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3rd Four-year Status Report

Submitted to
California Department of Fish and Wildlife
By
Green Diamond Resource Co
For
Master Agreement for Timber Operations

March 15, 2022

Pursuant to FGC Section 1605(g)(2) and the Master Agreement for Timber Operations (MATO) (1600-2010-0114-R1) issued by the California Department of Fish and Wildlife (CDFW) on May 20, 2010, Green Diamond Resource Co (GDRCo) is required to submit a report to CDFW that provides a status review of the Agreement for the previous four years. The status report must include 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.

Background Information

In April 2009 GDRCo began the process of obtaining a MATO to allow GDRCo 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. These activities include road construction, repair and maintenance, upgrading, decommissioning and instream restoration.

Under the MATO all planned projects requiring notification pursuant to FGC Section 1602 are 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.

The MATO consists of (1) the establishment of a long-term agreement between CDFW and GDRCo to provide a system of notification for and authorization of lake or streambed alteration and water diversion activities and (2) the issuance of Road Management Waste Discharge Requirements (RMWDRs) by the North Coast Regional Water Quality Control Board (NCRWQCB) that regulates potential discharges to watercourses associated with these activities. As mentioned above, all planned actions and activities requiring notification pursuant to FGC Section 1602 are covered under the MATO.

The MATO 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 CDFW's Consistency Determination (CD) for the AHCP, GDRCo's HCP for the northern spotted owl (Forest HCP), as well as other existing species-specific protocols and measures agreed upon by GDRCo and CDFW. They are designed around a unified goal and procedures under which future projects are reviewed, specified and/or inspected over an ownership, rather than on an individual project (i.e., Timber Harvest Plan) basis.

The previously employed lake or streambed alteration agreement process examined stream crossing activities, usually in conjunction with individual Timber Harvesting Plans (THP) and culminated in agreements prepared individually for each THP. No reductions in avoidance or minimization of, or mitigation for, impacts to fish or wildlife resources that occurred under agreements prepared for THPs, occur under the MATO. The MATO streamlines the review and issuance of agreements on GDRCo lands. Green Diamond does not have to wait for THP approval to undertake activities requiring notification pursuant to FGC Section 1602. The MATO ensures a systematic improvement to watercourse crossings that is improving the condition of beneficial uses of water, through specific implementation and monitoring, and further facilitates the implementation of GDRCo'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 GDRCo's 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 appurtenant roads to THPs and (2) on a 2-year rotating schedule of mainline and secondary roads within Routine Maintenance Areas (including a hold over year to complete priority work that exceeds that which can be accomplished in a maintenance period). 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 GDRCo are distinct from those of the road upgrading program (contained in the Road Implementation Plan and an approved Minor Modification to the AHCP in June 2017).

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 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. Previous to the MATO, GDRCo primarily maintained and repaired road sites associated with THPs because consistent with GDRCo's primary purpose of managing its lands for timber production, the regulatory authorities and permitting pertaining to stream alteration and discharges to watercourses had been focused on THPs, which is consistent with GDRCo's primary purpose of managing its lands: for timber production. The MATO and RMWDRs provide programmatic regulatory coverage for THP-related sites as well as for non-THP sites in a comprehensive approach that provides consistency in application of measures and procedures as well as efficiency and flexibility in operations and regulatory reviews.

The AHCP was designed to manage GDRCo's road network by systematically and efficiently upgrading, decommissioning and maintaining roads to achieve the greatest conservation benefits using a landscape-based approach. GDRCo 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. Previous to the MATO, GDRCo had restricted its spending of these dollars on roads within or associated with THPs because GDRCo sought Section 1602 and water quality discharge authorizations only through the THP review and approval process. The MATO and RMWDRs provides the flexibility and a process to identify sites across the landscape that provides 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 MATO and RMWDRs provides 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 was possible under the previous THP/1600/General WDR process. The implementation of the MATO and RMWDRs greatly reduce the probability of catastrophic road crossing failures that would, in turn, cause significant sediment delivery to streams.

The MATO 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 are intended to provide separate coverage for discharge sources on the mainline and secondary road system inventoried and treated under GDRCo'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 are inventoried and regulated under the Forest Management Waste Discharge Requirements (FMWDR) (Order No. R1-2012-0087, issued October 15, 2012). The Order is available through the following URL:

http://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2012/121015_12_0087_WDR_GreenDiamond.pdf

Both of these orders supersede the General Waste Discharge Requirements (GWDR) (Order No. R1-2004-0030) and act as a programmatic method of enrolling THPs, Controllable Sediment Discharge Sites, and other activities formerly covered under the GWDR's.

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

The original version of the MATO is included in this report in Appendix A.

Authorized Activities

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

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.

The authorized activities are all necessary to fulfill the requirements of the AHCP. At this time, GDRCo is not seeking coverage from CDFW for any additional activities not currently covered by the MATO. The activities currently authorized under the MATO are all necessary and adequate to conduct our forest management and conservation activities related to road construction, repair and maintenance, upgrading, decommissioning, and instream restoration.

Amendments

As per MATO Section 5.2, the MATO may be amended at any time provided that: 1) CDFW and GDRCo mutually agree on the amendment; 2) the amendment is duly executed by CDFW and GDRCo and 3) the amendment is made part of the MATO. Any proposal to amend the MATO must be in writing and submitted to the other party for its review and concurrence. In addition, CDFW cannot execute any amendment until it has complied with CEQA, if such compliance is necessary.

There were two mutually agreeable amendments made to the MATO since the effective date on June 15, 2010.

1. On December 3, 2010 GDRCo submitted a minor amendment to a) clarify the approval for coverage process for New Site Revisions and Urgent Site Revisions, b) add additional restrictions to direct water drafting for herbicide mixing activities, and c) correct the intake screen size for drafting on Class I watercourses. This amendment is included with this report in Appendix B.

2. On July 17, 2013 a minor amendment was approved to remove all fee requirements per Assembly Bill 1492 which was effective July 1, 2013. This amendment is included with this report in Appendix C.

There is currently one amendment pending submittal which was requested by CDFW in August 2011. CDFW notified GDRCo that the Urgent Site Revision process in Section 7.5 was inconsistent with Fish and Game Code, and therefore required revisions. At that time, it was agreed that the no Urgent Site Revisions would be submitted until the MATO was amended to correct the conflicting process. Since the initial notification from CDFW no action has been taken to amend the MATO. The Urgent Site Revision process allowed new sites to be added to the Annual Work Plan under a 5 working day review period rather than a 15 working day review period under the New Site Revision process. The inclusion of the accelerated process was to allow emergency operations or unforeseen sites to be included in the Annual Work Plan so as not to disrupt on-going operations. There is still need for this type of accelerated review. Considering this, GDRCo requests CDFW to submit a minor amendment for review by the end of 2022 in order to resolve this inconsistency with the Code.

Evaluation of the Measures in the Agreement to Protect Fish and Wildlife Resources

The MATO 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. Each category of Conditions from the MATO are summarized and evaluated below.

Conditions for All Sites (Section 11 A.1)

The Conditions under this section are applicable to all types of projects and generally specific to CDFW notification, and Best Management Practices including: defined timeline for authorized work; ability of CDFW to prescribe additional protection measures; prohibition of equipment operating in flowing water; assurance of cleaned materials and equipment working in live streams; conditions for working wherever flowing water is present during operations; examination of Class I watercourses prior to operations; use of sediment barriers; treatment of bare mineral soil; removal of structures and materials prior to the winter period; removal of debris at watercourse crossing; repair of drainage structures from the use of ATVs; material utilization to stabilize exposed soils; prohibition of fill placement within a stream; conditions on stream encroachments to prevent erosion; minimization of vegetation disturbance; use of bio-engineering treatments; use and movement of LWD associated with a stream crossing; removal of trash from work sites; refueling and storage of petroleum products; use of heavy equipment within RMZs; spill prevention and clean-up adjacent to and within streams; and prevention of debris from delivering to watercourses.

On July 17, 2020, CDFW issued a MATO violation letter (see Appendix D) for the following Road Point incident:

Class I Temporary Crossing Installation Incident THP 1- 1-19-00209-HUM, GDRCo# 471904; RP#12**:** Contractor was instructed to install a temporary crossing on a Class I watercourse off the BL-2640 road on Monday June 6, 2020. Fisheries biologists were scheduled to conduct the fish survey and removal effort in the morning before operations. The Road Supervisor received a text message from the contractor on the evening of June 4, 2020 indicating that he had completed the installation earlier that day. The fish removal was not conducted before crossing installation. On Sunday, the following day, the Road Supervisor conducted a site visit and observed that the contractor had conducted no excavation of the channel and simply placed the culvert in and packed hay bales around the culvert with a soil cap overtop. This resulted in the culvert outlet having a 6-inch drop that would not allow fish passage for all life stages. On Monday, the fish crew went out to the site to conduct the fish removal survey. The crew found no fish within the project area. The Road Supervisor contacted the Senior Aquatic Biologist of the status of the crossing. The Senior Aquatic Biologist attempted to contact CDFW's Nick Simpson to explain the situation and planned follow-up mitigations. Nick Simpson was not reached on the phone, but a detailed phone message was left for him. The contractor was instructed to return to the site to reinstall the crossing on grade to allow fish passage. The remediated project was completed on June 6, 2020. Nick Simpson made a return phone call on June 10, 2020 to discuss the situation.

