TABLE 1: IRRIGATION AND NUTRIENT MANAGEMENT FOR GROUNDWATER PROTECTION				
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 – Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
Phasing or Prioritization	Tiers are based on ranch characteristics including ranch size, crops grown, specific chemical usage, proximity to impaired surface water, proximity to impaired public supply well.	Phases are based on location-specific conditions such as water quality impairment and risk to groundwater recharge areas.	Phases are based on groundwater quality impairment and groundwater recharge areas. Requirements begin based on ranch phase.	No prioritization or phasing. All requirements apply to all ranches concurrently.
Quantifiable Milestones* ***(Numeric Limits)***	None	**Discharge Limit** $A_{FER} + A_{IRR} – R$ = TBD lbs/ac/ranch/year **Application Limits** A_{FER} cannot exceed TBD lbs/ac/crop *Ranches that repeatedly exceed* the numeric discharge limit per the time schedule may be limited or prohibited from applying A_{FER}. *Relatively higher limits*	**Discharge Limit** $A_{FER} + A_{IRR} – R$ = 50 lbs/ac/ranch/year *See time schedule* **Application Limits** A_{FER} cannot exceed 500 lbs/ac/crop or a crop-specific value, whichever is less. *Ranches that repeatedly exceed* the numeric discharge target or limit per the time schedule may be limited from applying A_{FER} or may be required to perform additional monitoring and reporting.	**Discharge Limit** $A_{FER} + A_{IRR} – R$ = TBD lbs/ac/ranch/year **Application Limits** A_{FER} cannot exceed TBD lbs/ac/crop *Ranches that repeatedly exceed* the numeric discharge limit per the time schedule may be prohibited from applying A_{FER}. *Relatively lower limits*
Time Schedule*	None	**Discharge Limit** *(lbs/ac/ranch/year)* $A_{FER} + A_{IRR} – R$ = TBD by 20XX $A_{FER} + A_{IRR} – R$ = TBD by 20XX $A_{FER} + A_{IRR} – R$ = Discharge Limit by 20XX ***OR****, for ranches with high* A_{IRR} A_{FER} = R by 20XX *Relatively longer time schedule*	*The following years apply to Phase 1 ranches.* *For Phase 2 ranches, add 2 years to Phase 1.* *For Phase 3 ranches, add 4 years to Phase 1.* **Discharge Target** *(lbs/ac/ranch/year)* $A_{FER} + A_{IRR} – R$ = 500 for 2022 $A_{FER} + A_{IRR} – R$ = 400 for 2024 **Discharge Limit** *(lbs/ac/ranch/year)* $A_{FER} + A_{IRR} – R$ = 300 for 2026 $A_{FER} + A_{IRR} – R$ = 200 for 2030 $A_{FER} + A_{IRR} – R$ = 100 for 2040 $A_{FER} + A_{IRR} – R$ = 50 for 2050 ***OR****, for ranches with high* A_{IRR} A_{FER} = R for 2022 **Application Limit** Application limits begin for all ranches in 2021.	**Discharge Limit** *(lbs/ac/ranch/year)* $A_{FER} + A_{IRR} – R$ = TBD by 20XX $A_{FER} + A_{IRR} – R$ = TBD by 20XX $A_{FER} + A_{IRR} – R$ = Discharge Limit by 20XX ***OR****, for ranches with high* A_{IRR} A_{FER} = R by 20XX *Relatively shorter time schedule*

