



Bulletin 74 Technical Advisory Committee Plenary #3 Meeting Summary

Plenary Meeting #3

November 1, 2021, 1:00 pm – 4:00 pm

Virtual Meeting

Meeting Summary

California Department of Water Resources (DWR) hosted the third DWR Bulletin 74 Update Project Technical Advisory Committee (TAC) meeting with support from the Kearns & West facilitation team and Luhdorff & Scalmanini Consulting Engineers (LSCE) technical team. For a full list of attendees, please see the end of this summary.

This meeting summary contains a general description of presentation topics, and summaries of opening remarks and question-and-answer sessions.

Welcome, Introductions, and Agenda Review

Julie Leimbach, facilitator from Kearns & West, welcomed attendees to the third TAC Plenary meeting. She reviewed the meeting objectives.

The meeting objectives were the following:

- Introduce upcoming changes to the Well Standards.
- Share guidance on TAC review of the new Well Standards language.

Introduction to Phase 2

Julie Haas, DWR Senior Engineer and Project Manager for the DWR Bulletin 74 Update Project introduced Phase 2 Focus Groups. Haas's presentation included the following:

- Thanked TAC members for volunteering their time and expertise
- Reintroduction of the DWR, technical consultant, and facilitation consultant project teams.
- A review of the work done by the Project Team since the Phase 1

Focus Groups.

- An introduction to the TAC Review Draft that would serve as a discussion tool for Phase 2 Focus Groups.
- A review of the DWR Bulletin 74 Update Project Vision and Guiding Principles that guided revisions.

The TAC Review Draft will be released in parts as follows:

- Water Wells and Monitoring Wells - November 8.
- Cathodic Protection Wells - November 17.
- Geothermal Heat Exchange Wells - December 8.

Opening Remarks

Kamyar Guivetchi, Chief of DWR Division of Statewide Integrated Water Management, said that the Well Standards Update is part of DWR's sustainable groundwater work to protect California's water for future generations. DWR is working closely with the State Water Resources Control Board (SWRCB), which will be drafting the Model Well Ordinance and advancing SWRCB's Strategy to Optimize Resource Management of Stormwater. Guivetchi invited the TAC to consider this draft of the Well Standards Update as a communication tool to exchange information and gather constructive feedback.

State Water Resources Control Board

John Borkovich, State Water Resources Control Board Groundwater Monitoring Section Chief with the Division of Water Quality, presented on the Model Well Ordinance Process and outlined their timeline:

- 2021 - Water Boards staff participate in Well Standards Update TAC meetings. Begin drafting updated MWO language.
- 2022 - SWRCB begins public process to update the Model Well Ordinance.
- 2023 - Adoption of Model Well Ordinance

The updated Model Well Ordinance will need to be updated to reflect new requirements for electronic submission of well completion reports and disclosure of well location information and other changes.

Amanda Magee, SWRCB Senior Engineering Geologist with the Division of

Water Quality and STORMS Unit Chief, presented on SWRCB's Strategy to Optimize Resource Management of Stormwater (STORMS) risk-based framework for drywells [i.e., stormwater infiltration wells (SIWs)]. STORMS will develop solutions that ensure the end users are protected from the degradation of groundwater that could result from the infiltration of stormwater in urban runoff, while avoiding unnecessary barriers to stormwater infiltration projects.

Magee gave background on the use of drywells:

- Drywells are often used by municipalities to capture stormwater runoff through gravity and allow it to infiltrate into the vadose zone.
- Drywells are useful in urban areas where there is not enough room for other types of infiltration like recharge basins or infiltration galleries.
- There are concerns that without intervention there could be potential impacts on drinking water aquifers from pollution in urban runoff in some places.

STORMS is planning to develop a statewide storm water infiltration policy for drywells and other infiltration BMPs, which will be released for draft for public comment in 2022. The policy will:

- Promote both water resiliency and surface water quality.
- Include requirements on siting, pretreatments, and other infiltration best management practices.
- Be implemented through municipal stormwater permits.
- Be based on existing data characterizing urban stormwater runoff quality and associated land use, as done in the GeoSyntec report: California Drywell Guidance Research and Recommendations, March 2020.
- Magee invited the TAC to visit the STORMs webpage for updates, to subscribe to the email subscription list, and for contact information for Magee and Chris Beegan, Project Lead:
https://www.waterboards.ca.gov/water_issues/programs/stormwater/storms/

Question and Answer Session

- Question (Q): Regarding siting of infiltration drywells and retention basins, is SWRCB suggesting that land use and current contamination

be examined?

