

Initial Study and Draft Mitigated Negative Declaration

Rhiannon Solem

Environmental Review of a Coastal Grading Permit

May 2022



Prepared By
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Project Information Summary

1. **Project Title:** Rhiannon Solem
Environmental Review of a Coastal Grading Permit – GP2022-01C
2. **Lead Agency Name and Address:** Del Norte County
Planning Commission
981 H Street, Suite 110
Crescent City, CA 95531
3. **Contact Person and Phone Number:** Jacob Sedgley
(707) 464-7254
Jacob.Sedgley@co.del-norte.ca.us
4. **Project Location and APN:** 16815 Oceanview Drive, Smith River, CA 95567
APN 101-010-009
5. **Project Sponsor’s Name and Address:** Rhiannon Solem
23828 Costa Mesa Way
Murrieta, CA 92562
6. **County Land Use:** Rural Residential – one dwelling unit per five acres (RR(1/5))
7. **County Zoning:** Rural Residential Agriculture – five acre minimum lot size (RRA-5)
8. **Description of Project:**

Rhiannon Solem has submitted an application for a coastal grading permit to restore a stream that was partially filled by the previous owner, Robert Higgs. According to the Restoration Plan, in 2011 Mr. Higgs impacted a Class II stream by filling in approximately 170 feet of the channel in two places including an upper and lower section. Fill consisted of woody debris and soil, and was placed directly into the stream. According to Community Development Department records, the grading violation was first discovered on May 13, 2011, when staff from the Del Norte County Community Development Department and the California Department of Fish and Game visited the parcel. On May 23, 2011, a Notice of Violation was sent to Mr. Higgs for illegal grading activities including grading without a permit, vegetation removal, diverting a stream into a culvert, and damaging wetlands.

Mr. Higgs proceeded to pursue remediation of the violation, and a different Restoration Plan was prepared on July 23, 2012, by Galea Biological Consulting (GBC). The previous restoration plan underwent environmental review pursuant to the California Environmental Quality Act, and a Mitigated Negative Declaration was posted to the State Clearinghouse on August 24, 2012 (SCH # 2012082085). However, the Restoration Plan was never implemented and the grading permit associated with the project (GP2011-17C) expired on 11/17/2016 with the violation remaining unresolved.

In 2021, Mr. Higgs sold the property to Robert and Rhiannon Solem. On January 14, 2022, an application for a coastal grading permit (GP2022-01C) was submitted to the Engineering & Surveying Division, along with the first iteration of the Restoration Plan prepared by GBC. Staff from the Del Norte County Planning Division, GBC, the California Department of Fish and Wildlife, and the North Coast Regional Water Quality Control Board, visited the site on February 23, 2022. Based on input and feedback provided to GBC, a revised Restoration Plan was submitted to the Community Development Department on March 30, 2022. Given the physical changes to the

site since the initial violation and changes to the restoration plan since it was originally proposed in 2012, it was determined that the project would require further environmental review pursuant to the California Environmental Quality Act. As such, new environmental documents will be prepared based on the new proposal and site conditions as they exist today.

The scope of work for the revised Restoration Plan includes four main sections: stream restoration, riparian restoration, a monitoring and reporting program, and replacement of an aging culvert. Stream restoration will take place in two affected sections of the stream, an upper and lower section. Proposed work for the upper section includes fill removal and revegetation since the area showed signs of active erosion and instability, as stated by CDFW upon visiting the site. Proposed work for the lower section includes removal of some fill in order to maintain stream channel flow, but leaving the rest so that occasional saturation of the newly-formed wetlands could occur. Riparian restoration work includes the planting of 20 alder trees along both sections of the stream affected by the fill. Monitoring and reporting will occur for a minimum of three years following completion of the project, and will examine the overall site conditions as well as monitor the progress of revegetation efforts. The scope of work also includes the replacement of an existing metal culvert located towards the lowest section of the parcel. The old culvert shows signs of wear and will be replaced in-kind, except that the culvert will be plastic. All proposed work will take place between April 30 and October 30, when stream flow should be minimal. Additionally, measures will be taken to prevent sediment flows during all phases of the project including straw bales and wattles that will be removed.

The parcel is located at the north end of Ocean View Drive, just east of U.S. Highway 101, and north of the town of Smith River. The Zoning designation for the parcel is RRA-5 or Rural Residential Agriculture with a five acre minimum lot size. The General Plan Land Use designation is RR(1/5) or Rural Residential – one dwelling unit per five acres. The parcel is located within the California Coastal Zone.

9. Surrounding Land Uses and Settings:

The 8.73-acre parcel is surrounded by a mix of residential, agricultural, and vacant lands. The parcel immediately to the north is zoned Timberland Preserve (TPZ) and is currently developed with a residence. Parcels to the east and south-east are zone RRA-5-D-C(S) or Rural Residential Agriculture with a five acre minimum lot size, Density Combining District, and Coastal Area Combining District for a Special Development Pattern Area. Uses of these parcels included undeveloped land and residential uses. The parcel located immediately south of the subject parcel is zoned AE or Agriculture Exclusive, and is currently used for agricultural activities. The parcel located southwest of the subject parcel is zoned A-5 or Agricultural General, and is developed with a residence. Parcels located to the west are zoned RRA-3 or Rural Residential Agriculture with a three acre minimum lot sizes, and are developed with single-family residences.

10. Required Approvals: Adoption of a Negative Declaration (Del Norte County Planning Commission)

11. Other Approvals (Public Agencies): North Coast Regional Water Quality Control Board, California Department of Fish & Wildlife

12. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

Native American tribes, traditionally and culturally affiliated with the project area have been notified of the project application completion and the beginning of the AB 52 consultation period pursuant to PRC §21080.3.1. Notification of the beginning of the AB 52 consultation period was provided April 15, 2022. No requests for consultation pursuant to PRC §21080.3.1 were received.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" without mitigation as indicated by the checklist on the following pages. All mitigation measures are provided in the Mitigation Monitoring and Reporting Program.

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

Determination

On the basis of this initial evaluation:

<input type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Jacob Sedgley
Planner

5/19/22

Date

Environmental Checklist

1. Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or public views of the site and its surroundings? (Public views are those that are experienced from publically accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project would have no impact on a scenic vista.
- b. The project would not damage scenic resources, as there are no scenic resources on-site.
- c. The project would not substantially degrade the existing visual character of the site.
- d. The project would not create a new source of substantial light or glare.

2. Agriculture and Forest Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Discussion of Impacts

- a. No prime farmland exists on-site.
- b. No agricultural zoning exists on-site.
- c. No Timber Production Zones exist on-site. A Timberland Preserve (TPZ) Zone district does exist north of the property. However, the proposed project would have no foreseeable impact to the long-term productivity of soils or timberlands within that zone district, and does not propose to rezone any existing zone designations.
- d. The project would not result in the loss of forestland.
- e. The project does not involve any other changes in the existing environment that could adversely affect farmland or timberlands.

3. Air Quality

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in other emissions (such as those leading to odors or dust) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project would have no foreseeable impacts on the implementation of an air quality plan.
- b. The project would have no foreseeable impacts on increasing criteria pollutants in the region.
- c. The project would not expose receptors to substantial pollutant concentrations.
- d. The project would have no foreseeable impacts in increasing any emissions.

4. Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Wildlife Service?				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. As proposed, the project would not have substantial adverse effects on any candidate, sensitive status, or special status species identified in local or regional plans, policies, or regulations, or by CDFW or the U.S. Fish and Wildlife Service. The Restoration Plan indicates that, as a result of the violation and seasonal flooding of the area, a small wetland was created on the parcel that is suitable habitat for the northern red-legged frog, a species of special concern in California. The proposal states that shovels will be used to carefully remove only the top amount of debris from the lower section of the channel in order to maintain stream channel flow, while leaving the rest so that occasional saturation of the newly-formed wetlands can occur and the habitat area will be maintained. Mitigation Measure BIO-2 should serve to protect any species that are encountered during the earthwork phase of the project, and to prevent encounters in the first place.
- b. As proposed, the project would not have substantial adverse effects on any riparian habitat or sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or the U.S. Fish and Wildlife Service. The goal of the project is to partially repair damage that was previously done on the property by illegal grading activities. Mitigation Measure BIO-1 will ensure that replacement of alder that was removed during the original violation is replaced and monitored for success. Additionally, Mitigation Measure BIO-3 will ensure that there are no further impacts to the stream or newly created wetlands. If adverse impacts do occur, work shall cease immediately and the appropriate agencies will be contacted.
- c. As indicated in the Restoration Plan, a portion of the area filled by Mr. Higgs has flooded seasonally resulting in the creation of new wetland habitat. The document indicates that a wetland delineation was conducted in February of 2022 in both the upper and lower sections that were impacted by the fill. The report indicates that wetlands were identified primarily by vegetation and hydraulic indicators such as soft, spongy ground and newly created stream bank edges. Soils were not indicative of wetland conditions, likely because flooding only occurs seasonally and an insufficient amount of time has elapsed to create new hydric soils in the flooded areas. These wetlands were found to extend as much as 15 feet from either side of the stream in the lower section, and as much as 12 feet from either side of the stream in the upper section. As such, the Restoration Plan proposes to remove only the top amount of debris from the stream channel in order to maintain stream

channel flow, while leaving the rest so that the occasional saturation of the newly-formed wetlands may still occur. Additionally, Mitigation Measure BIO-3 should ensure that there are no adverse impacts to the wetlands during the earthwork phase of the proposal.

- d. The Class II stream impacted by the fill has been found to be non-fish bearing. Therefore, there will be no impacts to the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. Additionally, the project will not impede the use of native wildlife nursery sites.
- e. As proposed, the project does not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- f. As proposed, the project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

Mitigation Measure BIO-1

The Restoration Plan indicates that the original violation resulted in the removal of one alder tree, and is to be mitigated by planting of a minimum of 20 alder trees. Initial plantings shall occur during the winter of 2022, given that the appropriate permits are granted. If the planting is to be delayed, the applicant or their agent shall notify the Planning Division. One year after the completion date of the first planting, the area shall be inspected by a qualified biologist to ensure a minimum of ninety percent survival. If the site is below a ninety percent survival rate, additional planting shall occur to bring the total number of plantings to above 90 percent. If seedlings or saplings are removed or destroyed by elk, the applicant shall not be responsible for their replacement. Beginning at the end of 2022, the applicant shall provide a status report from a qualified biologist, describing current conditions of the project area including progress on the alder planting and the overall condition of the impacted portion of the creek.

Timing/Implementation: As described above.

Enforcement: County Community Development Department

Monitoring: Yearly

Mitigation Measure BIO-2

Prior to any earth disturbing activities, the area of work shall be surveyed by a qualified biologist to identify any species in the immediate area that may be impacted by the proposed activities, specifically the northern red-legged frog. The biologist shall have the discretion to take necessary precautions to protect the species, including but not limited to relocation of the species or cessation of work activities until the species has vacated the area of concern.

Timing/Implementation: Ongoing during the earthwork phase of development subject to the Grading Permit

Enforcement: Qualified biologist on-site during earthwork phase of development subject to the Grading Permit

Monitoring: N/A

Mitigation Measure BIO-3

All in-stream work shall be supervised by a qualified biologist. It shall be the responsibility of the assigned biologist to ensure that work is completed in due accordance with the proposed project, and to ensure that no significant adverse impacts to wetlands or riparian habitat shall occur. If significant adverse impacts are expected to occur or do occur as any part of project implementation, the biologist shall cease all work in the area and contact either the Planning Division or the Engineering & Surveying Division of the Del Norte County Community Development Department.

Timing/Implementation: Ongoing during the earthwork phase of development subject to the Grading Permit

Enforcement: County Community Development Department

Monitoring: N/A

5. Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

a-c. No cultural resources are known to exist on-site. The County records were searched for known cultural sites in the general project vicinity, and none were identified. Notice was provided to all tribes traditionally culturally affiliated with the project area and no comment was given with regard to cultural resources. Additionally, cultural staff from the Tolowa-Dee-ni’ Nation is a voting member of the County Environmental Review Committee which reviews projects and makes CEQA recommendations. While resources are not known to exist on-site, the possibility of an inadvertent discovery is always possible during construction or other implementation activities associated with the project. In this case, mitigation measures included as CULT-1 assigned to the project will ensure that any resources located on-site will be properly treated as to not cause a significant impact.

