

WELL ORDINANCE AMENDMENT

PUBLIC TRUST REVIEW PROCESS, AT COST FEE, WELL METERING,
OTHER TECHNICAL CORRECTIONS, AND TEMPORARY MORATORIUM

Nathan Quarles, Deputy Director of Construction and Engineering

April 04, 2023

Background

2

- 2015 – Last major changes to Well Ordinance
- 2018 – California Court of Appeals Ruling finding Public Trust Doctrine applies to groundwater wells that have adverse impacts on navigable surface waters
- 2021 - California Coastkeeper Alliance filed a lawsuit against the County of Sonoma seeking compliance with Public Trust Doctrine when issuing well permits
- August 09, 2022 – BOS hearing of revised draft well ordinance
- October 04, 2022 – BOS hearing of revised draft well ordinance

BOS Decision and Direction

October 4th, 2022 - BOS Hearing

3

- Six month moratorium through April 4, 2023

- Form a technical advisory committee and return in six months with revised ordinance

- Specific recommendations:
 - ▣ Refine the public trust review area
 - ▣ Ministerial path for:
 - Wells that qualify as zero net use or increase
 - Wells for surface water diversion regulated by Water Board

Recent Events (After October 4, 2022)

4

- November 2022 - established working groups
 - Separate 12 member policy and technical working groups
 - Professional Facilitator – Gina Bartlett of CBI
 - Technical support – O’Connor Environmental Inc.
 - Regular biweekly working group meetings (November 17, 2022 - March 1, 2023)
 - 15 meetings total
 - 9 public meetings

- March 17, 2023 - Published revised draft ordinance

- GSA Board Meetings
 - March 23
 - March 27
 - March 30

Policy Working Group

5

Name	Groups Represented
Mike Martini, Co-Chair	Ag and Development Interests
Rue Furch, Co-Chair	Sonoma County Water Coalition
Brock Dolman	Occidental Arts and Ecology Center
Monty Schmitt	Nature Conservancy
Charlie Schneider	CalTrout
Ben Campanile	Well Driller
Sandi Potter	Petaluma Groundwater Sustainability Agency Administrator
Mike Sangiacomo	Vineyard Manager
Rob Cantu	North Coast Builders Exchange
Carol Lexa	North Bay Association of Realtors
Dayna Ghirardelli	Sonoma County Farm Bureau
Carolyn Wasem	Jackson Family Wines

Technical Working Group

6

Name	Expertise / Agency Represented
Jay Jasperse, Chair	Retired - Sonoma County Water Agency
Sam Boland-Brien	California State Water Resources Control Board
Jessie Maxfield	California Department of Fish and Wildlife
Rick Rogers	National Marine Fisheries Service
Andy Casarez	Office of the Sonoma County Agricultural Commissioner
Marcus Trotta	Sonoma County Groundwater Sustainability Agencies, Plan Manager
Matt Petersen	Well Driller
Laurel Marcus	Agricultural Practices, CA Land Stewardship Institute
Brad Petersen	Agricultural Practices, Vineyard Manager
Melissa Rohde	Hydrologist / Environmental Consultant
Bruce Abelli Amen	Hydrogeologist / Environmental Consultant
Ken Johnson	Environmental and Geotechnical Consultant

