

# Integrated Water Plan

## Final Program Environmental Impact Report Response to Comments Document

State Clearinghouse #2003102140



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# **Chapter 1. Introduction**

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## **1.1 PURPOSE OF THE FINAL ENVIRONMENTAL IMPACT REPORT**

This report has been prepared to accompany the Draft Program EIR for the Santa Cruz Water Department Integrated Water Plan. The Draft Program EIR identified the environmental consequences associated with construction and operation of the potential Program, and recommended mitigation measures to reduce significant and potentially significant impacts. This document responds to the comments on the Draft Program EIR and makes revisions to the Draft Program EIR, as necessary, in response to these comments. Together with the Draft Program EIR, this document constitutes the Final EIR for the proposed Program.

The Final EIR is an informational document prepared by the lead agency that must be considered by decision-makers before approving or denying a proposed program. California Environmental Quality Act (CEQA) Guidelines (Section 15132) specify the following:

The Final EIR shall consist of:

- (a) The Draft Program EIR or a revision of the draft.
- (b) Comments and recommendation received on the Draft Program EIR, either verbatim or in summary.
- (c) A list of persons, organizations, and public agencies commenting on the Draft Program EIR.
- (d) The response of the lead agency to significant environmental points raised in the review and consultation process.
- (e) Any other information added by the lead agency.

## **1.2 ENVIRONMENTAL REVIEW PROCESS**

On June 10, 2005, the City of Santa Cruz (lead agency) released the Integrated Water Plan Draft Program EIR for public review (State Clearinghouse No. 2003102140). The public review and comment period on the Draft Program EIR began on June 10, 2005 and closed on July 29, 2005. The City of Santa Cruz City Council is scheduled to consider certifying the Final EIR (a finding that the EIR complies with the requirements of CEQA) at a regularly scheduled Council meeting on November 8, 2005. Following EIR certification, the City Council may proceed with consideration of Program approval actions.

In accordance with CEQA Guidelines Section 15087, the City provided a Notice of Availability notifying the public of the publication of the Draft EIR. This notice was mailed to the individuals and organizations who previously requested such notice in writing. Additional notification was provided through the publication of a notice in the Santa Cruz Sentinel on June, 10, 2005.

## 1. INTRODUCTION

During the 45-day public comment period, four meetings were held to discuss the proposed Program and receive comments on the Draft Program EIR. The dates, time, and place of these meetings were initially identified in the publicly-circulated Notice of Availability of the Program EIR, and subsequently identified at the beginning of each meeting. The meetings were as follows:

- Integrated Water Plan (IWP) Public Meeting – June 30, 2005
- IWP Water Commission Meeting – July 11, 2005
- IWP pEIR Advisory Committee Meeting – July 21, 2005
- IWP Public Hearing – July 26, 2005

## 1.3 REPORT ORGANIZATION

Chapter 2 of this Response to Comments on the Draft Program EIR document contains copies of comments (letters and meeting notes) received during the comment period followed by the City's responses to those comments. Each comment is alphanumerically coded in the margin of the comment letter, based on the initials assigned for each letter (see Table 1-2 below) and the order of the comments. For example, the first comment in the letter from the California Coastal Commission is CCC-1. Where a response includes a change to the text of the Draft Program EIR, a reference is made to Chapter 3, which contains corrections and clarifications made to the Draft Program EIR text.

A number of comments were received on issues ranging from relationship of the proposed Program to the City's existing water supplies to alternatives evaluation. Four master responses have been prepared in response to issues that elicited numerous comments. These master responses are shown in Table 1-1, below, and presented in Section 2.1.

**Table 1-1**  
**Master Responses Included In This EIR**

Master Comments #	Issue
1	Existing Water Supply Conditions and Other Ongoing Water Supply Planning Issues
2	Growth
3	Alternatives
4	Cost

Table 1-2 is a list of all persons and organizations that submitted comments on the Draft Program EIR during the comment period, the date of the letters, and the initials used to identify each letter. It should be noted that two agency letters (California Coastal Commission and MBNMS) were received after the close of the comment period; however, as the proposed Program would be within the jurisdictions of these agencies, their comments have been included and responses have been prepared.



**Table 1-2**  
**Letters Received during the 45-day Comment Period**

LETTERS RECEIVED	AFFILIATION	DATE	Initials
Jack Schultz	Solar Utilities Company	7/27/2005	SUC
Tom Burns, Planning Director	County of Santa Cruz	7/28/2005	SCC
Dick Butler, Santa Rosa Area Office Supervisor, Protected Resources Division	NOAA	7/27/2005	NMFS
Bruce Daniels, President Board of Directors	Soquel Creek Water District	7/28/2005	SqCWD
Aldo Giacchino, Chief, Executive Committee	Sierra Club, Santa Cruz County Group	7/27/2005	SC
Betsy S. Lichti, P.E., District Engineer, Monterey District	Department of Health Services, Drinking Water Field Operations Branch	7/27/2005	DOHS
Robert W. Floerke, Regional Manager	California Department of Fish and Game, Central Coast Region	7/25/2005	DFG
John Barnes, Director of Campus Planning	University of California, Santa Cruz, Physical Planning and Construction	7/22/2005	UCSC
Jean Getchell, Supervising Planner	Monterey Bay Unified Air Pollution District	7/26/2005	APCD
Joshua P. Assink	None	7/29/2005	JA
Andrew Schiffrin	None	6/29/2005	AS-1
Andy Schiffrin	None	7/19/2005	AS-2
Kristi Bittner, Neighbor/homeowner	None	7/29/2005	KB
Heather Allen	Coalition on Responsible Desalination (Friends of the Sea Otter, The Ocean Conservancy, Southern California Watershed Alliance, Surfrider Foundation, Christine Bradley, and Jessica Nagtalon)	7/29/2005	CORD
Andy Schiffrin	None	7/22/2005	AS2
Jim Warner	None	6/28/2005	JW
<b>Meetings</b>			
IWP Public Meeting	--	6/30/2005	PM
Water Commission Meeting	--	7/11/2005	WCM
IWP pEIR Advisory Meeting		7/21/05	ACM
Integrated Water Plan Draft PEIR Public Hearing	--	7/26/2005	PH
<b>Agency Letters received after the close of the comment period</b>			
Susan Craig, Coastal Planner	California Coastal Commission	8/12/2005	CCC
William J. Douros, Sanctuary Superintendent	MBNMS	8/5/2005	MBNMS

Note: -- = Not Applicable

## Chapter 2. Comments and Responses

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### 2.1 MASTER RESPONSES

#### 2.1.1 Master Response 1 (MR 1) – Existing Water Supply Conditions and Other Ongoing Water Supply Planning Issues

This Master Response responds to the following comments: CCC-1, CCC-2, CCC-10, CCC-17, MBNMS-2, NMFS-2, DFG-1, DFG-2, DFG-3, PM-15, and ACM-2.

In summary, these comments request clarification on the relationship of the Proposed Program to the City's existing water supplies, and any potential impact that the Proposed Program would have on the biological resources of the existing water supplies.

##### *Purpose of the Proposed Program*

It is important to reiterate the purpose of the Integrated Water Plan and the problem it was aiming to solve: the Proposed Program provides a flexible and phased approach for reducing near-term drought year shortages and for providing a reliable supply that meets long-term needs while ensuring protection of public health and safety (DEIR, p. 1-2). As such, the Program is critically important to the City's ability to provide water supplies during drought conditions, and thus, has independent utility apart from the Program's relationship to existing water supplies.

The primary water management problem that the City is presently facing, even with current levels of development, is a lack of adequate water supply during periods of drought. In normal and wet years when rainfall and runoff are normal to abundant, base flows in the coast and river sources are restored by winter rains. Under these conditions, the water supply system is capable of meeting the community's total annual water requirements.

In below normal, dry, and drought years, when the San Lorenzo river and coast sources run low, however, the system is highly vulnerable to shortage. In these year types, the system relies more heavily on water stored in Loch Lomond to satisfy demand, which draws down the reservoir level lower than usual and depletes available storage. In critically dry or multi-year drought conditions, the combination of very low surface flows in the coast and river sources and depleted storage in Loch Lomond reservoir reduces available supply to a level that cannot support even average dry season demands.

The City experienced severe water supply deficiencies in both the 1976-77 and 1987-92 droughts. In 1977, the City imposed severe water rationing in response to a critical shortage of water. During the 1987-92 drought, a water supply emergency was declared and either usage restrictions or rationing was imposed each year for five consecutive years. The 1976-77 event has since been established as the most severe drought of record, and is used by the City as a benchmark for assessing system reliability. If a critical drought similar to 1976-77 occurred in 2005, shortages would be in excess of 40%.

Operations studies conducted by the City show that the problem of water shortage will worsen, in terms of both frequency and magnitude, as the population of the region grows and demand for water increases over time.

To address the problem of water shortage, the City has been actively considering possible new water supplies for many years. In 1997, the City initiated a new effort using a broader-based approach known as integrated water planning to consider all practical options for decreasing demand and increasing supply. A series of background studies were undertaken, including the Water Demand Investigation (Maddaus 1998), Water Conservation Plan (Fiske 2000), Water Curtailment Study (Fiske 2001), Alternative Water Supply Study (Carollo 2000), and the Evaluation of Regional Water Supply Alternatives (Carollo 2002).

The conclusion of this process, in 2003, were recommendations for solutions to the above described water management problem: two water supply strategies through desalination (Alternative D-1: City-only Desalination, and Alternative D-2: Cooperative Desalination) at 15 percent curtailment. The reduction of water demand through maximum practical water-use efficiency, or conservation, was also a key recommendation.

### ***Existing Conditions***

In developing the IWP, a basic assumption regarding existing conditions was that the City would continue to use its existing sources of supply into the future as it has in the past. These include the north coast sources, diversions from Newell Creek and the San Lorenzo River at Felton and subsequent operation of Loch Lomond Reservoir, and water produced from the Live Oak wells. Without these sources, the need for additional water supply may be greater than projected in the IWP. Without adoption of the IWP, the City would experience water supply shortages in the range of 40-45 percent in a critical drought such as the one experienced in 1976-1977.

The flexible phased approach of the Proposed Program provides an immediate increment of water supply that would reduce near-term drought shortages and solve the City's current water management problem and crisis. For future water supply needs, this phased approach allows for consideration of water demand at that future time, and the development of additional water supply in response to that demand if and when it materializes. In this manner, the City can continue to assess the condition and viability of its water supply sources, including those mentioned above, and be responsive to any changes in those sources.

### ***Links to Other Water Supply Sources***

Several commenters have suggested that the impacts of other projects or water supply sources within the City's jurisdiction may be offset by the use of increased amounts of desalination supply water. Commenters have also suggested that the IWP and Draft Program EIR should discuss actions to ensure that the new water supply source will provide a benefit to ecosystem restoration. In summary, these comments raised the question of this Program's relationship with any potential impacts that the City's current supplies might have on biological resources.

One of the basic assumptions underlying the Integrated Water Plan was that no more water was available from the City's existing sources. Thus, the initial phase of the IWP Program speaks directly to insuring the City's water supply has some measure of drought reliability. For this reason, the IWP has independent utility. No cause and effect relationship between Phase 1 and possible increased diversions in other streams exists, as this Program augments existing supplies to assure 85% of average annual demand can be delivered in all drought conditions without any change in existing diversions or withdrawals from surface or groundwater storage. If in connection with consideration of future phases, the City were to identify any potential for interaction between desalination capacity and possible increased diversions, such relationships would be evaluated in the project-level analysis for any such later phases of the Program.

With respect to the relationship of this Program to the City's ongoing Habitat Conservation Plan, the two separate projects each have independent utility, in that neither is dependent in terms of timing or in terms of outcome on the other. The City voluntarily entered the applicant-driven Habitat Conservation Planning process for the purpose of assuring the City certainty in its future delivery of water from existing sources for the next 30 years. Negotiations are underway among the City, the National Marine Fisheries Service, and the California Department of Fish and Game to examine the life cycle stages of threatened and endangered species present in streams from which the City diverts water and the limiting factors that exist in those streams without regard to who is responsible for those limiting factors. The purpose of those discussions is to arrive at a suite of potential changes the City might make in its operations to benefit those threatened and endangered species. To the extent those operational changes might diminish the amount of water the City supplies seasonally, the City will need to deal with those changes independent of the implementation of the Integrated Water Plan.

In short, the IWP has independent utility apart from any potential to offset impacts of other projects or to further biological or habitat restoration goals. Therefore, the scope of the analysis in the Program EIR was proper. (See *Del Mar Terrace Conservancy v. City Council of the City of San Diego* (1992) 10 Cal.App.4th 712, 732-733; *Christward Ministry v. County of San Diego* (1993) 13 Cal.App.4th 31, 44-46.) To the extent that future phases, following City approval of an updated general plan, raise the prospect of increased potential for additional diversions, the City can consider such effects in future, project-level documents.

### ***Endangered Species Issues***

Comment NMFS-1 notes several issues pertaining to the Endangered Species Act (ESA) and species listed as threatened. The commenter is suggesting that the City is responsible, through the IWP, for remedying prior impacts on endangered species in areas that are not related to the Proposed Program. The City has no such obligation as part of the IWP. Rather, to the extent listed and endangered species may be impacted by the Proposed Program, the Draft Program EIR assessed those potential impacts. Specifically, potential impacts to the Central California Coast Evolutionarily Significant Unit (ESU) steelhead were addressed (DEIR, p. 5.4-28) and it was found that the construction of the pipeline for Alternative D-2 would have the potential to affect steelhead. This impact was reduced to less than significant with the application of mitigation measures that would employ best management practices and erosion control measures.

### 2.1.2 Master Response 2 (MR 2) – Growth

This Master Response responds to the following comments: SCC-4, SC-4, SC-5, JA-2, AS1-1, AS1-2, AS1-3, AS1-4, AS1-7, AS1-10, AS1-15, AS1-16, AS1-18, AS1-19, AS1-22, AS1-26, AS1-29, AS1-30, AS1-31, AS1-32, AS1-37, AS1-38, AS2-1, CORD-22, CORD-23, PM-10, WCM-1, WCM-2, WCM-4, PH-5, PM-11.

In summary, these comments ask if the provision for possible future expansion of a desalination plant puts water planning ahead of land use planning, and for clarification on the timing of Draft Program EIR certification and project approval.

#### ***Water Supply Increments in Concert with Growth***

The provision of additional water supply through desalination as proposed in the IWP would occur in three staged increments, with the first increment supplying water for drought protection and to meet the currently approved and planned growth and the subsequent increments intended for drought protection and future growth (DEIR, p. 1-2, and Tables 1-1a and 1-1b). This approach was intentionally taken to enable the City, and the public, the flexibility and opportunity, in the future, to assess growth and the need (if any) for additional water supply. The phases are tied to the population projection horizons identified in the City of Santa Cruz General Plan and Local Coastal Program and the *Water Demand Investigation* (Maddaus, 1998). The near-term phase is defined as 2005 to match the current General Plan's horizon, which would not be achieved until 2009. The long-term phase is the period from 2005 through 2030 to synchronize with the planning horizon that would be identified in the updated General Plan, with the knowledge and understanding that the timing of, or need for, future phases is dependent on growth that is prescribed by adopted future General Plans for the Cities of Santa Cruz and Capitola and the County of Santa Cruz, and any increase in water demand that may accompany that planned growth. The need for consideration of expansion of the desalination plant to its future increments would be confirmed upon update of the population projections in the applicable future General Plans and timed for decision when actual water demands warrant that consideration. In this manner, the provision of water supply beyond the immediately needed first increment would not go beyond the City's needs, remove any barriers to growth, or cause growth inducement.

In addition, this phased and flexible approach for the provision of water supply would take into consideration any stabilization or lack of population growth in that additional water would not be needed if there is not a population need or water demand in the future.