TABLE 1: IRRIGATION AND NUTRIENT MANAGEMENT FOR GROUNDWATER PROTECTION				
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 – Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
Monitoring and Reporting*	**Total Nitrogen Applied Report** *A subset of Tier 2 and Tier 3 ranches must monitor and report the following.* a. Nitrogen applied from all sources (A_{FER}, A_{IRR}) b. Nitrogen present in the soil c. Irrigation well concentration d. Irrigation volume applied estimate **Annual Compliance Form** *All Tier 2 and Tier 3 ranches must submit information on the following.* a. Irrigation, stormwater, and tile drain discharge to surface water b. Irrigation and nutrient management practices **Irrigation & Nutrient Management Plan and Effectiveness Report** *A subset of Tier 3 ranches must develop and implement an INMP considering the following.* a. Nitrogen applied from all sources (A_{FER}, A_{IRR}) b. Crop nitrogen uptake c. Nitrogen removed (R) d. Irrigation and nutrient management practices	**Irrigation & Nutrient Management Plan** *All ranches must monitor the following. Report submittal is based on phase.* a. Nitrogen applied from all sources (A_{FER}, A_{IRR}) b. Nitrogen present in the soil c. Irrigation well concentration d. Irrigation volume applied measurement e. Nitrogen removed (R) f. Crop evapotranspiration g. Irrigation discharge to surface water volume h. Irrigation discharge to groundwater volume i. Irrigation, nutrient, and salinity management practices	**Irrigation & Nutrient Management Plan** ***Total Nitrogen Applied (TNA)*** *All ranches begin tracking in 2020 and begin reporting in 2021.* a. Nitrogen applied from all sources (A_{FER}, A_{IRR}) b. Nitrogen present in the soil c. Irrigation well concentration d. Irrigation volume applied -Ranch estimate ***Removal*** *Phase 1 ranches begin tracking in 2020 and begin reporting in 2021. Add 2 years for Phase 2 ranches and add 4 years for Phase 3 ranches.* e. Nitrogen removed (R) -Report total pounds of crop removed until conversion coefficients are established -Report pounds of nitrogen removed after conversion coefficients are established ***Irrigation*** *Phase 1 ranches begin tracking in 2020, begin reporting in 2021. Add 2 years for Phase 2 ranches and add 4 years for Phase 3 ranches.* d. Irrigation volume applied -Ranch measurement, crop estimate f. Crop evapotranspiration g. Irrigation discharge to surface water volume -Ranch estimate h. Irrigation discharge to groundwater volume -Ranch calculation ***Management Practices*** *All ranches begin tracking in 2020 and begin reporting in 2021* i. Irrigation, nutrient, and salinity management practices	**Irrigation & Nutrient Management Plan** *All ranches must monitor the following. Report submittal for all ranches concurrently.* a. Nitrogen applied from all sources (A_{FER}, A_{IRR}) b. Nitrogen present in the soil c. Irrigation well concentration d. Irrigation volume applied measurement e. Nitrogen removed (R) f. Crop evapotranspiration g. Irrigation discharge to surface water volume h. Irrigation discharge to groundwater volume i. Irrigation, nutrient, and salinity management practices

TABLE 1: IRRIGATION AND NUTRIENT MANAGEMENT FOR GROUNDWATER PROTECTION				
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 – Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
	Individual Discharge to Groundwater Not required. **Drinking Water Supply Well** *All ranches* must monitor all drinking water supply wells present on enrolled parcels, either individually or through a cooperative program. **Groundwater Quality Trends** Not required.	**Individual Discharge to Groundwater** *Ranches that exceed the numeric discharge limit per the time schedule may be assigned individual groundwater discharge monitoring.* a. Irrigation discharge to groundwater nitrate concentration b. Irrigation discharge to groundwater volume **Drinking Water Supply Well** *All ranches* must monitor all drinking water supply wells present on enrolled parcels, either individually or through a cooperative program. **Groundwater Quality Trends** *All ranches* must conduct groundwater quality trend monitoring, either individually or through a cooperative program. *Relatively more estimates are accepted in monitoring and reporting.*	**Individual Discharge to Groundwater** *Ranches that exceed the numeric discharge limit per the time schedule may be required to conduct individual groundwater discharge monitoring.* a. Irrigation discharge to groundwater nitrate concentration b. Irrigation discharge to groundwater volume **Drinking Water Supply Well** *All ranches* must monitor all drinking water supply wells present on enrolled parcels, either individually or through a cooperative program. **Groundwater Quality Trends** *All ranches* must conduct groundwater quality trend monitoring, either individually or through a cooperative program.	**Individual Discharge to Groundwater** *All ranches must perform individual groundwater discharge monitoring.* a. Irrigation discharge to groundwater nitrate concentration b. Irrigation discharge to groundwater volume **Drinking Water Supply Well** *All ranches* must monitor all drinking water supply wells present on enrolled parcels, either individually or through a cooperative program. **Groundwater Quality Trends** *All ranches* must conduct groundwater quality trend monitoring, either individually or through a cooperative program. *Relatively more measurements are required in monitoring and reporting.*
Incentives	Sustainability Certification	Pump & fertilize (see numeric limits section) Additional incentives TBD	-Pump & fertilize (see numeric limits section) -Compost nitrogen: factor may be applied in A-R calculations -A-R calculation incentivizes increased nitrogen removal, rather than only decreasing application -Third-party sustainability certification may result in reduced reporting -Third-party implementation program may result in reduced monitoring and reporting	Pump & fertilize (see numeric limits section) Additional incentives TBD
Definitions	-A_{FER} *is the amount of nitrogen applied in fertilizers, compost, and other amendments* -A_{IRR} *is the amount of nitrogen applied through the irrigation water based on the groundwater nitrate concentration* -$A_{FER} + A_{IRR}$ *= the total amount of nitrogen applied* -**R** *is the amount of nitrogen removed through harvest, pruning, or other methods, plus the nitrogen sequestered in perennial crop permanent wood* -$A_{FER} + A_{IRR} - R$ *= potential nitrogen waste discharge, or nitrogen loading to groundwater* -**TBD** *means "to be determined" and is used as a placeholder for the value of the numeric limits* **Required elements; other elements are included because they can help improve the effectiveness of the Order and to solicit stakeholder input*			

