CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ATTACHMENT A TO ORDER R7-2019-0030
INFORMATION SHEET

GENERAL WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES OF WASTE FROM IRRIGATED AGRICULTURAL LANDS FOR DISCHARGERS THAT ARE MEMBERS OF A COALITION GROUP IN PALO VERDE VALLEY AND PALO VERDE MESA IMPERIAL AND RIVERSIDE COUNTIES

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I. PALO VERDE AREA WATER QUALITY OBJECTIVES

Surface water and groundwater receiving water limitations in Section C of the Order specify that waste discharges from Irrigated Agricultural Lands may not cause or contribute to an exceedance of water quality objectives in surface water or underlying groundwater, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance.

Water quality objectives that apply to surface water are described in the Water Quality Control Plan for the Colorado River Basin Region (Basin Plan), as well as in other applicable state and federal laws and policies. The Basin Plan contains numeric water quality objectives that apply to specifically identified water bodies as well as narrative objectives. Federal water quality criteria that apply to surface water are contained in federal regulations referred to as the California Toxics Rule and the National Toxics Rule. (See 40 C.F.R. §§ 131.36, 131.38.)

Below in Tables 1.1 and 1.2 are summaries of relevant water quality objectives for surface waters.

Table 1.1 - Palo Verde Area Surface Water Quality Objectives in the Basin Plan

Discharges of wastes from Irrigated Agricultural Lands into the Palo Verde Valley and Palo Verde Mesa Drains, Palo Verde Lagoon, and Palo Verde Outfall Drain, all of which are tributary to the Colorado River, shall not:

Objective	Description
1	Result in the presence of oil, grease, floating material (liquids, solids, foam and scum) or suspended material in amounts that create a nuisance or produce objectionable color, odor, taste, or turbidity, or otherwise adversely affect beneficial uses.
2	Result in unnatural materials, which individually or in combination, produce undesirable flavors in edible portions of aquatic organisms.
3	Alter the suspended sediment load and suspended sediment discharge rate to receiving waters in a manner that causes nuisance or adversely affects beneficial uses.
4	Result in an increase of turbidity and/or total suspended solids (TSS) that adversely affects beneficial uses.
5	Result in the dissolved oxygen concentration to decrease below 5.0 mg/l at any time.
6	Result in the geometric mean of the indicator bacteria *E. coli* and enterococci in the receiving waters (based on a minimum of not less than five samples equally spaced over a 30-day period) to exceed a Most Probable Number (MPN) of the values as measured by the following bacterial indicators: *E. coli* …….. 126 per 100 milliliters (mL) Enterococci…….. 33 per 100 mL Nor shall any single sample exceed the maximum allowable bacterial density of: *E. coli* ……. 400 per 100 mL Enterococci…… 100 per 100 mL Nor shall any single sample for the Colorado River exceed the maximum allowable bacterial density of: *E. coli* ……. 235 per 100 mL Enterococci…… 61 per 100 mL
7	Result in the normal ambient pH of the receiving water to fall below 6.0 or exceed 9.0 units.
8	Result in the discharge of biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
9	Result in an increase of total dissolved solids (TDS) that adversely affects beneficial uses of any receiving water.
10	Result in an alteration in the natural receiving water temperature that adversely affects beneficial uses.

11	Result in the discharge of an individual chemical or combination of chemicals in concentrations that adversely affect beneficial uses, nor result in an increase in hazardous chemical concentrations in bottom sediments or aquatic life.
12	Result in toxic pollutants present in the water column, sediments or biota in concentrations that adversely affect beneficial uses, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective shall be determined by the use of indicator organisms, analyses of species diversity, population density, growth anomalies, or toxicity tests of appropriate duration or other appropriate methods as specified by the Colorado River Basin Regional Water Board.
13	Result in a violation of any applicable water quality standard for receiving waters adopted by the Colorado River Basin Water Board or the State Water Board as required by the federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Clean Water Act section 303 or amendments thereto, the Colorado River Basin Water Board will revise and modify this Order in accordance with the more stringent standard.

