Attachment C

MONITORING AND REPORTING PROGRAM

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code section 13267, subdivision (b) and requires HRC to implement the monitoring and reporting described below. The Regional Water Board has delegated its authority to the Executive Officer to revise, modify, and reissue the MRP. Regional Water Board staff will continue to evaluate the efficacy of the MRP and whether revisions to these monitoring and reporting requirements are warranted to ensure they provide the most useful data on the effectiveness of the WDRs and indications of watershed trends.

A. Monitoring

HRC shall monitor watershed conditions according to the monitoring program described below.

1. Inspections

<u>Roads</u>

a. HRC shall inspect all roads that are accessible by standard 4-wheel drive pick-up or ATV within the UER according to the following schedule:

   i. At least once annually between April 1 and October 15 to ensure that drainage structures and facilities are intact and fully functional, and to identify any active or imminent road-related failures of the road prism, cutbanks, or fills which can deliver sediment to streams, and identify and schedule any corrective action needed to control sediment discharge;
   ii. As soon as conditions permit following any storm event that generates 2.5 inches[1] or more of precipitation in a 24-hour period.

<u>THP areas</u>

b. HRC shall inspect the entire logging area of all active THPs, including roads, harvest units, and CSDS sites, according to the following schedule:

   i. By October 15 to assure project areas are secure for the winter; and/or immediately following cessation of winter period timber harvest activities;
   ii. Between October 15 and April 1 after at least 2.5 inches of cumulative rainfall has fallen within a 24-hour period and as soon as conditions permit, assess the effectiveness of management measures designed

[1] No more than one road and THP area inspection triggered by a storm event that generates 2.5 or more inches of precipitation in a 24-hour period as recorded at the Horseshoe rain gauge on the divide between Freshwater Creek and Elk River would be required during any 60-day period.

to address controllable sediment discharges and to determine if any new CSDS sites have developed;

iii. Between April 1 and June 15 to assess the effectiveness of management measures designed to address existing CSDS sites and to identify if any new CSDS sites have developed.

2. Landslides Monitoring
HRC shall conduct the following monitoring to identify new or reactivated mass wasting activity:

   a. HRC shall maintain and update the landslide inventory included in Appendix C of the ROWD according to the specifications described below;

   b. HRC shall inspect harvest THP units at least annually during the life of the THP and through the three-year erosion control maintenance period following completion of the plan. The inspections shall cover both harvested areas as well as RMZs and channel zones and shall be designed to identify any new, or reactivated mass wasting, including open slope landslides and streamside landslides;

   c. Additional on-the-ground monitoring and reporting to identify new, or reactivated mass wasting activity shall include HRC field staff (i.e., forestry, physical sciences), notifying the HRC Geology Department in the event a new or recently active landslide is observed during the course of daily duties (i.e., road inspections, wildlife surveys, aquatics monitoring, THP layout and logging supervision);

   d. HRC shall obtain new aerial photographs of the Upper Elk River watershed at intervals no greater than 5 years;

   e. HRC shall utilize color, high-angle, stereo pair aerial photographs at a scale of 1:12,000 of the UER to update the landslide inventory.

3. Water Quality Monitoring
HRC shall continue to conduct the following water quality trend monitoring, including Aquatic Trends Monitoring (ATM) every three years and Hydrology Trends Monitoring (HTM) annually, according to the sampling procedures described in detail in the ROWD and applicable Standard Watershed Operating Protocols for the following parameters:

   a. Pebble counts

   b. Pool dimension and frequency

   c. Large wood

   d. Riparian and overstory canopy measurements

   e. Water temperature

f. Fish surveys

g. Channel cross section measurements

h. Hydrology and suspended sediment

B. Reporting

HRC shall provide the following reports to the Regional Water Board Executive Officer according to schedule specified below. Reports must contain sufficient information that Regional Water Board staff can clearly identify the types of work planned and monitoring conducted throughout the UER including key results, findings, problems encountered, and corrective actions taken. HRC shall summarize any information pertinent to corrective actions that have been or need to be taken to ensure adequate water quality protection.

1. Annual Summary Report and Work Plan
   By January 31 of each year, HRC shall submit to the Regional Water Board a summary report of all management activities, including monitoring, conducted during the previous calendar year and a work plan, describing all management activities planned for the current calendar year (January 1 to December 31). HRC shall certify that the activities included in the report are in compliance with the provisions of this Order.

   Regional Water Board staff will review and may provide written comments and or request additional information as necessary by February 15. If requested, HRC shall submit a revised final annual work plan to the Regional Water Board by March 1.

   Regional Water Board and HRC staff shall also meet annually, if requested by either party, to review proposed work to discuss the timing of and type of activities planned for the year.

