Richardson Grove Operational Improvement Project
Responses to Comments on the Supplement to the Final Environmental Assessment
EA 01-46480
Humboldt County, California
January 23, 2014

The California Department of Transportation (Department) released the *Richardson Grove Improvement Project Supplement to the Final Environmental Assessment* (Supplement) for public comment on September 21, 2013 for a 30-day period. These responses to comments submitted on the Supplement are intended to address substantive comments on the project received during the public review period, and to correct or clarify statements or omissions in the Supplement other than typographical and minor editorial errors.

COMMENTS RECEIVED ON THE SUPPLEMENT TO THE FINAL EA

At the conclusion of the circulation of the Supplement to the Final EA, the Department received 9,093 written comment letters. Of the total 9,093 comment letters, 9,014 were form letters received by email; one comment letter was received from an agency, the California Department of Parks and Recreation (State Parks); eight were from organizations; 70 were individual emails or letters, of which one was information on short sea shipping. Of the eight organizations that submitted comment letters, seven expressed opposition to the project: Bay Area Coalition for Headwaters, Californians for Alternatives to Toxics, Center for Biological Diversity, Environmental Protection and Information Center, Friends of Del Norte, Save Richardson Grove, and the Eel River Trails Association. One organization, the Humboldt County Workforce Investment Board, submitted a letter of support. Of the 69 individual letters expressing an opinion on the project, 57 were opposed, and twelve supported it. The form letter emails were of two types: the majority (6,421) was a short version; the remaining 2,593 contained additional comments. An example of each of the two form letters is attached to this document. The majority of the comments presented in the form letters were addressed during review of the Draft EIR/EA, were not discussed in the Supplement, and are not addressed again in this document. Comments in the form letters that are relevant to the information contained in the Supplement are addressed in the responses below.

Comments received during circulation of the Supplement to the Final EA that related to the following topics were fully addressed during review of the Draft EIR/EA, were not discussed in the Supplement, and will not be addressed again here:

- Purpose and need for the project;
- Need for EIS;
- economic justification, economic data used;
- impact on county economy;
- potential impacts to the atmosphere and visitor experience at Richardson Grove State Park, and effects on park revenue;
- effects on aesthetics of area;
- bicycle access;
- temporary construction impacts of noise, nuisance odors and traffic congestion on visitors, local residents and businesses;
- lack of sufficient economic benefits for the project;
- effects on local businesses, tourism;
- support for other alternatives to the project (including lowering speed limit, alternate alignments both away from and on the existing alignment including building a bridge, warning systems, signalization options, operational alternatives, such as time of day

truck restrictions, STAA transfer services, and transport by public transit, ferry, shipping and rail);
- potential impacts to local trucking firms;
- potential to induce large scale commercial growth and disadvantage small businesses;
- potential to increase truck traffic, speed and accidents; decrease safety for motorists and cyclists; and increase hazards to old growth redwoods;
- potential impacts to marbled murrelet critical habitat;
- potential effects to Coho salmon;
- the potential for impacts to hydrology, and to water quality from runoff and sediment;
- the potential to impact the wild and scenic values of the Eel River;
- source of water used to control dust and for irrigation;
- effects on air quality, soil compaction, lead and other toxics in the environment;
- effects of tree loss on global warming;
- lack of engineering information;
- cumulative impact analysis;
- impacts related to fire safety and timberlands;
- emergency services; and,
- Information on revegetation.

Comments received during circulation of the Supplement that pertained to the information presented or that brought forward new information are addressed in this document. These topics include: circulation of the Supplement; type of document prepared; adequacy of information about and potential impacts to health of the old growth redwood forest, individual trees or their roots; potential noise, lights and activity disturbance of marbled murrelet; mitigation for impacts to redwood trees. The Department prepared the following responses after technical research and study, which included consultation with a certified arborist.

RESPONSES TO COMMENTS ON THE SUPPLEMENT TO THE FINAL EA
Comments have been grouped into similar topics and answered in single responses.

1. **Comments related to circulation of the document:**
   - An extension was not granted for this document and it is very long and complex.
   - The public was not notified or given the documents in a timely manner.

Response 1: The information presented in the Supplement to the Final EA covers specific topics and is narrower in range of topics than the Final EA. Topics covered were updated tree information, proposed minor alterations in the barrier railing, and survey results for the marbled murrelet. A 30-day review period was deemed sufficient for the amount of information contained in the document and satisfies the requirements of NEPA. A public notice was published in the regional newspaper of record, the Times-Standard, the day prior to the 30-day review period was initiated, and an electronic copy of the document and related technical report were made available to the public online which accommodated dial-up Internet speeds. A copy of the Supplement was available for public review at the Department's District Office in Eureka and Humboldt County Public Library branches in Garberville, Eureka, and Arcata. Either hard copies or a computer CD with electronic versions of the document were distributed to all addresses on the mailing list for the Draft EIR/EA.

2. **Comment:** The Court ordered Caltrans to provide a "Revised EA," not just a "Supplement to the EA." Caltrans needs to produce a different document in response to the court order.

Response 2: The federal court decision did not suggest that the Department produce a particular type of document. Rather it requested that the Department update the old growth

redwood tree maps and analysis. In compliance with the order, the Department re-measured and resurveyed the trees within the project limits and used this information to analyze the potential effects. The Supplement presented the analysis, which numbered each ancient redwood, clearly identified it in a map, identified its root zone, and set forth the environmental issues to each one.

3. **Comment:** The Supplement fails to provide the analysis of impacts to each tree and to the forest ecosystem that the court required. Caltrans needs to provide an adequate analysis of how the trees and the forest ecosystem would be impacted by implementation of the project

Response 3: The potential impacts to each tree and the forest ecosystem were thoroughly analyzed in the Final EA and the Supplement.

4. **Comments on effects of construction on old growth trees:**
   - Root cutting, fill placement will kill or damage trees.
   - Caltrans has not provided substantial evidence that the project impacts will be reduced to a level of less than significant. Adverse effects to individual old-growth redwood trees and adequate mitigation have not been identified. Therefore, the project impacts are significant and unavoidable and will require overriding considerations to be made by the lead agency.

Response 4: In the Department's judgment the project effects would be less than significant and short-term in duration. The Individual Tree Analysis in Appendix B identifies the expected adverse effects. In addition the analysis lists specific avoidance and minimization measures to be used for each old growth redwood that would minimize impacts during construction. The arborist who evaluated each individual tree determined that in no case would root disturbance have a significant detrimental effect on the health or stability of old-growth redwoods (Yniguez 2013).