As a result of the MATO violation, the following revisions to workflow and processes are outlined:

1. On July 24, 2020, a meeting was conducted to discuss the MATO violations and develop process changes as outlined below:
    a. Language in Road Work Orders has been revised for clarity to ensure contractor administrators and contractors understand to contact and stop operations until aquatic biologists have completed the necessary duties related to the road point:
    b. Signage has been placed at road points under approved THPs, and will be placed at future qualifying road points. The signage is highly visible and provides specific instructions to contact aquatic biologists prior to the start of operations.
2. On August 18, 2020, training was conducted for all contract administrators and superintendents to implement the process changes as outlined above.
3. In April/May 2021 additional trainings were conducted with all road contractors to ensure these process changes are implemented and prevent similar future MATO violations.

The Conditions set forth under this section have been observed to be adequate and successful to protect fish and wildlife resources. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

New Road Construction (Section 11 A.2)

The Conditions under this section are specifically related to new road construction including construction and use of fords. Conditions are generally related to seasonal restrictions, design specifications and Best Management Practices including: limiting construction and rocking to the summer period; minimizing fills in crossings; designing culverts for at least 100-year return interval flows; specifications for temporary crossings; utilizing bridges or other structures passable to fish on Class I watercourses; elimination of diversion potential; use of armoring and erosion control measures; requirement of minimum culvert size on crossings and ditch relief; prohibiting discharge of culverts onto unstable or erodible slopes; adequate ditch relief; hydrological disconnection; CD measures; use of fill within live streams; minimization of equipment in live streams during bridge installation; prohibiting the use of multiple culverts within a permanent crossing; and encroachment standards.

The Conditions set forth under this section have been observed to be adequate and successful to protect fish and wildlife resources. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

Upgrading (Section 11 A.3)

The Conditions under this section are specifically related to upgrading of existing roads and watercourse crossings. Conditions are generally related to seasonal restrictions, design specifications and Best Management Practices including: limiting upgrading operations to the summer period, early spring period and extended dry fall period; upgrading to standards at or better than the techniques described by Weaver, Weppner Hagans (2015); designing culverts for at least 100-year return interval flows; utilizing bridges or other structures passable to fish on Class I watercourses; standards for retrofitting existing crossings, elimination of diversion potential; use of armoring and erosion control measures; and bridge installation standards.

The Conditions set forth under this section have been observed to be adequate and successful to protect fish and wildlife resources. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

Decommissioning (Section 11 A.4)

The Conditions under this section are specifically related to decommissioning roads and watercourse crossings. Conditions are generally related to seasonal restrictions, design

specifications and Best Management Practices including: limiting upgrading operations to the summer period, and extended dry fall period; treatment of unstable fill; erosion control standards; removal of fill, sediment deposits and shaping excavated fill slopes; hydrological disconnection of roads; Class I decommissioning standards; and evaluation and treatment of tractor crossings.

The Conditions set forth under this section have been observed to be adequate and successful to protect fish and wildlife resources. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

Emergency Maintenance (Section 11 A.5)

Emergency maintenance is defined in the MATO as an event that poses imminent threat to life, property, or public safety, or a potential for a massive sediment input with catastrophic environmental consequences. The Conditions under this section require only a notification to CDFW within 14 days including a description of the emergency and the planned action.

The Conditions set forth under this section have been observed to be adequate and successful to protect fish and wildlife resources. GDRCo is not seeking to revise these Conditions at this time.

To date, operations authorized under the MATO have followed the Conditions set forth.

Erosion Control Measures (Section 11 A.6)

The Conditions under this section are specifically related to the use of erosion control measures and the activities requiring such measures. Conditions are generally related to activities in close proximity to watercourses, timing of application and Best Management Practices including: specifications within Coho Planning Watersheds; minimum volumes and coverage for seed and mulch use; and, stream and bank stabilization and maintenance standards.

The Conditions set forth under this section have been observed to be adequate and successful to protect fish and wildlife resources. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

Water Drafting (Section 11 A.7)

The Conditions under this section are specifically related to drafting of water for dust abatement and herbicide use. The Conditions under this section are related to disclosure of sites; required monitoring and reporting to CDFW, determination of any operation resulting in significant adverse effects; allowable activities for water diverted; pre-operational meeting requirements; exceptions where more than one truck may draft

water from the same site; requirements for altering wetted channel approaches; maintenance requirements for drafting trucks; erosion control measures for tank or truck overflow areas; hydrologic disconnection for road approaches to drafting sites; restrictions for trucks used for herbicide mixing; restrictions for areas known to contain Sudden Oak Death; exceptions for drilled wells; and, restrictions directly applicable to Class I and II watercourse drafting.

The Conditions set forth under this section have been observed to be adequate and successful to protect fish and wildlife resources. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

Instream Restoration Projects (Section 11 A.8)

The Conditions under this section are specifically related to instream restoration projects. The Conditions under this section set: the notification process for these projects including minimum types of information provided; the seasonal restrictions for operations related to instream projects; inspection requirements for projects within a Class I watercourse; requirements for meeting the standards set for coffer dams, dewatering of streams, and erosion control; stream bank modification restrictions, assurance of prevention of future bank erosion from channel modifications; prohibition of the use of chemically treated timbers within watercourses; use and conditions of imported spawning gravels; conditions for the use of access routes; and, use of excess LWD within the riparian zone.

The Conditions set forth under this section have been observed to be adequate and successful to protect fish and wildlife resources. To date, five projects have been enrolled under this approved activity and operations authorized under the MATO have followed the conditions set forth. GDRCo is not seeking to revise these Conditions at this time. Instream restoration projects from 2018 – 2021 included stream and floodplain enhancement of the Upper McGarvey Creek, a beaver dam analogue creek enhancement project on the West Fork of McGarvey Creek, and a constructed wood jam stream and floodplain enhancement project on Hunter Creek. These projects were implemented by the Yurok tribe utilizing state and federal grant funding as well as direct contributions from the tribe.

Conditions Necessary for the Protection of Other Biological Resources (Section 11 B.)

The Conditions under this section relate to the evaluation, protection, monitoring and reporting of other biological species including Sensitive and Special-Status Species. Prior to the start of operations qualified biologists assess and research potential impacts to known species and their habitat within the project areas. To supplement this assessment, AHCP Roads Department staff are also trained to identify sensitive species and habitat in order to provide pertinent information for the biological assessments.

If Sensitive Species or Special Status Species and/or their nests or dens are found near a project location GDRCo avoids significant negative impacts and unauthorized take of these species and/or destruction of their habitat by adhering to the specific Conditions in Sections B 2.2 through B 2.13 of the MATO and/or consulting with CDFW to identify measures to avoid take or minimize adverse impacts to the species. Those measures are incorporated into either the THP or the Annual Work Plan for disclosure and enforceability for the project.

The Conditions set forth under this section have been observed to be adequate and successful to protect fish and wildlife resources. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

Specific Conditions for Non-Fish Aquatic Vertebrate Resources (Section 11 B.2.1)

The Conditions set forth under this section pertain to the species and habitat protection of non-fish aquatic vertebrate resources (amphibians and reptiles). AHCP Roads Department staff and/or RPFs are responsible for identifying potential unique aquatic habitats (i.e. seeps, springs, impoundments) which are distinguished from common Class II watercourses or features. Prior to operations a qualified biologist assesses identified features for opportunities to avoid or minimize impacts to the site and/or possible post-project habitat restoration if avoidance is not feasible. There are specific Conditions followed based on the assessment of the biologist including translocation of collected animals prior to the start of operations, post-treatment mitigation and reporting requirements to CNDDB.

In December 2019, the California Fish and Game Commission determined that each of the foothill yellow-legged frog (FYLF) genetic clades qualify as a species or subspecies under the California Endangered Species Act (see Appendix E). The Northwest/North Coast clade was not warranted for listing as per the 2020 California Fish and Game Commission Notice of Findings for Foothill Yellow-Legged Frog. As a result of these findings previous protection measures implemented in 2018 are no longer required.

On July 17, 2020, CDFW issued a MATO violation letter (see Appendix D) for the following Road Point incident:

Class II Temporary Crossing Installation Incident THP 1-18-114-DEL, GDRCo# 941801; RP#20: This site consisted of a Class II watercourse with a Humboldt crossing on the NB-400 road. This site was determined by a biologist to qualify as unique habitat for torrent salamanders. The treatment prescription called for a biologist to be on site before operations were to begin. The work site was to be searched for amphibians and any animals found were to be relocated outside the work area. The aquatics department was not notified before the road contractor performed the excavation work at the site. The Road Contract Supervisor contacted the Aquatic Coordinator on Monday, June 22, 2020 that the contractor completed the work without the biological

survey being conducted. The Senior Aquatic Biologist attempted to contact CDFW's Nick Simpson to explain the situation. Nick Simpson was not reached on the phone, but a detailed phone message was left for him. Nick Simpson made a return phone call on June 26, 2020 to discuss the situation. The Senior Aquatic Biologist told him that the issue was raised to the management team and discussed with him the proposal to adjust our procedures to avoid this occurring again. Specifically, the adjustment to the road work order to more clearly specify biologist involvement and contacting contract administrators, using signage at the sites in the field, and additional training of operators and contract admin on permit procedures and requirements.