This CEQA analysis is at a program-level, pursuant to *CEQA Guidelines* Section 15168, where a Program EIR may be prepared on a series of actions that can be characterized as one large project, and are related either geographically; as logical parts in the chain of contemplated actions; in connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program; or as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The program EIR is staged so that each phase of implementation can be approved in concert with the General Plan. The City Water Department intends to recommend to City Council that the IWP Final Program EIR, which covers each of the implementation phases as described above is certified and that the Integrated Water Plan as amended is adopted.

Prior to the construction and permitting of the first increment of desalination, which would be a plant with a capacity up to 2.5 mgd, project-level CEQA analysis would be completed. This analysis would include details regarding the operation of the desalination plant, connection points, and any necessary improvements to the wastewater treatment plant. Similarly, each subsequent increment of additional water supply, if needed as determined from the planned and approved growth at that time, would also undergo project-level CEQA analysis. As such, water supply improvements would not occur ahead of the General Plan process and the public will continue to have the opportunity to review the proposed programs.

### ***Water Supply and Land Use Planning***

Several commenters mentioned the case of *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931 (“*County of Amador*”), and suggested that the IWP, as proposed by the City, runs afoul of the holding of that case. To the contrary, the City considered that case in formulating the project and in preparing the EIR, and consequently followed an approach consistent with the holding and reasoning of that case.

In *County of Amador*, El Dorado County Water Agency prepared an EIR for a water program that included, among other things, a water rights application seeking to divert water from the American River watershed. (76 Cal.App.4th at p. 940.) The court summarized the problem with the water agency’s analysis as follows:

[T]he primary purpose of the water program [was] to provide water supplies to meet projected increased populations. These projections were contained in a draft general plan. In other words, water policy was predicated on the population forecasts of an unadopted general plan, and water projects were tailored to the needs outlined in that still-to-be finalized document. *In this case*, approving a water program before enacting a general plan places the proverbial cart before the horse.

(*Id.* at p. 949, italics added.) The court hastened to add that “[h]ad a general plan reflecting population and development policies been adopted, a water project to meet those needs would certainly have been appropriate.” (*Id.* at p. 950.) Because the general plan was only in the draft stages, the court said, the availability of additional water would “remove[] a major barrier to growth and can virtually ensure development.” (*Id.* at p. 951.) Thus, the court was concerned that the availability of additional water supply would induce growth and eliminate any incentive for the local planning agency to evaluate the “interrelationship of growth and water sources” through its general plan process. (*Ibid.*)

Formulated with the pitfalls identified by the court in mind, the City’s IWP represents a “flexible phased approach for reducing near-term drought year shortages and for providing a reliable supply that meets long-term needs[.]” (DEIR, p. 1-2.) The document repeatedly acknowledges that

“development of additional water supply for Santa Cruz [must be] responsive to rather than built out ahead of planned growth.” (DEIR, p. 6-11; 6-16 (for this reason, “additional environmental review will be required for any expansion of the desalination plant or proposed change in operation”).) Thus, the DEIR is a program-level document designed to evaluate a “series of actions comprising a comprehensive water plan[.]” (DEIR, p. 2-1.) The phases of Program implementation “are tied to the population projection horizons identified in the City of Santa Cruz General Plan and Local Coastal Program.” (DEIR, p. 4-26.) The proposed desalination plant will not be constructed until project-level CEQA analysis has been completed, and the eventual expansion of the plant’s capacity to track updated population projections will be subject to additional subsequent environmental review. (DEIR, pp. 4-26 to 4-27.)

The City of Santa Cruz is currently facing a severe water supply shortage during times of drought. (DEIR, p. 3-1.) The City expects that under existing conditions, without adoption of the IWP, the City would experience water supply shortages in the range of 40-45 percent in a critical drought such as the one that occurred in 1976-1977. (DEIR, pp. 3-4, 4-27.)<sup>1</sup> To overcome this enormous potential shortfall and to prudently consider the water needs of future growth, the City embarked on a multi-year process of background studies leading up to the formulation of the IWP. (DEIR, p. 3-4.) Based on these studies, the City’s experts concluded that two potential desalination strategies should be evaluated at a programmatic level in the IWP DEIR: D-1 (City-Only Desalination) and D-2 (Cooperative Desalination). (DEIR, p. 3-12.) Under scenario D-1, the proposed desalination plant would provide “supplemental water supply to the City’s service area during drought events.” (DEIR, p. 1-8.) Under D-2, the plant would operate more frequently in order to provide non-drought supply to a potential partner water agency. (DEIR, p. 1-8.) Under either scenario, the plant’s operations would be phased in—the initial operational range would be up to 2.5 mgd, expanding to up to 3.5 mgd in 2015 and up to 4.5 mgd in 2025. (DEIR, pp. 1-8 to 1-10.)<sup>2</sup>

The initial 2.5 mgd capacity provided by construction of the desalination plant would not remove an obstacle to growth or induce growth because it is intended to supplement surface water supply in dry years and will not change the manner in which the City processes applications for service connections for new construction. (DEIR, p. 6-9.) Thus, unlike the situation in *County of Amador*,

<sup>1</sup> As illustrated in the following table, a potential forty percent shortage is much higher than anything tolerated by other California water agencies that have adopted integrated water plans:

Agency	Acceptable Shortfall	Acceptable Frequency
Alameda County Water District	10% annual	Once every 30 years
Contra Costa Water District	15%	
East Bay Municipal Utility District	25% limit on rationing	
Marin Municipal Water District	25%	
San Francisco Public Utilities Commission	0% goal for City; Suburban wholesale seeks 0% also	
Santa Clara Valley Water District	0%	Once every 100 years

<sup>2</sup> Notably, for all scenarios, the sizing of the desalination plant was based on the assumption that the City would plan for up to 15 percent curtailment in drought-year shortage situations. (DEIR, pp. 3-9 to 3-10, 3-12, 4-5 to 4-7.) “Acceptance of less than full supply in drought years means the capacity of the recommended desalination facility is approximately half the size it would otherwise have to be if the City opted to meet full demand in all years.” (DEIR, p. 4-5.)



*supra*, the DEIR's analysis does *not* assume future action by the Santa Cruz City Council approving an updated General Plan allowing greater levels of population growth than found in the current General Plan. Rather, even the first phase of the IWP program, which is intended to serve population levels already anticipated by the existing, approved General Plan, must undergo project-level environmental analysis prior to construction.

As noted above, the EIR also serves as a program-level EIR for potential expansion of the desalination plant capacity to meet additional needs dictated by growth that will be allowed during future general plan cycles, including the proposed general plan that is currently in the process of being updated. (DEIR, pp. 4-26 to 4-27.) Because additional (project-level) environmental review will be necessary before these later phases of the IWP can be implemented, the City will not be in a position, in certifying this *program*-level EIR, to obtain water supplies beyond those required for currently anticipated levels of population growth, as found in the current General Plan. (DEIR, p. 6-17.)

Thus, unlike the situation in *County of Amador*, where the court was concerned that the availability of additional water would facilitate growth ahead of proper land use planning, here, “additional environmental review will be required for any expansion of the desalination plant or proposed change in operation to ensure that the capacity and manner of operation of the plant is consistent with future population projections and City/County planning documents, and to ensure that development of additional water supply for Santa Cruz is responsive to rather than built out ahead of planned growth.” (DEIR, pp. 6-10 to 6-11.)

The environmental effects associated with the growth allowed in the 1992 General Plan were evaluated in the General Plan EIR. The initial 2.5-mgd component of the IWP would accommodate growth consistent with that Plan. (DEIR, pp. 6-12 to 6-13.) The IWP Draft EIR acknowledges that the analysis in the General Plan update EIR is not yet available, but explains that project-level analysis of potential future expansion of the desalination plant capacity will include analysis of consistency between the Program and future growth envisioned by the General Plan update. (DEIR, pp. 6-13 to 6-14.)

Based on the holdings of cases such as *Stanislaus Natural Heritage Project v. County of Stanislaus* (1996) 48 Cal.App.4th 182, 200 (“to defer any analysis whatsoever of the impacts of supplying water to this project until after the adoption of the specific plan calling for the project to be built would appear to be putting the cart before the horse[.]”) and *Napa Citizens for Honest Government v. Napa County Board of Supervisors* (2001) 91 Cal.App.4th 342, 372-374 (EIR for specific plan inadequate for failing to identify additional possible water sources where certainty of primary source was questionable), the City feels it is prudent to include consideration of the City's water needs into and beyond the next general plan cycle while addressing the current need to prevent severe shortages during drought years. Being mindful of *County of Amador, supra*, however, the City has tried to find a balance between securing water supplies to support future land uses and allowing water planning to run roughshod over the General Plan process. The City feels that the phased approach taken by the programmatic IWP EIR is a balanced approach.

In light of this approach, any claim that the City is “violating” the *County of Amador* decision would boil down to an assertion that CEQA somehow prevents the City from seeking to augment current water supplies to avoid extremely severe water shortages facing the City’s *current* population during drought conditions, and also prevents the City from prudently looking beyond the near term by conducting a *program-level* analysis of *possible* future phases of the IWP. The City would respond to any such argument by noting that it does not read CEQA to *penalize* agencies for planning to avoid severe water shortages or for looking beyond the immediate future. Rather, more information is generally better than less, and more informed decisions are generally better than less informed decisions. The key point is that, if and when the City Council certifies this EIR, it will not yet be in a position to obtain water supplies beyond those needed in the current General Plan. It may be a step closer to obtaining such future supplies, but the mere fact that program-level analysis has been prepared is not, by itself, “growth-inducing.” Nor is it growth-inducing to take steps to ensure that, if a 1977-style drought occurs in the near future, Santa Cruz citizens and businesses are not required to make severe cutbacks in water usage resulting in severe hardships.

### ***University Growth***

At the time the NOP for the Draft Program EIR was issued, the UCSC’s LRDP Update and EIR had not yet begun. As such, it would have been speculative to include an analysis of that program in the Draft Program EIR. However, as it was known that the LRDP would soon undergo an update, and that an increase in University population might or might not increase water demands (i.e., an increase in water demand is dependent on whether any new University population would be housed on or off campus), we recognized that the LRDP Update should be included in future General Plan updates. This approach is in concert with the flexible and phased approach of the IWP.

It is important to note that the initial increment of water supply (2.5 mgd) is not dependent on UC’s future plans. The water demand projections for the University as used in the Integrated Water Plan were based upon the 1988 LRDP. These projections are actually higher than the current actual use at the University with projected water demand for the University at approximately 400 mgd while actual use is approximately 200 mgd. As such, the water demand projections used in the IWP are not outdated. The draft Long Range Development Plan was completed in January 2005 and the draft EIR on the LRDP is currently available for public review (comment period closes on December 19, 2005).

Chapter 6 of the DEIR addresses “Growth Inducement and Secondary Effects of Growth,” recognizing that project-level environmental review will be required prior to implementation of the IWP beyond the initial phase. That project-level review will address the consistency of future stages of the proposed Program with the growth envisioned in the General Plan update. By the time such project-level analysis is conducted, the increases in UCSC population established by the updated LRDP presumably will have been subsumed in the updated General Plan, and the growth effects of the overall increases in population will have been evaluated in the updated General Plan EIR. The programmatic analysis contained in the IWP EIR does not support action that would expand population growth beyond that allowed in the current LRDP and General Plan. Detailed analysis of growth at UCSC is properly studied in the EIRs for the UCSC LRDP update and the General Plan

update, not in this program-level document. Project-level analysis of future phases of the IWP will reflect growth at UCSC as it is incorporated into the General Plan.

### ***Soquel Creek Water District***

Please note that Soquel Creek Water District will be assessing the potential impacts of additional water supply as obtained through desalination on growth inducement and the secondary effects of growth in its draft EIR which would have to be completed prior to Soquel utilizing any water under operating scenario Alternative D-2. (DEIR, p. 6-14.)

Finally, an investigation into the other individual and commercial water users who are outside the City of Santa Cruz Water District Service Area and their potential for increased usage is too remote and speculative to be within the purview of the City's EIR on its Integrated Water Plan. At most, analysis at the cumulative level might be appropriate, but these potential increases in usage are too speculative even to be considered in the cumulative context. CEQA defines a cumulative impact as "an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." The CEQA Guidelines (15130[b][1]) identify two basic methods for establishing the cumulative environment in which the project is to be considered: either a list of past, present, and reasonably foreseeable future projects; or the use of adopted projections from a General Plan or other regional planning document. However, in the case of the upstream water users who are outside the jurisdiction of the City of Santa Cruz, Soquel Creek Water District, and the Groundwater Management Plan for the Soquel Aptos area, there is no means by which to determine whether there are any reasonably foreseeable future projects for increased water usage. Thus, potential increases in usage by other individual and commercial users are too remote and speculative to be considered in the IWP EIR. Furthermore, any lawful increases in usage will be subject to CEQA review as part of the approval process for increased diversion.

### **2.1.3 Master Response 3 (MR 3) – Alternatives**

This Master Response responds to the following comments: CCC-2, CCC-8, CCC-12, MBMNS-3, MBNMS-4, SUC-2, SC-4, SC-9, AS1-38, CORD-2, CORD-4, CORD-6, and CORD-24.

In summary, these comments addressed the alternatives that were addressed in formulating the Integrated Water Plan and in completing the CEQA analysis on the IWP.

An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decisionmaking and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

(CEQA Guidelines, § 15126.6, subd. (a), citing *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553; *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376.) “The range of alternatives required in an EIR is governed by a ‘rule of reason’ that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.” (CEQA Guidelines, § 15126.6, subd. (f).)

The IWP EIR includes analysis of three alternatives in addition to the proposed program: the No Program Alternative, the No Curtailment Alternative, and the High Curtailment Alternative. In addition, the EIR describes two different operational scenarios (D-1 and D-2), and alternative locations for the desalination plant and pipelines. This range of alternatives presented in the EIR constitutes a reasonable range of alternatives in keeping with the findings of the IWP and previous studies.

As the DEIR explained, “the *Draft Final Integrated Water Plan* (IWP) concluded that conservation, 15 percent curtailment, and water supply development involving the construction of a 2.5-million-gallon-per-day (mgd) desalination plant (expandable to 4.5 mgd) would best achieve the Program objectives.” (DEIR, p. 4-1.) The DEIR incorporated by reference and summarized the background studies relied upon by the IWP. (DEIR, pp. 2-6, 3-4.) Those studies were undertaken in order to help narrow down the City’s options for addressing water shortages and planning for future growth, but many of the options were determined to be infeasible and eliminated from further consideration. (DEIR, pp. 3-4, 8-25; see also, IWP, Figures III-1, III-2, and III-3.)

The alternatives that were considered during development of the IWP but were deemed infeasible are summarized in the table below. Note that this table is same as presented in the Draft Program EIR, p. 8-25, Table 8-12.

**Table MR3-1**  
**Alternatives Proposed during the IWP NOP Scoping Period**

ALTERNATIVES SUGGESTED DURING THE PUBLIC COMMENT PERIOD	REASONS FOR DISMISSAL
Alternative sources of energy (solar, wind, or other renewable energy sources to supply the desalination plant)	The <i>Alternative Water Supply Study</i> evaluated the alternatives to conventional power supplies, including photovoltaic and fuel cells. It concluded that these sources are not feasible at this time for power requirements typical of large-scale, industrial-type applications (Carollo, 2002).
Consider cistern water storage for commercial and industrial accounts; store water at point of use	Infeasible as it would not provide sufficient yield
Implement aboveground “flume-like” pipes instead of buried pipelines	Does not apply
Consider use of beach wells	Beach wells for intake and discharge were evaluated in the <i>Evaluation of Regional Water Supply Alternatives</i> (Carollo, 2002). This alternative is constrained due to the geometry and hydrogeology of the beaches.
Consider tertiary water treatment	Reclamation was considered as part of the IWP, but was deemed infeasible.