5. **Comments on guidelines used to evaluate tree impacts:**
   - Richardson Grove's redwoods are State Parks resources, and impacts to these trees should be evaluated in accordance with State Parks guidelines. Relying on resiliency represents a change in rationale from that of the Final EA, which used the State Parks Handbook. The Supplement contains no discussion of the ten percent root loss threshold for old, low-vigor trees identified in the State Parks Natural Resources Handbook and recommended by Caltrans' own arborist. Caltrans must explain why it has abandoned its prior reliance on the State Parks Handbook.
   - There was no consideration of or documentation that the California State Parks tree protection policies were considered, particularly as to Parks' method for quantifying impacts to tree root systems.

Response 5: The evaluation for the Supplement was based upon studies by certified arborists who visited Richardson Grove and inspected each potentially impacted tree, and applied their experience and training, literature on the coast redwood, and all appropriate guidelines to their analysis of potential effects on the trees. State Parks was consulted throughout the development of the Final EA, and their Handbook was used to identify and delineate the Structural Root Zone (SRZ) as the area of the root zone of particular concern. State Parks' input was used to select the diameter of 30 inches as a threshold by which to identify redwoods as "old growth," and to choose the threshold of two inches in diameter for roots to protect from cutting in the SRZ. The ten percent root loss threshold is one parameter of State Park's guidelines, which were considered in the Final EA and the Supplement, as well as in the evaluation of potential impacts to individual trees and to Richardson Grove as a whole. State Parks has concurred that the project includes all possible planning to minimize long term harm

to the park resources.

6. **Comment:** The Supplement should assess the ratio of old-growth redwood trees that would have their SRZ impacted (either by impervious surface or fill) versus those that may have an impervious surface removed.

Response 6: The Individual Tree Analysis is not based on the ratio of old growth trees with either fill or impervious surface placed in their SRZ compared to the number of trees with impervious surface removed, and thus this specific calculation was not performed. Although this comparison can be determined from the Individual Tree Analysis, it does not provide information that is useful for assessing impacts to individual trees (see Response 5 for a detailed explanation). What has been calculated is the minor net increase of less than five percent impervious surface added by the project.

7. **Comments related to quantifying impacts:**
   - The Supplement should assess the percentage of the individual old-growth redwoods SRZ that will either be impacted or restored.
   - There is no way to tell how much of any particular tree's root zone would be affected. Nor do the individual tree maps calculate the percentage of each tree's root zone that will be covered by impervious surface. Disclosure and analysis of relevant impacts on individual tree root zones, from both excavation and placement of impervious materials, is critical.

Response 7: Calculating the exact quantities of fill or impervious surface on an individual tree's SRZ is not necessary to determine its effect on the tree. This is because the SRZ represents a very small portion of the moisture and nutrient absorbing capacity of the tree's entire root system. Nevertheless, the structural roots are important in maintaining the stability and nutrient transport of a tree, which is the reason to use special methods that prevent roots larger than two inches from being cut when excavating in the SRZ. With the structural roots protected, what becomes most relevant to tree health is the extent to which the tree's moisture and nutrient absorbing capacity is diminished by either fill or impervious surface.

While it is not possible to ascertain the exact form, mass, or extent of the root system of a mature redwood without unearthing massive amounts of soil and likely destabilizing the tree, research shows that they are vast and complex. Becking (1979) documented the root of a redwood that extended over 150 feet from the main trunk, and determined that lengths of 100 feet are common, well beyond even the five-times-diameter distance. In relation to the widespread extent of the average redwood root system, the amount of root disturbance created by the project is extremely small.

It is equally important to identify what constitutes an impact. If soil around a root becomes more compacted, the root is not "lost". It may be less efficient at moisture uptake in that location but it will still provide stability, store carbohydrates, and transport moisture obtained from other locations or other connected roots (Costello 2012; Urban 2008; Harris et. al. 2004; Wilson 1984; Perry 1992, 1982; Lyr and Hoffman 1967). The remaining root system can compensate for reduced moisture uptake in one area by proliferating in areas that are more conducive to moisture acquisition (Urban 2008; Harris et. al. 2004; Perry 1982).

Other characteristics that compensate for diminished moisture-absorbing capacity of an individual tree are the ability of roots to graft onto neighboring redwoods (Graham and Bormann 1966; Becking 1979), enabling trees to take advantage of the moisture absorption by adjacent trees; the ability of redwoods to obtain water directly through their needles through fog drip (Dawson 1996); and the interlocking upward movement of water that distributes water

throughout the crown (Perry 1992, described in more detail below).

8. **Comment:** Many of the old-growth redwoods along the Highway 101 corridor in Richardson Grove State Park are already stressed due to significant portions of their root systems being covered by impervious surfaces. The Supplement does not take into account the 116 old-growth redwood trees for which the Root Health Zones (RHZ) have already been impacted by the highway and associated facilities. Based on the diagrams in the Individual Tree Analysis (Attachment B) many of the trees have already had 30% of their RHZ covered by pavement. Any additional loss of the non-structural roots to those individual trees would result in significant and potentially unavoidable adverse effects.

Response 8: The trees that would potentially be affected by the project have acclimated to the existing impervious surface over the last ninety or so years since the road was first constructed, and are thriving today. As described in detail in Response 7, redwoods have widespread and complex root systems that extend far beyond the impervious surface, and covering roots with pavement is not equivalent to root loss, as larger roots can function even when compacted. Furthermore, the root system can proliferate in other areas to compensate for reduced moisture uptake, and other characteristics, such as root grafting, ability to absorb water from fog drip, and the interlocking ascent of water, enhance their moisture-absorbing capacity.

9. **Comment:** The Supplement does not state the total number of old growth redwoods that would be affected by the project. Commenter notes there will be 22 old growth redwoods with roots over two inches in diameter that would be cut.

Response 9: Appendix B of the Supplement is an Individual Tree Analysis of the 116 trees old growth redwoods that would be potentially affected by the project. The Analysis notes those trees where roots two inches in diameter and larger may be cut, the protection measures to be used, and the results of the arborist's evaluation of effect. The evaluation of the effects of the project on all 116 trees determined that in no case would root disturbance have a significant detrimental effect on its health or stability (Yniguez 2013).

10. **Comment:** The Supplement does not assess both the existing and additional impacts to the SRZ of individual trees. The Supplement states that 74 of the 116 old growth redwoods would have ground disturbing activities within their SRZ, resulting in a very slight to slight effect on tree health. This does not take into account the effects of the existing impacts to the individual old-growth trees. Based on the Individual Tree Analysis, 34 old-growth redwood trees will have approximately 50% or greater of their SRZ impacted either by impervious surfaces or trenching due to culvert installation in association with the proposed project. State Parks considers this to be a significant and potentially unavoidable adverse effect.