- Answer (A): The land use of the area and the proximity to contaminated areas should be examined so that no contaminants are mobilized in the soil.
- Q: Will you recommend checking water quality in Superfund sites where the whole area's groundwater is likely impacted by pollution?
 - A: SWRCB will look at this. It will be important to see if infiltration changes the direction or remobilizes contamination.
- Q: Currently in our jurisdiction the construction of stormwater injection wells is prohibited unless it can be shown that stormwater will not have adverse impact on groundwater and well construction will not permit the mixing of aquifers or facilitate vertical movement of contaminants. Typically, our public works department handles that permit. Will the STORMS recommend who handles permitting of the wells?
 - A: The intent is for stormwater drywells to be installed under a permit variance. We do not want to create another permit, but we will be considering different options.

Summary of Updates to Draft Well Standards

Haas presented on a summary of significant updates to the content and structure of the Well Standards. She reminded the TAC that the Draft Updated Well Standards have not been reviewed by DWR's Engineering, Legal, Publications or Executive staff. Haas said that DWR is receptive to constructive feedback and asked participants to keep an open mind.

Generally, updates include:

- Removal of ambiguous language
- Clarifications
- Update to reflect current best practices
- Streamlined language

Haas provided an overview of global updates in the Updated Well Standards. Below are each section and elements that were updated. Please refer to the presentation slides for more detail.

- Section 2: Definitions
- Section 3: General Requirements
- Section 4: Site planning (NEW)
 - Well location maps
 - Well inventory
 - Setbacks
 - Subsurface investigation
- Section 5: Materials
 - Casing
 - Approved sealing materials
 - Other materials
- Section 6: Design
 - Designing a well for destruction

Scott Lewis, LSCE Principal Geologist, provided further detail on draft updates within the sections for design, construction, maintenance, and destruction as follows. Please refer to the slides for more detail.

- Section 6: Design
 - Annual seal intervals
 - Surface seals in water wells
 - Formation seals
 - Sealing into a confining layer
 - Prevention of Cross Flow and Contamination Between Aquifers
 - Thickness of annular seals
- Section 7: Construction
 - Temporary conductor casing
 - Centralizers
 - Continuous seal placement
 - Placement of seal
 - Transition seal

- Surface construction features
- Gravel-to-surface wells
- Marking
- Vaults
- Section 8: Maintenance (NEW)
 - Well head control zone
 - Well access
 - Upkeep
 - Permanently inactive wells
- Section 9: Destruction
 - Destruction changes
 - Destroying large diameter wells
 - Mechanical perforation and sealing
 - Explosive well perforation and destruction

Question and Answer Session

Below is a summary of questions and comments on the proceeding section and the responses from the Project Team.

- Q: Regarding the requirement that a permanently inactive well has to be video logged every five years: isn't an inactive well considered an abandoned well after one year and in violation of state standards?
 - A: The Health and Safety Code describes a process for capping and caring for a permanently inactive well that is intended for future use. We added requirement that such wells be video logged in addition to the LEA's requirements.
 - C: Santa Clara County has a standby well permit process for currently inactive wells. The phrase "permanently inactive" makes it sound like it is not going to be used in the future.
 - Response (R): The phrase "permanently inactive" is from the Health & Safety Code.
- Q: Will the TAC receive a copy of this presentation?
 - A: Yes, the presentation will be available on the TAC Box site

along with the recording of the meeting.

- Q: Is the Project Team removing references to ASTM manufacturing standards?
 - A: No, to increase the shelf life of the Well Standards, we will not refer to the specific year. We will refer to the base standards of the ASTM and any updates.
- Q: What type of PE or PG will be required for variance requests and placement of seal? Will type of PG/PE be specified in the Well Standards?
 - A: I think we are using the “qualified PE or PG” or similar, but we are open to suggestions for adding more specific guidance.
 - C: It can become a legal matter to specify what kind of PE should be required. Personally, I think it only Certified Hydrogeologists (CHGs) should evaluate groundwater.
- C: I wanted clarification on the use of the term “confining layer” that was used often in the well construction and design sections. I always thought of a clay layer as one that confines a water bearing zone beneath it and is under pressure such that the water would move up artesian if punctured rather than a general aquitard term. We want to protect against the movement of poor-quality water between aquifers and prevent an aquitard from not being sealed off, whether it is confined or not.
 - A: Definitions and sources for these definitions will be included in the Updated Well Standards. Let us know if any terms are confusing and we’ll take it under advisement.
- Q: In the discussion on crossflow and contamination, the slides say that well structures must not connect water bearing zones or aquifers of differing water quality. Clarifying how to determine differing water quality would be important so that an LEA could point towards guidance on testing for differing water quality.
 - A: The Project Team also struggled with this and welcomes ideas from the TAC to define this.
 - A: In Bulletin 74-90 there was a requirement for sealing off strata and poor-quality water. Oftentimes the water quality is not known, so we added options for when people know and do

not know water quality. When water quality is not known, separation is based on whether there is a significant confining layer. If two zones are separated by a significant confining layer (e.g., at least 30 ft thick or name/mapped/known/etc), they are likely distinct in water quality and/or pressure and should remain separated.