Table 1.2 - Specific Surface Water Objective for Salinity (Total Dissolved Solids) for the Colorado River in the Basin Plan

Objective
California along with several other states adopted the Seven States Colorado River Salinity Control Forum's recommended water quality standards for the Colorado River, which were subsequently approved by the U.S. Environmental Protection Agency (USEPA).
Flow-weighted average annual numeric criteria for salinity in the form of Total Dissolved Solids (TDS) were established at three locations on the lower Colorado River. Of relevance here, the Basin Plan prescribes a flow-weighted annual average of 747 mg/L TDS in the Colorado River reach below Parker Dam and above Imperial Dam.
The plan of implementation consists of a number of federal and non-federal measures throughout the Colorado River system to maintain the adopted numeric criteria while the various states continue to develop their apportioned waters. There are four areas of the implementation plan that have direct applicability to California. The first is the control of the discharge of TDS from point sources through the NPDES permit program regulating industrial and municipal discharges. The plan has as its primary objective no-salt return from industrial sources wherever practicable. Reasonable incremental increases of salinity from municipal sources are permitted so long as they do not exceed 400 mg/L above the flow-weighted average salinity of the supply water. The second area of implementation recommends that each state encourage and promote the use of brackish and/or saline waters for industrial purposes. The third area of implementation deals with an improved water delivery system and on-farm water management system. The fourth area of implementation involves the adoption and implementation of Clean Water Act section 208 Water Quality Management Plans dealing with salinity control, as applicable.

Water quality objectives that apply to groundwater are also described in the Basin Plan and are summarized in Table 1.3 below. The Basin Plan contains numeric as well as narrative water quality objectives for groundwater.

Table 1.3 - Palo Verde Area Groundwater Quality Objectives in the Basin Plan

Objectives	Description
Taste and Odors	Groundwaters for use as domestic or municipal supply shall not contain taste or odor-producing substances in concentrations that adversely affect beneficial uses as a result of human activity.
Bacteriological Quality	In groundwaters designated for use as domestic or municipal supply (MUN), the concentration of coliform organisms shall not exceed the limits specified in section 64426.1 of title 22 of the California Code of Regulations.
Chemical and Physical Quality	Groundwaters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of title 22 of the California Code of Regulations, which are incorporated by reference into the Basin Plan: Table 64431-A of section 64431 (Inorganic Chemicals), Table 64444-A of section 64444 (Organic Chemicals), and Table 64678-A of section 64678 (Determination of Exceedances of Lead and Copper Action Levels). To protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.
Brines	Discharges of water softener regeneration brines, other mineralized wastes, and toxic wastes to disposal facilities which ultimately discharge in areas where such wastes can percolate to groundwaters usable for domestic and municipal purposes are prohibited.
Radioactivity	Groundwaters designated for use as domestic or municipal supply (MUN) shall not contain radioactive material in excess of the maximum contaminant levels (MCLs) specified in Tables 64442 and 64443 of sections 64442 and 64443, respectively, of title 22 of the California Code of Regulations, which are incorporated by reference into the Basin Plan. This incorporation by reference is prospective, including future revisions to the incorporated provisions as the revisions take effect.

The water quality objectives for groundwater designated for municipal or domestic supply (MUN) are also informed by the State Water Resources Control Board's (State Water Board) Resolution No. 88-63, Adoption of Policy Entitled "Sources of Drinking Water" adopted on May 19, 1988. In relevant part, Resolution 88-63 provides that all surface waters and groundwaters of the state are considered to be suitable, or potentially suitable, for municipal or domestic water supply, with the exception of where:

- The total dissolved solids (TDS) exceed 3,000 mg/l (5,000 us/cm, electrical conductivity), and it is not reasonably expected by the Regional Water Board to supply a public water system, or
- There is contamination, either by natural processes or by human activity (unrelated to a specific pollution incident), that cannot reasonably be treated for domestic use using either management practices or best economically

achievable treatment practices, or
- The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day.