	TABLE 2: IRRIGATION AND NUTRIENT MANAGEMENT FOR SURFACE WATER PROTECTION			
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 - Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
Phasing or Prioritization	Tiers based on ranch characteristics including ranch size, crops grown, specific chemical usage, proximity to impaired surface water, proximity to impaired public supply well.	Phases are based on location-specific conditions such as water quality impairment, high quality surface water, and risk to surface water areas.	Prioritization based on location-specific nutrient water quality impairment, high quality surface water, and risk to surface water areas, and TMDL projects.	No prioritization or phasing. All requirements apply to all ranches concurrently.
Quantifiable Milestones* *(Numeric Limits)*	None	**Discharge Limit** Nitrate Concentration= TBD mg/L Ammonia Concentration = TBD mg/L Orthophosphate Concentration = TBD mg/L **Application Limit** *Ranches that repeatedly exceed* the nitrate, ammonia and/or orthophosphate discharge limit per the time schedule may be limited or prohibited from applying nitrogen and/or phosphorous from fertilizers, compost and/or other amendments. *Relatively higher limits*	**Receiving Water Limit and Discharge Limit** Nitrate, as N = 1.8 to 10 mg/L Ammonia (Un-ionized), as N = 0.025 mg/L Orthophosphate, as P = 0.07 to 0.4 mg/L *Consistent with Total Maximum Daily Load (TMDL) load allocations and/or water quality objectives.* *If the receiving water is higher quality water than these limits, the higher quality receiving water shall be maintained, unless degradation is allowed through appropriate findings.* **Application Limit** *Ranches that repeatedly exceed* the nitrate, ammonia and/or orthophosphate discharge limit per the time schedule may be limited from applying nitrogen and/or phosphorous from fertilizers, compost and/or other amendments.	**Discharge Limit** Nitrate Concentration = TBD mg/L Ammonia Concentration = TBD mg/L Orthophosphate Concentration = TBD mg/L **Application Limit** *Ranches that repeatedly exceed* the nitrate, ammonia and/or orthophosphate discharge limit per the time schedule may be prohibited from applying nitrogen and/or phosphorous from fertilizers, compost and/or other amendments. *Relatively lower limits*
Time Schedule*	None	**Discharge Limit** TBD mg/L by 20XX TBD mg/L by 20XX Discharge Limit by 20XX *Relatively longer time schedule*	**Receiving Water Limit and Discharge Limit** TMDL Areas *(TMDL Load Allocations)* - Receiving water limits consistent with TMDL time schedules - Discharge limits triggered if receiving water limits not achieved per TMDL time schedule Other Areas *(Water Quality Objectives)* *Example schedule for prioritized watershed:* - Receiving water limit achieved by 2027 - Discharge limit triggered in 2027 if receiving water limit not achieved	**Discharge Limit** TBD mg/L by 20XX TBD mg/L by 20XX Discharge Limit by 20XX *Relatively shorter time schedule*

	TABLE 2: IRRIGATION AND NUTRIENT MANAGEMENT FOR SURFACE WATER PROTECTION			
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 - Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
Monitoring and Reporting*	**Annual Compliance Form** *All Tier 2 and Tier 3 ranches must submit information on the following.* a. Irrigation, stormwater, and tile drain discharge to surface water b. Irrigation and nutrient management practices **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** Not required**.** **Individual Discharge to Surface Water** *A subset of Tier 3 ranches must submit information on the following.* a. Discharge flow rate and volume b. Discharge nutrient concentrations	**Irrigation Nutrient Management Plan & Report** *All ranches must monitor the following.* *Reporting based on ranch phase.* a. Irrigation, stormwater, and tile drain discharge characteristics b. Irrigation and nutrient management practices **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** *Ranches in a subset of watershed areas that repeatedly exceed* water quality objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program. **Individual Discharge to Surface Water** *Ranches in a subset of watershed areas that repeatedly exceed water quality objectives may be assigned individual discharge monitoring.* a. Discharge flow rate and volume b. Discharge nutrient concentrations *Relatively more estimates are accepted in monitoring and reporting.*	**Irrigation Nutrient Management Plan & Report** *All ranches must monitor and report:* a. Irrigation, stormwater, and tile drain discharge characteristics b. Irrigation and nutrient management practices **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** *Ranches in prioritized watershed areas that exceed* receiving water objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program. **Individual Discharge to Surface Water** *Ranches in prioritized watershed areas that exceed* the numeric limits per the time schedule may be assigned individual discharge monitoring. a. Discharge flow rate and volume b. Discharge nutrient concentrations	**Irrigation Nutrient Management Plan & Report** *All ranches must monitor the following.* *Report submittal for all ranches concurrently.* a. Irrigation, stormwater, and tile drain discharge characteristics b. Irrigation and nutrient management practices **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** *Ranches in all watershed areas that repeatedly exceed water* quality objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program. **Individual Discharge to Surface Water** *Ranches in all watershed areas that repeatedly exceed water quality objectives must perform individual discharge monitoring.* a. Discharge flow rate and volume b. Discharge nutrient concentrations *Relatively more measurements are required in monitoring and reporting.*
Incentives	Sustainability Certification	TBD	-Third-party sustainability certification may result in reduced monitoring and reporting -Third-party implementation program may result in reduced monitoring and reporting	TBD
Definitions	-***TBD*** *means "to be determined" and is used as a placeholder for the value of the numeric limits* *Required elements; other elements are included because they can help improve the effectiveness of the Order and to solicit stakeholder input			

