

Appendix B

Water Rights Petitions and Related Correspondence

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WATER RIGHTS PETITIONS

- Executed Final A004017 Tait Petition Package
- Executed Final A005125 Tait Petition Package
- Executed Final A022318 Felton Petition Package
- Executed Final A023710 Felton Petition Package
- Executed Final A017913 Newell Creek Petition Package

PROTEST LETTERS

- San Andreas Land Conservancy
- San Lorenzo Valley Water District

CITY RESPONSE TO PROTEST LETTERS

- Response to San Andreas Land Conservancy
- Response to San Lorenzo Valley Water District

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WATER RIGHTS PETITIONS

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Wagner & Bonsignore

Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
Robert C. Wagner, P.E.
Paula J. Whealen

Martin Berber, P.E.
Patrick W. Ervin, P.E.
David P. Lounsbury, P.E.
Vincent Maples, P.E.
Leah Orloff, Ph.D., P.E.
David H. Peterson, C.E.G., C.H.G.
Ryan E. Stolfus

January 6, 2021

Mr. Sam Boland-Brien
Supervising Engineer - Petition, Licensing & Registration
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

**Re: City of Santa Cruz
Petitions for Change and Extension of Time: Permits 16123 and 16601
(Applications A022318 and A023710 respectively)
Petitions for Change: Licenses 1553, 7200 and 9847 (Applications A004017,
A005215 and A017913 respectively)**

Dear Mr. Boland-Brien:

In December 2006, the City of Santa Cruz filed Petitions for Extension of Time for Permits 16123 and 16601, and Petitions for Change for License 9847 and Permits 16123 and 16601 with the Division. The Division issued a Public Notice of these Petitions on October 8, 2008. Subsequently, the City determined that additional modifications were necessary and filed revised Petitions on these same rights on January 29, 2019 and again on August 5, 2020.

At this time, the City would like to amend its August 5, 2020 Petitions in their entirety and are submitting the enclosed amended Petitions for the referenced rights. The Petition revisions were made to respond to comments provided by you and your staff.

An Initial Study and Notice of Preparation of an Environmental Impact Report in support of the enclosed Petitions was issued by the City in 2018. The City is well into the preparation of a draft environmental impact report. Therefore, we request that these revised Petitions be issued for public notice as soon as possible to incorporate and/or address comments in the environmental document.

Enclosed are the executed Petitions, Underground Storage Supplements, Environmental Information forms, site photographs and accompanying map. In January 2019, Petition filing fees in the amount of \$13,114.72 were submitted to the Division, with an \$850 environmental fee for the California Department of Fish and Wildlife. Additional filing fees in the amount of \$2,394.48

*2151 River Plaza Drive • Suite 100 • Sacramento, CA 95833-4133
Ph: 916-441-6850 or 916-448-2821 • Fax: 916-779-3120*

Mr. Sam Boland-Brien

January 6, 2021

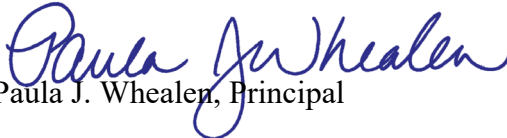
Page 2

were submitted with the August 5, 2020 revised Petitions. We understand that no additional filing fees are due currently. I am also sending this letter and Petition package to you via email.

Please contact me if you have any questions regarding the enclosed Petitions.

Very truly yours,

WAGNER & BONSIGNORE
CONSULTING CIVIL ENGINEERS


Paula J. Whealen, Principal

Encl.

cc: (via email)

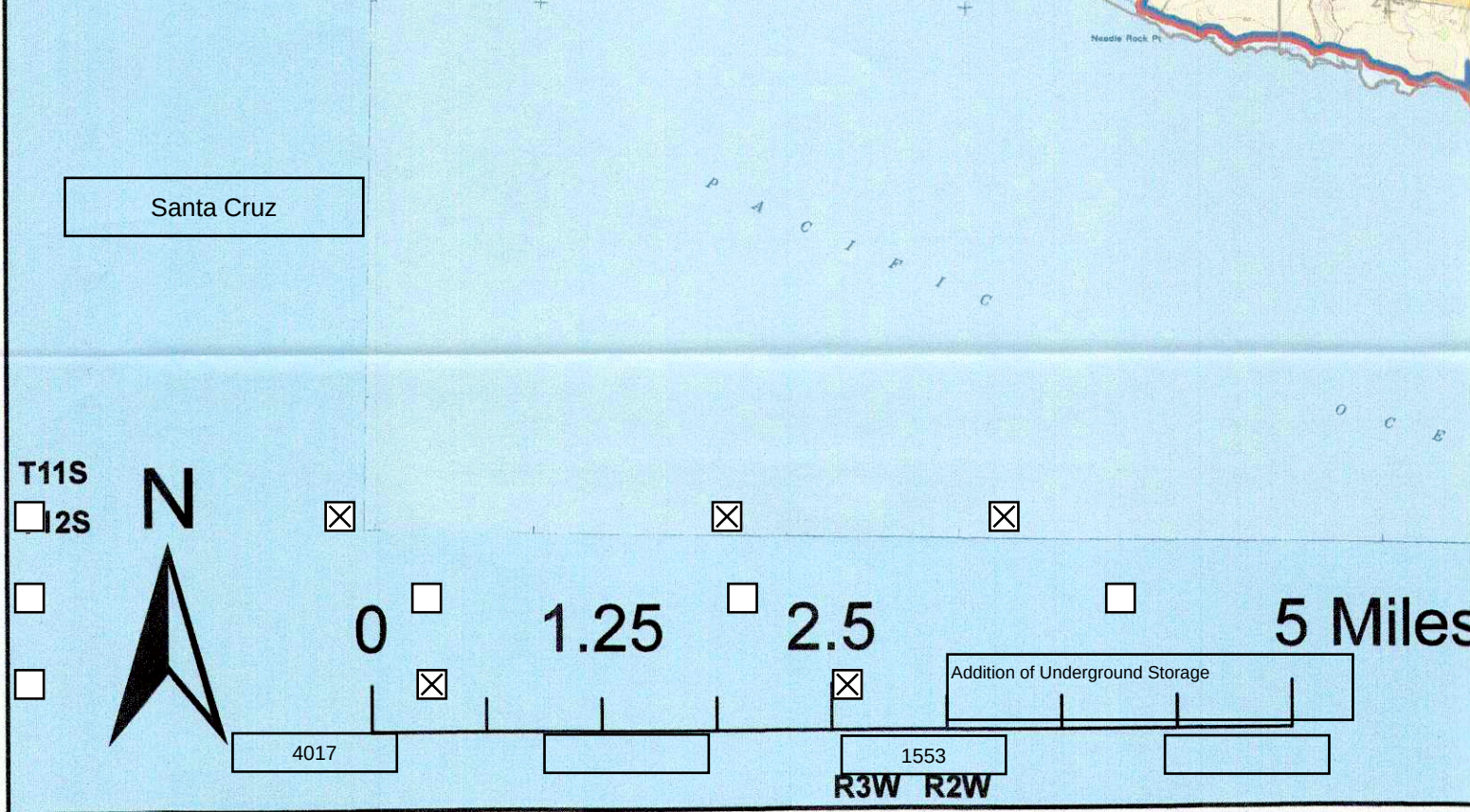
Rosemary Menard, City of Santa Cruz

Chris Berry, City of Santa Cruz

Ryan Bezerra, Bartkiewicz Kronick & Shanahan

Randi Adair, California Department of Fish & Wildlife

Amanda Morrison, NOAA National Marine Fisheries Service



See Attached	San Lorenzo River and Tributaries	
See Attached		
See Attached	Water Service Areas	Places
See Attached		
See Attached	Central Water District	
See Attached		
See Attached	San Lorenzo Valley Water District	
	Scotts Valley Water District	
	Soquel Creek Water District	Ground
	City of Santa Cruz' Service Area	
	City of Santa Cruz' North Coast Service Area	

Temporary Urgency

This temporary urgency change will be effective from to .

Include an attachment that describes the urgent need that is the basis of the temporary urgency change and whether the change will result in injury to any lawful user of water or have unreasonable effects on fish, wildlife or instream uses.

Instream Flow Dedication – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Upstream Location:

Downstream Location:

List the quantities dedicated to instream flow in either: ☐ cubic feet per second or ☐ gallons per day:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Will the dedicated flow be diverted for consumptive use at a downstream location? ☐ Yes ☐ No

If yes, provide the source name, location coordinates, and the quantities of flow that will be diverted from the stream.

Waste Water

If applicable, provide the reduction in amount of treated waste water discharged in cubic feet per second.

Will this change involve water provided by a water service contract which prohibits your exclusive right to this treated waste water? ☐ Yes ☐ No

Will any legal user of the treated waste water discharged be affected? ☐ Yes ☐ No

General Information – For all Petitions, provide the following information, if applicable to your proposed change(s).

Will any current Point of Diversion, Point of Storage, or Place of Use be abandoned? ☐ Yes ☒ No

I (we) have access to the proposed point of diversion or control the proposed place of use by virtue of:

☒ ownership ☐ lease ☐ verbal agreement ☐ written agreement

If by lease or agreement, state name and address of person(s) from whom access has been obtained.

Give name and address of any person(s) taking water from the stream between the present point of diversion or redirection and the proposed point of diversion or redirection, as well as any other person(s) known to you who may be affected by the proposed change.

Information in State Water Resources Control Board files.

All Right Holders Must Sign This Form: I (we) declare under penalty of perjury that this change does not involve an increase in the amount of the appropriation or the season of diversion, and that the above is true and correct to the best of my (our) knowledge and belief. Dated 7/28/2020 at Santa Cruz, CA.



Right Holder or Authorized Agent Signature

Right Holder or Authorized Agent Signature

NOTE: All petitions must be accompanied by:

- (1) the form Environmental Information for Petitions, including required attachments, available at:
http://www.waterboards.ca.gov/waterrights/publications_forms/forms/docs/pet_info.pdf
- (2) Division of Water Rights fee, per the Water Rights Fee Schedule, available at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/fees/
- (3) Department of Fish and Wildlife fee of \$850 (Pub. Resources Code, § 10005)

Month	Flow Ranges Used to Determine Monthly Hydrologic Condition Type ¹ (cfs) Using San Lorenzo River End-of-Month Cumulative Daily Flow ²				
	<i>Hydrologic Condition 5 (driest)</i>	<i>Hydrologic Condition 4 (dry)</i>	<i>Hydrologic Condition 3 (normal)</i>	<i>Hydrologic Condition 2 (wet)</i>	<i>Hydrologic Condition 1 (wettest)</i>
Oct	<=459	460-539	540-709	710-875	>875
Nov	<=1186	1187-1497	1498-1827	1828-2485	>2485
Dec	<=2397	2398-3134	3135-5642	5643-10196	>10196
Jan	<=4322	4323-8456	8457-16694	16695-28019	>28019
Feb	<=8442	8443-16368	16369-29140	29141-42995	>42995
Mar	<=13004	13005-22948	22949-35371	35372-57968	>57968
Apr	<=14203	14204-24491	24492-39487	39488-67884	>67884
May	<=15448	15449-25279	25280-41659	41660-71412	>71412
Jun	<=16005	16006-26116	26117-43123	43124-73420	>73420
Jul	<=16364	16365-26819	26820-44073	44074-74718	>74718
Aug	<=16653	16654-27355	27356-44799	44800-75591	>75591
Sep	<=16978	16979-27843	27844-45398	45399-76368	>76368

cfs = cubic feet per second

Notes:

1. The Hydrologic Condition Types are based on the record of cumulative daily average flow by water year (water years 1937–2015) at the Big Trees gage on the San Lorenzo River.
2. To implement the Agreed Flows, the Hydrologic Condition type is determined on the first day of each month based upon the previous month's San Lorenzo River end-of-month cumulative flow for the Water Year. Water Year is defined as the 12-month period from October 1 through September 30.
 - a. The end-of-month cumulative daily flow is calculated by adding the San Lorenzo River daily flows, as measured at the Big Trees Gage, from the first day of the Water Year to the last day of the month.
 - b. The flow ranges for the month are then reviewed to determine within which Hydrologic Condition type this end-of-month cumulative daily flow falls.
 - c. This Hydrologic Condition type is used until the first day of the next month to determine bypass flow conditions under the Agreed Flows across all City of Santa Cruz source waters.

**Agreed Flows for Tait Diversion on the San Lorenzo River,
as Measured at the City Gage immediately downstream of Tait Diversion¹**

	Rearing (Base Flow) (cfs)					Adult Migration ² (cfs)	Spawning ³ (cfs)	Egg Incubation ³ (cfs)	Smolt Outmigration (cfs)
	Hydrologic Condition 5 (driest)	Hydrologic Condition 4 (dry)	Hydrologic Condition 3 (normal)	Hydrologic Condition 2 (wet)	Hydrologic Condition 1 (very wet)				
Jan	8.0	8.0	15.8	16.4	17.5	17.0/25.2			10.0
Feb	8.0	8.0	15.9	16.7	18.0	17.0/25.2			10.0
Mar	8.0	8.0	16.3	17.3	18.2	17.0/25.2			10.0 ⁴
Apr	8.0	8.0	17.2	17.9	18.4	17.0/25.2 ⁵			10.0 ⁴
May	8.0	8.0	17.7	18.2	18.5				10.0 ⁴
Jun	8.0	8.0	16.6	18.1	18.5				
Jul	8.0	8.0	12.4	15.8	18.2				
Aug	8.0	8.0	9.8	11.9	16.4				
Sep	8.0	8.0	9.0	11.1	13.3				
Oct	8.0	8.0	9.8	11.4	13.3				
Nov	8.0	8.0	12.5	14.1	16.4				
Dec	8.0	8.0	15.1	16.2	17.6	17.0/25.2			

cfs = cubic feet per second

Notes:

1. The required flow is determined by the life stage requiring the highest flow in any given month.
2. For adult migration, a lower threshold of 17.0 cfs and an upper threshold of 25.2 cfs when flow would be at this level without City diversion during December through April. May be reduced to 3 consecutive days a week if storage levels in Loch Lomond fall below the following levels in million gallons (mg): Dec-1900 mg; Jan-2000 mg; Feb-2100 mg; Mar-2200 mg. Further, adult migration flows may be reduced to 5 consecutive days after each storm event that exceeds 17 cfs if storage levels in Loch Lomond fall below the following levels: Dec-1600 mg; Jan-1700 mg; Feb-1800 mg; Mar-1900 mg.
3. No spawning or incubation occurs in this reach.
4. During Hydrologic Condition 5, provided at least 3 days per week.
5. April adult migration flows provided only in Hydrologic Conditions 1-3.

State Water Resources Control Board

Division of Water Rights

1001 I Street • Sacramento, California 95814 • (916) 341-5300
Mailing Address: P.O. Box 2000 • Sacramento, California • 95812-2000
FAX (916) 341-5400 • <http://www.waterboards.ca.gov/waterrights>

License 1553 (A004017)
License 7200 (A005215)
Permit 16123 (A022318)
Permit 16601 (A023710)

See Attached.

See Attached.

See Attached.

See Attached.

See Attached

Injection via aquifer storage and recovery wells in the Beltz Injection Well System.

See Attached.

Santa Cruz Mid-County Groundwater Sustainability Plan, November 2019.

See Attached.

See Attached.

Groundwater pumped from the Mid-County Groundwater Basin is used primarily for municipal purposes. The City believes that its proposed ASR injections would be the first active use of underground storage in the basin.

See Attached.

Attachment to Underground Storage Supplement

City of Santa Cruz

Permit 16123 (Application A022318) – San Lorenzo River – Felton Diversion

Permit 16601 (Application A023710) – San Lorenzo River – Felton Diversion

License 1553 (Application A004017) – San Lorenzo River – Tait Street Diversion

License 7200 (Application A005215) – San Lorenzo River – Tait Street Diversion

The Proposed Project involves Petitions for Change and Underground Storage Supplements for the City's above existing water right Licenses and Permits. Modification of the City's existing water rights through the petition process is necessary to comply with negotiated state and federal fishery conditions, better utilize surface water within existing allocations and make more effective use of existing diversion locations, thereby increasing the City's flexibility and ability to make beneficial use under its rights. As Lead Agency, the City of Santa Cruz is preparing an Environmental Impact Report (EIR) pursuant to the requirements of the California Environmental Quality Act (CEQA). The EIR will evaluate potential environmental impacts of the Proposed Project. Detailed discussion of the underground storage project facilities and operations can be found in the City's EIR for this project.

Item 1. State amount of water to be diverted to underground storage from each point of diversion.

Water will be diverted from the Points of Diversion at the stated rates of diversion in each of the Permits and Licenses named above, and as sought by the accompanying Petitions for Change on these rights. Water will be diverted at Tait Street and Felton Diversion facilities, and rediverted to underground storage via the Beltz Injection Well Nos. 8, 9, 10 and 12, which will be added as Points of Rediversion to the Permits and Licenses named above. The Beltz Injection Well System has a maximum injection capacity of 2.1 mgd (or about 6.5 acre-feet / day), which would be the maximum rate of rediversion to underground storage. If the City were to inject continuously at this rate for a full year, the maximum annual rediversion to underground storage would be approximately 2,372.5 acre-feet (6.5 acre-feet/day x 365 days). No diversions to support rediversion of water to underground storage will occur during Hydrologic Condition 5, as defined in the Exceedance Category Limits Table attached to the referenced Petitions.

Item 2. Describe any works used to divert to offstream spreading grounds or injection wells.

Water will be diverted from the existing diversion facilities named as Points of Diversion in the referenced Permits and Licenses. Those facilities include the Felton Diversion and Tait Street Diversion, both located on the San Lorenzo River.

Item 3. Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

Not applicable. Underground storage will be made via injection wells associated with the City's existing Beltz Wells system. The Beltz Injection Wells are located within the Santa Cruz Mid-County Groundwater Basin as shown on the Map to Accompany the Change Petitions, and described as follows:

Points of Rediversion to Underground Storage

- Well No. 8: Located N. 1813775 and E. 6132716 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 9: Located N. 1812135 and E. 6131318 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of NE $\frac{1}{4}$ of projected Section 21, T11S, R1W, MDB&M.
- Well No. 10: Located N. 1813446 and E. 6131683 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 12: Located N. 1820121 and E. 6132941 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 9, T11S, R1W, MDB&M.

Item 4. State depth of groundwater table in spreading ground or immediate vicinity.

Item 5. Give any historic give any historic maximum and/or minimum depths to the groundwater table in the area.

The Santa Cruz Mid-County Groundwater Sustainability Plan Figures 2-24 through 2-26, and 2-28 through 2-31 (attached) show depths to groundwater in 2005 and 2016, respectively.

Item 6: Describe proposed spreading operation.

Not applicable. Underground storage will be made via injection wells.

Item 7: Describe location, capacity and features of proposed pretreatment facilities and/or injection wells.

The City proposes to use existing and new infrastructure to divert water under its referenced Permits and Licenses to Underground Storage through ASR operations. That water will be available for use by the City in dry periods, as well as for *in situ* protection of groundwater quality from seawater intrusion. The injected water will be treated to drinking water standards prior to injection and would be injected into the Beltz Well System within the Santa Cruz Mid-County Groundwater Basin, as shown on the Map to Accompany the Petitions and consistent with the State Water Resources Control Board's general order for ASR programs, Water Quality Order 2012-0010.

Item 9: Describe underground reservoir and attach a map or sketch of its location.

The City has joined with Soquel Creek Water District, Central Water District, the County of Santa Cruz, and private well representatives to form the Santa Cruz Mid-County Groundwater Agency, the local groundwater sustainability agency created pursuant to the requirements of California's

Sustainable Groundwater Management Act (SGMA). The Santa Cruz Mid-County Groundwater Agency has overseen the preparation of a cooperative groundwater sustainability plan (GSP) for the now redefined Santa Cruz Mid-County Groundwater Basin. Information on the location, capacity, and existing uses of the underground storage basin can be found in the GSP. The GSP's Figure 1-1 is attached and shows the surface boundaries of the Mid-County Groundwater Basin.

Item 10: State estimated storage capacity of underground storage reservoir.

The Santa Cruz Mid-County Groundwater Sustainability Plan estimates the potential yield of the Soquel-Aptos Area as 5,900 acre-feet annually (approximately 4,400 af from the Purisima Formation and 1,500 af from the Aromas Red Sands).

Item 12: Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage.

Water injected into the Beltz Injection Wells and recovered for later use will be measured using flow meters installed on each Injection Well. The meters can measure the injection and recovery amounts daily.

ENVIRONMENTAL INFORMATION FOR PETITIONS

This form is required for all petitions.

Before the State Water Resources Control Board (State Water Board) can approve a petition, the State Water Board must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared, a determination must be made of who is responsible for its preparation. As the petitioner, you are responsible for all costs associated with the environmental evaluation and preparation of the required CEQA documents. Please answer the following questions to the best of your ability and submit any studies that have been conducted regarding the environmental evaluation of your project. If you need more space to completely answer the questions, please number and attach additional sheets.

DESCRIPTION OF PROPOSED CHANGES OR WORK REMAINING TO BE COMPLETED

For a petition for change, provide a description of the proposed changes to your project including, but not limited to, type of construction activity, structures existing or to be built, area to be graded or excavated, increase in water diversion and use (up to the amount authorized by the permit), changes in land use, and project operational changes, including changes in how the water will be used. For a petition for extension of time, provide a description of what work has been completed and what remains to be done. Include in your description any of the above elements that will occur during the requested extension period.

Insert the attachment number here, if applicable:

1

Coordination with Regional Water Quality Control Board

For change petitions only, you must request consultation with the Regional Water Quality Control Board regarding the potential effects of your proposed change on water quality and other instream beneficial uses. (Cal. Code Regs., tit. 23, § 794.) In order to determine the appropriate office for consultation, see: http://www.waterboards.ca.gov/waterboards_map.shtml. Provide the date you submitted your request for consultation here, then provide the following information.

Date of Request

June 26, 2018

Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation?

☐ Yes

☐ No

Will a waste discharge permit be required for the project?

☐ Yes

☐ No

If necessary, provide additional information below:

Improvements at the Felton Diversion Facility could require waste discharge requirements, or a waiver, from the Central Coast Regional Water Quality Control Board, as well as a 404 permit from the U.S. Army Corps of Engineers and/or a Streambed Alteration Agreement from the California Department of Fish & Wildlife. Those improvements, however, are not yet designed and finalized.

Insert the attachment number here, if applicable:

Local Permits

For temporary transfers only, you must contact the board of supervisors for the county(ies) both for where you currently store or use water and where you propose to transfer the water. (Wat. Code § 1726.) Provide the date you submitted your request for consultation here.

Date of Contact

For change petitions only, you should contact your local planning or public works department and provide the information below.

Person Contacted:

Date of Contact:

October 3, 2018

Department:

City of Santa Cruz - various depts

Phone Number:

County Zoning Designation:

Not Applicable - municipal lands

Are any county permits required for your project? If yes, indicate type below.

☐ Yes

☐ No

☐

Grading Permit

☐

Use Permit

☐

Watercourse

☐

Obstruction Permit

☐

Change of Zoning

☐

General Plan Change

☐

Other (explain below)

If applicable, have you obtained any of the permits listed above? If yes, provide copies.

☐ Yes

☐ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Federal and State Permits

Check any additional agencies that may require permits or other approvals for your project:

- ☒ Regional Water Quality Control Board ☒ Department of Fish and Game
- ☐ Dept of Water Resources, Division of Safety of Dams ☐ California Coastal Commission
- ☐ State Reclamation Board ☒ U.S. Army Corps of Engineers ☐ U.S. Forest Service
- ☐ Bureau of Land Management ☐ Federal Energy Regulatory Commission
- ☐ Natural Resources Conservation Service

Have you obtained any of the permits listed above? If yes, provide copies. ☐ Yes ☒ No

For each agency from which a permit is required, provide the following information:

Agency	Permit Type	Person(s) Contacted	Contact Date	Phone Number
CDFW	LSAA 1600	Randi Adair		
RWQCB	WDRs / waiver	Potential at this time		
USACE	404 permit	Potential at this time		

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Construction or Grading Activity

Does the project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed, bank or riparian habitat of any stream or lake? ☐ Yes ☒ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Archeology

Has an archeological report been prepared for this project? If yes, provide a copy. ☐ Yes ☒ No

Will another public agency be preparing an archeological report? ☐ Yes ☒ No

Do you know of any archeological or historic sites in the area? If yes, explain below. ☐ Yes ☒ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Photographs

For all petitions other than time extensions, attach complete sets of color photographs, clearly dated and labeled, showing the vegetation that exists at the following three locations:

- ☒ Along the stream channel immediately downstream from each point of diversion
- ☒ Along the stream channel immediately upstream from each point of diversion
- ☒ At the place where water subject to this water right will be used

Maps

For all petitions other than time extensions, attach maps labeled in accordance with the regulations showing all applicable features, both present and proposed, including but not limited to: point of diversion, point of redirection, distribution of storage reservoirs, point of discharge of treated wastewater, place of use, and location of instream flow dedication reach. (Cal. Code Regs., tit. 23, §§ 715 et seq., 794.)

Pursuant to California Code of Regulations, title 23, section 794, petitions for change submitted without maps may not be accepted.

All Water Right Holders Must Sign This Form:

I (we) hereby certify that the statements I (we) have furnished above and in the attachments are complete to the best of my (our) ability and that the facts, statements, and information presented are true and correct to the best of my (our) knowledge. Dated 7/28/2020 at Santa Cruz, CA.



Water Right Holder or Authorized Agent Signature

Water Right Holder or Authorized Agent Signature

NOTE:

- **Petitions for Change** may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game. (Cal. Code Regs., tit. 23, § 794.)
- **Petitions for Temporary Transfer** may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game and the board of supervisors for the county(ies) where you currently store or use water and the county(ies) where you propose to transfer the water. (Wat. Code § 1726.)

City of Santa Cruz
Photographs to Accompany Petitions

Newell Creek & Loch Lomond Reservoir
License 9847 (Application A017913)

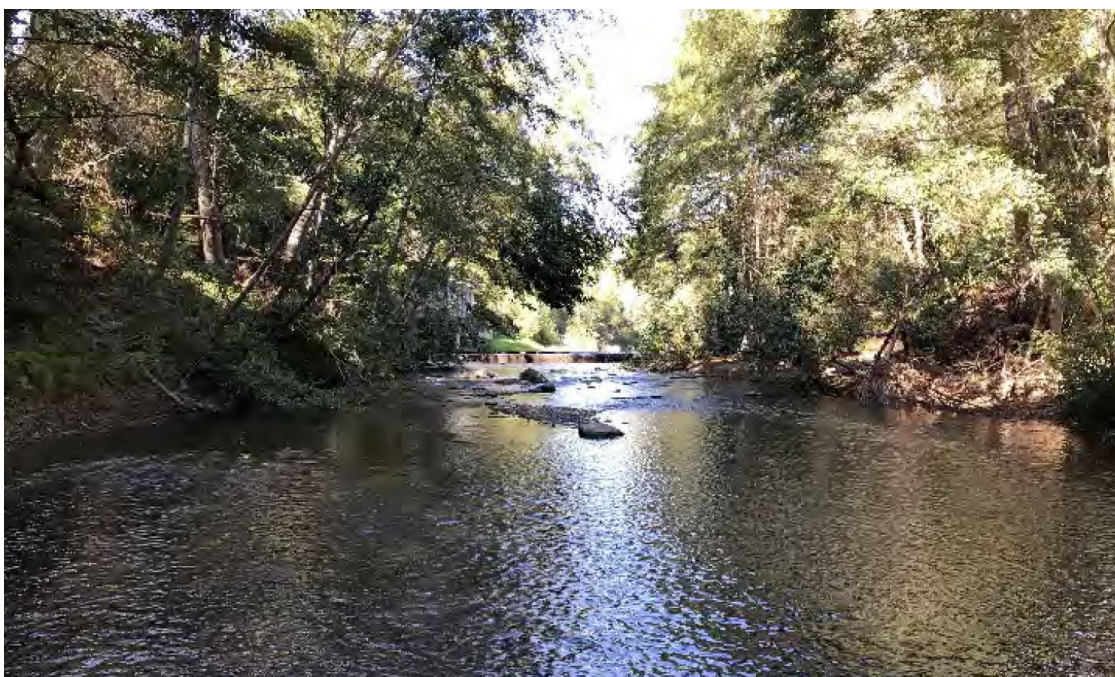
San Lorenzo River – Felton Diversion
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San Lorenzo River – Tait Street Diversion
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License 7200 (Application A005215)



FELTON DIVERSION FACILITY

MARCH 2009



FELTON DIVERSION FACILITY- LOOKING DOWNSTREAM

JANUARY 2019



FELTON DIVERSION FACILITY- LOOKING UPSTREAM

JANUARY 2019



LOCH LOMOND LAKE- NEWELL DAM

JANUARY 2019



NEWELL CREEK- LOOKING DOWNSTREAM

FEBRUARY 2012



NEWELL CREEK- LOOKING UPSTREAM

AUGUST 2016



TAIT WELL 1B

JANUARY 2018



TAIT DIVERSION DAM

JANUARY 2019



TAIT DIVERSION FACILITY – LOOKING DOWNSTREAM

JANUARY 2019



TAIT DIVERSION FACILITY- LOOKING UPSTREAM

JANUARY 2019

Wagner & Bonsignore

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January 6, 2021

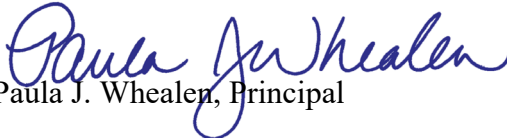
Page 2

were submitted with the August 5, 2020 revised Petitions. We understand that no additional filing fees are due currently. I am also sending this letter and Petition package to you via email.

Please contact me if you have any questions regarding the enclosed Petitions.

Very truly yours,

WAGNER & BONSIGNORE
CONSULTING CIVIL ENGINEERS


Paula J. Whealen, Principal

Encl.

cc: (via email)

Rosemary Menard, City of Santa Cruz

Chris Berry, City of Santa Cruz

Ryan Bezerra, Bartkiewicz Kronick & Shanahan

Randi Adair, California Department of Fish & Wildlife

Amanda Morrison, NOAA National Marine Fisheries Service

Please indicate County where
your project is located here:

Santa Cruz

MAIL FORM AND ATTACHMENTS TO:
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
<http://www.waterboards.ca.gov/waterrights>

PETITION FOR CHANGE

Separate petitions are required for each water right. Mark all areas that apply to your proposed change(s). Incomplete forms may not be accepted. Location and area information must be provided on maps in accordance with established requirements. (Cal. Code Regs., tit. 23, § 715 et seq.) Provide attachments if necessary.

☐ Point of Diversion Wat. Code, § 1701	☒ Point of Rediversion Cal. Code Regs., tit. 23, § 791(e)	☒ Place of Use Wat. Code, § 1701	☒ Purpose of Use Wat. Code, § 1701
☐ Distribution of Storage Cal. Code Regs., tit. 23, § 791(e)	☐ Temporary Urgency Wat. Code, § 1435	☐ Instream Flow Dedication Wat. Code, § 1707	☐ Waste Water Wat. Code, § 1211
☐ Split Cal. Code Regs., tit. 23, § 836	☒ Terms or Conditions Cal. Code Regs., tit. 23, § 791(e)	☒ Other	Addition of Underground Storage
Application	4017	Permit	License 1553 Statement

I (we) hereby petition for change(s) noted above and described as follows:

Point of Diversion or Rediversion – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Present:	See Attached
Proposed:	See Attached

Place of Use – Identify area using Public Land Survey System descriptions to ¼-¼ level; for irrigation, list number of acres irrigated.

Present:	See Attached
Proposed:	See Attached

Purpose of Use

Present:	See Attached
Proposed:	See Attached

Split

Provide the names, addresses, and phone numbers for all proposed water right holders.

--

In addition, provide a separate sheet with a table describing how the water right will be split between the water right holders: for each party list amount by direct diversion and/or storage, season of diversion, maximum annual amount, maximum diversion to offstream storage, point(s) of diversion, place(s) of use, and purpose(s) of use. Maps showing the point(s) of diversion and place of use for each party should be provided.

Distribution of Storage

Present:	
Proposed:	

Temporary Urgency

This temporary urgency change will be effective from to .

Include an attachment that describes the urgent need that is the basis of the temporary urgency change and whether the change will result in injury to any lawful user of water or have unreasonable effects on fish, wildlife or instream uses.

Instream Flow Dedication – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Upstream Location:

Downstream Location:

List the quantities dedicated to instream flow in either: ☐ cubic feet per second or ☐ gallons per day:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Will the dedicated flow be diverted for consumptive use at a downstream location? ☐ Yes ☐ No

If yes, provide the source name, location coordinates, and the quantities of flow that will be diverted from the stream.

Waste Water

If applicable, provide the reduction in amount of treated waste water discharged in cubic feet per second.

Will this change involve water provided by a water service contract which prohibits your exclusive right to this treated waste water? ☐ Yes ☐ No

Will any legal user of the treated waste water discharged be affected? ☐ Yes ☐ No

General Information – For all Petitions, provide the following information, if applicable to your proposed change(s).

Will any current Point of Diversion, Point of Storage, or Place of Use be abandoned? ☐ Yes ☒ No

I (we) have access to the proposed point of diversion or control the proposed place of use by virtue of:

☒ ownership ☐ lease ☐ verbal agreement ☐ written agreement

If by lease or agreement, state name and address of person(s) from whom access has been obtained.

Give name and address of any person(s) taking water from the stream between the present point of diversion or redirection and the proposed point of diversion or redirection, as well as any other person(s) known to you who may be affected by the proposed change.

Information in State Water Resources Control Board files.

All Right Holders Must Sign This Form: I (we) declare under penalty of perjury that this change does not involve an increase in the amount of the appropriation or the season of diversion, and that the above is true and correct to the best of my (our) knowledge and belief. Dated 7/28/2020 at Santa Cruz, CA.

Rosemary Mendez
Right Holder or Authorized Agent Signature

Right Holder or Authorized Agent Signature

NOTE: All petitions must be accompanied by:

- (1) the form Environmental Information for Petitions, including required attachments, available at:
http://www.waterboards.ca.gov/waterrights/publications_forms/docs/pet_info.pdf
- (2) Division of Water Rights fee, per the Water Rights Fee Schedule, available at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/fees/
- (3) Department of Fish and Wildlife fee of \$850 (Pub. Resources Code, § 10005)

City of Santa Cruz

Attachment to Petitions for Change License 1553 (Application A004017) License 7200 (Application A005215) Tait Street Diversion Facility

Point of Diversion or Rediversion

Present: Tait Street Diversion Dam: N. 25 degrees 00' E., 196.53 feet thence 65 degrees 00' W., from point of intersection of the eastern line of River Street with northwestern line of Crossing Street; being within SE1/4 of NW1/4 of projected Section 12, T11S, R2W, MDB&M.

Well No. 1 (License 1553 only): N. 25 degrees 00' E., 150 feet thence S. 65 degrees 00' E., 116 feet from the point of intersection of eastern line of River Street with southeastern line of Crossing street; being within SE1/4 of NW1/4 of projected Section 12, T11S, R2W, MDB&M.

Well No. 2: On southern line of Crossing Street, 461 feet westerly from the point of intersection of the western line of Ocean Street with the southern line of Crossing Street; being within the NE 1/4 of NW 1/4 of projected Section 12, T 11 S, R 2 W, MDB&M.

Well No.3: On southern line of Crossing Street, 270 westerly from point of intersection of the western line of Ocean Street with the southern line of Crossing Street, being within NE1/4 of NW1/4 of projected Section 12, T11S, R2W, MD13&M.

Well No.4: S. 72 degrees 40' W., 322.58 feet thence N. 17 degrees 20' W., 135 feet from the point of intersection of northern line of Crossing Street with western line of Ocean Street; being within NE1/4 of NW1/4 of projected Section 12, T11S, R2W, MDB&M.

*Proposed:*¹ Tait Diversion - Points of Direct Diversion and Diversion to Underground Storage

- Diversion Dam: Located N. 1822800 and E. 6114450 California Coordinate System, Zone 3, being within the SE1/4 of the NW1/4 of Section 12, T11S, R2W, MDB&M.
- Well No. 1: Located N. 1822992 and E. 6114627 California Coordinate System, Zone 3, being within NE1/4 of NW1/4 of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N. 1823057 and E. 6114826 California Coordinate System, Zone 3, being within NE1/4 of NW1/4 of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N. 1823218 and E. 6114695 California Coordinate System, Zone 3, being within NE1/4 of NW1/4 of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N. 1822953 and E. 6114494 California Coordinate System, Zone 3, being within NE1/4 of NW1/4 of projected Section 12, T11S, R2W, MDB&M.

¹ There is no change in the physical existing Point of Diversion locations. The descriptions have been revised to provide California Coordinate System, Zone 3 coordinate points.

Beltz Injection Wells – Points of Rediversion to Underground Storage:

- Well No. 8: Located N.1813775 and E.6132716 California Coordinate System, Zone 3, being within the SE¼ of SE¼ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 9: Located N.1812135 and E.6131318 California Coordinate System, Zone 3, being within the SW¼ of NE¼ of projected Section 21, T11S, R1W, MDB&M.
- Well No. 10: Located N.1813446 and E.6131683 California Coordinate System, Zone 3, being within the SW¼ of SE¼ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 12: Located N.1820121 and E.6132941 California Coordinate System, Zone 3, being within the SE¼ of SE¼ of projected Section 9, T11S, R1W, MDB&M.

Method of Diversion

Current: License 1553: Direct diversion of 6.2 cubic feet per second
License 7200: Direct diversion of 6.0 cubic feet per second

Proposed: License 1553: Direct diversion and diversion to underground storage of 6.2 cubic feet per second
License 7200: Direct diversion and diversion to underground storage of 6.0 cubic feet per second
Licenses 1553 and 7200: Rediversion to underground storage at Beltz Injection Wells.

Underground Storage

Proposed: The City proposes to add Underground Storage via injection of surface water and subsequent recovery at the Beltz Injection Wells.

Place of Use

Present: License 1553: A description of the lands or the place where such water is put to beneficial use is as follows: The City of Santa Cruz, and that area east of the City of Santa Cruz, bounded on the west by the eastern boundary of the City of Santa Cruz, on the south by the Bay of Monterey, on the east by the eastern line of 41st Avenue and a line from the intersection of the eastern line of 41st Avenue with the southern line of the Santa Cruz-Watsonville Highway at a right angle to said southern line of Santa Cruz-Watsonville Highway extending to the north boundary of Section 9, T11S, R1W, MDB&M; and bounded on the north by the north boundary of Sections 8 and 9, T11S, R1W, MDB&M; as shown on map entitled “Map to Accompany Petition to Amend Application 4017, Permit 2372 to Appropriate Waters of the San Lorenzo River for Area outside of the City of Santa Cruz” filed April 15, 1935, with the Division of Water Resources.

License 7200: Within the boundaries of the City of Santa Cruz and environs as shown on map filed with State Water Rights Board on October 14, 1963, and being within projected sections of the public land survey as follows:
Sections 29, 31, and 32, T10S, R1W, MDB&M.
Sections 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, and 21, T11S, R1W, MDB&M.
Sections 35 and 36, T10S, R2W, MDB&M.
Sections 1, 2, 10, 11, 12, 13, 14, 15, 22, 23, 24, 26, and 27, T11S, R2W, MDB&M.

Proposed: Licenses 1553 and 7200:
At Loch Lomond Reservoir, and in City of Santa Cruz Water District, including its North Coast service area; the service areas of Central Water District, San Lorenzo Valley Water District, Scotts Valley Water District and Soquel Creek Water District; the Santa Cruz Mid-County Groundwater Basin (DWR Bulletin 118 Basin No. 3-001) and Santa Margarita Groundwater Basin (DWR Bulletin 118 Basin No. 3-027); all as shown on a map filed with State Water Resources Control Board accompanying this Petition.

Purpose of Use

Present: Municipal and domestic

Proposed: Municipal, domestic, industrial, recreational, fire protection and protection of water quality

Diversion Rate

Present: License 1553 – Maximum rate of diversion shall not exceed 6.2 cfs
License 7200 – Maximum rate of diversion shall not exceed 6 cfs

Proposed: The combined rate of direct diversion and diversion to underground storage shall not exceed 12.2 cfs.

Terms and Conditions

Proposed:

- 1) The City will provide bypass at Tait Diversion Facilities according to the minimum streamflow schedule negotiated among the City, the National Marine Fisheries Service and the California Department of Fish & Wildlife, as shown on the attached schedule.
- 2) No diversions under this right for redirection to underground storage will occur during Hydrologic Condition 5, defined in the attached Exceedance Category Limits Table.
- 3) No delivery of water diverted under this right for use by a water supplier other than the City of Santa Cruz Water Department will occur during Hydrologic Conditions 4 and 5, as defined in the attached Exceedance Category Limits Table.

Reason for Proposed Change

Modification of the City of Santa Cruz' rights are necessary to better utilize surface water within existing allocations, increase the flexibility of the City's water supply, and extend time to beneficially use water allowed under existing rights, in light of, among other things, significant water conservation measures.

Month	Flow Ranges Used to Determine Monthly Hydrologic Condition Type ¹ (cfs) Using San Lorenzo River End-of-Month Cumulative Daily Flow ²				
	<i>Hydrologic Condition 5 (driest)</i>	<i>Hydrologic Condition 4 (dry)</i>	<i>Hydrologic Condition 3 (normal)</i>	<i>Hydrologic Condition 2 (wet)</i>	<i>Hydrologic Condition 1 (wettest)</i>
Oct	<=459	460-539	540-709	710-875	>875
Nov	<=1186	1187-1497	1498-1827	1828-2485	>2485
Dec	<=2397	2398-3134	3135-5642	5643-10196	>10196
Jan	<=4322	4323-8456	8457-16694	16695-28019	>28019
Feb	<=8442	8443-16368	16369-29140	29141-42995	>42995
Mar	<=13004	13005-22948	22949-35371	35372-57968	>57968
Apr	<=14203	14204-24491	24492-39487	39488-67884	>67884
May	<=15448	15449-25279	25280-41659	41660-71412	>71412
Jun	<=16005	16006-26116	26117-43123	43124-73420	>73420
Jul	<=16364	16365-26819	26820-44073	44074-74718	>74718
Aug	<=16653	16654-27355	27356-44799	44800-75591	>75591
Sep	<=16978	16979-27843	27844-45398	45399-76368	>76368

cfs = cubic feet per second

Notes:

1. The Hydrologic Condition Types are based on the record of cumulative daily average flow by water year (water years 1937–2015) at the Big Trees gage on the San Lorenzo River.
2. To implement the Agreed Flows, the Hydrologic Condition type is determined on the first day of each month based upon the previous month's San Lorenzo River end-of-month cumulative flow for the Water Year. Water Year is defined as the 12-month period from October 1 through September 30.
 - a. The end-of-month cumulative daily flow is calculated by adding the San Lorenzo River daily flows, as measured at the Big Trees Gage, from the first day of the Water Year to the last day of the month.
 - b. The flow ranges for the month are then reviewed to determine within which Hydrologic Condition type this end-of-month cumulative daily flow falls.
 - c. This Hydrologic Condition type is used until the first day of the next month to determine bypass flow conditions under the Agreed Flows across all City of Santa Cruz source waters.

**Agreed Flows for Tait Diversion on the San Lorenzo River,
as Measured at the City Gage immediately downstream of Tait Diversion¹**

	Rearing (Base Flow) (cfs)					Adult Migration ² (cfs)	Spawning ³ (cfs)	Egg Incubation ³ (cfs)	Smolt Outmigration (cfs)
	Hydrologic Condition 5 (driest)	Hydrologic Condition 4 (dry)	Hydrologic Condition 3 (normal)	Hydrologic Condition 2 (wet)	Hydrologic Condition 1 (very wet)				
Jan	8.0	8.0	15.8	16.4	17.5	17.0/25.2			10.0
Feb	8.0	8.0	15.9	16.7	18.0	17.0/25.2			10.0
Mar	8.0	8.0	16.3	17.3	18.2	17.0/25.2			10.0 ⁴
Apr	8.0	8.0	17.2	17.9	18.4	17.0/25.2 ⁵			10.0 ⁴
May	8.0	8.0	17.7	18.2	18.5				10.0 ⁴
Jun	8.0	8.0	16.6	18.1	18.5				
Jul	8.0	8.0	12.4	15.8	18.2				
Aug	8.0	8.0	9.8	11.9	16.4				
Sep	8.0	8.0	9.0	11.1	13.3				
Oct	8.0	8.0	9.8	11.4	13.3				
Nov	8.0	8.0	12.5	14.1	16.4				
Dec	8.0	8.0	15.1	16.2	17.6	17.0/25.2			

cfs = cubic feet per second

Notes:

1. The required flow is determined by the life stage requiring the highest flow in any given month.
2. For adult migration, a lower threshold of 17.0 cfs and an upper threshold of 25.2 cfs when flow would be at this level without City diversion during December through April. May be reduced to 3 consecutive days a week if storage levels in Loch Lomond fall below the following levels in million gallons (mg): Dec-1900 mg; Jan-2000 mg; Feb-2100 mg; Mar-2200 mg. Further, adult migration flows may be reduced to 5 consecutive days after each storm event that exceeds 17 cfs if storage levels in Loch Lomond fall below the following levels: Dec-1600 mg; Jan-1700 mg; Feb-1800 mg; Mar-1900 mg.
3. No spawning or incubation occurs in this reach.
4. During Hydrologic Condition 5, provided at least 3 days per week.
5. April adult migration flows provided only in Hydrologic Conditions 1-3.



Linda S. Adams
Acting Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Rights

1001 I Street • Sacramento, California 95814 • (916) 341-5300
Mailing Address: P.O. Box 2000 • Sacramento, California • 95812-2000
FAX (916) 341-5400 • <http://www.waterboards.ca.gov/waterrights>



Edmund G. Brown Jr.
Governor

License 1553 (A004017)
License 7200 (A005215)
Permit 16123 (A022318)
Permit 16601 (A023710)

APPLICATION NO. _____
(Leave blank)

UNDERGROUND STORAGE SUPPLEMENT TO APPLICATION TO APPROPRIATE WATER BY PERMIT

1. State amount of water to be diverted to underground storage from each point of diversion in item 3b of form APP.

See Attached.

- a. Maximum Rate of diversions (1) _____ (2) _____ (3) _____ cfs
b. Maximum Annual Amount (1) _____ (2) _____ (3) _____ acre-feet

2. Describe any works used to divert to offstream spreading grounds or injection wells not identified in item 7 of form APP.

See Attached.

3. Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

See Attached.

4. State depth of groundwater table in spreading grounds or immediate vicinity:

See Attached. _____ feet below ground surface on _____ 19 __ measured at a point located within the _____ $\frac{1}{4}$ of _____ $\frac{1}{4}$ of Section _____, T _____, R _____, _____ B&M

5. Give any historic maximum and or minimum depths to the groundwater table in the area.

Location See Attached Maximum _____ feet below ground surface on _____ (date)
Location _____ Maximum _____ feet below ground surface on _____ (date)

6. Describe proposed spreading operation.

Injection via aquifer storage and recovery wells in the Beltz Injection Well System.

7. Describe location, capacity and features of proposed pretreatment facilities and/or injected wells.

See Attached.

8. Reference any available engineering reports, studies, or data on the aquifer involved.
Santa Cruz Mid-County Groundwater Sustainability Plan, November 2019.

9. Describe underground reservoir and attach a map or sketch of its location.

See Attached.

10. State estimated storage capacity of underground reservoir.

See Attached.

11. Describe existing use of the underground storage reservoir and any proposed change in its use.

Groundwater pumped from the Mid-County Groundwater Basin is used primarily for municipal purposes. The City believes that its proposed ASR injections would be the first active use of underground storage in the basin.

12. Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage.

See Attached.

Additional copies of this form and water right information can be obtained at www.waterrights.ca.gov.

Attachment to Underground Storage Supplement

City of Santa Cruz

Permit 16123 (Application A022318) – San Lorenzo River – Felton Diversion

Permit 16601 (Application A023710) – San Lorenzo River – Felton Diversion

License 1553 (Application A004017) – San Lorenzo River – Tait Street Diversion

License 7200 (Application A005215) – San Lorenzo River – Tait Street Diversion

The Proposed Project involves Petitions for Change and Underground Storage Supplements for the City's above existing water right Licenses and Permits. Modification of the City's existing water rights through the petition process is necessary to comply with negotiated state and federal fishery conditions, better utilize surface water within existing allocations and make more effective use of existing diversion locations, thereby increasing the City's flexibility and ability to make beneficial use under its rights. As Lead Agency, the City of Santa Cruz is preparing an Environmental Impact Report (EIR) pursuant to the requirements of the California Environmental Quality Act (CEQA). The EIR will evaluate potential environmental impacts of the Proposed Project. Detailed discussion of the underground storage project facilities and operations can be found in the City's EIR for this project.

Item 1. State amount of water to be diverted to underground storage from each point of diversion.

Water will be diverted from the Points of Diversion at the stated rates of diversion in each of the Permits and Licenses named above, and as sought by the accompanying Petitions for Change on these rights. Water will be diverted at Tait Street and Felton Diversion facilities, and rediverted to underground storage via the Beltz Injection Well Nos. 8, 9, 10 and 12, which will be added as Points of Rediversion to the Permits and Licenses named above. The Beltz Injection Well System has a maximum injection capacity of 2.1 mgd (or about 6.5 acre-feet / day), which would be the maximum rate of rediversion to underground storage. If the City were to inject continuously at this rate for a full year, the maximum annual rediversion to underground storage would be approximately 2,372.5 acre-feet (6.5 acre-feet/day x 365 days). No diversions to support rediversion of water to underground storage will occur during Hydrologic Condition 5, as defined in the Exceedance Category Limits Table attached to the referenced Petitions.

Item 2. Describe any works used to divert to offstream spreading grounds or injection wells.

Water will be diverted from the existing diversion facilities named as Points of Diversion in the referenced Permits and Licenses. Those facilities include the Felton Diversion and Tait Street Diversion, both located on the San Lorenzo River.

Item 3. Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

Not applicable. Underground storage will be made via injection wells associated with the City's existing Beltz Wells system. The Beltz Injection Wells are located within the Santa Cruz Mid-County Groundwater Basin as shown on the Map to Accompany the Change Petitions, and described as follows:

Points of Rediversion to Underground Storage

- Well No. 8: Located N. 1813775 and E. 6132716 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 9: Located N. 1812135 and E. 6131318 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of NE $\frac{1}{4}$ of projected Section 21, T11S, R1W, MDB&M.
- Well No. 10: Located N. 1813446 and E. 6131683 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 12: Located N. 1820121 and E. 6132941 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 9, T11S, R1W, MDB&M.

Item 4. State depth of groundwater table in spreading ground or immediate vicinity.

Item 5. Give any historic give any historic maximum and/or minimum depths to the groundwater table in the area.

The Santa Cruz Mid-County Groundwater Sustainability Plan Figures 2-24 through 2-26, and 2-28 through 2-31 (attached) show depths to groundwater in 2005 and 2016, respectively.

Item 6: Describe proposed spreading operation.

Not applicable. Underground storage will be made via injection wells.

Item 7: Describe location, capacity and features of proposed pretreatment facilities and/or injection wells.

The City proposes to use existing and new infrastructure to divert water under its referenced Permits and Licenses to Underground Storage through ASR operations. That water will be available for use by the City in dry periods, as well as for *in situ* protection of groundwater quality from seawater intrusion. The injected water will be treated to drinking water standards prior to injection and would be injected into the Beltz Well System within the Santa Cruz Mid-County Groundwater Basin, as shown on the Map to Accompany the Petitions and consistent with the State Water Resources Control Board's general order for ASR programs, Water Quality Order 2012-0010.

Item 9: Describe underground reservoir and attach a map or sketch of its location.

The City has joined with Soquel Creek Water District, Central Water District, the County of Santa Cruz, and private well representatives to form the Santa Cruz Mid-County Groundwater Agency, the local groundwater sustainability agency created pursuant to the requirements of California's

Sustainable Groundwater Management Act (SGMA). The Santa Cruz Mid-County Groundwater Agency has overseen the preparation of a cooperative groundwater sustainability plan (GSP) for the now redefined Santa Cruz Mid-County Groundwater Basin. Information on the location, capacity, and existing uses of the underground storage basin can be found in the GSP. The GSP's Figure 1-1 is attached and shows the surface boundaries of the Mid-County Groundwater Basin.

Item 10: State estimated storage capacity of underground storage reservoir.

The Santa Cruz Mid-County Groundwater Sustainability Plan estimates the potential yield of the Soquel-Aptos Area as 5,900 acre-feet annually (approximately 4,400 af from the Purisima Formation and 1,500 af from the Aromas Red Sands).

Item 12: Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage.

Water injected into the Beltz Injection Wells and recovered for later use will be measured using flow meters installed on each Injection Well. The meters can measure the injection and recovery amounts daily.

groundwater elevations below sea level. Hydrographs of Aromas and Purisima F-unit wells on Figure 2-17 show that groundwater elevations along the coast were very close to sea level thereby continuing to increase the threat of seawater intrusion in this area.

