submittals.



## APPENDIX D

### BIOLOGICAL MONITORING REQUIREMENTS FOR GRAVEL EXTRACTION IN HUMBOLDT COUNTY, CA

The purpose of the biological monitoring is to identify adverse impacts that can be avoided, minimized and mitigate by mapping important resources such as fish habitat and riparian vegetation. This monitoring plan is not a river management plan but part of the Corps regulatory requirements to ensure protection of the aquatic ecosystem.

Each applicant will study his/her project reach which shall include the gravel extraction reach (or zone) and distances upstream and downstream of the gravel extraction area equal to half the gravel extraction reach. Modifications to the project reach may be made by the Corps for projects in close proximity to other gravel operators, and for projects that span large distances with relatively small excavations.

Each Class A applicant shall submit the following biological monitoring data to be obtained by a qualified biologist. Each applicant is responsible for ensuring that all data submitted are accurate and obtained by qualified individuals. Failure to employ qualified individuals may require resurveying, and or suspension of the permit.

#### A. Vegetation

1. All vegetation in each project reach was mapped, at a scale of 1 inch = 500 feet, during the 1996 year or first year of operations for riparian and wetland vegetation and formatted to be consistent to the USFWS National Wetlands Inventory methodology. Mapping of changes in vegetation were required once each year under LOP 96-1. This schedule shall continue under the modified LOP 96-1. Yearly summaries in vegetation changes in age structure and areal coverage can be supplied using stereoscopic aerial photos. Vegetation mapped shall extend a minimum of 100 feet from the top of the banks of the watercourse, or until a change in land use or paved road is found.

#### B. Anadromous Fish

The Corps, the applicants, CHERT and NOAA Fisheries will develop an extraction reach-specific monitoring plan by August 30, 2003, which will replace the anadromous fish monitoring requirements of the modified LOP 96-1 procedure. The monitoring plan will be reviewed by NOAA Fisheries and approved by the Corps prior to implementation. In the interim, the following biological monitoring will be required.

*Wetland Pits:* Snorkel surveys of wetland pits, by a qualified fisheries biologist, shall be required to monitor and assess juvenile stranding after high flows that inundate the wetland pit have receded. Wetland pits shall each be surveyed for stranded juvenile salmonids as soon as winter flows have receded, if the winter flow inundated the wetland pit. During the summer

season the wetland pit will be re-surveyed if stranded juvenile salmonids were previously found in order to assess survival. In addition, a monitoring plan that assesses salmonid stranding, which includes a fish rescue plan, if it is needed, shall be submitted as part of the pre-extraction mining plan when wetland pits are used as the extraction methodology.

*Trenching:* A monitoring plan that assesses salmonid stranding, which includes a fish rescue plan, if it is needed, shall be submitted as part of the pre-extraction mining plan when trenching is used as the extraction methodology.

#### C. Amphibians

Each project reach shall be surveyed once in early June, August and October to determine the presence or absence of foothill yellow-legged frogs, northern red-legged frogs, and bullfrogs. Surveys will focus on the ponded areas within the floodplain as well as shallow, slow moving water along the river's edges. During the tri-yearly surveys, all suitable habitat shall be investigated and delineated on appropriate aerial photos. Data recorded will include water temperatures taken during the survey, and number of sightings of adult, juveniles, egg masses and tadpoles seen. Visual inspections shall include scans of the stream banks and rivers' edges for egg masses, tadpoles, and adults. If adults are present, the surveyor shall note any adverse affects of the operations on amphibians.

#### D. Birds

Any gravel operation that begins in the spring (March, April or May) may adversely affect nesting and brooding activities of avian species. Monitoring of avian species to determine use of riparian areas and gravel bars according to sex, age, and breeding status may be required of any operator that commences gravel extraction before June 1. Monitoring shall include point counts and mist netting and shall be approved by CDFG and USFWS personnel.

Monitoring and impact avoidance requirements for the Western Snowy Plover are provided in Appendix E.

#### E. Mammals and Pond Turtles

No surveys shall be required for mammals and pond turtles, however, anecdotal information shall be recorded during other surveys and shall be submitted to the Corps.

## APPENDIX E

### WESTERN SNOWY PLOVER OPERATING REQUIREMENTS FOR PROJECTS LOCATED ON THE EEL RIVER BELOW THE CONFLUENCE OF THE SOUTH FORK EEL RIVER NEEDED FOR A “NOT LIKELY TO ADVERSELY AFFECT” DETERMINATION

Projects located on the Eel River, downstream from the confluence of the South Fork Eel River, are not likely to adversely affect the western snowy plover if:

1. Gravel extraction commences after September 15; or
2. Gravel extraction commences on or after August 16, and an USFWS approved biologist has surveyed the entire gravel bar, on or after August 16th, and not found western snowy plover nests and/or chicks; or
3. Gravel extraction commences on or after August 16, where a USFWS approved biologist has surveyed the entire gravel bar, on or after August 16th, found western snowy plover nests and/or chicks, and the operator:
  - a. has the bar surveyed each morning, by an USFWS approved biologist, to locate the discovered nests and/or chicks prior to gravel extraction; and
  - b. maintains a 300 meter buffer between the nests and/or chicks morning location and operations; and
  - c. halts operations the first day no nests or chicks are found on the bar; and
  - d. continues surveying for two more consecutive days to locate chicks. Surveys can stop on the third consecutive day of not finding chicks. Gravel extraction operations, however, can resume on the second consecutive day.