

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

FOR A

Master Agreement for Timber Operations

AND A

**Road Management Waste Discharge
Requirements**

FOR

**Green Diamond Resource Company
Northern California Timberlands**

MAY 10, 2010

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Initial Study/Mitigated Negative Declaration

May 10, 2010

- 1. Project Title:** Master Agreement for Timber Operations (MATO or "Agreement") and Road Management Waste Discharge Requirements (RMWDRs) for Green Diamond Resource Company's Northern California Timberlands
- 2. Lead Agency Name and Address:** California Department of Fish and Game
601 Locust Street
Redding, CA 96001
- 3. Contact Person and Phone Number:** William Condon
Senior Environmental Scientist
Department of Fish and Game
707-441-2064
- 4. Project Location:** Green Diamond's commercial timberlands in portions of Del Norte, Humboldt and Trinity counties in northern California
- 5. Project Sponsor's Name and Address:** Green Diamond Resource Company
P.O. Box 68
Korbel, CA 95550-0068
- 6. General Plan Designation(s):** Various.
- 7. Zoning Designation(s):** Various. Mostly Timberland Production Zone (TPZ)

8. Project Description

8.1 Project Overview

This Initial Study/Mitigated Negative Declaration (IS/MND) analyzes the potential environmental effects of management and conservation activities that Green Diamond Resource Company (Green Diamond) proposes to undertake on its timberland ownership pursuant to programmatic authorizations by the California Department of Fish and Game (Department) and the North Coast Regional Water Quality Control Board (NCRWQCB). These activities include road construction, repair and maintenance, upgrading, decommissioning and instream restoration. Green Diamond seeks approval of this Project to allow Green Diamond to fully implement the conservation measures required by its Aquatic Habitat Conservation Plan (AHCP) and the terms and conditions of the associated federal Incidental Take Permit (ITP) previously approved by the National Marine Fisheries Service on June 12, 2007.¹ To the extent that the AHCP measures could substantially affect aquatic resources and water quality, they require Department and NCRWQCB agreement and authorization.

Under California Environmental Quality Act (CEQA) Guidelines Section 15378, the term "Project" refers to the whole activity which is being approved and which may be subject to several discretionary approvals by governmental agencies. The term "Project" does not mean each separate governmental approval. Accordingly, the Project for CEQA purposes encompasses all the State permits and approvals necessary for Green Diamond to implement the requirements of its AHCP that pertain to road construction, maintenance and repair, decommissioning and upgrading. Green Diamond's objectives are to obtain a Master Agreement for Timber Operations (MATO or "Agreement") with the Department (for a term of 50 years) and Road Management Waste Discharge Requirements (RMWDRs) from the NCRWQCB to address the requirements of California Fish and Game Code (FGC) Section 1600 *et seq.* and the California Water Code that may apply to the AHCP Road Implementation Plan and the Road Maintenance and Inspection Program.

The Department has determined that FGC Section 1600 *et seq.* applies to road construction and maintenance activities near stream crossings. It is unlawful for any person or entity to substantially divert or obstruct the natural flow, or substantially change the bed, channel, or bank of any river, stream, or lake and to use any material from the streambeds, without the person or entity first notifying the Department of that activity and, if that activity may substantially and adversely affect an existing fish or wildlife resource, enter into a streambed alteration agreement with the Department.

Due to the scope of activities necessary in the course of managing the complexities of Green Diamond's operations, including the commitments of the AHCP, Green Diamond and the Department have determined that it is mutually beneficial to enter into an Agreement. Under the Agreement (see Appendix A), all planned projects requiring notification pursuant to FGC Section 1602 would be covered, including: bank stabilization; obstruction (natural and unnatural) and sediment removal; vegetation removal; crossing maintenance; road upgrading and decommissioning; water drafting; maintenance of water diversion sites; deposit or disposal of materials; installation of new instream facilities; and biological surveys and relocation of species. These activities would be performed as specified under the limitations and measures listed in Section 11

¹ The Department issued a Consistency Determination (CD) on the federal ITP on March 24, 2008, in which the Department determined that the ITP, with additional minimization and mitigations measures contained in the Minor Modification to the biological opinion, was consistent with the California Endangered Species Act (CESA) for incidental take of coho salmon.

of the Agreement, “Conditions Necessary for Protection of Fish and Wildlife Resources from Impacts of Authorized Activities Subject to this Agreement (Conditions).”

Similarly, in consultation with NCRWQCB representatives, Green Diamond determined that it would be preferable to obtain programmatic coverage for its road-related activities that could result in regulated discharges of sediment to waters of the State, rather than applying for such coverage on a project-by-project basis.

8.2 Authority and Reference

Pursuant to Public Resources Code (PRC) Section 21080 of CEQA, this IS/MND has been prepared to evaluate the potential impacts to resources resulting from alterations to the bed, bank, and/or channel of streams and diversion of water from streams over which the Department has jurisdiction, as well as potential impacts on water quality and beneficial uses. This IS/MND documents the conclusion that potential impacts to aquatic resources and water quality that could result from the Project are less than significant in that measures have been incorporated into the Project proposal that would reduce all identified potential significant effects to a less than significant level (CEQA Guidelines 15369.5).

Under the CEQA review and approval process, the Department is the Lead Agency. The NCRWQCB is a Responsible Agency under CEQA, in that it must permit the Project covered by this IS/MND. Other State agencies may be Responsible Agencies if their statutory mandate covers other areas of interest that may be affected by this Document and they may issue permits in reliance on the IS/MND. For example, this might include the California Department of Forestry and Fire Protection (Cal Fire). Other interested agencies, such as the California Geological Survey, and local agencies, such as County governments or Resource Conservation Districts with jurisdiction over potentially affected resources, could be involved as commenting agencies. Although as lead agency the Department must examine all potential environmental impacts, its review does not preclude responsible agencies and other agencies from commenting on their areas of expertise or jurisdiction, nor from enforcing regulations under their authorities.

8.3 Project Description

As noted above in Section 8.1, this Project consists of (1) the establishment of a Master Agreement for Timber Operations (Appendix A to this IS/MND) between the Department and Green Diamond to provide a system of notification for and authorization of lake or streambed alteration and water diversion activities and (2) the issuance of RMWDRs (Appendix B to this IS/MND) by the NCRWQCB that would regulate potential discharges to watercourses associated with these activities. As further noted in Section 8.1, all planned actions and activities requiring notification pursuant to FGC Section 1602 would be covered.

The Agreement incorporates Conditions (Section 11 of Appendix A) that are designed to mitigate, minimize or avoid impacts, therefore protecting and/or restoring public trust resources that may be affected by such activities. These Conditions are similar to those commonly used in nearly all lake or streambed alteration agreements and enhanced in many situations to comply with the AHCP and the Department’s CD for the AHCP, Green Diamond’s HCP for the northern spotted owl (NSO HCP), as well as other existing species-specific protocols and measures agreed upon by Green Diamond and

the Department.² They are designed around a unified goal and procedures under which future projects will be reviewed, specified and/or inspected over an ownership, rather than on an individual project (i.e. Timber Harvesting Plan) basis.

The current employed lake or streambed alteration agreement process examines stream crossing activities, usually in conjunction with individual Timber Harvesting Plans (THP), and culminates in agreements prepared individually for each THP. No reductions in avoidance or minimization of, or mitigation for, impacts to fish or wildlife resources that occur under agreements prepared for THPs will occur under the proposed Agreement. This Project involves streamlining the review and issuance of agreements on Green Diamond lands. Green Diamond will not have to wait for THP approval to undertake activities requiring notification pursuant to FGC Section 1602. This entire Agreement ensures a systematic improvement to watercourse crossings that will improve the condition of beneficial uses of water, through specific implementation and monitoring, and will further facilitate the implementation of Green Diamond's Road Management Plan under the AHCP.

There are two key components of the Road Management Plan: (1) the Road Implementation Plan and (2) the Road Maintenance and Inspection Program. The objective of the Road Implementation Plan (AHCP Section 6.2.3.2) is to carry out a systematic road upgrading and decommissioning program using the Plan's road assessment and prioritization system (AHCP Section 6.2.3.1). The strategy under the AHCP differs from the past approach of conducting road work, which was on a THP-by-THP basis. The AHCP approach compartmentalizes the Green Diamond ownership into Road Work Units, or groupings of sub-watersheds. These Road Work Units were prioritized for potential upgrading and decommissioning based on a priority ranking system of providing the greatest sediment reduction and conservation benefits to aquatic resources. The intent of the AHCP is to conduct scheduled road assessments and road treatments by prioritized Road Work Units, as well as THPs, as necessary to comply with State regulations.

The Road Maintenance and Inspection Program (AHCP Section 6.2.3.9) requires (1) annual inspections and maintenance of all mainline and appurtenant roads to THPs and (2) on a 3-year rotating schedule of secondary roads within Routine Maintenance Areas. The inspections are conducted in accordance with the process outlined in AHCP Section 6.2.3.9.5.

The objectives of the Road Maintenance and Inspection Program and their related responsibilities placed on Green Diamond are distinct from those of the road upgrading program (contained in the Road Implementation Plan). The objectives of the Road Maintenance and Inspection Program depend on whether or not the road being maintained and inspected has been upgraded under the AHCP. For all roads that have been upgraded under the Road Implementation Plan, the Road Maintenance and Inspection Program is designed to keep these upgraded roads in a "low risk" category.

In contrast, for roads that have not yet been upgraded or decommissioned under the Road Implementation Plan, the objectives of the Road Maintenance and Inspection Program are to minimize the risk of significant road failures and to control significant chronic sources of sediment discharges from these roads until the point at which the

² Agreement Section 11 Conditions for non-fish aquatic vertebrate resources (subsection B.2.1) and the willow flycatcher (subsection B.2.12) are provided as additional mitigations to the Project, but are included in the Agreement for purposes of having all Conditions to the Project listed in one location for easier referencing and accessing by Green Diamond (including its field operators) and the Department.

entire road can be upgraded or decommissioned according to the prioritization schedule in AHCP Section 6.2.3.1.1.

Both the Road Implementation Plan and the Road Maintenance and Inspection Program require stream alteration at numerous project sites that cause regulated discharges of sediment to watercourses. Currently, however, Green Diamond primarily maintains and repairs road sites associated with THPs because consistent with Green Diamond's primary purpose of managing its lands for timber production, the regulatory authorities and permitting pertaining to stream alteration and discharges to watercourses have been focused on THPs, which is consistent with Green Diamond's primary purpose of managing its lands: for timber production. The Agreement and RMWDRs will provide programmatic regulatory coverage for THP-related sites as well as for non-THP sites in a comprehensive approach that will provide consistency in application of measures and procedures as well as efficiency and flexibility in operations and regulatory reviews.

The AHCP was designed to manage Green Diamond's road network by systematically and efficiently upgrading, decommissioning and maintaining roads to achieve the greatest conservation benefits using a landscape-based approach. Green Diamond has agreed to spend \$2.5 million per year (2002 dollars) for the first 15 years of the implementation of the AHCP to accelerate the repair of high- and moderate-priority road sites. At present, Green Diamond has restricted its spending of these dollars on roads within or associated with THPs because Green Diamond has sought Section 1602 and water quality discharge authorizations only through the THP review and approval process. The Agreement and RMWDRs will provide the flexibility and a process to identify sites across the landscape that will provide the greatest conservation benefits by (1) fixing sites with the greatest potential sediment savings and (2) deferring improvements on those sites with low risk of failure until the road is upgraded, decommissioned or the risk of failure of the site is elevated.

The AHCP describes a comprehensive system of prioritization that is designed to determine which sites will have the highest probability for risk of failure. This concept is in concert with a high, moderate, and low rating system developed by Pacific Watershed Associates. For purposes of establishing consistent recommendations for repair or replacement of stream crossings during road maintenance activities under AHCP Section 6.2.3.9.5.1 and priorities for that work under AHCP Section 6.2.3.9.5.3, a process was developed to identify and rate sites that pose an extreme risk of imminent failure (e.g. likely to fail before the next scheduled maintenance period). The Agreement and RMWDRs will provide the regulatory authorization for repair of all categories of road sites (upgrading, decommissioning, and maintenance) across the landscape through a proactive approach that provides significantly more environmental protection and biological benefits than is possible under the current THP/1600/General WDR process. These authorizations will greatly reduce the probability of catastrophic road crossing failures that would, in turn, cause significant sediment delivery to streams. Full implementation of the AHCP's Road Implementation Plan and Road Maintenance and Inspection Program is essential to the success of the conservation strategy and the protection and enhancement of resources addressed by this Project.

The Agreement specifies performance and prescriptive measures required to protect fish and wildlife resources, as well as other public trust resources. These Conditions (Section 11 of Appendix A) include conservation measures that address: crossing types; time of operation; permanent crossings; temporary crossings; fish passage; culvert crossings; fords; water drafting, flow bypass and drafting site maintenance; erosion and sediment control; bank stabilization; road decommissioning; obstruction and sediment removal;

vegetation removal and control; deposition and disposal of materials; equipment use, petroleum and other pollution control; and geology.

The RMWDRs (Appendix B) are intended to provide separate coverage for discharge sources on the mainline and secondary road system inventoried and treated under Green Diamond's Road Management Plan. Other discharge sources associated with THPs, such as failing skid trail crossings, watercourse diversions within THP harvest units, or sediment sources on tertiary or unmaintained roads will continue to be inventoried and regulated under the *General Waste Discharge Requirements For Discharges Related to Timber Harvest Activities On Non-federal Lands in the North Coast Region* (GWDR) or other Regional Water Board authorities. To this end, the RMWDRs are intended to complement the GWDR (Order No. R1-2004-0030). The RMWDRs also do not supersede Resolution No. R1-2006-0042, *Waste Discharge Requirements for Timber Harvesting Plan Activities Conducted by or on Land Owned by the Green Diamond Resource Company in the South Fork Elk River Watershed* or Order No. R1-2006-0043, *Watershed-wide Waste Discharge Requirements for Timber Harvesting Plan Activities Conducted by or on Land Owned by the Green Diamond Resource Company in the South Fork Elk River Watershed*, which contain, among other things, specific provisions for the inventory and repair of controllable sediment discharge sources and require adherence to erosion control plans and a master treatment schedule in the South Fork Elk River Watershed.

The proposed Agreement and the RMWDRs formalize the responsibilities of each of the parties. Green Diamond will submit on or about March 1st of each calendar year an Annual Work Plan to the Department and the NCRWQCB showing the locations, current status and planned activities for that operational year. The Department and the NCRWQCB will review the planned activities by May 1st. If the Department and the NCRWQCB determine that any planned activities do not meet the requirements of the Agreement and RMWDRs, they will notify Green Diamond that those specified activities do not qualify for coverage under the Agreement and RMWDRs. The parties may meet to clarify the measures described in the Annual Work Plan and if the Department and the NCRWQCB are satisfied with the clarification, the planned activities may proceed.

8.4 Project Area

The Project Area for the Agreement and the RMWDRs includes all commercial timberland acreage on the west slopes of the Klamath Mountains and the Coast Range of California in Del Norte and Humboldt counties where Green Diamond owns lands or harvesting rights that are covered by the AHCP. This area is currently 401,260 acres, and is subject to adjustment as Green Diamond buys and sells property (see Map 1).

The Project Area for the Agreement also includes Green Diamond acreage outside the AHCP area, primarily on the east slopes of the Klamath Mountains and Coast Range in Del Norte, Humboldt, and Trinity counties. This area is approximately 26,996 acres, and is subject to adjustment as Green Diamond buys and sells property. The area is currently operated under standard forest practices under the California Forest Practice Rules (CFPRs).

During the term of the Agreement and RMWDRs, Green Diamond may elect to add commercial timberlands consisting of fee lands and harvesting rights to the Project Area for coverage. The potential expansion area where commercial timberlands may be added shall be limited to Del Norte, Humboldt, and Trinity Counties and must be within 1) the 11 Hydrographic Planning Areas (HPAs) defined by the AHCP; 2) lands west of the Trinity River between the confluence of the Klamath River and the confluence of the South Fork Trinity River; 3) lands west of the South Fork Trinity River; 4) lands within Elk

Creek, Del Norte County, tributary to the Illinois River, Oregon; and 5) lands within the Mad River watershed upstream of the Mad River HPA (see Map 1). Based upon the analysis of these areas, it is presumed that all commercial timberlands within these potential expansion areas share similar relevant characteristics and, therefore, will not likely require additional Conditions necessary to protect water quality and other biological resources beyond that analyzed in connection with the original Project Area.

8.5 Authorized Activities

The following general types of activities (Project Activities, or Authorized Activities) may be performed in accordance with the terms and conditions of the Agreement and RMWDRs. For purposes of clarification, Project Activities will be carried out only within riparian areas, stream crossings, and roadways associated with road maintenance operations within the Project Area.

1. **Obstruction and Sediment Removal**—removal of silt, sand, sediment, debris, trash, rubbish, flood-deposited woody and herbaceous vegetation, fallen trees, branches, and other obstructions that reduce a facility's flow and bedload/debris passage capacity and/or endanger a facility. As provided in the Agreement, a "facility" means bridges, culverts, fords, vented fords, and temporary crossings (collectively referred to as "watercourse crossings") and their associated road approaches, ditches, and adjacent channels; bank stabilization structures, temporary dams, diversion structures, and water drafting sites.
2. **Vegetation Removal**—removal of vegetation that directly reduces a facility's capacity and/or endangers a facility, including overhanging branches or tree limbs.
3. **Bank Stabilization at Facilities**—construction, installation, repair, improvement and maintenance of bank stabilization structures that are continuous with a facility, such as rock rip-rap or gabions.
4. **Bank Stabilization Structures**—construction, installation, repair, improvement and maintenance of existing bank stabilization structures, such as rock rip-rap or gabions.
5. **Maintenance of Watercourse Crossings and Road Approaches**--removal, repair, replacement, maintenance, upgrading, or decommissioning existing watercourse crossings and road approaches to facilities.
6. **New Facilities**--Installation and subsequent maintenance and repair under specific circumstances identified in the Agreement
7. **Water Drafting**—Drafting and use of water at existing facilities and into water trucks for road dust abatement, road maintenance, road construction, decommissioning, surfacing, herbicide mixing, and prescribed fuel reduction burning, subject to valid legal permits and regulation.
8. **Water Drafting Intake Maintenance**—maintenance of improvement of existing site access and water drafting intake sites, including bank stabilization and fill material removal to maintain or increase capacity.

9. Water Diversion—diversion of stream flow and isolation and dewatering of work sites during road construction, upgrading, maintenance, and decommissioning of watercourse crossings.
10. Deposition and Disposal of Material—deposition or disposal of soil fill, debris, waste, or other materials where it is prevented from passing into waters of the State.
11. Decommissioning—decommissioning of facilities.
12. Instream Restoration--installation, repair, replacement, maintenance, and upgrading of instream restoration structures.

8.6 Unauthorized Activities

The Agreement does not cover:

1. Any activity that could take as defined under CESA or the federal Endangered Species Act (ESA), except as provided for in the AHCP ITP, CD, or Green Diamond's NSO HCP ITP (as originally issued in 1992 and amended in 2007) and subject to FGC Section 3503.5.

Any work on a facility in immediate proximity of an unstable area (defined in the CFPR, Title 14, California Code of Regulations [CCR], Section 895.1) that has not been evaluated by a Professional Geologist and the risk of adverse environmental impacts has been minimized through development of site-specific measures and procedures.

8.7 Environmental Baseline

Environmental review pursuant to CEQA analyzes the difference in the environment between baseline conditions and the likely conditions that would result if the Project were approved and implemented. The environmental analysis is restricted to those effects that result from the incremental increase in activity or the actions that would result from Project implementation. The Department has determined the physical environmental conditions in the Project Area as they exist to date as in part affected by implementation of the AHCP measures within individual THPs (subject to the NCRWQCB's General Waiver and individual lake or streambed alteration agreements), constitute the baseline physical conditions by which a determination will be made as to whether any Project-related impact is significant.

Environmental Factors Potentially Affected

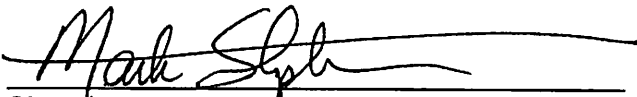
The environmental factors checked below would be potentially affected by this Project, as indicated by the checklist and corresponding discussion on the following pages. "Project" or "proposed project" or "proposed actions or activities" in any of the checklists below means the Project, and hereafter, "Project" includes the Project Activities under it.

- | | | |
|--|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology, Soils and Seismicity |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology and Water Quality |
| <input type="checkbox"/> Land Use and Land Use Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population and Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation and Traffic | <input type="checkbox"/> Utilities and Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION

On the basis of this initial study:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect; 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.


Signature

5/18/2010
Date

Mark Stopher
Acting Regional Manager
California Department of Fish and Game



HERE

ENVIRONMENTAL CHECKLIST

In preparing this IS/MND, the Department considered the potential for significant impacts to a variety of environmental factors. It was determined that many of those factors would not be affected or, if impacts could potentially occur, would be affected at a less than significant level. Many of the environmental factors falling in the “less than significant” category are further analyzed in this IS/MND to enable the reader to better understand the Department’s determination regarding impacts. Where appropriate, this IS/MND cross references to various sections of Green Diamond’s AHCP and its accompanying Environmental Impact Statement (EIS), as well as Green Diamonds NSO HCP and its accompanying Environmental Assessment (EA), where additional detailed analysis can be found. These documents may be accessed at <http://swr.nmfs.noaa.gov/ahcp.htm> (AHCP), <http://swr.nmfs.noaa.gov/feis.htm> (FEIS) or at the County of Humboldt and County of Del Norte main public libraries in Eureka and Crescent City, California, respectively.

Aesthetics

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 1. AESTHETICS—Would the project: | | | | |
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Setting

A number of sites in the Project Area may be visible to the general public from adjacent public lands and nearby roadways. The Project Area is interspersed among several areas managed for activities that include public recreation, including USDA Forest Service Six Rivers National Forest (including the Smith River National Recreation Area) and the Redwood National and State Parks complex. The primary public recreation areas with views of lands within the Project Area are Redwood National and State Parks. The Project Area borders the park in several areas, including most of the Redwood Creek watershed boundary. Limited viewing may also be possible from portions of the

Smith River National Recreation Area, and from several State and county park areas in central and southern Humboldt County. However, juxtaposition to parklands is limited in these areas.

U.S. Highway 101 is the primary roadway through the Project Area. Highway 101 is a designated scenic highway in Del Norte County from approximately Crescent City to the south boundary of Del Norte Redwoods State Park, and is considered eligible for scenic highway designation in the remainder of Del Norte and Humboldt counties. All other highways in the vicinity of the Green Diamond ownership (U.S. Highway 199, U.S. Highway 299, and State Route [SR] 36) are considered eligible for scenic highway designation. Primary areas for viewing the Project Area from these highways are as follows.

As Highway 101 proceeds south through Del Norte and Humboldt counties, it is likely that travelers will be able to view the Project Area in various locations, primarily in the area north of Crescent City, near the Klamath River confluence, and north of McKinleyville. In portions of this area, panoramic views of the Project Area are possible from Highway 101, depending on topography in the vicinity. Views of the Project Area from Highway 101 south of Eureka are limited. Highway 299 passes through a portion of the Project Area east of Arcata. Views of the Project Area from Highway 199 and SR 36 are limited.

Discussion

- a,b) Green Diamond's activities have the potential to affect aesthetic resources, including scenic vistas, by introducing elements that interrupt the visual continuity of the landscape, such as even-aged harvesting. However, timber harvest levels under this Project would be similar to pre-Project levels and, therefore, such actions would be consistent with historical use patterns, including aesthetic effects. Existing visual conditions experienced by highway travelers and recreation area users would continue to occur. None of the Project activities would alter the level or location of timber harvest in the Project Area; therefore, the Project would not result in impacts to scenic vistas and scenic resources in the Project Area.
- c) Green Diamond would continue to conduct timber harvesting in the Project Area in accordance with existing regulations and guidelines discussed in detail in Section 2.1 of the AHCP EIS. In addition, the existing measures used by Green Diamond to protect Class I, II, and III watercourse would be supplemented in the AHCP area by Green Diamond's Operating Conservation Program (AHCP Section 6.2), which includes establishment of riparian management zones (RMZs) for Class I and II watercourse, establishment of equipment exclusion zones (EEZs) for Class III watercourses, and limited activities within the RMZs and EEZs. Green Diamond also would continue to implement ownership-wide measures and procedures, management, and monitoring measures in accordance with the requirements of the CFPRs. Accordingly, authorized Project activities would not substantially alter the existing visual character or quality of stream crossings or roads relative to pre-Project levels. Any impacts would be less than significant.
- d) Streambed altering construction activities will occur primarily during daylight hours and will typically be completed using naturally-derived materials. Equipment and machinery used in potential streambed altering activities may create substantial glare or light during daylight or nighttime hours, respectively. However, authorized Project activities would not differ substantially in scope or

number relative to pre-Project levels and would not create a new source of substantial light or glare. In addition, canopy cover retention restrictions (AHCP Section 6.2.1) occurring in riparian areas where Project Activities could occur would substantially reduce the likelihood of the glare or light having an adverse effect on views in the area.

Agricultural Resources

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 2. AGRICULTURAL RESOURCES– Would the project: | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland of Statewide Importance to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

The Project Area consists of Green Diamond’s commercial timberlands in northern California, contained in portions of Del Norte, Humboldt and Trinity counties. As such, no farmland is included in the Project Area. Agricultural areas are relatively limited in the vicinity of the Project Area; however, agricultural activities (primarily grazing) have occurred and may continue to occur on other lands adjacent to Green Diamond’s ownership.

Discussion

a,b,c) The Project will facilitate the implementation of Green Diamond’s Road Management Plan contained in its AHCP and implementation of the limitations and measures listed in Section 11 of the Agreement, “Conditions Necessary for Protection of Fish and Wildlife Resources from Impacts of Covered Activities Subject to this Agreement (Conditions).” All of these measures relate to activities on Green Diamond’s commercial timberlands and, as such, will not result in conversion of Prime or Unique Farmland, conflict with existing zoning for agricultural use, or involve other changes that would result in conversion of Farmland of Statewide Importance to non-agricultural use.

Air Quality

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 3. AIR QUALITY | | | | |
| Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. | | | | |
| Would the project: | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

The Project Area is located in the North Coast Air Basin, under the authority of the North Coast Unified Air Quality Management District (AQMD). The air quality of a region is determined by the quantities and types of pollutants emitted, and by the concentrations and accumulations of those pollutants under the influences of local meteorology and topography. The North Coast Air Basin is considered to have good air quality.

The Clean Air Act of 1967, as amended in 1990 (42 U.S.C. 7401, *et seq.*), established national ambient air quality standards for several pollutants, including ozone, carbon monoxide, and particulate matter less than 10 microns in diameter (PM₁₀). In addition, State of California clean air standards have been in existence since 1968. Green Diamond lands are in attainment for all State and federal air quality standards in Del Norte, Humboldt, and Trinity counties, with the exception of the State standard for PM₁₀ (CARB, 2006). Incidence of PM₁₀ attributable to timber management is typically a result of slash burning and roadway dust entrainment. Slash burning is controlled by the AQMD through the issuance of burn permits, which include provisions for burn restriction during atmospheric conditions that escalate PM₁₀ nonattainment.

Discussion

- a) The Project would not conflict with or obstruct the implementation of applicable air quality plans.
- b, c) Green Diamond-owned lands in Del Norte, Humboldt and Trinity counties are in attainment for all State and federal air quality standards, with the exception of the California standard for PM₁₀. Existing sources of PM₁₀ in Del Norte, Humboldt and Trinity counties include vehicles, sea salts, wood stoves (particularly in the winter months), dust, pulp mills, nitrates, sulfates, and other unknown sources. Management actions by Green Diamond and other timber landowners in the vicinity of the Project Area are also contributors to particulate emissions. Incidence of PM₁₀

from Green Diamond's timber management is typically attributable to slash burning and roadway dust entrainment.

Under the Agreement, Green Diamond would continue to conduct timber harvesting in the Project Area in accordance with existing regulations and guidelines. In addition, Green Diamond would implement measures within the AHCP area as contained in its AHCP Conservation Strategy (AHCP Section 6.2), which includes establishment of RMZs for Class I and II watercourses, establishment of EEZs for Class III watercourses, and limited activities within the RMZs and EEZs. Green Diamond also would continue to implement ownership-wide measures and procedures, management, and monitoring measures in accordance with the requirements of the CFPRs.

These conservation measures could reduce Green Diamond's contributions to area PM₁₀ over time by improving road conditions (and reducing PM₁₀ visibility impacts). The Project is expected to reduce PM₁₀ visibility impacts from Green Diamond road use by development of water sources and storage to enable timely application of road dust palliatives. Therefore, activities conducted under the proposed Agreement are not anticipated to contribute substantially to the existing and projected air quality violation for PM₁₀.

- c) As described above, the conservation measures in the AHCP could reduce Green Diamond's contributions to area PM₁₀ over time by improving road conditions (and reducing PM₁₀ visibility impacts). Therefore, Project activities are not anticipated to result in a cumulatively considerable net increase of PM₁₀ for which the project region is non-attainment.
- d) Green Diamond-owned lands in Del Norte, Humboldt and Trinity counties are in attainment for all State and federal air quality standards, with the exception of the California standard for PM₁₀. As described above, the conservation measures in the AHCP could reduce Green Diamond's contributions to area PM₁₀ over time by improving road conditions and would not result in substantial degradation of existing air quality, including the effects of PM₁₀. From this determination it can be concluded that the Project will not expose sensitive receptors to substantial pollutant concentrations.
- e) With the possible exception of standard exhaust odors, the Project Activities are not expected to create any objectionable odors. Activities covered by the Project will occur in primarily rural locations, far from dense populations that would be affected by any Project-related activities. Consequentially the number of people subjected to construction-related odors would be few, and the effects on these people can be considered not substantial.

References

California Air Resources Board. 2006. Area Designations Maps/ State and National. Accessed via internet on October 13, 2009, at <http://www.arb.ca.gov/degis/adm/adm.htm>.

Biological Resources

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 4. BIOLOGICAL RESOURCES-- | | | | |
| Would the project: | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

Aquatic Habitat Conditions and Aquatic Species

Aquatic Habitat Conditions

In general, aquatic habitats in the Project Area and vicinity have been affected by more than a century of logging, mining, road building, and grazing in concert with the following geologic conditions:

- The steep and rugged terrain of the Coast Ranges and Klamath Mountains
- Geologic formations that range in age from pre-Jurassic to recent and are marked by extensive folds and fault lines
- Several highly unstable geologic formations, including the Franciscan, Wildcat, and Falor formations
- Seasonally intense precipitation

Combined, these factors have altered stream conditions and increased hillslope erosion in most coastal watersheds. As a result of excess sedimentation and/or potential

temperature concerns, several Project Area watersheds are included on the list of watersheds designated as impaired pursuant to Section 303(d) of the federal Clean Water Act (CWA) (see Water Quality section below) developed by the federal Environmental Protection Agency (EPA) and the State Water Resources Control Board (SWRCB).

Current habitat conditions and status of aquatic species of concern vary by geographic location. A more complete description of aquatic habitat conditions in the coastal drainage basins is provided in Section 3.4.4 of the "Final Environmental Impact Statement for Authorization of Incidental Take and Implementation of a Multi-Species Habitat Conservation Plan and Candidate Conservation Agreement with Assurances" (USFWS and NMFS 2006).

Aquatic Species

Table C-1 (located in Appendix C) lists the common and scientific names of the ten fish species and their current status pursuant to CESA and the federal ESA.³ The designation in Table C-1 of individual Evolutionarily Significant Units (ESUs) and Distinct Population Segments (DPSs) of steelhead and coho salmon and Chinook salmon are included within the term "species" in the federal ESA. Resident rainbow trout are considered "markedly separated" from the anadromous form and are not included in the current steelhead DPS listings (71 FR 834). The Southern Oregon/Northern California Coasts (SONCC) coho salmon ESU is the only salmonid species/ESU in the Project Area listed as threatened by the State of California. The California Fish and Game Commission adopted a *Recovery Strategy for California Coho Salmon* in February 2004. The California Fish and Game Commission voted to protect the long-fin smelt as a threatened species under the California Endangered Species Act (CESA) in March of 2009.

In addition, Table C-2 includes the common and scientific names of six amphibian and reptile species known to occupy a wide range of stream reaches and other aquatic habitats, as well as terrestrial habitats, on Green Diamond lands. None of the reptile or amphibian species are listed as threatened or endangered pursuant to CESA or the federal ESA.

Terrestrial Habitat Conditions and Terrestrial Species

Terrestrial Habitat Conditions

More than 96 percent of the Green Diamond ownership is forested. Productive soils, moderate temperatures, and seasonally abundant moisture support a mixed cover of dense forest and prairie vegetation within the Project Area. Redwood is the dominant tree on the relatively moist floodplains, low stream terraces, and lower hillslopes adjacent to main stream channels. On the upper slopes, Douglas-fir is the dominant conifer and is associated with western hemlock, tanoak, and Pacific madrone. A long history of logging in the region has resulted in a mixture of predominately even-aged timber stands.

Areas of natural prairie and woodland vegetation are intimately associated with forested areas throughout much of the Project Area. The most common communities of nonforest vegetation are grass prairies, grass-bracken-fern prairies, oak-grass woodlands, oak-

³ Tables C-1, C-2, and C-3 comprising Appendix C to this IS/MND list sensitive and special status fish, wildlife and plant species identified from various sources as having potential to occur in the vicinity of the Green Diamond ownership in northern California. They are provided for purposes of disclosure to the public of the internal scoping process used to assess the need for species-specific or taxa-specific mitigations, in addition to those measures and procedures that define the Project and are already incorporated in the Project Description.

poison oak-grass woodlands, and oak-madrone-brush woodlands. The origin of the grass and grass-bracken-fern prairie is partly the result of hillslope mass wasting, natural fires and fires set by Native American tribes, and lateral variability in soil parent materials (Swanston et al., 1995).

A December 2009 query of the California Natural Diversity Database (CNDD) also identified a number of sensitive natural communities, many of which also occur within the Project Area. The output from this query is provided in Appendix D to this IS/MND.

Terrestrial Wildlife Species

A November 2009 query of the CNDD identified 17 wildlife species of concern (i.e., federal or State listed/candidate, State Species of Special Concern/Fully Protected, or BOF sensitive species) located within the Project Area (see Table C-2 in Appendix C to this IS/MND). As a result of discussions among the Department, the U.S. Fish and Wildlife Service, and Green Diamond, another 22 wildlife species were added to the sensitive wildlife species list developed for purposes of this IS/MND. Of the 39 sensitive and special-status wildlife species identified, four species are federally-listed: marbled murrelet, western snowy plover, northern spotted owl, and Oregon silverspot butterfly. Two species that were formerly federally-listed have been delisted: American peregrine falcon and bald eagle. These two species remain State-listed and “fully protected” species. The bald eagle remains federally-protected under the Bald and Golden Eagle Protection Act. Four other species are also State-listed: bank swallow, willow flycatcher, marbled murrelet, and the Trinity bristle snail. In addition to the State-listed species, three species are “fully protected” pursuant to the FGC: golden eagle, white-tailed kite, and ringtail cat.

Many of the federal- or State-listed species are known or thought to occur within the Project Area. There is no suitable habitat for the Oregon silverspot butterfly on commercial timberlands constituting the Project Area. Western snowy plovers are known to nest on coastal beaches and dune systems in northwest California, but none have been recorded on Green Diamond lands. Pacific fisher (a federal candidate species) is found in the Project Area. Due to a limited distribution, the Mardon skipper (a federal candidate species) is not known or thought to occur in the Project Area.

Terrestrial and Riparian Plant Species

Table C-3 lists the 88 sensitive and special-status plant species with potential to occur within the Green Diamond ownership and the Project Area.

Discussion

a) *Habitat and Species-specific Considerations for Aquatic and Terrestrial Biological Resources*

Aquatic Habitat and Aquatic Special-status Species

Green Diamond would continue to conduct timber harvesting in the Project Area in accordance with existing regulations and guidelines discussed in detail in Section 2.1 of the AHCP EIS. In addition, the existing measures used by Green Diamond to protect Class I, II, and III watercourses would be supplemented within the AHCP area by Green Diamond’s Operating Conservation Program (AHCP Section 6.2), which includes establishment of RMZs for Class I and II watercourses, establishment of EEZs for Class III watercourses, and limited activities within the RMZs and EEZs. Green Diamond also would continue to

implement ownership-wide measures and procedures, management, and monitoring in accordance with the requirements of the CFPRs. Measures set forth in the Operating Conservation Program include:

1. Implementation of an ownership-wide Road Management Plan that provides for: selective and road-related fish passage enhancement (barrier removal); implementation of practices that are designed to minimize sediment discharge to Class I, Class II, and Class III watercourses, and decommissioning of some roads. The Road Management Plan provides for accelerated repair of high- and moderate-risk sediment delivery sites on roads on the Green Diamond fee ownership in accordance with the schedule established in the AHCP Section 6.2.3).
2. Specified protection of unique geomorphic features, such as channel migration zones and floodplains (AHCP Section 6.2.1).
3. Adoption of various slope stability and ground disturbance minimization measures (AHCP sections 6.2.2 and 6.2.4).
4. Implementation of effectiveness monitoring, plus adaptive management with structured feedback loops (AHCP sections 6.2.5, 6.2.6, and 6.2.7).

Implementation of the AHCP within the AHCP area, the CFPRs within areas outside of the AHCP area, and the additional Conditions described in Section 11 of the Agreement throughout the entire Project Area are anticipated to result in improvement in aquatic habitat conditions relative to existing conditions. This would be largely attributable to implementation of the Road Management Plan and enhanced riparian zone protection. Because improvements in overstory canopy closure, shading and reductions in sedimentation and turbidity are expected under the AHCP, future thermal conditions for these species would improve as compared to pre-AHCP levels. Further, habitat complexity would increase through increased large woody debris (LWD) loading, similar or increased bank stability, and reduced sediment delivery.

In addition, specific conditions for habitat and species protection of non-fish aquatic vertebrate resources (amphibians and reptiles) that are not included as covered species under the AHCP is provided through implementation of measures incorporated as Conditions to the Agreement (see Appendix A, Section 11, Subsection B.2.1). The Conditions listed for non-fish aquatic vertebrate resources are additional mitigations to the Project. The Department deemed these necessary considering the recurring nature of Project Activities throughout the Project Area during the 50-year timeframe of the Project with the potential to directly affect non-fish aquatic invertebrates. These Conditions will minimize the potential for adverse impacts to these resources as a result of Project Activities at specific activity sites.

Based on the foregoing analysis and that in the EIS, it is concluded that the Project, with the addition of mitigation described above that is specific to non-fish aquatic vertebrate resources, will not have significant effects on candidate, sensitive or special status aquatic species or their habitats in the Project Area and will contribute to meeting the objectives of the Recovery Strategy for coho salmon.

Terrestrial Habitat and Terrestrial Special-status Wildlife Species

Measures described in the AHCP within the AHCP area, the CFPRs within areas outside of the AHCP area, and the additional Conditions included in the Agreement to prevent or reduce erosion, for the purpose of providing cleaner water for aquatic species, would also benefit terrestrial species. Implementation of measures to reduce the potential for landslides (AHCP Section 6.2.2) would preserve more mid- to late-seral forest wildlife habitat. Measures designed with the long-term objective of decommissioning roads (AHCP Section 6.2.3) would also restore wildlife habitat; measures that reduce soil compaction (AHCP sections 6.2.1.2.6, 6.2.1.4.5, 6.2.1.6.1 and 6.2.1.7.1) would also provide more vigorous plant life that serves to support wildlife species. Therefore, the non-riparian management measures presented in the AHCP would generally improve wildlife habitat quality, or minimize adverse effects to habitat quality, within portions of the Project Area, relative to current conditions.

With implementation of the AHCP, only a small proportion of the trees within RMZs will be harvested, and those that remain will continue to mature, following harvest of the adjacent upland stands (AHCP Section 6.2.1.2). Trees in the RMZs will be increasing in age throughout the 50-year term of the AHCP. Riparian areas would be comprised of a greater number of mature trees by the end of the term of the ITP compared with pre-AHCP conditions. These trees would provide greater benefits to wildlife species associated with late-seral forest conditions, including frogs, salamanders, bats, owls, marbled murrelets, eagles, herons and egrets.

Green Diamond has had a landscape plan for retaining upland forest structure since the implementation of its NSO HCP in 1992. Although these retention guidelines were initially developed specifically to accelerate the development of future habitat for spotted owls, these same guidelines will also benefit other wildlife species dependent on snag presence over the landscape. The vital role of decadent trees, snags and downed coarse woody debris (CWD) in forest ecosystems has been well documented. Primary cavity nesters (e.g., woodpeckers) are particularly well known for their connection to snags, but other species (e.g. owls, fishers and others) have vital links through secondary use of snags and CWD.

Green Diamond currently implements its tree and snag retention through a voluntary Terrestrial Dead Wood Management Plan (TDWMP). The TDWMP provides guidance to company foresters and wildlife biologists regarding retention of live trees, snags and CWD that currently provide or are most likely to become critical habitat elements on the landscape. The concept of a "critical habitat element" refers to something that is relatively rare on a managed landscape, takes a long time to develop (greater than a single rotation) and is linked to some life history stage of a vertebrate species in such a way that the loss of the habitat element would likely result in a substantial population reduction of the species in the assessment area. Implementation of the TDWMP throughout the ownership on every THP will reduce the likelihood of significant adverse impacts to wildlife species that utilize these critical habitat elements.

Impacts to individuals, including take, of listed wildlife species or fully -protected wildlife species not covered by an existing ITP or CD would be further avoided by Green Diamond in carrying out Project Activities through (1) the continued implementation of the company's internal scoping procedure of wildlife/aquatic/botanical resources for THP and other road improvement projects, (2) the use of site-specific surveys as appropriate to identify the actual presence of such species in areas where they are likely to occur and

(3) incorporation of standard take avoidance measures (developed or commonly utilized by Green Diamond and endorsed by the Department, (or USFWS or NMFS as applicable). Where standard take avoidance measures have not been developed by Green Diamond and endorsed previously by the Department (or USFWS or NMFS as applicable), Green Diamond will confer with the Department (or USFWS or NMFS as applicable) and develop and implement measures to avoid take of such species before carrying out any particular Project Activity that would otherwise pose the risk of take.

Under Green Diamond's internal project scoping procedures, THPs and road maintenance projects are disclosed to the company's Conservation Planning Department via an internal "Request for Resource Input" form. This request is usually initiated by the Registered Professional Forester (RPF) assigned to the THP, or the AHCP Roads Department, typically up to one year prior to the scheduled date for implementation of the project. The project location, size, harvesting methods, silviculture, and date for initiation of operations are described on the form as well as potential areas of concern related to various terrestrial and aquatic resources. The RPF or AHCP Roads Department provides preliminary maps of the project footprint (THP units or road improvement sites) as well as the boundary for the Cumulative Impacts Assessment Area. The project is input into a comprehensive database that allows for detailed tracking during initial layout through implementation and completion of the project. The Conservation Planning Department conducts initial internal scoping using species occurrence data gathered from internal surveys, studies, or incidental sightings and a query of the current version of the CNDD. The spatial data is viewed using ArcMap software. Species occurrence data is then provided to the RPF or AHCP Roads Department. If listed species occur in or immediately adjacent to the project, appropriate protection measures are prescribed prior to initiation of the project. Field surveys are conducted prior to implementation of the project as required under State or federal permits or agreements (e.g., NSO HCP).

Habitat and species protection of sensitive and special-status wildlife resources are additionally provided through measures incorporated as species-specific Conditions to the Agreement (Subsections B2.2 through B2.13 of Section 11 of the Agreement), as summarized below.