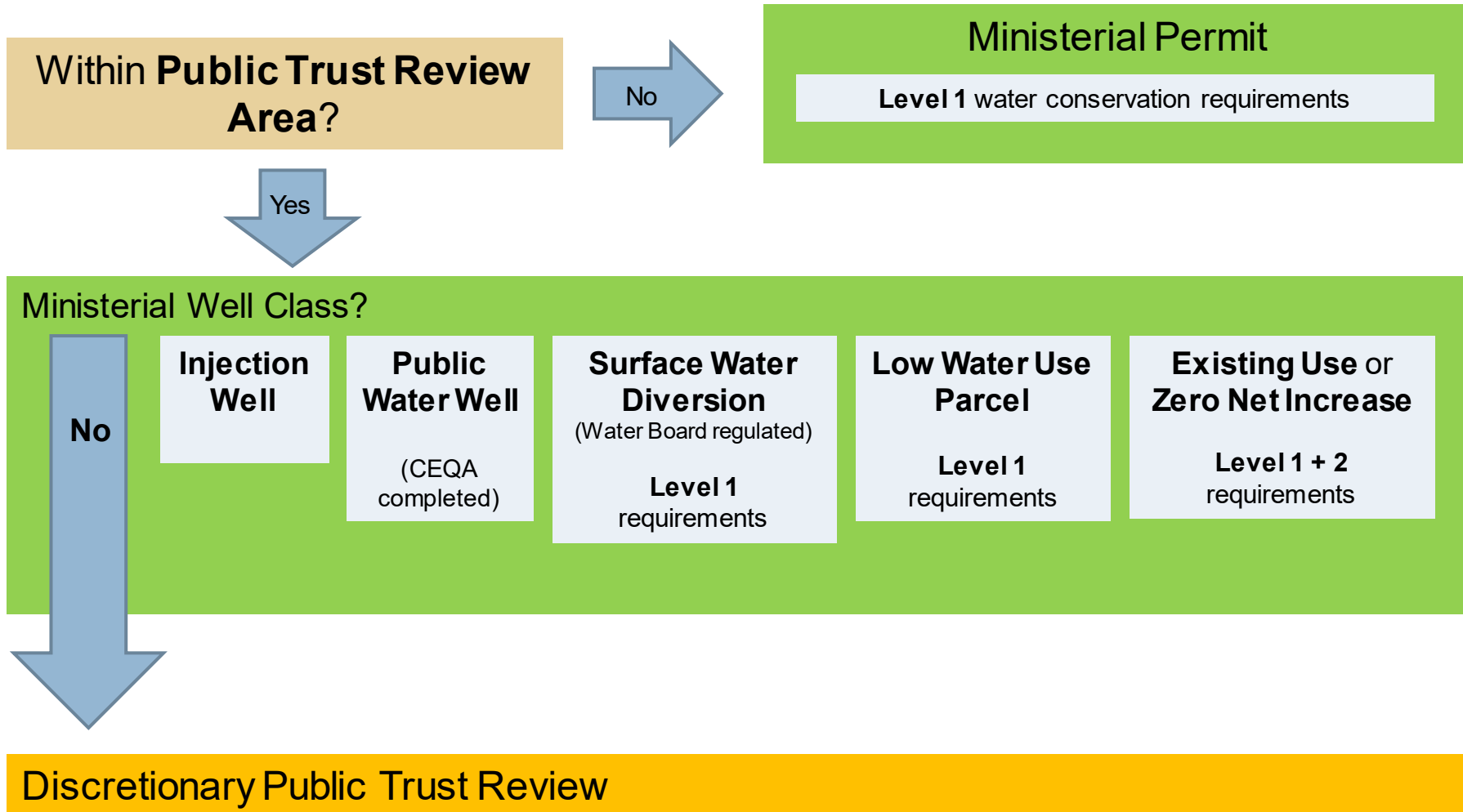
Working Group Topics

7

- Adverse Impacts**
- Public Trust Review Area**
- Well Classification: Ministerial or Discretionary**
- Water conservation and other Measures**
- Monitoring and Metering Requirements**
- Discretionary Review Process**
- Adaptation / Recommendations**