Sources:: EDAW, 2004; Carollo, 2002

Regarding the comment (MBNMS-4) on the use of tertiary treated or reclaimed water and why that was deemed infeasible as part of the IWP, reclaimed water has limited use in the City of Santa Cruz as it is not allowable for direct consumption. The use of reclaimed water would only provide for irrigation use – which is drastically reduced or eliminated in times of drought. The concept would only work if the provision of reclaimed water resulted in making potable water somehow available through new freshwater supplies. The reclamation/groundwater exchange concept had potential for providing reclaimed water for agricultural use on the north coast while transferring clean groundwater to the City for potable supply, until the owner of the groundwater declined to participate, making the project infeasible. Additionally, it was unlikely that the groundwater transfer could provide enough potable supply to achieve even a 25% curtailment level.

Regarding the comment on the feasibility of using reclaimed water for groundwater recharge (CCC-12), the *Alternative Water Supply Study* evaluated the use of reclaimed water for groundwater recharge. One of the issues that made the concept infeasible was the amount of time required between injection and extraction making the availability of the potable supply when needed questionable. Additionally, injection of reclaimed water required blending with clean water which is in short supply. The City's water rights do not allow for storage of water in the ground or for use outside of the City's water system limits.

This discussion satisfies the command of subdivision (c) of section 15126.6, which states that “[t]he EIR should . . . identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination.”

Commenters suggest that each water supply strategy “alternative” mentioned in those studies should have been evaluated in detail in this EIR. Such an approach would have defeated the winnowing purpose of the previous studies. The program evaluated in the EIR represents the culmination of many years of comprehensive research and analysis to determine the most feasible means of reaching the City's objectives. (DEIR, pp. 3-4, 4-1, 8-2, 8-25.) CEQA does not require the analysis of infeasible alternatives in an EIR. (CEQA Guidelines, § 15126.6, subd. (a).) Rather, CEQA expressly encourages agency staff and consultants to initially analyze a universe of ostensibly feasible alternatives and to narrow down the options to be addressed in detail to those that are “potentially feasible” insofar as they meet “most of the basic objectives” of the project while substantially lessening or avoiding any of the significant effects of the project as proposed. For all of these reasons, the alternatives analysis in the EIR is legally adequate.

#### **2.1.4 Master Response 4 (MR 4) – Cost**

This Master Response responds to the following comments: CCC-18, SUC-3, SUC-5, SUC-6, PM-2, PM-16, PH-2, and PH-5.

Article 9 of the CEQA Guidelines identifies the required contents of environmental impact reports. Cost of a project, including the economic effects of the project, is not required. Rather, the focus of CEQA is on the direct and indirect physical changes to the environment resulting from program

implementation. Although costs need not be discussed in the Draft Program EIR, the City Council will consider costs as one of many factors used in determining whether to certify the Draft Program EIR and approve the Program.

Although costs are not discussed in the Draft Program EIR, they have been addressed in the 2003 IWP, which is incorporated by reference into the Draft Program EIR (see p. 2-6 of the Draft Program EIR). As discussed in Section 3.5.4 (p. 3-11 of the Draft Program EIR), cost was one of the evaluation criteria used to compare and contrast the various strategies screened in the IWP. The City recognizes that cost is a major concern in any utility planning effort (p. IV-2 of the 2003 IWP), and as such has provided information on the expected costs of various alternative strategies in the IWP, including Alternatives D-1 and D-2 under different curtailment profiles (see Pages IV-2, IV-3, and VI-1 and Tables VI-1 through VI-4 [pp. VI-2 through VI-5]). Curtailment Profile 2, at 15% curtailment, corresponds to the proposed Program. As shown in the table, the capital outlay (in 2000 dollars) of Alternatives D-1 and D-2 (for the City only) are \$33 and \$16 million, respectively. Alternative D-2 value is lower as it does not account for the assumed cost incurred by the partner agency. The present value cost (in terms of 2000 dollars) is higher and includes construction of the plant, infrastructure, and equipment (for the first increment) as well as the operating expense through 2010 (e.g., chemicals, staff, energy).

Because the proposed Program (specifically the desalination portion of the Program) has not yet been designed, it is not possible to determine the exact costs of the alternatives. Current conceptual level estimates for the capital costs range from approximately \$30 to \$40 million (if SqCWD participates under Alternative D-2, then costs would be at the high end of the range to accommodate the additional infrastructure needed). These numbers will be further refined as design progresses (if the Draft Program EIR is certified and the proposed Program is approved). The unit cost (desalination water per acre foot) cannot be defined due to the lack of definition regarding capital, operation and maintenance costs, the financing method, as well as the actual production (which is dependent on the water year). Because of the lack of data, the margin of error for the estimates would be high, and therefore unit costs are not provided here.

Costs of a project can be evaluated in terms of environmental effects. Such costs, which are not monetary in nature but focus on environmental effects on land, water, and air, are provided in Chapter 5 of the Draft Program EIR. These environmental costs are fully disclosed, and where significant, adverse effects would result, mitigation measures are provided to reduce such effects to less-than-significant levels.

Socioeconomic costs of the proposed Program, as discussed above, and in the introduction of Chapter 5 (p. 5-1 of the Draft Program EIR) are not required under CEQA. However, they are discussed in the Curtailment Study, which is incorporated by reference into the Draft Program EIR (see p. 2-6 of the Draft Program EIR) and summarized in Section 3.4.3 (p. 3-6 of the Draft Program EIR). As described on p. 3-6 of the Draft Program EIR, the study examined six hypothetical drought scenarios and assessed how the impacts would differ among customer groups. The findings show how the potential impacts and degree of hardship grow as the level of shortage increases. The Draft Program EIR summarizes on p. 3-10 the effects on customers from three levels of curtailment (0, 15,

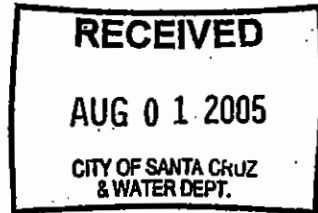
and 25 percent). Under these scenarios, no hardship, periodic water restrictions on outdoor usage, and more frequent restrictions plus water rationing would occur, respectively. Please refer to the Curtailment Study for more information on the hardships imposed by higher peak-season curtailment levels.

The Draft Program EIR and documents incorporated by reference into the EIR serve to disclose the full costs of developing the proposed Program.



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## 2.2 INDIVIDUAL COMMENTS AND RESPONSES



July 27th, 2005  
Draft EIR — Integrated Water Plan  
Santa Cruz Water Department  
Comments

Letter SUC

**Alternative D-2** (Desalination in cooperation with Soquel Creek Water District) can have the beneficial effect of providing water for groundwater recharge—

If this option is pursued, it should be undertaken in conjunction with an increased effort to legally regulate pumping from local aquifers. Recharging aquifers could potentially lead to a perception that continued overpumping is acceptable. The SCWD's efforts should not indirectly lead to further failure to acknowledge the limits of our water resources by those with private wells fed by the public aquifer.

SUC-1

**Energy Resources/Water Resources closely connected—**

The implication in the EIR that the energy used for desalination would be an insignificant part of the increase in State energy use is, I believe, misleading. Additional energy production (presumably as electricity is now produced) does require the use of more fossil fuels somewhere — if not here in our vicinity.

The argument that use of additional fossil fuels is acceptable because it would be for the benign purpose of bettering local water supplies is irrelevant and may become more so as desalination becomes more widespread and energy demands greater.

The Santa Cruz community should jointly begin to explore ways of producing (and/or curtailing the use of) water in ways that are truly sustainable — and which do not simply deflect the problem (of disappearance of cheap energy sources) on to others.

SUC-2

**Sustainability** implies producing the energy needed for desalination as well as producing the water. This in turn implies further enormous investment at least as large as for desalination plants themselves. Fuller awareness of the implications of the energy required to produce more water than occurs "naturally" may help to engage the public in the whole problem — rather than just in a limited technological fix. Of course such awareness will engender a great deal of controversy — but such seems preferable to reaching a point where our community has an efficient desalination plant and cannot afford the cost of operating it.

**Comparison of the full cost of desalination versus the alternative of more extreme curtailment—**

Although the EIR is not primarily concerned with costs, greater public awareness of the full cost of providing water supplies even in drought years may result in additional voluntary water use reduction. Fuller public awareness of the full cost of overuse of an area's resource may help mitigate the impression that all resource-limit problems can be resolved technologically with no unacceptable environmental consequences, if not locally, then elsewhere.

SUC-3

<<SCWD-IWP>>

—Comments - Draft EIR—

7/27/05

Page 1 of 2

**Solar Utilities Company** • P.O. Box 1257 • Santa Cruz, CA 95061-1257

Phone/Fax (831) 426-9301 • e-mail: jschultz@cruzio.com • url: <http://members.cruzio.com/~jschultz>

Registered Professional Engineer C65877 • California Professional Engineers Reg. No. 19480-M

## **"Models" and Public discussion of Inputs (Parameters)-**

Although also not properly part of the environmental consequences addressed in an EIR, the underlying presumptions in the EIR arise to a very large part as a consequence of the elaborate and careful model used in preparation of the Integrated Water Plan – and the assumptions embodied in it.

The usefulness of any model depend on the appropriateness (as well as accuracy) of the input parameters. I believe that the input assumptions of any cost and environmental consequence calculation should be clearly brought forth for public review and acceptance – however messy this would be administratively and politically.

Of course, many parameters (e.g. rainfall projections) are not matters of debate and choice other than as to measurement and accuracy – and I do not suggest that the public be invited to vote on the results of scientific observation and analysis. (Though, the public should be free to examine methodology.)

However, there are many input parameters which are not so clearly factual (even when sometimes it is difficult to get at the correct facts) – but rather are more a matter of choice or even of instinct and opinion.

Models necessarily attempt to predict an uncertain future and are subject to all the unpredictability of life. Those parameters which are central to prediction and yet may be subject to choice should be carefully scrutinized – even by non-experts.

Examples:

### **1) Energy Costs (>> water costs)–**

Projections of future energy prices require much more than simple extrapolation (given that anyone's conclusion may well turn out to be wildly off).

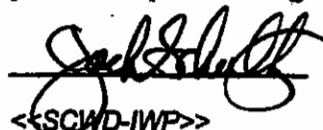
Many accepted voices foresee abrupt and extremely large and disrupting rises in energy prices well within the planning horizon of the IWP – (although others expect continued slow changes to which society can adapt in time.)

Public discussion of the availability (and advisability) of various fossil fuels, wind farms, photovoltaics, nuclear power, etc. energy sources certainly become invested with extreme and often uninformed opinion. However, I believe that the attendant discord must be endured in order to reach an adequate public consensus – so that responsibility for accepting the consequences of a decision has been equally assumed.

### **2) Discount Rates (i.e. Interest - Planning Period–Present Value calculation)–**

Though seemingly only a matter of arcane mathematical manipulation, the general subject of how to account for the effects of future costs (in dollars or in environmental impact), is properly a matter for public debate and conscious decision – not to be decided solely by a few experts. Full public education and awareness of future costs can lead to sounder choices as to how to balance present and future common goods.

— I suggest that every assumption (input parameter) used in models or other constructs that affect the general public should be clearly outlined with necessary explanations and justification and subject to public scrutiny. Much of the resulting uproar would be undoubtedly frustrating, incoherent, and irrelevant – but I believe a more powerful public engagement and even better decisions would result.



<SCWD-IWP>

—Comments - Draft EIR—

7/27/05

Page 2 of 2

SUC-4

SUC-5

SUC-6

SUC-7

### 2.2.1 Solar Utilities Company

SUC-1 Currently, there are no legal methods to regulate pumping in the entire Purisima Aquifer. However, SqCWD has established an AB 3030 Groundwater Management Plan<sup>3</sup> with the Central Water District within their jurisdictional boundaries only; the Plan has not historically monitored or managed the City's portion of the Purisima Aquifer. As such, the Draft Program EIR has identified mitigation that would establish a regional groundwater management agency to provide legal regulation of pumping activities in the region if necessary (see Mitigation Measure C-1 on p. 7-15 of the Draft Program EIR). The proposed Program would not provide groundwater recharge, as stated by the commenter (i.e., it would not include a groundwater injection program). Rather, Alternative D-2 of the proposed Program would lessen groundwater extraction by substituting a portion of existing pumping with an alternative supply. This offset in groundwater pumping would allow groundwater aquifers to be naturally recharged.

SUC-2 The discussion of depleting fossil fuel supplies is outside the scope of the proposed Program and as such was not evaluated in the Draft Program EIR. However, the Draft Program EIR evaluates energy consumption associated with operation of the proposed desalination plant both alone and in combination with other cumulative projects. The City has taken efforts to reduce the use of fossil fuels and promote sustainability. First, the proposed Program includes the installation of an energy recovery device that uses pressure generated from the desalination process to reduce total electrical demand of the facility (see p. 4-17 of the Draft Program EIR and reiterated on p. 5.13-3 of the Draft Program EIR). Secondly, the IWP is designed to include demand side management (short- and long-term conservation and curtailment) in addition to the water supply component. As such, the City is not relying only on new sources of water to meet demands (please refer to CCC-8 for a discussion of the City's effort in the implementation of water conservation measures and curtailment).

Other factors (offset in energy use) should be taken into account when considering the overall energy consumption of the proposed Program, as described below. Please note that the energy analysis provided in Section 5.13 of the Draft Program EIR does not determine the impact significance based on the below information. The energy section uses a more conservative approach to calculate the energy consumption (by not accounting for offsets in energy usage). However, additional information is presented herein to give a perspective on the actual energy usage that can be anticipated for the entire Program. No revisions to the Draft Program EIR are required and the conclusions of the Draft Program EIR would remain the same.

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<sup>3</sup> The Groundwater Management Act (or AB 3030) is designed to provide local public agencies with increased management authority over groundwater resources in addition to their existing groundwater management authority. Any local agency that provides water service to all or a portion of its service area, and whose area includes all or a portion of a groundwater basin, may adopt and implement by ordinance or resolution a groundwater management plan. The intent of the plan is to manage groundwater resources to protect groundwater quality.

The Draft Program EIR addresses the Integrated Water Plan, and therefore, energy use should also consider the Plan in its entirety, including all three components (water conservation, use curtailment, and supply development). Energy consumed by a desalination plant must be considered in the context of the total impact the IWP has on energy consumption.

The City currently consumes about 1.8 megawatt hours (mWh) of energy to produce one million gallons of water. Therefore, for each million gallons not produced because of additional conservation or use curtailment, this plan would result in a savings of 1.8 mWh, and that amount of energy savings should be compared to a total estimated energy requirement for desalination of 5,475 mWh for Alternative D-1 based on 6 months of use every six years.

The IWP calls for a water savings of 282 million gallons per year by 2010. The avoided energy use per year would be 513 mWh and the cumulative savings for the 6-year period (corresponding to a once-in-six-year use of the desalination plant) would be 3,079 mWh (6 x 513 mWh). This amount of energy savings offsets 56 percent of the energy consumption of the desalination plant under Alternative D-1.

The IWP also calls for use curtailment of 15 percent system-wide use once every six years for six months. That amount of use curtailment savings amounts to a total of 420 million gallons corresponding to the frequency of use of the desalination facility. The 420 million gallons of water savings through use curtailment would save a total of 764 mWh.

Together, water conservation for six years, combined with the use curtailment for six months every six years, amounts to a total avoided energy use of 3,843 mWh over a 6-year period. When compared to the anticipated energy use of desalination under Alternative D-1, these savings would be 70 percent of total estimated energy requirement (5,475 mWh).

The net energy use for Alternative D-1 would therefore be 1,632 mWh.

Under Alternative D-2, the desalination plant would consume 35,588 mWh over six years (running at half the capacity in all years, and at total capacity for 6 months). Subtracting only the City's conservation and curtailment energy savings, the net energy use for Alternative D-2 would be 31,745 mWh. However, this calculation of net energy consumption is incomplete because it does not account for energy savings from SqCWD's conservation programs or use curtailment during droughts.