Mitigation Measure CULT-1

An inadvertent discovery condition shall be added to the permit stating that in the event of archeological or cultural resources are encountered during construction, work shall be temporarily halted and a qualified archaeologist, local tribes, and the County shall be immediately contacted. Workers shall avoid altering the materials and their context until a qualified professional archaeologist, in collaboration with the local tribes has evaluated the situation and provided appropriate recommendations. Project personnel shall not collect any resources.

Timing/Implementation: Ongoing during the earthwork phase of development subject to the Grading Permit

Enforcement: County Community Development Department

Monitoring: N/A

6. Energy

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project would have no foreseeable impacts on increasing wasteful, inefficient, or unnecessary energy use due to the relatively small size of the project. The project will use minimal amounts of fuel and energy.
- b. This project does not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

7. Geology and Soils

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

Discussion of Impacts

- a-d. The project is not anticipated to cause significant impacts including the risk of loss, injury, or death related to soils impacts. Seismic ground shaking and liquefaction could occur in any region of coastal California; however, no structures are proposed and there will be no direct or indirect potential for substantial adverse effects from geologic hazards.
- e. No wastewater disposal systems are proposed as part of the project.
- f. No know paleontological resources or unique geologic features are known to exist on site.

8. Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

indirectly, that may have a significant impact on the environment?				
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. In 2002, the California State Legislature declared that global climate change was a matter of increasing concern for the state’s public health and environment, and enacted a law requiring the California Air Resource Board (CARB) to control greenhouse gas (GHG) emissions from motor vehicle (Health and Safety Code §32018.5 et seq.). CEQA Guidelines define GHG to include carbon dioxide (CO₂), nitrous oxide (N₂O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The California Global Warming Solutions Act of 2006 (AB 32) definitively established the state’s climate change policy and set GHG reduction targets (Health and Safety Code §38500 et seq.). The state has set its target at reducing greenhouse gases to 1990 levels by the year 2020.

Approval of the project, and subsequent restoration of the project area, may generate GHG emissions as a result of combustion of fossil fuels consumed by vehicles travelling to the site. However, GHG emissions would be minor and short-term, and would not constitute a significant impact based on established thresholds.

- b. The project does not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

9. Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Discussion of Impacts

a-g. The project would not create impacts related to hazards or hazardous materials. This project would not facilitate the transport of hazardous materials, the release of hazardous materials, nor would it create additional exposure to wildland fires.

10. Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on-or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional source of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable ground water management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. As proposed, the project will not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Other permits may be necessary for the proposed work; it is the applicant’s responsibility to identify and obtain said permits.
- b. The project will have no impact on groundwater supplies or interfere with groundwater recharge.
- c. The project may result in a temporary increase in siltation during the earthwork phase of the project; however, measures outline in Mitigation Measure HYDRO-1 should be sufficient to mitigate any impacts downstream of the project area.
- d. The project is not in any flood hazard area and would not affect flood waters. The project is also outside of the Tsunami Evacuation Zone and would utilize pollutants that would cause a significant impact.

- e. The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Mitigation Measure HYDRO-1

All earth-disturbing work within the stream channel shall take place between April 30 and October 30, as proposed in the Restoration Plan. Hay bales and/or wattles shall be placed within the stream channel at the lowest point to capture and hold sediments that move during restoration activities. The catchment area shall be cleaned and captured sediments removed and disposed of in a manner deemed appropriate by the supervising biologist. Identical precautions shall be taken when replacing the existing culvert outside of the restoration area.

Timing/Implementation: Ongoing during the earthwork phase of development subject to the Grading Permit
Enforcement: County Community Development Department
Monitoring: N/A

11. Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a-b. This project does not divide an established community, nor does it cause a conflict with any land use plan in the County. The proposed project does conform to the General Plan, as well as other applicable ordinances and codes.

12. Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a-b. No mineral resources are known to exist on site.

13. Noise

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a-b. The project does not have the potential to generate a significant temporary or permanent increase in ambient noise levels in the vicinity of the project above that which currently exists on the property. Temporary noise and vibration may be generated as a result of restoration activities; however, this is not considered significant and will not exceed any applicable thresholds.
- c. The project is not located within the vicinity of any private airstrip or within the boundaries of an airport land use plan.

14. Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project will not induce substantial population growth in the area.
- b. The project would not displace any number of existing people or housing.

15. Public Services

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project would not result in substantial adverse impacts associated with the need for new or altered governmental facilities and/or public services. Given the existing public services in the area and lack of growth inducing impacts, any impact to service ratios, response times, or other performance objectives of these public services are expected to be less than significant.

16. Recreation

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a-b. The project does not involve significant growth inducing impacts that would put significant additional pressures on area parks or recreation facilities. No impact would occur.

17. Transportation

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision(b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

c) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project is not anticipated to conflict with a program, plan, ordinance, or policy addressing any circulation system.
- b. The project is expected to be consistent with CEQA Guidelines § 15064.3, subdivision (b).
- c. The project does not increase hazards due to a design feature.
- d. The project would have no impact on emergency access in the surrounding area.

18. Tribal Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion of Impacts

- a. No cultural resources are known to exist on-site. The County records were searched for known cultural sites in the general project vicinity, and none were identified. Notice was provided to the two tribes traditionally culturally affiliated with the project area and no comment was given with regard to cultural resources. Additionally, cultural staff from the Tolowa-Dee-ni’ Nation is a voting member of the County Environmental Review Committee which reviews projects and makes CEQA recommendations. While resources are not known to exist on-site, the possibility of an inadvertent discovery is always possible during construction or other implementation activities associated with the project. In this case, mitigation measures included as CULT-1 assigned to the project will ensure that any resources located on-site will be properly treated as to not cause a significant impact.

19. Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the providers existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

a-e. The project would not have any impact on utilities and service systems.

20. Wildfire

Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion of Impacts

- a. The project would not substantially impair an adopted emergency response plan or emergency evacuation plan.
- b. The project does not propose residential development and would not expose any persons to pollutant concentrations from a wildfire or to uncontrolled spread of a wildfire.
- c. The project does not require the installation or maintenance of any infrastructure that may exacerbate fire risk, or result in temporary or ongoing impacts to the environment.

- d. The project does not expose people or structures to significant risks associated with flooding, landslides, post-fire instability, or drainage changes.

21. Mandatory Findings of Significance

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

- a-c. The project does not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife species to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Additionally, the project does not have impacts that are individually limited but cumulatively considerable and does not have environmental effects which will cause substantial adverse effects on human beings directly nor indirectly.

Mitigation Monitoring Plan

Biological Resources

Mitigation Measure BIO-1

The Restoration Plan indicates that the original violation resulted in the removal of one alder tree, and is to be mitigated by planting of a minimum of 20 alder trees. Initial plantings shall occur during the winter of 2022, given that the appropriate permits are granted. If the planting is to be delayed, the applicant or their agent shall notify the Planning Division. One year after the completion date of the first planting, the area shall be inspected by a qualified biologist to ensure a minimum of ninety percent survival. If the site is below a ninety percent survival rate, additional planting shall occur to bring the total number of plantings to above 90 percent. If seedlings or saplings are removed or destroyed by elk, the applicant shall not be responsible for their replacement. Beginning at the end of 2022, the applicant shall provide a status report from a qualified biologist, describing current conditions of the project area including progress on planting and the overall condition of the impacted portion of the creek.

Timing/Implementation: As described above.

Enforcement: County Community Development Department

Monitoring: Yearly

Mitigation Measure BIO-2

Prior to any earth disturbing activities, the area of work shall be surveyed by a qualified biologist to identify any species in the immediate area that may be impacted by the proposed activities, specifically the northern red-legged frog. The biologist shall have the discretion to take necessary precautions to protect the species, including but not limited to relocation of the species or cessation of work activities until the species has vacated the area of concern.

Timing/Implementation: Ongoing during the earthwork phase of development subject to the Grading Permit

Enforcement: Qualified biologist on-site during earthwork phase of development subject to the Grading Permit

Monitoring: N/A

Mitigation Measure BIO-3

All in-stream work shall be supervised by a qualified biologist. It shall be the responsibility of the assigned biologist to ensure that work is completed in due accordance with the proposed project, and to ensure that no significant adverse impacts to wetlands or riparian habitat shall occur. If significant adverse impacts are expected to occur or do occur as any part of project implementation, the biologist shall cease all work in the area and contact either the Planning Division or the Engineering & Surveying Division of the Del Norte County Community Development Department.

Timing/Implementation: Ongoing during the earthwork phase of development subject to the Grading Permit

Enforcement: County Community Development Department

Monitoring: N/A

Cultural Resources

Mitigation Measure CULT-1

An inadvertent discovery condition shall be added to the permit stating that in the event of archeological or cultural resources are encountered during construction, work shall be temporarily halted and a qualified archaeologist, local tribes, and the County shall be immediately contacted. Workers shall avoid altering the materials and their context until

a qualified professional archaeologist, in collaboration with the local tribes has evaluated the situation and provided appropriate recommendations. Project personnel shall not collect any resources.

Timing/Implementation: Ongoing during the earthwork phase of development subject to the Grading Permit

Enforcement: County Community Development Department

Monitoring: N/A

Hydrology and Water Quality

Mitigation Measure HYDRO-1

All earth-disturbing work within the stream channel shall take place between April 30 and October 30, as proposed in the Restoration Plan. Hay bales and/or wattles shall be placed within the stream channel at the lowest point to capture and hold sediments that move during restoration activities. The catchment area shall be cleaned and captured sediments removed and disposed of in a manner deemed appropriate by the supervising biologist. Identical precautions shall be taken when replacing the existing culvert outside of the restoration area.

Timing/Implementation: Ongoing during the earthwork phase of development subject to the Grading Permit

Enforcement: County Community Development Department

Monitoring: N/A



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RESTORATION PLAN, HIGGS VIOLATION, 16815 OCEANVIEW DRIVE, DEL NORTE COUNTY (APN # 101-010-09)

Submitted to: Bob Higgs

Prepared by: Frank Galea, Certified Wildlife Biologist
E-mail: frankgalea@charter.net

Galea Biological Consulting
200 Raccoon Court
Crescent City, CA 95531

Submitted: March 30, 2022

By:



1.0

SUMMARY

The Applicant (Bob Higgs) violated the California Resources Code by filling in approximately 170 feet of a small, Class II stream on property he had previously owned, located north of the town of Smith River, Del Norte County. This restoration plan has been prepared to restore the stream channel back to its original dimensions as best as possible. The property is located just north of Ocean View Drive, east of Highway 101 (Figure 1). The property is within the coastal zone and therefore within the jurisdiction of the California Coastal Commission.

2.0

INTRODUCTION

The Applicant (Bob Higgs) impacted a small, Class II stream by filling in 170 feet of the channel in two places, using woody debris and soil as fill directly into the stream. The stream runs through the midst of the 8.83-acre property. There are no structures on the property.

This violation occurred in 2011 and Mr. Higgs has since sold the property to a Ms. Rhiannon Solem, however Mr. Higgs is accepting responsibility for restoring the stream. Galea Biological Consulting (GBC) of Crescent City was contracted to write a restoration plan to remedy and mitigate for impacts to the stream.

It should be noted that Mr. Higgs submitted permit applications for restoring the violation before, but did not complete the restoration after obtaining the necessary permits. At that time, Mr. Higgs planned on keeping the property, therefore his permit applications were for conducting work beyond that necessary for addressing the violation, such as replacing a culvert. This current restoration plan is not nearly as complex as Mr. Higgs original application, and will address the violation only.

2.1 Environmental Setting

The property is located on the first hill slope facing the ocean, just east of Highway 101, north of the town of Smith River. The property is south-facing and relatively exposed to ocean storms. The property is located on Ocean View Drive, where much of the hillside along the road is divided into rural residences.

The property is accessed via a pre-existing roadway which enters the property from Ocean View Drive. Once on the property the road heads east, across the small creek via a culvert crossing. The road is a remnant road from logging and was in place on the property, as was the culvert, when Higgs bought the property. No structures are located on the property.

The property was logged around 2003, based on Google Earth aerial photos. Additional road improvement work was conducted in 2005. The property is cleared of timber, completely fenced and was used primarily for raising horses. The USGS topographic map shows this property as being open ground versus forested (Figure 1).