Permit Screening Flow Chart

8



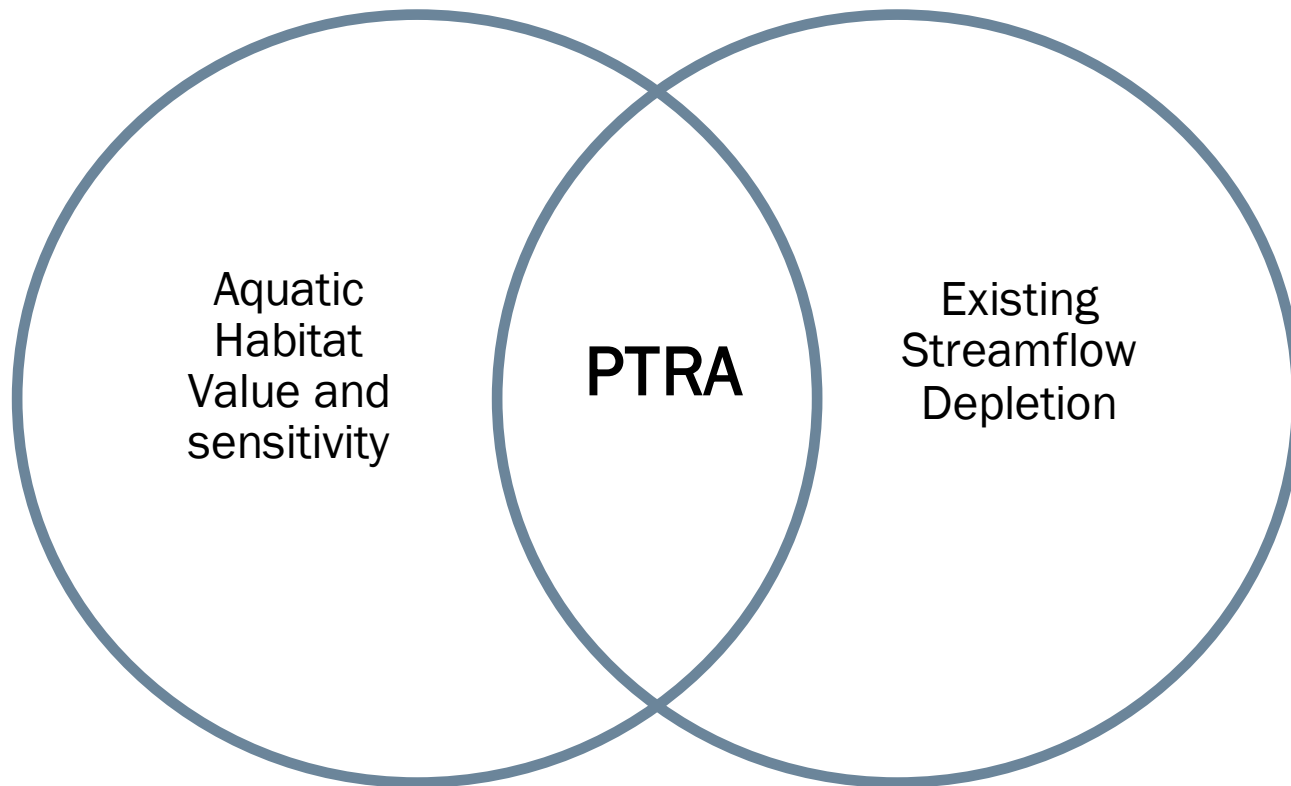
Public Trust Resources

Where should impacts to public trust resources be evaluated?

9

- ❑ **Working group recommendation:**
 - ❑ Focus on impacts to fish habitat
 - ❑ Evaluate impacts to fish habitat in non-navigable tributaries that support salmonids
 - Addresses primary issue of concern – impacts to Coho and Steelhead
 - Most sensitive public trust resource to streamflow depletion
 - Consistent with current practices for discretionary review

Approach to Defining the Public Trust Review Area (PTRA)



How Sensitive is the Resource?

How Much Stress is Acting on the Resource?

Public Trust Review Area – Decision Framework

11

Habitat Value and Sensitivity	Low Streamflow Depletion (0 – 10%)	Moderate Streamflow Depletion (10 – 20%)	High Streamflow Depletion (> 20%)
Low	Not included	Not included	Not included
Moderate	Not included	Stream buffers	Sub-watershed
High	Stream buffers	Sub-watershed	Sub-watershed
Very High	Sub-watershed	Sub-watershed	Sub-watershed

Low Habitat Value: limited or no summer rearing habitat for salmonids

Moderate Habitat Value: moderate value summer rearing habitat for salmonids

High Habitat Value: high value summer rearing habitat for salmonids

Very High Habitat Value: Upper Mark West, upper Green Valley Creek, Dutch Bill, and Mill Creek watersheds.

Stream Flow Depletion (SFD) means reduction in flow relative natural flow conditions during the dry season (July – Sept, estimated from from best available information and models

Low / moderate / high Streamflow Depletion from Richter, Davis, M. M., Apse, C., & Konrad, C. (2012). A PRESUMPTIVE STANDARD FOR ENVIRONMENTAL FLOW PROTECTION. River Research and Applications, 28(8), 1312–1321. <https://doi.org/10.1002/rra.1511>

Stream Buffers: **750'** in alluvial and sedimentary rocks (Class 1 + 2 + Stetson Areas), **250'** in volcanic bedrock (Class 3 areas), **100'** in basement rocks (Class 4 areas).