II. AVAILABLE PALO VERDE AREA WATER QUALITY DATA

A. Available Palo Verde Area Surface Water Quality Data

Below in Table 2.1 is a summary of the annual average of monthly and quarterly surface water quality data at four locations from November 2013 to December 2017 (Source: Outfall Coalition):

Table 2.1 – Outfall Coalition Surface Water Quality Data

Analyte	Palo Verde Canal Station 5+80	East Side Drain Station 110+62	Outfall Drain Station 567+99	Outfall Drain Station 148+00
pH	8.23	7.7	7.83	7.92
Temperature (°Celsius)	19.2	20.02	19.87	20.42
DO (mg/ L)[1]	9.4	5.8	6.8	6.7
Total Dissolved Solids (TDS) (mg/ L)	640	1092	1263	1353
Conductance (uS/cm)[2]	978	1750	2067	2128
Total Suspended Solids (TSS)* (mg/ L)	6.75	15.45	17.6	17
Turbidity (NTU)[3]	7.8	10.54	13.8	16.2
Nitrates (as N) (N mg/ L)	0.2	0.4	0.4	0.3
Total Nitrogen (N mg/L)	0.5	0.6	0.8	0.6
Total Phosphorus (P mg/ L)	0.09	0.06	0.11	0.1
Biochemical Oxygen Demand (BOD) (mg/ L)	ND[4]	ND	ND	ND
Chlorpyrifos (µg/ L)[5]	ND	ND	ND	ND
Malathion (µg/ L)	ND	ND	ND	ND

[1] mg/L – milligrams per liter
[2] uS/cm – microsiemens per centimeter
[3] NTU – Nephelometric Turbidity Units
[4] ND – Non Detect or Below Method Detection Limit
[5] µg/L – micrograms per liter

Analyte	Palo Verde Canal Station 5+80	East Side Drain Station 110+62	Outfall Drain Station 567+99	Outfall Drain Station 148+00
Dimethoate (µg/)	ND	ND	ND	ND
4,4-DDT (µg/ L)	ND	ND	ND	ND
Endosulfan I (µg/ L)	ND	ND	ND	ND
Endosulfan II (µg/ L)	ND	ND	ND	ND

B. Available Palo Verde Area Groundwater Water Quality Data

Below in Table 2.2 is a summary of groundwater quality data taken from the Palo Verde Mesa and Valley Groundwater Basins for the Colorado River Groundwater Ambient Monitoring and Assessment (GAMA) study conducted in 2007. (Goldrath et al., 2010.)

Table 2.2 – GAMA Groundwater Study

GAMA well identification number: Those wells designated "COLOR" are Colorado River study unit grid wells; those wells designated "COLORU" are Colorado River study understanding wells.

Threshold type: "SMCL-CA" is the Secondary Maximum Contaminant Levels under California law (Cal. Code Regs., tit. 22, § 64449); "MCL-US" is the U.S. Environmental Protection Agency's Maximum Contaminant Levels.

Other abbreviations: "µS/cm" means microsiemens per centimeter; "mg/L" means milligram per liter; "na" means not available: " * " indicates that the value is above the threshold value or outside threshold range; " * * " indicates that the value above upper threshold value; " — " means not detected.

GAMA well identification Number	Well depth (ft below land surface)	Specific conductance, field (µS/cm at 25°C) SMCL-CA[6] 900 (1,600) [7] [8]	Total dissolved solids (TDS) (mg/L) SMCL-CA [6] 500 (1,000) [7] [8]	Sulfate (mg/L) SMCL-CA[6] 250 (500)[7] [8]	Nitrite plus nitrate, as nitrogen (mg/L) MCL-US[6] 10[7]
COLOR-04	90	* 1,560	*989	* 331	—
COLOR-05	610	* 1,580	* * 1,100	* 366	—
COLOR-06	505	* 1,400	*926	* 298	—

[6] Threshold level
[7] Threshold type
[8] The Secondary MCLs for specific conductance, total dissolved solids, and sulfate have recommended and upper threshold values. The upper value is shown in parentheses.