A Class II watercourse bisects the midst of the property, north to south. The Class II watercourse drains approximately 50 acres, therefore large flow events do not occur for this channel. The channel is relatively small and shallow, only 6-12 inches wide. This watercourse is non-fish bearing, and runs under Oceanview Drive via a culvert, then into a drainage system in the agricultural fields below before reaching the nearby ocean, approximately 1,600 feet from the property. It is not indicated in any manner on USGS topographic maps.

The Class II watercourse does provide habitat for the northern red-legged frog (*Rana aurora aurora*), a species of special concern in California, in the form of seasonally flooded areas adjacent to the stream. A small pond at the base of the hill, created by a natural seep and not connected to the Class II, provides breeding habitat for this species. For these reasons, we recommend that, prior to soil or debris removal with heavy equipment, a biologist survey the site and remove any amphibians in harm's way.

2.2 Physical Environment

The climate of northern California is characterized as Mediterranean, with cool, wet winters and warm, dry summers with frequent fog. Along the coastline, proximity to the Pacific Ocean produces high levels of humidity and results in abundant fog and fog drip precipitation. The maritime influence diminishes with distance from the coast, resulting in lesser amounts of fog, drier summer conditions and more variable temperatures. Annual precipitation in the project watershed ranges from 60 - 150 inches occurring primarily as rain during the winter months. Air temperatures measured in Crescent City area vary from 41°F to 67°F annually.

3.0 Impacts and Current Conditions

Fill and wood debris was introduced into the stream channel at two separate points. The lower area of stream fill occurred approximately 340 feet north of Oceanview Drive, and the fill area continues north about 90 feet (Figure 2). The second fill area (the upper area) occurs 140 feet above the lower area and continues north for about 80 feet. These areas were filled as they occur in open "pasture" areas where horses were kept, apparently to decrease the chance of injury to a horse when crossing the stream.

Due to the fill deposited in the stream, over the past ten years the stream has flooded its banks during high water event, creating an extended wetland on either side of the stream in the lower area, which is relatively flat. This did not occur in the upper area due to a greater slope.

A wetland delineation was conducted in February of 2022 at both impacted areas. Wetlands were identified primarily by vegetation, especially Pennyroyal (*Mentha pulegium*), and hydraulic indicators such as soft, spongy ground and newly created stream bank edges. Soils were not indicative of wetland conditions, probably because flooding only occurs seasonally and not enough time has elapsed to create new hydric soils in the flooded areas.

In the lower section wetlands were found to extend out as much as 15 feet on either side of the stream, while in the upper section wetlands only extended out 12 feet. (Figure 2).

4.0 Restoration and Mitigation

Stream Restoration

Mr. Higgs allegedly filled approximately 170 feet of the Class II stream with dirt and debris, in the midst of the property. Due to the fill in the stream, the channel overflows its banks during major rain events, which over a decade has created wetland habitats to establish immediately adjacent to the stream.

On February 23rd, 2022 the site was reviewed by GBC, Greg O'Connell of CDF&W, Shannon Strong of the NCRWQCB and Del Norte County planning. During that meeting, CDF&W suggested maintaining the wetlands and associated red-legged frog habitat which had been created by flooding of the filled channel. They recommended removing only the top amount of debris from the channel in order to maintain stream channel flow, but leaving the rest so that occasional saturation of the newly-formed wetlands could occur.

Therefore, in order to restore the stream channel as newly proposed, we plan to use hand shoveling, to carefully remove the soil and woody debris material from the stream channel down a few inches only.

This work would take place during summer months of 2022, between April 30 and October 30, during that time of year when the stream is at its lowest flow. The stream likely does not completely dry as it is spring fed. Hay bales or wattles would be placed within the stream channel, at the lowest point of the restoration area, to capture and hold sediments which may move during restoration. This catchment area will be cleaned out and removed after the remainder of the channel is cleared.

In the lower section of restoration, there is some natural meander of the stream channel. This natural meander will be maintained during restoration, which will reduce water flow velocities and prevent channelization.

Woody debris and soil would be removed from the stream channel and taken to a dry section of the property and discarded. Any sections of the stream channel which may have an overabundance of fill dirt would be carefully excavated to remove fill and blockage. All in-stream work would be supervised by a biologist from GBC.

All bare mineral soil exposed during restoration shall be treated for erosion prior to the onset of precipitation, including the seeding and mulching of all bare mineral soil. Erosion control will consist of at least 2 inches of straw mulch plus 100 lbs/acre equivalent of barley seed.

Riparian Restoration Goals

As mitigation for impacts to the stream channel and the removal of one alder by Higgs, a mix of alder, spruce, cascara and fir seedlings (or saplings) will be planted on either side of the stream corridor, adjacent to the restoration reaches, but outside of the wetland perimeter. A minimum of 20 seedlings and saplings would be planted along the stream (Figure 3). The amount of 20 seedlings was chosen based on the size of the area mitigated. This ration of 20/1 far exceeds normal mitigation. Putting in additional seedlings would lead to an eventual elimination of the newly-formed wetland area.

Saplings will be planted in small groups leaving sufficient spacing between groups to allow elk and deer access to the creek, which will greatly increase survivability of the saplings. Saplings would also be protected with protective seedling tubes. The goal of the mitigation is to create a "park-like" affect along the stream channel, with an overstory of trees over the stream corridor.

Monitoring and Reporting

Initial plantings would occur during the winter of 2022 if permits can be granted. GBC will monitor riparian plantings for at least three years to insure survival of at least 80 percent of all planted saplings. Saplings will be checked one month after planting. One year after the completion date of the first planting, if the number of surviving planted saplings falls below 90 percent, additional plantings will be completed to bring the total number of plantings above 90 percent. The site will be checked the second and third season after the first planting season to insure a 90 percent survival. In Del Norte County, plantings along a stream corridor such as this should have a very high survival rate.

The landowner will not be responsible for re-planting seedlings or saplings if they are removed or destroyed by elk, which are present in the area, but not prevalent on the property.

GBC will provide a status report to all permit agencies at the end of every year, beginning in 2022, for three years. Conditions within the impacted portion of the creek, plus status of plantings, will be described within the status report.

Culvert Replacement

An existing, metal culvert (18 inch diameter) is located approximately 150 feet south of the restoration project area (see attached photo). The old culvert allows crossing of the stream and providing primary access to the property. The old culvert shows signs of are and wear. There are no indications that the existing culvert is undersized for this location, as the stream is primarily spring fed and the drainage is relatively small, and there are no indications of blockage or failure at the culvert site. The entire drainage this culvert serves is approximately 40 acres. As a part of this project the owner would also like to replace the old culvert with a new, plastic culvert, in order to prevent potential failure. The new culvert would be the same size and length as the existing culvert, and would have a minimal amount of road rock placed on top of fill, once replaced. The diameter, flow line and alignment would not be altered from the old culvert.

Culvert replacement will occur between April 30th and October 30th. Stream flow at this time would be minimal, and the stream would be clocked above the culvert during the culvert replacement duration, which would occur within one day. The stream channel above the culvert is large enough to retain the blocked stream flow.

During culvert replacement, straw bales or wattles will be placed in the creek below the culvert replacement site in order to contain and remove sediments which may be introduced.

Recommendations

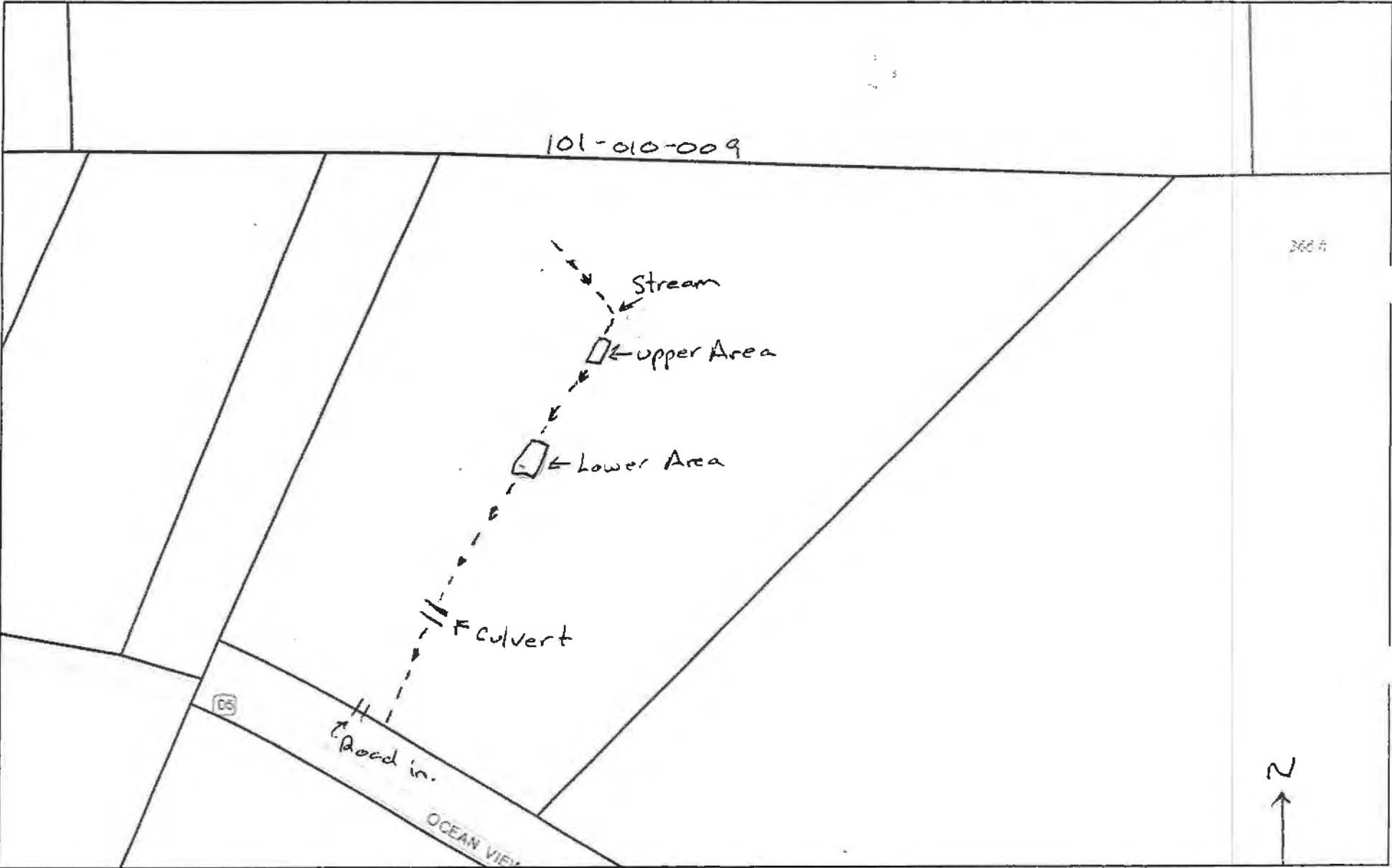
1. All bare mineral soil exposed during restoration shall be treated for erosion prior to the onset of precipitation, including the seeding and mulching of all bare mineral soil. Erosion control will consist of at least 2 inches of straw mulch plus 100 lbs/acre equivalent of barley seed.
2. A wildlife biologist will supervise all in-stream restoration work.
3. Straw bales or wattles will be placed in the stream below the culvert replacement site to contain and remove any introduced sediments.

5.0

STAFF QUALIFICATIONS

Habitat assessment and report writing for this project was conducted by Principal Biologist, Frank Galea. Frank is the primary Biological Consultant and owner of Galea Biological Consulting, established in 1989. Frank is certified as a Wildlife Biologist through the Wildlife Society. Frank's qualifications include a Master of Science Degree in Wildlife Management from Humboldt State University and a Bachelor of Science in Zoology from San Diego State University. Frank has been assessing habitat and conducting field surveys for Threatened and Endangered species for over 30 years. Frank has taken an accredited class on wetland delineation through the Wetland Training Institute, and has successfully completed a Watershed Assessment and Erosion Treatment course through the Salmonid Restoration Federation.