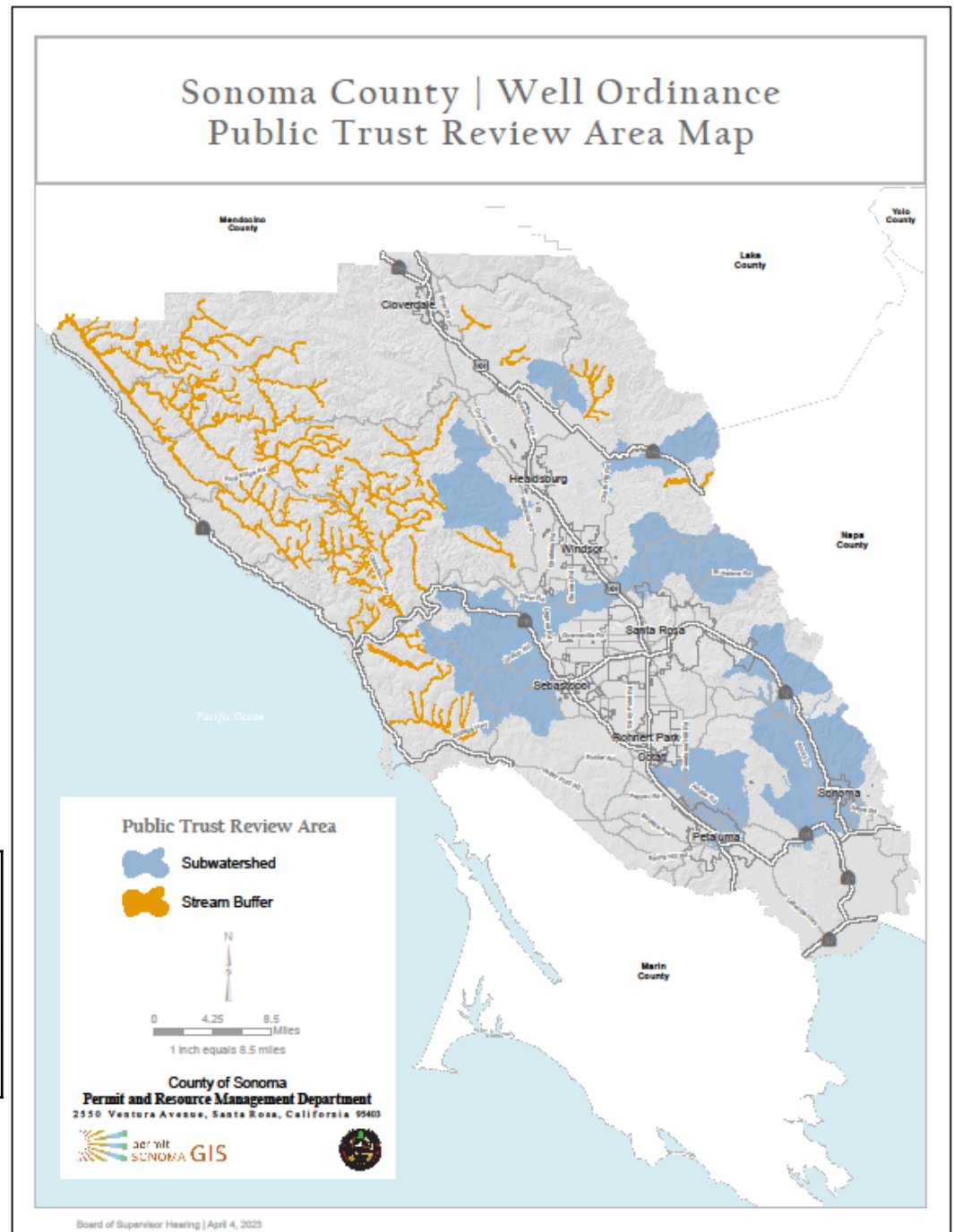
Public Trust Review Area

12

- ❑ Blue areas subwatersheds
- ❑ Orange areas stream corridors
- ❑ 313 square miles (18% of County)
- ❑ Intersects 28,376 parcels

