



A Tradition of Stewardship
A Commitment to Service



AGENDA

REGULAR COMMITTEE MEETING

Thursday, April 25, 2013, 2:00 p.m.

Agricultural Commissioner's Office/UCCE Conference Room
1710 Soscol Avenue, Napa CA

Committee Members

Michelle Benvenuto
Tucker Catlin
Alan Galbraith
Don Gleason
Dave Graves
Michael Haley
Peter McCrea
Charles Slutzkin
Steve Soper
Marilee Talley
Bill Trautman
Jim Verhey
Susanne von Rosenberg
Duane Wall
Dale Withers

1. CALL TO ORDER & ROLL CALL
2. WELCOME & OPENING REMARKS
(*Staff, Consultant, Committee*)
3. ORGANIZATIONAL ITEMS (5 min)
(*Staff, Consultant, Committee*)
 - a. APPROVAL OF ACTION MINUTES & MEETING SUMMARY
 - b. REVIEW WORK PLAN/SCHEDULE
 - c. REVIEW MEETING AGENDA AND PROCESS

4. PUBLIC COMMENT

In this time period, anyone may comment to the Committee regarding any subject over which the Committee has jurisdiction, or request consideration to place an item on a future Agenda. No comments will be allowed involving any subject matter that is scheduled for discussion as part of this Agenda. Individuals will be limited to a three-minute presentation. No action will be taken by the Committee as a result of any item presented at this time. (*Chair*)

5. PRESENTATIONS AND DISCUSSION ITEMS:

COMMITTEE REVIEW, DISCUSSION & DIRECTION

- a. REPORT ON BOARD OF SUPERVISORS UPDATE/PRESENTATION (10 min)
(*Peter McCrea, Chair/GRAC*)
 - UPDATE BY THE CHAIR OF THE GRAC
 - Q&A - DISCUSS GRAC QUESTIONS
- b. FOLLOW-UP ON QUESTIONS FROM PRESENTATION ON UPDATED HYDROGEOLOGIC CONCEPTUALIZATION AND CHARACTERIZATION OF CONDITIONS (10 min)
(*Vicki Kretsinger Grabert/LSCE*)
 - Q&A - DISCUSS GRAC QUESTIONS

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5. PRESENTATIONS AND DISCUSSION ITEMS: (cont'd)

- c. DISCUSSION OF INDUSTRY/PUBLIC OUTREACH & WELL OWNER OUTREACH (25 min)
(Patrick Lowe, Natural Resources Conservation Mgr. and Deborah Elliott, Water Res. Specialist/Public Works)
- REVIEW OUTREACH AREAS/MAPS/GRAC MEMBER SIGN-UPS
 - REVIEW OUTREACH/POWERPOINT FOR USE BY GRAC MEMBERS/STAFF
 - Q&A - DISCUSS GRAC QUESTIONS

➤ COMMITTEE BREAK (CHAIR TO CALL WHEN NEEDED)

- d. REVIEW OF DRAFT GROUNDWATER ORDINANCE & PERMIT PROCESS UPDATES (90 min)
(Christine Secheli, Asst. Director/PBES Dept.; Vicki Kretsinger Grabert/LSCE)
- REVIEW/DISCUSSION OF DRAFT GW ORDINANCE UPDATES
 - Q&A - DISCUSS GRAC QUESTIONS

6. OTHER BUSINESS

- a. UPDATE ON DWR GRANT APPLICATION FOR GROUNDWATER MONITORING WELLS (5 min)
(Patrick Lowe, Natural Resources Conservation Mgr./Public Works)

7. ANNOUNCEMENTS

- a. UPCOMING EVENTS OR ITEMS OF INTEREST FROM THE COMMITTEE AND STAFF (5 min)

8. FUTURE AGENDA ITEMS

9. ADJOURNMENT to the NEXT REGULAR MEETING (Chair)

- Meeting Date: Thursday, June 27, 2013 – 2:00 p.m.

Note: Where times are indicated for agenda items they are approximate and intended as estimates only, and may be shorter or longer, as needed. If requested, the agenda and documents in the agenda packet shall be made available in appropriate alternative formats to persons with a disability. Please contact Greg Morgan at 707-259-8621, 804 First St., Napa CA 94559 to request alternative formats.





A Tradition of Stewardship
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ACTION MINUTES

NAPA COUNTY GROUNDWATER RESOURCES ADVISORY COMMITTEE MEETING

February 28, 2013

1. CALL TO ORDER & ROLL CALL

The Napa County Groundwater Resources Advisory Committee (GRAC) met in regular session on Thursday, February 28, 2013 with the following members present:

Vice- Chair Michelle Benvenuto; Tucker Catlin; Alan Galbraith; Charles Slutzkin; Marilee Talley; Jim Verhey; Susanne von Rosenberg; and Duane Wall. Don Gleason arrived during Item 3.c; and Michael Haley; Chair Peter McCrea; Steve Soper; Bill Trautman; and Dale Withers were excused.

2. WELCOME & INTRODUCTIONS

Patrick Lowe, Natural Resources Conservation Program Manager, Public Works, provided opening comments.

3. ORGANIZATIONAL ITEMS

a. APPROVAL OF ACTION MINUTES AND MEETING SUMMARY

Dorian Fougères, Ph.D., Mediator, Center for Collaborative Policy, CSUS, went over the Action Items on Pages 5, 8 and 11 of the Meeting Summary per Vice-Chair Michelle Benvenuto’s request. Action Minutes and Meeting Summary of the January 31, 2013 special meeting approved.

MB	TC	AG	DG1	DG2	MH	PM	CS	SS	MT	BT	JV	SVR	DW1	DW2
			X		X	X		X		X				X

b. REVIEW WORK PLAN/SCHEDULE

Patrick Lowe, Natural Resources Conservation Program Manager, Public Works, referenced the Work Plan included in the agenda packet, which provides an update on progress tracking. The Work Plan will be included with the outreach materials for the presentation to the Board of Supervisors.

c. REVIEW MEETING AGENDA AND PROCESS

Dorian Fougères, Ph.D., Mediator, Center for Collaborative Policy, CSUS, briefly reviewed the background and purpose of each agenda item.

4. PUBLIC COMMENT

Warren Flint, board member of the Watershed Information Center and Conservancy, said he assumes the estimate of recharge per acre for the different watersheds probably correlates somewhat with rainfall and asked if there is similar data available for usage in the watersheds per acre. Vicki Kretsinger Grabert, Principal Hydrologist, LSCE, replied that they didn't try to quantify usage and that information would be part of a future effort. The information described is to look in more detail at a watershed scale opportunity for groundwater recharge to occur. Mr. Flint also asked if there will there be an opportunity to develop an actual percentage of total water available under a specified landscape from this recharge information. Ms. Kretsinger Grabert replied that the recharge section in the Updated Hydrogeologic Conceptualization and Characterization of Conditions report, which would be available soon on the GRAC website, shows on a watershed scale for each area with accompanying maps the range of recharge that is estimated to occur based on the water-year type, so there is that level of detail included in the report.

5. PRESENTATIONS AND DISCUSSION ITEMS

a. REPORT ON UPDATED HYDROGEOLOGIC CONCEPTUALIZATION AND CHARACTERIZATION OF CONDITIONS – PART II

Vicki Kretsinger Grabert, Principal Hydrologist; Ken Utley, Senior Geologist; and Reid Bryson; Hydrologist; LSCE; presented Part II of a PowerPoint presentation on the Updated Hydrogeologic Conceptualization and Characterization of Conditions report. Part I focused on the groundwater recharge work performed by LSCE and MBK Engineers. Part II would focus on geology followed by surface water/groundwater interactions. Ms. Kretsinger Grabert went over the four tasks referenced in the report (1 – Updated hydrogeologic conceptualization and characterization for priority areas; 2 – ID supplemental groundwater monitoring wells for high priority areas; 3 – refine and further characterize areas with greatest recharge potential; and 4 – guidance for CEQA-related issues and analysis of surface water/groundwater interactions), noting that the first three tasks have been completed with work on the last task to be completed by LSCE and MBK in the next several months. Task 1 began with the understanding that there were many decades of geologic information that had not been incorporated into any attempt to update the hydrogeologic conceptualization in Napa County, particularly in the Napa Valley Floor, which is now the focus of the current work.

Mr. Bryson described the efforts made to collect information on drilled wells. Over 6,400 drillers' logs were classified by location and assessed for quality. After culling the large group of drillers' logs, there was the challenge of connecting the logs of higher quality to their actual location. State well numbers and assessor parcel numbers were used but weren't always accurate, in which case large maps, street addresses and well location sketches were used in an effort to ensure accuracy. Of the drillers' logs reviewed, 1,332 were actually used with the majority of the wells being located in the Napa Valley Floor with an extension into the MST area.

Mr. Utley presented the surficial and subsurface geology portion of the presentation by starting with a detailed description of the three different major rock types found in Napa County: Mesozoic Rocks (low water yield), Late Tertiary Rocks (made up of volcanic and tertiary sedimentary rocks and low to moderate water yield), and Quarternary Deposits (relatively higher water yield). Accompanying the descriptions were detailed maps that showed the various locations of the rocks throughout Napa County and the Napa Valley Floor, as well as a structural geology map and a USGS broad scale cross section. Mr. Utley went over subsurface geologic cross

Item 5.a...Continued

sections of the Lower Valley, Yountville Narrows and Middle Valley areas and presented an earlier cross section produced in 1960 by Kunkel and Upson compared to one that was recently produced by LSCE to illustrate the changes in the physical conceptualization over time based on recent geology and geology maps. A short animation of all the cross sections was shown to highlight the complexity of geology. Isopach/facies and structure/contour maps were also presented.

Ms. Kretsinger Grabert presented a schematic that shows surficial geology and cross section E-E of the MST area, which would be viewed in various ways respective to surface water/groundwater interaction during the remainder of the presentation. Other slides shown included examples of direct and indirect connections to groundwater level; estimated stream Thalweg elevations (depths to groundwater, lowest point along length of stream) and a comparison of estimated stream Thalweg elevation with surveyed data; groundwater elevations and contours; another picture of cross section E-E; a comparison of recent and historical water level data; proposed groundwater level monitoring site no.7; a 3-D static snapshot, short animation and a hydrograph depicting the East Napa Fault Zone and where a cone of depression is occurring; related well measurements; and a map of the groundwater monitoring recommended areas of interest (18 areas proposed for groundwater level and quality monitoring and six areas proposed for evaluation of surface water/groundwater interaction). LSCE plans to finalize the Updated Hydrogeologic Conceptualization and Characterization of Conditions report in March 2013.

b. GROUNDWATER (GW) MONITORING DATA MANAGEMENT

Jeff Sharp, Principal Planner, Public Works, reported that one of the deliveries from Ms. Kretsinger Grabert's work in 2011 was the compilation and development of a groundwater Data Management System (DMS). County staff is currently updating that system with the past two years of data since its delivery. Every spring and fall Lee Driggers, Senior Engineering Aide, Public Works, takes measurements and any other well information that LSCE finds and enters the information into the DMS. It was realized when County staff received the data set and heard of the next phase of work related to outreach, as well as reporting information to CASGEM and other programs, that this data needed to be organized and kept secure yet accessible since it would be used in multiple departments within the County. County staff is currently working with its internal Information Technology Services department to take the data from a single file in an Access database and place it onto County servers that have user securities and will allow the data to be linked to other systems within the County as far as access to develop reports for State groundwater elevation monitoring requirements and to provide the information for future studies.

Phil Miller, Deputy Director-Flood Control and Water Resources, Public Works, briefly went over the contents of the draft Groundwater Data Management and Disclosure Guidance Document that was distributed at the January 31, 2013 meeting. The document was put together very close to an outline that was previously reviewed by the GRAC. The introduction of the document describes the purpose of groundwater monitoring and lists the goals from the County's General Plan and the direction given by the Board of Supervisors and how this flows down through data collection efforts, as well as LSCE's work. Other topics covered in the document include what the County does with the information collected and what the County knows of what others do, which is mostly based on what is available on the Internet published by USGS, as well as what other State agencies are doing, such as DWR; the County's DMS system – how the data is collected, stored and published – and guidelines for how the information will be published in the future; how other agencies are publishing information and how that information can be obtained via reports by USGS on GAMA surveys; legal issues dealing with confidentiality, well logs and Public

Item 5.b...Continued

Records Act requests; and screen shots of USGS and DWR websites that show what information is available. The document also touched on the MST area. One of the purposes of the document was to have reference information in one place so that future staff and consultants can easily access it, as well as have an understanding of how the County wants to approach handling its own information. The Groundwater Data Management and Disclosure Guidance Document was approved.

MB	TC	AG	DG1	DG2	MH	PM	CS	SS	MT	BT	JV	SVR	DW1	DW2
					X	X		X		X				X

c. DISCUSSION OF INDUSTRY/PUBLIC OUTREACH & WELL OWNER OUTREACH

Patrick Lowe, Natural Resources Conservation Program Manager, Public Works, referred to the Areas of Interest map and asked for volunteers interested in doing primary or partnering outreach in each of the specific areas. More detailed maps with specific wells would be provided at the April meeting with the actual field work occurring in May through August. Volunteers for a draft list were as follows:

Area of Interest	Volunteers
1 – Jameson/American Canyon	CS; SV (maybe)
2 – Napa River Marshes	CS; SV
3 – Napa River Marshes	CS; SV
4 – Carneros	DG2; MB
5 – Napa Valley Floor-Napa	MB; MT
6 – Napa Valley Floor-Napa	MB; MT
7 – Napa Valley Floor-Napa	JV; MH
8 – Napa Valley Floor-Napa	JV; MH
9 – Napa Valley Floor-Yountville	JV; MH
10 – Napa Valley Floor-Yountville	MH; DW1
11 – Napa Valley Floor-St. Helena	AG; PM
12 – Napa Valley Floor-St. Helena	AG; PM
13 – Napa Valley Floor-St. Helena	AG; PM
14 – Napa Valley Floor-Calistoga	TC; PM
15 – Napa Valley Floor-Calistoga	DG1; DW1
16 – Angwin	DW1; DW2
17 – Pope Valley	TC; MB
18 – Jameson/American Canyon	CS; SV (maybe)

The GRAC discussed strategy on presentations for outreach efforts and agreed it would be most effective to first have meetings for groups with overlapping interests, such as industry, environmental and public agencies and then have a larger, full public meeting to include a few representatives from the previously-mentioned groups for an even broader opportunity to share consistent information. Presentation topics could include the Groundwater Monitoring Plan, the GRAC’s charge, status of the Work Plan and addressing technical questions.

d. DISCUSSION OF BOARD OF SUPERVISORS UPDATE/PRESENTATION

Patrick Lowe, Natural Resources Conservation Program Manager, Public Works, stated that Chair Peter McCrea would provide an update and perspective of the GRAC's work to date, including the upcoming outreach efforts, for the Board of Supervisors presentation on April 2, 2013. Hillary Gitelman, Director, Planning, Building and Environmental Services, mentioned the presentation could cover the sensitivity and importance of confidentiality and that the GRAC is looking for the Board to do everything they can to protect the information. However, staff has spoken to County Counsel, and they, along with staff, are uncomfortable about asking the Board to give a blanket commitment on staving off all Public Records Act requests received because the risk associated with this practice can't be evaluated until the receipt of the Public Records Act request. Ms. Gitelman suggested that after the Board of Supervisors meeting staff could draft a letter on letterhead that states on April 2, 2013, the Board committed to do everything they can to keep the information confidential; however, there is no 100% guarantee. Vice-Chair Michelle Benvenuto suggested revisiting the subject after the presentation to the Board.

6. OTHER BUSINESS

a. UPDATE ON DWR GRANT APPLICATION FOR GROUNDWATER MONITORING WELLS

Steve Lederer, Director, Public Works, stated that the County is still in the running to receive grant funds and is hopeful. Vicki Kretsinger Grabert, Principal Hydrologist, LSCE, added that the scores were posted ten days ago, and out of 40 points possible, Napa received 39. Ms. Kretsinger Grabert attended a DWR public meeting yesterday and said that DWR reported that there were 98 applications received that were highly competitive. DWR only has just under \$4.7 million and will seek recommendations from their technical advisory panel on how to allocate the funds. Some applicants are unhappy about the way DWR scored the applications, so some who received lower scores may try to appeal to receive higher scores. Ms. Kretsinger Grabert said Napa was in a good position but that DWR is looking at a sliding scale for actual allotment. Patrick Lowe, Natural Resources Conservation Program Manager, Public Works, added that there may be a change in the amount the County can expect, but a case can be made to get the extra point because it was a deduction for the cost of the actual drilling of the wells, which is going to be a competitive process anyway at the end. Mr. Lederer will be asked to sign a letter to be sent to DWR within the next week on how the County feels about the DWR's position and what the County will do.

7. ANNOUNCEMENTS

Deborah Elliott, Water Resources Specialist, distributed a flyer for the Vineyard Water Conservation Workshop being held Thursday, March 21 from 8:30 a.m. to 12:30 p.m. in the theater of the former Copia property.

8. FUTURE AGENDA ITEMS

a. GROUNDWATER ORDINANCE & PERMIT PROCESS UPDATES (LSCE/JAN 2011)

Patrick Lowe, Natural Resources Conservation Program Manager, Public Works, distributed a handout for the GRAC to review in advance of the next meeting of updates to the Groundwater Ordinance and Permit Process, which were originally recommended by LSCE and included in the GRAC's original agenda packet of October 2011. There were some changes that weren't agreed to and will not be made exactly as presented. An actual draft of the proposed changes will be presented at the next meeting by Christine Secheli, Assistant Director, Planning, Building and Environmental Services.

9. ADJOURNMENT to the NEXT MEETING

Adjourned to the next regular meeting of the Napa County Groundwater Resources Advisory Committee on Thursday, April 25, 2013 at 2:00 p.m.