GAMA well identification Number	Well depth (ft below land surface)	Specific conductance, field (µS/cm at 25°C) SMCL-CA[6] 900 (1,600) [7 8]	Total dissolved solids (TDS) (mg/L) SMCL-CA [6] 500 (1,000) [7 8]	Sulfate (mg/L) SMCL-CA[6] 250 (500)[7 8]	Nitrite plus nitrate, as nitrogen (mg/L) MCL-US[6] 10[7]
COLOR-07	438	* * 1,950	* * 1,370	* 471	—
COLOR-08	500	* * 2,020	* * 1,210	* 349	1.36
COLOR-09	na	* * 1,880	* * 1,110	* 265	—
COLOR-10	1000	* * 2,360	* * 1,600	* * 517	—
COLOR-11	na	* * 4,000	* * 2,780	* * 908	0.91
COLOR-16	600	* * 2,080	* * 1,490	* * 550	—
COLOR-18	600	* * 1,770	* * 1,050	* 281	1.26
COLORU-01	492	* 1,110	* 715	* 253	—
COLORU-02	454	* 1,400	* 927	* 300	—
COLORU-03	335	*1,040	* 637	187	—
COLORU-06	500	* 1,400	* 844	* 844	0.61
COLORU-07	130	* * 4,780	* * 2,890	* * 753	0.09
COLORU-08	na	* * 2,150	* * 1,550	* * 573	—

III. MANAGEMENT PRACTICES

Pursuant to Water Code section 13360, the Colorado River Basin Water Board does not specify the design, location, type of construction, or particular manner of management practices compliance, and Dischargers can use any appropriate management practice to comply with the requirements of this Order. The following tables contain a non-exhaustive list of management practices that Dischargers may use to address potential water quality impacts caused by sediment, nutrients, and pesticides in Irrigated Agricultural Lands discharges. Dischargers are also encouraged to consult the State Water Board's Nonpoint Source Management Measures Encyclopedia as well as Management Practices Miner Tool.

Table 3.1 - Sediment Management Practices

Management Practice	Description
Tailwater Ditch Checks or Check Dams:	Tailwater Ditch Checks or Check Dams are temporary or permanent dams to hold back water that are placed at intervals in tailwater ditches, especially those with steeper slopes. They increase the cross-section of the stream, decrease water velocity, and reduce erosion, allowing suspended sediment to settle out. Tailwater Ditch Checks may be constructed of plastic, concrete, fiber, metal, or other suitable material. If plastic sheets are used, care must be taken to ensure plastic is not dislodged and carried downstream. To be effective, this practice should be used where water velocity will not wash out check dams, or slopes of the tailwater ditch at dams.
Field to Tailditch Transition	This practice controls flow from the field into the tailwater ditch through spillways or pipes, without eroding soil. Spillways may be constructed of plastic, concrete, metal, or other suitable material. If plastic sheets are used, care must be taken to ensure plastic is not dislodged and carried downstream. This practice may be useful on fields irrigated in border strips and furrows.
Furrow Dikes (C-Taps)	Furrow dikes are small dikes constructed in furrows that manage water velocity. They may be constructed of earth with an attachment to tillage equipment, pre-manufactured "C-Taps," or other material, such as rolled fiber mat, plastic, etc. According to Jones & Stokes,[9] this practice should reduce sediment transport at relatively low cost.
Filter Strips	This practice eliminates borders on the last 20 to 200 feet of the field. The planted crop is maintained to the end of the field, and tailwater from upper lands is used to irrigate the crop at the ends of adjacent lower lands. The main slope on the field's lower end should be no greater than that on the balance of the field. A reduced slope may be better. With no tailwater ditch, very little erosion occurs as water slowly moves across a wide area of the field to the tailwater box. Sediment may settle as the crop baffles the water as it moves across the field.
Irrigation Water Management	This practice determines and controls irrigation rate, amount, and timing. Effective implementation minimizes erosion and subsequent sediment transport into receiving waters. Irrigation management methods include: surge irrigation, tailwater cutback, irrigation scheduling, and runoff reduction. Irrigation management may include an additional irrigator to better monitor and manage irrigation and potential erosion.