As a result of the MATO violation, the following revisions to workflow and processes are outlined:

1. On July 24, 2020, a meeting was conducted to discuss the MATO violations and develop process changes as outlined below:
    a. Language in Road Work Orders has been revised for clarity to ensure contractor administrators and contractors understand to contact and stop operations until aquatic biologists have completed the necessary duties related to the road point:
    b. Signage has been placed at road points under approved THPs, and will be placed at future qualifying road points. The signage is highly visible and provides specific instructions to contact aquatic biologists prior to the start of operations.
2. On August 18, 2020, training was conducted for all contract administrators and superintendents to implement the process changes as outlined above.
3. In April/May 2021 additional trainings were conducted with all road contractors to ensure these process changes are implemented and prevent similar future MATO violations.

The Conditions set forth under this section have been observed to be adequate and successful to protect fish and wildlife resources. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

Specific Conditions for Sensitive and Special-Status Terrestrial Wildlife Species (Sections 11 B.2.2- B.2.13)

The Conditions set forth under these sections pertain to the species and habitat protection of terrestrial wildlife resources including the bald eagle, golden eagle, great blue heron, great egret, marbled murrelet, northern goshawk, northern spotted owl, osprey, peregrine falcon, white-tailed kite, willow flycatcher, and Trinity bristle snail.

If Sensitive Species or Special Status Species and/or their nests are found near a project location GDRCo avoids significant negative impacts and unauthorized take of these species and/or destruction of their nests by following 14 CCR 919.2 General

Protection of Nest Sites and by adhering to the specific Conditions in Sections B 2.2 through B 2.13 of the MATO. The standard protection 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.

The Conditions set forth under these Sections have been observed to be adequate and successful to protect terrestrial wildlife species. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

Conditions Necessary for the Protection of Sensitive Plant Species (Section 11 B.2.14)

The Conditions set forth under this section are related to the protection of plant species for THP and non-THP road work including watercourse crossing upgrading and decommissioning; new road construction; rock quarry use and development; spoil management; and grading and road opening activities. Prior to the start of operations sensitive plants and their habitats are assessed according to approved survey protocols and agreements with the CDFW (See Attachment 2 of the MATO). Plant protection measures (PPMs) are prescribed where necessary to avoid disturbance and direct impact. Any PPMs prescribed are disclosed in the THP and/or Annual Work Plan as enforceable measures.

The Conditions set forth under this section have been observed to be adequate and successful to protect sensitive plant species. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

Conditions Necessary for the Protection of Cultural Resources (Section 11 C.)

The Conditions set forth under this section related to the protection of cultural resources including pre-historic, historic and significant archaeological resources as defined by the CalFire archaeological program and the Forest Practice Rules. The process used to protect these resources mimics the THP process (See Attachment 3 of the MATO). For THP sites within the Annual Work Plan the process is no different. For non-THP sites notification to tribal groups and survey efforts are required. Professional archaeologists are consulted if significant archaeological sites are identified associated with non-THP sites to determine appropriate protections and reporting measures. All prescribed protection measures are incorporated into the Annual Work Plan prior to the start of operations.

The Conditions set forth under this section have been observed to be adequate and successful to protect cultural resources. To date, operations authorized under the MATO have followed the Conditions set forth. GDRCo is not seeking to revise these Conditions at this time.

FACTORS THAT COULD INCREASE ADVERSE IMPACTS ON FISH AND WILDLIFE RESOURCES

As described above GDRCo is not seeking authorization for additional activities under the MATO at this time. GDRCo does not anticipate any additional factors that could increase the predicted adverse impacts on fish and wildlife resources analyzed in the Mitigated Negative Declaration for the MATO.

RESOURCES THAT MAY BE ADVERSELY AFFECTED

As described above, GDRCo does not anticipate any additional factors that could increase the predicted adverse impacts on fish and wildlife resources so there are no resources that would be subject to increased adverse impacts.

Appendix A

Original
Master Agreement for Timber Operations
(No. 1600-2010-0114-R1)

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 20, 2010

Recitals and Purposes

Agreement Regarding Proposed Stream Alteration

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

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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) Section1600 *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 Sections1602 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 Section1602 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 Section1610.

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). Within 60 calendar days of the date the Department receives the Annual Work Plan[1] 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.

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.

[1] 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.

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 Section1602.

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 Section1610.

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 Section1605 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 (CNDDB).

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. 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

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

LOW FLOW PROCEDURES

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.

Drafting rates shall conform to the amounts shown below for all Class I sites, including gravity fed storage tanks.

*Drafting at this sourceflow can only occur at Class I sites with gravity fed storage tanks.

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

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.

Pumping shall cease when streamflow falls below 1.0 cfs

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%

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.

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

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 exceptions:

a) Instream restoration projects may occur from October 16th through November 15th if “unseasonably dry fall” occurs (less than four inches of cumulative rainfallfrom September 1st through October 15th), and the following restriction is

followed: 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.

b) 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 (CNDDB) 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 WLFL 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: 6/4/2010

GREEN DIAMOND RESOURCE COMPANY

By: _____
Neal Ewald
Vice President and General Manager,
California Timberlands Division

Dated: 6/15/2010

CALIFORNIA
DEPARTMENT OF FISH AND GAME

By: _____
Mark Stopher
Acting Regional Manager

Appendix A: Existing Class I Fording 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

Name	Legal	Site Type/Description	Watercourse Class	Watershed
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
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

Name	Legal	Site Type/Description	Watercourse Class	Watershed
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

Name	Legal	Site Type/Description	Watercourse Class	Watershed
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 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

Name	Legal	Site Type/Description	Watercourse Class	Watershed
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

Name	Legal	Site Type/Description	Watercourse Class	Watershed
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 reinitiate 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 (CNDDB) 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 CNDDB 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 an 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 occurrence[1] 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

[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.

and the CalFire THP number) and the survey results shall remain on file with 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) <u>For road related Authorized Activities associated with a proposed THP</u>, 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) <u>For planned road-related Authorized Activities on roadways not associated with a proposed THP</u>, 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

Minor Amendment 1

December 3, 2010

GREEN DIAMOND RESOURCE COMPANY

California Timberlands Division

PO Box 68 Korbel, California 95550-0068

T (707) 668-4400
F (707) 668-4402
greendiamond.com

Mark Moore, Staff Environmental Scientist
California Department of Fish and Game
619 Second Street
Eureka, California 95503

December 3, 2010

Green Diamond Resource Company (GDRCo) is requesting an amendment to the Master Agreement for Timber Operations (MATO) No. 1600-2010-0114-R1. Section 5.2 of the MATO states "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; and 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 Department for its review and concurrence. The Department shall not execute any amendment until it has complied with CEQA, if such compliance is necessary."

DFG, represented by Mark Moore, and GDRCo, represented by Matt House and Jeremy Wright, met on November 18, 2011 to discuss minor amendments and agreed on needed minor amendments to the MATO as follows:

Section 4.3, Revisions to the Annual Work Plan (page 14), amend site revision language to allow DFG the option to approve site revisions prior to the allotted working days as stated in the standard. Green Diamond proposes the following revised language under Section 4.3. Insertions are **bold**:

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:
    a. **the Department determines the Revision complete, qualifies for coverage under the Agreement and operations may commence**
    b. **it needs further information, review or discussion, or**
    c. **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:
    a. **the Department determines the Revision complete, qualifies for coverage under the Agreement and operations may commence**
    b. **it needs further information, review or discussion, or**
    c. **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:

    a. **the Department determines the Revision complete, qualifies for coverage under the Agreement and operations may commence**

    b. **it needs further information, review or discussion, or**

    c. **such Urgent Site Revision does not qualify for coverage under the Agreement.**

Section A.7, use of herbicide mix trucks for water drafting (page 35), amend A.7 (15) to allow direct drafting of herbicide mix trucks from watercourses or ponds if the drafting truck employs an air gap system. Green Diamond proposes the following revised language under Section A.7(15). Insertions are **bold**:

Herbicide mix trucks shall not directly draft water from any watercourse or pond **unless the drafting truck employs an air-gap separation system which prevents backflow of herbicides from the tank to the watercourse or pond**. Herbicide mixing activities shall not occur where runoff may enter a watercourse or hydrologically connected drainage facility.

Section A.7.1(25)(e), screen sizes for drafting for Class I gravity fed storage tanks (page 38), change "1/8 inch" to "3/32 inch", and change "horizontal for slotted or square openings" to "round openings". This change provides consistency other sections of A.7.1. Green Diamond proposes the following revised language under Section A.7.1(25)(e). Insertions are **bold** and deletions are ~~strike-through~~:

e) Intakes shall be screened and openings in the screen shall not exceed ~~1/8~~ **3/32** inch diameter (~~horizontal for slotted or square~~ **round** openings) or 1/16 inch diameter (horizontal for slotted or square openings) for gravity intakes.

Appendix B: Existing Water Drafting sites (page 60), delete Guynop Pond from the list because it is was erroneously inserted into the list upon submittal and is not on land owned or controlled by Green Diamond.