This analysis also ignores two other factors that would further offset energy use, but which are difficult to quantify: first, some of the water savings from both use curtailment and most of the water savings from conservation is water that would have gone through the wastewater treatment plant. Since energy costs to treat wastewater effluent is even

higher than the energy cost to treat potable water, there is a significant energy savings that would result from reducing wastewater flows. The second energy savings that is difficult to quantify, but most certainly would result from indoor water savings, is end use energy savings from heating water (i.e. washing machines, showerhead replacement, etc.). Given that avoided energy use attributable to conservation and curtailment offsets total energy cost by 70 percent, it is virtually certain that avoided energy costs for wastewater treatment and avoided energy costs attributable to end-use would further offset the energy costs of desalination.

Please refer to MR 3 regarding alternative energy.

SUC-3 Please refer to MR 4 for a discussion of costs of the proposed Program, including financial, socioeconomic, and environmental costs.

SUC-4 The purpose of an EIR is to evaluate the environmental impacts from implementation of the proposed Program, and identify ways to minimize adverse environmental effects (p. 1-1 of the Draft Program EIR). The development of the Integrated Water Plan was subject to its own public process. This process is described in Sections 1.2.2 and 3.5 of the Draft Program EIR. As described in Section 1.2.2, the development of the IWP and Confluence model was open to the public through meetings and workshops (p. 1-6). The public was encouraged to provide input as the IWP was formulated.

Regarding the input assumptions for analysis of environmental consequences from proposed Program implementation, input parameters are identified throughout the Draft Program EIR. Chapter 5 (pp. 5-1 to 5-4) describes the layout of each environmental topic analyzed in the Draft Program EIR, and indicates that the existing conditions provide the baseline against which environmental impacts are evaluated and mitigation measures are formulated (p. 5-2). The proposed Program components were evaluated for their potential to adversely affect the baseline. Please refer to individual issue areas for specific baseline conditions and consequences of program implementation.

SUC-5 Energy costs to operate the desalination facilities would be considered part of the operating costs, which will depend on many factors to be refined during design phase. Please refer to MR 4 for a discussion of financial and socioeconomic costs.

SUC-6 Please refer to MR 4 for a discussion of costs. One of the legislative intents of CEQA is that “every citizen has a responsibility to contribute to the preservation and enhancement of the environment” (California Public Resources Code Division 13. Environmental Protection, Section 2100(e)). As such, CEQA has been designed to provide public input at various stages of project planning. The City’s public involvement efforts for the proposed Program are described in Chapter 1 of this Response to Comments on the Draft Program EIR document and included a lengthy public process to develop the IWP, four meetings and the mandated public comment period to receive comments and concerns regarding the project. As such, the City has fully engaged the public to be part of the public debate.



All of the comments, which are part of the public record, will be presented to the City Council prior to consideration of whether to certify the Draft Program EIR and approve the proposed Program.

- SUC-7 Please refer to Response SUC-4 regarding the input parameters used in the Draft Program EIR to evaluate the proposed Program. In addition, please refer to Responses SUC-4 and SUC-6 for a discussion of the City's public involvement efforts for the proposed Program.



# COUNTY OF SANTA CRUZ

## PLANNING DEPARTMENT

701 OCEAN STREET, 4<sup>TH</sup> FLOOR, SANTA CRUZ, CA 95060  
 (831) 454-2680 FAX: (831) 454-2131 TDD: (831) 454-2123  
 TOM BURNS, PLANNING DIRECTOR

July 28, 2005

City of Santa Cruz  
 Attn: Ms. Linette Almond  
 809 Center Street, Room 102  
 Santa Cruz, CA 95060

**SUBJECT: COMMENTS ON THE INTEGRATED WATER PLAN DRAFT PROGRAM EIR**

Dear Ms. Almond:

Thank you for providing the County of Santa Cruz Planning Department the opportunity of reviewing the Integrated Water Plan Draft Program Environmental Impact Report. We have reviewed the document and have the following comments:

1. Error in Number of Proposed Housing Units. On Page 379, the document states that the County's Housing Element is projecting 3,411 new housing units in the unincorporated area by 2007. Please be advised that the correct number is 3,441 (*Source: Page 158 of adopted Housing Element*).
2. Need for Additional Information regarding Soquel Creek Water District Projected Housing Units. On Page 379, the document states, "It is unknown how many of these units (3411) potentially fall into the Soquel Creek Water District service area." We believe it is imperative to have this unit projection to adequately analyze possible impacts.
3. Concern for Accuracy of Projected Housing Mix: On Page 379, concerning the Santa Cruz City Water Department, the document states, "Assuming that future development has equal numbers of single and multi-family housing units, the above housing plans represent a total of 3,567 new homes through 2007..." We cannot speculate on future housing mixes within the Cities of Santa Cruz and Capitola, but it is highly unlikely that future housing development within the unincorporated area will be of equal numbers of single and multi-family housing units. The existing zoning and lot sizes within this area will result in more single-family than multi-family housing development and your projected housing number should reflect this.
4. Finding of No Impact on Growth Inducement at the University. The document states that Options D-1 and D-2 will have no impact on growth inducement at the University; yet, on Page 389, there is the provocative statement: "...increased student enrollment is a major factor underlying the need for the proposed Program (D-1 and D-2)." We do not see how

SCC-1

SCC-2


SCC-3

SCC-4

such a statement can result in a finding of No Impact. Additional analysis/explanation is needed to support the finding of No Impact. SCC-4  
↑  
(con't)

If you have any questions concerning this letter, please contact Glenda Hill, Principal Planner, at 454-3216 or [PLN610@co.santa-cruz.ca.us](mailto:PLN610@co.santa-cruz.ca.us).

Sincerely,



Tom Burns  
Planning Director

### 2.2.2 Santa Cruz County

- SCC-1 The total number of housing units in the County has been corrected from 3,411 to 3,441. Please refer to Chapter 3, Text Revisions, of this Response to Comments on the Draft Program EIR document.
- SCC-2 Page 6-11 of the Draft Program EIR (Impact 6-1) recognizes the need for the SqCWD to address potential growth effects in SqCWD's water supply planning documents. For the purposes of projecting future demand (beyond year 2000), planned development in the unincorporated County has been assumed to be 520 to 620 units within the Urban Services Line, depending on density of development, by the year 2010. SqCWD also assumed that by 2010, Capitola demand would increase by 48 acre-feet per year (afy), which consists of 99 housing units (single family/multi family combined for 20 afy), 81 hotel rooms (6.2 afy), 135,000 square feet of office/retail/industrial space (14.8 afy), and 3 parks at 2.5 afy each (7.5 afy).
- SCC-3 The assumption about the mix of single and multi-family housing units is based on recent housing trends for the entire City water service area. Between 2000 and 2004 (the latest year for which data are available), there were 1,121 housing units constructed in the service area; 572 or 51 percent were single family homes and 549 or 49 percent were multi-family units. No one can know what type of housing will be built in the future, but if there are more single family homes than multi-family units built due to existing zoning and lots sizes in the unincorporated area, then future water demand in the residential sector would be higher than the estimate of 206 million gallons per year presented in the report. The exact mixes of housing and associated water demand would be further evaluated in the subsequent EIR for the future increment if the proposed Program is approved by City Council and it is determined at a later time that expansion of the water supply is necessary.
- SCC-4 Please refer to MR 2 for a discussion of growth inducement.



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Region  
777 Sonoma Ave., Room 325  
Santa Rosa, CA 95404-6528

**Letter NMFS**

July 27, 2005

In response refer to:  
151422SWR02SR6260:JMA

Linette Almond, Deputy Director  
City of Santa Cruz  
Water Department  
809 Center Street, Room 102  
Santa Cruz, California 95060

Dear Ms. Almond:

Thank you for the opportunity to review the June 2005 Draft Program Environmental Impact Report (PEIR) for the City of Santa Cruz Integrated Water Plan (IWP) submitted by the City of Santa Cruz Water Department (City) to NOAA's National Marine Fisheries Service (NMFS). The Draft PEIR was dated June 6, 2005, and received by NMFS on June 20, 2005. The PEIR evaluates options to conserve and augment potable water supplies to the City and nearby residents within the City's jurisdiction in central coastal Santa Cruz County, California. The Draft PEIR was prepared to comply with the California Environmental Quality Act (CEQA) and includes an evaluation of project impacts on biological resources, cultural resources, water quality, air quality, geology, and other issues.

The objective of this project originates from the desire to conserve and augment City water supplies in the advent of drought conditions which result in water supply deficiencies to the City. In normal and wet years, when rainfall and runoff are normal to abundant, the City's water supply system is capable of meeting total annual water requirements. In normal, dry, and drought years, the system is vulnerable to shortage, particularly during critically dry or multi-year drought conditions. The problem is due in large part to a lack of water storage capacity and heavy dependence on surface water sources from the San Lorenzo River and north coast streams. Studies conducted by the City indicate the problem of water shortage will worsen, in terms of both frequency and magnitude, as the population of the region grows and demand for water increases over time. The IWP consists of three major components: (1) water conservation programs; (2) customer curtailment in times of shortage; and (3) a water supply development project consisting of a desalination plant.

Surface water sources currently used by the City maintain populations of Central California Coast (CCC) Evolutionarily Significant Unit (ESU) steelhead (*Oncorhynchus mykiss*) listed as a threatened species on August 18, 1997 (62 FR 43937), pursuant to the Federal Endangered

NMFS-1



Species Act (ESA) of 1973, as amended. Regulations deemed necessary and advisable for their conservation were adopted under section 4(d) of the ESA and went into effect on September 8, 2000. In addition, at least one stream where the City diverts significant quantities of water, Laguna Creek, contains a population of CCC ESU coho salmon (*O. kisutch*). CCC ESU coho salmon were listed as a threatened species on October 31, 1996, and regulations deemed necessary and advisable for their conservation were also adopted on October 31, 1996 (61 FR 56138). The listing status of CCC ESU coho salmon has been recently upgraded to endangered and will go into effect on August 29, 2005 (70 FR 37160). Laguna Creek is believed to maintain the southern most distribution of rearing CCC ESU coho salmon within the range of the species and is of significant management and conservation concern to NMFS which administers the ESA for both coho salmon and steelhead. The most significant limiting factor adversely affecting listed salmonid populations on California's central coast has resulted from excessive surface and ground water diversions.

NMFS review of the Draft PEIR focused on the project description and goals and objectives relative to the water supply component of the IWP. NMFS supports the City's goal of augmenting water supply to the City's customers through water conservation, customer curtailment, and supply augmentation with the construction of a 2.5 million gallon per day desalination plant. We believe, if the City expanded the size and period of operation of the proposed desalination facility, significant conservation benefits for CCC ESU steelhead and CCC ESU coho salmon would result. City surface water diversions are taking listed salmonids as evidenced by the NMFS Office of Law Enforcement (OLE) investigation of the City's water diversion in Laguna Creek and the City's efforts to obtain incidental take coverage for ongoing activities through a Habitat Conservation Plan (HCP). In our judgment, effective mitigation and minimization measures for the ongoing adverse impacts to listed salmonids resulting from the City's surface water diversions, particularly during the summer low-flow period, will only occur through the reduction or elimination of the City's excessive summer low-flow diversions.

The City has not linked the proposed desalination project (or other components of the IWP) to their proposed HCP. We believe linking these efforts is essential to addressing the City's ongoing takings issue and will result in significant conservation benefits to CCC ESU coho salmon and CCC ESU steelhead. Importantly, the IWP identifies options that could minimize and mitigate the City's impacts to listed salmonids more effectively than currently proposed through the HCP process. The proposed desalination facility is planned and sized so it can be expanded to meet future growth projections. The ability to expand the proposed facility to provide additional water also offers the opportunity to decrease the demand for summer surface water diversions from the Tait Street intake on the San Lorenzo River, Laguna Creek, Liddell Creek, and Majors Creek in addition to future growth. This opportunity should be evaluated in the PEIR and linked to the HCP as a mitigation and minimization measure.

There is no certainty the City will obtain incidental take coverage from NMFS through their proposed HCP for ongoing surface water diversions. NMFS believes the IWP should be expanded in scope to include the goal of decreasing or eliminating surface diversions at the

NMFS-1  
(con't)

3

locations listed above in order to protect and conserve listed salmonids. This will increase the City's certainty of acquiring incidental take authorization from NMFS.

↑ NMFS-1  
1 (con't)

NMFS appreciates the opportunity to comment on the City's Draft PEIR. If you have questions or concerns regarding this letter, please contact Mr. Jonathan Ambrose of my staff at (707) 575-6091 or via email at [jonathan.ambrose@noaa.gov](mailto:jonathan.ambrose@noaa.gov). Thank you for your cooperation in this matter.

Sincerely,



Dick Butler  
Santa Rosa Area Office Supervisor  
Protected Resources Division

cc: Amanda Wheeland – Office of Law Enforcement, Long Beach  
Dan Hytrek – NOAA General Counsel, Long Beach  
Serge Gluskoff – CDFG, Yountville  
Donna Meyers – HCP Project Manager, Santa Cruz  
Bill Kocher – City of Santa Cruz Water Dept., Santa Cruz



## **2. COMMENTS AND REPSONSES**

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL MARINE FISHERIES SERVICE

### **2.2.3 National Oceanic and Atmospheric Administration, National Marine Fisheries Service**

NMFS-1 Please refer to MR 1 for a discussion of the relationship of the IWP to the existing supplies and biological resources issues.

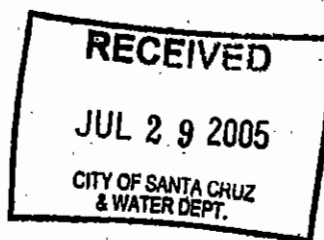


**Board of Directors**  
Bruce Daniels, *President*  
Dr. Thomas R. LaHue, *Vice President*  
John W. Beebe  
Dr. Bruce Jaffe  
Daniel F. Krlige

Laura D. Brown, *General Manager*

July 28, 2005

City of Santa Cruz  
Attn: Ms. Linette Almond  
809 Center Street, Room 102  
Santa Cruz, California 95060



**Letter SqCWD**

Subject: IWP EIR Comments

Dear Ms. Almond:

On behalf of the Soquel Creek Water District (SqCWD), I wish to begin by extending our appreciation to the City for providing us the opportunity to hear a presentation about the Integrated Water Plan Program EIR and engage in discussion with City officials about the potential for partnering in a regional desalination project.

Enclosed are comments on the City of Santa Cruz's Draft Integrated Water Plan Program Environmental Impact Report that were compiled by SqCWD's environmental consultants and staff.

The overriding theme of our comments is the extended benefits of a regional desalination facility (the D-2 alternative). We hope that the City and the public will understand that this is the only option within the IWP that will mitigate the cumulative impacts of continued groundwater overdraft. Protection of our shared groundwater resources is of paramount importance to both the City and SqCWD. There is no overstating the importance of preserving reliable groundwater supplies to meet the needs of both the City's and SqCWD's customers. Likewise, the multiple environmental impacts resulting from continued degradation of the groundwater basin deserve our utmost consideration as stewards of this natural resource.

The SqCWD Board of Directors is committed to developing a new source of water supply and recognizes that such is necessary to effectively restore and manage the groundwater basin. Speaking as one member of that Board, I am very interested in further pursuing a regional desalination project with the City. We recognize that the details and complexities associated with developing a regional project will be challenging, but the potential makes the effort worthy of investing time and resources into determining whether this would be the best overall project for both agencies. I would like to encourage the City Council to select the regional desalination project as the City's preferred alternative and authorize its representatives on the IWP EIR Advisory Committee to begin developing a conceptual understanding for a joint operating agreement with SqCWD as soon as possible.

Sincerely,  
SOQUEL CREEK WATER DISTRICT

A handwritten signature in cursive script that reads 'Bruce Daniels'.