Irrigation Land Leveling	This practice involves maintaining or adjusting field slope to avoid excessive slopes or low spots at the tail end of the field. Maintaining a reduced main or cross slope facilitates uniform distribution of irrigation water, reducing salt build-up in soil, increasing production, reducing tailwater, and decreasing erosion. Jones & Stokes (Jones & Stokes Associates 1996) rate the sediment reduction efficiency of this practice at 10% to 50%, with a medium to high cost.
Sprinkler Irrigation	Sprinkler irrigation involves water distribution by means of sprinklers or spray nozzles. The objective is to irrigate efficiently and uniformly to maintain adequate soil moisture for optimum plant growth, without excessive water loss, erosion, or reduced water quality. According to Jones & Stokes (Jones & Stokes Associates 1996) this practice has a positive sediment transport reduction effect (sediment reduction efficiency of 25% to 35% if used during germination, and 90% to 95% for established crops), and a relatively high cost.
Drip Irrigation	Drip irrigation consists of a network of pipes and emitters that apply water to the soil surface or subsurface, in the form of spray or small stream.
Channel Vegetation/Grassed Waterway	This practice involves establishing and maintaining adequate plant cover on channel banks to stabilize banks and adjacent areas, and to establish maximum side slopes. This practice reduces erosion and sedimentation, and the potential for bank failure.
Drainage channels	For this practice, irrigation drainage channels are constructed with flat slopes so water velocities are non-erosive, and water quality degradation due to suspended sediment is prevented.
Reduced Tillage	This practice eliminates one or more cultivation per crop, minimizing erosion of nutrient laden soils, and sedimentation that may occur in the furrow.

Table 3.2 - Nutrient Management Practices

[9] Jones & Stokes Associates. 1996. List of Agricultural Best Management Practices for the Imperial Irrigation District. Jones & Stokes Associates, Sacramento, CA.

Management Practice	Description
Tailwater Ditch Checks or Check Dams	Same as described in Table 3.1. The checks reduce and prevent erosion of soil containing nutrients.
Field to Tailditch Transition	Same as described in Table 3.1. The spillways act reduce and prevent erosion of nutrient-laden soils from the tailwater ditch.
Furrow Dikes (C-Taps)	Same as described in Table 3.1. The C-Taps act reduce and prevent erosion of nutrient-laden soils from the tailwater ditch.
Filter Strips:	Same as described in Table 3.1. The filter strips reduce and prevent erosion of nutrient-laden soils from the tailwater ditch.
Irrigation Water Management	Same as described in Table 3.1. The objective is to apply irrigation water efficiently and uniformly to maintain adequate soil moisture for optimum plant growth, without causing excessive erosion of nutrient laden soils.
Irrigation Land Leveling	Same as described in Table 3.1. The objective is to apply irrigation water efficiently and uniformly to maintain adequate soil moisture for optimum plant growth, without causing excessive erosion of nutrient-laden soils.
Sprinkler Irrigation	Same as described in Table 3.1. The objective is to apply irrigation water efficiently and uniformly to maintain adequate soil moisture for optimum plant growth, without causing excessive erosion of nutrient laden soils.
Drip Irrigation	Same as described in Table 3.1. The objective is to apply irrigation water efficiently and uniformly to maintain adequate soil moisture for optimum plant growth, without causing excessive erosion of nutrient laden soils.
Reduced Tillage	Same as described in Table 3.1. This practice eliminates one or more cultivation per crop, minimizing erosion of nutrient laden soils, and sedimentation that may occur in the furrow.
Channel Vegetation/Grassed Waterway	Same as described in Table 3.1. This practice reduces erosion of nutrient-laden soils and sedimentation.
Drainage channels	Same as described in Table 3.1. This practice reduces erosion of nutrient-laden soils and sedimentation in the irrigation drainage channels.