Enclosed is a check in the amount of $168.00 for a minor amendment, as provide for in Section 7.4 of the MATO. All correspondence should be directed to the following designated contact person for GDRCo:

Jeremy Wright, RPF 2794
P.O Box 68
Korbel, California 95550
Email: jwright@greendiamond.com
Office phone: (707) 668-4471
Mobile phone: (707) 498-9852

Sincerely,

Jeremy R. Wright, RPF 2794
AHCP Roads Supervisor, California Division
Green Diamond Resource Co

Appendix C

Minor Amendment 2

July 10, 2013

California Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Region 1 – Northern
601 Locust Street
Redding, CA 96001
(530) 225-2300
www.wildlife.ca.gov

EDMUND G. BROWN, Jr., *Governor*
CHARLTON H. BONHAM, Director

July 17, 2013

Keith Hamm
Conservation Planning Manager
Green Diamond Resource Co.
P.O. Box 1089
Arcata, CA 95518-1089

Subject: Amendment to remove fees from Green Diamond Resource Company (GDRCo) Master Streambed Alteration Agreement Notification No. **1600-2010-0114-R1**

Dear Mr. Hamm:

The California Department of Fish and Wildlife (CDFW, formerly California Department of Fish and Game) received your request (Dated July 10, 2013, and attached) for a minor amendment to Master Streambed Alteration Agreement No. **1600-2010-0114-R1** (Agreement).

Your request to amend the subject Agreement includes removal of CDFW fees, pursuant to Assembly Bill 1492, Section 4629.5 (h)(3)(c), specifically, under subject Agreement's Section 7.0, FEES (including Sections 7.1 through 7.7), associated with the Master Timber Harvesting Operation Lake and Streambed Alteration Agreement No. **1600-2010-0114-R1,** Dated May 18, 2010 - by and between - The California Department of Fish and Game and GDRco.

CDFW hereby agrees to amend the Agreement as requested. All other conditions in the Agreement shall remain in effect. Amendment to the Agreement will remain in effect except in the event Assembly Bill 1492, Section 4629.5 (h)(3)(c), is revoked, suspended or amended to remove or reinstitute Agreement fees.

Copies of the Agreement and this amendment must be readily available at project worksites and must be presented when requested by a Department representative or agency with inspection authority.

If you have any questions regarding this matter, please contact Susan Sniado, Staff Environmental Scientist at (707) 441-3970 or susan.sniado@wildlife.ca.gov.

Sincerely,

Jon Hendrix
Senior Environmental Scientist

ec: Curt Babcock, Jon Hendrix, Susan Sniado, Simona Altman,
and Laurie Harnsberger
curt.babcock@wildlife.ca.gov, jon.hendrix@wildlife.ca.gov,
susan.sniado@wildlife.ca.gov, simona.altman@wildlife.ca.gov,
laurie.harnsberger@wildlife.ca.gov

Keith Hamm and Matt House
Green Diamond Resource Company
khamm@greendiamond.com, mhouse@greendiamond.com

GREEN DIAMOND RESOURCE COMPANY

California Timberlands Division

P.O. Box 1089 Arcata, California 95518-1089

T (707) 668-4400
F (707) 668-4402
www.greendiamond.com

July 10, 2013

California Department of Fish and Wildlife
Attn: Jon Hendrix, Senior Environmental Scientist
619 Second Street
Eureka, California 95501

Subject: Amendment request to remove fees associated with Green Diamond Resource Company (GDRCo) Master Agreement for Timber Operations (MATO) No. 1600-2010-0114-R1.

GDRCo is requesting an amendment to MATO No. 1600-2010-0114-R1. Section 5.2 of the MATO states "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; and 3) the amendment is made part of the Agreement, and 4) Green Diamond includes the amendment fee specified in Section 7.0. Any proposal to amend this Agreement shall be in writing and submitted to the Department for its review and concurrence. The Department shall not execute any amendment until it has complied with CEQA, if such compliance is necessary."

Pursuant to Assembly Bill 1492, Section 4629.6 (c), GDRCo is requesting the Department to remove all fees associated with MATO No. 1600-2010-0114-R1 outlined in Section 7.0 (including Sections 7.1 through 7.7) of the Agreement. In accordance with Public Resources Code Section 4629.6(c), no fees are to be paid for activities or costs associated with the review, inspection, or oversight of projects and permits necessary to conduct timber operations, effective July 1, 2013.

If you have any questions regarding this request, please contact Matt House, Aquatic Biologist at (707) 668-4449.

Sincerely,

Keith G. Hamm

Keith Hamm
Conservation Planning Manager
Green Diamond Resource Co.

Appendix D

CDFW Report of Violations of the MATO

July 17, 2020

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region – Timberland Conservation Program
619 Second Street
Eureka, CA 95501
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

July 17, 2020

Matthew House
Green Diamond Resource Company
PO Box 68
Korbel, Ca 95550

Subject: Two Self-Reported Green Diamond Resource Company (GDRCo) Master Timber Harvesting Operation (MATO) Lake and Streambed Alteration Agreement # 1600-2010-0114-R1 Violations.

Dear Mr. House,

This letter is to acknowledge two MATO violation incidents you reported to CDFW during June of 2020. Both incidents involved lack of biological surveys prior to construction. Risk of permit suspension and planned follow up mitigations are also discussed.

Class I Temporary Crossing Installation Incident THP# 1-19-00209HUM GDRCO# 471904; RP#12.

RP 12 is a Class I temporary crossing installed without a biological survey or to grade to facilitate fish passage. The MATO states the following below.

MATO Measure A.1.7 states, " *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*."

MATO Measure A.2.6 states, "*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*."

The THP work order for RP 12 incorrectly describes the site as a Class II/III watercourse crossing; however, the associated THP map correctly shows the site as Class I (See Figure 1 below). In addition, the work order does not describe fish specific surveys required prior to construction. Per GDRCo's conversation with CDFW, the following sequence of events occurred. The contractor was instructed by the GDRCo Road Supervisor to install a temporary crossing on a Class I watercourse at RP 12 on June 6, 2020. The fish crew were scheduled to conduct the fish survey and removal effort in the morning before operations. The GDRCo Road Supervisor received a text from the contractor on the evening of June 4, 2020 indicating the contractor had completed the installation earlier that day. The fish removal was not conducted before crossing installation. **This was in violation of MATO Measure A.1.7**. On June 4, the Road Supervisor conducted a site visit and observed that the contractor did not excavate the channel, but instead placed the culvert in and packed hay bales around the culvert with a soil cap overtop. This resulted in the culvert outlet having a 6-inch drop that would not allow all life stages of fish to pass. **This was in violation of MATO Measure A.1.7**. On June 6, the fish crew went out to the site to conduct the fish removal survey. The crew found no fish within the project area. The GDRCo Road Supervisor contacted the GDRCo Senior Aquatic Biologist and discussed the status of the crossing.

On June 6, 2020, the GDRCo Senior Aquatic Biologist attempted to contact Nicholas Simpson with CDFW and explain the situation as well as planned follow-up mitigations. CDFW was not reached on the phone but a detailed phone message was left. The contractor was instructed to return to the site to reinstall the crossing on grade to allow fish passage. The remediated project was completed on June 6, 2020. CDFW made a return phone call on June 10, 2020 to discuss the situation. CDFW decided there was enough information disclosed over the phone, and determined a site visit was not necessary. CDFW agreed the incident should be documented in the 2021 Annual Work Report.

Class II Humboldt Crossing Removal Incident THP# 1-19-00158 DEL GDRCO# 941801; RP#20.

RP 20 is a Class II Humboldt Crossing removal project, which was identified in the work order (Figure 3) as a unique habitat for Southern Torrent Salamander (*Rhyacotriton variegatus*), requiring a biological survey prior to operations.

MATO Measure B.2.1 states, " *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.*"

On June 22, 2020, the GDRCo Senior Aquatic Biologist contacted Nicholas Simpson with CDFW to explain the situation and propose follow-up mitigations. Per GDRCo's conversation with CDFW GDRCo Road Supervisor found RP 20 had been constructed on June 20, 2020, without a GDRCo biologist survey. **This was in violation of MATO Measure B.2.1**. The GDRCo Road Supervisor contacted the GDRCo Aquatic Field Coordinator and discussed the status of the crossing. GDRCo Senior Aquatic Biologist contacted Nicholas Simpson with CDFW to explain the situation as well as planned follow-up mitigations. CDFW decided there was enough information disclosed over the phone and determined a site visit was not necessary.

Risk of Suspension

CDFW considers the incidents specified above to be significant given the impacts to sensitive aquatic species which may have occurred within a relatively short period of time. Both incidents involved communication breakdown between contractors, road supervisors and GDRCo biologists regarding biological surveys of crossings with sensitive species. If these incidents continue to occur, CDFW may temporarily suspend the permit based on GDRCo MATO Measure 6.1 below.

"*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*."

Planned Follow Up Mitigations

On June 22, 2020, CDFW and GDRCo Senior Biologist discussed follow up mitigations to ensure the two incidents described above are avoided in the future. Agreed upon mitigations are described as follows:

1) Work Order Specifics: Project work orders shall be revised in the future to be more specific regarding communication between contractors, road supervisors and biologists.

2) Signage: Signs shall be posted at sites where biological surveys are to be conducted prior to the commencement of operations. Contractors will not be permitted to commence work until the road supervisor confirms the necessary

biological assessments are complete and gives authorization to proceed with the road work.