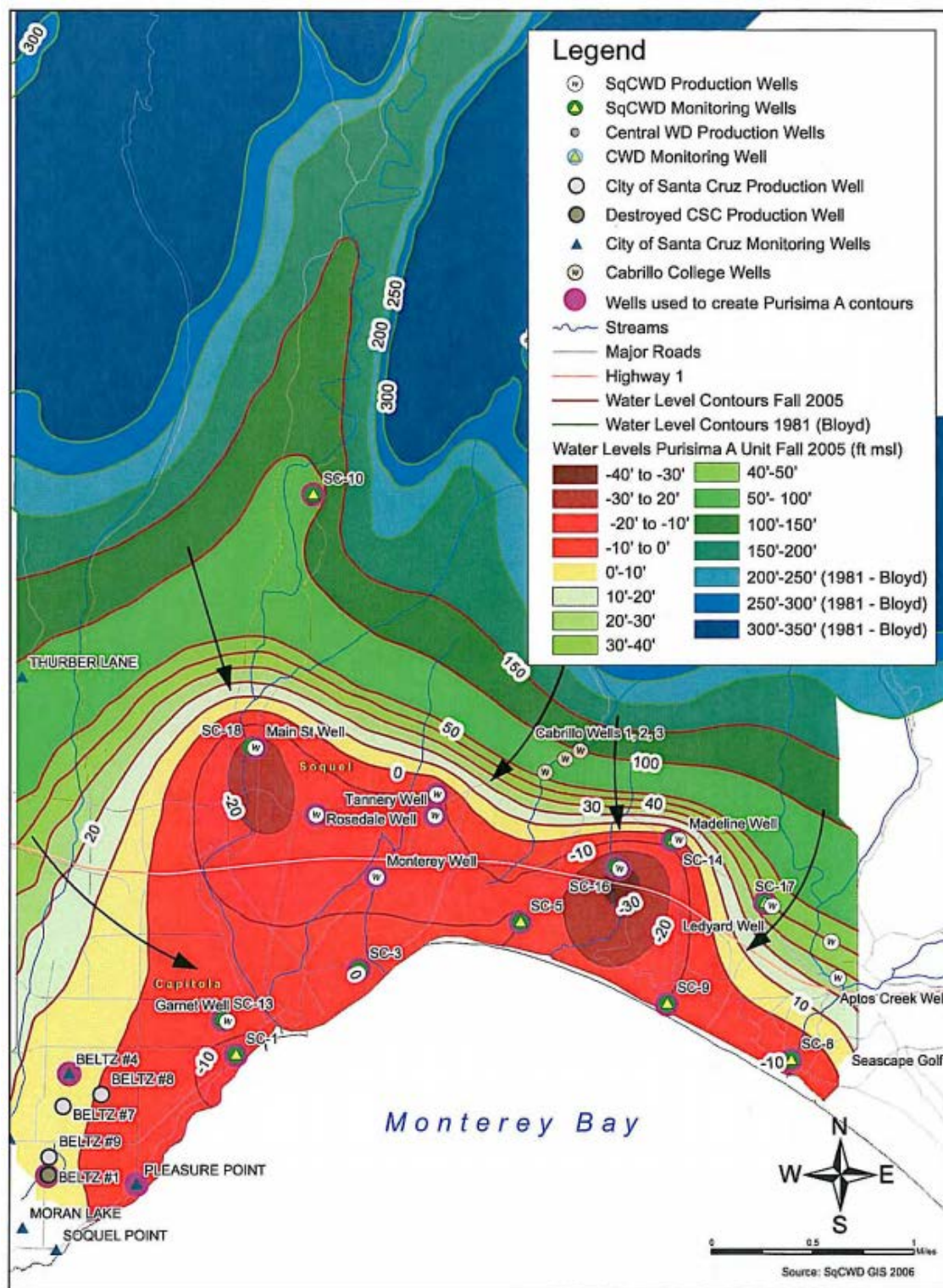


Figure 2-24. Groundwater Elevation Contours in Purisima A-Unit, Fall 2005

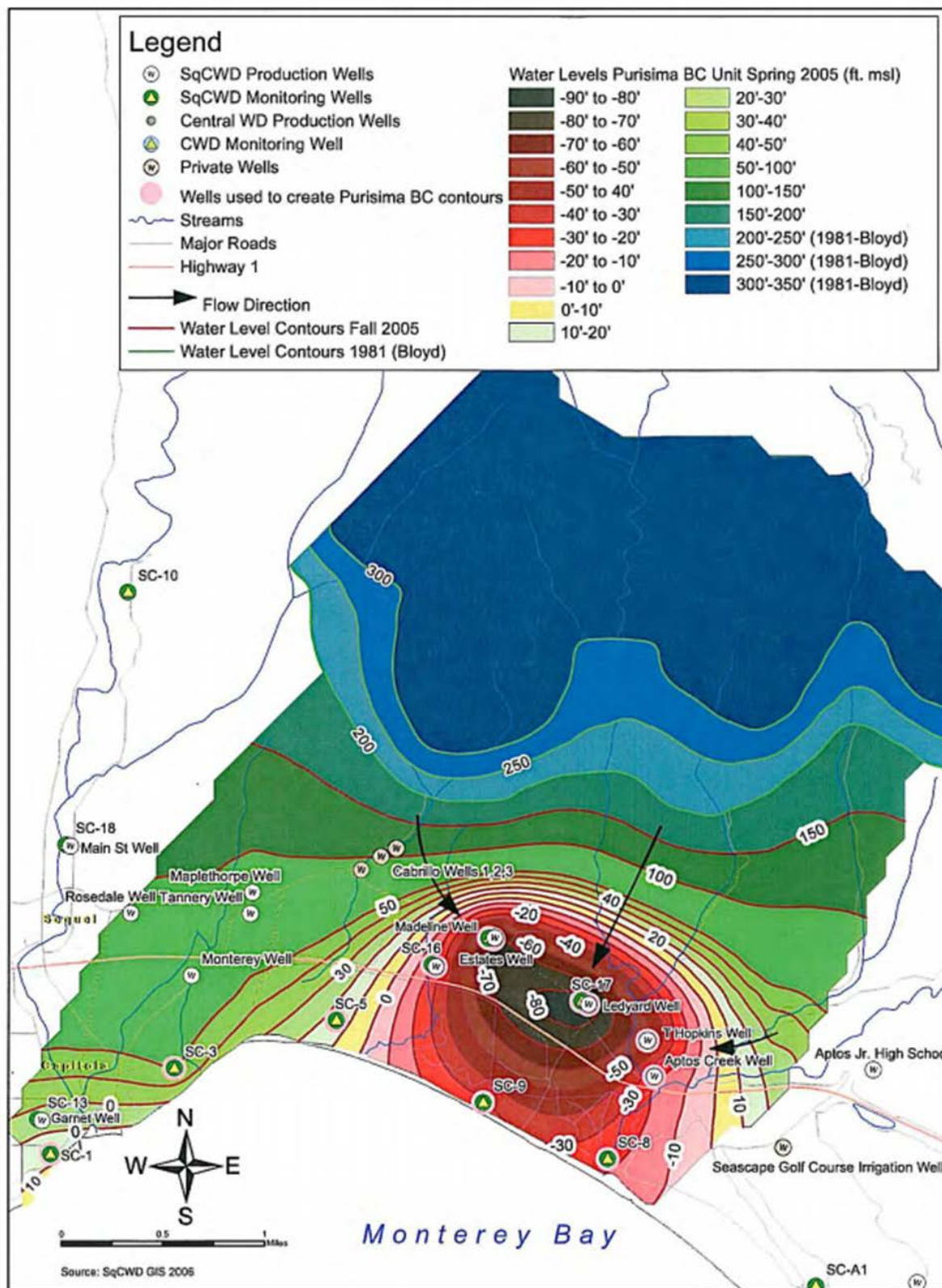


Figure 2-25. Groundwater Elevation Contours in Purisima BC- Unit, Fall 2005

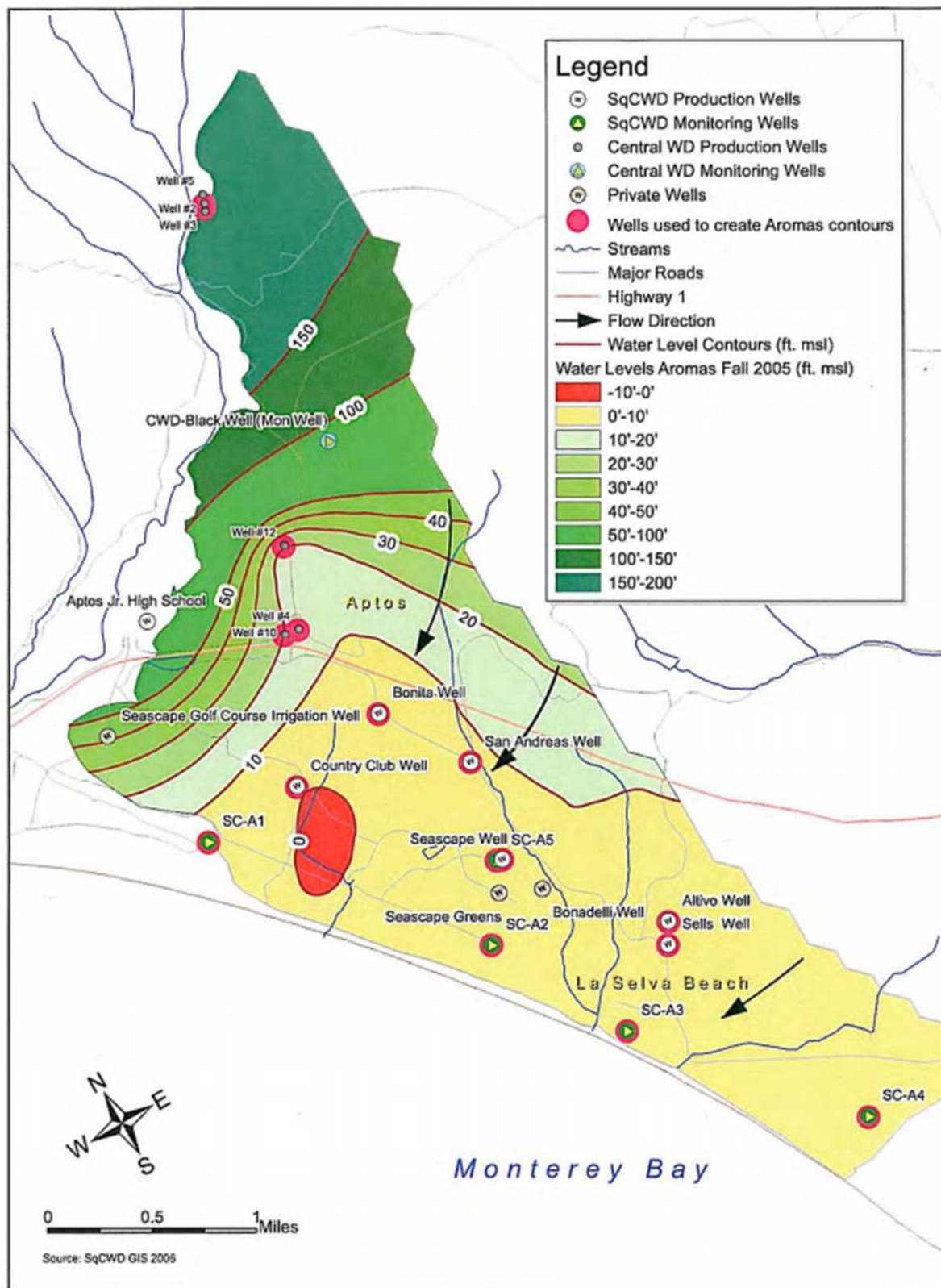


Figure 2-26. Groundwater Elevation Contours in Aromas Red Sands and Pursima F-Unit, Fall 2005

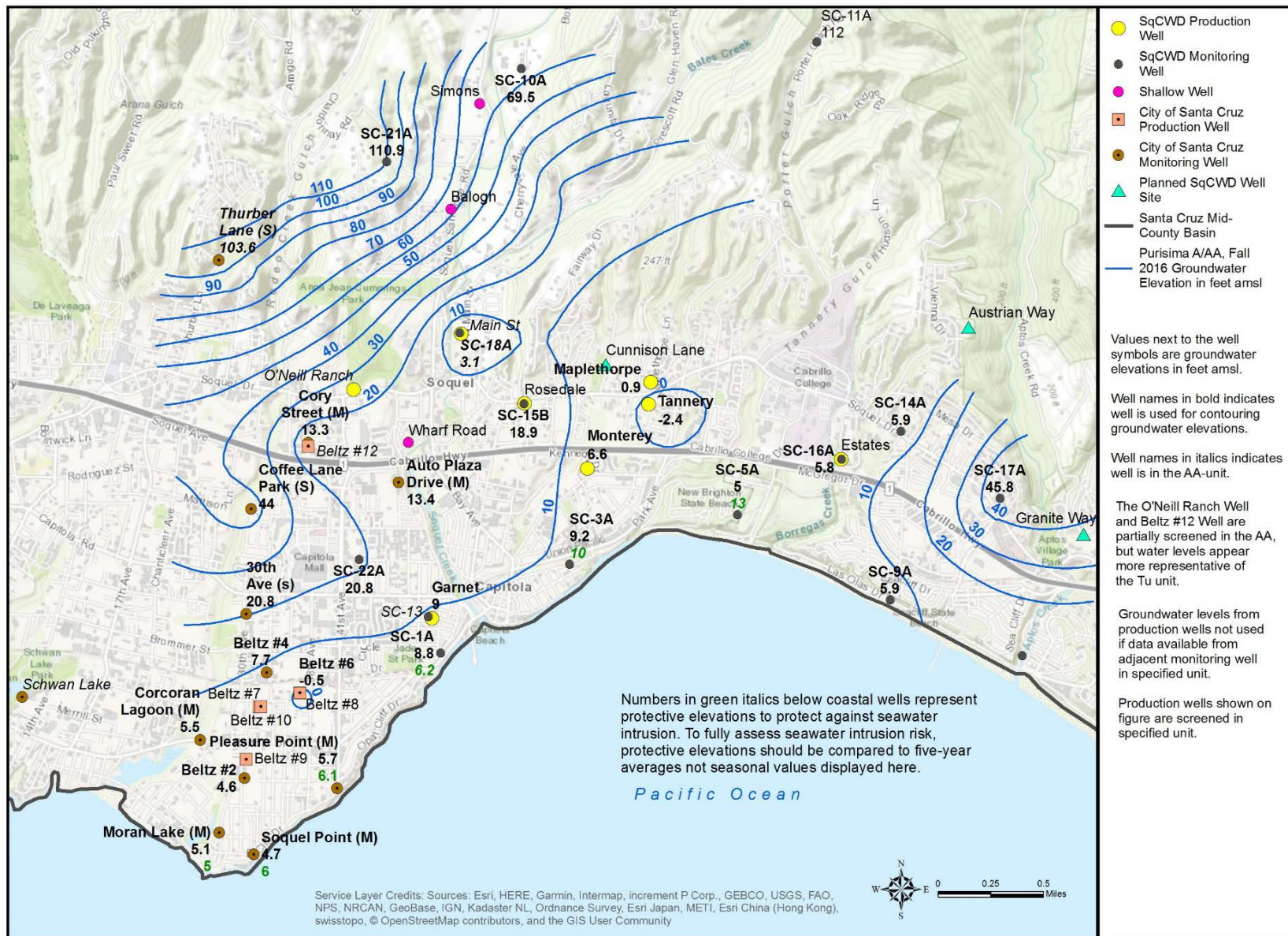


Figure 2-28. Groundwater Elevation Contours in Purisima A and AA-Unit, Fall 2016

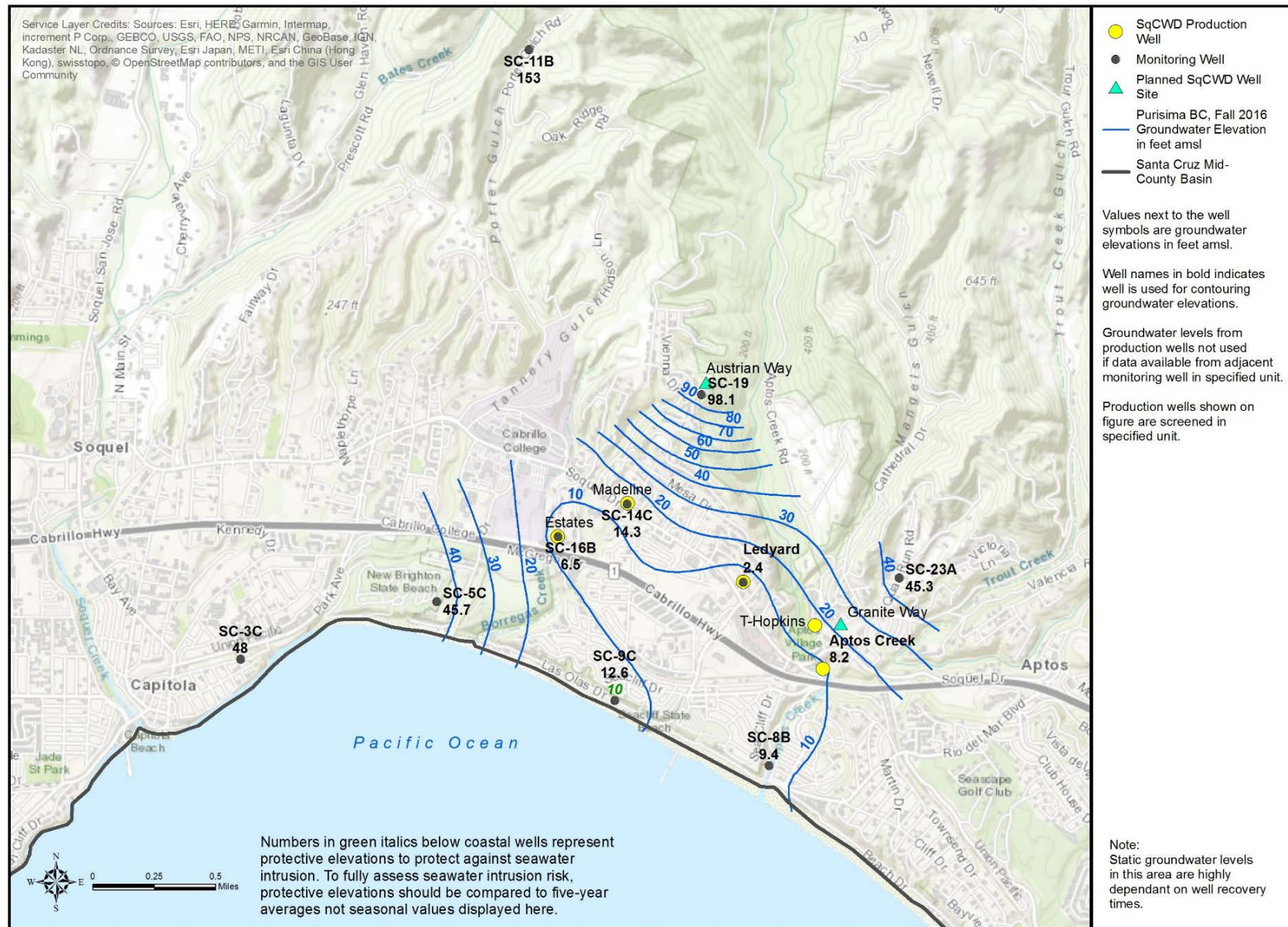


Figure 2-29. Groundwater Elevation Contours in Purisima BC-Unit, Fall 2016

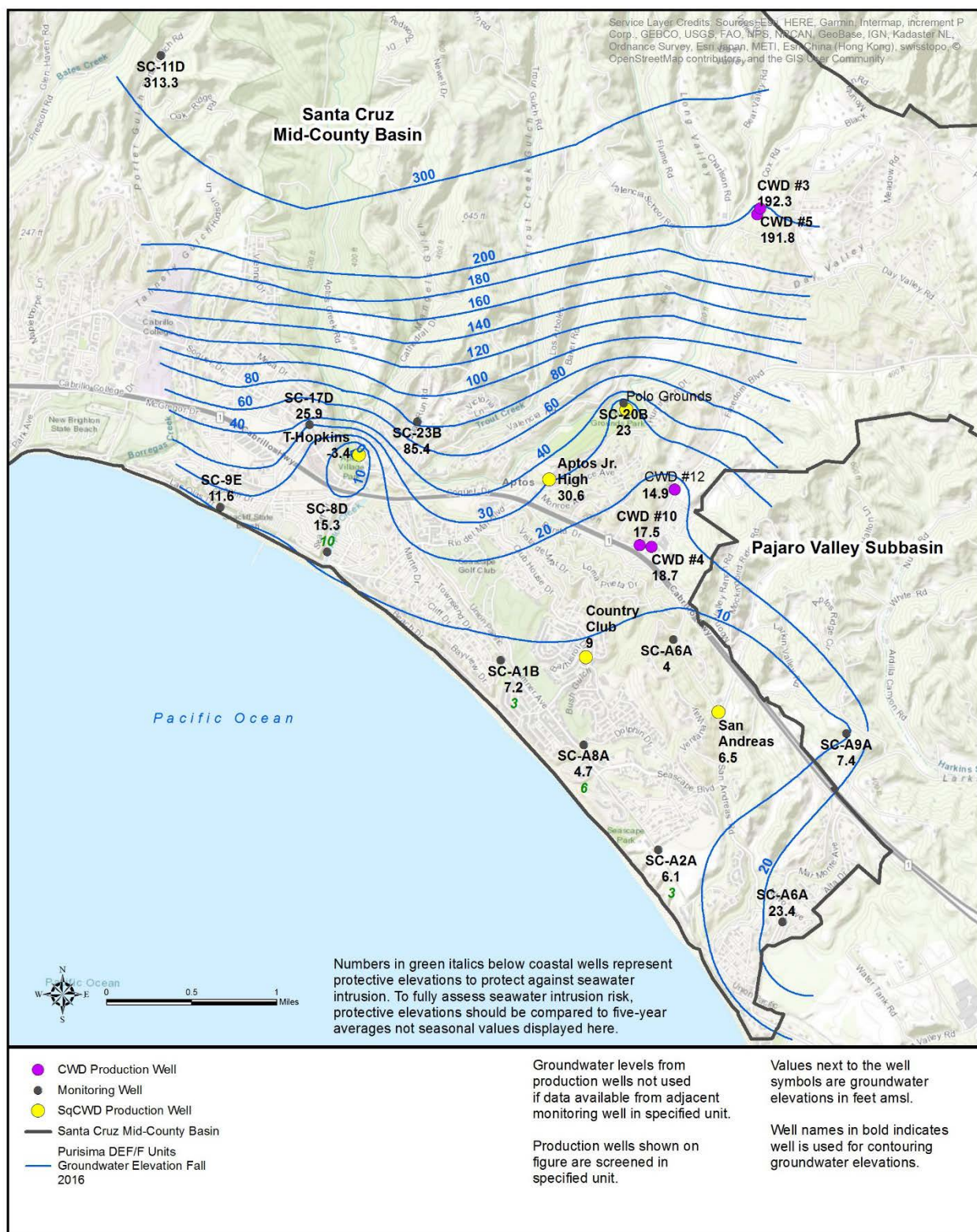


Figure 2-30. Groundwater Elevation Contours in Purisima DEF/F-Unit, Fall 2016

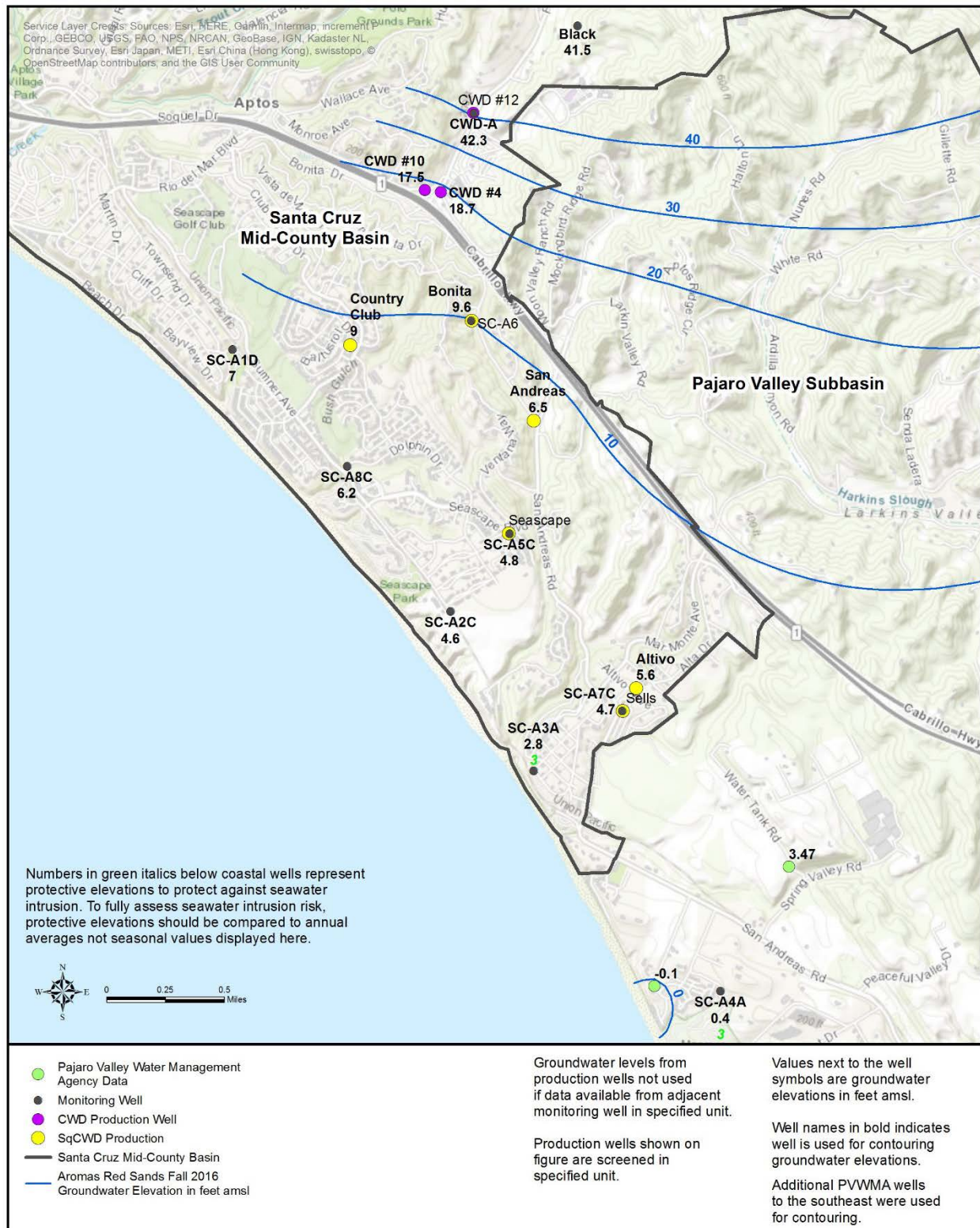


Figure 2-31. Groundwater Elevation Contours in the Aromas Area, Fall 2016

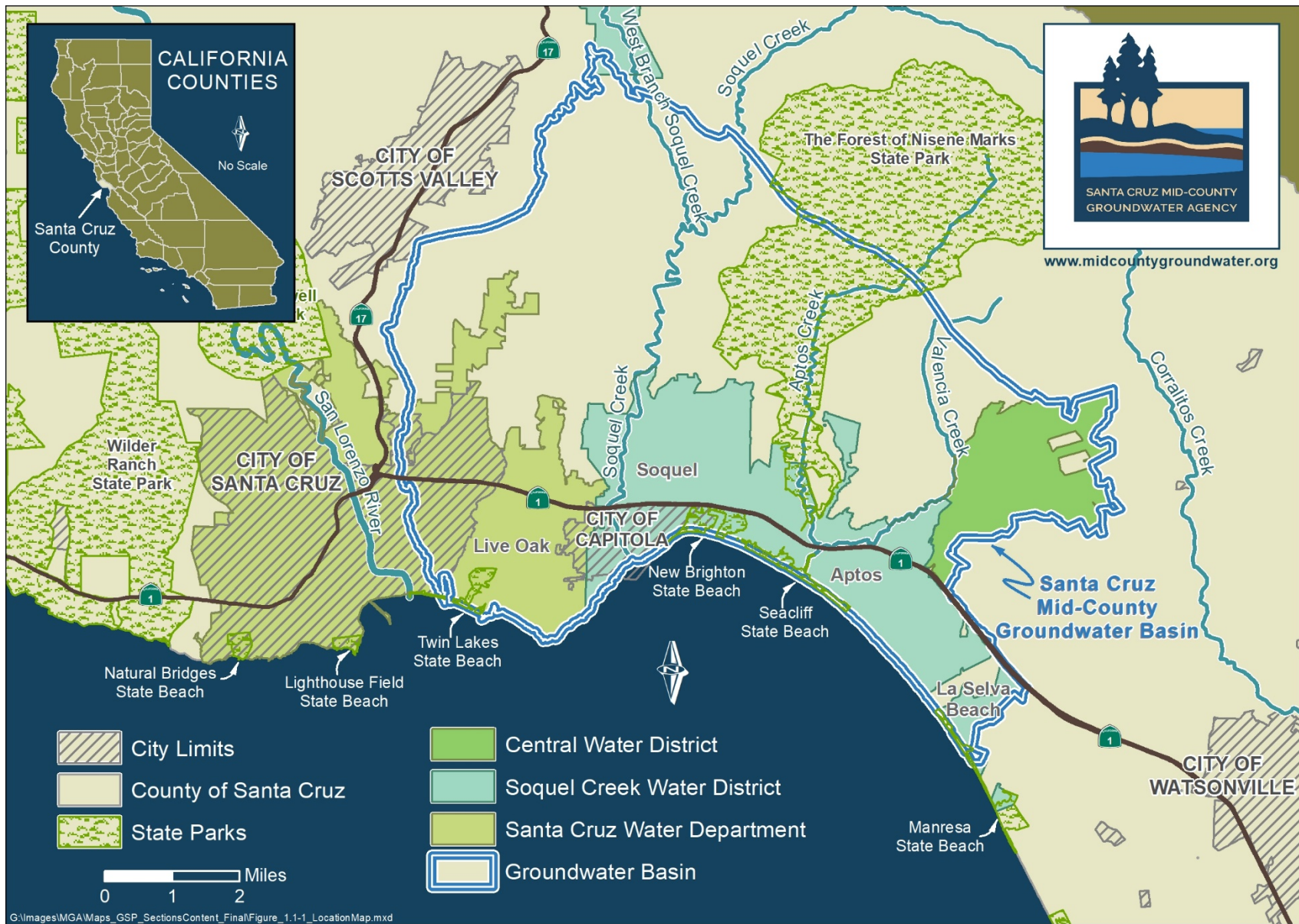


Figure 1-1. Basin Location Map

ENVIRONMENTAL INFORMATION FOR PETITIONS

This form is required for all petitions.

Before the State Water Resources Control Board (State Water Board) can approve a petition, the State Water Board must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared, a determination must be made of who is responsible for its preparation. As the petitioner, you are responsible for all costs associated with the environmental evaluation and preparation of the required CEQA documents. Please answer the following questions to the best of your ability and submit any studies that have been conducted regarding the environmental evaluation of your project. If you need more space to completely answer the questions, please number and attach additional sheets.

DESCRIPTION OF PROPOSED CHANGES OR WORK REMAINING TO BE COMPLETED

For a petition for change, provide a description of the proposed changes to your project including, but not limited to, type of construction activity, structures existing or to be built, area to be graded or excavated, increase in water diversion and use (up to the amount authorized by the permit), changes in land use, and project operational changes, including changes in how the water will be used. For a petition for extension of time, provide a description of what work has been completed and what remains to be done. Include in your description any of the above elements that will occur during the requested extension period.

Insert the attachment number here, if applicable:

1

Coordination with Regional Water Quality Control Board

For change petitions only, you must request consultation with the Regional Water Quality Control Board regarding the potential effects of your proposed change on water quality and other instream beneficial uses. (Cal. Code Regs., tit. 23, § 794.) In order to determine the appropriate office for consultation, see: http://www.waterboards.ca.gov/waterboards_map.shtml. Provide the date you submitted your request for consultation here, then provide the following information.

Date of Request

June 26, 2018

Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation?

☐ Yes

☐ No

Will a waste discharge permit be required for the project?

☐ Yes

☐ No

If necessary, provide additional information below:

Improvements at the Felton Diversion Facility could require waste discharge requirements, or a waiver, from the Central Coast Regional Water Quality Control Board, as well as a 404 permit from the U.S. Army Corps of Engineers and/or a Streambed Alteration Agreement from the California Department of Fish & Wildlife. Those improvements, however, are not yet designed and finalized.

Insert the attachment number here, if applicable:

Local Permits

For temporary transfers only, you must contact the board of supervisors for the county(ies) both for where you currently store or use water and where you propose to transfer the water. (Wat. Code § 1726.) Provide the date you submitted your request for consultation here.

Date of Contact

For change petitions only, you should contact your local planning or public works department and provide the information below.

Person Contacted:

Date of Contact:

October 3, 2018

Department:

City of Santa Cruz - various depts

Phone Number:

County Zoning Designation:

Not Applicable - municipal lands

Are any county permits required for your project? If yes, indicate type below.

☐ Yes

☐ No

☐ Grading Permit

☐ Use Permit

☐ Watercourse

☐ Obstruction Permit

☐ Change of Zoning

☐ General Plan Change

☐ Other (explain below)

If applicable, have you obtained any of the permits listed above? If yes, provide copies.

☐ Yes

☐ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Federal and State Permits

Check any additional agencies that may require permits or other approvals for your project:

- ☒ Regional Water Quality Control Board ☒ Department of Fish and Game
- ☐ Dept of Water Resources, Division of Safety of Dams ☐ California Coastal Commission
- ☐ State Reclamation Board ☒ U.S. Army Corps of Engineers ☐ U.S. Forest Service
- ☐ Bureau of Land Management ☐ Federal Energy Regulatory Commission
- ☐ Natural Resources Conservation Service

Have you obtained any of the permits listed above? If yes, provide copies. ☐ Yes ☒ No

For each agency from which a permit is required, provide the following information:

Agency	Permit Type	Person(s) Contacted	Contact Date	Phone Number
CDFW	LSAA 1600	Randi Adair		
RWQCB	WDRs / waiver	Potential at this time		
USACE	404 permit	Potential at this time		

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Construction or Grading Activity

Does the project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed, bank or riparian habitat of any stream or lake? ☐ Yes ☒ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Archeology

Has an archeological report been prepared for this project? If yes, provide a copy. ☐ Yes ☒ No

Will another public agency be preparing an archeological report? ☐ Yes ☒ No

Do you know of any archeological or historic sites in the area? If yes, explain below. ☐ Yes ☒ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Photographs

For all petitions other than time extensions, attach complete sets of color photographs, clearly dated and labeled, showing the vegetation that exists at the following three locations:

- ☒ Along the stream channel immediately downstream from each point of diversion
- ☒ Along the stream channel immediately upstream from each point of diversion
- ☒ At the place where water subject to this water right will be used

Maps

For all petitions other than time extensions, attach maps labeled in accordance with the regulations showing all applicable features, both present and proposed, including but not limited to: point of diversion, point of redirection, distribution of storage reservoirs, point of discharge of treated wastewater, place of use, and location of instream flow dedication reach. (Cal. Code Regs., tit. 23, §§ 715 et seq., 794.)

Pursuant to California Code of Regulations, title 23, section 794, petitions for change submitted without maps may not be accepted.

All Water Right Holders Must Sign This Form:

I (we) hereby certify that the statements I (we) have furnished above and in the attachments are complete to the best of my (our) ability and that the facts, statements, and information presented are true and correct to the best of my (our) knowledge. Dated 7/28/2020 at Santa Cruz, CA.



Water Right Holder or Authorized Agent Signature

Water Right Holder or Authorized Agent Signature

NOTE:

- **Petitions for Change** may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game. (Cal. Code Regs., tit. 23, § 794.)
- **Petitions for Temporary Transfer** may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game and the board of supervisors for the county(ies) where you currently store or use water and the county(ies) where you propose to transfer the water. (Wat. Code § 1726.)

**Attachment to Environmental Information Form
City of Santa Cruz**

License 9847 (Application A017913) – Newell Creek & Loch Lomond Reservoir

Permit 16123 (Application A022318) – San Lorenzo River – Felton Diversion

Permit 16601 (Application A023710) – San Lorenzo River – Felton Diversion

License 1553 (Application A004017) – San Lorenzo River – Tait Street Diversion

License 7200 (Application A005215) – San Lorenzo River – Tait Street Diversion

The Proposed Project involves Petitions for Change for all of the City's above referenced water right Licenses and Permits and Petitions for Extension of Time for the Felton Diversion Facility Permits 16123 and 16601. The Proposed Project also includes Petitions for Underground Storage for Licenses 1553 and 7200 and Permits 16123 and 16601.

Modification of the City's existing water rights through the petition process is necessary to comply with negotiated state and federal fishery conditions, better utilize surface water within existing allocations, make more effective use of existing diversion locations, thereby increasing the City's flexibility and ability to make beneficial use under its rights.

Attachment No. 1

I. Description of Proposed Changes or Work Remaining to be Completed

Addition of Direct Diversion as a Method of Diversion:

The City is seeking approval of Petitions that would explicitly state direct diversion as a method of diversion from the San Lorenzo River (also known as the Felton Diversion Facility) under Permits 16123 and 16601 and from Newell Creek at the City's Newell Creek Dam, which impounds Loch Lomond Reservoir, under License 9847. Currently, these rights authorize diversion to storage in the Loch Lomond Reservoir, but do not explicitly state the right to take water by direct diversion; an oversight in the original filings. The City has calculated that the licensed amount of use under License 9847 would not have been possible without allowance for direct diversion.

The addition of direct diversion as a method of diversion under these rights is needed to conform the water right Permits and License to the City's historical and current operations, and to provide operational flexibility and water supply reliability. Direct diversion of water has been and needs to continue to be an integral part of the operation of the Newell Creek and Felton Diversion facilities to meet annual demands.

Underground Storage:

The City proposes to redirect water to Underground Storage under Permits 16123 and 16691, and Licenses 1553 and 7200, via injection of surface water and subsequent recovery at the Beltz injection wells. The Beltz Wells are proposed to be added as Points of Rediversion under these rights. The underground storage of surface water will protect groundwater quality from seawater intrusion and allow the City to use such stored water during dry periods.

Addition of Points of Diversion:

The City proposes to add the Tait Street Diversion facility as an additional Point of Diversion to the Felton Permits 16123 and 16601 to allow for operational flexibility.

Addition of Points of Diversion to Underground Storage:

The City proposes to add Tait Street and Felton diversion facilities as Points of Diversion to Underground Storage.

Addition of Points of Rediversion:

The City proposes to add the Beltz Wells Nos. 8, 9, 10 and 12 as Points of Rediversion to Permits 16123 and 16691, and Licenses 1553 and 7200.

Rate of Diversion:

The combined rate of diversion to storage and direct diversion from the Felton and Tait Street Diversion Facilities under Permits 16123 and 16601 shall not exceed 20 cubic feet per second.

Change in Place of Use:

To provide flexibility to integrate water resources in the regional area, the City seeks to expand its currently allowed place of use under its Permits and Licenses to include adjacent services areas of Central Water District, San Lorenzo Valley Water District, Scotts Valley Water District, Soquel Creek Water District, the Santa Cruz Mid-County Groundwater Basin (Basin No. 3-027) and Santa Margarita Groundwater Basin (Basin No 3-027), as well as the City's North Coast service area.

Change in Purpose of Use:

The City proposes to consolidate its purposes of use under its Permits 16123 and 16601, and Licenses 1553, 7200 and 9847 to include municipal, domestic, industrial, recreation, fire protection, and protection of groundwater quality to prevent seawater intrusion.

Addition of Fishery Terms:

The City proposes to add, to each of its existing water right Licenses and Permits, the minimum bypass flows that the City has negotiated with the National Marine Fisheries Service and the California Department of Fish & Wildlife. Attached are the agreed upon minimum flow conditions in the San Lorenzo River during the allowed diversion seasons at both the Tait Street and Felton Diversion facilities, and in Newell Creek at Loch Lomond Reservoir.

Extension of Time:

The City is also seeking Extension of Time for Permits 16123 and 16601 to request an additional 37 years in which to put the water to full beneficial use. The Permits expired on December 31, 2006, and additional time is required to meet future growth demands set forth in the City of Santa Cruz, Santa Cruz County, City of Scotts Valley and City of Capitola's general plans. The Petitions do not represent an increase in the amount of water allowed to be diverted.

Environmental Document:

As Lead Agency, the City of Santa Cruz is preparing an Environmental Impact Report (EIR) pursuant to the requirements of the California Environmental Quality Act (CEQA). The EIR will evaluate potential environmental impacts of the Proposed Project.

City of Santa Cruz
Photographs to Accompany Petitions

Newell Creek & Loch Lomond Reservoir
License 9847 (Application A017913)

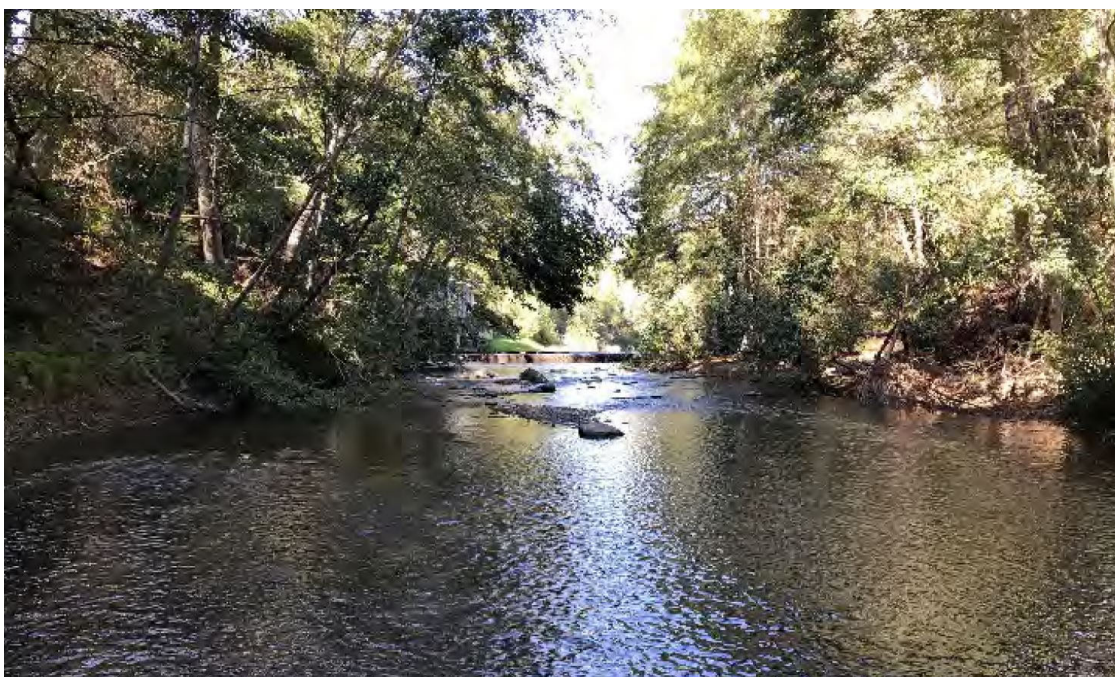
San Lorenzo River – Felton Diversion
Permit 16123 (Application A022318)
Permit 16601 (Application A023710)

San Lorenzo River – Tait Street Diversion
License 1553 (Application A004017)
License 7200 (Application A005215)



FELTON DIVERSION FACILITY

MARCH 2009



FELTON DIVERSION FACILITY- LOOKING DOWNSTREAM

JANUARY 2019



FELTON DIVERSION FACILITY- LOOKING UPSTREAM

JANUARY 2019



LOCH LOMOND LAKE- NEWELL DAM

JANUARY 2019



NEWELL CREEK- LOOKING DOWNSTREAM

FEBRUARY 2012



NEWELL CREEK- LOOKING UPSTREAM

AUGUST 2016



TAIT WELL 1B

JANUARY 2018



TAIT DIVERSION DAM

JANUARY 2019



TAIT DIVERSION FACILITY – LOOKING DOWNSTREAM

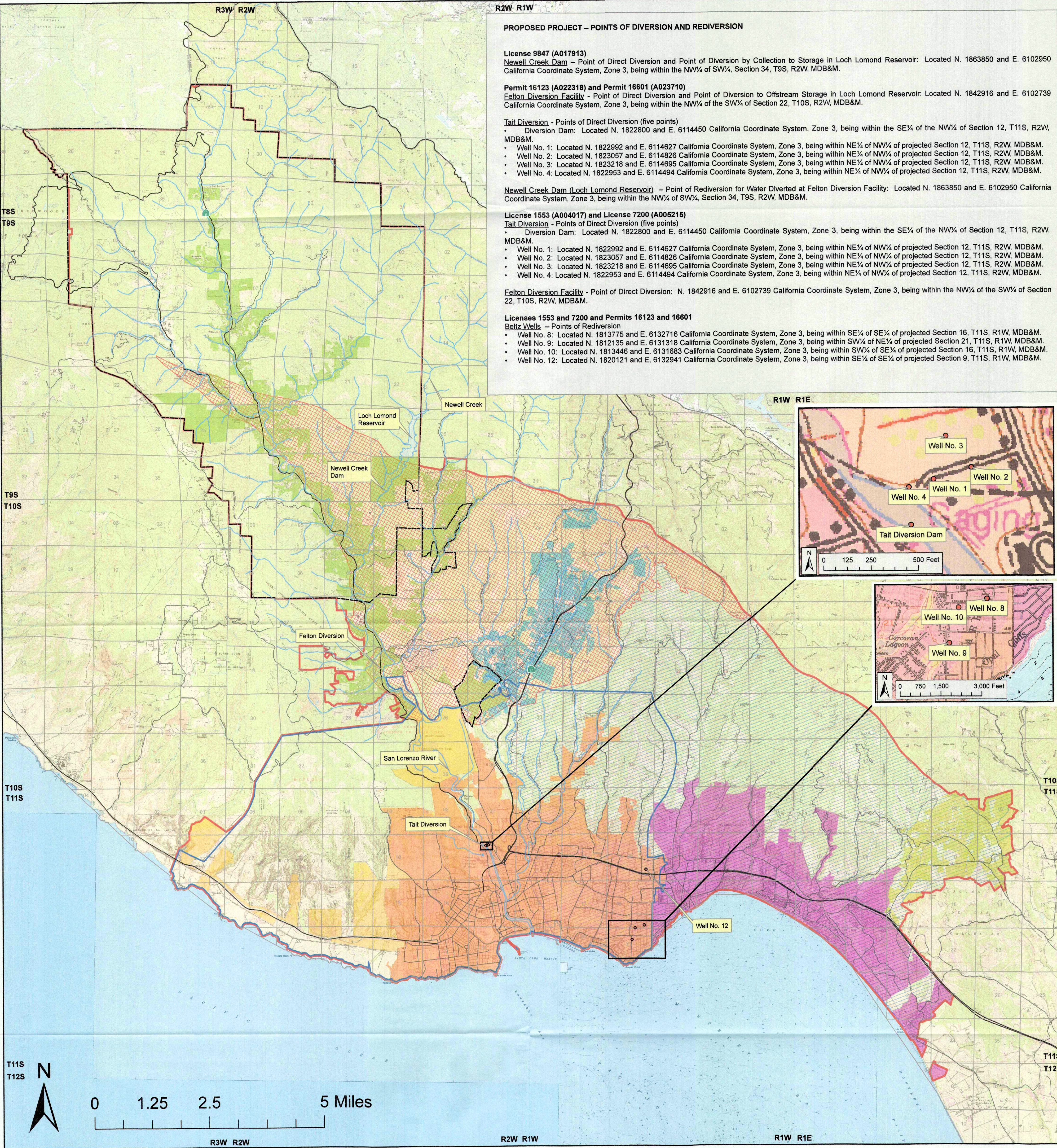
JANUARY 2019



TAIT DIVERSION FACILITY- LOOKING UPSTREAM

JANUARY 2019

MAP TO ACCOMPANY PETITIONS FOR CHANGE
LICENSES 1553, 7200, 9847 (A004017, A005215, AND A017913, RESPECTIVELY) AND
PERMITS 16123 AND 16601 (A022318 AND A023710, RESPECTIVELY)
CITY OF SANTA CRUZ
SANTA CRUZ COUNTY, CA



PROPOSED PROJECT - POINTS OF DIVERSION AND REDIVERSION

License 9847 (A017913)
Newell Creek Dam - Point of Direct Diversion and Point of Diversion by Collection to Storage in Loch Lomond Reservoir: Located N. 1863850 and E. 6102950 California Coordinate System, Zone 3, being within the NW¼ of SW¼, Section 34, T9S, R2W, MDB&M.

Permit 16123 (A022318) and Permit 16601 (A023710)
Felton Diversion Facility - Point of Direct Diversion and Point of Diversion to Offstream Storage in Loch Lomond Reservoir: Located N. 1842916 and E. 6102739 California Coordinate System, Zone 3, being within the NW¼ of the SW¼ of Section 22, T10S, R2W, MDB&M.

Tait Diversion - Points of Direct Diversion (five points)
• Diversion Dam: Located N. 1822800 and E. 6114450 California Coordinate System, Zone 3, being within the SE¼ of the NW¼ of Section 12, T11S, R2W, MDB&M.

- Well No. 1: Located N. 1822992 and E. 6114627 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N. 1823057 and E. 6114826 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N. 1823218 and E. 6114695 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N. 1822953 and E. 6114494 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.

Newell Creek Dam (Loch Lomond Reservoir) - Point of Rediversion for Water Diverted at Felton Diversion Facility: Located N. 1863850 and E. 6102950 California Coordinate System, Zone 3, being within the NW¼ of SW¼, Section 34, T9S, R2W, MDB&M.

License 1553 (A004017) and License 7200 (A005215)

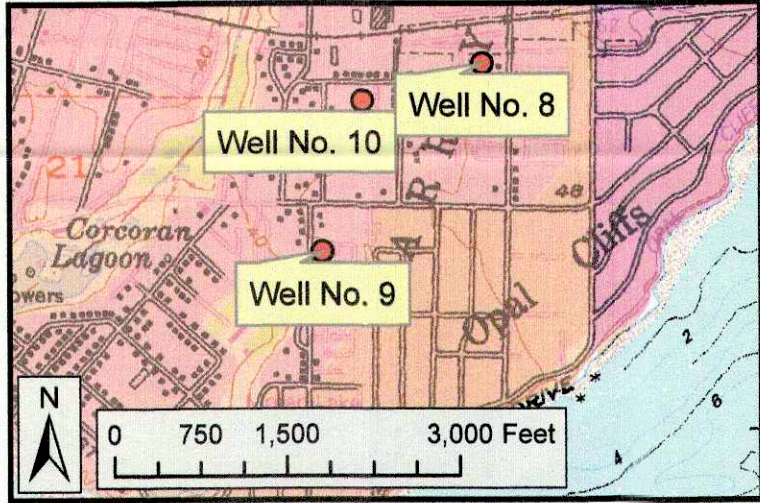
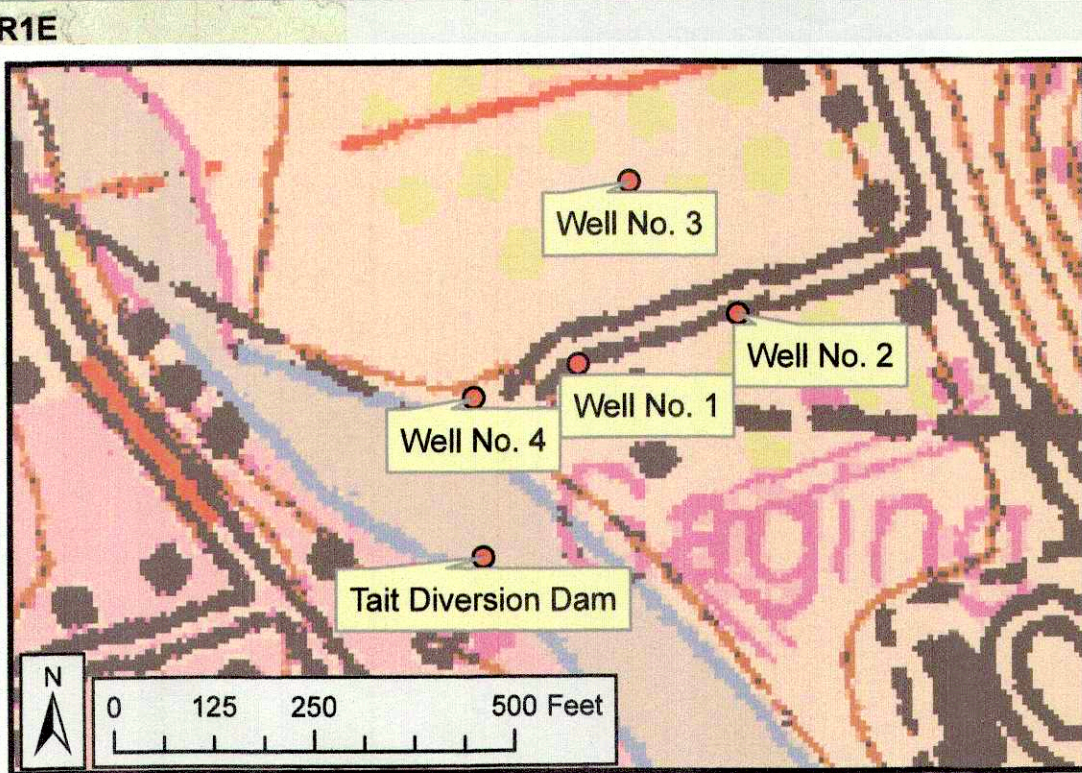
Tait Diversion - Points of Direct Diversion (five points)
• Diversion Dam: Located N. 1822800 and E. 6114450 California Coordinate System, Zone 3, being within the SE¼ of the NW¼ of Section 12, T11S, R2W, MDB&M.

- Well No. 1: Located N. 1822992 and E. 6114627 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N. 1823057 and E. 6114826 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N. 1823218 and E. 6114695 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N. 1822953 and E. 6114494 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.

Felton Diversion Facility - Point of Direct Diversion: N. 1842916 and E. 6102739 California Coordinate System, Zone 3, being within the NW¼ of the SW¼ of Section 22, T10S, R2W, MDB&M.

Licenses 1553 and 7200 and Permits 16123 and 16601

Beltz Wells - Points of Rediversion
• Well No. 8: Located N. 1813775 and E. 6132716 California Coordinate System, Zone 3, being within SE¼ of SE¼ of projected Section 16, T11S, R1W, MDB&M.
• Well No. 9: Located N. 1812135 and E. 6131318 California Coordinate System, Zone 3, being within SW¼ of NE¼ of projected Section 21, T11S, R1W, MDB&M.
• Well No. 10: Located N. 1813446 and E. 6131683 California Coordinate System, Zone 3, being within SW¼ of SE¼ of projected Section 16, T11S, R1W, MDB&M.
• Well No. 12: Located N. 1820121 and E. 6132941 California Coordinate System, Zone 3, being within SE¼ of SE¼ of projected Section 9, T11S, R1W, MDB&M.



San Lorenzo River and Tributaries

Water Service Areas

- Central Water District
- San Lorenzo Valley Water District
- Scotts Valley Water District
- Soquel Creek Water District
- City of Santa Cruz' Service Area
- City of Santa Cruz' North Coast Service Area

State Highways

Places of Use

- License # 9847
- License #'s 1553, 7200; Permit #'s 16601, 16123
- Proposed Place of Use Expanded

Groundwater Basins

- Santa Cruz Mid-County
- Santa Margarita

CERTIFICATE OF ENGINEER

I, NICHOLAS F. BONSIGNORE OF 2151 RIVER PLAZA DR., SUITE 100, SACRAMENTO, CALIFORNIA, DO HEREBY CERTIFY THAT THIS MAP WAS PREPARED UNDER MY DIRECT SUPERVISION BASED U.S.G.S. 7.5-MINUTE QUADRANGLES FOR BIG BASIN, CASTLE ROCK RIDGE, DAVENPORT, FELTON, LAUREL, SANTA CRUZ, SOQUEL, AND WATSONVILLE WEST, FROM PUBLISHED SERVICE AREA MAPS FOR CENTRAL WATER DISTRICT, SAN LORENZO VALLEY WATER DISTRICT, SCOTT'S VALLEY WATER DISTRICT, SOQUEL CREEK WATER DISTRICT, MAPS ON FILE WITH SANTA CRUZ WATER DEPARTMENT AND SANTA CRUZ WATER DEPARTMENT LIMITED, AND OTHER INFORMATION PROVIDED BY CITY OF SANTA CRUZ, AND THAT IT CORRECTLY REPRESENTS THE PROJECT DESCRIBED IN THE ACCOMPANYING PETITIONS, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Nicholas F. Bonsignore

NICHOLAS F. BONSIGNORE
R.C.E. NO. 39422
EXPIRES 12-31-2021

7/23/2020

DATE

Wagner & Bonsignore

Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
Robert C. Wagner, P.E.
Paula J. Whealen

Martin Berber, P.E.
Patrick W. Ervin, P.E.
David P. Lounsbury, P.E.
Vincent Maples, P.E.
Leah Orloff, Ph.D., P.E.
David H. Peterson, C.E.G., C.H.G.
Ryan E. Stolfus

January 6, 2021

Mr. Sam Boland-Brien
Supervising Engineer - Petition, Licensing & Registration
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

**Re: City of Santa Cruz
Petitions for Change and Extension of Time: Permits 16123 and 16601
(Applications A022318 and A023710 respectively)
Petitions for Change: Licenses 1553, 7200 and 9847 (Applications A004017,
A005215 and A017913 respectively)**

Dear Mr. Boland-Brien:

In December 2006, the City of Santa Cruz filed Petitions for Extension of Time for Permits 16123 and 16601, and Petitions for Change for License 9847 and Permits 16123 and 16601 with the Division. The Division issued a Public Notice of these Petitions on October 8, 2008. Subsequently, the City determined that additional modifications were necessary and filed revised Petitions on these same rights on January 29, 2019 and again on August 5, 2020.

At this time, the City would like to amend its August 5, 2020 Petitions in their entirety and are submitting the enclosed amended Petitions for the referenced rights. The Petition revisions were made to respond to comments provided by you and your staff.