   The annual work plan is a planning document. The actual work conducted in the upcoming year may differ from what is described in the plan due to changes in conditions or other considerations. HRC shall notify the Regional Water Board no less than quarterly in writing when it becomes apparent that a deviation from the current annual work plan is necessary. The notification shall include a description of how the work differs from the annual work plan and an explanation for the change. The annual summary shall describe all of the management activities actually conducted during the previous year.

   The annual report shall include, at a minimum, the following information:

   a. Timber harvest
      The report shall at a minimum describe all harvesting conducted during the

previous year as well as anticipated harvest planned for the coming year pursuant to Section I.A. of the Order, including;

i. Acres by subwatershed;
ii. Silviculture method;
iii. THP name and number;

b. Roads
HRC shall describe all road work conducted during the previous year and work planned for the upcoming year, including a description and map locations of all road construction, reconstruction, and maintenance work, pursuant to Section I.D. of the Order.

c. Inventory of CSDS
HRC shall provide a detailed list of CSDS sites treated during the previous year and sites that are proposed for treatment prior to that calendar year's winter period. The list of sites shall include remaining CSDS from the master treatment schedule, road related CSDS identified during annual road inspections, CSDS identified in ECPs for individual THPs, and any other CSDS identified during the previous year, including those associated with watercourse crossings, roads, skid trails, gullies, road-related and non-road-related landslides, and any other sediment generating features associated with timber harvest activities. For each CSDS site scheduled for treatment, the annual work plan shall contain:

i. A treatment site identification number and location shown on a scaled map;
ii. The volume of sediment to be treated;
iii. Treatment status (pending or completed); and
iv. A description of the selected treatment alternative.

d. Restoration Projects
HRC shall provide a description of any restoration projects conducted during the previous year and that are scheduled for implementation during the upcoming year. Restoration projects that shall be included in the annual report include any projects implemented as part of the Feasibility Study for control of in-channel sediment sources or the Stewardship Program, including:

i. Large wood augmentation for the purposes of improving fish habitat and sediment routing. Methods could include falling riparian zone trees or placement of logs using heavy equipment;
ii. Construction of off-channel sediment detention basins;
iii. Streambank stabilization using large wood, excavation, planting, or other bioengineering methods;

iv. Removal or reconstruction of watercourse crossings and near stream road segments;
v. Excavation of in-stream sediment deposits.

e. Inspections
The annual summary report shall describe all inspections of roads, erosion control plans associated with timber harvest plans, and landslides conducted during the previous year according to the specifications described in Section IV.A. The annual summary report shall include at a minimum, the following information for each inspection:

i. date of the inspection;
ii. inspector(s) name;
iii. area or sites inspected;
iv. observations, including problems identified that result, or have the potential to result in controllable sediment discharge, including discharge notifications;
v. actions needed to prevent or minimize sediment discharge;
vi. actions taken to prevent or minimize sediment discharge;
vii. a brief evaluation of the causes of the erosional problems and the adaptive management measures that must be taken to prevent recurrence.

f. Landslide Reporting
The annual summary report shall include an updated landslide inventory, describing any landslide activity observed within the past year, including;

i. A map showing locations of landslide activity;
ii. Whether landslide is new or reactivation of existing landslide;
iii. Estimated volume of sediment discharged; and
iv. Management activities (such as timber harvesting or road work) that may reasonably be considered to have caused or affected landslide activity.

g. Water Quality Trends Monitoring Data
The annual summary report shall include water quality and hydrology monitoring data collected during the previous year as specified in section A.3, above, including: stream flow, sediment, water temperature, channel form, and large wood in the channel, according to the specifications of the ROWD. Tabular data shall be submitted electronically and, in a format directly compatible with Microsoft Excel and similar computer software for data processing. Spatial data shall be georeferenced and openable in ArcGIS and equivalent geographic information system (GIS) software. For tabular data, acceptable file formats and their extensions comprise: Microsoft Excel spreadsheet (*.xls or *.xlsx); American Standard Code for Information Interchange (ASCII) delimited text (*.csv, *.txt, and *.asc); and extensible

markup language (*.xml). Vector spatial data shall be formatted as ESRI shapefiles or GeoJSON (*.shp or *.json). Raster spatial data shall be formatted as GeoTIFFs (*.tif or *.tiff).

h. Watershed Stewardship Report
The annual report shall describe HRC's participation in Elk River Watershed Stewardship. The report shall provide a brief description of its participation in meetings as well as its contributions supporting stewardship efforts.

CERTIFICATION

All reports required by this Monitoring and Reporting program or other information requested by the Regional Water Board determination of compliance shall be signed by a duly authorized representative of HRC. Any person signing a document under this requirement shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Any person failing to furnish technical or monitoring reports or falsifying any information therein is guilty of a misdemeanor and may be subject to civil liability. (Water Code section 13268)