3) Training: Green Diamond shall provide additional training to GDRCo road supervisors, technicians and contractors, in order to refresh them on revised biological assessment protocols.

4) Documentation: Incidents shall be documented in the GDRCo 2021 Annual Work Report.

CDFW appreciates GDRCo's transparency in self reporting these violations to CDFW in a timely manner. CDFW would like to continue to cooperatively work with GDRCo in resolving these issues in the future. Appropriate implementation of the GDRCo MATO will ensure lake and streambed projects continue to avoid substantial adverse impacts to sensitive species in the future, and are vital for maintaining aquatic habitat.

Please direct any questions or comments about this to Nicholas Simpson (nicholas.simpson@wildlife.ca.gov or (707) 445-6512).

Sincerely,

DocuSigned by:
Tina Bartlett
1D82ADE7303A474...

Tina Bartlett, Regional Manager
Northern Region, Region 1
California Department of Fish and Wildlife

ec: Green Diamond Resource Company
Matthew House, Jeremy Wright
mhouse@greendiamond.com, jwright@greendiamond.com

North Coast Regional Water Quality Control Board
Tim Walcott
Timothy.Walcott@waterboards.ca.gov

California Department of Forestry and Fire Protection
Ray Wedel
Ray.Wedel@fire.ca.gov

California Department of Fish and Wildlife
R1 Timberland Conservation Program

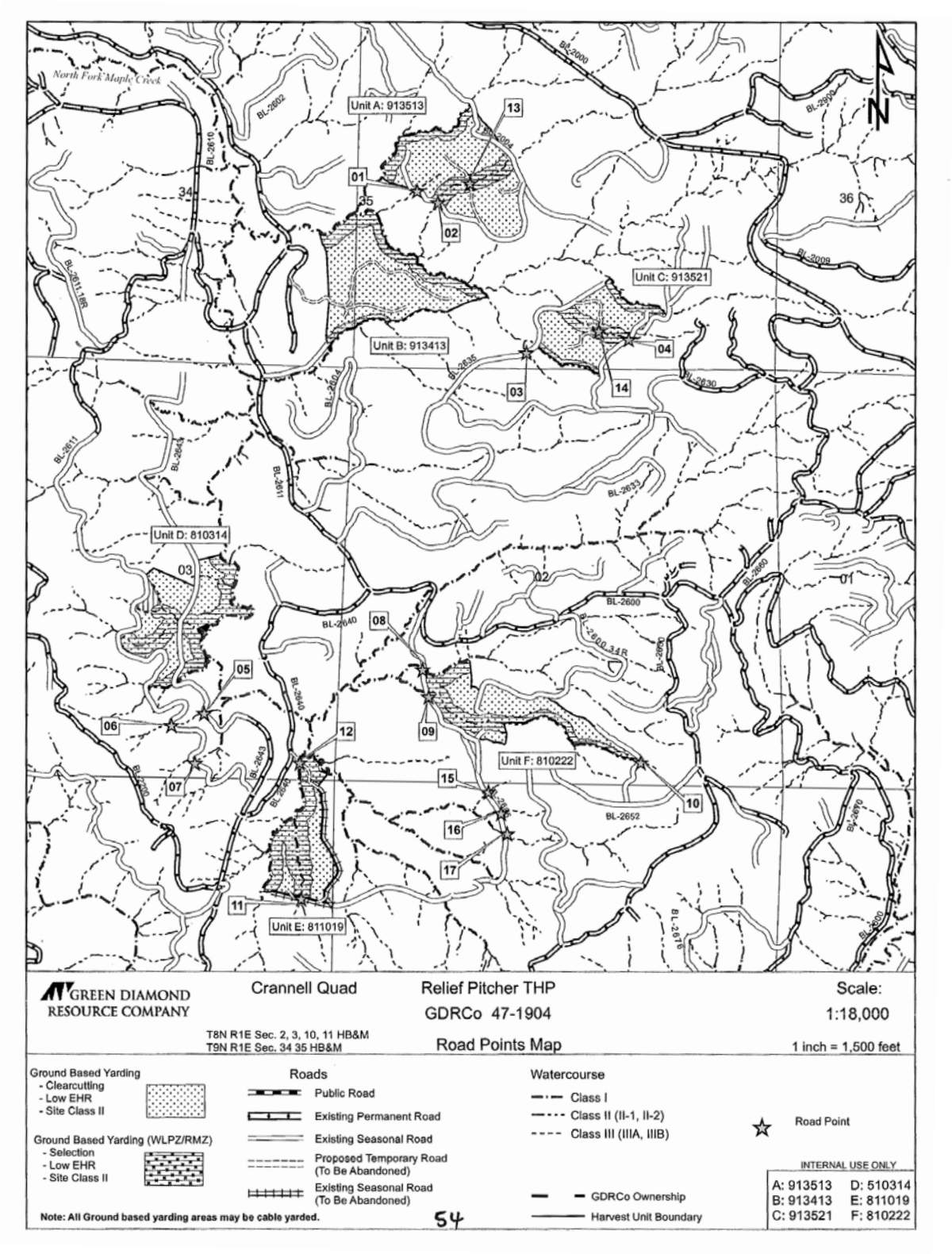

Figure 1. Map showing THP# 1-19-00209HUM GDRCO# 471904; RP#12.

Date Print : 2/21/2020

GDRCo#	471904		**GDRCo Name**	Relief Pitcher	
State THP#	1-19-00209HUM		**Calwater Watershed**	Pitcher Creek	1108.100001
Road Point	12		**Legal Description**	T8N R1E	3
Road Name	Temporary		**Annual Plan Year**	2020	
Road Surface	Native		**Work Timing**	Prior to the first Winter Period (Nov.15) of the year of use.	
UTM	N : 412391	E:4550520			
Work Type	THP		**Wildlife Restrictions**	NO	
Hydrologic Planning Area	Coastal Lagoons		**Road Use Rectriction**	Temporary	
Project Type	II/III		**Aquatic Hab. Survey Req?**	NO	
PreConsultation Completed?	NO		**ECP Req?**	NO	
Fees Payed From Previous AWP	NO		**1600 Req?**	YES	
CURRENT CONDITION : This site does not qualify as an Imminent Risk of Failure site. A proposed temporary road to be constructed crossing a Class I watercourse. Thsi site has potential Foothill Yellow-Legged Frog habitat.					
TREATMENT : No operations can start until a qualified individual has evaluated this site for potential presence of foothill yellow-legged frogs. Install a Spitler or temporary bridge to FPR and GDRCo AHCP guidelines as described in Section II of this THP and remove prior to the Winter Period of the year of use.					
Excavated Volume	0		**Erosion Potential**	Low	
Delivery Volume	0		**AHCP Priority**	NAP	
Disturbed Surface Area	400		**Excavated Materials**	Soil,Gravel,Rock and Wood	

Figure 2. Work order table for RP#12, THP# 1-19-00209HUM GDRCO# 471904.

Date Print : 6/14/2019

GDRCo#	941801		**GDRCo Name**	Sultan Divide	
State THP#	1-18-00158-DEL		**Calwater Watershed**	Little Mill Creek	1103.110001
Road Point	20		**Legal Description**	17.0N 01.0E	19
Road Name	NB-400		**Annual Plan Year**	2019	
Road Surface	Native		**Work Timing**	Prior to the Winter Period (Oct.16) of the year of use.	
UTM	N : 407615	E:4633369			
Work Type	THP		**Wildlife Restrictions**	NO	
Hydrologic Planning Area	Smith River		**Road Use Rectriction**	Seasonal	
Project Type	II/III		**Aquatic Hab. Survey Req?**	NO	
PreConsultation Completed?	NO		**ECP Req?**	YES	
Fees Payed From Previous AWP	NO		**1600 Req?**	YES	

CURRENT CONDITION : This site qualifies as an Imminent Risk of Failure site. A Class II watercourse with a Humboldt crossing. The watercourse diverts right and erodes the road surface for 50'. This site qualifies as unique habitat for torrent salamanders.

TREATMENT : No operations can start until a qualified biologist has evaluated this site for the presence of unique habitat for Torreent salamders. Install a temporary watercourse crossing to FPR and GDRCo AHCP guidelines as described in Section II of this THP and remove prior to the Winter Period of the year of use.

Excavated Volume	110	**Erosion Potential**	Medium
Delivery Volume	80	**AHCP Priority**	High
Disturbed Surface Area	3000	**Excavated Materials**	Soil,Gravel,Rock and Wood

Figure 3. Work order table for RP#20, THP# 1-19-00158 DEL GDRCO# 941801.

Appendix E

California Fish and Game Commission Notice of Findings for Foothill Yellow-Legged Frog

March 10, 2020

California Fish and Game Commission
Notice of Findings for
Foothill Yellow-Legged Frog
(*Rana boylii*)

March 10, 2020

NOTICE IS HEREBY GIVEN that the California Fish and Game Commission (Commission), at its meeting in Sacramento, California on December 11, 2019, made a finding pursuant to California Fish and Game Code Section 2075.5, in response to a petition requesting that the Commission add the foothill yellow-legged frog (*Rana boylii*) to the list of threatened or endangered species under the California Endangered Species Act (CESA) (Fish and Game Code, Section 2050 et seq.; see also California Code of Regulations, Title 14, Section 670.1, Subsection (i)). The Commission made the finding as follows:

1. Listing the Southwest/South Coast, West/Central Coast, and East/Southern Sierra clades as endangered is warranted;
2. Listing the Northeast/Northern Sierra and Feather River clades as threatened is warranted; and
3. Listing the Northwest/North Coast clade is not warranted at this time.