Northern Spotted Owl

The northern spotted owl is listed as threatened under the federal ESA and designated as a California species of special concern by the Department. The northern spotted owl is also designated as a sensitive species by the California Board of Forestry and Fire Protection. Habitat and protection for this species is provided through a property-wide HCP. (See *Green Diamond Resource Company - Habitat Conservation Plan for the Northern Spotted Owl* for further information pertaining to this species on Green Diamond land). Green Diamond's four-point NSO Conservation Strategy contained in its 1992 NSO HCP comprises (1) habitat management and nest protection, (2) a northern spotted owl research program, (3) establishment of set-asides and special management areas in selected habitat areas, and (4) employee and contractor training. Under the NSO HCP, timber harvesting is planned and implemented to: (1) protect northern spotted owl nest sites during the nesting and fledging season; (2) maintain suitable foraging, roosting, and nesting habitat on Green Diamond's property; and (3) accelerate the development of replacement habitat following harvesting.

Osprey

The osprey is designated as a sensitive species by the California Board of Forestry and Fire Protection. Authorized Activities conducted under the Agreement are subject to conditions detailed in a previously agreed-to property-wide survey and consultation process between Green Diamond and the Department for the osprey, detailed in Attachment 1 to the Agreement.

Willow Flycatcher

Willow flycatcher (WIFL) is listed as endangered pursuant to CESA. Implementation of protection measures listed in Section 11, Subsection B.2.12, will serve to prevent significant negative effects to WIFL and its habitat, and to avoid take of the species. These measures are additional mitigations to the Project, deemed by the Department to be necessary to minimize potential adverse impacts to these resources as a result of Project Activities at specific activity sites. In summary, the Project Area and its vicinity (within 300 feet) will be reviewed by a qualified biologist for presence of suitable WIFL habitat prior to commencement of Project site activities. If habitat is present, surveys will be completed before operations begin to determine if WIFL are present, unless operations are conducted outside the WIFL breeding season (May 1 through August 31). If current-year surveys determine the presence of WIFL, additional measures listed in the Agreement shall be followed.

Other Avian Species

Authorized Activities conducted under the Agreement will not remove or degrade suitable habitat of sensitive and special status avian species. Nesting birds, however, could be affected by noise from heavy equipment required for some projects. Implementation of Standard Protection Measures, identified in Subsection B of Section 11 of the Agreement, for THP and non-THP areas will prevent significant negative effects to nesting birds. These measures include the establishment of a buffer zone around nest sites, seasonal restrictions on operations within the buffer zone, and limitations on silvicultural prescriptions within the buffer zone. These measures apply to the following species:

- **Bald Eagle**-- The bald eagle is listed as endangered under CESA and has been de-listed under the federal ESA. This species remains a “fully-protected” species in California and is designated as a sensitive species by the California Board of Forestry and Fire Protection.
- **Golden Eagle** -- The golden eagle is a fully protected species in California and is designated as a sensitive species by the California Board of Forestry and Fire Protection.
- **Great Blue Heron** -- The great blue heron is designated as a sensitive species by the California Board of Forestry and Fire Protection.
- **Great Egret** -- The great egret is designated as a sensitive species by the California Board of Forestry and Fire Protection.
- **Marbled Murrelet** -- The marbled murrelet is listed as endangered pursuant to CESA and threatened pursuant to the federal ESA. The murrelet is also designated as a sensitive species by the California Board of Forestry and Fire Protection.
- **Northern Goshawk** -- The northern goshawk is a fully protected species in California, and is designated as a California species of special concern by

the Department and as a sensitive species by the California Board of Forestry and Fire Protection.

- Peregrine Falcon -- The peregrine falcon is a “fully protected” species in California and is designated as a sensitive species by the California Board of Forestry and Fire Protection.
- White-tailed Kite -- The white-tailed kite is designated as a fully protected species in California.

Trinity Bristle Snail

The Trinity bristle snail (TBS) is listed as threatened under CESA. Implementation of protection measures listed in Section 11, Subsection B.2.13, will serve to prevent significant negative effects to the TBS and its habitat, and to avoid unauthorized take of the species. In summary, a Designated Biologist who is knowledgeable and experienced in TBS biology and natural history shall evaluate project sites and their vicinities within the known range of the species for presence of suitable TBS habitat. If suitable habitat is deemed present, Green Diamond shall consult with the Department to identify ways to avoid habitat disturbance. If habitat avoidance is not possible, Green Diamond shall consult with the Department pursuant to CESA to obtain an incidental take permit, which will identify means to minimize habitat disturbance, restore habitat upon completion of operations and limit take of individuals. Green Diamond will continue to implement a trash abatement program where evidence of TBS presence is confirmed to reduce predation throughout the duration of individual projects where Authorized Activities occur. In addition, Green Diamond shall conduct an education program for all persons employed at Project activity sites with evidence of TBS before performing work.

Based on the foregoing analysis and that in the EIS, the Project, with the addition of mitigation described above that is specific to the TBS, will not have significant effects on candidate, sensitive or special-status wildlife species or their habitats in the Project Area.

Terrestrial and Riparian Plant Species

Project Activities conducted under the Agreement are subject to conditions detailed in a property-wide survey and consultation process for sensitive plants developed by Green Diamond and the Department, which is described in the *Green Diamond Resource Company Sensitive Plant Conservation Plan* (see Attachment 2 to the Agreement). Implementation of these measures shall avoid or minimize potential adverse impacts to sensitive plant species.

In addition, Green Diamond will employ the same plant protection measures for Project Activities not subject to THPs as for those within THP areas. Green Diamond and the Department have worked closely together since 2000 to identify sensitive botanical resources locations on Green Diamond property and to implement prudent and effective management practices that conserve these valuable resources. These measures and practices are contained in an ownership-wide Sensitive Plant Conservation Plan (SPCP), agreed to by Green Diamond and the Department. The intent of the SPCP is to conserve sensitive plant species on Green Diamond lands, while providing flexibility to Green Diamond in the management of their lands for timber production.

Survey and monitoring results from 2001-2008 suggest the most efficient and effective approach to the long-term conservation of sensitive plants on Green Diamond lands is through adaptive management that is informed by appropriate inventory, monitoring and research. A combination of compatible land management practices, plant protection measures (PPMs), property-wide consultations, and area-specific botanical management plans (BMPs) provide the foundation of the SPCP. Various conservation strategies will continue to be developed, implemented, reviewed and revised over time with the ultimate goal of dividing the ownership into botanical management areas (BMAs). The BMAs

are managed under BMPs that rely on known existing conditions within the BMA rather than project-by-project surveys.

Based on the foregoing analysis, it is concluded that the Project will not have significant effects on sensitive or special-status plant species or their habitats in the Project Area.

- b) Conservation measures to protect riparian zones and sensitive habitats near Class I, II, and III watercourses are part of Green Diamond's Operating Conservation Program (AHCP Section 6.2), which includes establishment of RMZs for Class I and II watercourses, establishment of EEZs for Class III watercourses, and limited activities within the RMZs and EEZs. These measures will increase the quantity and quality of these habitats compared to existing conditions. Green Diamond also would continue to implement ownership-wide measures and procedures, management and monitoring in accordance with the requirements of the CFPRs. The proposed Agreement will not change the activities covered or the conservation measures in the AHCP but will facilitate implementation of the Operating Conservation Program (AHCP Section 6.2).

Based on the foregoing analysis and that in the EIS, it is concluded that the Project would not have significant effects on riparian habitats or other sensitive natural communities in the Project Area.

- c) Green Diamond avoids or minimizes potential adverse impacts to federally-protected wetlands as defined by Section 404 of the Clean Water Act by the continued adherence to measures contained in the CFPRs. Wetland habitats that are protected from forestry activities under the CFPRs would not be disturbed by Green Diamond's activities or would be disturbed only incidentally; the same measures employed as part of timber operations subject to the CFPRs plus the additional Conditions contained in Section 11 of the Agreement would be utilized to mitigate or avoid any significant impact of Project Activities outside of THP areas.

- d) Green Diamond's Operating Conservation Program (AHCP Section 6.2) includes multiple conservation measures to reduce the interference with movement of resident or migrant fish or wildlife, particularly anadromous fish species that use streams within the Project Area as migratory corridors, and as spawning and rearing grounds. The proposed Agreement would not change the activities covered or the conservation measures in the AHCP, but will facilitate implementation of the AHCP.

The Operating Conservation Program (AHCP Section 6.2) and the Conditions contained in the Agreement address fish access issues associated with streambed alteration, namely new roads, by requiring the installation of bridges on fish-bearing streams where feasible. When a bridge installation is not feasible, a "fish-friendly" structure would be installed that would provide upstream and downstream fish passage. Also, potential fish passage problems at existing road crossings would be documented during the road inventory process, and culverts that are impeding fish passage would be prioritized for replacement with a bridge or other "fish friendly" structure. As culvert replacement is implemented over time, fish passage problems at road crossings would be eliminated. These actions would result in improved stream connectivity in the Project Area.

These conservation measures would reduce the interference with movement of resident or migrant fish or wildlife, particularly anadromous fish species that use waterways within the Project Area. Based on the foregoing analysis and that in

the EIS for the AHCP, it is concluded that the Project will not interfere substantially with the movement of any native resident or migratory fish and wildlife species in the Project Area. Therefore, the Project would not have significant effects on the movement of fish and wildlife species in the Project Area.

- e) The Project will not conflict with any local policies or ordinances put in place to protect biological resources.
- f) The Project will not conflict with any local, regional, or state habitat conservation plan, nor will it conflict with Green Diamond’s AHCP or NSO HCP (Simpson Timber Company, 1992) and associated amendments (Green Diamond, 2007).

References

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U.S. Fish and Wildlife Service (USFWS). Environmental Assessment for the Northern Spotted Owl Habitat Conservation Plan for the *Green Diamond Resource Company, Humboldt and Del Norte Counties, California*. 2007

Cultural Resources

| <u>Issues (and Supporting Information Sources):</u> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 5. CULTURAL RESOURCES— Would the project: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Setting

The earliest inhabitants of the north coast region of California are thought to be ancestors of the Karok, which were probably adapted to inland hunting and gathering

and arrived sometime around 5,000 years ago (Hildebrant, 1981). Further investigations indicate that exploitation of marine resources apparently was not an important part of the subsistence patterns of the northwest coast until relatively recently.

Discussion

- a-d) Green Diamond would continue to conduct timber harvesting in the Project Area in accordance with existing regulations and guidelines discussed in detail in Section 2.1 of the AHCP EIS. The measures and procedures detailed in the AHCP and the other Conditions contained in the proposed Agreement's ((Appendix A) Attachment 3, *Green Diamond Resource Company Protocols and Procedures for Protection of Cultural Resources*, would not change the way in which State cultural resources regulations are applied. Green Diamond would continue to implement ownership-wide measures and procedures, management, and monitoring in accordance with the requirements of the CFPRs, including for those Project Activities that are not covered by THPs, and would continue to comply with the cultural resources protections discussed in Section 2.1 of the AHCP EIS.

For road related Authorized Activities associated with a proposed THP, Green Diamond would continue to comply with the CFPRs in the preparation of THPs, to include: (1) conducting an archaeological record search at the Northwest Information Center North Coast Information Center; (2) contacting local Native Americans identified by the Native American Heritage Commission (NAHC) and allow for their participation, particularly in regard to sacred site areas; (3) providing a professional archaeologist or a person with archaeological training (in accordance with the CFPRs) to conduct a field survey for archaeological and historical sites in the area covered by the THP; (4) preparing a confidential addendum to the THP, including a survey coverage map showing the locations of identified cultural resources; (5) coordinating with Cal Fire to assess the "significance" of known archaeological or historical sites that cannot be avoided during THP operations and developing protection measures, as necessary, to reduce potential impacts to a less than significant levels; and (6) submitting completed site records for each site determined to be a "significant" archaeological or historical site in a manner consistent with the recording standards identified in the State Office of Historic Preservation's Instruction for Recording Historical Resources.

For planned road-related Authorized Activities on roadways not associated with a proposed THP, Green Diamond would utilize modified California Forest Practice Act procedures to identify, avoid or mitigate, and document cultural resources in the planning and implementation of these activities, to include: (1) conducting an archaeological record search for each Project activity site at the Northwest Information Center North Coast Information Center; (2) contacting local Native Americans identified by the NAHC; (3) providing a professional archaeologist or a person with archaeological training (applying the same selection standards as established in the CFPRs) to conduct a field survey for archaeological and historical sites; (4) assessing the "significance" of known archaeological or historical sites that cannot be avoided during THP operations and developing protection measures, as necessary, to reduce potential impacts to a less than significant levels; (5) preparing a confidential report that identifies significant cultural resources as well as identifies specific protection measures to be implemented both within the site boundaries and within 100 feet of the site; and (6) submitting completed site records for each site determined to be a

“significant” archaeological or historical site in a manner consistent with the recording standards identified in the State Office of Historic Preservation’s Instruction for Recording Historical Resources. In addition, the Professional Archeologist would file an annual report with the DFG summarizing the measures implemented to avoid or reduce the impacts of proposed activities to insignificance on all sites determined to be significant and documenting that the other procedures outlined above were followed for all project activities that are not subject to THPs.

In either case (THP related road site projects and non-THP related road site projects), the minimization and mitigation measures would not change the way in which State cultural resources regulations are applied. Green Diamond would continue to implement ownership-wide mitigation, management, and monitoring measures in accordance with the requirements of the CFPRs, and would comply with the cultural resources protections discussed above. As a result of applying the CFPRs and the additional protective measures outlined and modified above for non-THP road related activities; effects to cultural and historic properties are expected to be not significant. The potential for impacts to cultural resources under the Project would be the same as under pre-Project conditions.

- d) If an archeological or historical site that was not identified in a THP or a non-THP project site is discovered during operations, the equipment would immediately stop operations within 100 feet of the site and notify as appropriate Cal Fire and Green Diamond management, and resource protection measures would be implemented. In the event of discovery or recognition of any human remains outside a dedicated cemetery, no further disturbance of the site or any nearby area would occur until the county coroner determined that no investigation of the cause of death is required. If the remains are of Native American origin, then the descendants of the deceased Native Americans must make a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains of any associated grave goods as provided in PRC Section 5097.98. Green Diamond would continue to comply with these cultural resources protections. Green Diamond would follow the same approach for Project Activities that are not covered by THPs. Therefore, the potential for impacts to cultural resources under the Project would be the same as under pre-Project conditions.

References

- Hildebrant, W.R. 1981. Native hunting adaptations on the North Coast of California. Ph.D. Dissertation, Department of Anthropology, University of California. Davis, California.

Geology, Soils, and Seismicity

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 6. GEOLOGY, SOILS, AND SEISMICITY— Would the project: | | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv) Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

Regional Geology

The Project Area is located mostly within the California Coast Ranges geologic province. The eastern margin of the northern part of the Project Area is within the Klamath Mountains geologic province. This province includes a complex of various geologic terranes that collectively are within the convergent margin of the North American plate. Within the individual provinces and terranes, geomorphic conditions vary widely.

On a regional scale, the bedrock in the Project Area is a composite of accreted oceanic rocks and pre- and post-accretionary plutonic rocks that are overlain in places by younger depositional strata. Locally, the bedrock can vary greatly, ranging from deeply weathered sandstone and mudstone, to metasedimentary rock, greenstone, and ultramafic bedrock.

The geologic structure of the region generally is dominated by a series of north to northwest trending faults. The faults correspond to topographic highs (such as the South Fork Mountain Fault) and topographic lows (such as the Grogan Fault). Numerous northwest-trending anticlines and synclines are associated with the faulting and also contribute to the shape of the landscape.

The extensive uplift of the region is well known. The height of the mountains and the high elevation of bedrock that is composed of marine sediments and ultramafic ophiolite sequences are the most obvious indicators of this uplift.

Accretion, deformation, and uplift of the region are ongoing today, as interactions continue among the Gorda, Pacific, and North American tectonic plates along the continental margin. Slip rates along the major thrust faults in the area are on the order of several millimeters per year (California Geological Service [CGS], formerly the California Department of Mines and Geology [CDMG], 1996).

Coast Ranges Province

The majority of the Project Area is located within the Coast Ranges Province. The rocks of the Coast Ranges represent oceanic crust that was accreted to the continent beginning in the mid-Jurassic period (approximately 140 million years ago). Similar to the Klamath Mountains Province, the assemblages of the Coast Ranges terranes are fault-bounded and exhibit a sequential east to west accretionary pattern. The Coast Ranges Province in the Project Area is dominated by the Franciscan Complex, which includes three major belts (Eastern, Central, and Coastal). Cashman et al. (1995) and McLaughlin et al. (2000) describe the rocks of these belts and the geologic terranes in further detail. In general, the most abundant types of rock units found within these terranes consist of layered and interlayered sequences of marine sandstone (i.e., greywacke sandstone), schist, mélangé, mudstone, shale, and other common rock types such as serpentinite, chert, and conglomerate, basalt, and Coast Ranges ophiolitic rocks. Sedimentary deposits that formed in a variety of marine to nonmarine environments overlie the late Cenozoic to late Mesozoic accreted terranes of the Franciscan Complex. These deposits (the Late Cenozoic post-accretionary Overlap Assemblage) are partly similar in age to the Franciscan basement rocks. However, the rocks are considerably less deformed, unmetamorphosed, and less lithified than the rocks of the Franciscan Complex (McLaughlin et al., 2000). The primary rock units that occur in the overlap assemblage within the Project Area are represented by the formations of the Wildcat Group and, to a lesser extent, the Bear River beds. In general, the Wildcat Group consists predominantly of a sequence of weakly to moderately well-lithified marine sandstone, siltstone, mudstone, and nonmarine sandstones and conglomerates.

Klamath Mountain Province

Less than 20 percent of the Project Area is located within the Klamath Mountains Province. At present, five major terranes of the Klamath Mountains are recognized, and several of these terranes are subdivided into two or more geologic units. Each terrane is bordered by major faults that represent lines or sutures where plate fragments are joined (Harden, 1998).

The rocks and terranes of the Klamath Mountains Province that underlie the Project Area include the Western Jurassic Belt and Western Paleozoic and Triassic Belt, as described below.

The rocks of the Western Jurassic Belt underlie the eastern margin of the Project Area. This belt represents the youngest accreted terranes within the Klamath Mountains Province. To the west, the rocks of the Western Jurassic Belt are separated from the rocks of the Coast Range by a major fault (the South Fork Mountain Thrust Fault).

The Western Paleozoic and Triassic Belt is located to the east of the Western Jurassic Belt. One terrane (Rattlesnake Creek) of this belt occurs within the Project Area. The Western Paleozoic and Triassic Belt is separated from the Western Jurassic Belt by a complex network of thrust faults.

Rocks that may occur within both the Klamath and Coast Range provinces include units of unconsolidated or weakly consolidated Quaternary and Tertiary materials such as terrace deposits, alluvial and colluvial materials, coastal sediments, and unusual occurrences of post-accretionary intrusive rocks (e.g., Coyote Peak diatreme).

Seismic Hazards and Faults in the Project Area

Northern coastal California and the adjacent offshore area constitute one of the most seismically active areas in the state (Cashman et al., 1995). This entire area is subject to earthquakes on several onshore faults and falls within the Cascadia subduction zone, an area thought to be capable of great (magnitude 8 to 9) earthquakes (CGS, 1996). The high level of tectonic activity in the region is also attributed to the proximity of the Mendocino triple junction (McKenzie and Morgan, 1969), an offshore boundary (located south of the Project Area) which separates three major crustal plates and is the northern terminus of the San Andreas Fault.

Several moderately active crustal faults (e.g., the Little Salmon, Mad River, Trinidad, and Fickle Hill faults) are located near or within portions of the Project Area. Faults that show evidence of recent (Quaternary) movement and those faults that form the boundaries that separate the major belts, terranes, and subterranes of the Klamath Mountains and Coast Range Provinces are described below.

Although most of the faults strike northwest, they exhibit a range of orientations from shallowly dipping to vertical, and also represent different deformational episodes (Monsen and Aalto, 1980; Cashman and Cashman, 1982). In addition, the orientations of the region's faults and geologic terranes often mark contacts between distinctly different rock units that, in turn, strongly influence area topography and drainage patterns. The faults that exhibit evidence of recent activity may also delineate potential geologic hazard zones (i.e., the occurrence of high ground accelerations resulting from earthquakes on nearby faults may directly or indirectly result in slope failures).

Geomorphology

Landform Development and Soils

The topography of the Project Area is highly variable and consists of landforms ranging from steep terrain with deeply incised narrow drainages, to rolling landscapes with less deeply incised drainage networks. The region has experienced high rates of uplift, deformation, and accompanying channel down cutting. Parallel to these processes, the area has experienced relatively high denudation rates and the upper reaches of many drainages have been sculpted over geologic time by repeated shallow landslides. At present, landslides are common throughout the Project Area and continue to be a major force shaping the modern landscape.

Area geology, along with the influence of climate, vegetation, and topography, resulted in the formation and distribution of a large number of different soil series within the Project Area. Six predominant soils series within the Project Area are Hugo, Masterson, Melbourne, Larabee, Josephine, and Atwell. The remaining soils include those soils that are either unmapped or cover smaller discontinuous sections of the Project Area.

Landslide Classification and Landslide-Prone Terrain

Many types of hillslope mass wasting occur within the Coast Range and Klamath Mountain provinces. As mentioned, landslides are common throughout the Project Area. Intense and prolonged rainfall events combined with area geology, geomorphology, and timber harvesting activities often result in conditions that are highly susceptible to excessive erosion and landslides, especially when high antecedent groundwater conditions exist. Types of landslides in the Project Area are described below based on

the classifications in Cruden and Varnes (1996) and CGS (1997), with modifications to suit the conditions present in the area:

- **Shallow-Seated Landslides.** Shallow-seated landslides are generally confined to the overlying mantle of colluvium and weathered bedrock, although in some instances may involve competent bedrock as well. Most shallow landslides are rapid events and commonly leave a bare unvegetated scar after failure. Types of shallow-seated landslides in the Project Area include debris slides, debris flows/torrents, channel bank failures, and rock falls.
- **Deep-Seated Landslides.** Deep-seated landslides typically have a basal slip plane that extends into bedrock. Most deep-seated failures move incrementally; catastrophic failure is relatively rare. Active slides typically are vegetated with trees, grass, or both. Types of deep-seated landslides in the Project Area include translational/rotational rock slides and earthflows.

Landslide-Prone Terrains.

Both deep and shallow landslides occur within the Project Area, with shallow landslides most common on slopes steeper than 60 percent to 70 percent. In general, steep streamside slopes, inner gorge slopes, steep headwall swales, and breaks-in-slopes have been identified as areas with greater potential for producing shallow landslides compared to adjacent slopes. Landslides are also more frequent in areas of convergent slope form where surface and ground waters tend to concentrate and where colluvial soils tend to be thickest.

Discussion

- a) Implementation of the AHCP within the AHCP area, the CFPRs within areas outside of the AHCP area, and additional Conditions contained in the proposed Agreement (Appendix A) would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of an earthquake fault, seismic ground shaking, seismic-related ground failure, or landslides as described below.
- According to CGS, active faults have been delineated by the most recent Alquist-Priolo Earthquake Fault Zoning Map in Humboldt County within the Project Area. Due to the unpredictable nature of earthquakes, a certain degree of risk to people working in the Project Area will always exist. However, activities conducted under the Project will not result in the rupture of any known earthquake fault in the Project Area and any adverse effect on persons working in the Project Area would be less than significant.
 - The region's tectonically active nature presents the potential for seismic ground shaking and seismic-related ground failure. Some of the Project Area located in Humboldt and Del Norte counties overlays fault zones; however, the portions with particularly high concentration of faults are limited. Also limited is the amount of time that personnel working within the Project Area would be exposed to the associated risks. Considering these limitations, the potential for exposure of these persons from adverse effects involving seismic ground shaking would be a less than significant impact.
 - Seismic-related ground failure and liquefaction may occur where the Project Area aligns with tectonically active zones in areas of convergent slope form. This is because surface and ground waters tend to concentrate in these areas and because colluvial soils tend to be thickest in these areas. While many areas of convergent slope form occur in the Project Area, few, if any, are tectonically active areas. Therefore, it is unlikely people will be exposed

to potentially substantial adverse effects as a result of seismic-related ground failure or liquefaction.

- Green Diamond would continue to conduct timber harvesting and related operations in the Project Area, in accordance with the measures described in Section 2.1 of the EIS. In addition, Green Diamond would implement specific slope stability measures (AHCP Section 6.2.2) which include identification of steep streamside slopes, headwall swales, and deep-seated and shallow rapid landslides. Green Diamond also would continue to implement ownership-wide measures and procedures, management, and monitoring measures in accordance with the requirements of the CFRs.

“Steep streamside slope” conservation measures described in the AHCP would reduce timber management-related landslide occurrences and associated sediment loads (AHCP Section 6.2.2.1). Implementation of increased tree retention in the SMZs and associated RSMZs (AHCP sections 6.2.2.1.5 and 6.2.2.1.6) is expected to maintain a network of live roots that would preserve soil cohesion and contribute to slope stability in these areas. Increased tree retention also is expected to help maintain forest canopy, which would preserve some measure of rainfall interception and evapotranspiration. Maintenance of rainfall interception and evapotranspiration is expected to contribute to slope stability conditions in some locations by minimizing the likelihood of management-induced high ground water ratios. Limited road construction and road reconstruction on unstable slopes and in RMZs would likely result in avoiding or reducing the undercutting and overburdening of sensitive hill slopes and help avoid unnatural concentration of storm runoff on these slopes. The application of more conservative streamside management zone (SMZ) prescriptions in areas more susceptible to hillslope mass wasting, plus the avoidance or limitation of timber harvesting in certain landslide-prone areas, would result in a reduced potential for timber management-induced landslides (Section 4.2.3.2 of the AHCP EIS).

Under the AHCP (Section 6.2.2.2), the silviculture prescription employed in areas identified as headwall swales will be single tree selection, where even spacing of unharvested trees will be provided where the trees are available to allow it, and all hardwoods will be retained. There will be only one harvesting entry in headwall swales during the term of the Permits. New road construction will avoid field-verified headwall swales where feasible. Where such areas cannot be avoided or where road reconstruction is required, the terrain will be evaluated by a Professional Geologist (PG) and RPF with experience in road construction in steep forested terrain.

In addition to harvest restrictions, Green Diamond will not construct new roads across active deep-seated landslide toes or scarps or on steep (greater than 50 percent gradient) areas of dormant slides, without approval by a PG and a RPF with experience in road construction in steep forested terrain (AHCP Section 6.2.2.3). Likewise, new road construction will avoid shallow rapid landslides that meet specific criteria where feasible. Where such areas cannot be avoided or where major road reconstruction is required, the terrain will be evaluated by a PG and RPF with experience in road construction in steep forested terrain (AHCP Section 6.2.2.4).

During THP development, Green Diamond’s RPF will do one of the following when he or she determines that any portion of the THP meets the steep streamside slope, headwall swale, or deep-seated landslide definitions:

- Impose the default prescription applicable to that feature as set forth above, or
- Retain a California PG to: (1) evaluate the likelihood that timber harvest operations will cause, or significantly elevate, the risk of causing or reactivating landslides within the prescription zone that will likely result in sediment delivery to watercourses; and (2) work with the RPF to prepare a more cost-effective, site-specific alternative to the default prescription.

In addition, a qualified biologist will be involved in evaluating the potential biological consequences whenever a more cost-effective alternative to the default prescription is proposed. THPs for which a geologic report is prepared and the conclusions of which allowed for alternatives to replace the default prescriptions will be flagged as such when submitted for review by Cal Fire and other agencies.

Overall, the slope stability and other measures in the AHCP are anticipated to decrease the risk of landslides in the Project Area over existing conditions. Impacts would be less than significant with inclusion of these measures and procedures.

- b) Green Diamond would continue to conduct timber harvesting in the Project Area in accordance with existing regulations and guidelines discussed in detail in Section 2.1 of the AHCP EIS. In addition, the existing measures used by Green Diamond to protect Class I, II, and III watercourses would be supplemented by Green Diamond's Operating Conservation Project within the AHCP area (AHCP Section 6.2), which includes minimum overstory canopy-retention standards within RMZ inner and outer zones, limitations on equipment use, and retention of trees judged to be critical to maintaining bank stability. Green Diamond also would continue to implement ownership-wide measures and procedures, management, and monitoring measures in accordance with the requirements of the CFPRs and the additional Conditions set forth in the proposed Agreement (Appendix A).

The harvest-related ground disturbance conservation measures (Section 6.2.4 of the AHCP) are designed to minimize management-related surface erosion. In particular, there are operational restrictions on silvicultural and logging activities during those time periods when timber operations have a greater potential for sediment delivery to watercourses. The time period restrictions allow only those harvest activities with relatively low ground disturbance (and associated low potential for surface erosion), such as certain ground-based yarding (not requiring constructed skid trails) and skyline and helicopter yarding, to be conducted during the winter period. Those harvest activities that have the potential to create more ground disturbance (e.g., skid trail construction and mechanized site preparation) are limited to the summer period, with some activities (e.g., ground-based yarding with tractors, skidders, or forwarders) extending into the early spring or late fall if certain favorable climatic conditions occur. More closely spaced waterbreaks are required on highly erodible soil types upslope of RMZs or EEZs where skyline yarding roads require treatment. In addition, some harvest-related ground disturbance measures focus on minimizing ground disturbance and the associated exposure of bare mineral soil within harvest units. With implementation of the AHCP/CCAA, the risk of harvest-related surface erosion is expected to decrease slightly relative to existing

conditions. Impacts would be less than significant with inclusion of these measures and procedures.

To address potential road-related sediment production, the AHCP includes road management conservation measures for both new and existing roads (see Section 6.2.3 of the AHCP). These include the following measures:

- Methodology to classify roads on the basis of use and to prioritize road work and site-specific repairs
- Improved standards for road repairs and upgrades
- Improved standards for stream crossing, and culvert repairs and upgrades
- Improved standards for temporary and permanent roads
- A training program for equipment operators and supervisors on the Road Management Plan and other AHCP standards and practices.

The Proposed Action's Road Management Plan also provides additional measures that include:

- An accelerated repair of high-and moderate-risk sediment delivery sites during the first 15 years of the term of the Permits
- A commitment to fix all of the high and moderate-risk sediment delivery sites by the end of 50-year term of the Permits
- Increased restrictions on wet weather road use, construction, up-grading, and decommissioning

With implementation of the AHCP within the AHCP area, the CFPRs within areas outside of the AHCP area, and the additional Conditions set forth in the proposed Agreement (Appendix A), surface erosion from roads and landings is expected to decrease relative to existing conditions. Impacts would be less than significant with inclusion of these measures and procedures.

- c) Mass Wasting Assessments (MWAs) will be conducted to determine mass wasting related effects. Consequently, geologic units or soils that are unstable will not be used as part of the Project.
- d) According to the Table 18-1-B of the Uniform Building Code (1994), expansive soils do exist within the Project Area. The AHCP, however, contains slope stability and ground disturbance measures along with the Road Maintenance and Inspection Plan that will minimize the risk to life or property in areas with expansive soils. Therefore, it is concluded that the Project will not create additional risks to life or property relative to existing conditions.
- e) No septic tanks or wastewater disposal systems are expected to be used as part of the Project; therefore, no soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems will be used.

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Greenhouse Gas Emissions

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 7. GREENHOUSE GAS EMISSIONS– Would the project: | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

The assessment area for greenhouse gas (GHG) emissions is the California timberland ownership of Green Diamond and the public transportation routes for the delivery of the logs to the manufacturing centers. Because the use and disposition of manufactured

wood products is not under the control of Green Diamond after it is delivered to the primary manufacturing center, the direct GHG emissions of manufacturing activities are not analyzed here.

There are 16.6 million acres of productive public and private timberland (statutorily available for harvest) in California (Cal Fire, 2003). Green Diamond owns 435,000 acres in northwestern California. This represents 2.6 percent of the total timberland, and 5.9 percent of the 7.3 million acres of the private timberlands in the State.

Regulatory Context

The California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) is California's legislative effort aimed at reducing GHG emissions. Pursuant to AB 32, California Air Resources Board (CARB) must develop an implementation program and adopt control measures to achieve the maximum technologically feasible and cost-effective GHG reductions. AB 32 requires the CARB to prepare a Scoping Plan to achieve reductions in GHG emissions in California. On June 26, 2008, CARB staff presented the initial draft of the AB 32 Scoping Plan for Board review. The AB 32 Scoping Plan contains the key strategies California will use to reduce the GHG emissions that are thought to cause climate change. With respect to forestry practice, the Scoping Plan provides:

The 2020 target for California's forest lands is to achieve a 5 MMTCO₂E reduction through sustainable management practices, including reducing the risk of catastrophic wildfire, and the avoidance or mitigation of land-use changes that reduce carbon storage. California's Board of Forestry and Fire Protection has the regulatory authority to implement the Forest Practice Act to provide for sustainable management practices and, at a minimum, to maintain current carbon sequestration levels. The federal government must do the same for lands under its jurisdiction in California. California forests are now a net carbon sink. The 2020 target would provide a mechanism to help ensure that this carbon stock is not diminished over time. The 5 MMTCO₂E emission reduction target is set equal to the current estimate of the net emission reduction from California forests. As technical data improve, the target can be recalibrated to reflect new information.

In addition to legislation aimed at sector-wide GHG emissions reduction, California law also requires that an individual project's potential impacts on global climate change from GHG emissions be evaluated pursuant to CEQA. To aid in the evaluation of GHG emissions and potential climate change impacts, the Governor's Office of Planning and Research (OPR) issued an interim technical advisory, which provides that a project's impacts on climate change must be analyzed pursuant to CEQA, and that, as with other potential environmental impacts, the CEQA lead agency is required to make a finding of significance for the project. OPR's CEQA Advisory recognizes the difficulty in establishing a significance threshold and making significance determination for a project's impacts on climate change. Nonetheless, OPR advises that each agency must establish its own significance threshold or undertake project-by-project analysis. Pursuant to CEQA Guidelines Section 15064.7(a), a significance threshold should be "an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect will normally be determined to be less than significant."

On January 8, 2009, OPR issued "Draft CEQA Guidelines Amendments for Greenhouse Gas Emissions" ("Draft Guidelines") for public review and comment. Consistent with the

Technical Advisory and existing CEQA Guidelines Section 15064.7, the Draft Guidelines propose to add Section 15064.4, which provides that in making a significance determination related to impacts on climate change, a lead agency may consider "the extent to which the project could help or hinder attainment of the state's goals of reducing greenhouse gas emissions to 1990 levels by the year 2020 as stated in the Global Warming Solutions Act of 2006."

Discussion

- a) Direct GHG emissions from timber harvest activities are estimated to be 0.1050 metric tons of CO₂ for every one thousand board feet of harvested timber (short log Scribner scale), resulting from equipment emissions related to the logging. These emissions are insignificant relative to global CO₂ emissions that are thought to affect climate. There is virtually no opportunity to reduce these emissions in a manner that would meaningfully benefit the climate because they are already miniscule (EPA 2005). An acre of managed forest is entered with equipment once every 50 years or so with emissions measured in hours of equipment operation over those fifty years. Few if any other land uses can match the low intensity of CO₂ emissions over space and time that are associated with commercial forestry.

The GHG effects of timber harvest are further diminished by the mitigating effects of carbon sequestered in the lumber produced from harvest and by the overall management plan for Green Diamond's California timberlands. Green Diamond conservatively estimates that on a weighted average, 47 percent of the carbon in timber it harvests today will remain sequestered in wood building components for at least 100 years. If products stored in landfills are also included, the weighted average increases to 76 percent. The 100-year permanency period is the same as that used by the California Climate Action Registry for its analysis of a permanent carbon offset. Accordingly, for every metric ton of CO₂ emissions attributed to the operation of timber harvesting and hauling equipment, 13.7 metric tons of CO₂ will be sequestered in the wood products produced from the harvest.

Green Diamond conservatively estimates that its forest management activities result in an average annual sequestration of over 45,000 metric tons of CO₂ equivalents each year. This estimate is likely to be low because it assumes that all slash and lumber manufacturing byproducts are immediately released as CO₂, and it excludes all fossil fuel substitution benefits derived from the use of wood waste as a fuel used to generate steam and electricity. Green Diamond's estimate of substantial net carbon sequestration benefits is based on the long-term management plan for its California Timberlands. Green Diamond's long-term management (approved "Option A") plan also provides a conservative view of net carbon sequestration because, although Green Diamond will not harvest more than that described in its approved Option A document, Green Diamond may harvest less timber or defer timber harvest within the scope of the plan as a response to market conditions or for other reasons.

- b) Ongoing timber management operations covered under the Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Therefore, there would be no impact of this kind.

References

California Department of Forestry and Fire Protection 2003. The Changing California; Forest and Range 2003 Assessment.
http://frap.fire.ca.gov/assessment2003/Assessment_Summary/assessment_summary.html

California Air Resources Board. Climate Change Scoping Plan, a framework for change. Pursuant to AB 32, the California Global Warming Solutions Act of 2006. 152 pp. 2008.

Office of Planning and Research. Draft CEQA Guideline Amendments for Greenhouse Gas Emissions. State of California, Governor's Office of Planning and Research. 2009.

U.S. Environmental Protection Agency (EPA). Greenhouse Gas Mitigation Potential in U.S. Forestry and Agriculture. Available online at:
<http://www.epa.gov/sequestration/pdf/greenhousegas2005.pdf>. 2005

Hazards and Hazardous Materials

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 8. HAZARDS AND HAZARDOUS MATERIALS-- Would the project: | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Setting

Definitions

Hazardous Materials

Hazardous materials are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are grouped into the following four categories, based on their properties: toxic (causes human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), and reactive (causes explosions or generates toxic gases).⁴ Hazardous materials have been and are commonly used in commercial, agricultural, and industrial applications, as well as in residential areas to a limited extent.

Hazardous Waste

A hazardous waste is any hazardous material that is discarded, abandoned, or is to be recycled. Hazardous materials and wastes can result in public health hazards if released to the soil, groundwater, or air.

Regulatory Setting

Hazardous Materials Management

Numerous local, State, and federal laws and regulations regulate the use, storage, and disposal of hazardous materials, including management of contaminated soils and groundwater. EPA is the federal agency that administers hazardous materials and waste regulations. State agencies include the California EPA, which includes the Department of Toxic Substances Control, the NCRWQCB, the CARB, and other offices. A description of agency jurisdiction and involvement in management of hazardous materials is provided below.

United States Environmental Protection Agency

EPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. The legislation includes the Resource Conservation and Recovery Act of 1986 (RCRA), the Superfund Amendments and Reauthorization Acts of 1986 (SARA), and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). The federal regulations are primarily codified in title 40 of the Code of Federal Regulations (40 CFR). EPA provides oversight and supervision for site investigations and remediation projects, and has developed land disposal restrictions and treatment standards for the disposal of certain hazardous wastes.

California Department of Toxic Substances Control

DTSC works in conjunction with EPA to enforce and implement specific laws and regulations pertaining to hazardous wastes. California legislation for which DTSC has primary enforcement authority includes the Hazardous Waste Control Act and the Hazardous Substance Account Act. Most state hazardous waste regulations are contained in CCR Title 22. DTSC generally acts as the lead agency for soil and groundwater clean-up projects, and establishes clean up and action levels for subsurface contamination that are equal to, or more restrictive than, federal levels.

⁴Title 22 of the California Code of Regulations, Division 4.5, Chapter 11, Article 3.

North Coast Regional Water Quality Control Board

The Project Area is within the jurisdiction of the NCRWQCB. RWQCBs are authorized by the California Porter-Cologne Water Quality Act of 1969 to implement water quality protection laws. RWQCBs provide oversight for sites where the quality of groundwater or surface waters is threatened, and has the authority to require investigations and remedial actions.

California Air Resources Board (CARB) and the North Coast Unified Air Quality Management District (AQMD)

The Project Area is in the North Coast Air Basin. CARB and the North Coast AQMD have joint responsibility for developing and enforcing regulations to achieve and maintain State and federal ambient air quality standards in the basin. CARB is responsible for enforcing the Clean Air Act and the CAAQs. The North Coast AQMD is responsible for regulating air emissions from stationary sources, monitoring air quality, and reviewing air quality issues in environmental documents. The Air Quality section in this initial study further describes the responsibilities of CARB and the District, air quality conditions in the North Coast Air Basin, and potential air quality impacts associated with the Project.

California Department of Fish and Game

The Department Enforcement Branch is responsible for enforcing FGC Section 5650, which establishes prohibitions on discharge of specified substances into the waters of the State. These include but are not limited to any substances that are deleterious to fish, plant life, mammals or bird life. Department personnel are responsible for reporting prohibited discharge to Enforcement personnel.

Local Hazardous Materials Management

The agency responsible for local enforcement of State and federal laws controlling hazardous materials management in Del Norte, Humboldt counties are the Del Norte County Department of Health and Social Services and Humboldt County Division of Environmental Health, respectively. These agencies became the Certified Unified Program Agencies (CUPAs) for these counties on January 1, 1997. The CUPA program regulates underground tanks, hazardous materials (including, but not limited to, hazardous substances, hazardous waste, and any material which a handler or the CUPA has reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment), and any unauthorized release of hazardous material. In addition, the CUPA program regulates medical waste and final disposal/transfer activities of solid waste. Currently, Cal EPA retains the responsibility for administering any CUPA programs in Trinity County. Since Trinity County has declined to apply for CUPA status, that responsibility will remain with Cal EPA for the foreseeable future. The one exception to this is the Underground Tank Program, which has been administered by Trinity County Environmental Health for over a decade.

Worker Health and Safety

Worker health and safety is regulated at the federal level by the federal Department of Industrial Relations. Worker health and safety in California is regulated by Cal/OSHA. California standards for workers dealing with hazardous materials are contained in CCR Title 8, and include practices for all industries (known as "General Industry Safety Orders"), and specific practices for construction, and hazardous waste operations and emergency response. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

Discussion

- a) Project Activities would involve the routine transport, use, or disposal of hazardous materials. However, because future activities are not substantially different or more intensive than ongoing activities already occurring in the Project Area, there would not be an increased hazard to the public from transportation of these materials.
- b) Construction activities and ongoing operations covered under the Project would involve use of heavy equipment and other machinery that use petroleum-based fuels, lubricants, and other fluids classified as hazardous materials. The routine use of such equipment and machinery carries the risk of leaks and spills due to accident, equipment failure, and routine fueling, lubricating, and maintenance. Because activities covered by the Project are not substantially different or more intensive than ongoing activities already occurring in the Project Area, there would not be a substantial increase in the risk of leaks or spills.

As described in the Conditions incorporated in the proposed Agreement (Section 11 of Appendix A), there are a number of measures included to minimize the potential for leaks and spills that could release hazardous materials into the environment. These measures include the following (identified by Condition reference number):

- A1.4. Equipment will not operate in a live (flowing) stream or wetted channel except as may be necessary to construct and remove in-stream structures (i.e. cofferdams) to catch, contain, and divert stream flow and isolate the work site, or as otherwise specifically provided for in this Agreement.
- A1.5. All heavy equipment that enters the live stream will be cleaned of materials deleterious to aquatic life including oil, grease, hydraulic fluid, soil, and other debris. Cleaning of equipment will take place outside of the RMZ and prior to entering water.
- A1.22. Refueling of equipment and vehicles and storing, adding or draining lubricants, coolants or hydraulic fluids will not take place within streambeds, banks or channels. All such fluids and containers will be disposed of properly.
21. Heavy equipment including water drafting trucks parked within RMZs streambeds, banks or channels will use drip pans or other devices (i.e., absorbent blankets, sheet barriers or other materials) as needed to prevent soil and water contamination. Stationary equipment such as motors, pumps, generators, compressors, and welders located within the dry portion of the stream channel or adjacent to the stream, will be positioned over drip-pans.
22. All activities performed in or near a stream will have absorbent materials designated for spill containment and clean-up at the activity site for use in case of an accidental spill. Notification and clean-up of all spills will begin immediately, in accordance with Green Diamond's Spill Notification procedures.