Response 10: Except for the limited extent of work in the park where roots encountered will be cut (culverts, barrier foundations and cut slopes), the large structural roots would not be severed. Of the 34 old-growth redwood trees mentioned above, only five redwoods would have culvert work in the SRZ, three of which occur in the State Park. Of the three culverts in the park with work in the SRZ, two are replacements of existing culverts in the same locations, and both were replaced as recently as 1983. All three culverts require relatively shallow excavation within previously compacted roadbed. Any large roots that are present are roots that would have grown back since the culvert was last replaced. Those replacements did not result in a reported or visible decline of the trees whose roots would have been affected. To provide additional protection to the old growth redwood trees during construction, our staff, including a certified arborist, will have the ability to make minor adjustments in the field.

The trees that will have additional impervious surface placed in the SRZ will have minimal impact to the structural roots due to alternative methods of construction. The needed excavation for the roadway section will utilize a pneumatic excavator and cement-treated permeable base, and structural roots will be incorporated into the roadway. The additional impervious surface at that location may reduce the efficiency of moisture uptake but, as noted in the response to comment 1, the structural roots will still function. The amount of additional impervious surface being added by the project is so small that, given the vast extent of redwood roots, their ability to compensate by proliferating elsewhere, and the special work methods and protection measures described in response 1, the effect on the trees will be negligible.

11. **Comment:** Individual root zone descriptions provide broad estimates of the depth of "new soils . . . placed to construct embankment," but do not give any indication of depth of excavation at each location.

Response 11: The depths of fill and excavation were evaluated at each potentially affected tree during the field review by the consulting arborist, assisted by the project engineer and environmental coordinator. The evaluation relied on an examination of the project plans and cross-sections, along with input from the project engineer and environmental coordinator in the field, in order to conceptualize the work at each tree reviewed. In light of the above, it would be unnecessarily confusing and beyond the scope of the environmental document to add 215 project cross-sections to the Supplement, outside of the context of a field review with the arborist(s), project engineer, and environmental coordinator.

The individual tree analyses included in the Supplement are the culmination of the field reviews, research, and evaluations of experienced arborists. These individual analyses include a textual description of each tree, including the work to be conducted near the tree and how the impacts may be minimized, and evaluate what the effects to each tree might be. Additionally, the Supplement includes a diagram of each tree, specifically showing the areas and types of potential impact in relation to each tree and its root zones.

12. **Comment:** It is stated that this project would use alternative methods to construct new road sections directly adjacent to old growth redwoods that do not require cutting larger roots. This is counterintuitive because the text goes on to say that soil will be removed to a depth of two feet and replaced with road base and pavement. Does that mean that the roots would be left intact and covered with the road base and pavement?

Response 12: This is correct; when constructing new road sections, soil would be excavated around roots larger than two inches in diameter using a pneumatic excavator or other hand held tools, and the roots would be incorporated into the new road materials. The use of alternative methods to construct new road sections is being extended beyond the SRZ to the rest of the project where new road sections would be constructed (i.e., wherever the road would be widened or realigned). This is described in more detail in the following response.

13. **Comments regarding where roots larger than 2 inches would be cut**:
    - It can be implied that the roots would be left intact and covered with the road base and pavement within the structural root zone of old growth trees but is the practice to be conducted elsewhere when large roots are encountered?
    - The Supplement greatly expands an exception from handwork restrictions allowing the use of mechanized equipment in root zones; where the Final EA would have allowed mechanized equipment only for culvert trenching (Final EA, pp. 113-14), the Supplement (p. 16) allows mechanized equipment for "culvert work, soldier pile, gabion and barrier wall installation, and cutting back roadside slopes." This exacerbates the Final EA's

inconsistency as to whether and where roots greater than two inches in diameter would be cut.
- Supplement does not address how excavation of side slopes will remove roots larger than 2 inches as well as feeder roots, also causing an unexamined impact.
- Contrary to what is listed in the Avoidance, Minimization and Mitigation Measures, Tree #13 roots may be cut.

Response 13: The proposed barrier rail foundations are the only new locations in the park where any roots greater than two inches in diameter that are encountered would need to be cut. The supplement analyzed the potential impacts to two old growth redwood trees that may be affected by the work on the proposed barrier rails, and found that the impacts to these two trees would not be significant.

The material in the cut slope in the park (i.e., existing road bank) that would be removed to widen the road and create a new shoulder is above the finish grade, and has not changed from the original project description that was analyzed in the Final EA. It would not be feasible or advisable to cut back the slope and remove the soil but leave any roots within them behind; this would leave the roots hanging in the air above the new shoulder. A cut slope is depicted in Figure 4 of the Supplement. The area above the finish grade that would be removed is between the dotted line of the existing ground surface and the new ground surface outlined in green.

Similarly, outside of the park, holes would be drilled to place soldier piles for a wall, and the bases of the gabion walls need to be placed into the ground; neither activity can be done with hand tools or pneumatic excavators, as an open space is needed to place the piles or wall.

All of these types of activities are described in the details of work in Appendix B, the Individual Tree Analysis. The potential impacts to the old growth redwoods that may result from these activities were evaluated by the arborist, and the evaluations are also presented in the Analysis. The use of mechanized equipment in these areas would be supervised by a certified arborist whose job is to ensure that once the equipment work is done, any roots greater than two inches in diameter that may be present are then cut back cleanly. This is a standard arboricultural practice that would be done during project construction.

As described in the Final EA and Supplement, special methods would be used to excavate for new road sections; these are the areas where excavation is typically 24 inches in depth, and where soil is replaced with road materials (see Response 12). The Final EA states that the special methods will be used for all excavation below the finish grade [emphasis added] within a setback equal to three times the diameter of any redwood trees for work in the park (p. 113). This type of excavation is also depicted in Figure 4 of the Supplement. Because the soil in these areas is being removed and replaced with road materials, it is possible to incorporate tree roots into the new road materials.

Currently, where new road sections are being constructed to widen or realign the roadway, the areas where woody roots two inches in diameter and larger would not be cut are limited to the area within the SRZ of old growth redwoods. Because of the density of trees along the road, there are in actuality very few areas where work constructing new road sections would be outside of the SRZ of any tree. Nevertheless, in order to further clarify where such roots would not be cut; the Department is updating this avoidance and minimization measure to extend the use of the special methods of excavation beyond the SRZ to the rest of the project where new road sections are being constructed. In Section 2.3, Avoidance and Minimization Measures of the Supplement to the Final EA, page 16, the first bullet will be updated as follows:

- A pneumatic excavator or other hand tool would be used when digging below the finish grade to widen or realign the road throughout the project. Mechanized equipment may be used for culvert work, soldier pile, gabion and barrier wall installation, and cutting back roadside slopes upon approval of the construction engineer.

  When widening or realigning the roadway below the finish grade, crews must use a pneumatic excavator or other hand tools to remove the soil around roots two inches and larger and protect them from being cut. The pneumatic soil excavation technique is recommended when root preservation is a key objective for "high value" trees (Gross and Julene 2002).

Extending the use of these special methods beyond the SRZ further minimizes impacts to resources; it would not result in a change in the level of anticipated impacts of the project.

