Agricultural Order 4.0 Requirement Options

Item 5

November 8-9, 2018

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CALIFORNIA Water Boards

Outline

1. Elements of an Order
2. Options Tables
   a. Irrigation and Nutrient Management – Groundwater
   b. Irrigation and Nutrient Management – Surface Water
   c. Pesticide Management – Surface Water, Groundwater
   d. Sediment and Erosion Management – Surface Water
   e. Riparian Habitat Management – Water Quality
3. Next Steps
   a. Public comment period
   b. Workshops

Elements of an Order

Governing Law, Regulation, and Guidance

- Nonpoint Source Policy
  - 5 key elements
- Court cases
  - Appellate Court Decision on Ag Order 2.0
- Precedential Components of the Eastern San Joaquin Order (ESJ)
- Basin Plan
  - Beneficial uses, water quality objectives, adopted TMDLs
- Antidegradation Policy
- Other related permits

Elements of an Order

- Findings, conditions, provisions
- Method for prioritization
* Numeric limits to achieve water quality objectives
* Time schedule
- Requirement to implement treatment and control measures to achieve numeric limits
* Monitoring and Reporting
- Incentives

Precedential Requirements from Eastern San Joaquin Order

- Irrigation and Nutrient Management Plan (INMP) required for all ranches
  - Nitrogen applied from all sources (A)
  - Nitrogen removed (R)
  - Irrigation management elements
- Groundwater protection formula, values, and targets
- Domestic well monitoring
- Groundwater trend monitoring
- Sediment and erosion control
- Management practice reporting

Water Quality Impacts related to Agricultural Discharges

- Review and discussion of water quality data
  - Surface water (March 2018 board meeting)
  - Groundwater (May 2018 board meeting)
- Primary discharges and impacts
  - Nitrogen
  - Nutrients and salinity
  - Pesticides and toxicity
  - Sediment and erosion
  - Riparian habitat

Framing Questions
September 2018 Board Workshop

1. What can growers and the regional board do to demonstrate quantifiable progress to minimize nitrate discharge to groundwater to achieve water quality objectives?
2. What can growers and the regional board do to demonstrate quantifiable progress to minimize nutrient discharge to surface waters to achieve water quality objectives?
3. What can growers and the regional board do to demonstrate quantifiable progress to minimize toxicity in surface waters from pesticide discharges to achieve water quality objectives?
4. What can growers and the regional board do to ensure that riparian and wetland habitat is protected due to agricultural activities and discharges?
5. What can growers and the regional board do to demonstrate quantifiable progress to minimize sediment discharge to achieve water quality objectives?
6. How can the regional board use discharge permit requirements to ensure current and future affordable, safe, and clean water for drinking and environmental uses?

Options Tables

1. Irrigation and Nutrient Management – Groundwater
2. Irrigation and Nutrient Management – Surface Water
3. Pesticide Management – Surface Water, Groundwater
4. Sediment and Erosion Management – Surface Water
5. Riparian Habitat Management – Water Quality

REQUIRED ELEMENTS	EXAMPLE TABLE		
	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (Option 2)
Phasing or Prioritization	*Included as reference*	*Phased requirements*	*Concurrent requirements*
Numeric Limits*		*Relatively higher limits*	*Relatively lower limits*
Time Schedule to Achieve Numeric Limits*	**Legend** * Required elements ➡ Consequences ★ ESJ precedent, prescriptive ◆ ESJ precedent, interpretation	*Relatively longer time schedule*	*Relatively shorter time schedule*
Monitoring and Reporting*		*Relatively more estimates accepted in monitoring and reporting*	*Relatively more measurements required in monitoring and reporting*
Incentives		*TBD*	*TBD*

Options Tables

1. Irrigation and Nutrient Management – Groundwater
2. Irrigation and Nutrient Management – Surface Water
3. Pesticide Management – Surface Water, Groundwater
4. Sediment and Erosion Management – Surface Water
5. Riparian Habitat Management – Water Quality

QUESTIONS:

What can growers and the regional board do to demonstrate quantifiable progress to minimize nitrate discharge to groundwater to achieve water quality objectives?