Bruce Daniels, President  
Board of Directors

Cc: Mayor and City Council of the City of Santa Cruz  
Board of Directors, Soquel Creek Water District

1. The EIR concludes that alternative D-1 (local desalination) is the environmentally superior operational scenario because D-2 would require an additional pipeline (to convey water to SqCWD), and D-2 would be operated more frequently (EIR page 8-14). This conclusion should be carefully weighed against the regional benefits that would only be realized with alternative D-2. Specifically, D-2 would be operated more frequently in order to deliver non-drought year water to the SqCWD (at 1.25 mgd, or half the plant's initial capacity), which would allow the SqCWD to reduce groundwater pumping from the Soquel-Aptos Basin. This would allow:

- An increase in the availability of storage in the Purisima aquifer for use by BOTH agencies during drought periods, when the City would utilize the desalination plant's full capacity as well as drawing on the Beltz wells;
- SqCWD to manage the use of the Purisima aquifer within its identified safe yield in non-drought years;
- A means of restoring a historically positive fresh water outflow to the ocean in the Purisima formation, effectively reducing the threat of seawater intrusion;
- SqCWD to manage the portion of the Aromas Red Sands aquifer underlying the SqCWD service area within its identified safe yield in non-drought years; and
- A means of contributing to the recovery of positive groundwater levels in the Aromas Red Sands aquifer, thereby reducing the threat of seawater intrusion in the vicinity of Seascape and La Selva Beach.

SqCWD-1

While the incremental increase in impacts between D-1 and D-2 is relatively minor, the incremental increase in impacts between D-1 and SqCWD having to build its own separate project to achieve the same groundwater benefits provided by D-2, would be much greater. Only the D-2 alternative provides true mitigation for the ongoing as well as cumulative groundwater basin impacts: all groundwater pumpers, including the City, have contributed to the overdraft conditions in the Purisima formation and will continue to exacerbate these conditions, potentially leading to seawater intrusion, if the cumulative extraction is not reduced to within sustainable levels. Alternative D-2 offers that possibility and D-1 does not.

- 1.1 The EIR states that D-2 could operate more frequently and could produce the same quantity of water annually as D-1, except for an expected six-month period out of six years when the plant would produce twice the quantity of water typically produced (EIR page 5.5-20). As a result, the operation of alternative D-2 will result in greater operating impacts than D-1; for example, the annual emissions of volatile organic compounds and NO<sub>x</sub> would be greater. However, the EIR also concludes that the thresholds of significance for these compounds, as established by the MBUAPCD, are

not exceeded for any increment of the D-2 alternative (emphasis added.) So, while the impacts may be greater, they generally remain insignificant.

- 1.2 The EIR states the need for an additional pipeline for the D-2 alternative would cause additional, temporary, construction-related land use disturbances, and concludes, therefore, that D-1 is the environmentally preferred alternative. This temporary, short-term construction-related impact should be carefully weighed against the permanent, long-term operational benefits of D-2 to the shared Soquel-Aptos groundwater, as discussed above.
2. The EIR states on page 7-14 (3rd full paragraph) that "cumulative impacts to groundwater storage and saltwater intrusion of Alternative D-1 are, therefore, significant and unavoidable" because no additional supply is provided to offset the current level of overpumping. The next paragraph draws the same conclusion for alternative D-2, apparently because the analysis assumes groundwater pumping would still occur at "historical rates by all pumpers in the Purisima aquifer." Is it possible this statement is in error, because under the D-2 alternative, SqCWD would not be pumping the Purisima aquifer at historical rates? SqCWD agrees with the findings as shown on Table 5.1-11. (Table 5.1-11 on page 5.1-42 shows Alternative D-2 as having a less than significant impact on all potential groundwater impacts) in that the D-2 Alternative would allow SqCWD to reduce its groundwater pumping to below historical levels in the portions of the Purisima and Aromas Red Sands aquifers underlying SqCWD's service area, during those periods when 100% of the desalination plant's capacity is not used by the City. Reduced pumping by SqCWD would allow the groundwater basin to recover to a point that a positive fresh water outflow could be realized. We therefore request clarification for this cumulative conclusion on D-2.
- 2.1 The top of pg 7-14 appears to contain an error in pumping estimates and we recommend that the source for the estimates be cited. Please note that SqCWD pumping alone is approximately 3,700 afy, and County estimates prepared in 1999 put total pumping at approximately 6,890 afy.
3. Mitigation measure C-1 page 7-15. SqCWD questions the effectiveness of establishing a regional groundwater management agency as mitigation, and whether this would be the most politically acceptable approach. An AB3030 Groundwater Management Plan already exists for the Soquel Aptos Area, but it does not appear to be referenced or discussed in the EIR. The County and City of Santa Cruz have recently begun discussions with the two partners in the existing Soquel Aptos Groundwater Management Joint Powers Agreement, and a cooperative groundwater management agreement among all four parties has been drafted and is pending approval by the various governing bodies. There have not been any discussions with SqCWD regarding relinquishing its established groundwater management program and

SqCWD-1  
(con't)

SqCWD-2

SqCWD-3

SqCWD-4

authority under AB3030 to a separate, regional agency. Expanding the existing AB3030 groundwater management plan to encompass the portions of the Purisima outside of the current jurisdiction could occur as an alternative to creating a regional groundwater management agency, yet we challenge the effectiveness of such a proposal as a valid means to mitigate the effects of overpumping.

SqCWD-4  
(con't)

4. The EIR's characterization of the SqCWD alternatives is not completely accurate. In particular, the "recycled water/groundwater exchange" alternative (page 7-9) should be referred to as the "Water Import/Groundwater Banking" alternative, consistent with our May 2004 NOP. We suggest you revise the description on your page 7-9 to read as follows:

"Under this alternative: the District would augment PVWMA's imported water supply by purchasing up to an additional 2000 AFY on average of water (possibly from Santa Clara Valley Water District) to be conveyed to PVWMA through the planned pipeline and "banked" in the Pajaro Valley groundwater basin; provide funding to offset some of the capital costs for implementing the proposed BMP, for example, the recycled water component; and construct new groundwater pumping and conveyance facilities which would interconnect the City of Watsonville's water distribution system with the District's system, allowing District customers to be supplied by municipal water from the City of Watsonville's system. Alternatives for direct agricultural use of the District's imported supply to be explored as in lieu groundwater banking include: 1) potential expansion of the coastal distribution system to serve an additional 500 acres of agriculture located northwest of the termination of the BMP system up to the District's southeastern boundary, which has an estimated demand of 1,000 AFY; and 2) meeting peak agricultural demands as an alternative to PVWMA constructing "peaking" wells."

SqCWD-5

5. According to Hopkins Groundwater Consultants, (2004), the supply shortage projected for the City water system during a critical dry year cannot be produced from the Live Oak well field (when the City expects to pump groundwater at 2 million gallons per day (mgd)), without creating an intolerable significant adverse drawdown resulting in seawater intrusion. The potential for adverse drawdown was documented following the dry years of 1987 and 1988 when water levels along the coast were at or below sea level. This information indicates that increased groundwater withdrawal from the Purisima Formation, beyond historical amounts, could lead to short term seawater intrusion impacts and/or exacerbate long-term seawater encroachment trends. The potential of this occurring could increase into the future considering the City's plan to pump groundwater at nearly the same rate under the No-Project, City-Only (D-1) and Regional (D-2) alternatives. While the operation of the Live Oak Well field may not change significantly compared to the operations over the past 30 years, the cumulative effect has and will continue to be groundwater level decline at the coast, especially during drought conditions if groundwater pumping stays at current levels or increases beyond the influence of the City's Purisima wells (see the similar discussion in #2, above).

SqCWD-6

The protection of the Purisma groundwater aquifer from the adverse, long-term effects from seawater intrusion is a regional issue requiring a regional solution. This solution appears to be an alternative source of water to offset overall groundwater demand, replenish the Purisima during normal and wet years, and increase offshore groundwater flow to arrest future saltwater intrusion. The D-2 alternative appears to meet the criteria for protecting the Purisima aquifer for the benefit of all users of that water source, including the City.

SqCWD-6  
(con't)

The DEIR presents mitigation measures to reverse the potential decline of water levels under the D-1 alternative. These mitigation measures include: 1) using the coastal groundwater monitoring data as an "early warning system" for potential seawater intrusion, 2) curtailment of pumping at first indication of intrusion, 3) development of a redistribution plan for groundwater pumping further inland<sup>1</sup>, 4) modification of pumping patterns, and 5) a reduction or cessation of City pumping. These measures may not be adequate to mitigate the significant impact, and the DEIR does not provide adequate detail to assess whether the mitigation, once implemented, would even be effective. In addition, these mitigation measures may generate other significant impacts that are not analyzed under the proposed project, such as the inability of the City to deliver a drought supply to customers (because the City has reduced or ceased pumping), without increasing the proposed level of curtailment.

SqCWD-7

Rather than state mitigation measures that may or may not mitigate the seawater intrusion potential under Alternative D-1, a more effective means to mitigate the potential impacts would be to implement Alternative D-2. Not only does Alternative D-2 afford the opportunity for the City to recover groundwater depletion attributable to maximized pumping of the Beltz system during drought periods, D-2 also provides a regional long-term solution to adverse affects of seawater intrusion by ensuring a supplemental supply that would offset current and future cumulative effects by all pumpers, that would otherwise threaten the Purisima groundwater aquifer.

5.1 Considering the level of discussion regarding the regional groundwater conditions in the Impacts and Mitigation Measures section, an expanded groundwater setting section could assist the reader by providing more in depth discussion of the basic groundwater hydrogeology, groundwater basin operations, the quantities of groundwater extracted, and information on seawater intrusion, overdraft and subsidence.

SqCWD-8

5.2 The DEIR could be considered lacking in its presentation of the current groundwater pumping conditions. The setting does not seem to provide the reader with a comprehensive understanding of the baseline.

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<sup>1</sup> Previous studies conducted by the City indicate there are very limited opportunities for the development of new production wells within its service area; therefore, it is unclear how realistic this option will be in mitigating the effects of seawater intrusion.

5.3 The DEIR's assessment of the City's historic groundwater use could be enhanced by describing the type of water year with the well production rates on Page 5.1-9. This would serve to better demonstrate that the 17-year average is representative of the City's historic use.

SqCWD-9

5.4 Further discussion to explain how the four-year average (167 mgy) and the 17-year average (187 mgy) were developed as future use estimates would also be helpful as would information to support the assumption that these estimates would be valid into the future.

5.5 Page 5.1-36, First paragraph. This paragraph seems to unfairly place the 1987 to 2002 downward trend in groundwater levels on SqCWD without acknowledging the joint, cumulative impacts by all pumpers (private and public) nor considering other potential causes for the decline, such as reduced recharge. The DEIR also does not appear to give credit to SqCWD's attempts to address the potential for seawater intrusion that exists throughout the Soquel Aptos area through a comprehensive groundwater management program. The statement could also recognize other potential causes for declining groundwater levels near the Live Oak coastline, such as a study prepared by Balance Hydrologics that associates significant erosion with reduced groundwater recharge where the Purisima A unit outcrops in the Arana Gulch area.

SqCWD-10

5.6 Pg. 5.1-42 Implies that SqCWD could continue to meet demand by transferring pumping impacts from the A and AA aquifer zones to the B and C zones. It does not consider the significantly lower productivity of those zones, limitations for siting new wells nor the design of SqCWD's distribution system that limits the ability to pump water from one area of the basin for delivery to another area.

SqCWD-11

## 2.2.4 Soquel Creek Water District

SqCWD-1 The City Council will consider all of the environmental impacts and benefits of proposed Program, as well as other factors (e.g., comments on the proposed Program, cost, etc.) prior to taking an action on the proposed Program. The City acknowledges SqCWD's position regarding the benefits of the cooperative Program (Alternative D-2) and the incremental increase in construction-related effects of Alternative D-2 compared to Alternative D-1.

SqCWD-2 The Draft Program EIR, Table 5.1-11 shows that groundwater pumping under Alternative D-2 would result in either potential benefits or less than significant impacts to groundwater resources (see Table 5.1-11 on p. 5.1-42 of the Draft Program EIR). The Draft Program EIR also shows, in Chapter 7, Cumulative Impacts (p. 7-14 of the Draft Program EIR), that groundwater storage and seawater intrusion in the cumulative context under the Alternative D-2 operational scenario would be considered significant and unavoidable.

The Draft Program EIR correctly states that Alternative D-2 would offer “the greatest potential benefit to the groundwater basin by providing a supply to each major groundwater user... (p. 7-14)” It also correctly states that “cumulative impacts would still occur due to ongoing production at historical rates by all pumpers in the Purisima aquifer. (p. 7-14)” However, the Draft Program EIR has erroneously characterized the cumulative effects on groundwater storage and seawater intrusion under Alternative D-2 as significant and unavoidable. If uncontrolled, private pumping would likely increase in the future, and the potential for cumulative seawater intrusion could be significant. However, the establishment of a regional groundwater management agency (see Mitigation Measure C-1 on p. 7-15 of the Draft Program EIR) would provide a framework that would control pumping and protect groundwater resources. Implementation of this mitigation measure (please also refer to Response SqCWD-4 concerning this measure) would reduce the potential significant impact to a less-than-significant level, and unavoidable impacts would be prevented as the regional groundwater management agency would ensure the equitable curtailment of use or expansion of supply.

Therefore, the statement on p. 7-14 of the Draft Program EIR “the cumulative impacts to regional groundwater storage and seawater intrusion under Alternative D-2 are significant and unavoidable” is incorrect. Corrections to the text on pp. 7-14 and 1-12 of the Draft Program EIR are shown in Chapter 3 of this Response to Comments on the Draft Program EIR document. These changes would not require recirculation as no new significant impact would occur and none of the existing impacts would increase in severity.



SqCWD-3 The Draft Program EIR incorrectly reported the average annual pumping from the Purisma Formation as 3,700 afy. The correct annual average groundwater production from the Purisma Aquifer from the early/mid 1960s to 2003 is 5,190 afy, excluding private well production (4,359 afy for SqCWD, 468 afy for the City, and 363 afy for the Central Water District [Johnson, et. al., 2004]<sup>4</sup>). Pumping from private wells is unrecorded but estimated to be several thousand afy. Mitigation Measure C-1 would still be valid for Alternative D-1. Revisions to the Draft Program EIR text are shown in Chapter 3 of this Response to Comments document. These changes would not affect the analysis or conclusion of the report.

SqCWD-4 The commenter did not elaborate on why Mitigation Measure C-1, which establishes a regional groundwater management agency, would not be acceptable except to mention that it may not be a politically acceptable approach. The commenter specified that the expansion of the existing AB3030 Groundwater Management Plan to encompass the portions of the Purisma outside of the current jurisdiction could occur as an alternative to creating a regional groundwater management agency, and that a cooperative groundwater management agreement has been drafted and is pending approval by various governing bodies. It should be noted that at the time of the Draft Program EIR preparation, the AB3030 Groundwater Management Plan was intended to manage the portion of the Purisma Aquifer within the jurisdictions of SqCWD and Central Water District only, and cooperative agreements with the City and County were not in progress.

The establishment of a groundwater management agency would be an acceptable method to reduce potential significant effects associated with groundwater storage and seawater intrusion from implementation of Alternative D-1. As described in Section 15126.4 of the *CEQA Guidelines*, “an EIR shall describe feasible measures which could minimize significant adverse impacts.” By nature, an effective groundwater management agency would be capable of performing the following: a) limit future increases in groundwater extraction that may further jeopardize an overdrafted groundwater basin, 2) develop plans to enhance recharge, and 3) redistribute pumping demands in a manner that would improve groundwater basin conditions. Mitigation Measure C-1 is a feasible measure which could minimize significant adverse impacts, and as such, it is an appropriate mitigation measure. However, as explained on p. 7-14 of the Draft Program EIR, the cumulative impacts to groundwater storage and seawater intrusion of Alternative D-1 are considered significant and unavoidable, and even with implementation of this measure, cumulative impacts may still be significant and unavoidable.

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<sup>4</sup> Johnson, NM, D. Williams, E. Yates, and G. Thrupp. September 2004. Groundwater Assessment of Alternative Conjunctive Use Scenarios – Draft Technical Memorandum 2: Hydrogeologic Conceptual Model (prepared for Soquel Creek Water District).