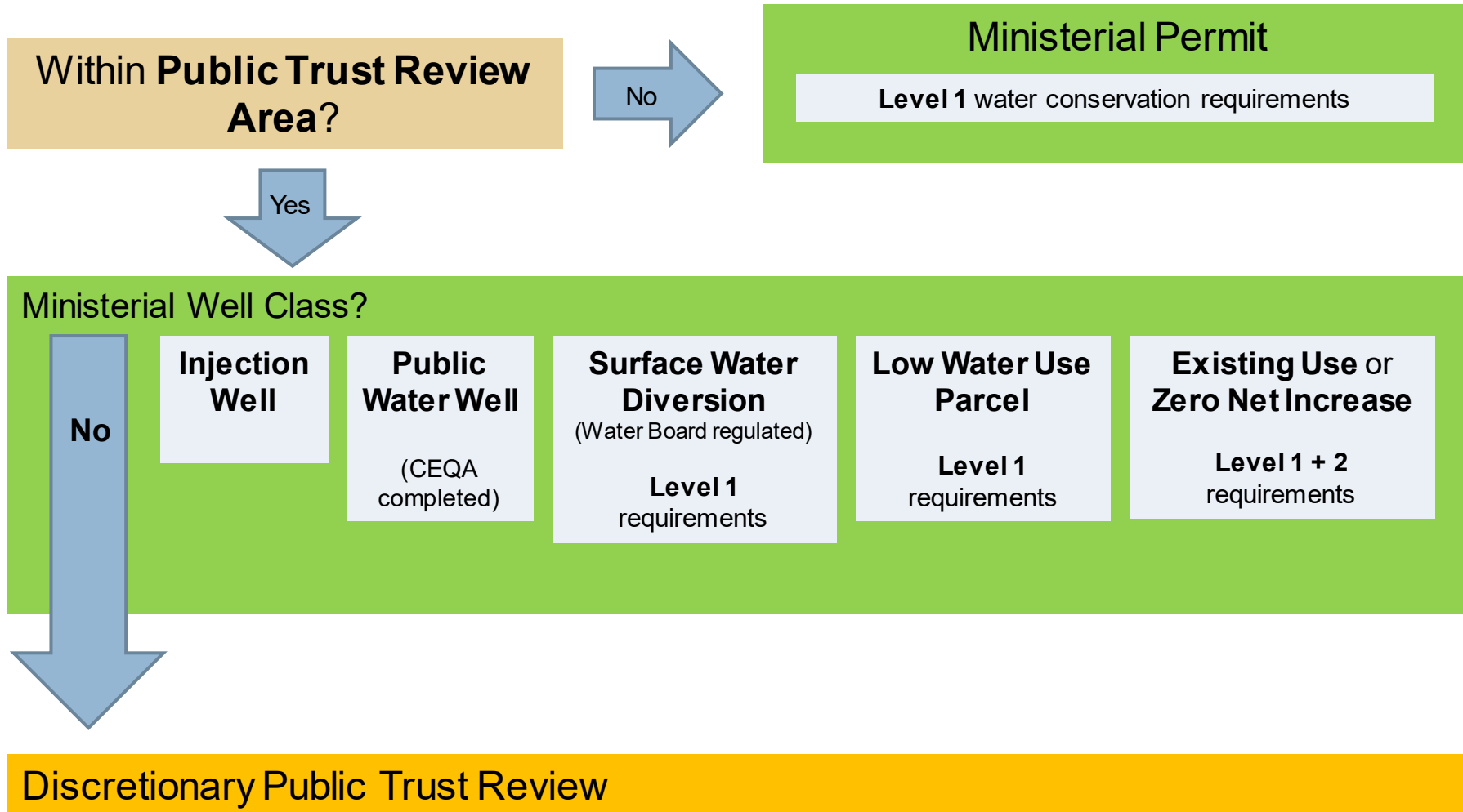
Well Permits per year (avg. 2017 – 2021)	Residential	Commercial	Irrigation
Public Trust Review Area	129	2	12
County wide	283	3	31

Please visit and explore using the [online GIS viewer](#):



