East San Joaquin
WATER QUALITY COALITION
1201 L Street Modesto, CA 95354
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December 1, 2015

Ms. Pamela Creedon, Executive Officer
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

Dear Ms. Creedon,

The East San Joaquin Water Quality Coalition is submitting a work plan for addressing the risk of discharges from parcels in close proximity to surface water that were not identified in the Sediment Discharge and Erosion Assessment Report (SDEAR). Key components of the work plan include identifying landscape factors that prevent movement of sediment offsite from agricultural parcels to surface water; also identifying irrigation practices that reduce the probability of sediment discharge.

The ESJWQC will use these factors on a landscape basis to prove that member parcels do not need a Sediment and Erosion Control Plan (SECP). All member parcels in proximity to surface water (adjacent parcels) that cannot be exempted must be covered by a SECP.

The ESJWQC is the first of the third parties in the Central Valley to submit a work plan to address parcel proximity and need for a SECP. Other third party coalitions are in the process of developing their plans. In order to streamline the review of plans and ensure there is consistence in approaches where practical, we are requesting the continuation of dialogue initiated in June 2015 between the third parties and Regional Water Board to discuss the methods and criteria proposed to address proximity to surface water and to identify how to use existing information to make this process effective in reducing sediment discharge and erosion across the Central Valley.

The Coalitions will be contacting the Regional Water Board to identify dates on which the discussion can take place.

Given the possibility that a different set of criteria for identifying parcels that must be covered by a SECP may emerge, the ESJWQC may request to modify or refine the approach described in this submission.

Respectfully,

Parry Klassen
Executive Director, East San Joaquin Water Quality Coalition

# East San Joaquin Water Quality Coalition
## Sediment Discharge and Erosion Assessment Report
# Proximity to Surface Water Work Plan

December 1, 2015

## Introduction

The East San Joaquin Water Quality Coalition (ESJWQC or Coalition) received a conditional approval of the Sediment Discharge and Erosion Assessment Report (SDEAR) on July 24, 2015. The conditional approval letter from the Executive Officer of the Central Valley Regional Water Quality Control Board (Regional Water Board) indicated that a work plan with a timeline to address proximity to surface waters must be submitted by the ESJWQC by December 1, 2015. The concern of the Regional Water Board was that the SDEAR submitted by the ESJWQC relied on the RUSLE model which does not directly indicate which areas might be susceptible to erosion due to irrigation as irrigation runoff and tailwater discharges are not accounted for in the RUSLE model. The following work plan includes a framework for reviewing ESJWQC member parcels that are in proximity to surface waters and that have the potential for sediment laden discharges in storm water and irrigation and/or tailwater discharges. A timeline for evaluating these parcels is also included.

## Critical elements that lead to erosion and sediment movement to surface water

Sediment can move to surface water in both rainfall runoff and irrigation runoff. Movement during or after rain events is due to exposed soil on high slopes and long hillsides when rain water has the power to mobilize soil. During irrigation, movement of sediment is a result of irrigation flows creating sufficient shear stress on exposed soils that mobilize sediment and when a channel to a waterway exists, discharge of sediment to surface water can occur.

Mobilization of soil from rain events and irrigation does not result in discharge to surface water unless there is a physical pathway to surface water that does not impede water and sediment movement. Natural landscape features, such as hydrologic isolation of land, can prevent movement of surface water and any sediment carried in the water. There are also a variety of management practices that either eliminate discharge, or "treat" water as it leaves the parcel, e.g. vegetative filter strips that trap sediment before it can move to surface water.

## Elements that prevent movement of sediment to surface water

Sediment can be mobilized by either rainfall events or irrigation but unless there is an uninterrupted, downward slope, neither water nor sediment can move to surface water. Locations that cannot

discharge sediment are hydrologically disconnected from surface water. Physical barriers such as berms, levees, and natural riparian vegetation can prevent movement of sediment to surface water by isolating the parcel from surface water. In addition, if the parcel is at an elevation below the water body, water cannot flow uphill to surface water.

