Humboldt Redwood™

Annual Road Work Plan for HCP Covered Lands

HCP §6.3.3.1.3 and §6.3.3.5.5

2018-2019 Reporting

April 11, 2019

Project Description

Title: Annual Road Work Plan 2019

Purpose: As set forth in HCP §6.3.3.1.3, HRC shall develop an annual road work plan. This plan shall include a prioritization and scheduling of stormproofing activities, a description of road work conducted in the previous year and road work anticipated to be conducted during the next 12 month period, beginning April 15. HRC is committed to meeting these standards and provides this report in compliance with HCP §6.3.3.1.3 and §6.3.3.5.5.

Date Initiated: 1999

Projected End Date: Ongoing

Manager, HRC North: Mike Miles

Manager, HRC South: Ben Hawk

Executive Summary:

Goals set for 2019 as provided in the last Annual Road Plan:

HRC plans to address the completion of ~673 sites, with an estimated sediment savings of about 11,758 cubic yards

Goals achieved for 2018:

HRC removed 22,350 cubic yards of soil at 559 sites and achieved our goal of stormproofing 75 miles of road. Stormproofed miles were accomplished through road abandonment and restoration, and by upgrading segments of existing and in-use roads with culverts to accommodate 100-year flow events.

Goals set for 2019:

HRC will continue to strive to maintain a high level of environmental stewardship through our roads program. HRC will continue to explore new culvert/ geo-fabric materials as well as investigate cutting-edge installation technologies and applications methods with the goal of increasing culverted crossing life spans. We continue to expand our use of locally derived Large Woody Debris (LWD) for channel armoring and bank stabilization in substitute of imported rock materials. Utilization of this material is cost effective and expedites mitigation efforts, allowing for additional sites to be treated in the same season. Performance of wood structures in recent years has also demonstrated they are highly effective in maintain bank and channel stability. These wooden features also result in a more naturally functioning streamside setting, in comparison to artificial rock structures.

We have and will continue to implement alternative mitigation prescriptions, based on site specific conditions and constraints (topography, geology, landslide hazard, etc.). Past experience has shown that in some geological and/or topographic settings alternative structures reduce risk of failure and reduce maintenance efforts. It is also our intent to continually update our site treatments methods based on knowledge gain from past installation. For example, it has been showed that a depth to width ratio greater than our standard practices is required to accommodate naturally occurring in-channel sediment transport when installing rocked dips at steep gradient (greater than 50%) class III watercourse crossing.

HRC Master Agreement for Timber Operations (MATO) Reporting

This Annual Road Plan and Report is intended to meet the obligations of HRC's MATO for annual reporting.

Road Plan Reporting Obligations set forth in HCP §6.3.3.1.3

The components of the Annual Road Plan as required by the HCP are listed below. Most of the content of this Plan consists of lists such as road site work orders, the dates/locations of annual road inspections, and maps. The HCP subsection is provided for reference.

Note that the majority of our reporting is documented in large maps that have been saved digitally as pdf files (file name in quotation marks). These maps can be zoomed in for viewing, or printed on a plotter.

Subsection 3.1 Roads that have been closed or decommissioned.

See 4-map set (Map1-Map4) "HRC_StormProofbyYearMap"

Subsection 3.2 Locations of roads assessed and already stromproofed.

See 4-map set (Map1-Map4) "HRC_StormProofbyYearMap"

Subsection 3.3 Location, explanation, and justification of alternative measures undertaken in the previous year that result in less potential sediment delivery to Waters compared to prevention of diversion.

Subsection 3.4 Locations of roads anticipated to be stormproofed during the next 12 months.

See 4-map set (Map1-Map4) "HRC_StormProofbyYearMap"

Subsection 3.5 Sites anticipated being stormproofed and their priority ranking.

See document "HRC_2019WorkOrders"

See map "HRC_2019ProposedRoadWorkMap"

Subsection 3.6 Dates when roads were assessed according to 6.3.3.1 Item 1.

See map "HRC_2018RoadInspectionsMap"

Subsection 3.7 Locations of anticipated road construction and reconstruction.

See map "HRC_2019ProposedRoadWorkMap"

See document "HRC_2019WorkOrders"

Subsection 3.8 Roads that are anticipated to meet the standard of a permanent road.

Roads used for winter hauling meet the permanent road standard. The locations of these roads change from year to year, but generally consist of mainline roads and short side roads.

Subsection 3.9 Other information as appropriate.

See document "HRC_2015AnnualRoadInspections" - a list of roads inspected for the Annual Road Inspection Program (ARIP) per §6.3.3.5. The majority of these were conducted in the spring of 2018.

See document "HRC_2018AnnualSiteWork" - a list of work orders for all sites completed in 2018.

See document "HRC_2015SedimentSitesRepaired" – a list of sediment sites repaired in 2014 by Planning Watershed.