These measures will ensure that authorized activities will not create a significant hazard to the public or the environment through upset and accident conditions involving the release of hazardous materials into the environment.

- c) Project Activities will occur primarily in rural locations, far from existing or proposed schools. Consequentially the potential for impacts due to hazardous emissions or handling of hazardous material would be limited.
- d) Government Code Section 65962.5 requires several State agencies to compile and report lists of hazardous materials sites. Collectively, these lists are referred to as the “Cortese List” after the author of the enabling legislation (CalEPA 2006). Included in the Cortese List are a list of releases from leaking underground storage tanks (LUSTs) compiled by the SWRCB; a list of current Cease and Desist Orders (CDO) and Clean-Up and Abatement Orders (CAO) issued by the same agency; and a list of Hazardous Wastes and Substances sites compiled by DTSC. There are no sites on the “Cortese List” that would be affected by covered activities under the Project within the Project Area.
- e, f) Most of the Project Activities will occur primarily in rural locations, far from existing airports. The Project will not introduce new activities or inhabited structures within two miles of a public airport, public use airport, or private airstrip, and therefore would not pose a safety hazard to people residing or working in the Project Area.
- g) The Project Activities would not interfere with an adopted emergency response plan or emergency evacuation plan.
- h) Most of the activities covered by the Project will occur in rural locations, far from dense populations. Consequentially the number of people potentially exposed to significant risk of loss, injury, or death from wildland fires would be few. In addition, Green Diamond’s Operating Conservation Program (AHCP Section 6.2) will promote forest health and reduce the risk of wildfire. Therefore, it is concluded that the Project will not create additional risks of loss, injury or death due to wildfire.

Reference

California Environmental Protection Agency, *Cortese List*.
<http://www.calepa.ca.gov/SiteCleanup/CorteseList/>. Accessed September 28, 2006

Hydrology and Water Quality

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 9. HYDROLOGY AND WATER QUALITY— Would the project: | | | | |
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| c) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial erosion or siltation on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of a site or area through the alteration of the course of a stream or river or, by other means, substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

Logging, mining, road building, and grazing during the last 100 years, combined with local steep slopes, unstable geologic formations, and seasonally intense precipitation, have produced runoff and erosion concerns for portions of the Project Area. The north coast of California receives some of the heaviest precipitation in the State in the form of rain, snow, or both, depending on elevation.

Enhanced runoff, erosion, sedimentation, suspended sediments, and temperature are the chief water quality concerns of these coastal drainages. Some stream reaches and watersheds have been listed as impaired water bodies by the NCRWQCB, and as such are subject to development of total maximum daily loads (TMDLs). TMDLs will provide guidance for regulating suspended sediment concentrations or loads within certain project watersheds.

Watershed Characteristics

The Project Area is part of nine contiguous coastal drainage basins that encompass approximately 13.7 million acres in northwestern California and southern Oregon. The size of the Project Area relative to the coastal basins directly correlates to the potential influence of Green Diamond's timber operations on these basins. Green Diamond's fee ownership in the largest coastal basins (Klamath, Smith, and Eel rivers) is concentrated near the coast and is very small relative to total basin size, limiting the influence of Green Diamond's operations on these watersheds. Upstream factors including dams, water diversions, development, and other commercial land uses (e.g., agriculture and

non-Green Diamond timber management activities) further reduce the relative impact of Green Diamond's operations on these drainages. Some of the smaller coastal basins, in contrast, are largely owned by Green Diamond, and Green Diamond's management activities may be the main human-caused influence within these drainages.

Water Quality

Most surface waters in the Project Area have not been sampled for water quality, but key constituents of concern (temperature, suspended sediment, turbidity) have been analyzed from a number of locations. Values generally meet or exceed minimum NCRWQCB Basin Standards, although some of the streams are listed as impaired under Section 303(d) of the CWA. The list of waterbody impairments and existing beneficial uses is shown in Table 1 below.

TABLE 1
Waterbody Impairment and Beneficial Uses for Impaired Water Bodies in Project Area Watersheds

| Watershed | Listed Impairment | Existing Beneficial Uses^a |
|---|---|--|
| Klamath River (lower, Klamath Glen) | Temperature, Nutrients, Organic Enrichment/Dissolved Oxygen, Sediment/Siltation | MUN, AGR, GWR, FRSH, NAV, REC1, REC2, COMM, WARM, COLD, MIGR, SPWN, EST, AQUA |
| Trinity River (South Fork) | Temperature | MUN, AGR, GWR, REC1, REC2, COMM, COLD, WILD |
| Redwood Creek ^b | Temperature | MUN, AGR, IND, REC1, REC2, COMM, COLD, WILD, RARE, MIGR, SPWN, SHELL, EST |
| Mad River | Sediment/Siltation, Temperature, Turbidity | MUN, AGR, IND, PROC, POW, REC1, REC2, COMM, WARM, COLD, WILD, RARE, MIGR, SPWN, EST, AQUA |
| Eel River (lower) | Sediment/Siltation, Temperature | MUN, AGR, IND, GWR, NAV, POW, REC1, REC2, COMM, WARM, COLD, WILD, RARE, MIGR, SPWN, EST, AQUA |
| Van Duzen River | Sediment | MUN, AGR, IND, REC1, REC2, COMM, COLD, WILD, RARE, MIGR, SPWN, AQUA |
| Freshwater Creek | Sediment/Siltation | MUN, COMM, EST |
| Jacoby Creek | Sediment | MUN, AGR, IND, GWR, FRSH, NAV, REC1, REC2, COMM, COLD, WILD, RARE, MIGR, SPWN, EST, CUL |
| Elk River | Sediment/Siltation | MUN, COMM, EST |

^a Beneficial use codes are MUN municipal and domestic, AGR agricultural, IND industrial, PROC industrial process, GWR groundwater recharge, FRSH freshwater replenishment, NAV navigational, POW hydropower generation, REC1 body contact recreation, REC2 noncontact recreation, COMM commercial and sport fishing, WARM warm freshwater habitat, COLD cold freshwater habitat, WILD wildlife habitat, RARE threatened or endangered species, MIGR migration of aquatic organisms, SPWN fish spawning, SHELL shellfish, EST estuarine habitat, AQUA aquaculture, CUL Native American cultural.

^b Planning and restoration for Redwood Creek will occur with the National Park Restoration Plan.

Discussion

- a) Most surface waters in the Project Area have not been sampled for water quality, but key constituents of concern (temperature, suspended sediment, turbidity)

have been analyzed from a number of locations. Values generally meet or exceed minimum NCRWQCB Basin Standards, although some of the streams are listed as impaired under Section 303(d) of the CWA. The causes for impairment in these streams vary, but include many factors that are addressed in the AHCP, such as:

- Nonpoint-source erosion/siltation
- Rangeland
- Silviculture
- Loss of riparian vegetation
- Logging roads
- Streambank destabilization
- Erosion/siltation

Green Diamond's AHCP is not intended to address federal CWA/TMDL requirements. However, measures contained in the Operating Conservation Program (AHCP Section 6.2) that would be implemented within the AHCP area, the CFPRs within areas outside of the AHCP area, and the additional Conditions contained in the proposed Agreement (see Section 11. A.) will assist Green Diamond in obtaining RMWDRs from the NCRWQCB that would regulate potential discharges to watercourses associated with their Project Activities. Therefore, the Project would not violate any water quality standards or waste discharge requirements.

In general, harvest-related ground disturbance can cause soil compaction and result in reduced infiltration capacity of soils and altered subsurface water movement. This, in turn, can lead to increased surface runoff and augmented groundwater recharge patterns. Significant changes in groundwater recharge patterns may locally alter the groundwater table. In accordance with the Green Diamond's AHCP, establishing RMZs, SMZs and EEZs would result in a reduction in Project Area locations potentially exposed to soil compaction from use of heavy equipment (Section 4.4.3.1 of the AHCP EIS). Additionally, for those areas in which heavy equipment would be used, site preparation measures (including seasonal operating limitations for tractors, skidders, and forwarders, and minimized use of tractor and-brushrake piling) would result in reduced potential for ground compaction related to activities covered in the Project.

These harvest-related ground disturbance prevention/conservation measures are expected to reduce: (1) adverse impacts of operations-related alterations in hydrology (by minimizing soil compaction that can increase the magnitude of peak flows), (2) adverse impacts of operations-related alterations in hydrogeology (by minimizing soil compaction that can augment normal aquifer recharge patterns), and (3) the volume of sediment available for runoff during peak flow events.

- c, d) As outlined in the AHCP, Green Diamond would continue to conduct timber harvesting in the Project Area in accordance with existing regulations and management guidelines. In addition, the measures previously used by Green Diamond to protect Class I, II, and III watercourses have been supplemented by Green Diamond's AHCP Operating Conservation Program, which includes establishment of riparian management zones (RMZs) and equipment exclusion zones (EEZs) (AHCP Section 6.3.1). Green Diamond has also implemented the ownership-wide measures and procedures, management, and monitoring

measures in accordance with the AHCP. These measures, which are described in the AHCP include:

- Implementation of an ownership-wide Road Management Plan that provides for: selective and road-related fish passage enhancement (barrier removal); implementation of practices that are designed to minimize sediment discharge to Class I, II, and III watercourses; and decommissioning of some roads. The Road Management Plan provides for accelerated repair (over a 15-year period) of high- and moderate-risk sediment delivery sites on roads on Green Diamond fee ownership in accordance with the schedule established in the AHCP.
- Protection of unique geomorphic features, such as channel migration zones and floodplains.
- Adoption of various slope stability and ground disturbance conservation measures.
- Implementation of effectiveness monitoring, plus adaptive management with structured feedback loops.

Overall, the conservation measures contained in the AHCP and the additional Conditions contained in the proposed Agreement would not result in significant adverse changes to hydrological conditions and would result in improvements in water quality conditions relative to existing conditions and in the absence of the AHCP. Further, the conservation measures would reduce harvest- and road-related sediment production and delivery to Project Area streams and reduce water temperature and improve other water quality conditions (i.e., sediment). Monitoring and adaptive management activities under the AHCP would provide additional flexibility and a mechanism for changing or revising the AHCP prescriptions, if needed, based on their demonstrated effectiveness and other new information.

- e, f) The conservation measures under the AHCP (see Section 6.2.1 of the AHCP EIS) are anticipated to minimize the potential impacts that could otherwise result from altered hydrology in the Project Area. These measures would reduce the impacts of forest management on surface runoff and peak flows, reduce soil compaction and disturbance, and maintain or enhance in-channel LWD. Adverse impacts to hydrology and water quality that would occur will be minimized by the improved riparian conditions resulting from riparian management and decreased sediment production and delivery, as described in Section 4.4.3 of the EIS.

Therefore, it is concluded that the Project will not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems, provide additional sources of polluted runoff, or otherwise substantially degrade water quality.

- g) No new housing is to be constructed as part of the Project; therefore, no housing would be placed within a 100-year flood hazard area.
- h) No new structures that may impede or redirect flood flows are to be proposed by the Project; therefore, no structures would impede or redirect flood flow within a 100-year flood hazard area.
- i) As described above under (d), the Project would not result in significant adverse changes to hydrological conditions, including flooding. Levees and dams would not be constructed as part of the Project. Therefore, the Project would not

expose people to significant risk of loss, injury, or death involving flooding, including flooding as a result of levee or dam failure.

- j) Portions of the Project Area lie within coastal regions which may be at risk from tsunamis. Further, topographically varied regions within the Project Area may be at risk from mudflows. Due to the unpredictable nature of tsunamis and mudflows, a certain degree of risk will always exist for persons working in these regions. However, activities conducted under the Project will not expose people or structures to a significant risk of loss, injury, or death involving inundation by tsunami, or mudflow. No people or structures will be exposed to significant risks as a result of seiches.

Land Use and Land Use Planning

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 10. LAND USE AND LAND USE PLANNING— Would the project: | | | | |
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

The Project is located within Del Norte, Humboldt and Trinity counties, which contain significant amounts of land (both federal and private) in timber production. Del Norte County is 705,920 acres, of which most is under State or federal ownership as parks/recreation areas or national forests. Private commercial forestlands in Del Norte County comprise approximately 146,771 acres, including Green Diamond fee-owned lands. Humboldt County is 2,286,270 acres in size, with approximately 990,000 acres as private lands devoted to timber production (Humboldt County, 1984). Trinity County contains 2,042,240 acres of which 1,002,000 acres are publicly owned forest land with an additional 473,000 acres held by the United States Government and the State of California. There is a total of 1,357,000 acres in commercial forest land of which 1,002,000 acres are publicly owned and 355,000 acres are privately owned.

The Project Area in Del Norte County borders a mix of other land uses, primarily other timber production areas and parks and recreation areas. Most of the eastern border of the Project Area in Del Norte and Humboldt counties borders the Six Rivers National Forest, which is managed by the USFS for multiple uses, including timber production and recreation. The Project Area also borders the Redwood National and State Parks (Redwood National Park, and Jedediah Smith, Del Norte Coast, and Prairie Creek Redwoods State Parks), which are managed jointly by the National Park Service and the California Department of Parks and Recreation. Other State park areas are also located nearby the Project Area. Commercial timber harvesting is not allowed in the parks, and resource preservation and recreation values are the primary management emphases.

The Project Area also borders the Hoopa Indian Reservation in northeastern Humboldt County. Green Diamond lands border other industrial and nonindustrial forestlands on the east and west throughout central Humboldt County. The western boundary of the Headwaters Reserve, managed by the Bureau of Land Management (BLM) and the California Department of Parks and Recreation, abuts the Project Area in central Humboldt County. Other portions of the Project Area are generally surrounded by other industrial and nonindustrial forestlands.

Developed population centers near the Project Area in Del Norte County are generally not present. The primary Humboldt County population center within the vicinity of the Project Area is the Eureka/Arcata area. Other towns near the Project Area include Fortuna, Rio Dell, and Carlotta. Trinity County contains several small communities, with no incorporated cities. The majority of the county's population is concentrated in and around the communities of Weaverville, Hayfork and Lewiston.

Local land use regulations that apply to the Project Area include the general plans and zoning ordinances of both Del Norte and Humboldt counties. Project Area lands are designated as "Forestry" in the Del Norte County General Plan, and as "Timber Production" in the Humboldt County General Plan. These designations are applied to areas that have essential characteristics for timber production, and are intended to conserve forest resource values of the designated area. Since 1968 Trinity County has protected its highly productive forest lands through an agricultural forest-districts zoning. Forest-district zoning permits the management of land and forests for the production and harvesting of trees, including tree farming; management of land and forest in a manner designed to provide protection from fire caused by either man or nature; insects, diseases or other catastrophe.

Most of the Project Area is zoned as Timber Production Zone (TPZ). Created in accordance with California's Timberland Productivity Act of 1982, the classification is intended to promote continued timberland management. Land use in a TPZ classification is restricted to growing and harvesting timber, in addition to other compatible uses.

Discussion

- a) No established communities lie within the Project Area. Therefore, activities associated with the Project would not physically divide any established community.
- b) The General Plans of Del Norte, Humboldt and Trinity counties designate the Green Diamond forestlands and other private forestlands in the vicinity of the Project Area as suitable for timber production. This designation is consistent with past and intended future uses of the Project Area. Because activities under the Project would continue essentially the same type of management activity as is currently practiced (i.e., timber production), it is consistent with the Del Norte County, Humboldt County, and Trinity county general plans. With regard to zoning, most of the Green Diamond forestlands and other private forestlands in the vicinity are designated as TPZ in the Zoning Ordinances of Del Norte, Humboldt and Trinity counties. As described above, land use in the TPZ districts are restricted to growing and harvesting timber and compatible uses and establishes a presumption that timber harvesting is expected to and will occur on such lands. Because implementation of the AHCP involves the continued production of timber on the Green Diamond forestlands, it is consistent with the intent of the TPZ districts.
- c) Implementation of the Project will not conflict with Green Diamond's NSO HCP (Simpson Timber Company 1992, as amended (Green Diamond 2007)) or other

HCPs on adjacent lands (e.g., Pacific Lumber Company) and will facilitate implementation of Green Diamond’s AHCP.

References

Green Diamond Resource Company. Proposed amendments to the habitat conservation plan for the northern spotted owl on the California Timberlands of the Green Diamond Resource Company. 2007.

Humboldt County. Humboldt County General Plan, Volume I: Framework Plan. Humboldt County Community Development Services Department. Eureka, CA. 1984.

Simpson Timber Company. *Habitat Conservation Plan for the Northern Spotted Owl on the California Timberlands of Simpson Timber Company (NSO HCP)*. 1992.

Mineral Resources

| <u>Issues (and Supporting Information Sources):</u> | <u>Potentially Significant Impact</u> | <u>Less Than Significant with Mitigation Incorporation</u> | <u>Less Than Significant Impact</u> | <u>No Impact</u> |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 11. MINERAL RESOURCES—Would the project: | | | | |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

Green Diamond operates numerous rock quarries (borrow pits) within the Project Area. These mining operations are used to supply surfacing or fill material for purposes of road construction and maintenance associated with timber harvesting and forest management. The pits are generally smaller than 2 acres in size and are located more than 150 and 75 feet from Class I and Class II watercourses, respectively. Because of their location and purpose (i.e., road construction and maintenance associated with timber harvesting and forest management), and the fact that they do not provide materials for local and State agencies, they are exempt from regulation under the Surface Mining and Reclamation Act of 1975 (SMARA), as administered by the State Mining and Geology Board. Two valid State of California permits for rock mining within the Project Area are presently held by Mercer-Fraser. However, Mercer-Fraser will only remove (load and haul) material already mined.

Hydrocarbon resources (natural gas) exist near the southern border of the Project Area. Currently, gas is produced in commercial quantities from an area known as the Tompkins Hill gas field. The Tompkins Hill field is located in the Eel River sedimentary basin; records indicate this basin has produced gas since 1937 (McLean, 1993). Other gas fields in the area include the Table Bluff and Grizzly Bluff fields. However, both of these fields are listed by the Department of Conservation, Division of Oil, Gas, and Geothermal Resources as abandoned (DOGGR, 2001).

Discussion

- a,b) The Project would not affect the extraction and processing of mineral resources in the Project Area. Also, instream gravel extraction would not be a covered activity under the Project.

References

DOGGR. Oil, Gas and Geothermal Fields in California. 2001.

McLean, H. Humboldt Basin Province (080). Pages A126-A129, R. B. Powers (editor). Petroleum Exploration Plays and Resource Estimates, 1989, Onshore United States: Region 1, Alaska; Region 2, Pacific Coast. United States Geological Survey Bulletin, Reston, Virginia. 1993.

Noise

| <u>Issues (and Supporting Information Sources):</u> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 12. NOISE—Would the project: | | | | |
| a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. However, noise levels rarely persist consistently over a long period of time. In fact, community noise varies continuously with time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. Background noise levels change throughout a typical day, but do so gradually, corresponding with the addition

and subtraction of distant noise sources and atmospheric conditions. The addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens) makes community noise constantly variable throughout a day.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers at industrial plants often experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the L_{dn} noise levels can be below 35 dBA. In small towns or wooded and lightly used residential areas, the L_{dn} is more likely to be around 50 or 60 dBA. Levels around 75 dBA are more common in busy urban areas, and levels up to 85 dBA occur near major freeways and airports.

Noise Attenuation

Point sources of noise, including stationary mobile sources such as idling vehicles or onsite construction equipment, attenuate (lessen) at a rate of 6.0 dBA to 7.5 dBA per doubling of distance from the source, depending upon environmental conditions (e.g., atmospheric conditions, noise barriers, type of ground surface, etc.). Widely distributed noises such as a large industrial facility spread over many acres or a street with moving vehicles (a "line" source) would typically attenuate at a lower rate of approximately 3.0 to 4.5 dBA per doubling distance from the source (also dependent upon environmental conditions) (Caltrans, 1998).

Existing Ambient Noise Environment

Del Norte County

The major sources of noise in Del Norte County include highways, airports, , and on-site construction and industrial activities, and most of these noise hazards are found within incorporated areas of the County. Key sources of noise in the County are the Highway 101 corridor and the county airport (McNamara Field) in Crescent City.

Humboldt County

The major sources of noise in Humboldt County include highways, airports, and on-site construction and industrial activities, and most of these noise hazards are found within incorporated areas of the County (Humboldt County 1982). Key sources of noise in the County are the Highway 101 corridor and the Arcata-Eureka airport in McKinleyville.

Noise levels are generally within acceptable limits even in the larger cities. Arcata's General Plan EIR (City of Arcata 1998) states that in noise sensitive areas, noise levels are in the range of 46 to 63 dB L_{dn} ; the City of Eureka's General Plan Background Report (City of Eureka 1997) reports that the distances from roadway centerlines to

measured 60 dB contours (the limit acceptable for unshielded residential development) is at maximum 305 feet, less than one block.

Trinity County

Noise is not considered to be a problem in Trinity County. Sources of noise in Trinity County include highway traffic, especially logging trucks; sawmills; airports (light planes); and other miscellaneous residential, commercial, and industrial sources.

Sensitive Receptors

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication, and can cause physiological and psychological stress and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools, hotels, hospitals, and nursing homes are considered to be the most sensitive to noise. Places such as churches, libraries, and cemeteries, where people tend to pray, study, and/or contemplate are also sensitive to noise. Commercial and industrial uses are considered the least noise-sensitive.

Regulatory Context

Federal, State, and local agencies regulate different aspects of environmental noise. Federal and State agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities.

Del Norte County

The Del Norte County General Plan identifies residences, hospitals, extended care facilities, schools and other educational institutions, and libraries as noise-sensitive land uses. The General Plan establishes maximum stationary noise exposure standards based on land use activity. Maximum Noise Exposure Levels (Hourly L_{eq} , in dB) for residential and commercial land uses are 62 (daylight hours) and 57 (nighttime). For other sensitive land uses the standards are 52 and 47, respectively. Standards are somewhat higher for heavy commercial and industrial land uses.

General Plan Policy 2.H.3 requires that new development projects adjacent to an existing or proposed stationary source of noise are required to submit a noise study that includes specific recommendations for necessary measures and procedures to achieve the noise levels standards. This policy does not apply to noise levels associated with agricultural and gravel extraction (but not processing) operations. General Plan Policy 2.H.4 requires that, in the event outdoor noise levels cannot be mitigated to attain or drop below these standards, indoor noise levels for residential uses must achieve 45 CNEL/ L_{dn} with windows and doors closed. In addition, the General Plan requires that a noise study be prepared for development of new noise sensitive land uses where transportation noise may exceed 65 CNEL/ L_{dn} .

Humboldt County

The Humboldt County General Plan Noise Element provides audible noise standards appropriate for the operations of development projects. The General Plan identifies land

use compatibility for community noise. According to the General Plan, residences and auditoriums, concert halls, and music shells are the most sensitive land use. It identifies a noise limit for residential land uses of 60 dBA as being “normally unacceptable.” Since interior noise levels for residences are not to exceed 45dBA (CCR, Title 24, Part 6, Section T25 28), the maximum acceptable exterior noise level for residences is 60dBA without any additional insulation being required. In areas where Community Noise Equivalent Level (CNEL) noise levels exceed 60dBA, the need for additional noise insulation will vary depending on the land use designation; adjacent uses; distance-to-noise source; and intervening topography, vegetation, and other buffers.

Appropriate standards for short-term noise levels measured by Maximum Noise Level (Lmax) vary with the type of land use and time of day. Acceptable daytime levels in industrial and commercial areas are typically based on a combination of health and nuisance considerations and typically do not exceed 85 dBA. In residential areas, standards are typically set to avoid the perception of nuisance, such as noise levels that block normal conversation.

When a discretionary project has the potential to generate noise levels in excess of Plan standards, a noise study together with acceptable plans to assure compliance with the standards shall be required. The noise study shall measure or model as appropriate, CNEL and (Lmax) levels at property lines and, if feasible, receptor locations.

Trinity County

Trinity County has no specific noise standards, but a draft noise element of the General Plan and implementing ordinance are under review for adoption (Brown-Buntin 2003). The current adopted noise element that was prepared in 1974 makes only recommendations and has no implementing ordinance. The Draft County Noise Ordinance was considered by the County Board of Supervisors for approval in June 2003, and the County Planning Department was instructed to continue working on it and present it at some point in the future.

The Draft noise element contains the following goals, objectives, and policies that relate to this project:

Policy 4.2.2: Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so that resulting noise levels do not exceed the standards shown in Table III at noise-sensitive land uses. (The table indicates that and Ldn of 60 dB at outdoor activity areas associated with all land uses is acceptable.)

A proposed Noise Ordinance is being circulated with the Draft Noise Element. The Draft Ordinance, Section F.3., provides an exemption for “noise sources associated with construction, provided such activities do not take place before seven a.m. or after eight p.m. on any day except Sunday. No construction shall take place on Sundays.”

Discussion

- a, d) Many of the Project Activities will require the use of heavy equipment, such as loaders, backhoes, or excavators and haul trucks. Some of the Project Activities would also require the operation of stationary pumps within or adjacent to active stream channels. Offsite noise sources would result from commuting workers (anticipated to be less than 10 per day for each Project Activity during construction) and from heavy truck trips (anticipated to be up to three per day for each Authorized Activity during construction).

Most of the Project Activities would occur between May 15 and October 15. The majority of the Project Activities would take place in rural areas, far from population centers. Project activities are expected to be temporary and of limited duration.

Noise levels generated by covered activities would vary depending on the particular type and duration of use of various pieces of construction equipment. Typical noise levels of construction equipment that may be used during some of the Project activities are listed in Table 2 below.

TABLE 2
Typical noise levels from construction equipment

| Construction Equipment | Noise Level (dBA, L_{eq} at 50 feet) |
|------------------------|--|
| Truck | 88 |
| Dozer | 85 |
| Loader | 85 |
| Backhoe | 80 |
| Generator (compressor) | 81 |

SOURCE: FTA, 2006.

As shown in the table, intermittent and continuous use of construction equipment could generate noise levels in excess of 85 dBA at 50 feet. This equates to a noise level of approximately 79 dBA at 100 feet or as high as 73 dBA at 200 feet. The duration of noise impacts would be relatively brief, estimated to be no more than approximately one to two weeks at any one location but typically one day.

It should be noted that the Project Activities would cause only minor changes to existing, ongoing, in-stream and near-stream activities. Because these activities are considered ongoing and also part of the baseline conditions, there would essentially be no change in ambient noise conditions as a result of Project implementation. Impacts would be less than significant.

- b) Some of the Project Activities would involve temporary sources of ground borne vibration and ground borne noise during construction from operation of heavy equipment. During construction, operation of heavy equipment would generate localized ground borne vibration and ground borne noise that could be perceptible in the immediate vicinity of a given construction area. No blasting or pile driving is anticipated under the Project. As discussed above, Project Activities would cause only minor changes to existing, ongoing, in-stream and near-stream activities. Because these activities are considered ongoing and also part of the baseline conditions, there would essentially be no change in ambient vibration levels as a result of the Project implementation. Impacts would be less than significant.
- c) As discussed above, Project Activities would cause only minor changes to existing, ongoing, in-stream and near-stream activities. Because these activities are considered ongoing and also part of the baseline conditions, there would essentially be no change in ambient noise levels as a result of the Project implementation. In addition, Project Activities would consist of short-term

projects dispersed throughout the Project Area. Therefore, there would be no increase in ambient noise levels. Impacts would be less than significant.

- e) As noted above, Project Activities would take place in rural areas, far from population centers or established airports. The Project would not involve the development of noise-sensitive land uses and, therefore, would not expose people to excessive aircraft noise. No impacts would occur.
- f) As noted above, Project Activities would take place in rural areas, far from population centers or established private airstrips. The Project would not involve the development of noise-sensitive land uses, and thus, would not expose people to excessive aircraft noise. No impacts would occur.

References

Brown-Buntin Associates, Inc. 2003. Draft Noise Element of the General Plan, Trinity County Ca. Prepared for Trinity County Planning Department (draft March 14, 2003).

California Department of Transportation. 1998. *Technical Noise Supplement*, 1998.

City of Arcata. 1998. General Plan EIR, Nov 1998.

City of Eureka. 1997. General Plan Background Report, Feb 1997.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*, May 2006.

Humboldt County. 1982. General Plan Policy Background Study: Hazards, May, 1982.

Population and Housing

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|---|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 13. POPULATION AND HOUSING— Would the project: | | | | |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

Both Del Norte and Humboldt counties have experienced relatively steady population growth over the past decade. For example, during the 1990s, Del Norte County’s

population grew by 11 percent while Humboldt County grew by 6 percent. These are both slightly less than the State’s growth rate over the same period of 13 percent. Trinity County’s population declined over this same time period (California Department of Finance 2005). The population of both Del Norte, Humboldt and Trinity counties increased over the period from 2000 to 2008 (California Department of Finance 2008).

Discussion

a,b,c) Construction activities associated with the Project would occur on Green Diamond lands which are primarily void of existing housing. Consequently, activities associated with the construction, expansion, or improvement of roadways and stream crossings under the Project would have no impacts on population growth, existing housing, or existing populations.

References

State of California, Department of Finance, Population Estimates and Components of Change by County, July 1, 2000-2008. Sacramento, California, December 2008.

State of California, Department of Finance, Revised County Population Estimates and Components of Change by County, July 1, 1990-2000. Sacramento, California, February 2005.

Public Services

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 14. PUBLIC SERVICES— Would the project: | | | | |
| a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: | | | | |
| i) Fire protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| ii) Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii) Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| v) Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

The Project Area consists of Green Diamond’s commercial timberlands in northern California, contained in portions of Del Norte, Humboldt and Trinity counties. These are private lands managed for timber production and as such, no schools, parks, or other public facilities are located in the Project Area. Police protection, if needed, would be

provided by the counties or the California State Police. In the event of wildfire, fire protection services would be provided by Cal Fire with support from Green Diamond. In addition, implementation of the Project would not further result in adverse physical impacts that could require additional government facilities or services beyond existing levels.

Discussion

- a)i,ii,) The need for construction or physical alteration of government facilities to maintain acceptable service ratios as a result of Project implementation is not expected. Therefore, the Project would not lead to any significant environmental impact resulting from any such alteration or construction.

- a)iii-v) The Project would not affect public services regarding schools, parks, or other facilities. With the exception of potentially affecting nearby park scenic vistas, (see Aesthetics) the performance, service, or response ratio objectives of public parks would not be affected. As a result, the provision of, or the need for, new or physically altered parks would not be required and no environmental impacts would occur.

Recreation

| <u>Issues (and Supporting Information Sources):</u> | <u>Potentially Significant Impact</u> | <u>Less Than Significant with Mitigation Incorporation</u> | <u>Less Than Significant Impact</u> | <u>No Impact</u> |
|--|---------------------------------------|--|-------------------------------------|--------------------------|
| 15. RECREATION—Would the project: | | | | |
| a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Setting

Green Diamond provides recreational opportunities on its forestlands to groups and individuals, subject to written permit authorization. These activities are permitted on a limited basis within specified areas and include hunting, fishing, camping, picnicking, hiking, motorcycle use, and shooting. The Project Area is also adjacent to several national and State parks and recreation areas.

Discussion

- a,b) Implementation of the AHCP is not anticipated to alter recreational access to Green Diamond’s forestlands and the Operation Conservation Program (AHCP Section 6.2) has the potential to benefit recreation through improved riparian and aquatic conditions.

Because of the ongoing nature of Green Diamond’s timber harvesting and other activities over a broad geographic area, it is not possible to accurately predict

when and where specific recreation activities and resulting impacts might occur, or their severity. However, because recreational access and activities within the Project Area are not anticipated to change substantially under the Project, it is unlikely that the Project would increase the use of existing parks or other recreational facilities or require the construction or expansion of recreational facilities and thereby result in any significant environmental impacts.

Transportation and Traffic

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 16. TRANSPORTATION AND TRAFFIC— | | | | |
| Would the project: | | | | |
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that would result in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., conflict with policies promoting bus turnouts, bicycle racks, etc.)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

U.S. Highway 101 is the primary roadway in the Project Area. Other primary highways in the vicinity of the Green Diamond ownership are U.S. Highway 199, U.S. Highway 299, and State Route (SR) 36. Highway 299 and SR 36 pass through a portion of the Project Area east of Arcata.

Discussion

- a,b) Although moderately to heavily used public roadways occur within the Project Area, activities associated with the Project would only affect private Green Diamond roadways used for ongoing timber harvest activities. Since public use of these roadways would be minimal, an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system and an exceeding of the level of service standard is not likely to occur. Equipment and vehicles associated with activities under the Project would likely travel to the Project Area via moderately to heavily used public roads which may affect traffic load and congestion standards, but the impact would be less than significant.

- c) Project activities would only occur at ground level at or near streambed crossings and would have no effect on air traffic patterns.
- d) The Project would not substantially increase hazards due to a design feature. Hazards to other motorists may increase due to incompatible uses (e.g., heavy equipment) but as noted above, activities associated with the Project would only affect private Green Diamond roadways used for ongoing timber harvest activities. Risks to the public would occur only infrequently and would be less than significant.
- e) Project activities would occur primarily on private Green Diamond roadways, which are not currently used as emergency routes. Any congestion or temporary closures of these roadways would not result in inadequate emergency access.
- f) Project activities would primarily occur on private Green Diamond roadways which are not intended for use as parking areas or for access to parking areas. Therefore, any congestion or temporary closures of these roadways would not result in inadequate parking capacity.
- g) Currently adopted policies, plans, or programs supporting alternative transportation are not applicable to the Project Area. As a result, no conflicts will occur due to any transportation or traffic related changes resulting from covered activities under the Project.

Utilities and Service Systems

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 17. UTILITIES AND SERVICE SYSTEMS—Would the project: | | | | |
| a) Conflict with wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Require new or expanded water supply resources or entitlements? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider that would serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

Green Diamond lands are private lands managed for timber production and as such, no water or wastewater treatment facilities are located in the Project Area. Commercial timberlands in the Project Area do not require storm water drainage facilities or treatment of water or wastewater. Solid waste generated by timber management and associate activities generally consists of slash and other materials that are burned in accordance with existing regulations (see Air Quality).

Discussion

- a) No wastewater would result from any Project activities; therefore, the Project will not conflict with NCRWQCB wastewater treatment requirements.
- b) No new water or wastewater treatment facilities will need to be constructed or expanded as a result of the Project. As a result, no significant environmental effects would occur.
- c) No new storm water drainage facilities will need to be constructed or expanded as a result of the Project.
- d) The Project would not require new or expanded water supply resources or entitlements.
- e) As described above, no wastewater would result from any Project activities; therefore, the Project would not require a wastewater treatment provider.
- f) The Project is not expected to generate solid waste in excess of what local landfills could accommodate.
- g) The Project would comply with all federal, State, and local statutes and regulations related to solid waste.

Mandatory Findings of Significance

| <i>Issues (and Supporting Information Sources):</i> | <i>Potentially Significant Impact</i> | <i>Less Than Significant with Mitigation Incorporation</i> | <i>Less Than Significant Impact</i> | <i>No Impact</i> |
|--|---------------------------------------|--|-------------------------------------|-------------------------------------|
| 18. MANDATORY FINDINGS OF SIGNIFICANCE— Would the project: | | | | |
| a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have impacts that would be individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Discussion

- a) As described above, the Project consists of programmatic authorizations by the Department and the NCRWQCB. Project Activities include road construction, repair and maintenance, upgrading, decommissioning and instream restoration. Green Diamond seeks approval of this Project to allow Green Diamond to fully implement the conservation measures required by its Aquatic Habitat Conservation Plan (AHCP), the terms and conditions of the associated federal Incidental Take Permit (ITP) and Consistency Determination (CD) issued by the Department. To the extent that these measures could affect aquatic resources and water quality, they require Department and NCRWQCB authorization. The Project will facilitate the implementation of Green Diamond's Road Management Plan from the AHCP and augment these measures with additional Conditions detailed in the proposed Agreement (Appendix A). Impacts to fish and wildlife species and their habitats are described in the "Biological Resources" section above. Based on this analysis and prior analysis of environmental impacts associated with the AHCP in the federal EIS, the Project will not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.
- b) The Project would authorize a large number of individual activities, over a long time frame and across a landscape, mostly located near or in or in tributaries to fish-bearing streams. However, the Project will facilitate the implementation of Green Diamond's Road Management Plan from the AHCP. As described above for the other resource categories, the Project would result in impacts that are less than significant or less than significant with the measures and procedures

included in the AHCP and the additional Conditions contained in the proposed Agreement. Collectively, the effects of the Project activities conducted according to the provisions of the AHCP and subject to the additional Conditions in the proposed Agreement are expected to be beneficial to biological resources. As such, implementation of the Project would not result in impacts that are cumulatively considerable.

- c) The Project would not increase the risk of physical harm to or have substantial adverse effects on human beings, either directly or indirectly.

APPENDIX A

DRAFT Master Agreement for Timber Operations

Draft Master Agreement for Timber Operations Green Diamond Resource Company
No. 1600-2010-0114-R1, May 10, 2010

DRAFT

MASTER AGREEMENT FOR TIMBER OPERATIONS

No. 1600-2010-0114-R1

By and Between

CALIFORNIA DEPARTMENT OF FISH AND GAME

and

GREEN DIAMOND RESOURCE COMPANY

May 10, 2010

Recitals and Purposes

Agreement Regarding Proposed Stream Alteration

- 1.0 DEFINITIONS
- 2.0 AUTHORIZED ACTIVITIES
- 3.0 UNAUTHORIZED ACTIVITIES
- 4.0 NOTIFICATION FOR AUTHORIZATION TO PROCEED WITH AUTHORIZED ACTIVITIES
- 5.0 TERM OF THE AGREEMENT, AMENDMENTS
- 6.0 SUSPENSION, REVOCATION, REINSTATEMENT, AND RECONSIDERATION
- 7.0 FEES
- 8.0 REPORTING
- 9.0 DEPARTMENT ACCESS TO GREEN DIAMOND LANDS FOR NOTIFICATION REVIEW, INSPECTION AND MONITORING
- 10.0 COMPLIANCE WITH OTHER LAWS
- 11.0 CONDITIONS NECESSARY FOR PROTECTION OF FISH AND WILDLIFE RESOURCES FROM IMPACTS OF AUTHORIZED ACTIVITIES

Appendix A: Existing Class I Fording Sites

Appendix B: Existing Water Drafting Sites

**ATTACHMENT 1: GREEN DIAMOND RESOURCE COMPANY CONSULTATION FOR OSPREY
(*Pandion haliaetus*)**

**ATTACHMENT 2: GREEN DIAMOND RESOURCE COMPANY SENSITIVE PLANT
CONSERVATION PLAN**

**ATTACHMENT 3: GREEN DIAMOND RESOURCE COMPANY PROTOCOLS AND PROCEDURES
FOR PROTECTION OF CULTURAL RESOURCES**

**ATTACHMENT 4: MAP OF ROADS AND STREAMS ON GREEN DIAMOND RESOURCE
COMPANY LANDS**

Available at California Department of Fish and Game Document Library at:

<http://nrm.dfg.ca.gov/documents/DocContexts.aspx>, under the Category “CEQA-NR-CCP” or “CEQA Northern Region Coastal Conservation Planning Section”.

CALIFORNIA DEPARTMENT OF FISH AND GAME
Northern Region
Coastal Conservation Planning
619 Second Street
Eureka, California 95501

Notification No. 1600-2010-0114-R1

AGREEMENT REGARDING PROPOSED STREAM ALTERATION

This MASTER AGREEMENT FOR TIMBER OPERATIONS ("Agreement"), a long-term, Master Agreement, is entered into following signature of this Agreement by both Parties, the CALIFORNIA DEPARTMENT OF FISH AND GAME (Department), an agency of the State of California, and GREEN DIAMOND RESOURCE COMPANY (Green Diamond).

These entities may be referred to collectively as "Parties" and each individually as a "Party."

Recitals and Purposes

- A. Green Diamond presently owns and manages approximately 430,000 acres within Humboldt, Del Norte and Trinity counties of California, and may increase or decrease this total acreage through acquisitions and dispositions (the "Green Diamond Lands"). This Agreement applies to Green Diamond Lands.
- B. The Department has jurisdiction over the conservation, protection, restoration, enhancement, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species under State law including California Fish and Game Code (FGC) Section 1600 *et seq.*
- C. Green Diamond notified the Department on or about April 29, 2010 (Notification No. 1600-2010-0114-R1), that it wanted a Master Agreement for Timber Operations pursuant to FGC Sections 1602 and 1605(g) for road work and water drafting associated with timber operations both within and outside the Aquatic Habitat Conservation Plan (AHCP) area and subject to the Road Management Measures associated with the AHCP.
- D. The Department has determined that certain of the timber operations and road management activities may substantially divert or obstruct the natural flow of or substantially change the bed, channel, or bank of any river, stream, or lake, or use any material from the streambeds on Green Diamond Lands depending on the location and/or impacts of the activities. The Department has determined that the Authorized Activities, described in Section 2.0, are subject to the jurisdiction of the Department and therefore may be the subject of a long-term, Master Agreement for Timber Operations.
- E. The Department has determined that specific conditions are necessary to protect fish and wildlife resources from possible substantial adverse effects of the specific Authorized Activities. These specific conditions are identified in Section 11.

- F. Green Diamond and the Department acknowledge that this Agreement is entered into with the understanding that its terms may be amended as directed over time by the results of on-going monitoring activities, changed conditions, and new information. The conditions for protection of fish and wildlife resources from impacts of the specific activities subject to this Agreement shall be evaluated in light of monitoring results and other new information. Such evaluations shall be used to adapt the conditions to better achieve the Agreement's objective to protect fish and wildlife resources.

Agreement

This Agreement, by and between the Department and Green Diamond and, pursuant to FGC Section 1602 and Section 1605(g), authorizes Green Diamond to conduct the Authorized Activities identified in Section 2.0 pursuant to this Agreement provided that the applicable conservation conditions required pursuant to the approved AHCP, and the applicable conditions identified in this Agreement (Section 11.0) are incorporated into Authorized Activities, including any additional site-specific conditions that arise under the provisions of this Agreement.

Green Diamond hereby agrees to incorporate into the Authorized Activities identified in Section 2.0 the applicable conditions identified in Section 11.0 in accordance with the following provisions. Where Green Diamond determines that conformance with any of the applicable conditions identified in Section 11.0 is not feasible, Green Diamond may propose alternative conditions through a separate notification and Agreement pursuant to FGC Section 1602. The Parties agree that the Activities listed in Section 3.0, and other activities not listed in Section 2.0, require separate notification and Agreement pursuant to FGC Section 1602.

Green Diamond further agrees that the authorization granted to Green Diamond under this Agreement applies to all of Green Diamond's officers, directors, employees, agents, subsidiaries, contractors, and subcontractors, and their officers, directors, employees, and agents when working on Green Diamond Lands. Such persons and entities shall be deemed under the direct control of, and acting as agents of Green Diamond. Green Diamond shall conduct an on-going educational program, to inform all such persons and entities of the terms and conditions of this Agreement, and shall be responsible for supervising their compliance with the terms and conditions herein. All contracts between Green Diamond and such persons and entities shall require their compliance with this Agreement.

For the purposes of this Agreement, each Green Diamond entity shall remain legally responsible for the Authorized Activities subject to this Agreement of each such person or entity. Further, in the event any Green Diamond entity ("acting entity") takes any action on land or with respect to timber owned by another Green Diamond entity ("landowning entity"), as to such action the acting entity, for all purposes connected with this Agreement and liability arising thereunder where the acting entity is acting pursuant to an oral or written contract or with the consent of the landowning entity, shall be deemed to be acting as the agent of the landowning entity and to be acting within the course and scope of such agency. For purposes of this provision, action includes failure to act. Green Diamond shall provide a copy of this Agreement to all such persons and entities performing or supervising Authorized Activities subject to this Agreement. Copies

of this Agreement shall be readily available at work sites at all times during periods of active work and must be presented to any Department personnel upon request.

