

ATTACHMENT C

**POST-FIRE MANAGEMENT AND REFORESTATION PLAN
GUIDANCE AND TECHNICAL STANDARDS
FOR
CATEGORIES 2A AND 5A**

ORDER NO. R5-2017-0061

Waste Discharge Requirements General Order R5-2017-0061 (hereinafter referred to as Order) requires Dischargers who intend to apply pesticides associated with timberland management and reforestation activities related to fire salvage to develop comply with management measures as described in Part III.C.3.b.ii (Category 2A) and Part III. F.3.c.ii (Category 5A) of the Order OR to prepare a Post-Fire Management and Reforestation Plan (PFP) to help mitigate erosion, sediment delivery, and discharges of waste that could affect waters of the state.

The purpose of Attachment C is to serve as a guidance document to help Dischargers understand the requirements of Categories 2A and 5A and to give a detailed explanation of the technical standard requirements. Attachment C is organized into three Sections as follows: 1) Flow Charts for Category 2A and 5A that guide the Discharger through a series of questions about pesticide application and the subsequent required steps for document submittal and reporting; 2) Pesticide Buffer and Effective Ground Cover Requirements, which provides detailed information on pesticide buffers and photographic examples of 50% ground cover; and 3) Contents of a PFP.

A PFP is required for all pesticide applications for: 1) for Emergency Notices enrolled in Category 2A where the Discharger elects to not meet the specific watercourse buffers or ground cover requirements as stated in Part III.C.3.b.ii of the Order; and 2) for Projects enrolled in Category 5A where the Discharger elects to not meet the specific watercourse buffers or ground cover requirements as stated in Part III.F.3.c.ii of the Order. The purpose of the PFP is to allow the Discharger flexibility in applying specific management practices across the fire salvage area that consider all aspects of the timing of the fire salvage, site-preparation, and other management objectives associated with reforestation; provide for site specificity in terms of topography, soils, climate, hydrology, and burn severity; and consider all sources of potential negative water quality impacts from those activities (i.e. sediment and pesticides).