How can the regional board use discharge permit requirements to ensure current and future affordable, safe, and clean water for drinking and environmental uses?

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
- **$A_{FER} + A_{IRR} - R$** = nitrogen waste discharge, or nitrogen loading to groundwater
- **TBD** means “to be determined” and is used as a placeholder

REQUIRED ELEMENTS	TABLE 1: IRRIGATION & NUTRIENT MANAGEMENT FOR GROUNDWATER PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (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.	No prioritization or phasing. All requirements apply to all ranches concurrently.
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** $A_{FER} + A_{IRR} - R$ = 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 lower limits*
Time Schedule to Achieve Numeric Limits*	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*	**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 & NUTRIENT MANAGEMENT FOR GROUNDWATER PROTECTION

REQUIRED ELEMENTS	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (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 *Relatively more estimates are accepted in monitoring and reporting*	**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 *Relatively more measurements are required in monitoring and reporting*

REQUIRED ELEMENTS	TABLE 1: IRRIGATION & NUTRIENT MANAGEMENT FOR GROUNDWATER PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (Option 2)**
Monitoring and Reporting*	**<u>Individual Discharge to Groundwater</u>** Not required. **<u>Drinking Water Supply Well</u>** <u>*All ranches*</u> must monitor all drinking water supply wells present on enrolled parcels, either individually or through a cooperative program. **<u>Groundwater Quality Trends</u>** Not required.	**<u>Individual Discharge to Groundwater</u>** <u>*Ranches that exceed*</u> *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 **<u>Drinking Water Supply Well</u>** <u>*All ranches*</u> must monitor all drinking water supply wells present on enrolled parcels, either individually or through a cooperative program. **<u>Groundwater Quality Trends</u>** <u>*All ranches*</u> must conduct groundwater quality trend monitoring, either individually or through a cooperative program. *Relatively more estimates are accepted in monitoring and reporting.*	**<u>Individual Discharge to Groundwater</u>** <u>*All ranches*</u> *must perform individual groundwater discharge monitoring.* a. Irrigation discharge to groundwater nitrate concentration b. Irrigation discharge to groundwater volume **<u>Drinking Water Supply Well</u>** <u>*All ranches*</u> must monitor all drinking water supply wells present on enrolled parcels, either individually or through a cooperative program. **<u>Groundwater Quality Trends</u>** <u>*All ranches*</u> 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) Additional incentives TBD

Options Tables

1. Irrigation and Nutrient Management – Groundwater
2. Irrigation and Nutrient Management – Surface Water
3. Pesticide Management – Surface Water, Groundwater
4. Sediment and Erosion Management – Surface Water
5. Riparian Habitat Management – Water Quality

QUESTIONS:

What can growers and the regional board do to demonstrate quantifiable progress to minimize nutrient discharge to surface waters to achieve water quality objectives?

How can the regional board use discharge permit requirements to ensure current and future affordable, safe, and clean water for drinking and environmental uses?

REQUIRED ELEMENTS	TABLE 2: IRRIGATION & NUTRIENT MANAGEMENT FOR SURFACE WATER PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (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.	No prioritization or phasing. All requirements apply to all ranches concurrently.
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*	**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 to Achieve Numeric Limits *	None	**Discharge Limit** TBD mg/L by 20XX TBD mg/L by 20XX Discharge Limit by 20XX *Relatively longer time schedule*	**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

REQUIRED ELEMENTS	Ag Order 3.0	Ag Order 4.0 (Option 1)	Ag Order 4.0 (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	**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. *Relatively more estimates are accepted in monitoring and reporting.*	**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. *Relatively more measurements are required in monitoring and reporting.*

REQUIRED ELEMENTS	TABLE 2: IRRIGATION AND NUTRIENT MANAGEMENT FOR SURFACE WATER PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (Option 2)**
Monitoring and Reporting *	**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	➡ **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.*	➡ **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	TBD

Options Tables

1. Irrigation and Nutrient Management – Groundwater
2. Irrigation and Nutrient Management – Surface Water
3. Pesticide Management – Surface Water, Groundwater
4. Sediment and Erosion Management – Surface Water
5. Riparian Habitat Management – Water Quality

QUESTIONS:

What can growers and the regional board do to demonstrate quantifiable progress to minimize toxicity in surface waters from pesticide discharges to achieve water quality objectives?