NOTICE IS ALSO GIVEN that, at its February 21, 2020 meeting in Sacramento, California, the Commission adopted the following findings outlining the reasons for its determination.

I. Background and Procedural History

Petition History

A petition to list the foothill yellow-legged frog (*Rana boylii*) as threatened under CESA (Petition) was submitted to the Commission on December 14, 2016 by the Center for Biological Diversity (Petitioner). Commission staff transmitted the petition to the California Department of Fish and Wildlife (Department) pursuant to Fish and Game Code Section 2073 on December 22, 2016 and published a formal notice of receipt of the petition on January 20, 2017 (California Regulatory Notice Register 2017, No. 3-Z, p. 46).

A petition to list or delist a species under CESA must include “information regarding the population trend, range, distribution, abundance, and life history of a species, the factors affecting the ability of the population to survive and reproduce, the degree and immediacy of the threat, the impact of existing management efforts, suggestions for future management, and the availability and sources of information. The petition shall also include information regarding the kind of habitat necessary for species survival, a detailed distribution map, and any other factors that the petitioner deems relevant” (Fish and Game Code, Section 2072.3).

On April 17, 2017, the Department provided the Commission with its evaluation of the petition, *Evaluation of the Petition from the Center for Biological Diversity to List the Foothill Yellow-legged Frog (Rana boylii) as Threatened under the California Endangered Species Act*, to assist the Commission in making a determination as to whether the petitioned action may be warranted based on the sufficiency of scientific information (Fish and Game Code, sections 2073.5 & 2074.2; California Code Regulations, Title 14, Section 670.1, subsections (d) & (e)).

Focusing on the information available to the Department relating to each of the relevant categories, the Department recommended to the Commission that the petition be accepted.

At its scheduled public meeting on June 21, 2017 in Smith River, the Commission considered the petition, the Department's petition evaluation and recommendation, and comments received. The Commission found that sufficient information existed to indicate the petitioned action may be warranted and accepted the petition for consideration. Upon publication of the Commission's notice of its findings, the foothill yellow-legged frog was designated a candidate species on July 7, 2017 (California Regulatory Notice Register 2017, No. 27-Z, p. 986).

The Commission's action designating the foothill yellow-legged frog as a candidate species triggered the Department's process for conducting a status review to inform the Commission's decision on whether listing the species is warranted. At its scheduled public meeting on June 21, 2018 in Sacramento, the Commission granted the Department a six-month extension to complete the status review and facilitate external peer review.

The Department completed its review and submitted *Report to the Fish and Game Commission a Status Review of the Foothill Yellow-Legged Frog* (*Rana boylii*) *in California* (Status Report) at the Commission's October 2019 meeting. The report represents the Department's final written review of the status of the foothill yellow-legged frog and is based upon the best scientific information available to the Department.

Species Description

Foothill yellow-legged frogs are small- to medium-sized frogs that are typically gray, brown, olive, or reddish with brown-black flecking and mottling, which often matches the local substrate. Foothill yellow-legged frogs have a relatively squat body and granular skin, giving them a rough appearance like toads, and their dorsolateral folds are indistinct compared to other western North American ranids.

Their abdomen is white with variable amounts of dark mottling on the chest and throat, and as their name suggests, the undersides of their hind limbs are often yellow. Foothill yellow-legged frogs reach sexual maturity around two to three years old and can live over a decade. Adult females likely lay one clutch of eggs per year. Egg masses resemble a cluster of grapes with several hundred embryos, and tadpoles metamorphose in the same season the eggs were laid.

Foothill yellow-legged frogs historically ranged from the Willamette River drainage in Oregon west of the Sierra-Cascade crest to at least the San Gabriel River drainage in Los Angeles County in California, and a disjunct population was discovered in the mid-1960s in the Sierra San Pedro Mártir, Baja California Norte, México. In California, the species has been reported from foothill and mountain streams in the Klamath, Cascade, Sutter Buttes, Coast, Sierra Nevada, and Transverse ranges from sea level to 6,400 ft, although rarely above 5,000 ft. Foothill yellow-legged frog populations exhibit strong genetic variation across their range.

Genetic divergence is often depicted as a phylogenetic tree, which visually summarizes the evolutionary relationships among populations and taxa. A branch on a phylogenetic tree that contains a group of lineages comprised of an ancestor and all its descendants is referred to as a monophyletic group, or a clade. Clades are nested hierarchically in a phylogenetic tree, and effective conservation strategies often identify the "major" clades, which represent populations

from the most divergent lineages in that tree, as key management units. These major clades may be sufficiently differentiated into diagnosable species or subspecies, or they may diverge to that point if the evolutionary process continues. Two recent landscape genomics studies recovered five and six deeply divergent clades, respectively. (McCartney-Melstad et al. 2018 and Peek 2018). Genetic diversity within clades is generally lower in the southern part of the foothill yellow-legged frog's range, making them less capable of adapting to changing conditions.

Federal Status

The foothill yellow-legged frog is currently under review for possible listing as threatened or endangered under the federal Endangered Species Act (ESA) in response to a July 11, 2012 petition submitted by the Center for Biological Diversity. On July 1, 2015, the U.S. Fish and Wildlife Service (USFWS) published its 90-day finding that the petition presented substantial scientific or commercial information indicating that the petitioned action may be warranted and initiated a status review of the species (USFWS 2015). On March 16, 2016, the Center for Biological Diversity sued the USFWS to compel issuance of a 12-month finding on whether listing under the ESA is warranted. On August 30, 2016, the parties reached a stipulated settlement agreement that the USFWS shall publish its 12-month finding in the Federal Register on or before September 30, 2020 (Center for Biological Diversity v. S.M.R. Jewell (D.D.C. Aug. 30, 2016, No. 16-CV-00503)).

II. Statutory and Legal Framework

The Commission, as established by the California State Constitution, has exclusive statutory authority under California law to designate endangered, threatened, and candidate species under CESA. (California Constitution, Article. IV, Section 20, Subdivision (b); Fish and Game Code, Section 2070.) The CESA listing process for foothill yellow-legged frog began in the present case with the Petitioners' submittal of the Petition to the Commission. The regulatory and legal process that ensued is described in some detail in the preceding section above, along with related references to the Fish and Game Code and controlling regulation. The CESA listing process generally is also described in some detail in published appellate case law in California, including:

- *Central Coast Forest Association v. California Fish and Game Commission (2018)* 18 Cal. App. 5th 1191;
- *Central Coast Forest Association v. California Fish and Game Commission (2017) 2 Cal. 5th 594;*
- *Center for Biological Diversity v. California Fish and Game Commission* (2008) 166 Cal.App.4th 597;
- *California Forestry Association v. California Fish and Game Commission* (2007) 156 Cal.App.4th 1535;
- *Mountain Lion Foundation v. California Fish and Game Commission* (1997) 16 Cal.4th 105; and
- *Natural Resources Defense Council v. California Fish and Game Commission* (1994) 28 Cal.App.4th 1104.

The "is warranted" determination at issue here stems from Commission obligations established by Fish and Game Code Section 2075.5. Under this provision, the Commission is required to

make a finding regarding the candidate species status at the end of the CESA listing process as follows: that the petitioned action is not warranted, that the petitioned action is warranted, or that the petitioned action is not warranted, but listing the candidate species at a different status than that requested by the petitioner is warranted.

The Commission made the finding under Fish and Game Code Section 2075.5(e)(1) that listing the Northwest/North Coast clade is not warranted. The Commission made the finding under Section 2075.5(e)(2) that listing the Feather River and Northeast/Northern Sierra clades as threatened is warranted and that listing the East/Southern Sierra, West/Central Coast, and Southwest/South Coast clades as endangered is warranted.

The Commission was guided in making these determinations by statutory provisions and other controlling law. The Fish and Game Code, for example, defines an endangered species under CESA as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, over exploitation, predation, competition, or disease." (Fish and Game Code, Section 2062.) Similarly, the Fish and Game Code defines a threatened species under CESA as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter." (*Id.*, Section 2067.)

The Commission also considered Title 14, Section 670.1, subsection (i)(1)(A), of the California Code of Regulations in making its determination. This provision provides, in pertinent part, that a species shall be listed as endangered or threatened under CESA if the Commission determines that the species' continued existence is in serious danger or is threatened by any one or any combination of the following factors:

1. Present or threatened modification or destruction of its habitat;
2. Overexploitation;
3. Predation;
4. Competition;
5. Disease; or
6. Other natural occurrences or human-related activities.