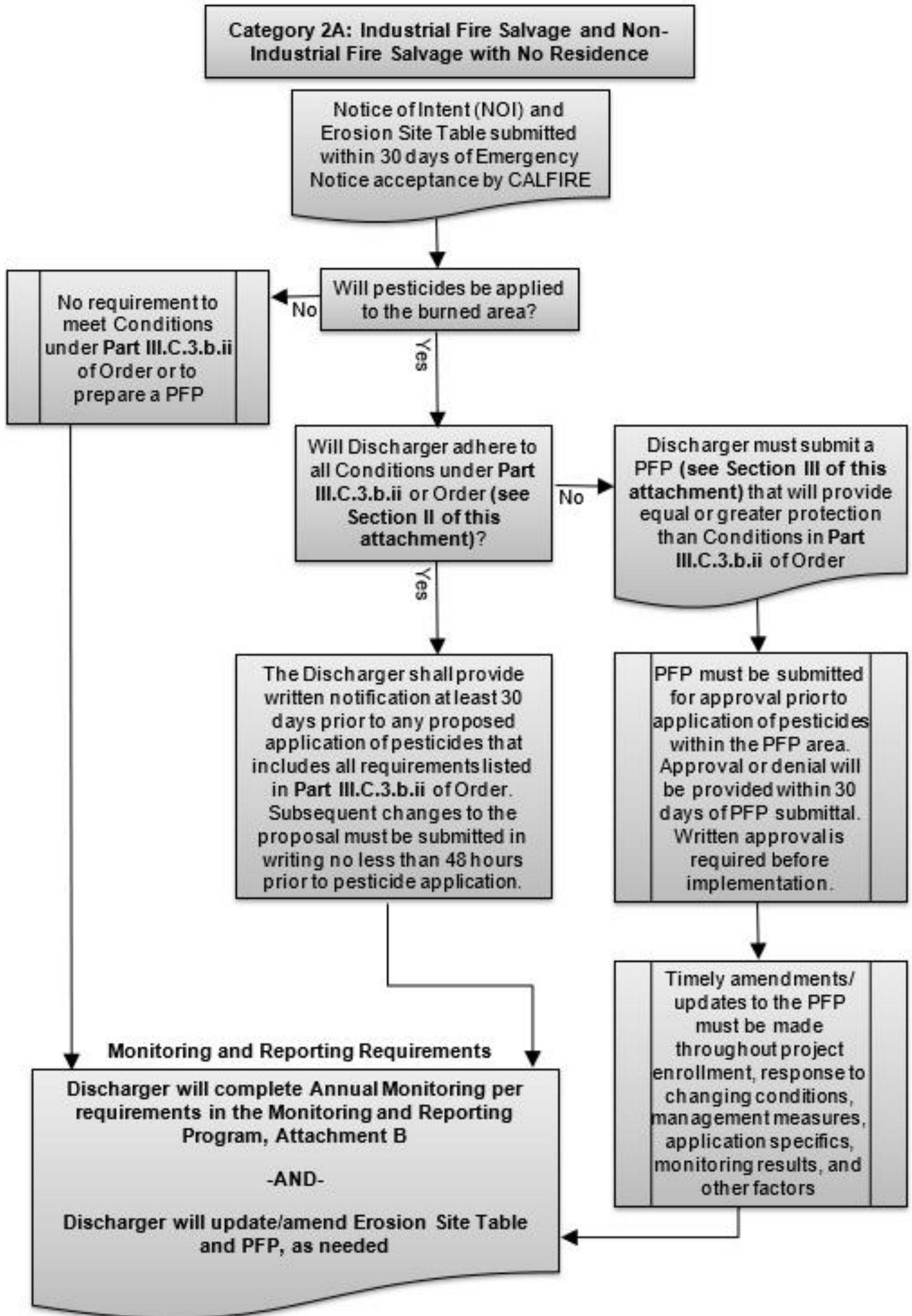
A PFP must contain, at a minimum, all of the elements listed under “Contents of a PFP” (Section III of this Attachment); the portions of the PFP that are related directly to pesticide applications must be prepared by, or under the reasonable charge of, a Registered Professional Forester, Pest Control Advisor, and/or other qualified professional. **The Discharger shall submit the PFP to the Central Valley Regional Water Quality Control Board for approval prior to application of pesticides within the post-fire management and reforestation plan area; approval or denial of the PFP shall be provided to the Discharger within 30 days of PFP submittal. Additionally, the PFP must be updated/amended** in response to changing conditions, management measures, and