MICHELLE BENVENUTO, Vice-Chair

ATTEST:

PATRICK LOWE, Secretary

By: _____
GREG MORGAN, Supervising Office Assistant

Voting Key

If not unanimous, member votes will be tallied (N = No; X = Excused; A = Abstained) using the following Committee Member abbreviations:

MB = Michelle Benvenuto; TC = Tucker Catlin; AG = Alan Galbraith; DG1 = Don Gleason; DG2 = Dave Graves;
MH = Michael Haley; PM = Peter McCrea; CS = Charles Slutzkin; SS = Steve Soper; MT = Marilee Talley;
BT = Bill Trautman; JV = Jim Verhey; SVR = Susanne von Rosenberg; DW1 = Duane Wall; DW2 = Dale Withers

Example Key:

MB TC AG DG1 DG2 MH PM CS SS MT BT JV SVR DW1 DW2

MEETING SUMMARY

Napa County Groundwater Resources Advisory Committee

February 28, 2013

Produced by the Center for Collaborative Policy, CSUS

Meeting Synopsis

February 28, 2013 – GRAC 10th Meeting

The Napa County Groundwater Resources Advisory Committee (GRAC) held its tenth meeting on February 28, 2013. Ms. Vicki Kretsinger Grabert, Mr. Reid Bryson and Mr. Ken Utley, Luhdorff and Scalmanini Consulting Engineers (LSCE), presented the Updated Hydrogeologic Conceptualization and Characterization of Conditions Report. The regional geology; surficial, structural and subsurface geology; and the hydrogeology were discussed in detail to demonstrate the increased understanding of the geology and of the groundwater and surface water interaction in the county. Mr. Phil Miller, Napa County, presented the updated Groundwater Monitoring Data Management and Disclosure Guidance document and Mr. Jeffrey Sharp, Napa County, provided an update on data management efforts currently underway. The Committee unanimously approved the document.

To prepare for well owner outreach, Committee members organized themselves into provisional Volunteer Outreach Teams for the 18 areas of interest. The Committee will finalize teams based on more specific well area information. The Committee agreed to hold two or three briefings for groups that have common interests, and then host a meeting for the general public at a joint meeting of the GRAC and WICC Board on July 25, 2013. Mr. Steve Lederer and Mr. Patrick Lowe, Napa County, reviewed items proposed for inclusion in the presentation that Mr. Peter McCrea, the Committee Chair, will make to the Board of Supervisors on April 2, 2013. The outreach discussion will be continued at the next Committee meeting. The Committee's next meeting will be held on April 25, 2013.

Please see the GRAC's webpage (www.countyofnapa.org/bos/grac) for copies of the February 28, 2013, presentations and handouts.

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Action Items

1. **LEE BERGFELD, MBK**, to provide a table (or map) that directly shows the estimated recharge per acre in the different watersheds.
2. **STAFF** to make final edits to the Groundwater Monitoring Data Management and Disclosure Guidance document and to incorporate the comments received from Committee members.
3. **STAFF** to draft presentations and displays for outreach activities based on the Groundwater Monitoring Informational Brochure and Outreach Materials.

1. Call to Order & Roll Call

All members of the Napa County Groundwater Resources Advisory Committee (GRAC) were in attendance, except for Michael Haley, Chair Peter McCrea, Steve Soper, William Trautman and Dale Withers who were excused.

2. Welcome & Opening Remarks

Vice Chair Michelle Benvenuto opened the session.

3. Organizational Items

a. Approval of Action Minutes & Meeting Summary

No corrections were suggested to the January 31, 2013 meeting minutes and meeting summary.

Vice Chair Michelle Benvenuto asked for an update on the Action Items of the January 31, 2013 meeting. The update was given as follows:

1. The final edits to the Groundwater Monitoring Informational Brochure and Outreach Materials are being made. The Committee will receive these within the next two weeks for review.
 2. The written memorandum requested of County Counsel will be discussed during Agenda Item 5.d. *DISCUSSION OF BOARD OF SUPERVISORS UPDATE/PRESENTATION*.
 3. Mr. David Graves had been in touch with Lee Bergfeld, MBK, and with David Steiner, Napa County Resource Conservation District (RCD), and the hydrologist at the RCD, about the unmapped gauge.
 4. The estimate of the recharge for the different watersheds was displayed in figure 8.13 of the Hydrogeologic Conceptualization and Characterization Report. The estimate on a per acre basis can be concluded based on the detail given per watershed in the report.
- **ACTION ITEM:** LEE BERGFELD, MBK, to provide a table (or map) that directly shows the estimated recharge per acre in the different watersheds.
 - **AGREEMENT:** The January 31, 2013 meeting minutes and meeting summary were unanimously approved

b. Review Work Plan/Schedule

The Work Plan was included in the meeting packet and reviewed.

c. Review Meeting Agenda and Process

Facilitator Dorian Fougères reviewed the agenda.

4. Public Comment

Vice Chair Michelle Benvenuto invited public comments.

QUESTIONS AND DISCUSSION:

- **Question:** Is there data about the usage of groundwater per acre in the watersheds?
Answer: Usage was not quantified as part of the effort. The Updated Hydrogeologic

Conceptualization and Characterization of Conditions Report, which will be available to the public soon, describes the range of recharge that is estimated to occur per watershed.

5. Presentations and Discussion Items

a. Report on Updated Hydrogeologic Conceptualization and Characterization of Conditions

Ms. Vicki Kretsinger Grabert, Mr. Ken Utley and Mr. Reid Bryson, LSCE, gave a presentation on the Updated Hydrogeologic Conceptualization and Characterizations of Conditions Report. The regional geology, the surficial, structural and subsurface geology and the hydrogeology were discussed in detail to demonstrate the increased understanding of the geology and of the groundwater and surface water interaction in the county.

Mr. Reid Bryson presented the process of collecting and reviewing the drillers' log reports, data density and log quality since 1960. Of the more than 6,400 reports, 1,332 of these, which were relevant and of sufficient quality, were used in further analysis to improve the mapping and characterization of the geology of the Napa Valley floor. Mr. Ken Utley presented the detailed surficial and subsurface geology and how the updated geologic data resulted in more detailed geologic cross-sections of Napa Valley. This was illustrated by comparing one of the new detailed geologic cross sections to a comparable cross section location with a much simpler depiction of the geology from Kunkel and Upson (1960).

QUESTIONS AND DISCUSSION:

- **Water production yields expected in geologic formations.**
 - The geologic data showed that it was likely to find production wells with relatively higher yields in the alluvium (expected water yields range from 50 - 200 gallons per minute, to 200 - 2,000 gallons per minute).
 - The hydrogeologic data indicated that lower water yields (50 - 200 gallons per minute) were expected to be found in the alluvium in the lower and middle valley areas. In areas with Sonoma Volcanics and Tertiary Rocks the yields would typically be less than 16 to less than 50 gallons per minute.
 - Potential yields were determined based on the geology rather than on pump tests or the drillers' logs. The tests and logs generally contained insufficient

information about the actual produced yields of the wells.

Ms. Vicki Kretsinger Grabert continued the presentation by linking the surficial and subsurface geology to the surface water and groundwater interactions. The presentation focused on how the groundwater elevations (relative to sea level) and depths to groundwater were analyzed to determine the interactions. Area of Interest (AOI) 7 served as an example to discuss the recommended wells (qualitatively) for the Ground Water Level Monitoring Program.

QUESTIONS AND DISCUSSION:

- **Possible depths to groundwater.** The results suggested that pumping may have lowered the groundwater level at certain locations, forming a “dry zone” between the bottom of the river and the top of the groundwater and suggesting that water from the river could recharge the groundwater. However, the information from which the results were derived possibly lacked sufficient details about the influences of well construction on the water levels.
- **Cause of the cone of depression.** Question: In the graphic of AOI 7 it appears as if the cone of depression in the groundwater level is clearly defined. Is this due to a pumping issue? Response: The clearly defined depression could be a result of the low ability of the geological deposits to transmit water from the Milliken-Sarco-Tulocay (MST) area back to the extraction point. The nearby fault zone may also limit the expansion of the cone of depression.
- **Importance of geological information.** Comment: Receiving detailed geological data gathered during construction of wells in the areas of interest (AOIs) is important. It is important to ensure that the volunteered wells have clearly defined zones of production.
- **Confidence levels and multiple perforations of the wells.**
 - Question: How do the multiple perforation levels in a well affect the level of confidence? Response: It is not completely understood how the levels affect the system. Having data with the well construction information is therefore essential to establishing whether the water level responses are due to pumping or other factors.
 - Concern: It is difficult to understand what is going on underground which means there is a lot of room for interpretation. Response: Acquiring more definitive data would help raise the confidence level, which was one of the driving factors

for the recommendations for the surface water/groundwater facilities. The data could help explain whether and how pumping may affect the surface and groundwater interaction, or vice versa.

- **Milliken-Sarco-Tulocay (MST) information.**
 - Request: To learn more about the MST situation since it is likely to be a main subject during the public and industry outreach activities. Understanding more about the MST Subarea will help Committee members better handle questions raised about the MST and how that situation relates to the Committee's charge.
 - Question: Is there information about the geology and the groundwater and surface water interaction in the MST? Response: There is information about the groundwater contours, about the geology and estimated recharge, but no information explicitly about the groundwater and surface water interaction.
 - Question: Does the work done previously in the MST approach the level of accuracy of the work in part done now in the Napa Valley Floor? Response: The U.S. Geological Survey (USGS) has done geologic studies that are at a similar level of detail and accuracy.
 - Ms. Hillary Gitelman, Napa County, commented that the County had initiated the hydrogeologic work because the County had received questions whether the past studies had accurately defined the hydrogeologic boundaries of the MST.
- **Depths of aquifers.** Question: Do the varying depths of the wells imply that there are aquifers at different depths across the valley, and that shallower aquifers could be more sensitive to seasonality? Response: Because of the complex geology of the Napa Valley Floor there is a limit to what we can conclude based on the data.
- **Earthquakes.** Question: What impact would an earthquake along the fault lines and in the fault zones have on the water flows? Response: A "normal," infrequent earthquake would not effectively change the flows.
- **State of the water bearing formations.** Question: Are there other ways to characterize the state of the water bearing formation? Response: Farrar and Metzger (2003) performed an age-dating study in the MST. Recently the USGS performed GAMA (Groundwater Ambient Monitoring and Assessment) monitoring in Napa and Sonoma counties. This information is of interest for this study and will be accessed when it is released.

COMMITTEE BREAK

b. Groundwater (GW) Monitoring Data Management

Mr. Phil Miller, Napa County, presented the updated Groundwater Monitoring Data Management and Disclosure Guidance document and Mr. Jeffrey Sharp, Napa County, provided an update on data management efforts currently underway. The Committee commented that the document was well written.

- **ACTION ITEM:** STAFF to make final edits to the Groundwater Monitoring Data Management and Disclosure Guidance document and to incorporate the written comments received from Committee members.
- **AGREEMENT:** The Committee unanimously approved the Groundwater (GW) Data Management and Disclosure Guidance document.

c. Discussion of Industry/Public Outreach & Well Owner Outreach

To prepare for well owner outreach, Committee members organized themselves into provisional Volunteer Outreach Teams for the 18 areas of interest. The Committee will finalize teams based on more specific well area information per location that will be discussed during the April 25, 2013 meeting.

The tentative teams were:

AIO Well #	Location	1 st member	2 nd member
1	Jameson/ American Canyon	C. Slutzkin	S. von Rosenberg (maybe)
2	Napa River Marshes	C. Slutzkin	S. von Rosenberg
3	Napa River Marshes	C. Slutzkin	S. von Rosenberg
4	Carneros	D. Graves	M. Benvenuto
5	Napa Valley Floor (NVF)/Napa	M. Benvenuto	M. Talley
6	NVF/Napa	M. Benvenuto	M. Talley
7	NVF/Napa	J. Verhey	M. Haley
8	NVF/Napa	J. Verhey	M. Haley
9	NVF/Yountville	J. Verhey	M. Haley

10	NVF/Yountville	M. Haley	D. Wall
11	NVF/St Helena	A. Galbraith	P. McCrea
12	NVF/St Helena	A. Galbraith	P. McCrea
13	NVF/St Helena	A. Galbraith	P. McCrea
14	NVF/Calistoga	T. Catlin	P. McCrea
15	NVF/Calistoga	D. Gleason	D. Wall
16	Angwin	D. Wall	D. Withers
17	Pope Valley	T. Catlin	M. Benvenuto
18	Jameson/American Canyon	C. Slutzkin	S. von Rosenberg (maybe)

The Committee agreed to hold two or three briefings for groups that have common interests, and then host a meeting for the general public that includes leaders from these groups. The common interest groups could include: environmental, public agencies, and industry.

QUESTIONS AND DISCUSSION:

- **Meetings:**

- **Goal of briefings and meetings.** Comment: The general goals of the briefings and meetings are those that have also been communicated in the Groundwater Monitoring Informational Brochure and Outreach Materials. The information presented and displayed at those gatherings should be based on these materials so it is consistent, and so groups receive the same information.
- **Number of meetings.** Concern: Some interest group members are involved in more than one group. In planning the briefings, this should be taken into account. The benefit of hosting a single large meeting is the efficiency for those people who are on multiple groups, as well as ensuring that each group receives the same information and hears the same message.
- **Meeting location.** Suggestion: For larger meetings, hold separate briefings and meetings for the northern and southern parts of the county. This could ensure that there are not too many people at one meeting.
- **Meeting schedule.** Suggestion: Widely publish the meeting/briefing schedule using social media, websites, email lists and newsletters, so that interested people know which meetings are where and when.
- **Specific sessions:** Suggestion: Make sure that technical details are presented in a specific session for interested groups. Most attendees will not be interested in

very technical details.

- **Volunteering possibility.** Suggestion: Make it possible for interested attendees to volunteer their wells directly at the meeting, if they are interested. The information and form should be readily available.
- **Constraints on number of monitoring wells.** Suggestion: To make clear that anyone volunteering their well for monitoring is a “candidate.” Whether or not their well is chosen for monitoring will be based on the degree to which it meets the monitoring needs, and will reflect things such as actual location, detail of the well log and well design.
- **ACTION ITEM: STAFF** to draft presentations and displays based on the Groundwater Monitoring Informational Brochure and Outreach Materials.

d. Discussion of Board of Supervisors Update/Presentation

Mr. Steve Lederer and Mr. Patrick Lowe, Napa County, reviewed items proposed for inclusion in the presentation that Mr. Peter McCrea, the Committee Chair, will make to the Board of Supervisors at their April 2, 2013 meeting.

The request from the Committee to the County Counsel for a memorandum regarding monitoring information confidentiality (Action Item 3 from the Committee’s January 31, 2013 meeting) was revisited. Ms. Gitelman and Mr. Lederer noted that, in conversations with County Counsel, it seemed premature to ask for a legal opinion on a request that was conceivable but had not yet been made.

QUESTIONS AND DISCUSSION:

- Suggestion: To have an informative document from the Board of Supervisors which helps increase the Committee members’ understanding of how information is protected and confidentiality is ensured. This document would allow Committee members to properly redirect or answer questions about information relating to confidentiality during the outreach activities. It would ensure that what Committee members tell people is both accurate and consistent across members.
- Suggestion: In addition to the document from County Counsel, staff should draft a letter on county stationary stating the Board of Supervisors’ commitment to ensure confidentiality of all information received through the Voluntary Groundwater Monitoring Program.

- The County and GRAC members could not agree on the best approach, and agreed to revisit the item following the briefing to the Board of Supervisors on April 2.

6. Other Business

a. Update on DWR Grant Application for Groundwater Monitoring

The grant application was well received by the Department of Water Resources. The process is still highly competitive. The Committee will be updated on any decisions.

7. Announcements

a. Upcoming Events or Items of Interest from the Committee and Staff

The Committee received an invitation to join a Napa County organized workshop on Vineyard Water Conservation, to be held on March 21, 2013.

8. Future Agenda Items

a. Groundwater Ordinance & Permit Process Updates

The Committee received the Technical Memorandum: Groundwater Planning Considerations and Review of Napa County Groundwater Ordinance and Permit Process, prepared by LSCE for the County in January 2011. The Committee received this reference document in October 2011 and was asked to review this memorandum for the April 25, 2013 meeting. A draft of the proposed changes to the document will be discussed at that meeting. The County is not proposing to make all the changes suggested in the technical memorandum.

9. Adjournment to the Next Meeting

The Committee's next regular bi-monthly meeting will be held April 25, 2013 – 2:00 p.m. to 5:00 p.m. All meetings will be held at the Agricultural Commissioner's Office/UCCE Conference Room, 1710 Soscol Avenue, in Napa.