All of these conditions result in the disconnection of the land surface to surface water during rainfall runoff events or irrigations. In addition, during an irrigation event, no sediment can be discharged if there is insufficient volume or velocity of water to develop the shear stress necessary to mobilize sediment. Drip irrigation and microsprinkler irrigation techniques distribute the volume of applied water over a substantially longer time period eliminating the potential to create the shear stress and excessive flows necessary to mobilize sediment.

## Process to identify members who need to complete a SECP

Using the Revised Universal Soil Loss Equation, the Coalition identified members who need to complete a Sediment Erosion Control Plan (SECP) for parcels that have the potential to discharge sediment at greater than 5 tons/acre/year during rainfall runoff events. In addition, members who have self-identified parcels with the potential to discharge sediments to surface waters on their Farm Evaluations will also need to complete a SECP. This Work Plan includes a framework for identifying additional parcels based on proximity to surface waters and the potential for irrigation/tailwater discharge that are not already identified by the SDEAR.

The Coalition will first identify all parcels that are adjacent to surface water, termed adjacent parcels, to be evaluated for the potential to discharge rainfall or irrigation runoff based on proximity. Not all of these parcels are enrolled in the Coalition and therefore the next step will be to evaluate adjacent parcels enrolled in the Coalition. If these parcels have been identified in the original SDEAR (RUSLE model or Farm Evaluation self-identification), members will need to complete a SECP.

For the remaining parcels, the Coalition will review parcel information to determine if:

1. The parcel is below the level of the water way.
2. Berms/levees/elevated roadways are between a water way and the parcel.
3. Parcel has riparian vegetation that would prohibit sediment discharge or erosion

If a parcel meets one of the criteria above, the member will not be required to complete a SECP since there is no risk of rainfall or irrigation runoff and/or tailwater discharge that would cause erosion and sediment discharge. The Coalition will obtain information to determine if parcels meet any of the above criteria through Farm Evaluation Plans (Part D, Sediment and Erosion Control Practices) and also by using water channel maps developed by irrigation and flood control districts or other entities. The Coalition may produce a map of the leveed waterways using these information sources to better identify adjacent parcels with the potential to discharge rainfall runoff or irrigation water resulting in sediment discharge and/or erosion. Aerial photos may also be used to determine where riparian vegetation would also eliminate risk.

## Schedule

The Coalition recommends discussions with all the Central Valley coalitions to discuss the most effective strategy to determine which member parcels adjacent to surface waters have a risk of discharging sediment. The ESJWQC has proposed a framework by which to narrow the number of adjacent parcels requiring SECPs based on physical structures/attributes that would eliminate the risk of sediment discharge. Additional strategies may be posed by other Coalitions and should also be considered in refinement and finalization of this plan.

The ESJWQC will evaluate adjacent parcels using a phased approach based on the size and flow of waterbodies in the coalition region:

- 3 months after approval of Work Plan: Identify adjacent member parcels along large waterbodies including the Stanislaus, Tuolumne, Merced and San Joaquin River; member parcels would need to complete an SECP by February 2017.

- 6 months after approval of Work Plan: Identify adjacent parcels along secondary tributaries (e.g. Dry Creek, Bear Creek, Duck Slough); member parcels would need to have a completed SECP by February 2018

- 18 months after approval: Identify adjacent parcels along remaining water bodies (e.g. drains, ephemeral water bodies, conveyance structures/laterals); member parcels would need to have a completed SECP by February 2019.

| Months After Approval | ESJWQC Deliverable | Member SECP Due Date |
|---|---|---|
| 3 months | Large Tributaries – identification of member parcels with potential for sediment discharge or erosion due to irrigation runoff | February 2017 |
| 6 months | Secondary Tributaries – identification of member parcels with potential for sediment discharge or erosion due to irrigation runoff | February 2018 |
| 18 months | Remaining water bodies – identification of member parcels with potential for sediment discharge or erosion due to irrigation runoff | February 2019 |