- C: LEAs may continue to run into the problem of having no guidance for water quality testing. Having a defined standard would help inform that testing for known contaminants or a running a specified panel, etc.
 - A: Let's discuss this more in the Focus Groups.
 - *[Additional comment provided via chat: State Water Board Resolution 88-63 - Sources of Drinking Water has guidance on evaluating for TDS, yield, and specific conductance.]*
- C: If you have a confining layer or layer of lower permeability and it is assumed to be of a lower quality, then it would be the driller's responsibility to prove otherwise if they want to combine the aquifers, instead of putting the responsibility on the LEA to prove it is not.
 - A: Thank you, well said.
 - C: In that case, the driller should seek out that information from a PG/PE. Should that be written in? That would be helpful.
 - A: We'll consider it, but please also bring that input to Focus Groups.
- C/Q: The proposed updates seem to require a significant increase in geologic understanding from local agencies. Is there a plan for how LEAs might increase their geologic understanding?
 - A: The Project Team has actually tried to simplify the process and provide definitions where there was previously ambiguous language. For example, the subsurface investigation sections tries to make logging more uniform. We are also planning on providing training to LEAs when the Updated Well Standards are finalized.
- Q: Can you provide additional information on NSF approval for cement

grout?

- A: As it is written now, the components of grout must be NSF compliant except for water and aggregate. The mix can be tested to see if it is NSF compliant even if the components may not be certified. We also did a check that it has been done for the individual components so that we're not asking for something that is not currently being done.
- Q: Is neat cement approved for monitoring well construction or can sand cement be used?
 - A: Sand cement must be used in the surface seal in the upper 50 feet.
- Q: Is mixing on site going to be allowed for smaller wells or shallower seals or will the mix still need to be trucked in? Can small wells be covered in variances? Trucking in material can add significant costs, but all LEAs require trucking in sand cement. LEAs are currently requiring sand cement be trucked in. It is difficult to mix on site.
 - A: The Standards do not specify that mixing cannot happen on site.
- Q: Are you disallowing contractors by requiring PG/PE for variances? Would a contractor be allowed to apply for variances? Homeowners and smaller supply wells will be much less inclined to pay for professional services like that.
 - A: Please provide feedback after you read the variance section.
- Q: Monitoring wells usually only use cement bentonite to the surface. So, is the 50-foot sand depth requirement for sand cement for the water wells?
 - (Out of time.)

Navigating the Draft Well Standards Document

Till Angermann provided an overview of the nine sections of the draft Updated Well Standards documents. His summary included the following key points:

- The Project Team will share portions of the draft language for TAC review. The Project Team will provide draft language for the Water Wells and Monitoring Wells Focus Groups by November 8. Draft

language for the Cathodic Protection Wells and Geothermal Heat Exchange Wells will be available later in November or early December.

- The Bulletin 74 Update will be one document consolidating standards for all well types and remove redundant and/or informational text.
- The Bulletin 74 Update will have nine sections:
 - Section 1: Introduction
 - Section 2: Definitions (previously in Part I. General)
 - Section 3: General Requirements (previously in Part I. General)
 - Section 4: Site Planning (previously in Part II. Well Construction)
 - Section 5: Materials (previously in Part II. Well Construction)
 - Section 6: Design (previously in Part II. Well Construction)
 - Section 7: Construction (previously in Part II. Well Construction)
 - Section 8: Maintenance (previously in Part III. Destruction of Wells)
 - Section 9: Destruction (previously in Part III. Destruction of Wells)

Question and Answer Session

Below is a summary of questions and comments on the proceeding section and the responses from the Project Team.

- Q: Why is DWR removing certain topics from the Updated Well Standards, e.g. well disinfection and water testing?
 - A: The Project Team removed topics that were determined to fall outside of the scope of DWR's legislative mandate for Bulletin 74.
- C: It would be helpful to have hyperlinks for the internal references within the document.

Phase 2 Process for the Technical Advisory Committee

Haas provided an overview of the Phase 2 TAC meeting schedule. She highlighted the following key points:

- Draft Release Schedule
 - Nov 2021 – Feb 2022 – Release Review Draft of the Well

Standards Update to TAC members throughout Phase 2 TAC Focus Group meetings.

- March – August 2022 – Development of the Administrative Draft.
- September 2022 - Public Review Draft release and public comment period.
- December 2022 - Final Standards published.
- DWR will provide TAC members the following materials to review in advance of each Focus Group meeting:
 - TAC Review Draft
 - Key to locate B74-81/90 content
 - Agendas with topics for Well Standards Update Sections
 - Recording of November 1st TAC Plenary Meeting
- Focus Group members will be asked to provide verbal feedback and suggestions in relation to specific language in the TAC Review Draft.
- TAC members are encouraged to work with the constituents to develop feedback.