Attendees

Groundwater Resources Advisory Committee Members

1. Michelle Benvenuto
2. Tucker Catlin
3. Alan Galbraith
4. Donald Gleason
5. David Graves
6. Charles Slutzkin
7. Marilee Talley
8. James Verhey
9. Susanne von Rosenberg
10. Duane Wall

Public Attendees

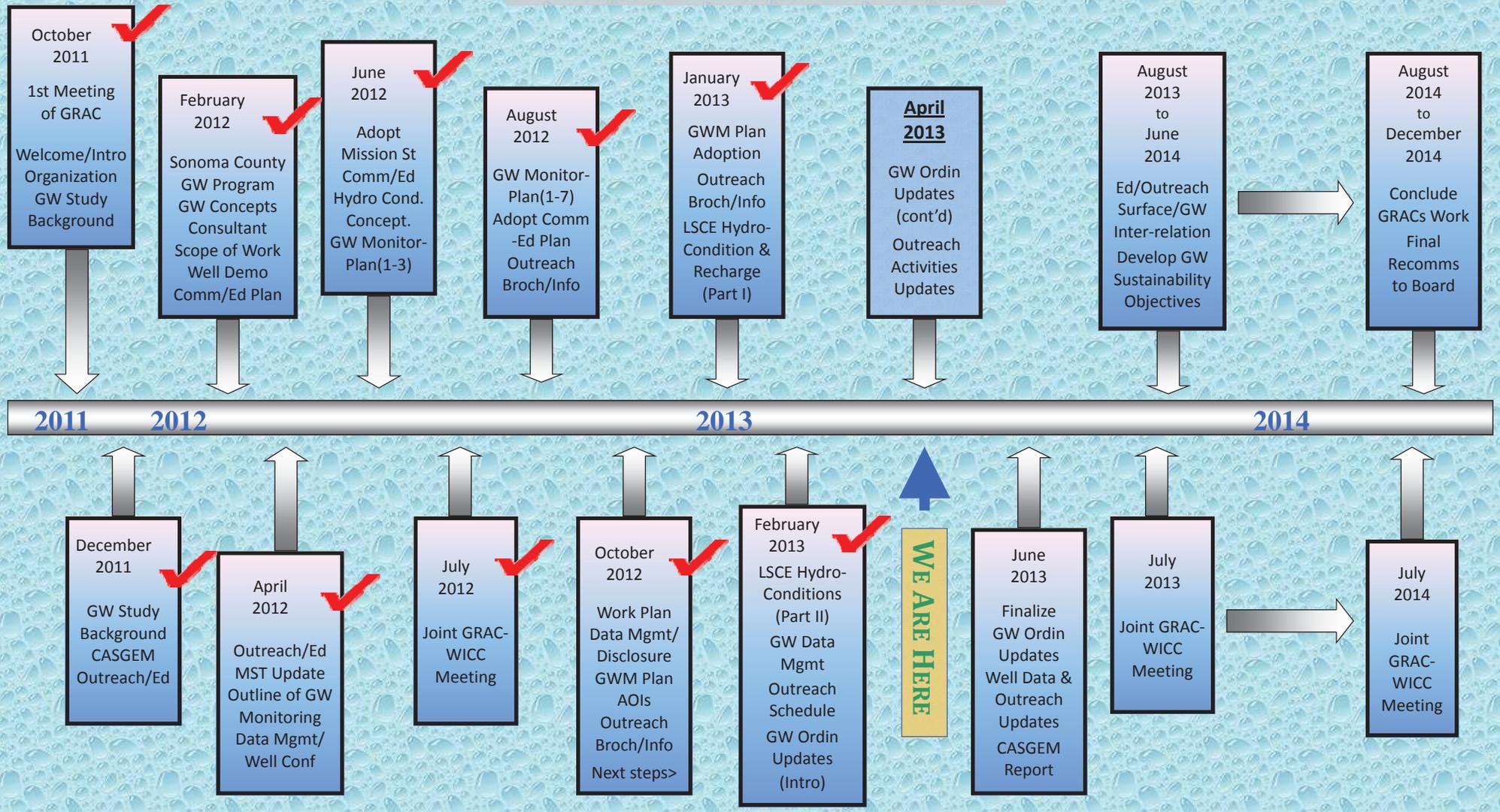
11. Warren Flint
12. Wes Lutz

County Staff/Facilitator/Consultant Attendees

13. Reid Bryson, LSCE
14. Deborah Elliott
15. Dorian Fougères, CCP
16. Hillary Gitelman
17. Vicki Kretsinger Grabert, LSCE
18. Daisy Lee
19. Steve Lederer
20. Patrick Lowe
21. Greg Morgan
22. Martine Schmidt-Poolman, CCP
23. Jeff Sharp
24. Rick Thomasser
25. Ken Utley, LSCE

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GRA Committee Work Plan



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A Tradition of Stewardship
A Commitment to Service

Agenda Date: 4/2/2013
Agenda Placement: 10A

NAPA COUNTY BOARD OF SUPERVISORS Board Agenda Letter

TO: Board of Supervisors

FROM: Lederer, Steven - Director of Public Works
Public Works

REPORT BY: Patrick Lowe, NATURAL RESOURCES CONSERVATION MGR - 259-5937

SUBJECT: Update on the Progress/Schedule of the Groundwater Resources Advisory Committee (GRAC) by Chairman Peter McCrea including completion of the Napa County Groundwater Monitoring Plan 2013 and Outreach Brochure/Materials

RECOMMENDATION

Chairman of the Groundwater Resources Advisory Committee (GRAC) will provide an update on the progress, schedule and accomplishments of the committee.

EXECUTIVE SUMMARY

Chairman Peter McCrea will provide an update on the progress and accomplishments of the Groundwater Resources Advisory Committee (GRAC), including completion of the Napa County Groundwater Monitoring Plan 2013 Outreach Brochure/Materials and the next steps in the Committee's work plan/schedule.

PROCEDURAL REQUIREMENTS

No Action Required

FISCAL IMPACT

Is there a Fiscal Impact? No

ENVIRONMENTAL IMPACT

ENVIRONMENTAL DETERMINATION: The proposed action is not a project as defined by 14 California Code of

Regulations 15378 (State CEQA Guidelines) and therefore CEQA is not applicable.

BACKGROUND AND DISCUSSION

In 2009 Napa County began a comprehensive study of its groundwater resources to meet identified action items in the County's 2008 General Plan update. The study, by Luhdorff and Scalmanini Consulting Engineers (LSCE), emphasized developing a sound understanding of groundwater conditions and implementing an expanded groundwater monitoring and data management program as a foundation for integrated water resources planning and dissemination of water resources information.

On February 14, 2011 the Board of Supervisors held a Groundwater Workshop and heard presentations and recommendations derived from the consultant studies: Napa County Comprehensive Groundwater Monitoring Program (LSCE-February 2011) and Assessment of the Feasibility of a Collaborative Groundwater Data Gathering Effort in Napa County (Center for Collaborative Policy, CSUS-August 2010). Both studies identified the need for collaborative data gathering and suggested the establishment of a community advisory committee to guide the synthesis of existing information, and the collection and analysis of additional data. Following Board direction and staff/consultant recommendations from the workshop, a draft purpose and composition for a Groundwater Resources Advisory Committee was developed and endorsed by the Watershed Information Center and Conservancy (WICC) Board on May 26, 2011.

On June 28, 2011 the Board of Supervisors adopted a resolution to establish a Groundwater Resources Advisory Committee (GRAC), and an outreach effort for applicants began. On September 20, 2011 the Board of Supervisors appointed 15 residents to the Groundwater Resources Advisory Committee (GRAC), and the GRAC held its first organizational meeting on October 27, 2011. The members represent diverse interests, including environmental, agricultural, development and community interests.

The GRAC was created to assist County staff and technical consultants with recommendations regarding:

- Synthesis of existing information and identification of critical data needs;
- Development and implementation of an ongoing non-regulatory groundwater monitoring program;
- Development of revised well pump test protocols and related revisions to the County's groundwater ordinance;
- Conceptualization of hydrogeologic conditions in various areas of the County and an assessment of groundwater resources as data becomes available;
- Development of groundwater sustainability objectives that can be achieved through voluntary means and incentives; and
- Building community support for these activities and next steps.

The GRAC works collaboratively to fulfill its charge. To date the GRAC has spent most of its time reviewing and providing feedback on consecutive draft chapters of a proposed voluntary Groundwater Monitoring Plan, the centerpiece of its work. The plan includes characterization of current groundwater conditions in sub-areas of the County, refinement of criteria used to identify priority monitoring areas, and a proposed expanded monitoring network. The groundwater monitoring program relies on publicly-owned and volunteer private wells. To fulfill its mission and garner community interest and support, the GRAC developed a Communication and Education Plan, designed to implement the Groundwater Monitoring Plan through voluntary participation. This effort includes the development of an outreach brochure and a series of fact sheets on specific topics.

In 2012 the GRAC:

- Adopted the GRAC Mission Statement/Purpose and Work Plan (see attachment A);
- Reviewed the current Scope of Work and 2011 groundwater study recommendations (LSCE1), MST basin history/update, and Sonoma County Groundwater Monitoring Program;
- Reviewed the California Statewide Groundwater Elevation Monitoring (CASGEM) program and the County's CASGEM program and work plan;
- Conducted a joint GRAC-WICC meeting for updates/public outreach/input (July 2012);
- Adopted the GRAC Communication and Education Plan (August 2012);
- Reviewed and discussed groundwater data management and data disclosure/confidentiality; and
- Completed substantial work on the Napa County Groundwater Monitoring Plan, Outreach Brochure/materials, and groundwater data management/disclosure guidance document.

In early 2013 the GRAC:

- Approved the Groundwater Monitoring Plan and Outreach Brochure/materials (January 2013) and recommended their presentation to the Board of Supervisors (see attachments B and C);
- Reviewed the LSCE Report on "Hydrogeologic Conceptualization & Characterization of Conditions", including groundwater recharge and surface/groundwater interactions (January-February 2013) (see attachment D); and
- Approved the Groundwater Data Management & Disclosure Guidance Document (February 2013).

Input from the GRAC helped to optimize additional groundwater monitoring locations that serve to meet the objectives of the County's Comprehensive Groundwater Monitoring Program and the CASGEM program. The County's CASGEM program is a subset of a larger countywide groundwater monitoring program, which was finalized in January 2013 with the document titled *Napa County Groundwater Monitoring Plan 2013 (Plan)*. The Plan calls for additional volunteered groundwater monitoring in 18 areas of interest and six groundwater/surface water monitoring facilities proposed to be funded by a Department of Water Resources grant. The GRAC will be conducting one-on-one outreach efforts to encourage volunteered participation in the County's groundwater monitoring program. The GRAC also recently finalized review of the report titled *Updated Hydrogeologic Conceptualization and Characterization of Groundwater Conditions (Jan.2013)*. This report provides an update on hydrogeologic conditions in various areas of the County, an assessment of groundwater resources, groundwater recharge, groundwater/surface water interaction, recommendations for groundwater monitoring, as well as future groundwater modeling considerations (see attachment D - Executive Summary).

The GRAC will be embarking on community outreach efforts from April to July 2013, beginning with this update to your Board followed by meetings with various community stakeholder groups and a community-wide public outreach meeting in July at a joint meeting of the GRAC and WICC Board.

Next Steps in 2013:

- Provide updates to agriculture industry groups, environmental organizations and others (April-May 2013);
- Begin outreach efforts to well owners for volunteer monitoring wells (May-July 2013);
- Review and recommend possible updates to the Napa County Groundwater Ordinance and Permit Process (April-June 2013);
- Hold a joint public outreach meeting of the GRAC and WICC Board (July 25, 2013); and
- Begin development of Groundwater Sustainability Objectives (August 2013).

Meetings of the GRAC are held bi-monthly on the fourth Thursday of each month at 2:00 p.m. at the Napa County Agriculture Commissioner's Office/UC Cooperative Extension. Support of the GRAC was transferred to the Department of Public Works in the fall of 2012 from Planning, Building & Environmental Services as a part of the County's reorganization efforts. A new Natural Resources Conservation Division provides staff support along with

an inter-departmental working group.

SUPPORTING DOCUMENTS

- A . Groundwater Resources Advisory Committee Workplan/Timeline
- B . Groundwater Public Outreach Brochure/Materials
- C . Napa County Groundwater Monitoring Plan
- D . Executive Summary: Updated Hydrogeologic Conceptualization (Jan. 2013)

CEO Recommendation: Approve

Reviewed By: Karen Collins

VOLUNTEER MONITORING WELL OUTREACH TEAMS

GROUNDWATER RESOURCES ADVISORY COMMITTEE

April 25, 2013

GRAC

04-25-13

Item No. 5.c

Listed below are the volunteers for the Outreach Teams as discussed at the last meeting of the GRAC on February 28. We will go over these again at the April 25 meeting to give those that were absent from the last meeting a chance to participate and for others to finalize their choices.

AIO Well #	Location	1st member	2nd member
1	Jameson/American Cyn	C. Slutzkin	S. von Rosenberg (maybe)
2	Napa River Marshes	C. Slutzkin	S. von Rosenberg
3	Napa River Marshes	C. Slutzkin	S. von Rosenberg
4	Carneros	D. Graves	M. Benvenuto
5	Napa Valley Floor (NVF)/Napa	M. Benvenuto	M. Talley
6	NVF/Napa	M. Benvenuto	M. Talley
7	NVF/Napa	J. Verhey	M. Haley
8	NVF/Napa	J. Verhey	M. Haley
9	NVF/Yountville	J. Verhey	M. Haley
10	NVF/Yountville	M. Haley	D. Wall
11	NVF/St Helena	A. Galbraith	P. McCrea
12	NVF/St Helena	A. Galbraith	P. McCrea
13	NVF/St Helena	A. Galbraith	P. McCrea
14	NVF/Calistoga	T. Catlin	P. McCrea
15	NVF/Calistoga	D. Gleason	D. Wall
16	Angwin	D. Wall	D. Withers
17	Pope Valley	T. Catlin	M. Benvenuto
18	Jameson/American Cyn	C. Slutzkin	S. von Rosenberg (maybe)

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A Tradition of Stewardship
A Commitment to Service

GRAC
04-25-13
Item No. 5.d

Planning, Building & Environmental Services

1195 Third Street, Suite 210
Napa, CA 94559
www.countyofnapa.org

Hillary Gitelman
Director

MEMORANDUM

To: Groundwater Resources Advisory
Committee (GRAC)

From: Christine Secheli
Hillary Gitelman

Date: April 17, 2013

Re: Recommended Groundwater Ordinance
Changes

This memo provides a summary of changes proposed to the County's groundwater ordinance recommended for consideration by the GRAC. The changes affect three Chapters of Napa County Code: Chapter 13.04 Approved Water Supply Systems; Chapter 13.12 Wells; and Chapter 13.15 Groundwater Conservation.

The following changes were recommended either by Luhdorff & Scalmanini ("Groundwater Planning Considerations and Review of the Napa County Groundwater Ordinance and Permit Process," January 2011) or by County staff and have been included in the proposed revisions provided to the GRAC for discussion on April 25:

Chapter 13.04 Approved Water Supply Systems

- Clarify when an individual water supply other than a well is acceptable.
- Include provision for approved potable supply of water for all development, not just dwellings.
- Modify what is acceptable for demonstrating the yield of a well.
- Add provision for water supply easement when lot lines change.

Chapter 13.12 Wells

- Modify technical terminology for accuracy and consistency.
- Increase property line offset for new well with exceptions when needed to maintain setback to potential sources of contamination.
- Clarify destruction standards by incorporating State requirements and local guidelines.
- Provide access for water level measurements under construction requirements.

Chapter 13.15 Groundwater Conservation

- Update the definition of minor improvement to include Cottage Food Operations as allowed by State law, add definition of Water Efficient Landscaping Regulations.
- Include a provision to track projects that utilize hauled-in water rather than groundwater.

- Add more provisions for some permits to monitor groundwater conditions.
- Incorporate current standards for water efficient landscaping.
- Update 2007 Water Availability Analysis Policy Report to reflect County’s groundwater monitoring and basin studies.
- Add permit requirement for groundwater export and prohibit export without assuring the sufficiency of water supply for County uses.

The following changes were recommended by Luhdorff & Scalmanini (LSCE) in January 2011 but have not been included in the proposed revisions:

Chapter 13.12 Wells

- Proposal to change definition of a shallow well from 30 feet in depth or less to 50 feet in depth or less: Staff indicated current definition works and the proposed change actually was less protective of groundwater (would potentially expose water to 50 feet to surface water contaminants).
- Proposal to prohibit wells on parcels located within the service area of an existing water supply system: This was eliminated. It was agreed this was a solution in search of a problem; no current problem exists.
- Proposal to withhold approval of subsequent well applications by a contractor that has not filed all paperwork on previous wells: Advised by legal counsel that this was not acceptable.

Chapter 13.15 Groundwater Conservation

- Proposal to include in the application section an allowance for the director to impose conditions: This is covered in the section on processing applications.

The following issues have not been addressed in the proposed revisions and merit further discussion on April 25 or at a future meeting:

- The “no net increase” standard for discretionary projects in the MST is not articulated in code but rather is a finding that must be made per CEQA as related to no cumulative impact to the overall basin; i.e., because the MST is a groundwater deficient basin, any additional water use will have a cumulative impact. Therefore, all new discretionary projects need to show no net increase standard in addition to meeting requirements of the code. The GRAC should discuss whether – for public disclosure/clarification reasons – the “no net increase” standard belongs in the code or in the Water Availability Analysis Policy Report.
- LSCE has recommended the County update the 2007 Water Availability Analysis Policy Report (see Section 6.3.3.1 of the January 2011 memo) and suggested revisions will be available at a future GRAC meeting. County staff agrees that “simple” edits can address consistency, update “generally accepted” water use estimates, update standards for “Phase II” pump tests and update historical information and review practices.

Chapter 13.04 - APPROVED WATER SUPPLY SYSTEMS

Sections:

- 13.04.005 - Director defined.
- 13.04.010 - Approved water supply system defined.
- 13.04.020 - Connection required when.
- 13.04.030 - Potability of water supply.
- 13.04.040 - Minimum sustained yield for individual supply.
- 13.04.050 - Determination of yield.
- 13.04.060 - Compliance prerequisite to permit issuance.
- 13.04.070 - Water storage tank requirement.
- 13.04.080 - Resolution of conflicts with other regulations.

[13.04.090 – Use of abutting lots.](#)

13.04.005 - Director defined.

The term "director" as used in this chapter shall mean the director of planning, building, and environmental services, or the director's designee.

(Ord. No. 1374, § 1, 9-11-2012)

13.04.010 - Approved water supply system defined.

An "approved water supply system" shall mean any of the following:

- A. A public utility;
- B. A public water system as defined in the California Health and Safety Code Section 116275 and approved by the appropriate authority, including a public water system for which a permit has been issued pursuant to the aforementioned code;
- C. An individual water supply system consisting of a well constructed to these standards. If a well meeting these standards that provides an adequate supply per section 13.04.040 cannot be constructed an approved water supply may consist of a, spring or any other source approved by the director and developed in accordance with and meeting the standards of this division.