	TABLE 3: PESTICIDE MANAGEMENT FOR SURFACE WATER AND GROUNDWATER PROTECTION			
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 - Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
Phasing or Prioritization	Tiers based on ranch characteristics including ranch size, crops grown, specific chemical usage, proximity to impaired surface water, proximity to impaired public supply well.	Phases are based on location-specific conditions including water quality impairment, high quality surface water, and risk to surface water areas.	Prioritization based on location-specific pesticide or toxicity water quality impairment, high quality surface water, and risk to surface water areas, and TMDL projects.	No prioritization or phasing. All requirements apply to all ranches concurrently.
Quantifiable Milestones* *(Numeric Limits)*	None	**Discharge Limit** Pesticide Concentration = TBD µg/L Toxicity Test = TBD # of toxic samples allowed Toxic Unit = TBD **Application Limits** *Ranches that repeatedly exceed* the pesticide concentration discharge limit per the time schedule may be limited or prohibited from applying that pesticide. *Ranches that repeatedly exceed* the toxicity discharge limit per the time schedule may be required to complete a toxicity identification evaluation to identify chemicals causing toxicity. Ranches may be limited or prohibited from applying the pesticide(s) that caused the toxicity. *Relatively higher limits*	**Receiving Water Limit and Discharge Limit** Pesticide Concentration: TMDL load allocations, EPA Aquatic Life Benchmark(s), or LC50, whichever is lower, and narrative water quality objectives. Toxicity Test: Chronic *sediment toxicity* will result in at least 80% survival rate in appropriate test species. Toxicity Test: Chronic *water column toxicity* will result in at least 80% survival and reproduction rates in appropriate test species. Toxic Unit (Sum) < 1.0 TU *If the receiving water is higher quality water than these limits, the higher quality receiving water shall be maintained, unless degradation is allowed through appropriate findings.*	**Discharge Limit** Pesticide Concentration = TBD µg/L Toxicity Test = TBD # of toxic samples allowed Toxic Unit = TBD **Application Limits** *Ranches that repeatedly exceed* the pesticide concentration discharge limit per the time schedule may be prohibited from applying that pesticide. *Ranches that repeatedly exceed* the toxicity discharge limit per the time schedule may be required to complete a toxicity identification evaluation to identify chemicals causing toxicity. Ranches may be prohibited from applying the pesticide(s) that caused the toxicity. *Relatively lower limits*
Time Schedule*	None	**Discharge Limit** TBD µg/L by 20XX TBD µg/L by 20XX Discharge Limit by 20XX TBD # toxic samples allowed by 20XX TBD # toxic samples allowed by 20XX Discharge Limit by 20XX TBD Toxicity Unit by 20XX TBD Toxicity Unit by 20XX Discharge Limit by 20XX *Relatively longer time schedule*	**Receiving Water Limit and Discharge Limit** TMDL Areas *(TMDL Load Allocations)* - Receiving water limits consistent with TMDL time schedule - Discharge limits triggered if receiving water limits not achieved per TMDL time schedule Other Areas *(Benchmarks, LC50 and/or Water Quality Objectives)* *Example schedule for prioritized watershed:* - *Concentration*: No more than three (3) consecutive samples exceed the EPA Aquatic Life Benchmark or LC50, whichever is lower, for 2023	**Discharge Limit** TBD µg/L by 20XX TBD µg/L by 20XX Discharge Limit by 20XX TBD # toxic samples allowed by 20XX TBD # toxic samples allowed by 20XX Discharge Limit by 20XX TBD Toxicity Unit by 20XX TBD Toxicity Unit by 20XX Discharge Limit by 20XX *Relatively shorter time schedule*