14. Comment: The Supplement does not explain how large roots will be cut cleanly with a sharp instrument in areas where mechanized equipment may be used for excavation.

Response 14: As described in the preceding response, once the equipment work is done, any roots larger than two inches in diameter that may be present would then be cut back cleanly.

15. Comment: A contingency plan needed for encounters of roots larger than 2 inches.

Response 15: Most of the roots larger than two inches that are encountered would be incorporated into the new road materials, as the majority of work is the realignment or widening of the road where special methods will be used. Areas of the project where roots larger than two inches must be cut if they are encountered are very few, and are limited to culverts, cut slopes, walls and barrier rail foundations. Trees which may be affected by this work were evaluated by an arborist, who determined that in no case would root disturbance have a significant detrimental effect on the health or stability of the trees. As explained above, once the equipment work is done, any roots larger than two inches in diameter that may be present would then be cut back cleanly.

16. Comments on Mitigation:

- The mitigation for tree impacts is inadequate, there is no evidence it will be effective.
- Adverse effects to individual old-growth redwood trees and adequate mitigation have not been identified.

Response 16: The measures developed for this project to substantially reduce stress on the trees during construction include using special equipment such as pneumatic excavators or other hand held tools to remove soil from roots two inches and larger to avoid cutting them when excavating new road sections; using Cement Treated Permeable Base, which is special roadway material that is thinner and more permeable than is typical; incorporating tree roots into the new road section rather than cutting and removing them; and using brow logs to minimize the impacts of fill (see Response 17 below). In addition, after excavation, weekly irrigation would be provided at large redwoods during the summer months, and areas disturbed by vegetation removal would be revegetated. Lastly, the work would be monitored by a certified arborist, would also collect baseline information, including photographs, to document project activities. These have been reviewed by the Caltrans certified arborist and a consulting arborist, as well as State Park staff. In the professional opinion of the arborists, the project would not result in substantial adverse effects to the old growth redwoods. The State Park has concurred that the project includes all possible planning to minimize long term harm to the park resources. The measures identified will be written into the specifications of the construction contract.

17. Comment: The Supplement does not evaluate the potential for use of cement-treated permeable base to reduce the soil volume for root growth following highway construction.

Response 17: Any replacement of soil with roadway materials will decrease soil volume available for root growth; it is expected that the project would result in some additional compaction where construction occurs adjacent to the trees. The effects of compaction would be minimized by using Cement Treated Permeable Base, which decreases the roadway thickness by 25%, reducing the amount of excavation and compaction that would normally be required. In addition, as described in Response 7, affected roots are not lost, but will still provide stability, store carbohydrates, and transport moisture obtained from other locations or other connected roots. The impact of the conversion of soil to pavement is described in Attachment B, Individual Tree Analysis.

18. Comments on brow log:

- The Supplement does not evaluate the potential for brow logs to interfere with cambial growth at the points of contact.
- The effectiveness of the brow log is not established, could do more harm than good, and requires an EIS prior to its implementation.

Response 18: The point of contact between the brow log and the tree against which it will be placed is minimal. The placement will allow oxygen and air movement around the base of the tree. In addition, the insulating bark of the tree protects its cambial tissue. The use of a brow log was recommended by the certified arborist assigned to the project.

19. Comment: The Supplement assumes the use of irrigation during the summer months, but fails to evaluate its potential impact, particularly as to growth of the root pathogen *Armillaria mellea*.

Response 19: Supplemental irrigation would be provided in order to minimize stress on the redwoods during construction. Irrigation is not considered likely to cause infestation by root pathogens such as *Armillaria mellea*, as coast redwood is among the species known to be resistant to it (Raabe 2008).

20. Comment: Cut areas are not depicted on the individual maps; rather, the Individual Tree Analysis map legend shows only a blue area labeled “place soil for embankment.”

Response 20: The few areas of actual cut are depicted in red hatching, labeled in the legend as “remove soil for new cut slope”.

21. Comment: Individual root zone descriptions disclose only the placement of materials, and not the depth of excavation or placement of materials. Although the Supplement suggests excavation will not occur or will be minimal, as Table 10 of the Final EA shows, excavation will in fact be extensive in many root zones.

Response 21: The Individual Tree Analysis describes the areas of excavation for each tree. However, it is important to note that there are two different types of excavation for this project, excavation for roadway cut slopes and excavation for new road sections. Excavation for new road sections takes place where the road would be realigned or widened, and digging is below the finish grade, as shown in Figure 4 of the Supplement. It is found on the plans between the edge of existing pavement (dashed line) and the new edge of pavement (green line). This type of excavation is approximately 24” in depth, at most, and uses the special methods that do not cut roots that are two inches and larger. The material that is removed is replaced with road materials, and roots are incorporated into it.

The other type of excavation is for roadway cut slopes, shown as a red area in Attachment B, and is also depicted in Figure 4 of the Supplement. Excavating for roadway cut slopes produces material that would be removed from above the finished roadway surface to create new highway side slopes. Because this work permanently removes the slope material, preservation of roots within the mass is not possible. As mentioned previously, this type of excavation is limited.

22. Comment: The cut slope excavation may reach or exceed 36 inches in depth; the Final EA, in contrast, disclosed excavation only to a depth of 24 inches. None of these changes is even acknowledged, much less analyzed, in the Supplement.

Response 22: As mentioned in Response 18, there are two different types of excavation for this project: excavation for new road sections which is approximately 24 inches in depth, and excavation for roadway cut slopes which may be deeper than 24 inches. Both types of excavation were considered and disclosed in the Final EA for the project; for example, a cut slope excavation of 300 cubic yards at PM 1.35 to PM 1.36 is disclosed on Page 18, and on page 19, excavation of three feet from the cut slopes is discussed. The amount and areas of excavation for the project have not changed since the certification of the Final EA.

As to excavation depths in old growth redwood tree root zones, the Individual Tree Analysis describes the areas of excavation for each tree (see Response 18, above). Re-measurement of tree diameters for the Supplement resulted in some of the tree diameters being reported as larger than in the Final EA, thus the SRZ of one redwood tree (Tree #13 at PM 1.35) extended into an area of cut slope. Furthermore, a larger area, the Root Health Zone, was evaluated for potential effects to trees for the Supplement, so that while the Final EA lists depths of excavation in reference to the SRZ (three times the diameter at 54 inches above ground level, or DBH), the Supplement list depth in reference to the larger Root Heath Zone (five times DBH). As a result, more trees were included in the broader area of analysis in the areas of cut slope excavation. The arborist analyzed the potential effects of all cut slope excavations within that area for each tree.