(Ord. 1252 § 8, 2005; Ord. 1159 § 1 (part), 1999)

(Ord. No. 1374, § 2, 9-11-2012)

13.04.020 - Connection required when.

Every new commercial or residential development dwelling unit, for which a building permit is issued or for which an application for the issuance of a building permit is made, shall be connected to an approved water supply system that provides an adequate and reliable supply of pure, wholesome, healthful and potable water. An applicant proposing a new or modified commercial development must

Title 13 - WATER, SEWERS AND PUBLIC SERVICES

April 2013 DRAFT – Recommended Changes

demonstrate that the water supply will provide a reliable and adequate supply of potable water at all times, including but not limited to peak daily demand. As related to residential development, A dwelling unit, for purposes of this division, shall mean a room or connected rooms constituting a separate, independent, housekeeping establishment, physically separated from other rooms or dwelling units in the same structure and containing independent cooking or sleeping facilities.

(Ord. 1159 § 1 (part), 1999)

13.04.030 - Potability of water supply.

An individual water supply system shall provide water which is pure, wholesome and potable and does not endanger the lives or health of persons or otherwise adversely affect the public welfare.

(Ord. 1159 § 1 (part), 1999)

13.04.040 - Minimum sustained yield for individual supply.

The source of an individual water supply system shall have a sustained yield (as determined by Section 13.04.050) of not less than one gallon per minute per each dwelling unit.

(Ord. 1159 § 1 (part), 1999)

13.04.050 - Determination of yield.

- A. The determination of yield of any ~~water supply source well~~ shall be ~~made demonstrated~~ by continuous pumping until the production rate is established and the drawdown level stabilized for at least one hour. Wells with less than five gallons per minute shall be tested at maximum production for at least four hours. Other methods for the determination of yield of any other approved water source may be required ~~by the director~~ and must receive prior approval by the director.
- B. The determination of yield of any water source under this division shall be made by the director and shall be supported by a record of tests performed by a person duly licensed to perform such tests in the state of California. The expense of such testing shall be borne by the applicant or the applicant's agent.
- C. ~~The sustained yield of any water source shall be measured by bailing, pumping, air lifting, or by any manner that is generally accepted within the well drilling industry. Determination of the sufficiency of such measurement and of the supporting records, however, shall rest solely with the director.~~ If a water source cannot maintain a minimum sustained yield as referenced in [Section 13.04.040](#), it shall not be considered an approved water source. Water sources may not be combined for the purpose of meeting the required minimum sustained yield.
- D. Yield tests for springs shall be performed during the period from June 1st through October 31st unless otherwise approved by the director.

(Ord. 1159 § 1 (part), 1999)

(Ord. No. 1374, § 3, 9-11-2012)

13.04.060 - Compliance prerequisite to permit issuance.

The provisions of this division shall first be satisfied at applicant's expense, before the issuance of a building permit for any new dwelling unit.

Title 13 - WATER, SEWERS AND PUBLIC SERVICES

April 2013 DRAFT – Recommended Changes

(Ord. 1159 § 1 (part), 1999)

13.04.070 - Water storage tank requirement.

An individual water supply system having a sustained yield of at least one gallon but less than five gallons per minute shall have a water storage tank installed. Each storage tank shall have a minimum capacity of three thousand gallons for each dwelling unit. Each application for a permit shall be accompanied by a fee established by the board of supervisors. The installation of the water storage tank cannot be made until after the director approves the installation and issues a permit for the installation.

(Ord. 1159 § 1 (part), 1999)

(Ord. No. 1374, § 4, 9-11-2012)

13.04.080 - Resolution of conflicts with other regulations.

Nothing in this division is intended to supersede the requirements of any applicable uniform building code or other statute, ordinance or regulation of any agency of government having superior or concurrent jurisdiction. In case of discrepancy between the requirements of this division and any other applicable standards, the stricter standard shall be observed.

(Ord. 1159 § 1 (part), 1999)

13.04.090 - Use of abutting lots.

A. Nothing in this division shall be construed to prohibit the use of all or part of an abutting lot or lots to either:

1. Provide access through a sufficient legal easement to connect a building sewer to an approved water supply system, when appropriate cause has first been established to the satisfaction of the administrative authority; or

2. Provide space through a sufficient legal easement for an approved water supply system or part thereof.

B. "Legal easement," as used in this section, means easements and/or, where all parcels involved are in common ownership, contracts to convey easements upon severance of such ownership. Such easements and contracts shall be in a form approved by county counsel and shall be deemed effective for the purposes of this section only when recorded in the office of the Napa County Recorder.

Chapter 13.12 - WELLS*

Sections:

Article I. General Provisions and Definitions

- 13.12.010 - Purpose of provisions.
- 13.12.020 - Ad hoc advisory committees.
- 13.12.021 - Additives.
- 13.12.022 - Applicant.
- 13.12.030 - Annular space.
- 13.12.040 - AWWA.
- 13.12.050 - Bentonite clay.
- 13.12.051 - Cathodic protection well.
- 13.12.060 - Concrete.
- 13.12.070 - Contamination or pollution.
- [13.12.071 Department of Public Health](#)
- 13.12.080 - Director.
- 13.12.081 - Exploratory hole (boring).
- 13.12.082 - Extraction well.
- 13.12.083 - Geothermal heat exchange well.
- 13.12.090 - Ground water.
- 13.12.091 - Hazard.
- 13.12.100 - Horizontal well.
- 13.12.101 - Injection well.
- 13.12.102 - Monitoring well.
- 13.12.110 - Neat cement.
- 13.12.120 - Sand-cement grout (or grout).
- 13.12.130 - Sanitary well seal.
- 13.12.140 - Sewage disposal system.
- 13.12.150 - Sewer line.
- 13.12.160 - Shallow water well.
- 13.12.170 - Spring.
- 13.12.180 - Surface water.
- 13.12.190 - Tremie.
- 13.12.200 - Vapor extraction well.
- 13.12.210 - Water well.
- 13.12.220 - Well.
- 13.12.230 - Well cover.
- 13.12.240 - Well destruction.

Title 13 - WATER, SEWERS AND PUBLIC SERVICES

- 13.12.250 - Well drilling contractor.
- 13.12.251 - Well reconstruction.
- [13.12.252 – Pump contractor](#)
- [13.12.253 – Well standards, state](#)
- 13.12.260 - Permit requirements.
- 13.12.270 - Water wells—Classes of permits.
- [13.12.275—Prohibition of wells that can be connected to existing systems.](#)
- 13.12.280 - Application requirements.
- 13.12.290 - Fees.
- 13.12.300 - Issuance conditions.
- 13.12.310 - Starting work without permit—Emergency work.
- 13.12.320 - Inspection of work required.
- 13.12.321 - Proper disposal of drilling fluids and soil cuttings.
- 13.12.330 - Materials and workmanship—Standards.
- 13.12.340 - Location—Distance from other facilities.
- 13.12.350 - Reserved.
- 13.12.360 - Protection of wells during construction.
- 13.12.370 - Casing specifications.
- 13.12.380 - Sealing of annular space.
- 13.12.390 - Access openings into well casings.
- [13.12.395 – Access opening for water level measurement.](#)
- 13.12.400 - Well pits and below-ground discharge pipes.
- 13.12.410 - Disinfection requirements.
- 13.12.420 - Pump installation.
- 13.12.430 - Completion report—~~Driller~~[Well drilling contractor](#) responsibilities.
- 13.12.440 - Protection of water supply.
- 13.12.441 - Reconstruction of existing water wells.
- 13.12.460 - Abandoned wells.
- 13.12.480 - Destruction of wells.
- [13.12.490 – Alternative well or test hole destruction methods.](#)

13.12.010 - Purpose of provisions.

This chapter is intended to regulate the drilling, construction, reconstruction, destruction, abandonment, maintenance and related activities, of all wells within the unincorporated portions of Napa County in such a manner that the groundwater or environment of the county will not be contaminated or polluted, for the protection of the public health, safety and welfare.

(Ord. 1194 § 3, 2002; Ord. 1159 § 1 (part), 1999)

13.12.020 - Ad hoc advisory committees.

The director may, as is necessary, convene ad hoc advisory committees for the purpose of gathering information relevant to the subject matter of this division. Said committees may be composed of members of the Napa Chapter of the California Groundwater Association, qualified technical professionals, members of the community and other persons/organizations that may, in the discretion of the director, provide the aforementioned information.

(Ord. 1159 § 1 (part), 1999)

(Ord. No. 1374, § 16, 9-11-2012)

13.12.021 - Additives.

"Additives" means quick-setting cement, retardants, hydrated lime (up to ten percent of the volume of the cement) and bentonite (up to five percent) used in neat cement, sand-cement grout or concrete.

(Ord. 1159 § 1 (part), 1999)

~~13.12.022 - Applicant.~~

~~"Applicant" means a licensed (State Contractor's C-57 license) well-drilling contractor who has been hired to perform the work on behalf of the legal property owner(s). A copy of such license, and when applicable, a current certificate of insurance for workers compensation must be on file with the director.~~

~~(Ord. 1159 § 1 (part), 1999)~~

~~(Ord. No. 1374, § 17, 9-11-2012)~~

13.12.030 - Annular space.

"Annular space" means the space between an excavation and the casing of a well or the space between two concentric casings.

(Ord. 1159 § 1 (part), 1999)

13.12.035 - Applicant.

"Applicant" means a licensed (State Contractor's C-57 license) well-drilling contractor who has been hired to perform the work on behalf of the legal property owner(s). A copy of such license, and when applicable, a current certificate of insurance for workers compensation must be on file with the director.

13.12.040 - AWWA.

"AWWA" means American Water Works Association.

(Ord. 1159 § 1 (part), 1999)

13.12.050 - Bentonite clay.

"Bentonite clay" means a commercially prepared powder, granular, pelletized or crushed sodium montmorillonite clay. The largest dimension of pellets or chips shall be less than one-fifth the thickness of the annular space into which they will be placed. Bentonite clay mixtures shall be composed of Bentonite

clay and clean water, thoroughly mixed before placement so that a uniform slurry is achieved. Bentonite clay materials are subject to approval by the director.

(Ord. 1159 § 1 (part), 1999)

(Ord. No. 1374, § 18, 9-11-2012)

13.12.051 - Cathodic protection well.

"Cathodic protection well" means any artificial excavation constructed by any method for the purpose of installing equipment or facilities to protect metallic objects in contact with the ground.

(Ord. 1159 § 1 (part), 1999)

13.12.060 - Concrete.

"Concrete" means Portland cement and aggregate mixed at a ratio of at least six ninety-four pound sacks of Portland cement per cubic yard of aggregate. In no case shall the size of the gravel in the aggregate be greater than one-fifth the radial thickness of the annular seal.

(Ord. 1159 § 1 (part), 1999)

13.12.070 - Contamination or pollution.

"Contamination" or "pollution" shall have the meanings ascribed to them in California Water Code Section 13050.

(Ord. 1159 § 1 (part), 1999)

13.12.071-Department of Public Health.

"Department of Public Health" means the state Department of Public Health, Drinking Water Program

13.12.080 - Director.

The term "director" as used in this chapter shall mean the director of planning, building, and environmental services, or the director's designees.

(Ord. 1159 § 1 (part), 1999)

(Ord. No. 1374, § 19, 9-11-2012)

Editor's note—

Ord. No. 1374, § 19, adopted Sept. 11, 2012, amended § 13.12.080 title to read as herein set out.

Former § 13.12.080 title pertained to environmental management director (director).

13.12.081 - Exploratory hole (boring).

"Exploratory hole (boring)" means an uncased temporary excavation whose purpose is the immediate determination of hydrologic or geologic conditions at a site.

(Ord. 1159 § 1 (part), 1999)

13.12.082 - Extraction well.

"Extraction well" means an artificial excavation constructed by any method for the purpose of removing groundwater to be used either for permanent dewatering or for the removal of ground water for cleanup of contamination.

(Ord. 1159 § 1 (part), 1999)

13.12.083 - Geothermal heat exchange well.

"Geothermal heat exchange well" (including ground source heat pump wells) means any artificial excavation by any method, that uses the heat exchange capacity of the earth for heating and cooling (such as for air conditioning units) in which excavation the ambient ground temperature is eighty-six degrees Fahrenheit (thirty degrees Celsius) or less. A closed loop fluid system may be incorporated in the design.

(Ord. 1159 § 1 (part), 1999)

13.12.090 - Ground water.

"Ground water" means water below the surface of the ground at a depth such that it has been protected from surface pollution or contamination by an impervious soil stratum, or which has received an acceptable degree of natural treatment by filtration through a considerable amount of soil as generally understood in industry standards.

(Ord. 1159 § 1 (part), 1999)

13.12.091 - Hazard.

"Hazard" means a well which threatens to, or which contaminates or pollutes the ground water in such a way that it jeopardizes the health and safety of the public. A hazard also means anything which creates an unsanitary or unsafe condition resulting from a well.

(Ord. 1159 § 1 (part), 1999)

13.12.100 - Horizontal well.

"Horizontal well" means a water well drilled horizontally or at an angle different from vertical.

(Ord. 1159 § 1 (part), 1999)

13.12.101 - Injection well.

"Injection well" means an artificial excavation constructed by any method for the purpose of introducing water, nutrient solutions, treated water, or reclaimed water into the ground as a means of replenishing groundwater basins, or enhancing recovery of chemical constituents, or establishing hydrologic control over local ground water.

(Ord. 1159 § 1 (part), 1999)

13.12.102 - Monitoring well.

"Monitoring well" means any artificial excavation by any method for the purpose of monitoring fluctuations in ground water levels, quality of underground waters, or the concentration of contaminants in

underground waters. For the purpose of this division, injection wells, vapor extraction wells and extraction wells for the purpose of removing ground water for the cleanup of contamination shall be considered monitoring wells.

(Ord. 1159 § 1 (part), 1999)

13.12.110 - Neat cement.

"Neat cement" means a mixture composed of one sack of Portland cement (ninety-four pounds) to not less than five nor more than seven gallons of water.

(Ord. 1159 § 1 (part), 1999)

13.12.120 - Sand-cement grout (or grout).

"Sand-cement grout" means a mixture composed of not more than two parts of sand and one part of Portland cement, and not less than five nor more than seven gallons of water per sack (ninety-four pounds) of cement.

(Ord. 1159 § 1 (part), 1999)

13.12.130 - Sanitary well seal.

"Sanitary well seal" means a device placed into the topmost part of a well casing which, by means of an expanding gasket, excludes foreign material from entering the well and may be provided with a means for introducing disinfecting agents directly into the well, or a device producing an equivalent effect. Such device shall be watertight to prevent the entrance of surface water and other contaminants into the well.

(Ord. 1159 § 1 (part), 1999)

13.12.140 - Sewage disposal system.

"Sewage disposal system" means a septic tank and subsurface disposal field or other type of system or appurtenance thereto, including sewage sump tanks and distribution boxes, whether individual, public or private, as defined in Chapter 13.16 of the Napa County Code, receiving domestic or industrial sewage waste. "Sewage disposal system" does not include a sewer line.

(Ord. 1159 § 1 (part), 1999)

13.12.150 - Sewer line.

"Sewer line" means a line conveying sewage waste matter from any building or premises to a point of disposal, such as to a septic tank or sewage treatment or disposal plant.

(Ord. 1159 § 1 (part), 1999)

13.12.160 - Shallow water well.

"Shallow water well" means any water well thirty feet or less in depth.

(Ord. 1159 § 1 (part), 1999)

13.12.170 - Spring.

"Spring" means a naturally occurring flow of ground water reaching the surface of the ground which may be developed as a water supply system.

(Ord. 1159 § 1 (part), 1999)

13.12.180 - Surface water.

A. "Surface water" means all those waters found on or immediately below the surface of the ground and that have not been filtered through any considerable amount of soil, ~~as defined by industry standards, and which normally do not meet California drinking water standards~~ and are not protected so as to exclude real or potential sanitary hazards.

B. Any groundwater determined to be under the influence of surface water, according to regulations of the state Department of Public Health, Drinking Water Program Title 22, Division 4, Chapter 17, shall be considered surface water quality for the purposes of this ordinance and shall be provided with treatment as required.

C. In the event that a conflict of opinion arises as to whether or not any waters are "surface waters," within the meaning of this division, the burden and expense of proving that such waters are not surface waters shall be upon the person or persons making such claim, and in the absence of findings to the contrary, the opinion and/or findings of the director shall be final.

(Ord. 1159 § 1 (part), 1999)

13.12.190 - Tremie.

"Tremie" means a tubular device or pipe used to place the sealant in the annular space.

(Ord. 1159 § 1 (part), 1999)

13.12.200 - Vapor extraction well.

"Vapor extraction well" means an artificial excavation constructed by any method for the purpose of injection, monitoring or extraction of vapors, into or from the predominantly unsaturated zone above the water table.

(Ord. 1159 § 1 (part), 1999)

13.12.210 - Water well.

"Water well" means any artificial excavation constructed by any method for the purpose of extracting water from, or injecting water into, the ground. This definition shall not include the following: (1) oil and gas wells; (2) geothermal wells constructed under the jurisdiction of the California Department of Conservation (except those wells converted to use as water wells) or (3) wells used for the purpose of dewatering excavations during construction, or stabilizing hillsides or earth embankments.

(Ord. 1159 § 1 (part), 1999)

13.12.220 - Well.

"Well" shall mean any artificial excavation constructed by any method for the purpose of extracting water from, or injecting water into, the ground. In addition, for the purpose of this division, the following

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structures are also defined as wells: abandoned wells, geothermal heat exchange wells (pumps), cathodic protection wells, exploratory holes (borings), extraction wells, horizontal wells, injection wells, monitoring wells, vapor extraction wells and water wells.

(Ord. 1159 § 1 (part), 1999)

13.12.230 - Well cover.

"Well cover" means a temporary device to cover the topmost part of a well casing. The device must be so constructed to be structurally sound, impervious, and prevent the entrance of foreign material.