ArcGIS Web Map



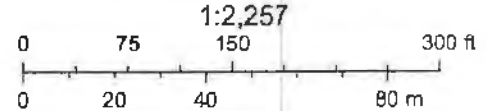
3/30/2022, 12:50:24 PM

Parcels

County Supervisor District

Tsunami Evacuation Zone

No, Outside Hazard Area



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

ArcGIS Web AppBuilder

Bureau of Land Management, State of Oregon, State of Oregon DOT, State of Oregon GEO, Esri Canada, Esri, HERE, Garmin, USGS, EPA, USDA |



GALEA BIOLOGICAL CONSULTING

200 Raccoon Court . Crescent City . California 95531
Cell: 707-218-6039 Email: frankgalea@charter.net

RESTORATION PLAN, HIGGS VIOLATION, 16815 OCEANVIEW DRIVE, DEL NORTE COUNTY (APN # 101-010-09)

Submitted to: Bob Higgs
Crescent City, CA 95531

Prepared by: Frank Galea, Certified Wildlife Biologist
E-mail: frankgalea@charter.net

Galea Biological Consulting
200 Raccoon Court
Crescent City, CA 95531

Submitted: January 14, 2022

By:



1.0

SUMMARY

The Applicant (Bob Higgs) violated the California Resources Code by filling in approximately 170 feet of a small, Class II stream on property he had previously owned, located north of the town of Smith River, Del Norte County. This restoration plan has been prepared to restore the stream channel back to its original dimensions as best as possible. The property is located just north of Ocean View Drive, east of Highway 101 (Figure 1). The property is within the coastal zone and therefore within the jurisdiction of the California Coastal Commission.

2.0

INTRODUCTION

The Applicant (Bob Higgs) impacted a small, Class II stream by filling in 170 feet of the channel in two places, using woody debris and soil as fill directly into the stream. The stream runs through the midst of the 8.83-acre property. There are no structures on the property.

This violation occurred in 2011 and Mr. Higgs has since sold the property to a Ms. Rhiannon Solem, however Mr. Higgs is accepting responsibility for restoring the creek. Galea Biological Consulting (GBC) of Crescent City was contracted to write a restoration plan to remedy and mitigate for impacts to the creek.

It should be noted that Mr. Higgs submitted permit applications for restoring the violation before, but did not complete the restoration after obtaining the necessary permits. At that time, Mr. Higgs planned on keeping the property, therefore his permit applications were for conducting work beyond that necessary for addressing the violation, such as replacing a culvert. This current restoration plan is not nearly as complex as Mr. Higgs original application, and will address the violation only.

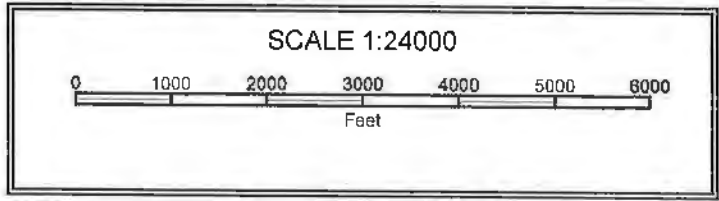
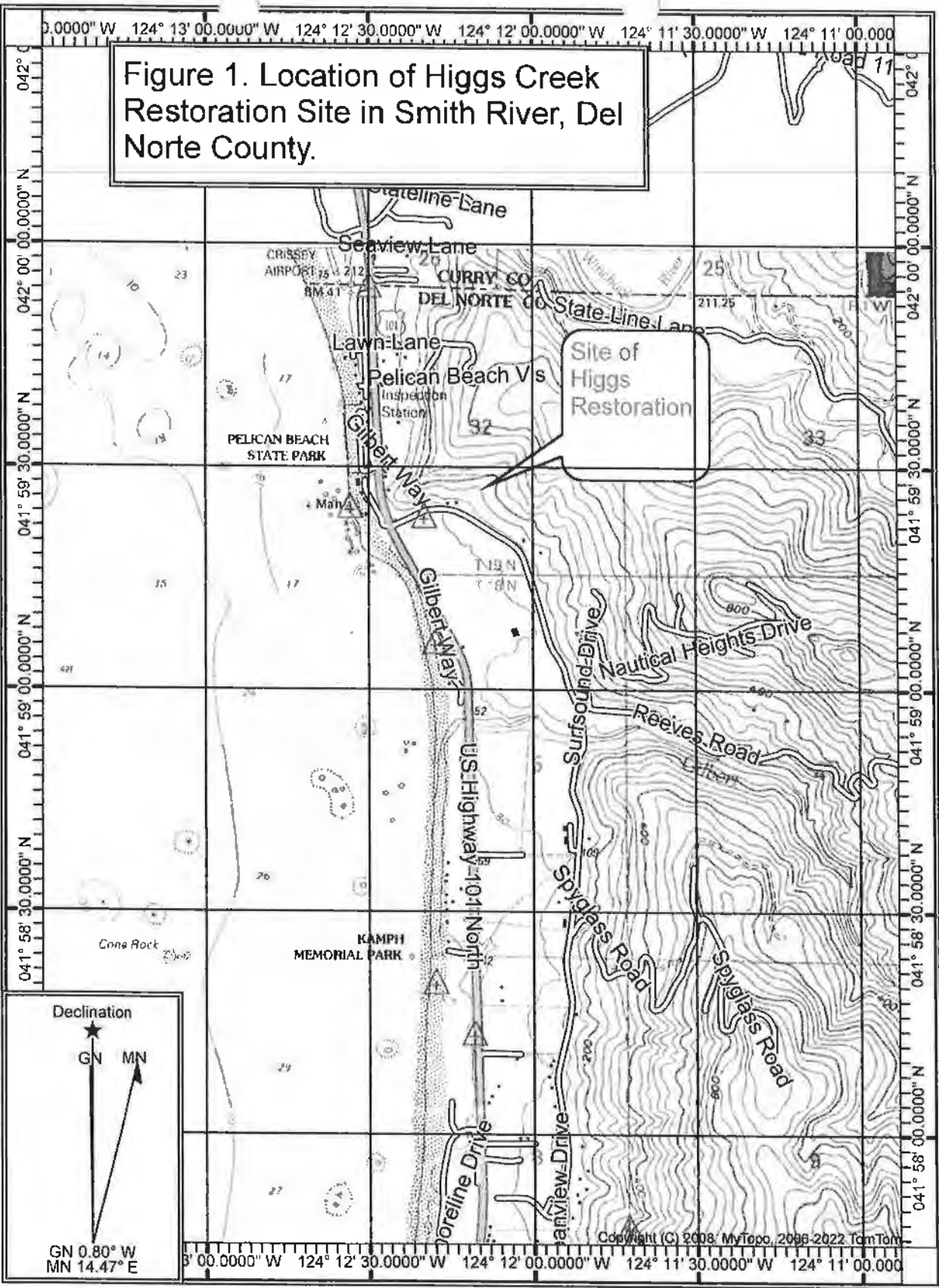
2.1 Environmental Setting

The property is located on the first hill slope facing the ocean, just east of Highway 101, north of the town of Smith River. The property is south-facing and relatively exposed to ocean storms. The property is located on Ocean View Drive, where much of the hillside along the road is divided into rural residences.

The property is accessed via a pre-existing roadway which enters the property from Ocean View Drive. Once on the property the road heads east, across the small creek via a culvert crossing. The road is a remnant road from logging and was in place on the property, as was the culvert, when Higgs bought the property. No structures are located on the property.

The property was logged around 2003, based on Google Earth aerial photos. Additional road improvement work was conducted in 2005. The property is cleared of timber, completely fenced and was used primarily for raising horses. The USGS topographic map shows this property as being open ground versus forested (Figure 1).

Figure 1. Location of Higgs Creek Restoration Site in Smith River, Del Norte County.



A Class II watercourse bisects the midst of the property, north to south. The Class II watercourse drains approximately 50 acres, therefore large flow events do not occur for this channel. The channel is relatively small and shallow, only 6-12 inches wide. This watercourse is non-fish bearing, and runs under Oceanview Drive via a culvert, then into a drainage system in the agricultural fields below before reaching the nearby ocean, approximately 1,600 feet from the property. It is not indicated in any manner on USGS topographic maps.

The Class II watercourse has potential as habitat for the northern red-legged frog (*Rana aurora aurora*), a species of special concern in California. A small pond at the base of the hill, created by a natural seep and not connected to the Class II, provides breeding habitat for this species. For these reasons, we recommend that, prior to soil or debris removal with heavy equipment, a biologist survey the site and remove any amphibians in harm's way.

2.2 Physical Environment

The climate of northern California is characterized as Mediterranean, with cool, wet winters and warm, dry summers with frequent fog. Along the coastline, proximity to the Pacific Ocean produces high levels of humidity and results in abundant fog and fog drip precipitation. The maritime influence diminishes with distance from the coast, resulting in lesser amounts of fog, drier summer conditions and more variable temperatures. Annual precipitation in the project watershed ranges from 60 - 150 inches occurring primarily as rain during the winter months. Air temperatures measured in Crescent City area vary from 41°F to 67°F annually.

3.0 Impacts and Current Conditions

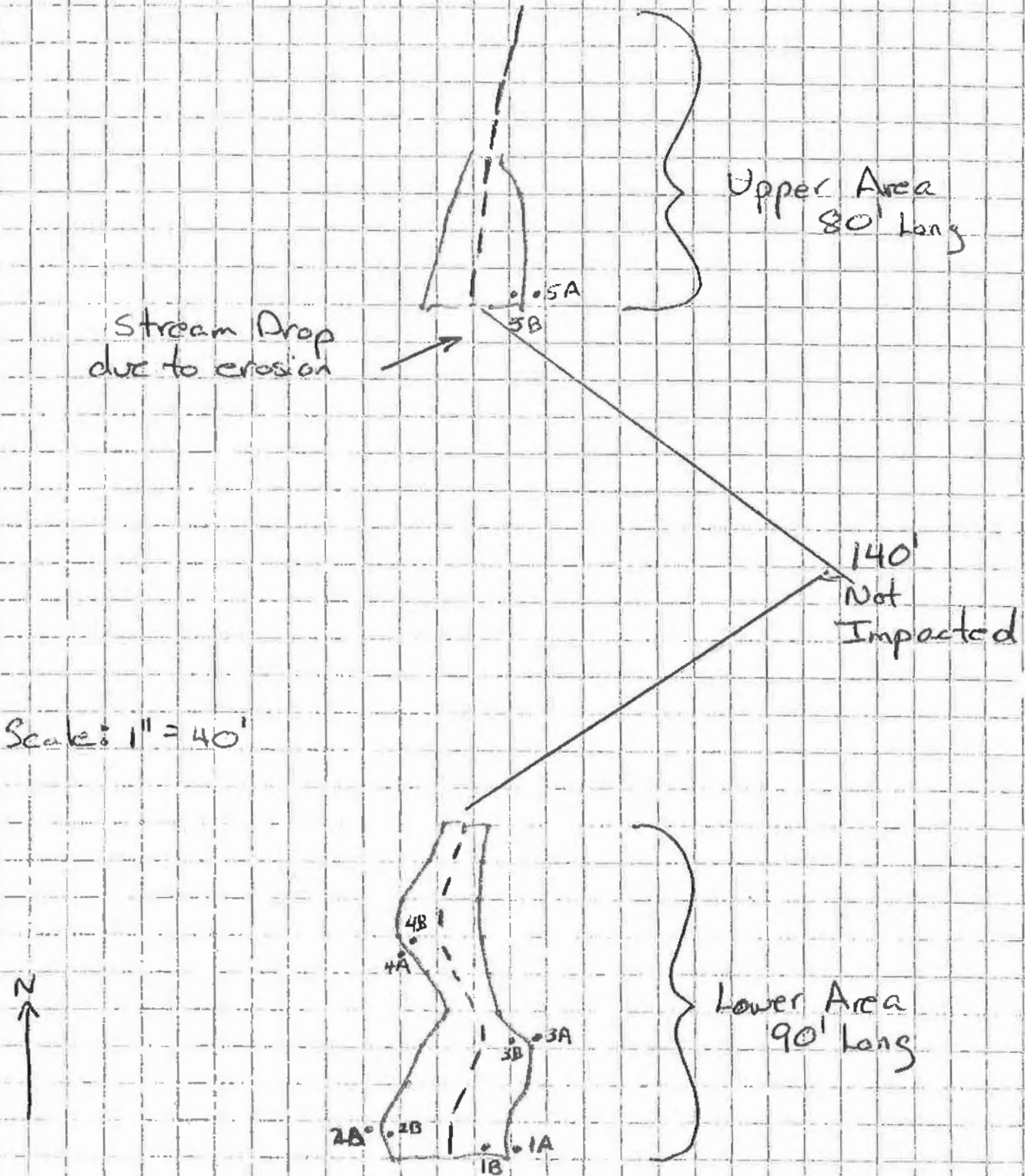
Fill and wood debris was introduced into the stream channel at two separate points. The lower area of stream fill occurred approximately 340 feet north of Oceanview Drive, and the fill area continues north about 90 feet (Figure 2). The second fill area (the upper area) occurs 140 feet above the lower area and continues north for about 80 feet. These areas were filled as they occur in open "pasture" areas where horses were kept, apparently to decrease the chance of injury to a horse when crossing the stream.