The details of the groundwater management agency have not been determined, and it is possible that this entity could be associated with the AB3030 management plan in the future (if the proposed Program is approved and carried forward). Therefore, Mitigation Measure C-1 is revised to read as follows:

“The City shall work with SqCWD and other public and private water users who produce water from the Purisima aquifer to (a) establish a regional groundwater management agency or (b) to participate in an established regional groundwater management plan and associated joint powers authority. Under either scenario, the agency shall be empowered to collect data and build a comprehensive basinwide database for equitable curtailment of use or expansion of supply through mutually funded projects” (see Chapter 3 of this Response to Comments Document on the Draft Program EIR).

- SqCWD-5 Section 7.3.1 of Chapter 7, Cumulative Impacts (of the Draft Program EIR) has been revised. Please see Chapter 3 of this Response to Comments on the Draft Program EIR document.
- SqCWD-6 The Draft Program EIR evaluates the potential for cumulative groundwater storage and seawater intrusion effects to occur, and concludes that under Alternative D-1, the effects would be considered significant and unavoidable (see pp. 7-13 and 7-14 of the Draft Program EIR). As stated by the commenter, the potential for short term or long term seawater intrusion could increase in the future and will likely do so if uncontrolled demand occurs. This potential scenario reiterates the need for the regional groundwater management strategy (see SqCWD-5 above regarding Mitigation Measure C-1), because increased inland pumping would add to the cumulative effects that are impacting the City’s established pumping demands in the Beltz well field. The statement that groundwater level decline will continue at the coast is speculative and appears to be caused by increased extraction of groundwater by SqCWD and the private inland pumpers over the last 30 years, which will admittedly continue to impact the City wells along the coast. The City agrees that the basin wide issue requires a basin wide solution, and, as such, suggests that the need for a supplemental supply will increase as demand on the aquifer system (uncontrolled pumping by those outside the City and SqCWD) increases. This future scenario again emphasizes the combined need for sound groundwater management in conjunction with development of a supplemental source.
- SqCWD-7 The Draft Program EIR provides an evaluation of the proposed Program, including two operational scenarios: Alternative D-1 and Alternative D-2. The commenter suggests that Mitigation Measures 5.1-6a through 5.1-6c (pp. 5.1-41 and 5.1-42 of the Draft Program EIR) may not be adequate and effective, and that instead, Alternative D-2 should be implemented to “mitigate” the impacts of the proposed project. Alternative D-2, however, must be understood as one of the potential operating scenarios for the proposed Program, not as mitigation for the proposed Program.

Furthermore, Mitigation Measures 5.1-6b and 5.1-6c apply to both operational scenarios Alternative D-1 and D-2. Mitigation Measure 5.1-6a applies only to Alternative D-1. These measures, however, do provide adequate mitigation for the identified impacts under either operational scenario for the following reasons. With the availability and use of a monitoring system, and the redistribution, reduction, and cessation of pumping during potential seawater intrusion scenarios (in a drought), sufficient data would be available to identify the necessary actions needed to halt seawater intrusion and to reduce the City's contribution of impacts to groundwater resources. Complete cessation of pumping would stop the threat of seawater intrusion created by the City. However, it is true that seawater intrusion could still occur because of water extraction from other pumpers of the Purisima Aquifer (please refer to Chapter 7, Cumulative Impacts, for a discussion of cumulative impacts on groundwater resources). Curtailment, which is part of the proposed Program and the Emergency Drought Ordinance, would offset demand during drought years. No additional impacts, including the inability of the City to deliver water supply during droughts to customers) would be anticipated, as described in Response AS1-25.

SqCWD-8 *CEQA Guidelines* Section 15125 states that “an EIR must include a description of the physical environmental conditions in the vicinity of the project...from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to provide an understanding of the significant effects of the proposed project and its alternatives.” Impact 5.1-6 of the Draft Program EIR (pp. 5.1-34 through 5.1-42) provides sufficient detail on the existing conditions to allow for a meaningful analysis of potential effects. As such, no changes to the Draft Program EIR are warranted. For additional detail on the local setting, please refer to Appendix D, Hydrological Study for the IWP Project, of the Draft Program EIR. The study includes a discussion of the local hydrogeology and groundwater conditions.

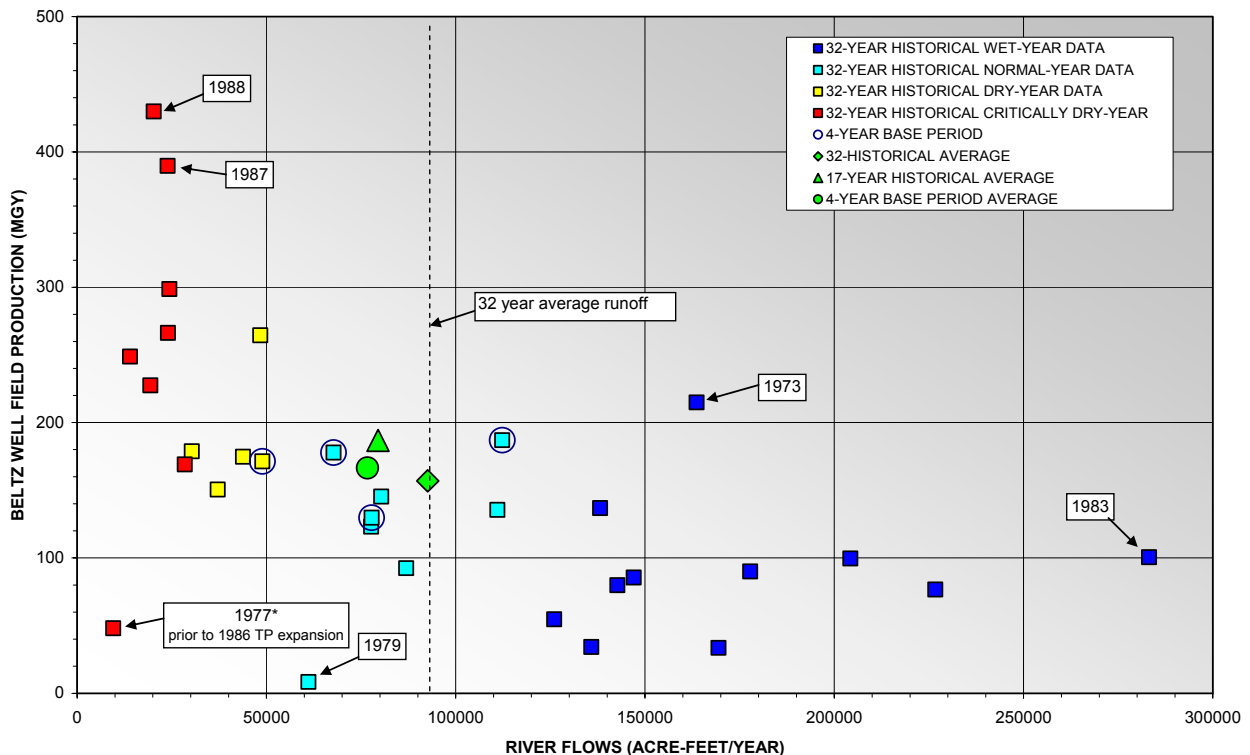
SqCWD-9 Page 5.1-36 of the Draft Program EIR discusses the City's groundwater pumping data used for the analysis of potential impacts. Table 5.1-9 shows the well production rate for 32 years of available record, from 1972-2003. It also summarizes the well production averages for the 32-year (1972-2003), 17-year (1986-2003), and 4 year (2000-2003) scenarios.

The 17-year average (187 million gallons per year [mg]) is a subset of the City's historic (32-year average of 157 mg) use as shown on the graph below. The annual groundwater pumping data for 32 years of data is plotted on the chart for all water years (wet, normal, dry, and critically dry) while the 17-year data is limited to the years from 1986 through 2003. Each year of data is color coded and plotted as a function of riverflow to further illustrate the type of water year associated with each data point and the general trend that pumping is inversely proportional to river flows.

For example, during high river flow periods [wet years], groundwater extraction tends to be low, whereas during low river flow periods [critically dry years], groundwater extraction tends to be high. Exceptions to the trend and outliers are labeled with the year for additional clarification. It should be noted that the Beltz treatment plant was updated in 1986, and as such extraction rates prior to 1986 were low, despite critically dry years. The averages of the 32- and 17-year period are shown as a green diamond and triangle, respectively. The two periods are closely matched. As such, the 17-year average is representative of the City's historic use.

The Draft Program EIR describes why the 4- and 17-year averages were developed as future use estimates. As stated, the four-year average (167 mgd), which does not include any critically dry, or drought periods, represents an extraction rate that would occur in a normal to slightly wet period (p. 5.1-37 of the Draft Program EIR). During future normal and wet years, the Live Oak wells could pump at rates similar to the four-year average, and thus the assumption is valid for the future.

The 17-year period includes all types of years (critically dry, dry, normal, and wet years). It is representative of the long-term future extraction rates from the Live Oak wells (p. 5.1-36 of the Draft Program EIR) as it includes the increased capacity of the expanded Beltz Treatment Plant. Also, as discussed above, the 17- and 32-year averages are closely matched. As such, the use of the 17-year average as the assumption for the future is valid.



- SqCWD-10 The Draft Program EIR (p 5.1-36) gives credit to SqCWD's attempts to address the potential for seawater intrusion in that it has a well placement strategy. However, the strategy has likely impaired the City's ability to maintain production and favorable coastal groundwater conditions. This statement is not unfair and is based on the fact that SqCWD has effectively proven that relocation of pumping stresses the aquifer system. Other causes for the seawater intrusion are considered speculative due to inconclusive results, and as such are not discussed in the Draft Program EIR.
- SqCWD-11 Mitigation Measures 5.1-6a (pp. 5.1-41 and 5.1-42 of the Draft Program EIR) do not necessarily assume installation of new wells in the B and C zones, as suggested by the commenter. These mitigation measures suggest greater pumping from the SqCWD wells in the central and southeastern portion of the basin that are perforated across all the zones, including the B and C zones. The recent pumping strategy that shifted pumping to the west has placed wells where production from these zones is not advantageous. This mitigation would more appropriately reshift pumping back to the points of historical demand.



**SIERRA  
CLUB**  
FOUNDED 1892

**Letter SC**

Santa Cruz County Group of the Ventana Chapter

P.O. Box 604, Santa Cruz, California 95061 phone: (831) 426-4453

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July 27, 2005

**RECEIVED**

**JUL 29 2005**

CITY OF SANTA CRUZ  
& WATER DEPT.

City of Santa Cruz, Water Department  
Attn: Linette Almond  
809 Center Street, Room 102  
Santa Cruz, CA 95060

Comments on Integrated Water Plan, Draft Program EIR.

The draft Program EIR for the Integrated Water Plan and the proposed desalination solution raise numerous questions and concerns which need to be analyzed and answered. Please review and respond to the following major issues.

**1. Raw seawater intake at a polluted source.**

The IWP proposes that the intake for the raw seawater that will be sent to the desalination plant will be created by converting an existing storm water discharge pipe located at the existing sewer outfall at Mitchell Cove (West Cliff Drive/Sunset/Almar Streets). This location is colloquially known locally as "stinky beach" because of the very perceptible sewage smells that pervade the area of this existing facility. It would seem elementary that the existing sewer outfall and the proposed raw seawater intake should be several miles apart. The sewer outfall consists of a pipe which goes out on the floor of the bay for a mile or so. But the sewer discharge occurs at various openings along the pipe, not just at its terminus a mile or so out to sea. If all the sewage were released at just one spot, it would create a huge brown, highly polluted spot; hence the need to release the water all along the pipe's length. Much of this sewer release is brought towards shore, in a diluted form, by the wave action. Hence the awful smell at the outfall location.

"In general, water and sediment quality in the study area is considered good. Elevated levels of bacteria have at times been detected in the vicinity of the wastewater outfall, at the 30-foot depth contour, and in the surf zone. The elevated bacteria level near the outfall was probably related wastewater discharge. Elevated bacteria at the 30-foot depth contour and in the surf zone were most likely related to runoff. Contaminant levels in sediments in the study area are generally low. (Kinnetics Laboratories 1999)." (EIR, p.5.1-6 – emphasis added)

While the findings quoted above may show that the water in the sewer outfall area may be "good", the question remains: Good for what? Good for swimming is not the same as good for drinking. We are still talking about sewage-impacted water which we now want

SC-1

to sell to the public as good for drinking. And if the water quality is good, why does it cast a sewage smell throughout the neighborhood?

"The treated wastewater is discharged into the Pacific Ocean through the existing outfall/diffuser system. The NPDES permit specifies a minimum dilution of 114:1 (parts seawater to effluent) such that effluent leaving the diffuser system effectively mixes with ocean water."

The treated wastewater that will be drawn from the sewage discharge area and brought to the desalination plant will be, in part, sewage discharge. Is the City Water Department going to be truthful and advertise the water it sells to its customers as treated sewage, and is the public going to accept that?

In addition, the beach where the sewer outfall and proposed water intake are located is used by the public as a dog latrine. Numerous dogs can be seen roaming freely there at most times of day. An identical situation occurs at the next closest beach to the East (Its Beach) where the dogs are even more numerous because they are actually permitted there before 10AM and after 4PM. As noted in the EIR, the wave action goes from east to west, therefore all of the dog discharges from both beaches are washed into the area of the water intake by the waves and by rainfall. Not a good place from which to draw drinking water.

The draft EIR does not address three significant questions:

2.1 How can the public confidence in the quality of the desalinated water be achieved when it is clear that the water intake is adjacent to a sewer outlet? In addition to the factual contamination measurements which need to be analyzed from the standpoint of drinking water, not just plain seawater, there also is the public perception problem which needs to be analyzed.

2.2 The findings noted above (Kinnetics Laboratories 1999) are not specific as to time of year. In the summer, when wastewater flows are less diluted than in winter, bacteria contamination is likely to be much higher. Yet summer is the time when the desalination process would operate.

2.3 The draft EIR does not explain adequately and in sufficient detail how the storm water, which is now discharged through the pipe that is proposed for conversion to a seawater intake, will be handled after the conversion. Although this is a supplementary pipe that functions primarily during heavy rainfall, what will happen during future, heavy rain periods? Is local flooding one of the possible consequences?

## 2. Population projections.

The water demand projections are based on future population projections for the period 2000 to 2020, as developed by AMBAG. The population of the City was 55,232 in 2000 and is projected to increase to 60,045 in 2005, and 64,386 by 2020, or a total increase for

SC-1  
(con't)

SC-2

SC-3

SC-4

the period of 16.5%. For the Service Area as a whole, the increase is projected to go from 88,875 in 2000 to 102,527 in 2020, or a total increase of 15.3%. (EIR Table 6.2-1)

However, the EIR analysis goes on to state what is well known, as follows:

"As a result of low growth rates, the current population of the City of Santa Cruz is about 8% less than was predicted for this year in the 1990-2005 General Plan. The present population of the City is approximately 55,000, while the General Plan anticipated a population of almost 60,000 by 2005. In recent years, the population across Santa Cruz County appears to be stabilizing, or even declining, according to the US Census Bureau." (EIR Sec.6.2.3 – emphasis added)

The EIR does not critically evaluate the many factors which have contributed to the stabilization or decline of the population in recent years. These same factors are most likely to continue to exert the same downward influence over population growth during the next decade, or longer, regardless of the wishes of local development authorities. The factors which contribute to this no net growth situation include the following:

- 3.1 High housing costs substantially limit the settlement of new, young families with children in the area.
- 3.2 Larger families are migrating out of the area because of housing costs. They are being replaced by more mature, two-person families, and by single persons, mostly university students. (This is very evident in the continuing decline of the school population.)
- 3.3 The transportation infrastructure is inadequate to sustain a greater population load and a greater volume of economic activity in the area.
- 3.4 A substantial majority of the residents of the area has voted against expanding Highway 1, the major artery traversing the area. The area's connection to Silicon Valley is limited by the very restricted capacity of Highway 17. No possibility of expansion of this highway is even being considered.
- 3.5 No mass transit connections to the rest of the State appear likely. Mass transit by bus suffers from the same congestion experienced by individual vehicles.
- 3.5 Over the past 20-30 years, residents of the area have implemented the acquisition and dedication of a very large green belt which surrounds the area and which precludes the geographic expansion of development in the area. The topography of the area, with its steep hills, is another limiting factor.
- 3.6 Major industrial activity has declined substantially with the departure of many employers, including Texas Instrument which was the single biggest water consumer in Santa Cruz. The only major growth industry, other than small businesses, is the University of California at Santa Cruz.