(Ord. 1159 § 1 (part), 1999)

13.12.240 - Well destruction.

"Well destruction" means certain work done to an existing well, the intent of which is to effectively seal the entire well up to the ground surface, in such a manner that each intersected water stratum is sealed and isolated from every other stratum and from surface water. Destruction of wells shall be completed in accordance with the procedures outlined in Article IV of this division, or as otherwise specified by the director.

(Ord. 1159 § 1 (part), 1999)

13.12.250 - Well drilling contractor.

"Well drilling contractor" means a person who possesses a valid C-57 contractor's license in accordance with the provisions of the California Business and Professions Code, Section 7000, et. seq. and Water Code Section 13750.5.

(Ord. 1159 § 1 (part), 1999)

13.12.251 - Well reconstruction.

"Well reconstruction" means certain work done to an existing water well in order to restore its production, replace defective casing, seal off certain strata or surface water, or similar work. Well reconstruction does not include the cleaning out of sediments, surging or work related to a well's pump.

(Ord. 1159 § 1 (part), 1999)

13.12.252 - Pump contractor.

Pump contractor means a person who possesses a valid C-61 contractor's license and is certified to pull, repair, and reinstall well pumps in water wells.

13.12.253 - Well standards, state

State well standards means Water Well Standards of the California Department of Water Resources Bulletin 74-81, ~~and 74-90~~, and subsequent supplements and revisions thereto, combined.

Article II. Permits and Inspection

13.12.260 - Permit requirements.

No construction, destruction or reconstruction of any well shall be commenced on any property until a permit to do such work has first been obtained from the director, except in the event of an emergency as set forth in Section 13.12.310.

(Ord. 1159 § 1 (part), 1999)

13.12.270 - Water wells—Classes of permits.

There shall be five types of water well permits, namely Class IA, Class IB, Class II, well reconstruction and well destruction.

- A. Class IA permits shall be obtained for the installation of a water well where such well location conforms with the minimum distances set forth in Section 13.12.340, and where the director deems no conditions exist which may result in a pollution or contamination of the ground water.
- B. Class IB permits shall be obtained for the installation of a new or replacement water well when such well is or will be the sole source of water supply and the well location is closer than the minimum distances set forth in Section 13.12.340, or where the director deems conditions exist which may result in contamination or pollution of the ground water unless special construction features are included in the well construction. A Class IB well permit shall not be issued unless there exists on a parcel an existing constraint which prohibits the construction of a Class IA well. At a minimum, special construction features shall include the following:

- 1. An annular seal having a minimum thickness of three inches.
- 2. An annular seal having a minimum depth of fifty feet or into the first impervious layer, whichever is greater.
- 3. The sealing material to be placed in the annular space by means of a tremie pipe, so as to fill the annular space from the bottom.
- 4. The well log must be made available to the director prior to sealing the annular space.
- 5. Different and/or additional standards from subsections (1) through (4) above may imposed by the director if the proposed well is to be located in close proximity to a potential source of contamination. Such standards will be conditioned on the construction permit.

In no case shall a Class IB well permit be issued when the distance to any part of a sewage disposal system is less than fifty feet.

- C. Class II permits may be issued for replacement wells serving existing residential structures if it is determined by the director that special circumstances exist whereby the criteria for a Class IB permit cannot be met due to existing constraints on the property. Special construction requirements as determined by the director will be imposed.
- D. Reconstruction permits shall be obtained for any well reconstruction work.
- E. Destruction permits shall be obtained for any well destruction work.

(Ord. 1159 § 1 (part), 1999)

(Ord. No. 1374, § 20, 9-11-2012)

13.12.280 - Application requirements.

- A. Any person legally entitled, as defined in Section 13.12.300, to apply for and receive a permit shall make such application on forms provided for that purpose. Such person shall give a description of the character of the work proposed to be done, and the location and ownership of the job site. The director may require plans, specifications or drawings and such other information as deemed

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necessary, including but not limited to, all improvements on the parcel, and the location of sewage disposal systems and sewer lines on all adjoining parcels.

If a proposed well is to be located in a floodway, floodplain, or riparian zone as defined in the Napa County Code (Sections 16.04.250, 16.04.290, and 16.04.410), no permit to construct a well shall be issued until a permit has been obtained from Napa County public works department. The well and related equipment including the pressure tank, electrical box, air vent and other devices shall be constructed in such a manner as to prevent the entrance of flood waters into the well or related equipment.

- B. If the director determines that the plans, specifications, drawings, descriptions or information furnished by the applicant are in compliance with this chapter and other applicable requirements, said director shall issue the permit applied for upon payment of the required fee, as hereinafter fixed.
- C. All well permits shall be valid for a period of two years from the date of issue. The director, upon notification to the property owner, may enforce the same expiration deadlines as noted above on well permits issued prior to the effective date of this ordinance.

(Ord. 1159 § 1 (part), 1999)

13.12.290 - Fees.

Applications for a permit for well installation, reconstruction or destruction shall be accompanied by that fee established by resolution of the board of supervisors.

(Ord. 1159 § 1 (part), 1999)

13.12.300 - Issuance conditions.

No permit shall be issued to construct, reconstruct or destroy a well except to a licensed well-drilling contractor ~~(or an authorized agent)~~, as defined in Section 13.12.250 of this division.

(Ord. 1159 § 1 (part), 1999)

13.12.310 - Starting work without permit—Emergency work.

Any person who commences any work for which a permit is required by this division without first having obtained a permit therefor shall, if subsequently allowed to obtain a permit, pay double the permit fee for such work; provided, however, that this provision shall not apply to emergency work when proved to the satisfaction of the director that such work was urgent and necessary and that it was not practical to obtain a permit before commencement of the work. In all cases where such work was determined by the director to be an emergency, a permit must be obtained as soon as it is possible to do so, and if there is an unreasonable delay, as determined by the director, in obtaining such permit, a double fee as herein provided shall be charged.

(Ord. 1159 § 1 (part), 1999)

13.12.320 - Inspection of work required.

All wells for which a permit has been obtained may be inspected by the director to insure compliance with all the requirements of this division.

(Ord. 1159 § 1 (part), 1999)

13.12.321 - Proper disposal of drilling fluids and soil cuttings.

The applicant is required to see that safe and appropriate measures are taken in the handling and disposal of drilling fluids, soil cuttings, and other materials used or generated in connection with the permitted work. All drilling wastes must be controlled so as not to create conditions which violate applicable local, state and federal laws and regulations. Discharge of drilling wastes into the sanitary sewer or storm drain is prohibited unless authorized by the director. This provision does not modify the measures for proper handling, storage, and disposal of hazardous waste set forth in the California Health and Safety Code, Division 20, Chapter 6.5 and by the California Code of Regulations, Title 22, Division 4.5. In addition, mud pits created to confine drilling fluids shall be maintained during the well drilling operation so as not to be a nuisance. It shall be the applicant's responsibility to see that the mud pit is properly evacuated, or backfilled, or both, upon completion of the job.

(Ord. 1159 § 1 (part), 1999)

Article III. Construction Specifications

13.12.330 - Materials and workmanship—Standards.

All materials and workmanship shall be no less than the quality specified in this division. ~~The requirements of these standards are minimal only, and any material or method determined by the director to give equivalent or better results may be required.~~ Materials or methods not covered by these standards must meet ~~the standards of the California state~~ Water Well Standards ~~Bulletin 74-81 and the supplement thereto, bulletin 74-90,~~ and must receive ~~the written~~ approval from the director prior to use. In the event of conflicting or contradictory requirements, ~~the director shall determine the appropriate standards according to the specific case. the provisions of this division shall prevail. Except as otherwise contradictory, the~~ California Water Well Standards Bulletin 74-81 and 74-90 and any subsequent supplements and revisions thereto are hereby incorporated by reference.

(Ord. 1159 § 1 (part), 1999)

13.12.340 - Location—Distance from other facilities.

- A. All water wells, geothermal heat exchange wells, extraction wells for the purpose of permanent dewatering, and horizontal wells shall be located as follows:

Minimum Distances	
From property line ¹	25 5 feet
From septic tank and/or any portion of a sewage disposal system or sewage disposal system expansion area ²⁺	100 feet
From public or private approved sewer line ²	50 25 feet
From a public or private road	See Napa County Code Chapter 18.112
From floodway, floodplain, or riparian zone	See Section 13.12.280

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<u>Underground drainage –approved water tight piping</u>	<u>25 feet</u>
<u>Underground drainage-non-water tight piping</u>	<u>50 feet</u>

1. This setback shall be reduced to no less than 5 feet if required to maintain a 100' setback to any portion of a sewage disposal system.
2. Minimum distance may be reduced if conditions are met for Class 1B or Class II wells as listed in Section 13.12.270. Every effort shall be made to install the well in a location with the greatest possible setback distance.
- ~~2.— Shall be fifty feet if sewer not constructed of approved building sewer materials.~~

As determined by the director, special setback distances may be required when the above wells are located near the following: regulated or unregulated underground fuel or storage tanks, contaminated sites, sanitary landfills and large scale animal or fowl operations.

- B. Monitoring and cathodic protection wells, and exploratory borings shall maintain setbacks from potential sources of contamination as approved by the director. Such setbacks shall be dependent on the source of contamination, the depth of the monitoring or cathodic protection well, the depth and type of the annular seal, the formations which are penetrated, and the proposed usage.

(Ord. 1159 § 1 (part), 1999)

(Ord. No. 1374, § 21, 9-11-2012)

13.12.350 - Reserved.

Editor's note—

Ord. No. 1374, § 22, adopted Sept. 11, 2012, repealed § 13.12.350, which pertained to locations— exemptions and derived from Ord. No. 1159, § 1 (part), adopted 1999.

13.12.360 - Protection of wells during construction.

At all times during the progress of the work, or whenever there is an interruption in work on a well, the well shall be protected to prevent ground water contamination.

(Ord. 1159 § 1 (part), 1999)

13.12.370 - Casing specifications.

- A. All materials used for well casings shall be approved by the director and shall be structurally capable to perform the functions for which it is designed; i.e., to maintain the hole by preventing its walls from collapsing, to provide a channel for conveyance of the water, and to provide a measure of protection of the quality of the water pumped.
- B. All casings shall be placed with sufficient care to avoid damage to casing sections or joints.
- C. The casing shall extend at least eight inches above the ground surface, and at least two inches above the surface of any surrounding concrete slab, or as determined by the director.

(Ord. 1159 § 1 (part), 1999)

13.12.380 - Sealing of annular space.

- A. The annular space of Class IA wells shall be filled with acceptable sealant having a minimum thickness of two inches.
- B. The sealing material shall consist of neat cement, sand-cement grout, bentonite clay, concrete or a mixture of such approved by the director. Used drillers' mud, cuttings or chips from drilling shall not be used as sealing material.
- C. The sealing material shall extend from two inches above the ground surface to at least twenty feet below the ground surface, or at least two feet into impervious soil, whichever is the greater, except in the case of shallow water wells where no water-bearing stratum is encountered below twenty feet, the seal shall extend to a minimum depth of ten feet, and except for water wells which will serve a public water system, the seal shall extend to a minimum depth of fifty feet or two feet into impervious soil, whichever is greater. If bentonite clay is used, the uppermost three feet of the annular space must be neat cement, sand-cement grout, or concrete and shall be placed only after the bentonite has had sufficient time to settle. The requirements of this subsection do not apply to monitoring wells, cathodic protection wells and exploratory holes.
- D. For monitoring wells, cathodic protection wells and exploratory holes, refer to [Bulletin 74-90 State Well Standards](#) for grouting requirements.
- E. The grout shall be applied in one continuous process either by pressure or by gravity in such a manner as to exclude surface and other undesirable water from the well. Sealing material shall be placed by methods (such as the use of a tremie pipe or equivalent) that prevent bridging or dilution of the sealing material or separation of sand or aggregate from the sealing material. Annular sealing materials shall not be installed by freefall unless the interval to be sealed is dry and no deeper than thirty feet below the ground surface.
- F. Prior to grouting the annular space, a bentonite clay seal consisting of pellets or other approved material may be placed at the bottom of the annular space.

(Ord. 1159 § 1 (part), 1999)

13.12.390 - Access openings into well casings.

Access openings into the well casing for air release, disinfection and any other purpose necessary for maintenance and operation of the well are permitted, but must have a watertight seal.

(Ord. 1159 § 1 (part), 1999)

13.12.395 - Access opening for water level measurement.

A sounding pipe or tap hole with plug shall be installed on the finished wellhead to permit access for water level measurements.

13.12.400 - Well pits and below-ground discharge pipes.

- A. Well pits or below-ground discharge pipes may be permitted only when determined to be absolutely necessary by the director. Where the well casing terminates in a pit below the ground surface, the pit shall be constructed of monolithic, reinforced concrete, watertight in all respects. The top of such pit

shall be covered with a concrete slab or equal material, or with a housing of satisfactory construction. The casing shall extend at least eight inches above the pit floor. The well pit shall be so constructed and protected so that flood, rain or surface waters cannot enter the pit. Additional requirements may be imposed where it is determined necessary by the director.

- B. The pit shall be provided with a drainage sump and an automatic sump pump and audio type alarm (or, if topography permits, a "free" discharge protected against entrance of rodents, insects or flooding). The discharge from the sump pump shall not be connected to any sewer or pipe drain. Pits shall have easy access for proper operation, maintenance and inspection of the equipment, and shall have a locked hatch. Doorways or hatches shall at all times effectively keep water out of the pit.

(Ord. 1159 § 1 (part), 1999)

13.12.410 - Disinfection requirements.

Newly constructed or repaired water wells shall be adequately treated in such a manner as to disinfect all parts of the well before or as the pump is set, with chlorine or an equal disinfecting chemical, to a strength of at least fifty parts per million of available chlorine, but not more than two-hundred parts per million, and held for at least eight hours, after which time the well shall be pumped to reduce the disinfecting chemical to a safe level.

(Ord. 1159 § 1 (part), 1999)

13.12.420 - Pump installation.

All pumps shall be installed by a licensed well drilling or pump contractor. Pumps shall be installed so as to prevent contamination of the ground water supply by surface water or other contaminants. The pump shall be mounted through a sanitary well seal. There shall be an access opening for introduction of chlorine into the well and gravel pack.

(Ord. 1159 § 1 (part), 1999)

13.12.430 - Completion report—DrillerWell drilling contractor responsibilities.

Upon completion of a well, the well drilling contractordriller shall be responsible for the placing of a sanitary well seal, or if the pump is not installed immediately, a watertight and tamper-proof well cover shall be installed. The well drilling contractordriller shall submit a report of completion within the time frame required by state law, made out in detail on the sState Department of Water Resources reporting form to the director. The well application will not be closed until a satisfactorily completed reporting form is submitted to the director.

(Ord. 1159 § 1 (part), 1999)

13.12.440 - Protection of water supply.

- A. No person shall install or maintain a well in any manner that will result in the pollution or contamination of the ground water, or which allows the entrance of surface waters into the ground water.
- B. If evidence is presented to the satisfaction of the director that any existing well is polluting or contaminating the ground water, the director shall require that such well be destroyed in accordance with the provisions of this division, or repairs be made to such well to eliminate the pollution or contamination or the entrance of surface water into the ground water.
- C. At a minimum, all water wells must be provided with a sanitary well seal. In circumstances where chemicals or other deleterious materials are injected into the water system, as a minimum an

approved reduced pressure principle device or an approved air gap must also be provided at the well head.

- D. In the case of a flowing artesian well, the well head shall be sealed and vented to prevent the continuous discharge of well water on to the surface of the ground.

(Ord. 1159 § 1 (part), 1999)

13.12.441 - Reconstruction of existing water wells.

- A. In no case shall a reconstruction permit be issued for a water well where a sewage disposal system is located less than fifty feet away. For additional information regarding this matter, refer to Section 13.12.270(C) for Class II wells.
- B. If a water well is located greater than one hundred feet to a sewage disposal system, a reconstruction permit may be issued provided all efforts are made to meet the construction requirements of a Class IA well. If a well is located between fifty and one hundred feet from a sewage disposal system, a reconstruction permit may be issued if all efforts are made to meet the construction requirements for a Class IB well.

(Ord. 1159 § 1 (part), 1999)

Article IV. Destruction of Abandoned Wells

13.12.460 - Abandoned wells.

- A. The owner of any property shall be responsible for destroying any abandoned well located thereon. A well is considered to be abandoned when it has not been connected for service to any structure and/or not used for a period of one year. An abandoned well also includes a well which is in such a state of disrepair that no water can be produced.
- B. The well will not be considered abandoned if all of the following occur: (1) the owner declares his or her intention to the director, in writing, to use such well again for supplying water or for other approved purposes, (2) the well has no defects in construction which would cause pollution or contamination to the ground water by surface water, (3) the well is covered with a safe well cover, (4) the well is marked so as to be clearly seen, and (5) the ground area surrounding the well is sloped away from the casing and kept clear of brush and debris.

(Ord. 1159 § 1 (part), 1999)

13.12.480 - Destruction of wells.

- A. Prior to destroying a well, a detailed ~~evaluation and report on the well~~work plan complying with Napa County Well Destruction Guidelines incorporated by reference herein, shall be submitted to the director by a licensed ~~well driller~~well drilling contractor (as defined in Section 13.12.250). Such ~~report~~work plan shall indicate the type of well to be sealed, all known information of the geological conditions ~~existing in the well of the soil~~, and the methods and material to be used in the destroying and sealing process. The methods and materials used in destroying wells shall be such that the ground water is protected from pollution or contamination. The well shall be destroyed per the approved work plan.
- B. ~~When a water well or an abandoned water well is to be destroyed, it shall be destroyed as follows:~~
 - ~~1. Any obstructions in said well, including pipes, pump, etc. shall be removed when possible.~~
 - ~~2. As much casing shall be removed as possible, but not less than three feet below grade or as determined by the director.~~

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- ~~3. The well shall be filled with concrete, or "p" gravel to thirty feet or below the first impervious layer (if known), whichever is deeper. If the well is less than thirty feet deep, proceed to step 4.~~
- ~~4. Fill well with concrete, neat cement or sand-cement grout to surface.~~
- ~~5. The placement of the material shall be done in such a way as to assure a dense seal, free of voids, in order to exclude surface water. Gravity installation of sealant without the aid of a tremie or grout pipe shall not be used unless the interval to be sealed is dry.~~

~~CB.~~ For the destruction of monitoring wells, cathodic protection wells or exploratory holes, refer to [State Well Standards Bulletin 74-90](#) for requirements.