Fish and Game Code Section 2070 provides similar guidance; this section provides that the Commission shall add or remove species from the list of endangered and threatened species under CESA only upon receipt of sufficient scientific information that the action is warranted. Similarly, CESA provides policy direction not specific to the Commission per se, indicating that all state agencies, boards, and commissions shall seek to conserve endangered and threatened species and shall utilize their authority in furtherance of the purposes of CESA. (Fish and Game Code, Section 2055.) This policy direction does not compel a particular determination by the Commission in the CESA listing context. Nevertheless, "'[l]aws providing for the conservation of natural resources' such as the CESA 'are of great remedial and public importance and thus should be construed liberally." (*California Forestry Association v. California Fish and Game Commission*, supra, 156 Cal. App.4th at pp. 1545-1546, citing *San Bernardino Valley Audubon Society v. City of Moreno Valley* (1996) 44 Cal.App.4th 593, 601; Fish and Game Code, sections 2051, 2052.)

Finally, in considering these factors, CESA and controlling regulations require the Commission to actively seek and consider related input from the public and any interested party. (See, e.g., Id., sections 2071, 2074.4, 2078; California Code of Regulations, Title 14, Section 670.1, Subsection (h).) The related notice obligations and public hearing opportunities before the Commission are also considerable. (Fish and Game Code, sections 2073.3, 2074, 2074.2, 2075, 2075.5, 2078; California Code Regulations, Title 14, Section 670.1, subsections (c), (e), (g), (i); see also Government Code, Section 11120 et seq.) All of these obligations are in addition to the requirements prescribed for the Department in the CESA listing process, including an initial evaluation of the petition and a related recommendation regarding candidacy, and a review of the candidate species' status culminating with a report and recommendation to the Commission as to whether listing is warranted based on the best available science. (Fish and Game Code, sections 2073.4, 2073.5, 2074.4, 2074.6; California Code of Regulations, Title 14, Section 670.1, subsections (d), (f), (h).)

III. Factual and Scientific Bases for the Commission's Final Determination

The Commission has determined that each of the six foothill yellow-legged frog genetic clades described in the Status Report— Northwest/North Coast, Feather River, Northeast/Northern Sierra, East/Southern Sierra, West/Central Coast, and Southwest/South Coast—qualify as a "species or subspecies" under CESA and listing the foothill yellow-legged frog by genetic clade is the prudent approach based on the genetic divergence among the six clades, the genetic diversity within the six clades, the reproductive isolation of the six clades, the relative connectivity of populations within each of the six clades, and due to the disparate degrees of imperilment among the six clades; these bases are supported in the Department's Status Report and presentation to the Commission on December 11, 2019. The clades are as described in the Status Report sections 3.2.2 through 3.2.7 and corresponding figures 7 through 18 and depicted in slide number 8 of the Department's December 11, 2019 PowerPoint presentation to the Commission.

The factual and scientific bases for the Commission's identification of the six clades, the determination that designating three clades as an endangered species under CESA is warranted, the determination that designating two clades as a threatened species under CESA is warranted, and the determination that designating one clade as a threatened or endangered species is not warranted, are set forth in detail in the Commission's record of proceedings including the Petition, the Department's petition evaluation report, the Department's Status Report, written and oral comments received from members of the public, the regulated community, tribal entities, the scientific community, and other evidence included in the Commission's record of proceedings. The issues addressed in these findings represent some, but not all of the evidence, issues, and considerations affecting the Commission's final determination. Other issues aired before and considered by the Commission are addressed in detail in the record before the Commission, which record is incorporated herein by reference.

Threats

Present or Threatened Modification or Destruction of Habitat

The most widespread, and potentially most significant, threats are associated with dams and their flow regimes, particularly in areas where they are concentrated and occur in a series along a river. (DFW 2019). Dams and their operations can result in several factors that contribute to population declines and possible extirpation; these factors include confusing breeding cues, scouring and stranding of egg masses and tadpoles, reducing the quality and

quantity of breeding and rearing habitat, diminishing tadpole growth rate, creating barriers to gene flow, and supporting the establishment and spread of non-native species (Hayes et al. 2016). Subpopulations of foothill yellow-legged frogs on regulated rivers are more genetically isolated, and the type of water operations significantly affects the degree of connectivity and associated gene flow among them (Peek 2010, 2018; DFW 2019). Reservoirs created behind dams are often uninhabitable and represent barriers to gene flow (Bourque 2008; Peek 2010, 2018). This decreased connectivity can lead to loss of genetic diversity, which can reduce a species' ability to adapt to changing conditions (Palstra and Ruzzante 2008). Dams can result in aseasonal or asynchronous breeding cues, scouring and stranding of egg masses and tadpoles, reduction in quality and quantity of breeding and rearing habitat, slower tadpole growth rate, barriers to gene flow among populations, and establishment and spread of non-native species (Hayes et al. 2016). These impacts appear to be most severe when the dam is operated for the generation of hydropower that use hydropeaking and pulse flows (Kupferberg et al. 2009c, Peek 2018). Foothill yellow-legged frog abundance below dams is an average of five times lower than in unregulated rivers (Kupferberg et al. 2012). The number, height, and distance upstream of dams in a watershed influenced whether foothill yellow-legged frogs still occurred at sites that were occupied in 1975 (Ibid.)

The other widespread threat to foothill yellow-legged frog habitat is climate change. While drought, wildland fires, floods, and landslides are natural, and ostensibly necessary, disturbance events for preservation of native biodiversity, climate change is expected to result in increased frequency and severity of these events in ways that may exceed species' abilities to adapt (Williams et al. 2008, Hoffmann and Sgrò 2011, Keely and Syphard 2016). These disturbance events, which can lead to local extirpations, will occur across a landscape of mostly fragmented and small populations, so the likelihood of natural recolonization will be highly impaired (DFW 2019). Climatic changes in flow regime can lead to increased competition, predation, and disease transmission as species become concentrated in areas that remain wet into the late summer (Adams et al. 2017a, Kupferberg and Catenazzi 2019). Loss of riparian vegetation from wildland fires can result in increased stream temperatures or concentrations of nutrients and trace heavy metals that inhibit growth and survival (Spencer and Hauer 1991, Megahan et al. 1995, Burton et al. 2016). Stream sedimentation from landslides following fire or excessive precipitation can destroy or degrade breeding and rearing habitat (Harvey and Lisle 1998, Olson and Davis 2009, Kupferberg et al. 2011b). At least some models predict unprecedented dryness in the latter half of the century (Cook et al. 2015).

Several other activities have the potential to destroy or degrade foothill yellow-legged frog habitat, but they are less common across the range (DFW 2019); they also tend to have relatively small areas of impact, although they can be significant in those areas, particularly if populations are already small and declining (DFW 2019). Activities that lead to potential impacts include mining, cannabis cultivation, vineyard expansion, overgrazing, timber harvest, recreation, and some stream habitat restoration projects (Harvey and Lisle 1998, Belsky et al. 1999, Merelender 2000, Pilliod et al. 2003, Bauer et al. 2015).

Predation

Predation is a likely contributor to foothill yellow-legged frog population declines where the habitat is degraded by one or many other risk factors (Hayes and Jennings 1986). Several studies have demonstrated the synergistic impacts of predators and other stressors: foothill yellow-legged frogs, primarily as demonstrated through studies on tadpoles, are more susceptible to predation when exposed to some agrochemicals, cold water, high velocities,

excess sedimentation, and even the presence of other species of predators (Harvey and Lisle 1998, Adams et al. 2003, Olson and Davis 2009, Kupferberg et al. 2011b, Kerby and Sih 2015, Catenazzi and Kupferberg 2018). Foothill yellow-legged frog tadpoles appear to be naïve to chemical cues from some non-native predators; they have not evolved those species-specific predator avoidance behaviors (Paoletti et al. 2011). Furthermore, early life stages are often more sensitive to environmental stressors, making them more vulnerable to predation, and foothill yellow-legged frog population dynamics are highly sensitive to egg and tadpole mortality (Kats and Ferrer 2003, Kupferberg et al. 2009c). Predation pressure is likely positively associated with proximity to anthropogenic changes in the environment, so in more remote or pristine places, it probably does not have a serious population-level impact (DFW 2019).

Disease

Perhaps the most widely recognized amphibian disease is chytridiomycosis, which is caused by the fungal pathogen *Batrachochytrium dendrobatidis* (Bd). Previous studies suggested foothill yellow-legged frogs may not be susceptible to Bd-associated mass mortality; skin peptides strongly inhibited growth of the fungus in the lab, and the only detectable difference between Bd+ and Bd- juvenile foothill yellow-legged frogs was slower growth (Davidson et al. 2007). At Pinnacles National Park in 2006, 18% of post- metamorphic foothill yellow-legged frogs tested positive for Bd; all were asymptomatic and at least one Bd+ foothill yellow-legged frog subsequently tested negative, demonstrating an ability to shed the fungus (Lowe 2009). However, recent studies have found historical evidence of Bd contributing to the extirpation of foothill yellow-legged frogs in southern California, an acute die-off in 2013 in the Alameda Creek watershed, and another in 2018 in Coyote Creek (Adams et al. 2017a,b; Kupferberg and Catenazzi 2019). Bd is likely present in the environment throughout the foothill yellow-legged frog's range, and with bullfrogs and treefrogs acting as carriers, it will remain a threat to the species; however, given the dynamics of the two recent die-offs in the San Francisco Bay area, the probability of future outbreaks may be greater in areas where the species is under additional stressors like drought and introduced species (Adams et al. 2017a, Kupferberg and Catenazzi 2019). Therefore, as with predation, foothill yellow-legged frogs are less likely to experience the adverse impacts of diseases in more remote areas with fewer anthropogenic changes to the environment (DFW 2019).