	TABLE 3: PESTICIDE MANAGEMENT FOR SURFACE WATER AND GROUNDWATER PROTECTION			
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 - Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
			- *Concentration*: No more than two (2) consecutive samples exceed the EPA Aquatic Life Benchmark or LC50, whichever is lower, for 2025 - *Toxic Unit*: Median of 4 consecutive samples < 1.0 TU for 2023 - *Toxic Unit:* Median of 3 consecutive samples < 1.0 TU for 2025 - Receiving water limit achieved for 2027 - Discharge Limit(s) triggered in 2027 if receiving water limit not achieved	
Monitoring and Reporting*	**Annual Compliance Form** *All Tier 2 and Tier 3 ranches must submit information on the following.* a. Irrigation, stormwater, and tile drain discharge characteristics b. Pesticide management practices **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** Not required. **Individual Discharge to Surface Water** *A subset of Tier 3 ranches must submit information on the following.* a. Discharge flow rate and volume b. Discharge pesticide concentration(s) c. Discharge toxicity	**Pesticide Management Plan & Report** *All ranches must monitor the following. Reporting based on ranch phase.* a. Application characteristics b. Irrigation, stormwater, and tile drain discharge characteristics c. Pesticide management practices **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** *Ranches in a subset of watershed areas that repeatedly exceed* water quality objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program. **Individual Discharge to Surface Water** *Ranches in a subset of watershed areas that repeatedly exceed water quality objectives may be assigned individual discharge monitoring.* a. Discharge flow rate and volume b. Discharge pesticide concentration(s) c. Discharge toxicity	**Pesticide Management Plan & Report** *All ranches must monitor and report:* a. Application characteristics b. Irrigation, stormwater, and tile drain discharge characteristics c. Pesticide management practices **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** *Ranches in prioritized watershed areas that exceed* receiving water objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program. **Individual Discharge to Surface Water** *Ranches in prioritized watershed areas that exceed* the numeric limits per the time schedule may be assigned individual discharge monitoring. a. Discharge flow rate and volume b. Discharge pesticide concentration(s) c. Discharge toxicity	**Pesticide Management Plan & Report** *All ranches must monitor the following. Report submittal for all ranches concurrently.* a. Application characteristics b. Irrigation, stormwater, and tile drain discharge characteristics c. Pesticide management practices **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** *Ranches in all watershed areas that repeatedly exceed water* quality objectives may be assigned follow-up surface receiving water quality monitoring, performed either individually or through a cooperative program. **Individual Discharge to Surface Water** *Ranches in all watershed areas that repeatedly exceed water quality objectives must perform individual discharge monitoring.* a. Discharge flow rate and volume b. Discharge pesticide concentration(s) c. Discharge toxicity

	TABLE 3: PESTICIDE MANAGEMENT FOR SURFACE WATER AND GROUNDWATER PROTECTION			
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 - Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
	Drinking Water Supply Well Pesticide monitoring not required.	**Drinking Water Supply Well** *A subset of drinking water supply wells* must be monitored for pesticides, either individually or through a cooperative program. *Relatively more estimates are accepted in monitoring and reporting.*	**Drinking Water Supply Well** *A subset of wells* must be monitored for pesticides, either individually or through a cooperative program.	**Drinking Water Supply Well** *All drinking water supply wells* must be monitored for pesticides, either individually or through a cooperative program. *Relatively more measurements are required in monitoring and reporting.*
Incentives	Sustainability Certification	TBD	- Third-party sustainability certification may result in reduced monitoring and reporting - Third-party implementation program may result in reduced monitoring and reporting	TBD
Definitions	-***TBD*** *means "to be determined" and is used as a placeholder for the value of the numeric limits* *Required elements; other elements are included because they can help improve the effectiveness of the Order and to solicit stakeholder input			

TABLE 4: SEDIMENT AND EROSION MANAGEMENT FOR SURFACE WATER PROTECTION				
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 - Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
Phasing or Prioritization	Tiers are based on ranch characteristics including ranch size, crops grown, specific chemical usage, proximity to impaired surface water, proximity to impaired public supply well.	Phases are based on location-specific conditions including water quality impairment, high quality surface water, and risk characteristics such as slope and impermeable surfaces.	Prioritization based on location-specific conditions related to nutrients (Table 2) and pesticide toxicity (Table 3). Additional requirements apply based on site conditions including impermeable surfaces during the rainy season and slope.	No prioritization or phasing. All requirements apply to all ranches concurrently.
Quantifiable Milestones* *(Numeric Limits)*	None	**Discharge Limits** Turbidity = TBD NTU (COLD) Turbidity = TBD NTU (WARM) Cultivation on ranches with impermeable surfaces on slopes greater than TBD% is not covered by this order. Ranches may apply for individual waste discharge requirements. No discharge of sediment due to erosion events may occur. No discharge may cause or contribute to altering the receiving water channel through scour, bank failure, downcutting, or sediment accumulation. Stormwater discharge intensity and volume from ranches with impermeable surfaces may not exceed discharge intensity and volume from equivalent non-impermeable area for any storm up to and including the design storm. Design storm TBD.	**Receiving Water Limits and Discharge Limits** Turbidity = 25 NTU (COLD) Turbidity = 40 NTU (WARM) If cultivation occurs on ranches with impermeable surfaces during the winter months on slopes greater than 10% then the site must have a sediment and erosion control plan designed and approved by a qualified professional. No discharge of sediment due to slope failure events may occur at a rate or volume that may cause or contribute to exceedance of water quality objectives. No discharge may cause or contribute to altering the receiving water channel through scour, bank failure, downcutting, or sediment accumulation. Stormwater discharge intensity and/or volume from ranches with impermeable surfaces may not exceed discharge intensity and/or volume from equivalent non-impermeable area for any storm up to and including the design storm. *Design storm:* -Volume: 95th percentile, 24-hour storm -Intensity: 10-year storm	**Discharge Limits** Turbidity = TBD NTU (COLD) Turbidity = TBD NTU (WARM) Cultivation on ranches with impermeable surfaces on slopes greater than TBD% is not covered by this order. Ranches may apply for individual waste discharge requirements. No discharge of sediment due to erosion events may occur. No discharge may cause or contribute to altering the receiving water channel through scour, bank failure, downcutting, or sediment accumulation. No stormwater discharge may occur for any storm up to and including the design storm. Design storm TBD. *Ranches that repeatedly exceed* the numeric discharge limits per the time schedule may be prohibited from discharging irrigation water.

