Attachment B: Management Practices

Attachment B provides guidance on Management Practices that may be implemented to comply with Section II.D (Management Practice Requirements) of this Order. Alternatively, Enrollees may propose and implement Management Practices that provide equivalent or greater protection of water quality to meet the requirements of the Order. Enrollees are responsible for the design, implementation, maintenance, and repair of Management Practices to ensure their continued effectiveness in achieving the water quality goals of this Order.

The Management Practices in Table B.1, below, are listed by category to achieve compliance with the following requirement from Section II.D in the Order:

All Enrollees shall, at a minimum, implement Management Practices necessary to:

a) Prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads;

b) Prevent, minimize or eliminate the discharges of all agricultural pollutants, including synthetic pesticides and copper-based fungicides to surface waters and groundwater;

a) Prevent, minimize, or eliminate overapplication of nitrogen and the percolation of nitrogen into groundwater;

c) Protect wellheads from surface water intrusion; and

d) Implement proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.

Design specifications for Management Practices listed in Table B.1 can generally be found through the NRCS Conservation Practice Standards[1], and the Handbook for Forest, Ranch, and Rural Roads.[2]

[1] Conservation Practice Standards | Natural Resources Conservation Service
https://www.nrcs.usda.gov/resources/guides-and-instructions/conservation-practice-standards

[2] Updated Handbook for Forest, Ranch and Rural Roads | Pacific Watershed Associates
https://www.pacificwatershed.com/roadshandbook

Table B.1: Management Practices by Category and Descriptions

Sediment and Erosion Control Management Practices *Management practices to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads.*
Field Practices
Filter Strip – A vegetated strip is maintained adjacent to a drainage ditch or waterway to filter pollutants.
Field Size Reduction – Field sizes are reduced to lessen the amount of stormwater runoff from the field.
Flow Dissipaters – Flow dissipaters are used to minimize erosion at discharge points, usually constructed out of riprap or concrete.
Contour Farming – Fields are planted on the contour to reduce runoff.
Precision Land Forming – Fields are graded to increase irrigation efficiency and improve drainage control and minimize erosion.
Row Arrangement – Crop rows are graded, directed and at a length to optimize rain and irrigation water.
Cover Crop – Vegetation is planted in fields to minimize the area of bare soil, thereby reducing the potential for erosion.
Enhanced Soil Infiltration – Soil water penetration has been increased through the use of amendments, deep ripping and/or aeration.
Critical Area Planting – Permanent vegetation is established in areas that are expected to have high erosion rates or in areas that would otherwise prevent the establishment of vegetation.
Soil amendments – Amendments, such as compost, mulch or other organic matter are added to the soil to improve soil structure and reduce erosion.
In Furrow Dams – In furrow dams are installed to increase infiltration and settling out of sediment prior to entering the tail ditch.
Field Border – Borders (including berms) are installed at the low end of fields to capture runoff and trap sediment.
Plant Residue Tillage Management – Plant materials are left on the soil surface to reduce runoff and erosion.
Vegetative Barrier – Vegetation is planted to slow or reduce surface runoff by promoting detention and infiltration.
Grassed Waterway – Grass is maintained in drains and ditches to reduce erosion and filter pollutants.

Sediment and Erosion Control Management Practices *Management practices to prevent, minimize, or eliminate erosion and sediment discharge from all farm areas and appurtenant roads.*
Stormwater Diversion – Structures or embankments are installed to keep stormwater on lily bulb field headlands.
Field Isolation – Runoff from lily bulb fields flows onto a pasture or other vegetated area where it is dispersed, filtered and infiltrated before reaching surface waters.
Grade Stabilization Structure – Drop spillways or check dams are installed to stabilize the grade and control erosion.
Appurtenant Agricultural Roads
Road Erosion Control – Rocking, paving, compaction, seasonal vegetation, or ground cover (e.g., straw) during the wet season are used to prevent erosion on the road surface. ***Road Sediment Control*** – Waterbars, grading, rolling dips, etc. are used to prevent and minimize sediment transport off of road surfaces.
Proper Culvert Sizing and Maintenance – Culverts are sized correctly to pass the 100-year storm flows. Culverts are inspected regularly and maintained to ensure structural integrity, proper function, and to minimize erosion downstream.
Road Maintenance – Pre- and post-storm inspections are conducted, erosion sites are identified, and a prioritized inventory of erosion sites is developed and updated from which to schedule and implement fixes.
Appurtenant Farm Areas
Agricultural Pond Maintenance – Agricultural ponds are maintained to prevent erosion and failure of dams, embankments, and spillways. Ponds are regularly inspected, and necessary preventative maintenance is performed.
Livestock Management – This practice encompasses several possible measures related to managing pasture to protect water quality, such as stable stream crossings that protect bed and banks, alternate water for livestock, rotational grazing, and fencing or other barriers that limit access to riparian zones.