Leimbach provided an overview of the TAC Charter, including the purpose of the TAC, the advisory role of the TAC, TAC responsibilities, and groundrules.

Question and Answer Session

Below is a summary of questions and comments on the proceeding section and the responses from the Project Team.

- Q: When can TAC members share draft language with constituent groups? Should TAC members solicit feedback using the TAC Review Draft or the Public Review Draft?
 - A: DWR encourages TAC members to coordinate with colleagues to provide feedback on the TAC Review Draft during the Phase 2 focus group meetings. September 2022 is the planned release date for the Public Review Draft, when written comments will be accepted.
- Q: Is it okay for me to contact other TAC members for project needs outside of the Bulletin 74 update?
 - A: Yes.

Next Steps & Action Items

Haas thanked TAC members for their time and encouraged them to revisit the June 21 Plenary Meeting slides for tips on providing effective feedback.

Leimbach reviewed action items and closed the meeting.

- TAC members will review the presentation materials and Zoom recording of today's meeting on the TAC Box site for reference.
- TAC members will review meeting materials in advance of the Focus Group meetings.

Attendance

*Denotes California Groundwater Association Representative

+Denotes California Conference of Environmental Health Directors Representative

#Denotes Groundwater Resources Association of California Representative

Technical Advisory Committee

- Ed Anderson, Baroid Industrial Drilling Products
- Juan Anzora, Orange County Health Agency+
- Dana Booth, Sacramento County
- John Borkovich, State Water Resources Control Board
- Kevin Brown, State Water Resources Control Board
- Aaron Button, State Water Resources Control Board
- Alexandra Calderon, San Bernardino County Department of Public Health
- Bill Cameron, Valley Water
- Kassy Chauhan, Fresno Irrigation District/North Kings Groundwater Sustainability Agency
- Tom Christopherson, Groundwater Solutions Group LLC
- Chris Coppinger, Geoscience Support Services Inc.
- Bill De Jong, Torrent Resources
- Bill DeBoer, Montgomery and Associates#
- Randy Dockery, Gregg Drilling LLC
- Mike Duffy, Valley Water
- Adrienne Ellsaesser, Blackwater Consulting Engineers, Inc.
- David Field, Orange County Water District
- Jim Finegan, Kleinfelder, Inc.
- Christopher Guerre, Department of Toxic Substances Control
- Thomas Henderson, Eastern Municipal Water District
- Mark Howard, Layne Christensen Company
- Vicki Jones, Merced County Department of Public Health+
- Misty Kaltreider, Solano County, Department of Resource

Management*

- Russell Kyle, Kyle Groundwater
- Bill Leever, Orange County Water District
- Amanda Magee, State Water Resources Control Board
- Kevin McGillicuddy, Roscoe Moss Company
- Dan McGrew, Farwest Corrosion
- Steve McKim, American Construction and Supply, Inc.
- Lisa Meline, Meline Engineering Corporation
- Jane Nguyen, Orange County Health Care Agency
- Travis Pacheco, Torrent Resources
- Keith Packard, East Bay Municipal Utility District
- Michael Palmer, de maximis, inc.
- Ali Rezvani, State Water Resources Control Board
- John Ricker, County of Santa Cruz Health Service Agency (Retired)+
- Patrick Sarafolean, Minnesota Department of Health
- Edd Schofield, Johnson Screens
- Adnan Siddiqui, Regional Water Quality Control Board, Los Angeles Region 4
- Allan Skouby, GeoPro, Inc.
- Ronald Sorenson, Sorensen Groundwater Consulting, Inc.
- Brandon Steets, Geosyntec Consultants
- Jim Strandberg, Woodard & Curran#
- Steve Turner, Los Angeles Department of Water and Power
- Brian Villalobos, Geoscience Support Services Inc.
- Dave Vossler, West Yost
- Todd Wallbom, CA Department of Toxic Substances Control
- Jeremy Wire, Geoconsultants, Inc.*
- Amy Woodrow, Monterey County Water Resources Agency
- Joe Zilles, Kleinfelder, Inc.

Department of Water Resources (DWR)

- Julie Haas, Project Manager

Presenters

- Amanda Magee, State Water Resources Control Board
- John Borkovich, State Water Resources Control Board
- Kamyar Guivetchi, DWR

Luhdorff & Scalmanini Consulting Engineers (LSCE)

- Till Angermann
- Vicki Kretsinger
- Scott Lewis

Kearns & West Facilitation Team

- Jack Hughes
- Julie Leimbach
- Sharon Hu