How can the regional board use discharge permit requirements to ensure current and future affordable, safe, and clean water for drinking and environmental uses?

REQUIRED ELEMENTS	TABLE 3: PESTICIDE MANAGEMENT FOR SURFACE WATER AND GROUNDWATER PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (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.	No prioritization or phasing. All requirements apply to all ranches concurrently.
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*	**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*

REQUIRED ELEMENTS	TABLE 3: PESTICIDE MANAGEMENT FOR SURFACE WATER AND GROUNDWATER PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (Option 2)**
Time Schedule to Achieve Numeric Limits *	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*	**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*
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.	**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. *Relatively more estimates are accepted in monitoring and reporting.*	**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. *Relatively more measurements are required in monitoring and reporting.*

REQUIRED ELEMENTS	TABLE 3: PESTICIDE MANAGEMENT FOR SURFACE WATER AND GROUNDWATER PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (Option 2)**
Monitoring and Reporting *	**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 **Drinking Water Supply Well** Pesticide monitoring not required.	**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 **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.*	**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 **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	TBD

Options Tables

1. Irrigation and Nutrient Management – Groundwater
2. Irrigation and Nutrient Management – Surface Water
3. Pesticide Management – Surface Water, Groundwater
4. Sediment and Erosion Management – Surface Water
5. Riparian Habitat Management – Water Quality

QUESTIONS:

What can growers and the regional board do to demonstrate quantifiable progress to minimize sediment discharge to achieve water quality objectives?

How can the regional board use discharge permit requirements to ensure current and future affordable, safe, and clean water for drinking and environmental uses?

REQUIRED ELEMENTS	TABLE 4: SEDIMENT AND EROSION MANAGEMENT FOR SURFACE WATER PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (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.	No prioritization or phasing. All requirements apply to all ranches concurrently.
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. *Relatively higher limits*	**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. *Relatively lower limits*

REQUIRED ELEMENTS	TABLE 4: SEDIMENT AND EROSION MANAGEMENT FOR SURFACE WATER PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (Option 2)**
Time Schedule to Achieve Numeric Limits *	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*	**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.	**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. *Relatively more estimates are accepted in monitoring and reporting.*	**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. *Relatively more measurements are required in monitoring and reporting.*

REQUIRED ELEMENTS	TABLE 4: SEDIMENT AND EROSION MANAGEMENT FOR SURFACE WATER PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (Option 2)**
Monitoring and Reporting *	**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 turbidity	**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 turbidity *Relatively more estimates are accepted in monitoring and reporting.*	**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 turbidity *Relatively more measurements are required in monitoring and reporting.*
Incentives	Sustainability Certification	TBD	TBD

Options Tables

1. Irrigation and Nutrient Management – Groundwater
2. Irrigation and Nutrient Management – Surface Water
3. Pesticide Management – Surface Water, Groundwater
4. Sediment and Erosion Management – Surface Water
5. Riparian Habitat Management – Water Quality

QUESTIONS:

What can growers and the regional board do to ensure that riparian and wetland habitat is protected due to agricultural activities and discharges?

How can the regional board use discharge permit requirements to ensure current and future affordable, safe, and clean water for drinking and environmental uses?