An Initial Study and Notice of Preparation of an Environmental Impact Report in support of the enclosed Petitions was issued by the City in 2018. The City is well into the preparation of a draft environmental impact report. Therefore, we request that these revised Petitions be issued for public notice as soon as possible to incorporate and/or address comments in the environmental document.

Enclosed are the executed Petitions, Underground Storage Supplements, Environmental Information forms, site photographs and accompanying map. In January 2019, Petition filing fees in the amount of \$13,114.72 were submitted to the Division, with an \$850 environmental fee for the California Department of Fish and Wildlife. Additional filing fees in the amount of \$2,394.48

*2151 River Plaza Drive • Suite 100 • Sacramento, CA 95833-4133
Ph: 916-441-6850 or 916-448-2821 • Fax: 916-779-3120*

Mr. Sam Boland-Brien

January 6, 2021

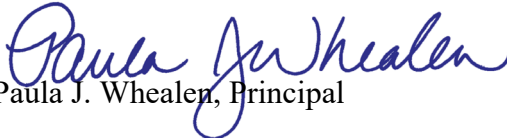
Page 2

were submitted with the August 5, 2020 revised Petitions. We understand that no additional filing fees are due currently. I am also sending this letter and Petition package to you via email.

Please contact me if you have any questions regarding the enclosed Petitions.

Very truly yours,

WAGNER & BONSIGNORE
CONSULTING CIVIL ENGINEERS


Paula J. Whealen, Principal

Encl.

cc: (via email)

Rosemary Menard, City of Santa Cruz

Chris Berry, City of Santa Cruz

Ryan Bezerra, Bartkiewicz Kronick & Shanahan

Randi Adair, California Department of Fish & Wildlife

Amanda Morrison, NOAA National Marine Fisheries Service

Please indicate County where
your project is located here:

Santa Cruz

MAIL FORM AND ATTACHMENTS TO:
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
<http://www.waterboards.ca.gov/waterrights>

PETITION FOR CHANGE

Separate petitions are required for each water right. Mark all areas that apply to your proposed change(s). Incomplete forms may not be accepted. Location and area information must be provided on maps in accordance with established requirements. (Cal. Code Regs., tit. 23, § 715 et seq.) Provide attachments if necessary.

☒ Point of Diversion Wat. Code, § 1701	☒ Point of Rediversion Cal. Code Regs., tit. 23, § 791(e)	☒ Place of Use Wat. Code, § 1701	☒ Purpose of Use Wat. Code, § 1701
☐ Distribution of Storage Cal. Code Regs., tit. 23, § 791(e)	☐ Temporary Urgency Wat. Code, § 1435	☐ Instream Flow Dedication Wat. Code, § 1707	☐ Waste Water Wat. Code, § 1211
☐ Split Cal. Code Regs., tit. 23, § 836	☒ Terms or Conditions Cal. Code Regs., tit. 23, § 791(e)	☒ Other	Addition of Underground Storage
Application	22318	Permit	16123
License	1553	Statement	

I (we) hereby petition for change(s) noted above and described as follows:

Point of Diversion or Rediversion – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Present:	See Attached
Proposed:	See Attached

Place of Use – Identify area using Public Land Survey System descriptions to ¼-¼ level; for irrigation, list number of acres irrigated.

Present:	See Attached
Proposed:	See Attached

Purpose of Use

Present:	See Attached
Proposed:	See Attached

Split

Provide the names, addresses, and phone numbers for all proposed water right holders.

--

In addition, provide a separate sheet with a table describing how the water right will be split between the water right holders: for each party list amount by direct diversion and/or storage, season of diversion, maximum annual amount, maximum diversion to offstream storage, point(s) of diversion, place(s) of use, and purpose(s) of use. Maps showing the point(s) of diversion and place of use for each party should be provided.

Distribution of Storage

Present:	
Proposed:	

Temporary Urgency

This temporary urgency change will be effective from to .

Include an attachment that describes the urgent need that is the basis of the temporary urgency change and whether the change will result in injury to any lawful user of water or have unreasonable effects on fish, wildlife or instream uses.

Instream Flow Dedication – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Upstream Location:

Downstream Location:

List the quantities dedicated to instream flow in either: ☐ cubic feet per second or ☐ gallons per day:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Will the dedicated flow be diverted for consumptive use at a downstream location? ☐ Yes ☐ No

If yes, provide the source name, location coordinates, and the quantities of flow that will be diverted from the stream.

Waste Water

If applicable, provide the reduction in amount of treated waste water discharged in cubic feet per second.

Will this change involve water provided by a water service contract which prohibits your exclusive right to this treated waste water? ☐ Yes ☐ No

Will any legal user of the treated waste water discharged be affected? ☐ Yes ☐ No

General Information – For all Petitions, provide the following information, if applicable to your proposed change(s).

Will any current Point of Diversion, Point of Storage, or Place of Use be abandoned? ☐ Yes ☒ No

I (we) have access to the proposed point of diversion or control the proposed place of use by virtue of:

☒ ownership ☐ lease ☐ verbal agreement ☐ written agreement

If by lease or agreement, state name and address of person(s) from whom access has been obtained.

Give name and address of any person(s) taking water from the stream between the present point of diversion or redirection and the proposed point of diversion or redirection, as well as any other person(s) known to you who may be affected by the proposed change.

Information in State Water Resources Control Board files.

All Right Holders Must Sign This Form: I (we) declare under penalty of perjury that this change does not involve an increase in the amount of the appropriation or the season of diversion, and that the above is true and correct to the best of my (our) knowledge and belief. Dated 7/28/2020 at Santa Cruz, CA.

Rosemary Mendez
Right Holder or Authorized Agent Signature

Right Holder or Authorized Agent Signature

NOTE: All petitions must be accompanied by:

- (1) the form Environmental Information for Petitions, including required attachments, available at:
http://www.waterboards.ca.gov/waterrights/publications_forms/docs/pet_info.pdf
- (2) Division of Water Rights fee, per the Water Rights Fee Schedule, available at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/fees/
- (3) Department of Fish and Wildlife fee of \$850 (Pub. Resources Code, § 10005)

City of Santa Cruz

Attachment to Petitions for Change Permit 16123 (Application A022318) Permit 16601 (Application A023710) Felton Diversion Facility

Point of Diversion or Rediversion

Present: Felton Diversion Facility - Diversion to offstream storage from Felton Diversion Facility on San Lorenzo River located S 30 degrees E 3,200' from NW corner of Section 22, within the NE $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 22, T10S, R2W, MDB&M for storage in Loch Lomond reservoir.

Proposed: Felton Diversion Facility¹ - Point of Direct Diversion, Point of Diversion to Underground Storage and Point of Diversion to Offstream Storage in Loch Lomond Reservoir: Located N.1842916 and E.6102739 California Coordinate System, Zone 3, being within the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 22, T10S, R2W, MDB&M.

Tait Diversion - Points of Direct Diversion and Diversion to Underground Storage:

- Diversion Dam: Located N.1822800 and E.6114450 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 12, T11S, R2W, MDB&M.
- Well No. 1: Located N.1822992 and E.6114627 California Coordinate System, Zone 3, being within NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N.1823057 and E.6114826 California Coordinate System, Zone 3, being within NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N.1823218 and E.6114695 California Coordinate System, Zone 3, being within NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N.1822953 and E.6114494 California Coordinate System, Zone 3, being within NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of projected Section 12, T11S, R2W, MDB&M.

Beltz Injection Wells – Points of Rediversion to Underground Storage:

- Well No. 8: Located N.1813775 and E.6132716 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 9: Located N.1812135 and E.6131318 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of NE $\frac{1}{4}$ of projected Section 21, T11S, R1W, MDB&M.
- Well No. 10: Located N.1813446 and E.6131683 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 12: Located N.1820121 and E.6132941 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 9, T11S, R1W, MDB&M.

¹ There is no change in the physical Point of Diversion location. The description has been revised to provide a California Coordinate System, Zone 3 coordinate point.

Method of Diversion

Present: Diversion from San Lorenzo River to offstream storage in Loch Lomond Reservoir

Proposed: Diversion from San Lorenzo River to offstream storage in Loch Lomond Reservoir, direct diversion from San Lorenzo River, and diversion to underground storage. Rediversion to underground storage at Beltz Injection Wells.

Underground Storage

Proposed: The City proposes to add Underground Storage via injection of surface water and subsequent recovery at the Beltz Injection Wells.

Place of Use

Present: City of Santa Cruz Water Service Area within Townships 10S, 11S, Range 1W, 2W and 3W, MDB&M.

Proposed: At Loch Lomond Reservoir, and in the City of Santa Cruz Water Department's service area, including its North Coast service area; the service areas of Central Water District, San Lorenzo Valley Water District, Scotts Valley Water District and Soquel Creek Water District; the Santa Cruz Mid-County Groundwater Basin (DWR Bulletin 118 Basin No. 3-001) and Santa Margarita Groundwater Basin (DWR Bulletin 118 Basin No. 3-027); all as shown on a map filed with State Water Resources Control Board accompanying this Petition.

Purpose of Use

Present: Municipal

Proposed: Municipal, domestic, industrial, recreational, fire protection and protection of water quality

Diversion Rate

Present: Permit 16123 – Maximum rate of diversion to offstream storage shall not exceed 3,500 gpm.

Permit 16601 – Combined rate of diversion to offstream storage under Permits 16123 and 16601 shall not exceed 20 cfs.

Proposed: Permits 16601 and 16123 - The combined rate of direct diversion, diversion to offstream storage and diversion to underground storage under Permit 16123 at the Felton and Tait diversion facilities shall not exceed 3,500 gpm. The combined rate of direct diversion, diversion to offstream storage and diversion to underground storage under Permits 16123 and 16601 at the Felton and Tait diversion facilities shall not exceed 20 cubic feet per second.

Terms and Conditions

Present: Permit 16601 - For the protection of fish, no diversion shall be made during the month of October which depletes the flow of the stream to less than 25 cubic feet per second nor to less than 20 cubic feet per second during the period November 1 to the succeeding May 31. No water shall be diverted until permittee has installed in the stream immediately below its point of diversion a staff gage, or other device satisfactory to the State Water Resources Control Board, showing the water levels which correspond to the above-mentioned flows in cubic feet per second. As a condition of continuing diversion, said measuring device shall be properly maintained.

Permit 16123 – Permittee shall bypass 10 cubic feet per second or the natural flow, whichever is less from September 1 through September 30; and 20 cubic feet per second or the natural flow, whichever is less from October 1 through May 31 for the preservation of fish and wildlife.

Proposed: Permits 16601 and 16123:

- 1) The City will bypass water at both the Felton and Tait Street Diversion Facilities according to the minimum streamflow schedule negotiated among the City, the National Marine Fisheries Service and the California Department of Fish & Wildlife as shown on the attached schedule. To improve fish passage at the Felton diversion facility, the City shall complete improvements to that facility consistent with any habitat conservation plan or incidental take permit issued by the National Marine Fisheries or California Department of Fish and Wildlife for the operation of that facility. Permittee shall complete those improvements in the time provided by that plan or permit.
- 2) No diversions under this right for rediversion to underground storage will occur during Hydrologic Condition 5, defined in the attached Exceedance Category Limits Table.
- 3) No delivery of water diverted under this right for use by a water supplier other than the City of Santa Cruz Water Department will occur during Hydrologic Conditions 4 and 5, as defined in the attached Exceedance Category Limits Table.

Reason for Proposed Change

Modification of the City of Santa Cruz' rights are necessary to better utilize surface water within existing allocations, increase the flexibility of the City's water supply, and extend time to beneficially use water allowed under existing rights, in light of, among other things, significant water conservation measures.

Month	Flow Ranges Used to Determine Monthly Hydrologic Condition Type ¹ (cfs) Using San Lorenzo River End-of-Month Cumulative Daily Flow ²				
	<i>Hydrologic Condition 5 (driest)</i>	<i>Hydrologic Condition 4 (dry)</i>	<i>Hydrologic Condition 3 (normal)</i>	<i>Hydrologic Condition 2 (wet)</i>	<i>Hydrologic Condition 1 (wettest)</i>
Oct	<=459	460-539	540-709	710-875	>875
Nov	<=1186	1187-1497	1498-1827	1828-2485	>2485
Dec	<=2397	2398-3134	3135-5642	5643-10196	>10196
Jan	<=4322	4323-8456	8457-16694	16695-28019	>28019
Feb	<=8442	8443-16368	16369-29140	29141-42995	>42995
Mar	<=13004	13005-22948	22949-35371	35372-57968	>57968
Apr	<=14203	14204-24491	24492-39487	39488-67884	>67884
May	<=15448	15449-25279	25280-41659	41660-71412	>71412
Jun	<=16005	16006-26116	26117-43123	43124-73420	>73420
Jul	<=16364	16365-26819	26820-44073	44074-74718	>74718
Aug	<=16653	16654-27355	27356-44799	44800-75591	>75591
Sep	<=16978	16979-27843	27844-45398	45399-76368	>76368

cfs = cubic feet per second

Notes:

1. The Hydrologic Condition Types are based on the record of cumulative daily average flow by water year (water years 1937–2015) at the Big Trees gage on the San Lorenzo River.
2. To implement the Agreed Flows, the Hydrologic Condition type is determined on the first day of each month based upon the previous month's San Lorenzo River end-of-month cumulative flow for the Water Year. Water Year is defined as the 12-month period from October 1 through September 30.
 - a. The end-of-month cumulative daily flow is calculated by adding the San Lorenzo River daily flows, as measured at the Big Trees Gage, from the first day of the Water Year to the last day of the month.
 - b. The flow ranges for the month are then reviewed to determine within which Hydrologic Condition type this end-of-month cumulative daily flow falls.
 - c. This Hydrologic Condition type is used until the first day of the next month to determine bypass flow conditions under the Agreed Flows across all City of Santa Cruz source waters.

**Agreed Flows for Tait Diversion on the San Lorenzo River,
as Measured at the City Gage immediately downstream of Tait Diversion¹**

	Rearing (Base Flow) (cfs)					Adult Migration ² (cfs)	Spawning ³ (cfs)	Egg Incubation ³ (cfs)	Smolt Outmigration (cfs)
	Hydrologic Condition 5 (driest)	Hydrologic Condition 4 (dry)	Hydrologic Condition 3 (normal)	Hydrologic Condition 2 (wet)	Hydrologic Condition 1 (very wet)				
Jan	8.0	8.0	15.8	16.4	17.5	17.0/25.2			10.0
Feb	8.0	8.0	15.9	16.7	18.0	17.0/25.2			10.0
Mar	8.0	8.0	16.3	17.3	18.2	17.0/25.2			10.0 ⁴
Apr	8.0	8.0	17.2	17.9	18.4	17.0/25.2 ⁵			10.0 ⁴
May	8.0	8.0	17.7	18.2	18.5				10.0 ⁴
Jun	8.0	8.0	16.6	18.1	18.5				
Jul	8.0	8.0	12.4	15.8	18.2				
Aug	8.0	8.0	9.8	11.9	16.4				
Sep	8.0	8.0	9.0	11.1	13.3				
Oct	8.0	8.0	9.8	11.4	13.3				
Nov	8.0	8.0	12.5	14.1	16.4				
Dec	8.0	8.0	15.1	16.2	17.6	17.0/25.2			

cfs = cubic feet per second

Notes:

1. The required flow is determined by the life stage requiring the highest flow in any given month.
2. For adult migration, a lower threshold of 17.0 cfs and an upper threshold of 25.2 cfs when flow would be at this level without City diversion during December through April. May be reduced to 3 consecutive days a week if storage levels in Loch Lomond fall below the following levels in million gallons (mg): Dec-1900 mg; Jan-2000 mg; Feb-2100 mg; Mar-2200 mg. Further, adult migration flows may be reduced to 5 consecutive days after each storm event that exceeds 17 cfs if storage levels in Loch Lomond fall below the following levels: Dec-1600 mg; Jan-1700 mg; Feb-1800 mg; Mar-1900 mg.
3. No spawning or incubation occurs in this reach.
4. During Hydrologic Condition 5, provided at least 3 days per week.
5. April adult migration flows provided only in Hydrologic Conditions 1-3.

**Agreed Flows for Felton Diversion on the San Lorenzo River,
as Measured at the Big Trees Gage¹**

	Rearing (Base Flow) (cfs)					Adult Migration ² (cfs)	Spawning ³ (cfs)
	Hydrologic Condition 5 (driest)	Hydrologic Condition 4 (dry)	Hydrologic Condition 3 (normal)	Hydrologic Condition 2 (wet)	Hydrologic Condition 1 (very wet)		
Jan	20.0	20.0	20.0	20.0	20.0	40.0	40.0
Feb	20.0	20.0	20.0	20.0	20.0	40.0	40.0
Mar	20.0	20.0	20.0	20.0	20.0	40.0	40.0
Apr	20.0	20.0	20.0	20.0	20.0	40.0	40.0
May	20.0	20.0	20.0	20.0	20.0		40.0
Jun	No Diversion						
Jul							
Aug							
Sep	10.0	10.0	10.0	10.0	10.0		
Oct	25.0	25.0	25.0	25.0	25.0		
Nov	20.0	20.0	20.0	20.0	20.0		
Dec	20.0	20.0	20.0	20.0	20.0	40.0	40.0

cfs = cubic feet per second

Notes:

1. The required flow is determined by the life stage requiring the highest flow in any given month.
2. Provided when river mouth is open and natural flow would occur at this level without diversion.
3. Provided for 14 days following any potential migration event defined in Note 2.



Linda S. Adams
Acting Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Rights

1001 I Street • Sacramento, California 95814 • (916) 341-5300
Mailing Address: P.O. Box 2000 • Sacramento, California • 95812-2000
FAX (916) 341-5400 • <http://www.waterboards.ca.gov/waterrights>



Edmund G. Brown Jr.
Governor

License 1553 (A004017)
License 7200 (A005215)
Permit 16123 (A022318)
Permit 16601 (A023710)

APPLICATION NO. _____
(Leave blank)

UNDERGROUND STORAGE SUPPLEMENT TO APPLICATION TO APPROPRIATE WATER BY PERMIT

1. State amount of water to be diverted to underground storage from each point of diversion in item 3b of form APP.

See Attached.

- a. Maximum Rate of diversions (1) _____ (2) _____ (3) _____ cfs
b. Maximum Annual Amount (1) _____ (2) _____ (3) _____ acre-feet

2. Describe any works used to divert to offstream spreading grounds or injection wells not identified in item 7 of form APP.

See Attached.

3. Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

See Attached.

4. State depth of groundwater table in spreading grounds or immediate vicinity:

See Attached. _____ feet below ground surface on _____ 19 __ measured at a point located within the _____ $\frac{1}{4}$ of _____ $\frac{1}{4}$ of Section _____, T _____, R _____, _____ B&M

5. Give any historic maximum and or minimum depths to the groundwater table in the area.

Location See Attached Maximum _____ feet below ground surface on _____ (date)
Location _____ Maximum _____ feet below ground surface on _____ (date)

6. Describe proposed spreading operation.

Injection via aquifer storage and recovery wells in the Beltz Injection Well System.

7. Describe location, capacity and features of proposed pretreatment facilities and/or injected wells.

See Attached.

8. Reference any available engineering reports, studies, or data on the aquifer involved.
Santa Cruz Mid-County Groundwater Sustainability Plan, November 2019.

9. Describe underground reservoir and attach a map or sketch of its location.

See Attached.

10. State estimated storage capacity of underground reservoir.

See Attached.

11. Describe existing use of the underground storage reservoir and any proposed change in its use.

Groundwater pumped from the Mid-County Groundwater Basin is used primarily for municipal purposes. The City believes that its proposed ASR injections would be the first active use of underground storage in the basin.

12. Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage.

See Attached.

Additional copies of this form and water right information can be obtained at www.waterrights.ca.gov.

Attachment to Underground Storage Supplement

City of Santa Cruz

Permit 16123 (Application A022318) – San Lorenzo River – Felton Diversion

Permit 16601 (Application A023710) – San Lorenzo River – Felton Diversion

License 1553 (Application A004017) – San Lorenzo River – Tait Street Diversion

License 7200 (Application A005215) – San Lorenzo River – Tait Street Diversion

The Proposed Project involves Petitions for Change and Underground Storage Supplements for the City's above existing water right Licenses and Permits. Modification of the City's existing water rights through the petition process is necessary to comply with negotiated state and federal fishery conditions, better utilize surface water within existing allocations and make more effective use of existing diversion locations, thereby increasing the City's flexibility and ability to make beneficial use under its rights. As Lead Agency, the City of Santa Cruz is preparing an Environmental Impact Report (EIR) pursuant to the requirements of the California Environmental Quality Act (CEQA). The EIR will evaluate potential environmental impacts of the Proposed Project. Detailed discussion of the underground storage project facilities and operations can be found in the City's EIR for this project.

Item 1. State amount of water to be diverted to underground storage from each point of diversion.

Water will be diverted from the Points of Diversion at the stated rates of diversion in each of the Permits and Licenses named above, and as sought by the accompanying Petitions for Change on these rights. Water will be diverted at Tait Street and Felton Diversion facilities, and rediverted to underground storage via the Beltz Injection Well Nos. 8, 9, 10 and 12, which will be added as Points of Rediversion to the Permits and Licenses named above. The Beltz Injection Well System has a maximum injection capacity of 2.1 mgd (or about 6.5 acre-feet / day), which would be the maximum rate of rediversion to underground storage. If the City were to inject continuously at this rate for a full year, the maximum annual rediversion to underground storage would be approximately 2,372.5 acre-feet (6.5 acre-feet/day x 365 days). No diversions to support rediversion of water to underground storage will occur during Hydrologic Condition 5, as defined in the Exceedance Category Limits Table attached to the referenced Petitions.

Item 2. Describe any works used to divert to offstream spreading grounds or injection wells.

Water will be diverted from the existing diversion facilities named as Points of Diversion in the referenced Permits and Licenses. Those facilities include the Felton Diversion and Tait Street Diversion, both located on the San Lorenzo River.

Item 3. Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

Not applicable. Underground storage will be made via injection wells associated with the City's existing Beltz Wells system. The Beltz Injection Wells are located within the Santa Cruz Mid-County Groundwater Basin as shown on the Map to Accompany the Change Petitions, and described as follows:

Points of Rediversion to Underground Storage

- Well No. 8: Located N. 1813775 and E. 6132716 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 9: Located N. 1812135 and E. 6131318 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of NE $\frac{1}{4}$ of projected Section 21, T11S, R1W, MDB&M.
- Well No. 10: Located N. 1813446 and E. 6131683 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 12: Located N. 1820121 and E. 6132941 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 9, T11S, R1W, MDB&M.

Item 4. State depth of groundwater table in spreading ground or immediate vicinity.

Item 5. Give any historic give any historic maximum and/or minimum depths to the groundwater table in the area.

The Santa Cruz Mid-County Groundwater Sustainability Plan Figures 2-24 through 2-26, and 2-28 through 2-31 (attached) show depths to groundwater in 2005 and 2016, respectively.

Item 6: Describe proposed spreading operation.

Not applicable. Underground storage will be made via injection wells.

Item 7: Describe location, capacity and features of proposed pretreatment facilities and/or injection wells.

The City proposes to use existing and new infrastructure to divert water under its referenced Permits and Licenses to Underground Storage through ASR operations. That water will be available for use by the City in dry periods, as well as for *in situ* protection of groundwater quality from seawater intrusion. The injected water will be treated to drinking water standards prior to injection and would be injected into the Beltz Well System within the Santa Cruz Mid-County Groundwater Basin, as shown on the Map to Accompany the Petitions and consistent with the State Water Resources Control Board's general order for ASR programs, Water Quality Order 2012-0010.

Item 9: Describe underground reservoir and attach a map or sketch of its location.

The City has joined with Soquel Creek Water District, Central Water District, the County of Santa Cruz, and private well representatives to form the Santa Cruz Mid-County Groundwater Agency, the local groundwater sustainability agency created pursuant to the requirements of California's

Sustainable Groundwater Management Act (SGMA). The Santa Cruz Mid-County Groundwater Agency has overseen the preparation of a cooperative groundwater sustainability plan (GSP) for the now redefined Santa Cruz Mid-County Groundwater Basin. Information on the location, capacity, and existing uses of the underground storage basin can be found in the GSP. The GSP's Figure 1-1 is attached and shows the surface boundaries of the Mid-County Groundwater Basin.

Item 10: State estimated storage capacity of underground storage reservoir.

The Santa Cruz Mid-County Groundwater Sustainability Plan estimates the potential yield of the Soquel-Aptos Area as 5,900 acre-feet annually (approximately 4,400 af from the Purisima Formation and 1,500 af from the Aromas Red Sands).

Item 12: Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage.

Water injected into the Beltz Injection Wells and recovered for later use will be measured using flow meters installed on each Injection Well. The meters can measure the injection and recovery amounts daily.

groundwater elevations below sea level. Hydrographs of Aromas and Purisima F-unit wells on Figure 2-17 show that groundwater elevations along the coast were very close to sea level thereby continuing to increase the threat of seawater intrusion in this area.

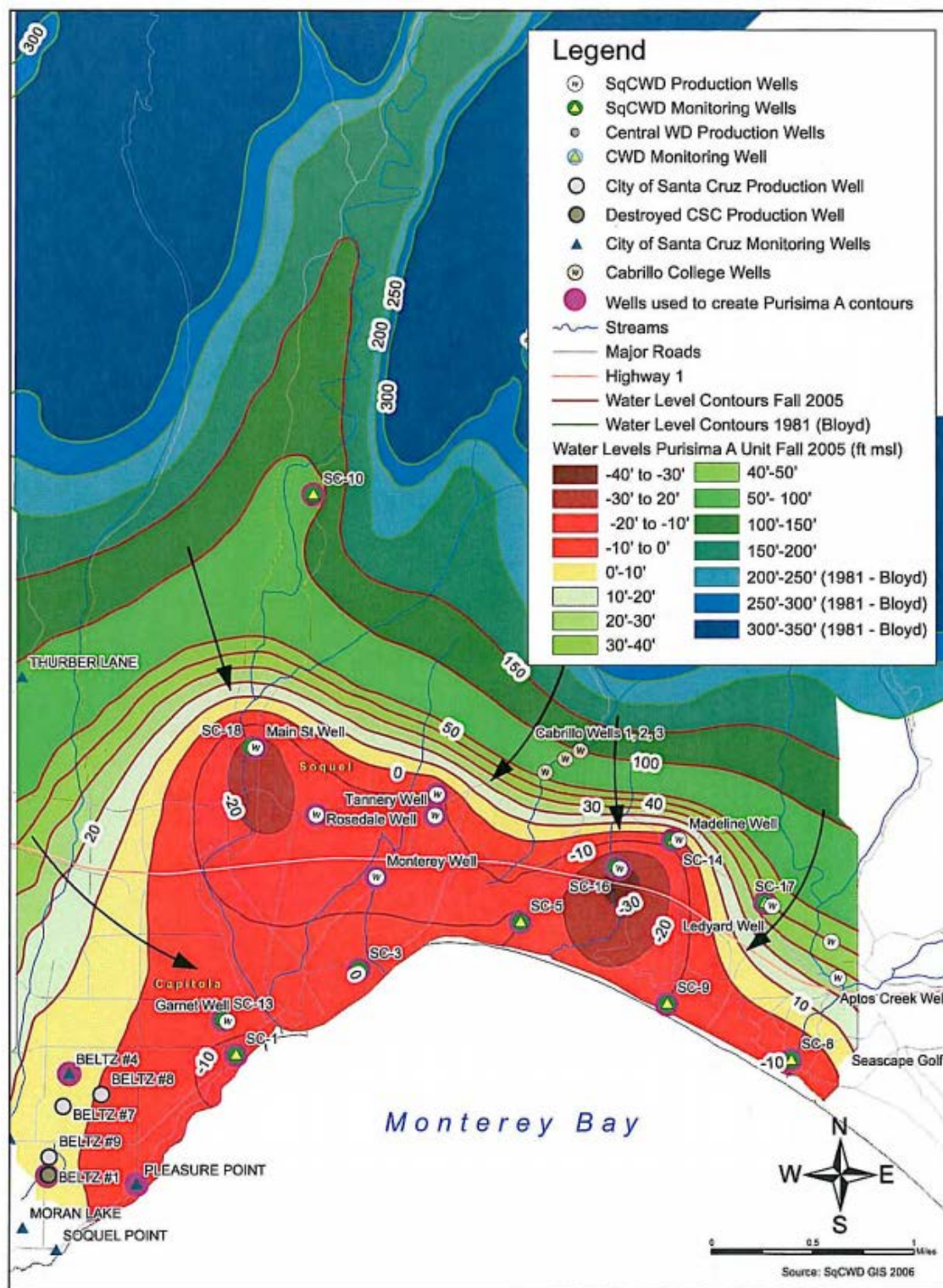


Figure 2-24. Groundwater Elevation Contours in Purisima A-Unit, Fall 2005

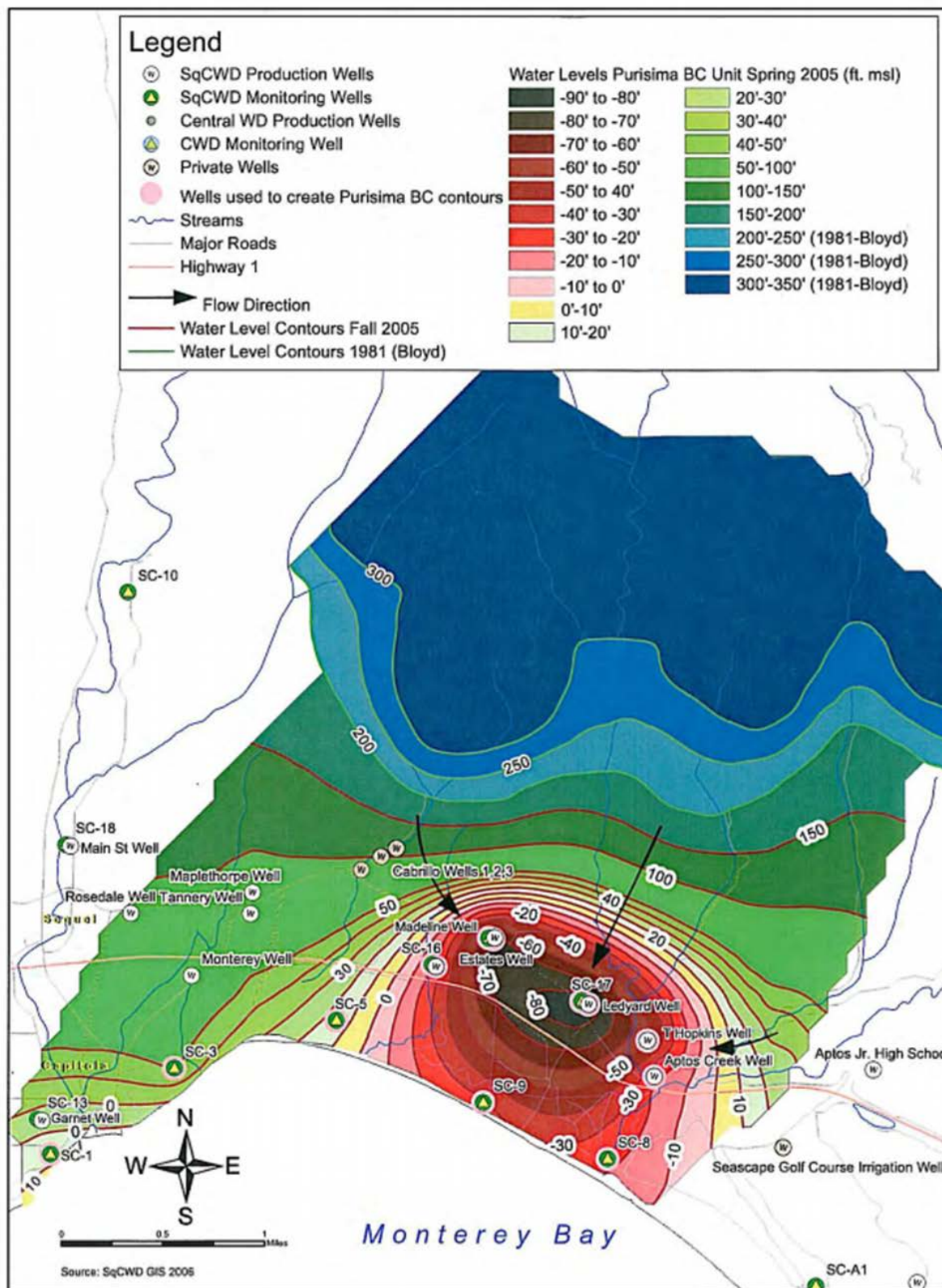


Figure 2-25. Groundwater Elevation Contours in Purisima BC- Unit, Fall 2005

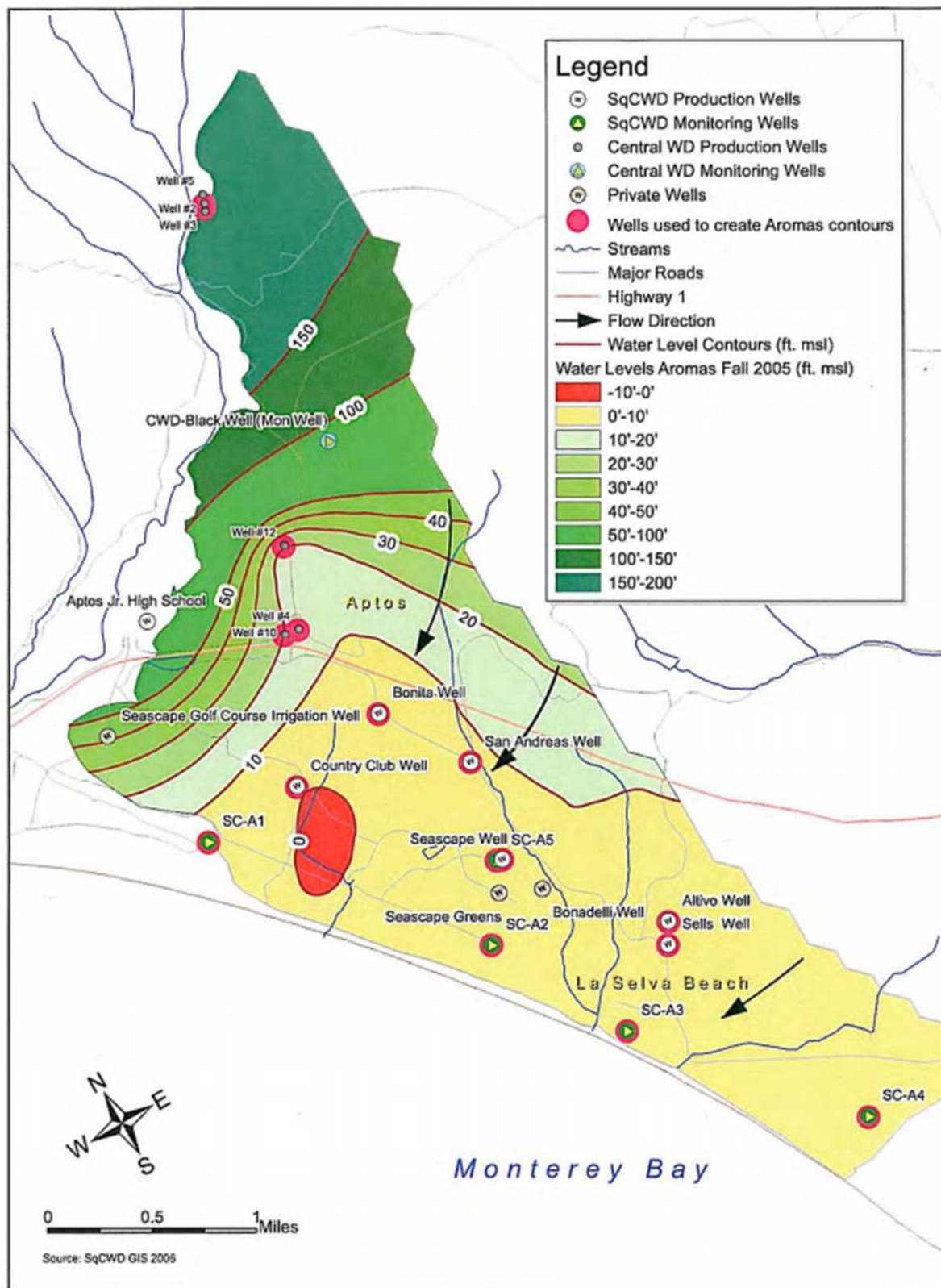


Figure 2-26. Groundwater Elevation Contours in Aromas Red Sands and Pursima F-Unit, Fall 2005

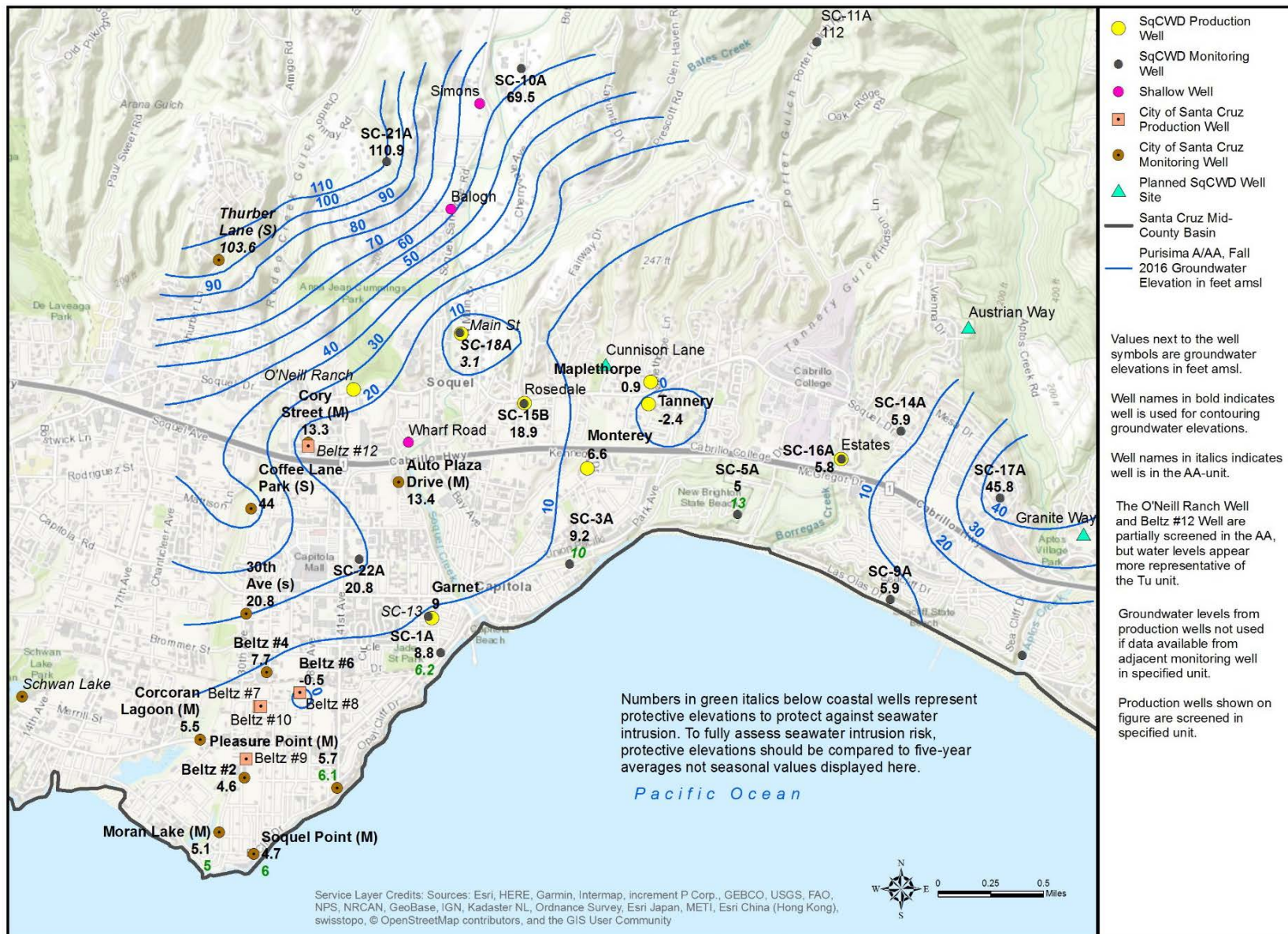


Figure 2-28. Groundwater Elevation Contours in Purisima A and AA-Unit, Fall 2016

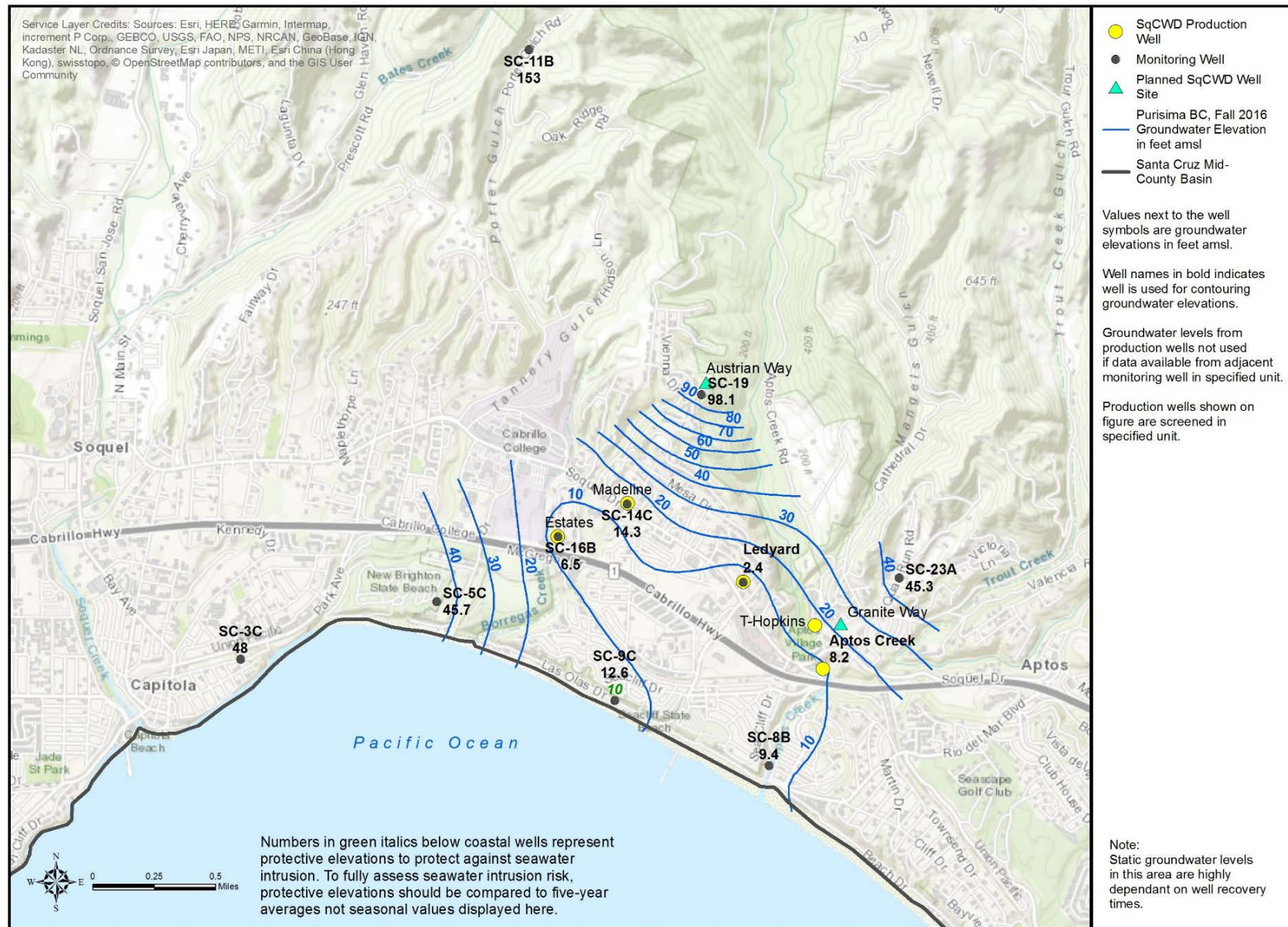


Figure 2-29. Groundwater Elevation Contours in Purisima BC-Unit, Fall 2016

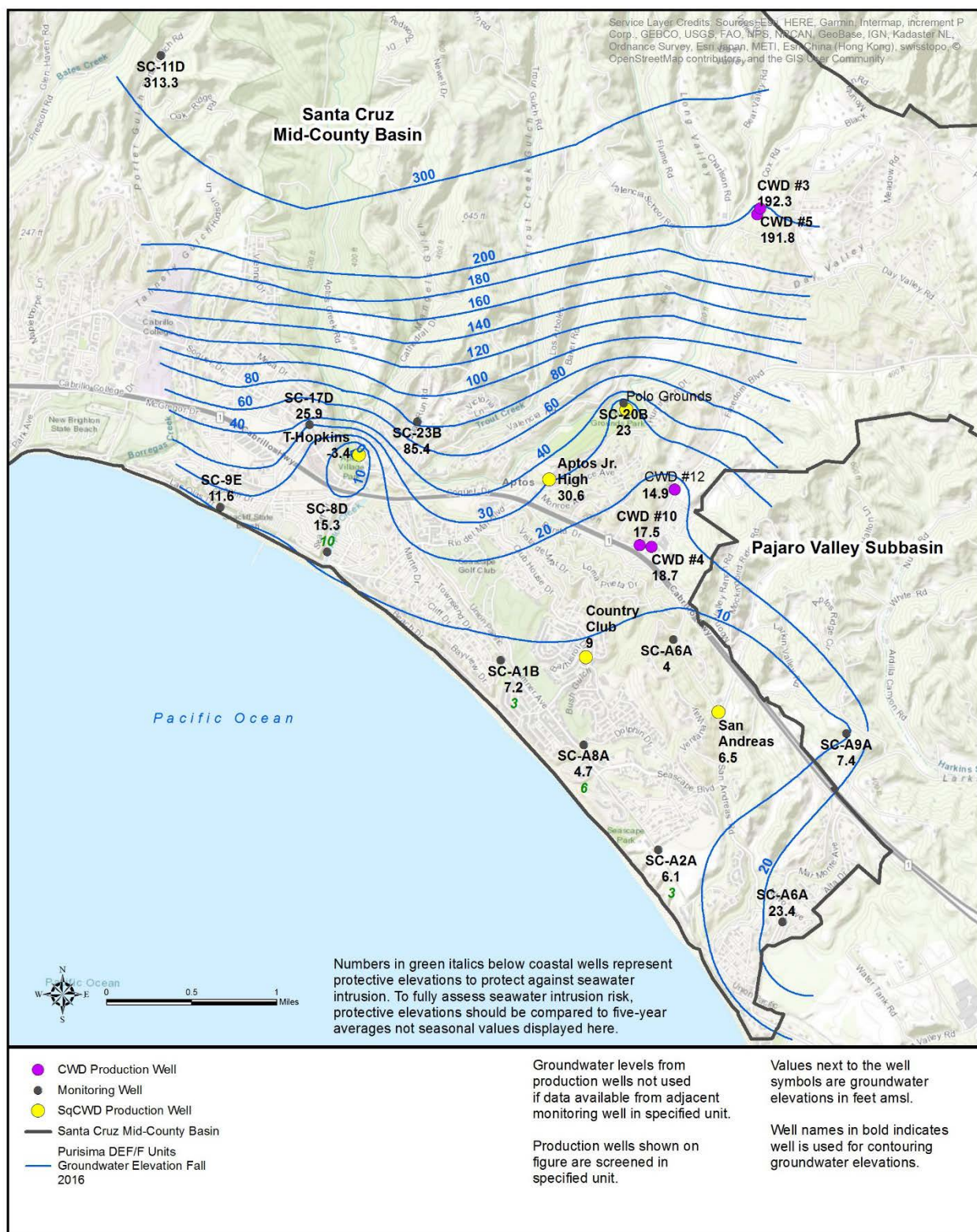


Figure 2-30. Groundwater Elevation Contours in Purisima DEF/F-Unit, Fall 2016

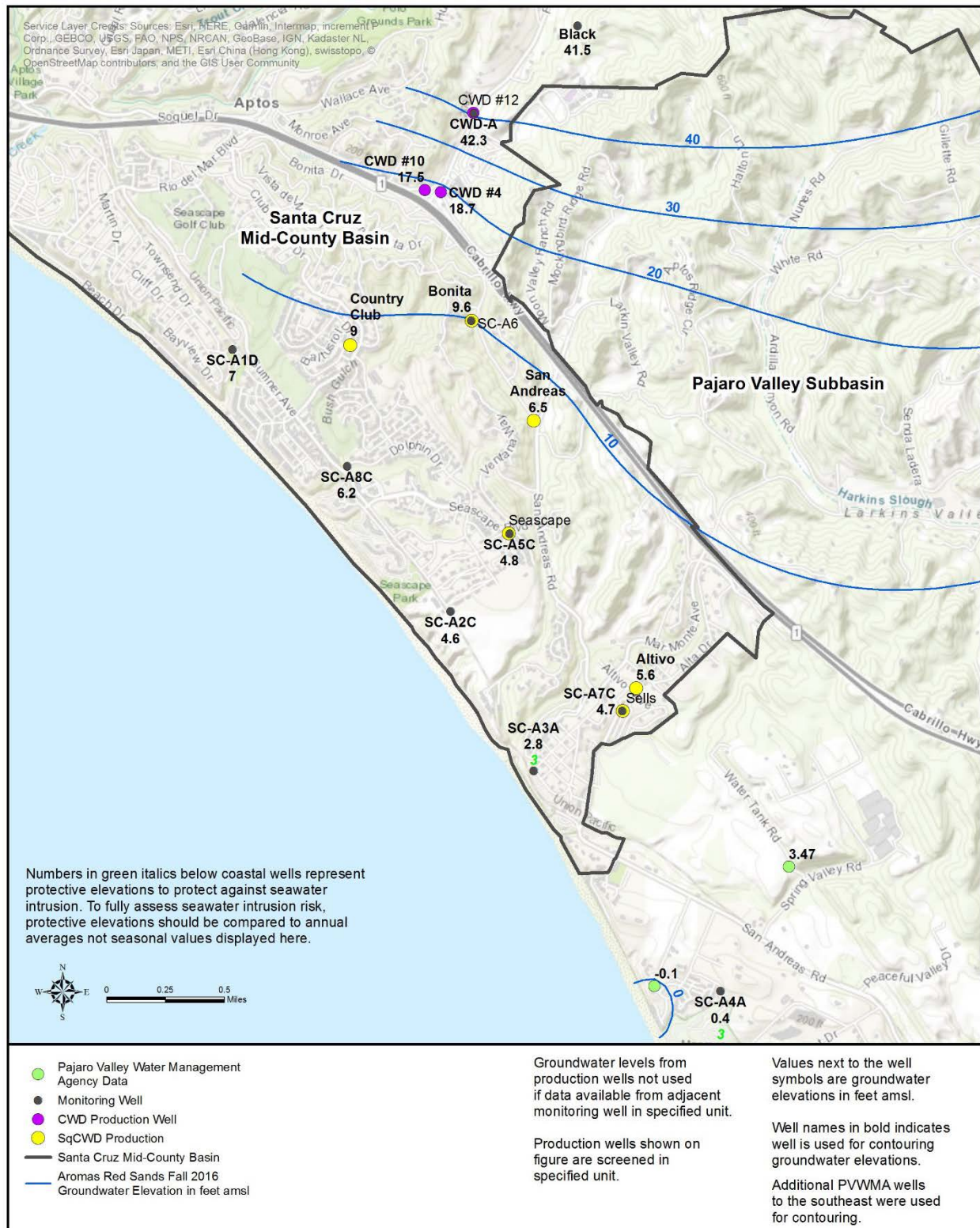


Figure 2-31. Groundwater Elevation Contours in the Aromas Area, Fall 2016

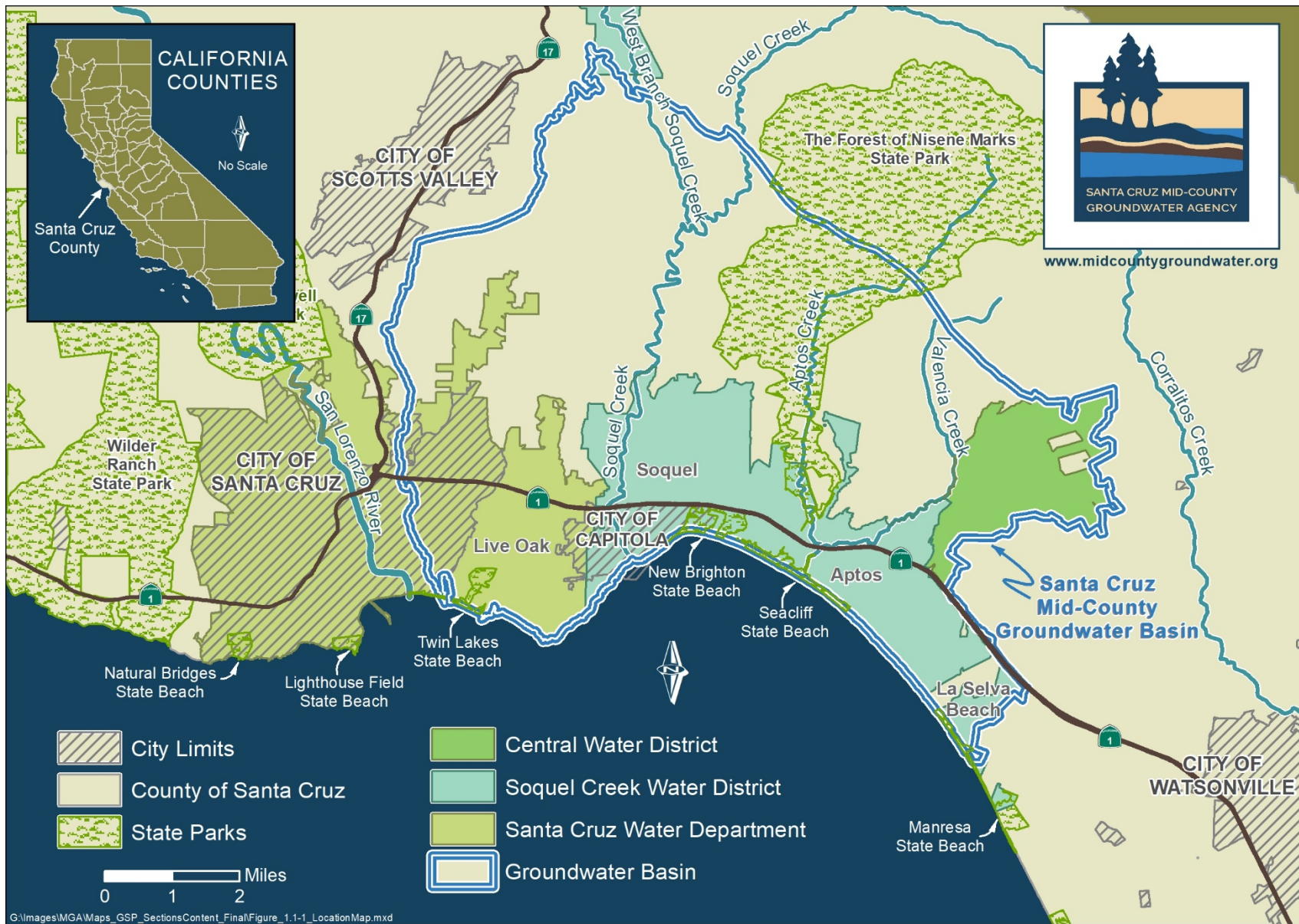


Figure 1-1. Basin Location Map

Please indicate County where
your project is located here:

Santa Cruz

MAIL FORM AND ATTACHMENTS TO:
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
<http://www.waterboards.ca.gov/waterrights>

PETITION FOR EXTENSION OF TIME

Cal. Code Regs., tit. 23, § 842

Application Permit

Separate petitions are required for each water right. Incomplete forms may not be accepted. Complete this form if the time previously allowed in your permit within which to complete construction work and/or use of water has either expired or will expire and you require additional time. Provide attachments if necessary.