Table 3.3 - Pesticide Management Practices

Management Practice	Description
Pesticide Training and Certification	Obtain appropriate certification (through training) prior to pesticide use. Use a qualified Agricultural Pest Control Advisor (PCA) to make recommendations.
Pesticide Recording Keeping:	Maintain a precise pest and pesticide record, and read pesticide labels before purchase, use, or disposal; follow label directions as required by law, and check for groundwater advisories, or other water protection guidelines, so pesticide handling and application practices are known, and water quality impacts prevented.
Evaluate the Pesticide	Select pesticides less likely to leach to groundwater. Avoid pesticides that are highly water soluble, persistent, and do not adsorb to soil. The UC Extension Service and the Natural Resources Conservation Service are available to assist the public in selecting the appropriate pesticide.
Pesticide Selection	Select the least toxic and less persistent pesticide when feasible.
Site-specific Pesticide	Avoid overuse of preventive pesticide treatments. Base pesticide application on site-specific pest scouting, and economic return indicators.
Integrated Pest Management	Integrated pest management (IPM) utilizes all means of pest control (chemical and nonchemical) in a compatible fashion to reduce crop loss.
Prevent backsiphoning and spills	Never allow a hose used to fill a spray tank to extend below the level of the water in the tank. Always haul water to the field to fill spray tanks, and mix and dilute pesticides. Contain pesticide spills as quickly as possible, and handle according to label directions. Use anti-siphon devices (inexpensive and effective) at water line.
Consider weather and irrigation plans	Never start pesticide applications if a weather event (rainfall for instance) is forecast that could cause drift or soil runoff at the application site. Application just before rainfall or irrigation may result in reduced efficacy if the pesticide is washed off the target crop, resulting in the need to reapply the pesticide.
Pesticide use	Use pesticides only when economic thresholds are reached, and purchase only what is needed
Leave buffer zones around sensitive areas	Read the pesticide label for guidance on required buffer zones around surface waters, buildings, wetlands, wildlife habitats, and other sensitive areas where applications are prohibited.
Reduce off-target drift	Never begin an application if wind or temperature facilitates pesticide drift to a non-target area. Use appropriate spray pressure and nozzle selection to minimize drift.
Application equipment	Maintain application equipment in good working order, and calibrate equipment regularly.

Pesticide use and storage	Store pesticides on farm for a short time, and in a locked weather-tight enclosure downstream and a reasonable distance (greater than 100 feet) from wells or surface waters. Use appropriate protective equipment and clothing according to label instructions.
Dispose of pesticide and chemical wastes safely	Use pesticides and other agricultural chemicals only when necessary. Transport water to field in a nurse tank to mix and measure on site. Prepare only what is needed. Dispose of excess chemicals and containers according to label directions.

IV. ECONOMIC CONSIDERATIONS

Under Water Code sections 13263 and 13241, "economic considerations" is one of the factors a regional water board must take into account in issuing waste discharge requirements. The following section provides cost estimates and identifies potential sources of financial assistance to comply with this Order. This includes cost estimates for tasks associated with the key elements of the Compliance Program as well as the state annual fees for Irrigated Agricultural Lands. Significant uncertainties in several key areas of the program prevent the precise estimation of program costs, including, but not limited to: the number of private drinking water wells and whether individual Dischargers or the Coalition Group will conduct monitoring of those wells, the total number of monitoring sites required to evaluate water quality conditions, the nature and extent of management practices required to address any exceedances of water quality objectives, and the availability of federal, state, and local funding to offset monitoring and management practices implementation costs.

A. Task Cost Estimates for Palo Verde Outfall Coalition

The following estimates apply to key tasks of the Palo Verde Outfall Coalition (Coalition) that is organized by Palo Verde Irrigation District.

Administration:
Regional Water Board staff estimates that administration of the Compliance Program will require 400 person-hours per year at $100 per hour. Therefore, the total annual cost for program management is approximately $40,000.

Update the Existing Coalition Group Compliance Program:

Outreach and Education:
Regional Water Board staff estimates the outreach and education components of the Coalition's Compliance Program will require 480 person-hours at $100 per hour per year. Therefore, the total annual cost for the outreach and education tasks is $48,000.