REQUIRED ELEMENTS	TABLE 5: RIPARIAN HABITAT MANAGEMENT FOR WATER QUALITY PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (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, critical habitat, and beneficial use designations.	No prioritization or phasing. All requirements apply to all ranches concurrently.
Numeric Limits*	**Buffer Width** *A subset of Tier 3 ranches must comply with the numeric limit.* Buffer width = 30 feet ***OR*** Functional equivalent. **Prohibition** The removal of existing riparian vegetative cover is prohibited, unless authorized through another permitting mechanism.	**Setback Width and Native Vegetative Cover** Ranch-level setback width and percent native vegetative cover requirements are based on a 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. **Prohibition** The removal of existing native riparian vegetative cover is prohibited, unless authorized through another permitting mechanism.	**Setback Width and Native Vegetative Cover** Setback width and percent native vegetative cover requirements for each ranch are based on a functional riparian assessment (such as pHab or RipRAM). **Prohibition** The removal of existing native riparian vegetative cover is prohibited, unless authorized through another permitting mechanism.
Time Schedule to Achieve Numeric Limits*	None	**Setback Width Establishment** Phase 1 by 20XX Phase 2 by 20XX *etc.* **Native Vegetative Cover Establishment** Phase 1 by 20XX Phase 2 by 20XX *etc.*	**Setback Width Establishment** All ranches by 20XX **Native Vegetative Cover Establishment** All ranches by 20XX

REQUIRED ELEMENTS	TABLE 5: RIPARIAN HABITAT MANAGEMENT FOR WATER QUALITY PROTECTION		
	Ag Order 3.0	**Ag Order 4.0 (Option 1)**	**Ag Order 4.0 (Option 2)**
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. Photomonitoring 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** *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 such as pHab or 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	TBD

Next Steps

Ag Order 4.0 Roadmap with Outreach Timeline

Planning & Development — June 2017 – Nov 2018

Listening Sessions — August 2017

Public Comment for CEQA Initial Study — Feb 16 – April 30, 2018

CEQA Scoping Workshops — March 2018

Public Workshop during September 2018 Board Meeting — Sept 2018

60-day Public Comment Period — Nov 2018 – Jan 2019

Public Stakeholder Meetings; Ongoing Focused Group Stakeholder Meetings — Nov 2018 – Dec 2018

Compile Comments; Ongoing Focused Group Stakeholder Meetings — Jan – Mar 2019

Develop Draft Order and EIR — Mar –July 2019

60-day Public Comment Period; Public Stakeholder Meetings; Ongoing Focused Stakeholder Meetings — Aug – Oct 2019

Develop Final Draft — Oct 2019 – Feb 2020

Adoption Hearing — Mar 2020

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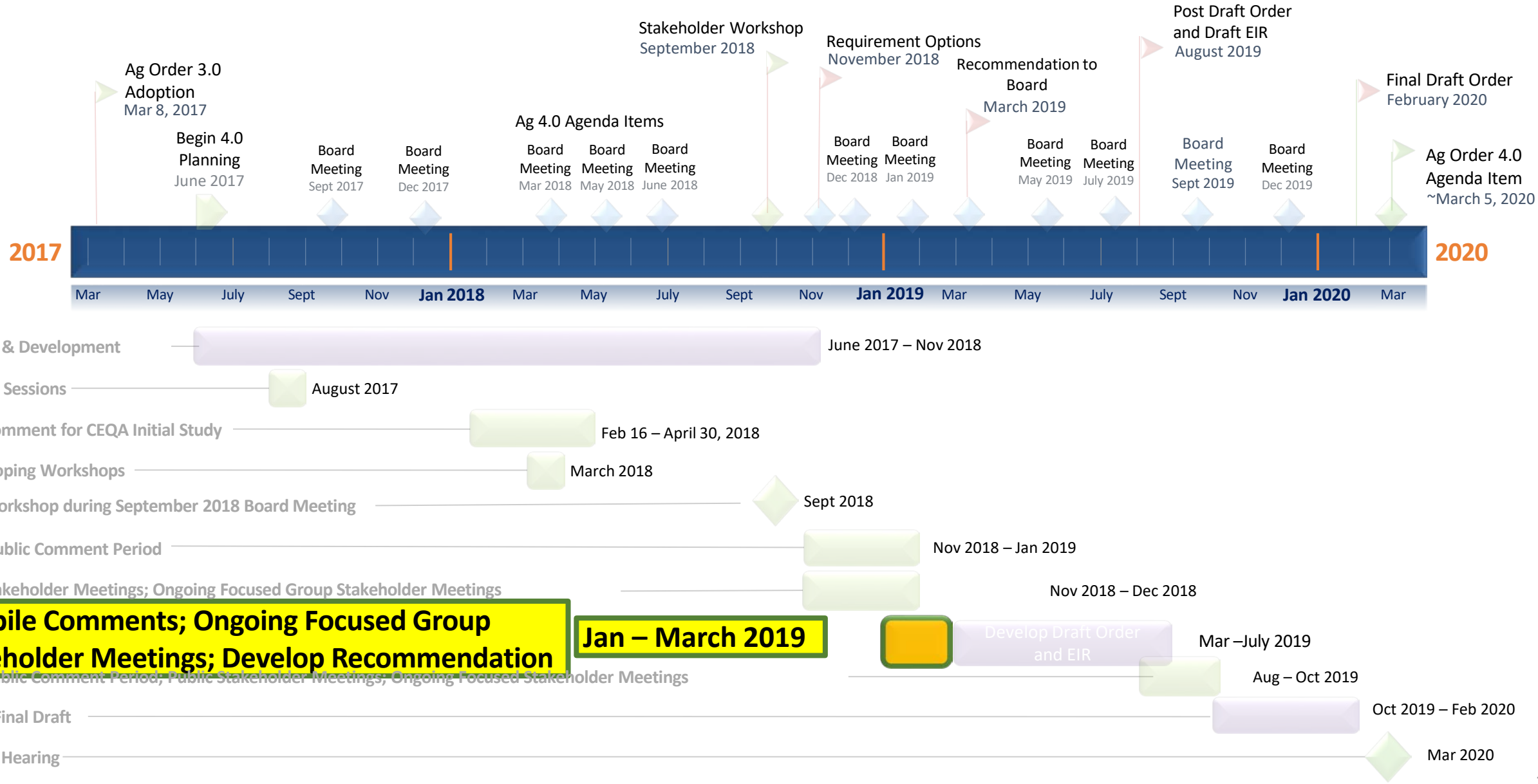