Permit Screening Flow Chart

13



Ministerial Well Classifications

Ministerial Well Class	Conservation and Monitoring Requirements
Water wells located outside the Public Trust Review Area	Level 1
<p>Public Water Well A public water well for which environmental review under the California Environmental Quality Act is complete.</p>	None
<p>Water Board Regulated Well Water wells, for any land use, that will serve as a point of diversion associated with an appropriative water right regulated by the CA State Water Resources Control Board, Division of Water Rights</p>	Level 1
<p>Low Water Use Well Water wells where total groundwater use of the parcel is limited to 2.0 acre feet per year.</p>	Level 1
<p>Well for Existing Land Use Water wells, for any land use, where total groundwater use of the parcel is limited to and does not exceed the amount of groundwater used as of the date of ordinance adoption for legally established land uses. Existing use will be based off average use from a 3 to 5 year period.</p>	Level 1 + 2
<p>Zero Net Increase Well Water well, for any land use, where the proposed use would not result in a net increase in groundwater use on site through implementation of water conservation measures, rainwater catchment or recycled water reuse system, water recharge project, or local groundwater management project.</p>	Level 1 + 2

Water Conservation Requirements

Level 1

- Efficient faucets and showerheads**
Existing fixtures – simple aerator replacement
- Leak and Water Conservation Audit**
Through existing conservation programs available to cities, or self audit
- New landscapes –**
Water Efficient Landscape Ord. Compliant
- Lawns**
 - Prohibits grass lawns in new development (unless WELO compliant)
 - Max existing lawn = 2500 sq ft (unless WELO compliant)
- Disconnected Downspouts**
Rainwater not routed directly to storm drain or creek
- Groundwater Sustainability Agency Compliance**
Applicable water conservation requirements adopted by GSA

Level 2

- Efficient toilets** (1.6 gallons per flush)
- Commercial / Industrial Water Conservation Plan**
Facility water budget, water conservation practices, water efficient appliances and features (e.g. high pressure sprayers), process water reuse, employee training, etc.
- Agricultural Water Conservation Practices Plan**
Use of drip or micro sprayers, monitoring of soil moisture and shoot tips, irrigation scheduling, irrigation system maintenance, etc.
- Vineyard and Orchard irrigation limits**
0.6 AFY per acre, or existing use supported by data or study (excludes frost protection)
- Frost Protection**
Enrollment in frost protection program or frost protection plan

Low Water Use Classification Options

Option	Description	Conservation Requirements
Proposed	Groundwater use of the parcel less than 2.0 acre feet per year.	<ul style="list-style-type: none"> • Level 1
Alternative 1	Small Use Well Groundwater use of the parcel less than 0.5 acre feet per year.	<ul style="list-style-type: none"> • Level 1
Alternative 1	Moderate Use Well Groundwater use of the parcel between 0.5 and 2.0-acre feet per year	<ul style="list-style-type: none"> • Level 1 + 2
Alternative 2	Replacement + Additional Well Groundwater use of the parcel less than 2.0-acre feet per year. New well must be no closer to any nearby stream than the well being replaced.	<ul style="list-style-type: none"> • Level 1
Alternative 2	New Well Groundwater use of the parcel less than 2.0-acre feet per year	<ul style="list-style-type: none"> • Level 1 + 2

Metering and Monitoring

	Proposed	Alternative 1 Voluntary Reporting	Alternative 2 Universal Reqs.
Water Meter Installation	Meter installation if reporting is required	No	Meter for each service connection
Water Meter Reporting	<p>Monthly data collected, reported annually, All well classes <u>except</u> low water use residential wells</p> <p>Voluntary program for: Residential wells and existing wells</p>	Voluntary	Monthly data collected, reported annually, all well classes
Water Level Monitoring	Monthly data collected, reported annually for parcels using 5 AFY or more.	Same as Proposed	Same as Proposed
Conservation Practices Reporting	<p>Annual reporting of implementation of water conservation practices for parcels using 5 AFY or more.</p> <ol style="list-style-type: none"> 1. Enrollment in agricultural conservation program, or 2. Self reporting 	Same as Proposed	Same as Proposed

***All requirements apply to new wells subject to revised ordinance (not existing wells)

Estimated admin costs
\$150 - \$450 per year per site

Meter installation costs
\$300 - \$1000 (residential meter)