Water Quality Management Plans (Farm Plan):
Regional Water Board staff estimates that to review, compile, and submit the Farm Plan data from Dischargers, the Coalition will require 40 person-hours at $100 per hour at $4,000 per year.

Irrigation and Nitrogen Management Plans (INMP) Summary Reports:
Regional Water Board staff estimates that to review, compile, and submit the INMP Summary Report data from Dischargers, the Coalition will require 120 person-hours at $100 per hour at $12,000 per year.

Private drinking water wells monitoring program:
Regional Water Board staff estimates that to plan and organize the sampling of drinking water wells, the Coalition will require 80 person-hours at $100 per hour at $8,000 per year.

Revise Existing Surface Monitoring Plan and Develop Groundwater Monitoring Plan:
Regional Water Board staff estimates that revising the existing Surface Monitoring Program and developing the new Groundwater Monitoring Program, i.e., drafting the Surface and Groundwater Monitoring Program Plan required in the MRP, Attachment C (which includes a Quality Assurance Program Plan (QAPP)) and submitting the plan will require 100 person-hours at $100 per hour for a total of $10,000 per year.

Sampling:
Regional Water Board staff estimates monthly (including quarterly and semi-annually) surface water sampling costs at 16 person-hours per sampling event at $100 per person per hour to be $1600 for the four surface water sampling sites per event. Regional Water Board staff estimates mileage for field sampling to be 100 miles for the monthly and delivery to the lab to be 400 miles for the quarterly and semi-annually sampling at $0.55 per mile. Therefore, the estimated mileage cost per monthly sampling event is $55.00 and estimated mileage cost per quarterly and semi-annually sampling event is $220.00. The total cost for both mileage and staff is $1,655 per monthly sampling event and $1,820 per quarterly and biannually sampling event and is 20,520 annually. The estimation for the annual toxicity sampling event (fish tissue) is $4,900 per sampling event, including personnel and mileage according to Moss Landing Marine Laboratories estimations (2018). The estimation for both mileage and staff for the annual groundwater sampling event for the 20 wells is $1,820 per sampling event, including personnel and mileage. The estimation for both mileage (800 miles) and staff (32 person-hours) for the annual private drinking water well sampling event for the 160 wells is $3,640 per sampling event, including personnel and mileage. The total annual sampling costs for all sampling required by the MRP is an estimated $25,980.

Lab Analyses:
The cost estimate for analytical testing is based on information from commercial laboratory rate for testing constituents of concern included in Coalition's MRP. Regional Water Board staff estimates the annual costs of analysis for one surface water sampling

site will be $1,926. The annual cost of analysis of four surface water sampling sites will be $7,704. The annual costs of analysis of one sampling site for one annual fish sampling event will be $5,343.00. The annual costs of analysis of 20 groundwater sampling sites will be $11,350. The annual costs of analysis of 160 private drinking water wells for nitrate will be $8,800. The total annual lab analysis cost estimates for the required six surface water sampling sites, one fish tissue sampling site, and 20 groundwater sampling sites is $33,197.

Write and Submit an Annual Monitoring Report (AMR) and Monthly Surface Water Report:
Regional Water Board staff estimates that the AMR and monthly surface water reports will require 160 person-hours at $100 per hour. The Coalition is required to submit one AMR annually and the surface water reports monthly. Therefore, the total annual cost is an estimated $16,000

Table 4.1: Cost Estimates for Palo Verde Outfall Coalition Compliance Program

Tasks	First Year Estimated Costs	Subsequent Years Estimated Costs
Administration	$40,000	$40,000
Conduct Outreach and Education	$48,000	$48,000
Review, Compile, and Submit the Farm Plan Data	$4,000	$4,000
Review, Compile, and Submit the INMP Summary Report Data	$12,000	$12,000
Plan and Organize Private Drinking Water Wells Monitoring	$8,000	$8,000
Revise the Existing Surface and Groundwater Monitoring Program Plan, and Submit	$10,000	N/A
Sampling	$25,980	$25,980
Lab Analyses	$33,197	$33,197
Write and Submit Annual Monitoring Report (AMR)	$16,000	$16,000
Total Estimated Costs	$197,177	$187,177

B. Task Cost Estimates for Members of Palo Verde Outfall Coalition

The following estimates apply to key tasks of Dischargers who are members of Palo Verde Outfall Coalition (Members).