Green Diamond and the Department agree that provisions of this Agreement remain in force throughout the term of the Agreement. Any provisions of the Agreement may be amended or the Agreement may be terminated at any time provided such amendment and/or termination are agreed to in writing by both parties. Mutually approved amendments become part of the original Agreement and are subject to all previously negotiated provisions.

1.0 DEFINITIONS

“Administrative access” means access required by field technicians, foresters and other staff not directly related with active timber operations for the purposes of monitoring, timber harvest plan (THP) preparation, surveying, inspections, touring, patrolling and other reconnaissance activities.

“Abutment” means a structure placed on either side of a watercourse in order to support a bridge over a watercourse.

“Active erosion site” means any significant erosion that is presently occurring which is directly related with the road prism, skid trail or watercourse crossings.

“Agreement” means a Master Agreement for Timber Operations issued by the Department.

“Annual Work Plan” means the formal plan submitted to the Department, by Green Diamond on an annual basis pursuant to Section 4.0 of this Agreement, and as revised from time to time pursuant to Section 4.3 of this Agreement, so that the Department may determine whether the individual plans described therein are consistent with this Agreement prior to implementation by Green Diamond.

“Authorized Activities” means the activities described in Section 2.0 of this Agreement, which are subject to the jurisdiction of the Department and authorized pursuant to the terms of this Agreement.

“Bankfull channel” means channel width between the tops of the most pronounced bank on either side of a stream reach where water would just begin to flow out onto the floodplain.

“Class I” means 1) domestic supplies, including springs, on site and/or within 100 feet downstream of the operations area and/or 2) watercourses with fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning. The latter includes watercourses that can be restored to allow fish presence. In this definition, “fish” refers to species in the Superclass Pisces.

“Class I projects” means an encroachment type that is associated with a Class I watercourse.

“Class II” means watercourses with fish always or seasonally present offsite within 1000 feet downstream and/or with aquatic habitat for nonfish aquatic species. This excludes Class III waters that are tributary to Class I waters. Seeps and springs that support or provide habitat for aquatic vertebrates are also considered Class II watercourses with respect to the conservation measures. In this definition, “fish” refers to species in the Superclass Pisces.

“Class II projects” means an encroachment type that is associated with a Class II watercourse.

“Class III” means watercourses with no aquatic life present, showing evidence of being capable of sediment transport to Class I and II waters under normal high water flow conditions after completion of timber operations.

“Class III projects” means an encroachment type that is associated with a Class II watercourse.

“Cofferdam” means a structure placed into a flowing stream in order to prevent downstream flow into a designated work area.

“Coho planning watershed” means all CalWater 2.2 Planning Watersheds where the Department has documented coho salmon (*Oncorhynchus kisutch*) to be present.

“Critical dip” means a dip in the road constructed on the downhill side of a stream crossing to intercept and prevent a stream from flowing down the road if the crossing is overtopped.

“Cross-drain ditch” means a drainage facility which shall move water from an inside road ditch to an outside area across the road surface.

“Decommissioned road” Refer to “Permanently decommissioned road” and “Temporarily decommissioned road”.

“Disconnect”. Refer to “Hydrologically disconnect”.

“Ditch relief culvert” means a drainage structure or facility which shall move water from an inside road ditch to an outside area in a pipe beneath the road surface.

“Drainage structure” means a structure installed to control, divert or to cross over water related to watercourses (streams) and not road drainage related including, but not limited to, fords, culverts, bridges and ditch drains.

“End hauling” means the removal and transportation of excavated material to prevent sidecast.

“Energy dissipater” means a device or material used to reduce the energy of flowing water, usually used at the outlet of a culvert or drainage facility. An energy dissipater is especially important in stabilizing a channel when a culvert is not set to grade, or where steep slopes or erodible soils are involved.

“Equipment Exclusion Zone (EEZ)” means an area where use of heavy equipment is not allowed.

“Erosion control” means drainage facilities, soil stabilization treatments, road and landing abandonment, removal and treatment of stream crossings, and any other features or actions to reduce surface erosion, gulling, channel erosion, and mass erosion.

“Facility” means bridges, culverts, fords, vented fords, and temporary crossings (collectively referred to as “watercourse crossings”) and their associated road approaches, ditches, and adjacent channels, bank stabilization structures, temporary dams, diversion structures, and water drafting sites.

“Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, operational, and technological factors, and considering what is allowable under the law.

“Fill” means material that is placed in low areas and built up to form the roadbed or landing surface.

“Fish” means as defined in Section 45 of the Fish and Game Code except when used in the definitions “Class I watercourse” and “Class II watercourse”, “fish” includes only species in Superclass Pisces.

“Ford” means a stream crossing site, usually constructed with rock, which allows use during low flows and which normally does not have a crossing structure such as a culvert or bridge. “Ford” is also a verb that describes the activity of crossing the site in this location.

“Fording Site” means a stream crossing site where no structure is installed, which allows use during low flows. These sites are pre-designated crossings which allow vehicular use without causing significant erosion or sediment delivery through use.

“Green Diamond Lands” means all commercial timberlands owned and managed by Green Diamond (including real property held in fee simple and as perpetual harvesting rights) within Del Norte, Humboldt, and Trinity Counties during the Term of this Agreement, including such timberlands that are acquired by Green Diamond and excluding such timberlands that are transferred out of Green Diamond ownership and management.

“Hydrologic connectivity” means a road segment from which road runoff is delivered to a watercourse. These segments are typically located adjacent to watercourse crossings.

“Hydrologically disconnected” means a road segment from which road runoff is not delivered to a watercourse. Hydrologically disconnecting a road segment is accomplished by the following: 1) installing drainage facilities and structures at sufficient intervals to minimize the volume of water being discharged from the road surface at any given point; 2) installing the last drainage facility up grade from the watercourse crossing where water can be discharged off the road without entering the watercourse via overland flow; and 3) diverting water that has been captured by the road onto stable portions of the forest floor that dissipates energy, facilitates percolation, and resists channelization.

“Hydro-mulching” means a planting process for minimizing surface erosion that utilizes a slurry of seed and mulch. The slurry is transported in a tank, either truck- or trailer-mounted, and sprayed over prepared ground in a uniform layer.

“Inner gorge” means a geomorphic feature formed by coalescing scars originating from landsliding and erosional processes caused by historically active stream erosion. The feature is identified as that area beginning immediately adjacent to the stream channel below and extending up slope to the first break in the slope.

“Large woody debris (LWD)” means larger pieces of wood in stream channels or on the ground, including logs, root wads, and large chunks of wood that provide important biological and physical functions.

“Logging area” see Section 895.1 Definitions, of Title 14 of the California Code of Regulations (14 CCR).

“Mainline road” means roads that support significant amounts of traffic annually from major tracts of timber or provide the main access into a tract for non-harvest management activities. See **Attachment 4** for web link to **MAP OF ROADS AND STREAMS ON GREEN DIAMOND RESOURCE COMPANY LANDS** for a depiction of the mainline roads within the Project area.

“Management road” means roads that are needed to either support long term management activities or provide access to timber that shall be harvested within the next 20 years.

“Mineral soil” means a soil consisting predominantly of, and having its properties determined predominantly by, mineral matter (as opposed to a component of organic matter).

“100-year return interval flow event” means the magnitude of peak flow which has a 0.01 (1/100) probability of being equaled or exceeded in any year. This flow shall be estimated by empirical relationships between precipitation, watershed characteristics and runoff. Estimates can be modified by direct channel cross section measurements and local experience. This is the design criteria for all permanent crossings.

“Permanently decommissioned roads” means decommissioned roads that shall not be needed for future management activities.

“Permanent watercourse crossing” means a stream crossing that shall be constructed to accommodate the estimated 100-year return interval flood flow and debris and shall remain in place when operations have been completed.

“Project” means either of the following as determined by the Department: one Authorized Activity or two or more Authorized Activities that are interrelated and could or shall affect similar fish and wildlife resources. For purposes of this agreement, “project” does not

mean project as defined in Section 21065 of the Public Resources Code (PRC) or 14 CCR Section 15378.

“Registered Professional Forester (RPF)” means a person who holds a valid license as a professional forester pursuant to 14 CCR, Chapter 10, Article 1, Section 1600 (as in effect on the date of issuance of the Permits).

“Riparian” means the banks and other adjacent terrestrial environs of lakes, streams and wet areas, where transported surface and subsurface freshwaters provide soil moisture to support mesic vegetation.

“Riparian Management Zone (RMZ)” means an area on each side of Class I or Class II watercourses that receive special treatments to provide temperature control, nutrient inputs, channel stability, sediment control, and LWD recruitment.

“Riprap” means rock or other suitable material placed to prevent or reduce erosion.

“Rolling dip” means an outsloped depression along a road alignment that is constructed both to disperse runoff from the road surface and to allow passage of motor vehicles at reduced road speeds.

“Seasonal dirt surfaced road” means those roads that are not adequately surfaced with rock providing a stable operating surface capable of allowing all-winter use of both heavy equipment and pickups.

“Seep” means an area of minor ground water outflow onto the land surface or into a stream channel; flows that are too small to be a spring.

“Skid trail” means constructed trails or established paths used by tractors or other vehicles for skidding logs.

“Sourceflow” means the total volume of water per unit of time measured above a point of diversion in a watercourse usually as gallons per minute (gpm) or cubic feet per second (cfs).

“Spring” means an area of ground water outflow onto the land surface or into a stream channel; flows are greater than a seep.

“Stable operating surface” means a road or landing surface that can support vehicular traffic and has a structurally sound road base appropriate for the type, intensity, and timing of intended use.

“Stream” means any well-defined channel with distinguishable bed and bank showing evidence of having contained flowing water indicated by deposit of rock, sand, gravel, or soil. Stream and watercourse are used synonymously in this Agreement.

“Sudden oak death syndrome (SOD)” means a forest disease caused by the plant pathogen *Phytophthora ramorum*.

“Summer Period” means the period between May 15th and October 15th.

“Temporary road” means a road that is to be used only during the timber operation. These roads have a surface adequate for seasonal logging use and have drainage structures, if any, adequate to carry the anticipated flow of water during the period of use. Upon completion of use all drainage structures shall be removed.

“Temporarily decommissioned road” means decommissioned roads that may be used again in the future for management activities but typically not for at least 20 years.

“Timber Harvest Plan (THP)” means a plan describing a proposed timber harvesting operation pursuant to 14 CCR Section 4582 (as in effect on the date of issuance of the Permits).

“Upgrading” means the actions to achieve the conditions where the amount of water and erosion derived sediment delivered from the road surface and drainage facilities to watercourses has been minimized to the extent feasible.

“Watercourse” means any well-defined channel with distinguishable bed and bank showing evidence of having contained flowing water indicated by deposit of rock, sand, gravel, or soil. Watercourse also includes manmade watercourses. Watercourse and stream are used synonymously in this Agreement.

“Winter period” means the period from October 16th through May 14th.

2.0 AUTHORIZED ACTIVITIES

Green Diamond may conduct the activities identified in this Section 2 without the need to obtain any additional streambed alteration agreements, provided Green Diamond conducts the activities in accordance with the terms and conditions of this Agreement and Attachment 1: Green Diamond Resource Company Consultation for Osprey (*Pandion haliaetus*), Attachment 2: Green Diamond Resource Company Sensitive Plant Conservation Plan and Attachment 3: Green Diamond Resource Company Protocols and Procedures for Protection of Cultural Resources, hereby incorporated as part of this Agreement. This Agreement and Fish and Game Code Section 1602 do not apply to activities that shall not substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use any materials from the streambeds, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This Agreement does not apply to immediate emergency work necessary to protect life or property. Green Diamond may complete emergency work in accordance with Fish and Game Code Section 1610.

The following general types of activities may be performed in accordance with the terms and conditions of the Agreement:

1. Obstruction and Sediment Removal—removal of silt, sand, sediment, debris, trash, rubbish, flood-deposited woody and herbaceous vegetation, fallen trees, branches, and other obstructions that reduce a Facility’s channel capacity and/or endanger a Facility. As provided in the agreement, a “Facility” means bridges, culverts, fords,

vented fords, and temporary crossings (collectively referred to as “watercourse crossings”) and their associated road approaches, ditches, and adjacent channels, bank stabilization structures, temporary dams, diversion structures, and water drafting sites.

2. Vegetation Removal—removal of vegetation that directly reduces a facility’s capacity and/or endangers a facility, including overhanging branches or tree limbs.
3. Bank Stabilization at Facilities—construction, installation, repair, improvement and maintenance of bank stabilization structures that are continuous with a facility, such as rock rip-rap or gabions.
4. Bank Stabilization Structures—construction, installation, repair, improvement and maintenance of existing bank stabilization structures, such as rock rip-rap or gabions.
5. Maintenance of Watercourse Crossings and Road Approaches--removal, repair, replacement, maintenance, upgrading, or decommissioning existing watercourse crossings and road approaches to Facilities.
6. New Facilities--Installation and subsequent maintenance and repair under specific circumstances identified in the Agreement
7. Water Drafting—Drafting and use of water at existing facilities and into water trucks for road dust abatement, road maintenance, road construction, decommissioning, surfacing, herbicide mixing, and prescribed fuel reduction burning, subject to valid legal rights.
8. Water Drafting Intake Maintenance—maintenance of improvement of existing site access and water drafting intake sites, including bank stabilization and fill material removal to maintain or increase capacity.
9. Water Diversion—diversion of stream flow and isolation and dewatering of work sites during road construction, upgrading, maintenance, and decommissioning of watercourse crossings.
10. Deposit and Disposal of Material—deposition or disposal of soil fill, debris, waste, or other materials where it is prevented from passing into waters of the State.
11. Decommissioning—decommissioning of Facilities.
12. Instream Restoration--installation, repair, replacement, maintenance, and upgrading of instream restoration structures.

3.0 UNAUTHORIZED ACTIVITIES

This Agreement covers only the Authorized Activities described above in Section 2 and does not cover:

1. Any activity that would result in take as defined under the California ESA or the Federal ESA, except as provided in the AHCP/CD.
2. Any work on a facility in immediate proximity of an unstable area (defined in the California Forest Practice Rules, 14 CCR Section 895.1) that has not been evaluated by a Professional Geologist and the risk of adverse environmental impacts has not been minimized through development of site-specific mitigation measures.

4.0 NOTIFICATION FOR AUTHORIZATION TO PROCEED WITH COVERED ACTIVITIES

Prior to commencing any of the specific Authorized Activities identified in Section 2, Green Diamond shall notify the Department in writing of its intent to commence the Authorized Activity (“notification”). This notification shall be designated the “Annual Work Plan”. The Annual Work Plan shall be submitted to the Department by March 1 of any given year (except the initial calendar year of this Agreement, wherein the Annual Work Plan shall be submitted to the Department within 60 calendar days of the approval of this Agreement).⁵ Within 60 calendar days of the date the Department receives the Annual Work Plan⁵ the Department shall respond to the Annual Work Plan and 1) declare the Annual Work Plan complete; or 2) contact Green Diamond to further discuss the notification; request more information; propose additional or different site-specific conditions to protect fish and wildlife resources; or contact Green Diamond to schedule site visits to facilitate its review. During this same time frame, pursuant to Section 4.1, the Department shall inform Green Diamond whether any specific Projects described in the Annual Work Plan do not qualify for coverage under this Agreement.

Any site visit requested by the Department shall be conducted within 60 calendar days of receipt of the Annual Work Plan, unless Green Diamond and the Department agree to extend the time period. Within 15 working days of completing a site visit or receiving additional information, the Department shall either concur with the conditions within the notification, propose additional conditions to protect fish and wildlife resources or request additional information. Within 5 working days of receipt of additional information or revised conditions from Green Diamond, the Department shall either concur or request additional information via written or electronic communication. Following receipt of the concurrence by the Department, Green Diamond may commence operations in accordance with the terms of this Agreement.

Notifications submitted under this Agreement are valid for five (5) years and for the life of the THP for THP-associated activities, but prior to the THP expiration date. Project work under a notification shall be undertaken and completed, barring maintenance requirements, within the time frame stated above unless site-specific project conditions permit otherwise and provided no substantial changes in conditions occur during this time period. If projects or sites within a notification are not undertaken within the stated time frames, Green Diamond shall submit a new notification for those sites if work is still planned.

⁵ The notification receipt date will be the date the local DFG Office (Attn: Coastal Conservation Planning, 619 Second St., Eureka, California 95501) receives the notification, including fees, as indicated by a date stamp.

To facilitate timely review of the Annual Work Plan during the 60-day period, Green Diamond shall endeavor to arrange for the Department's review of all Class I projects in the work season preceding their inclusion in an Annual Work Plan.

4.1 Presumptions

The Department shall presume that the Projects of which it was notified pursuant to the foregoing procedures are subject to this Agreement. Therefore, unless the Department determines and notifies Green Diamond within 60 calendar days of the date the Annual Work Plan was received that any specific Projects described in the Authorized Activity does not qualify for coverage under this Agreement or needs further information, review or discussion, Green Diamond may commence such Authorized Activity in accordance with the terms of this Agreement on the 61st calendar day following the notification receipt date. Projects for which coverage is initially denied or that are the subject of a request for a site visit or request for additional information may commence 15 working days after the Department site visit or receipt of the information submitted by Green Diamond, unless the Department notifies Green Diamond by that time that the subject Projects do not qualify for coverage under the Agreement and sets forth the reasons for denial of coverage under this Agreement.

If the Department so notifies Green Diamond that any Projects do not qualify for coverage, Green Diamond shall not proceed with the specific Projects except pursuant to a separate Agreement under FGC Section 1602.

This Agreement and notification requirements do not apply to immediate emergency work necessary to protect life or property. If Green Diamond completes emergency work, Green Diamond shall notify the Department of the work in accordance with FGC Section 1610.

Notwithstanding the foregoing, this presumption shall not preclude the Department from taking any appropriate enforcement actions for any violation of the FGC, and any violations of this Agreement.

4.2 Content of Notification (Annual Work Plan)

Notification shall consist of the following and shall be deemed received by the Department upon receipt of all of the following:

1. A description of each Project that is an Authorized Activity, including the type (e.g. new road construction, decommissioning, upgrading, etc.) and scope of the work planned.
2. The Timber Harvesting Plan (THP) number, if applicable, and specify whether the Authorized Activity shall be done on a Class I, II, or III watercourse, or a restorable fish-bearing stream.
3. Location information, including township, range, and section numbers, road numbers, the name of streams the Authorized Activity shall affect, and a map of the Project site with sufficient detail to enable a person who is not familiar with the area to easily locate the site.
4. The name, address, and telephone number of the Contact Person.
5. Detailed work plans that describe the Project including:

- a) Where warranted (e.g. associated with unstable areas), construction drawings, diagrams or sketches, cross sections and dimensions, including unstable conditions at each encroachment, such as debris torrents, landslides, unstable fill, etc.
 - b) Volumes of materials removed or added and estimates of the area involved;
 - c) Calculations and engineering plans or other data used to determine bridge height and flow capacity for permanent bridge installations, and calculations or other data used to determine 100-year flood flows and size culverts for permanent watercourse crossing structures;
 - d) Restrictions that may affect work at the Project.
6. Description of the current site condition for a Project.
 7. If the site requires Notification and/or permit under the Road Management Waste Discharge Requirements.
 8. If the Authorized Activity requires any authorization, permit, or entitlement from any federal, state or local agency, a copy of such authorization, permit, or other entitlement.
 9. A fee in an amount in accordance with Section 7 of this Agreement.

4.3 Revisions to the Annual Work Plan

Revisions to the Annual Work Plan shall be structured into three categories:

1. Planned Site Revision: Green Diamond may provide additional information and treatment prescriptions for a Project site already covered in the current year's Annual Work Plan. Upon receipt of the Planned Site Revision, the Department shall have 15 working days to review the revision. Operations may commence such Authorized Activity in accordance with the terms of this Agreement on the 16th working day following the notification receipt date, unless the Department notifies Green Diamond before then that it needs further information, review or discussion or such Planned Site Revision does not qualify for coverage under the Agreement.
2. New Site Revision: Green Diamond may amend additional sites to the current year's Annual Work Plan. Upon receipt of the New Site Revision, the Department shall have 15 working days to review the revision. Operations may commence such Authorized Activity in accordance with the terms of this Agreement on the 16th working day following the notification receipt date unless the Department notifies Green Diamond before then that it needs further information, review or discussion or such New Site Revision does not qualify for coverage under the Agreement.
3. Urgent Site Revision: Where Green Diamond identifies new sites or treatment prescription revisions to existing sites under the Annual Work Plan; and, are considered integral to operational continuity (e.g. previously unknown sites identified on a road decommissioning project) an Urgent Site Revision may be added to the Annual Work Plan. Upon receipt of the Urgent Site Revision, the Department shall have 5 working days to review the revision. Operations may commence such Authorized Activity in accordance with the terms of this Agreement on the 6th working day following the notification receipt date unless the Department notifies

Green Diamond before then that it needs further information, review or discussion or such Urgent Site Revision does not qualify for coverage under the Agreement.

Revisions to the Annual Work Plan are subject to the fees specified in Section 7.0. A notification modified during the review process is not subject to a revision fee.

5.0 TERM OF THE AGREEMENT, AMENDMENTS

5.1 Term

This Agreement shall be valid until June 30, 2057, the expiration date of the AHCP, provided the AHCP and State Consistency Determination remain in effect for such period. Green Diamond may request one extension of this Agreement prior to the expiration date of this Agreement in accordance with FGC Section 1605 provided that the State Consistency Determination shall remain in effect during the period of requested extension.

5.2 Amendments to the Agreement

This Agreement may be amended at any time, provided that: 1) the Department and Green Diamond mutually agree on the amendment; 2) the amendment is duly executed by the Department and Green Diamond; 3) the amendment is made part of the Agreement, and 4) Green Diamond includes the amendment fee specified in Section 7. Any proposal to amend this Agreement shall be in writing and submitted to the other party for its review and concurrence. The Department shall not execute any amendment until it has complied with CEQA, if such compliance is necessary.

6.0 SUSPENSION, REVOCATION , REINSTATEMENT, AND RECONSIDERATION

6.1 Scope of Suspension and Revocation

At the Department's discretion, any action to suspend this Agreement may be limited in scope to address the specific problem resulting in the suspension. As such, the Department may limit the suspension to specified Authorized Activities or specified Green Diamond Lands. The Department shall notify Green Diamond of any suspension in writing. Any suspension shall take effect immediately upon receipt of such notice by Green Diamond, or in accordance with the instructions contained in the notice. Such notice shall identify the reason(s) for the suspension, the actions necessary to correct the deficiencies, and inform Green Diamond of the right to object to the proposed suspension. Such notice may be amended at any time by the Department. Green Diamond may file a written objection to the proposed action within 45 calendar days of the date of the Department's notice.

The Regional Manager shall make a decision on the proposed suspension within 45 days after the end of the objection period. The Department shall notify Green Diamond in writing of the decision regarding the suspension and the reasons therefore. The Regional Manager may begin procedures to revoke the Agreement if Green Diamond fails within 60 days of written notification of the decision to suspend the Agreement to correct the deficiencies that were the cause of the suspension. The Regional Manager may also begin procedures to revoke the Agreement if statutory enactments subsequent

to the execution or renewal of the Agreement prohibit the continuation of the Agreement or an Authorized Activity subject to this Agreement.

6.2 Reinstatement Following Suspension

The Department may lift any suspension within 60 days of written notification of the Regional Manager's decision to suspend the Agreement, after determining that Green Diamond has adequately addressed the problem(s) that caused the suspension, and that reinstatement shall not cause harm to fish and wildlife resources.

6.3 Reconsideration of Suspension or Revocation

Green Diamond may request reconsideration of a suspension or revocation of this Agreement. The request for reconsideration must be received by the Regional Manager within 30 days of the date of notification of the decision for which reconsideration is requested. The Department shall notify Green Diamond of its decision in writing within 45 days of the receipt of the request for reconsideration. Such decision may be appealed to the Director within 30 days of the date of notification of the decision on the request for reconsideration. The Director's decision on appeal shall be made within 30 calendar days of receipt of the appeal, unless such time is extended for one additional 30-day period for good cause and Green Diamond is notified of the extension. The Director's decision on appeal shall constitute the final administrative decision of the Department.

7.0 FEES

The Department may refuse to process a notification or a request for an extension or amendment until the Department receives the proper fee or fees.

7.1 Base Fee

In accordance with 14 CCR Section 699.5, Green Diamond shall pay a base fee of \$8,404.75 with the submittal of the Notification to pay the costs of the Department in preparing this Agreement.

7.2 Annual Fee

In accordance with 14 CCR Section 699.5, Green Diamond shall remit an annual fee of \$1120.50, due payable with the first notification submitted to the Department and thereafter each calendar year pursuant to this Agreement. The annual fee shall increase consistent with 14 CCR Section 699.5 as amended.

7.3 Project Notification Fee

Green Diamond shall remit a Project notification fee of \$200.00 for each Class I project, and \$65.00 for each Class II or Class III project identified on Annual Work Plan notifications submitted pursuant to this Agreement. These Project notification fees shall increase consistent with 14 CCR Section 699.5 as amended.

7.4 Amendment Fee

The fee to amend this Agreement shall be that specified in 14 CCR Section 699.5 (currently \$150.00 for minor amendments and \$500.00 for major amendments) at the time of the request. The amendment fee shall increase consistent with 14 CCR Section 699.5 as amended.

7.5 Annual Work Plan Revision Fees

The following fee schedule shall be applied to Annual Work Plan revisions:

1. Site Revision Fee: Green Diamond shall not be required to remit a fee for revisions to notifications included in the Annual Work Plan.
2. New Site Revision Fee: Green Diamond shall remit a project notification fee for each new site added to the Annual Work Plan, as outlined in 7.3, submitted pursuant to this Agreement.
3. Urgent Site Revision Fee: Green Diamond shall remit a Project notification fee of \$200.00 for each Urgent Site Revision to the Annual Work Plan. This fee shall increase consistent with the increase rate per 14 CCR Section 699.5 as amended.

7.6 Extension (Renewal) Fee

The fee to extend or renew this Agreement shall be that specified in 14 CCR Section 699.5 at the time of the request. An extension of this Agreement is not considered an amendment.

7.7 Remitted Fees on Uninitiated Projects

Where fees were remitted under an Annual Work Plan, but no project was initiated under that Annual Work Plan year those fees may be counted towards notifications for the same site in future Annual Work Plans, submitted pursuant to this Agreement.

8.0 REPORTING

8.1 Annual Report

On or before March 31 of each calendar year during the Term, Green Diamond shall submit an Annual Report to the Department that summarizes the completion and inspection of all Projects implemented as identified in the Annual Work Plan from the previous operating season, and a summary of the monthly water drafting reports. Annual reporting of these Projects shall be provided for a period of two years with one inspection occurring prior to the winter period and one inspection occurring following a full winter.

Any minor maintenance issue identified following implementation such as culvert cleaning, re-installation of waterbreaks or critical dips, or removal of vegetation shall be conducted as soon as feasible and adhere to the conditions within the Agreement.

Any major maintenance issue identified following implementation such as culvert separation, fill failure resulting in significant sediment delivery or watercourse diversion shall be conducted as soon as feasible and adhere to the conditions within the Agreement. A facility that receives major maintenance shall be monitored for an additional year, once prior to the winter period and once following the winter period.

Green Diamond shall provide a list of individuals who have completed the annual training on unique non-fish vertebrate aquatic site identification. For each unique site identified in the Annual Work Plan, Green Diamond shall provide the presence or absence of non-fish aquatic vertebrate species by location and date including the number of individuals translocated to avoid operational impacts. Any incidental injury or mortality of individuals during translocation efforts shall also be described. Pertinent species identified shall be documented and submitted to the California Natural Diversity Database (CNDDDB).

For each Project, the annual report shall include: the date of the inspection; type of Facility; the name or designation of the Facility associated with the Annual Work Plan; photographs, if available; and a summary of the functional status of each Facility.

8.2 Water Drafting Operations Report

Green Diamond shall provide a monthly Water Drafting Operations Report which shall be submitted to the Department by electronic correspondence, at the end of any month water drafting occurs. The Water Drafting Operations Report shall summarize monitoring results and shall contain the following information:

List of all sites included in the Annual Work Plan, date of monitoring, surveyor, measured sourceflow, the method used in determining sourceflow, initial diversion rate, adjusted diversion rate, and any adjustments made to drafting operations as a result of variations to sourceflows.

8.4 Four-year Status Report

Per FGC Section 1605(g)(2), Green Diamond shall provide a status report to the Department every four years. The status report shall be delivered to the Department no later than 90 days prior to the end of each four-year period.

The status report shall include all of the following information: A copy of the original Agreement (including all subsequent site-specific conditions); the status of the Authorized Activity covered by the Agreement; an evaluation of the success or failure of the measures in the Agreement to protect the fish and wildlife resources that the Authorized Activity may substantially adversely affect; and a discussion of any factors that could increase the predicted adverse impacts on fish and wildlife resources, and a description of the resources that may be adversely affected.

Per FGC Section 1605(g)(3), the Department shall review the four-year status report ,and conduct an onsite inspection to confirm that the Responsible Party is in compliance with the Agreement and that the measures in the Agreement continue to protect the fish and wildlife resources. If the Department determines that the measures in the Agreement no longer protect the fish and wildlife resources that are being substantially adversely affected by the activity, the Department, in consultation with the Responsible Party, and within 45 days of receipt of the report, shall impose one or more new measures to protect the fish and wildlife resources affected by the activity. If requested

to do so by the Responsible Party, the Department shall make available the information upon which it determined the agreement no longer protects the affected fish and wildlife resources. If the Responsible Party disagrees with one or more of the new measures, within seven days of receiving the new measures, it shall notify the Department, in writing, of the disagreement. The Responsible Party and the Department shall consult regarding the disagreement. The consultation shall be completed within seven days after the Department receives the Responsible Party's notice of disagreement. If the Department and the Responsible Party fail to reach agreement, the Responsible Party may request, in writing, the appointment of a panel of arbitrators to resolve the disagreement. The panel of arbitrators shall be appointed within 14 days of the completed consultation. The panel of arbitrators shall issue a decision within 14 days of the date it is established. All other provisions of subdivision (b) of Section 1603 regarding the panel shall apply to any arbitration panel established in accordance with this subdivision. If the Responsible Party fails to provide timely status reports as required by this subdivision, the Department may suspend or revoke the agreement.

9.0 DEPARTMENT ACCESS TO GREEN DIAMOND LANDS FOR NOTIFICATION REVIEW, INSPECTION AND MONITORING

Green Diamond agrees to allow the Department employees unrestricted access to Green Diamond Lands for the purpose of site visits and inspecting and/or monitoring, the implementation, compliance and effectiveness of the Authorized Activities.

10.0 COMPLIANCE WITH OTHER LAWS

Nothing in this Agreement shall be construed to authorize the violation of any applicable federal, state, or local laws including, but not limited to, FGC Section 5650, the Porter-Cologne Act, and the Forest Practice Rules. This Agreement does not supersede the authority of CalFire to administer and approve timber operations pursuant to the California Forest Practice Rules (14 CCR Section 895 *et seq.*) and the Z'Berg-Nejedly Forest Practice Act (PRC Section 4511 *et seq.*).

11.0 CONDITIONS NECESSARY FOR PROTECTION OF FISH AND WILDLIFE RESOURCES FROM IMPACTS OF AUTHORIZED ACTIVITIES

A. CONDITIONS NECESSARY FOR PROTECTION OF WATER QUALITY AND BIOLOGICAL RESOURCES IN STREAMS

- A.1 CONDITIONS FOR ALL SITES**
- A.2 NEW ROAD CONSTRUCTION**
- A.3 UPGRADING**
- A.4 DECOMMISSIONING**
- A.5 EMERGENCY MAINTENANCE**
- A.6 EROSION CONTROL MEASURES**

- A.7 WATER DRAFTING**
- A.8 INSTREAM RESTORATION PROJECTS**
- A.9 SOURCES CITED**

B. CONDITIONS NECESSARY FOR PROTECTION OF OTHER BIOLOGICAL RESOURCES

- B.1 GENERAL CONDITIONS**
- B.2 SPECIFIC CONDITIONS FOR SENSITIVE AND SPECIAL STATUS SPECIES AT SPECIFIC WORK SITES**

B.2.1 NON-FISH AQUATIC VERTEBRATE RESOURCES

B.2.2 BALD EAGLE

B.2.3 GOLDEN EAGLE

B.2.4 GREAT BLUE HERON

B.2.5 GREAT EGRET

B.2.6 MARBLED MURRELET

B.2.7 NORTHERN GOSHAWK

B.2.8 NORTHERN SPOTTED OWL

B.2.9 OSPREY

B.2.10 PEREGRINE FALCON

B.2.11 WHITE-TAILED KITE

B.2.12 WILLOW FLYCATHER

B.2.13 TRINITY BRISTLE SNAIL

B.2.14 SENSITIVE PLANTS

C. CONDITIONS NECESSARY FOR PROTECTION OF CULTURAL RESOURCES

A. CONDITIONS NECESSARY FOR PROTECTION OF WATER QUALITY AND BIOLOGICAL RESOURCES IN STREAMS

A.1 CONDITIONS FOR ALL SITES

1. Authorization for work to proceed under any notification pursuant to this Agreement is valid five (5) years and for the life of the THP for THP-associated activities, but prior to the THP expiration date. Project work under a notification shall be undertaken and completed, barring maintenance requirements, within the time frame stated above unless site-specific project conditions permit otherwise, and provided no substantial changes in conditions occur during this time period. If projects or sites within a notification are not undertaken within the stated time frames, Green Diamond shall submit a new notification for those sites if work is still planned.
2. Except where otherwise stipulated in this Agreement, all work shall be in accordance with the Annual Work Plan submitted with the notification pursuant to this Agreement. All work at a Project site shall be completed within one season unless site-specific conditions apply.
3. If the Department determines the work being completed is, has, or may result in greater impacts to the environment than contemplated by the Agreement and the Annual Work Plan, the Department shall notify Green Diamond and, if the Department requests, Green Diamond shall cease work. Green Diamond and the Department shall determine whether additional measures may be needed for any particular Project to meet the requirements of the Agreement, and Green Diamond shall implement such measures. If the Department determines that the Agreement may result in additional impacts or greater impacts than anticipated in the Agreement and the Initial Study, the Department shall notify Green Diamond and the parties shall work to determine any necessary changes to the Project conditions to avoid or mitigate such impacts to an insignificant level.
4. Equipment shall not operate in the water of a flowing stream or wetted channel except as may be necessary to construct and remove in-stream structures (i.e. cofferdams) to catch, contain, and divert stream flow and isolate the work site, or as otherwise specifically provided for in this Agreement.
5. All heavy equipment that enters the live stream shall be cleaned of materials deleterious to aquatic life including oil, grease, hydraulic fluid, soil, and other debris. Cleaning of equipment shall take place outside of the riparian management zone (RMZ) and prior to entering water.
6. Whenever flowing water is present during operations:
 - a) Cofferdams shall be installed to divert stream flow and isolate and dewater the work site, and to catch any sediment-laden water and minimize sediment transport downstream. Cofferdams shall be constructed of non-polluting materials including sand bags, clean rock, and/or plastic tarps. Mineral soil shall not be used in the construction of cofferdams.

- b) Flowing water shall be bypassed and/or prevented from entering the work area through pumping around or contained (e.g. pipe or flume) gravity flow and returned to the stream below the work area. Flow diversions shall be done in a manner that shall prevent pollution and/or siltation and provide clean return flows to downstream reaches to maintain aquatic life below the work area.
 - c) Green Diamond shall remove any trapped turbid water and sediment present in the work area prior to restoring water flow through the project site, and place them in a location where they cannot enter watercourses. Where cofferdams are utilized, they shall be removed from the channel immediately upon completion of work unless otherwise provided for in this Agreement.
 - d) Where the disturbance to construct coffer dams to isolate the work site would be greater than to complete the action, sediment barriers shall be put in place immediately downstream of the work site to capture suspended sediment.
 - e) The requirement to use cofferdams does not apply to Class I low-water bridge crossings on Blue Creek, Redwood Creek, the Van Duzen River, the Mad River and other watercourses that are identified in the Annual Work Plan.
7. Prior to the crossing installation or removal, a qualified fisheries biologist or qualified designee shall examine Class I watercourse encroachments to determine the presence of fish, other aquatic vertebrates or redds within the work area and 100 feet upstream and downstream, as defined as the project area. If salmonids or other aquatic vertebrates are found during the examination they shall be relocated upstream or downstream of the work area. Block nets shall be installed upstream and downstream of the work area to prevent migration into the work area. If redds are located within the project area, operations shall not commence until June 15th.
8. Sediment barriers such as silt fences, hay bales, fiber mats, wattles, sediment basins or check dams, clean, screened gravel, or other appropriate measures and techniques using non-polluting materials shall be used and maintained as needed to contain and control discharge into watercourses. The sediment barriers shall be maintained in good operating condition. If any sediment barrier fails to retain sediment, corrective measures shall be immediately employed. Sediment captured behind barriers shall be placed in a location or manner where it cannot enter into watercourses.
9. All bare mineral soil exposed in conjunction with encroachment construction, deconstruction, maintenance or repair shall be treated to minimize erosion in order to prevent discharge into the Waters of the State prior to the onset of precipitation capable of generating runoff or by the end of the yearly work period, whichever is first.
10. Treatment of bare mineral soils shall include the seeding and mulching of all bare mineral areas exposed in conjunction with encroachment work. Exposed areas shall be seeded at a rate of at least 30 pounds per acre and mulched to a depth of at least 2 inches (before settling) with 90% surface coverage.

11. Structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the bankfull channel before such flows occur and before October 15 or the end of the yearly work period.
12. At watercourse crossings all debris and live, dead and down vegetation may be cleared to remove obstructions to stream flow.
13. Any damage caused to drainage or erosion control structures by using ATVs on any road shall be repaired immediately following damage.
14. Where needed, seed, mulch, native vegetation, rock armor, large woody debris (LWD), jute netting, straw wattles and geotextiles shall be utilized to effectively stabilize fills, stream banks, and other exposed soils. Other materials may be used if approved by the Department. No perennial ryegrass (*Lolium perenne*) or persistent netting may be used.
15. No fill material shall be placed within a stream except as specified in this Agreement.
16. Encroachments shall be constructed, deconstructed, repaired and maintained in a manner that minimizes to the extent feasible headcutting, downcutting and/or bank erosion of the stream channel by installing grade control structures and erosion control materials such as riprap, woody debris, slash packing, seeding and mulching or through other effective measures.
17. Disturbance or removal of vegetation shall not exceed that of work covered in the notification unless authorized by the Department for site-specific conditions encountered during project work.
18. When bio-engineering treatments (e.g., willow wattles or mats) are utilized for erosion control or restoration they shall be conducted at the appropriate time and season, or as otherwise directed by the Department.
19. Large woody debris (LWD) that remains as merchantable timber and was used as part of the original crossing construction may be removed from the site at Green Diamond's discretion. All other LWD removed during crossing excavation and construction shall be used on site as in-channel grade control or bank stabilization. Where not needed for channel control or bank stabilization the LWD stockpiled for use in other encroachment activities for stream bed and bank stabilization, erosion control, or other stream restoration projects.
20. At Project work sites, all trash that may attract scavengers shall be properly contained, removed from the work site, and disposed of regularly. Following activities, all trash and construction debris shall be removed from work areas.
21. Refueling of equipment and vehicles and storing, adding or draining lubricants, coolants or hydraulic fluids shall not take place within RMZs, on streambeds, banks or in channels. All such fluids and containers shall be disposed of properly.
22. Heavy equipment including water drafting trucks parked within RMZs, on streambeds, banks or in channels shall use drip pans or other devices (i.e., absorbent blankets, sheet barriers or other materials) as needed to prevent soil and

water contamination. Stationary equipment such as motors, pumps, generators, compressors, and welders located within the dry portion of the stream channel or adjacent to the stream, shall be positioned over drip-pans.

23. All activities performed in or near a stream shall have absorbent materials designated for spill containment and clean-up at the activity site for use in case of an accidental spill. Notification and clean-up of all spills shall begin immediately, in accordance with Green Diamond's Spill Notification procedures.
24. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other earthen material from any logging, construction, instream or riparian restoration project or associated activity of whatever nature shall be allowed to enter into or be placed where it may be washed by rainfall or runoff into watercourses. When operations are completed, any excess materials or debris shall be removed from the work area.

A.2 NEW ROAD CONSTRUCTION

1. Green Diamond shall not construct or rock new roads during the winter period (October 16th through May 14th).
2. Green Diamond shall construct all new watercourse crossings to minimize fill over any culverts.
3. All new watercourse crossing culverts shall be designed to handle a 100-year return interval flow event. The design flow shall be calculated using the Waananen and Crippen method (1977) for drainage areas greater than or equal to 80 acres. The Rational Method (Chow 1964) shall be used when the drainage area for a crossing is less than 80 acres. Culverts shall be sized to pass the 100-year flow event without overtopping (headwater depth to culvert diameter ratio =1.0) including sediment and debris.
4. Watercourse crossings on temporary roads designed for one time summer season use shall be designed to carry the flow during the period of use and shall be removed prior to October 15th in the year it was installed. A minimum six-inch pipe size shall be used on small seeps and springs.
5. Green Diamond shall install bridges on fish-bearing watercourses where feasible. All bridge construction shall follow the conditions stated under A.3 Upgrading.
6. When a bridge installation is not feasible, a countersunk or bottomless culvert (or other fish-friendly structure) shall be installed on grade that shall provide upstream and downstream passage for all life stages of fish. Culverts shall be aligned with the stream channel and installed at or below streambed level. Culverts shall be as wide as or wider than the channel width and extend lengthwise beyond the road fill.
7. If, bottomless arch culverts or embedded culvert design methods (i.e., stream simulation or active channel design) shall be used in accordance with the "Culvert Criteria for Fish Passage" found as Appendix IX-A of the California Salmonid Stream Habitat Restoration Manual available at: <http://www.dfg.ca.gov/habitats>. Bottomless

culverts shall meet culvert width criteria in the manual and culvert footings shall be deep enough to avoid scour exposure.

8. Green Diamond shall construct permanent watercourse crossings, road approaches to crossings, and associated fills to prevent the potential diversion of stream overflows down the road and to minimize fill erosion should the drainage structure become obstructed.
9. Green Diamond shall install erosion protection measures such as inlet and outlet armoring of pipes and energy dissipaters where necessary to prevent erosion concurrently with the fill at all culverted watercourse crossings. Armoring shall extend at least 1 foot above the expected head and tail water elevations at the culvert. If it is determined that site specific conditions do not warrant additional erosion protection measures, Green Diamond shall disclose an explanation and justification as part of the Annual Work Plan.
10. All bare soil on fill slopes at the culvert crossing shall be seeded and mulched prior to the first winter period following installation.
11. Green Diamond shall align all watercourse crossings with the natural grade and course of the stream.
12. Green Diamond shall compact fill material over culvert installations in one-foot lifts and shall compact fill faces during construction.
13. Green Diamond shall install a minimum culvert size of 24 inches in all watercourse crossings on management roads, except for springs and seeps where a minimum 18 inch culvert size shall be used.
14. No culvert shall be discharged onto erodible material or unstable slopes. When downspouts are used, they shall be adequately secured to the culvert, and they shall be supported at intervals along their entire length. If half-round downspouts (flumes) are used they shall be sized larger than the culvert, and of sufficient size to accommodate entire anticipated stream flow.
15. Green Diamond shall install additional ditch relief culverts and rolling dips where appropriate to adequately disconnect the roads from the watercourses and to minimize ditch water accumulation on slide prone landforms such as inner gorges.
16. Ditch relief culverts shall be discharged 50 to 100 feet before water enters a Class I or II watercourse. Drains shall discharge onto stable landforms with adequate energy dissipation and sediment filtering capacity. Outlets discharging onto erosion prone areas shall be avoided or provided with effective erosion protection measures.
17. For road approaches to watercourse crossings, Green Diamond shall apply the following measures in the AHCP planning area to:
 - a) Areas that are within 1,000 feet of Class I watercourses where Coho are present.
 - b) All Class I, II, and III watercourse crossings on seasonal dirt surfaced roads in Known Tracts.