Because of the decrease in industrial and economic activity, the only generator of additional water demand would be population growth. But, as noted above, while there is substantial population turnover, overall population is either stable or declining. Therefore, the EIR conclusion that the area's population will continue to grow significantly is not supported by the facts. The EIR must present a much more rigorous analysis of the most likely growth/no growth scenarios. In fact, this analysis should explore a no growth option

SC-4  
(con't)



and how the water needs in a drought period could be accommodated through additional conservation measures and other alternatives.

4.  
↑ SC-4  
(con't)

### 3. Water demand projections

"The study projected that water demand would rise from 4.4 billion gallons per year in 1997 to just under 5.2 billion gallons per year in 2020. This equates to 17% increase over 23 years." (EIR Sec. 3.4.1)

The population projection noted above estimates only a 15.3% population growth in the entire service area. Therefore, it appears that the EIR is projecting higher per capita consumption (17%) in the coming years. However the study also contends that conservation measures will be implemented to reduce consumption. There is a glaring inconsistency in these statements and an apparent manipulation of the figures to justify a preconceived position. This discrepancy needs to be addressed.

"Conservation . . . The plan is expected to reduce customer demand for water by almost 300 million gallons per year in 2010, or by about 0.8 million gallons per day." (EIR Sec. 3.5.3)

In oral presentation to the Santa Cruz City Council on July 26, 2005, Water Department staff indicated that additional conservation measures are expected to reduce water consumption from an average of 76 gallons/day/person at present, to 65 g/d/p by 2010, or a 14% reduction. With near zero growth in population and a substantial conservation program that will reduce consumption by 14%, there should be no need to even consider such a drastically expensive and environmentally damaging project as a desalination plant. The low no growth option must be seriously analyzed in light of the more likely projection of near zero population growth, continuing conservation program expansion, and other measures which are less drastic than a desalination plant.

SC-5

The proposed plant will have the capacity to produce 2.5 million gallons per day. The conservation program noted above will reduce demand by 0.8 million gallons per day, or 1/3 of the desalination plant capacity.

"Under Alternative D-1, the desalination facility would be operated during drought periods only. For the purposes of this report, operation would occur during one out of every six years for six months out of the year. This is a conservative assumption, particularly considering that the City estimates that over the past 59 years, the full desalination plant capacity (2.5 mgd) would have been required on only 4 percent of the days, and partial capacity would have been required on only 10 percent of the days. The majority of these days would have been confined to dry and critically dry years." (EIR p.5.1.27 – emphasis added)

It would seem evident that, in view of the above study assertion, the projected impact of future conservation measures, and the elimination of bloated and fictitious population

growth projections, there will be no need at all for a desalination plant. The EIR must rectify its unfounded conclusions on water demand projections.

↑ SC-5  
(con't)

#### 4. Electrical power consumption to produce desalinated water.

It takes 12 kwh of electrical power to produce 1,000 gallons of desalinated water, after maximizing all possible energy recovery efforts (EIR Ch. 5.13.4).

The average water consumption is approximately 85 gallons/person/day.

Thus the average power consumption to produce, through desalination, the average water need/person/day is 1.02 kwh/person/day:

$$(12 \text{ kwh}/1,000 \text{ gallons} \div 85 \text{ gallons/person/day} = 12/1,000 \times 85)$$

A typical California household consumes 6,500 kwh of electrical power annually. (EIR Impact 5.13-1). Thus the average power consumption per person, per day is 7.12 kwh/person/day. (6,500 kwh/year/household  $\div$  365 days @ 2.5 persons/household)

Therefore, to produce through desalination the average daily water requirement per person it will take 1.02 kwh, which represents a 14.3% increase over the present average electrical consumption of 7.12 kwh/person/day. This is a huge increase in power consumption at a time when myriad efforts are under way to reduce power consumption because of fossil fuel depletion, pollution, and infrastructure costs generated by higher power consumption.

SC-6

While the draft EIR states that there appears to be adequate power supply in the state to accommodate power consumption increases generated by this desalination plant, the EIR does not address the serious environmental issue associated with the introduction of a water producing technology which will increase power consumption per person, per day by a whopping 14.3 percent.

The EIR contention that the state has adequate power supply to accommodate the increase consumption generated by the desalination plant does not address the combined impact of drought and excessive electrical power consumption occurring at the same time. Electrical power insufficiency during hot summer periods has been acute in recent years, and will continue to be a significant problem due to the lack of new power plants and insufficiency of the transmission system. The EIR must address this problem.

#### 5. Feasibility of using the desalination plant only intermittently.

The stated purpose of the desalination plant is to provide additional water during periods of severe drought. Therefore, it would operate only 5-6 months per year during drought years (one out of six years, on average), and not at all during normal years.

Complex chemical, mechanical, and electrical machinery and instruments which operate in a highly corrosive environment may not be able to sustain long periods of inactivity without degrading and corroding. The EIR needs to present evidence from other, similar facilities to show that this method of intermittent operation is feasible and practical.

SC-7

Given the huge capital cost of the proposed facility, the rate payers must have evidence that the intended operation will not require extraordinary maintenance, and that it will function effectively over the decades even under the intermittent operating characteristics being proposed, which include multi-year periods of mothballing.

6  
SC-7  
(con't)

#### **6. Impact of concentrated salt discharge in the Pacific Ocean.**

The EIR recognizes that "discharge of seawater concentrate from the desalination plant could affect the water quality of the Pacific Ocean" (Environmental Impact 5.1.2) The report considers this a significant but mitigatable environmental impact. The EIR analysis, based solely on computer modeling, is inadequate and unreliable.

In fact, this discharge which will contain not only salt but also many other chemicals used in the desalination process. These will be expelled where all the area's sewage is pumped out into the ocean. These combined sewage and the desalination chemicals being dumped in such large quantities, are very likely to drastically change the marine environment at that point and throughout the dispersal area. This plan has the potential of creating a major environmental disaster in the Monterey Bay Marine Sanctuary. The very fact that we are in a Marine Sanctuary should be reason enough to abandon this idea. The computer modeling conducted as part of the EIR studies does not differentiate this Marine Sanctuary from any other marine environment. Therefore it is deficient in providing the level of site specific assurances which are needed given the special designation of the site. What is the point of designating a site as a sanctuary if it going to be treated like any other site?

SC-8

#### **7. Cost Impact and alternatives.**

The IWP and the EIR avoid the subject of cost. The desalination project envisioned in this EIR is going to be a very costly project, in and of itself, and extremely costly when it is considered that it is planned to operate, on average, only 6 months out of every 6 years. A cost-benefit analysis should be prepared for this alternative project solution as well as for other potential solutions which have been minimized or dismissed in the analysis. These alternatives should include the possibility of building small reservoirs in the north coast hills utilizing abandoned quarries, and also requiring the use of storage tanks on the site of large water users, such as golf courses, large parks, and the UCSC campus, for irrigation use during the dry months. Although each of these would provide a small capacity, cumulatively they could be a significant resource which needs to be analyzed.

SC-9

Respectfully submitted,



ALDO GIACCHINO  
Chair, Executive Committee  
Sierra Club - Santa Cruz County Group

### 2.2.5 Sierra Club

- SC-1 Figure 5.2-2 of the Draft Program EIR shows the location of the existing 72-inch wastewater outfall relative to the location of the abandoned 36-inch wastewater outfall (proposed intake). The terminus of the proposed intake to the nearest discharge port is approximately 2,250 feet to the east (the nearest port is located at the 90-foot contour, denoted by the black dash). Page 5.1-6 of the Draft Program EIR identifies information known to date about the water quality in the vicinity of the existing wastewater outfall. Studies have not been conducted to determine the water quality at the proposed intake location. The City concurs that the intake quality is important to ensure protection of the public health. Knowledge of the water quality at the existing intake location will assist the Department of Health Services (DOHS) in determining the level of potential contamination and the required treatment processes and mechanisms necessary to remove potential contaminants, inactivate potential pathogens, etc.

During the pilot study for the desalination plant, the water quality at the intake location will be thoroughly evaluated. In addition, as part of the permitting process with DOHS, the City will be required to conduct a watershed sanitary survey (WSS) to identify and describe all sources of actual or potential contamination affecting the intake (please see Responses DOHS-5 and DOHS-6). The WSS will address the potential presence of metals, agrochemicals, and other pollutants in the intake water, and the results of the WSS will guide design of the desalination facility to ensure that intake water quality would not adversely affect human health. Details of the intake water quality will be described in the subsequent project-level EIR.

- SC-2 Bacterial exceedances referenced in Section 5.1 of the Draft Program EIR (p. 5.1-6) occurred at all times of year, not just during the summer.
- SC-3 Please refer to Response MBNMS-6 for a discussion of how peak wet weather flows water would be handled if the existing emergency outfall is converted to an intake system.
- SC-4 Please refer to MR 2 for a discussion of growth and water demand/supply.

As described in Section 3.5.2 of the Draft Program EIR, the water modeling effort conducted by the City showed that the City's water supply system is grossly inadequate to meet current demand under severe drought conditions. Even with conservation and curtailment alone, there is insufficient supply to meet demand during drought scenarios. Please refer to MR 3 for a discussion of alternatives evaluated but eliminated from further discussion.

- SC-5 The commenter raises a number of questions about future demand projections, population trends, and assumptions regarding water conservation and per capita water use that lead eventually to the contention that there is no need for additional water supply.

That the City has a very serious water supply deficiency in drought years just to meet its current population is well established, both through operational modeling of the water system and actual experience. According to the Integrated Water Plan, 2.5 mgd of additional water supply is needed to decrease the level of risk of water shortage for today's population from one of potentially crisis proportions to the more manageable level of 15 percent recommended in the Plan.

To meet the City's long-term needs, the IWP provides a flexible, phased approach that allows future expansion of the desalination facility if necessary based on actual population and water demands at that time and only after additional environmental review is performed. If either the service area population or the level of water demand does not increase as the projections indicate they will, as the commenter suggests, the subsequent increment of the desalination facility can be downsized or deferred.

The population projections incorporated into the water demand study and the Integrated Water Plan were obtained from the Association of Monterey Bay Area Governments (AMBAG), which is the official Metropolitan Planning Organization for Monterey, San Benito and Santa Cruz counties and the agency responsible for preparing population and employment forecasts for the region.

The 14 percent reduction in per capita water use that is expected to be achieved through water conservation applies only to the residential sector, not to business water consumption and other categories of use such as industrial and landscape irrigation that collectively determine total water demand on the system. This reduction in per capita water use in the residential sector will effectively keep water demand in the residential sector constant over time by offsetting the increase in water use from new residential dwelling units added to the system. Other categories such as business and the UCSC, however, are expected to increase their water use in the future, which is why total demand is projected to rise over time.

The Integrated Water Plan did adjust downward the near-term water demand figures by over 200 million gallons to reflect actual conditions experienced a few years after the projections were developed (see Table II-3 in the IWP). The demand forecast will be periodically reassessed. Future changes in forecasted demand will affect the need for subsequent increments of supply.

The commenter is referred to the 1998 Water Demand Investigation, which is incorporated by reference, for a complete description of how AMBAG's population and employment forecast was applied to water consumption data to develop individual forecasts for each of the City's 12 customer categories.

Please also refer to MR 2 for a discussion of growth.

SC-6 The annual household consumption of 6,500 kWh identified in the Draft Program EIR (p. 5.13-6) refers to the electrical consumption as registered at the meter. This does not include the electricity required to process and convey water, electricity, or natural gas to the house, or the electricity used to convey effluent from the house. Similarly, it does not represent the electricity consumed while at work, which would likely exceed the per person usage at home as most people spend more waking hours at work than at home. The household figure was provided as a common reference in an attempt to make the energy consumption values more relevant to the reader. Per capita consumption is also irrelevant as the water produced would not only meet residential needs, but would also be available for commercial and industrial uses. As such, the calculations performed by the commenter cannot be directly compared. An analysis of the per capita consumption of energy is not warranted.

Section 5.13, Energy, of the Draft Program EIR discusses the implication of the proposed Program on peak electrical demand (as would occur during a drought) and energy-related infrastructure. The analysis indicates the proposed Program would consume between 0.63 and 1.25 mW per hour at peak demand and determined that these amounts represented a less than significant impact on existing and future capacity (see p. 5.1-6 of the Draft Program EIR). According to Appendix F of the CEQA guidelines, the energy analysis should focus on inefficient, wasteful, or unnecessary consumption of energy by a project. Thus the focus of the analysis was on the power requirements of the various alternatives, the available resources, and whether the project had included available energy conservation measures.

Please refer to Response SUC-2 for a discussion of other considerations in determining the overall energy use of the proposed Program.

The transmission system to convey the projected increased electrical capacity is evaluated on an ongoing basis by electricity producers and the California Independent System Operator (ISO). The transmission system is related directly to projected increases in demand and capacity, and is evaluated by ISO and energy producers. The Draft Program EIR evaluates the need for a new transformer and a power line (see Impact 5.13-2 on p. 5.13-7) to convey energy to the desalination plant. Power would likely be taken from the existing grid but the exact configuration would be determined during project-level design. When final design of the desalination plant is complete, the City will consult with PG&E (as part of standard procedures) to ensure that there are adequate facilities to provide electricity to the desalination plant.

SC-7 The purpose of the proposed Program, as described in Section 3.5.1 (p. 3-8 of the Draft Program EIR) is to 1) reduce near-term drought shortages, and 2) provide a reliable supply that meets long-term needs while ensuring protection of public health and safety. Tables 4-5 and 4-6 on pp. 4-18 and 4-19 of the Draft Program EIR describe the operational schemes considered under the proposed Program. The desalination plant is intended to operate one in six years, for about 6 months in the near term under Alternative D-1. The

operational scheme would differ in the long-term under Alternative D-1 (operation for about 8 months instead of 6) and would operate consistently in the near- and long-term under Alternative D-2. An example of a plant operated periodically is the Marina Coast Water District ocean desalination plant that is located at the south end of Monterey Bay. Although the details of the City's proposed desalination plant operations have not yet been worked out, it is typical to flush out the process components with potable water when the plant is taken offline. This step would prevent residual seawater from staying in the system to act as a corrosion mechanism. As such, it is unlikely that periods of downtime would make corrosion worse. Details of the desalination plant operation (including maintenance requirements) and components will be developed during project-level design and evaluated in the subsequent project-level EIR (if the City Council approves the proposed Program). Please also refer to Response CCC-15 for a discussion of maintenance.

SC-8 As discussed in Chapter 4, Program Description (of the Draft Program EIR), process flows with excess chemical concentrations would be segregated and disposed of separately to prevent untreated discharge back to the ocean (pp. 4-15 and 4-17). This issue is further discussed in Impact 5.1-3 (Section 5.1, Hydrology and Water Quality of the Draft Program EIR). To ensure that chemicals would not be discharged directly into the Sanctuary, Mitigation Measure 5.1-3 has been identified in the Draft Program EIR. This mitigation measure would require the desalination plant be designed to separate the chemical and concentrate waste streams, and for the waste streams to be conveyed to the WWTP for treatment prior to discharge. The implementation of this mitigation measure, in addition to the treatment of the combined discharge to meet the WWTP's existing or amended NPDES requirements (see Impact 5.1-2, Section 5.1 Hydrology and Water Quality of the Draft Program EIR), would ensure that ocean water quality would not be degraded. The RWQCB NPDES permit requirements were developed to be protective of the ocean and marine environment, especially that of the Monterey Bay National Marine Sanctuary (MBNMS). It should be noted that the MBNMS will have input on the RWQCB NPDES permit conditions regarding concentrate discharge (p. 5.2-11 of the Draft Program EIR). Please refer to Impact 5.2-2 (pp. 5.2-21 and 5.2-22 of the Draft Program EIR) for a discussion of effects of the concentrate discharge on marine resources.