Water Code section 1396 requires an applicant to exercise due diligence in developing a water supply for beneficial use. The State Water Resources Control Board (State Water Board) will review the facts presented to determine whether: (a) due diligence has been exercised, (b) failure to comply with previous time requirements has been occasioned by obstacles which could not reasonably be avoided, and (c) that satisfactory progress will be made if an extension of time is granted. (Cal. Code Regs., tit. 23, § 844.) If an extension of time is not granted, the State Water Board may initiate formal action to either: (a) issue a license for the amount of water heretofore placed to beneficial use under the terms of the permit, or (b) revoke the permit.

If this is your first extension of time, answer the questions below for the permitted construction and water use development period. If previous extensions have been approved, answer these questions for the most recently approved extension period (for example, if a ten-year extension was previously granted, list the activities completed during the ten-year period).

I (we) request a year extension of time to complete construction work and/or beneficial use of water.

Construction

Estimate the date construction work will begin, list the actions taken toward commencing or completing construction, and list the reasons why construction of the project was not completed.

Insert the attachment number here, if applicable:

Complete Use of Water

List reasons why use of water was not completed within time previously allowed.

Insert the attachment number here, if applicable:

Quantities Diverted

For direct diversion projects, list the cubic feet per second (cfs) or gallons per day (gpd) diverted during the maximum month of use, and the acre-feet per annum (afa) and identify the year this occurred. For storage projects, identify the maximum amount collected to storage and withdrawn for beneficial use in afa and identify the year this occurred.

	Year	Maximum Diversion Rate (cfs or gpd)	Maximum Annual Amount (afa)
Direct Diversion			
Storage	1989		About 1,622*
Beneficial Use			

Insert the attachment number here, if applicable:

*THIS IS COMBINED USE FOR WATER
DIVERTED UNDER A022318 & A023710.

Information on Beneficial Uses

Number of Acres Irrigated
Number of Houses or People Served
Per Capita Residential Water Use During the Maximum 30-day Period (gpd)
Extent of Past Use of Water for Any Other Purpose (identify gpd, cfs or afa)
Insert the attachment number here, if applicable:

N/A
90,000+
53 GPCD

Approximate Amount Spent on Project \$ 78 million plus* ***Annual Operating Budget in 2019**

Water Conservation – If water conservation is required by your permit, provide the information below.

Water Conservation Measures In Effect

List the water conservation measures that are in effect within the place of use.

--

Insert the attachment number here, if applicable:

3

Water Conservation Measures Planned

List the water conservation measures that are feasible within the place of use and the date the measures will be implemented. Identify the quantities estimated to be conserved when the measures are implemented.

--

Insert the attachment number here, if applicable:

3

All Right Holders Must Sign This Form: I (we) declare under penalty of perjury that the above is true and correct to the best of my (our) knowledge and belief. Dated 7/28/2020 at Santa Cruz, CA

Rosemary Menard

Right Holder or Authorized Agent Signature

Right Holder or Authorized Agent Signature

NOTE: All petitions must be accompanied by:

- (1) the form Environmental Information for Petitions, available at:
http://www.waterboards.ca.gov/waterrights/publications_forms/docs/pet_info.pdf
- (2) Division of Water Rights fee, per the Water Rights Fee Schedule, available at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/fees/
- (3) Department of Fish and Wildlife fee of \$850 (Pub. Resources Code, § 10005)

Attachment to Petitions for Extension of Time

City of Santa Cruz

Permit 16123 (Application 22318) – San Lorenzo River, Felton Diversion Facility

Permit 16601 (Application 23710) – San Lorenzo River, Felton Diversion Facility

Attachment 1: Construction

Additional time is required to maximize beneficial use under Permits 16123 and 16601 (Felton Permits). The City's extensive and successful water conservation program has enabled the City to serve any growth in its service area with the same level of diversions made under existing rights. To improve fish passage at the Felton diversion facility, permittee/licensee shall complete improvements to that facility consistent with National Marine Fisheries and California Department of Fish and Wildlife passage criteria that apply for coho salmon and steelhead.

Attachment 2: Complete Use of Water

The City is seeking approval of Petitions on its Felton Permits that add direct diversion as a method of diversion, add the Tait Street Diversion facility as an additional Point of Diversion, and adds the City's North Coast service areas and adjacent water district service areas for the allowed place of use. The City also proposes to divert water to Underground Storage under Permits 16123 and 16691 (and Licenses 1553 and 7200) via injection of surface water and subsequent recovery at its Beltz Injection Wells. The underground storage of surface water will protect groundwater quality from seawater intrusion and allow the City to use such stored water during drought years.

These modifications to the City's Felton Permits are necessary to maximum beneficial use. The City will bypass water at both the Felton and Tait Diversion Facilities according to the minimum streamflow schedule negotiated among the City, the National Marine Fisheries Service and California Department of Fish & Wildlife, as shown on the attached schedule.

Attachment 3: Water Conservation Measures in Effect and Planned

The City of Santa Cruz is actively implementing a variety of water conservation measures as described in its 2015 Urban Water Management Plan. Water activities include the following:

- Public and school information programs
- Landscape water survey
- Rain barrel distribution
- Lawn removal rebates
- Plumbing retrofits and rebates (laundry to landscape)
- Green business certifications
- Spray / rinse valve distribution
- Water budgets
- Turf removal rebates
- Graywater legalization and incentives
- Water restrictions and rationing

ENVIRONMENTAL INFORMATION FOR PETITIONS

This form is required for all petitions.

Before the State Water Resources Control Board (State Water Board) can approve a petition, the State Water Board must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared, a determination must be made of who is responsible for its preparation. As the petitioner, you are responsible for all costs associated with the environmental evaluation and preparation of the required CEQA documents. Please answer the following questions to the best of your ability and submit any studies that have been conducted regarding the environmental evaluation of your project. If you need more space to completely answer the questions, please number and attach additional sheets.

DESCRIPTION OF PROPOSED CHANGES OR WORK REMAINING TO BE COMPLETED

For a petition for change, provide a description of the proposed changes to your project including, but not limited to, type of construction activity, structures existing or to be built, area to be graded or excavated, increase in water diversion and use (up to the amount authorized by the permit), changes in land use, and project operational changes, including changes in how the water will be used. For a petition for extension of time, provide a description of what work has been completed and what remains to be done. Include in your description any of the above elements that will occur during the requested extension period.

Insert the attachment number here, if applicable:

1

Coordination with Regional Water Quality Control Board

For change petitions only, you must request consultation with the Regional Water Quality Control Board regarding the potential effects of your proposed change on water quality and other instream beneficial uses. (Cal. Code Regs., tit. 23, § 794.) In order to determine the appropriate office for consultation, see: http://www.waterboards.ca.gov/waterboards_map.shtml. Provide the date you submitted your request for consultation here, then provide the following information.

Date of Request

June 26, 2018

Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation?

☐ Yes

☐ No

Will a waste discharge permit be required for the project?

☐ Yes

☐ No

If necessary, provide additional information below:

Improvements at the Felton Diversion Facility could require waste discharge requirements, or a waiver, from the Central Coast Regional Water Quality Control Board, as well as a 404 permit from the U.S. Army Corps of Engineers and/or a Streambed Alteration Agreement from the California Department of Fish & Wildlife. Those improvements, however, are not yet designed and finalized.

Insert the attachment number here, if applicable:

Local Permits

For temporary transfers only, you must contact the board of supervisors for the county(ies) both for where you currently store or use water and where you propose to transfer the water. (Wat. Code § 1726.) Provide the date you submitted your request for consultation here.

Date of Contact

For change petitions only, you should contact your local planning or public works department and provide the information below.

Person Contacted:

Date of Contact:

October 3, 2018

Department:

City of Santa Cruz - various depts

Phone Number:

County Zoning Designation:

Not Applicable - municipal lands

Are any county permits required for your project? If yes, indicate type below.

☐ Yes

☐ No

☐ Grading Permit

☐ Use Permit

☐ Watercourse

☐ Obstruction Permit

☐ Change of Zoning

☐ General Plan Change

☐ Other (explain below)

If applicable, have you obtained any of the permits listed above? If yes, provide copies.

☐ Yes

☐ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Federal and State Permits

Check any additional agencies that may require permits or other approvals for your project:

- ☒ Regional Water Quality Control Board ☒ Department of Fish and Game
- ☐ Dept of Water Resources, Division of Safety of Dams ☐ California Coastal Commission
- ☐ State Reclamation Board ☒ U.S. Army Corps of Engineers ☐ U.S. Forest Service
- ☐ Bureau of Land Management ☐ Federal Energy Regulatory Commission
- ☐ Natural Resources Conservation Service

Have you obtained any of the permits listed above? If yes, provide copies. ☐ Yes ☒ No

For each agency from which a permit is required, provide the following information:

Agency	Permit Type	Person(s) Contacted	Contact Date	Phone Number
CDFW	LSAA 1600	Randi Adair		
RWQCB	WDRs / waiver	Potential at this time		
USACE	404 permit	Potential at this time		

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Construction or Grading Activity

Does the project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed, bank or riparian habitat of any stream or lake? ☐ Yes ☒ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Archeology

Has an archeological report been prepared for this project? If yes, provide a copy. ☐ Yes ☒ No

Will another public agency be preparing an archeological report? ☐ Yes ☒ No

Do you know of any archeological or historic sites in the area? If yes, explain below. ☐ Yes ☒ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Photographs

For all petitions other than time extensions, attach complete sets of color photographs, clearly dated and labeled, showing the vegetation that exists at the following three locations:

- ☒ Along the stream channel immediately downstream from each point of diversion
- ☒ Along the stream channel immediately upstream from each point of diversion
- ☒ At the place where water subject to this water right will be used

Maps

For all petitions other than time extensions, attach maps labeled in accordance with the regulations showing all applicable features, both present and proposed, including but not limited to: point of diversion, point of redirection, distribution of storage reservoirs, point of discharge of treated wastewater, place of use, and location of instream flow dedication reach. (Cal. Code Regs., tit. 23, §§ 715 et seq., 794.)

Pursuant to California Code of Regulations, title 23, section 794, petitions for change submitted without maps may not be accepted.

All Water Right Holders Must Sign This Form:

I (we) hereby certify that the statements I (we) have furnished above and in the attachments are complete to the best of my (our) ability and that the facts, statements, and information presented are true and correct to the best of my (our) knowledge. Dated 7/28/2020 at Santa Cruz, CA.

Rosemary Menard

Water Right Holder or Authorized Agent Signature

Water Right Holder or Authorized Agent Signature

NOTE:

- Petitions for Change may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game. (Cal. Code Regs., tit. 23, § 794.)
- Petitions for Temporary Transfer may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game and the board of supervisors for the county(ies) where you currently store or use water and the county(ies) where you propose to transfer the water. (Wat. Code § 1726.)

**Attachment to Environmental Information Form
City of Santa Cruz**

License 9847 (Application A017913) – Newell Creek & Loch Lomond Reservoir

Permit 16123 (Application A022318) – San Lorenzo River – Felton Diversion

Permit 16601 (Application A023710) – San Lorenzo River – Felton Diversion

License 1553 (Application A004017) – San Lorenzo River – Tait Street Diversion

License 7200 (Application A005215) – San Lorenzo River – Tait Street Diversion

The Proposed Project involves Petitions for Change for all of the City's above referenced water right Licenses and Permits and Petitions for Extension of Time for the Felton Diversion Facility Permits 16123 and 16601. The Proposed Project also includes Petitions for Underground Storage for Licenses 1553 and 7200 and Permits 16123 and 16601.

Modification of the City's existing water rights through the petition process is necessary to comply with negotiated state and federal fishery conditions, better utilize surface water within existing allocations, make more effective use of existing diversion locations, thereby increasing the City's flexibility and ability to make beneficial use under its rights.

Attachment No. 1

I. Description of Proposed Changes or Work Remaining to be Completed

Addition of Direct Diversion as a Method of Diversion:

The City is seeking approval of Petitions that would explicitly state direct diversion as a method of diversion from the San Lorenzo River (also known as the Felton Diversion Facility) under Permits 16123 and 16601 and from Newell Creek at the City's Newell Creek Dam, which impounds Loch Lomond Reservoir, under License 9847. Currently, these rights authorize diversion to storage in the Loch Lomond Reservoir, but do not explicitly state the right to take water by direct diversion; an oversight in the original filings. The City has calculated that the licensed amount of use under License 9847 would not have been possible without allowance for direct diversion.

The addition of direct diversion as a method of diversion under these rights is needed to conform the water right Permits and License to the City's historical and current operations, and to provide operational flexibility and water supply reliability. Direct diversion of water has been and needs to continue to be an integral part of the operation of the Newell Creek and Felton Diversion facilities to meet annual demands.

Underground Storage:

The City proposes to redirect water to Underground Storage under Permits 16123 and 16691, and Licenses 1553 and 7200, via injection of surface water and subsequent recovery at the Beltz injection wells. The Beltz Wells are proposed to be added as Points of Rediversion under these rights. The underground storage of surface water will protect groundwater quality from seawater intrusion and allow the City to use such stored water during dry periods.

Addition of Points of Diversion:

The City proposes to add the Tait Street Diversion facility as an additional Point of Diversion to the Felton Permits 16123 and 16601 to allow for operational flexibility.

Addition of Points of Diversion to Underground Storage:

The City proposes to add Tait Street and Felton diversion facilities as Points of Diversion to Underground Storage.

Addition of Points of Rediversion:

The City proposes to add the Beltz Wells Nos. 8, 9, 10 and 12 as Points of Rediversion to Permits 16123 and 16691, and Licenses 1553 and 7200.

Rate of Diversion:

The combined rate of diversion to storage and direct diversion from the Felton and Tait Street Diversion Facilities under Permits 16123 and 16601 shall not exceed 20 cubic feet per second.

Change in Place of Use:

To provide flexibility to integrate water resources in the regional area, the City seeks to expand its currently allowed place of use under its Permits and Licenses to include adjacent services areas of Central Water District, San Lorenzo Valley Water District, Scotts Valley Water District, Soquel Creek Water District, the Santa Cruz Mid-County Groundwater Basin (Basin No. 3-027) and Santa Margarita Groundwater Basin (Basin No 3-027), as well as the City's North Coast service area.

Change in Purpose of Use:

The City proposes to consolidate its purposes of use under its Permits 16123 and 16601, and Licenses 1553, 7200 and 9847 to include municipal, domestic, industrial, recreation, fire protection, and protection of groundwater quality to prevent seawater intrusion.

Addition of Fishery Terms:

The City proposes to add, to each of its existing water right Licenses and Permits, the minimum bypass flows that the City has negotiated with the National Marine Fisheries Service and the California Department of Fish & Wildlife. Attached are the agreed upon minimum flow conditions in the San Lorenzo River during the allowed diversion seasons at both the Tait Street and Felton Diversion facilities, and in Newell Creek at Loch Lomond Reservoir.

Extension of Time:

The City is also seeking Extension of Time for Permits 16123 and 16601 to request an additional 37 years in which to put the water to full beneficial use. The Permits expired on December 31, 2006, and additional time is required to meet future growth demands set forth in the City of Santa Cruz, Santa Cruz County, City of Scotts Valley and City of Capitola's general plans. The Petitions do not represent an increase in the amount of water allowed to be diverted.

Environmental Document:

As Lead Agency, the City of Santa Cruz is preparing an Environmental Impact Report (EIR) pursuant to the requirements of the California Environmental Quality Act (CEQA). The EIR will evaluate potential environmental impacts of the Proposed Project.

City of Santa Cruz
Photographs to Accompany Petitions

Newell Creek & Loch Lomond Reservoir
License 9847 (Application A017913)

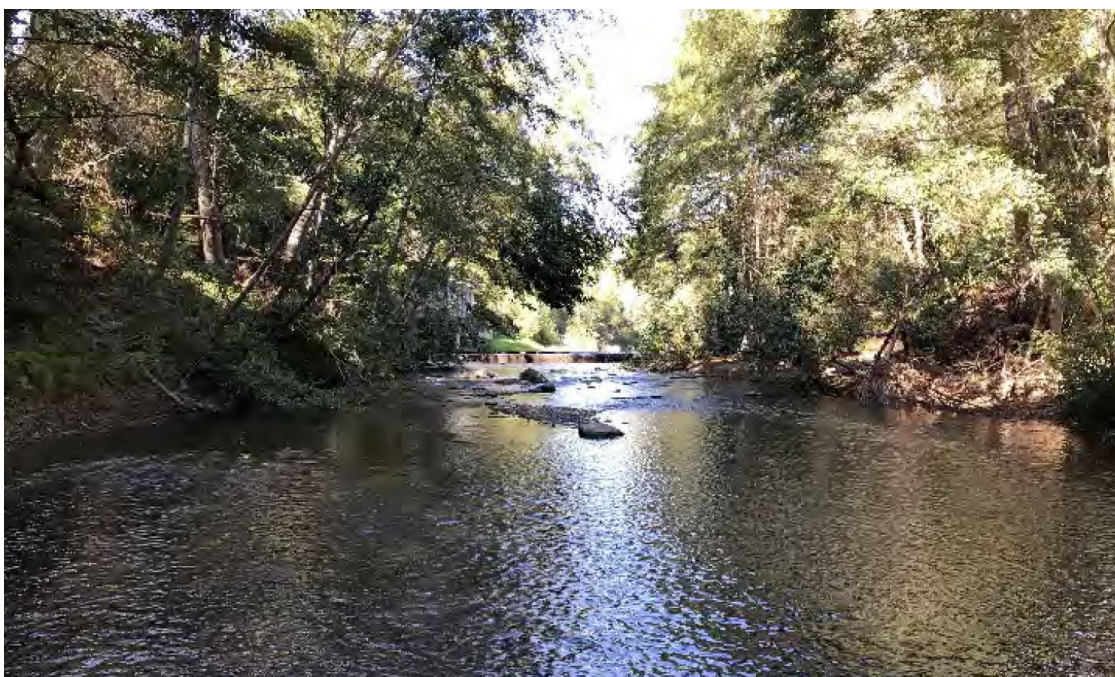
San Lorenzo River – Felton Diversion
Permit 16123 (Application A022318)
Permit 16601 (Application A023710)

San Lorenzo River – Tait Street Diversion
License 1553 (Application A004017)
License 7200 (Application A005215)



FELTON DIVERSION FACILITY

MARCH 2009



FELTON DIVERSION FACILITY- LOOKING DOWNSTREAM

JANUARY 2019



FELTON DIVERSION FACILITY- LOOKING UPSTREAM

JANUARY 2019



LOCH LOMOND LAKE- NEWELL DAM

JANUARY 2019



NEWELL CREEK- LOOKING DOWNSTREAM

FEBRUARY 2012



NEWELL CREEK- LOOKING UPSTREAM

AUGUST 2016



TAIT WELL 1B

JANUARY 2018



TAIT DIVERSION DAM

JANUARY 2019



TAIT DIVERSION FACILITY – LOOKING DOWNSTREAM

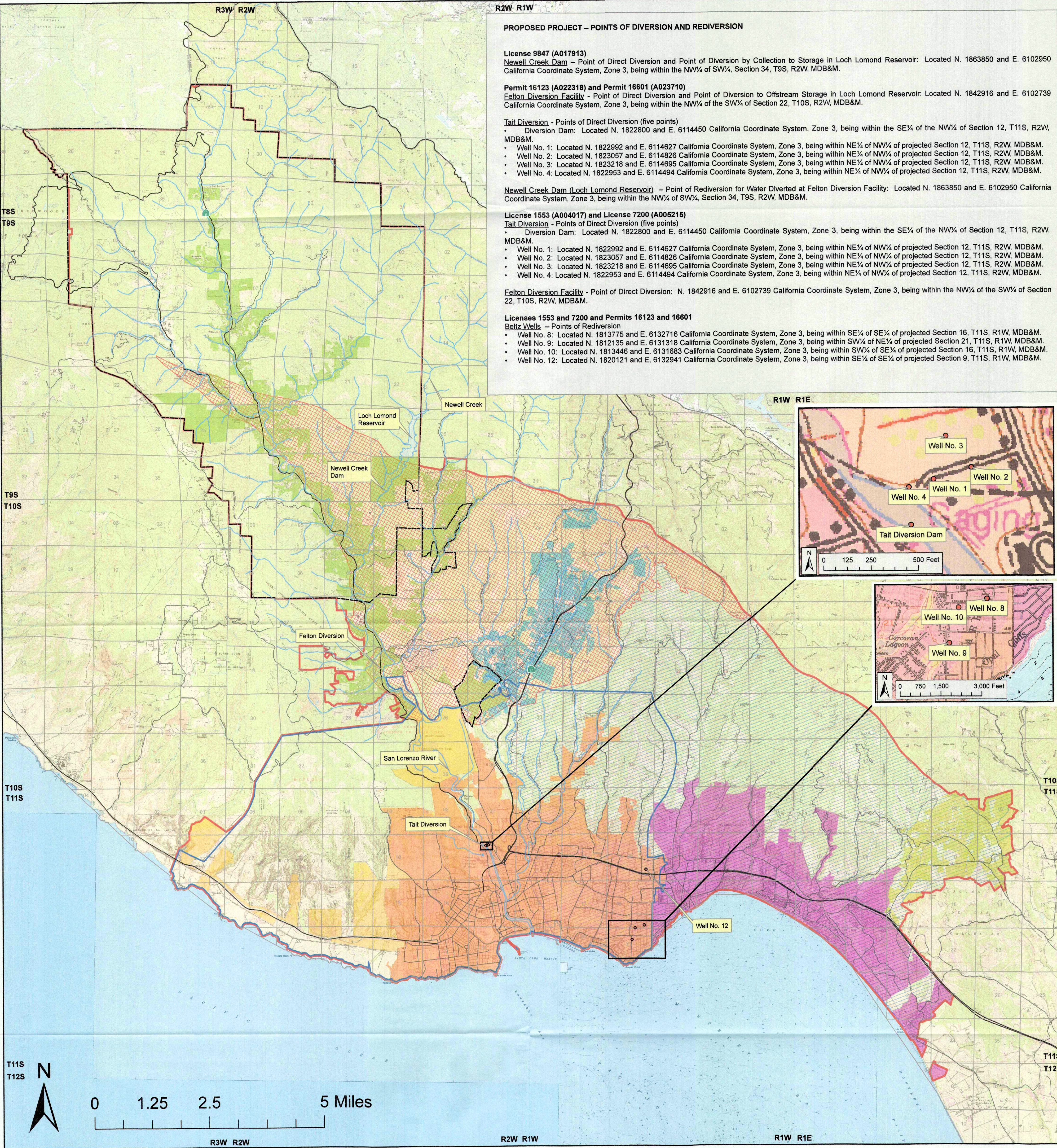
JANUARY 2019



TAIT DIVERSION FACILITY- LOOKING UPSTREAM

JANUARY 2019

MAP TO ACCOMPANY PETITIONS FOR CHANGE
LICENSES 1553, 7200, 9847 (A004017, A005215, AND A017913, RESPECTIVELY) AND
PERMITS 16123 AND 16601 (A022318 AND A023710, RESPECTIVELY)
CITY OF SANTA CRUZ
SANTA CRUZ COUNTY, CA



PROPOSED PROJECT – POINTS OF DIVERSION AND REDIVERSION

License 9847 (A017913)
Newell Creek Dam – Point of Direct Diversion and Point of Diversion by Collection to Storage in Loch Lomond Reservoir: Located N. 1863850 and E. 6102950 California Coordinate System, Zone 3, being within the NW¼ of SW¼, Section 34, T9S, R2W, MDB&M.

Permit 16123 (A022318) and Permit 16601 (A023710)
Felton Diversion Facility - Point of Direct Diversion and Point of Diversion to Offstream Storage in Loch Lomond Reservoir: Located N. 1842916 and E. 6102739 California Coordinate System, Zone 3, being within the NW¼ of the SW¼ of Section 22, T10S, R2W, MDB&M.

Tait Diversion - Points of Direct Diversion (five points)
• Diversion Dam: Located N. 1822800 and E. 6114450 California Coordinate System, Zone 3, being within the SE¼ of the NW¼ of Section 12, T11S, R2W, MDB&M.

- Well No. 1: Located N. 1822992 and E. 6114627 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N. 1823057 and E. 6114826 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N. 1823218 and E. 6114695 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N. 1822953 and E. 6114494 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.

Newell Creek Dam (Loch Lomond Reservoir) – Point of Rediversion for Water Diverted at Felton Diversion Facility: Located N. 1863850 and E. 6102950 California Coordinate System, Zone 3, being within the NW¼ of SW¼, Section 34, T9S, R2W, MDB&M.

License 1553 (A004017) and License 7200 (A005215)

Tait Diversion - Points of Direct Diversion (five points)
• Diversion Dam: Located N. 1822800 and E. 6114450 California Coordinate System, Zone 3, being within the SE¼ of the NW¼ of Section 12, T11S, R2W, MDB&M.

- Well No. 1: Located N. 1822992 and E. 6114627 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N. 1823057 and E. 6114826 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N. 1823218 and E. 6114695 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N. 1822953 and E. 6114494 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.

Felton Diversion Facility - Point of Direct Diversion: N. 1842916 and E. 6102739 California Coordinate System, Zone 3, being within the NW¼ of the SW¼ of Section 22, T10S, R2W, MDB&M.

Licenses 1553 and 7200 and Permits 16123 and 16601

Beltz Wells – Points of Rediversion
• Well No. 8: Located N. 1813775 and E. 6132716 California Coordinate System, Zone 3, being within SE¼ of SE¼ of projected Section 16, T11S, R1W, MDB&M.
• Well No. 9: Located N. 1812135 and E. 6131318 California Coordinate System, Zone 3, being within SW¼ of NE¼ of projected Section 21, T11S, R1W, MDB&M.
• Well No. 10: Located N. 1813446 and E. 6131683 California Coordinate System, Zone 3, being within SW¼ of SE¼ of projected Section 16, T11S, R1W, MDB&M.
• Well No. 12: Located N. 1820121 and E. 6132941 California Coordinate System, Zone 3, being within SE¼ of SE¼ of projected Section 9, T11S, R1W, MDB&M.

San Lorenzo River and Tributaries

Water Service Areas

- Central Water District
- San Lorenzo Valley Water District
- Scotts Valley Water District
- Soquel Creek Water District
- City of Santa Cruz' Service Area
- City of Santa Cruz' North Coast Service Area

State Highways

Places of Use

- License # 9847
- License #'s 1553, 7200; Permit #'s 16601, 16123
- Proposed Place of Use Expanded

Groundwater Basins

- Santa Cruz Mid-County
- Santa Margarita

CERTIFICATE OF ENGINEER

I, NICHOLAS F. BONSIGNORE OF 2151 RIVER PLAZA DR., SUITE 100, SACRAMENTO, CALIFORNIA, DO HEREBY CERTIFY THAT THIS MAP WAS PREPARED UNDER MY DIRECT SUPERVISION BASED U.S.G.S. 7.5-MINUTE QUADRANGLES FOR BIG BASIN, CASTLE ROCK RIDGE, DAVENPORT, FELTON, LAUREL, SANTA CRUZ, SOQUEL, AND WATSONVILLE WEST, FROM PUBLISHED SERVICE AREA MAPS FOR CENTRAL WATER DISTRICT, SAN LORENZO VALLEY WATER DISTRICT, SCOTT'S VALLEY WATER DISTRICT, SOQUEL CREEK WATER DISTRICT, MAPS ON FILE WITH SANTA CRUZ WATER DEPARTMENT AND SANTA CRUZ WATER DEPARTMENT LIMITED, AND OTHER INFORMATION PROVIDED BY CITY OF SANTA CRUZ, AND THAT IT CORRECTLY REPRESENTS THE PROJECT DESCRIBED IN THE ACCOMPANYING PETITIONS, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Nicholas F. Bonsignore

NICHOLAS F. BONSIGNORE
R.C.E. NO. 39422
EXPIRES 12-31-2021

7/23/2020

DATE

Wagner & Bonsignore

Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
Robert C. Wagner, P.E.
Paula J. Whealen

Martin Berber, P.E.
Patrick W. Ervin, P.E.
David P. Lounsbury, P.E.
Vincent Maples, P.E.
Leah Orloff, Ph.D., P.E.
David H. Peterson, C.E.G., C.H.G.
Ryan E. Stolfus

January 6, 2021

Mr. Sam Boland-Brien
Supervising Engineer - Petition, Licensing & Registration
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

**Re: City of Santa Cruz
Petitions for Change and Extension of Time: Permits 16123 and 16601
(Applications A022318 and A023710 respectively)
Petitions for Change: Licenses 1553, 7200 and 9847 (Applications A004017,
A005215 and A017913 respectively)**

Dear Mr. Boland-Brien:

In December 2006, the City of Santa Cruz filed Petitions for Extension of Time for Permits 16123 and 16601, and Petitions for Change for License 9847 and Permits 16123 and 16601 with the Division. The Division issued a Public Notice of these Petitions on October 8, 2008. Subsequently, the City determined that additional modifications were necessary and filed revised Petitions on these same rights on January 29, 2019 and again on August 5, 2020.

At this time, the City would like to amend its August 5, 2020 Petitions in their entirety and are submitting the enclosed amended Petitions for the referenced rights. The Petition revisions were made to respond to comments provided by you and your staff.

An Initial Study and Notice of Preparation of an Environmental Impact Report in support of the enclosed Petitions was issued by the City in 2018. The City is well into the preparation of a draft environmental impact report. Therefore, we request that these revised Petitions be issued for public notice as soon as possible to incorporate and/or address comments in the environmental document.

Enclosed are the executed Petitions, Underground Storage Supplements, Environmental Information forms, site photographs and accompanying map. In January 2019, Petition filing fees in the amount of \$13,114.72 were submitted to the Division, with an \$850 environmental fee for the California Department of Fish and Wildlife. Additional filing fees in the amount of \$2,394.48

*2151 River Plaza Drive • Suite 100 • Sacramento, CA 95833-4133
Ph: 916-441-6850 or 916-448-2821 • Fax: 916-779-3120*

Mr. Sam Boland-Brien

January 6, 2021

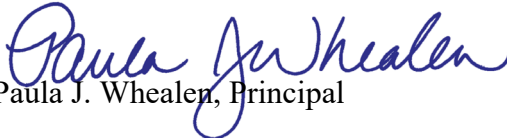
Page 2

were submitted with the August 5, 2020 revised Petitions. We understand that no additional filing fees are due currently. I am also sending this letter and Petition package to you via email.

Please contact me if you have any questions regarding the enclosed Petitions.

Very truly yours,

WAGNER & BONSIGNORE
CONSULTING CIVIL ENGINEERS


Paula J. Whealen, Principal

Encl.

cc: (via email)

Rosemary Menard, City of Santa Cruz

Chris Berry, City of Santa Cruz

Ryan Bezerra, Bartkiewicz Kronick & Shanahan

Randi Adair, California Department of Fish & Wildlife

Amanda Morrison, NOAA National Marine Fisheries Service

Please indicate County where
your project is located here:

Santa Cruz

MAIL FORM AND ATTACHMENTS TO:
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
<http://www.waterboards.ca.gov/waterrights>

PETITION FOR CHANGE

Separate petitions are required for each water right. Mark all areas that apply to your proposed change(s). Incomplete forms may not be accepted. Location and area information must be provided on maps in accordance with established requirements. (Cal. Code Regs., tit. 23, § 715 et seq.) Provide attachments if necessary.

☒ Point of Diversion Wat. Code, § 1701	☒ Point of Rediversion Cal. Code Regs., tit. 23, § 791(e)	☒ Place of Use Wat. Code, § 1701	☒ Purpose of Use Wat. Code, § 1701
☐ Distribution of Storage Cal. Code Regs., tit. 23, § 791(e)	☐ Temporary Urgency Wat. Code, § 1435	☐ Instream Flow Dedication Wat. Code, § 1707	☐ Waste Water Wat. Code, § 1211
☐ Split Cal. Code Regs., tit. 23, § 836	☒ Terms or Conditions Cal. Code Regs., tit. 23, § 791(e)	☒ Other	Addition of Underground Storage
Application	23710	Permit	16601
License	1553	Statement	

I (we) hereby petition for change(s) noted above and described as follows:

Point of Diversion or Rediversion – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Present:	See Attached
Proposed:	See Attached

Place of Use – Identify area using Public Land Survey System descriptions to ¼-¼ level; for irrigation, list number of acres irrigated.

Present:	See Attached
Proposed:	See Attached

Purpose of Use

Present:	See Attached
Proposed:	See Attached

Split

Provide the names, addresses, and phone numbers for all proposed water right holders.

--

In addition, provide a separate sheet with a table describing how the water right will be split between the water right holders: for each party list amount by direct diversion and/or storage, season of diversion, maximum annual amount, maximum diversion to offstream storage, point(s) of diversion, place(s) of use, and purpose(s) of use. Maps showing the point(s) of diversion and place of use for each party should be provided.

Distribution of Storage

Present:	
Proposed:	

Temporary Urgency

This temporary urgency change will be effective from to .

Include an attachment that describes the urgent need that is the basis of the temporary urgency change and whether the change will result in injury to any lawful user of water or have unreasonable effects on fish, wildlife or instream uses.

Instream Flow Dedication – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Upstream Location:

Downstream Location:

List the quantities dedicated to instream flow in either: ☐ cubic feet per second or ☐ gallons per day:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Will the dedicated flow be diverted for consumptive use at a downstream location? ☐ Yes ☐ No

If yes, provide the source name, location coordinates, and the quantities of flow that will be diverted from the stream.

Waste Water

If applicable, provide the reduction in amount of treated waste water discharged in cubic feet per second.

Will this change involve water provided by a water service contract which prohibits your exclusive right to this treated waste water? ☐ Yes ☐ No

Will any legal user of the treated waste water discharged be affected? ☐ Yes ☐ No

General Information – For all Petitions, provide the following information, if applicable to your proposed change(s).

Will any current Point of Diversion, Point of Storage, or Place of Use be abandoned? ☐ Yes ☒ No

I (we) have access to the proposed point of diversion or control the proposed place of use by virtue of:

☒ ownership ☐ lease ☐ verbal agreement ☐ written agreement

If by lease or agreement, state name and address of person(s) from whom access has been obtained.

Give name and address of any person(s) taking water from the stream between the present point of diversion or redirection and the proposed point of diversion or redirection, as well as any other person(s) known to you who may be affected by the proposed change.

Information in State Water Resources Control Board files.

All Right Holders Must Sign This Form: I (we) declare under penalty of perjury that this change does not involve an increase in the amount of the appropriation or the season of diversion, and that the above is true and correct to the best of my (our) knowledge and belief. Dated 7/28/2020 at Santa Cruz, CA.



Right Holder or Authorized Agent Signature

Right Holder or Authorized Agent Signature

NOTE: All petitions must be accompanied by:

- (1) the form Environmental Information for Petitions, including required attachments, available at:
http://www.waterboards.ca.gov/waterrights/publications_forms/docs/pet_info.pdf
- (2) Division of Water Rights fee, per the Water Rights Fee Schedule, available at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/fees/
- (3) Department of Fish and Wildlife fee of \$850 (Pub. Resources Code, § 10005)

City of Santa Cruz

Attachment to Petitions for Change Permit 16123 (Application A022318) Permit 16601 (Application A023710) Felton Diversion Facility

Point of Diversion or Rediversion

Present: Felton Diversion Facility - Diversion to offstream storage from Felton Diversion Facility on San Lorenzo River located S 30 degrees E 3,200' from NW corner of Section 22, within the NE $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 22, T10S, R2W, MDB&M for storage in Loch Lomond reservoir.

Proposed: Felton Diversion Facility¹ - Point of Direct Diversion, Point of Diversion to Underground Storage and Point of Diversion to Offstream Storage in Loch Lomond Reservoir: Located N.1842916 and E.6102739 California Coordinate System, Zone 3, being within the NW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Section 22, T10S, R2W, MDB&M.

Tait Diversion - Points of Direct Diversion and Diversion to Underground Storage:

- Diversion Dam: Located N.1822800 and E.6114450 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 12, T11S, R2W, MDB&M.
- Well No. 1: Located N.1822992 and E.6114627 California Coordinate System, Zone 3, being within NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N.1823057 and E.6114826 California Coordinate System, Zone 3, being within NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N.1823218 and E.6114695 California Coordinate System, Zone 3, being within NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N.1822953 and E.6114494 California Coordinate System, Zone 3, being within NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of projected Section 12, T11S, R2W, MDB&M.

Beltz Injection Wells – Points of Rediversion to Underground Storage:

- Well No. 8: Located N.1813775 and E.6132716 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 9: Located N.1812135 and E.6131318 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of NE $\frac{1}{4}$ of projected Section 21, T11S, R1W, MDB&M.
- Well No. 10: Located N.1813446 and E.6131683 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 12: Located N.1820121 and E.6132941 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 9, T11S, R1W, MDB&M.

¹ There is no change in the physical Point of Diversion location. The description has been revised to provide a California Coordinate System, Zone 3 coordinate point.

Method of Diversion

Present: Diversion from San Lorenzo River to offstream storage in Loch Lomond Reservoir

Proposed: Diversion from San Lorenzo River to offstream storage in Loch Lomond Reservoir, direct diversion from San Lorenzo River, and diversion to underground storage. Rediversion to underground storage at Beltz Injection Wells.

Underground Storage

Proposed: The City proposes to add Underground Storage via injection of surface water and subsequent recovery at the Beltz Injection Wells.

Place of Use

Present: City of Santa Cruz Water Service Area within Townships 10S, 11S, Range 1W, 2W and 3W, MDB&M.

Proposed: At Loch Lomond Reservoir, and in the City of Santa Cruz Water Department's service area, including its North Coast service area; the service areas of Central Water District, San Lorenzo Valley Water District, Scotts Valley Water District and Soquel Creek Water District; the Santa Cruz Mid-County Groundwater Basin (DWR Bulletin 118 Basin No. 3-001) and Santa Margarita Groundwater Basin (DWR Bulletin 118 Basin No. 3-027); all as shown on a map filed with State Water Resources Control Board accompanying this Petition.

Purpose of Use

Present: Municipal

Proposed: Municipal, domestic, industrial, recreational, fire protection and protection of water quality

Diversion Rate

Present: Permit 16123 – Maximum rate of diversion to offstream storage shall not exceed 3,500 gpm.

Permit 16601 – Combined rate of diversion to offstream storage under Permits 16123 and 16601 shall not exceed 20 cfs.

Proposed: Permits 16601 and 16123 - The combined rate of direct diversion, diversion to offstream storage and diversion to underground storage under Permit 16123 at the Felton and Tait diversion facilities shall not exceed 3,500 gpm. The combined rate of direct diversion, diversion to offstream storage and diversion to underground storage under Permits 16123 and 16601 at the Felton and Tait diversion facilities shall not exceed 20 cubic feet per second.

Terms and Conditions

Present: Permit 16601 - For the protection of fish, no diversion shall be made during the month of October which depletes the flow of the stream to less than 25 cubic feet per second nor to less than 20 cubic feet per second during the period November 1 to the succeeding May 31. No water shall be diverted until permittee has installed in the stream immediately below its point of diversion a staff gage, or other device satisfactory to the State Water Resources Control Board, showing the water levels which correspond to the above-mentioned flows in cubic feet per second. As a condition of continuing diversion, said measuring device shall be properly maintained.

Permit 16123 – Permittee shall bypass 10 cubic feet per second or the natural flow, whichever is less from September 1 through September 30; and 20 cubic feet per second or the natural flow, whichever is less from October 1 through May 31 for the preservation of fish and wildlife.

Proposed: Permits 16601 and 16123:

- 1) The City will bypass water at both the Felton and Tait Street Diversion Facilities according to the minimum streamflow schedule negotiated among the City, the National Marine Fisheries Service and the California Department of Fish & Wildlife as shown on the attached schedule. To improve fish passage at the Felton diversion facility, the City shall complete improvements to that facility consistent with any habitat conservation plan or incidental take permit issued by the National Marine Fisheries or California Department of Fish and Wildlife for the operation of that facility. Permittee shall complete those improvements in the time provided by that plan or permit.
- 2) No diversions under this right for redirection to underground storage will occur during Hydrologic Condition 5, defined in the attached Exceedance Category Limits Table.
- 3) No delivery of water diverted under this right for use by a water supplier other than the City of Santa Cruz Water Department will occur during Hydrologic Conditions 4 and 5, as defined in the attached Exceedance Category Limits Table.

Reason for Proposed Change

Modification of the City of Santa Cruz' rights are necessary to better utilize surface water within existing allocations, increase the flexibility of the City's water supply, and extend time to beneficially use water allowed under existing rights, in light of, among other things, significant water conservation measures.

Month	Flow Ranges Used to Determine Monthly Hydrologic Condition Type ¹ (cfs) Using San Lorenzo River End-of-Month Cumulative Daily Flow ²				
	<i>Hydrologic Condition 5 (driest)</i>	<i>Hydrologic Condition 4 (dry)</i>	<i>Hydrologic Condition 3 (normal)</i>	<i>Hydrologic Condition 2 (wet)</i>	<i>Hydrologic Condition 1 (wettest)</i>
Oct	<=459	460-539	540-709	710-875	>875
Nov	<=1186	1187-1497	1498-1827	1828-2485	>2485
Dec	<=2397	2398-3134	3135-5642	5643-10196	>10196
Jan	<=4322	4323-8456	8457-16694	16695-28019	>28019
Feb	<=8442	8443-16368	16369-29140	29141-42995	>42995
Mar	<=13004	13005-22948	22949-35371	35372-57968	>57968
Apr	<=14203	14204-24491	24492-39487	39488-67884	>67884
May	<=15448	15449-25279	25280-41659	41660-71412	>71412
Jun	<=16005	16006-26116	26117-43123	43124-73420	>73420
Jul	<=16364	16365-26819	26820-44073	44074-74718	>74718
Aug	<=16653	16654-27355	27356-44799	44800-75591	>75591
Sep	<=16978	16979-27843	27844-45398	45399-76368	>76368

cfs = cubic feet per second

Notes:

1. The Hydrologic Condition Types are based on the record of cumulative daily average flow by water year (water years 1937–2015) at the Big Trees gage on the San Lorenzo River.
2. To implement the Agreed Flows, the Hydrologic Condition type is determined on the first day of each month based upon the previous month's San Lorenzo River end-of-month cumulative flow for the Water Year. Water Year is defined as the 12-month period from October 1 through September 30.
 - a. The end-of-month cumulative daily flow is calculated by adding the San Lorenzo River daily flows, as measured at the Big Trees Gage, from the first day of the Water Year to the last day of the month.
 - b. The flow ranges for the month are then reviewed to determine within which Hydrologic Condition type this end-of-month cumulative daily flow falls.
 - c. This Hydrologic Condition type is used until the first day of the next month to determine bypass flow conditions under the Agreed Flows across all City of Santa Cruz source waters.

**Agreed Flows for Tait Diversion on the San Lorenzo River,
as Measured at the City Gage immediately downstream of Tait Diversion¹**

	Rearing (Base Flow) (cfs)					Adult Migration ² (cfs)	Spawning ³ (cfs)	Egg Incubation ³ (cfs)	Smolt Outmigration (cfs)
	Hydrologic Condition 5 (driest)	Hydrologic Condition 4 (dry)	Hydrologic Condition 3 (normal)	Hydrologic Condition 2 (wet)	Hydrologic Condition 1 (very wet)				
Jan	8.0	8.0	15.8	16.4	17.5	17.0/25.2			10.0
Feb	8.0	8.0	15.9	16.7	18.0	17.0/25.2			10.0
Mar	8.0	8.0	16.3	17.3	18.2	17.0/25.2			10.0 ⁴
Apr	8.0	8.0	17.2	17.9	18.4	17.0/25.2 ⁵			10.0 ⁴
May	8.0	8.0	17.7	18.2	18.5				10.0 ⁴
Jun	8.0	8.0	16.6	18.1	18.5				
Jul	8.0	8.0	12.4	15.8	18.2				
Aug	8.0	8.0	9.8	11.9	16.4				
Sep	8.0	8.0	9.0	11.1	13.3				
Oct	8.0	8.0	9.8	11.4	13.3				
Nov	8.0	8.0	12.5	14.1	16.4				
Dec	8.0	8.0	15.1	16.2	17.6	17.0/25.2			

cfs = cubic feet per second

Notes:

1. The required flow is determined by the life stage requiring the highest flow in any given month.
2. For adult migration, a lower threshold of 17.0 cfs and an upper threshold of 25.2 cfs when flow would be at this level without City diversion during December through April. May be reduced to 3 consecutive days a week if storage levels in Loch Lomond fall below the following levels in million gallons (mg): Dec-1900 mg; Jan-2000 mg; Feb-2100 mg; Mar-2200 mg. Further, adult migration flows may be reduced to 5 consecutive days after each storm event that exceeds 17 cfs if storage levels in Loch Lomond fall below the following levels: Dec-1600 mg; Jan-1700 mg; Feb-1800 mg; Mar-1900 mg.
3. No spawning or incubation occurs in this reach.
4. During Hydrologic Condition 5, provided at least 3 days per week.
5. April adult migration flows provided only in Hydrologic Conditions 1-3.

**Agreed Flows for Felton Diversion on the San Lorenzo River,
as Measured at the Big Trees Gage¹**

	Rearing (Base Flow) (cfs)					Adult Migration ² (cfs)	Spawning ³ (cfs)
	Hydrologic Condition 5 (driest)	Hydrologic Condition 4 (dry)	Hydrologic Condition 3 (normal)	Hydrologic Condition 2 (wet)	Hydrologic Condition 1 (very wet)		
Jan	20.0	20.0	20.0	20.0	20.0	40.0	40.0
Feb	20.0	20.0	20.0	20.0	20.0	40.0	40.0
Mar	20.0	20.0	20.0	20.0	20.0	40.0	40.0
Apr	20.0	20.0	20.0	20.0	20.0	40.0	40.0
May	20.0	20.0	20.0	20.0	20.0		40.0
Jun	No Diversion						
Jul							
Aug							
Sep	10.0	10.0	10.0	10.0	10.0		
Oct	25.0	25.0	25.0	25.0	25.0		
Nov	20.0	20.0	20.0	20.0	20.0		
Dec	20.0	20.0	20.0	20.0	20.0	40.0	40.0

cfs = cubic feet per second

Notes:

1. The required flow is determined by the life stage requiring the highest flow in any given month.
2. Provided when river mouth is open and natural flow would occur at this level without diversion.
3. Provided for 14 days following any potential migration event defined in Note 2.



Linda S. Adams
Acting Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Rights

1001 I Street • Sacramento, California 95814 • (916) 341-5300
Mailing Address: P.O. Box 2000 • Sacramento, California • 95812-2000
FAX (916) 341-5400 • <http://www.waterboards.ca.gov/waterrights>



Edmund G. Brown Jr.
Governor

License 1553 (A004017)
License 7200 (A005215)
Permit 16123 (A022318)
Permit 16601 (A023710)

APPLICATION NO. _____
(Leave blank)

UNDERGROUND STORAGE SUPPLEMENT TO APPLICATION TO APPROPRIATE WATER BY PERMIT

1. State amount of water to be diverted to underground storage from each point of diversion in item 3b of form APP.

See Attached.

- a. Maximum Rate of diversions (1) _____ (2) _____ (3) _____ cfs
b. Maximum Annual Amount (1) _____ (2) _____ (3) _____ acre-feet

2. Describe any works used to divert to offstream spreading grounds or injection wells not identified in item 7 of form APP.

See Attached.

3. Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

See Attached.

4. State depth of groundwater table in spreading grounds or immediate vicinity:

See Attached. _____ feet below ground surface on _____ 19 __ measured at a point located within the _____ $\frac{1}{4}$ of _____ $\frac{1}{4}$ of Section _____, T _____, R _____, _____ B&M

5. Give any historic maximum and or minimum depths to the groundwater table in the area.

Location See Attached Maximum _____ feet below ground surface on _____ (date)
Location _____ Maximum _____ feet below ground surface on _____ (date)

6. Describe proposed spreading operation.

Injection via aquifer storage and recovery wells in the Beltz Injection Well System.

7. Describe location, capacity and features of proposed pretreatment facilities and/or injected wells.

See Attached.

8. Reference any available engineering reports, studies, or data on the aquifer involved.
Santa Cruz Mid-County Groundwater Sustainability Plan, November 2019.

9. Describe underground reservoir and attach a map or sketch of its location.

See Attached.

10. State estimated storage capacity of underground reservoir.

See Attached.

11. Describe existing use of the underground storage reservoir and any proposed change in its use.

Groundwater pumped from the Mid-County Groundwater Basin is used primarily for municipal purposes. The City believes that its proposed ASR injections would be the first active use of underground storage in the basin.

12. Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage.

See Attached.

Additional copies of this form and water right information can be obtained at www.waterrights.ca.gov.

Attachment to Underground Storage Supplement

City of Santa Cruz

Permit 16123 (Application A022318) – San Lorenzo River – Felton Diversion

Permit 16601 (Application A023710) – San Lorenzo River – Felton Diversion

License 1553 (Application A004017) – San Lorenzo River – Tait Street Diversion

License 7200 (Application A005215) – San Lorenzo River – Tait Street Diversion

The Proposed Project involves Petitions for Change and Underground Storage Supplements for the City's above existing water right Licenses and Permits. Modification of the City's existing water rights through the petition process is necessary to comply with negotiated state and federal fishery conditions, better utilize surface water within existing allocations and make more effective use of existing diversion locations, thereby increasing the City's flexibility and ability to make beneficial use under its rights. As Lead Agency, the City of Santa Cruz is preparing an Environmental Impact Report (EIR) pursuant to the requirements of the California Environmental Quality Act (CEQA). The EIR will evaluate potential environmental impacts of the Proposed Project. Detailed discussion of the underground storage project facilities and operations can be found in the City's EIR for this project.

Item 1. State amount of water to be diverted to underground storage from each point of diversion.

Water will be diverted from the Points of Diversion at the stated rates of diversion in each of the Permits and Licenses named above, and as sought by the accompanying Petitions for Change on these rights. Water will be diverted at Tait Street and Felton Diversion facilities, and rediverted to underground storage via the Beltz Injection Well Nos. 8, 9, 10 and 12, which will be added as Points of Rediversion to the Permits and Licenses named above. The Beltz Injection Well System has a maximum injection capacity of 2.1 mgd (or about 6.5 acre-feet / day), which would be the maximum rate of rediversion to underground storage. If the City were to inject continuously at this rate for a full year, the maximum annual rediversion to underground storage would be approximately 2,372.5 acre-feet (6.5 acre-feet/day x 365 days). No diversions to support rediversion of water to underground storage will occur during Hydrologic Condition 5, as defined in the Exceedance Category Limits Table attached to the referenced Petitions.

Item 2. Describe any works used to divert to offstream spreading grounds or injection wells.

Water will be diverted from the existing diversion facilities named as Points of Diversion in the referenced Permits and Licenses. Those facilities include the Felton Diversion and Tait Street Diversion, both located on the San Lorenzo River.

Item 3. Describe spreading grounds and identify its location and number of acres or location of upstream and downstream limits if onstream.

Not applicable. Underground storage will be made via injection wells associated with the City's existing Beltz Wells system. The Beltz Injection Wells are located within the Santa Cruz Mid-County Groundwater Basin as shown on the Map to Accompany the Change Petitions, and described as follows:

Points of Rediversion to Underground Storage

- Well No. 8: Located N. 1813775 and E. 6132716 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 9: Located N. 1812135 and E. 6131318 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of NE $\frac{1}{4}$ of projected Section 21, T11S, R1W, MDB&M.
- Well No. 10: Located N. 1813446 and E. 6131683 California Coordinate System, Zone 3, being within the SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 16, T11S, R1W, MDB&M.
- Well No. 12: Located N. 1820121 and E. 6132941 California Coordinate System, Zone 3, being within the SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of projected Section 9, T11S, R1W, MDB&M.

Item 4. State depth of groundwater table in spreading ground or immediate vicinity.

Item 5. Give any historic give any historic maximum and/or minimum depths to the groundwater table in the area.

The Santa Cruz Mid-County Groundwater Sustainability Plan Figures 2-24 through 2-26, and 2-28 through 2-31 (attached) show depths to groundwater in 2005 and 2016, respectively.

Item 6: Describe proposed spreading operation.

Not applicable. Underground storage will be made via injection wells.

Item 7: Describe location, capacity and features of proposed pretreatment facilities and/or injection wells.

The City proposes to use existing and new infrastructure to divert water under its referenced Permits and Licenses to Underground Storage through ASR operations. That water will be available for use by the City in dry periods, as well as for *in situ* protection of groundwater quality from seawater intrusion. The injected water will be treated to drinking water standards prior to injection and would be injected into the Beltz Well System within the Santa Cruz Mid-County Groundwater Basin, as shown on the Map to Accompany the Petitions and consistent with the State Water Resources Control Board's general order for ASR programs, Water Quality Order 2012-0010.

Item 9: Describe underground reservoir and attach a map or sketch of its location.

The City has joined with Soquel Creek Water District, Central Water District, the County of Santa Cruz, and private well representatives to form the Santa Cruz Mid-County Groundwater Agency, the local groundwater sustainability agency created pursuant to the requirements of California's

Sustainable Groundwater Management Act (SGMA). The Santa Cruz Mid-County Groundwater Agency has overseen the preparation of a cooperative groundwater sustainability plan (GSP) for the now redefined Santa Cruz Mid-County Groundwater Basin. Information on the location, capacity, and existing uses of the underground storage basin can be found in the GSP. The GSP's Figure 1-1 is attached and shows the surface boundaries of the Mid-County Groundwater Basin.

Item 10: State estimated storage capacity of underground storage reservoir.

The Santa Cruz Mid-County Groundwater Sustainability Plan estimates the potential yield of the Soquel-Aptos Area as 5,900 acre-feet annually (approximately 4,400 af from the Purisima Formation and 1,500 af from the Aromas Red Sands).

Item 12: Describe the proposed method and location of measurement of water placed into and withdrawn from underground storage.

Water injected into the Beltz Injection Wells and recovered for later use will be measured using flow meters installed on each Injection Well. The meters can measure the injection and recovery amounts daily.

groundwater elevations below sea level. Hydrographs of Aromas and Purisima F-unit wells on Figure 2-17 show that groundwater elevations along the coast were very close to sea level thereby continuing to increase the threat of seawater intrusion in this area.