Pesticide Management Practices *Management practices to prevent, minimize or eliminate the discharges of pesticides to surface water and groundwater*
Integrated Pest Management Plan – A pesticide management plan has been developed that considers available pest control techniques to keep pesticide use at a level that minimizes risk to water quality.

Pesticide Management Practices *Management practices to prevent, minimize or eliminate the discharges of pesticides to surface water and groundwater*
Use of Low Risk Pesticides – Lower risk pesticides have been selected to minimize risk to water quality based on toxicity, runoff potential, and leaching potential.
Pesticide Sampling and Analysis – Stormwater runoff from fields is sampled and analyzed for pesticide concentrations to assess effectiveness of management practices.
Pesticide Mixing/Loading Setbacks – Setbacks are maintained adjacent to waterways and other sensitive areas for pesticide application, mixing, and loading.
Soil Amendments – Amendments are added to the soil to bind pesticides, thereby reducing offsite movement and/or reducing their toxicity.
Sprayer Shields – A shield on the spray boom is used to reduce drift.
Irrigation Water Management – The volume, frequency, and application rate of irrigation water is planned to minimize runoff.
County Pesticide Permit Compliance – All applicable pesticide regulations and handling and application directions are being followed.
Crop Rotation – Crops are rotated seasonally in a sequence to reduce use of pesticides and fertilizers and to reduce erosion.
End of Row Shutoff When Spraying – The pesticide sprayer is shut off at the end of the row and kept off in the turnaround.
Avoid Surface Waters When Spraying - Pesticides are not sprayed in and around surface waters where they can contact surface waters directly considering, among other things, wind direction and strength
No Spray Buffer Zone – Areas where spraying does not take place from between the downwind edge of the application area and an identified sensitive area.
Drift Control Agents – Additives are used to increase droplet size to reduce drift.
Monitor Climatic Conditions – Wind speed and direction, temperature, and relative humidity are monitored and considered in planning pesticide applications.
Application Timing and Rain Forecasting – The rain forecast is monitored to anticipate storm events that produce runoff pesticide application are planned to lengthen the amount of time prior to a storm event.
Pesticide Applicator Adjustments – Spray nozzle pressure and height and droplet size are adjusted to better target the pesticide application, minimize drift, and improve the efficiency of applications, which can all reduce the amount of pesticide required.

Nitrogen Management Practices *Management practices to prevent, minimize, or eliminate overapplication of nitrogen and the percolation of nitrogen into groundwater.*
Nutrient Application at Agronomic Rates – Nutrients are applied at rates to meet crop needs while reducing nutrient runoff and infiltration to groundwater.
Nutrient Budget – Nutrients applied versus nutrients removed (nutrient balance) is calculated to arrive at a nutrient application rate that minimizes excess application of nutrients.
Soil Testing – Nitrogen concentration in soils is measured and applications are adjusted accordingly.
Irrigation Water Testing – Nitrogen concentrations in irrigation water are measured and fertilizer nitrogen applications are adjusted accordingly.
Use of Beneficial Cover Crops – Cover crops that fix and utilize nitrogen are used to minimize nitrogen applications and leaching to groundwater.

Wellhead Protection and Good Housekeeping *Management practices to protect wellheads from surface water intrusion; and management practices for the proper handling, storage, disposal, and management of fertilizers, fumigants, pesticides, herbicides, rodenticides, and other chemicals.*
Wellhead Protection
Wellhead Protection – An area around the wellhead is delineated where certain activities are limited in order to protect the wellhead from contamination.
Backflow Prevention - Install and maintain backflow prevention devices on irrigation wells***.***
Abandoned or Inactive Wells - Properly destroy permanently inactive groundwater wells
Good Housekeeping
Proper Disposal of Pesticides – Pesticides containers are triple rinsed before disposal and rinse water is mixed and applied according to label requirements. Pesticides are considered hazardous waste and disposed of accordingly.
All Applicable Pesticide Storage, Handling, and Use Laws are followed – State and local laws relating to the proper handling, storage, and use of pesticides are followed. Pesticide storage areas are well-maintained with proper signage.