TABLE 4: SEDIMENT AND EROSION MANAGEMENT FOR SURFACE WATER PROTECTION				
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 - Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
		Relatively higher limits	*If the receiving water is higher quality water than these limits, the higher quality receiving water shall be maintained, unless degradation is allowed through appropriate findings.*	*Relatively lower limits*
Time Schedule*	None	**Discharge Limit** TBD NTU by 20XX (COLD & WARM) TBD NTU by 20XX (COLD & WARM) Discharge Limit by 20XX (COLD & WARM) *Relatively longer time schedule*	**Receiving Water Limit and Discharge Limit** *Example schedule for prioritized watershed:* -100 NTU for 2023 (COLD & WARM) -40 NTU for 2025 (COLD & WARM) -25 NTU for 2027 (COLD) -Receiving water limit achieved for 2027 -Discharge limit triggered in 2027 if receiving water limit not achieved	**Discharge Limit** TBD NTU by 20XX (COLD & WARM) TBD NTU by 20XX (COLD & WARM) Discharge Limit by 20XX (COLD & WARM) *Relatively shorter time schedule*
Monitoring and Reporting*	**Annual Compliance Form** *All Tier 2 and Tier 3 ranches must monitor and report the following.* a. Irrigation, stormwater, and tile drain discharge characteristics b. Sediment and erosion management practices c. Irrigation management practices **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality trend monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** Not required.	**Sediment & Erosion Management Plan** *All ranches must monitor the following.* *Report submittal based on phase.* a. Irrigation, stormwater, and tile drain discharge characteristics b. Sediment and erosion management practices c. Irrigation management practices d. Stormwater management practices e. Proper sizing, design, and maintenance of sediment and erosion control measures, e.g. sediment retention basins **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality trend monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** *Ranches in a subset of watershed areas that repeatedly exceed* water quality objectives may be assigned follow-up surface receiving water	**Sediment & Erosion Management Plan** *All ranches must monitor and report:* a. Irrigation, stormwater, and tile drain discharge characteristics b. Sediment and erosion management practices c. Irrigation management practices d. Stormwater management practices e. Proper sizing, design, and maintenance of sediment and erosion control measures, e.g. sediment retention basins f. Ranches with impermeable surfaces during winter on slope greater than 10% must have sediment & erosion management plan created by qualified professional. **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality trend monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** *Ranches in prioritized watershed areas that exceed* receiving water objectives may be assigned follow-up surface receiving water	**Sediment & Erosion Management Plan** *All ranches must monitor the following.* *Report submittal for all ranches concurrently.* a. Irrigation, stormwater, and tile drain discharge characteristics b. Sediment and erosion management practices c. Irrigation management practices d. Stormwater management practices e. Proper sizing, design, and maintenance of sediment and erosion control measures, e.g. sediment retention basins **Surface Water Quality Trends** *All ranches* must conduct surface receiving water quality trend monitoring, either individually or through a cooperative program. **Follow-Up Receiving Water Monitoring** *Ranches in all watershed areas that repeatedly exceed water* quality objectives may be assigned follow-up surface receiving water