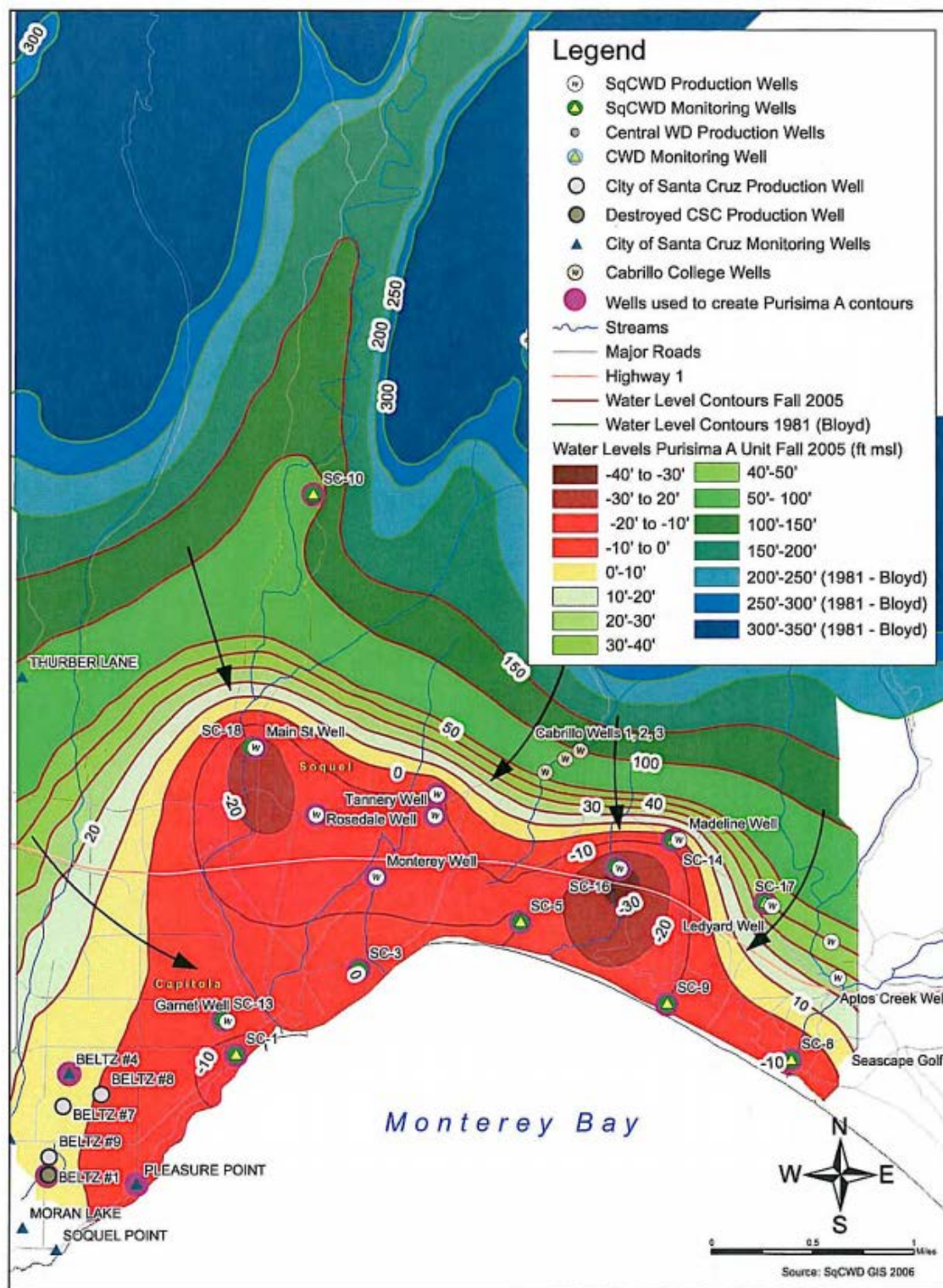


Figure 2-24. Groundwater Elevation Contours in Purisima A-Unit, Fall 2005

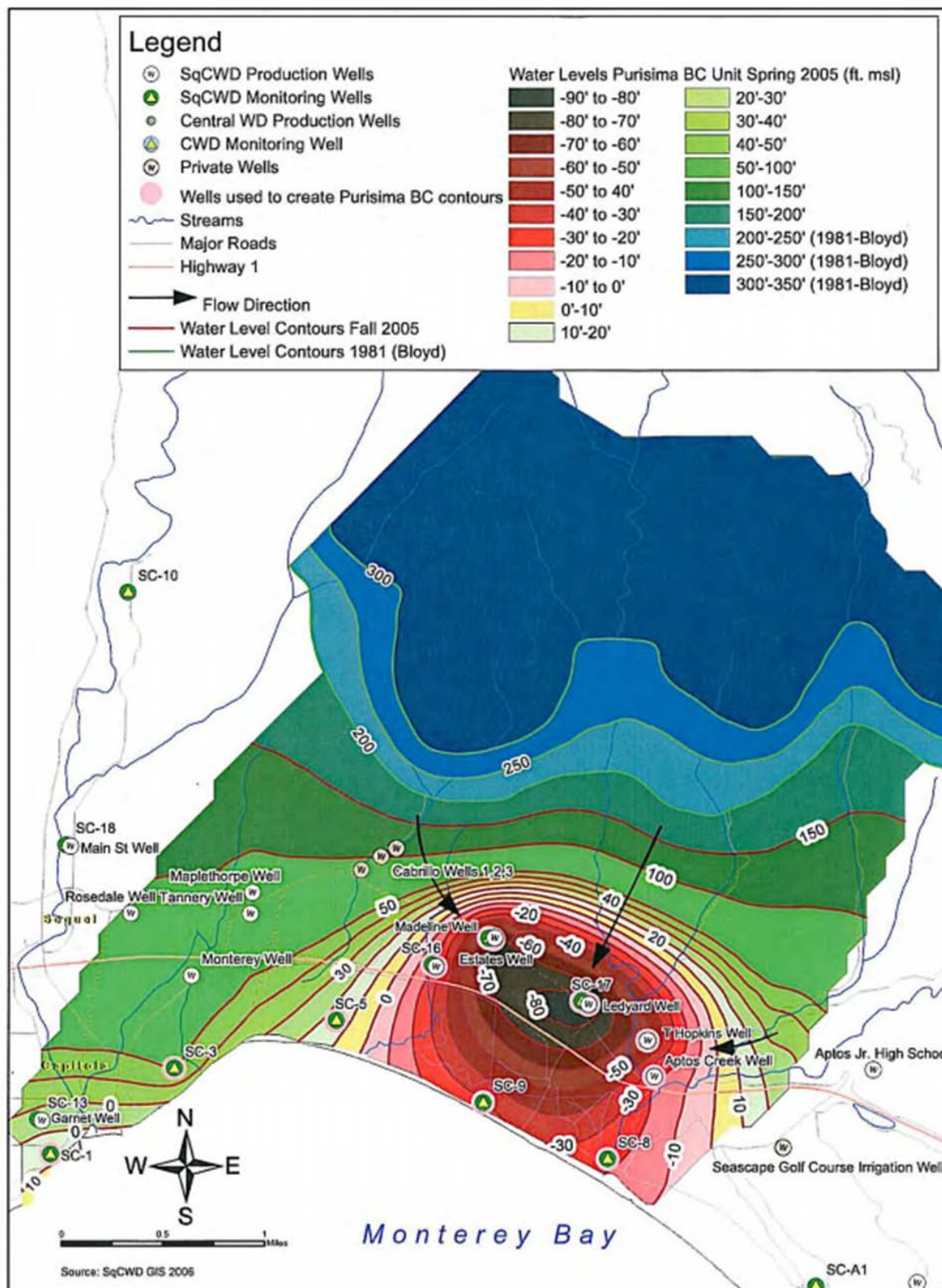


Figure 2-25. Groundwater Elevation Contours in Purisima BC- Unit, Fall 2005

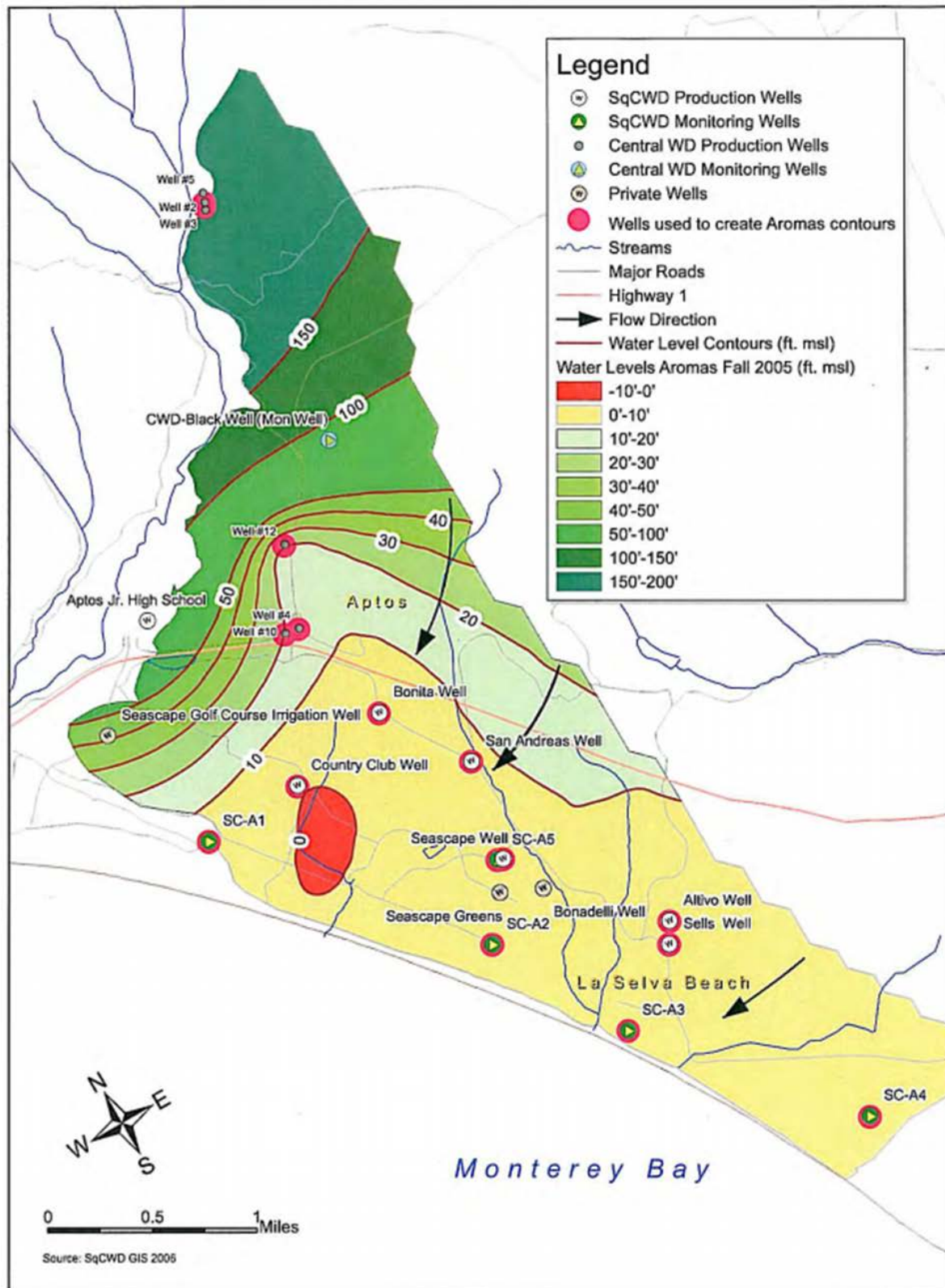


Figure 2-26. Groundwater Elevation Contours in Aromas Red Sands and Pursima F-Unit, Fall 2005

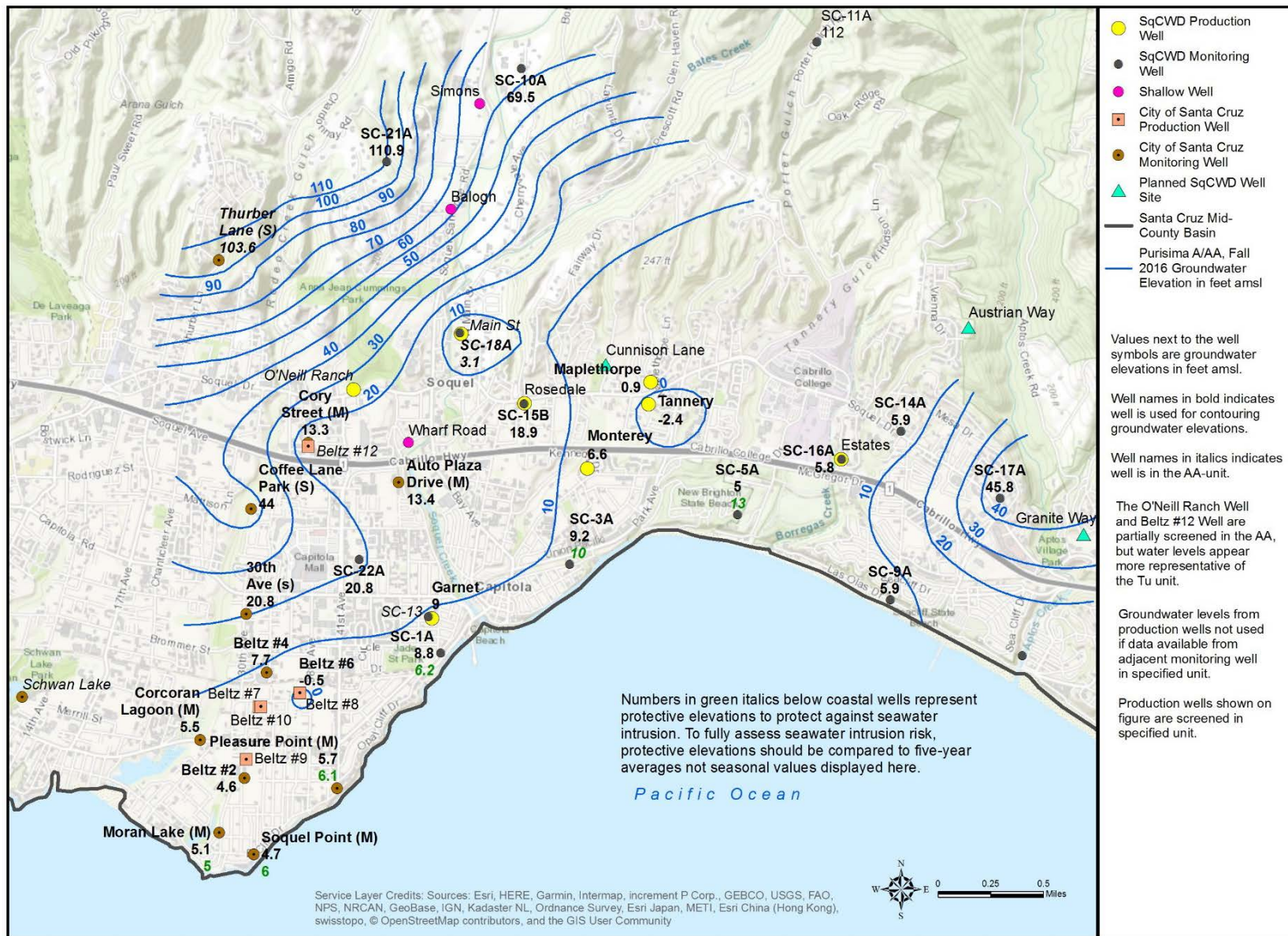


Figure 2-28. Groundwater Elevation Contours in Purisima A and AA-Unit, Fall 2016

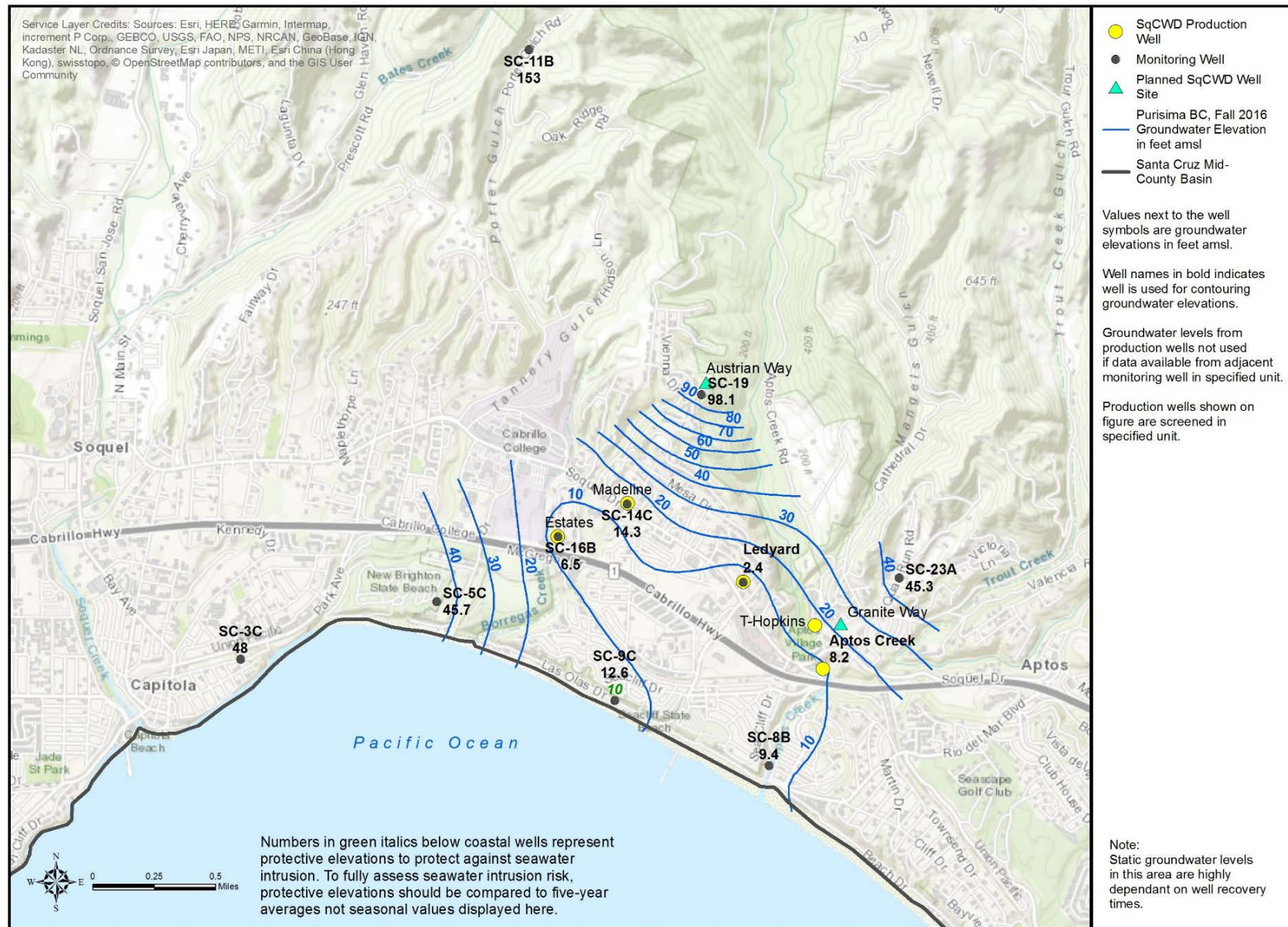


Figure 2-29. Groundwater Elevation Contours in Purisima BC-Unit, Fall 2016

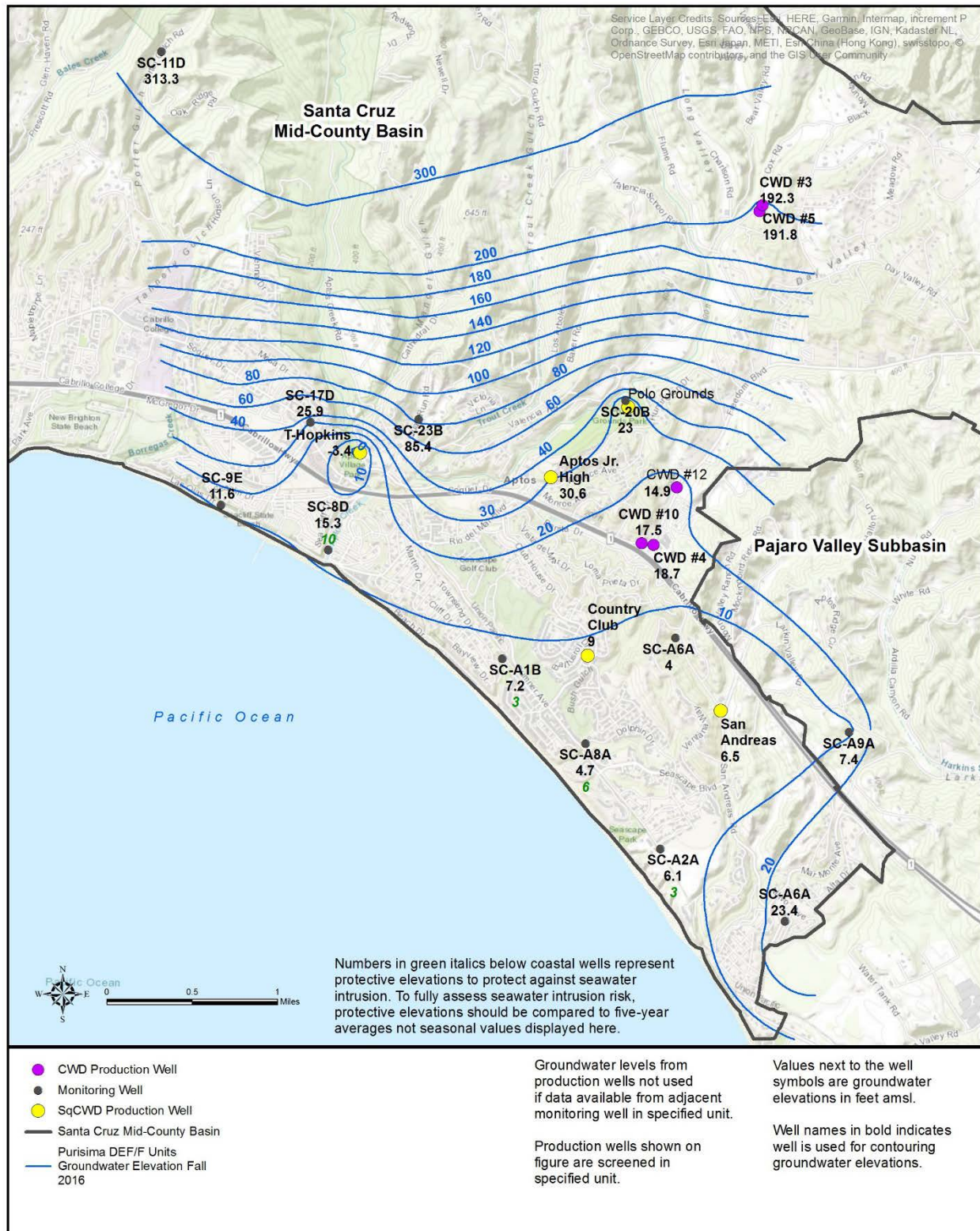


Figure 2-30. Groundwater Elevation Contours in Purisima DEF/F-Unit, Fall 2016

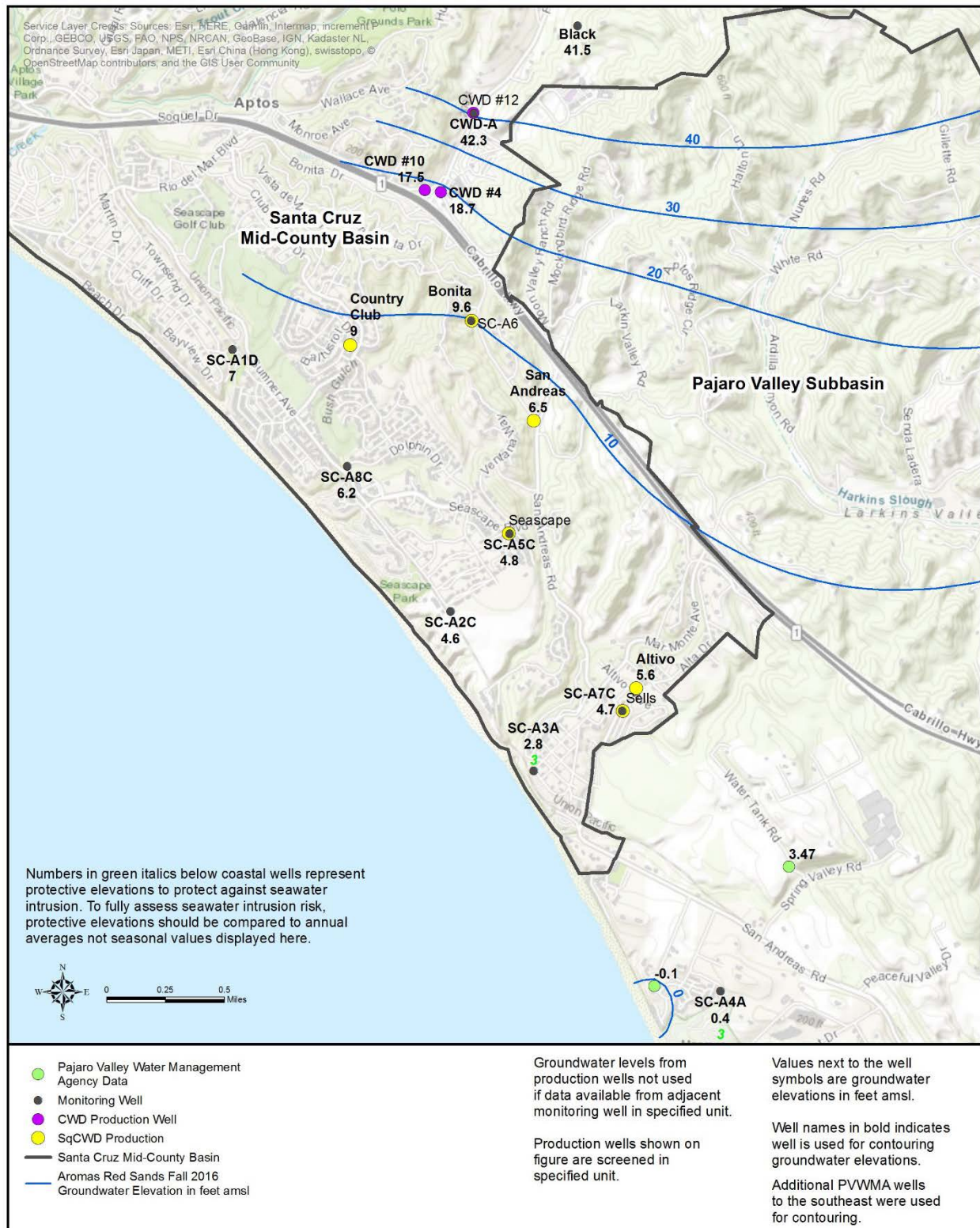


Figure 2-31. Groundwater Elevation Contours in the Aromas Area, Fall 2016

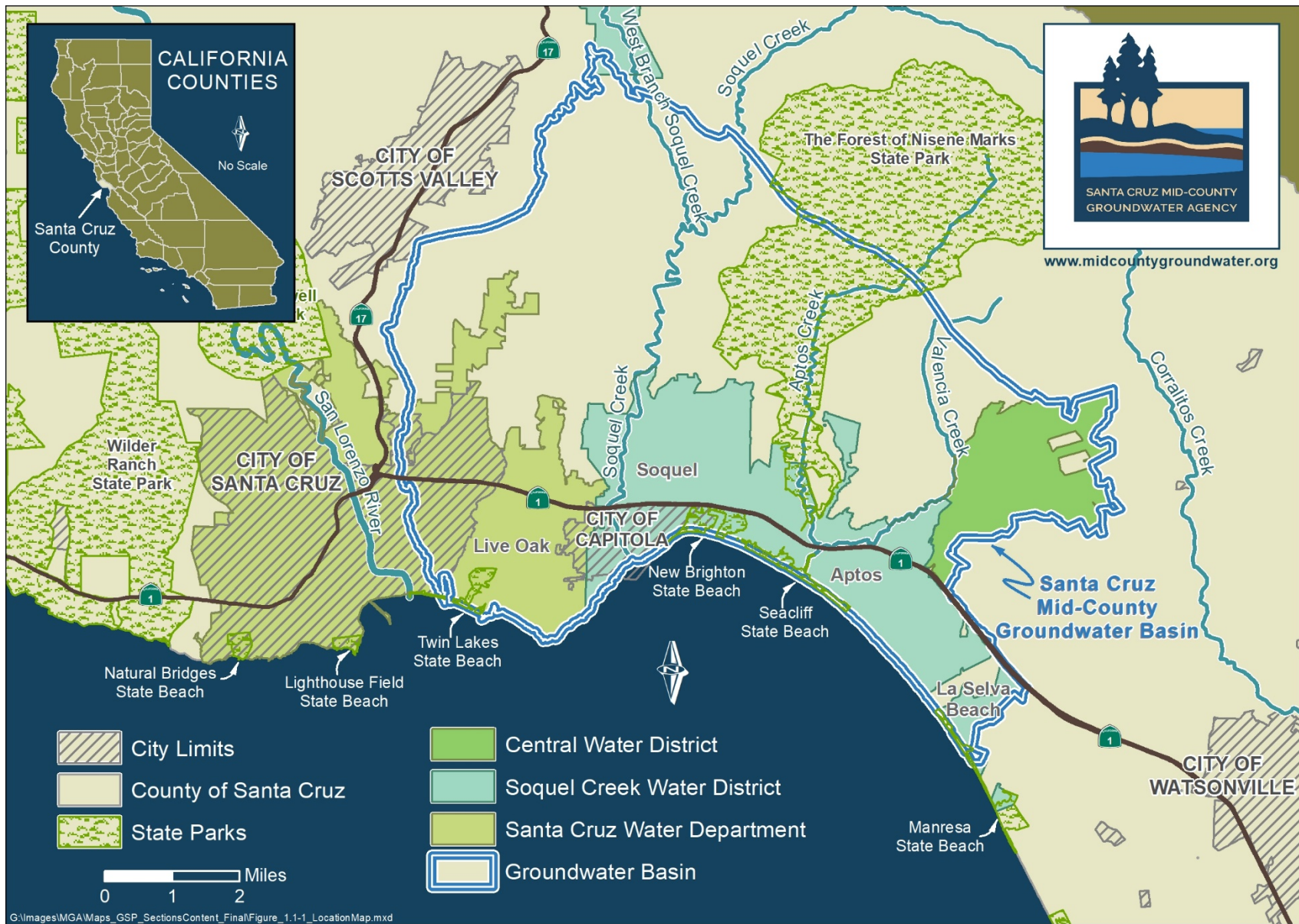


Figure 1-1. Basin Location Map

Please indicate County where
your project is located here:

Santa Cruz

MAIL FORM AND ATTACHMENTS TO:
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
<http://www.waterboards.ca.gov/waterrights>

PETITION FOR EXTENSION OF TIME

Cal. Code Regs., tit. 23, § 842

Application Permit

Separate petitions are required for each water right. Incomplete forms may not be accepted. Complete this form if the time previously allowed in your permit within which to complete construction work and/or use of water has either expired or will expire and you require additional time. Provide attachments if necessary.

Water Code section 1396 requires an applicant to exercise due diligence in developing a water supply for beneficial use. The State Water Resources Control Board (State Water Board) will review the facts presented to determine whether: (a) due diligence has been exercised, (b) failure to comply with previous time requirements has been occasioned by obstacles which could not reasonably be avoided, and (c) that satisfactory progress will be made if an extension of time is granted. (Cal. Code Regs., tit. 23, § 844.) If an extension of time is not granted, the State Water Board may initiate formal action to either: (a) issue a license for the amount of water heretofore placed to beneficial use under the terms of the permit, or (b) revoke the permit.

If this is your first extension of time, answer the questions below for the permitted construction and water use development period. If previous extensions have been approved, answer these questions for the most recently approved extension period (for example, if a ten-year extension was previously granted, list the activities completed during the ten-year period).

I (we) request a year extension of time to complete construction work and/or beneficial use of water.

Construction

Estimate the date construction work will begin, list the actions taken toward commencing or completing construction, and list the reasons why construction of the project was not completed.

Insert the attachment number here, if applicable:

Complete Use of Water

List reasons why use of water was not completed within time previously allowed.

Insert the attachment number here, if applicable:

Quantities Diverted

For direct diversion projects, list the cubic feet per second (cfs) or gallons per day (gpd) diverted during the maximum month of use, and the acre-feet per annum (afa) and identify the year this occurred. For storage projects, identify the maximum amount collected to storage and withdrawn for beneficial use in afa and identify the year this occurred.

	Year	Maximum Diversion Rate (cfs or gpd)	Maximum Annual Amount (afa)
Direct Diversion			
Storage	1989		About 1,622*
Beneficial Use			

Insert the attachment number here, if applicable:

*THIS IS COMBINED USE FOR WATER
DIVERTED UNDER A022318 & A023710.

Information on Beneficial Uses

Number of Acres Irrigated
Number of Houses or People Served
Per Capita Residential Water Use During the Maximum 30-day Period (gpd)
Extent of Past Use of Water for Any Other Purpose (identify gpd, cfs or afa)
Insert the attachment number here, if applicable:

N/A
90,000+
53 GPCD

Approximate Amount Spent on Project \$ 78 million plus* ***Annual Operating Budget in 2019**

Water Conservation – If water conservation is required by your permit, provide the information below.

Water Conservation Measures In Effect

List the water conservation measures that are in effect within the place of use.

--

Insert the attachment number here, if applicable:

3

Water Conservation Measures Planned

List the water conservation measures that are feasible within the place of use and the date the measures will be implemented. Identify the quantities estimated to be conserved when the measures are implemented.

--

Insert the attachment number here, if applicable:

3

All Right Holders Must Sign This Form: I (we) declare under penalty of perjury that the above is true and correct to the best of my (our) knowledge and belief. Dated 7/28/2020 at Santa Cruz, CA

Rosemary Menard

Right Holder or Authorized Agent Signature

Right Holder or Authorized Agent Signature

NOTE: All petitions must be accompanied by:

- (1) the form Environmental Information for Petitions, available at:
http://www.waterboards.ca.gov/waterrights/publications_forms/docs/pet_info.pdf
- (2) Division of Water Rights fee, per the Water Rights Fee Schedule, available at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/fees/
- (3) Department of Fish and Wildlife fee of \$850 (Pub. Resources Code, § 10005)

Attachment to Petitions for Extension of Time

City of Santa Cruz

Permit 16123 (Application 22318) – San Lorenzo River, Felton Diversion Facility

Permit 16601 (Application 23710) – San Lorenzo River, Felton Diversion Facility

Attachment 1: Construction

Additional time is required to maximize beneficial use under Permits 16123 and 16601 (Felton Permits). The City's extensive and successful water conservation program has enabled the City to serve any growth in its service area with the same level of diversions made under existing rights. To improve fish passage at the Felton diversion facility, permittee/licensee shall complete improvements to that facility consistent with National Marine Fisheries and California Department of Fish and Wildlife passage criteria that apply for coho salmon and steelhead.

Attachment 2: Complete Use of Water

The City is seeking approval of Petitions on its Felton Permits that add direct diversion as a method of diversion, add the Tait Street Diversion facility as an additional Point of Diversion, and adds the City's North Coast service areas and adjacent water district service areas for the allowed place of use. The City also proposes to divert water to Underground Storage under Permits 16123 and 16691 (and Licenses 1553 and 7200) via injection of surface water and subsequent recovery at its Beltz Injection Wells. The underground storage of surface water will protect groundwater quality from seawater intrusion and allow the City to use such stored water during drought years.

These modifications to the City's Felton Permits are necessary to maximum beneficial use. The City will bypass water at both the Felton and Tait Diversion Facilities according to the minimum streamflow schedule negotiated among the City, the National Marine Fisheries Service and California Department of Fish & Wildlife, as shown on the attached schedule.

Attachment 3: Water Conservation Measures in Effect and Planned

The City of Santa Cruz is actively implementing a variety of water conservation measures as described in its 2015 Urban Water Management Plan. Water activities include the following:

- Public and school information programs
- Landscape water survey
- Rain barrel distribution
- Lawn removal rebates
- Plumbing retrofits and rebates (laundry to landscape)
- Green business certifications
- Spray / rinse valve distribution
- Water budgets
- Turf removal rebates
- Graywater legalization and incentives
- Water restrictions and rationing

ENVIRONMENTAL INFORMATION FOR PETITIONS

This form is required for all petitions.

Before the State Water Resources Control Board (State Water Board) can approve a petition, the State Water Board must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared, a determination must be made of who is responsible for its preparation. As the petitioner, you are responsible for all costs associated with the environmental evaluation and preparation of the required CEQA documents. Please answer the following questions to the best of your ability and submit any studies that have been conducted regarding the environmental evaluation of your project. If you need more space to completely answer the questions, please number and attach additional sheets.

DESCRIPTION OF PROPOSED CHANGES OR WORK REMAINING TO BE COMPLETED

For a petition for change, provide a description of the proposed changes to your project including, but not limited to, type of construction activity, structures existing or to be built, area to be graded or excavated, increase in water diversion and use (up to the amount authorized by the permit), changes in land use, and project operational changes, including changes in how the water will be used. For a petition for extension of time, provide a description of what work has been completed and what remains to be done. Include in your description any of the above elements that will occur during the requested extension period.

Insert the attachment number here, if applicable:

1

Coordination with Regional Water Quality Control Board

For change petitions only, you must request consultation with the Regional Water Quality Control Board regarding the potential effects of your proposed change on water quality and other instream beneficial uses. (Cal. Code Regs., tit. 23, § 794.) In order to determine the appropriate office for consultation, see: http://www.waterboards.ca.gov/waterboards_map.shtml. Provide the date you submitted your request for consultation here, then provide the following information.

Date of Request

June 26, 2018

Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation?

☐ Yes

☐ No

Will a waste discharge permit be required for the project?

☐ Yes

☐ No

If necessary, provide additional information below:

Improvements at the Felton Diversion Facility could require waste discharge requirements, or a waiver, from the Central Coast Regional Water Quality Control Board, as well as a 404 permit from the U.S. Army Corps of Engineers and/or a Streambed Alteration Agreement from the California Department of Fish & Wildlife. Those improvements, however, are not yet designed and finalized.

Insert the attachment number here, if applicable:

Local Permits

For temporary transfers only, you must contact the board of supervisors for the county(ies) both for where you currently store or use water and where you propose to transfer the water. (Wat. Code § 1726.) Provide the date you submitted your request for consultation here.

Date of Contact

For change petitions only, you should contact your local planning or public works department and provide the information below.

Person Contacted:

Date of Contact:

October 3, 2018

Department:

City of Santa Cruz - various depts

Phone Number:

County Zoning Designation:

Not Applicable - municipal lands

Are any county permits required for your project? If yes, indicate type below.

☐ Yes

☐ No

☐ Grading Permit

☐ Use Permit

☐ Watercourse

☐ Obstruction Permit

☐ Change of Zoning

☐ General Plan Change

☐ Other (explain below)

If applicable, have you obtained any of the permits listed above? If yes, provide copies.

☐ Yes

☐ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Federal and State Permits

Check any additional agencies that may require permits or other approvals for your project:

- ☒ Regional Water Quality Control Board ☒ Department of Fish and Game
- ☐ Dept of Water Resources, Division of Safety of Dams ☐ California Coastal Commission
- ☐ State Reclamation Board ☒ U.S. Army Corps of Engineers ☐ U.S. Forest Service
- ☐ Bureau of Land Management ☐ Federal Energy Regulatory Commission
- ☐ Natural Resources Conservation Service

Have you obtained any of the permits listed above? If yes, provide copies. ☐ Yes ☒ No

For each agency from which a permit is required, provide the following information:

Agency	Permit Type	Person(s) Contacted	Contact Date	Phone Number
CDFW	LSAA 1600	Randi Adair		
RWQCB	WDRs / waiver	Potential at this time		
USACE	404 permit	Potential at this time		

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Construction or Grading Activity

Does the project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed, bank or riparian habitat of any stream or lake? ☐ Yes ☒ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Archeology

Has an archeological report been prepared for this project? If yes, provide a copy. ☐ Yes ☒ No

Will another public agency be preparing an archeological report? ☐ Yes ☒ No

Do you know of any archeological or historic sites in the area? If yes, explain below. ☐ Yes ☒ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Photographs

For all petitions other than time extensions, attach complete sets of color photographs, clearly dated and labeled, showing the vegetation that exists at the following three locations:

- ☒ Along the stream channel immediately downstream from each point of diversion
- ☒ Along the stream channel immediately upstream from each point of diversion
- ☒ At the place where water subject to this water right will be used

Maps

For all petitions other than time extensions, attach maps labeled in accordance with the regulations showing all applicable features, both present and proposed, including but not limited to: point of diversion, point of redirection, distribution of storage reservoirs, point of discharge of treated wastewater, place of use, and location of instream flow dedication reach. (Cal. Code Regs., tit. 23, §§ 715 et seq., 794.)

Pursuant to California Code of Regulations, title 23, section 794, petitions for change submitted without maps may not be accepted.

All Water Right Holders Must Sign This Form:

I (we) hereby certify that the statements I (we) have furnished above and in the attachments are complete to the best of my (our) ability and that the facts, statements, and information presented are true and correct to the best of my (our) knowledge. Dated 7/28/2020 at Santa Cruz, CA.

Rosemary Menard

Water Right Holder or Authorized Agent Signature

Water Right Holder or Authorized Agent Signature

NOTE:

- Petitions for Change may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game. (Cal. Code Regs., tit. 23, § 794.)
- Petitions for Temporary Transfer may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game and the board of supervisors for the county(ies) where you currently store or use water and the county(ies) where you propose to transfer the water. (Wat. Code § 1726.)

**Attachment to Environmental Information Form
City of Santa Cruz**

License 9847 (Application A017913) – Newell Creek & Loch Lomond Reservoir

Permit 16123 (Application A022318) – San Lorenzo River – Felton Diversion

Permit 16601 (Application A023710) – San Lorenzo River – Felton Diversion

License 1553 (Application A004017) – San Lorenzo River – Tait Street Diversion

License 7200 (Application A005215) – San Lorenzo River – Tait Street Diversion

The Proposed Project involves Petitions for Change for all of the City's above referenced water right Licenses and Permits and Petitions for Extension of Time for the Felton Diversion Facility Permits 16123 and 16601. The Proposed Project also includes Petitions for Underground Storage for Licenses 1553 and 7200 and Permits 16123 and 16601.

Modification of the City's existing water rights through the petition process is necessary to comply with negotiated state and federal fishery conditions, better utilize surface water within existing allocations, make more effective use of existing diversion locations, thereby increasing the City's flexibility and ability to make beneficial use under its rights.

Attachment No. 1

I. Description of Proposed Changes or Work Remaining to be Completed

Addition of Direct Diversion as a Method of Diversion:

The City is seeking approval of Petitions that would explicitly state direct diversion as a method of diversion from the San Lorenzo River (also known as the Felton Diversion Facility) under Permits 16123 and 16601 and from Newell Creek at the City's Newell Creek Dam, which impounds Loch Lomond Reservoir, under License 9847. Currently, these rights authorize diversion to storage in the Loch Lomond Reservoir, but do not explicitly state the right to take water by direct diversion; an oversight in the original filings. The City has calculated that the licensed amount of use under License 9847 would not have been possible without allowance for direct diversion.

The addition of direct diversion as a method of diversion under these rights is needed to conform the water right Permits and License to the City's historical and current operations, and to provide operational flexibility and water supply reliability. Direct diversion of water has been and needs to continue to be an integral part of the operation of the Newell Creek and Felton Diversion facilities to meet annual demands.

Underground Storage:

The City proposes to redirect water to Underground Storage under Permits 16123 and 16691, and Licenses 1553 and 7200, via injection of surface water and subsequent recovery at the Beltz injection wells. The Beltz Wells are proposed to be added as Points of Rediversion under these rights. The underground storage of surface water will protect groundwater quality from seawater intrusion and allow the City to use such stored water during dry periods.

Addition of Points of Diversion:

The City proposes to add the Tait Street Diversion facility as an additional Point of Diversion to the Felton Permits 16123 and 16601 to allow for operational flexibility.

Addition of Points of Diversion to Underground Storage:

The City proposes to add Tait Street and Felton diversion facilities as Points of Diversion to Underground Storage.

Addition of Points of Rediversion:

The City proposes to add the Beltz Wells Nos. 8, 9, 10 and 12 as Points of Rediversion to Permits 16123 and 16691, and Licenses 1553 and 7200.

Rate of Diversion:

The combined rate of diversion to storage and direct diversion from the Felton and Tait Street Diversion Facilities under Permits 16123 and 16601 shall not exceed 20 cubic feet per second.

Change in Place of Use:

To provide flexibility to integrate water resources in the regional area, the City seeks to expand its currently allowed place of use under its Permits and Licenses to include adjacent services areas of Central Water District, San Lorenzo Valley Water District, Scotts Valley Water District, Soquel Creek Water District, the Santa Cruz Mid-County Groundwater Basin (Basin No. 3-027) and Santa Margarita Groundwater Basin (Basin No 3-027), as well as the City's North Coast service area.

Change in Purpose of Use:

The City proposes to consolidate its purposes of use under its Permits 16123 and 16601, and Licenses 1553, 7200 and 9847 to include municipal, domestic, industrial, recreation, fire protection, and protection of groundwater quality to prevent seawater intrusion.

Addition of Fishery Terms:

The City proposes to add, to each of its existing water right Licenses and Permits, the minimum bypass flows that the City has negotiated with the National Marine Fisheries Service and the California Department of Fish & Wildlife. Attached are the agreed upon minimum flow conditions in the San Lorenzo River during the allowed diversion seasons at both the Tait Street and Felton Diversion facilities, and in Newell Creek at Loch Lomond Reservoir.

Extension of Time:

The City is also seeking Extension of Time for Permits 16123 and 16601 to request an additional 37 years in which to put the water to full beneficial use. The Permits expired on December 31, 2006, and additional time is required to meet future growth demands set forth in the City of Santa Cruz, Santa Cruz County, City of Scotts Valley and City of Capitola's general plans. The Petitions do not represent an increase in the amount of water allowed to be diverted.

Environmental Document:

As Lead Agency, the City of Santa Cruz is preparing an Environmental Impact Report (EIR) pursuant to the requirements of the California Environmental Quality Act (CEQA). The EIR will evaluate potential environmental impacts of the Proposed Project.

City of Santa Cruz
Photographs to Accompany Petitions

Newell Creek & Loch Lomond Reservoir
License 9847 (Application A017913)

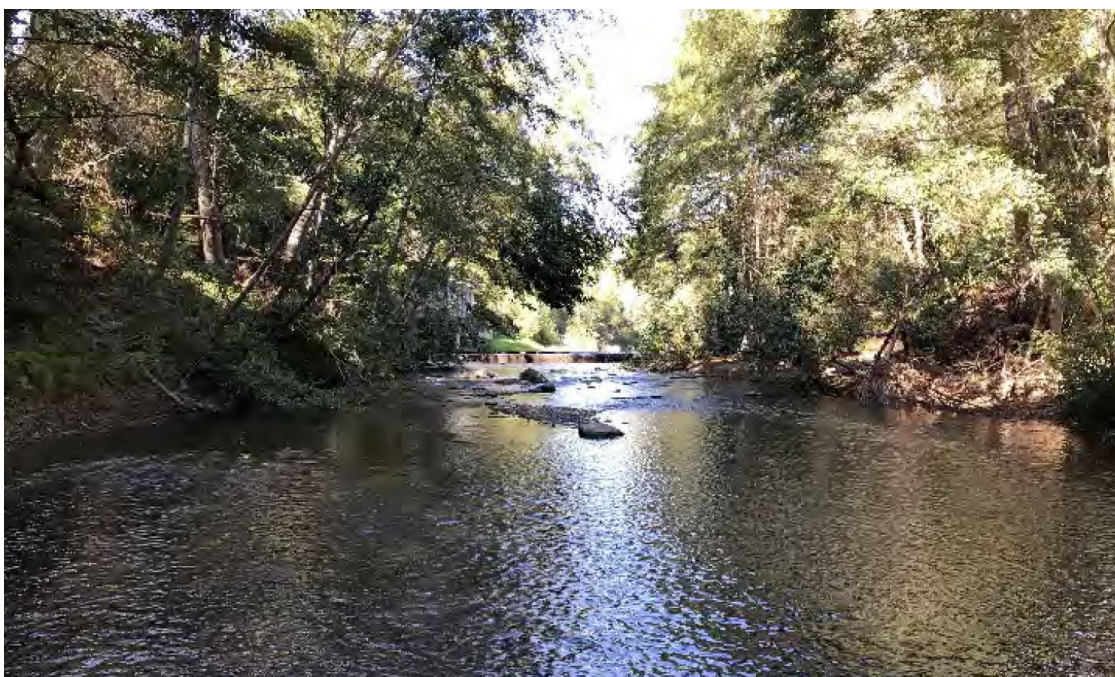
San Lorenzo River – Felton Diversion
Permit 16123 (Application A022318)
Permit 16601 (Application A023710)

San Lorenzo River – Tait Street Diversion
License 1553 (Application A004017)
License 7200 (Application A005215)



FELTON DIVERSION FACILITY

MARCH 2009



FELTON DIVERSION FACILITY- LOOKING DOWNSTREAM

JANUARY 2019



FELTON DIVERSION FACILITY- LOOKING UPSTREAM

JANUARY 2019



LOCH LOMOND LAKE- NEWELL DAM

JANUARY 2019



NEWELL CREEK- LOOKING DOWNSTREAM

FEBRUARY 2012



NEWELL CREEK- LOOKING UPSTREAM

AUGUST 2016



TAIT WELL 1B

JANUARY 2018



TAIT DIVERSION DAM

JANUARY 2019



TAIT DIVERSION FACILITY – LOOKING DOWNSTREAM

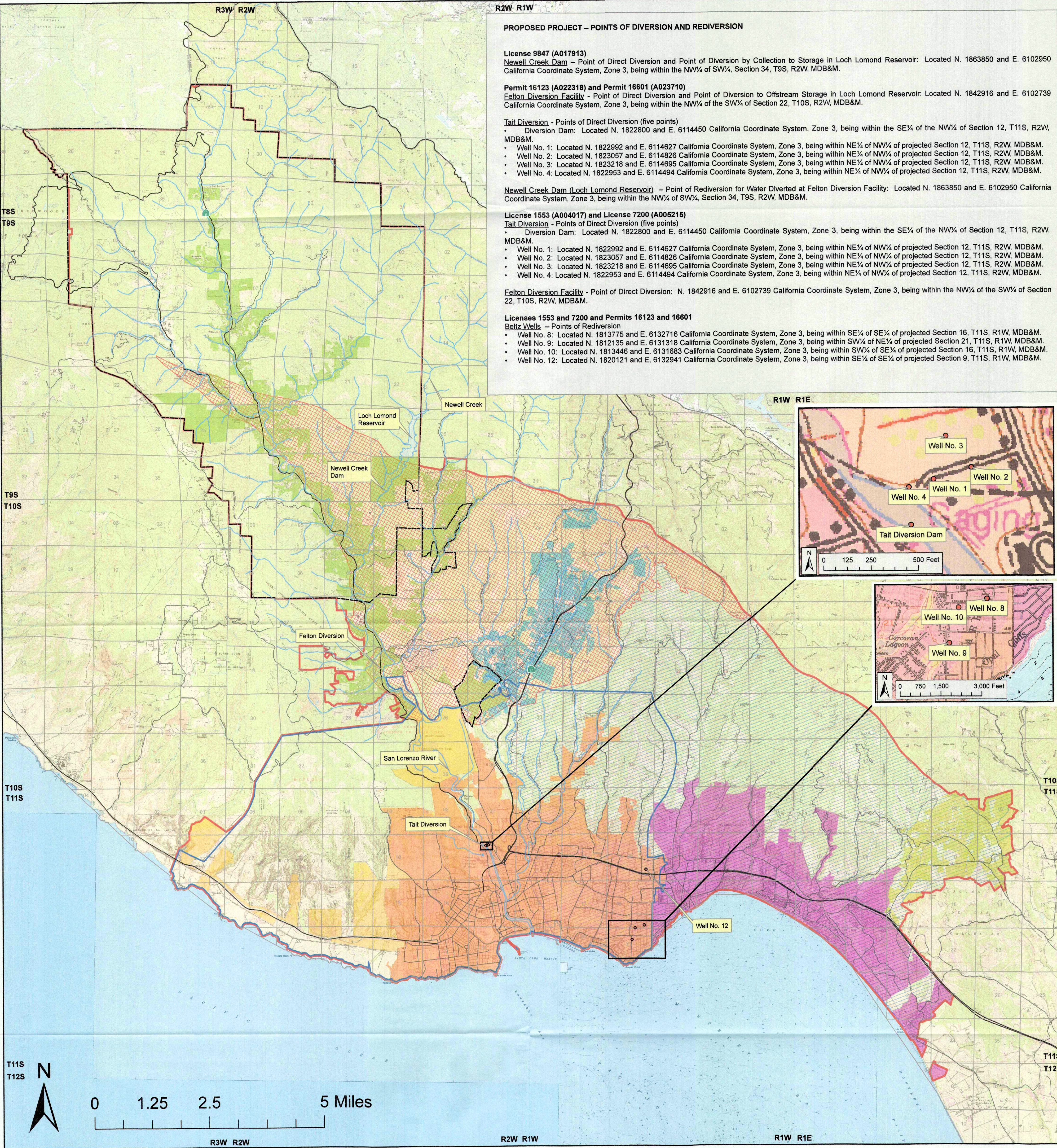
JANUARY 2019



TAIT DIVERSION FACILITY- LOOKING UPSTREAM

JANUARY 2019

MAP TO ACCOMPANY PETITIONS FOR CHANGE
LICENSES 1553, 7200, 9847 (A004017, A005215, AND A017913, RESPECTIVELY) AND
PERMITS 16123 AND 16601 (A022318 AND A023710, RESPECTIVELY)
CITY OF SANTA CRUZ
SANTA CRUZ COUNTY, CA



PROPOSED PROJECT - POINTS OF DIVERSION AND REDIVERSION

License 9847 (A017913)
Newell Creek Dam - Point of Direct Diversion and Point of Diversion by Collection to Storage in Loch Lomond Reservoir: Located N. 1863850 and E. 6102950 California Coordinate System, Zone 3, being within the NW¼ of SW¼, Section 34, T9S, R2W, MDB&M.

Permit 16123 (A022318) and Permit 16601 (A023710)
Felton Diversion Facility - Point of Direct Diversion and Point of Diversion to Offstream Storage in Loch Lomond Reservoir: Located N. 1842916 and E. 6102739 California Coordinate System, Zone 3, being within the NW¼ of the SW¼ of Section 22, T10S, R2W, MDB&M.

Tait Diversion - Points of Direct Diversion (five points)
• Diversion Dam: Located N. 1822800 and E. 6114450 California Coordinate System, Zone 3, being within the SE¼ of the NW¼ of Section 12, T11S, R2W, MDB&M.

- Well No. 1: Located N. 1822992 and E. 6114627 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N. 1823057 and E. 6114826 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N. 1823218 and E. 6114695 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N. 1822953 and E. 6114494 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.

Newell Creek Dam (Loch Lomond Reservoir) - Point of Rediversion for Water Diverted at Felton Diversion Facility: Located N. 1863850 and E. 6102950 California Coordinate System, Zone 3, being within the NW¼ of SW¼, Section 34, T9S, R2W, MDB&M.

License 1553 (A004017) and License 7200 (A005215)

Tait Diversion - Points of Direct Diversion (five points)
• Diversion Dam: Located N. 1822800 and E. 6114450 California Coordinate System, Zone 3, being within the SE¼ of the NW¼ of Section 12, T11S, R2W, MDB&M.

- Well No. 1: Located N. 1822992 and E. 6114627 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N. 1823057 and E. 6114826 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N. 1823218 and E. 6114695 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N. 1822953 and E. 6114494 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.

Felton Diversion Facility - Point of Direct Diversion: N. 1842916 and E. 6102739 California Coordinate System, Zone 3, being within the NW¼ of the SW¼ of Section 22, T10S, R2W, MDB&M.

Licenses 1553 and 7200 and Permits 16123 and 16601

Beltz Wells - Points of Rediversion
• Well No. 8: Located N. 1813775 and E. 6132716 California Coordinate System, Zone 3, being within SE¼ of SE¼ of projected Section 16, T11S, R1W, MDB&M.
• Well No. 9: Located N. 1812135 and E. 6131318 California Coordinate System, Zone 3, being within SW¼ of NE¼ of projected Section 21, T11S, R1W, MDB&M.
• Well No. 10: Located N. 1813446 and E. 6131683 California Coordinate System, Zone 3, being within SW¼ of SE¼ of projected Section 16, T11S, R1W, MDB&M.
• Well No. 12: Located N. 1820121 and E. 6132941 California Coordinate System, Zone 3, being within SE¼ of SE¼ of projected Section 9, T11S, R1W, MDB&M.