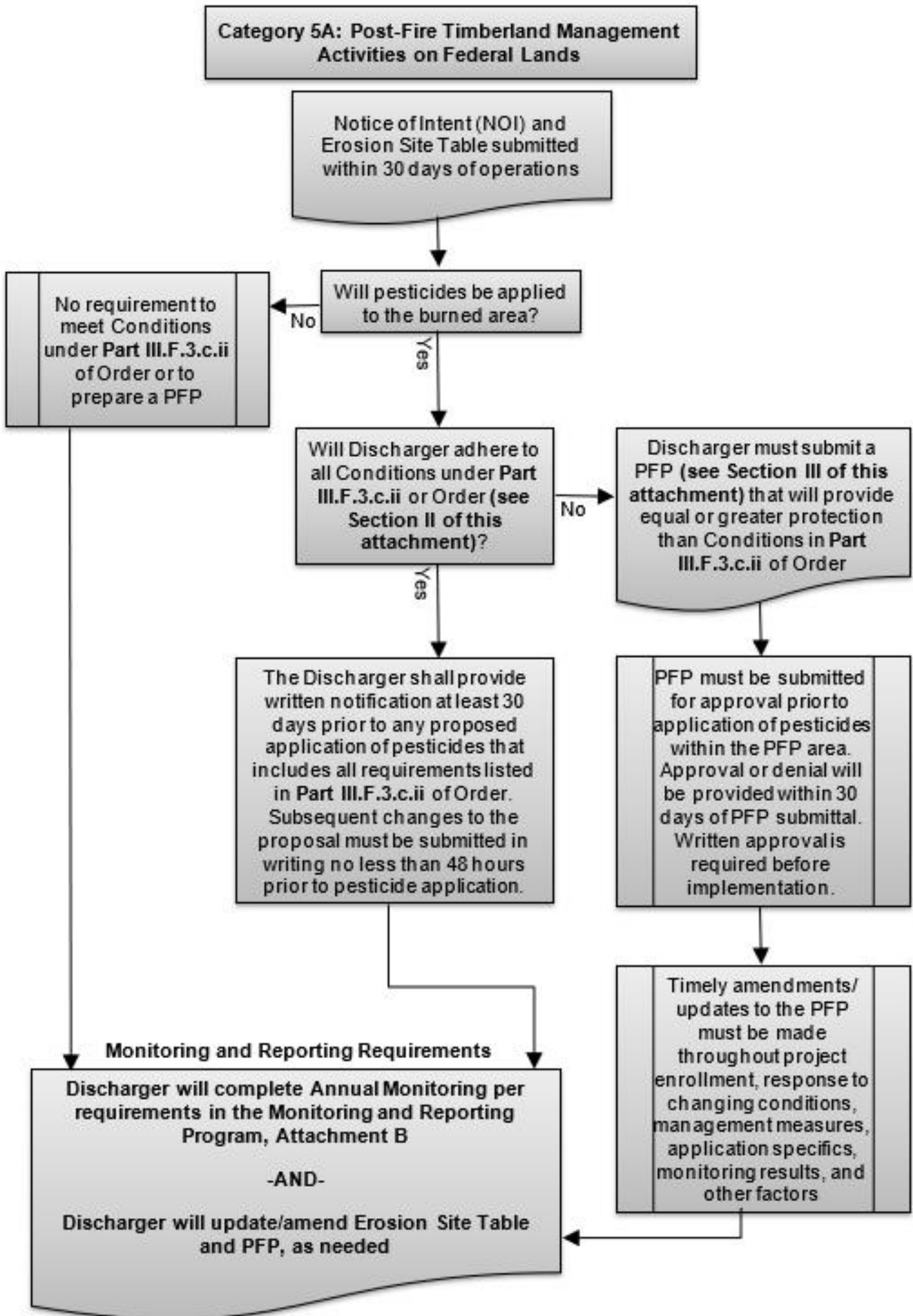
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application specifics; addition of fire salvage areas (i.e. Emergency Notices or Projects) or application areas; monitoring results; and other factors throughout Project enrollment.

For Category 5A pesticide applications on fire salvaged federal lands, if a Project has been prepared under the National Environmental Policy Act (NEPA) for reforestation activities, the NEPA document(s) may be submitted in-lieu of the PFP if it includes all required information detailed under “Contents of a PFP”. If the NEPA document(s) does not cover all elements of the “Contents of a PFP”, then the U.S. Forest Service may submit supplemental information along with the NEPA document(s).

I. Flow Charts for Category 2A and 5A





Outline of Category 2A: Industrial Fire Salvage and Non-Industrial Fire Salvage with No Residence Flowchart

Title: “Category 2A: Industrial Fire Salvage and Non-Industrial Fire Salvage with No Residence”

The top of the chart begins: “Notice of Intent (NOI) and Erosion Site Table submitted within 30 days of Emergency Notice acceptance by CALFIRE.”