Write and Develop a Farm Plan:
Each Member writing and developing an individual Farm Plan and submitting it to the Coalition will require 40 person-hours at $100 per hour for a total of $4,000 for the first year and 30 person-hours at $100 per hour for a total of $3,000 for each subsequent

year.

Write and Develop an INMP and Yearly INMP Summary Reports:
Each Member writing and developing an INMP and annual INMP Summary Reports, and submitting the INMP Summary Reports to the Coalition, will require 40 person-hours at $100 per hour for a total of $4,000 for the first year and 30 person-hours at $100 per hour for a total of $3,000 for each subsequent year.

Table 4.2: Cost Estimates for Each Discharger / Member of Palo Verde Outfall Coalition

Individual Responsible Party Task	First Year Estimated Costs	Subsequent Years Estimated Costs
Write, Develop, and Submit Farm Plan	$4,000	$3,000
Write, Develop, and Submit INMP and INMP Summary Report	$4,000	$3,000
Total Estimated Costs	$8,000.00	$6,000

C. State Annual Fees for Waste Discharge Requirements for Irrigated Agricultural Lands

The proposed General WDRs require each Discharger who participates in a Coalition Group, or the Coalition Group itself on behalf of its members, to pay an annual fee to the State Water Board in accordance with the fee schedule specified in California Code of Regulations, title 23, section 2200.6. The acreage on which the fee is based refers to the area that has been irrigated by the grower or Discharger at any time in the previous five years. As of the date that this Order is adopted, the above-mentioned fees are as follows:

Tier I: Dischargers who are members of an approved Coalition Group that has State Water Board approval to collect fees. The annual fee for the Coalition Group is $100 plus $0.95/acre of land. These fees would apply to the Coalition.

Tier II: Dischargers who are members of an approved Coalition Group, but the Coalition Group does not have State Water Board approval to collect the fees. The annual fee for the Coalition Group is $100/farm plus $1.47/acre of land.

Tier III: Dischargers who are not members of an approved Coalition Group and instead file for coverage under individual waste discharge requirements. The following annual fees apply to each of these Dischargers:

Acreage	Fee Rate	Minimum Fee	Maximum Fee
0-10	$511 + $17.05/Acre	$511	$682
11-100	$1,277 + $8.53/Acre	$1,371	$2,130

Acreage	Fee Rate	Minimum Fee	Maximum Fee
101-500	$3,192 + $4.26/Acre	$3,622	$5,322
501 or More	$6,384 + $3.41/Acre	$8,092	No Max Fee

D. Sources of Financial Assistance

1. Federal

U.S. Department of Agriculture's Natural Resources Programs
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) offers landowners financial, technical, and educational assistance to implement the conservation practices on privately-owned land. These programs include the following:

- Environmental Quality Incentives Program (EQIP) offers financial, educational, and technical help to install or implement best management practices such as manure management systems, pest management, and erosion control to improve the health of the environment. Cost-sharing may pay up to 50% of the costs of certain conservation practices.

- National Conservation Buffer Initiative was created to help landowners establish conservation buffers, which can include riparian areas along rivers, streams, and wetlands. NRCS is the lead agency in cooperation with other agencies. NRCS and Conservation District Blythe Service Center service the Palo Verde Valley and Mesa at 200 East Murphy Street, Room 102, Blythe, CA 92225-9998, telephone number: (760) 922-3446.

Clean Water Act Section 319(h)
Federal nonpoint source water quality implementation grants are offered each year on a competitive basis. These grants can range from $250,000 to $800,000 and must include a funding match, unless a waiver of match is approved. The grants are administered through the Regional Water Board.

2. State

The Clean Water State Revolving Fund (CWSRF) program offers low-cost financing for a wide variety of water quality projects. The program has significant financial assets and is capable of financing projects from <$1 million to >$100 million.