San Lorenzo River and Tributaries

Water Service Areas

- Central Water District
- San Lorenzo Valley Water District
- Scotts Valley Water District
- Soquel Creek Water District
- City of Santa Cruz' Service Area
- City of Santa Cruz' North Coast Service Area

State Highways

Places of Use

- License # 9847
- License #'s 1553, 7200; Permit #'s 16601, 16123
- Proposed Place of Use Expanded

Groundwater Basins

- Santa Cruz Mid-County
- Santa Margarita

CERTIFICATE OF ENGINEER

I, NICHOLAS F. BONSIGNORE OF 2151 RIVER PLAZA DR., SUITE 100, SACRAMENTO, CALIFORNIA, DO HEREBY CERTIFY THAT THIS MAP WAS PREPARED UNDER MY DIRECT SUPERVISION BASED U.S.G.S. 7.5-MINUTE QUADRANGLES FOR BIG BASIN, CASTLE ROCK RIDGE, DAVENPORT, FELTON, LAUREL, SANTA CRUZ, SOQUEL, AND WATSONVILLE WEST, FROM PUBLISHED SERVICE AREA MAPS FOR CENTRAL WATER DISTRICT, SAN LORENZO VALLEY WATER DISTRICT, SCOTTS VALLEY WATER DISTRICT, SOQUEL CREEK WATER DISTRICT, MAPS ON FILE WITH SANTA CRUZ WATER DEPARTMENT AND SANTA CRUZ WATER DEPARTMENT LIMITED, AND OTHER INFORMATION PROVIDED BY CITY OF SANTA CRUZ, AND THAT IT CORRECTLY REPRESENTS THE PROJECT DESCRIBED IN THE ACCOMPANYING PETITIONS, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Nicholas F. Bonsignore

NICHOLAS F. BONSIGNORE
R.C.E. NO. 39422
EXPIRES 12-31-2021

7/23/2020

DATE

Wagner & Bonsignore

Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
Robert C. Wagner, P.E.
Paula J. Whealen

Martin Berber, P.E.
Patrick W. Ervin, P.E.
David P. Lounsbury, P.E.
Vincent Maples, P.E.
Leah Orloff, Ph.D., P.E.
David H. Peterson, C.E.G., C.H.G.
Ryan E. Stolfus

January 6, 2021

Mr. Sam Boland-Brien
Supervising Engineer - Petition, Licensing & Registration
State Water Resources Control Board
P.O. Box 2000
Sacramento, CA 95812-2000

**Re: City of Santa Cruz
Petitions for Change and Extension of Time: Permits 16123 and 16601
(Applications A022318 and A023710 respectively)
Petitions for Change: Licenses 1553, 7200 and 9847 (Applications A004017,
A005215 and A017913 respectively)**

Dear Mr. Boland-Brien:

In December 2006, the City of Santa Cruz filed Petitions for Extension of Time for Permits 16123 and 16601, and Petitions for Change for License 9847 and Permits 16123 and 16601 with the Division. The Division issued a Public Notice of these Petitions on October 8, 2008. Subsequently, the City determined that additional modifications were necessary and filed revised Petitions on these same rights on January 29, 2019 and again on August 5, 2020.

At this time, the City would like to amend its August 5, 2020 Petitions in their entirety and are submitting the enclosed amended Petitions for the referenced rights. The Petition revisions were made to respond to comments provided by you and your staff.

An Initial Study and Notice of Preparation of an Environmental Impact Report in support of the enclosed Petitions was issued by the City in 2018. The City is well into the preparation of a draft environmental impact report. Therefore, we request that these revised Petitions be issued for public notice as soon as possible to incorporate and/or address comments in the environmental document.

Enclosed are the executed Petitions, Underground Storage Supplements, Environmental Information forms, site photographs and accompanying map. In January 2019, Petition filing fees in the amount of \$13,114.72 were submitted to the Division, with an \$850 environmental fee for the California Department of Fish and Wildlife. Additional filing fees in the amount of \$2,394.48

*2151 River Plaza Drive • Suite 100 • Sacramento, CA 95833-4133
Ph: 916-441-6850 or 916-448-2821 • Fax: 916-779-3120*

Mr. Sam Boland-Brien

January 6, 2021

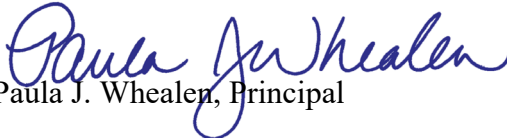
Page 2

were submitted with the August 5, 2020 revised Petitions. We understand that no additional filing fees are due currently. I am also sending this letter and Petition package to you via email.

Please contact me if you have any questions regarding the enclosed Petitions.

Very truly yours,

WAGNER & BONSIGNORE
CONSULTING CIVIL ENGINEERS


Paula J. Whealen, Principal

Encl.

cc: (via email)

Rosemary Menard, City of Santa Cruz

Chris Berry, City of Santa Cruz

Ryan Bezerra, Bartkiewicz Kronick & Shanahan

Randi Adair, California Department of Fish & Wildlife

Amanda Morrison, NOAA National Marine Fisheries Service

Please indicate County where
your project is located here:

Santa Cruz

MAIL FORM AND ATTACHMENTS TO:
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Tel: (916) 341-5300 Fax: (916) 341-5400
<http://www.waterboards.ca.gov/waterrights>

PETITION FOR CHANGE

Separate petitions are required for each water right. Mark all areas that apply to your proposed change(s). Incomplete forms may not be accepted. Location and area information must be provided on maps in accordance with established requirements. (Cal. Code Regs., tit. 23, § 715 et seq.) Provide attachments if necessary.

☐ Point of Diversion Wat. Code, § 1701	☐ Point of Rediversion Cal. Code Regs., tit. 23, § 791(e)	☒ Place of Use Wat. Code, § 1701	☒ Purpose of Use Wat. Code, § 1701
☐ Distribution of Storage Cal. Code Regs., tit. 23, § 791(e)	☐ Temporary Urgency Wat. Code, § 1435	☐ Instream Flow Dedication Wat. Code, § 1707	☐ Waste Water Wat. Code, § 1211
☐ Split Cal. Code Regs., tit. 23, § 836	☒ Terms or Conditions Cal. Code Regs., tit. 23, § 791(e)	☒ Other	Addition of Underground Storage
Application	4017	Permit	License 1553 Statement

I (we) hereby petition for change(s) noted above and described as follows:

Point of Diversion or Rediversion – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Present:	See Attached
Proposed:	See Attached

Place of Use – Identify area using Public Land Survey System descriptions to ¼-¼ level; for irrigation, list number of acres irrigated.

Present:	See Attached
Proposed:	See Attached

Purpose of Use

Present:	See Attached
Proposed:	See Attached

Split

Provide the names, addresses, and phone numbers for all proposed water right holders.

--

In addition, provide a separate sheet with a table describing how the water right will be split between the water right holders: for each party list amount by direct diversion and/or storage, season of diversion, maximum annual amount, maximum diversion to offstream storage, point(s) of diversion, place(s) of use, and purpose(s) of use. Maps showing the point(s) of diversion and place of use for each party should be provided.

Distribution of Storage

Present:	
Proposed:	

Temporary Urgency

This temporary urgency change will be effective from to .

Include an attachment that describes the urgent need that is the basis of the temporary urgency change and whether the change will result in injury to any lawful user of water or have unreasonable effects on fish, wildlife or instream uses.

Instream Flow Dedication – Provide source name and identify points using both Public Land Survey System descriptions to ¼-¼ level and California Coordinate System (NAD 83).

Upstream Location:

Downstream Location:

List the quantities dedicated to instream flow in either: ☐ cubic feet per second or ☐ gallons per day:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Will the dedicated flow be diverted for consumptive use at a downstream location? ☐ Yes ☐ No

If yes, provide the source name, location coordinates, and the quantities of flow that will be diverted from the stream.

Waste Water

If applicable, provide the reduction in amount of treated waste water discharged in cubic feet per second.

Will this change involve water provided by a water service contract which prohibits your exclusive right to this treated waste water? ☐ Yes ☐ No

Will any legal user of the treated waste water discharged be affected? ☐ Yes ☐ No

General Information – For all Petitions, provide the following information, if applicable to your proposed change(s).

Will any current Point of Diversion, Point of Storage, or Place of Use be abandoned? ☐ Yes ☒ No

I (we) have access to the proposed point of diversion or control the proposed place of use by virtue of:

☒ ownership ☐ lease ☐ verbal agreement ☐ written agreement

If by lease or agreement, state name and address of person(s) from whom access has been obtained.

Give name and address of any person(s) taking water from the stream between the present point of diversion or redirection and the proposed point of diversion or redirection, as well as any other person(s) known to you who may be affected by the proposed change.

Information in State Water Resources Control Board files.

All Right Holders Must Sign This Form: I (we) declare under penalty of perjury that this change does not involve an increase in the amount of the appropriation or the season of diversion, and that the above is true and correct to the best of my (our) knowledge and belief. Dated 7/28/2020 at Santa Cruz, CA.

Rosemary Mendez
Right Holder or Authorized Agent Signature

Right Holder or Authorized Agent Signature

NOTE: All petitions must be accompanied by:

- (1) the form Environmental Information for Petitions, including required attachments, available at:
http://www.waterboards.ca.gov/waterrights/publications_forms/forms/docs/pet_info.pdf
- (2) Division of Water Rights fee, per the Water Rights Fee Schedule, available at:
http://www.waterboards.ca.gov/waterrights/water_issues/programs/fees/
- (3) Department of Fish and Wildlife fee of \$850 (Pub. Resources Code, § 10005)

City of Santa Cruz

Attachment to Petition for Change License 9847 (Application A017913) Newell Creek Diversion

Point of Diversion

Present: Newell Creek Dam – Diversion to storage from Newell Creek located South 3,800' and East 1,230' from NW corner of Section 34, T9S, R2W, MDB&M, within NW1/4 of SW1/4 of said Section 34 for storage in Loch Lomond Reservoir.

*Proposed:*¹ Newell Creek Dam – Point of Direct Diversion and Point of Diversion by Collection to Storage in Loch Lomond Reservoir: Located N.1863850 and E.6102950 California Coordinate System, Zone 3, being within the NW¼ of SW¼, Section 34, T9S, R2W, MDB&M.

Method of Diversion

Present: Diversion to storage from Newell Creek for storage in Loch Lomond Reservoir

Proposed: Diversion to storage from Newell Creek for storage in Loch Lomond Reservoir and direct diversion from Newell Creek.

Place of Use

Present: At Loch Lomond Reservoir and in the San Lorenzo Basin, including Upper San Lorenzo Valley, Scotts Valley and Santa Cruz, being within Townships 8S, 9S, 10S, and 11S, Ranges 1W, 2W, and 3W, MDB&M, as shown on map filed with State Water Resources Control Board.

Proposed: At Loch Lomond Reservoir, and in the City of Santa Cruz Water Department's service area, including its North Coast service area; the service areas of Central Water District, San Lorenzo Valley Water District, Scotts Valley Water District and Soquel Creek Water District; Santa Cruz Mid-County Groundwater Basin (DWR Bulletin 118 Basin No. 3-001) and Santa Margarita Groundwater Basin (DWR Bulletin 118 Basin No. 3-027); all, as shown on a map filed with State Water Resources Control Board accompanying this Petition.

Purpose of Use

Present: Municipal, domestic, industrial, recreational and fire protection.

Proposed: Municipal, domestic, industrial, recreational, fire protection and protection of water quality.

¹ There is no change in the physical Point of Diversion location. The description has been revised to provide a California Coordinate System, Zone 3 coordinate point.

Terms and Conditions

Proposed:

- 1) The City will release water from Loch Lomond Reservoir to Newell Creek according to the minimum streamflow schedule negotiated among the City, the National Marine Fisheries Service and the California Department of Fish & Wildlife as shown on the attached schedule.
- 2) Add maximum rate of direct diversion of 31 cubic feet per second.
- 3) No delivery of water diverted under this right for use by a water supplier other than the City of Santa Cruz Water Department will occur during Hydrologic Conditions 4 and 5, as defined in the attached Exceedance Category Limits Table.

Reason for Proposed Change

Modification of the City of Santa Cruz' rights are necessary to better utilize surface water within existing allocations, increase the flexibility of the City's water supply, and extend time to beneficially use water allowed under existing rights, in light of, among other things, significant water conservation measures.

Month	Flow Ranges Used to Determine Monthly Hydrologic Condition Type ¹ (cfs) Using San Lorenzo River End-of-Month Cumulative Daily Flow ²				
	<i>Hydrologic Condition 5 (driest)</i>	<i>Hydrologic Condition 4 (dry)</i>	<i>Hydrologic Condition 3 (normal)</i>	<i>Hydrologic Condition 2 (wet)</i>	<i>Hydrologic Condition 1 (wettest)</i>
Oct	<=459	460-539	540-709	710-875	>875
Nov	<=1186	1187-1497	1498-1827	1828-2485	>2485
Dec	<=2397	2398-3134	3135-5642	5643-10196	>10196
Jan	<=4322	4323-8456	8457-16694	16695-28019	>28019
Feb	<=8442	8443-16368	16369-29140	29141-42995	>42995
Mar	<=13004	13005-22948	22949-35371	35372-57968	>57968
Apr	<=14203	14204-24491	24492-39487	39488-67884	>67884
May	<=15448	15449-25279	25280-41659	41660-71412	>71412
Jun	<=16005	16006-26116	26117-43123	43124-73420	>73420
Jul	<=16364	16365-26819	26820-44073	44074-74718	>74718
Aug	<=16653	16654-27355	27356-44799	44800-75591	>75591
Sep	<=16978	16979-27843	27844-45398	45399-76368	>76368

cfs = cubic feet per second

Notes:

1. The Hydrologic Condition Types are based on the record of cumulative daily average flow by water year (water years 1937–2015) at the Big Trees gage on the San Lorenzo River.
2. To implement the Agreed Flows, the Hydrologic Condition type is determined on the first day of each month based upon the previous month's San Lorenzo River end-of-month cumulative flow for the Water Year. Water Year is defined as the 12-month period from October 1 through September 30.
 - a. The end-of-month cumulative daily flow is calculated by adding the San Lorenzo River daily flows, as measured at the Big Trees Gage, from the first day of the Water Year to the last day of the month.
 - b. The flow ranges for the month are then reviewed to determine within which Hydrologic Condition type this end-of-month cumulative daily flow falls.
 - c. This Hydrologic Condition type is used until the first day of the next month to determine bypass flow conditions under the Agreed Flows across all City of Santa Cruz source waters.

**Agreed Flows for the Newell Creek Dam,
as Measured at the City Gage immediately downstream of Newell Creek Dam**

	Exception Minimum (cfs) ¹	Base Flow (cfs)				
		<i>Hydrologic Condition 5 (driest)</i>	<i>Hydrologic Condition 4 (dry)</i>	<i>Hydrologic Condition 3 (normal)</i>	<i>Hydrologic Condition 2 (wet)</i>	<i>Hydrologic Condition 1 (very wet)</i>
Jan	0.25	1.0	1.0	1.0	1.0	1.0
Feb	0.25	1.0	1.0	1.0	1.0	1.0
Mar	0.25	1.0	1.0	1.0	1.0	1.0
Apr	0.25	1.0	1.0	1.0	1.0	1.0
May	0.25	1.0	1.0	1.0	1.0	1.0
Jun	0.25	1.0	1.0	1.0	1.0	1.0
Jul	0.25	1.0	1.0	1.0	1.0	1.0
Aug	0.25	1.0	1.0	1.0	1.0	1.0
Sep	0.25	1.0	1.0	1.0	1.0	1.0
Oct	0.25	1.0	1.0	1.0	1.0	1.0
Nov	0.25	1.0	1.0	1.0	1.0	1.0
Dec	0.25	1.0	1.0	1.0	1.0	1.0

cfs = cubic feet per second.

Note:

1. Exception minimum flows are triggered and would supersede base flow requirements when storage in Loch Lomond Reservoir falls below the following level: 2000 million gallons (mg) during January through June, 1800 mg during July, 1500 mg during August through November, or 1700 mg during December.

ENVIRONMENTAL INFORMATION FOR PETITIONS

This form is required for all petitions.

Before the State Water Resources Control Board (State Water Board) can approve a petition, the State Water Board must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared, a determination must be made of who is responsible for its preparation. As the petitioner, you are responsible for all costs associated with the environmental evaluation and preparation of the required CEQA documents. Please answer the following questions to the best of your ability and submit any studies that have been conducted regarding the environmental evaluation of your project. If you need more space to completely answer the questions, please number and attach additional sheets.

DESCRIPTION OF PROPOSED CHANGES OR WORK REMAINING TO BE COMPLETED

For a petition for change, provide a description of the proposed changes to your project including, but not limited to, type of construction activity, structures existing or to be built, area to be graded or excavated, increase in water diversion and use (up to the amount authorized by the permit), changes in land use, and project operational changes, including changes in how the water will be used. For a petition for extension of time, provide a description of what work has been completed and what remains to be done. Include in your description any of the above elements that will occur during the requested extension period.

Insert the attachment number here, if applicable:

1

Coordination with Regional Water Quality Control Board

For change petitions only, you must request consultation with the Regional Water Quality Control Board regarding the potential effects of your proposed change on water quality and other instream beneficial uses. (Cal. Code Regs., tit. 23, § 794.) In order to determine the appropriate office for consultation, see: http://www.waterboards.ca.gov/waterboards_map.shtml. Provide the date you submitted your request for consultation here, then provide the following information.

Date of Request

June 26, 2018

Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation?

☐

Yes

☐

No

Will a waste discharge permit be required for the project?

☐

Yes

☐

No

If necessary, provide additional information below:

Improvements at the Felton Diversion Facility could require waste discharge requirements, or a waiver, from the Central Coast Regional Water Quality Control Board, as well as a 404 permit from the U.S. Army Corps of Engineers and/or a Streambed Alteration Agreement from the California Department of Fish & Wildlife. Those improvements, however, are not yet designed and finalized.

Insert the attachment number here, if applicable:

Local Permits

For temporary transfers only, you must contact the board of supervisors for the county(ies) both for where you currently store or use water and where you propose to transfer the water. (Wat. Code § 1726.) Provide the date you submitted your request for consultation here.

Date of Contact

For change petitions only, you should contact your local planning or public works department and provide the information below.

Person Contacted:

Date of Contact:

October 3, 2018

Department:

City of Santa Cruz - various depts

Phone Number:

County Zoning Designation:

Not Applicable - municipal lands

Are any county permits required for your project? If yes, indicate type below.

☐

Yes

☐

No

☐

Grading Permit

☐

Use Permit

☐

Watercourse

☐

Obstruction Permit

☐

Change of Zoning

☐

General Plan Change

☐

Other (explain below)

If applicable, have you obtained any of the permits listed above? If yes, provide copies.

☐

Yes

☐

No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Federal and State Permits

Check any additional agencies that may require permits or other approvals for your project:

- ☒ Regional Water Quality Control Board ☒ Department of Fish and Game
- ☐ Dept of Water Resources, Division of Safety of Dams ☐ California Coastal Commission
- ☐ State Reclamation Board ☒ U.S. Army Corps of Engineers ☐ U.S. Forest Service
- ☐ Bureau of Land Management ☐ Federal Energy Regulatory Commission
- ☐ Natural Resources Conservation Service

Have you obtained any of the permits listed above? If yes, provide copies. ☐ Yes ☒ No

For each agency from which a permit is required, provide the following information:

Agency	Permit Type	Person(s) Contacted	Contact Date	Phone Number
CDFW	LSAA 1600	Randi Adair		
RWQCB	WDRs / waiver	Potential at this time		
USACE	404 permit	Potential at this time		

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Construction or Grading Activity

Does the project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed, bank or riparian habitat of any stream or lake? ☐ Yes ☒ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Archeology

Has an archeological report been prepared for this project? If yes, provide a copy. ☐ Yes ☒ No

Will another public agency be preparing an archeological report? ☐ Yes ☒ No

Do you know of any archeological or historic sites in the area? If yes, explain below. ☐ Yes ☒ No

If necessary, provide additional information below:

Insert the attachment number here, if applicable:

Photographs

For all petitions other than time extensions, attach complete sets of color photographs, clearly dated and labeled, showing the vegetation that exists at the following three locations:

- ☒ Along the stream channel immediately downstream from each point of diversion
- ☒ Along the stream channel immediately upstream from each point of diversion
- ☒ At the place where water subject to this water right will be used

Maps

For all petitions other than time extensions, attach maps labeled in accordance with the regulations showing all applicable features, both present and proposed, including but not limited to: point of diversion, point of redirection, distribution of storage reservoirs, point of discharge of treated wastewater, place of use, and location of instream flow dedication reach. (Cal. Code Regs., tit. 23, §§ 715 et seq., 794.)

Pursuant to California Code of Regulations, title 23, section 794, petitions for change submitted without maps may not be accepted.

All Water Right Holders Must Sign This Form:

I (we) hereby certify that the statements I (we) have furnished above and in the attachments are complete to the best of my (our) ability and that the facts, statements, and information presented are true and correct to the best of my (our) knowledge. Dated 7/28/2020 at Santa Cruz, CA.



Water Right Holder or Authorized Agent Signature

Water Right Holder or Authorized Agent Signature

NOTE:

- **Petitions for Change** may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game. (Cal. Code Regs., tit. 23, § 794.)
- **Petitions for Temporary Transfer** may not be accepted unless you include proof that a copy of the petition was served on the Department of Fish and Game and the board of supervisors for the county(ies) where you currently store or use water and the county(ies) where you propose to transfer the water. (Wat. Code § 1726.)

**Attachment to Environmental Information Form
City of Santa Cruz**

License 9847 (Application A017913) – Newell Creek & Loch Lomond Reservoir

Permit 16123 (Application A022318) – San Lorenzo River – Felton Diversion

Permit 16601 (Application A023710) – San Lorenzo River – Felton Diversion

License 1553 (Application A004017) – San Lorenzo River – Tait Street Diversion

License 7200 (Application A005215) – San Lorenzo River – Tait Street Diversion

The Proposed Project involves Petitions for Change for all of the City's above referenced water right Licenses and Permits and Petitions for Extension of Time for the Felton Diversion Facility Permits 16123 and 16601. The Proposed Project also includes Petitions for Underground Storage for Licenses 1553 and 7200 and Permits 16123 and 16601.

Modification of the City's existing water rights through the petition process is necessary to comply with negotiated state and federal fishery conditions, better utilize surface water within existing allocations, make more effective use of existing diversion locations, thereby increasing the City's flexibility and ability to make beneficial use under its rights.

Attachment No. 1

I. Description of Proposed Changes or Work Remaining to be Completed

Addition of Direct Diversion as a Method of Diversion:

The City is seeking approval of Petitions that would explicitly state direct diversion as a method of diversion from the San Lorenzo River (also known as the Felton Diversion Facility) under Permits 16123 and 16601 and from Newell Creek at the City's Newell Creek Dam, which impounds Loch Lomond Reservoir, under License 9847. Currently, these rights authorize diversion to storage in the Loch Lomond Reservoir, but do not explicitly state the right to take water by direct diversion; an oversight in the original filings. The City has calculated that the licensed amount of use under License 9847 would not have been possible without allowance for direct diversion.

The addition of direct diversion as a method of diversion under these rights is needed to conform the water right Permits and License to the City's historical and current operations, and to provide operational flexibility and water supply reliability. Direct diversion of water has been and needs to continue to be an integral part of the operation of the Newell Creek and Felton Diversion facilities to meet annual demands.

Underground Storage:

The City proposes to redirect water to Underground Storage under Permits 16123 and 16691, and Licenses 1553 and 7200, via injection of surface water and subsequent recovery at the Beltz injection wells. The Beltz Wells are proposed to be added as Points of Rediversion under these rights. The underground storage of surface water will protect groundwater quality from seawater intrusion and allow the City to use such stored water during dry periods.

Addition of Points of Diversion:

The City proposes to add the Tait Street Diversion facility as an additional Point of Diversion to the Felton Permits 16123 and 16601 to allow for operational flexibility.

Addition of Points of Diversion to Underground Storage:

The City proposes to add Tait Street and Felton diversion facilities as Points of Diversion to Underground Storage.

Addition of Points of Rediversion:

The City proposes to add the Beltz Wells Nos. 8, 9, 10 and 12 as Points of Rediversion to Permits 16123 and 16691, and Licenses 1553 and 7200.

Rate of Diversion:

The combined rate of diversion to storage and direct diversion from the Felton and Tait Street Diversion Facilities under Permits 16123 and 16601 shall not exceed 20 cubic feet per second.

Change in Place of Use:

To provide flexibility to integrate water resources in the regional area, the City seeks to expand its currently allowed place of use under its Permits and Licenses to include adjacent services areas of Central Water District, San Lorenzo Valley Water District, Scotts Valley Water District, Soquel Creek Water District, the Santa Cruz Mid-County Groundwater Basin (Basin No. 3-027) and Santa Margarita Groundwater Basin (Basin No 3-027), as well as the City's North Coast service area.

Change in Purpose of Use:

The City proposes to consolidate its purposes of use under its Permits 16123 and 16601, and Licenses 1553, 7200 and 9847 to include municipal, domestic, industrial, recreation, fire protection, and protection of groundwater quality to prevent seawater intrusion.

Addition of Fishery Terms:

The City proposes to add, to each of its existing water right Licenses and Permits, the minimum bypass flows that the City has negotiated with the National Marine Fisheries Service and the California Department of Fish & Wildlife. Attached are the agreed upon minimum flow conditions in the San Lorenzo River during the allowed diversion seasons at both the Tait Street and Felton Diversion facilities, and in Newell Creek at Loch Lomond Reservoir.

Extension of Time:

The City is also seeking Extension of Time for Permits 16123 and 16601 to request an additional 37 years in which to put the water to full beneficial use. The Permits expired on December 31, 2006, and additional time is required to meet future growth demands set forth in the City of Santa Cruz, Santa Cruz County, City of Scotts Valley and City of Capitola's general plans. The Petitions do not represent an increase in the amount of water allowed to be diverted.

Environmental Document:

As Lead Agency, the City of Santa Cruz is preparing an Environmental Impact Report (EIR) pursuant to the requirements of the California Environmental Quality Act (CEQA). The EIR will evaluate potential environmental impacts of the Proposed Project.

City of Santa Cruz
Photographs to Accompany Petitions

Newell Creek & Loch Lomond Reservoir
License 9847 (Application A017913)

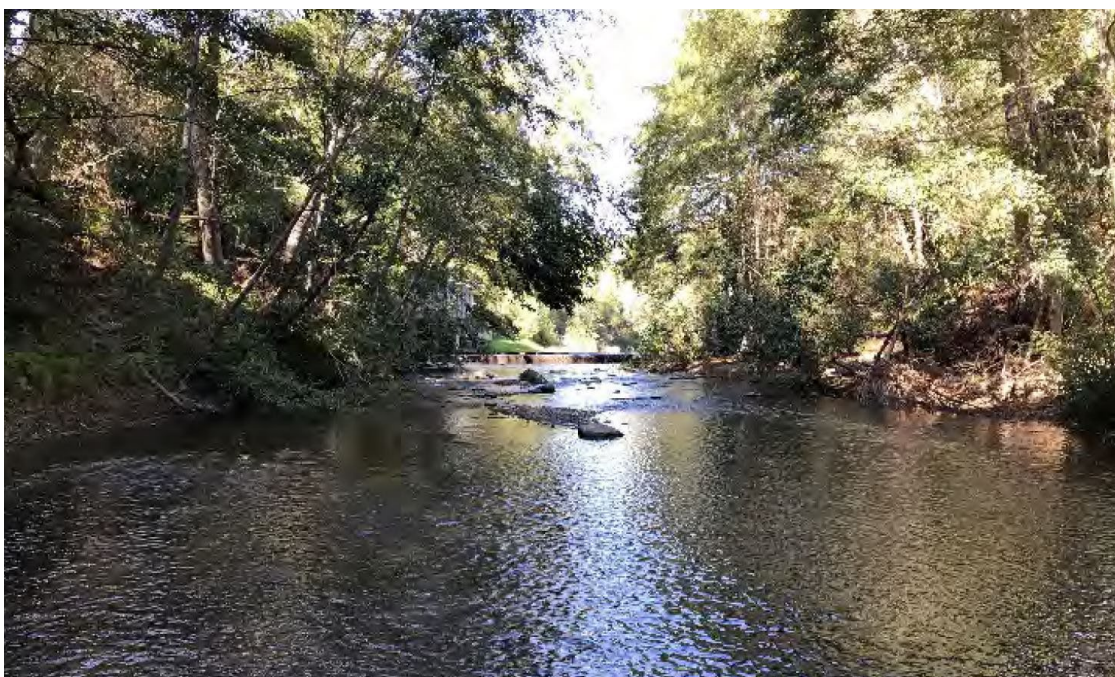
San Lorenzo River – Felton Diversion
Permit 16123 (Application A022318)
Permit 16601 (Application A023710)

San Lorenzo River – Tait Street Diversion
License 1553 (Application A004017)
License 7200 (Application A005215)



FELTON DIVERSION FACILITY

MARCH 2009



FELTON DIVERSION FACILITY- LOOKING DOWNSTREAM

JANUARY 2019



FELTON DIVERSION FACILITY- LOOKING UPSTREAM

JANUARY 2019



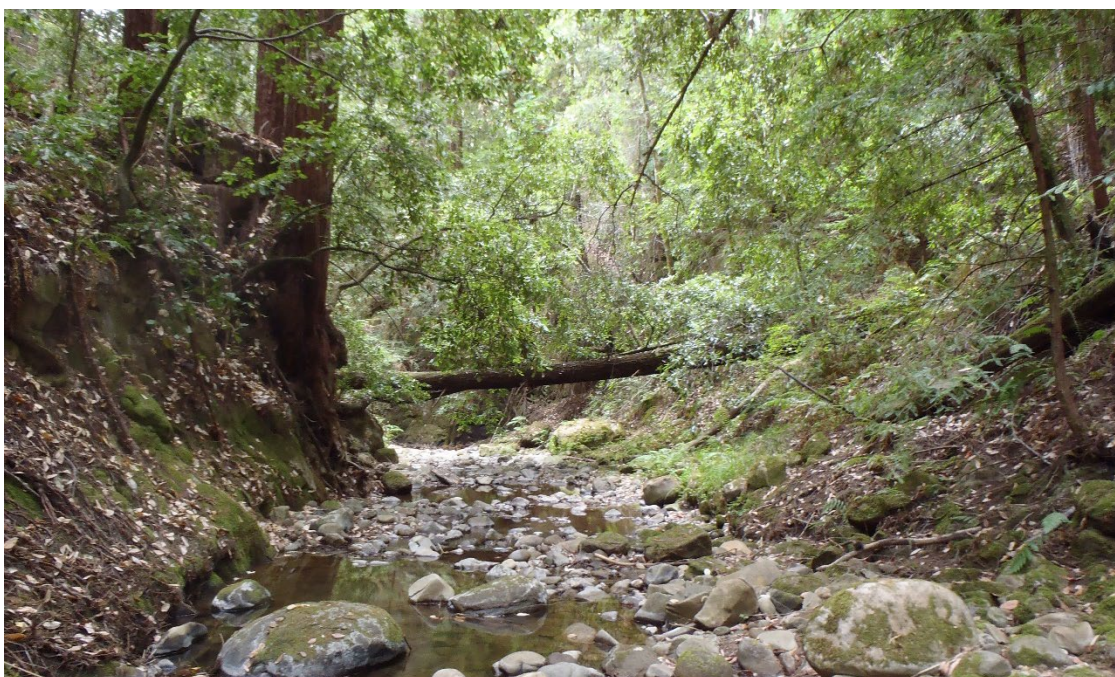
LOCH LOMOND LAKE- NEWELL DAM

JANUARY 2019



NEWELL CREEK- LOOKING DOWNSTREAM

FEBRUARY 2012



NEWELL CREEK- LOOKING UPSTREAM

AUGUST 2016



TAIT WELL 1B

JANUARY 2018



TAIT DIVERSION DAM

JANUARY 2019



TAIT DIVERSION FACILITY – LOOKING DOWNSTREAM

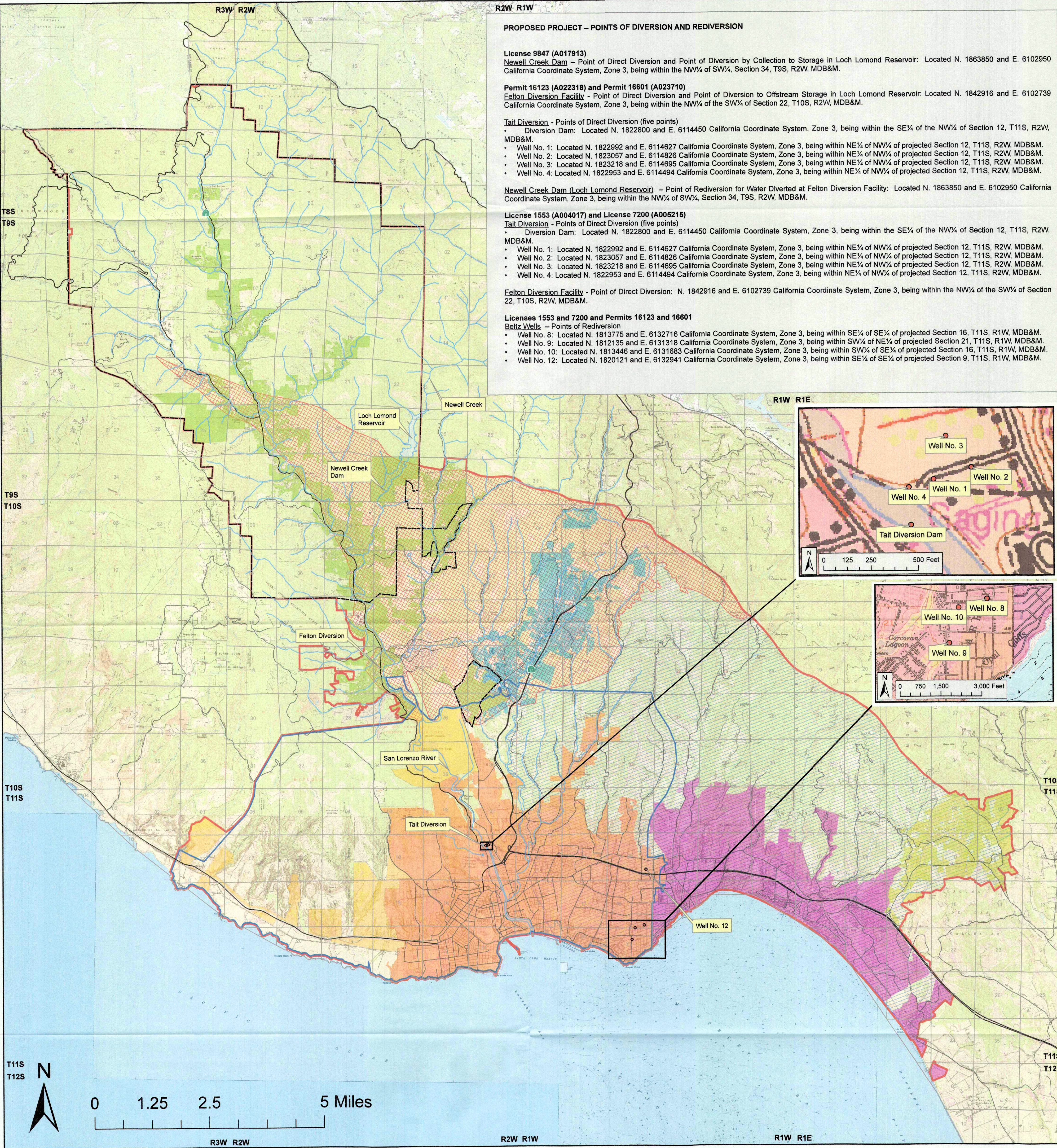
JANUARY 2019



TAIT DIVERSION FACILITY- LOOKING UPSTREAM

JANUARY 2019

MAP TO ACCOMPANY PETITIONS FOR CHANGE
LICENSES 1553, 7200, 9847 (A004017, A005215, AND A017913, RESPECTIVELY) AND
PERMITS 16123 AND 16601 (A022318 AND A023710, RESPECTIVELY)
CITY OF SANTA CRUZ
SANTA CRUZ COUNTY, CA



PROPOSED PROJECT - POINTS OF DIVERSION AND REDIVERSION

License 9847 (A017913)
Newell Creek Dam - Point of Direct Diversion and Point of Diversion by Collection to Storage in Loch Lomond Reservoir: Located N. 1863850 and E. 6102950 California Coordinate System, Zone 3, being within the NW¼ of SW¼, Section 34, T9S, R2W, MDB&M.

Permit 16123 (A022318) and Permit 16601 (A023710)
Felton Diversion Facility - Point of Direct Diversion and Point of Diversion to Offstream Storage in Loch Lomond Reservoir: Located N. 1842916 and E. 6102739 California Coordinate System, Zone 3, being within the NW¼ of the SW¼ of Section 22, T10S, R2W, MDB&M.

Tait Diversion - Points of Direct Diversion (five points)
• Diversion Dam: Located N. 1822800 and E. 6114450 California Coordinate System, Zone 3, being within the SE¼ of the NW¼ of Section 12, T11S, R2W, MDB&M.

- Well No. 1: Located N. 1822992 and E. 6114627 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N. 1823057 and E. 6114826 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N. 1823218 and E. 6114695 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N. 1822953 and E. 6114494 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.

Newell Creek Dam (Loch Lomond Reservoir) - Point of Rediversion for Water Diverted at Felton Diversion Facility: Located N. 1863850 and E. 6102950 California Coordinate System, Zone 3, being within the NW¼ of SW¼, Section 34, T9S, R2W, MDB&M.

License 1553 (A004017) and License 7200 (A005215)

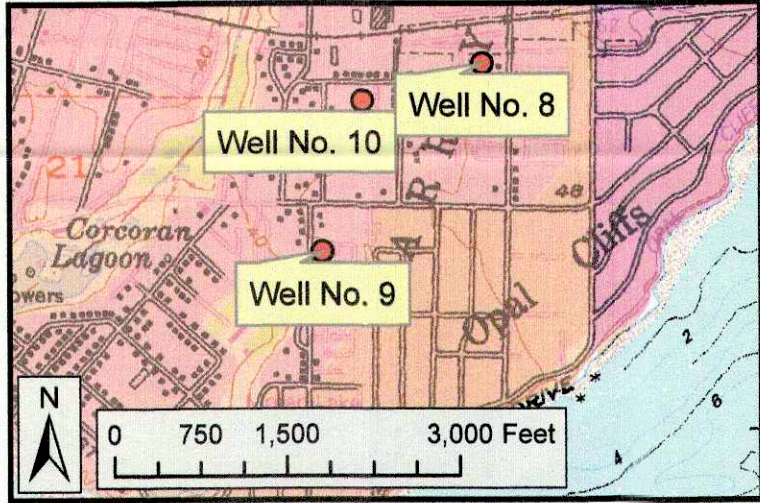
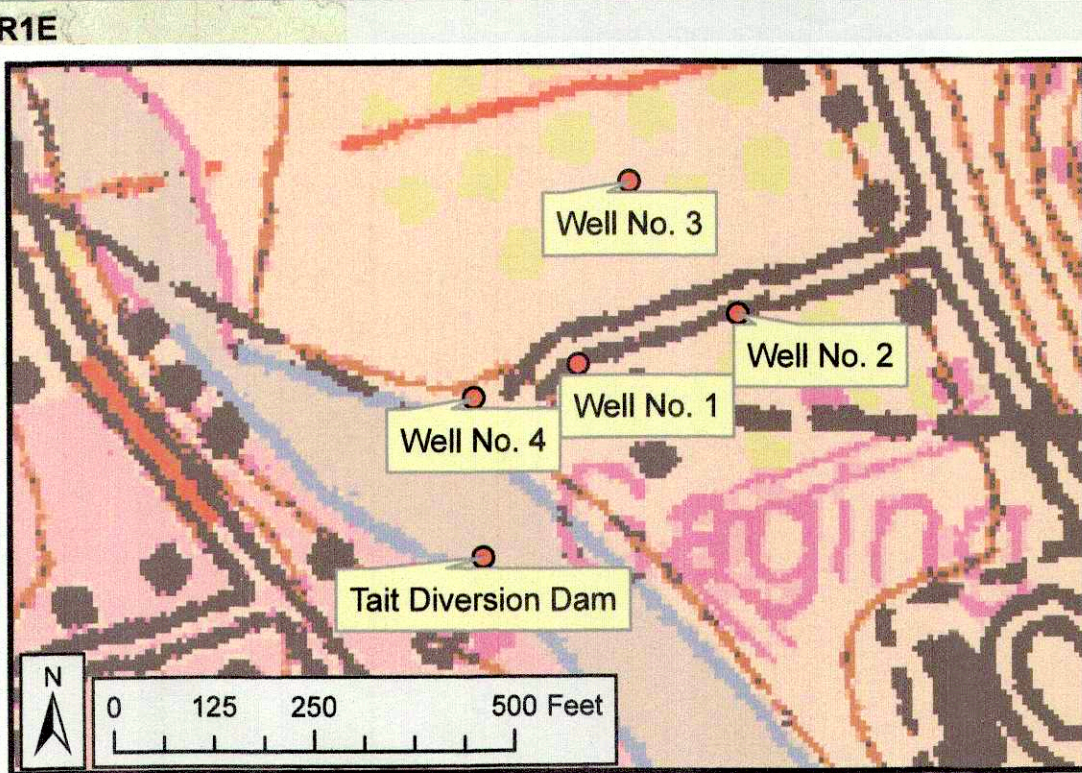
Tait Diversion - Points of Direct Diversion (five points)
• Diversion Dam: Located N. 1822800 and E. 6114450 California Coordinate System, Zone 3, being within the SE¼ of the NW¼ of Section 12, T11S, R2W, MDB&M.

- Well No. 1: Located N. 1822992 and E. 6114627 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 2: Located N. 1823057 and E. 6114826 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 3: Located N. 1823218 and E. 6114695 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.
- Well No. 4: Located N. 1822953 and E. 6114494 California Coordinate System, Zone 3, being within NE¼ of NW¼ of projected Section 12, T11S, R2W, MDB&M.

Felton Diversion Facility - Point of Direct Diversion: N. 1842916 and E. 6102739 California Coordinate System, Zone 3, being within the NW¼ of the SW¼ of Section 22, T10S, R2W, MDB&M.

Licenses 1553 and 7200 and Permits 16123 and 16601

Beltz Wells - Points of Rediversion
• Well No. 8: Located N. 1813775 and E. 6132716 California Coordinate System, Zone 3, being within SE¼ of SE¼ of projected Section 16, T11S, R1W, MDB&M.
• Well No. 9: Located N. 1812135 and E. 6131318 California Coordinate System, Zone 3, being within SW¼ of NE¼ of projected Section 21, T11S, R1W, MDB&M.
• Well No. 10: Located N. 1813446 and E. 6131683 California Coordinate System, Zone 3, being within SW¼ of SE¼ of projected Section 16, T11S, R1W, MDB&M.
• Well No. 12: Located N. 1820121 and E. 6132941 California Coordinate System, Zone 3, being within SE¼ of SE¼ of projected Section 9, T11S, R1W, MDB&M.



San Lorenzo River and Tributaries

Water Service Areas

- Central Water District
- San Lorenzo Valley Water District
- Scotts Valley Water District
- Soquel Creek Water District
- City of Santa Cruz' Service Area
- City of Santa Cruz' North Coast Service Area

State Highways

Places of Use

- License # 9847
- License #'s 1553, 7200; Permit #'s 16601, 16123
- Proposed Place of Use Expanded

Groundwater Basins

- Santa Cruz Mid-County
- Santa Margarita

CERTIFICATE OF ENGINEER

I, NICHOLAS F. BONSIGNORE OF 2151 RIVER PLAZA DR., SUITE 100, SACRAMENTO, CALIFORNIA, DO HEREBY CERTIFY THAT THIS MAP WAS PREPARED UNDER MY DIRECT SUPERVISION BASED U.S.G.S. 7.5-MINUTE QUADRANGLES FOR BIG BASIN, CASTLE ROCK RIDGE, DAVENPORT, FELTON, LAUREL, SANTA CRUZ, SOQUEL, AND WATSONVILLE WEST, FROM PUBLISHED SERVICE AREA MAPS FOR CENTRAL WATER DISTRICT, SAN LORENZO VALLEY WATER DISTRICT, SCOTT'S VALLEY WATER DISTRICT, SOQUEL CREEK WATER DISTRICT, MAPS ON FILE WITH SANTA CRUZ WATER DEPARTMENT AND SANTA CRUZ WATER DEPARTMENT LIMITED, AND OTHER INFORMATION PROVIDED BY CITY OF SANTA CRUZ, AND THAT IT CORRECTLY REPRESENTS THE PROJECT DESCRIBED IN THE ACCOMPANYING PETITIONS, AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Nicholas F. Bonsignore

NICHOLAS F. BONSIGNORE
R.C.E. NO. 39422
EXPIRES 12-31-2021

7/23/2020

DATE

PROTEST LETTERS

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David S. Kossack, Ph. D.
San Andreas Land Conservancy
P. O. Box 268
Davenport, CA 95017

March 11, 2021
dkossack@san-andreas-land-conservancy
831.419.8307

Jane Ling
State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000 jane.ling@waterboards.ca.gov

Re: Protest, City of Santa Cruz:

Petitions for Change and Extension of Time: Permits 16123 and 16601 (Applications A022318 and A023710 respectively)

Petitions for Change: Licenses 1553, 7200 and 9847 (Applications A004017, A005215 and A017913 respectively)

Ms. Ling:

Thank you for this opportunity to protest the City of Santa Cruz's Petitions for Change and Extension of Time: Applications *et seq.* We are concerned about the very nature of the City's petition in terms of its failure to provide the information necessary for a reasonable person to grasp the breadth and depth of the petition, its growth inducing and cumulative impacts, and its deferral of necessary analysis to subsequent documents (e.g., project fragmentation and piecemeal development) as well as its dependence on expired permits and/or those that have not been perfected.

Petitions and their protests represent a CEQA document. As such, Petitions must include sufficient detail to enable those who did not participate in its preparation to understand and to meaningfully consider the issues raised by the proposed project. CEQA also need to include existing conditions, in this case including existing diversion rates for licensed water works, permit status and compare and contrast environmental protections in place at present and when the applications were submitted.

- The City needs to limit their discussion of flow rates and volume to a single set of units (e.g., cfs and/or acre-feet). To flip flop between different sets of units (e.g., gallons per minute, million gallons/year) is obfuscation, it frustrates the comparison of water use between permits, across uses as well as through time. This is information that any reasonable person needs to have in order to understand and meaningfully consider the scope and impacts of these Petitions.
- We are very concerned that request for Extension of Time represents an exercise of, "It's easier to get forgiveness than permission. The applications A022318 and A023710 were submitted in 1965 and 1971, respectively. Within their Time to Complete Beneficial Use, December 31, 2006, the City had more than 35 years, 41 and 35 years respectively, to complete beneficial use for either or both Applications. The amount put to beneficial use at the end of the Time to

Complete Beneficial Use becomes part the conditions of a License. These applications were never Licensed. In fact, if the diversion rates presented eWRIMS' "Progress Report by Permittee" are real there has not been any water put to beneficial use in either of these Applications/Permits. The applications can only be described as expired and abandoned. The cover letter provided by Ms. Whealen claims that the City filed Petitions for Change and Extension of Time for these Applications and associated Permits but no documentation is provided nor is a determination of those Petitions in the time immediately following 2006.

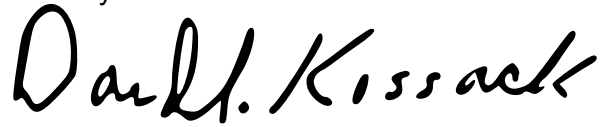
- The City presents the present petitions as if they wouldn't change the amount of water actually diverted. On the contrary with no water diverted under applications A022318 and A023710, ever, bringing these expired projects on-line to the Face Amount presented in eWRIMS would essentially double the amount of water that the City is presently diverting. Now the City wants to prop these expired Applications/Permits up in a corner, hang every water project they can think of on it and then leverage another Extension of Time: another 37 years. This request for extension is "over the horizon", it provides no mechanism to monitor the progress of the project or enforce the terms of any permit base on present day conditions and current code.
- The City is attempting to dodge environmental issues, including fish, wildlife and in-stream flows, that were not recognized or even codified when these Applications were submitted more than 35 years ago. It has been said before, If you don't have an amount put to beneficial use at the End of your Time to Complete Beneficial Use then you didn't have a project when you submitted your application in the first place. If the City has a need to double the amount of water diverted out of the San Lorenzo River, and other locations, then they should submit a *de novo* application... for public review.
- There is a reference to SGMA. These diversions to off-stream storage, either above ground or under-ground is pumped storage of surface water. These storage facilities and the water that they store can not be morphed into 'Ground Water.'
- In the driest month of the driest of dry years (Hydrologic Condition 5) the City's "Agreed Flows" for fish and in-stream fauna represent <2% of the threshold for Hydrologic Condition 5. The Felton Diversion has an Agreed Flow of <5% of the threshold for Hydrologic Condition 5
- No explanation is provided as to why the Taite Street Diversion, downstream of the Felton Diversion Point (A022318 and A023710) only requires 40% of the Felton Diversion Point Agreed Flows. There is no ecological basis for the number that the City throws out. These bypass flow rates are incapable of providing for the protection and recovery of protected species, including coho, steelhead but also green sturgeon and Pacific lampreys, and RLF. The Petitions provide no documentation of their claimed NMFS/CDFW permits or how the bypass flow rates were determined. The simplest explanation is that these determinations are based upon environmental requirements at the time the Applications were submitted, which in 1965 and 1971 did not exist. This represents deferred mitigation. By-pass flows need to be based upon February median flows under present conditions.

- The petitions fail to discuss either the meaning of proposed Direct Diversion from Newell Creek or discuss the impacts, in particular, what prevents the City from diverting additional water from Newell Creek itself.
- The restrictions offered by these Petitions (i.e., Attachment to Petitions for Change) are ineffective if not meaningless: proposed Terms and Conditions item 2 diversion under Hydrologic Condition 5 only applies to underground storage, it does not apply to diversion to above ground storage or direct diversion; item 3 limits delivery of water diverted to users other than the City of Santa Cruz Water Department under Hydrologic Condition 4 & 5 but with the City's Water Department: proposed changes to the place of use including to Soquel, Scotts Valley and the North Coast there really won't be any reduction in the rate of diversion.
- Why does the City require additional uses? These uses were present in 1971 and 1965 and all the way back to 1935. This is simply an attempt to push as much as possible on to the plate. These Petitions are an example of the 1st rule of negotiations: ask for the outrageous so that when you only get half of what you asked for you still get more than you planned on. This applies to the City's expansion of places of use as well, the octopus.
- The City is somewhat disingenuous in submitting their Petitions: "The City is well into the preparation of a draft environmental impact report. Therefore, we request that these revised Petitions be issued for public notice as soon as possible to incorporate and/or address comments in the environmental document." Is this a serious Petition or is it simply another attempt to stall the process, and the clock. The Petitions and Protests are a CEQA document. As such, putting off the presentation of necessary information and discussion of their impacts is project fragmentation, piecemeal development.

Measures that could be taken to resolve the protest:

- The City references claims pre-1914 water rights on the Santa Cruz County North Coast. The City needs to document the amount of water actually put to beneficial use, in 1914, under their claimed pre-1914 water rights. The City also needs to provide records of the amount of water put to beneficial use under their claimed pre-1914 water rights throughout the past 107 years.
- The City needs to carry out an IFIM for the San Lorenzo River -to address impacts of on-going and increased diversion.
- No mitigation is offered for this Petition Change/Extension of Time. A simple and effective mitigation that would help resolve at least some of the protest would be to put a Conservation Easement on the City/City Water Department's watershed properties, including Loch Lomond and the North Coast watersheds. The purpose of the CE would be to extinguish any and all timber rights and affect the restoration of a mature forest ecology on the City's watersheds. This will protect the City's waters by improving the quality of their watersheds and the City's need to protect their water supply would benefit the watershed by reducing or eliminating anthropogenic encroachment into the watershed. A win-win situation.

Thank you

A handwritten signature in black ink that reads "David Kossack". The signature is written in a cursive, flowing style with a large initial "D".

David Kossack

On behalf of

San Andreas Land Conservancy



ATTORNEYS AT LAW

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Refer To File # 502665-0001

VIA EMAIL AND CERTIFIED MAIL

March 12, 2021

Jane Ling
Senior Water Resources Control Engineer
State Water Resources Control Board
Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000
Email: jane.ling@waterboards.ca.gov



With a copy to:

Rosemary Menard
Water Director
City of Santa Cruz
212 Locust Street, Ste. A
Santa Cruz, CA 95060
Email: RMenard@cityofsantacruz.com

**Re: Notice of Petitions for Change and Time Extension for Water Rights Permits
16123 and 16601 and Petitions for Change for Licenses 1553, 7200 and 9847
(Notice of Petitions)**

Dear Ms. Ling:

In accordance with California Water Code sections 1703.1, 1703.2 and 1702,¹ and Code of Regulations Title 23, sections 745, 747 and 796, the San Lorenzo Valley Water District (District) respectfully submits these comments and the enclosed protest form (Enclosure A) in response to the above-referenced Notice of Petitions filed by the City of Santa Cruz (City).

The District is a public entity water supplier serving the communities of Boulder Creek, Brookdale, Ben Lomond, Zayante, Felton, Lompico, and portions of Scotts Valley. In order to serve these communities, the District holds pre- and post-1914 surface water rights within the San Lorenzo River (River) watershed and groundwater water rights in the Santa Margarita Groundwater Basin

¹ Water Code section 1702 requires the petitioner seeking the change to establish that the proposed change “will not operate to the injury of any legal user of the water involved.” *See also* Code of Regulations Title 23, section 791, subdivision (a).

(Basin).² The District also holds contractual rights to obtain water from the Loch Lomond Reservoir operated by the City.

The District prides itself on its track record of environmental stewardship within the San Lorenzo Valley and its watershed, and the District is committed to working with the State Water Resources Control Board (SWRCB), the City, and fish and wildlife protection agencies. The District has appreciated the open communication with you and other SWRCB staff, and the staff of the other resource agencies, in addressing many environmental and water supply challenges.

The District recognizes the importance of re-operating water systems (including the City's) to maximize the reasonable and beneficial use of limited water resources, especially in light of challenges posed by a changing climate and increasing risks of drought and wildfire. To this end the District has been actively working to enhance the ability to provide a safe, clean and reliable water supply to the public. Among other things, over the past decade, the District has constructed interties throughout its water system and in cooperation with neighbors to enhance water system resilience and reliability. Such improvements have been critical for continuing to provide water to the public following the recent CZU Wildfire emergency.

In collaboration with partner agencies including the County of Santa Cruz (County), among others, the District is presently engaged in developing a conjunctive use enhancement plan to improve water resource efficiency. The plan will provide guidance for diverting excess winter surface flow in the River's tributaries to meet water supply needs, rest groundwater wells, and provide for groundwater recharge within the Basin. The plan will facilitate the selection of optimal management alternatives including a list of recommended infrastructure upgrades. The plan is currently undergoing CEQA review, and it is anticipated to prompt water rights change petition filings by the District, likely to be forthcoming by the end of June this year.

Against this cooperative backdrop, the District has identified certain legal issues concerning some of the proposed conditions in the City's Petition. In short, the District's right to obtain water from Loch Lomond requires protection so that it can be used when it is most needed to deliver stored water to the public. Also, the public served by the District has an interest in ensuring that River bypass flow requirements established for the City's Petition are not ultimately imposed on upstream water rights in a manner that unreasonably interferes with the rights, or with conjunctive use. These concerns are explained in detail below.