23. Comment: The Supplement cites papers that fail to detect a change in tree crowns or in diameter (at 54 inches above ground) as evidence that trees did not suffer any ill effects; uncertainty remains due to our lack of understanding of individual tree responses. Studies cited sampled as few as four trees (Stone and Vasey 1962b and Stone 1965) and the trees were not hindered from recovery by impervious surfaces. Methods of determining the effects of root disturbance in the citations are inadequate to assess the impact to trees.

Response 23: The consistent body of research, as a whole, cited in the supplement and used by the certified arborist in his evaluation shows that the root systems of the coast redwood are extraordinarily resilient and that the physiology of redwoods allows them to successfully adapt to root disturbance. In the study by Stone and Vasey (1962b), nearly half of the entire tree root systems were removed from four redwoods, and the feeder roots were virtually eliminated, yet all root systems fully regenerated within four years. The purpose of this unusual experiment was to determine whether it might be a treatment for revitalizing redwood trees after heavy recreational use. Although the number of trees so treated was small, it is nevertheless a remarkable demonstration of the vigor and adaptability of this species.

It would be difficult to obtain approval to repeat such a study today, and it was determined not to be necessary. Root injury and loss occur throughout the life of a tree and new roots form rapidly after injuries (Perry 1992), particularly redwoods (Stone and Vasey 1962b, Sturgeon 1964). A. Shigo (1977, 1986) demonstrated that roots compartmentalize injured tissue, forming chemical and physical "walls" (barriers) around the wound to slow or prevent the spread of disease or

decay. The ancient redwood studied by E. Fritz (1934) had its base partially buried by 11 feet of periodic siltation; it had adapted by successively creating new sets of roots to fit each new soil level. Other documented characteristics that allow redwoods to adapt, compensate and remain in vigorous health include the ability of redwood roots to graft onto other redwood roots to provide immense stability and anchorage for the stand as a whole (Becking 1979); highly decay- and insect- resistant wood (Anderson 1961; Clark and Scheffer 1983; Fritz 1931; Piirto 1985); thick and fire-resistant basal bark (Fritz 1931; Isenberg 1943); ability to obtain water from fog drip and directly through its foliage (Dawson 1996; Limm et al. 2009; Simonin et al. 2009); and a specialized water transport structure that spreads water throughout the crown. The pattern of upward water movement, called "interlocked sap ascent" (described by Perry 1992), means that a root in one location will lift water in a pattern that extends around a large part of the trunk's circumference as the water rises. Therefore, death of, or injury to, individual roots of a coast redwood does *not* lead to corresponding one-sided trunk or branch death in the crown of the tree; other roots will still supply water to the entire canopy. This mechanism of sap ascent in coast redwoods allows this species to adapt to environmental changes, and was taken into account in evaluating whether localized root disturbance would lead to corresponding decline or dieback in the crown. Some researchers found that crowns were actually fuller on the sides nearest roadways, apparently because they had access to increased light in their canopies.

24. Comment: Several studies use change in diameter at 54 inches above ground to assess growth rates and tree health for large redwoods; however, redwoods add false rings and fail to create rings in some years at this height, making it extremely difficult to determine growth rates by this method.

Response 24: It is true that coast redwood core samples can include so-called false rings or discontinuous rings, which makes it challenging to determine the exact age of a redwood. This phenomenon was documented in forestry literature by Professor Fritz as early as 1924 (Fritz and Averill 1924). However, any differences in ring formation would be expected to appear randomly throughout both subject and control groups of trees. One researcher indicated that core samples were deliberately taken at points below the deepest portion of each tree's canopy to minimize the possibility of missing rings. None of the researchers noted that unreliable ring counts were relevant to their studies.

The evaluation also took into account the present condition of the redwoods. The trees are their own benchmark, and are the most unbiased indicators of how they have responded and would respond to construction activity in their root health zones. Despite the previous construction, including culvert replacement, as well as the more than 40 million vehicles that have traversed the highway beneath them in the past century, the trees give no indication that they are in a lessened state of vigor than neighboring old-growth redwoods farther from the road.

The work for this project would be very minor in scale, and the majority would be done with hand tools or a specialized arboricultural tool. None of the proposed highway modifications in the project requires severing any buttress (supporting) roots. For all of these reasons, in addition to the reasons explained in the Final EA and Supplement, we have determined that the project would not have any significant detrimental effect on old growth redwoods.

25. Comment: At least one study cited in the Supplement documents no change in crown appearance as evidence of tree health; however, the assessment appears to be anecdotal.

Response 25: University of California forestry researchers described the crowns of redwoods as vigorous. These observations were made by experienced observers and evaluators of tree vigor, and thus need not be dismissed as merely anecdotal.

26. Comment: Several studies cited fail to detect a negative impact from soil compaction (Standish 1972 and McBride and Jacobs 1978); however more comprehensive research outside of the redwood region reveal less certainty on the long-term impacts of soil compaction. These studies have mixed results, but show that tree growth can be slowed by soil compaction under at least some circumstances (Holub et al. 2013, Ponder et al. 2012 and Ampoorter et al. 2011).

Response 26: The studies on compaction referenced in the Supplement are of redwood groves throughout northern California. Different researchers conducted the studies to determine the effects of compaction or root loss on the diameter growth and crown condition of old-growth redwoods. The results were consistent: There was no significant difference between control trees and trees subjected to root impacts.

The studies referenced as indicating uncertainty about effects of compaction on trees are less relevant because they are of trees located outside of the redwood region, and were subjected to very different treatment. These are studies of saplings that had been planted after the original stands were harvested by mechanized equipment, not comparable to the work proposed through the old growth trees at Richardson Grove. Furthermore, in these studies, Ampoorter, et al. (2011) found that the "effects were predominantly insignificant, varied strongly and were thus not unambiguously negative." The study by Holub, et al. (2013) concluded that, "Soil compaction, without other soil disturbance or displacement, had no negative effects on tree growth or tree size over the 10- year growing period." Lastly, Ponder, et al. (2012) found that, when combined with intact forest floors, compaction actually increased tree stand biomass. The latter scenario is most similar to the work in the Richardson Grove Operational Improvement Project, where woody material would be retained or chipped and spread back onto the site, leading one to conclude that the project would likely benefit tree stand biomass.

27. Comments on additional stresses, global warming:

- Trees may face additional stresses not present during previous studies such as global climate change or severe weather in the years immediately after the disturbance. Caltrans does mitigate some of the immediate impacts through watering the trees during the first dry season but the recovery time is unknown.
- The Supplement does not analyze how the effects of global warming on coast redwood would amplify the effects of the project.

Response 27: The potential for effect by severe weather or climate change effects might pose a potential for additional stresses to the trees if the buttress/structural roots were severed; however, through protection measures such as excavating in most of the project with hand-held tools, the vast majority of the larger structural roots would be not be cut, thereby preserving the stability of the tree. Initial findings from a collaborative climate study announced by Save the Redwoods League in August of this year indicate that a growth surge in coast redwoods in recent years may be related to the increased atmospheric carbon dioxide that is attributed to global warming (SRL 2013). Apparently, old-growth redwoods are sequestering increased atmospheric carbon and growing with an unprecedented efficiency. It is simply not possible to predict the future effects on old-growth redwoods of climate changes that may be attributable to global warming.