Due to the fill deposited in the stream, over the past ten years the stream has flooded its banks during high water event, creating an extended wetland on either side of the stream in the lower area, which is relatively flat. This did not occur in the upper area due to a greater slope.

A wetland delineation was conducted in February of 2022 at both impacted areas. Wetlands were identified primarily by vegetation, especially Pennyroyal (*Mentha pulegium*), and hydraulic indicators such as soft, spongy ground and newly created stream bank edges. Soils were not indicative of wetland conditions, probably because flooding only occurs seasonally and not enough time has elapsed to create new hydric soils in the flooded areas.

In the lower section wetlands were found to extend out as much as 15 feet on either side of the stream, while in the upper section wetlands only extended out 12 feet. (Figure 2).

Figure 2. Diagram of the Higgs Restoration area, showing Upper and Lower Restoration Areas and associated wetlands and wetland sample points.



4.0 Restoration and Mitigation

Stream Restoration

Mr. Higgs allegedly filled approximately 170 feet of the Class II stream with dirt and debris, in the midst of the property. Due to the fill in the stream, the channel overflows its banks during major rain events, which over a decade has created wetland habitats to establish immediately adjacent to the stream.

On February 23rd, 2022 the site was reviewed by GBC, Greg O'Connell of CDF&W, Shannon Strong of the NCRWQCB and Del Norte County planning. During that meeting, CDF&W suggested maintaining the wetlands and associated red-legged frog habitat which had been created by flooding of the filled channel. They recommended removing only the top amount of debris from the channel in order to maintain stream channel flow, but leaving the rest so that occasional saturation of the newly-formed wetlands could occur.

Therefore, in order to restore the stream channel as newly proposed, we plan to use hand shoveling, to carefully remove the soil and woody debris material from the stream channel down a few inches only.

This work would take place during summer months of 2022, during that time of year when the stream is at its lowest flow. The stream likely does not completely dry as it is spring fed. Hay bales or wattles would be placed within the stream channel, at the lowest point of the restoration area, to capture and hold sediments which may move during restoration. This catchment area will be cleaned out and removed after the remainder of the channel is cleared.

In the lower section of restoration, there is some natural meander of the stream channel. This natural meander will be maintained during restoration, which will reduce water flow velocities and prevent channelization.

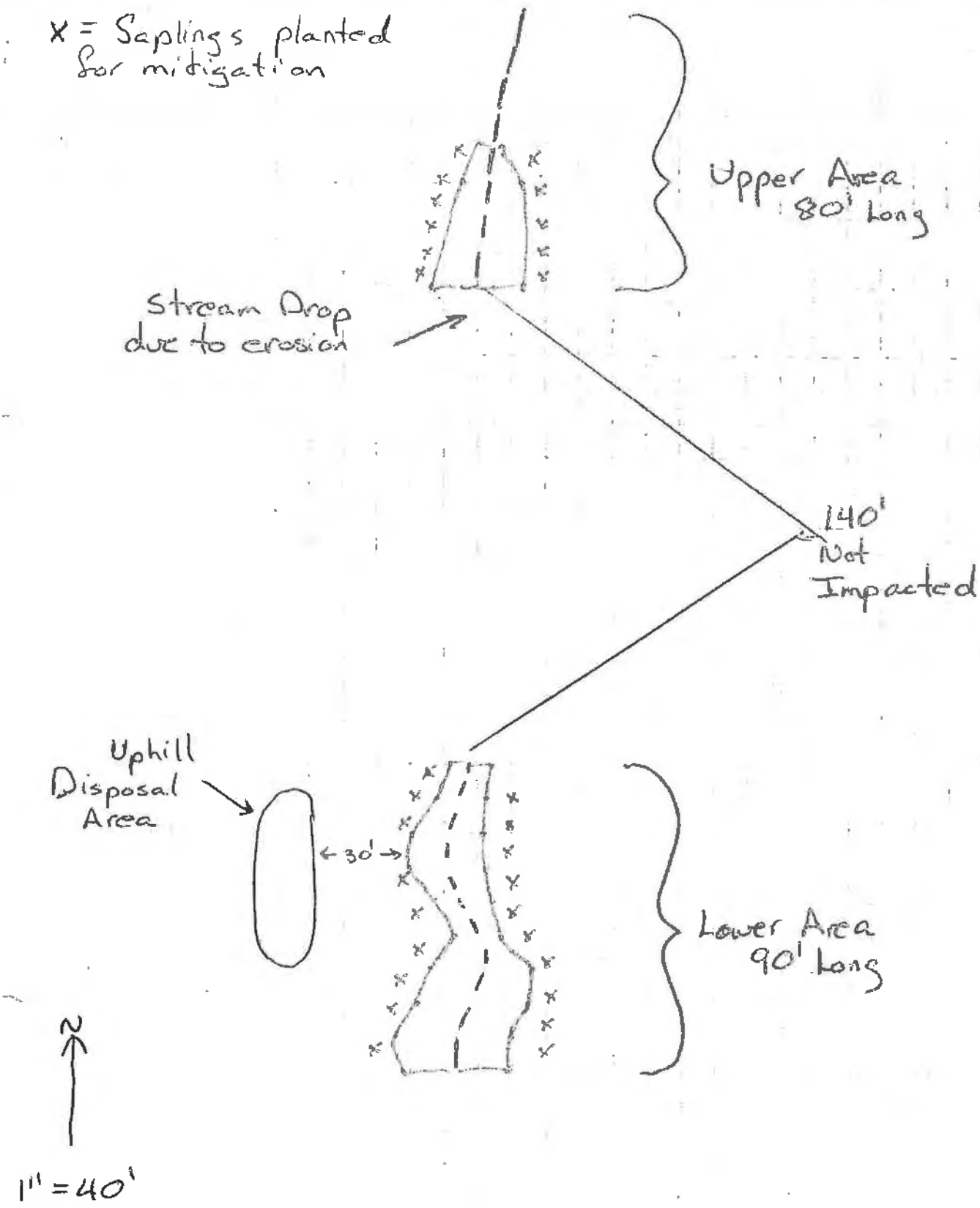
Woody debris and soil would be removed from the stream channel and taken to a dry section of the property and discarded. Any sections of the stream channel which may have an overabundance of fill dirt would be carefully excavated to remove fill and blockage. All in-stream work would be supervised by a biologist from GBC.

All bare mineral soil exposed during restoration shall be treated for erosion prior to the onset of precipitation, including the seeding and mulching of all bare mineral soil. Erosion control will consist of at least 2 inches of straw mulch plus 100 lbs/acre equivalent of barley seed.

Riparian Restoration Goals

As mitigation for impacts to the stream channel and the removal of one alder by Higgs, a mix of alder, spruce, cascara and fir seedlings (or saplings) will be planted on either side of the stream corridor, adjacent to the restoration reaches, but outside of the wetland perimeter. A minimum of 20 seedlings and saplings would be planted along the stream (Figure 3). The amount of 20 seedlings was chosen based on the size of the area mitigated. This ration of 20/1 far exceeds normal mitigation. Putting in additional seedlings would lead to an eventual elimination of the newly-formed wetland area.

Figure 2. Diagram of the Higgs Restoration area, showing areas to be planted with saplings as mitigation, and the proposed disposal area.



Saplings will be planted in small groups leaving sufficient spacing between groups to allow elk and deer access to the creek, which will greatly increase survivability of the saplings. Saplings would also be protected with protective seedling tubes. The goal of the mitigation is to create a "park-like" affect along the stream channel, with an overstory of trees over the stream corridor.

Monitoring and Reporting

Initial plantings would occur during the winter of 2022 if permits can be granted. GBC will monitor riparian plantings for at least three years to insure survival of at least 80 percent of all planted saplings. Saplings will be checked one month after planting. One year after the completion date of the first planting, if the number of surviving planted saplings falls below 90 percent, additional plantings will be completed to bring the total number of plantings above 90 percent. The site will be checked the second and third season after the first planting season to insure a 90 percent survival. In Del Norte County, plantings along a stream corridor such as this should have a very high survival rate.

The landowner will not be responsible for re-planting seedlings or saplings if they are removed or destroyed by elk, which are present in the area, but not prevalent on the property.

GBC will provide a status report to all permit agencies at the end of every year, beginning in 2022, for three years. Conditions within the impacted portion of the creek, plus status of plantings, will be described within the status report.

Recommendations

1. All bare mineral soil exposed during restoration shall be treated for erosion prior to the onset of precipitation, including the seeding and mulching of all bare mineral soil. Erosion control will consist of at least 2 inches of straw mulch plus 100 lbs/acre equivalent of barley seed.
2. A wildlife biologist will supervise all in-stream restoration work.

5.0

STAFF QUALIFICATIONS

Habitat assessment and report writing for this project was conducted by Principal Biologist, Frank Galea. Frank is the primary Biological Consultant and owner of Galea Biological Consulting, established in 1989. Frank is certified as a Wildlife Biologist through the Wildlife Society. Frank's qualifications include a Master of Science Degree in Wildlife Management from Humboldt State University and a Bachelor of Science in Zoology from San Diego State University. Frank has been assessing habitat and conducting field surveys for Threatened and Endangered species for over 30 years. Frank has taken an accredited class on wetland delineation through the Wetland Training Institute, and has successfully completed a Watershed Assessment and Erosion Treatment course through the Salmomid Restoration Federation.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, and Coast Region

Project/Site: Higgs Restoration City/County: Del Norte Sampling Date: 02/04/20
 Applicant/Owner: Higgs App, Sulem - Owner State: CA Sampling Point: 1A
 Investigator(s): Frank Galea Section, Township, Range: Sec 32, T18N, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 10
 Subregion (LRR): A - New Forest Lat: 41.5424 Long: 124.1207 Datum: NAD83
 Soil Map Unit Name: loess / rhyolite + Basalt NWI classification: R3SB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
4. _____				Prevalence Index worksheet:	
= Total Cover				Total % Cover of: _____ Multiply by:	
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____				FACW species _____ x 2 = _____	
2. _____				FAC species _____ x 3 = _____	
3. _____				FACU species _____ x 4 = _____	
4. _____				UPL species _____ x 5 = _____	
5. _____				Column Totals: _____ (A) _____ (B)	
= Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>10'</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Mentha pubescens</u>	<u>20</u>	<u>No</u>	<u>OBL</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Polygonum maritimum</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	<input type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Pasture Grass</u>	<u>20</u>	<u>N</u>	<u>NI</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
4. _____				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹	
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____					
9. _____					
10. _____					
11. _____					
= Total Cover				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Woody Vine Stratum (Plot size: _____)					
1. _____					
2. _____					
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

SOIL

Sampling Point: 1A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10	3/2	10YR					Dry, loose, crumbles	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1) (except MLRA 1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