TABLE 4: SEDIMENT AND EROSION MANAGEMENT FOR SURFACE WATER PROTECTION				
	Ag Order 3.0	**Ag Order 4.0 (Conceptual Option 1)**	**Ag Order 4.0 - Updated Option**	**Ag Order 4.0 (Conceptual Option 2)**
	quality monitoring, performed either individually or through a cooperative program. **Individual Discharge to Surface Water** *A subset of Tier 3 ranches must submit information on the following.* a. Discharge flow rate and volume b. Discharge turbidity	quality monitoring, performed either individually or through a cooperative program. **Individual Discharge to Surface Water** *Ranches in a subset of watershed areas that repeatedly exceed water quality objectives may be assigned individual discharge monitoring.* a. Discharge flow rate and volume b. Discharge turbidity *Relatively more estimates are accepted in monitoring and reporting.*	quality monitoring, performed either individually or through a cooperative program. **Individual Discharge to Surface Water** *Ranches in prioritized watershed areas that exceed* the numeric limits per the time schedule may be assigned individual discharge monitoring. a. Discharge flow rate and volume b. Discharge turbidity	quality monitoring, performed either individually or through a cooperative program. **Individual Discharge to Surface Water** *Ranches in all watershed areas that repeatedly exceed water quality objectives must perform individual discharge monitoring.* a. Discharge flow rate and volume b. Discharge turbidity *Relatively more measurements are required in monitoring and reporting.*
Incentives	Sustainability Certification	TBD	- Third-party sustainability certification may result in reduced monitoring and reporting - Third-party implementation program may result in reduced monitoring and reporting	TBD
Definitions	-***NTU**: nephelometric turbidity unit* -***COLD**: beneficial use designation for cold fresh water habitat; **WARM**: beneficial use designation for warm fresh water habitat* -***Design storm**: the storm intensity and volume that management measures such as sediment retention basins are designed to accommodate* -***TBD** means "to be determined" and is used as a placeholder for the value of the numeric limits* -***Impermeable surfaces** include materials such as plastic mulch and hoop houses; here, impermeable surfaces do not refer to soils* *Required elements; other elements are included because they can help improve the effectiveness of the Order and to solicit stakeholder input			

<table>
<tr><th colspan="5">TABLE 5: RIPARIAN HABITAT MANAGEMENT FOR WATER QUALITY PROTECTION</th></tr>
<tr><th></th><th>Ag Order 3.0</th><th>Ag Order 4.0 (Conceptual Option 1)</th><th>Ag Order 4.0 – Updated Option</th><th>Ag Order 4.0 (Conceptual Option 2)</th></tr>
<tr><td>Phasing or Prioritization</td><td><u>Tiers</u> are based on ranch characteristics including ranch size, crops grown, specific chemical usage, proximity to impaired surface water, proximity to impaired public supply well.</td><td><u>Phases</u> are based on location-specific conditions including water quality impairment, high quality surface water, critical habitat, and beneficial use designations.</td><td><u>Prioritization</u> based on location-specific conditions such as beneficial use impairment and high-quality waterbodies.</td><td><u>No prioritization or phasing</u>. All requirements apply to all ranches concurrently.</td></tr>
<tr><td>Quantifiable Milestones* (Numeric Limits)</td><td><u>Buffer Width</u>
<u>A subset of Tier 3</u> ranches must comply with the numeric limit.

Buffer width = 30 feet
OR
Functional equivalent.</td><td><u>Setback Width and Native Vegetative Cover</u>
Ranch-level setback width and percent native vegetative cover requirements are based on stream classification system.

Class X width = TBD feet
Class X native grasses = TBD%
Class X native shrubs = TBD%
Class X native trees = TBD%

OR
Participate in an approved watershed restoration program.</td><td><u>Setback Width and Native Vegetative Cover</u>
<u>Individual Approach in priority areas</u>
Ranch-level setback width and percent native vegetative cover requirements for priority waterbodies are based on stream classification system.
<table><tr><th>Strahler Class</th><th>Minimum Setback Width</th></tr><tr><td>Class 1 (ag ditch)</td><td>no setback requirement</td></tr><tr><td>Class 2</td><td>50 feet with grasses</td></tr><tr><td>Class 3 and 4</td><td>80 feet with shrubs and grasses</td></tr><tr><td>Class 5</td><td>150 feet with trees, shrubs, and grasses</td></tr><tr><td>Class 6</td><td>250 feet with diverse trees, shrubs, and grasses</td></tr><tr><td>Lakes, estuaries, and wetlands</td><td>250 feet with diverse trees, shrubs, and grasses</td></tr></table><table><tr><th>Percent Slope</th><th>Setback Width Adjustment</th></tr><tr><td>15 - 17%</td><td>add 10 feet</td></tr><tr><td>18 - 20%</td><td>add 30 feet</td></tr><tr><td>21 - 23%</td><td>add 50 feet</td></tr><tr><td>24 - 25%</td><td>add 60 feet</td></tr></table><u>Cooperative Approach in priority areas</u>
Participate in a Cooperative Watershed Restoration Program (as approved by Executive Officer) AND must have a vegetated setback 1.5 times the width of the waterbody on each side. A Cooperative Approach</td><td><u>Setback Width and Native Vegetative Cover</u>
Setback width and percent native vegetative cover requirements for each ranch are based on functional riparian assessment (e.g. pHab/ RipRAM).</td></tr>
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<td></td>
<td><u>Prohibition</u>
The removal of existing riparian vegetative cover is prohibited, unless authorized through another permitting mechanism</td>
<td><u>Prohibition</u>
The removal of existing native riparian vegetative cover is prohibited, unless authorized through another permitting mechanism.</td>
<td>program may not be approved in certain watersheds if it will result in degradation. Restoration acreage is based upon the setback acreage that would have been required on the farm under the Individual Approach, at the following mitigation ratios:
<table><tr><th>Waterbody Type</th><th>Ratio</th></tr><tr><td>Class 2</td><td>1:1</td></tr><tr><td>Class 3 and 4</td><td>2:1</td></tr><tr><td>Class 5 and 6</td><td>3:1</td></tr><tr><td>Lakes, estuaries, and wetlands</td><td>4:1</td></tr></table>
<u>All other non-priority waterbodies and ranches participating in Cooperative Approach</u>
All dischargers with a Class 2 or higher waterbody on or adjacent to their ranch must have a vegetated setback for erosion control that is 1.5 times the width of the waterbody on each side. The presence of bare soil vulnerable to erosion is prohibited for all waterbody classes. No non-native invasive species may be planted within setbacks.
<u>Prohibition</u>
The removal of existing native riparian vegetative cover is prohibited, unless authorized through another permitting mechanism.</td>
<td><u>Prohibition</u>
The removal of existing native riparian vegetative cover is prohibited, unless authorized through another permitting mechanism.</td>
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<tr>
<td>Time Schedule*</td>
<td>None</td>
<td><u>Setback Width Establishment</u>
Phase 1 by 20XX
Phase 2 by 20XX
etc.
<u>Native Vegetative Cover Establishment</u>
Phase 1 by 20XX
Phase 2 by 20XX
etc.</td>
<td><u>Setback Width Establishment</u>
Setback width establishment date to be determined based on priority areas.