28. Comment: Due to the uncertainty of the long-term impacts of the project, State Parks recommends Caltrans consider long term monitoring of trees likely to be affected by the project.

Response 28: The work would be monitored by a certified arborist, who would also collect baseline information, including photographs, to document project activities. The Department will incorporate State Park's input into tree monitoring work.

29. Comment: The Supplement should evaluate the increased potential of vehicle strikes to the trees due to the increased number of trees that will be immediately adjacent to the highway. An increased incident of vehicle strikes will not only mar the aesthetic value of the trees but also reduces the health and vigor of the trees, and may result in diminished structural integrity of the tree. State Parks recommends installing some form of protective structures such as guard rails for trees most vulnerable to vehicle strikes.

Response 29: As described in response #4 to NCRD's comment on the Draft EIR/EA (in Vol.2, Final EIR/EA), it is unlikely that the number of collisions will increase as a result of the project. The design is intended to address the lack of room on the roadway that likely contributes to tree strikes by vehicles at present. With project implementation, larger vehicles would have more room to navigate through the trees, resulting in fewer trees being struck.

30. Comments on missing references:

- The Supplement and Yniguez (2013) both reference two documents by Tredici (1998, 1999) but they are not listed in either document's literature citation section nor were they provided in the referenced literature requested by [State Parks].
- Four references included in the text of the Supplement are not then listed in the References Cited.

Response 30: In the Supplement, the author Del Tredici is misidentified as Tredici in the citation on buttress flares (Section 2.1 in **Root Disturbance and Adaptations of Coast Redwoods**, bullet number three, page nine), and inadvertently omitted from the References Cited (page 19). However, the author is both included and correctly referenced in the Yniguez report. The four references should be added to References Cited in the Supplement as follows:

Becking, R. W. 1979. Letter to John D. Foulkes, Engineer. *Rudolph W. Becking Collection*. Box 6, Folder 1. Humboldt State University, Arcata, CA.

Del Tredici, P. 1998. Lignotubers in *Sequoia sempervirens*: Development and Ecological Significance. *Madroño* 45(3):255-260.

_____. 1999. Redwood Burls: Immortality Underground. Arnoldia 59(2):14-22.

U. S. Forest Service. 1908. Redwood. U. S. Department of Agriculture Forest Service, *Silvical Leaflet* 18.

All references, including the Del Tredici papers, were furnished in their entirety on disc to State Parks during the public review period for the Supplement.

31. Comment: The Supplement did not address the potential for the project to introduce Sudden Oak Death or root fungus.

Response 31: To minimize the potential to introduce weed seeds or pathogens, the following avoidance and minimization measure has been added to the project, and will be incorporated into the contract documents for the project:

- All off-road construction equipment would be cleaned of mineral soil and vegetation prior to initial entry into the project construction limits to avoid the introduction of weed seeds and pathogens to the site.

This measure would minimize impacts to resources and further the Department's goal of controlling exotic species; it would not result in a change in the level of anticipated impacts for the project.

32. Comment: Distances between old growth trees at Post Miles 1.48 and 1.55 cannot provide two 12-foot lanes, 2-foot shoulders and a barrier between them without impacting the old growth trees.

Response 32: Although the project seeks to provide "two 12-foot lanes with two-foot shoulders… where possible," this would not always be achieved. We examined the locations cited by the commenters and found only one (PM 1.55) where old growth redwoods on either side of the road are spaced too closely for the stated width to be achieved. Since the Department is not proposing to remove any old growth redwoods, the project design takes such narrow spots between trees into consideration; our analysis shows there is still adequate room to accommodate STAA trucks and other large vehicles at this particular location without removing any old growth redwoods or severing any large buttress roots.

33. Comment: What percentage of the site do the exceptions to cutting roots constitute?

Response 33: The percentage of the site where there will be exceptions to cutting roots has not been calculated. The trees that will be affected were evaluated individually to determine the potential effects, which are presented in Appendix B of the Supplement.

34. Comments on need to analyze past construction to assess tree resiliency:

- In at least two areas I have observed downed old-growth Redwood or no old-growth Redwoods adjacent to the built structures. The current analysis does not take such impacts into consideration and does not analyze where Redwoods are down or missing at the roadside. This neglect needs to be rectified to satisfy NEPA. Being able to analyze the condition or even the very existence of trees adjacent to where construction involved cutting into the soil, and also roots, as opposed to areas where asphalt was laid over the existing dirt roadway without any cutting into soil, would provide a more complete picture of the impacts of road building in Richardson Grove specifically, and would facilitate an adequate analysis of tree health in relation to the roadway if conducted properly.
- Caltrans failed to create a map of the current road's historical construction and condition, indicating how each part was constructed. Without this information the EA cannot provide adequate support for its assertion that the current "vigorous condition" of the old-growth Redwood trees is an "external manifestation of their successful resiliency."

Response 34: The studies and analysis of Richardson Grove show that the trees in the project area are in good health and obtaining adequate moisture, as evidenced by the condition of their crowns. Identifying gaps in trees along the roadside and determining whether the causes were natural or due to construction would be speculative at best, and is beyond the scope of the individual tree analysis undertaken.

35. Comments on spike top trees:

- Could the spike top trees visible along the highway 101 corridor through the northern portion of Humboldt Redwoods State Park be associated with the same [type of] highway construction that resulted in significant long-term adverse impacts to three old-growth redwood trees (Section 2.1 Condition of Old-Growth Redwoods in the Project Area) through the Park?
- It is not true that there is "no visible decline" [in the project area] as there are spiked topped trees that exist because of highway construction.

Response 35: The trees discussed in the Supplement that experienced crown die-off had their very large buttress/structural roots cut decades ago. Despite this injury, the crowns have regenerated below the spike top and are vigorous today, as are all of the old growth redwood trees in the project area within Richardson Grove State Park.

The highway through Richardson Grove is composed of small cuts and fills across a gently sloping alluvial river flat; other than the trees whose buttress roots were cut, the old growth redwoods at Richardson Grove are healthy and vigorous, and highway construction in this section of Highway 101 generally appears not to have impacted the trees alongside it.

It is unknown what has caused the other spike top trees along Highway 101 through the northern portion of Humboldt Redwoods State Park. That section of the highway has different characteristics than the section of highway through Richardson Grove, either in topography or in construction. Highway 101 through Humboldt Redwoods is a four-lane road constructed in the mid 1960s through rugged terrain using large cuts and fills. It was constructed with heavy equipment that did not exist when the highway was built through Richardson Grove. The proposed project differs from constructing a new highway, as at Richardson Grove, or a four-lane project, such was done at Humboldt Redwoods State Park; it is extremely minor in scale and would use different methods that protect the supporting tree roots. No buttress roots would be severed for this project. The Department hopes to work with State Parks to include trees through the northern portion of Humboldt Redwoods State Park in our monitoring plan.