1. Question: “Will pesticides be applied to the burned area?”
 - a. If “No” to pesticides being applied, then, “No requirement to meet Conditions under **Part III.C.3.b.ii** of Order or to prepare PFP.” Followed by, “**Monitoring and Reporting Requirements. Discharger will complete Annual Monitoring per requirements in the Monitoring and Reporting Program, Attachment B and Discharger will update/amend Erosion Site Table and PFP, as needed.**”
 - b. If “Yes” to pesticides being applied, then, question “Will Discharger adhere to all Conditions under **Part III.C.3.b.ii** of Order (**see Section II of this attachment**)?”
 - i. If “Yes” to adhering to all Conditions, then, “The Discharger shall provide written notification at least 30 days prior to any proposed application of pesticides that includes all requirements listed in **Part III.C.3.b.ii** of Order. Subsequent changes to the proposal must be submitted in writing no less than 48 hours prior to pesticide application.” Then, “Monitoring and Reporting Requirements. Discharger will complete Annual Monitoring per requirements in the Monitoring and Reporting Program, Attachment B and Discharger will update/amend Erosion Site Table and PFP, as needed.”
 - ii. If “No” to adhering to all Conditions, then, “Discharger must submit a PFP (**see Section III of this Attachment**) that will provide equal or greater protection than Conditions in **Part III.C.3.b.ii** of Order.” Followed by, “PFP must be submitted for approval prior to application of pesticides within the PFP area. Approval or denial will be provided within 30 days of PFP submittal. Written approval is required before implementation.” Followed by, “Timely amendments/updates to the PFP must be made throughout project enrollment, response to changing conditions, management measures, application specifics, monitoring results, and other factors.” Then, “**Monitoring and Reporting Requirements. Discharger will complete Annual Monitoring per requirements in the Monitoring and Reporting Program, Attachment B and Discharger will update/amend Erosion Site Table and PFP, as needed.**”

Outline of Category 5A: Post-Fire Timberland Management Activities on Federal Lands Flowchart

Title: “Category 5A: Post-Fire Timberland Management Activities on Federal Lands”

The top of the chart begins: “Notice of Intent (NOI) and Erosion Site Table submitted within 30 days of Operations.”

1. Question: “Will pesticides be applied to the burned area?”
 - a. If “No” to pesticides being applied, then, “No requirement to meet Conditions under **Part III.F.3.c.ii** of Order or to prepare PFP.” Followed by, “**Monitoring and Reporting Requirements. Discharger will complete Annual Monitoring per requirements in the Monitoring and Reporting Program, Attachment B and Discharger will update/amend Erosion Site Table and PFP, as needed.**”
 - b. If “Yes” to pesticides being applied, then, question “Will Discharger adhere to all Conditions under **Part III.F.3.c.ii** of Order (**see Section II of this attachment**)?”
 - i. If “Yes” to adhering to all Conditions, then, “The Discharger shall provide written notification at least 30 days prior to any proposed application of pesticides that includes all requirements listed in **Part III.F.3.c.ii** of Order. Subsequent changes to the proposal must be submitted in writing no less than 48 hours prior to pesticide application.” Then, “Monitoring and Reporting Requirements. Discharger will complete Annual Monitoring per requirements in the Monitoring and Reporting Program, Attachment B and Discharger will update/amend Erosion Site Table and PFP, as needed.”
 - ii. If “No” to adhering to all Conditions, then, “Discharger must submit a PFP (**see Section III of this Attachment**) that will provide equal or greater protection than Conditions in **Part III.F.3.c.ii** of Order.” Followed by, “PFP must be submitted for approval prior to application of pesticides within the PFP area. Approval or denial will be provided within 30 days of PFP submittal. Written approval is required before implementation.” Followed by, “Timely amendments/updates to the PFP must be made throughout project enrollment, response to changing conditions, management measures, application specifics, monitoring results, and other factors.” Then, “**Monitoring and Reporting Requirements. Discharger will complete Annual Monitoring per requirements in the Monitoring and Reporting Program, Attachment B and Discharger will update/amend Erosion Site Table and PFP, as needed.**”

II. Pesticide Buffer and Effective Ground Cover Requirements

For Category 2A Fire Salvage Projects, all industrial and non-industrial with no residence (see Part III.C.1. criteria in the Order), where pesticides will be applied, the Discharger shall submit a PFP or meet the conditions in Part III.C.3.b.ii of the Order, which are **abbreviated** below:

- The Discharger must **comply with the following pesticide no-spray buffers** (unless more stringent buffers are dictated by application labels/guidance, statute, or regulation):