<u>Native Vegetative Cover Establishment</u>
Native vegetative cover establishment date to be determined based on priority areas.</td>
<td><u>Setback Width Establishment</u>
All ranches by 20XX

<u>Native Vegetative Cover Establishment</u>
All ranches by 20XX</td>
</tr>
</table>

Monitoring and Reporting*	**Water Quality Buffer Plan** *A subset of Tier 3 ranches must develop a Water Quality Buffer Plan and report on the following.* a. Buffer width, in feet b. Total vegetative cover, in percent c. Vegetative cover by type, in percent (trees, shrubs, grasses, non-vegetated) d. Vegetative shading of active water channel, in percent e. Photo-monitoring of current average riparian condition **Individual Riparian Assessment** Not required. **Surface Water Quality Trends** *All ranches* must conduct regional bioassessment trend monitoring, either individually or through a cooperative program.	**Riparian Management Reporting** *Based on phase, all ranches adjacent to surface waterbodies must monitor and report the following.* a. Buffer width, in feet b. Total native vegetative cover, in percent c. Vegetative cover by type, in percent (trees, shrubs, grasses, non-vegetated) d. Digital map of farm and setback boundaries **Individual Riparian Assessment** Not required. **Surface Water Quality Trends** *All ranches* must conduct regional bioassessment trend monitoring, either individually or through a cooperative program. *Relatively more estimates are accepted in monitoring and reporting.*	**Riparian Management Reporting** *Individual Approach* a. Buffer width, in feet b. Total native vegetative cover, in percent c. Vegetative cover by type, in percent (trees, shrubs, grasses, non-vegetated) d. Digital map of farm and setback boundaries *Cooperative Approach* Cooperative program monitors and reports progress annually. **Surface Water Quality Trends** *All ranches* must conduct regional bioassessment trend monitoring, either individually or through a cooperative program.	**Riparian Management Reporting** *Concurrently, all ranches adjacent to surface waterbodies must monitor and report the following.* a. Buffer width, in feet b. Total native vegetative cover, in percent c. Vegetative cover by type, in percent (trees, shrubs, grasses, non-vegetated) d. Digital map of farm and setback boundaries **Individual Riparian Assessment** *All ranches* adjacent to surface waterbodies must score the functional riparian setback annually using a method (e.g., pHab/RipRAM). **Surface Water Quality Trends** *All ranches* must conduct regional bioassessment trend monitoring, either individually or through a cooperative program. *Relatively more measurements are required in monitoring and reporting.*
Incentives	Sustainability Certification	TBD	-Cooperative Approach may allow for reduced setback and vegetation requirements within the ranch	TBD
Definitions	-***Riparian*** *is defined as vegetation, habitat, or ecosystems that are associated with bodies of water (creeks, streams, or lakes) or are dependent on the existence of perennial, intermittent, or ephemeral surface or subsurface water drainage* -***Riparian areas*** *include those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., a zone of influence)* -***pHab*** *is an index of physical habitat condition incorporating channel morphology, flow, patch types, substrate, riparian complexity, and energy* -***RipRAM*** *is a rapid riparian assessment method designed to score the overall health of a riparian area* -***TBD*** *means "to be determined" and is used as a placeholder for the value of the numeric limits* *Required elements; other elements are included because they can help improve the effectiveness of the Order and to solicit stakeholder input			