~~(Ord. 1159 § 1 (part), 1999)~~

~~**13.12.490 - Alternative well or test hole destruction methods.**~~

~~Other methods of destroying wells, including large diameter wells and wells considered to pose a higher degree of risk to the ground water, may be approved by the director if in his opinion an equivalent effect will result, and no contamination or pollution to the ground water will occur.~~

~~(Ord. 1159 § 1 (part), 1999)~~

Chapter 13.15 - GROUNDWATER CONSERVATION*

Sections:

13.15.010 - Title, purpose and definitions.

13.15.020 - Groundwater permit required.

13.15.030 - Classification of applications.

[13.15.035 – Applicability of water conservation regulations for landscape design.](#)

13.15.040 - Agricultural activities exempt from groundwater permitting requirements.

13.15.050 - Application for determination of exemption.

13.15.060 - Application for groundwater permit.

13.15.070 - Processing of groundwater permit applications.

[13.15.075 – Permit required for export for use outside the county.](#)

13.15.080 - Exceptions.

13.15.090 - Appeals.

13.15.100 - Enforcement—Violation.

13.15.010 - Title, purpose and definitions.

- A. Title. This chapter implements the Napa County Groundwater Conservation Ordinance.
- B. Purpose. This chapter is intended to regulate, to the maximum extent possible, the extraction and use of groundwater resources in Napa County and to prohibit extraction for wasteful, unreasonable or non-beneficial purposes in order to promote groundwater conservation and the use of Best Management Practices and maximize the long-term beneficial use of the county's groundwater resources, thus serving to enhance environmental quality and protect the public health, safety and welfare of the citizens of Napa County.
- C. Definitions. For the purpose of this chapter, the following definitions shall apply:

"Agricultural land development" means the development, new plantings, or other improvement of a property greater than one-quarter of an acre for the purposes of farming a crop, orchard, vineyard or other agricultural product.

"Agricultural land re-development" means the re-development or replanting of an existing crop, orchard, vineyard or other agricultural product of greater than one-quarter of an acre.

"Aquifer" means a geologic formation, underground layers of porous rock that are saturated from above or from structures sloping toward it, that stores, transmits and yields significant quantities of water to wells and springs. ~~Aquifer capacity is determined by the porosity of the subsurface material and its area.~~

"Best Management Practices (BMP)," as used in this chapter, means structural, nonstructural and managerial techniques generally recognized to be the most effective and practical means to reduce contamination and consumption of groundwater while still allowing productive use of the resource, including, but not limited to: low flow fixtures, drip in lieu of broadcast irrigation, irrigation during hours of least evaporation loss, timers on irrigation systems, use of pool and spa covers to reduce evaporation, use of xeriscape landscaping, use of recycled water for landscaping purposes, and monitoring of wells.

"Conservation" means the conscious effort to prevent waste and minimize the consumption of groundwater by utilizing reasonable and economically justifiable methods to improve its delivery and use, thus increasing water supplies for optimum long-term benefits. When referring to landscaping or

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agricultural uses of groundwater this term includes water reuse, processes to reduce the amount of water irretrievably lost to moisture deficient soils, water surface evaporation, or evapotranspiration.

"Contiguous parcel" means parcels which abut, adjoin or otherwise touch each other at more than one point along a common boundary or which would do so except for separation by a strip of land over which some person or entity, other than the owner of the parcels, has some property interest, including fee title or some lesser interest, such as a leasehold or easement. Examples of such strips of land include but are not limited to roads, streets, utility easements, railroad rights-of-way, canals and drainage channels.

"Convenience improvement" means an addition, change, upgrade, improvement or replacement of a site's existing well or water supply and distribution system (including the addition of plumbing fixtures) which is for purposes of rendering the system more efficient and is not intended to supply water or make plumbing fixtures available to additional users of said system and does not increase the total consumption of groundwater at that site. If a replacement well is permitted, the existing well must be destroyed under permit by the department and the new well must be drilled to the same or smaller diameter as the existing well.

"Department" means the county department of planning, building, and environmental services.

"Director" means the county director of planning, building, and environmental services or the designee of the director.

"Director of public works" means the county director of public works or the designee of the director of public works.

"Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

"Evapotranspiration" means the loss of water from the soil through both evaporation and transpiration from plants.

"Graywater" means domestic wastewater other than that containing human excrete such as sink drainage, washing machine discharge or bathwater.

"Groundwater" means all water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water.

"Groundwater deficient area" means an area where the amount of groundwater is inadequate to meet particular demands at a particular time, as shown in Map 13-1 at the end of this chapter.

"Groundwater permit" means a permit issued pursuant to this chapter to use groundwater.

"Harvested water" means the collection and use of rainwater as a means to augment or replace other sources of water.

"Improvement" or "improve," as related to a well or water supply system, means the construction, reconstruction, replacement, or addition to, any portion of a water supply and distribution system for the purposes of providing water for a new use or an additional use (unless specifically exempt under this chapter). This definition is not intended to include simple plumbing repairs to existing fixtures, pipes or equipment such as replacing or repairing existing faucets, hoses, drains, sinks, toilets, tubs, showers, washing machines, swimming pool and spa filter pumps, irrigation equipment, and the like, unless such repair or replacement will potentially increase the rate and/or amount of groundwater extraction.

"Minor improvement" means a modification to an existing water supply that involves simple repair or replacement of pipes, fittings, faucets, hoses, pumps, meters, components of irrigation systems, sinks, tubs, toilets, showers, washing machines, and all other elements of the water supply and delivery system that will not potentially increase the amount of groundwater extraction at that site. For the purposes of this definition, swimming pools (if filled with trucked in water from a supply source that does not include groundwater from a groundwater deficient area and is provided with a cover), replacement dwellings (when an existing legal dwelling unit had previously existed on the property), ~~and~~ additional potential bedrooms whether or not attached to the single-family dwelling unit and cottage food operations as

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allowed by State Law are considered minor improvements. Any modification or improvement that will increase the amount of groundwater extracted is not a minor improvement.

"Overdraft" means the withdrawal of water from an aquifer in excess of the amount of water that recharges the basin over a period of years during which water supply conditions approximate the average, and which, if continued over time, could eventually cause the underground supply to be exhausted, cause subsidence, cause the water table to drop below economically feasible pumping lifts, cause a detrimental change in water quality, or produce other adverse environmental impacts.

"Parcel" means a legal lot of record.

"Potential bedroom" means any room with a floor area equal to or greater than seventy square feet, including lofts, sewing rooms, offices, game rooms, etc., that meet building codes for a sleeping room. A closet or lack thereof is not used in determining whether a room is a potential bedroom.

"Public water supply" means a water supply provided by a local agency, publicly owned corporation, or approved utility company.

"Recharge" means replenishment of groundwater by flows to groundwater storage from precipitation, irrigation, infiltration from streams, a spreading basin or other sources of water.

"Recycled water" means the reclamation and reuse of wastewater or graywater for beneficial use.

"Single-family dwelling unit" means a dwelling unit containing not more than one kitchen, designed to be occupied by not more than one family, and includes a manufactured home as defined in Section 18.08.360 which is installed on a permanent foundation and certified under the National Manufactured Housing Construction and Safety Standards Act of 1974.

"Site" means the location of a system to extract and distribute groundwater, such as a well and connecting plumbing which supplies water to a residence or other structure or use.

"Subsidence" means lowering or sinking of the land surface as a result of the extraction of groundwater.

"Transpiration" means the process by which water absorbed by plants (usually through the roots) is evaporated into the atmosphere from the plant surface.

"Water conservation regulations for landscape design" means the most current regulations in effect that are employed by the County to comply with state requirement to adopt a water efficient landscape ordinance.

"Water supply system" means any system including the water source the purpose of which is to extract and distribute groundwater.

"Water table" means the surface or level where groundwater is encountered in an unconfined aquifer.

"Xeriscaping" means a form of landscaping that uses a variety of indigenous and drought-tolerant plants, shrubs and ground cover to provide environmental benefits.

(Ord. 1294 § 1 (part), 2007; Ord. 1230 § 3, 2003)

(Ord. No. 1374, § 23, 9-11-2012)

13.15.020 - Groundwater permit required.

- A. No applications filed pursuant to Division I (Water) of this title for development of a new water system or improvement of an existing water system within Napa County that may use groundwater as a water source shall be approved by any employee, department or body of Napa County unless it is specifically exempted by this chapter or unless a groundwater permit is obtained as required by this chapter.

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- B. Prior to the issuance of a building permit pursuant to Section 15.08.040, or any other permit or administrative approval facilitating the development or use of any parcel that may utilize a groundwater supply, a groundwater permit must be obtained unless specifically exempted by this chapter.
- C. Prior to the final approval of a subdivision, a groundwater permit must be obtained if required by this chapter and an existing, new or improved water system will provide groundwater to the subdivision.
- D. No application filed pursuant to Chapter 18.108 (Conservation Regulations) shall be approved by any employee, department or body of Napa County until the applicant has obtained a groundwater permit if required by this chapter.
- E. Agricultural land development or re-development that is located on parcels included within those groundwater deficient areas depicted on Map 13-1 which will utilize groundwater and which is not subject to the requirements of subsection (D) of this section or Chapter 18.108 is subject to review and approval by Napa County in the form of a groundwater permit.
- F. No application filed pursuant to Chapter 17.46 (Lot Line Adjustments) shall be approved by any employee, department or body of Napa County when the resultant parcel configuration increases the intensity of groundwater use of any parcel unless specifically exempted by this chapter.
- G. A groundwater permit shall be waived if a new water using activity or use on a parcel will be supported by water from an outside source and will not utilize groundwater. The property owner shall, register with the department on a form provided by the director and shall indicate the project for which the hauled in water will be used, and a site plan showing the proposed improvements including the water storage tank(s). If and when requested by the county, the property owner shall provide evidence that such an outside source of water is actually available and being used.

(Ord. 1294 § 1 (part), 2007; Ord. 1230 § 3, 2003)

13.15.030 - Classification of applications.

Applications described in Section 13.15.020 shall be classified as follows for the purpose of determining whether a groundwater permit is required by this chapter:

- A. Applications Exempt from Groundwater Permit Requirement.
 - 1. In the case of uses permitted without a use permit under any provision of this code, the applications or development set forth in Section 13.15.020 are exempt from the requirement that a groundwater permit must be obtained unless the application or development:
 - a. Is for a project located on a parcel included within those groundwater deficient areas depicted on Map 13-1 and is not otherwise specifically exempted;
 - b. Is to develop or improve an on-site or off-site water supply serving more than a single contiguous parcel; or
 - c. Where the development or improvement, regardless of the number of parcels served, is able to connect to a public water supply.
 - 2. Applications to develop or improve an on-site or off-site water source serving agriculture are also exempt from the requirement of a groundwater permit under this chapter to the extent provided in Section 13.15.040
 - 3. Applications to construct or develop rainwater harvesting or graywater recycling systems when that is the sole purpose of the project and the resulting harvested or recycled water will be used to augment existing groundwater sources or as the sole source of water for use at that site.
 - 4. Minor improvements to a water system.

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5. Convenience improvements to a water system.
- B. Applications Requiring Use Permits. In the case of a proposed development requiring the issuance of a use permit pursuant to any provision of this code, applications which propose to develop, improve or utilize an on or off-parcel groundwater source in conjunction with such development are not required to obtain a groundwater permit under this chapter. Groundwater review of such applications shall occur in accordance with the county's procedures to obtain a use permit.
- C. Applications Involving a Ministerial Approval.
 1. Applications for a single-family dwelling unit and associated landscaping on parcels two acres in size or less, when such residence will be the only use on the parcel, shall be issued a groundwater permit providing they install a meter on the well serving the parcel, read the meter every six months, and report these meter readings to the public works department when requested by that department. If the parcel is greater than two acres, a ministerial permit shall be issued providing they meet the following requirements:
 - a. The permittee shall install a meter on the well serving the parcel to measure all groundwater used on the parcel. The configuration of the installation shall conform to a drawing prepared by the permittee and shall conform to the technical standards set forth by the director of public works.
 - b. On or near the first day of each month the permittee shall read the water meter and provide this data to the director of public works during the first week of April and October of each year. The permittee shall also grant to the director of public works the right to access and verify the operation and readings of the meters and well levels at any reasonable time during regular working hours.
 - c. The permittee shall be limited to 0.60 acre feet of water per year or such other amount as may be adopted by the board by resolution.
 - d. The permittee shall provide access to the County to measure water levels in spring and fall of each year, if requested.

This groundwater permit shall not be available when other dwellings, accessory uses, agricultural development or other discretionary uses exist on the property or when water from an approved public water system is available to the property. In such cases, a groundwater permit must first be obtained pursuant to the procedures set forth in Section 13.15.060 et seq. Any permittee that qualifies for a groundwater permit issued pursuant to this section may instead apply for a groundwater permit pursuant to the procedures set forth in Section 13.15.060 et seq.

2. Applications for agricultural land redevelopment that will utilize groundwater on parcels included within those groundwater deficient areas depicted on Map 13-1 shall be issued a groundwater permit without any additional requirements providing the size of the replant is two acres in size or less. If the replant is greater than two acres, a ministerial permit will be issued providing that they meet the following requirements:
 - a. The permittee shall install a meter on all wells or water supply and distribution systems serving the parcel to measure all groundwater used on the parcel. The configuration of the installation shall conform to a drawing prepared by the permittee and shall conform to the technical standards set forth by the director of public works.
 - b. On or near the first day of each month the permittee shall read the water meter and provide this data to the director of public works ~~by the 15th of each month during the first week of April and October of each year.~~ by the 15th of each month during the first week of April and October of each year. The permittee shall also grant to the director of public works the right to access and verify the operation and readings of the meters and well levels at any reasonable time during regular working hours.

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c. The permittee shall be limited to an average of 0.30 of acre feet of water per acre per year or such amount as may adopted by the board by resolution. This limitation shall be calculated as the average water used over a three-year period with no yearly use exceeding the acre foot of water per acre per year allotment by more than fifteen percent.

d. The permittee shall provide access to the County to measure water levels in spring and fall of each year, if requested.

Any permittee that qualifies for a groundwater permit issued pursuant to this section may instead apply for a groundwater permit pursuant to the procedures set forth in Section 13.15.060 et seq.

D. Applications for a minor modification or cancellation of an existing groundwater permit.

1. Applications for a minor modification or a cancellation of an existing groundwater permit shall be made through a ministerial permit process.
2. Applications for a minor modification or cancellation of an existing groundwater permit shall be made to the department in writing on a form prescribed by the department. The application shall state the grounds for the application, the specific modification being requested and shall include any information or evidence needed to support the request. The application shall also demonstrate that the proposed use complies with the standards required for issuance of a groundwater permit as set forth in this chapter.
3. An application for an administrative permit for a minor modification or cancellation of an existing groundwater permit shall be accompanied by a fee in the amount established by resolution of the board of supervisors.
4. Issuance Prerequisites. An application for a minor modification or cancellation of an existing groundwater permit shall be considered only if the following standards are met:
 - a. Minor Modification. The proposed modification does not increase water use over the existing permitted use and the resultant water use request meets the fair share standard for the parcel as established in the Department of Public Works Water Availability Policy Report (even if the original permit allowed a higher water use) and the application does not request a modification to a ministerial permit that would have otherwise been processed through the groundwater permit process outlined in Section 13.15.060; or
 - b. Cancellation. The cancellation of a groundwater permit shall only be allowed if evidence is submitted that the project which triggered the groundwater permit has been cancelled and is no longer being pursued.

If the modification request is not able to meet the above standards, the applicant has the option of applying for a new groundwater permit pursuant to Section 13.15.060.

(Ord. 1294 § 1 (part), 2007; Ord. 1254 § 7, 2005; Ord. 1230 § 3, 2003)

13.15.035 – Applicability of water conservation regulations for landscape design.

Applications for projects subject to the State's water efficient landscape requirements shall include information sufficient to demonstrate compliance with those requirements.

13.15.040 - Agricultural activities exempt from groundwater permitting requirements.

A. Applications to develop or improve a water source serving agriculture, as defined in Section 18.08.040 of this code, shall be exempt from the requirement of a groundwater permit under this

chapter where the water would only serve the property where the water source is located, or contiguous property. For purposes of this section only, "contiguous property" refers to property in common ownership that is joined at more than one common point to the property the water source is located, or connected in a pattern of parcels, each joined to another, that includes the property where the water supply system is located. If the contiguous property consists of more than one parcel, all parcels must be in agricultural production, in order to qualify for an exemption pursuant to this section. To qualify for the exemption in this section, in the case of parcels designated Agricultural Resource ("AR") or Agriculture, Watershed and Open Space ("AWOS") at least eighty percent of the allowable, plantable land of each parcel must be in agricultural production.

- B. Developments or improvements in water sources serving agriculture on any other properties, including adjacent property not qualifying as "contiguous" for purposes of this section, shall be subject to the same permitting criteria and standards identified in Sections 13.15.030 [for metering, water level access, reporting and water usage](#) and 13.15.070
- C. Notwithstanding subsection (A) of this section, developments or improvements in water sources located on parcels included within those groundwater deficient areas depicted on Map 13-1 shall be subject to those permitting criteria and standards identified in Sections 13.15.030 [for metering, water level access, reporting and water usage](#) and 13.15.070

(Ord. 1294 § 1 (part), 2007; Ord. 1230 § 3, 2003)

13.15.050 - Application for determination of exemption.