1. Loch Lomond Reservoir Allotment Requires Protection

As stated above, the District has a contract with the City, pursuant to which the District holds the right to procure water at cost from the Loch Lomond Reservoir. This right constitutes a legally protected interest of the District under the "no injury" rule. *State Water Resources Control Board Cases* (2006) 136 Cal.App.4th 674, cert. denied 549 U.S. 889 (The "no injury" rule bars a change that would reduce deliveries to a party that contracts for water deliveries if the reduction would constitute a breach of contract.).

² The District is one of the three member agencies of the groundwater sustainability agency formed to bring the Basin into compliance with the Sustainable Groundwater Management Act.

The District may call upon its Loch Lomond allotment at any time of year and any hydrologic condition under the terms of its Water Service Agreement with the City, dated September 26, 1962 (Agreement), a copy of which is enclosed (Enclosure B). The absence of any seasonal or hydrologic restriction is an important and material feature of the Agreement, because stored water is most likely to be needed by the District and the public when other sources of supply are restricted or unavailable.

The District's Loch Lomond right potentially is injured by the following proposed condition set forth in the Notice of Petitions as to Permits 16123, 16601 and License 9847:³

"No delivery of water diverted under this right for use by a water supplier other than the City of Santa Cruz Water Department shall occur during Hydrologic Conditions 4 and 5, as defined in the Exceedance Category Limits Table (attached to the petition, available upon request)." Emphasis added.

The Notice of Petition as to License 9847 includes the following additional proposed condition that potentially injures the District's Loch Lomond right:

"The City shall release water from the Loch Lomond Reservoir to Newell Creek according to the minimum streamflow schedule agreed by the City, NMFS, and CDFW (attached to the petition, available upon request)."

These proposed conditions, as presently stated, may be interpreted as impairments to the District's Loch Lomond allotment. The "no delivery" condition appears to prohibit the City from fulfilling calls by the District upon its Loch Lomond rights during dry conditions—the very time when the public need for stored water is greatest. The "release" condition could be interpreted to require the City to release water to Newell Creek that is needed to fulfill a call by the District upon its allotment. Such prohibitions would cause breach of contract and unreasonable injury to the District's rights and public water service.

To avoid this injury, the District respectfully requests that SWRCB impose an additional condition as to Permits 16123, 16601 and License 9847, as follows:

"Nothing herein shall impair contract rights held pursuant to that certain Water Service Agreement between the City of Santa Cruz and the San Lorenzo Valley County Water District, dated September 26, 1962 (Agreement). The City shall be permitted to deliver water from the Loch Lomond Reservoir pursuant to the Agreement during any hydrologic condition and notwithstanding minimum streamflow schedules herein."

The District believes that this additional condition would adequately protect the District's Loch Lomond allotment for the benefit of the public, and thereby permit the District to withdraw its protest as to this issue.

³ Permits 16123 and 16601 allow the City to divert water from the River at Felton to offstream storage at Loch Lomond. License 9847 allows the City to divert water from a tributary of the River (Newell Creek) to storage at Loch Lomond. These Permits and the License collectively provide water rights necessary for the City to fill Loch Lomond Reservoir.

2. New Bypass Flow Requirements for the River

The District holds upstream water rights in the watershed above the City's Felton diversion and the Big Trees Gage. The District's water rights include, without limitation, Permits 20123 and licensed applications 5297, 5299, 8843, 8844, and 8845 affecting Fall Creek and other tributaries to the River. As described above, these water rights are currently being evaluated in connection with a conjunctive use planning effort in partnership with the County and other agencies. As part of the process, it is anticipated that change petitions will be forthcoming for the purpose of maximizing the reasonable and beneficial uses of the District's rights. Also, the District is preparing a Temporary Urgency Change Petition (TUCP) for change of place of use on a temporary basis during recovery from the recent CZU Wildfire emergency.

The District is concerned about new bypass flow requirements being established for the River. The new requirements are set forth as the following proposed condition to Permits 16123, 16601 (the permits allowing the City to divert from the River at Felton):

"Petitioner shall bypass water at both the Felton and Tait Street Diversion Facilities according to the minimum streamflow schedule agreed by the City, the National Marine Fisheries Service (NMFS), and the California Department of Fish & Wildlife (CDFW) (attached to the petition, available upon request). ..." Emphasis added.

The proposed minimum streamflow schedule attached to the Petitions, entitled "Agreed Flows for Felton Diversion on the San Lorenzo River, as Measured at the Big Trees Gage," would approximately *double* the required minimum streamflow in the River. According to the Notice of Petitions, under the City's existing Permit 16123, the minimum streamflow is 10 cfs during the month of September and "20 cfs ... from October 1 through May 31." The City's existing Permit 16601 requires, "[f]or the protection of fish, ... during the month of October ... 25 cfs [and not] less than 20 cfs during the period November 1 to the succeeding May 31." Under the proposed new schedule, no diversion whatsoever would be allowed during the summer months of June, July and August, and the required minimum streamflow would be as high as 40 cfs for six of the remaining nine months (December through May) during conditions of fish spawning or adult migration.

The District's permitted water rights are subject to lower minimum streamflow requirements measured at the Big Trees Gage than those agreed to by the City. Were the new streamflow schedule imposed in connection with anticipated forthcoming change petitions to the District's water rights, as discussed above, it would impair significantly the District's ability to meet the needs of the public. Therefore, the District respectfully requests that SWRCB defer further consideration of the City's pending Petitions until the District submits its own petitions. Filing of the District's change petitions is anticipated upon completion of environmental review of the draft conjunctive use plan, likely by the end of June this year.

Alternatively, the District respectfully requests that SWRCB find good cause exists to extend the time allowed for the filing of protests or that it accept supplemental information,⁴ so that the District may present information pertaining to the exercise of smaller upstream water rights and fisheries protection, and how best to conserve the public interest.

⁴ Code of Regulations, Title 23, Sections 747, 748, 753, and 843, subdivision (c).

In furtherance of cooperation among the affected agencies, the District provided a draft of this letter and discussed it with representatives of the City prior to its submission. Based on that conversation, the District is optimistic that prompt resolution of its protest regarding the Loch Lomond allotment is possible. Also, the District is committed to seeking a prompt cooperative resolution of the more complicated issue of how new bypass flows and minimum streamflows may affect smaller upstream water users.

The District welcomes the opportunity to discuss these issues with SWRCB and the City, and to provide further information as SWRCB may require.

Respectfully submitted,

NOSSAMAN LLP

By 

Gina R. Nicholls
District Counsel
San Lorenzo Valley Water District

cc: Rick Rogers, District Manager, San Lorenzo Valley Water District

Enclosures:

Enclosure A – Protest Petition Form

Enclosure B – Loch Lomond Water Service Agreement, dated September 26, 1962

Enclosure A

State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Info: (916) 341-5300, FAX: (916) 341-5400, Web: <http://www.waterboards.ca.gov/waterrights>

PROTEST- PETITION

This form may also be used for objections

PETITION FOR TIME EXTENSION, CHANGE, TEMPORARY URGENT CHANGE OR TRANSFER ON

22318, 23710,
APPLICATION 4017, 5215, 17912 **PERMIT** 16123, 16601 **LICENSE** 1553, 7200, 9847
OF City of Santa Cruz

I (We) have carefully read the notice (state name): Rick Rogers, District Manager, San Lorenzo Valley Water District ("SLVWD" or "District"); Gina Nicholls, District Counsel

Address, email address and phone number of protestant or authorized agent: Gina Nicholls, Nossaman LLP, 777 South Figueroa Street, 34th Floor, Los Angeles, CA, 90017; gnicholls@nossaman.com; 213-612-7815

Attach supplemental sheets as needed. To simplify this form, all references herein are to protests and protestants although the form may be used to file comments on temporary urgent changes and transfers.

Protest based on ENVIRONMENTAL OR PUBLIC INTEREST CONSIDERATIONS (Prior right protests should be completed in the section below):

- the proposed action will not be within the State Water Resources Control Board's jurisdiction ☐
- not best serve the public interest ☒
- be contrary to law ☒
- have an adverse environmental impact ☐

State facts which support the foregoing allegations SLVWD has a contract with the City of Santa Cruz ("City"), pursuant to which the District holds the right to procure water at cost from the Loch Lomond Reservoir. Additionally, the District holds upstream water rights in the watershed above the City's Felton diversion and the Big Trees Gage. The proposed conditions would impair significantly the District's ability to meet the needs of the public by restricting the District's ability to procure water from Loch Lomond and divert upstream of the City's Felton diversion and the Big Trees Gage. See letter enclosed herewith for further discussion of facts supporting this protest.

Under what conditions may this protest be disregarded and dismissed? (Conditions should be of a nature that the petitioner can address and may include mitigation measures.)

See letter enclosed herewith for explanation of conditions under which this protest may be disregarded and dismissed.

Protest based on INJURY TO PRIOR RIGHTS:

To the best of my (our) information and belief the proposed change or transfer will result in injury as follows: _____

Protestant claims a right to the use of water from the source from which petitioner is diverting, or proposes to divert, which right is based on (identify type of right protestant claims, such as permit, license, pre-1914 appropriative or riparian right): _____

List permit or license or statement of diversion and use numbers, which cover your use of water (if adjudicated right, list decree).

Where is your diversion point located? __ 1/4 of ____ 1/4 of Section _____, T ____ R____, ____ B&M

If new point of diversion is being requested, is your point of diversion downstream from petitioner's proposed point of diversion? _____

The extent of present and past use of water by protestant or his predecessors in interest is as follows:

- a. Source _____
- b. Approximate date first use made _____
- c. Amount used (list units) _____
- d. Diversion season _____
- e. Purpose(s) of use _____

Under what conditions may this protest be disregarded and dismissed? _____

All protests must be signed by the protestant or authorized representative:

Signed:  _____ Date: March 12, 2021

All protests must be served on the petitioner. Provide the date served and method of service used:

March 12, 2021, email and mail

Enclosure B

**WATER SERVICE AGREEMENT
CITY OF SANTA CRUZ WITH
SAN LORENZO VALLEY COUNTY
WATER DISTRICT**

THIS AGREEMENT made in the County of Santa Cruz, State of California, on the date hereinafter specified, by and between the CITY OF SANTA CRUZ, a municipal corporation, hereinafter called SELLER and the SAN LORENZO VALLEY COUNTY WATER DISTRICT, a political subdivision of the State of California, hereinafter called PURCHASER,

WITNESSETH:

By way of recital SELLER and PURCHASER acknowledge:

- (a) As a condition to the sale by PURCHASER to SELLER of real properties presently utilized for the Newell Creek Dam and Newell Creek Dam Water Shed it was covenanted and agreed by and between SELLER and PURCHASER that SELLER, upon demand of PURCHASER, would sell up to 500 acre feet of water per year to PURCHASER at a price to be determined by SELLER as the actual cost of production and transmission of said water along SELLER'S Newell Creek pipeline to the point of diversion of PURCHASER.
- (b) That PURCHASER desires to acquire water from SELLER pursuant to said contract and the following is a memorial setting forth the terms thereof.

NOW, THEREFORE, IN ACCORDANCE WITH THE FOREGOING TERMS AND CONDITIONS, SELLER agrees to sell and PURCHASER agrees to buy water from SELLER at PURCHASER'S point of diversion from said Newell Creek pipeline in amount not to exceed 500 acre feet per year as PURCHASER may require at the actual cost of production and transmission thereof by SELLER.

PURCHASER agrees to pay currently, during each year of this agreement, the sum of ten cents (\$0.10) per hundred cubic feet of water delivered by SELLER to PURCHASER subject to audit and adjustment at the close of each year of this agreement upon the determination of the actual cost of production and transmission thereof to PURCHASER'S diversion and PURCHASER agrees to pay such additional charge as may be and SELLER agrees to remit or

CITY RESPONSE TO PROTEST LETTERS

INTENTIONALLY LEFT BLANK

BARTKIEWICZ, KRONICK & SHANAHAN

RICHARD P. SHANAHAN
RYAN S. BEZERRA
JOSHUA M. HOROWITZ
JENNIFER T. BUCKMAN
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Retired
PAUL M. BARTKIEWICZ
STEPHEN A. KRONICK

Of Counsel
HOLLY J. JACOBSON

May 16, 2021

David S. Kossack, Ph. D.
San Andreas Land Conservancy
P.O. Box 268
Davenport, CA 95017

VIA E-MAIL AND U.S. MAIL
dkossack@san-andreas-land-conservancy.org
dkossack@cruzio.com

Re: City of Santa Cruz's Petitions for Change and Extension of Time –
Response to San Andreas Land Conservancy Letter

Dear Dr. Kossack:

This letter is the City of Santa Cruz's response to the San Andreas Land Conservancy's (SALC) above-referenced March 11, 2021 letter that SALC submitted to the State Water Resources Control Board (SWRCB) as a protest of the City's pending water-right petitions. The City has carefully analyzed each of the issues raised in SALC's letter and appreciates your attention to the City's petitions. For convenience, this letter responds to each of the issues stated in SALC's letter in the order that the letter presented them. In summary, none of those issues presents a valid ground for a protest of the City's water-right petitions. Under Water Code section 1703.6, the City therefore will request that the State Water Resources Control Board (SWRCB) ask you to submit any further information that you may have to support SALC's letter. A copy of section 1703.6 is enclosed.

Response to Stated Grounds for Water-Right Protest

SALC's March 11 letter assert a number of grounds as the basis for a protest of the City's water-right petitions, none of which are valid.

The second paragraph of SALC's letter incorrectly asserts that "[p]etitions and their protests represent a CEQA document" and that certain requirements therefore follow. Nevertheless, as SALC may or may not be aware, the City publicly circulated a Notice of Preparation (NOP) of an environmental impact report (EIR) for its water-right petitions and related actions in November 2018. (A copy of the NOP is enclosed for your ease of reference.) The City received no comments from SALC on the NOP. The City anticipates circulating its draft EIR for public review and comment in the spring or early summer of 2021. The City anticipates that this information resolves SALC's concern.

The 1st bulleted paragraph of SALC's letter concerns the units of water volume and flow used in the City's water-right petitions. SALC's comments on these points do not identify any grounds of injury to legal users, the public interest or environmental resources, as is required for a protest. Moreover, tables of conversions for units of water are readily available to the public through a web browser such as Google and from public entities such as the SWRCB and the federal Bureau of Reclamation. For your convenience, please find

enclosed a math reference sheet produced by the American Waterworks Association, which states conversions for many of the unit measures used in the City's petitions.

The 2nd bulleted paragraph of SALC's letter concerns the timing of the City's petition for an extension of time for its water-right Permits 16123 and 16601. The comments in that paragraph only contest the basic legality of an extension of time. California law authorizes such extensions and states that a municipality's rights to "the use of water should be protected to the fullest extent necessary for existing and future uses" and extensions of time on cities' water-right permits often are granted. (See Water Code §§ 106.5, 1398.) In addition, one key reason why the City has not maximized beneficial use under Permits 16123 and 16601 is the success of its conservation programs. Water conservation is a beneficial use of an appropriative water right. (See Water Code § 1011.) The City's petitions demonstrate sufficient good cause for granting an extension of time, so SALC's legal arguments on this point do not support a protest of a water-right petition.

The 3rd bulleted paragraph of SALC's letter states that the extension petitions, if approved, will result in a "doubling" of the City's total diversions, but that assertion is inaccurate and misplaced. California law enables and supports cities in seeking additional time to maximize use under existing water-right permits. The fact that an extension petition would enable more than current levels of use, as otherwise authorized by an existing permit, is therefore not a valid ground for a protest. The paragraph also contradicts itself by referencing information in the SWRCB's eWRIMS water-right reporting system and then arguing that there is "no mechanism to monitor the progress of the project or enforce the terms of the permit" Since its initiation, the eWRIMS system has provided such a mechanism.¹ Simply put, the City has met the statutory and regulatory requirements for an extension of time, including, but not limited to, by evidencing the beneficial use of water through conservation programs.

The 4th bulleted paragraph of SALC's letter states that the City's petitions are an effort to "dodge environmental issues" that "were not recognized or codified" when the City originally submitted its water-right applications and that the City therefore should have to "submit a *de novo* application . . . for public review." As discussed above, however, California law authorizes extensions of times, particularly for cities and particularly where conservation has reduced demands. The City's pending petitions also explicitly include new proposed streamflow requirements. The California Department of Fish and Wildlife (CDFW) has accordingly communicated its support for the City's petitions to the SWRCB. (A copy of CDFW's memorandum is enclosed.) Further, the City will circulate an EIR for public review, as the 2018 NOP indicated. Finally, as demonstrated by SALC's letter itself, the City provided public notice of its pending petitions through the SWRCB's notice.

The 5th bulleted paragraph of SALC's letter refers to the Sustainable Groundwater Management Act and states that surface water that the City proposes to store underground "can not be morphed into 'Ground Water.'" The City agrees, but this paragraph of SALC's letter does not support a water-right protest. As required by the applicable regulations, the City's pending water-right petitions include underground storage supplements to

¹ Because of the success of the City's water conservation program, the City's maximum use under Permits 16123 and 16601 to date occurred before eWRIMS system's implementation, as demonstrated by the City's permittee progress reports on file with the SWRCB.

demonstrate how surface water that the City diverts will be stored underground. Those supplements demonstrate how the surface water the City diverts under its water-right permits and licenses will be rediverted into and out of groundwater storage.

The 6th bulleted paragraph of SALC's letter appears to compare the instantaneous minimum flow rates proposed by the City's petitions with the accumulated flow volumes that those petitions use to calculate the minimum instantaneous rate. The paragraph makes no argument concerning the City's petitions based on these factual statements. To the extent that the paragraph suggests that the petitions' proposed minimum instantaneous flow rates are inadequate, the paragraph appears to inaccurately confuse instantaneous flows with accumulated flows.

The 7th bulleted paragraph of SALC's letter questions the technical basis for the proposed minimum flows stated in the City's petitions, specifically the proposed minimums for the City's Tait diversion, and argues that the City's proposals constitute "deferred mitigation." The paragraph provides no technical or factual support for this claim. The City developed the proposed minimum flows through a lengthy technical process with the National Marine Fisheries Service (NMFS) and CDFW, which has submitted a memorandum to the SWRCB in support of the City's petitions.

The 8th bulleted paragraph of SALC's letter states that the City's petitions do not "discuss the meaning" of the proposed direct diversion from Newell Creek or "what prevents the City from diverting additional water from Newell Creek itself." The City's allowable diversions from Newell Creek, however, are defined and limited by water-right License No. 9847. By their nature, the City's water-right petitions do not seek to authorize increased diversions from Newell Creek because they only seek changes within the scope of License No. 9847. The SWRCB previously discussed the nature of direct diversion and storage in relation to the City's permits and licenses in its Order WR 2009-0061. A copy of that order is enclosed for ease of reference.

The 9th bulleted paragraph of SALC's letter argues that the City's petitions "are ineffective if not meaningless" because, under them, limits on certain proposed operations by the City would occur only in Hydrologic Conditions 4 and 5. The City's petitions, however, propose new minimum flow requirements that would apply at all times. The comment mistakenly assumes that the proposed limits on certain operations in certain conditions are the only applicable limitations on the City's various diversions.

The 10th bulleted paragraph of SALC's letter is unclear, but suggests that there is no basis for the City to propose to add beneficial uses, and places of use, to its permits and licenses. This paragraph consists only of argument without a factual basis for a protest. The City's petitions are consistent with state policy, enacted in the 21st century, to improve integrated regional water planning and management. For example, in 2008, the Legislature enacted Water Code section 10531, which states, among other things, "It is the intent of the Legislature to encourage local agencies to work cooperatively to manage their available local and imported water supplies to improve the quality, quantity, and reliability of those supplies." The City's water-right petitions, if approved, will advance this policy.

The 11th bulleted paragraph of SALC's letter claims again that the City's petitions are "a CEQA document," that the City is "putting off the presentation of necessary

information” and that the City’s approach in submitting the petitions “is project fragmentation, piecemeal development.” As discussed above, however, the City publicly circulated an NOP for the petitions, and related actions, in 2018 and soon will circulate a draft EIR for public review and comment.

Response to Proposed Protest Resolution Terms

SALC’s letter states a number of proposed terms for resolution of SALC’s protest. The City responds to those proposals as follows:

The 12th bulleted paragraph of SALC’s letter states that the City needs to document its water use under its pre-1914 rights. The City has filed, with the SWRCB, statements of diversion and use for those rights for many years, so the City is already implementing this proposed term.

The 13th bulleted paragraph of SALC’s letter states, in full, “The City needs to carry out an IFIM for the San Lorenzo River to address impacts of on-going and increased diversion.” The City, however, has conducted a more thorough analysis of not only the San Lorenzo River, but also the North Coast streams, in cooperation with NMFS and CDFW. This analysis is the basis for the City’s proposed minimum flows. CDFW has submitted, to the SWRCB, the enclosed memorandum supporting the City’s petitions. In preparing the petitions, the City already has gone beyond the analysis the proposed term requests.

The 14th bulleted paragraph in SALC’s letter states that imposing a conservation easement on lands that the City owns in the “Loch Lomond” and North Coast watersheds would be mitigation for the City’s water-right petitions because it would extinguish any “timber rights” the City holds in those watersheds and would help to restore “mature forest ecology.” The proposed term bears no relationship to the City’s proposed water-right changes and extensions, which concern only water diversions. There is no basis for the proposed term as a condition of approval on the City’s pending water-right petitions.

Conclusion

The City appreciates your attention to its water-right petitions. As demonstrated by its NOP for its forthcoming EIR, the City values public input on this project. As discussed above, however, SALC’s March 11, 2021 letter does not state valid grounds for a water-right protest. The City therefore anticipates requesting that, after it circulates that draft EIR, it will ask the SWRCB to request that SALC provide any further information that it has to support its March 11 letter pursuant to Water Code section 1703.6. If SALC then has no further information to support its protest, the City anticipates that it will request that the SWRCB cancel that protest.

Kind regards,



Ryan S. Bezerra

Attorneys for the City of Santa Cruz

David S. Kossack, Ph.D.

May 16, 2021

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RSB:

Response to SALC water-right protest 2021-05-06

Cc (via e-mail, w/encl.):

State Water Resources Control Board,

Division of Water Rights

Attn: Jane Ling,

P.O. Box 2000

Sacramento, CA, 95812-2000

Jane.Ling@waterboards.ca.gov

State of California

WATER CODE

Section 1703.6

1703.6. (a) The board may cancel a protest or petition for failure to provide information requested by the board under this chapter within the period provided.

(b) Except as provided in subdivisions (c) and (d), the board shall not cancel a protest for failure to submit information not in the possession or under the control of the protestant if the protest meets the requirements of Section 1703.2 and the petitioner is or could be required to submit the information under Section 1701.1, 1701.2, or 1701.3.

(c) If a protest is based on injury to a legal user of water, the board may cancel the protest if the protestant fails to submit any of the following information requested by the board:

(1) Information that the protestant is required to submit to the board to comply with Part 5.1 (commencing with Section 5100) during any period after the protest is filed.

(2) Information that is reasonably necessary to determine if the protestant is a legal user of water.

(3) Information concerning the protestant's historical, current, or proposed future diversion and use of water that is reasonably necessary to determine if the proposed change will result in injury to the protestant's exercise of its water right or other legal use of water.

(d) If the protest is based on an allegation other than injury to a legal user of water, the board may cancel the protest for failure to submit information requested by the board if the board determines both of the following:

(1) The public review period has expired for any draft environmental document or negative declaration required to be circulated for public review and comment pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(2) In the absence of the requested information, there is no substantial evidence in light of the whole record to support the allegation.

(e) If a protest is subject to both subdivisions (c) and (d), the part of the protest subject to subdivision (c) may be canceled pursuant to subdivision (c) and the part of the protest subject to subdivision (d) may be canceled pursuant to subdivision (d).

(Amended by Stats. 2010, Ch. 288, Sec. 16. (SB 1169) Effective January 1, 2011.)

The City provided a copy of the Notice of Preparation (NOP) and Initial Study (IS). See Appendix A for the NOP and IS.

WATER TREATMENT AND DISTRIBUTION OPERATOR MATH REFERENCE SHEET

Frequently used formulas and conversions



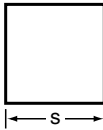
KEY FORMULAS FOR MATH

Area Formulas

Square

$$\text{area} = s \times s$$

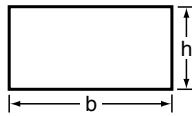
$$\text{diagonal} = 1.414 \times s$$



Rectangle or Parallelogram

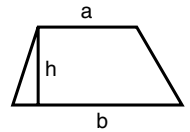
$$\text{area} = b \times h$$

$$\text{diagonal} = \text{square root } (b^2 + h^2)$$



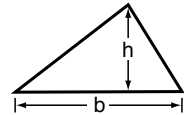
Trapezoid

$$\text{area} = \frac{(a + b) h}{2}$$



Any Triangle

$$\text{area} = \frac{b \times h}{2}$$

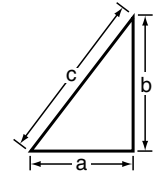


Base SI Units

Quantity	Unit	Abbreviation
length	meter	m
mass	kilogram	kg
time	second	sec
electric current	ampere	A
thermodynamic temperature	kelvin	K
amount of substance	mole	mol
luminous intensity	candela	cd

Right-Angle Triangle

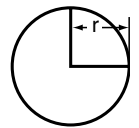
$$a^2 + b^2 = c^2$$



Circle

$$\text{area} = \pi \times r^2$$

$$\text{circumference} = 2 \times \pi \times r$$



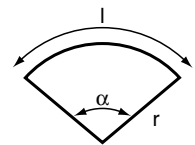
Sector of a Circle

$$\text{area} = \frac{\pi \times r \times r \times \alpha}{360}$$

$$\text{length} = 0.01745 \times r \times \alpha$$

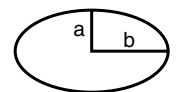
$$\text{angle} = \frac{1}{0.01745 \times r}$$

$$\text{radius} = \frac{1}{0.01745 \times \alpha}$$



Ellipse

$$\text{area} = \pi \times a \times b$$

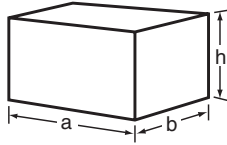


Volume Formulas

Rectangular Solid

$$\text{volume} = h \times a \times b$$

$$\text{surface area} = (2 \times a \times b) + (2 \times b \times h) + (2 \times a \times h)$$

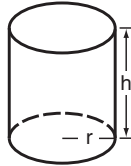


Cylinder

$$\text{volume} = \pi \times r^2 \times h$$

$$\text{surface area} = 2 \times \pi \times r \times h$$

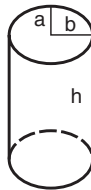
$$\pi = 3.142$$



Elliptical Cylinder

$$\text{volume} = \pi \times a \times b \times h$$

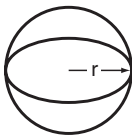
$$\text{area} = 6.283 \times \frac{\sqrt{a^2 + b^2}}{2} \times h + 6.283 \times a \times b$$



Sphere

$$\text{volume} = \frac{4 \times \pi \times r^3}{3}$$

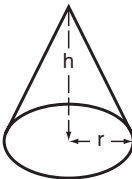
$$\text{surface area} = 4 \times \pi \times r^2$$



Cone

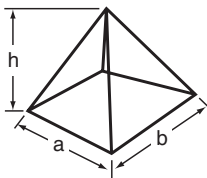
$$\text{volume} = \frac{\pi \times r^2 \times h}{3}$$

$$\text{surface area} = \pi \times r \times \sqrt{r^2 + h^2} + \pi \times r^2$$



Pyramid

$$\text{volume} = \frac{a \times b \times h}{3}$$



Other Formulas

$$\begin{aligned} \text{theoretical water horsepower} &= \frac{\text{gal/min} \times \text{total head, ft}}{3,960} \\ &= \frac{\text{gal/min} \times \text{lb/in.}}{1,715} \end{aligned}$$

$$\text{brake horsepower} = \frac{\text{theoretical water horsepower}}{\text{pump efficiency}}$$

$$\text{detention time, min} = \frac{\text{volume of basin, gal}}{\text{flow rate, gpm}}$$

$$\text{filter backwash rate, gal/min/ft}^2 = \frac{\text{flow, gpm}}{\text{area of filter, ft}^2}$$

$$\text{surface overflow rate} = \frac{\text{flow, gpm}}{\text{area, ft}^2}$$

$$\text{weir overflow rate} = \frac{\text{flow, gpm}}{\text{weir length, ft}}$$

$$\text{pounds per mil gal} = \text{parts per million} \times 8.34$$

$$\text{parts per million} = \text{pounds per mil gal} \times 0.12$$

$$\text{parts per million} = \text{percent strength of solution} \times 10,000$$

$$\text{pounds per day} = \text{volume, mgd} \times \text{dosage, mg/L} \times 8.34 \text{ lb/gal}$$

$$\text{dosage, mg/L} = \frac{\text{feed, lb/day}}{\text{volume, mgd} \times 8.34 \text{ lb/gal}}$$

$$\text{rectangular basin volume, ft}^3 = \text{length, ft} \times \text{width, ft} \times \text{height, ft}$$

$$\text{rectangular basin volume, gal} = \text{length, ft} \times \text{width, ft} \times \text{height, ft} \times 7.48 \text{ gal/ft}^3$$

$$\text{right cylinder volume, ft}^3 = 0.785 \times \text{diameter}^2, \text{ ft} \times \text{height or depth, ft}$$

$$\text{right cylinder volume, gal} = 0.785 \times \text{diameter}^2, \text{ ft} \times \text{height or depth, ft} \times 7.48 \text{ gal/ft}^3$$

$$\text{gallons per capita per day, average water usage} = \frac{\text{volume, gpd}}{\text{population served/day}}$$

$$\text{supply, days (full to tank dry)} = \frac{\text{volume, gpd}}{\text{population served} \times \text{gpcd}}$$

$$\begin{aligned} \text{gallons per day of water consumption, (demand/day)} &= \text{population} \times \text{gpcd} \end{aligned}$$

Consumption Averages, per capita

$$\text{winter} = 170 \text{ gpcd}$$

$$\text{spring} = 225 \text{ gpcd}$$

$$\text{summer} = 325 \text{ gpcd}$$

CONVERSION OF US CUSTOMARY UNITS _____

Linear Measurement

fathoms	× 6	= feet (ft)
feet (ft)	× 12	= inches (in.)
inches (in.)	× 0.0833	= feet (ft)
miles (mi)	× 5,280	= feet (ft)
yards (yd)	× 3	= feet (ft)
yards (yd)	× 36	= inches (in.)

Circular Measurement

degrees (angle)	× 60	= minutes (angle)
degrees (angle)	× 0.01745	= radians

Area Measurement

acres	× 43,560	= square feet (ft ²)
square feet (ft ²)	× 144	= square inches (in. ²)
square inches (in. ²)	× 0.00695	= square feet (ft ²)
square miles (mi ²)	× 640	= acres
square miles (mi ²)	× 27,880,000	= square feet (ft ²)
square miles (mi ²)	× 3,098,000	= square yards (yd ²)
square yards (yd ²)	× 9	= square feet (ft ²)

Volume Measurement

acre-feet (acre-ft)	× 43,560	= cubic feet (ft ³)
acre-feet (acre-ft)	× 325,851	= gallons (gal)
barrels (bbl)	× 42	= gallons (gal)
board foot (fbm)		= 144 square inches × 1 inch
cubic feet (ft ³)	× 1,728	= cubic inches (in. ³)
cubic feet (ft ³)	× 7.48052	= gallons (gal)
cubic feet (ft ³)	× 29.92	= quarts (qt)
cubic feet (ft ³)	× 59.84	= pints (pt)
cubic feet (ft ³)	× 0.000023	= acre feet (acre-ft)
cubic inches (in. ³)	× 0.00433	= gallons (gal)
cubic inches (in. ³)	× 0.00058	= cubic feet (ft ³)
drops	× 60	= teaspoons (tsp)
gallons (gal)	× 0.1337	= cubic feet (ft ³)
gallons (gal)	× 231	= cubic inches (in. ³)
gallons (gal)	× 0.0238	= barrels (bbl)
gallons (gal)	× 4	= quarts (qt)
gallons (gal)	× 8	= pints (pt)
gallons, US	× 0.83267	= gallons, Imperial
gallons (gal)	× 0.00000308	= acre-feet (acre-ft)

gallons (gal)	× 128	= ounces (oz)
gallons (gal)	× 0.0238	= barrels (42 gal) (bbl)
gallons, Imperial	× 1.20095	= gallons, US
pints (pt)	× 2	= quarts (qt)
quarts (qt)	× 4	= gallons (gal)
quarts (qt)	× 57.75	= cubic inches (in. ³)

Pressure Measurement

atmospheres	× 29.92	= inches of mercury
atmospheres	× 33.90	= feet of water
atmospheres	× 14.70	= pounds per square inch (lb/in. ²)
feet of water	× 0.8826	= inches of mercury
feet of water	× 0.02950	= atmospheres
feet of water	× 0.4335	= pounds per square inch (lb/in. ²)
feet of water	× 62.43	= pounds per square foot (lb/ft ²)
feet of water	× 0.8876	= inches of mercury
inches of mercury	× 1.133	= feet of water
inches of mercury	× 0.03342	= atmospheres
inches of mercury	× 0.4912	= pounds per square inch (lb/in. ²)
inches of water	× 0.002458	= atmospheres
inches of water	× 0.07355	= inches of mercury
inches of water	× 0.03613	= pounds per square inch (lb/in. ²)
pounds/square in. (lb/in. ²)	× 0.01602	= feet of water
pounds/square foot (lb/ft ²)	× 6.954	= pounds per square inch (lb/in. ²)
pounds/square in. (lb/in. ²)	× 2.307	= feet of water
pounds/square inch (lb/in. ²)	× 2.036	= inches of mercury
pounds/square inch (lb/in. ²)	× 27.70	= inches of water
feet suction lift of water	× 0.882	= inches of mercury

Weight Measurement

cubic feet of ice	× 57.2	= pounds (lb)
cubic feet of water (50°F)	× 62.4	= pounds of water
cubic inches of water	× 0.036	= pounds of water
gallons water (50°F)	× 8.3453	= pounds of water
milligrams/liter (mg/L)	× 0.0584	= grains per gallon (US) (gpg)
milligrams/liter (mg/L)	× 0.07016	= grains per gallon (Imp)
milligrams/liter (mg/L)	× 8.345	= pounds per million gallons (lb/mil gal)
ounces (oz)	× 437.5	= grains (gr)
parts per million (ppm)	×	= milligrams per liter (mg/L) (for normal water applications)
grains per gallon (gpg)	× 17.118	= parts per million (ppm)

WATER TREATMENT AND DISTRIBUTION OPERATOR MATH REFERENCE SHEET

grains per gallon (gpg)	$\times 142.86$	= pounds per million gallons (lb/mil gal)
percent solution	$\times 10,000$	= milligrams per liter (mg/L)
pounds (lb)	$\times 16$	= ounces (oz)
pounds (lb)	$\times 7,000$	= grains (gr)
pounds (lb)	$\times 0.0004114$	= tons (short)
pounds/cubic inch (lb/in. ³)	$\times 1,728$	= pounds per cubic foot (lb/ft ³)
pounds of water	$\times 0.0166032$	= cubic feet (ft ³)
pounds of water	$\times 2,768$	= cubic inches (in. ³)
pounds of water	$\times 0.1198$	= gallons (gal)
tons (short)	$\times 2,000$	= pounds (lb)
tons (short)	$\times 0.89287$	= tons (long)
tons (long)	$\times 2,240$	= pounds (lb)
cubic feet air (@ 60°F and 29.92 in. mercury)	$\times 0.0763$	= pounds (lb)

Flow Measurement

barrels per hour (bbl/hr)	$\times 0.70$	= gallons per minute (gpm)
acre-feet/minute	$\times 325.851$	= gallons per minute (gpm)
acre-feet/minute	$\times 726$	= cubic feet per second (ft ³ /sec)
cubic feet/minute (ft ³ /min)	$\times 0.1247$	= gallons per second (gps)
cubic feet/minute (ft ³ /min)	$\times 62.43$	= pounds of water per minute
cubic feet/second (ft ³ /sec)	$\times 448.831$	= gallons per minute (gpm)
cubic feet/second (ft ³ /sec)	$\times 0.646317$	= million gallons per day (mgd)
cubic feet/second (ft ³ /sec)	$\times 1.984$	= acre-feet per day (acre-ft/day)
gallons/minute (gpm)	$\times 1,440$	= gallons per day (gpd)
gallons/minute (gpm)	$\times 0.00144$	= million gallons per day (mgd)
gallons/minute (gpm)	$\times 0.00223$	= cubic feet per second (ft ³ /sec)
gallons/minute (gpm)	$\times 0.1337$	= cubic feet per minute (ft ³ /min)
gallons/minute (gpm)	$\times 8.0208$	= cubic feet per hour (ft ³ /hr)
gallons/minute (gpm)	$\times 0.00442$	= acre-feet per day (acre-ft/day)
gallons/minute (gpm)	$\times 1.43$	= barrels (42 gal) per day (bbl/day)
gallons water/minute	$\times 6.0086$	= tons of water per 24 hours
million gallons/day (mgd)	$\times 1.54723$	= cubic feet per second (ft ³ /sec)
million gallons/day (mgd)	$\times 92.82$	= cubic feet per minute (ft ³ /min)
million gallons/day (mgd)	$\times 694.4$	= gallons per minute (gpm)
million gallons/day (mgd)	$\times 3.07$	= acre-feet per day (acre-ft/day)
pounds of water/minute	$\times 26.700$	= cubic feet per second (ft ³ /sec)
miner's inch		= flow through an orifice of 1 in. ² under a head of 4 to 6 in.
miner's inches (9 gpm)	$\times 8.98$	= gallons per minute (gpm)

miner's inches (9 gpm)	$\times 1.2$	= cubic feet per minute (ft ³ /min)
miner's inches (11.25 gpm)	$\times 11.22$	= gallons per minute (gpm)
miner's inches (11.25 gpm)	$\times 1.5$	= cubic feet per minute (ft ³ /min)

Work Measurement

British thermal units (Btu)	$\times 777.5$	= foot-pounds (ft-lb)
British thermal units (Btu)	$\times 39,270$	= horsepower-hours (hp·hr)
British thermal units (Btu)	$\times 29,280$	= kilowatt-hours (kW·hr)
foot-pounds (ft-lb)	$\times 1,286$	= British thermal units (Btu)
foot-pounds (ft-lb)	$\times 50,500,000$	= horsepower-hours (hp·hr)
foot-pounds (ft-lb)	$\times 37,660,000$	= kilowatt-hours (kW·hr)
horsepower-hours (hp·hr)	$\times 2,547$	= British thermal units (Btu)
horsepower-hours (hp·hr)	$\times 0.7457$	= kilowatt-hours (kW·hr)
kilowatt-hours (kW·hr)	$\times 3,415$	= British thermal units (Btu)
kilowatt-hours (kW·hr)	$\times 1.241$	= horsepower-hours (hp·hr)

Power Measurement

boiler horsepower	$\times 33,480$	= British thermal units per hour (Btu/hr)
boiler horsepower	$\times 9.8$	= kilowatts (kW)
British thermal units/second (Btu/sec)	$\times 1.0551$	= kilowatts (kW)
British thermal units/minute (Btu/min)	$\times 12.96$	= foot-pounds per second (ft-lb/sec)
British thermal units/minute (Btu/min)	$\times 0.02356$	= horsepower (hp)
British thermal units/minute (Btu/min)	$\times 0.01757$	= kilowatts (kW)
British thermal units/hour (Btu/hr)	$\times 0.293$	= watts (W)
British thermal units/hour (Btu/hr)	$\times 12.96$	= foot-pounds per minute (ft-lb/min)
British thermal units/hour (Btu/hr)	$\times 0.00039$	= horsepower (hp)
foot-pounds per second (ft-lb/sec)	$\times 771.7$	= British thermal units per minute (Btu/min)
foot-pounds per second (ft-lb/sec)	$\times 1,818$	= horsepower (hp)
foot-pounds per second (ft-lb/sec)	$\times 1,356$	= kilowatts (kW)
foot-pounds per minute (ft-lb/min)	$\times 303,000$	= horsepower (hp)

foot-pounds per minute (ft-lb/min)	× 226,000	= kilowatts (kW)
horsepower (hp)	× 42.44	= British thermal units per minute (Btu/min)
horsepower (hp)	× 33,000	= foot-pounds per minute (ft-lb/min)
horsepower (hp)	× 550	= foot-pounds per second (ft-lb/sec)
horsepower (hp)	× 1,980,000	= foot-pounds per hour (ft-lb/hr)
horsepower (hp)	× 0.7457	= kilowatts (kW)
horsepower (hp)	× 745.7	= watts (W)
kilowatts (kW)	× 0.9478	= British thermal units per second (Btu/sec)
kilowatts (kW)	× 56.92	= British thermal units per minute (Btu/min)
kilowatts (kW)	× 3,413	= British thermal units per hour (Btu/hr)
kilowatts (kW)	× 44,250	= foot-pounds per minute (ft-lb/min)
kilowatts (kW)	× 737.6	= foot-pounds per second (ft-lb/sec)
kilowatts (kW)	× 1.341	= horsepower (hp)
tons of refrig. (US)	× 288,000	= British thermal units per 24 hours
watts (W)	× 0.05692	= British thermal units per minute (Btu/min)
watts (W)	× 0.7376	= foot-pounds (force) per second (ft-lb/sec)
watts (W)	× 44.26	= foot-pounds per minute (ft-lb/min)
watts (W)	× 1,341	= horsepower (hp)

Velocity Measurement

feet/minute (ft/min)	× 0.01667	= feet per second (ft/sec)
feet/minute (ft/min)	× 0.01136	= miles per hour (mph)
feet/second (ft/sec)	× 0.6818	= miles per hour (mph)
miles/hour (mph)	× 88	= feet per minute (ft/min)
miles/hour (mph)	× 1.467	= feet per second (ft/sec)

Miscellaneous

grade: 1 percent (or 0.01)	= 1 foot per 100 feet
----------------------------	-----------------------

METRIC CONVERSIONS

Linear Measurement

inch (in.)	× 25.4	= millimeters (mm)
inch (in.)	× 2.54	= centimeters (cm)
foot (ft)	× 304.8	= millimeters (mm)
foot (ft)	× 30.48	= centimeters (cm)
foot (ft)	× 0.3048	= meters (m)
yard (yd)	× 0.9144	= meters (m)
mile (mi)	× 1,609.3	= meters (m)
mile (mi)	× 1.6093	= kilometers (km)
millimeter (mm)	× 0.03937	= inches (in.)
centimeter (cm)	× 0.3937	= inches (in.)
meter (m)	× 39.3701	= inches (in.)
meter (m)	× 3.2808	= feet (ft)
meter (m)	× 1.0936	= yards (yd)
kilometer (km)	× 0.6214	= miles (mi)

Area Measurement

square meter (m ²)	× 10,000	= square centimeters (cm ²)
hectare (ha)	× 10,000	= square meters (m ²)
square inch (in. ²)	× 6.4516	= square centimeters (cm ²)
square foot (ft ²)	× 0.092903	= square meters (m ²)
square yard (yd ²)	× 0.8361	= square meters (m ²)
acre	× 0.004047	= square kilometers (km ²)
acre	× 0.4047	= hectares (ha)
square mile (mi ²)	× 2.59	= square kilometers (km ²)
square centimeter (cm ²)	× 0.16	= square inches (in. ²)
square meters (m ²)	× 10.7639	= square feet (ft ²)
square meters (m ²)	× 1.1960	= square yards (yd ²)
hectare (ha)	× 2.471	= acres
square kilometer (km ²)	× 247.1054	= acres
square kilometer (km ²)	× 0.3861	= square miles (mi ²)

Volume Measurement

cubic inch (in. ³)	× 16.3871	= cubic centimeters (cm ³)
cubic foot (ft ³)	× 28,317	= cubic centimeters (cm ³)
cubic foot (ft ³)	× 0.028317	= cubic meters (m ³)
cubic foot (ft ³)	× 28.317	= liters (L)
cubic yard (yd ³)	× 0.7646	= cubic meters (m ³)

acre foot (acre-ft)	$\times 1233.48$	= cubic meters (m ³)
ounce (US fluid) (oz)	$\times 0.029573$	= liters (L)
quart (liquid) (qt)	$\times 946.9$	= milliliters (mL)
quart (liquid) (qt)	$\times 0.9463$	= liters (L)
gallon (gal)	$\times 3.7854$	= liters (L)
gallon (gal)	$\times 0.0037854$	= cubic meters (m ³)
peck (pk)	$\times 0.881$	= decaliters (dL)
bushel (bu)	$\times 0.3524$	= hectoliters (hL)
cubic centimeters (cm ³)	$\times 0.061$	= cubic inches (in. ³)
cubic meter (m ³)	$\times 35.3183$	= cubic feet (ft ³)
cubic meter (m ³)	$\times 1.3079$	= cubic yards (yd ³)
cubic meter (m ³)	$\times 264.2$	= gallons (gal)
cubic meter (m ³)	$\times 0.000811$	= acre-feet (acre-ft)
liter (L)	$\times 1.0567$	= quart (liquid) (qt)
liter (L)	$\times 0.264$	= gallons (gal)
liter (L)	$\times 0.0353$	= cubic feet (ft ³)
decaliter (dL)	$\times 2.6417$	= gallons (gal)
decaliter (dL)	$\times 1.135$	= pecks (pk)
hectoliter (hL)	$\times 3.531$	= cubic feet (ft ³)
hectoliter (hL)	$\times 2.84$	= bushels (bu)
hectoliter (hL)	$\times 0.131$	= cubic yards (yd ³)
hectoliter (hL)	$\times 26.42$	= gallons (gal)

Pressure Measurement

pound/square inch (psi)	$\times 6.8948$	= kilopascals (kPa)
pound/square inch (psi)	$\times 0.00689$	= pascals (Pa)
pound/square inch (psi)	$\times 0.070307$	= kilograms/square centimeter (kg/cm ²)
pound/square foot (lb/ft ²)	$\times 47.8803$	= pascals (Pa)
pound/square foot (lb/ft ²)	$\times 0.000488$	= kilograms/square centimeter (kg/cm ²)
pound/square foot (lb/ft ²)	$\times 4.8824$	= kilograms/square meter (kg/m ²)
inches of mercury	$\times 3,376.8$	= pascals (Pa)
inches of water	$\times 248.84$	= pascals (Pa)
bar	$\times 100,000$	= newtons per square meter
pascals (Pa)	$\times 1$	= newtons per square meter
pascals (Pa)	$\times 0.000145$	= pounds/square inch (psi)
kilopascals (kPa)	$\times 0.145$	= pounds/square inch (psi)
pascals (Pa)	$\times 0.000296$	= inches of mercury (at 60°F)

kilogram/square centimeter (kg/cm ²)	× 14.22	= pounds/square inch (psi)
kilogram/square centimeter (kg/cm ²)	× 28.959	= inches of mercury (at 60°F)
kilogram/square meter (kg/m ²)	× 0.2048	= pounds per square foot (lb/ft ²)
centimeters of mercury	× 0.4461	= feet of water

Weight Measurement

ounce (oz)	× 28.3495	= grams (g)
pound (lb)	× 0.045359	= grams (g)
pound (lb)	× 0.4536	= kilograms (kg)
ton (short)	× 0.9072	= megagrams (metric ton)
pounds/cubic foot (lb/ft ³)	× 16.02	= grams per liter (g/L)
pounds/million gallons (lb/mil gal)	× 0.1198	= grams per cubic meter (g/m ³)
gram (g)	× 15.4324	= grains (gr)
gram (g)	× 0.0353	= ounces (oz)
gram (g)	× 0.0022	= pounds (lb)
kilograms (kg)	× 2.2046	= pounds (lb)
kilograms (kg)	× 0.0011	= tons (short)
megagram (metric ton)	× 1.1023	= tons (short)
grams/liter (g/L)	× 0.0624	= pounds per cubic foot (lb/ft ³)
grams/cubic meter (g/m ³)	× 8.3454	= pounds/million gallons (lb/mil gal)

Flow Rates

gallons/second (gps)	× 3.785	= liters per second (L/sec)
gallons/minute (gpm)	× 0.00006308	= cubic meters per second (m ³ /sec)
gallons/minute (gpm)	× 0.06308	= liters per second (L/sec)
gallons/hour (gph)	× 0.003785	= cubic meters per hour (m ³ /hr)
gallons/day (gpd)	× 0.000003785	= million liters per day (ML/day)
gallons/day (gpd)	× 0.003785	= cubic meters per day (m ³ /day)
cubic feet/second (ft ³ /sec)	× 0.028317	= cubic meters per second (m ³ /sec)
cubic feet/second (ft ³ /sec)	× 1,699	= liters per minute (L/min)
cubic feet/minute (ft ³ /min)	× 472	= cubic centimeters/second (cm ³ /sec)
cubic feet/minute (ft ³ /min)	× 0.472	= liters per second (L/sec)
cubic feet/minute (ft ³ /min)	× 1.6990	= cubic meters per hour (m ³ /hr)

WATER TREATMENT AND DISTRIBUTION OPERATOR MATH REFERENCE SHEET

million gallons/day (mgd)	$\times 43.8126$	= liters per second (L/sec)
million gallons/day (mgd)	$\times 0.003785$	= cubic meters per day (m^3/day)
million gallons/day (mgd)	$\times 0.043813$	= cubic meters per second (m^3/sec)
gallons/square foot (gal/ft^2)	$\times 40.74$	= liters per square meter (L/m^2)
gallons/acre/day ($\text{gal}/\text{acre}/\text{day}$)	$\times 0.0094$	= cubic meters/hectare/day ($\text{m}^3/\text{ha}/\text{day}$)
gallons/square foot/day ($\text{gal}/\text{ft}^2/\text{day}$)	$\times 0.0407$	= cubic meters/square meter/day ($\text{m}^3/\text{m}^2/\text{day}$)
gallons/square foot/day ($\text{gal}/\text{ft}^2/\text{day}$)	$\times 0.0283$	= liters/square meter/day ($\text{L}/\text{m}^2/\text{day}$)
gallons/square foot/minute ($\text{gal}/\text{ft}^2/\text{min}$)	$\times 2.444$	= cubic meters/square meter/hour ($\text{m}^3/\text{m}^2/\text{hr}$) = m/hr
gallons/square foot/minute ($\text{gal}/\text{ft}^2/\text{min}$)	$\times 0.679$	= liters/square meter/second ($\text{L}/\text{m}^2/\text{sec}$)
gallons/square foot/minute ($\text{gal}/\text{ft}^2/\text{min}$)	$\times 40.7458$	= liters/square meter/minute ($\text{L}/\text{m}^2/\text{min}$)
gallons/capita/day (gpcd)	$\times 3.785$	= liters/day/capita (L/d per capita)
liters/second (L/sec)	$\times 22,824.5$	= gallons per day (gpd)
liters/second (L/sec)	$\times 0.0228$	= million gallons per day (mgd)
liters/second (L/sec)	$\times 15.8508$	= gallons per minute (gpm)
liters/second (L/sec)	$\times 2.119$	= cubic feet per minute (ft^3/min)
liters/minute (L/min)	$\times 0.0005886$	= cubic feet per second (ft^3/sec)
cubic centimeters/second (cm^3/sec)	$\times 0.0021$	= cubic feet per minute (ft^3/min)
cubic meters/second (m^3/sec)	$\times 35.3147$	= cubic feet per second (ft^3/sec)
cubic meters/second (m^3/sec)	$\times 22.8245$	= million gallons per day (mgd)
cubic meters/second (m^3/sec)	$\times 15,850.3$	= gallons per minute (gpm)
cubic meters/hour (m^3/hr)	$\times 0.5886$	= cubic feet per minute (ft^3/min)
cubic meters/hour (m^3/hr)	$\times 4.403$	= gallons per minute (gpm)
cubic meters/day (m^3/day)	$\times 264.1720$	= gallons per day (gpd)
cubic meters/day (m^3/day)	$\times 0.00026417$	= million gallons per day (mgd)
cubic meters/hectare/day ($\text{m}^3/\text{ha}/\text{day}$)	$\times 106.9064$	= gallons per acre per day ($\text{gal}/\text{acre}/\text{day}$)
cubic meters/square meter/day ($\text{m}^3/\text{m}^2/\text{day}$)	$\times 24.5424$	= gallons/square foot/day ($\text{gal}/\text{ft}^2/\text{day}$)
liters/square meter/minute ($\text{L}/\text{m}^2/\text{min}$)	$\times 0.0245$	= gallons/square foot/minute ($\text{gal}/\text{ft}^2/\text{min}$)
liters/square meter/minute ($\text{L}/\text{m}^2/\text{min}$)	$\times 35.3420$	= gallons/square foot/day ($\text{gal}/\text{ft}^2/\text{day}$)

Work, Heat, and Energy

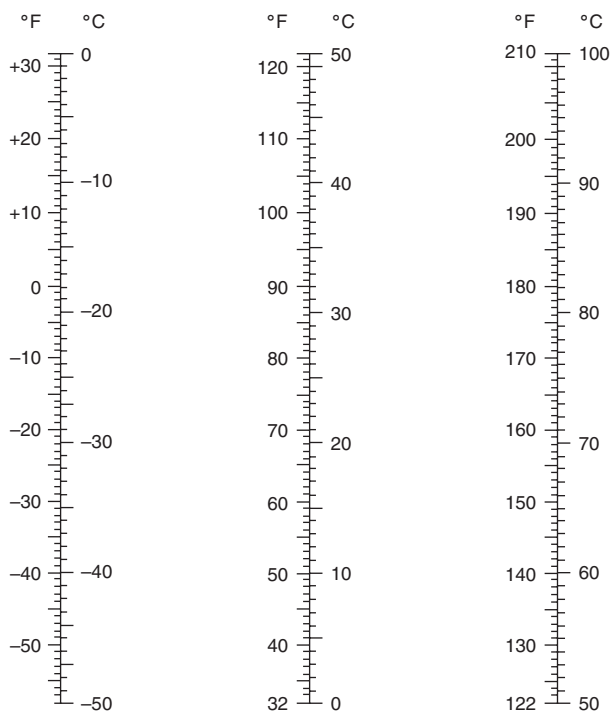
British thermal units (Btu)	$\times 1.0551$	= kilojoules (kJ)
British thermal units (Btu)	$\times 0.2520$	= kilogram-calories (kg-cal)
foot-pound (force) (ft-lb)	$\times 1.3558$	= joules (J)
horsepower-hour (hp·hr)	$\times 2.6845$	= megajoules (MJ)
watt-second (W-sec)	$\times 1.000$	= joules (J)
watt-hour (W·hr)	$\times 3.600$	= kilojoules (kJ)
kilowatt-hour (kW·hr)	$\times 3,600$	= kilojoules (kJ)
kilowatt-hour (kW·hr)	$\times 3,600,000$	= joules (J)
British thermal units per pound (Btu/lb)	$\times 0.5555$	= kilogram-calories per kilogram (kg-cal/kg)
British thermal units per cubic foot (Btu/ft ³)	$\times 8.8987$	= kilogram-calories/cubic meter (kg-cal/m ³)
kilojoule (kJ)	$\times 0.9478$	= British thermal units (Btu)
kilojoule (kJ)	$\times 0.00027778$	= kilowatt-hours (kW·hr)
kilojoule (kJ)	$\times 0.2778$	= watt-hours (W·hr)
joule (J)	$\times 0.7376$	= foot-pounds (ft-lb)
joule (J)	$\times 1.0000$	= watt-seconds (W-sec)
joule (J)	$\times 0.2399$	= calories (cal)
megajoule (MJ)	$\times 0.3725$	= horsepower-hour (hp·hr)
kilogram-calories (kg-cal)	$\times 3.9685$	= British thermal units (Btu)
kilogram-calories per kilogram (kg-cal/kg)	$\times 1.8000$	= British thermal units per pound (Btu/lb)
kilogram-calories per liter (kg-cal/L)	$\times 112.37$	= British thermal units per cubic foot (Btu/ft ³)
kilogram-calories/cubic meter (kg-cal/m ³)	$\times 0.1124$	= British thermal units per cubic foot (Btu/ft ³)

Velocity, Acceleration, and Force

feet per minute (ft/min)	$\times 18.2880$	= meters per hour (m/hr)
feet per hour (ft/hr)	$\times 0.3048$	= meters per hour (m/hr)
miles per hour (mph)	$\times 44.7$	= centimeters per second (cm/sec)
miles per hour (mph)	$\times 26.82$	= meters per minute (m/min)
miles per hour (mph)	$\times 1.609$	= kilometers per hour (km/hr)
feet/second/second (ft/sec ²)	$\times 0.3048$	= meters/second/second (m/sec ²)
inches/second/second (in./sec ²)	$\times 0.0254$	= meters/second/second (m/sec ²)
pound-force (lbf)	$\times 4.44482$	= newtons (N)
centimeters/second (cm/sec)	$\times 0.0224$	= miles per hour (mph)

WATER TREATMENT AND DISTRIBUTION OPERATOR MATH REFERENCE SHEET

meters/second (m/sec)	× 3.2808	= feet per second (ft/sec)
meters/minute (m/min)	× 0.0373	= miles per hour (mph)
meters per hour (m/hr)	× 0.0547	= feet per minute (ft/min)
meters per hour (m/hr)	× 3.2808	= feet per hour (ft/hr)
kilometers/second (km/sec)	× 2.2369	= miles per hour (mph)
kilometers/hour (km/hr)	× 0.0103	= miles per hour (mph)
meters/second/second (m/sec ²)	× 3.2808	= feet/second/second (ft/sec ²)
meters/second/second (m/sec ²)	× 39.3701	= inches/second/second (in./sec ²)
newtons (N)	× 0.2248	= pounds force (lbf)



$$\begin{aligned}
 0.555 (^\circ\text{F} - 32) &= \text{degrees Celsius (}^\circ\text{C)} \\
 (1.8 \times ^\circ\text{C}) + 32 &= \text{degrees Fahrenheit (}^\circ\text{F)} \\
 ^\circ\text{C} + 273.15 &= \text{kelvin (K)} \\
 \text{boiling point}^* &= 212^\circ\text{F} \\
 &= 100^\circ\text{C} \\
 &= 373 \text{ K} \\
 \text{freezing point}^* &= 32^\circ\text{F} \\
 &= 0^\circ\text{C} \\
 &= 273 \text{ K}
 \end{aligned}$$

*At 14.696 psia, 101.325 kPa.