- c) All Class I, II, and III watercourse crossings in within Coho planning watersheds in the AHCP planning area that are identified as containing highly erodible soils.

Each road approach to a watercourse crossing shall be treated to create and maintain a stable operating surface, and to minimize the generation of fine sediment during use, in accordance with the conditions stated below. The road approach encompasses either of the following areas, whichever is less:

- a) the area from the watercourse channel to the nearest drainage facility, but not less than 50 feet; or
- b) the area from the watercourse channel to the first high point on the road where road drainage flows away from the watercourse.
 - i. Road approach surfaces on the following shall consist of high-quality, durable, compacted rock or paving:
 - (1) permanent roads
 - (2) seasonal roads crossing Class I watercourses
 - (3) roads used for hauling (logs, rock, heavy equipment) from October 16 to May 14 except when conditions are met for Unseasonably Dry Fall (October 15 to November 14) or Early Spring Drying (May 1 to May 14)
 - ii. Road approach surfaces on the following shall be treated with either: rock, slash, seed and straw mulch, seed and stabilized straw, or seed and slash:
 - (1) all seasonal roads used for hauling in the current year
 - (2) all seasonal roads used from October 16 to May 14 except when conditions are met for Unseasonably Dry Fall (October 15 to November 14) or Early Spring Drying (May 1 to May 14) for purposes other than hauling associated with THPs including but not limited to access for timber fallers and tree planters, agency inspections and administrative use

18. If a temporary crossing is installed, including a culvert or temporary bridge, in a live (flowing) stream, fill shall only be composed of durable, clean, screened rock or river run gravel, sound logs, geotextiles, straw or hay bales, or a combination of the above. Fill materials used shall cause no pollution, siltation or delivery of sediment to a watercourse during or following structure installation use and/or removal.

19. If a permanent crossing is installed, including a permanent culvert or bridge installation, in a live (flowing) stream, fill shall only be composed of durable, clean, screened rock or river run gravel, or a combination of the above. Fill materials used shall cause no pollution, siltation or delivery of sediment to a watercourse during or following structure installation use and/or removal.

20. During permanent or temporary bridge installation, no heavy equipment shall operate in the live stream, except for the minimums necessary to install stream diversions or place or remove the bridge (i.e. one to two passes).

21. Multiple-barrel crossings shall not be used on permanent crossings. Multiple barrel

crossings may be used on temporary crossings with approval by the Department.

22. If the stream is dry during the period of use, a dry temporary crossing without a culvert may be used. Green Diamond shall place straw or other materials on the bed and banks before placing fill to designate the lower limit of subsequent excavation during crossing removal, unless the site requires deeper excavation upon crossing removal.
23. For temporary crossing installations green tree tops, slash, rock, hay bale, and/or log-fill shall be used when it may be difficult to remove all fill material from the channel without undue disturbance, or when flows would transport sediment downstream. Temporary log fill crossings shall be constructed using sound logs covered with branches, filter fabric, straw and/or rock, with a soil cap for road surfacing if needed.
24. Encroachments shall be left in a finished condition with hydrologic connectivity from the road or ditch to the crossing eliminated, to the extent feasible, and effective erosion control in place prior to the onset of precipitation capable of generating runoff or by the end of the yearly work period, whichever is first.

A.2.1 CONSTRUCTION OF FORDS

25. Use of constructed fords may only occur if the fording surface is dry, with the exception of administrative access for timber management activities.
26. Constructed fords shall have approaches that are permanently rocked, paved, or otherwise armored to a minimum depth of 4" of rock, to prevent tracking of soil into the crossing. Approaches shall be rocked to the hydrologic divide or disconnect, and hydrologically disconnected to the maximum extent feasible to prevent sediment from entering the ford, and shall be maintained as necessary during use.
27. Ford crossings shall be constructed as near perpendicular to the stream channel axis as practicable. Equipment and vehicles shall not travel directly up- or downstream in the stream channel to complete crossing.
28. Streambeds of fords shall be constructed of clean, durable, screened rock of sufficient quantity and size to allow for fording without substantially deforming the ford surface. Mid-sized rock that provides larger interstices shall be installed so the majority of the water flows within and through the ford, rather than over the top.
29. The lowest point of the rock ford (critical dip/ overflow channel) shall be placed above and parallel to the original stream channel beneath it.
30. No fords containing concrete may be constructed under the terms of this Agreement.
31. Fords, including vented fords, shall be designed, sized, installed, and maintained to prevent washout and erosion of the streambed, streambanks, and fill. By the end of the work period each year, fording sites shall be left in a condition capable of passing 100-year flood flows, including bedload and debris, without diverting or substantially downcutting or headcutting, or lateral bank cutting.

32. Ford construction shall have no native soil placed into, or placed where it may enter into, the stream high water channel.
33. The channel and bank configurations of the disturbed areas of any ford shall be left in stable condition, with a low flow channel returned as nearly as possible to its natural state. The streambed shall be as wide or slightly wider than that which existed prior to the ford installation.
34. Where necessary coarse rock armor free of sediment and large enough to remain in place during flood flows shall be installed on the outer road bed/ ford fill, to the toe of the downstream fill. Upstream of the ford, the channel shall likewise be rocked as needed to provide erosion control and maintain stream gradient.
35. Where applicable the outside fill face shall be a dished-out rock apron that forms a spillway. The spillway shall extend from the rock ford outfall break-in-slope down the fill face to the natural channel where it shall be keyed-in. The outside fill face slope (spillway) ratio of the ford shall be no steeper than 1.5h:1v (67%).
36. No fords may be constructed without road surfacing or rock armor protection as needed to minimize erosion. Outfalls of culverts in vented fords shall be directed towards and dissipated over large rock to minimize erosion.
37. If large wood (> 1ft diameter, 3 feet long) or rocks (greater than 12 inch minimum diameter) are removed to install a ford, they shall be restored or replaced in equal quantities downstream, or offsite.

A.2.2 FORDING SITES (WET/DRY CROSSINGS)

38. Occasional crossing of existing, wet or dry Class I fording sites for administrative purposes and for limited access of overweight/oversized equipment that cannot safely cross existing bridge structures may take place provided the channel is not substantially deformed and no significant erosion or sediment transport from the approaches to the stream occurs. Prior to use, a qualified fisheries biologist or qualified designee shall examine the Class I watercourse encroachments to determine the presence of redds within the fording area. If redds are located within the fording site, crossing shall not occur prior to June 15th. Existing Class I fording sites are provided in Appendix A.
39. New Class I fording sites, where vehicles including all-terrain vehicles (ATVs) and/or heavy equipment cross the wetted stream channel, and/or when any life stage of fish is or may be present shall be disclosed in the Annual Work Plan pursuant to this Agreement and include a description of expected frequency of use, vehicle type and site specific measures to protect fish and wildlife resources. Upon Department approval, new Class I fording sites shall be amended to Appendix A and measures described under A.2.2.37 shall apply.
40. Occasional crossing of an existing, wet or dry, non-Class I stream for timber management access may take place provided the channel is not substantially deformed and no significant erosion or sediment transport from the approaches to the stream occurs.

A.3 UPGRADING

1. Green Diamond shall not conduct road upgrading during the winter operating period, except as stated below:
 - a) Road upgrading may occur from October 16th through November 15th if “unseasonably dry fall” occurs (less than four inches of cumulative rainfall from September 1st through October 15th), and the following restrictions are followed:
 - i. Each site is completed that operational day with erosion control structures installed; or
 - ii. If a site requires multiple days for completion, a long-range National Weather Service forecast of no rain for the next five days has been issued.
 - b) Sites that require multiple days for completion shall not be started during the winter period unless there is an emergency situation. A situation is an ‘emergency’ for the purpose of this section if the elements of Section E in this Agreement exist.
 - c) Green Diamond may conduct road upgrading from May 1st through May 14th when “early spring drying” has occurred (no measurable rainfall occurred within the last 5 days and no rain forecasted by the National Weather Service for the next 5 days) and the following restrictions are followed:
 - i. Class I watercourse crossings shall not be installed or replaced; and
 - ii. Any other watercourse crossings where significant surface flows could prevent effective diversion of flow around the work site shall not be installed or replaced; and
 - iii. Erosion control supplies are retained on-site and applied to each completed site by the end of that operational day.
2. Where road upgrading is the recommended treatment, Green Diamond shall follow the applicable location, design, and construction standards described under Section B of this Agreement and be generally governed by the techniques described in Weaver and Hagans (1994) unless and until a more “state of the art” manual is published and mutually agreed upon by Green Diamond and the Department for application under this Agreement.
3. All culverted watercourse crossing replacements shall be designed to handle a 100-year return interval flow event. The design flow shall be calculated using the Waananen and Crippen (1977) method for drainage areas greater than or equal to 80 acres. The Rational Method (Chow 1964) shall be used when the drainage area for a crossing is less than 80 acres. Culverts shall be sized to pass the 100-year flow event without overtopping (headwater depth to culvert diameter ratio =1.0) including sediment and debris.
4. Other flow design estimation methods developed in the future for the North Coast Region may be substituted if comparable.
5. Green Diamond shall install bridges on fish-bearing watercourses where feasible. When a bridge installation is not feasible, a countersunk or bottomless culvert (or

- other fish-friendly structure) shall be installed on grade that shall provide upstream and downstream passage for all life stages of fish. Culverts shall be aligned with the stream channel and installed at or below streambed level. Culverts shall be as wide as or wider than the channel width and extend lengthwise beyond the road fill.
6. When retrofitting existing, non-fish passable Class I crossings, in-lieu of replacement or upgrading, the retrofitted culvert shall meet the fish passage criteria (in accordance with the California Salmonid Stream Habitat Restoration Manual for the passage needs of the listed species and life stages historically passing through the site).
 7. Green Diamond shall use the same installation standards for new roads when replacing washed out culverts, upgrading existing culverts, or replacing culverts on previously decommissioned roads. Any buried logs or other large organic debris shall be removed from the crossing fill.
 8. If culvert lining, invert paving or planking or similar method is utilized to upgrade an existing culvert as an alternative to complete culvert replacement the post-treatment conditions shall meet the general conditions stated for New Road Construction (e.g. sized for 100-year flow events, capable of passing sediment and debris, aligned with natural grade and course of the stream).
 9. Where appropriate, existing watercourse crossings may be upgraded to a ford. All provisions of ford construction shall apply as outlined in this Agreement under Section B1, Construction of Fords.
 10. Green Diamond shall install erosion protection measures such as inlet and outlet armoring of pipes and energy dissipaters where necessary to prevent erosion concurrently with the fill at all culverted watercourse crossings. Armoring shall extend at least 1 foot above the expected head and tail water elevations at the culvert. If it is determined that site specific conditions do not warrant additional erosion protection measures, Green Diamond shall disclose an explanation and justification as part of the Annual Work Plan.
 11. Permanent drainage structures shall be armored as needed to protect fill, abutments and the stream channel and banks from erosion. Armoring shall be comprised of rock riprap or other non-erodible materials.
 12. If half-round downspouts (flumes) are used, they shall be placed in line with the culvert, sized larger than the culvert and of sufficient size to accommodate entire anticipated stream flow. Downspouts shall be securely attached to the culvert and anchored to the fill slope.
 13. Where bridges are used, Green Diamond shall construct clear span bridges with abutment fills above the ordinary high water mark across such streams. Bridges shall also be set at a high enough level to pass the entire 100-year flood flows and floating debris to the extent feasible. Log stringer bridges may be used, but all surfacing material shall be clean, competent rock if the surfacing material is not otherwise planked, plated or paved. All bridge construction and abutment materials shall consist of materials that cause no pollution. Bridge stringer logs shall be cabled snugly together and cracks filled with smaller logs or other suitable material prior to

placement of a road surface to prevent surfacing material from entering the stream.

14. Abutment fills below the high water mark shall only be pre-fabricated concrete blocks or keystones, log and/or rock. Abutments shall not constrict the streamflow in a manner that is detrimental to aquatic life.
15. Bridge surfacing material shall consist of pre-fabricated concrete blocks, wood, metal, clean, screened, durable rock or other non-polluting material as approved of by the Department. Log stringer bridges shall be surfaced with filter fabric under a road surface layer of rock to prevent surface material from entering channel during use.
16. In areas where existing local gravel is available for bridge approaches, only dry gravel bar areas above the wetted stream shall be utilized for material, and only for the specific adjacent project. Gravel scraping or skimming during construction of bridge approaches shall not result in concave, low areas in the gravel bars that could strand fish after high river flows. Only gravel needed for construction of bridge approaches may be extracted.

A.4 DECOMMISSIONING

1. Green Diamond shall not carry out road decommissioning during the winter operating period (October 16th through May 14th), except that road decommissioning may occur from October 15th through November 15th if “unseasonably dry fall” occurs (less than four inches of cumulative rainfall from September 1st through October 15th) and the following occurs:
 - a) Each project site is completed that operational day with erosion control measures installed; or
 - b) If a site requires multiple days for completion, a long-range forecast of no rain for the next five days has been issued.
2. Sites that require multiple days for completion shall not be started during the winter period unless there is an emergency situation. A situation is an ‘emergency’ for the purpose of this section if the elements of Section E of this Agreement are satisfied.
3. Green Diamond shall pull back unstable or potentially unstable road or landing fill identified during the road assessment process and deposit spoil in a stable location where eroded materials shall not have access to watercourses. Appropriate erosion control measures such as seeding and mulching or slash packing shall be utilized to prevent surface erosion at excavated unstable areas.
4. Green Diamond shall perform seeding, mulching and planting, and installation of energy dissipation (rock armor or woody debris) when determined necessary by qualified and trained personnel for additional erosion control on the decommissioned roads to minimize erosion and prevent sediment from entering watercourses.
5. Green Diamond shall remove the fill from the stream channel on all decommissioned watercourse crossings, including temporary crossings. The excavation shall extend down to the original channel bed, with the excavated channel at least as wide as the

original channel. The side slopes shall be sloped back to the original angle or 2:1 or less and spoil material transported to a stable location that can not deliver erodible material to watercourses. Appropriate erosion control measures such as seeding and mulching shall be utilized to prevent surface erosion at excavated crossings.

6. Excess sediment deposits in the stream channels at, above, and below the crossing shall be removed when crossings are excavated, to the extent feasible. Excavated fill material shall be placed in areas where it cannot enter or erode into a stream.
7. Both temporarily and permanently decommissioned roads shall have drainages features that are maintenance free and to the extent practicable, hydrologically disconnected from watercourses. Inside ditches and springs and seeps shall be drained with deep cross-drain ditches. Discharge from ditches shall not be directed onto unstable areas. Localized outsloping may be necessary to adequately drain the road surface.
8. For Class I watercourses, if the former stream channel passed all life stages of fish, the shape and gradient of the streambed shall be as nearly as possible the same as that which existed prior to the disturbance. If the stream crossing formerly did not pass all life stages of fish, following removal and disturbance, the shape and gradient of the streambed and channel shall be such that fish passage of all life stages is assured in these locations except where a natural barrier occurs at the stream crossing.
9. During THP preparation, Green Diamond shall identify existing skid trail crossings within the proposed harvest area that are diverting a watercourse, or have a potential to divert a watercourse, or are not properly draining and shall have them evaluated for repair by qualified personnel. All decommissioning conditions shall apply to skid trail crossing decommissioning activities.
10. Concurrent with road assessments Green Diamond shall identify active erosion sites delivering to a watercourse from existing skid trail crossings and evaluate them for repair. All decommissioning conditions shall apply to skid trail crossing decommissioning activities.

A.5 EMERGENCY MAINTENANCE

1. If there is an imminent threat to life, property, or public safety, or a potential for a massive sediment input with catastrophic environmental consequences, Green Diamond shall notify the Department of the emergency and the planned action within 14 calendar days as per FGC Section 1610, but shall not be required to submit a formal notification in order to perform a quick response to the situation. An individual contact from the Department shall be designated. The Department shall notify Green Diamond of any changes in their personnel contacts.

A.6 EROSION CONTROL MEASURES

1. Green Diamond shall use appropriate erosion control measures to minimize erosion and prevent sediment from entering watercourses during and following all activities covered under this Agreement. Such measures shall include but are not limited to:
 - a) Road surfacing

- b) Dispersing runoff into stable vegetated filter areas
 - c) Armoring with rock rip-rap
 - d) End hauling waste material to stable locations that do not have potential to deliver sediment to watercourses
 - e) Construction of rolling dips, critical dips, and waterbars
 - f) Mulching including hydro-mulching
 - g) Revegetating disturbed surfaces as soon as practical
 - h) Slash packing
2. Where activities are conducted in close proximity to watercourses, Green Diamond shall use additional erosion control protection measures to trap sediment and minimize its entry into the watercourse. Slash filter windrows, silt fences, straw wattles, mulching and/or straw bale check dams shall be used to control runoff over fill slopes and along concentrated runoff flow paths, on an as-needed basis.
 3. All watercourse crossings and cross drains shall be installed and functional prior to October 15th, or prior to the end of an “unseasonably dry fall”.
 4. By October 15th, all waterbars, rolling dips, straw mulching and grass seeding associated with road and landing construction shall be completed in order to minimize suspended or mobilized sediment delivery to a watercourse.
 5. Prior to the beginning of the first winter period following construction, Green Diamond shall seed all new cut and fill slopes on roads constructed within an RMZ or EEZ of a Class I, II, or III watercourse at a rate of at least 30 pounds per acre and mulched to a depth of at least two inches (before settling) with 90% surface coverage.
 6. In Coho Planning Watersheds within the AHCP planning area for both new road construction and existing road maintenance in areas where existing road bank cuts have exhibited failures and have the potential to deliver to a watercourse, Green Diamond shall implement the following measures to the extent feasible to prevent sediment discharges to watercourses: hydrologically disconnecting the bank cut discharge from watercourses, buttressing, or other measures and by installing and maintaining effective erosion control materials.
 7. All exposed areas associated with encroachment work at crossings shall be seeded at a rate of at least 30 pounds per acre and mulched to a depth of at least two inches (before settling) with 90% surface coverage.
 8. Stream banks shall be stabilized as needed to prevent or minimize erosion and sediment delivery to watercourses where Green Diamond road infrastructure is at risk.
 9. Material used for bank stabilization shall be clean, competent material that shall not discharge sediment or other forms of pollution to watercourses.
 10. Repairs and maintenance of bank stabilization sites shall employ the same type of materials used in the original construction unless contraindicated.

A.7 WATER DRAFTING

1. To help assess the cumulative impact of water drafting in any given watershed, the following information shall be included in the Annual Work Plan:
 - a) a description and map of existing or new water drafting sites, and/or existing water drafting sites requiring substantial alteration to be utilized for the year submitted.
 - b) the watercourse or lake classification.
 - c) the general drafting location use parameters including expected seasonal sourceflows, estimated total volume needed, expected site-specific protection measures and description of associated activities related to water drafting.
2. GDRCo existing drafting sites are disclosed in Appendix B. Any site not included in Appendix B, and those planned in an Annual Work Plan shall be considered a new site.
3. All drafting sites planned to be used shall be disclosed under the Annual Work Plan. Those sites shall be monitored and drafting measurements taken every two weeks during the period of time drafting hoses are in place and diverting water. Drafting rates shall be adjusted, as necessary, to ensure feasible compliance with the conditions under this Agreement. If reliable seasonal flow patterns are established over time at individual drafting sites, the frequency of monitoring efforts can be modified with concurrence of the Department and GDRCo.
4. In addition to the Annual Work Plan, a monthly Water Drafting Operations Report shall be submitted to the Department by electronic correspondence, at the end of any month water drafting occurs. The Water Drafting Operations Report shall summarize monitoring results and shall contain the following information:
 - a) List of all sites included in the Annual Work Plan and the following information for each site: date of monitoring, surveyor, measured sourceflow, the method used in determining sourceflow, initial diversion rate, adjusted diversion rate, and any adjustments made to drafting operations as a result of variations to sourceflows.
5. If the Department or Green Diamond determines water drafting from any site is or may result in significant adverse impacts to aquatic resources, drafting operations shall be modified to reduce the impact to less than significant or shall cease.
6. If Green Diamond can demonstrate to the Department that the drafting rates in the Agreement are operationally infeasible and can be increased without resulting in significant adverse impacts to aquatic resources, the maximum allowable drafting rates may be modified on a site-specific basis with written concurrence (via email or memorandum) from the Department.
7. The Annual Report shall contain all summarized correspondence contained within the Water Drafting Operations Report including modifications made as a result of variations to sourceflows.

8. Water diverted into pump trucks shall only be used for the purposes of dust abatement, road maintenance, upgrading, decommissioning and construction or reconstruction, prescribed fuel reduction burning, and herbicide mixing.
9. Drafting operations for the season shall generally occur between April 1 and November 31, but may not commence until a pre-operational meeting has taken place between a Green Diamond forestry department representative (e.g. RPF) and the licensed timber operator (LTO) responsible for field operations. The meeting shall take place at a representative sample of drafting sites (e.g. Class I watercourse, Class II watercourse, Class I and Class II ponds, and gravity fed storage tanks) and any other drafting sites with unique, site specific conditions. The LTO shall fully inform all water truck operators of their responsibilities stipulated within this plan.
10. With the exception of the Big Lagoon pond and Sweet Flat (Mad River) sites, water drafting by more than one truck shall not occur simultaneously at the same site. Monitoring requirements for sourceflow rates for these sites shall not apply.
11. Any substantial alteration of streambed or bank material in the wetted channel for intakes at existing sites shall not occur prior to June 1 and shall require notification to the Department under the Annual Work Plan. Routine maintenance for existing site access and drafting operations may occur but is limited to the non-wetted streambed and bank material.
12. All water drafting vehicles should be checked daily and shall be repaired as necessary to prevent leaks of deleterious materials from entering the Watercourse and Lake Protection Zone (WLPZ) or watercourse.
13. Where overflow run-off from water trucks or storage tanks may enter the watercourse; effective erosion control devices shall be installed such as water bars, gravel berms, or hay bales.
14. Road approaches to all drafting sites shall be effectively treated to eliminate the generation and transport of sediment to watercourses. Treatment locations shall include, but not be limited to, road surfaces, fill faces, cut banks, and inboard ditches.
15. Herbicide mix trucks shall not directly draft water from any watercourse or pond. Herbicide mixing activities shall not occur where runoff may enter a watercourse or hydrologically connected drainage facility.
16. Water truck operators drafting water from within or downstream of a known sudden oak death syndrome infestation area or adjacent watersheds of a known infestation area shall disinfect truck water tanks before leaving the area. Disinfection shall be accomplished by using 1 gallon of Ultra Clorox Bleach per 1,000 gallons of drafted water (i.e. a solution equivalent to 50 parts per million chlorine). The water truck shall be filled to capacity and then driven for 5 minutes to allow the bleach-water mixture enough contact time to allow for complete mixing and disinfection prior to using or disposing of water from the truck. Following disinfection, the bleach-water mixture shall be disposed of by spreading on a bare mineral surface area (i.e. a rocked or native-surface road) at least 150 feet from any lake, stream or riparian area, at a rate that shall ensure rapid absorption and/or evaporation. No bleach-

water mixture shall be allowed to come in contact with water in a stream, lake, or pond, or riparian or wetland vegetation.

At the end of drafting operations, intake screens shall be removed and drafting pipes plugged, capped, or otherwise blocked (i.e. with a valve shut-off) or removed from the active channel.

17. Green Diamond shall not need to apply the provisions of the plan to any drilled well utilizing a deep aquifer that is not hydrologically connected to stream flow.

A.7.1 DRAFTING CONDITIONS FOR CLASS I WATERCOURSES

18. Water drafting shall cease when the source streamflow drops below 2.0 cubic feet per second (cfs) when pumping and 1.5 cfs for gravity fed storage tanks.
19. The water drafting rate shall not exceed 350 gallons per minute (gpm) for streamflow greater than or equal to 4.0 cfs.
20. Low flow drafting procedures shall apply when streamflow drops below 2.8 cfs.
21. Intakes shall be kept in good repair and shall be used wherever water is drafted. Intakes shall be inspected periodically and kept clean and free of accumulated algae, leaves or other debris, which could block portions of the screen surface and increase approach velocities at any point on the screen.
22. Water drafting intakes shall be screened and the screen shall be designed so that approach velocity is no more than 0.1 foot per second (fps). The screen shall have at least 7.8 square feet of wetted, unobstructed screen area for a drafting rate of 350 gallons per minute (gpm).
23. The screen material shall be wire mesh, perforated plate, or pipe with at least 27 percent open area. Round openings in the screen shall not exceed 3/32 inch (2.38 millimeters) in diameter, and slotted openings shall not exceed 1/16 inch (1.75 mm) horizontally. The 1/16 inch horizontal mesh provides a diagonal opening of 3/32 inch.
24. No part of screen surfaces shall be obstructed.

Table 1. Maximum allowable water drafting rates for Class I watercourses

| Source Streamflow (cfs) | Maximum allowable water drafting rate (gpm) | Estimated time to draft 1000 gallons (g) | Estimated instantaneous streamflow reduction | Percent of 24 hour streamflow per 1000g drafted |
|--|---|--|--|---|
| 7+ | 350 | 3 minutes | 10% | 0.022 |
| 6 | 350 | 3 minutes | 13% | 0.026 |
| 5 | 350 | 3 minutes | 16% | 0.031 |
| 4 | 350 | 3 minutes | 20% | 0.039 |
| 3 | 250 | 4 minutes | 20% | 0.052 |
| 2.8 | 250 | 4 minutes | 20% | 0.055 |
| <p>LOW FLOW PROCEDURES</p> <p>For drafting from Class I channels with less than 2.8 cfs (except for gravity fed storage tanks), water truck operators shall be in possession of log books that contain the following information, kept current during operations: a) drafting site location, b) date, c) time, d) drafting rate, e) filling time, f) screen cleaning and inspection notes.</p> <p>Drafting rates shall conform to the amounts shown below for all Class I sites, including gravity fed storage tanks.</p> <p>*Drafting at this sourceflow can only occur at Class I sites with gravity fed storage tanks.</p> | | | | |
| Source Streamflow (cfs) | Maximum allowable water drafting rate (gpm) | Estimated time to draft 1000 gallons (g) | Estimated instantaneous streamflow reduction | Percent of 24 hour streamflow per 1000g drafted |
| 2.7 | 126 | 7.9 minutes | 10% | 0.057 |
| 2.6 | 121 | 8.3 minutes | 10% | 0.060 |
| 2.5 | 117 | 8.6 minutes | 10% | 0.062 |
| 2.4 | 112 | 8.9 minutes | 10% | 0.064 |
| 2.3 | 108 | 9.3 minutes | 10% | 0.067 |
| 2.2 | 103 | 8.6 minutes | 10% | 0.070 |
| 2.1 | 99 | 10.1 minutes | 10% | 0.074 |
| 2.0 | 94 | 10.6 minutes | 10% | 0.077 |
| 1.9* | 90 | 11.1 minutes | 10% | 0.081 |
| 1.8* | 85 | 11.8 minutes | 10% | 0.086 |
| 1.7* | 81 | 12.3 minutes | 10% | 0.091 |
| 1.6* | 76 | 13.2 minutes | 10% | 0.097 |
| 1.5* | 67 | 14.8 minutes | 10% | 0.103 |
| <1.5 | Water Drafting Prohibited | | | |

25. Drafting for Class I gravity fed storage tanks shall conform to the following:
- a) Surface intakes for Class I watercourse shall be regulated at the point of diversion according to the drafting rates for Table 1.
 - b) Water storage tanks shall be fitted with properly sized pipes designed to cleanly return the tank overflow to the source stream.
 - c) Outflow pipes shall be sized to fully contain the tank overflow and prevent it from overflowing onto the drafting pad or road surface.
 - d) Water storage tank return pipes at the water outfall area shall be armored or designed to prevent erosion of the streambed, bank or channel and sediment delivery to the watercourse.
 - e) Intakes shall be screened and openings in the screen shall not exceed 1/8 inch diameter (horizontal for slotted or square openings) or 1/16 inch diameter (horizontal for slotted or square openings) for gravity intakes.
 - f) Water storage tanks shall be screened or closed to effectively prevent wildlife entry or entrapment.

A.7.2. DRAFTING CONDITIONS FOR CLASS II WATERCOURSES

26. Intakes shall be screened and openings in the screen shall not exceed 1/8 inch diameter (horizontal for slotted or square openings) for Class II intakes or 3/32 inch for round openings.
27. Drafting for Class II gravity fed storage tanks shall conform to the following:
- a) Surface intakes shall be regulated at the point of diversion according to the drafting rates for Table 2.
 - b) Water storage tanks shall be fitted with properly sized pipes designed to cleanly return the tank overflow to the source stream.
 - c) Outflow pipes shall be sized to fully contain the tank overflow and prevent it from overflowing onto the drafting pad or road surface.
 - d) Water storage tank return pipes at the water outfall area shall be armored or designed to prevent erosion of the streambed, bank or channel and sediment delivery to the watercourse.
 - e) Water storage tanks shall be screened or closed to effectively prevent wildlife entry or entrapment.
28. In addition to the General Water Drafting Procedures, the following shall apply to water drafting from within Class II watercourse channels:
- a) Drafting rate shall not exceed 225 gpm (0.78 cfs) for streamflow greater than or equal to 2.0 cfs.

- b) The drafting rates listed below in Table 2 shall be followed for Class II watercourses.
 - c) Water drafting shall not occur from Class II watercourses when surface flow drops below 5 gpm.
29. Off-channel pools and excavated sumps shall conform to conditions set forth under this Section according to associated watercourse classification.

Table 2. Maximum Water Drafting Rates for Class II Watercourses

| LOW FLOW PROCEDURES | | | |
|--|---|---|--|
| <p>For drafting from Class II watercourses with greater than 1.0 cfs and less than 2.0 cfs (except for gravity fed storage tanks), water truck operators shall be in possession of log books that shall contain the following information, kept current during operations: a) drafting site location, b) date, c) time, d) pump rate, e) filling time, f) screen cleaning and inspection notes.</p> <p>Pumping shall cease when streamflow falls below 1.0 cfs</p> | | | |
| Source Streamflow cfs and (gpm) | Maximum allowable water drafting rate (gpm) | Estimated time to draft 1000 gallons in minutes | Estimated instantaneous streamflow reduction |
| ≥ 2.0 (898) | 225 | 4 | 25% |
| 1.5 (674) | 169 | 6 | 25% |
| 1.0 (449) | 112 | 9 | 25% |
| <p>No direct pumping from the stream is permitted at flows below 1.0 cfs. Drafting rates below 1.0 cfs shall conform to the amounts shown below, and shall be limited to gravity fed storage tanks.</p> | | | |
| Source Streamflow cfs and (gpm) | Maximum allowable water drafting rate (gpm) | Estimated time to draft 1000 gallons in minutes | Estimated instantaneous streamflow reduction |
| 0.9 (404) | 101 | 10 | 25% |
| 0.8 (359) | 90 | 11 | 25% |
| 0.7(314) | 79 | 13 | 25% |
| 0.6 (269) | 67 | 15 | 25% |
| 0.5 (225) | 56 | 18 | 25% |
| 0.4 (180) | 45 | 22 | 25% |
| 0.3 (135) | 34 | 30 | 25% |
| 0.2 (90) | 23 | 45 | 25% |
| 0.1 (45) | 11 | 89 (1 hr 29 min) | 25% |
| 0.09 (40) | 10 | 99 (1 hr 33 min) | 25% |
| 0.08 (36) | 9 | 111 (1 hr 51 min) | 25% |
| 0.07 (31) | 8 | 127 (2 hr 7 min) | 25% |
| 0.06 (27) | 7 | 148 (2 hr 28 min) | 25% |
| 0.05 (22.5) | 6 | 178 (2 hr 58 min) | 25% |
| 0.04 (18) | 4 | 223 (3 hr 53 min) | 25% |
| 0.03 (13.5) | 3 | 297 (4 hr 57 min) | 25% |
| 0.02 (9) | 2 | 445 (7 hr 25 min) | 25% |
| 0.0125 (5) | 1 | 713 (11 hr 53 min) | 25% |
| <0.0125 (≈ 5) | Water Drafting Prohibited | | |

A.7.3. DRAFTING CONDITIONS FOR CLASS I AND II PONDS

30. In addition to the General Water Drafting Procedures, the following shall apply to water drafting from Class I and Class II ponds:

- a) Drafting rate shall not exceed 350 gpm and intakes shall be screened.

- b) Site specific drafting criteria shall be developed and included in the annual work plans for Class I and Class II ponds proposed for use so that drafting from ponds shall not adversely affect aquatic species such as by drying vertebrate egg-masses, stranding aquatic vertebrates, reducing the water volume to create abnormally high densities of vertebrate larvae.
- c) When drafting from ponds (with the exception of the BL 2000 south pond located in the SE1/4 of S17, T8N, R2E) pre-existing outflow shall be re-established prior to the next drafting activity. Once bypass flows cease independent of drafting activities, drafting from ponds shall not adversely affect aquatic species such as by drying vertebrate egg-masses, stranding aquatic vertebrates, reducing the water volume to create abnormally high densities of vertebrate larvae.

A.8 INSTREAM RESTORATION PROJECTS

1. Restoration projects shall be submitted with the Annual Work Plan. Project conditions or techniques shall follow the most current *California Salmonid Stream Habitat Restoration Manual* (Flosi et al. 1998) unless otherwise specified in the Annual Work Plan. Proposed alternative Project conditions and techniques not included in the *Manual* must be approved by the Department and shall achieve or exceed the conservation objectives set forth in the *Manual*. The instream restoration project plan shall be prepared by persons with expertise in northern California ecosystems and native plant re-vegetation techniques, where applicable. The plan should include at a minimum the following information:
 - a) the location of the restoration sites(s);
 - b) the plant species to be used at each site (if applicable);
 - c) a schematic depicting the site(s);
 - d) the time of year the planting shall be made;
 - e) location and description of access routes and staging areas
 - f) a description of the irrigation methodology or techniques that shall be used to maintain the planting consistent with condition 10 below;
 - g) measure to control exotic vegetation on restoration sites(s);
 - h) the success criteria to be employed;
 - i) a detailed monitoring program; and
 - j) contingency measure that shall be implemented if the success criteria are not met.
2. Green Diamond may conduct instream restoration projects from May 15th to October 15th. Green Diamond shall not conduct instream restoration projects during the winter operating period, with the following exception:
 - a) Instream restoration projects may occur from October 16th through November 15th if “unseasonably dry fall” occurs (less than four inches of cumulative rainfall from September 1st through October 15th), and the following restriction is followed:

- i. If a project requires multiple days for completion, a long-range National Weather Service forecast of no rain for the next five days has been issued.
 - ii. As otherwise approved by the Department.
3. Restoration projects shall be submitted with the Annual Work Plan. The riparian restoration project plan shall be prepared by persons with expertise in northern California ecosystems and native plant re-vegetation techniques, where applicable. The plan should include at a minimum the following information:
 - a) the location of the restoration sites(s);
 - b) the plant species to be used at each site (if applicable);
 - c) a schematic depicting the site(s);
 - d) the time of year the planting shall be made;
 - e) a description of the irrigation methodology or techniques that shall be used to maintain the planting consistent with condition 10 below;
 - f) measure to control exotic vegetation on restoration sites(s);
 - g) the success criteria to be employed;
 - h) a detailed monitoring program; and
 - i) contingency measure that shall be implemented if the success criteria are not met.
4. Prior to the start of any instream restoration project, a qualified fisheries biologist or qualified designee shall examine Class I watercourse encroachments to determine the presence of fish or redds within the project area and 100 feet upstream and downstream. If salmonids are found during the examination they shall be relocated upstream or downstream of the work area. If redds are located within the work area, operations shall not commence until June 15th. Blocknets shall be installed upstream and downstream of the work area to prevent migration into the work area.
5. All instream restoration projects shall adhere to the conditions within this Agreement pertaining to Erosion Control Measures. Any temporary watercourse diversions, installation of coffer dams and/or dewatering of streams for the purposes of conducting instream restoration shall adhere to the conditions stated in this Agreement under Conditions for All Sites, New Road Construction, Upgrading and/or Decommissioning. Conditions stated under this Section "Instream Restoration Projects" shall not supersede any other condition stated within this Agreement.
6. Stream bank modifications to facilitate project construction operations shall be performed in a manner that shall not cause negative impacts upstream and downstream in the stream channel, such as accelerated bank erosion or loss of vegetation.
7. If the stream channel has been altered during the operation of a project or projects this Agreement authorizes, its low flow channel shall be restored without creating possible future bank erosion problems, a flat, wide channel, or a sluice-like area.

The gradient of the streambed shall be returned to its pre-project grade unless the gradient modification is intended as part of a restoration project, in which case the Department approval of the design must be obtained prior to project initiation.

8. Chemically-treated timbers that could harm aquatic life shall not be used for grade or channel stabilization structures, bulkheads, or other in-stream structures.
9. Spawning gravel used for restoration projects shall be clean, pre-washed, uncrushed natural river rock. Particle size and cleanliness value shall consider site specific conditions and be approved by the Department. Gravel must be completely free of oils or any other petroleum based material, clay, debris, and other types of organic matter. Gravel may be stockpiled near the injection site, but mixing with any earthen material is prohibited.
10. Access to the work site(s) shall be on existing roads and access ramps when available. The number of access routes, number and size of staging areas and the total area of the work site activity shall be limited to the minimum necessary to complete the restoration action.
11. Suitable large woody debris removed from fish passage barriers that is not used for habitat enhancement, shall be left within the riparian zone so as to provide a source for future recruitment of wood into the stream.

A.9 SOURCES CITED

Chow, V.T. 1964. Handbook of Applied Hydrology, McGraw-Hill Book Company, 1964.

Flosi, G., S. Downie, J. Hoplain, M. Bird, R. Coey, and B. Collins. 1998. California salmonid stream habitat restoration manual. 3rd ed. IFS, DFG, Sacramento, CA.

Waananen A. O. and J. R. Crippen. 1997. Magnitude and frequency of floods in California. U. S. Geological Survey, Water-Resources Investigations 77-21.

Weaver, W.E. and D.K. Hagans, 1994. Handbook for forest and ranch roads; a guide for planning, designing, constructing, reconstructing, maintaining and closing wildland roads. Pacific Watershed Associates, Arcata, California. 190 pp.

B. CONDITIONS NECESSARY FOR PROTECTION OF OTHER BIOLOGICAL RESOURCES

B.1 GENERAL CONDITIONS

1. Green Diamond agrees to implement the following measures for Authorized Activities covered by the Agreement on Green Diamond Lands. If Green Diamond proposes site-specific modifications to these protection measures, the Department shall review the proposed modifications and, if the proposal is acceptable, provide written concurrence (via email or letter) before starting operations at sites subject to this Agreement.
2. A qualified biologist shall review each site before commencement of project operations for occurrence records of sensitive or special-status species or their habitats and shall, as appropriate, employ pertinent assessment protocols to determine the presence or infer absence of sensitive or special-status species or their habitats. The qualified biologist shall use the most current aerial photographs, geographic information system forest and/or habitat cover type information, knowledge of habitat conditions in the project area, species-habitat associations and other factors to assess suitability of the site for Sensitive or special-status species or their habitats. Sensitive Species means those species as defined in 14 CCR 895.1, Definitions. These species are the bald eagle, golden eagle, great blue heron, great egret, northern goshawk, osprey, peregrine falcon, California condor, great gray owl, northern spotted owl, and marbled murrelet. A qualified biologist shall annually train the AHCP Roads Department staff to familiarize them with Sensitive and special-status species and their habitats. The training will include both classroom training and field experience to ensure they can visually identify Sensitive and special-status species, their calls, signs, nests and other indicators.
3. In the event Sensitive Species or special-status species and/or their nests are found near a project location, Green Diamond shall avoid significant negative impacts and unauthorized take of these species and/or destruction of nests by following 14 CCR 919.2, General Protection of Nest Sites and by adhering to the additional conditions identified in Section B.2 below (Specific Conditions for Sensitive and Special-Status Species at Specific Work Sites). Consultation with the Department shall be required when the configuration and boundaries of buffers zones are established adjacent to Sensitive and special-status species nests and when, as necessary, nest, perch, screening and replacement trees are designated for retention.
4. In the event a den site of a ring-tailed cat, Pacific fisher or marten are encountered in the course of Authorized Activities at individual project sites, Green Diamond shall notify and consult with the Department to identify measures to avoid take or minimize adverse impacts to the species.

B.2 SPECIFIC CONDITIONS FOR SENSITIVE AND SPECIAL-STATUS SPECIES AT SPECIFIC PROJECT SITES

B.2.1 NON-FISH AQUATIC VERTEBRATE RESOURCES

Habitat and species protection of non-fish aquatic vertebrate resources (amphibians and reptiles) is provided through implementation of the following measures on Green Diamond lands.

1. **Assessment:** Green Diamond shall perform annual AHCP and THP road assessment surveys using AHCP Roads Department staff and/or RPFs to identify potential road sites planned for maintenance, repair, upgrading, or decommissioning. Staff performing these road assessments shall be annually trained by qualified Green Diamond biologists to identify unique aquatic sites (i.e. seeps, springs, ponds, and impoundments) having potential concentrations of amphibians and/or presence of western pond turtles (non-fish aquatic vertebrate species). It is the intent of this procedure to discriminate between common Class II watercourse crossings and those that possess unique aquatic habitat and potential concentrations of non-fish aquatic vertebrate species. The purpose shall be to concentrate resources and staff on identifying and mitigating impacts to non-fish aquatic vertebrate species at unique aquatic sites where it is both logistically and biologically feasible. Trained AHCP Roads Department staff and/or RPFs shall identify and record unique aquatic sites during the road assessment process.

Prior to operational activities associated with road repair, decommissioning or upgrading, a qualified biologist shall field inspect sites identified by trained AHCP Roads Department staff and/or RPFs to confirm whether a unique aquatic site exists and identify opportunities to avoid or minimize impacts to the site and/or possible post-project habitat restoration if avoidance is not feasible. The qualified biologist shall work and consult with Green Diamond road construction supervisors to develop the most effective and practicable alternative for each of these sites.

2. **Methods:** Green Diamond shall employ the following approach where avoidance of unique aquatic sites is not feasible. The methods used to collect, retain, and release non-fish aquatic vertebrate species from a project area shall vary across the unique aquatic sites and species occupying these habitats. Prior to construction activities a qualified biologist shall survey the unique aquatic site and remove non-fish aquatic vertebrate species encountered. Rubble rousing shall be used for collecting animals in seep and spring habitats, and visual encounter surveys and/or funnel traps shall be used when collecting animals from lentic habitats. Collected animals shall be retained on-site, out of harms way, and separated by size (i.e., large and small) to minimize predation. Animals shall also be held in such a manner to ensure that the environmental conditions in containers are within the species' physiologic tolerances (e.g., moisture, temperature, etc.).
3. **Translocation:** Following completion of construction activities and any post-project habitat restoration, collected animals shall be released within the project site to habitats most suitable for the species in question. *The Declining Amphibian Task Force Fieldwork Code of Practice* (http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html) shall be used as a guidance document to ensure pathogens and parasites are not inadvertently spread between project sites.
4. **Reporting:** Green Diamond shall: (1) compile a list of individuals who have completed the annual training on unique aquatic site identification, (2) document project site locations identified by trained AHCP Roads Department staff and/or RPFs and confirmed by a qualified biologist to have unique aquatic sites, (3) document the presence or absence of non-fish aquatic vertebrate species in unique aquatic sites by location and dates, (4) tally by species the number of translocated

individuals moved out of harms way, (5) document any incidental injury or mortality of individuals, and (6) compile and forward the information described in 1) through 5) above to the Department office in Eureka and separately, pertinent information to the California Natural Diversity Database (CNDDDB) by the end of January of the year after projects occurred.