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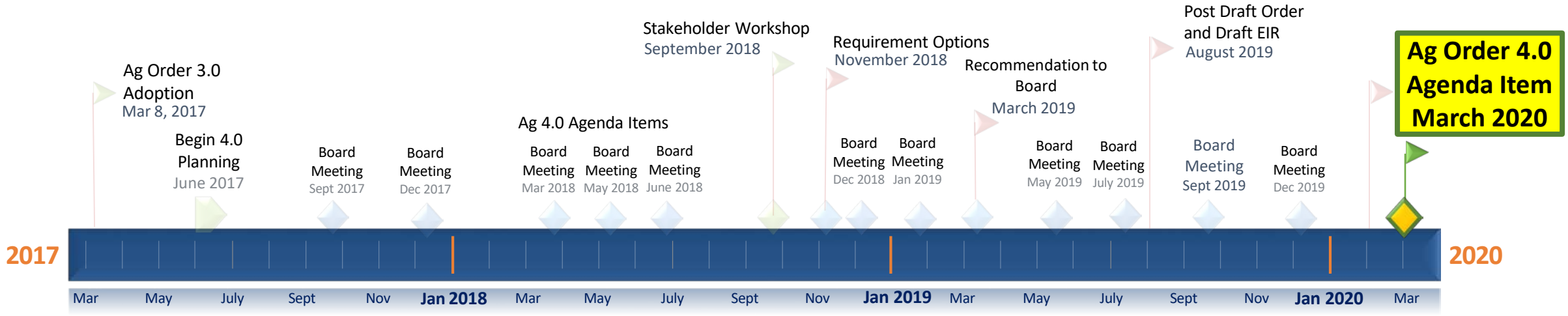

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ILRP Website Resources

- Ag Order 4.0 page of Irrigated Lands Regulatory Program website
  https://www.waterboards.ca.gov/centralcoast/water_issues/programs/ag_waivers/ag_order4_renewal.html

- Board Meeting quick links
  - Ag Order 4.0 related agenda items posted
    - Staff reports; presentations

- LOG of Ag Order 4.0 discussions
  - Public; focused; one person

Summary of Ag Order 4.0 Related Outreach Log

- Board Meeting items since September 2017 : 9
- Focused group stakeholder Meetings: 15
- Public stakeholder meetings: 8
- One person meetings: 9

Thank You