36. Comment: The adjustment of trees to existing conditions does not accurately predict effects of the project.

Response 36: The condition of the old growth redwoods within the project limits was one factor of several considered in the evaluation of the potential effects of the project. Also considered in the evaluation were the extent of disturbance proposed for each tree as determined through engineering diagrams, taking into account both methods of construction, including protective measures, and the location of the activities to be undertaken, as well as the professional experience and training of the arborist, the history of the site, and the body of literature on the biology and physiology of coast redwood.

37. Comment: Document does not analyze the effect of faster traffic/more traffic on trees as a result of the project.

Response 37: The proposed project is not expected to result in increased truck traffic or result in faster traffic. The project will not be increasing the capacity of the highway as no additional travel lanes will be constructed. The potential for increased truck traffic would be due to diverted truck traffic that currently uses other north/south routes such as I-5 and Route 99. Diversions from these other routes would depend upon it being economically feasible for the trucking companies to change their existing routes based upon fuel consumption and travel times. Since all the major coastal cities from southern California to northern Washington have readily available access to the I-5 and Route 99 corridors which have straighter alignments and faster travel times, the opening of STAA access to Route 101 through Richardson Grove is not expected to generate a substantial amount of diverted truck traffic. If the project is constructed, some of the truck traffic that currently use Route 101 through Richardson Grove would likely switch from non-STAA trucks to STAA trucks which has the potential to reduce the number of truck trips. It does not straighten the roadway, but rather, makes minor adjustments to the alignment of the curves. The realignment will cause vehicles to enter into the curves prior to reaching the trees that are causing the current geometric deficiency. It is not expected that the project would cause motorists to travel at faster speeds than under current conditions, since the

alignment would continue to be curvilinear and have trees abutting the roadway. Thus, there should be no change in the effect of traffic speed or volume on the health of the trees.

38. Comments on marbled murrelets:

- The marbled murrelet surveys are inadequate.
- Audio/visual surveys alone may have been inadequate to detect murrelets without the addition of radar surveys (Cooper and Blaha 2001).
- Where is the documentation for marbled murrelet surveys? Produce and send it [to commenter].
- The Department did not provide adequate surveying requirements or adequate mitigation or avoidance measures to ensure that unauthorized "take" of marbled murrelets either under FESA or CESA will be avoided. Caltrans did not consult with and seek a Consistency Determination from CDFW.

Response 38: Suitable habitat for the marbled murrelet exists at Richardson Grove State Park, and their presence was assumed for the project's impact analysis. The USFWS stated in their Biological Opinion for the project that, while there was no evidence that marbled murrelets nest in Richardson Grove State Park, at least one nesting pair may be subjected to disturbance and "limited short term harassment" from the project (USFWS 2009). Subsequently, the California Department of Fish and Wildlife (Cal DFW) informed the Department that a consistency determination was not needed, as there would be no take of marbled murrelet as defined under the Fish and Game Code. As a result of the Biological Opinion, the Department incorporated numerous measures into the project to avoid or minimize expected impacts. The Department committed to two years of surveys for the murrelet as a conservation measure, intended in the context of the Endangered Species Act to further the recovery of the listed species and minimize or compensate for the project effects.

Two years of surveys covering the project area were conducted in 2011 and 2012. As with all technical studies, the documentation for the marbled murrelet surveys is part of the administrative record for the project. The results of the surveys were summarized in the Supplement.

As reported, no murrelets were detected, and the USFWS lifted a measure requiring temporal work restrictions for the project for five years. The Department contracted with State Parks to administer the survey efforts and thereby ensure quality control. A park environmental scientist provided oversight for the design and implementation of surveys, and worked closely with ICF Jones and Stokes, the consultant hired by the Department to conduct the surveys.

The surveys followed the protocol officially recommended by USFWS, "*Methods for Surveying Marbled Murrelets in Forests: A Revised Protocol for Land Management and Research"* (Evans 2003). The protocol states that Radar Surveys may not be used in place of Intensive Surveys for determining occupancy, and Intensive Surveys were used at Richardson Grove. Intensive Surveys are designed to determine probable absence or presence of murrelets at a specific site; document occupancy; monitor murrelet activity levels at specific sites (e.g., for a pre-harvest inspection); locate nests; and establish murrelet use patterns. At no time during survey design process did anyone from State Parks mention the necessity for conducting radar surveys, nor were radar surveys recommended by USFWS in the Biological Opinion.

39. Comment: State Parks is concerned that lifting temporal restrictions on operations due to the lack of detection of marbled murrelets will result in significant adverse effects to visitors and residents. It requests that noise generating activities be prohibited during the established quiet times in the campgrounds (10:00PM to 8:00AM).

Response 39: Temporary noise impacts on park users are identified in Chapter 2 of the 2010 Final EIR/EA, and Appendix B of the Programmatic Section 4(f) identifies the measures incorporated into the project to minimize noise impacts. The analysis and determination of effects were made without factoring in any noise restrictions for the marbled murrelet or any other purpose. Night work was also disclosed in the Biological Assessment, and the Biological Opinion concluded that the proposed project would not result in any marbled murrelet or northern spotted owl nesting habitat being removed or degraded and the "likelihood that the project would result in direct mortality of marbled murrelets or northern spotted owls, particularly to young or the loss of eggs, is discountable." State Parks has provided a Section 4(f) concurrence stating, "We agree that the proposed realignment action has included all possible planning by your department to minimize long term harm to Richardson Grove State Park resources."

RESPONSES TO COMMENTS ON THE TREE DECISIONS REPORT

40. Comments on Tree Decisions report:

- The damages to each tree are not fully analyzed. There is no metric for measuring either the effect of root zone disturbance or the damage to the foliage. We are supposed to rely on the judgment of the arborist, even though he fails to document the basis for his ratings.
- The rating system is inadequate.

Response 40: The metric used by the arborist to assess the effects of the project on the health of each tree was twofold: first, the extent of disturbance proposed for each tree was determined by consulting engineering diagrams with a project engineer, and considering both methods of construction, including protective measures, and the location of the activities to be undertaken. Second, a scale was used to predict how that level of root zone disturbance would affect the tree's ability to absorb and transport moisture throughout its system, as evidenced by a visible change in the tree. The scale ranges from a rating of "no effect," (rating 0), to "effect severe enough to threaten survival of the tree" (rating 6). The scale was developed based on professional experience and training of the arborist, the condition of the tree, the history of the site, and the body of literature on the biology and physiology of coast redwood.