Ministerial Permit Examples

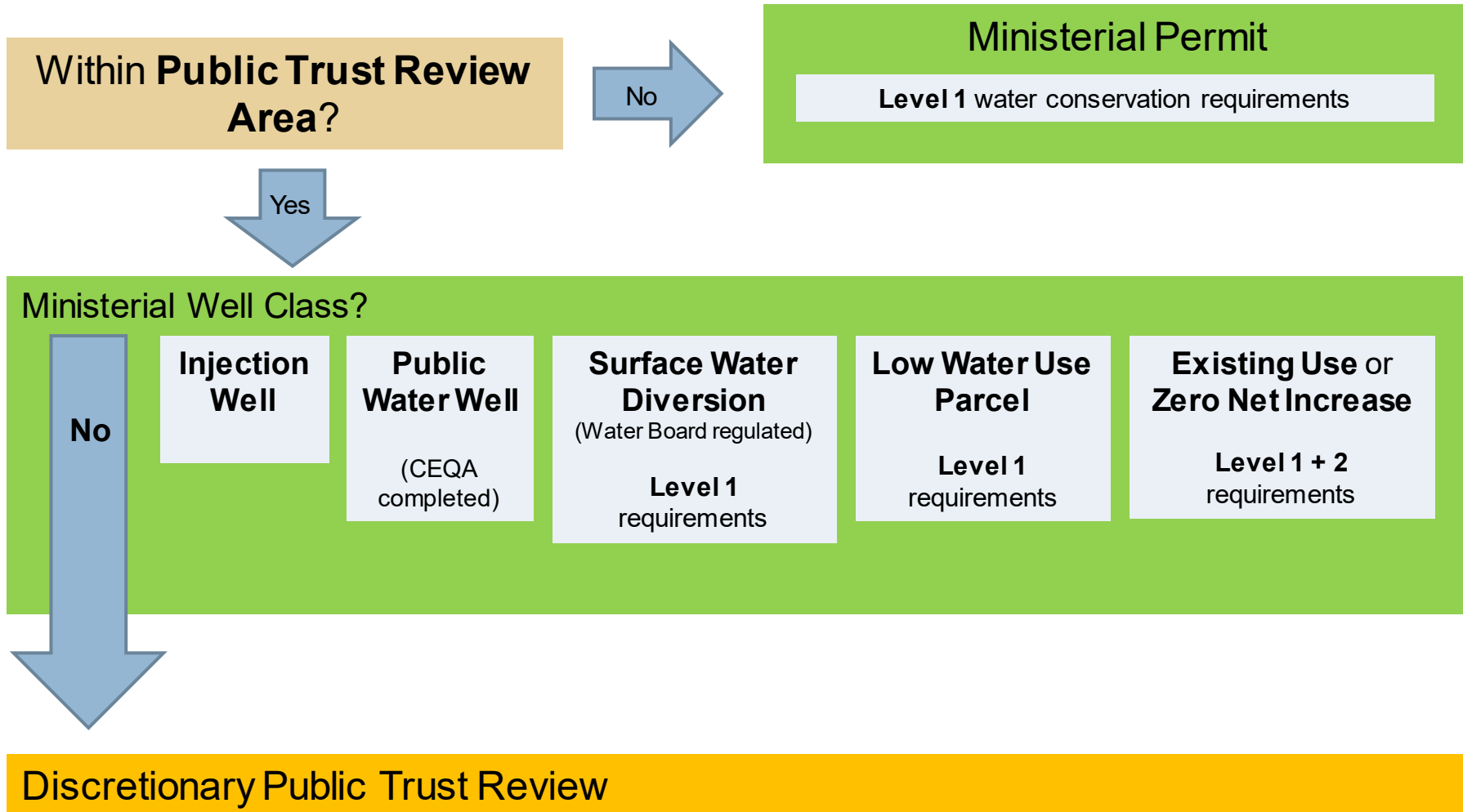
18

- **Residential well, anywhere in County**
 - Level 1 Requirement completion
 - Leak and Conservation audit, efficient faucets and showerheads, disconnected downspouts
 - If new development, no irrigated lawn unless WELO compliant. If existing, <2500 sq ft of lawn
 - No mandatory metering or monitoring (may report voluntarily)