B.2.2 BALD EAGLE (*Haliaeetus leucocephalus*)

The bald eagle is listed as endangered pursuant to the California Endangered Species Act (CESA) and has been de-listed under the federal Endangered Species Act (ESA). This species is a fully protected species in California. It is listed as a Sensitive Species by the California Board of Forestry and Fire Protection. Nesting birds could be disturbed by the noise from heavy equipment required for some projects.

The following Standard Protection Measures shall prevent significant negative impacts to nesting bald eagles and avoid take of the species.

1. Buffer zones shall be established around all nest trees containing active nests. In consultation with the Department, an RPF or under the direction of an RPF, a supervised designee, AHCP Roads Department staff or qualified biologist shall flag the location of the boundary of the buffer zone between the nest and project sites. The buffer zones shall be designed to best protect the nest sites and nesting birds from the effects of Authorized Activities. Project activities conducted under the Agreement shall not remove or degrade suitable habitat for bald eagle.
2. If deemed by the Department necessary prevent significant negative impacts to nesting bald eagles and avoid take of the species, an RPF or supervised designee shall designate for retention all nest trees containing active nests, perch trees, screening trees and replacement trees, which shall be left standing and unharmed.
3. Heavy equipment work shall not occur within 0.25 mile of any occupied bald eagle nest site during the critical period between January 15 and August 15. An exception to this measure is that vehicle through traffic shall be permitted along mainline roads.
4. The work window at individual work sites near occupied bald eagle nests may be modified through consultation with the Department if nest surveys indicate that the nest has failed after June 1 or the young have fledged.
5. Modification of these Standard Protection Measures may be allowed on a site-specific basis with written concurrence (via email or memorandum) from the Department.
6. If for some reason these Standard Protection Measures or as modified cannot be implemented or the project actions planned at a specific work site cannot be modified to prevent or avoid potential adverse effects to bald eagle, then activity at the work site shall be discontinued.

B.2.3 GOLDEN EAGLE (*Aquila chrysaetos*)

The golden eagle is a fully protected species in California. It is listed as a Sensitive Species by the California Board of Forestry and Fire Protection. Nesting birds could be disturbed by the noise from heavy equipment required for some projects.

The following Standard Protection Measures shall prevent significant negative impacts to nesting golden eagles and avoid take of the species.

1. Buffer zones shall be established around all nest trees containing active nests. In consultation with the Department, an RPF or under the direction of an RPF, a supervised designee, AHCP Roads Department staff or qualified biologist shall flag the location of the boundary of the buffer zone between the nest and project sites. The buffer zones shall be designed to best protect the nest site and nesting birds from the effects of Authorized Activities. Authorized Activities conducted under the Agreement shall not remove or degrade suitable habitat for golden eagles.
2. If deemed by the Department necessary prevent significant negative impacts to nesting golden eagles and avoid take of the species, an RPF or supervised designee shall designate for retention all nest trees containing active nests, perch trees, screening trees and replacement trees, which shall be left standing and unharmed.
3. Heavy equipment work shall not occur within 0.25 mile of any occupied golden eagle nest site during the critical period between January 15 and August 15. An exception to this measure is that vehicle through traffic shall be permitted along mainline roads.
4. The work window at individual work sites near occupied golden eagle nests may be modified through consultation with the Department if nest surveys indicate that the nest has failed after June 1 or the young have fledged.
5. Modification of these Standard Protection Measures may be allowed on a site-specific basis with written concurrence (via email or memorandum) from the Department.
6. If for some reason these Standard Protection Measures or as modified cannot be implemented or the project actions planned at a specific work site cannot be modified to prevent or avoid potential adverse effects to bald eagle, then activity at the work site shall be discontinued.

B.2.4 GREAT BLUE HERON (*Ardea herodias*)

The great blue heron is listed as a Sensitive Species by the California Board of Forestry and Fire Protection. Nesting birds could be disturbed by the noise from heavy equipment required for some projects.

The following Standard Protection Measures shall prevent significant negative impacts to nesting great blue herons.

1. In consultation with the Department, an RPF or under the direction of an RPF, a supervised designee, AHCP Roads Department staff or qualified biologist shall flag the location of the boundary of the buffer zone between the nest and project sites.

The buffer zones shall be designed to best protect the nest site and nesting birds from the effects of Authorized Activities. Authorized Activities conducted under the Agreement shall not remove or degrade suitable habitat for great blue herons.

2. If deemed by the Department necessary prevent significant negative impacts to nesting great blue herons and avoid take of the species, an RPF or supervised designee shall designate for retention all nest trees containing active nests, perch trees, screening trees and replacement trees, which shall be left standing and unharmed.
3. Heavy equipment work shall not occur within 0.25 mile of any occupied great blue herons during the critical period between March 15 and July 31. An exception to this measure is that vehicle through traffic shall be permitted along mainline roads.
4. The work window at individual work sites near occupied great blue heron nests may be modified through consultation with the Department if nest surveys indicate that the nest has failed after June 1 or the young have fledged.
5. Modification of these Standard Protection Measures may be allowed on a site-specific basis with written concurrence (via email or memorandum) from the Department.
6. If for some reason these Standard Protection Measures or as modified cannot be implemented or the project actions planned at a specific work site cannot be modified to prevent or avoid potential adverse effects to bald eagle, then activity at the work site shall be discontinued.

B.2.5 GREAT EGRET (*Casmerodius albus*)

The great egret is listed as a Sensitive Species by the California Board of Forestry and Fire Protection. Nesting birds could be disturbed by the noise from heavy equipment required for some projects.

The following Standard Protection Measures shall prevent significant negative impacts to nesting great egrets.

1. In consultation with the Department, an RPF or under the direction of an RPF, a supervised designee, AHCP Roads Department staff or qualified biologist shall flag the location of the boundary of the buffer zone between the nest and project sites. The buffer zones shall be designed to best protect the nest site and nesting birds from the effects of Authorized Activities. Authorized Activities conducted under the Agreement shall not remove or degrade suitable habitat for great egrets.
2. If deemed by the Department necessary prevent significant negative impacts to nesting great egrets and avoid take of the species, an RPF or supervised designee shall designate for retention all nest trees containing active nests, perch trees, screening trees and replacement trees, which shall be left standing and unharmed.

3. Heavy equipment work shall not occur within 0.25 mile of any occupied great egret nest site during the critical period between March 15 and July 31. An exception to this measure is that vehicle through traffic shall be permitted along mainline roads.
4. The work window at individual work sites near occupied great egret nests may be modified through consultation with the Department if nest surveys indicate that the nest has failed after June 1 or the young have fledged.
5. Modification of these Standard Protection Measures may be allowed on a site-specific basis with written concurrence (via email or memorandum) from the Department.
6. If for some reason these Standard Protection Measures or as modified cannot be implemented or the project actions planned at a specific work site cannot be modified to prevent or avoid potential adverse effects to bald eagle, then activity at the work site shall be discontinued.

B.2.6 MARBLED MURRELET (*Brachyramphus marmoratus*)

The marbled murrelet is listed as endangered pursuant to CESA and threatened pursuant to the federal ESA. It is listed as a Sensitive Species by the California Board of Forestry and Fire Protection. Nesting birds could be disturbed by the noise from heavy equipment required for some projects.

The following Standard Protection Measures shall prevent significant negative impacts to marbled murrelets and avoid unauthorized take of the species:

1. Buffer zones shall be established around marbled murrelet habitat. In consultation with the Department, an RPF or under the direction of an RPF, a supervised designee, AHCP Roads Department staff or qualified biologist shall flag the location of the boundary of the buffer zone between the habitat and project sites. The buffer zones shall be designed to best protect the habitat and nesting birds from the effects of Authorized Activities. Authorized Activities conducted under the Agreement shall not remove or degrade suitable habitat for marbled murrelets.
2. Heavy equipment work shall not occur within 0.25 mile of any occupied marbled murrelet habitat during the critical period between March 24 and September 15. An exception to this measure is that vehicle through traffic shall be permitted along mainline roads.
3. Modification of these standard protection measures may be allowed on a site-specific basis with written concurrence (via email or memo) from the Department. The USFWS document "Estimating the Effect of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California" shall be used as a general guidance tool for developing site specific protection measures.

B.2.7 NORTHERN GOSHAWK (*Accipiter gentilis*)

The northern goshawk is a "fully protected" species in California. It is listed as a Sensitive Species by the California Board of Forestry and Fire Protection. Nesting birds could be disturbed by the noise from heavy equipment required for some projects.

The following Standard Protection Measures shall prevent significant negative impacts to nesting goshawks and avoid take of the species.

1. Buffer zones shall be established around all nest trees containing active nests. In consultation with the Department, an RPF or under the direction of an RPF, a supervised designee, AHCP Roads Department staff or qualified biologist shall flag the location of the boundary of the buffer zone between the nest and project sites. The buffer zones shall be designed to best protect the nest site and nesting birds from the effects of Authorized Activities. Authorized Activities conducted under the Agreement shall not remove or degrade suitable habitat for northern goshawks.
2. If deemed by the Department necessary prevent significant negative impacts to nesting northern goshawk and avoid take of the species, an RPF or supervised designee shall designate for retention all nest trees containing active nests, perch trees, screening trees and replacement trees, which shall be left standing and unharmed.
3. Heavy equipment work shall not occur within 0.25 mile of any occupied northern goshawk nest site during the critical period between January 15 and August 15. An exception to this measure is that vehicle through traffic shall be permitted along mainline roads.
4. The work window at individual work sites near occupied northern goshawk nests may be modified through consultation with the Department if nest surveys indicate that the nest has failed after June 1 or the young have fledged.
5. Modification of these Standard Protection Measures may be allowed on a site-specific basis with written concurrence (via email or memorandum) from the Department.
6. If for some reason these Standard Protection Measures or as modified cannot be implemented or the project actions planned at a specific work site cannot be modified to prevent or avoid potential adverse effects to bald eagle, then activity at the work site shall be discontinued.

B.2.8 NORTHERN SPOTTED OWL (*Strix occidentalis caurina*)

The northern spotted owl is listed as threatened pursuant to the federal ESA. This species is a “fully protected” species in California. It is listed as a Sensitive Species by the California Board of Forestry and Fire Protection.

Habitat and protection for this species is provided through a property-wide HCP. (See Green Diamond Resource Company - Habitat Conservation Plan for the Northern Spotted Owl for further information pertaining to this species on Green Diamond land). Provisions of the HCP shall avoid significant adverse impacts and unauthorized take of the species

B.2.9 OSPREY (*Pandion haliaetus*)

The osprey is a fully protected species in California and is listed as a Sensitive Species by the California Board of Forestry and Fire Protection. Authorized Activities conducted under the Agreement are subject to conditions detailed in a previously agreed-to property-wide survey and consultation process for the osprey in THP logging areas, provided hereto as Attachment 1 *Green Diamond Resource Company Consultation for Osprey (*Pandion haliaetus*)*, which is incorporated as part of this Agreement.

Green Diamond shall implement these measures for activities covered by the Agreement and/or RMWDRs on Green Diamond's Northern California Timberlands occurring both outside and within THP logging areas. Measures presented in Attachment 1 shall prevent significant negative effects to nesting ospreys and shall avoid take of the species

B.2.10 PEREGRINE FALCON (*Falco peregrinus anatum*)

The peregrine falcon is fully protected in California and is listed as a Sensitive Species by the California Board of Forestry and Fire Protection.

Green Diamond has conducted helicopter surveys for tree and cliff nesting species such as peregrine falcons. Peregrine falcon nests have been discovered in suitable cliff habitats adjacent to the Klamath River and Little River. In addition, nests have been located in fire-formed and broken-top structures within large redwood trees in coastal areas of Green Diamond's ownership. Nesting birds could be disturbed by the noise from heavy equipment required for some projects.

The following Standard Protection Measures shall prevent significant negative effects to nesting peregrine falcons and to avoid take of the species.

1. Buffer zones shall be established around all nest trees containing active nests and eyries on cliff or rock outcrops. In consultation with the Department, an RPF or under the direction of an RPF, a supervised designee, AHCP Roads Department staff or qualified biologist shall flag the location of the boundary of the buffer zone between the nest and project sites. The buffer zones shall be designed to best protect the nest site and nesting birds from the effects of Authorized Activities. Authorized Activities conducted under the Agreement shall not remove or degrade suitable habitat for peregrine falcons.
2. If deemed by the Department necessary prevent significant negative impacts to nesting peregrine falcons and avoid take of the species, an RPF or supervised designee shall designate for retention all nest trees containing active nests, perch trees, screening trees and replacement trees, which shall be left standing and unharmed.
3. Heavy equipment work shall not occur within 0.25 mile of any occupied peregrine falcon nest site during the critical period between January 15 and August 15. An exception to this measure is that vehicle through traffic shall be permitted along mainline roads.

4. The work window at individual work sites near occupied peregrine falcon nests may be modified through consultation with the Department if nest surveys indicate that the nest has failed after June 1 or the young have fledged.
5. Modification of these Standard Protection Measures may be allowed on a site-specific basis with written concurrence (via email or memorandum) from the Department.
6. If for some reason these Standard Protection Measures or as modified cannot be implemented or the project actions planned at a specific work site cannot be modified to prevent or avoid potential adverse effects to bald eagle, then activity at the work site shall be discontinued.

B.2.11 WHITE-TAILED KITE (*Elanus leucurus*)

The white-tailed kite is a fully protected species in California. Nesting birds could be disturbed by the noise from heavy equipment required for some projects.

The following Standard Protection Measures shall prevent significant negative effects to nesting white-tailed kites and to avoid take of the species:

1. Buffer zones shall be established around all nest trees containing active nests. In consultation with the Department, an RPF or under the direction of an RPF, a supervised designee, AHCP Roads Department staff or qualified biologist shall flag the location of the boundary of the buffer zone between the nest and project sites. The buffer zones shall be designed to best protect the nest site and nesting birds from the effects of Authorized Activities. Authorized Activities conducted under the Agreement shall not remove or degrade suitable habitat for white-tailed kites.
2. If deemed by the Department necessary prevent significant negative impacts to nesting white-tailed kites and avoid take of the species, an RPF or supervised designee shall designate for retention all nest trees containing active nests, perch trees, screening trees and replacement trees, which shall be left standing and unharmed.
3. Heavy equipment work shall not occur within 0.25 mile of any occupied white-tailed kite nest site during the critical period between January 15 and August 15. An exception to this measure is that vehicle through traffic shall be permitted along mainline roads.
4. The work window at individual work sites near occupied white-tailed kite nests may be modified through consultation with the Department if nest surveys indicate that the nest has failed after June 1 or the young have fledged.
5. Modification of these Standard Protection Measures may be allowed on a site-specific basis with written concurrence (via email or memorandum) from the Department.
6. If for some reason these Standard Protection Measures or as modified cannot be implemented or the project actions planned at a specific work site cannot be modified

to prevent or avoid potential adverse effects to bald eagle, then activity at the work site shall be discontinued.

B.2.12 WILLOW FLYCATCHER (*Empidonax traillii*)

Willow flycatcher (WIFL) is listed as endangered pursuant to CESA. Habitat for this species is characterized by willow (*Salix* spp.) or alder (*Alnus* spp.) thickets adjacent to permanent water such as low-gradient streams, ponds, marshes or wet meadows within or adjacent to forested habitat. WIFL are typically found to breed in riparian areas with shrub thickets interspersed with openings such as moist meadows.

The following Standard Protection Measures shall prevent significant negative effects to WIFL and to avoid unauthorized take of the species:

1. The Project Area and its vicinity (within 300 feet) shall be reviewed by a qualified biologist for presence of suitable WIFL habitat. If habitat is present, surveys must be completed before operations begin to determine if WIFL are present, unless operations are conducted outside the WIFL breeding season (May 1 through August 31). The currently accepted survey protocol is "A Willow Flycatcher Survey Protocol for California developed by Helen L. Bombay, Teresa M. Ritter and Brad E. Valentine, June 6 2000".
2. If current-year surveys (per the protocol) determine the presence of WIFL, the following additional measures shall be followed:
 - a) No operations shall occur during the breeding season (May 1 through August 31) in and within 300 feet of the WIFL habitat where WIFL have been found present. In consultation with the Department, an RPF or under the direction of an RPF, a supervised designee, AHCP Roads Department staff or qualified biologist shall flag the location of the boundary of the buffer zone between the WIFL habitat and project sites.
 - b) Any operations conducted within or adjacent to suitable WIFL habitat where WIFL have been found shall not damage or destroy willows or other riparian shrubs, unless agreed on through consultation with the Department.

B.2.13 TRINITY BRISTLE SNAIL (*Monadenia infumata setosa*)

The Trinity bristle snail (TBS) is listed as threatened pursuant to CESA. The following measures shall prevent significant negative impacts to TBS and its habitat, and to avoid unauthorized take of the species.

1. A Designated Biologist who is knowledgeable and experienced in TBS biology and natural history shall evaluate project sites and their vicinities within the known range of the species for presence of suitable TBS habitat.
2. If suitable habitat is deemed present, Green Diamond shall consult with the Department to identify ways to avoid habitat disturbance. If habitat avoidance is not possible, Green Diamond shall consult with the Department pursuant to CESA to

obtain an incidental take permit, which shall identify means to minimize habitat disturbance, restore habitat upon completion of operations and limit take of individuals.

3. Green Diamond shall continue to implement a trash abatement program where evidence of TBS presence is confirmed to reduce predation throughout the duration of individual projects where Authorized Activities occur.
4. Green Diamond shall conduct an education program for all persons employed at Project activity sites with evidence of TBS before performing work.

B.2.14 SENSITIVE PLANTS

Authorized Activities conducted under the Agreement are subject to conditions detailed in a previously agreed-to property-wide survey and consultation process for sensitive plants, provided hereto as Attachment 2 *Green Diamond Resource Company Sensitive Plant Conservation Plan*, which is incorporated as part of this Agreement. Green Diamond and the Department agree Green Diamond shall include the measures listed in Attachment 2 as enforceable provisions in Section III, Item 32 of all THPs filed and accepted by CalFire after the Department approval date of this agreement. It also shall be included as part of Green Diamond's annual work plan for road work outside of THP logging areas.

C. CONDITIONS NECESSARY FOR PROTECTION OF CULTURAL RESOURCES

Authorized Activities conducted under the Agreement are subject to conditions relative to protection of cultural resources detailed in Attachment 3 *Green Diamond Resources Company Protocols and Procedures for Protection of Cultural Resources*, which is incorporated as part of this Agreement.

IN WITNESS WHEREOF, THE PARTIES HERETO have executed this Agreement to be in effect as of the date of execution of this Agreement by all Parties.

Dated: _____

GREEN DIAMOND RESOURCE
COMPANY

By: _____

Neal Ewald
Vice President and General Manager,
California Timberlands Division

Dated: _____

CALIFORNIA
DEPARTMENT OF FISH AND GAME

By: _____

Mark Stopher
Acting Regional Manager

Appendix A: Existing Class I Forging Sites

| Name | Legal |
|-----------------------------------|-------------------|
| Wilson Creek Bridge #1 | T14N, R1E Sec. 8 |
| Wilson Creek Bridge #2 | T14N, R1E Sec. 8 |
| Wilson Creek Bridge #3 | T15N, R1E Sec. 32 |
| Hunter Creek H-500 Bridge | T14N, R1E Sec. 2 |
| T-10 Bridge (Terwer) | T14N, R1E Sec. 20 |
| K-8 Crossing (Terwer) | T14N, R1E Sec. 21 |
| KM-10 Bridge (Hoppaw) | T13N, R1E Sec. 11 |
| B10X Bridge (Blue Creek) | T12N, R3E Sec 8 |
| BC10 Bridge (Bear Creek) | T12N, R2E Sec 26 |
| S-Line Bridge at S-13 (Ah-Pah) | T12N, R2E Sec 16 |
| T-200 Bridge (Tectah) | T11N, R2E Sec 34 |

Appendix B: Existing Water Drafting Sites

| Name | Legal | Site Type/Description | Watercourse Class | Watershed |
|------------------------|------------------|-----------------------|-------------------|----------------|
| W1100 Pond | T19N, R1W, Sec34 | Large man-made pond | IV | SF Winchuck |
| W2300 Tank | T18N, R1W, Sec1 | Surface Draft | II | SF Winchuck |
| D1000/W1000 Tank | T18N, R1E, Sec7 | 10,000 Gallon Tank | I | SF Winchuck |
| Ravine Creek Tank | T18N, R1E, Sec17 | 10,000 Gal Tank | II | Rowdy Creek |
| D1000 Tank | T18N, R1W, Sec14 | 10,000 Gal Tank | II | Dominie Creek |
| R1000 Draft Site | T18N, R1E, Sec19 | Surface Draft | I | Rowdy Creek |
| W10 Draft Site | T15N, R1E, Sec32 | Surface Draft | I | Wilson Creek |
| W500 Draft Site | T15N, R1E, Sec32 | Surface Draft | I | Wilson Creek |
| H400 Draft Site | T14N, R1E, Sec2 | Surface Draft | I | Hunter Creek |
| H550 Pond | T14N, R2E, Sec6 | Small Man-Made Pond | IV | Terwer Creek |
| Pig Creek | T14N, R1E, Sec11 | Surface Draft | I | Hunter Creek |
| W200 Draft Site | T14N, R1E, Sec8 | Surface Draft | I | Wilson Creek |
| T600 Pond | T14N, R2E, Sec16 | Small Natural Pond | II | Terwer Creek |
| T10 Bridge | T14N, R2E, Sec20 | Surface Draft | I | Terwer Creek |
| H100 Bridge | T14N, R1E, Sec23 | Surface Draft | I | Hunter Creek |
| "Y" Tank | T14N, R1E, Sec36 | 10,000 Gal Tank | II | Mynot Creek |
| Dandy Creek Tank | T13N, R2E, Sec 9 | 10,000 Gal Tank | II | Terwer Creek |
| B100 Bridge Tank | T13N, R2E, Sec15 | 10,000 Gal Tank | II | WF Blue Creek |
| B100 Draft Site | T13N, R2E, Sec23 | Surface Draft | II | WF Blue Creek |
| M10 Bridge | T13N, R1E, Sec25 | Surface Draft | I | McGarvey Creek |
| M.I. Woods Tank | T13N, R2E, Sec35 | 10,000 Gal Tank | II | WF Blue Creek |
| Black Water Tank | T13N, R2E, Sec35 | 10,000 Gal Tank | II | WF Blue Creek |
| Potato Patch Bridge | T13N, R3E, Sec31 | Surface Draft | II | WF Blue Creek |
| Blue Creek Bridge | T12N, R2E, Sec11 | Surface Draft | I | Blue Creek |
| I 300 Tank | T12N, R3E, Sec16 | 10,000 Gal Tank | II | Blue Creek |
| Coyote Creek Bridge | T12N, R3E, Sec17 | Surface Draft | II | Blue Creek |
| B900 Tank | T12N, R3E, Sec18 | 10,000 Gal Tank | II | Blue Creek |
| Smiley Creek Tank | T12N, R2E, Sec13 | 8,000 Gal Tank | II | Blue Creek |
| S14 Draft Site | T12N, R2E, Sec16 | Surface Draft | I | Ah Pah Creek |
| S13 Bridge | T12N, R2E, Sec16 | Surface Draft | I | Ah Pah Creek |
| B1800 Pond | T12N, R2E, Sec16 | Small Man-Made Pond | IV | Ah Pah Creek |
| B1881 Bridge | T12N, R2E, Sec21 | Surface Draft | I | Ah Pah Creek |
| BC200 Tank | T12N, R2E, Sec24 | 10,000 Gal Tank | II | Bear Creek |
| I 800 Tank | T12N, R3E, Sec22 | 7,000 Gal Tank | II | WF Pecwan |
| P10 Bridge | T12N, R3E, Sec28 | Surface Draft | I | WF Pecwan |
| BC 200 Bridge | T12N, R3E, Sec30 | Surface Draft | II | Bear Creek |
| Bear Creek Bridge | T12N, R2E, Sec26 | 5,000 Gal Tank | I | Bear Creek |
| North County Line Pond | T12N, R2E, Sec30 | Small Man-Made Pond | IV | Ah Pah Creek |
| South County Line Pond | T12N, R2E, Sec31 | Small Man-Made Pond | IV | Ah Pah Creek |
| Buzzard Creek | T11N, R3E, Sec3 | Surface Draft | I | WF Pecwan |
| South County Line Tank | T11N, R2E, Sec9 | 5,000 Gal Tank | II | Ah Pah Creek |
| P-200 Bridge | T11N, R3E, Sec9 | Surface Draft | II | Pecwan Creek |
| A400 Bridge | T11N, R2E, Sec16 | 10,000 Gal Tank | II | Surpur Creek |
| J1600 Tank | T11N, R2E, Sec25 | 5,000 Gal Tank | II | Mettah Creek |

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| Name | Legal | Site Type/Description | Watercourse Class | Watershed |
|--------------------|-------------------|-----------------------------|-------------------|-----------------------------------|
| T100 Bridge | T11N, R2E, Sec33 | 10,000 Gal Tank | II | Tectah Creek |
| T200 Bridge | T11N, R2E, Sec34 | Surface Draft | I | Tectah Creek |
| J1100 Tank | T11N, R2E, Sec35 | 10,000 Gal Tank | II | Mettah Creek |
| HC120 | T10N, R2E, Sec14 | 6,000 Gal Tank | II | Mettah Creek |
| T100 Draft Site | T10N, R2E, Sec17 | Surface Draft | I | Tectah Creek |
| Old K&K Tank | T10N, R2E, Sec21 | 10,000 Gal Tank | II | Tectah Creek |
| HC130 Tank | T10N, R2E, Sec23 | 7,000 Gal Tank | II | Roach Creek |
| J80 Pond | T10N, R2E, Sec33 | Small Man-Made Pond | IV | Roach Creek |
| R100 Pond | T10N, R2E, Sec34 | Small Man-Made Pond | IV | Roach Creek |
| WM10 Tank | T10N, R3E, Sec33 | 10,000 Gal Tank | II | Tully Creek |
| W710 Tank | T9N, R3E, Sec4 | 7,000 Gal Tank | II | Tully Creek |
| WM10 Pond | T9N, R3E, Sec5 | Small Man-Made Pond | IV | Tully Creek |
| R120 Tank | T9N, R2E, Sec3 | 5,000 Gal Tank | II | Roach Creek |
| WM200 Tank | T9N, R3E, Sec7 | 5,000 Gal Tank | | Roach Creek |
| Robber's Gulch | T9N, R3E, Sec17 | Surface Draft | II | Tully Creek |
| 4090/Mad River | T5N, R2E, Sec 10 | Surface draft river | I | Mad River |
| 4510/Mad River | T5N, R2E, Sec 14 | Surface draft river | I | Mad River |
| 5000/Dry Ck | T5N, R2E, Sec 17 | 5,000 Gal Tank | II | Mad River |
| 7010 | T5N, R2E, Sec 21 | 5,000 Gal Tank | II | Mad River |
| Big Lagoon Pond | T9N, R1E, Sec 19 | Large man made pond | I pond | Maple Creek |
| BL 2000 Pond North | T8N, R2E, Sec 8 | Surface draft impoundment | II | Maple Creek |
| BL 2000 Pond South | T8N, R2E, Sec 17 | Surface draft impoundment | II | Maple Creek |
| BL 2000 Tank | T9N, R1E, Sec 27 | 5,000 Gal Tank | II | NF Maple Creek |
| BL 2600 Tank | T8N, R2E, Sec 6 | 4,000 Gal Tank | II | Clear Creek |
| C900 | T6N, R3E Sec 20 | 5,000 Gal Tank | II | Lupton Creek |
| Camp 9/K&K 400 | T7N, R2E Sec 27 | 5,000 Gal Tank | I | NF Mad River |
| Cedar Creek Pond | T6N, R4E Sec 17 | Surface draft impoundment | II | Willow Creek |
| CR 1000 Pond | T8N, R1E, Sec 29 | Surface draft impoundment | I | Luffenholtz Creek |
| CR 1000/1500 Pond | T8N, R1E, Sec 20 | Surface draft impoundment | II | Luffenholtz Creek |
| CR 1300 Tank | T8N, R1E, Sec 27 | 10,000 Gal Tank | II | Railroad Ck |
| CR 2000/2400 Pond | T8N, R1E, Sec 26 | Surface draft impoundment | II | Little River |
| CR 2000/3000 | T7N, R1E, Sec 3 | Surface draft river | I | Little River |
| CR 2700 Tank | T8N, R2E, Sec 33 | 10,000 Gal Tank | I | Little River |
| CR 2900 Tank | T8N, R2E, Sec. 22 | 5,000 Gal Tank | II | Panther Creek |
| CR 3000 Tank | T8N, R1E, Sec 35 | 10,000 Gal Tank | II | Little River |
| CR 3100 | T7N, R2E Sec 18 | 8,000 Gal Tank | II | Little River |
| CR 3351 Pond | T7N, R2E Sec 4 | Surface draft impoundment | II | Little River |
| Daugherty Lake | T4N, R3E, Sec 27 | Surface draft pond | II | Unnamed Tributary to Graham Creek |
| Fernwood North | T6NR3E Sec 33 | 5,000 Gal Tank | II | Noisy Creek |
| Fernwood South | T6NR3E Sec 34 | 5,000 Gal Tank | II | Noisy Creek |
| Guynup Pond | T7N, R1E, Sec 15 | Surface draft | I | Little River |
| Hatchery/Mad River | T6N, R2E, Sec 31 | Surface draft river | I | Mad River |
| Jacoby Creek | T5N, R1E, Sec 15 | No tank currently installed | II | Jacoby Creek |
| Johnson Creek | T2N, R6E, Sec 15 | Surface draft impoundment | II | Johnson Creek |
| K&K | T7N, R2E Sec 14 | 8,000 Gal Tank | II | Little River |
| K&K 900 North #1 | T8N, R2E, Sec 25 | Gravity fed tank | II | Unnamed Tributary to |

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| Name | Legal | Site Type/Description | Watercourse Class | Watershed |
|-----------------------------|------------------|-----------------------------|-------------------|---|
| | | | | Redwood Creek |
| K&K 900 North #2 | T8N, R2E, Sec 25 | Gravity fed tank | II | Unnamed Tributary to Redwood Creek |
| Kerlin Creek Big Rock | T3N, R5E, Sec 13 | Surface draft | II | Unnamed Tributary to Big Creek |
| Low Gap Creek | T6N, R4E Sec 17 | 5,000 Gal Tank | II | Willow Creek |
| Lucy Gulch | T3N, R5E, Sec 18 | Surface draft | II | Lucy Gulch |
| Lupton Ck #1 | T6N, R3E, Sec 16 | 5,000 Gal Tank | II | Lupton Creek |
| Lupton Ck #2 | T6N, R3E, Sec 20 | 5,000 Gal Tank | II | Lupton Creek |
| Morgan Creek(Kelly Ranch) | T3N, R4E Sec 16 | 5,000 Gal Tank | II | Mad River |
| Mule Ck | T6N, R2E, Sec 3 | Surface draft impoundment | II | NF Mad River |
| NF 1000/K&K | T7N, R2E Sec 28 | Surface draft river | I | NF Mad River |
| Old 299 | T6N, R3E Sec 8 | 5,000 Gal Tank | II | Long Prairie Creek |
| Panther Creek | T8N R2E Sec 22 | 5,000 Gal Tank | II | Panther Creek |
| Pelletreau Road | T2N, R6E, Sec 15 | Surface draft impoundment | II | Unnamed Tributary to Johnson Creek |
| Ribar Pond | T7N, R2E Sec 31 | Surface draft impoundment | II | Lindsay Creek |
| Ribar Tank | T7N, R2E Sec 31 | No tank currently installed | II | Lindsay Creek |
| Roddiscraft Pond (2.8 mile) | T4N R4E Sec 5 | Surface draft impoundment | II | Pardee Creek |
| Roddiscraft Tank | T4N R4E Sec 5 | 5,000 Gal Tank | II | Pardee Creek |
| Roddiscraft Pond (1 mile) | T4N R4E Sec 6 | Surface draft impoundment | II | Pardee Creek |
| Snow Camp Lake | T4N R4E Sec 8 | Surface draft impoundment | II | Twin Lakes Creek |
| Sulfur Glade 1 | T2N, R6E, Sec 21 | Surface draft impoundment | II | Unnamed Tributary to Cold Springs |
| Sulfur Glade 2 | T2N, R6E, Sec 21 | Surface draft impoundment | II | Unnamed Tributary to Cold Springs |
| Sulfur Glade 3 | T2N, R6E, Sec 27 | Surface draft impoundment | II | Hitchcock Creek |
| Sulfur Glade 4 | T2N, R6E, Sec 27 | Surface draft impoundment | II | Unnamed Tributary to SF Trinity |
| Sulfur Glade East | T2N, R6E, Sec 35 | Surface draft impoundment | II | Unnamed Tributary to SF Trinity |
| Supply Creek | T7N, R4E Sec 29 | 5,000 Gal Tank | II | Three Creeks |
| The Nursery | T8N, R1E, Sec 31 | Surface draft river | I | Little River |
| Upper CR 2000 Pond | T8N, R2E, Sec 21 | Surface draft impoundment | II | Little River |
| Vic's Lake | T4N R3E Sec 15 | Surface draft impoundment | II | Goodman Prairie Creek |
| Washington Gulch | T5N R1E Sec 15 | 5,000 Gal Tank | II | Jacoby Creek |
| Wiregrass East Tank | T7N, R2E, Sec 13 | 5,000 Gal Tank | II | Unnamed Tributary to Redwood Creek |
| Wiregrass Ext Tank | T7N, R3E, Sec 18 | 5,000 Gal Tank | II | Unnamed Tributary to Redwood Creek |
| Wiregrass Pond | T7N, R3E, Sec 32 | Surface draft impoundment | II | Unnamed Tributary to Long Prairie Creek |

ATTACHMENT 1

GREEN DIAMOND RESOURCE COMPANY CONSULTATION FOR OSPREY (*Pandion haliaetus*)

Green Diamond Resource Company (Green Diamond) shall implement the following for all timber harvesting plans (THPs) with potential, active, or historic osprey nests within 0.25 mile of ground-based operations or 0.5 mile of helicopter based operations. In addition, Green Diamond agrees to implement these measures for activities covered by its Master Agreement for Timber Operations (Agreement) and/or its Road Management Waste Discharge Requirements (RMWDR) on Green Diamond's Northern California Timberlands occurring outside of THP logging areas. If Green Diamond proposes site-specific modifications to these protection measures, DFG shall review the proposal and, if the proposal is acceptable, provide written concurrence (via email or letter) before starting operations at sites subject to the Green Diamond Agreement and/or RMWDR.

DEFINITIONS

A "potential nest" shall be defined as a nest structure suitable for use by ospreys or as a tree with a suitable nest structure.

An "occupied nest" shall be a nest or nest tree used by an osprey pair during the current nesting season.

An "active nest" shall be a nest or nest tree used at least once during the most recent three nesting seasons. A tree may be considered an active nest tree even if it has lost all or a portion of its stick nest, provided suitable substrate for rebuilding the nest remains.

A "historic nest" shall be a nest or nest tree documented to have been used at some time in the past, yet is known to not be currently occupied or active. Historic nest may refer to a nest tree that has lost its stick nest, but which retains suitable substrate on which to build a nest.

A nest shall be considered occupied unless current season surveys indicate otherwise. A nest shall be considered active unless surveys over the most recent three nesting seasons indicate otherwise. Nests and nest trees are considered historic after at least three consecutive seasons of demonstrated non-occupancy. Nests and nest trees retain their designation as historic as long as the tree provides a suitable substrate for a nest.

"Fledging" shall be defined as one month after first flight or when it can be determined that juveniles no longer receive food or roost consistently at the nest tree.

"Logging area": see 14 CCR Section 895.1 Definitions.

CRITICAL PERIOD

1. The osprey critical period shall be from March 1 through April 15, extending to August 15 for occupied nests (including nests where surveys were not conducted).
2. Green Diamond and DFG shall develop a list of osprey reference nests that may be checked for occupancy in February, March, April, May, or June to assess whether osprey nest initiation dates are unusually early or late in a given year. Data collected from reference nests may also be used to explore the spatial and temporal variability in osprey nesting chronology, which in turn may lead to further refinement of the osprey critical period for Green Diamond lands.
3. An early end to the critical period may be determined for occupied nests if nesting has failed after June 1 or the young have fledged. If operations will be conducted within 0.25 mile of a nest (or within 0.5 mile for helicopter operations) during the critical period based on a determination of fledging or nest failure, such determinations must be made with written concurrence from DFG.

NEST SEARCHES

4. Green Diamond shall conduct a search and status check each year for all known historic and active osprey nests within 0.25 mile of THPs (or within 0.5 mile of THPs proposing helicopter yarding) and within 0.25 mile of activities covered by its Agreement and/or its RMWDR expected to be operated during the critical period. A search using helicopter is recommended and if conducted, shall occur in the latter half of April.
5. The helicopter search may be used to determine occupancy of known or potential osprey nests, but shall not be considered sufficient to determine non-occupancy.
6. Green Diamond personnel engaged in THP layout, wildlife surveys, preparing for activities covered by the Green Diamond Agreement and/or RMWDR outside of THP logging areas and other related work shall be alert to the presence of ospreys or potential osprey nests in or near these work areas. Green Diamond personnel shall follow up on such sightings if appropriate based on observation of behaviors indicating courtship or nesting to determine whether a previously unknown osprey nest has been located.

NEST SURVEYS

7. Nest status need not be determined if operations within 0.25 mile of the nest (or within 0.5 mile for helicopter yarding) are restricted to outside the critical period.

- If operations are to commence for the year between August 15 and September 1, then a check for late season occupancy of the nest shall be made. This check shall ensure that unfledged chicks are not present at the nest.
8. Surveyors shall be knowledgeable in osprey biology and survey techniques.
 9. Surveys shall be conducted during the morning or evening hours during the critical period.
 10. Three survey visits of at least 2 hours each shall be made.
 11. Surveys shall be made from an observation point with a clear view of the nest tree and surrounding area.
 12. Survey visits shall be spaced by at least 5 days.
 13. The first survey visit shall be made after March 15. At least one visit shall be made after April 15.
 14. Subsequent survey visits may be cancelled if observations indicating occupancy are made during surveys or incidental to other work.

STANDARD NEST SITE PROTECTION MEASURES

15. No operations shall occur within 500 feet of an occupied nest during the critical period.
16. Operations within 0.25 mile of an occupied nest (or within 0.5 mile for helicopter yarding) shall occur as late in the critical period and as far from the nest as operationally feasible. Operations shall encroach upon the nest gradually during the critical period.
17. Monitoring of osprey behavior shall be conducted as described below for operations other than hauling on established mainline roads within 0.25 mile of the nest.
18. Where a nest tree occurs within or near a THP harvest unit and/or a site covered by the Green Diamond Agreement and/or RMWDR, and as appropriate, perch, screen, and replacement trees shall be retained to maintain the viability of the nest site. A description of the retained trees and rationale for their retention shall be provided in the THP or directly to DFG for review and written concurrence prior to THP approval or, if the nest is discovered after THP approval, or is discovered in a site covered by the Green Diamond Agreement and/or RMWDR outside of a THP logging area then prior to recommencement of operations.
19. Modification of these standard protection measures may be allowed on a site-specific basis with written concurrence from DFG.

MONITORING

20. For operations during the critical period within 0.25 mile of an occupied nest (or within 0.5 mile for helicopter yarding) other than hauling, monitoring shall be conducted to determine whether encroaching operations adversely affect nesting ospreys or their young.
21. Monitors shall be knowledgeable in osprey biology and their behavior.
22. Monitoring shall be conducted from an observation point with a clear view of the nest tree and surrounding area.
23. Monitoring sessions shall begin no later than the commencement of operations for the day under conditions of suitable visibility.
24. Monitoring sessions shall last a minimum of 2 hours after commencement of operations.
25. Green Diamond shall develop a site-specific monitoring schedule that considers the expected duration of operations within the vicinity of the nest so that monitoring sessions shall occur at a reasonable frequency and when significant changes in the nature or magnitude of potentially disturbing activities are made. DFG shall review the proposed monitoring schedule and, if acceptable, provide concurrence on the monitoring schedule prior to implementation.
26. Monitors shall have the authority to halt operations or be in immediate contact with someone who has such authority.
27. Monitors shall record osprey behavior and operational activity in chronological order.
28. If osprey appear disturbed by operations, then operations within 0.25 mile of the nest tree (or within 0.5 mile for helicopter yarding) during the critical period shall be suspended pending consultation with DFG.
29. If nesting ospreys appear disturbed by operations beyond 0.25 mile from the nest then Green Diamond shall immediately consult with DFG.
30. Written monitoring results shall be submitted to DFG at an annual meeting in December or at the time of reinitiating consultation due to disturbance from operations.

CHANGES TO THPS, OTHER INFORMATION, AND REPORTING

Consultation shall be reinitiated if there is a change in the project description within 0.25 mile of a known nest site or a change in the location or status of a nest site within 0.25 mile of Authorized Activities. If the standard protection measures described here are

implemented, then consultation shall be considered complete upon amendment of a THP for locations within the THP logging area and for operations situated outside of THP logging areas covered by the Green Diamond Agreement and/or RMWDR. Written concurrence from DFG shall be required for any modification to the standard protection measures or previously reviewed site-specific measures.

31. Operations shall cease within 0.25 mile of a potential nest discovered during operations until the standard protection measures described here are implemented and written concurrence on site-specific modifications, if necessary, is provided by DFG.
32. Text and a map describing these protection measures shall be placed in Section II of the THP for operations occurring within the THP logging area. Green Diamond shall ensure personnel responsible for conducting operations covered by the Green Diamond Agreement and/or RMWDR within 0.25 mile of a potential nest site understand and abide by the standard protection measures.
33. Green Diamond is encouraged to continue to collect information on the start of nesting behavior at nests throughout its ownership. Such information shall help refine the critical period definition for osprey.
34. Green Diamond is encouraged to collect information on fledging dates and productivity of osprey nests where such information is relatively easy to obtain during the course of other wildlife field work. Such information shall help refine the critical period definition and enhance the management of this species.
35. Reports describing specific nest survey or monitoring efforts as described above shall be submitted to DFG during the critical period to obtain written concurrence on an early end to the critical period or to reinstate consultation where disturbance of nesting osprey has been observed.
36. An annual meeting between DFG and Green Diamond shall be held in between osprey nesting seasons to review the effectiveness of this consultation. At that time, Green Diamond shall provide a summary of the location and status (if known) of all osprey nests covered by the consultation that year. Other information collected by Green Diamond and DFG during the course of the year, including monitoring for disturbance and nesting chronology and productivity, may also be reviewed during the meeting.

ATTACHMENT 2

GREEN DIAMOND RESOURCE COMPANY SENSITIVE PLANT CONSERVATION PLAN

Green Diamond Resource Company (Green Diamond) and the Department of Fish and Game (DFG) have worked closely together since 2000 to identify where sensitive botanical resources exist on Green Diamond property and to implement prudent and effective management practices that conserve these valuable resources. An initial phased approach has developed into an efficient ownership-wide Sensitive Plant Conservation Plan (SPCP), agreed to by Green Diamond and DFG. The intent of the SPCP is to enable sensitive plant species to persist in their preferred habitats on Green Diamond lands, while providing flexibility to Green Diamond in the management of their lands for timber production.