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- For Class I and II watercourses, the applicable WLPZ widths specified in the [California Code of Regulations, title 14, section 936.5](http://calfire.ca.gov/resource_mgt/resource_mgt_forestpractice) (http://calfire.ca.gov/resource_mgt/resource_mgt_forestpractice);
- For Class III and IV watercourses, a minimum of 25 feet where sideslope steepness is less than 30%, and a minimum of 50 feet where sideslope steepness is 30% or greater.
- Where management activities are planned on a burned area **with slopes greater than 30%, a minimum of 50% average effective groundcover is required to be documented prior to pesticide application**. Documentation shall be provided to the Central Valley Water Board in the pesticide notification **30 days prior to application**.
- The Discharger shall **notify** the Central Valley Water Board **in writing at least 30 days prior to any proposed application of pesticides**.

For Category 5A Post-Fire Projects (see Part III.F.1. criteria in the Order), where pesticides will be applied, the Discharger shall submit a PFP or meet the conditions in Part III.F.3.c.ii of the Order, which are **abbreviated** below:

- The Discharger must **comply with the following pesticide no-spray buffers** (unless more stringent buffers are dictated by application labels/guidance, statute, or regulation):
 - a) Perennial or intermittent watercourses which have: (1) surface domestic water use from and/or within 100 feet downstream of operations area and/or (2) fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning, shall utilize the appropriate **Class I WLPZ width(s)** specified in the [California Code of Regulations, title 14, section 936.5](http://calfire.ca.gov/resource_mgt/resource_mgt_forestpractice) (http://calfire.ca.gov/resource_mgt/resource_mgt_forestpractice).
 - b) Perennial or intermittent watercourses which have: (1) fish always or seasonally present off-site within 1000 feet downstream (excludes intermittent or ephemeral watercourses with no aquatic life that are tributary to watercourses described under (a) above) and/or (2) aquatic habitat for nonfish aquatic species (aquatic insects and/or other physical habitat indicators such as riparian and aquatic vegetation, watercourse debris, and potential for small pool formation), shall utilize the appropriate **Class II WLPZ width(s)** specified in the [California Code of Regulations, title 14, section 936.5](http://calfire.ca.gov/resource_mgt/resource_mgt_forestpractice) (http://calfire.ca.gov/resource_mgt/resource_mgt_forestpractice).
 - c) Ephemeral or intermittent watercourses with no aquatic life present, watercourse shows evidence of being capable of sediment transport to watercourses described under (a) and (b) above, shall utilize a minimum of **25 feet** where

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sideslope steepness is **less than 30%**, and a minimum of **50 feet** where sideslope steepness is **30% or greater**.

- Where management activities are planned on a burned area with **slopes greater than 30%**, a **minimum of 50% average effective groundcover is required to be documented prior to pesticide application**. Documentation shall be provided to the Central Valley Water Board in the pesticide notification **30 days prior to application**.
- The Discharger shall **notify** the Central Valley Water Board **in writing at least 30 days prior to any proposed application of pesticides**.
- The Discharger shall adhere to the resource protection measures in the Chemical Use Management Activities as designated in the National Best Management Practices for Water Quality Management on National Forest System Lands (USDA April 2012).

“Effective Ground Cover”, as defined in Attachment A, means any combination of slash (lopped and in close contact with the ground), mulch (large wood chips, wood shreds, wood strand blends, straw, bark, surface rock fragments larger than ¾ inch), plants, and plant litter. Large wood chips are a minimum of 2 inches in length and at least four (4) times longer than they are wide

Image 1

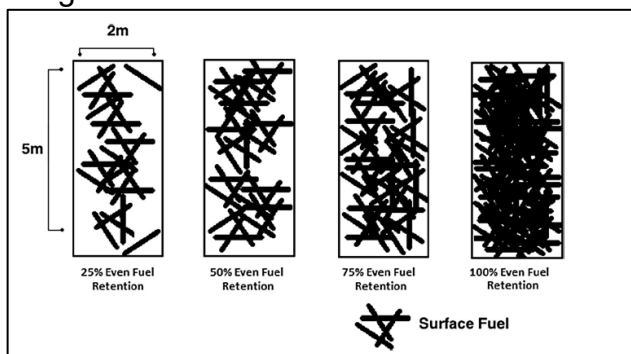


Image 2



Fifty-percent ground cover documentation shall use standard methods including aerial photography analysis, point intercept, plot, or transect methods, or any combination thereof.