- **Replacement well for 20 acre vineyard, within Public Trust Review Area**
 - Level 1 Requirement Completion (generally, only applies if parcel has a residence)
 - Level 2 Requirement Completion
 - Farm Plan: drip or micro sprayers, monitoring of soil moisture, irrigation scheduling, irrigation system maintenance, etc.
 - Frost protection program enrollment or plan
 - Irrigation water limits (0.6 Acre feet per year)
 - Water use metering, and water level monitoring

Permit Screening Flow Chart

19



Discretionary Public Trust Review

20

- Applications required to provide information to assess potential impacts
 - (Water use assessment, well location and construction details)
- Conduct public trust impacts analysis:
 - Proposed - **County completes analysis** using best available information and models
 - Alternative – Consultant completes analysis and County reviews
- If substantial adverse impacts expected:
 - Applicant develops mitigation measures
- County produces **written findings** and approves or denies the permit
- County determination may be **appealed to BOS**
- BOS can approve a well with **overriding consideration** of public benefit

Well Permit and Zoning Statistics

- ❑ 110 – 160 well permits per year within Public Trust Review Area
- ❑ Primarily residential – ministerial permits subject to Level 1 requirements
- ❑ 5 – 15 permits subject to discretionary public trust review expected per year.

Well Permits (avg. 2017 – 2021)	Residential	Commercial	Irrigation
Public Trust Review Area	129	2	12
County wide	283	3	31

Zoning	# Parcels that Intersect Public Trust Review Area	Acreage
RR*	6384	13206
R1	6315	1814
AR	4300	15305
DA	3335	34926
RRD	3039	171373
PC	1336	443
R2	1132	284
LIA	828	21797

Total parcels intersected: **28,376**

Additional Items

22

- At Cost deposit for discretionary public trust review, staff completes impacts analysis:
 - \$5,568
 - Equivalent to 32 hours for engineer or geologist.

- Extend Temporary Moratorium
 - May 18, 2023
 - 30 days from date of second reading

Working Group Recommendations for Adaptation

23

- ❑ **Reduce key data gaps**
 - ❑ Groundwater levels, streamflow, metering
- ❑ **Improve modeling capabilities**
 - ❑ Leverage and improve existing models (USGS, GSAs, Coast Range Institute)
 - ❑ Comprehensive parcel based water use dataset
 - ❑ Web interface tools and analytical models for well permit screening
- ❑ **Water conservation**
 - ❑ Coordinate with local partners on conservation programs
- ❑ **Objective standards for ministerial permits**
 - ❑ Enhanced groundwater recharge / regenerative agriculture / Water conservation
- ❑ **Coordinate with GSAs**
- ❑ **Continued Technical Stakeholder Engagement**
- ❑ **Annual Well Ordinance review and updates**
- ❑ **Funding and Implementation Work Plan**

Immediate Term Program Development

24

- Application and forms
- Accela record update
- Well metering program (new wells only)
- Administrative policies
 - ▣ Water Conservation Plan Requirements
 - ▣ Zero Net Increase Guidelines
- Contract for discretionary Public Trust Review
- Public outreach

Medium Term Program Development

Fees, Staffing, and Funding (future costs)

25

- Well monitoring fees
 - ▣ \$150 - \$450 per site per year
- Anticipate ½ to 1 additional positions, depending on Board direction
- Funding and Implementation Plan
 - ▣ Recommended by working groups
 - ▣ Permit fees, general fund, and grants

Board Consideration and Direction

26

- ▣ Proposed ordinance refinement
 - Public Trust Review Area
 - Ministerial Well Classes
 - Water Conservation Requirements
 - Metering and Monitoring Requirements
 - Other

- ▣ Direction on public trust impacts analysis? (County or applicant prepared impact analysis)
- ▣ Direction to return to Board with update on program staffing, funding, and adaptive management plan?
- ▣ Continue regular technical advisory committee meetings?

Recommendation

- ❑ Adopt ordinance amending SCC Chapter 25B
 - ❑ Creates discretionary Public Trust Review Process
 - ❑ Creates Public Trust Review Area
 - ❑ Exempts from discretionary Public Trust Review:
 - ❑ Injection wells , wells for surface water diversion, public water wells (subject to CEQA)
 - ❑ Wells for low water use parcels (< 2 AFY)
 - ❑ Wells for existing uses, and Zero Net Increase
- ❑ Temporary Moratorium (30-days) until amendments effective
- ❑ Provide direction on program development