Other Natural Events or Human-Related Activities

Agrochemicals, particularly organophosphates that act as endocrine disruptors, can travel substantial distances from the area of application through atmospheric drift and have been implicated in the disappearance and declines of many species of amphibians in California including foothill yellow-legged frogs (LeNoir et al. 1999, Davidson 2004, Lind 2005, Olson and Davis 2009). Foothill yellow-legged frogs appear to be significantly more sensitive to the adverse impacts of some pesticides than other native species (Sparling and Fellers 2009, Kerby and Sih 2015).

The prevalence of small populations is a threat. Many foothill yellow-legged frog populations are small, isolated from other populations, and possess low genetic diversity (McCartney-Melstad et al. 2018, Peek 2018). Genetic diversity is important in providing a population the capacity to evolve in response to environmental changes, and connectivity among populations is important for gene exchange and in minimizing probability of local extinction (Lande and Shannon 1996, Williams et al. 2008, Eriksson et al. 2014). Small populations are at much

greater risk of extirpation primarily through the disproportionate impact of demographic, environmental, and genetic stochasticity than robust populations (Lande and Shannon 1996, Palstra and Ruzzante 2008). Based on a foothill yellow-legged frog population viability analysis, populations in regulated rivers face a 4- to 13-fold greater extinction risk in 30 years than populations in unregulated rivers due to smaller population sizes (Kupferberg et al. 2009c). The threat posed by small population sizes is significant and the general pattern shows increases in severity from north to south; however, many sites, primarily in the northern Sierra Nevada, in watersheds with large hydropower projects are also at high risk (DFW 2019).

Endangered Clades

The Commission determined that the continued existence of the Southwest/South Coast, West/Central Coast, and East/Southern Sierra clades in the State of California are in serious danger or threatened by one or a combination of the factors described above.

The Commission also determined that the information in the Commission's record constitutes the best scientific information available and established that designating the Southwest/South Coast, West/Central Coast, and East/Southern Sierra clades as endangered species under CESA is warranted.

The species has disappeared from nearly all known historically-occupied locations of the Southwest/South Coast clade and only two populations from this clade are known to be extant (DFW 2019, McCartney-Melstad et al. 2018, Peek 2018). These populations appear to be extremely small and rapidly losing genetic diversity, making them at high risk of extirpation (McCartney- Melstad et al. 2018, Peek 2018).

Foothill yellow-legged frogs appear to be extirpated from a relatively large proportion of historically occupied sites within the West/Central Coast clade, particularly in the heavily urbanized northern portion around the San Francisco Bay. In the northern portion of the clade, nearly all the remaining populations are located above dams, which line the mountains surrounding the Bay Area, and two are known to have undergone recent disease-associated die-offs (DFW 2019). These higher elevation sites are more often intermittent or ephemeral streams than the lower in the watersheds. As a result, the more frequent and extreme droughts that have dried up large areas may have contributed to recent declines (DFW 2019). Illegal cannabis cultivation, historical mining effects, overgrazing, and recreation likely contributed to declines and may continue to threaten remaining populations (DFW 2019).

Like the Southwest/South Coast clade, widespread extirpations in the East/Southern Sierra clade were observed as early as the 1970s (DFW 2019). Dams and introduced species were credited as causal factors in these declines in distribution and abundance, and mining and disease may also have contributed (DFW 2019). This area is relatively arid, and drought effects appear greater here than in northern areas that exhibit both more precipitation and a smaller difference between drought years and the historical average (DFW 2019). There is a relatively high number of hydropower generating dams in series along the major rivers in this clade and at least one new proposed dam near one of the remaining populations (DFW 2019). Some of the most dramatic declines experienced by any frog in the family that includes foothill yellow-legged frogs in California occurred in the Sierra Nevada east of the San Joaquin Valley, where over half of the state's total pesticide usage occurs (Sparling et al. 2001). Like the Southwest/South Coast clade, the East/Southern Sierra clade has low genetic variability and a trajectory of continued loss of diversity (Peek 2018).

Threatened Clades

The Commission determined that the Feather River and Northeast/Northern Sierra clades in the state of California, while not presently threatened with extinction, are likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by CESA.

The Northeast/Northern Sierra clade occupies a relatively small area with many hydropower dams (DFW 2019). The general pattern in the Northeast/Northern Sierra clade, and across the range, is that unregulated rivers or reaches have more areas that are occupied more consistently over time and in larger numbers than regulated rivers or reaches (DFW 2019). The area is also more mesic and experienced less of a change in precipitation during the recent drought than more southern clades (DFW 2019). However, this pattern may not continue as some models suggest loss of snowmelt will be greater in the northern Sierra Nevada, and one of the climate change exposure models suggests that a comparatively large proportion of the lower elevations will experience climatic conditions not currently known from the area by the end of the century (DFW 2019).

Despite the Feather River clade being included in the Northeast clade as defined in one recent study, the Feather River clade is very distinct and located primarily in Plumas and Butte counties (DFW 2019, Peek 2018). The Feather River clade is the smallest, has a high density of hydropower dams (DFW 2019), and recently experienced one of the largest, most catastrophic wildfires in California history (DFW 2019). Despite the threats, foothill yellow-legged frogs appear to continue to be relatively broadly distributed within the clade, although with all the dams in the area, most populations are likely disconnected (DFW 2019). The clade is the only clade where foothill yellow- legged frogs and Sierra Nevada yellow-legged frogs overlap and can hybridize (DFW 2019). The genetic variation within the clade is greater than the other clades except for the Northwest/North Coast (DFW 2019). Most of the area within the clade's boundaries is U.S. Forest Service-managed, and little urbanization pressure or known extirpations exist in this area (DFW 2019). The Feather River clade shares many of the same threats as the Northeast/Northern Sierra clade (e.g., relatively small area with many hydropower dams) (DFW 2019).

Not Warranted Determination

The Commission determined that the Northwest/North Coast clade in the State of California, is not presently threatened with extinction and is not likely to become endangered in the foreseeable future in the absence of the special protection and management efforts required by CESA.

The Northwest/North Coast clade is the largest, with the most robust populations and the greatest genetic diversity (McCartney-Melstad et al. 2018, Peek 2018). The area is the least densely populated by humans; contains relatively few hydropower dams, particularly further north; and has the highest precipitation in the species' California range (DFW 2019). The species is still known to occur in most, if not all, historically occupied watersheds; presumed extirpations are mainly concentrated in the southern portion of the clade around the heavily urbanized San Francisco Bay area (DFW 2019). This is the only clade with an increasing trend in genetic diversity (Peek 2018). The proliferation of cannabis cultivation, particularly illicit grows in and around what is known as the Emerald Triangle (Humboldt, Mendocino and Trinity counties), the apparent increase in severe wildland fires in the area, and potential climate

change effects are cause for concern (DFW 2019). As a result, this clade does not currently warrant listing as either endangered or threatened (DFW 2019).

IV. Final Determination by the Commission

The Commission has weighed and evaluated the information for and against designating the six clades as threatened or endangered under CESA. The information includes scientific and other general evidence in the Petition; the Department's Petition evaluation report; the Department's Status Report; the Department's related recommendations; written and oral comments received from members of the public, the regulated community, various public agencies, and the scientific community; and other evidence included in the Commission's record of proceedings.

Based upon the evidence in the record, the Commission has determined that the best scientific information available indicates that the continued existence of the Northwest/North Coast clade of foothill yellow-legged frog is not in serious danger or threatened by present or threatened modifications or destruction of the species' habitat, predation, competition, disease, or other natural occurrences or human-related activities, where such factors are considered individually or in combination. (See generally California Code Regulations, Title 14, Section 670.1, Subsection (i)(2); Fish and Game Code, Section 2075.5, Subdivision (a)(1).) The Commission determines that there is sufficient scientific information to indicate that designating the Northwest/North Coast clade as threatened or endangered is not warranted.

Based upon the evidence in the record the Commission has determined that the best scientific information available indicates that the continued existence of the Feather River clade, Northeast/Northern Sierra clade, East/Southern Sierra clade, West/Central Coast clade, and Southwest/South Coast clade are in serious danger or threatened by present or threatened modifications or destruction of the species' habitat, predation, competition, disease, or other natural occurrences or human-related activities, where such factors are considered individually or in combination. (See generally California Code Regulations, Title 14, Section 670.1, Subsection (i)(1)(A); Fish and Game Code, sections 2062, 2067.) The Commission determines that there is sufficient scientific information to indicate that designating the East/Southern Sierra, West/Central Coast, and Southwest/South Coast clades as endangered species under CESA and designating the Feather River and Northeast/Northern Sierra clades as a threatened species under CESA is warranted at this time. With the adoption and publication of these findings, each of these five clades of foothill yellow-legged frog for purposes of its legal status under CESA and, for further proceedings under CESA, shall be listed as follows:

- Southwest/South Coast clade – endangered;
- West/Central Coast clade – endangered;
- East/Southern Sierra clade – endangered;
- Northeast/Northern Sierra clade – threatened; and
- Feather River clade – threatened.

With the adoption and publication of these findings the foothill yellow-legged frog shall be removed from the list of candidate species maintained pursuant to Fish and Game Code Section 2074.2.

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