- 2 cm Muck (A10)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | |

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
Water Table Present? Yes _____ No X Depth (inches): _____
Saturation Present? Yes _____ No X Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Higgs Restoration City/County: Del Norte Sampling Date: 02/04/20
 Applicant/Owner: Higgs App, Sulem - Owner State: CA Sampling Point: 1 B
 Investigator(s): Frank Galen Section, Township, Range: Sec 32, T18N, R1W
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): None Slope (%): 10
 Subregion (LRR): A - New Forest Lat: 41.5929 Long: 124.1207 Datum: NAD83
 Soil Map Unit Name: bech / mach / mch / Ruzell NWI classification: R3 SB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				Prevalence Index worksheet:
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____
1. _____				FACW species _____ x 2 = _____
2. _____				FAC species _____ x 3 = _____
3. _____				FACU species _____ x 4 = _____
4. _____				UPL species _____ x 5 = _____
5. _____				Column Totals: _____ (A) _____ (B)
= Total Cover				Prevalence Index = B/A = _____
Herb Stratum (Plot size: <u>10'</u>)				Hydrophytic Vegetation Indicators:
1. <u>Mentha pulegium</u>	<u>80</u>	<u>Y</u>	<u>OBL</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____				<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____				<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
9. _____				
10. _____				
11. _____				
<u>80</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: 1B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10	3/3	10	IR				Slightly moist	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
--	---	---

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (2 or more required) <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Slanted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes X No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): _____

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Higgs Restoration City/County: Del Norte Sampling Date: 02/07/20
 Applicant/Owner: Higgs-App, Sulzer - Owner State: CA Sampling Point: 2A
 Investigator(s): Frank Galen Section, Township, Range: Sec 32, T18N, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 10
 Subregion (LRR): A-New Forest Lat: 41.5929 Long: 124.1207 Datum: NAD83
 Soil Map Unit Name: loeb/machylin + Buzzell NWM classification: R3 SB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
4. _____	_____	_____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
= Total Cover				UPL species _____	x 5 = _____
Herb Stratum (Plot size: <u>10'</u>)				Column Totals:	<u> </u> (A) <u> </u> (B)
1. <u>Mentha pelegium</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	Prevalence Index = B/A = _____	
2. <u>Polystichum munitum</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:	
3. <u>Pasture grass</u>	<u>30</u>	<u>N</u>	<u>NI</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. _____	_____	_____	_____	= Total Cover	
6. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
7. _____	_____	_____	_____	= Total Cover	
8. _____	_____	_____	_____	= Total Cover	
9. _____	_____	_____	_____	= Total Cover	
10. _____	_____	_____	_____	= Total Cover	
11. _____	_____	_____	_____	= Total Cover	
Woody Vine Stratum (Plot size: _____)				Remarks:	
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
= Total Cover				_____	
% Bare Ground In Herb Stratum _____				_____	

SOIL

Sampling Point: 2A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
<u>10</u>	<u>3/2</u>	<u>104R</u>					<u>Dry, crumbly soil</u>	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Higgs Restoration City/County: Del Norte Sampling Date: 02/01/20
 Applicant/Owner: Higgs App, Sulem - Owner State: CA Sampling Point: ZB
 Investigator(s): Frank Galen Section, Township, Range: Sec 32, T18N, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 10
 Subregion (LRR): A-New Forest Lat: 41.5429 Long: 124.1207 Datum: NAD83
 Soil Map Unit Name: Loam / muckey / Buzell NWI classification: R3SB
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Mentha pulegium</u>	<u>50</u>	<u>Y</u>	<u>OBL</u>	
2. <u>pasture grass</u>	<u>20</u>	<u>N</u>	<u>NE</u>	
3. <u>Juncus effusus</u>	<u>10</u>	<u>N</u>	<u>FACW</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>70</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0¹

___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants¹

___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: 2B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10	3/2	10 YR					Moist, sticky ribbons	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____

Water Table Present? Yes No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes No _____ Depth (inches): _____

Wetland Hydrology Present? Yes No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Higgs Restoration City/County: Del Norte Sampling Date: 02/04/12
 Applicant/Owner: Higgs-App, Solem - Owner State: CA Sampling Point: 3A
 Investigator(s): Frank Galea Section, Township, Range: Sec 32, T18N, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 10
 Subregion (LRR): A-N.W Forest Lat: 41.5929 Long: 124.1207 Datum: NAD83
 Soil Map Unit Name: Loch / Mackaylin + Buzzini NWI classification: R3 SB
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
4. _____				Prevalence Index worksheet:	
				Total % Cover of: _____ Multiply by: _____	
				OBL species _____ x 1 = _____	
				FACW species _____ x 2 = _____	
				FAC species _____ x 3 = _____	
				FACU species _____ x 4 = _____	
				UPL species _____ x 5 = _____	
				Column Totals: _____ (A) _____ (B)	
				Prevalence Index = B/A = _____	
Hydrophytic Vegetation Indicators:					
___ 1 - Rapid Test for Hydrophytic Vegetation					
___ 2 - Dominance Test is >50%					
___ 3 - Prevalence Index is ≤3.0 ¹					
___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)					
___ 5 - Wetland Non-Vascular Plants ¹					
___ Problematic Hydrophytic Vegetation ¹ (Explain)					
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks:					

SOIL

Sampling Point: 3A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10	3/2	7.5	YR				Dry soil, crumbles	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required, check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Higgs Restoration City/County: Del Norte Sampling Date: 02/07/20
 Applicant/Owner: Higgs-App, Sulem - Owner State: CA Sampling Point: 3B
 Investigator(s): Frank Galen Section, Township, Range: Sec 32, T18N, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 10
 Subregion (LRR): A-NW Forest Lat: 41.5429 Long: 124.1207 Datum: NAD83
 Soil Map Unit Name: loeb / machylin + Buzzell NWI classification: R3 SB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>10'</u>)				
1. <u>Mentha pulegium</u>	<u>90</u>	<u>Yes</u>	<u>OBL</u>	
2. <u>Pasture Grass</u>	<u>10</u>	<u>N</u>	<u>NT</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0¹

___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants¹

___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

SOIL

Sampling Point: 3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10	S12	10YR					Moist, ribbons	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary indicators (minimum of one required; check all that apply)</u>		<u>Secondary indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present?	Yes <u>X</u> No _____	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <u>Y</u> No _____	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Higgs Restoration City/County: Del Norte Sampling Date: 02/07/20
 Applicant/Owner: Higgs-App, Sulem - owner State: CA Sampling Point: 4A
 Investigator(s): Frank Galea Section, Township, Range: Sec 32, T18N, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 10
 Subregion (LRR): A-New Forest Lat: 41.5429 Long: 124.1207 Datum: NAD83
 Soil Map Unit Name: Loch / Machylin + Buzelli NWI classification: R3 SB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
4. _____				Prevalence Index worksheet:	
_____ = Total Cover				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____	
1. _____				FACW species _____ x 2 = _____	
2. _____				FAC species _____ x 3 = _____	
3. _____				FACU species _____ x 4 = _____	
4. _____				UPL species _____ x 5 = _____	
5. _____				Column Totals: _____ (A) _____ (B)	
_____ = Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>Polystichum myrsinum</u>	<u>20</u>	<u>F</u>	<u>FACU</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Juncus effusus</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	<input type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Pasture Grass</u>	<u>20</u>	<u>N</u>	<u>NL</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
4. _____				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹	
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____					
9. _____					
10. _____					
11. _____					
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Woody Vine Stratum (Plot size: _____)					
1. _____					
2. _____					
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

SOIL

Sampling Point: 4A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10	3/2	10%					Dry, crumbly soil.	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C8)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Higgs Restoration City/County: De. W. Sampling Date: 02/04/20
 Applicant/Owner: Higgs-App, System - Owner State: CA Sampling Point: 4B
 Investigator(s): Frank Galien Section, Township, Range: Sec 32, T18N, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 10
 Subregion (LRR): A-New Forest Lat: 41.5424 Long: 124.1207 Datum: NAD83
 Soil Map Unit Name: loeb / machylin + Ruzzi NWI classification: R3 S3

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Mentha pulegium</u>	<u>90</u>	<u>Y</u>	<u>OBL</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B) Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Remarks:				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Wetland Non-Vascular Plants ¹ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

SOIL

Sampling Point: 4B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10	3/2	104R					Moist, ribbons	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes <u>X</u> No _____
Water Table Present?	Yes <u>X</u> No _____	Depth (inches): _____	
Saturation Present? (Includes capillary fringe)	Yes <u>X</u> No _____	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Higgs Restoration City/County: Del Norte Sampling Date: 02/04/22
 Applicant/Owner: Higgs-App, Salem - Owner State: CA Sampling Point: 5A
 Investigator(s): Frank Galea Section, Township, Range: Sec 32, T18N, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 10
 Subregion (LRR): A-N.W. Forest Lat: 41.5929 Long: 124.1207 Datum: NAD83
 Soil Map Unit Name: Loeb / Machylin + Buzzini NWI classification: R3SB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Herb Stratum (Plot size: _____)					
1. <u>Polystichum munifolium</u>	<u>80</u>	<u>Y</u>	<u>FACU</u>		
2. <u>Pasture grass</u>	<u>20</u>	<u>N</u>	<u>NI</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover				% Bare Ground in Herb Stratum _____	
Remarks:					

SOIL

Sampling Point: SA

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
<u>10</u>	<u>3/2</u>	<u>10%</u>	<u>R</u>				<u>Dry, crumbles</u>	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)		
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D8) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:	
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Higgs Restoration City/County: Del Norte Sampling Date: 02/04/22
 Applicant/Owner: Higgs App, Salem - Owner State: CA Sampling Point: 5B
 Investigator(s): Frank Galen Section, Township, Range: Sec 32, T18N, R1W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 10
 Subregion (LRR): A-NW-Forest Lat: 41.5929 Long: 124.1207 Datum: NAD83
 Soil Map Unit Name: loeb/medylin + Buzzini NWI classification: R3 SB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				Prevalence Index worksheet:
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____
1. _____				FACW species _____ x 2 = _____
2. _____				FAC species _____ x 3 = _____
3. _____				FACU species _____ x 4 = _____
4. _____				UPL species _____ x 5 = _____
5. _____				Column Totals: _____ (A) _____ (B)
_____ = Total Cover				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Mentha pulegium</u>	<u>60</u>	<u>Y</u>	<u>OBL</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____				<input type="checkbox"/> 2 - Dominance Test is >50%
3. _____				<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
9. _____				
10. _____				Woody Vine Stratum (Plot size: _____)
11. _____				
_____ = Total Cover				% Bare Ground in Herb Stratum _____
_____ = Total Cover				
Remarks:				

SOIL

Sampling Point: 5B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10	3/3	104	R				Moist	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Frank Galea

From: Rhiannon Solem <rhiannon188@yahoo.com>
Sent: Monday, December 27, 2021 5:29 PM
To: frankgalea@charter.net
Subject: RE: Agent Letter

To whom it may concern,

Frank Galea may act as my agent for the purpose of obtaining permits for the property I own at: 16815 Oceanview Dr Smith river CA 95567. Thank you.

Sincerely Rhiannon Solem
951 302 4555
rhiannon188@yahoo.com

[Sent from Yahoo Mail on Android](#)

On Mon, Dec 27, 2021 at 3:25 PM, Frank Galea <frankgalea@charter.net> wrote:

Either way would be fine, thanks.

From: Rhiannon Solem <rhiannon188@yahoo.com>
Sent: Monday, December 27, 2021 1:06 PM
To: frankgalea@charter.net
Subject: Re: Agent Letter

Hello Frank do I just write it in word and send it in a PDF or just in an email or how does it need to be done? Thank you

[Sent from Yahoo Mail on Android](#)

On Mon, Dec 27, 2021 at 11:14 AM, Frank Galea

<frankgalea@charter.net> wrote:

Hi.

I need a letter from you which states that I can act as your agent for the purpose of obtaining permits for your property. As the legal land owner, the County and other agencies will want to make sure I have permission to obtain permits for this property.

You can send it via email. Thanks,



GALEA BIOLOGICAL CONSULTING

200 Raccoon Court . Crescent City . California 95531
Cell: 707-218-6039 Email: frankgalea@charter.net



RESTORATION PLAN, HIGGS VIOLATION, 16815 OCEANVIEW DRIVE, DEL NORTE COUNTY (APN # 101-010-09)

Submitted to: Bob Higgs
Crescent City, CA 95531

Prepared by: Frank Galea, Certified Wildlife Biologist
E-mail: frankgalea@charter.net

Galea Biological Consulting
200 Raccoon Court
Crescent City, CA 95531

Submitted: January 14, 2022

By:

1.0

SUMMARY

The Applicant (Bob Higgs) violated the California Resources Code by filling in approximately 170 feet of a small, Class II stream on property he had previously owned, located north of the town of Smith River, Del Norte County. This restoration plan has been prepared to restore the stream channel back to its original dimensions as best as possible. The property is located just north of Ocean View Drive, east of Highway 101 (Figure 1). The property is within the coastal zone and therefore within the jurisdiction of the California Coastal Commission.