- A. Prior to any employee, department or body of Napa County issuing any permit or approval as set forth in Section 13.15.020, said employee, department or body must first make a preliminary determination if a groundwater permit is required (or must be provided with such preliminary determination from another employee, department or body). Said determination shall consider if the permit or approval:
 - 1. Is for a specific exemption as set forth in this chapter; or
 - 2. Falls within the definition of a minor improvement or convenience improvement; or
 - 3. Is eligible for a groundwater permit issued pursuant to subsection (C) of Section 13.15.030
- B. If the proposed project is determined to be exempt from the requirement of a groundwater permit for reasons other than an agricultural exemption, no further groundwater review shall take place and a determination of exemption shall be issued by the director.
- C. If the proposed project is claiming an agricultural exemption, the applicant must submit to the department an application for a groundwater permit agricultural exemption. The director shall respond, in writing, to the applicant on or before the end of fifteen days from the date of submittal. If the proposed project is determined by the director to be exempt from the requirement of a groundwater permit on the basis of the agricultural exemption authorized by Section 13.15.040 the holder of the exemption shall be required to file with the department a biennial report demonstrating that the parcel continues to be in at least eighty percent agricultural production of the allowable, plantable land. If the proposed project is determined not to be exempt from the groundwater review process, the determination of the director shall serve as notice to the applicant that a groundwater permit must be issued before the proposed project is begun.
- D. If the proposed project is determined not to be exempt based on a preliminary determination, the employee, department or body of Napa making such determination shall provide written notice to the applicant that a groundwater permit must first be issued.

(Ord. 1294 § 1 (part), 2007; Ord. 1230 § 3, 2003)

13.15.060 - Application for groundwater permit.

Each applicant determined not to be exempt or eligible for a groundwater permit issued pursuant to subsection (C) of Section 13.15.030 shall be required to obtain a groundwater permit and shall submit a groundwater permit application to the director, using a form provided by the director. That application shall:

- A. Identify any present and future uses of any existing water system, including whether and to what extent groundwater is or will be used as a water source on the affected property. For the purposes of this chapter, when an applicant identifies the existing water uses on a parcel to establish the existing water use level on that parcel, those existing uses which will be considered by the director are only those legitimate water using activities such as residential structures, other legal uses (wineries, etc.), vineyards, or other viable agricultural crop or animal operation which were not discontinued for more than two years prior to the date of the application for the groundwater permit. Random irrigation practices that serve no beneficial use (e.g., watering pasture when no animal or crop is dependent on that water) will not be considered as an existing water use. For the purposes of the application, future uses are those for which permits will be secured or improvements completed within two years of the application;
- B. Identify any water sources other than groundwater intended to be used;
- C. If the proposed application is for the development of a new water system or improvement to an existing water system, state the number of parcels and service connections the new water system or improvement are intended to serve, identify the location of the structures and improvements to be served by that new or improved water system, and identify existing and future uses and users to be served by that new or improved water system;
- D. Whether the intent is to transfer some or all of the groundwater extracted pursuant to the permit to a public agency for use by a public agency following issuance of the groundwater permit; and
- E. In the form of a Water Availability Analysis-~~Phase I~~, as outlined in the Department of Public Works Water Availability Policy Report, as it may be amended from time to time, provide sufficient information and supporting documentation to enable the director of public works to determine whether it is likely the new water system, improvement or addition might significantly affect the impacted groundwater area or basin within Napa County, whether or not the proposed improvement or new system may be reasonably expected to adversely affect reasonable and beneficial uses of groundwater, interfere with surface water flows, ~~or~~ cause other adverse changes to the physical environment adversely affecting the impacted groundwater area or basin, or in any way conflict with the County's adopted policies or goals.

(Ord. 1294 § 1 (part), 2007; Ord. 1230 § 3, 2003)

13.15.070 - Processing of groundwater permit applications.

The following procedures and standards shall govern the review and disposition of applications requiring groundwater permits other than groundwater permits issued pursuant to subsection (C) of Section 13.15.030:

- A. The director shall review an applicant's groundwater declaration submitted under this chapter for compliance with the requirements of this chapter and any other applicable provisions of law.
- B. Following the director's determination that the groundwater declaration complies with Section 13.15.060, the director shall furnish a copy of the applicant's declaration to the director of the department of public works to obtain the written comments of that department on the application. The director of public works shall instruct the applicant to perform any testing or produce supplemental information pursuant to the Water Availability Analysis requirements

~~based on review of the application prepared under Section 13.15.060, required phase II or III water availability analysis required by the written procedures established by the department of public works.~~ The ~~D~~department of ~~P~~public ~~W~~works, in assessing any required ~~phase II or phase III~~ analysis, shall take into consideration the available evidence that indicates the potential direct impacts due to pumping on changes in static water levels of neighboring wells prior to submitting its comments. The director of public works shall submit its comments in the form of a written appraisal of the application to the director. That appraisal shall assess available evidence that indicates the potential for significant negative impacts on local groundwater~~the affected groundwater table~~, and assess potential adverse effects on reasonable and beneficial uses of groundwater, interference with surface water flows, or other adverse changes to the physical environment. The director shall review the application and the written comments and appraisal from the director of public works for the purposes of conducting the required environmental review.

- C. The director shall consider approving a groundwater permit only after reviewing the declaration, the environmental determination, and any written comments received regarding the application, including the written appraisal of the department of public works. After that review, the director shall only approve a groundwater permit after making any necessary environmental determination and concluding, based on substantial evidence in the record, that the new water system, improvement or addition would not significantly affect the impacted groundwater basin in Napa County. In making this determination, the director shall consider, but is not limited to, the following factors: impact on the affected groundwater table; adverse effects on the reasonable and beneficial uses of groundwater; implementation of Best Management Practices; or other adverse changes to the physical environment.
- D. In approving a groundwater permit, the director may impose reasonable conditions on the permittee as needed to satisfy the requirements of this chapter, minimize groundwater use and to protect the public health, safety and welfare including but not limited to requiring implementation of Best Management Practices, plumbing retrofits, installation of meters, monitoring and reporting, limits on groundwater consumption, and requirements that groundwater consumption be reduced in the future if the basin develops an overdraft condition. Additionally, any groundwater permit granted to a public agency, or granted to a person or persons who, subsequent to the issuance of the groundwater permit, intends to transfer some or all of the groundwater extracted pursuant to the permit to a public agency for use by a public agency, shall be valid for a maximum of three years. The grant of a permit subject to this three-year limitation shall include conditions relating to the termination and renewal of the permit; provided, however, that such conditions shall include, at a minimum, a condition that the permit may be renewed only upon the approving authority's finding that the renewal would not cause significant adverse effects on the affected groundwater basin or the surrounding agricultural operations.
- E. If the director determines after review that the applicant's groundwater declaration satisfies the groundwater permitting requirements of this chapter, and any other applicable provisions of law, the director shall issue a tentative decision setting forth the conclusions reached in making the determination, and approving or conditionally approving a groundwater permit. If the director determines the application and groundwater declaration do not meet the permitting requirements of this chapter, or any other applicable provisions of law, the director shall issue a tentative decision denying the groundwater permit and setting forth the reasons therefore. Any tentative decision will be issued within thirty days of the date comments are received from the director of public works.
- F. Within seven calendar days of the issuance of the tentative decision, the director shall give notice of its issuance, including the date on which a tentative decision will become final if a written request for a public hearing is not requested, which date shall be not less than ten calendar days following the date notice of the tentative decision is mailed. The notice shall be given by all of the following means:

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1. Notice shall be personally delivered or placed in the mail to the applicant seeking approval of a groundwater permit under this chapter.
 2. Notice shall be placed in the mail to each public entity with jurisdiction over any portion of the groundwater basin in which the proposed extraction would be expected to occur.
 3. Notice shall be personally delivered or placed in the mail to the owners of all real property, including businesses, corporations, or other public or private entities, as shown on the latest equalized assessment roll, within three hundred feet of the outer perimeter of the properties that will utilize the extracted groundwater. In lieu of utilizing the assessment roll, the records of the county assessor or tax collector may be used if they contain information more recent than the assessment roll.
 4. Notice shall be mailed to any person who has filed a written request therefor with the director. Such requests may be submitted at any time during the calendar year and shall apply for the balance of such calendar year.
- G. The tentative decision shall become final once the period identified in the notice during which a public hearing may be requested has expired without such written request for a public hearing having been received.
- H. If a public hearing is requested in a timely manner, the tentative decision shall be a nullity, in which case the director shall set the hearing date and personally deliver or mail a notice of the time, place and date of the hearing, in the same manner and to the same persons as the notice of the tentative decision was mailed or delivered. This notice shall be mailed not less than ten and not more than thirty calendar days prior to the date of the hearing. Any required hearing shall be de novo and shall commence within ninety days of receipt of a request for a hearing.
- I. The director shall conduct the public hearing. Any member of the public may attend and present oral testimony, written or other evidence, or both. The proceedings shall be electronically recorded and the tapes thereof retained in the director's custody for three years after the hearing except during such time as they may be undergoing transcription for preparation of the record on appeal.
- J. Within five calendar days following the conclusion of the public hearing, the director shall issue a final decision approving, conditionally approving, or denying the request to issue a groundwater permit. The director shall give notice of the final decision to all persons who appeared and presented testimony at the hearing.
- K. Final determinations of the director (or on appeal, the Board of Supervisors) are discretionary for purposes of the California Environmental Quality Act (Pub. Res. Code, Section 21000, et seq.) except that determinations of exemption pursuant to subsection (A) of Section 13.15.030 or the issuance of a groundwater permit pursuant to subsection (C) of Section 13.15.030 are deemed ministerial acts and are exempt from the California Environmental Quality Act.

(Ord. 1294 § 1 (part), 2007; Ord. 1230 § 3, 2003)

(Ord. No. 1374, § 24, 9-11-2012)

13.15.075 - Permit Required for export for use outside county.

- A. A groundwater permit shall be required to extract groundwater for export for use outside the county.
- B. No permit shall be approved authorizing the export for use of groundwater outside the county without conditions or assurance of the adequate, long-term supply for agriculture, conservation, domestic, industrial, and recreational uses in the affected watershed.

13.15.080 - Exceptions.

Notwithstanding any other provisions of this chapter:

- A. No groundwater permit shall be denied where the director (or on appeal, the Board of Supervisors) determines, after reviewing the entire record, that a denial would constitute an unconstitutional taking of property without just compensation, or would effect an unreasonable use or waste of water.
- B. The groundwater review and permitting requirements of this chapter shall be waived when applying them would delay effective response to a general emergency declared by the Governor of the State of California or the Napa County Board of Supervisors. "General emergency," as used herein, refers to a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or other essential public services.

(Ord. 1294 § 1 (part), 2007; Ord. 1230 § 3, 2003)

13.15.090 - Appeals.

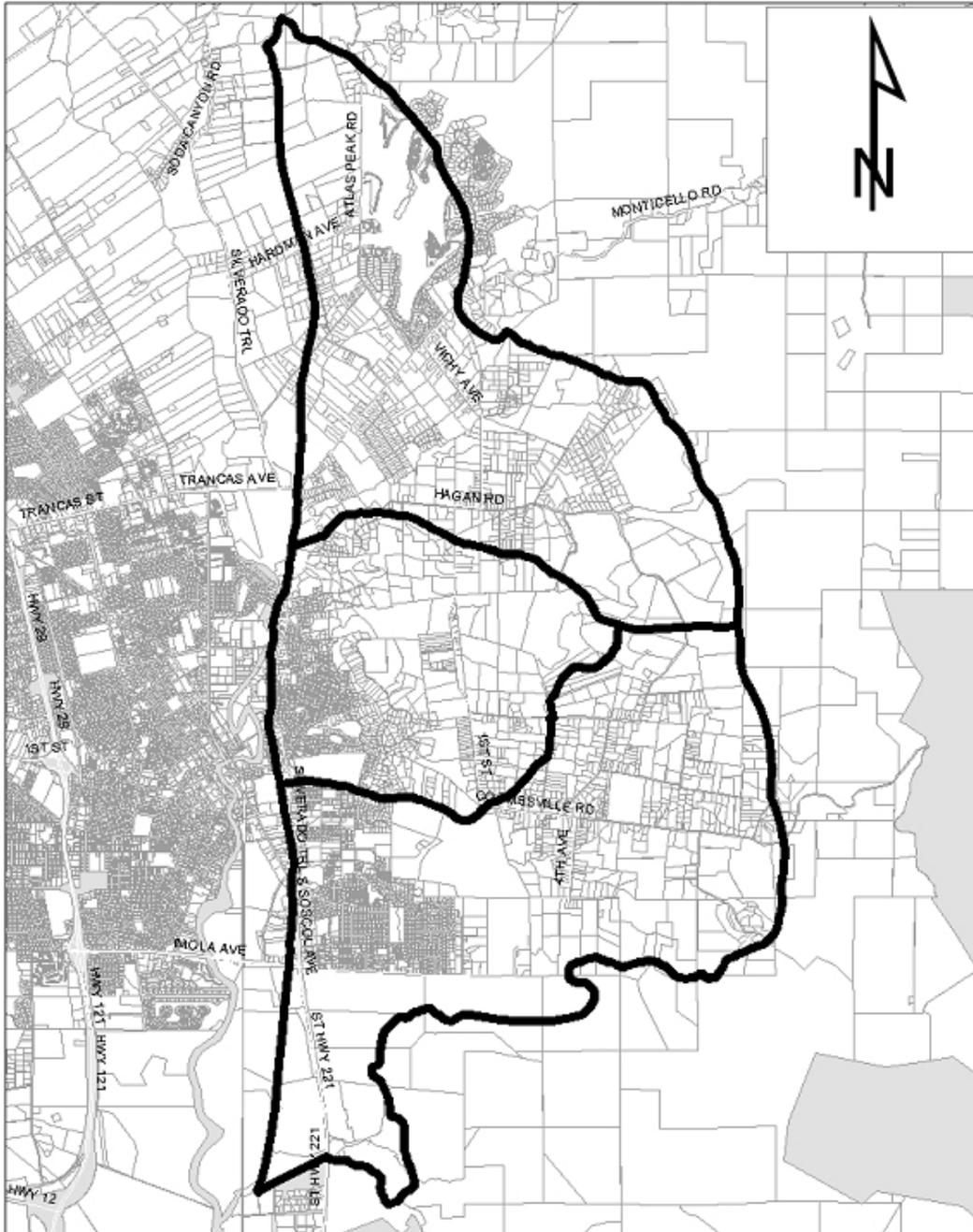
Any person may appeal a final decision of the director made, following a request for hearing pursuant to subsection (H) of Section 13.15.070, in accordance with the procedures set forth in Chapter 2.88 of this code. Appeals of tentative decisions that become final because no request for a hearing was received, are not permitted.

(Ord. 1294 § 1 (part), 2007; Ord. 1230 § 3, 2003)

13.15.100 - Enforcement—Violation.

- A. **Criminal Penalties.** Any person, firm or corporation, whether acting as principal, agent, employer or otherwise, who violates any provision of this chapter, or the terms and/or conditions of any permit issued pursuant to this chapter, with intent to do so shall be guilty of an infraction with a fine not exceeding one hundred dollars for the first violation, two hundred dollars for the second violation within one year, and five hundred dollars for the third violation within one year. Any subsequent violation shall be punishable as a misdemeanor, punishable by a fine not to exceed one thousand dollars per violation, or imprisonment not exceeding six months, or both such fine and imprisonment. Any person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any such violation is committed, continued, or permitted.
- B. **Civil Actions—Injunctive Relief.** Napa County may elect to proceed with a civil action, including seeking injunctive relief, rather than proceed with criminal actions as described in subsection (A) of this section. Any person, firm or corporation, whether acting as principal, agent, employer or otherwise, who willfully violates any provision of this chapter, or the terms and/or conditions of any permit issued pursuant to this chapter, shall be liable for a civil penalty not to exceed one thousand dollars for each day or portion thereof, that the violation continues to exist. Any person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any such violation is committed, continued, or permitted. In determining the amount of the civil penalty to impose, the court shall consider all relevant circumstances, including, but not limited to, the extent of the harm caused by the conduct constituting the violation, the nature and persistence of such conduct, the length of time over which the conduct occurred, the assets, liabilities, and net worth of the violator, whether corporate or individual, and any corrective action taken by the violator.

(Ord. 1294 § 1 (part), 2007; Ord. 1230 § 3, 2003)



Map 13-1: Milliken Sarco Tulocay Groundwater Deficient Basin

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WATER AVAILABILITY ANALYSIS
Policy Report
August 2007

Introduction:

At the height of the 1990 drought in Napa County, the Napa County Board of Supervisors and the Napa County Planning Commission became very concerned with the approval of use permits and parcel division that would cause an increased demand on groundwater supplies within Napa County. During several Commission hearings, conflicting testimony was entered as to the impact of such groundwater extraction on water levels in neighboring wells. The Commission asked the Department of Public Works to evaluate what potential impact an approval might have on neighboring wells and on the basin as a whole. In order to simplify a very complex analysis, the Department developed a three phase water availability analysis to provide a cost-effective answer to the question.

On March 6, 1991, an interim policy was presented and approved by the Commission which requires the applicants for use permits and parcel divisions to submit a water availability analysis with their proposal. The staff report that provides the procedure to follow for compliance with the Commission policy was intended to be an interim one. With the passage on August 3, 1999 by the Board of Supervisors of Napa County Ordinance #1162 (the Groundwater Conservation Ordinance) it became apparent that the interim policy required updating and formalization. The purpose of the revised report is to provide the procedure for preparation of water availability analysis and to restate the purpose and functionality of the analysis as related to the revised Groundwater Ordinance (Napa County Ordinance # 1162).