The Discharger shall provide documentation of ground cover sampling methodology, locations of any ground-based sampling points, and any ground-based verification points or plots for aerial photo estimates. Image 1 above, borrowed from Harrison et. al 2016, is a schematic that illustrates even distribution of 25, 50, 75, and 100% ground cover. Additionally, Image 2 above, borrowed from the [Natural Resource Conservation Service at: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ny/technical/ecoscience/agronomy/](https://www.nrcs.usda.gov/wps/portal/nrcs/detail/ny/technical/ecoscience/agronomy/), provides a useful image of 50% ground cover.

For post-fire salvage activities, ground cover shall be estimated down to 20 acres if such a scale will change the estimated effective ground cover percentage of individual areas, and down to 10 acres for areas that either have been determined to have high or extreme EHR, or have experienced high to severe burn severity as a result of wildfire. Burn severity determination will be made based on available soil burn severity maps or through field determinations made by the RPF or qualified professional.

III. Contents of a Post-Fire Management and Reforestation Plan

The PFP shall include the following to demonstrate that the Discharger can mitigate, to the maximum extent feasible, any controllable and management related sources of sediment and pesticides that may impact waters of the state, and that proposed management measures and operations will provide equal to or better protection than the conditions under Part III.C.3.b.ii. or Part III.F.3.c.ii of the Order, Category 2A and Category 5A, respectively.

- A. A list of Emergency Notices/Projects enrolled under the Order that will adhere to the PFP.
- B. A list of any “other areas” in the burn area that will adhere to the PFP (if they are not included in an Emergency Notice or Project area), such as old plantations that burned over and will receive pesticide applications but did not have timber salvaged. For these “other areas”, include a map that shows the location(s) by Township, Section, Range and the associated acreage.
- C. Evaluation of Receiving Waters and Beneficial Uses
 - a. Within and downstream of the Emergency Notice/Project area(s) and “other areas”:
 - i. List the beneficial uses for surface water bodies and downstream receiving waters as identified in the appropriate Basin Plan;
 - ii. List any 303(d) listing(s);
 - iii. Identify and describe other critical habitat and aquatic resources (e.g. salmonids, domestic water supply intakes, aquatic species (including listed species));
 - b. Describe how the PFP will adequately protect/address the resources identified above.
- D. Pesticide Application
 - a. Describe the following:
 - i. Pesticide Product(s) to be applied;
 - ii. Application method(s);
 - iii. Schedule for application (dates);

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- iv. Location(s) of application (Emergency Notice number and/or Township/Section/Range);

**Changes to any of the above (D.a.i-iv.) must be submitted in writing no less than 48 hours prior to pesticide application.

- b. An evaluation of how pesticide applications could impact: identified significant and existing potential erosion sites and/or unstable areas/swales/erosional features that could contribute sediment to downstream crossings and watercourses.
- c. Explain why site conditions are favorable for the proposed land management activities (e.g. EHR, burn severity, slopes, annual rainfall).
- d. Describe pesticide mitigation measures recommended by the PCA, RPF, or other qualified professional that will be employed.

E. Land Management Practices

- a. Describe any management practices/ mitigation measures that will be utilized to mitigate soil erosion (e.g. slash packing, mulching, contour ripping, waterbar spacing, percent groundcover, falling logs on contour, watercourse buffers, vegetative buffer strips, leave trees, etc.). The description/maps shall indicate the location(s) where specified management practices will be applied.

F. Monitoring

- a. If additional monitoring is proposed or required to evaluate management measures related to the PFP, include the following;
 - i. Type of monitoring proposed (i.e., visual, photo point, water column sampling, etc.);
 - ii. Location of monitoring;
 - iii. Frequency and schedule;
 - iv. Evaluation of monitoring results;
 - v. Report submittal.