2.0

INTRODUCTION

The Applicant (Bob Higgs) impacted a small, Class II stream by filling in 170 feet of the channel in two places, using woody debris and soil as fill directly into the stream. The stream runs through the midst of the 8.83-acre property. There are no structures on the property.

This violation occurred in 2011 and Mr. Higgs has since sold the property to a Ms. Rhiannon Solem, however Mr. Higgs is accepting responsibility for restoring the creek.

Galea Biological Consulting (GBC) of Crescent City was contracted to write a restoration plan to remedy and mitigate for impacts to the creek.

2.1 Environmental Setting

The property is located on the first hill slope facing the ocean, just east of Highway 101, north of the town of Smith River. The property is south-facing and relatively exposed to ocean storms. The property is located on Ocean View Drive, where much of the hillside along the road is divided into rural residences.

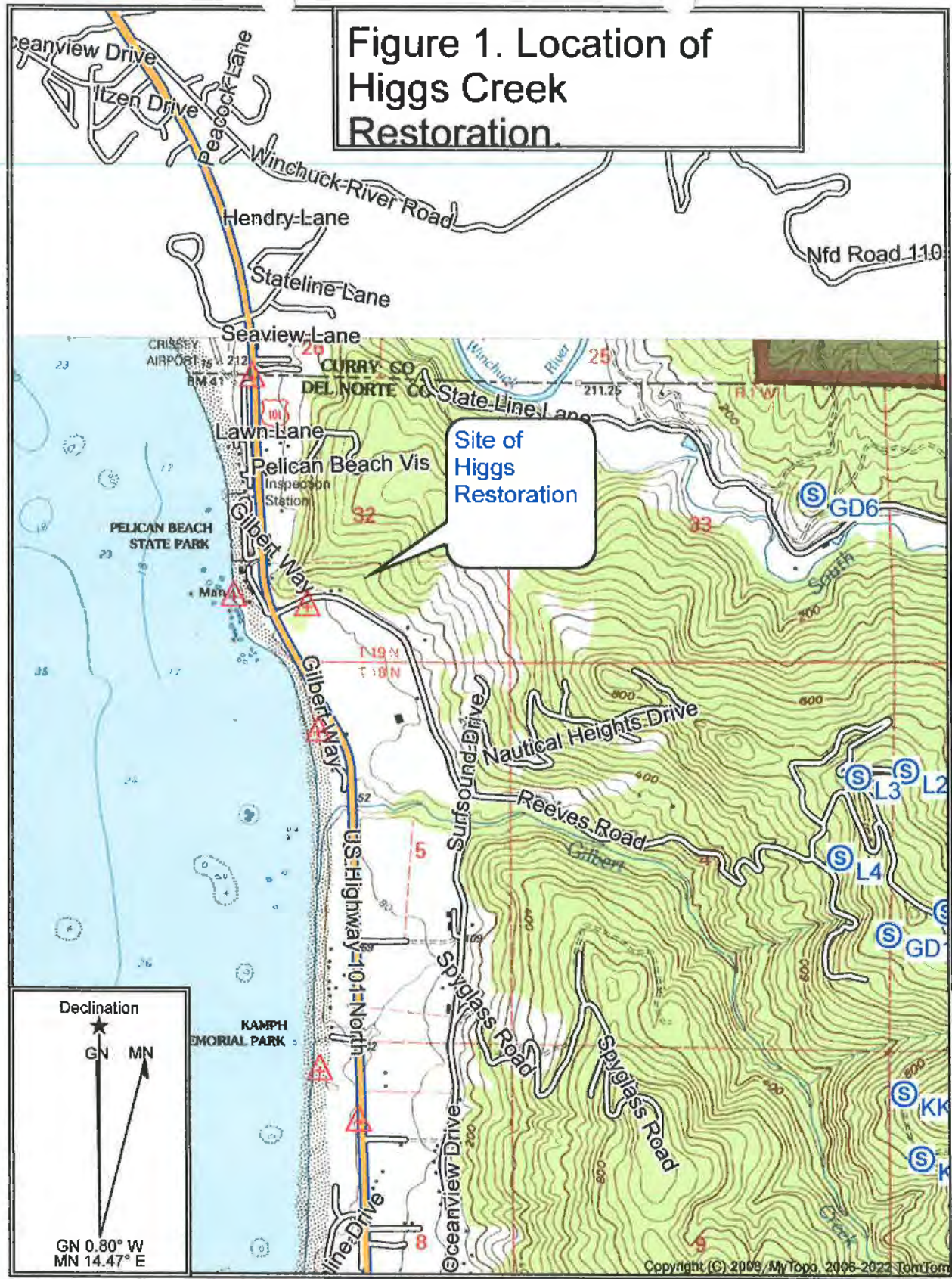
The property is accessed via a pre-existing roadway which enters the property from Ocean View Drive. Once on the property the road heads east, across the small creek via a culvert crossing. The road is a remnant road from logging and was in place on the property, as was the culvert, when Higgs bought the property. No structures are located on the property.

The property was logged around 2003, based on Google Earth aerial photos. Additional road improvement work was conducted in 2005. The property is cleared of timber, completely fenced and was used primarily for raising horses. The USGS topographic map shows this property as being open ground versus forested (Figure 1).

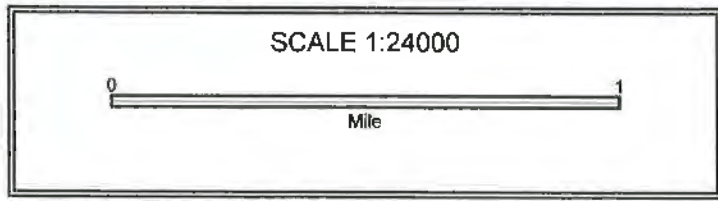
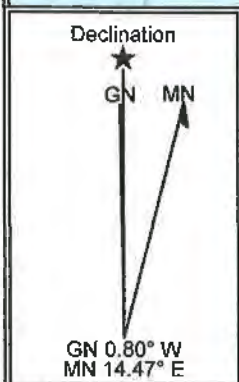
A Class II watercourse bisects the midst of the property, north to south. The Class II watercourse drains approximately 50 acres, therefore large flow events do not occur for this channel. The channel is relatively small and shallow, only 6-12 inches wide. This watercourse is non-fish bearing, and runs under Oceanview Drive via a culvert, then into a drainage system in the agricultural fields below before reaching the nearby ocean, approximately 1,600 feet from the property. It is not indicated in any manner on USGS topographic maps.

The Class II watercourse has potential as habitat for the northern red-legged frog (*Rana aurora aurora*), a species of special concern in California. A small pond at the base of the hill, created by a natural seep and not connected to the Class II, provides breeding habitat for this species. For these reasons, we recommend that, prior to soil or debris removal with heavy equipment, a biologist survey the site and remove any amphibians in harm's way.

Figure 1. Location of Higgs Creek Restoration.



Site of Higgs Restoration



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2.2 Physical Environment

The climate of northern California is characterized as Mediterranean, with cool, wet winters and warm, dry summers with frequent fog. Along the coastline, proximity to the Pacific Ocean produces high levels of humidity and results in abundant fog and fog drip precipitation. The maritime influence diminishes with distance from the coast, resulting in lesser amounts of fog, drier summer conditions and more variable temperatures. Annual precipitation in the project watershed ranges from 60 - 150 inches occurring primarily as rain during the winter months. Air temperatures measured in Crescent City area vary from 41°F to 67°F annually.

3.0 Impacts Analysis

Mr. Higgs apparently filled approximately 170 feet of the Class II stream with dirt and debris, at two locations, in the midst of the property (Figure 2). This occurred within a section of the stream which was relatively shallow with reduced bed and bank.

4.0 Restoration and Mitigation

Stream Restoration

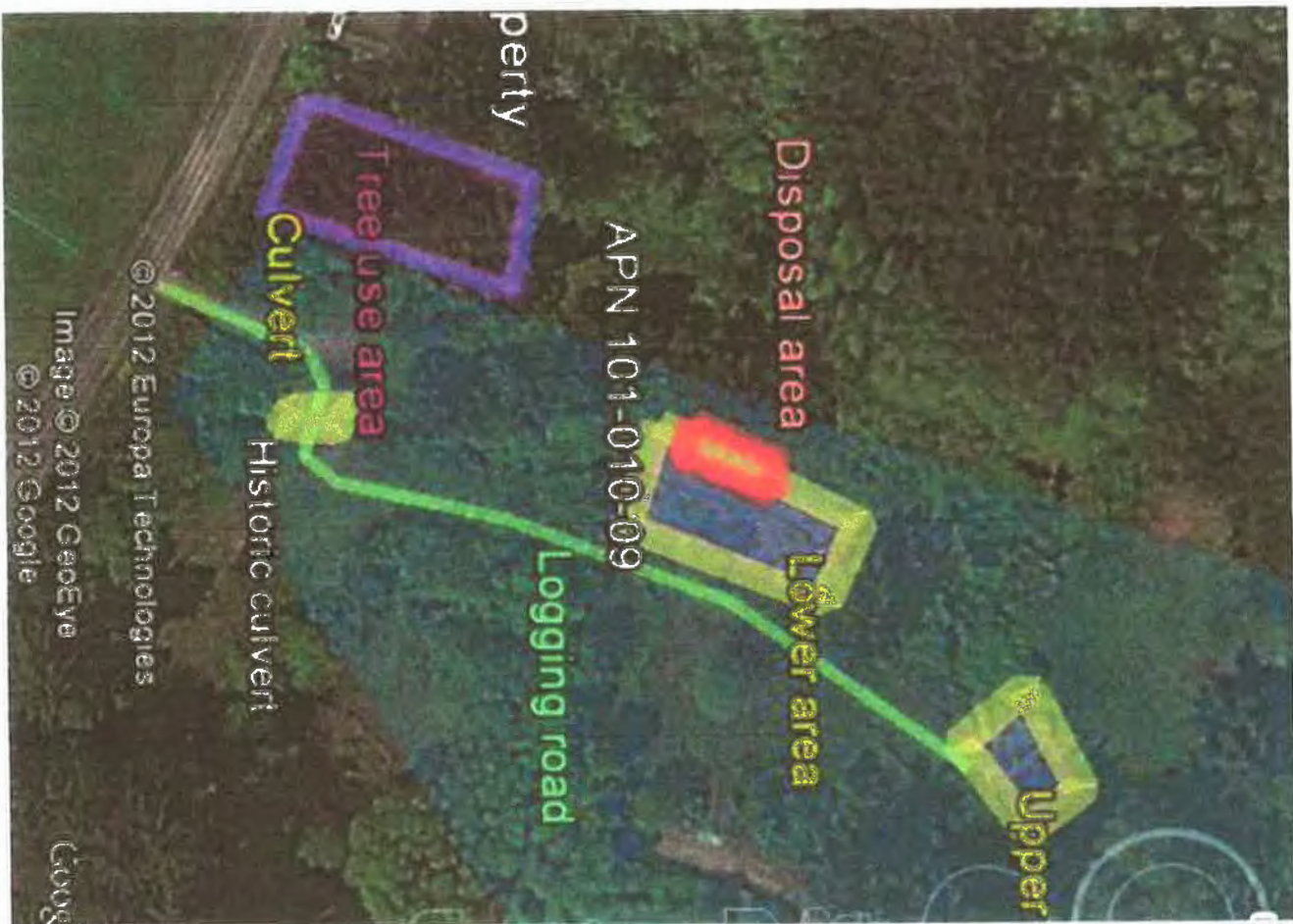
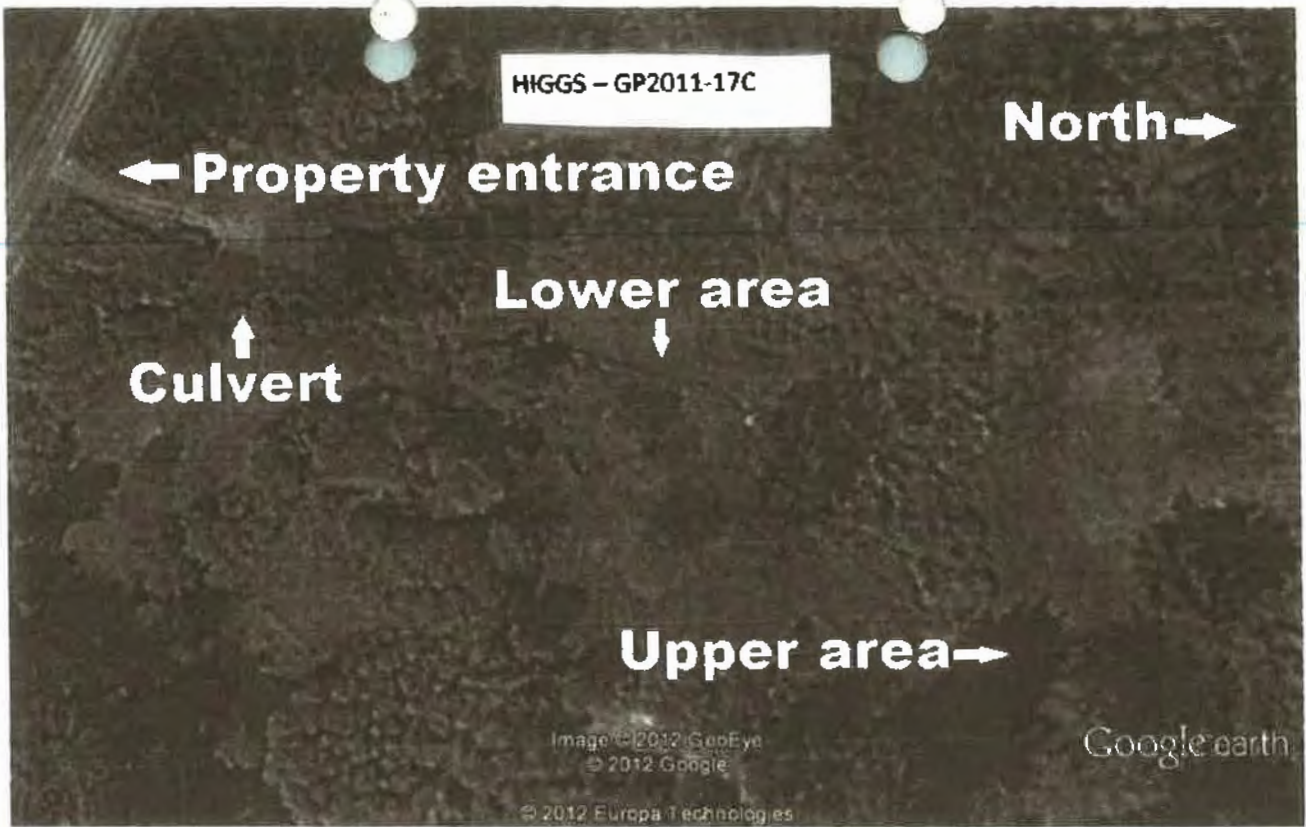
Mr. Higgs allegedly filled approximately 170 feet of the Class II stream with dirt and debris, in the midst of the property. In order to restore the stream channel, we propose to use a backhoe or long-reach mini-excavator, and hand shoveling, to carefully remove the debris material from the stream channel. Soil and woody debris would be removed down to the original depth, with a 2:1 bank slope achieved for erosion control.