Water Availability Analysis:

The Water Availability Analysis (WAA) sets up guidelines to determine if a proposed project will have an adverse impact on the groundwater basin as a whole or on the water levels of neighboring wells with the overriding benefit of helping to manage groundwater resources. An important sidelight to the process is public education and awareness. WAA's are comprised of potentially three phases; phase one, phase two and phase three.

A **phase one analysis** is a reconnaissance level report that may be prepared by the applicant or their agent. **It must be signed by the applicant. If prepared by the applicant's agent, it must contain the letterhead of the agent, the name of the agent, and the agent's signature.** The phase one WAA contains the following information:

1. The name and contact information of the property owner and the person preparing the phase one report.
2. Site map of the project parcel and adjoining parcels. The map should include: Assessor's Parcel Number (APN), parcel size in acres, location of project well(s) and other water sources, general layout of structures on the subject parcel, location of agricultural development and general location within the county.
3. Narrative on the nature of the proposed project including: all land uses on the subject parcel, potential for future water uses, details of operations related to water use, description of interconnecting plumbing between the various water sources and any other pertinent information.
4. Tabulation of existing water use compared to projected water use for all land uses contained on the parcel. Should the water use extend to other parcels, they should be included in the analysis (see Appendix E for additional information on determining fair share estimates when multiple parcels are involved). **These estimates should reflect the specific requirements of the applicant's operations.** The applicant should use the guidelines attached in Appendix A

The Department will review the analysis for completeness and reasonableness (based on the guidelines outlined in Appendix A) and then compare the analysis to a threshold level of groundwater use for the subject parcel. The threshold is based upon several factors including annual rainfall, topography, soil types, proximity to recharge zones and available groundwater information. In general, parcels located on the Valley Floor or in strong alluvial areas will be assigned a threshold of 1 acre-foot per acre of land (an acre-foot of water is the amount of water it takes to cover one acre of land to a depth of one foot, or 325,851 gallons). Therefore, a 40-acre parcel will have an acceptable level of groundwater use of 40 acre-feet per year. The threshold for Hillside parcels (primarily located in volcanic rock and soils) is 0.5 acre-feet per acre or 20 acre-feet per year for a 40-acre parcel. Areas designated as "Groundwater Deficient Areas" as defined in the Groundwater Conservation Ordinance will have threshold established for that specific area. For example, the Milliken-Sarco-Tulocay Basin (M-S-T) is currently the only "groundwater deficient area" and has an established threshold of 0.3 acre-feet per acre per year. Thus, the same 40-acre parcel has an acceptable level of water use of 12 acre-feet per year (see Appendix B).

If the Phase I analysis shows a water use above the parcel threshold then further analysis may be required in the form of a Phase II or Phase III analysis.

In instances where the applicant is in the M-S-T basin and their estimated future water usage will be significantly less than the values listed in Appendix A, or if the estimate is within 50% of the estimated threshold, the County may require the applicant to install a water meter to verify actual groundwater usage. If the actual usage exceeds the parcel's threshold, applicant may be required to reduce groundwater consumption and/or find

alternate water sources to ensure that no more groundwater is consumed than the threshold for the parcel(s) (See Appendix D).

In the M-S-T basin a phase one analysis examines only the estimated quantity of groundwater water usage as compared to the established water usage threshold. It is assumed that if all consumers within the MST basin were to limit their consumption to 0.3 acre-feet per acre per year* there will be sufficient groundwater for all properties within that area.

* Does not apply to the Ministerial Exemption as outlined in the Groundwater Conservation Ordinance

Any new project within the M-S-T Basin whose estimated use exceeds the threshold use will likely be recommended for denial to the County Department requesting review of the application.

For projects in all other areas within Napa County whose estimated water use exceeds the threshold, the applicant will be required to conduct either a **phase two or a phase three analysis (or both)**.

The phase two analysis is commonly called an aquifer test or well test. It requires the pumping of the project well(s) at the maximum rate needed to meet project water demands and at the same time requires the monitoring of the immediate effects of groundwater pumping on a neighboring or monitoring well(s). The following requirements must be met when performing a phase two analysis:

- An approved hydrogeologist, a list of which is on file with the Department of Public Works, must develop the test procedure. Upon approval of test procedures, the hydrologist will supervise the test and submit a report to the Department evaluating impacts to neighboring static water levels.
- A licensed well drilling contractor must perform the actual testing and monitor static and dynamic water levels of the project well and monitoring wells during the duration of the test, including the recovery phase of the project well and monitoring wells.
- The test must be conducted long enough to stabilize the dynamic water level of the project well or include an analysis of what the impact* of continued pumping would have.
- The applicant or agent must notify the Department at least 48 hours prior to conducting the test.

* Impact is unique to each project and will be evaluated on a case by case basis by the department of public works.

Any projects requiring a phase two analysis may also be required to install water meters to measure the actual amount of water consumed, and be required to find alternate

water sources if their actual groundwater usage exceeds the threshold for their property (see Appendix D).

The Department will review the phase two analysis and determine if the impacts to static water levels of neighboring wells are within acceptable limits. If the phase two is unacceptable, a **phase three analysis** is required. The phase three analysis may include many measures aimed at reducing water consumption and/or the maximum pumping rate. The Department will require periodic monitoring of static water levels with annual submittals of well production and static water level reports.

The phase three analysis only determines possible actions which could be taken to moderate the immediate effects of groundwater pumping to neighboring wells. These mitigation measures will be designed to reduce, but may not eliminate, the immediate effects of groundwater pumping to neighboring wells.

The preparation and submittal of WAA's for all use permits and parcel divisions, as well as for all Groundwater Conservation Ordinance permits must be submitted through the normal procedures for the Conservation, Development and Planning Department (CDPD) and the Department of Environmental management (DEM) respectively. All subsequent communication should likewise pass through CDPD or DEM. Any mitigation measures identified in the phase three analysis will become either project modifications to, or conditions of approval for, the proposed project.

Details of the use permit or land division can be obtained from CDPD and details of the Groundwater Ordinance and related permit process can be obtained from the Department of Environmental Management. Mapping of "Groundwater Deficient Areas" is available at all three Departments with final determination being supplied by the Department of Public Works.

Conclusions:

The Napa County Board of Supervisors has long been committed to the preservation of groundwater for agriculture and rural residential uses within the County. It is their belief that through proper management, the excellent groundwater resources found within the county can be sustained for future generations.

Since 1991, several conclusions can be drawn from application of the water availability analysis process:

- In the process of conducting the analysis, applicants become much more aware of water use for their project, providing a higher level of awareness and potentially leading to more efficient use of the resource.
- Information submitted by applicants has lead to a broader database for future study and management.

- Groundwater use can vary widely depending upon its availability.
- The current practice of evaluating an applicant's Phase I WAA to determine if additional analysis is needed has been the accepted method for making groundwater determinations. Due to the limited information available on Napa County groundwater basins in general (with the exception of the MST basin), the Phase 1 WAA has been the most reasonable approach to the process and has not been shown to be inaccurate or inadequate. As such, the established WAA procedures for making groundwater determinations as outlined above and throughout the Appendices will continue to be the accepted method of making groundwater determinations and findings.

The water availability analysis is based upon the basic premise that each landowner has equal right to the groundwater resource below his or her property. By attempting to limit the extraction to a threshold amount, it is believed that sufficient groundwater will be available for both current and future property owners.

APPENDIX A: Estimated Water Use for Specified Land Use

Guidelines for Estimating Residential Water Use-For use with the Phase I Form

The typical water use associated with residential buildings is as follows:

Primary Residence	0.5 to 0.75 acre-feet per year (includes minor to moderate landscaping)
Secondary Residence	0.20 to 0.50 acre-feet per year
Farm Labor Dwelling	0.06 to 0.10 acre-feet per person per year

Additional Usage to Be Added

1. Add an additional 0.1 acre-feet of water for each additional 1000 square feet of drought tolerant lawn or 2000 square feet of non-xeriscape landscaping above the first 1000 square feet.
2. Add an additional 0.05 acre-feet of water for a pool with a pool cover.
3. Add an additional 0.1 acre-feet of water for a pool without a cover.

Residential water use can be estimated using the typical water uses above. All typical uses are dependant on the type of fixtures and appliances, the amount and type of landscaping, and the number of people living onsite. If a residence uses low-flow fixtures and has appliances installed, is using xeriscape landscaping, and is occupied by two people, the water use estimates will be on the low side of the ranges listed above.

Examples of Residential Water Usage:

Residential water use can vary dramatically from house to house depending on the number of occupants, the number and type of appliances and water fixtures, the amount and types of lawn and landscaping. Two homes sitting side by side on the same block can consume dramatically different quantities of water.

Example1:

Home #1 is 2500 square feet. Outside the house there is an extensive bluegrass lawn, a lot of water loving landscaping, a swimming pool with no pool cover. Inside the house all the appliances and fixtures, including toilets and shower-heads, are old and have not been upgraded or replaced by water saving types. The owners wash their cars weekly but they don't have nozzles or sprayers on the hose. They do not shut off the water while they are soaping up the vehicles, allowing the water to run across the ground instead. Water is commonly used as a broom to wash off the driveways, walkways, patio, and other areas. The estimated water usage for Home #1 is 1.2 acre-feet of water per year.

Example2:

Home #2 is also 2500 square feet. Outside of the house there is a small lawn of drought tolerant turf, extensive usage of xeriscape landscaping, and no swimming pool. Inside the house all of the appliances and fixtures, including toilets and showerheads, are of the low flow water saving types. The owners wash their cars weekly, but have nozzles or sprayers on the hose to shut off the water while they are soaping up the vehicles. Driveways, walkways, patios, and other areas are swept with brooms instead of washed down with water. Estimated water usage for Home #2 is 0.5 acre-feet of water per year.

The above are only examples of unique situations. The estimated water use for each project will vary depending on existing parcel conditions.

Guidelines For Estimating Non-Residential Water Usage:

Agricultural:

Vineyards	
Irrigation only	0.2 to 0.5 acre-feet per acre per year
Heat Protection	0.25 acre feet per acre per year
Frost Protection	0.25 acre feet per acre per year
Farm Labor Dwelling	0.06 to 0.10 acre-feet per person per year
Irrigated Pasture	4.0 acre-feet per acre per year
Orchards	4.0 acre-feet per acre per year
Livestock (sheep or cows)	0.01 acre-feet per acre per year

Winery:

Process Water	2.15 acre-feet per 100,000 gal. of wine
Domestic and Landscaping	0.50 acre-feet per 100,000 gal. of wine

Industrial:

Food Processing	31.0 acre-feet per employee per year
Printing/Publishing	0.60 acre-feet per employee per year

Commercial:

Office Space	0.01 acre-feet per employee per year
Warehouse	0.05 acre-feet per employee per year

Parcel Location Factors:

The allotment of water for each parcel is based on the location of the parcel. There are three different location classifications. Valley Floor, Hillside and Groundwater Deficient Areas. Valley Floor areas include all locations that are within the Napa Valley and the Carneros Region except for areas specified as groundwater deficient areas. Groundwater Deficient areas are areas that have been determined by the Department of Public Works as having a history of problems with groundwater. The only Groundwater Deficient Basin in Napa County is the MST basin. All other areas are

classified as Hillside Areas. Public Works can assist you in determining your classification.

Parcel Location Factors

Valley Floor	1.0 acre feet per acre per year
Hillside Areas	0.5 acre feet per acre per year
MST Groundwater Deficient Area	0.3 acre feet per acre per year*

* Does not apply to the Ministerial Exemption as outlined in the Groundwater Conservation Ordinance

The threshold for the Valley Floor Area was determined in 1991 in the form of a Staff Report to the Board of Supervisors. The value of 1.0 AF/A/Year was established as the typical water demand of a vineyard. It was noted that the Valley Floor threshold would have relatively little effect on neighboring wells.

The threshold for the Mountain Area was established due to the uncertainty of the geology, and the increasingly fractured aquifer in the mountainous and non-Napa Valley areas including Carneros, Pope Valley, Wooden Valley, and Capell Valley.

The threshold for the Groundwater Deficient Areas was determined using data from the 1977 USGS report on the Hydrology of the Milliken Sarco Tulocay region. The value is calculated by dividing the “safe annual yield” (as determined by the USGS study of 1977) by the total acreage of the affected area (10,000 acres).

APPENDIX B: Values Used to Establish Thresholds

Average Annual Rainfall (Source: Napa County Road & Streets Standards):

American Canyon	1.5 feet per year
City of Napa	2.0 feet per year
Yountville	2.5 feet per year
Oakville	2.5 feet per year
Rutherford	2.67 feet per year
St. Helena	2.75 feet per year
Calistoga	3.0 feet per year
Western Hills	increase by 20%
Eastern Hills	increase by 10%

Threshold Factors of Acceptable Water Use:

Valley Floor	1.0 acre-foot per acre
Hillsides	0.5 acre-foot per acre
MST Groundwater Deficient Areas	0.3 acre-foot per acre*

* Does not apply to the Ministerial Exemption as outlined in the Groundwater Conservation Ordinance

APPENDIX C: Guidance for M-S-T Basin Permit Applications

Data collected from the monitoring of wells within the M-S-T Basin over the last forty years indicate that it may be in overdraft, leading to the conclusion that the existing water users within the basin are pumping more water from the ground than is being naturally replaced each winter season. The only way to end the overdraft trend is to cease all water extraction from the basin. However, as no other reasonable water resources exist in the M-S-T, the Department, to avoid a ban on all new construction, has assumed that each property owner should be able to develop their property to a “reasonable” level of water use while reducing the rate at which the groundwater levels are being lowered.

Within the near future, the U.S.G.S. will release a report on a recent study of the M-S-T Basin. From the U.S.G.S. report we will be able to determine to what extent the overdraft condition may exist and infer what problems may occur from the continued extraction of groundwater from the Basin. Results of the study will be used to plan for alternatives to address these problems. Until the report is available, and alternative measures can be implemented, the Department will use the following analysis to evaluate impacts from proposed projects in the M-S-T Basin:

Single Family Dwellings on Small Parcels In the M-S-T Basin: The average, single family dwelling will likely use between 0.5 and 0.75 acre-feet of groundwater per year. Using a threshold of 0.3 acre-ft/year/acre, the minimum parcel size able to support the above range is between 1.5 to 2.5 acres. Therefore, if an existing residence that uses 0.5 acre-feet per year of groundwater is located on a one-acre parcel, it already exceeds the acceptable level of water use for the property. Applications for the construction of a single family home in these instances can be approved ministerially if the owner agrees to the conditions outlined in the Groundwater Ordinance. If the conditions are not agreed upon, or if the project involves a secondary dwelling or other groundwater uses not consistent with a single family dwelling, then the project would be subject to the complete groundwater permit process including but not limited to the submittal of a Phase 1 analysis detailing all water use, existing and proposed, on the project parcel.

Agricultural Development In the M-S-T Basin: Agriculture in the M-S-T Basin is not exempt from the groundwater permit process. In these cases, such development will require an application for a groundwater permit including a phase one analysis detailing the existing and proposed water use(s) on the project parcel(s). It is likely that all agricultural development in the M-S-T will be required to meter all wells supplying water to the property with periodic reports to the Department.

Existing Vineyard, New Primary or Secondary Residence In the M-S-T Basin: On an application related to a new residence on a parcel with an existing vineyard or residence, the Phase 1 WAA shall include all water use on the property, both existing and proposed. Projects on parcels with an established vineyard will likely be required to meter all wells supplying water to the property with periodic reports to the Department.

Wineries and Other Use Permits In the M-S-T Basin: On an application for a use permit, the applicant is required to provide a phase one analysis. Should the application be approved, a specific condition of approval will be required to meter all wells supplying groundwater to the property with periodic reports to the Department. It is also possible that water conservation measures will be a condition of approval. All new use permits must meet the threshold water use for the project parcel.

APPENDIX D: Water Meters

If required, water meters shall measure all groundwater used on the parcel. Additional meters may also be required for monitoring the water use of individual facilities or operations, such as a winery, residence, or vineyard located on the same parcel. If a meter(s) is installed, the applicant shall read the meter(s) and provide the readings to the County Engineer at a frequency determined by the County Engineer. The applicant shall also convey to the County Engineer, or his designated representative, the right to access and verify the operation and reading of the meter(s) at any time.

If the meters indicate that the water consumption of a parcel in the M-S-T basin exceeds the fair share amount, the applicant will be required to submit a plan which will be approved by the Director of Public Works to reduce water usage. The applicant may be required to find additional sources of water to reduce their groundwater usage. Additional sources may include using water provided by the City of Napa, the installation of water tanks which are filled by water trucks, or other means which will ensure that the groundwater usage will not exceed the fair share amounts.

The readings from water meters may also be used to assist the County in determining trends in groundwater usage, adjusting baseline water use estimates, and estimating overall groundwater usage in the M-S-T basin.

Appendix E: Determining water use numbers with multiple parcels

The water availability analysis is based on the premise that each landowner has equal right to the groundwater resource below his or her property. There will be cases where one person or entity owns multiple parcels and requests that the total water allotment below all of his or her parcels be considered in the Phase I water availability analysis. Determining the total threshold based on multiple parcels is acceptable, however to protect future property owners, certain safeguards must be in place to ensure that the water allotment and transfer between parcels is clearly documented and recorded, especially in cases where the water from more than one parcel will ultimately serve a use on a single parcel.

When multiple parcels are involved, the parcels for which the total threshold is being based on must be clearly identified on a site plan with assessors parcel numbers noted. The transfer of water from these parcels to the parcel on which the requested use is located must be documented using the form provided by the department of public works. The form must be approved by the County and subsequently recorded by the applicant prior to commencement of any activity authorized by the groundwater permit or other county permit or approval. A condition requiring such will be placed on the use permit, groundwater permit or other permit for approval.

Alternatively, if the method above is not feasible, the applicant may provide a Phase One Analysis for each project parcel, with the understanding that the water use on each

individual parcel must not exceed the fair share for that parcel (and or the existing use if the parcel is in the MST groundwater deficient basin).

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