41. Comments: The rating system seems to address only moisture absorption and transport impacts.

Response 41: The structural roots will be largely protected by the use of special methods that prevent roots larger than two inches in diameter from being cut when excavating to widen or realign the roadway. What then becomes most relevant to tree health is the extent to which the tree's moisture and nutrient absorbing capacity is diminished by either fill or impervious surface. For the limited number of trees that would have SRZ roots larger than two inches cut, the arborist considered the effects to the structure and stability of these individual trees and found they would not be significant.

42. Comment: The Tree Decisions (TD) report is incomplete and misleading. It does not identify the Supplement among the materials that the preparer reviewed. The Supplement outlines substantial changes to root zone protection measures that were not reflected in the "individual tree analysis" or other materials reviewed for the TD Report. It seems clear that the report failed to consider these changes.

Response 42: The Tree Decisions Report was prepared in conjunction with the Supplement, and the information in the report was summarized in the Supplement. Information from, and drafts of, the Individual Tree Analysis were used during the field review. The Analysis compiled

the details of work at each affected old growth redwood, the protection measures to be used at each tree, and the results of the field review. The final version was used for both the Supplement (Attachment B) and the Tree Decisions Report (Appendix D). The arborist reviewed the final Individual Tree Analysis (Yniguez, p.6), to ensure that it reflected both his understanding of the work that would take place at each tree and his evaluation of its effects. Any clarification of tree protection measures in the Supplement came from the Individual Tree Analysis.

43. Comment: The Tree Decisions Report identifies only one tree (#13) where cut slope excavation would occur in a structural root zone. The individual tree maps in the [Supplement], however, show at least two other trees with cut slope excavation in their structural root zones (#15, #87), as well as several additional trees with cut slope excavation in the root health zone and wall excavation in both zones. The Tree Decisions Report failed even to mention, much less evaluate, impacts to these trees. The report also failed to discuss the [Supplement]'s allowance for the use of mechanized equipment, which may make it impossible to ensure that large roots will be cut cleanly.

Response 43: The Tree Decisions Report (Yniguez, p.6) presents the ratings of all the trees that may be affected by the project, including Trees #15 and #87. Appendix D of the report, the Individual Tree Analysis, details the work that would take place in the root zones of every old growth tree, including the use of mechanized equipment, in addition to the proposed protection measures and the arborist's evaluation of potential effect. The Tree Decisions Report (Yniguez, pp. 6-7) also presents a more detailed discussion of the potential effects of proposed activities that, in his judgment, warranted it. This included discussion of five trees, Trees #12, 13, 15, 104 and 105, where project activities may remove roots larger than two inches in diameter within the SRZs. The discussion concludes that, "none of the proposed highway alterations is of sufficient magnitude to threaten the health or stability of any old-growth redwood."

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Attachment: Examples of Form Letter Comments, Long and Short Versions

Example of long form email

Subject: Protect the Irreplaceable Treasure of Richardson Grove

These comments are provided in regards to the release of the “Supplement to the EA” for the Richardson Grove Operational Improvement Project.

Richardson Grove State Park is an irreplaceable, unique, and fragile ecosystem that is protected under state and federal laws, and a transportation infrastructure development project as Caltrans proposes must be carefully analyzed in order to design and identify viable alternatives, with the goal of minimizing and/or eliminating negative impacts to park resources and an increasingly rare ecosystem type.

I respectfully request that Caltrans drop this project and work with the community to identify viable and less environmentally risky alternatives. Barring the dropping of this project, it is in my assessment that the “Supplement to the EA” is inadequate, and that a full EIS is necessary, as the April 2012 court order implies.

Concerns about the Richardson Grove project, and the newly released “Supplement to the EA,” include but are not limited to the following:

*Caltrans has not followed the Court’s order of April 2012 with the release of the “Supplement to the EA.” The Court ordered Caltrans to provide a “Revised EA,” not just a “Supplement to the EA.” Caltrans needs to go a back and respond adequately to the court order.

*Tree Impacts: The Supplement and the Tree Decisions Report fail to provide the analysis that the court ordered. The Supplement fails to provide the analysis of impacts to each tree and to the forest ecosystem that the court required. Caltrans needs to provide an adequate analysis of how the trees and the forest ecosystem would be impacted by implementation of the project, and describe viable alternatives.

*Mitigation: Caltrans still fails to establish the effectiveness of the proposed mitigation; there is no new evidence in the “Supplement to the EA” to support claims that the proposed plans will be effective. Serious concerns remain about project implementation, especially absent guarantees that proposed mitigation plans would actually be put into practice, as well as to the long-term effectiveness of those proposed mitigation actions.

*Impacts to the Eel River: Caltrans still fails to properly assess impacts to named watercourses from disturbed soil, including failure to assess threats from contaminated soil and/or other roadway toxins on the Eel River.

*Purpose and Need: Caltrans fails to provide contemporary assessment of truck transportation/shipping demands in light of changes in business composition, needs, and demands on the North Coast, and how this relates to progress made with other STAA projects. Caltrans has still fully failed to assess the cumulative impacts of facilitating unfettered STAA truck access to our North Coast highways and community streets.

*Failure to provide contemporary assessment of impacts to public safety due to changes in truck traffic patterns related to this specific project as well as in the context of the other STAA projects proposed or underway in the region.

*Caltrans has failed to fully examine alternatives that could meet goods movement goals and STAA truck access objectives while at the same time reducing impacts on irreplaceable State Park resources.

*Caltrans needs to do a full Environmental Impact Statement for this project. This project has clearly been of high public interest, with a great deal of local and statewide controversy. This controversy arises from the fact that there are substantial unanswered questions concerning the impacts of this project both immediately on the location in question, as well as regionally due to the overall STAA truck access vision being implemented through the development of a related series of highway widening projects.

Thank you for the consideration of these comments. Please protect Richardson Grove and work with a broad community of stakeholders to identify and design a less impactful alternative that will provide for the transportation planning and economic connectivity needs of the North Coast community, as well as safeguarding the irreplaceable natural treasures that make the redwood region a globally special place.

Example of short form email

Subject: Protect Richardson Grove
These comments are provided on the "Supplement to the EA" for the Richardson Grove Operational Improvement Project.

Richardson Grove is an irreplaceable, unique ecosystem that is protected under state and federal laws, and any transportation infrastructure development project Caltrans proposes must avoid or minimize harm to the park and its old-growth redwoods.

The supplement fails to provide a full analysis of damages to each old-growth redwood tree that could be harmed or killed by the project and fails to address threats to the Eel River. Further, Caltrans has failed to fully examine alternatives that could meet transportation goals and oversized-truck access objectives while avoiding harm to irreplaceable state resources.

Caltrans should abandon this project and work with the community to identify viable and less environmentally risky alternatives. The "Supplement to the EA" is inadequate and does not respond to the 2012 court order. A full environmental impact statement is necessary for this project.