Survey and monitoring results from 2001-2008 suggest the most efficient and effective approach to the long-term conservation of sensitive plants on Green Diamond lands is through adaptive management that is informed by appropriate inventory, monitoring and research. A combination of compatible land management practices, plant protection measures (PPMs), property-wide consultations, and area-specific botanical management plans (BMPs) provide the foundation of the SPCP. Various conservation strategies shall continue to be developed, implemented, reviewed and revised over time with the ultimate goal of dividing the ownership into botanical management areas (BMAs). The BMAs are managed under BMPs that rely on known existing conditions within the BMA rather than project-by-project surveys.

BMAs reflect areas of the ownership that have similar or unique floristic characteristics, exhibit similar sensitive plant habitat characteristics, and can be managed under an overarching BMP that minimizes the risk of adverse impacts to sensitive plant species to less than significant levels. The boundaries of BMAs shall be informed by a spatial analysis that incorporates a number of variables: the known distribution of sensitive plant species and plant communities, watershed boundaries, eco-regions, geology, disturbance history, rainfall, temperature, elevation, distance to the coast, as well as others.

Considering the sensitive plant species known to be present or those with the highest likelihood of being present within a BMA, the associated BMP may utilize a combination of focused surveys, retention of populations, management of reserves, impact avoidance, and compatible management practices (e.g., road use restrictions, timing of impacts, invasive plant removal, habitat enhancement for disturbance associated species, etc.) to reduce the risk of adverse impacts to sensitive species and their associated habitats.

Assumptions:

- 1) This agreement shall be in effect until either Green Diamond and/or DFG calls for its end, or mutually-agreeable changes require a new document. A new agreement shall be established and agreed upon before an existing agreement is ended. However, changes may be proposed by DFG or Green Diamond at any time. In this event, mutual agreement and an effective start date shall be established before changes are implemented. This document shall be included in Section III, Item 32 of all timber harvesting plans (THPs) filed and accepted by CalFire after the DFG approval date of this agreement. It also shall be included as part of Green Diamond's annual work plan for road work outside of THP logging areas. Green Diamond and DFG shall meet on a yearly basis to discuss year-end results and to assess the effectiveness of the SPCP and any BMPs that have been implemented in specific BMAs.
- 2) This agreement applies to the following activities, generally considered "timber operations" per Section 4527 of the Z'berg-Nejedly Forest Practice Act:
 - Commercial timber harvesting.
 - Road and landing construction, reconstruction and maintenance (both within and outside of THP logging areas) when it requires significant vegetation or ground disturbance.
 - Vegetation management including site preparation and herbicide application.
 - New rock pits/quarries and expansion of existing rock pits/quarries.

Routine road maintenance activities such as grading, water bar installation, cleaning of culverts, etc. are not considered activities that require pre-disturbance surveys, however sensitive species may have been documented and protected in the vicinity where these activities occur. In that case the activities shall not deviate from the PPMs unless DFG concurs with any proposed deviations prior to disturbance.

- 3) Timber harvest and road work activities occur within conifer and mixed evergreen forests, coastal and inland, mesic and xeric, shrublands, meadows, grasslands, prairies, oak woodlands, wetlands, and riparian areas, including areas with ultramafic soils. These areas shall receive a botanical survey before operations unless the project is within a BMA that is managed under a DFG approved BMP that does not require surveys for every project.
- 4) Surveys shall be conducted for all sensitive plant species potentially present during the appropriate time period and prior to beginning operations if:
 - a) habitat for one or more sensitive plant species exists in the planned operational area,
 - b) the project area is within the geographic range of one or more of these species, or
 - c) the project area is not exempted from a survey under a DFG-approved BMP.

Sensitive plant species include those plants listed as endangered, threatened or rare at the state or federal level as well as those that meet the criteria for listing as

described in the California Environmental Quality Act Section 15380. Plants on Lists 1A, 1B, and 2 of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (Inventory) primarily consist of plants that qualify for listing.

- 5) Green Diamond shall report the locations of identified populations of sensitive plant species to the California Natural Diversity Database (CNDDDB) on at least an annual basis, and more frequently as needed.

Scoping Methods:

Green Diamond shall generate a scoping list to determine which sensitive species are potentially present within a project area. Projects either occur within a single USGS 7.5' Quadrangle or overlap up to four quadrangles. Current versions of the CNPS Inventory and CNDDDB are searched for known occurrences of sensitive plant species in the project quad(s) and all adjacent quads. Alternatively, for Green Diamond BMAs, a 10-mile buffer may be added to the BMA and a database search conducted to locate occurrences within the area encompassed by the BMA and the buffer.

After searching the two databases and generating a list of potential species present, the habitat and geographic range of the project area are considered and additional species may be added. Species restricted to habitats never present within project areas on Green Diamond lands, e.g., coastal strand species, are dropped from the scoping list since they could not be expected to occur. The resulting list of sensitive species considered potentially present within the project area is the scoping list.

The scoping process is updated annually to account for additions or deletions of species with sensitive plant status, new occurrences that may expand the range of species, or other changes. The scoping lists, by either BMA or project quad(s), are provided to RPFs and shall be included in Section III, Item 32 of all THPs filed in the annual road workplan.

Surveys:

Floristic surveys shall be of the quality proposed in the DFG "Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities" (May 2000) and the "CNPS Botanical Survey Guidelines" (December 1983, revised June 2001). While all habitats within a project shall be surveyed, the level of survey effort applied to a given area or habitat shall be dependent upon the vegetation and its overall diversity and structural complexity. High intensity coverage shall be applied to habitat with a high potential for supporting sensitive species, and lower intensity coverage shall be applied to habitat with a low potential for supporting sensitive species.

Yearly climate conditions, vegetation phenology, and blooming period, determine the appropriate timing of surveys for the sensitive species on the scoping list for a project or BMA. In most cases a single survey can be conducted at a time when all species potentially present would be detectable. However, when surveys of a project area are conducted very early or very late in the season and/or there are both early and late season ephemeral species potentially present, a second survey is often necessary.

For some THPs and road work outside of THP logging areas, specific harvest units and road work locations initially might not be well delineated before the appropriate floristic period. A project area vicinity survey shall be conducted for these project areas in an area larger than the harvest units and road segments and work locations, which shall be determined after the survey.

Survey effort outside of areas included in the covered activities shall be primarily focused on unique or high-quality sensitive plant habitat. The intent is to discover where sensitive species may be present on the ownership by surveying habitats with the highest likelihood of supporting them. These species- and/or habitat-driven surveys enable Green Diamond and DFG to learn more about the distribution of sensitive species on the ownership and provide for surveys in areas that may otherwise never be surveyed. These surveys contribute to the overall SPCP and reduce the potential risk of inadvertent impacts associated with a reduction of project based surveys by complimenting the more random presence and absence data gathered from project surveys. Green Diamond shall allocate more staff time towards these focused surveys as project based survey relief is provided through BMPs.

Surveys of existing roads, including appurtenant roads that are not included in the list of covered activities, shall be primarily focused on road systems that contain key high quality habitat for species found in association with road surfaces or roadsides, such as Howell's montia (*Montia howellii*), Bald Mountain milk-vetch (*Astragalus umbraticus*), and robust false lupine (*Thermopsis robusta*). The surveys shall be conducted with the intent of developing an understanding of the metapopulation dynamics, or occurrence and distribution at the landscape level.

Surveys shall be prioritized based upon road networks accessing the majority of THPs to be surveyed that season as well as road segments outside of THP logging areas to protect metapopulations from potential impacts. Road sections that have not been surveyed in prior seasons shall also be rated a higher priority to be surveyed in order to gain more inventory information on the ownership. The mainline roads have been subject to regular use and periodic maintenance activities such as brushing, grading, and herbicide application for many years and it is assumed that any existing undocumented sensitive plant occurrences shall not be significantly impacted by these activities. Green Diamond and DFG shall work together to develop PPMs for important road-related, non-THP occurrences.

Plant Protection Measures (PPMs):

DFG and Green Diamond shall continue working together to develop property-wide consultation and mitigation measures for sensitive species that regularly occur within project areas. These PPMs shall reduce potentially significant impacts to sensitive plant taxa to less than significant levels while also providing operational flexibility. Where consultations with DFG have provided specific PPMs, they may be applied appropriately, as in the case of Indian pipe (*Monotropa uniflora*) and Howell's montia.

When a sensitive species occurrence is located at any point during timber operations and road work outside to THP logging area, and neither a property-wide consultation nor a conservation plan has been adopted for the sensitive species encountered, a default mitigation measure of avoidance shall be implemented by placing a 50 foot no-harvest

equipment exclusion zone around the outer perimeter of the sensitive plant occurrence¹ until specific mitigation measures can be developed for that species at that site. Following consultation with DFG the alternative mitigation may be more or less restrictive than the default 50-foot buffer.

When PPMs are adopted into a THP or established for road worksites or road segments, Green Diamond shall provide DFG access for purposes of monitoring the biological and ecological effects associated with the implementation of the risk minimization measures.

Disclosure and Reporting:

Survey reporting and disclosure may occur differently based upon the method used to evaluate potential impacts to sensitive plants. Traditional methods of surveying specific project areas shall be supplemented with the application of various BMPs with specific conservation measures. Survey-based impact assessment may not occur for all THPs.

Green Diamond and DFG recognize a number of possible scenarios under which impact assessment may be reported:

- For surveys conducted **before THP filing**, survey results shall be included with the associated THP (Section V) at filing whether sensitive plant occurrences were found or not. If sensitive plants are discovered, then PPMs shall be provided in THP Section II, Item 32. Survey results with sensitive plant occurrences obtained outside of THP logging areas shall be included in the annual road work plan.
- For surveys conducted **after THP filing and with sensitive plant occurrences**, survey results shall be submitted to DFG (Coastal Timberland Planning Office in Eureka) **and** CalFire (Santa Rosa for THP numbers beginning with 1 and Redding for THP numbers beginning with 2). The survey report shall be amended into THP Section V and the PPMs shall be amended into THP Section II Item 32. Survey results with sensitive plant occurrences obtained outside of THP logging areas after the annual road work plan has been prepared shall be added to the annual road work plan

DFG and CalFire shall have five business days to review the survey results and proposed mitigation(s). If DFG has not provided a written response to the survey results within five days, then Green Diamond may commence with timber operations.

- For surveys conducted **after THP filing or after preparation of the annual road work plan but with no sensitive plant occurrences**, a letter to the file shall be submitted by Green Diamond to CalFire (Santa Rosa for THP numbers beginning with 1 and Redding for THP numbers beginning with 2) and copied to DFG Coastal Timberland Planning Office in Eureka. The letter shall state a survey was completed and sensitive plants were not found (include the date of survey and the CalFire THP number) and the survey results shall remain on file with

¹ No timber harvesting or road construction shall occur within 50 feet of any location supporting sensitive plants unless alternative mitigation measures developed through consultation with DFG are applied. The size and shape of the protection area will vary based upon the size and extent of the sensitive plant occurrence. The 50-foot measurement should begin at the outermost location of the subject sensitive plant.

Green Diamond. If surveys with no sensitive plant occurrences were conducted by a professional botanist, to DFG guidelines and standards, then no written concurrence from DFG is required to begin timber operations.

- For **THPs and road work outside of THP logging areas within a BMA**, Green Diamond shall provide a statement disclosing survey status from one of the following three choices:
 1. Green Diamond shall conduct a floristic survey
 2. A floristic survey shall not be conducted, or
 3. It is unknown at this time if Green Diamond shall conduct a floristic survey

The statement shall be included in THP Section II, Item 32 at filing and in the annual road work plan and shall reference the appropriate BMP.

A site-specific, focused survey, conducted by the RPF, may be required by the BMP, and the results of this focused survey shall be included in the THP and/or the annual road workplan.

- For THPs and road segments outside of THP logging areas within a BMA that are **exempt from a botanical survey**, a letter to the file shall be submitted by Green Diamond to CalFire (Santa Rosa for THP numbers beginning with 1 and Redding for THP numbers beginning with 2) and copied to DFG Coastal Timberland Planning Office stating that a botanical survey was not conducted, unless this was already disclosed in THP Section II, Item 32 at filing. The appropriate BMP shall be referenced in the letter to the file.

ATTACHMENT 3 GREEN DIAMOND RESOURCE COMPANY PROTOCOLS AND PROCEDURES FOR PROTECTION OF CULTURAL RESOURCES

This section of the Agreement describes the protocols and procedures provided in the Agreement to ensure that the described Authorized Activities related to road construction, maintenance and repair, decommissioning and upgrading shall not have the potential to affect cultural resources.

Generally, significant historical resources are not likely to be found within streams and existing roads crossing streams. Stream beds are dynamic areas where any historic resources are altered by water flow and any historic resources located within the foot print of existing roads were significantly disturbed during original road construction, making it highly unlikely that disturbance of intact historic resources shall be encountered during Authorized Activities. This being said, it is still possible that road related construction and maintenance activities that occur along existing roadways or associated stream crossings could result in impacts both to individual archeological sites (or resources) and to resource networks (e.g., trails, legacy railroad features etc.). It is imperative that potential impacts to cultural resources that could result from the project are less than significant because measures have been incorporated into the Project that would reduce all identified potential significant effects to a less than significant level (CEQA Guidelines 15369.5). Impacts to cultural resources would be significant if they did not comply with existing regulations for protecting cultural resources. To insure that Cultural resources are not significantly impacted by the planned project activities, Green Diamond shall continue to implement the comprehensive archeological protocols and procedures currently employed on the ownership for Timber Harvest Plans (THPs) under the California Forest Practice Act Regulations (CFPRs) (described below). These procedures shall continue to be implemented on all road related projects associated with THPs. Where road projects are planned to be accomplished on the landscape outside of a specific THP, Green Diamond shall utilize the CFPR procedures adapted to identification, avoidance, mitigation, and documentation of cultural resource impacts outside the purview of the California Department of Forestry. In those cases where a site associated with a planned non- THP project is identified and resource impacts cannot be avoided, the planned mitigation of impacts to a level of insignificance shall be reviewed by a Professional Archeologist and reported to DFG.

The following is a description of the protocols and procedures that shall be implemented for the two possible scenarios: 1) project sites located on roads associated with THPs, and 2) project sites located on roads within Green Diamond ownership not related to a THP.

1) For road related Authorized Activities associated with a proposed THP, Green Diamond shall continue to comply with the CFPRs in the preparation of THPs. Pursuant to the CFPRs; the following steps must be taken in preparation of THPs.

- A. Conduct an archaeological record search at the Northwest Information Center North Coast Information Center (Yurok Tribe, Culture Department).

- B. Contact local Native Americans identified by the Native American Heritage Commission (NAHC) and allow for their participation, particularly in regard to sacred site areas.
- C. Provide a professional archaeologist or a person with archaeological training (in accordance with the CFPRs) to conduct a field survey for archaeological and historical sites in the area covered by the THP (previous archaeological surveys within the site survey area may also be used to partially or entirely satisfy this requirement).
- D. Prepare a confidential addendum to the THP, including a survey coverage map showing the locations of identified cultural resources. The addendum should describe record search and survey methods, results of contact with Native Americans, qualifications of the surveyor, a description of identified archaeological and historical sites, and a description of specific enforceable protection measures to be implemented both within the site boundaries and within 100 feet of the site.
- E. If a known archaeological or historical site could not be avoided during timber harvesting, then a preliminary determination of significance would be necessary. CalFire would determine if a substantial adverse change to the resource would occur, and protection measures would be developed to reduce the impact to a less than significant level.
- F. Submit completed site records for each site determined to be a "significant" archaeological or historical site in a manner consistent with the recording standards identified in the State Office of Historic Preservation's Instruction for Recording Historical Resources.

If an archeological or historical site that was not identified in a THP is discovered during timber operations, the licensed timber operator would immediately stop operations within 100 feet of the site and notify CalFire , and resource protection measures would be implemented. In the event of discovery or recognition of any human remains outside a dedicated cemetery, no further disturbance of the site or any nearby area would occur until the county coroner determined that no investigation of the cause of death is required. If the remains are of Native American origin, then the descendants of the deceased Native Americans must make a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains of any associated grave goods as provided in Public Resources Code Section 5097.98. Further work could occur if the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the Commission.

2) For planned road-related Authorized Activities on roadways not associated with a proposed THP, Green Diamond shall utilize modified California Forest Practice Act procedures to identify, avoid or mitigate, and document cultural resources in the planning and implementation of these activities. These procedures are outlined as follows:

- A. Conduct an archaeological record search at the Northwest Information Center North Coast Information Center (Yurok Tribe, Culture Department).

- B. Contact local Native Americans identified by the Native American Heritage Commission (NAHC) and allow for their participation, particularly in regard to sacred site areas.
- C. Provide a professional archaeologist or a person with archaeological training (applying the same selection standards as established in the CFPRs) to conduct a field survey for archaeological and historical sites in the area covered by the project activity (previous archaeological surveys within the site survey area may also be used to partially or entirely satisfy this requirement).
- D. If a known archaeological or historical site could not be avoided during project activities, then a preliminary determination of significance would be necessary. A Professional Archeologist would determine if a substantial adverse change to the resource would occur, and avoidance or mitigation measures would be developed to reduce the impact to a less than significant level.
- E. For each site found to be significant pursuant to D, the Professional Archeologist would prepare a confidential report, including a survey coverage map showing the locations of identified cultural resources. The report should describe record search and survey methods, results of contact with Native Americans, qualifications of the surveyor, a description of identified archaeological and historical sites, and a description of specific protection measures to be implemented both within the site boundaries and within 100 feet of the site. When standard field archeological surveys are performed and no archeological or historical sites are found, a report of the field survey shall be filed with the local Northwest Information Center on an annual basis to document surveys were made and at what locations.
- F. Submit completed site records for each site determined to be a "significant" archaeological or historical site in a manner consistent with the recording standards identified in the State Office of Historic Preservation's Instruction for Recording Historical Resources

If a significant archeological or historical site that was not identified in the planning for the project activity is discovered during the activity, Green Diamond or its contractor would immediately stop operations within 100 feet of the site and notify the Professional Archeologist, and resource protection measures would be implemented. This information would be recorded in a report prepared pursuant to E. In the event of discovery or recognition of any human remains outside a dedicated cemetery, no further disturbance of the site or any nearby area would occur until the county coroner determined that no investigation of the cause of death is required. If the remains are of Native American origin, then the descendants of the deceased Native Americans must make a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains of any associated grave goods as provided in Public Resources Code Section 5097.98. Further work could occur if the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the Commission.

The Professional Archeologist would file an annual report with the DFG summarizing the measures implemented to avoid or reduce the impacts of these activities to insignificance on all sites determined to be significant and documenting that the procedures outlined in A-F were followed for all project activities that are not subject to THPs.

It is important to emphasize that in either case (THP related road site projects and non-THP related road site projects) the minimization and mitigation measures would not change the way in which State cultural resources regulations are applied. Green Diamond would continue to implement ownership-wide mitigation, management, and monitoring measures in accordance with the requirements of the CFPRs, and would comply with the cultural resources protections discussed above. As a result of applying the CFPRs and the additional protective measures outlined and modified above for non-THP road related activities; effects to cultural and historic properties are expected to be not significant.

**ATTACHMENT 4: MAP (2A, 2B, 2C, 2D) ROADS AND STREAMS ON GREEN
DIAMOND RESOURCE COMPANY LANDS**

Available at California Department of Fish and Game Document Library at:

<http://nrm.dfg.ca.gov/documents/DocContexts.aspx>,

under the Category “CEQA-NR-CCP” or “CEQA Northern Region Coastal
Conservation Planning Section”.

APPENDIX B

DRAFT Road Management Waste Discharge Requirements

California Regional Water Quality Control Board
North Coast Region

ORDER NO. R1-2010-00XX

Waste Discharge Requirements
For
Discharges Related to Road Management and Maintenance Activities
Conducted Pursuant to the
Green Diamond Resource Company Aquatic Habitat Conservation Plan
in the
North Coast Region

The California Regional Water Quality Control Board, North Coast Region, (hereinafter Regional Water Board) finds that:

1. Water Code section 13260(a) requires that any person discharging waste or proposing to discharge waste within any region that could affect the quality of the waters of the state, other than into a community sewer system, must file with the appropriate Regional Water Board a Report of Waste Discharge containing such information and data as may be required.
2. Under Water Code section 13263, the Regional Water Board shall prescribe requirements as to the nature of any proposed or existing discharge with relation to the receiving water conditions. Requirements shall implement any relevant Basin Plan requirements and take into consideration beneficial uses and objectives reasonably required to protect such uses, and other relevant factors.
3. Pursuant to Water Code section 13260(a), Green Diamond Resource Company (Green Diamond) submitted a report of waste discharges for its systematic road management on property covered by their Aquatic Habitat Conservation Plan (AHCP) in the following hydrologic areas: Smith River, Lower Klamath River, Redwood Creek, Maple Creek, Little River, Mad River, Jacoby Creek, Freshwater Creek, Elk River, Salmon Creek, and the Eel River. The AHCP is posted on the National Marine Fisheries Service website at <http://swr.nmfs.noaa.gov/ahcp.htm>. The environmental impact statement for the AHCP can be found at <http://swr.nmfs.noaa.gov/feis.htm>.
4. Green Diamond's Road Management Plan is a comprehensive program to systematically upgrade and decommission the road system, maintain a prioritized sediment source inventory, implement routine maintenance and monitoring of the mainline and secondary road system, spend approximately \$2.5 million per year (2002 dollars) through 2022 treating high and moderate priority sediment sources, design detailed annual work plans, and perform post-treatment effectiveness monitoring. The Road Management Plan will provide better and more efficient protection of the beneficial uses of water associated with road management and maintenance activities than the timber harvest plan (THP) process because it addresses road related sediment sources systematically across the landscape and is not limited to areas currently being harvested under THPs. Adherence to the Road Management Plan will assure the Regional Water Board that minor maintenance problems do not become significant discharge sources and that sediment sources that are not scheduled for treatment in the short-term will receive timely treatment should site-specific conditions worsen.

5. This Order sets out waste discharge requirements (WDRs) for road management activities carried out by Green Diamond through the Road Management Plan from its AHCP. There are two key components of the Road Management Plan: (1) the Road Implementation Plan and (2) the Road Maintenance Program. The objective of the Road Implementation Plan (AHCP Section 6.2.3.2) is to carry out a systematic road upgrade and decommissioning program using the plan's road assessment and treatment prioritization system (AHCP Section 6.2.3.1). The Road Maintenance Program (AHCP Section 6.2.3.9) requires routine inspections and maintenance of all mainline and secondary roads, which will keep upgraded roads at low risk for water quality impacts and will prevent and minimize catastrophic and chronic sediment sources on roads pending upgrade or decommissioning. All activities carried out under the Road Management Plan will comply with techniques and restrictions designed to prevent and minimize impacts to water quality, as detailed in the AHCP and the Master Timber Operations Agreement.
6. This Order does not supersede Order No. R1-2004-0030 *General Waste Discharge Requirements For Discharges Related to Timber Harvest Activities On Non-Federal Lands in the North Coast Region* (GWDR). Instead, this Order is intended to complement the GWDR by providing separate coverage for discharge sources on the mainline and secondary road system inventoried and treated under the Road Management Plan. Other controllable sediment discharge sources, e.g. failing skid trail crossings and watercourse diversions within timber harvest units, will be inventoried and addressed through the Timber Harvest Plan process and covered under the GWDR or other Regional Water Board authorities.
7. This Order does not supersede Resolution No. R1-2006-0042 *Waste Discharge Requirements for Timber Harvesting Plan Activities Conducted by or on Land Owned by the Green Diamond Resource Company in the South Fork Elk River Watershed* or Order No. R1-2006-0043 *Watershed-wide Waste Discharge Requirements for Timber Harvesting Plan Activities Conducted by or on Land Owned by the Green Diamond Resource Company in the South Fork Elk River Watershed*, which contain, among other things, specific provisions for the inventory and repair of controllable sediment discharge sources and require adherence to erosion control plans and a master treatment schedule in the South Fork Elk River Watershed.
8. The following waste discharge prohibitions from the Water Quality Control Plan for the North Coast Region (Basin Plan) pertain to timber harvest activities, including logging, road construction, and associated activities in the North Coast Region:
 - Prohibition 1: The discharge of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited.
 - Prohibition 2: The placing or disposal of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature at locations where such material could pass into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited.
9. Pursuant to the Basin Plan, including State Water Resources Control Board Resolution No. 88-63, the existing and potential beneficial uses of waters potentially affected by the proposed activity include:

- a. Municipal and Domestic Supply (MUN)
- b. Agricultural Supply (AGR)
- c. Industrial Service Supply (IND)
- d. Industrial Process Supply (PROC)
- e. Groundwater Recharge (GWR)
- f. Freshwater Replenishment (FRSH)
- g. Navigation (NAV)
- h. Hydropower Generation (POW)
- i. Water Contact Recreation (REC-1)
- j. Non-contact Water Recreation (REC-2)
- k. Commercial and Sport Fishing (COMM)
- l. Aquaculture (AQUA)
- m. Warm Freshwater Habitat (WARM)
- n. Cold Freshwater Habitat (COLD)
- o. Estuarine Habitat (EST)
- p. Marine Habitat (MAR)
- q. Wildlife habitat (WILD)
- r. Preservation of Areas of Special Biological Significance (BIOL)
- s. Rare, Threatened, or Endangered Species (RARE)
- t. Migration of Aquatic Organisms (MIGR)
- u. Spawning, Reproduction, and/or Early Development (SPWN)
- v. Shellfish Harvesting (SHELL)
- w. Native American Culture (CUL)
- x. Flood Peak Attenuation/Flood Water Storage (FLD)
- y. Wetland Habitat (WET)
- z. Water Quality Enhancement (WQE)
- aa. Subsistence Fishing (FISH)

The Basin Plan contains water quality objectives developed to protect the above-listed beneficial uses of water. Economic considerations were evaluated as required by law during the development of these objectives. Conditions, prohibitions, and provisions contained in this Order implement these previously developed water quality objectives. Compliance with water quality standards will protect these beneficial uses.

10. This Order applies to areas located within hydrologic areas identified above in Finding 3, subject to promulgated total maximum daily loads (TMDL) for the following stream segments: Klamath, Eel, Mad, Redwood Creek, and areas that are listed as impaired for sediment and temperature for which a TMDL will be developed. Adopted TMDLs for sediment and temperature identify roads as a significant source of pollution and recommend improving practices for road construction and maintenance, reducing the overall mileage of roads through decommissioning unused roads and upgrading existing roads to reduce sediment delivery to streams, and protecting natural shade. Conditions and provisions of this Order are intended to reduce anthropogenic discharges from road management and maintenance activities. Compliance with this Order constitutes implementation of the sediment, turbidity, and temperature (TMDLs) in the project area for activities described herein, subject to periodic review, monitoring and reassessment.
11. **PLACEHOLDER/DRAFT**: On [date], [Department of Fish and Game] adopted a [mitigated] negative declaration (SCH No. _____) for the project in order to comply with CEQA. The Regional Water Board has reviewed and considered the environmental document and any proposed changes incorporated into the project or required as a condition of approval to avoid significant effects to the environment. The Regional Water Board will file a Notice of Determination within five days from the issuance of this order. Mitigation measures necessary to reduce or eliminate significant water quality impacts are included as conditions of approval in the Order section below.

THEREFORE, pursuant to Water Code section 13263, the Regional Water Board hereby approves and adopts Order No. R1-2010-XXXX, and directs the Executive Officer to file all appropriate notices. For activities under the AHCP Road Management Plan as described in <<

title and type of CEQA document >> Green Diamond Resource Company shall comply with the following:

I. SPECIFIC CONDITIONS

A. Sediment Source Inventory

Green Diamond will maintain a prioritized inventory of all road-related sediment sources tracked for treatment as part of AHCP section 6.2.3.1. Road-related sediment sources will be identified through aerial photo analyses, maps, and field inventories. Data for each potential sediment source will be kept in a database and this information will be furnished to the Regional Water Board upon request.

Other controllable sediment discharge sources, e.g. failing skid trail crossings and watercourse diversions within timber harvest units, will be inventoried and addressed through the Timber Harvest Plan process and covered under the GWDR or other Regional Water Board authorities.

B. Annual Work Plan

An Annual Work Plan must be submitted to the Executive Officer by March 31 of each calendar year. Green Diamond will contact the Regional Water Board, prior to submittal of the Annual Work Plan, to arrange preconsultations and solicit input for sites that have complex conditions, such as significant past erosion, large volumes of material that could discharge, or that will require grade control.

The Regional Water Board will, by May 1, complete its initial review of the Annual Work Plan and notify Green Diamond of any exceptions. An exception is a project or activity described in the Annual Work Plan that either does not meet the requirements of this Order, requires additional information, or requires a site visit. Projects or activities not thus identified may commence on May 1 and are subject to all of the conditions set forth in this Order and in Section 11.0, A of the Master Timber Operations Agreement.

In the case of exceptions, the Regional Water Board and Green Diamond will attempt to promptly resolve the problem through discussion, solicitation of additional information, and/or field examination. If a site visit is required, a mutually agreeable inspection date will be scheduled as soon as possible, preferably within 30 days.

Within 15 working days of receiving additional information about or visiting the site of an exception, the Regional Water Board will, in writing, either: a) approve the proposal, b) make site specific recommendations, c) request additional time for review, or d) explain and justify why the proposed project or activity does not meet the requirements of this Order. Upon receipt of written concurrence on any exception, Green Diamond may commence immediately. In the unlikely event that a resolution cannot be achieved for an exception, the Regional Water Board will provide written explanation and justification within 90 days of a site visit.

The Annual Work Plan can be amended at any time with written concurrence from the Regional Water Board. Such requests will be responded to within 15 working days. Urgent amendments may occur infrequently, and in these cases, the Regional Water Board will respond within 5 working days unless a longer period is mutually agreed upon. Urgent amendments are rare and are typically sites discovered or modified during road

decommissioning that could suspend the entire project if a longer waiting period was required.

The Annual Work Plan must, at a minimum, include:

1. A description of the planned activity, including the type (e.g. new road construction, decommissioning, upgrading, etc.) and scope of the work planned.
2. The timber harvest plan (THP) number, if applicable. Controllable sediment discharge sources covered under this Order do not need to be included in the inventory of erosion control plans of any associated THPs, but should be briefly described per the erosion control plan requirement of the GWDR.
3. Whether the proposed activity will be done on a Class I, II, or III watercourse or a restorable fish-bearing stream.
4. Location information, including township, range, and section numbers, road numbers, the name of streams and CALWATER identification number the proposed activity will affect, and a map of the work site with sufficient detail to enable a person who is not familiar with the area to easily locate the site.
5. Detailed work plans that describe the project or activity including:
 - a. Estimate of the potential sediment volume that could discharge if left untreated;
 - b. Estimate of the relative potential for sediment delivery;
 - c. Description of the current site condition and the proposed work.
 - d. Where warranted (e.g. associated with unstable areas), construction drawings, diagrams or sketches, cross sections and dimensions, including unstable conditions at each encroachment, such as debris torrents, landslides, unstable fill, etc.
6. The name, address, and telephone number of the contact person.
7. If the site is a controllable sediment discharge source and/or requires California Department of Fish and Game notification.

All activities conducted as part of the Annual Work Plan must comply with the Road Management Measures contained in AHCP section 6.2.3 and the additional conditions necessary for the protection of water quality set forth in Section 11.0.A of the Master Timber Operations Agreement and the provisions of this Order.

C. Routine Road Maintenance and Inspection

1. Roads will be inspected to assess the effectiveness and condition of all erosion and drainage structures. Mainline roads and roads appurtenant to THPs will be inspected annually and secondary management roads accessible by truck will be inspected on a 3-year rotating basis.
2. If the Regional Water Board identifies specific evidence of greater risk than identified by Green Diamond, the Regional Water Board may require, if warranted, individual controllable sediment discharge sources on secondary management roads to be inspected on an annual basis (i.e. put on the "watch list").

3. Needed repairs will be prioritized as low, moderate, or high, with a goal of completing priority tasks prior to the winter period. Lower priority sites may be held over until the following maintenance year if the workload is excessive.
4. Sites on roads that have not yet been upgraded or decommissioned and that are determined to have an extreme risk of imminent failure will be repaired or replaced prior to the subsequent winter period. Extreme risk of imminent failure means that the site is likely to fail before the next scheduled maintenance period and is determined by the Decision Tree included in Attachment A.
5. Emergency inspections will occur during or immediately after storm events which produce 3 inches of precipitation or more during a 24-hour period. Immediate repairs will occur if hand labor can correct the problem. Major repairs will be prioritized and scheduled according to access and conditions.

D. Monitoring and Reporting Requirements:

1. Post-Treatment Monitoring

Each completed activity must be inspected twice to evaluate the implementation and effectiveness of the completed treatment; once prior to the winter period and once following a full winter. If the site has stabilized and there is no reasonable potential for waste discharge in violation of the Basin Plan, future monitoring may defer to the Routine Road Maintenance and Inspection program.

Any minor maintenance issue identified following implementation such as culvert cleaning, re-installation of waterbreaks or critical dips, or removal of vegetation will be conducted as soon as feasible prior to the next winter period.

Any major maintenance issue identified following implementation such as culvert separation, fill failure resulting in significant sediment delivery or watercourse diversion will be conducted as soon as feasible prior to the next winter period. A facility that receives major maintenance will be monitored for an additional year, once prior to the winter period and once following a full winter.

2. Reporting

- a. An Annual Report of projects and activities implemented pursuant to this Order during the prior calendar year must be submitted to the Executive Officer by March 31 of each calendar year. The report must:
 1. Summarize the completion and inspection of all activities performed as identified in the Annual Work Plan from the previous operating season.
 2. Provide an explanation and revised treatment schedule for any site that went untreated.
 3. Include the date of the inspection, the type of site, the name or designation of the site associated with the Annual Work Plan, and photographs, if available.
 4. Include the name, address, and telephone number of the contact person.
 5. Include a summary of the sediment savings from treating high and moderate sites and a list of the maintenance area and road work unit areas treated from the previous operating season in accordance with the AHCP Road Management Plan.
- b. Post-Winter Monitoring Report
A monthly Post-Winter Monitoring Report must be submitted electronically to the Regional Water Board at the end of each month from July through October. The

Post-Winter Monitoring Report will summarize the progress of the post-winter inspections and will include the following information:

1. A list of all sites included in the Annual Work Plan, and for each site,
2. the date of inspection;
3. and any major or minor maintenance issues identified following implementation.

E. Emergency Maintenance

If there is an imminent threat to life, property, or public safety, or a potential for a sediment input with catastrophic environmental consequences, Green Diamond will notify the Regional Water Board of the emergency and the planned or implemented action within 14 calendar days.

II. GENERAL CONDITIONS

A. Discharge Prohibitions

1. Discharges of waste, which are not otherwise authorized by waste discharge requirements issued by this Regional Water Board or the State Water Resources Control Board, to waters of the state are prohibited, except as allowed below in section A.5.
2. Discharges must not cause or threaten to cause pollution, contamination, or nuisance.
3. Discharges must not adversely impact human health or the environment or the beneficial uses of water set out in the Basin Plan.
4. Authorization pursuant to these WDRs does not constitute an exemption to applicable water quality requirements.
5. Discharges are authorized only where they do not cause or contribute to a violation or exceedence of applicable water quality requirements and are controlled through implementation of appropriate project design and management measures for prevention and minimization of waste discharges.

B. Road management and maintenance activities must be implemented to ensure retention of natural shade conditions to the extent feasible while allowing for safe operation and travel, reshaping and grading of the road surface, stabilizing of road cutbanks, and installation of drainage structures. Natural shade conditions are defined as the shade on a watercourse that results from the naturally occurring vegetative community at site potential and topographic configuration.

C. Green Diamond will preconsult with staff from the Regional Water Board prior to daylighting, for the purpose of road surface drying, road segments within riparian zones, except for tree removal necessary for crossing construction or reconstruction which follow General Condition II.B.

D. Any dispute regarding the treatment of a sediment source that arises during a site inspection will be resolved through field examination and discussion, with the resolution ultimately agreed upon by Regional Water Board and Green Diamond management.

E. Green Diamond must comply with all applicable mitigation measures identified in the Initial Study/Mitigated Negative Declaration adopted by the Department of Fish and Game [include specific citation], as set forth in this Order and Section 11.0.A of the Master Timber

Operations Agreement. Compliance with these mitigation measures are requirements under this Order. Violation of any such requirements subject Green Diamond to enforcement action, including civil liability, under the Water Code.

- F. Green Diamond must allow the Regional Water Board staff entry onto the affected property, with reasonable notice, for the purposes of observing, inspecting, photographing, video taping, measuring, and/or collecting samples or other monitoring information to document compliance or non-compliance with this Order.
- G. Green Diamond must allow Regional Water Board staff access to copy at reasonable times any records that must be kept under the conditions of these WDRs.
- H. Green Diamond must develop and implement additional monitoring and reporting requirements when the necessity of such measures is supported by evidence and the measures are described in writing by the Executive Officer.
- I. All activities covered by this Order must comply with local, state, and federal law.
- J. No discharge of waste into the waters of the state, whether or not the discharge is made pursuant to waste discharge requirements, shall create a vested right to continue the discharge. All discharges of waste into waters of the state are privileges, not rights. (Wat. Code, § 13262, subd.(g).)
- K. Prior to implementing any change to the project or activity that may have a significant or material effect on the findings, conclusions, or conditions of this Order, the Applicant shall obtain the written approval of the Regional Water Board Executive Officer.
- L. The Regional Water Board may add to or modify the conditions of this Order, with notice and as appropriate, to implement any new or revised water quality standards and implementation plans adopted and approved pursuant to the Porter-Cologne Water Quality Control Act or Section 303 of the Clean Water Act.
- M. These WDRs may be modified, revoked and reissued, or terminated for cause. Changes to the AHCP which influence these WDRs, compliance with the conditions of these WDRs, or contribute to a violation or exceedance of applicable water quality requirements may be cause for reopening these WDRs.

III. RECISSION AND DENIAL OF COVERAGE

- A. The Executive Officer shall rescind or deny the applicability of this Order to any individual project or activity within the Annual Work Plan if the Executive Officer makes any of the following determinations:
 - 1. The project or activity does not comply with any condition or provision of this Order;
 - 2. The project or activity is reasonably likely to result or has resulted in a violation or exceedance of any applicable water quality requirement;
 - 3. The project or activity has varied in whole or in any part from the approved project in any way that could adversely affect water quality;
 - 4. When requested by Green Diamond, another state agency (upon a demonstration that the project or activity would cause an exceedance of water quality standards or otherwise violate these WDRs), a subdivision of the state (county) or a federal agency, and with concurrence by the Executive Officer.

5. The project or activity meets the WDR terms, but may still result in discharge that could affect the quality of waters of the state.
- B. Upon receipt of a written notice of rescission or denial of coverage for a project or activity under these WDRs, the applicability of this Order to the covered project or activity is immediately terminated. Upon termination, the Green Diamond must immediately cease all activities that may result in un-permitted discharges of waste to waters of the state, other than activities necessary to control further discharges.

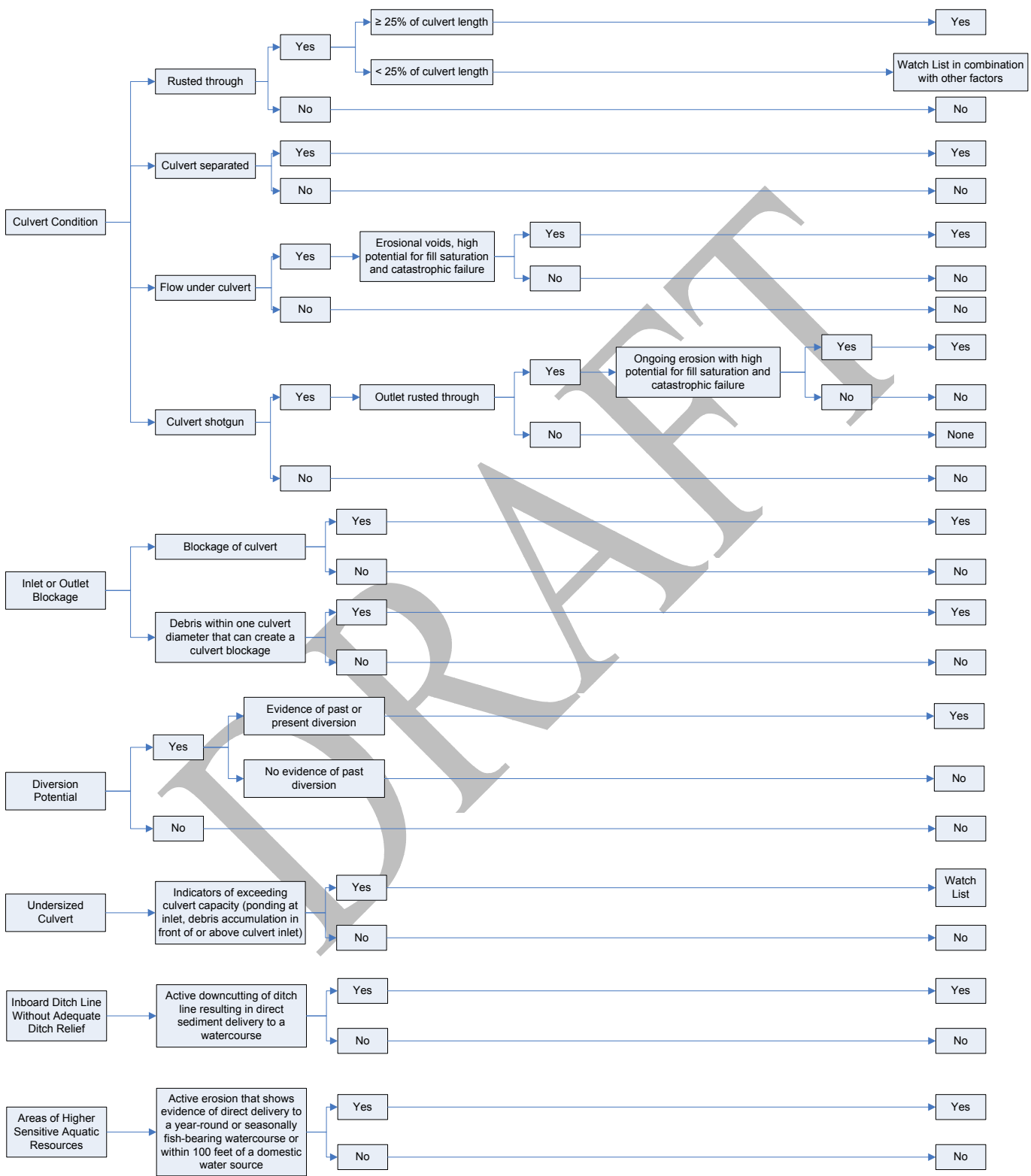
Certification:

I, Catherine Kuhlman, Executive Officer do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on ????.