This work would take place in August – September of 2022, during that time of year when the stream is dry or at its lowest flow. Prior to soil or debris removal with heavy equipment, a biologist will survey the site and remove any amphibians in harm's way, to be re-located on a section of the watercourse which is not a part of this restoration project. Hay bales and wattles would be placed within the stream channel, at the lowest point of the restoration area, to capture and hold sediments which may move during restoration. This catchment area will be cleaned out and removed after the remainder of the channel is cleared.

In the lower section of restoration, there is some natural meander of the stream channel. This natural meander will be maintained during restoration, which will reduce water flow velocities and prevent channelization.

Due to the fill in the stream, the channel overflows its banks during major rain events, which over a decade has created wetland habitats to establish immediately adjacent to the stream. Equipment used to remove debris and soil from the stream would be placed as far from wetlands and the stream as possible, while still allowing reach to the stream. All equipment used would remain outside of the stream channel, with care given to protect stream banks. Placement of equipment would be overseen by a biologist with GBC.

Woody debris would be removed from the stream channel and taken to a dry section of the property and discarded. Any sections of the stream channel which may have an overabundance of fill dirt would be



carefully excavated to remove fill and blockage. Debris and fill would be removed until the stream depth is returned to pre-violation depths, a depth decided upon by a monitoring biologist. Depth of the final channel for each segment will be dependent upon what is removed from the channel during restoration. All in-stream work would be supervised by a biologist from GBC.

All bare mineral soil exposed during restoration shall be treated for erosion prior to the onset of precipitation, including the seeding and mulching of all bare mineral soil. Erosion control will consist of at least 2 inches of straw mulch plus 100 lbs/acre equivalent of barley seed.

Riparian Restoration Goals

As mitigation for impacts to the stream channel, a mix of alder, spruce, cascara and fir seedlings (or saplings) will be planted on either side of the stream corridor, adjacent to the restoration reaches, but outside of the wetland perimeter. A minimum of 50 seedlings and saplings would be planted along the stream.

Saplings will be planted in small groups leaving sufficient spacing between groups to allow elk and deer access to the creek, which will greatly increase survivability of the saplings. The goal of the mitigation is to create a "park-like" affect along the stream channel, with an overstory of trees over the stream corridor.

Monitoring and Reporting

Initial plantings would occur during the winter of 2022 if permits can be granted. GBC will monitor riparian plantings for at least three years to insure survival of at least 80 percent of all planted saplings. Saplings will be checked one month after planting. One year after the completion date of the first planting, if the number of surviving planted saplings falls below 90 percent, additional plantings will be completed to bring the total number of plantings above 90 percent. The site will be checked the second and third season after the first planting season to insure a 90 percent survival. In Del Norte County, plantings along a stream corridor such as this should have a very high survival rate.

The landowner will not be responsible for re-planting seedlings or saplings if they are removed or destroyed by elk, which are present in the area, but not prevalent on the property.

GBC will provide a status report to all permit agencies at the end of every year, beginning in 2022, for three years. Conditions within the impacted portion of the creek, plus status of plantings, will be described within the status report.

Recommendations

1. No fluids (hydraulic oil, fuels, or lubrication oils) would be brought into the construction area to service construction equipment. All oil additions would occur on flat ground out of the wetland or riparian area, with oil-absorbent mats placed under the fill area to prevent spillage.
2. All heavy equipment entering the restoration area will first be cleaned of all materials deleterious to aquatic life, including oil, grease, hydraulic fluid, soils, and other debris. Cleaning of equipment will occur outside of the restoration area.

3. Equipment would not be left in the restoration area during any shut down, nor for overnight breaks. If heavy equipment is not being used it must be stored out of the wetland or riparian area.
4. All bare mineral soil exposed during restoration shall be treated for erosion prior to the onset of precipitation, including the seeding and mulching of all bare mineral soil. Erosion control will consist of at least 2 inches of straw mulch plus 100 lbs/acre equivalent of barley seed.
5. Prior to soil or debris removal with heavy equipment, a biologist will survey the site and remove any amphibians in harm's way.
6. A wildlife biologist will supervise all in-stream restoration work.

5.0

STAFF QUALIFICATIONS

Habitat assessment and report writing for this project was conducted by Principal Biologist, Frank Galea. Frank is the primary Biological Consultant and owner of Galea Biological Consulting, established in 1989. Frank is certified as a Wildlife Biologist through the Wildlife Society. Frank's qualifications include a Master of Science Degree in Wildlife Management from Humboldt State University and a Bachelor of Science in Zoology from San Diego State University. Frank has been assessing habitat and conducting field surveys for Threatened and Endangered species for over 30 years. Frank has taken an accredited class on wetland delineation through the Wetland Training Institute, and has successfully completed a Watershed Assessment and Erosion Treatment course through the Salmonid Restoration Federation.

HIGGS - GP2011-17C

North →

← Property entrance

Lower area ↓

↑ Culvert

Upper area →

Image © 2012 GeoEye
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Google earth

© 2012 Europa Technologies

Google earth

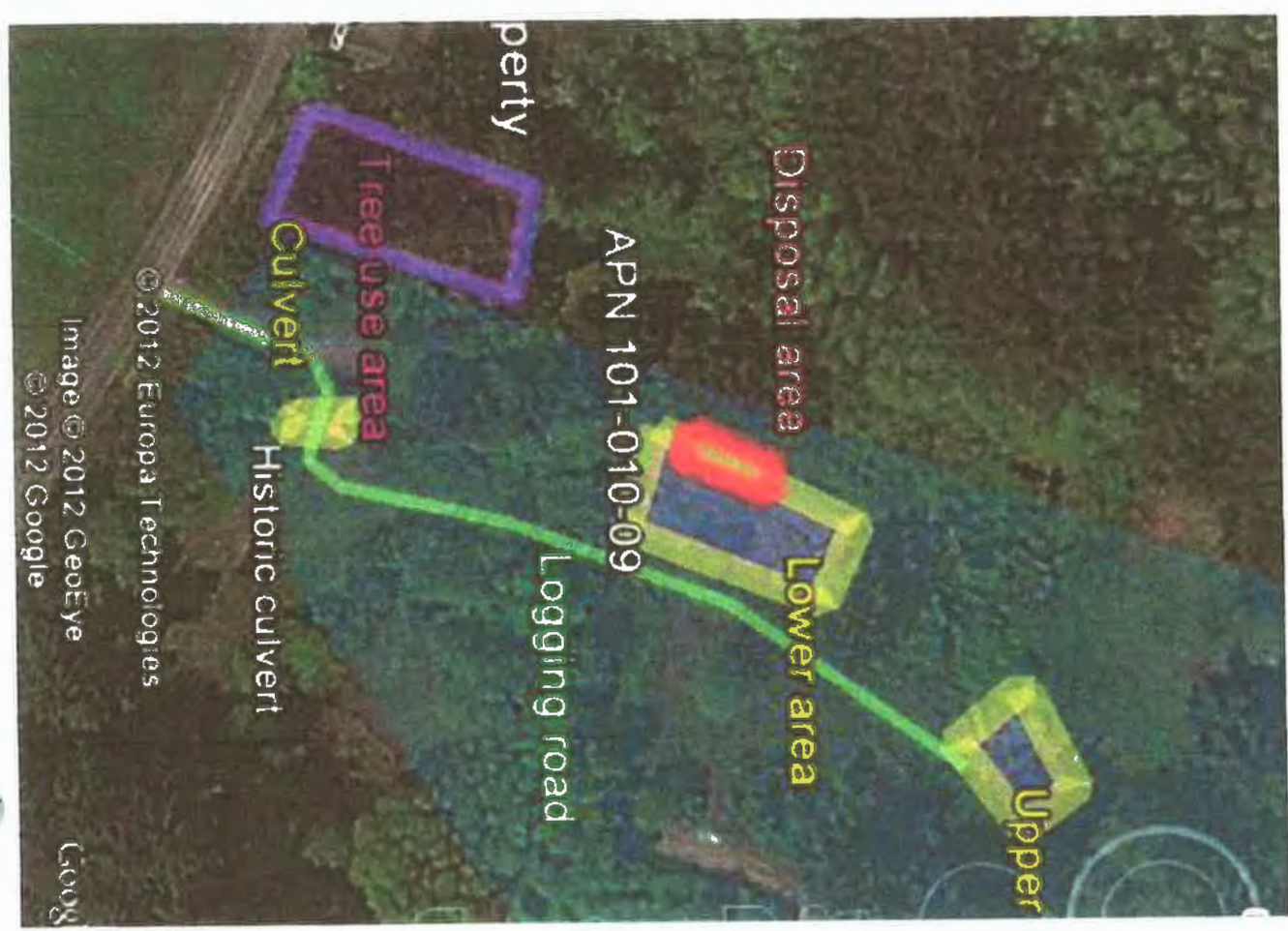


Figure 1. Location of Higgs Creek Restoration.