Celsius/Fahrenheit Comparison Graph

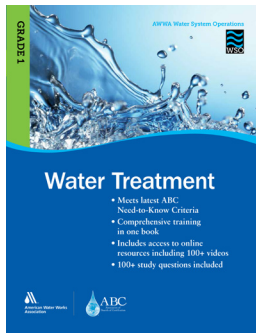
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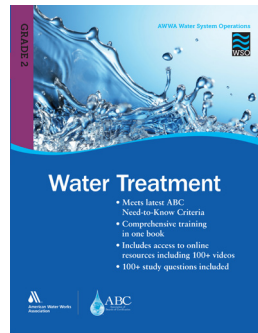
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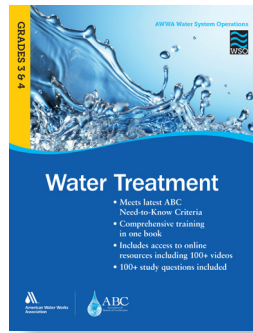
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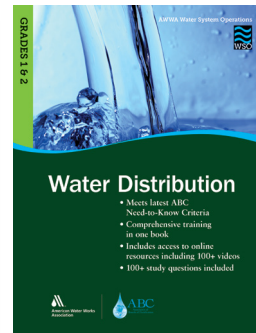
**Water Treatment
Grade 1**



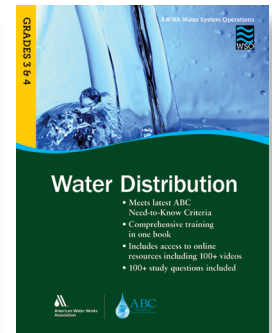
**Water Treatment
Grade 2**



**Water Treatment
Grade 3 & 4**



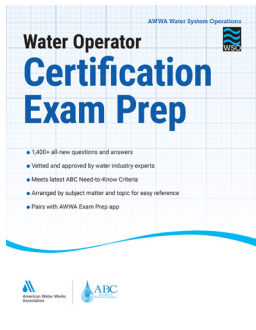
**Water Distribution
Grade 1 & 2**



**Water Distribution
Grade 3 & 4**

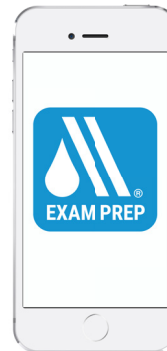
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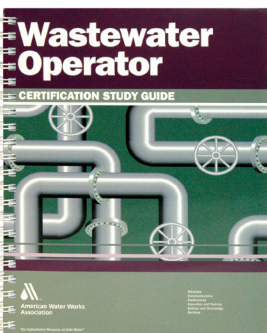


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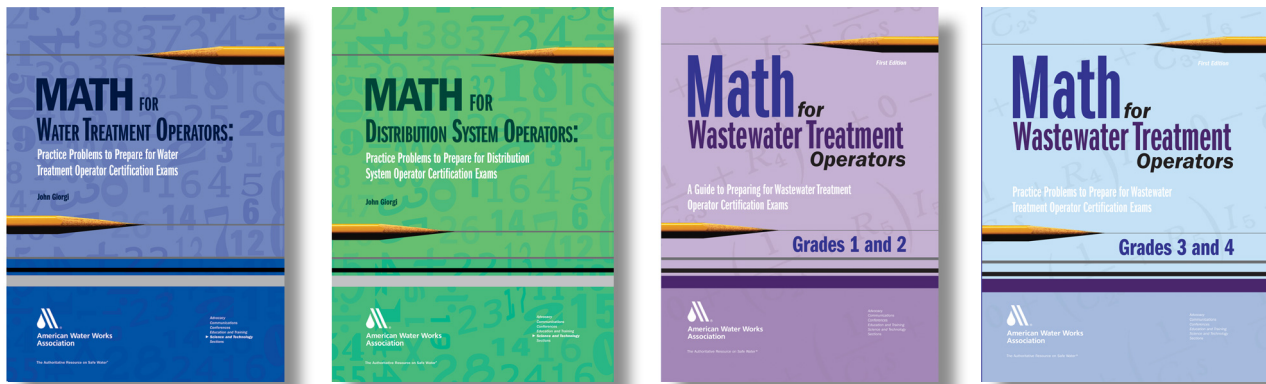
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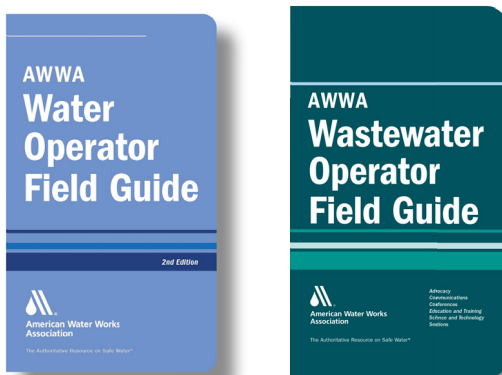


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Phone: 202.628.8303
Fax: 202.628.2846
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Mumbai, India
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State of California
Department of Fish and Wildlife



Memorandum

Date: February 25, 2021

To: Erik Ekdahl, Deputy Director of Water Rights
State Water Resources Control Board
Division of Water Rights
Post Office Box 2000
Sacramento, CA 95812-2000
Erik.Ekdahl@waterboards.ca.gov

DocuSigned by:

Gregg Erickson

BE74D4C93C604EA...

From: Gregg Erickson, Regional Manager
California Department of Fish and Wildlife-Bay Delta Region, 2825 Cordelia Road, Suite 100, Fairfield, CA 94534

Subject: Letter of Support for City of Santa Cruz Petitions for Change and Time Extension

The California Department of Fish and Wildlife (CDFW) is writing in support of the City of Santa Cruz (City) water rights petitions noticed on February 10, 2021 (petitions for change and time extension for water right Permits 16123 and 16601 (Applications 22318 and 23710) and petitions for change for Licenses 1553, 7200 and 9847 (Applications 4017, 5215, and 17913).

CDFW has worked with the City and the National Marine Fisheries Services (NMFS) for many years to develop an integrated water resources management strategy that is protective of special status anadromous salmonid species while also providing for long-term water supply reliability. The petitions further a larger project (including a Habitat Conservation Plan negotiated with CDFW and NMFS) designed to enhance instream flow for coho salmon and steelhead in the San Lorenzo River, Majors Creek, Laguna Creek and Liddell Creek watersheds in Santa Cruz County, California. The petitions would contribute to the recovery of these species and are therefore consistent with Action 4 of the California Water Action Plan (California Natural Resources Agency et al. 2014) which encourages the protection and restoration of important ecosystems by enhancing water flows in stream systems statewide.

CDFW appreciates the work the City has done to develop protective flow criteria for fisheries and supports the flows included in the petition package. CDFW recognizes that, to reliably serve public water supply needs and commit to the flows, the City needs the water right changes and extensions described in the petitions. CDFW also recognizes that the City has invested significant effort and resources into conservation measures and infrastructure improvements (treatment, distribution efficiencies, etc.) to support its water supply needs, dedicating as much water as possible to environmental uses. In short, the petitions represent the culmination of years of planning and investment by the City, CDFW, and NMFS in support of defensible environmental flows.

Erik Ekdahl
State Water Resources Control Board

2

February 25, 2021

If you have questions regarding CDFW's support of the Project, please contact Ms. Jessie Maxfield, Water Rights Coordinator, at Jessica.Maxfield@wildlife.ca.gov; or Mr. Craig Weightman, Environmental Program Manager, at Craig.Weightman@wildlife.ca.gov.

ec: State Water Resources Control Board

Jane Ling, Jane.Ling@waterboards.ca.gov
Scott McFarland, Scott.McFarland@waterboards.ca.gov

National Marine Fisheries Service

Mandy Ingham, Mandy.Ingham@noaa.gov
William Stevens, William.Stevens@noaa.gov

City of Santa Cruz

Rosemary Menard, RMenard@cityofsantacruz.com
Chris Berry, CBerry@cityofsantacruz.com

California Department of Fish and Wildlife

Wes Stokes, Wesley.Stokes@wildlife.ca.gov

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WR 2009-0061

In the Matter of Petition for Reconsideration of
Division of Water Rights Refusal to Accept Protest by
United States Marine Corps Base, Camp Pendleton
against

CITY OF SANTA CRUZ

Regarding Petitions for Change under License 9847 (Application 17913) and
Permits 16123 and 16601 (Applications 22318 and 23710, respectively)

SOURCES: San Lorenzo River and Newell Creek

COUNTY: Santa Cruz

ORDER DENYING RECONSIDERATION

BY THE BOARD:

1.0 INTRODUCTION

This order denies the request for reconsideration by the United States Marine Corps Base, Camp Pendleton (Camp Pendleton) of the State Water Resources Control Board (State Water Board or Board), Division of Water Rights' (Division) order (by letter of April 29, 2009) refusing to accept Camp Pendleton's protest against the City of Santa Cruz' (Santa Cruz) Petitions for Change under License 9847 (Application 17913) and Permits 16123 and 16601 (Applications 22318 and 23710, respectively). Camp Pendleton's protest and petition for reconsideration raise the legal issue of whether a water right holder or applicant may petition to the State Water Board to change an application, permit or license to allow for direct diversion when the current application, permit or license is for diversion to storage. This order resolves conflicting language in prior decisions and finds that the State Water Board has authority to approve such

a change. Therefore, the petition for reconsideration is denied. (Cal. Code Regs., tit. 23 § 770.)¹

2.0 BACKGROUND

The City of Santa Cruz holds License 9847 and Permits 16123 and 16601, which allow for diversion to storage from San Lorenzo River and Newell Creek into Loch Lomond Reservoir. During the winter months, Santa Cruz uses water from Loch Lomond Reservoir at the same time that it is filling the reservoir. This constitutes a direct diversion. Santa Cruz' water rights authorize diversion to storage, and do not allow for direct diversion.

On December 28, 2006, Santa Cruz petitioned the State Water Board to change its rights to include the ability to directly divert from the stream.² On November 7, 2008, Camp Pendleton protested Santa Cruz's petitions on the grounds that the proposed change is contrary to law and against the public interest. Camp Pendleton expressed in the cover letter for the protest that its concerns are related to the legal issues involved with the Santa Cruz petitions, and the potential future consequences for its own water rights on the Santa Margarita River, rather than to the effects of the diversions by City of Santa Cruz. On April 29, 2009, the Division issued a letter from Victoria Whitney, State Water Board Deputy Director for Water Rights (Deputy Director), to Ralph E. Percy II of the United States Marine Corps (Division Letter). The Division Letter refused to accept the allegation that the petitioned-for changes would be contrary to law. It also stated that the allegation that the changes would not serve the public interest were insufficient as stated. The letter permitted Camp Pendleton to provide supplemental information to support its public interest allegation within 30 days, and stated that the protest would not be accepted on this ground if no further information were submitted. Camp Pendleton did not submit additional information within 30 days, and has acknowledged that it does not intend to supplement its

¹ The Water Code directs the State Water Board to act on a petition for reconsideration within 90 days from the date on which the State Water Board adopts the decision or order that is the subject of the petition. (Wat. Code, § 1122.) If the State Water Board fails to act within that 90-day period, a petitioner may seek judicial review, but the State Water Board is not divested of jurisdiction to act upon the petition simply because the State Water Board failed to complete its review of the petition on time. (See *California Correctional Peace Officers Ass'n. v. State Personnel Bd.* (1995) 10 Cal.4th 1133, 1147-48, 1150-51 [43 Cal.Rptr.2d 681]; State Water Board Order WQ 98-05-UST at pp. 3-4.)

² At the same time, Santa Cruz petitioned for an extension of time to put the water to use under Permits 16123 and 16601; Camp Pendleton did not protest that petition.

allegation that Santa Cruz' change petition is contrary to the public interest.³ On June 1, 2009, Camp Pendleton filed a request for reconsideration of the Division Letter.

3.0 GROUNDS FOR RECONSIDERATION

Any interested person may petition the State Water Board for reconsideration of a decision or order on any of the following grounds:

- (a) [i]rregularity in the proceedings, or any ruling, or abuse of discretion, by which the person was prevented from having a fair hearing;
- (b) [t]he decision or order is not supported by substantial evidence;
- (c) [t]here is relevant evidence which, in the exercise of reasonable diligence, could not have been produced;
- (d) [e]rror in law.

(Cal. Code Regs., tit. 23, § 768.)

4.0 CAMP PENDLETON'S PROTEST AND PETITION FOR RECONSIDERATION

Camp Pendleton's petition asserts that approving Santa Cruz's change petitions would be contrary to law. Camp Pendleton reads Water Code section 1700 et seq., which addresses changes to water rights, to limit the petitions for change that the State Water Board may entertain to petitions for changes in point of diversion, place of use, or purpose of use. It acknowledges that the State Water Board maintains broad authority to change existing water rights, but argues that this authority stems from, and is limited by, the duty to prevent waste and to protect the environment and the public interest. It asserts that the Board cannot change the "substantive features" of the water right, like the method of diversion, for the convenience of the permittee or in order to conform the permit to actual conditions as opposed to for the purpose of preventing waste. Camp Pendleton argues that the reference to petitions for changes "other than changes in point of diversion, place of use, and purpose of use" in California Code of Regulations, title 23, section 791, subdivision (e) therefore relates solely to the State Water

³ As the protest raised only legal and public interest grounds, the Division's April 2009 letter effectively refused to accept the entire protest. Because the letter was a final determination of Camp Pendleton's rights with respect to the proceedings on the change petition, it is appropriately treated as an order or decision subject to review under section 1122 of the Water Code. (See Gov. Code, 11405.50, subd. (a); cf. *People ex rel. State Lands Commission v. City of Long Beach* (1960) 183 Cal.App.2d 271, 273 [An order denying leave to intervene is appealable].)

Board's authority to change terms and conditions imposed in an existing license, rather than to the "substantive features" of a water right.

Additionally, Camp Pendleton asserts that, because direct diversion and storage rights are so different, adding direct diversion to a water right that allows only diversion for storage initiates a new water right, contrary to California Code of Regulations, title 23, section 791 and to the public interest. The petition also argues that the Division Letter did not provide a principled explanation for allegedly departing from State Water Board precedent in State Water Board Order WR 85-4 and State Water Board Decision 1380 (1971). Camp Pendleton asserts that such a departure contravenes the public interest in consistency and predictability in agency decision-making.

Finally, Camp Pendleton requests that, if the petition for reconsideration is denied, the State Water Board confirm the determination in the Division Letter, in order to provide clarity on the issue of whether direct diversion may be added to an existing water right permit or license for diversion to storage.

To the extent that Camp Pendleton's petition and protest may be read to include other arguments not addressed in this order, these arguments fail to raise substantial issues related to the causes for reconsideration set out in California Code of Regulations, title 23, section 768, and are hereby dismissed.

5.0 APPLICABLE STATUTE AND REGULATIONS

Water Code sections 1700 through 1705 govern the process by which changes in the place of use, purpose of use, or point of diversion, of an appropriative water right may be made.⁴ The sections outline the application, notice, protest, investigation and hearing requirements for change petitions. (Wat. Code, §§ 1700-1701.4, 1703-1705; see also Cal. Code Regs., tit. 23, §§ 791-816.) Before the State Water Board can grant a change petition, the petitioner must also demonstrate that the change will not injure any legal user of water and will not effectively initiate a new right. (Wat. Code, § 1702; Cal. Code Regs., tit. 23, § 791, subd. (a).)

⁴ These sections apply to appropriations under the Water Code or the Water Commission Act. Section 1706 of the Water Code applies to changes to pre-1914 rights. Section 1707, which addresses changes for the protection of instream beneficial uses, applies to all types of water rights.

The same procedures are to be followed insofar as is possible for processing change petitions for changes other than place of use, purpose of use or point of diversion. (Cal. Code Regs., tit 23, § 791, subd. (e).)

6.0 DISCUSSION

6.1 Initiation of New Right

Camp Pendleton asserts that water rights for direct diversion and for storage are so fundamentally different that adding direct diversion to a storage right necessarily initiates a new water right. To support this contention, Camp Pendleton points out that the purpose of storage is to collect water in high flow times for use during low flow times, while direct diversions put water to immediate beneficial use. Camp Pendleton also notes that the limitation inherent in direct diversion rights, namely the amount that can be applied to beneficial use, is not present in storage rights, and that this can lead to increasing the amount of water diverted, creating a new right.

An appropriative water right has several basic elements, including priority, source of water, season of diversion, amount of diversion, point of diversion, place of use, and purpose of use. (See, e.g., Wat. Code, § 1260 et seq [defining the contents of a water right application]; Hutchins, *The California Law of Water Rights* (1956) “Elements of the Appropriative Right,” pp. 130-154 (hereinafter Hutchins); *Central Delta Water Agency v. State Water Resources Control Board* (2004) 124 Cal.App.4th 245, 253, 257 [ordering State Water Board to set aside permits where application lacked sufficient specificity as to actual uses, amounts and places of use].) Some of these defining elements may be changed by the appropriator, so long as the change does not injure other water users. (See Hutchins, *supra.*, p. 175 [“It has long been settled in California that an appropriator may change the point of diversion, place of use, or character of the use of water ... provided that the rights of others are not thereby impaired”]; Wat. Code, § 1701; Cal. Code Regs., tit. 23, § 791; *City of San Bernardino v. City of Riverside* (1921) 186 Cal. 7, 28-29 [allowing change in the place of use, character of use, and point of diversion so long as no others are injured]; *Hand v. Cleese* (1927) 202 Cal. 36, 45 [allowing diverter to change the means of diversion of waters from a specific ditch to a different “natural depression” as the change did not cause injury].) A fundamental principle of water right law, however, is that a right cannot be so changed that it in essence constitutes a new right. (Cal. Code Regs., tit. 23, § 791, subd. (a).) For example, an appropriator cannot expand an existing right to appropriate a greater amount of water, to increase the season of diversion, or to use a different

source of water. (Cal. Code Regs., tit. 23, § 699; *Johnson Rancho County Water District v. State Water Rights Board* (1965) 235 Cal.App.2d 863, 879.)

The common feature among the changes that have been found to constitute the creation of a new right, as opposed to a change in an existing right, is that the changes that initiate a new right increase the amount of water taken from a water source at a given time. (See *Johnson Rancho County Water District v. State Water Rights Board*, *supra*, 235 Cal.App.2d at 879 [approving as “commonsense” the granting of a change in a water right application that did not increase the amount of water appropriated or its source]; [State Water Board Order WR 79-24](#) at 4 [approving only the part of a proposed change in place of use which would not increase the season or amount of water diverted]; [State Water Board Decision 940 \(1959\)](#) [“a direct diversion right can be converted to a storage right only to the extent there is no change in rate of diversion from the stream ...”]; George A. Gould, *Water Rights Transfers and Third-Party Effects*, 23 *Land and Water Law Review* 1 (1988) p. 9 [“To paraphrase Mead, ‘the later comers had an equal claim to protection from the enlargement of prior uses which reduced the flow available to satisfy their appropriations’ ... consequently, a rate of diversion ... limits the ‘flow’ to which each appropriator may claim a priority.... Some states later added a volume (“quantity”) limitation.”] *referencing* E. Mead, *Irrigation Institutions* 66, 67 (1903).) Other elements of a water right can be changed, as they are secondary to the fundamental right to use the water. (*City of San Bernardino v. City of Riverside*, *supra*, 186 Cal. at 29 [“The reasons for the right to make the above changes are that, by his taking and devoting water to a beneficial use, the appropriator has acquired the right to take the quantity which he beneficially uses, as against others having no superior rights in the source, and that neither the particular place of use, the character of the use, nor the place of taking is a necessary factor in such acquisition.”].)

A change from a storage right to direct diversion (or vice-versa) is a change in what is done with water after it is diverted from the natural streamflow. As Camp Pendleton points out, stored water is saved for later use, while directly diverted water is used immediately (or after a short period of regulatory storage). This change in what happens to water after diversion does not necessarily affect the rate of diversion, and therefore does not per se result in an expansion of a water right.

Any approval of a change to allow storage or direct diversion must be appropriately conditioned to ensure that the change does not, in fact, result in increased diversions over the amount to which the petitioner would otherwise have been legally entitled and as a practical matter would

otherwise have been able to divert, were the permit to have remained unchanged. This includes ensuring that the current diversion limits imposed, e.g., by hydrology, the petitioner's physical facilities and the current permit, remain in effect; that any growth still allowed during the development period is also within current limits of what would have occurred in the absence of the change; and that the petitioner can demonstrate to the satisfaction of the State Water Board that the current limits will not be exceeded in any water year. Camp Pendleton notes that direct diversions are limited by the amount of water that can currently be applied to beneficial use, while a storage right does not contain this inherent limitation. However, a limitation may be imposed as part of the process of approving a change to allow storage, thereby ensuring that the right is not enlarged. (See Cal. Code Regs., tit. 23, § 792, subds. (b), (c) [describing conditioning authority for change petition approvals].) The requirements in a permit that limit the amount of a diversion can, and must, remain in place when change petitions are approved, regardless of whether the water is diverted for storage or immediate use. The situation presented is no different than when a water right holder requests a change to a new point of diversion that has a larger capacity either due to the physical limitations of the diversion facilities or due to the amount of water physically available at the diversion point: while the capacity of the old point of diversion is no longer a limit on the diversion amount, it is possible to change to a new point of diversion and still maintain the prior limit on diversions as a result of conditions imposed on the approval of the change.

The argument that storage and diversion are such fundamentally different purposes that they are per se different rights is further undermined by the accepted process of regulatory storage. Waters appropriated under direct diversion do not need to be instantaneously put to beneficial use; they may be subject to regulatory storage for short periods. (See Cal. Code Regs., tit. 23, §§ 657-8.) Even riparian users, who are not authorized to divert water to seasonal storage because of the right's correlative nature and link to the natural flow of a river, are permitted to regulate water in the short term. (See *Seneca Consolidated Gold Mines Co v. Great Western Power Co.* (1930) 209 Cal. 206, 215-216, 219.) Therefore, a change in an appropriative right to allow either direct diversion or storage, when such was not previously allowed, does not, by definition, result in the creation of a new right.

6.2 State Water Board Authority

Camp Pendleton also argues that there is no authority under which the State Water Board can change a water right from storage to direct diversion at the water right holder's request. Camp Pendleton reads Water Code provisions authorizing changes in point of diversion, place of use or purpose of use as limiting the State Water Board's authority to approve changes other than those listed.⁵ (*Id.* § 1700, et seq.) Camp Pendleton points to the interpretive canon *expressio unius est exclusio alterius* to assert that the listing of these three potential changes means that these changes and no others are permitted under the Water Code. Camp Pendleton further points to the use of the term "method of diversion" in other areas of the Water Code to support the interpretation that the term's omission in Water Code section 1700 et seq. was intentional. Camp Pendleton cites two State Water Board orders or decisions that interpret the Water Code section as limiting change petitions to the three types of changes enumerated. (State Water Board Order WR 85-4 and State Water Board Decision 1308 (1968).) Camp Pendleton recognizes that the State Water Board exercises broad and continuing authority over existing water rights, including the ability to control and condition water use to protect the public interest and the public trust and to prevent waste. However, Camp Pendleton argues that the State Water Board's authority to approve changes in applications, permits and licenses can be exercised only to protect these state interests, and not for the convenience of the water right holder. Camp Pendleton argues that Water Code § 1700 et seq. is the only Water Code chapter that describes the changes that a *petitioner* may request,⁶ and sets these in opposition to the broader State Water Board authority stemming from the principles of waste and reasonable use, and from the duty to protect the public trust.

6.2.1 State Water Board precedent

Camp Pendleton points to [State Water Board Order WR 85-4](#) and [Decision 1308](#) to support its argument that the Board may not accept a change petition involving change from storage to direct diversion or vice-versa. State Water Board Decision 1308 (1968) concerned an application for diversion to storage filed by the United States Bureau of Reclamation (Reclamation). Reclamation already had direct diversion permits authorizing a diversion of up

⁵ Camp Pendleton's arguments concerning the captions of these statutes are dismissed, because such headings "do not in any manner affect the scope, meaning, or intent" of Water Code provisions. (Wat. Code, § 6.)

⁶ A petitioner may also request changes under Water Code sections 1211, 1398 and 1435, but the existence of these additional sections does not change the argument.

to 350 cubic feet per second throughout the year, and this rate would not have been exceeded in diverting to storage. However, the right was also limited by the amount of water that could be beneficially used at any given point. As the decision noted: “applicant’s right under these permits does not entitle it to divert more water than is beneficially used in the authorized manner, which means that these permits do not authorize diversion from Rock Slough into storage even though such diversion is within the authorized rate, quantity, and season.” (*Id.* p. 4.) Therefore, the decision went on to evaluate whether unappropriated water was available for the new application, rather than relying on it being available under the existing permit. The decision emphasizes that it is not permissible to expand the amount of water that can be diverted under an existing right, and that the inherent limit of direct diversion rights to what can be applied to beneficial use at that time prevents an additional diversion to storage under the same permit. The decision does not concern a change petition. Nor does it address the situation in which water that would have been directly diverted under the existing right is diverted instead to storage; rather, the case addresses only an expansion of diversion and use.

State Water Board Order WR 85-4 (Order 85-4) addressed the State Water Board’s authority to approve a change petition by Madera Irrigation District, which the irrigation district described as a change from direct diversion to diversion to storage. Order 85-4 states:

If the change is a change in method of diversion, it is not a change which can be made under Water Code § 1700 et seq. However, the permitted direct diversion may be construed as a diversion to storage because of its characteristics.

(*Id.* p. 8.)

Thus Order 85-4 does not ultimately rely on the limited interpretation of potential changes under Water Code section 1700 et seq. The requested change was not actually a change from direct diversion to storage, because the underlying water right already allowed diversion to underground storage. (*Id.* pp. 8-9.) Therefore, the interpretation of Water Code section 1700 et seq. is *dictum*, not a direct holding. While the State Water Board ultimately denied Madera Irrigation District’s petition for change, the denial was based on the conclusion that the change would injure another legal user of water. (*Id.* pp. 9-12.)

Neither Order 85-4 nor Decision 1308, however, articulates a rationale for its interpretation of Water Code section 1700 et seq. or addresses the State Water Board’s contrary conclusions in a prior State Water Board decision, Decision 940 (D-940), which was issued in 1959. While an

administrative agency may change its precedential decisions and the interpretation of its statutes and regulations, its ability to significantly depart from precedent requires reasoned explanation and a “square confrontation” of the prior decision. (*David-Bardales v. INS* (1st Cir. 1994) 27 F.3d 1, 5; see also *California Trout v. FERC* (9th Cir. 2009) 572 F.2d 1003, 1023.)

D-940 involved an application for a storage right for two waterways in Madera County. Water users with a claimed pre-1914 appropriative water right protested the application. Originally, the water diverted under this claim had been used by direct diversion, but in 1950 the water right holders built a reservoir and began seasonal storage. The Board noted that there were no California cases directly on point, but reasoned that a change from direct diversion to storage is permissible so long as the rate and season of diversion did not change. (*Id.* pp. 4-5 [“A direct diversion right can be converted to a storage right only to the extent there is no change in the rate of diversion from the stream or in the period of the year during which water is diverted”].) D-940 specifically differentiates this situation from that in which the rate or season of diversion changes, constituting a new appropriation. (*Id.* p. 5.) D-940 found that the protestants had not provided satisfactory evidence of their prior appropriative right because they had changed the season and rate of diversion of their pre-1914 right, which constituted a new appropriation of water for which a water right permit was required. This analysis supported the holding that the protested application would not interfere with prior vested rights. (*Id.* pp. 5-6.)

Other more recent State Water Board decisions have allowed water right holders to petition for changes to direct diversion from storage and vice-versa. For example, State Water Board [Decision 1632](#) (1995) (hereinafter D-1632) dismissed protests to a petition to change a water right application to include direct diversion. The protestants requested that the priority date for this change be set to the date of the requested amendment – in effect charging that such a change creates a new right to which the earlier priority date should not apply. (*Id.* pp. 40-41.) In determining that the protests were invalid, the Board looked to the fact that the new application did not increase the amount of water requested or the diversion season. (*Id.* p. 41.) The Board then issued a permit on the application that allowed both direct diversion and storage. (*Id.* p. 96.) Camp Pendleton argues that D-1632 is materially different from the current situation because the application at issue in D-1632 originally included direct diversion, but had been earlier amended to remove direct diversion. The fact that the original application included direct diversion is immaterial: the application as it stood did not allow direct diversion, but the Board approved the change petition to add direct diversion. The Board did not rely on this

history in allowing the change. Camp Pendleton in essence argues that there is an unwritten exception to the normal limits of the Board's authority where a water right holder originally claimed different rights. Taking this argument to its logical conclusion, the Board would be allowed to enlarge water rights, in essence creating new rights, if the amount or season of diversion originally applied for were higher or broader, even though these actions would, under other circumstances, create a new right.

State Water Board Order WR 95-3 approved a change in the rate at which licensee Merced Irrigation District was able to directly divert water for municipal uses. This change was permitted only upon a 1:1 reduction in the rate of diversion to storage under the same right, to ensure that the rate of diversion did not increase, and an analysis that other legal users and public trust uses would be protected. Camp Pendleton seeks to differentiate State Water Board Order WR 95-3 from the current situation, because the original application at issue there provided for both direct diversion and storage, while that at issue here did not. If a change in amount for direct diversion to storage (or vice versa) creates a new right, however, such a change would not be possible within an existing license.

Examining the Board decisions together indicates that none of the decisions after D-940 address prior Board Orders discussing the issue, and that only some of them articulate a rationale for their statements on whether allowing direct diversion or storage is a permissible change to an existing water right. D-940 articulated a principle by which to address whether a change was permissible, or would constitute a new appropriation: it looked to whether there was a change in the rate of diversion from the stream or the season of diversion. Also, the analysis in D-940 directly supported the decision's ultimate holding. The decisions Camp Pendleton cites, Order 85-4 and D-1308, do not mention D-940 or discuss the general principle articulated by D-940. Further, the language regarding changes to add direct diversion or storage to an existing water right is *dictum* in both cases. While well-reasoned *dicta* can be persuasive, the fact that the decisions do not squarely address either the language in or the logic of D-940 weakens the inference that these decisions overruled D-940.

Later, in Order WR 95-3 and D-1632, both issued after Order 85-4 and D-1308, the State Water Board approved changes from storage to direct diversion, provided the changes did not alter the season of diversion or amount of water requested. Both decisions relied on the same reasoning as D-940, and this reasoning was central to the decisions' holdings. However, the State Water

Board again did not squarely confront its prior discussion on the issue. None of the State Water Board's decisions and orders on the issue should be regarded as having overruled, *sub silentio*, prior inconsistent precedent on this issue.

In evaluating these precedents, this order determines that the reasoning in D-940, and affirmed in D-1632, is correct: the State Water Board may make changes in water rights to the extent that these do not initiate a new right, including changes to add direct diversion or storage to a water right. As explained further in Sections 6.2.2, 6.2.3 and 6.3 of this order, this approach is consistent with the language of the Water Code and better promotes important public policies, including the efficient use of waters of the state and protection of public trust uses. The State Water Board disapproves the language in Order 85-4 and D-1308 that suggests a contrary result.

6.2.2 Interpretation of Water Code sections 1700 et seq

Camp Pendleton argues that, under the interpretive canon *expressio unius est exclusio alterius*, or “the express mention of one thing excludes others,” the authority granted to the State Water Board to accept change petitions for place of use, purpose of use and point of diversion limits the State Water Board to accepting change petitions only for place of use, purpose of use and point of diversion.⁷ Camp Pendleton further argues that the canon is strengthened here, because the Water Code explicitly mentions method of diversion in other sections, and does not include it on the list of changes for which a water right holder may petition. *Expressio unius est exclusio alterius* is a rule of interpretation which describes what an expression normally means, not a rule of law that prescribes how a written phrase must be interpreted, and the canon should be applied only where it makes sense in the context of the statute. (*Longview Fibre Co. v. Rasmussen* (9th Cir. 1992) 980 F.2d 1307, 1312-13.)

The *expressio unius* canon of interpretation is most applicable where a newly enacted act has two provisions, drafted with similar language, and one “conspicuously omits” a term. (*U.S. v. Councilman* (1st Cir. 2005) 418 F.3d 67, 74 (citing *Field v. Mans* (1995) 516 U.S. 59, 75-76).) Where a statute mentions a term in one provision that is not included in another, however, the inference that the term’s exclusion is purposeful weakens “with each difference in the formulation of the provisions under inspection.” (*City of Columbus v. Ours Garage & Wrecker Serv., Inc.* (2002) 536 U.S. 424, 435-6.) Camp Pendleton notes that Water Code sections 100

⁷ Camp Pendleton’s argument is limited to petitioner-initiated changes.

and 275 mention “method of diversion,” and argue that this demonstrates that if the Legislature had intended to include “method of diversion” among the changes the State Water Board may make upon petition of the water right holder, it would have done so. The statutory scheme that mentions “method of diversion” in the referenced Water Code sections, however, is quite different than scheme governing potential changes under Water Code section 1700 et seq. Pursuant to Water Code sections 100 and 275, the State Water Board has authority to prevent the waste, unreasonable use, unreasonable method of use, and unreasonable method of diversion of water. The provisions refer to all water diversion and use, not only appropriations. (See, e.g., *In re Water of Hallett Creek Stream System* (1988) 44 Cal.3d 448, 472 fn. 16 [Water Code section 275 applies to diversion and use under riparian right].) All references to “method of diversion” in the Water Code are in the context of reasonable use: the language is modeled after that in California Constitution article X section 2’s prohibition against waste. (See *People ex rel SWRCB v. Forni* (1976) 54 Cal.App.3d 743, 749 fn. 3.) As such, the term “method of diversion” refers to not only whether water is directly diverted or put into storage, but also the point from which it is diverted, the rate at which the diversion occurs, and other features of the diversion facility or its operation. (See, e.g., Revised [State Water Board Decision 1644](#) at p. 95 [fish losses at diversion structure amounted to unreasonable method of diversion]; [State Water Board Order WR 90-5](#) [adopting time schedule for construction of temperature control device, based in part on authority to prevent unreasonable methods of diversion].) The provisions of the Water Code that discuss “method of diversion” do not mention changes in water rights, or use the terms “direct diversion,” “storage,” “point of diversion,” “place of use,” or “purpose of use” that are found in the provisions regarding changes to water rights. On the other hand, Water Code sections 1700 - 1705 discuss the specific method for requesting changes in appropriative water rights. The statutory language concerning change petitions uses different terminology than the sections referring to “method of diversion.” Because the purposes of and language in these statutory provisions differ, one cannot apply the *expressio unius* canon of interpretation to infer that section 1701 was drafted to deliberately exclude “method of diversion” from potential water right changes. The canon does not afford a reliable method of statutory interpretation in this context.

Moreover, the Water Code expressly recognizes that a petition may be filed to change permit and license conditions other than changes in point of diversion, place of use or purpose of use. Water Code section 1525, subdivision (b), which establishes fees for applications and petitions filed with the State Water Board, establishes fees for petitions “to change the point of diversion,

place of use, or purpose of use, under a permit or license,” and petitions “to change the conditions of a permit or license, requested by the permittee or licensee, not otherwise subject to [the fees for petitions for changes in point of diversion, place of use, or purpose of use].” (Wat. Code, § 1525, subds. (b)(4) & (5).) Similarly, State Water Board regulations recognize that the Board may consider and approve petitions to change permit or license conditions other than conditions establishing the point of diversion, place of use, or purpose of use. (Cal. Code Regs., tit. 23, § 791, subd. (e).)

State policy dictates that the water resources of the state should be put to beneficial use to the fullest extent possible. (Wat. Code, § 100; see *id.* §§ 104, 105.) Looking at the overall statutory scheme for water appropriation demonstrates that allowing an appropriator flexibility to make changes in water rights beyond those specifically listed in Water Code section 1700 et seq. can be important to the public interest in the waters of the state. While Camp Pendleton characterizes the petitioned-for changes as for the convenience of the permittee or licensee, these changes may further important state policies. Like voluntary transfers, voluntary changes in method of diversion may promote the more efficient or more productive use of the state’s limited water resources, so long as adequate safeguards are in place to avoid injury to third party water right holders, unreasonable effects on instream beneficial uses, or interference with other important policies that the water right permit and license system is intended to promote. It may contravene the public interest to deny an appropriator the ability to make changes from storage to direct diversion. For example, it may be contrary to the public interest to deny a change that would allow an appropriator’s ability to ensure reasonable continuity of water supply – including the ability to store water for later use or to divert it when needed – where such flexibility would not injure other right holders or the public trust. This is particularly important where, as here, the use is domestic, and the appropriator is a municipality, whose water rights “should be protected to the fullest extent necessary for existing and future uses.” (Wat. Code, §§ 106, 106.5.) It would be unreasonable to construe the Water Code to prevent such flexibility merely because the petitioner requests the changes, rather than the Board initiating the process on its own motion.

Limiting potential petitioner-initiated changes to place of use, point of diversion and purpose of use would lead to absurd administrative and procedural results, as well. For example, ownership is a key component of a water right, but one that changes relatively frequently. Under Camp Pendleton’s proposed reading, the State Water Board would be unable to change

names and contact information for water right holders, because such a change is not specified in Water Code sections 1700 et seq. An inability to correctly identify a right holder would make the State Water Board unable to contact right holders to ensure that their rights are protected and to ensure that their rights are not exceeded. This would hinder the State Water Board's ability to protect existing water right holders and take enforcement against illegal diversions. (See, e.g., Wat. Code, §§ 1825-1845; 1321.)

Adopting Camp Pendleton's *expressio unius* argument would also lead to the conclusion that permittees and licensees cannot petition for changes in permit conditions that do not involve point of diversion, place of use or purposes of use, but instead set requirements based on water quality, the public trust, or the public interest.⁸ The State Water Board has routinely considered these changes. (See, e.g., [Corrected State Water Board Order WR 2008-0014](#) [approving changes in permit conditions setting instream flow requirements]; see also [State Water Board Order WR 2009-0012](#), p. 5.) Given the need to respond to changing conditions and the increasing reliance on adaptive management, requiring that all changes to these conditions be initiated by the State Water Board, as Camp Pendleton suggests, would be unworkable. Not only would it create an unnecessary obstacle to voluntary compliance, but the State also would forego opportunities for increased water efficiency or improved protection of public trust resources in cases where the water right holder is willing to make beneficial changes but it is unclear whether the failure to make those changes would be unreasonable or in violation of the public trust. (See generally *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 447 fn. 28 [recognizing but not resolving dispute whether the constitutional prohibition against waste or unreasonable use merely prohibits wasteful or inordinate use, or prohibits any use less than the optimum allocation].)

Thus, an unnecessarily narrow limitation on the types of changes that a water right holder can request would interfere with the State Water Board's overarching responsibilities to administer water rights and to promote the reasonable and beneficial use of California's waters.

Interpretations of statutes that contravene an overarching statutory intent, or would lead to absurd results, are to be avoided. (E.g., *People v. Jenkins* (1995) 10 Cal.4th 234, 246.)

⁸ While Camp Pendleton's petition expressly recognizes that the State Water Board has broad authority to change water rights to address public trust or waste and unreasonable use concerns, the logical extension of its statutory construction argument would deny petitioners the right to request such changes.

Along with priority, source of water, season of diversion, and amount of diversion, the point of diversion, place of use, and purpose of use are fundamental attributes of an appropriative water right. It is understandable that the Legislature would make express allowance for changes in point of diversion, place of use, and purpose of use, as without this authorization it might be inferred that these fundamental attributes cannot be changed. Moreover, the express authorization of changes to point of diversion, place of use, or purpose of use may be read to imply that the other fundamental attributes of an appropriative right -- the priority, source of water, season of diversion and amount of diversion -- cannot be changed, except where the change amounts to a limitation. Indeed, the principle that a change cannot enlarge the right or amount to initiation of a new right incorporates the view that a permit or license holder cannot petition for an earlier priority, new source, expanded season of diversion or increase in diversion.

It is another matter entirely, however, to read the Water Code's express allowance for changes in some of the fundamental features of an appropriative water right to impliedly exclude changes in other, less fundamental conditions of a water right permit or license. Camp Pendleton's suggestion that these less fundamental conditions may be changed in proceedings initiated by the State Water Board is not merely impractical under current conditions. It fails to explain why the provisions authorizing changes in point of diversion, place of use or purpose of use did not reference other permit and license conditions at the time those provisions were enacted as part of the original Water Commission Act. (Stats. 1913, ch. 586, §§ 12, 39, pp. 1021-1022, 1032.) Under the original Water Commission Act, and for many years thereafter, the State Water Board's predecessor lacked authority to reopen a permit or license on its own motion. (See generally *National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 447 [the role of the State Water Board's predecessor was very limited].) If changes in permit and license conditions could not have been made at the request of permit or license holders, it is unlikely those changes could have been made at all. Nor would it make any sense, where the State Water Board has authority to make changes, to prohibit permit and license holders from petitioning the State Water Board to make those changes.

For these reasons, the Water Code cannot reasonably be interpreted to prohibit petitions for changes permit and license conditions, or to prohibit changes from storage to direct diversion, simply because the changes are not changes in point of diversion, place of use or purpose of use.

6.2.3 Interpretation of California Code of Regulations, title 23, section 791, subdivision (e)

California Code of Regulations, title 23, section 791, subdivision (e) states:

The procedures set forth in Articles 15, 16, 16.5 and 17 shall be followed as nearly as possible when filing and processing petitions for changes in permits and licenses other than changes in point of diversion, place of use and purpose of use.

The regulation anticipates that the State Water Board will accept and process change petitions for changes other than point of diversion, place of use, and purpose of use. Camp Pendleton reads this section to extend only to changes in the “terms and conditions” of water right permits, because regulations may not extend statutory authority and because the State Water Board has relied on this section to make changes to water right terms and conditions. Of course, the permission to store water or use it by direct diversion is a term or condition of a water right. Likewise, for example, a season of diversion, a fish screen requirement, a bypass flow requirement, a place of use or a rate of diversion are water right terms and conditions. It appears that when Camp Pendleton argues that the State Water Board’s authority is limited to changes in terms and conditions, it means terms and conditions that do not involve the substantive features of the water right. Nothing in the language of the regulations suggests such an interpretation, and it is unclear how a limitation excluding “substantive features” would apply. Conditions protecting water quality, instream beneficial uses, or the public interest are also substantive. As discussed above, the State Water Board rejects Camp Pendleton’s argument that the State Water Board’s authority to consider petitions to change permit and license conditions must be interpreted narrowly to avoid conflict with an implied limitation to changes in point of diversion, place of use or purpose of use. This, in turn, undermines Camp Pendleton’s suggestion that the regulation exceeds the State Water Board’s statutory authority if it extends beyond the non-substantive “terms and conditions” otherwise authorized under the Water Code. Because the regulation refers to processing change petitions, a more straightforward reading of the regulation is that it refers to any other changes that a petitioner may request, which includes a change to add direct diversion or storage.

6.3 Public Interest

Camp Pendleton asserts that allowing water right holders to add direct diversion or storage to their water rights would be against the public interest because it would create legal uncertainty and upset existing precedent. As discussed above, administrative precedents do not have the

same binding effect as statutes or administrative regulations. The State Water Board ordinarily will follow its precedents, but may refine, reformulate or even reverse its precedents on a case-by-case basis in light of new insights or changed circumstances, so long as it squarely confronts inconsistent precedent and explains its reasons for changing. In this case, the State Water Board has no choice but to make changes from at least some of its prior orders and decisions, because those orders and decisions reflect inconsistent interpretations, and it is in the public interest to issue an order that clarifies the law on this issue.

Camp Pendleton further asserts that allowing a permittee to submit a change petition that conforms a water right to the permittee's actual practice will encourage illegal diversion of water. The State Water Board agrees that "actual conditions should reflect existing water rights." But neither the Water Code nor State Water Board practice establish a general rule that a change will not be permitted under circumstances where the change first occurred without prior authorization and the petitioner is seeking approval after the fact. The State Water Board frequently approves applications or petitions intended to bring existing diversions or uses into compliance. (See, e.g., Revised State Water Board Decision 1641 (2000) at pp. 115-122, 163-166 [approving expansion of the place of use under the water right permits for the Central Valley Project to include lands outside the permitted place of use where service was already being provided]. See also Cal. Code Regs., tit. 23, § 1065, subd. (b) [requiring payment of annual fees on a petition where the change is initiated before the change is approved].) The issue of the appropriate response to activities initiated without prior authorization is largely a question of enforcement, and issuance of an approval later does not immunize the violator from penalties for violations that occurred before the approval. Moreover, the decision whether to take enforcement action is entirely discretionary. (See *Fox v. County of Fresno* (1985) 170 Cal.App.3d 1238, 1242-1244; see also *Citizens for a Better Environment – Cal. v. Union Oil Co. of Cal.* (9th Cir. 1996) 83 F.3d 1111, 1119-1120.) In these circumstances, it would not be appropriate to adopt a general rule that amounts to a nondiscretionary punitive sanction, making those who initiate changes without first obtaining approval ineligible for approval even after they go through the approval process.

Absent such a general rule, the public interest in issuing a permit that conforms a water right to an existing use must be independently weighed in each individual case. Camp Pendleton provided no information specific to the City of Santa Cruz's water rights in this regard, and also provided no substantiation of the claim that approving individual petitions that conform a water

right to an existing use would encourage future illegal diversions. The State Water Board requested that Camp Pendleton supplement its public interest assertions in the April 29, 2009, letter from Deputy Director Victoria Whitney to Ralph E. Percy, and Camp Pendleton declined to do so.

7.0 CONCLUSION

The State Water Board may receive and process change petitions that add direct diversion or storage to a water right, subject to the “no injury” rule and any conditions necessary to protect public trust uses and the public interest, provided there is no increase in the rate or season of diversion. Camp Pendleton’s request for reconsideration is therefore denied.

ORDER

IT IS HEREBY ORDERED that the petition for reconsideration is denied.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on December 1, 2009.

AYE: Chairman Charles R. Hoppin
Vice Chair Frances Spivy-Weber
Board Member Tam M. Doduc
Board Member Arthur G. Baggett, Jr.
Board Member Walter G. Pettit

NAY: None

ABSENT: None

ABSTAIN: None



Jeanine Townsend
Clerk to the Board

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May 16, 2021

Ms. Gina R. Nicholls
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Los Angeles, CA 90017

VIA E-MAIL AND U.S. MAIL
gnicholls@nossaman.com

Re: City of Santa Cruz's Petitions for Change and Extension of Time –
Response to San Lorenzo Valley Water District Protest

Dear Ms. Nicholls:

This letter is the City of Santa Cruz's response to the San Lorenzo Valley Water District's (SLVWD) March 12, 2021 letter that SLVWD submitted to the State Water Resources Control Board (SWRCB) as a protest of the City's pending water-right petitions. The City appreciates SLVWD's attention to the City's petitions and has carefully analyzed the issues raised in SLVWD's protest. As discussed below, the City believes that it should be possible to resolve SLVWD's protest collaboratively, consistent with the two water suppliers' broader relationship.

1. Loch Lomond Water

The City understands SLVWD's concern about its access to water from Loch Lomond Reservoir. It has never been the City's intent in developing and submitting the pending water-right petitions to deny SLVWD access to water from Loch Lomond consistent with the relevant contract between the City and SLVWD. As the City's forthcoming draft EIR will indicate, the City has assumed that 313 acre-feet a year of water from Loch Lomond would be available to SLVWD. Accordingly, to resolve this aspect of SLVWD's water-right protest, the City is amenable to including, in an SWRCB order approving the City's petition to change its license for diversions at Newell Creek Dam and Loch Lomond Reservoir (License 9847), the following term:

This license's minimum streamflow requirements, and limitations on deliveries to other entities outside of the City of Santa Cruz's service area, will not preclude the City from delivering up to 313 acre-feet per year under this license to San Lorenzo Valley Water District, pursuant to an existing contract between that District and the City.

Please let me know at your soonest convenience whether this term is acceptable to SLVWD as a basis for resolving the portion of its protest concerning Loch Lomond water.

2. Streamflows Below Felton

SLVWD's protest also states concerns about how the City's proposals to modify the San Lorenzo River bypass flows that apply under its Felton permits (Permits 16123 and 16601) could affect SLVWD's use of its water rights. SLVWD's protest suggests that, if the City's proposed Felton bypass flows were to be applied to SLVWD's water rights, then SLVWD's water supplies might be affected. SLVWD's protest also requests that processing of the City's pending petitions be delayed while SLVWD works on potential water-right changes of its own.

Preliminarily, the City is not proposing changes to SLVWD's water rights. The City further understands SLVWD's concerns to be based on term 13 in SLVWD's Permit 20123. That term reads as follows (omitting paragraph breaks):

Permittee [SLVWD] may divert water under this permit only when flow in the San Lorenzo River below the Felton Diversion Weir exceeds the following amounts: a. September – 10 cubic feet per second; b. October – 25 cubic feet per second; c. November 1 through May 31 – 20 cubic feet per second.

Term 13's broader context is that SLVWD's multiple water-right permits and licenses involve diversions from the San Lorenzo River's watershed upstream of the City's Felton diversion. While Permit 20123's term 13 currently ties SLVWD's ability to divert to streamflows below the City's Felton diversion, in the future, the City may be able to agree that the point at which minimum streamflows would be measured under SLVWD's water rights could be moved upstream. The City's ability to agree to such a change would depend on the change having no adverse effects to the City's water supplies or the San Lorenzo River watershed's listed coho salmon and steelhead. Accordingly, as SLVWD advances its proposals as described in its protest letter, the City assumes that SLVWD will ensure that whatever changes to its water rights, or other water management measures, SLVWD proposes will ensure that listed fish and the City's water supplies are not adversely affected.

Based on this background, the City would like to assure SLVWD that its pending water-right petitions are not intended to reduce or otherwise negatively impact SLVWD's rights under Permit 20123. The City instead developed the proposed streamflow requirements contained in these petitions – including the proposed new Felton bypass flows – in cooperation with the California Department of Fish and Wildlife and the National Marine Fisheries Service in order to ensure that the City's water-supply operations are protective of listed coho salmon and steelhead. Because the proposed new Felton bypass flows would significantly increase flows at that location, the City's implementation of those proposed requirements will not have any adverse effects on SLVWD under Permit 20123's term 13. The City's petitions to change its Felton permits (Permits 16123 and 16601) therefore would not injure SLVWD as a legal user of water. SLVWD's concerns that the City's proposed changes to its Felton bypass-flow requirements under those might adversely affect SLVWD's water supplies, if SLVWD's Permit 20123 were subjected to those same requirements, therefore do not present valid grounds for a water-right protest.

Ms. Gina Nicholls

May 16, 2021

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In light of the collaborative relationship between the City and SLVWD, however, the City would like to resolve amicably the portion of SLVWD's protest concerning Felton streamflows. The City therefore would be amenable to recognizing SLVWD's interest in potentially modifying the point at which minimum streamflows are measured under SLVWD's Permit 20123, assuming that SLVWD similarly recognizes the City's interest in ensuring that proposals by SLVWD will not adversely affect the City's water supplies. Accordingly, in order to resolve SLVWD's water-right protest, the City would be willing to sign a binding protest-resolution agreement containing the following term:

The City of Santa Cruz acknowledges that the minimum Felton bypass flows stated in this permit are not a binding precedent for Term 13 in San Lorenzo Valley Water District's Permit 20123. The City will consider, in good faith, proposals by the District to change the compliance point for minimum streamflows in Permit 20123 from the Felton diversion, based on a demonstration by the District that its proposal to modify that compliance point, and any other associated plans or proposals of the District, will not adversely affect the City's water supplies.

That agreement would require SLVWD to withdraw its protest promptly on the agreement's execution. That agreement also would incorporate the proposed permit term concerning Loch Lomond discussed above.

Please let me know at your soonest convenience whether this term is acceptable to SLVWD as a basis for resolving the portion of its protest concerning Felton streamflows.

3. Conclusion

The City values its relationship with SLVWD and hopes to cooperatively resolve SLVWD's water-right protests in the spirit of advancing integrated management of the region's available surface-water and groundwater supplies. We look forward to discussing with you a resolution of SLVWD's protests. Please do not hesitate to contact me if you have any questions.

Kind regards,



Ryan S. Bezerra

Attorneys for City of Santa Cruz

RSB:

Response to SLVWD water-right protest 2021-05-06

Cc (via e-mail):

State Water Resources Control Board,
Division of Water Rights
Attn: Jane Ling
P.O. Box 2000
Sacramento, CA, 95812-2000
Jane.Ling@waterboards.ca.gov

allow as credit for the succeeding year's purchase any sums which PURCHASER may have overpaid for the year in question.

IT IS AGREED by and between the parties hereto that this agreement shall become effective and PURCHASER shall be entitled to receive such water at existing points of diversion upon ten days written notice of intention to receive water delivered by PURCHASER to SELLER and that PURCHASER may terminate this agreement and supply of water at will at which time SELLER agrees to determine the actual cost of production of water furnished under the contract at the end of the fiscal year and remit at that time any credit and be entitled to payment of any balance that may be due therefor.

WITNESS OUR HANDS in the County of Santa Cruz the 26th day of September, 1962.

CITY OF SANTA CRUZ

By

W. J. Miller
City Manager Pro Tem

SAN LORENZO VALLEY COUNTY
WATER DISTRICT

By

James E. ...
Chairman

Bernard C. Verrill
Secretary

Approved as to form this

2 day of August, 1962.

Forbes ...
City Attorney