Catherine Kuhlman
Executive Officer

DRAFT

General Condition **Specific Thresholds** **Extreme Risk?**



APPENDIX C

Tables of Fish, Wildlife and Plant Species on Green
Diamond Ownership

TABLE C-1

Fish Species of Concern Potentially Occurring on Green Diamond Lands within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | Federal Status | State Status | Habitat Associations | Potential for Occurrence on Green Diamond Lands within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|---|----------------|--------------|---|--|
| Fish | | | | |
| Southern Oregon/Northern California Coasts (SONCC) coho salmon Evolutionarily Significant Unit (ESU) <i>Oncorhynchus kisutch</i> | FT | ST | Cold clear streams with a boulder, cobble, or gravel substrate; generally in lower elevation reaches with relatively low stream gradients | High potential to occur in Class I streams on Green Diamond lands |
| California Coastal Chinook salmon ESU <i>Oncorhynchus tshawytscha</i> | FT | None | Cold clear streams with a boulder, cobble, or gravel substrate; generally in low elevation reaches with relatively low stream gradients | High potential to occur in Class I streams in coastal river basins south of the Klamath River |
| Southern Oregon and Northern California Coastal Chinook salmon ESU <i>Oncorhynchus tshawytscha</i> | None | None | Cold clear streams with a boulder, cobble, or gravel substrate; generally in low elevation reaches with relatively low stream gradients | High potential to occur in Class I streams in coastal river basins north of, and including, the Klamath River below the confluence of the Klamath and Trinity rivers |
| Upper Klamath-Trinity Rivers Chinook salmon ESU <i>Oncorhynchus tshawytscha</i> | None | None | Cold clear streams with a boulder, cobble, or gravel substrate; generally in low elevation reaches with relatively low stream gradients | High potential to occur in Class I streams in the Klamath and Trinity basins upstream of the confluence of the Klamath and Trinity rivers |
| Coastal cutthroat trout <i>Oncorhynchus clarki clarki</i> | None | CSC | Cold clear streams with a boulder, cobble, or gravel substrate; from low to high elevations with low to relatively high stream gradients | High potential to occur in Class I streams on Green Diamond lands |
| Klamath Mountains Province steelhead ESU <i>Oncorhynchus mykiss</i> | None | None | Cold clear streams with a boulder, cobble, or gravel substrate; from low to high elevations with low to relatively high stream gradients | High potential to occur in Class I streams in coastal river basins north of, and including, the Klamath and Trinity rivers |
| Northern California steelhead DPS <i>Oncorhynchus mykiss</i> | FT | None | Cold clear streams with a boulder, cobble, or gravel substrate; from low to high elevations with low to relatively high stream gradients | High potential to occur in Class I streams in coastal river basins from Redwood Creek to the southern extent of Green Diamond lands |

TABLE C-1

Fish Species of Concern Potentially Occurring on Green Diamond Lands within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | Federal Status | State Status | Habitat Associations | Potential for Occurrence on Green Diamond Lands within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|--|----------------|--------------|--|---|
| Resident rainbow trout <i>Oncorhynchus mykiss</i> | None | None | Cold clear streams with a boulder, cobble, or gravel substrate; from low to high elevations with low to relatively high stream gradients | High potential to occur in Class I streams on Green Diamond lands |
| Tidewater Goby <i>Eucyclogobius newberryi</i> | FE | CSC | Coastal lagoons and the uppermost brackish zone of larger estuaries, rarely invading marine or freshwater habitats | Low potential to occur within Class I streams on Green Diamond lands |
| Longfin Smelt <i>Spirinchus thaleichthys</i> | None | ST | Bays, estuaries and nearshore coastal waters; adults migrate into low salinity or freshwater reaches of coastal rivers and tributary streams to spawn. | Low potential to occur within Class I streams on Green Diamond lands |

Federal Status

FE = Federal endangered species
 FT = Federal threatened species
 FSS = Forest Service sensitive species

State Status

ST = State of California threatened species
 CSC = CDFG Species of Special Concern
 CFP = California Fully Protected Species

TABLE C-2

Special-Status Wildlife Species Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | USFWS | CDFG | BOF | Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|---|----------|--------|-----|--|---|
| Birds | | | | | |
| American peregrine falcon <i>Falco peregrinus anatum</i> | Delisted | CFP | BFS | Breeds on high cliffs near wetlands, lakes and rivers | Moderate potential for occurrence, some habitat present; infrequently observed (two active tree nests and three to four other historical eyries). |
| Bald eagle <i>Haliaeetus leucocephalus</i> | Delisted | CE/CFP | BFS | Nests near ocean shore, lakes and rivers | Regular winter inhabitant; five nest sites known on/adjacent to ownership (Mad River and Klamath River); moderate potential for occurrence in other areas; some habitat present). However, generally low potential for occurrence within riparian areas, stream crossings and roadways within the Project Area. |
| Bank swallow <i>Riparia riparia</i> | — | CT | — | Colonial nester in riparian area with vertical sandy banks composed of fine soils | Low potential for occurrence, some habitat present; none observed. |
| Black swift <i>Cypseloides niger</i> | — | CSC | — | Breeds in small colonies adjacent to waterfalls in deep canyons and coastal bluffs, forages widely | Low potential for occurrence as a result of limited habitat availability. |
| Golden eagle <i>Aquila chrysaetos</i> | — | CFP | BFS | Rolling foothills and open mountain terrain in oak woodlands and most major forested habitats. | Occasionally seen in the open woodlands of the eastern portion of the Green Diamond ownership, but no nests documented. Low potential for occurrence in other areas. |
| Great blue heron <i>Ardea herodias</i> | — | — | BFS | Colonial nester in large trees near wet meadows, marshes, lake margins, rivers and streams and tidal flats | Foraging known to occur on Green Diamond property. Two rookeries known (Eel River and Klamath River). Low potential for occurrence in other areas. |
| Great egret <i>Ardea alba</i> | — | — | BFS | Colonial nester in large trees near marshes, tidal flats, rivers and lakes | Low potential for occurrence, some habitat present. Foraging only. |
| Little Willow flycatcher <i>Empidonax traillii brewsteri</i> | — | CE | — | Riparian areas with extensive willow vegetation | One breeding site known in the Klamath region. Low potential for occurrence in other areas. |

TABLE C-2

Special-Status Wildlife Species Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | USFWS | CDFG | BOF | Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|---|-------|------|-----|--|---|
| Marbled murrelet <i>Brachyramphus marmoratus</i> | FT | CE | BFS | Late seral conifer forest and marine waters | Known to occur in a number of residual old-growth stands in the Klamath region and one-second growth stand with residual structure in the Maple Creek drainage. Low potential for occurrence in other areas. Generally low potential for occurrence within riparian areas, stream crossings and roadways within the Project Area. |
| Northern harrier <i>Circus cyaneus</i> | — | CSC | — | Open habitats including grasslands, scrublands, and wetlands | Low potential for occurrence. Observed in nonforested areas of ownership. |
| Northern goshawk <i>Accipiter gentilis</i> | — | CSC | BFS | Nests in relatively mature and old-growth coniferous forests with sparse ground cover | Low potential for occurrence; rare or absent from Green Diamond ownership. Known to nest in eastern Humboldt County. |
| Northern spotted owl <i>Strix occidentalis caurina</i> | FT | CSC | BFS | Old growth or mixed mature-old growth forests | Moderate potential for occurrence. Known to occupy and reproduce on the Green Diamond ownership. |
| Olive-sided flycatcher <i>Contopus borealis</i> | — | CSC | — | Forest and woodland riparian zones | Moderate potential for occurrence. Commonly seen throughout the Green Diamond ownership; confirmed nest sites. |
| Osprey <i>Pandion haliaetus</i> | — | -- | BFS | Freshwater lakes, bays, ocean shore, large streams | Known to occupy and reproduce within Green Diamond property (Ah Pah Ridge, Arcata South, Fields Landing, McWhinney Creek, Requa). Moderate potential for occurrence in other areas. |
| Purple martin <i>Progne subis</i> | — | CSC | — | Forest and woodland with cavity trees and riparian zones | Occasionally seen throughout the ownership and several nest sites known in the Korbel tract. Low potential for occurrence in other areas. |
| Short-eared owl <i>Asio flammeus</i> | — | CSC | — | Marshlands, grasslands, and forest clearings | Low potential for occurrence. Seen at several sites throughout the ownership, but no known breeding sites. |
| Tricolored blackbird <i>Agelaius tricolor</i> | — | CSC | — | Highly colonial species, largely endemic to California. Requires open water with protected areas for nesting | Low potential for occurrence. Most numerous in the Central Valley. Rare, local breeder in Humboldt County. |

TABLE C-2

Special-Status Wildlife Species Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | USFWS | CDFG | BOF | Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|--|-------|------|-----|--|--|
| Vaux's swift <i>Chaetura vauxi</i> | — | CSC | — | Conifer forest with large snags | Low potential for occurrence. Occasionally observed flying over Green Diamond's timberlands. Nests and/or roost sites documented in Klamath and Korbelt. |
| Western burrowing owl <i>Athene cunicularia</i> | — | CSC | — | Grasslands and shrublands | Low potential for occurrence, limited habitat present. Seen in winter at the old office site in the Arcata "bottoms," and along the Bald Hill Road. No known breeding sites. |
| Western snowy plover <i>Charadrius alexandrinus nivosus</i> | FT | CSC | — | Sandy beaches, salt ponds and levees, gravel bars along coastal rivers | Low potential for occurrence; none have been recorded on Green Diamond lands. |
| White-tailed kite <i>Elanus leucurus</i> | — | CFP | — | Nests along rivers and marshes associated with oak woodlands in foothills and valley margins, forages in open meadows and grasslands | Low potential for occurrence; some habitat present. |
| Yellow warbler <i>Dendroica petechia brewsteri</i> | — | CSC | — | Riparian woodland | Moderate potential for occurrence. Seen commonly throughout Green Diamond's ownership, but no work done to confirm nest sites. |
| Yellow-breasted chat <i>Icteria virens</i> | — | CSC | — | Riparian thickets and early seral forest | Low potential for occurrence; some habitat present. Rare occurrences in the Mad River area in 1996. |
| Mammals | | | | | |
| Pallid bat <i>Antrozous pallidus</i> | — | CSC | — | Roosts in trees, caves, crevices, and buildings; feeds in a variety of open habitats | Low potential for occurrence; occurs throughout the region, Roosting sites include trees, caves and rock crevices. |
| Townsend's big-eared bat <i>Corynorhinus townsendii</i> | — | CSC | — | Humid coastal regions of central and northern California, southern Oregon | Low potential for occurrence. Presumed to occur within the ownership, but their presence has not been confirmed. |
| Sonoma tree vole <i>Arborimus pomo</i> | — | CSC | — | Douglas-fir, redwood, and montane hardwood-conifer forests | Moderate potential for occurrence. Known to occur within ownership. |
| White-footed vole <i>Arborimus albipes</i> | — | CSC | — | Mature conifer forests, small streams with dense alder and shrub cover | Low potential for occurrence. Presumed rare within the ownership, but their presence has not been confirmed. |

TABLE C-2

Special-Status Wildlife Species Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | USFWS | CDFG | BOF | Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|--|-------|------|-----|---|--|
| Humboldt marten <i>Martes americana humboldtensis</i> | — | CSC | — | Late seral conifer forest and nearby associated dense brushfields | Low potential for occurrence; some habitat present. Recently detected on Green Diamond lands in Bear Creek and Pecwan Creek (Klamath River tributaries), and close to the ownership in the Goose Creek drainage (tributary of the South Fork Smith River). |
| Pacific fisher <i>Martes pennanti pacifica</i> | FC | CSC | — | Coniferous forests and shaded riparian areas | Known to occur on Green Diamond property from coastal to inland areas. Moderate potential for occurrence within riparian areas, stream crossings and roadways within the Project Area. |
| Ringtail cat | — | CFP | — | Conifer and mixed conifer forest types, riparian hardwood forests, streams, and rock and boulder outcrops | |
| Reptiles and Amphibians | | | | | |
| Del Norte salamander <i>Plethodon elongatus</i> | — | CSC | — | Redwood, Douglas-fir, mixed conifer, montane hardwood, mixed hardwood-conifer forests | Moderate potential for occurrence. Known to occur on Green Diamond property. |
| Foothill yellow-legged frog <i>Rana boylei</i> | — | CSC | — | Partly shaded shallow streams with rocky substrate, in a variety of habitats | Known to occur on Green Diamond property along most Class I and some Class II streams. High potential for occurrence. |
| Northern red-legged frog <i>Rana aurora</i> | — | CSC | — | Humid forests with intermixed hardwoods and grasslands, stream sides | Commonly seen throughout the Green Diamond ownership. High potential for occurrence. |
| Tailed frog <i>Ascaphus truei</i> | — | CSC | — | Permanent streams in montane hardwood-conifer, redwood, Douglas-fir, and ponderosa pine forests | High potential for occurrence. Commonly seen throughout the Green Diamond ownership in suitable habitat. |
| Western pond turtle <i>Actinemys marmorata</i> | — | CSC | — | Ponds and slow-moving riverine reaches, in grasslands, and wooded and forested areas | Moderate potential for occurrence. Known from Mad River, Lower Klamath, Van Duzen River, and Redwood Creek areas. |

TABLE C-2

Special-Status Wildlife Species Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | USFWS | CDFG | BOF | Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|---|-------|------|-----|--|---|
| Southern torrent salamander <i>Rhyacotriton variegatus</i> | — | CSC | — | Permanent streams in coastal redwood, Douglas-fir, mixed conifer, montane hardwood, and montane riparian forests | Commonly seen throughout the Green Diamond ownership in suitable habitat. High potential for occurrence. |
| Invertebrates | | | | | |
| Mardon skipper <i>Polites mardon</i> | FC | — | — | Prairies and meadows, particularly in mesic serpentine soils | Low potential for occurrence. Known from two locations in Del Norte County. |
| Oregon silverspot butterfly <i>Speyeria zerene hippolyta</i> | FT | — | — | Coastal meadows in Del Norte County. The larvae feed only on the foliage of violets, primarily the western dog violet (<i>Viola adunca</i>) | Low potential for occurrence. Apparently extirpated from a site north of Smith River near Hwy 101, outside of Project Area. Extant population known in the vicinity of Lake Earl. |
| Trinity bristle snail <i>Monadenia infumata setosa</i> | — | CT | — | Riparian corridors and adjacent uplands within Klamath mixed-conifer forests having a deciduous hardwood understory. Outside the riparian corridor vegetation may consist of mixed evergreen forest with Douglas fir, white fire, Pacific madrone, giant chinquapin, tan oak, big leaf maple, and canyon live oak. | Moderate potential for occurrence within specific eastern areas of Green Diamond ownership. Known to occur on Green Diamond property. |

U.S. Fish and Wildlife Service (USFWS) Federal Listing Categories

FE = Federal Endangered

FT = Federal Threatened

FC = Federal Candidate

California Department of Fish and Game (CDFG) State Listing Categories

CE = California Endangered

CT = California Threatened

CSC = California Species of Special Concern

CFP = California Fully Protected

California Board of Forestry Forest Practice Rules

BFS = Sensitive Species

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | CA List/Fed List | State Rank | CNPS List | CNDDB Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|---|------------------|------------|-----------|--|---|
| American manna grass <i>Glyceria grandis</i> | N/N | S1.3? | 2.3 | Meadows, wet meadows, ditches, streams, and ponds in valleys and lower elevations in the mountains. 15-1,980m. | Moderate potential for occurrence. Some habitat may be present; not known on Green Diamond property |
| Bald Mountain milk-vetch <i>Astragalus umbraticus</i> | N/N | S2.3 | 2.3 | Cismontane woodland, dry, open oak and pine woodlands. 200-1,250m. | Known to occur on Green Diamond property, especially on roadsides. Unlikely to occur within riparian areas, and stream crossings; moderate potential to occur along roadways within the Project Area. |
| Beaked tracyina <i>Tracyina rostrata</i> | N/N | S1S2.2 | 1B.2 | Cismontane woodland, valley and foothill grassland. Open grassy meadows within oak woodlands. 90-790m. | Unlikely to occur due to lack of suitable habitat within riparian areas, stream crossings and roadways within the Project Area and not known on Green Diamond property. |
| Bensoniella <i>Bensoniella oregona</i> | R/N | S2.2 | 1B.1 | Meadows, bogs, fens, lower montane coniferous forest. Wet meadows and openings in forest. 935-1,400m. | Known to occur on Green Diamond property. Moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. Potential to occur is high within the vicinity of Snow Camp Mountain. |
| Bristle-stalked sedge <i>Carex leptalea</i> | N/N | S2? | 2.2 | Bogs and fens, meadows, marshes and swamps. Mostly known from bogs and wet meadows. 0-790m. | Known to occur on Green Diamond property. Moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Butte County morning-glory <i>Calystegia atriplicifolia</i> ssp. <i>buttensis</i> | N/N | S3.2 | 1B.2 | Lower montane coniferous forest. Dry, mostly open slopes. 600-1,200m. | Unlikely to occur due to lack of suitable habitat within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property. |
| Buttercup-leaf suksdorfia <i>Suksdorfia ranunculifolia</i> | N/N | S2 | 2 | Upper montane coniferous forest, meadows and seeps, mesic sites, rocky, granitic, rock crevices. 1,500-2,500m. | However, it is. Low potential to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property. |
| California globe mallow <i>Iliamna latibracteata</i> | N/N | S2.2 | 1B.2 | North coast coniferous forest. Seepage areas in silty, clay loam. 500-2,000m. | Known to occur on Green Diamond property. Low to moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Coastal marsh milk-vetch <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> | N/N | S2.2 | 1B.2 | Coastal dunes, coastal salt marshes. Mesic sites in dunes or along streams or coastal salt marshes. 0-30m. | Unlikely to occur due to lack of suitable habitat and not known to be present on Green Diamond property. |

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | CA List/Fed List | State Rank | CNPS List | CNDDB Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|--|------------------|------------|-----------|--|--|
| Coast fawn lily <i>Erythronium revolutum</i> | N/N | S2.2 | 2.2 | Bogs and fens, broadleaved upland forest, north coast coniferous forest. 0-1,065m. | Known to occur on Green Diamond property. Within appropriate habitats, moderate to high potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Coast Range lomatium <i>Lomatium martindalei</i> | N/N | S2.3 | 2.3 | Lower montane coniferous forest, coastal bluff scrub, meadows, bogs and seeps along creeks and on ridgetops, often on serpentine. 240-3,000m. | Low potential to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property. |
| Coast sidalcea <i>Sidalcea oregana</i> <i>ssp. eximia</i> | N/N | S1.2 | 1B.2 | Meadows and seeps, north coast coniferous forest, lower montane coniferous forest. Near meadows in gravelly soil. 0-1,800m. | Moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Deceiving sedge <i>Carex saliniformis</i> | N/N | S2.2 | 1B.2 | Coastal prairie, coastal scrub, meadows and seeps, marshes and swamps (coastal salt). Mesic sites. 3-230m. | Low potential to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property. |
| Del Norte pyrocoma <i>Pyrocoma racemosa</i> <i>var. congesta</i> | N/N | S2.3 | 2.3 | Chaparral, lower montane coniferous forest. Serpentine soils from dry roadsides to damp hills, often in forest openings. 200-1,000m. | Low potential to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property. |
| English Peak greenbriar <i>Smilax jamesii</i> | N/N | S3.2 | 1B.3 | North coast coniferous forest, broadleaved upland forest. Lower montane coniferous forest, marshes and swamps. Along streams and lake margins. 665-1,820m. | Low potential to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property |
| Fibrous pondweed <i>Potamogeton foliosus</i> <i>var. fibrillosus</i> | N/N | S1S2 | 2.3 | Marshes and swamps, shallow water, small streams. 5-1,300m. | Low potential to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property |
| Ghost pipe <i>Monotropa uniflora</i> | N/N | S2S3 | 2.2 | Broadleaved upland forest, north coast coniferous forest. Often under redwoods or western hemlock. 10-200m. | Known to occur on Green Diamond property. Low potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Giant fawn lily <i>Erythronium oregonum</i> | N/N | S2.2 | 2.2 | Cismontane woodland, meadows and seeps. Openings. Sometimes on serpentine; rocky sites. 100-500m. | Moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. Known to occur on Green Diamond property along roadsides. |

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | CA List/Fed List | State Rank | CNPS List | CNDDB Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|--|------------------|------------|-----------|---|---|
| Glandular wester flax <i>Hesperolinon adenophyllum</i> | N/N | S2.3 | 1B.2 | Chaparral. Cismontane woodland, valley and foothill grassland. Generally found in serpentine chaparral. 425-1,315m. | Not known to occur on Green Diamond property. Unlikely to occur within riparian areas, stream crossings and roadways within the Project Area due to lack of suitable habitat. |
| Great Burnet <i>Sanguisorba officinalis</i> | N/N | S2.2 | 2.2 | Marshes, swamps, bogs, fens, seeps, riparian areas, meadows, broadleaved upland forest, north coast coniferous forest. Rocky, serpentine seepage areas and along stream borders. 60-1,400m. | Moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property. |
| Green yellow sedge <i>Carex viridula</i> var. <i>viridula</i> | N/N | S1.3 | 2.3 | Bogs, fens, marshes and swamps (freshwater), north coast coniferous forest. Mesic sites. 0-1,600m. | Lagoon or bog margins are not known to be present on Green Diamond lands and the species is not known to occur on Green Diamond property. It is, therefore, unlikely to occur within riparian areas, stream crossings and roadways within the Project Area due to lack of suitable habitat. |
| Heckner's lewisia <i>Lewisia cotyledon</i> var. <i>heckneri</i> | N/N | S2.2 | 1B.2 | Lower montane coniferous forest, rocky places. 225-1,970m. | Moderate potential for occurrence on Green Diamond lands because some habitat may be present. However, it is not known on Green Diamond property and there is low potential for it to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Henderson's fawn lily <i>Erythronium hendersonii</i> | N/N | S1.3 | 2.3 | Lower montane coniferous forest. 300-1,600m. | Low potential to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property |
| Hitchcock's blue-eyed grass <i>Sisyrinchium hitchcockii</i> | N/N | S1.1 | 1B.1 | Cismontane woodland, valley and foothill grassland. Openings in woodland or grassland. One record in California. 305m. | Low potential for occurrence due to limited distribution; some habitat may be present but not known on Green Diamond property. Unlikely to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Horned butterwort <i>Pinguicula macroceras</i> | N/N | S3.2 | 2.2 | Bogs and fens, meadows and seeps, meadow edges, seepage areas. Serpentine soil. 20-1,820m. | Low to moderate potential for occurrence. Some habitat present, although not known on Green Diamond property. |
| Howell's fawn lily <i>Erythronium howellii</i> | N/N | S2.3 | 1B.3 | Lower montane coniferous forest. 200-1,145m. | Low potential to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property |

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | CA List/Fed List | State Rank | CNPS List | CNDDB Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|--|------------------|------------|-----------|---|---|
| Howell's jewel flower <i>Streptanthus howellii</i> | N/N | S1.2 | 1B.2 | Lower montane coniferous forest, dry serpentine slopes, in open pine woods or in brushy areas. On rocky soil. 300-1,500m. | Low potential to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property |
| Howell's montia <i>Montia howellii</i> | N/N | S3.2 | 2.2 | Meadows, north coast coniferous forest. Vernal pools, vernal wet sites, often on compacted soil. 0-400m. | Known to occur on vernal mesic road surfaces on Green Diamond property. Moderate to high potential for it to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Howell's sandwort <i>Minuartia howellii</i> | N/N | S3.2 | 1B.3 | Lower montane coniferous forest, Chaparral. Dry, open places, often on serpentine hillsides and ridges, near Jeffrey pines. 550-1,000m. | Moderate potential for occurrence on Green Diamond lands. Some habitat may be present; although not known on Green Diamond property. Low potential for it to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property. |
| Humboldt County milk-vetch <i>Astragalus agnicidus</i> | E/N | S2.1 | 1B.1 | Broadleaved upland forest, redwood forest. Disturbed openings in partially timbered forest lands. Also along ridgelines, south aspects. 575-750m. | Some habitat may be present, although not known on Green Diamond property. Low potential for it to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property |
| Inundated bog clubmoss <i>Lycopodiella inundata</i> | N/N | S1? | 2.2 | Bogs and fens, lower montane coniferous forest, marshes and swamps. Peat bogs, muddy depressions, and pond margins. 0-1,000m. | Unlikely to occur on Green Diamond lands due to lack of suitable habitat. Low potential for it to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property. |
| Josephine horkelia <i>Horkelia congesta</i> <i>ssp. nemorosa</i> | N/N | S1.1 | 2.1 | North coast coniferous forest. Vernal moist rock, clay. Generally serpentine. 300-800m. | Unlikely to occur on Green Diamond lands due to lack of suitable habitat. Also not known to be present on Green Diamond property. |
| Klamath gentian <i>Gentiana plurisetosa</i> | N/N | S2S3.3 | 1B.3 | Meadows and seeps, upper and lower montane coniferous forest. Meadows in red fir and yellow pine forests, mesic sites. 1,200-1,900m. | Low potential for occurrence on Green Diamond property. Unlikely potential for it to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property. |

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | CA List/Fed List | State Rank | CNPS List | CNDDB Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|--|------------------|------------|-----------|--|--|
| Klamath Mountain buckwheat <i>Eriogonum hirtellum</i> | N/N | S2.2 | 1B.3 | Lower montane coniferous forest, upper montane coniferous forest. Dry serpentine rocky outcrops and ridges. 600-1,900m. | Low potential for occurrence. Some habitat may be present; unknown if serpentine rocky outcrops are present within the species' range. Low potential for it to occur within riparian areas, stream crossings and roadways within the Project Area; not known on Green Diamond property. |
| Kneeland Prairie penny-cress <i>Thlaspi californicum</i> | N/E | S1.1 | 1B.1 | Broadleaved upland forest, coastal prairie. Serpentine rock outcrops in Kneeland Prairie, near Kneeland Airport. 815m. | Generally low occurrence on Green Diamond lands due to limited distribution and limited habitat availability. Also not known on Green Diamond property. Unlikely to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Koehler's stipitate rock-cress <i>Arabis koehleri</i> var. <i>stipitata</i> | N/N | S1.3 | 1B.3 | Lower montane coniferous forests, chaparral. Rocky, serpentine substrate. 155-1,810m. | Low potential for occurrence on Green Diamond lands -- elevation range is suitable, but it is unknown if serpentine substrate is present. Also, not known on Green Diamond property. Low potential for it to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Lassics lupine <i>Lupinus constancei</i> | N/N | S1.2 | 1B.2 | Lower montane coniferous forest, serpentine barrens. 1,500-2,000m. | Unlikely to occur on Green Diamond lands and the Project Area due to lack of suitable habitat; not known on Green Diamond property. |
| Lassics sandwort <i>Minuartia decumbens</i> | N/N | S1.2 | 1B.2 | Lower montane coniferous forest, upper montane coniferous forest. Endemic to serpentine, only known from upper, north-facing slopes under Jeffrey pines. 1,500-1,600m. | Unlikely to occur on Green Diamond lands and the Project Area due to lack of suitable habitat; not known on Green Diamond property. |
| Leafy reed grass <i>Calamagrostis foliosa</i> | R/N | S3.2 | 4.2 | Coastal bluff scrub, north coast coniferous forest, rocky cliffs and ocean facing bluffs. 0-1,220m. | Moderate potential for occurrence on Green Diamond lands. Some habitat may be present, although the species is not known on Green Diamond property. Low potential for it to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Little-leaved huckleberry <i>Vaccinium scoparium</i> | N/N | S2.2? | 2.2 | Subalpine coniferous forest, rocky subalpine woods. One site near Gasquet in "Boggy Creek". (135) 1,800-2,365m. | Unlikely due to lack of suitable habitat at the correct elevation; not known on Green Diamond property. |

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | CA List/Fed List | State Rank | CNPS List | CNDDDB Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|--|------------------|------------|-----------|---|---|
| Mad River fleabane daisy <i>Erigeron maniopotamicus</i> | N/N | S1.2 | 1B.2 | Meadows and seeps (open and dry), lower montane coniferous forest. Open slopes, disturbed areas (road cuts); tan-colored rocky soils. 1,350-1,500m. | Moderate potential for occurrence within riparian areas, stream crossings and roadways within the Project Area. Some habitat is present, although it is not known to exist on Green Diamond property. |
| Maidenhair spleenwort <i>Asplenium trichomanes ssp. trichomanes</i> | N/N | S2.3 | 2.3 | Lower montane coniferous forest on rocks. 185-200m. | Moderate potential for occurrence on Green Diamond lands. Some habitat is present, although it is not known to exist on Green Diamond property. Low potential for it to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Marbled wild-ginger <i>Asarum marmoratum</i> | N/N | S1.3 | 2.3 | Lower montane coniferous forest, understory of coniferous forests. 200-1,800m. | Moderate potential for occurrence. Some habitat is present, although it is not known to exist on Green Diamond property. |
| Marble Mountain campion <i>Silene marmorensis</i> | N/N | S2.2 | 1B.2 | Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Openings with little vegetation, shady areas, often along trails. Can be on serpentine. 170-1,250m. | Low potential for occurrence. Some habitat may be present, although it is not known to exist on Green Diamond property. |
| Marsh pea <i>Lathyrus palustris</i> | N/N | S2S3 | 2.2 | Coastal prairie, coastal scrub, bogs, fens, marshes, swamps, lower montane coniferous forest, north coast coniferous forest. Moist coastal areas. 1-100m. | Moderate potential for occurrence. Some habitat may be present, although it is not known to exist on Green Diamond property. |
| Mcdonald's rock-cress <i>Arabis macdonaldiana</i> | E/E | S2.1 | 1B.1 | Lower montane coniferous forest, upper montane coniferous forest, rocky outcrops, ridges, slopes, and flats on serpentine. 135-1,455m. | Low to moderate potential to occur on Green Diamond lands. Elevation range is suitable; however, it is unknown if serpentine soils are present and the species is not known to exist on Green Diamond property. Low potential for it to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Mendocino gentian <i>Gentiana setigera</i> | N/N | S1.2 | 1B.2 | Lower montane coniferous forest. Meadows, seeps and bogs. Usually or always on serpentine. 490-1,065m. | Low to moderate potential for occurrence. Elevation range is suitable; however, it is unknown if serpentine soils are present and the species is not known to exist on Green Diamond property. |

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

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|---|------------------|------------|-----------|--|---|
| Niles' harmonia <i>Harmonia doris-nilesiae</i> | N/N | S2.1 | 1B.1 | Lower montane coniferous forest, chaparral, cismontane woodland. Serpentine barrens. 650-1,660m. | Low to moderate potential to occur on Green Diamond lands. Elevation range is suitable and some habitat may be present; however, the species is not known to exist on Green Diamond property. Low potential for it to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Nodding vanilla grass <i>Hierochloe odorata</i> | N/N | S1.3? | 2.3 | Meadows and seeps, wet sites. 1,500-1,895m. | Unverified potential sightings on Green Diamond property. However, the species is unlikely to occur within riparian areas, stream crossings and roadways within the Project Area due to lack of suitable habitat at the correct elevation. |
| Northern clustered sedge <i>Carex arcta</i> | N/N | S1S2 | 2.2 | Bogs and fens, moist places in north coast coniferous forest. 60-1,400m. | Moderate potential for occurrence. Elevation range is suitable; however, it is not known to exist on Green Diamond property. |
| Northern meadow sedge <i>Carex praticola</i> | N/N | S2S3 | 2.2 | Moist to wet meadows. 0-3,200m. | Known to occur on Green Diamond property. However, moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Northern microseris <i>Microseris borealis</i> | N/N | S1.1 | 2.1 | Bogs and fens, meadows and seeps. Lower montane coniferous forest. 940-2,000m. | Low to moderate potential for occurrence. Some habitat may be present, although it is not known to exist on Green Diamond property. |
| Nuttall's saxifrage <i>Saxifraga nuttallii</i> | N/N | S1.1 | 2.1 | North coast coniferous forest, cliff walls, moss covered rocks along creeks, mesic sites. One site in California. 75m. | Low potential for occurrence on Green Diamond lands. Some habitat present, although it is not known to exist on Green Diamond property. |
| Opposite-leaved lewisia <i>Lewisia oppositifolia</i> | N/N | S2.2 | 2.2 | Lower montane coniferous forest. In open, rocky, shallow soils. Sometimes on serpentine. Mesic sites. 300-1,220m. | Low potential for occurrence. Some habitat may be present, although it is not known to exist on Green Diamond property. |
| Oregon goldthread <i>Coptis laciniata</i> | N/N | S2.2 | 2.2 | North coast coniferous forest, meadows and seeps. Mesic sites such as moist stream banks. 0-1,000m. | Known to occur on Green Diamond property. Moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. |

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | CA List/Fed List | State Rank | CNPS List | CNDDDB Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|--|------------------|------------|-----------|--|---|
| Oregon fireweed <i>Epilobium oregonum</i> | N/N | S2.2 | 1B.2 | Bogs, fens, meadows, lower montane coniferous forest, upper montane coniferous forest. In and near springs and bogs; at least sometimes on serpentine. 500-2,610m. | Moderate potential for occurrence. Some habitat is present, although it is not known to exist on Green Diamond property. |
| Oval-leaved viburnum <i>Viburnum ellipticum</i> | N/N | S2.3 | 2.3 | Chaparral, cismontane woodland, lower montane coniferous forest. 215-1,400m. | Unlikely to occur on Green Diamond lands as there are no known occurrences close to the property. Some habitat may be present. |
| Pacific gilia <i>Gilia capitata ssp. pacifica</i> | N/N | S2.2? | 1B.2 | Coastal bluff scrub, coastal prairie, valley and foothill grassland. 5-300m. | Known to occur on Green Diamond property. Low potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Regel's rush <i>Juncus regelii</i> | N/N | S1.3? | 2.3 | Upper montane coniferous forest, meadows and seeps. Mesic sites. 760-1,900m. | Unlikely to occur on GDRCo lands as there are no known occurrences close to the property. Some habitat may be present. |
| Robust false lupine <i>Thermopsis robusta</i> | N/N | S2.2 | 1B.2 | North coast coniferous forest, broadleaved upland forest. Ridgetops, sometimes on serpentine. 360-1,290m. | Known to occur on Green Diamond property Moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Robust monardella <i>Monardella villosa ssp. globosa</i> | N/N | S2.2 | 1B.2 | Broadleaved upland forest, north coast coniferous forest, cismontane woodland, valley and foothill grassland. Openings. 10-300m. | Low to moderate potential for occurrence. Some habitat is present, although it is not known to exist on Green Diamond property. |
| Royal Jacob's ladder <i>Polemonium carneum</i> | N/N | S1 | 2.2 | Coastal prairie, coastal scrub, lower montane coniferous forest. 0-1,830m. | Moderate potential for occurrence. Some habitat may be present, although it is not known to exist on Green Diamond property. |
| Sanford's arrowhead <i>Sagittaria sanfordii</i> | N/N | S3.2 | 1B.2 | Marshes and swamps, standing or slow-moving freshwater ponds, marshes and ditches. 0-610m. | Low to moderate potential for occurrence. Some habitat may be present, although it is not known to exist on Green Diamond property. |
| Scott Mountains fawn lily <i>Erythronium citrinum var. roderickii</i> | N/N | S1.3 | 1B.3 | Lower montane coniferous forest, serpentine. 650-1,460m. | Moderate potential for occurrence. Some habitat may be present, although it is not known to exist on Green Diamond property. |
| Seacoast ragwort <i>Packera bolanderi var. bolanderi</i> | N/N | S1.2 | 2.2 | Coastal scrub, north coast coniferous forest. 30-650m. | Known to occur on Green Diamond property. Moderate potential for occurrence within riparian areas, stream crossings and roadways within the Project Area. |

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | CA List/Fed List | State Rank | CNPS List | CNDDB Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|---|------------------|------------|-----------|---|---|
| Serpentine catchfly <i>Silene serpenticola</i> | N/N | S2.2 | 1B.2 | Chaparral, lower montane coniferous forest. Serpentine openings; gravelly or rocky soils. 145-1,650m. | Low potential for occurrence. Some habitat may be present, although it is not known to exist on Green Diamond property. |
| Serpentine sedge <i>Carex sepenticola</i> | N/N | S2.3 | 2.3 | Meadows and seeps, mesic serpentine sites. 60-1,200m. | Low potential for occurrence, unknown if serpentine present within range and the species is not known on Green Diamond property |
| Siskiyou checkerbloom <i>Sidalcea malviflora</i> ssp. <i>patula</i> | N/N | S1.1 | 1B.2 | Coastal prairie, broadleaved upland forest, open coastal forest. 15-65m. | Species may be known on Green Diamond property. Moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area because of location of these sites.. |
| Siskiyou paintbrush <i>Castilleja miniata</i> ssp. <i>elata</i> | N/N | S2.2 | 2.2 | Lower montane coniferous forest. Limited to mesic serpentine soils; often associated with bogs, seeps, stream benches, and dry gullies. 0-1,750m. | Low potential for occurrence, Unknown if serpentine is present within the species' range and the species is not known to exist on Green Diamond property. |
| Small-flowered calycadenia <i>Calycadenia micrantha</i> | N/N | S2S3.2 | 1B.2 | Chaparral, valley and foothill grassland, meadows and seeps, lower montane coniferous forest. Rocky talus or scree, sparsely vegetated areas, occasionally on roadsides, sometimes on serpentine. 5-1,500m. | Low potential for occurrence. Some habitat may be present, although it is not known to exist on Green Diamond property. Unlikely to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Small ground cone <i>Boschniakia hookeri</i> | N/N | S1S2 | 2.3 | North coast coniferous forest. Open woods, shrubby places, generally on <i>Gaultheria shallon</i> . 90-885m. | Known to occur on Green Diamond property. Low to moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Snow dwarf bramble <i>Rubus nivalis</i> | N/N | S1.3? | 2.3 | North coast coniferous forest, deep soil, with Douglas-fir overstory. 1,075-1,250m. | Unlikely to occur due to lack of suitable habitat at correct elevation; not known to exist on Green Diamond property. |
| Sonoma canescent manzanita <i>Arctostaphylos canescens</i> ssp. <i>sonomensis</i> | N/N | S2.1 | 1B.2 | Chaparral, lower montane coniferous forest, sometimes found on serpentine. 180-1,700m. | Known to occur on Green Diamond property. Moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| South Fork Mountain lupine <i>Lupinus elmeri</i> | N/N | S1.2 | 1B.2 | Lower montane coniferous forest. 1,370-2,000m. | Known to occur on Green Diamond property. Moderate potential to occur within riparian areas, stream crossings and roadways within the Project Area. |

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

| Species | CA List/Fed List | State Rank | CNPS List | CNDDB Habitat Associations | Potential for Occurrence on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area |
|--|------------------|------------|-----------|--|---|
| Thurber's reed grass <i>Calamagrostis crassiglumis</i> | N/N | S1.2 | 2.1 | Coastal scrub, freshwater marsh. Usually in marshy swales surrounded by grassland or coastal scrub. 10-45m. | Unlikely to occur due to lack of suitable habitat at the correct elevation; not known on Green Diamond property. |
| Two-flowered pea <i>Lathyrus biflorus</i> | N/N | S1.1 | 1B.1 | Lower montane coniferous forest. Endemic to serpentine, one site known. | Unlikely to occur. It is unknown if serpentine is present within the species' range and the species is not known to exist on Green Diamond property. |
| Umpqua green gentian <i>Swertia umpquaensis</i> | N/N | S2.2 | 2.2 | Lower montane coniferous forest, meadows and seeps, chaparral, north coast coniferous forest. Mountain meadows, openings in forests. 1,555-1,900m. | Low potential for occurrence. Some marginal habitat may be present, although it is not known to exist on Green Diamond property. |
| Waldo daisy <i>Erigeron bloomeri</i> <i>var. nudatus</i> | N/N | S2? | 2.3 | | Low potential for occurrence. Some habitat is present, although it is not known to exist on Green Diamond property. |
| Waldo rock cress <i>Arabis aculeolata</i> | N/N | S2.2 | 2.2 | | Low potential for occurrence. Elevation range is suitable. However, it is unknown if serpentine is present and the species is not known to exist on Green Diamond property. |
| Waldo wild buckwheat <i>Eriogonum pendulum</i> | N/N | S2.2 | 2.2 | Lower montane coniferous forest, upper montane coniferous forest. On dry, rocky ultramafic soils; open, somewhat grassy areas in pine forests. 225-1,000m. | Low potential for occurrence on Green Diamond lands. Some habitat may be present, although it is not known to exist on Green Diamond property. Low potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Water bulrush <i>Schoenoplectus subterminalis</i> | N/N | S2S3 | 2.3 | Marshes and swamps, montane lake margins, in shallow water. 750-2,335m. | Unlikely to occur due to lack of suitable habitat and the species is not known to exist on Green Diamond property. |
| Wayside aster <i>Eucephalus vialis</i> | N/N | S1.2 | 1B.2 | Lower montane coniferous forest, upper montane coniferous forest. Gravelly substrates. 910-1,545m. | Low potential for occurrence. Some habitat is present, although it is not known to exist on Green Diamond property. |

TABLE C-3

Plant Species of Special Concern Potentially Occurring on Green Diamond Lands and within Riparian Areas, Stream Crossings and Roadways within the Road Maintenance Project Area

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|---|------------------|------------|-----------|--|--|
| Western lily <i>Lilium occidentale</i> | E/E | S1.2 | 1B.1 | Coastal scrub, freshwater marsh, bogs and fens, coastal bluff scrub, coastal prairie, north coast coniferous forest. Well-drained, old beach washes overlain with wind-blown alluvium and organic topsoil. Usually near margins of Sitka spruce. | Low to moderate potential for occurrence. Some habitat is present; historic occurrences on Green Diamond appear to be extirpated; no specimens found during THP surveys. |
| Western ragwort <i>Packera hesperia</i> | N/N | S1.2 | 2.2 | Upper montane coniferous forest, meadows and seeps. Serpentine. 500-2,500m. | Unlikely to occur. Unknown if serpentine is present within range and the species is not known to exist on Green Diamond property. |
| Western white bog violet <i>Viola primulifolia ssp. occidentalis</i> | N/N | S2.2 | 1B.2 | Bogs and fens, marshes and swamps, streamside flats and bogs. Serpentine soils. 100-990m. | Low potential for occurrence. Some habitat may be present, although it is not known to exist on Green Diamond property. |
| White-flowered rein orchid <i>Piperia candida</i> | N/N | S3.2 | 1B.2 | North coast coniferous forest, lower montane coniferous forest, broadleaved upland forest, Coast ranges from Santa Cruz County north. On serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 0-1,200m. | Known to occur on Green Diamond property. Moderate potential for occurrence. |
| Wolf's evening primrose <i>Oenothera wolfii</i> | N/N | S1.1 | 1B.1 | Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest. Sandy substrates, usually mesic sites. 3-800m. | Low potential to occur within riparian areas, stream crossings and roadways within the Project Area. |
| Yellow-tubered toothwort <i>Cardamine nuttallii var. gemmata</i> | N/N | S2.2 | 1B.3 | Lower montane coniferous forest, north coast coniferous forest. On serpentine in a variety of aspects. 100-700m. | Low potential for occurrence. Unknown if serpentine present within the species' range; not known on Green Diamond property. |

APPENDIX D

California Natural Diversity Database Summary Tables of Sensitive Natural Communities Potentially Occurring on the Green Diamond Ownership

In: Del Norte, Humboldt and Trinity counties

[TO BE INSERTED IN THE .PDF VERSION]

Map 1: Green Diamond Resource Company Lands and Potential Expansion Areas

See: “Web Links”, below.

Web Links:

Green Diamond Resource Company Aquatic Conservation Plan and Candidate Conservation Agreement with Assurances

<http://swr.nmfs.noaa.gov/ahcp.htm>

Final Environmental Impact Statement

For Authorization for Incidental Take and Implementation of a Multiple Species Aquatic Habitat Conservation Plan and Candidate Conservation Agreement with Assurances

<http://swr.nmfs.noaa.gov/feis.htm>

Map 1: Green Diamond Resource Company Lands and Potential Expansion Areas

MAP: (2A, 2B, 2C, 2D) ROADS AND STREAMS ON GREEN DIAMOND RESOURCE COMPANY LANDS

Maps available at California Department of Fish and Game Document Library at:

<http://nrm.dfg.ca.gov/documents/DocContexts.aspx>,

under the Category “CEQA-NR-CCP” or “CEQA Northern Region Coastal Conservation Planning Section”.