SC-9 Please refer to MR 4 for a discussion of cost and MR 3 for a discussion of alternatives considered but eliminated.

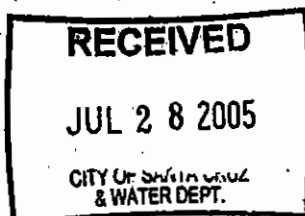
State of California—Health and Human Services Agency  
**Department of Health Services**  
 Northern California Drinking Water Field Operations Branch  
 Monterey District



ARNOLD SCHWARZENEGGER  
 Governor



SANDRA SHEWRY  
 Director



July 27, 2005

System No. 4410010

Ms. Linette Almond  
 City of Santa Cruz Water Department  
 809 Center Street, Room 102  
 Santa Cruz, CA 95060

Dear Ms. Almond:

**Draft Integrated Water Plan Program Environmental Impact Report**  
**City of Santa Cruz, State Clearinghouse No. 2003102140**

The Department of Health Services, Drinking Water Field Operations Branch (Department), Monterey District office, has received and reviewed the above-cited document. The project involves the development a desalination treatment facility, seawater intake, raw and treated water transmission pipelines, and brine disposal via the City's existing wastewater outfall. It was stated in the IWP Program EIR that project level environmental analysis will be conducted for all facilities. We offer the following comments:

1. The treated water from the desalination treatment plant must achieve adequate disinfection contact time for pathogen inactivation prior to discharge to the first customer. This can be achieved via a clearwell constructed at the desalination treatment site or within the transmission pipeline to the Bay Street Reservoir, if there are no service connections directly off that transmission pipeline. Facilities must be adequately sized to achieve the required pathogen inactivation. DOHS-1
2. The EIR should evaluate the need to dispose of left over chemicals used in the treatment process upon deactivation of the desalination plant under option D-1, once the water supply emergency has passed. DOHS-2
3. The selected alignment of all raw, treated and waste disposal pipelines should take into consideration the ability to meet the separation criteria specified in the California Code of Regulations, Section 64630, and the alternative compliance criteria allowed by the Department as documented in the attached *Guidance Memo 2003-02: Guidance Criteria for the Separation of Water Mains and Nonpotable Pipelines*. DOHS-3



4. The project level environmental review for the desalination treatment plant and related facilities should consider comments dated November 17, 2003, (attached) submitted by the Department for the NOP for the IWP Program EIR. DOHS-4

Thank you for the opportunity to comment on the Draft Integrated Water Plan Program EIR. If you have any questions regarding these comments, please contact me at (831) 655-6933.

Sincerely,



Betsy S. Lichti, P.E.  
District Engineer, Monterey District  
DRINKING WATER FIELD OPERATIONS BRANCH

BSL/bl

Attachments:

CDHS Letter Dated November 17, 2003 RE: NOP of an EIR for the City of Santa Cruz Water Department Integrated Water Plan

Guidance Memo 2003-02: Guidance Criteria for the Separation of Water Mains and Nonpotable Pipelines

cc (with attachments):

State Clearinghouse  
Office of Planning and Research  
P.O. Box 3044  
Sacramento, CA 95812-3044

CDHS-DWP Environmental Coordinator

Santa Cruz County Environmental Health

bcc (without attachments): B. Lichti, Q. Moltrup, C. Ma, file, EIR Review Binder, chron

2005.07.27.SCWD IWP DEIRdoc



DIANA M. BONTÁ, R.N., Dr. P.H.  
Director

State of California—Health and Human Services Agency  
**Department of Health Services**  
Northern California Drinking Water Field Operations Branch  
Monterey District



ARNOLD SCHWARZENEGGER  
Governor

November 17, 2003

Linnette Abbott, Deputy Director  
City of Santa Cruz Water Department  
809 Center Street  
Santa Cruz, CA 95060

**Title: Notice of Preparation of an EIR for the City of Santa Cruz Water Department Integrated Water Plan**

Dear Ms. Abbott:

The Department of Health Services, Drinking Water Field Operations Branch, Monterey District office (Department), has received and reviewed the Notice of Preparation of an Environmental Impact Report for the City of Santa Cruz Water Department Integrated Water Plan. The Department provides the following comments:

1. The desalination treatment facilities will be required to comply with the State's Surface Water Treatment Regulation (SWTR), with review and permitting by the Department. The Hydrology/Water Quality evaluation in the EIR should include evaluation of a full watershed sanitary survey (WSS) of the source water. The WSS is required prior to Department approval of any new surface water source and will allow the Department to determine the overall pathogen reduction requirements for the source water and evaluate the ability of the treatment process to remove any chemical contaminants.

The WSS should identify and describe all sources of actual or potential contamination affecting the intake including but not limited to: ocean outfalls (specify the degree of wastewater treatment and disinfection); river, creek and drainage outlets (describe the watershed and the amount of flow); points of urban and agricultural runoff; marinas, docks, ship channels and mooring areas (describe control measures to prevent dumping of wastes from boats) and sewage pump stations; and the occurrence of biotoxins in the source water.

The watershed boundaries should be fully delineated, to include the contributing area to the intake under all water current conditions, as well as the watershed for all fresh water flows into the contributing area. The WSS should evaluate the possible changes in sources of contamination due to known or potential changes in growth, development or industry within the watershed boundaries

The WSS should also include a full characterization of the source water quality. The source water characterization should begin with the implementation of monitoring for coliform and pathogens in the vicinity of the planned intake. Additionally, full chemical monitoring of the

DOHS-5

source water should be initiated. Identification of toxins associated with algae blooms that may be present around the intake should be conducted. A compilation of the watershed water quality data gathered by other agencies for the Monterey Bay should be included in the evaluation. The characterization should include special monitoring to identify any impacts from major storm events.

DOHS-5  
(con't)

It is recommended that a plan for conducting the WSS and source water characterization be provided to the Department for review and comment prior to implementation.

2. The EIR should evaluate the impact of the ocean wastewater outfall on the intake water quality. Modeling studies of the wastewater effluent plume under all water current conditions, at the maximum outfall capacity of 23 MGD should be undertaken. The actual pathogen concentrations in the outfall wastewater stream should be considered, including an evaluation of the pathogen survivability in ocean water and their transport under all water current conditions.

DOHS-6

3. The various options for disinfection treatment should be evaluated in the EIR, considering chemical transport and storage, options for onsite generation of ozone, and clearwell capacity requirements. An evaluation of disinfection by-product formation issues, depending on the type of disinfection treatment to be provided, should be included to ensure compliance with the Stage 2 Disinfection By-Products Regulation.

DOHS-7

4. The impact of multiple sources of water in the distribution system should be addressed and the possible resulting water quality problems should be evaluated in the EIR. Mitigation strategies should be proposed.

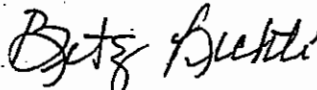
DOHS-8

5. The EIR should evaluate the reliability of the power supply to ensure availability during high water demand periods when there is also a high consumer demand for electric power.

DOHS-9

Thank you for the opportunity to comment on the Notice of Preparation. Notices regarding the availability of the draft EIR should be sent to our Monterey District office. If you have any questions regarding these comments, please contact me at (831) 655-6933.

Sincerely,



Betsy S. Lichti, P.E.  
District Engineer, Monterey District  
DRINKING WATER FIELD OPERATIONS BRANCH

BSL/bl

cc: SDWSRF Environmental Coordinator  
Santa Cruz Environmental Health  
Laura Brown, General Manager, Soquel Creek Water District

State of California

Department of Health Services

## Memorandum

Date: April 14, 2003 (Revised Date: October 16, 2003)

To: Regional and District Engineers

From: David P. Spath, Ph.D., Chief (*Original signed by Dave*)  
Drinking Water and Environmental Management  
601 North 7<sup>th</sup> Street, MS 216  
Sacramento, CA 95814  
(916) 322-2308

Subject: **GUIDANCE MEMO NO. 2003-02: GUIDANCE CRITERIA FOR THE SEPARATION OF WATER MAINS AND NON-POTABLE PIPELINES**

The purpose of this memo is to update guidance dated April 5, 1983 for consistency with proposed 2003 regulations. Should there be any modification to the proposed Water Works Standards that may impact the content of this guidance, the guidance will be amended accordingly.

### **GUIDANCE: CRITERIA FOR THE SEPARATION OF WATER MAINS AND NON-POTABLE PIPELINES**

#### **BACKGROUND**

When buried water mains are in close proximity to non-potable pipelines, the water mains are vulnerable to contamination that can pose a risk of waterborne disease outbreaks. For example, sewers (sanitary sewer mains and sewage force mains) frequently leak and saturate the surrounding soil with sewage due to structural failure, improperly constructed joints, and/or subsidence or upheaval of the soil encasing the sewer. If a nearby water main is depressurized and no pressure or negative pressure occurs, that situation is a public health hazard that is compounded if an existing sewer is broken during the installation or repair of the water main. Further, failure of a water main in close proximity to other pipelines may disturb their bedding and cause them to fail. In the event of an earthquake or other disaster, simultaneous failure of all pipelines could occur.

The most effective protection against this type of drinking water contamination is adequate construction and separation of non-potable pipelines and water mains. The Waterworks Standards (Title 22, Chapter 16, Section 64572) provide separation criteria for new construction. However, when these criteria cannot be met, the risk of contamination can be reduced by increasing the structural integrity of pipe materials and joints, and ensuring minimum separation requirements are met. Therefore, the following guidance details construction criteria for the installation of water mains and non-potable pipelines to minimize the risk of contamination of drinking water.



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[www.consumerenergycenter.org/flex/index.html](http://www.consumerenergycenter.org/flex/index.html)

## DEFINITIONS

- **COMPRESSION JOINT** - A push-on joint that seals by means of the compression of a rubber ring or gasket between the pipe and a bell or coupling.
- **CONTINUOUS SLEEVE** - A protective tube of high-density-polyethylene (HDPE) pipe with heat fusion joints or other non-potable metallic casing without joints into which a pipe is inserted.
- **DISINFECTED TERTIARY RECYCLED WATER** - Wastewater that has been filtered and subsequently disinfected in accordance with Section 60301.230, Chapter 3 (Water Recycling Criteria), Title 22, California Code of Regulations.
- **HOUSE LATERAL** - A sewer line connecting the building drain and the sanitary sewer main serving the street.
- **SUPPLY LINE** - Pipelines conveying raw water to be treated for drinking purposes in accordance with Section 64572 ©, proposed Water Works Standards.
- **WATER MAIN** - Means any pipeline, except for user service lines, within the distribution system in accordance with Section 64551.70, proposed Water Works Standards.
- **RATED WORKING WATER PRESSURE** - A pipe classification system based on internal working pressure of the fluid in the pipe, type of pipe material, and the thickness of the pipe wall.
- **SANITARY SEWER MAIN** - A gravity sewer conveying untreated municipal wastewater.
- **SEWAGE FORCE MAIN** - A pressurized sewer conveying untreated municipal wastewater.

## APPLICABILITY

Note that the construction criteria presented in this document apply to house laterals that cross above a water main, but not to those house laterals that cross below a water main.

Water mains or non-potable pipelines that are 24-inches in diameter or larger may pose a higher degree of public health concern because of the large volumes of flow involved. Therefore, installation of water mains or non-potable pipelines 24-inches in diameter or larger should be reviewed and approved in writing by the Department on a case-by-case basis prior to construction.

In no case, should water mains and non-potable pipelines conveying sewage or other liquids be installed in the same trench.

## REGULATORY REQUIREMENTS

Any new development project in which all the underground facilities are being constructed for the first time must comply with the following regulatory requirements:

### ***Existing requirements:***

#### Section 64630. (Title 22 CA Code of Regulations) Water Main Installation

(c) Water mains shall be installed at least:

- (1) Ten feet (3 meters) horizontally from and 1 foot (0.3 meters) higher than sanitary sewer mains located parallel to the main.
- (2) One foot (0.3 meters) higher than sanitary sewer mains crossing the main.
- (3) Ten feet (3 meters), and preferably 25 feet (7.5 meters), horizontally from sewage leach fields, cesspools, seepage pits and septic tanks.

(d) Separation distances specified in (c) shall be measured from the nearest outside edges of the facilities.

(e) Where the requirements of (c) and (d) cannot be met due to topography, inadequate right-of-way easements, or conflicts with other provisions of these regulations, lesser separation is permissible if:

- (1) The water main and the sewer are located as far apart as feasible within the conditions listed above.
- (2) The water main and the sewer are not installed within the same trench.
- (3) The water main is appropriately constructed to prevent contamination of the water in the main by sewer leakage.

(f) Water mains shall be disinfected according to AWWA Standard C601-81 before being placed in service.

(g) Installation of water mains near the following sources of potential contamination shall be subject to written approval by the Department on a case-by-case basis:

- (1) Storage ponds or land disposal sites for wastewater or industrial process water containing toxic materials or pathogenic organisms.
- (2) Solid waste disposal sites.
- (3) Facilities such as storage tanks and pipe mains where malfunction of the facility would subject the water in the main to toxic or pathogenic contamination.

**Although the following requirements have not yet been adopted, they should be within the next two years and should be used as guidance for future construction.**

***Proposed requirements as of the date of this document:*****Section 64572. Water Main Separation**

(a) New water mains and new supply lines shall not be installed in the same trench as, and shall be at least 10 feet horizontally from, and one foot vertically above, any parallel pipeline conveying:

- (1) Untreated sewage,
- (2) Primary or secondary treated sewage,
- (3) Disinfected secondary-2.2 recycled water (defined in section 60301.220),
- (4) Disinfected secondary-23 recycled water (defined in section 60301.225), and
- (5) Hazardous fluids such as fuels, industrial wastes, and wastewater sludge.

(b) New water mains and new supply lines shall be installed at least 4 feet horizontally from, and one foot vertically above, any parallel pipeline conveying:

- (1) Disinfected tertiary recycled water (defined in section 60301.230), and
- (2) Storm drainage.

(c) New supply lines conveying raw water to be treated for drinking purposes shall be installed at least 4 feet horizontally from, and one foot vertically below, any water main.

(d) If crossing a pipeline conveying a fluid listed in subsection (a) or (b), a new water main shall be constructed perpendicular to and at least one foot above that pipeline. No connection joints shall be made in the water main within eight horizontal feet of fluid pipeline.

(e) The vertical separation specified in subsections (a), (b), and (c) is required only when the horizontal distance between a water main and pipeline is ten feet or less.

(f) New water mains shall not be installed within 100 horizontal feet of any sanitary landfill, wastewater disposal pond, or hazardous waste disposal site, or within 25 feet of any cesspool, septic tank, sewage leach field, seepage pit, or groundwater recharge project site.

(g) The minimum separation distances set forth in this section shall be measured from the nearest outside edge of each pipe barrel.

**ALTERNATIVE CRITERIA FOR CONSTRUCTION****Water Mains, and Sewers and Other Non-potable Fluid-carrying Pipelines**

When new water mains, new sanitary sewer mains, or other non-potable fluid-carrying pipelines are being installed in existing developed areas, local conditions (e.g., available space, limited slope, existing structures) may create a situation in which there is no alternative but to install water mains, sanitary sewer mains, or other non-potable pipelines at a distance less than that required by the regulations [existing Section 64630 (proposed Section 64572)]. In such cases, through permit action, the Department may approve

alternative construction criteria. The alternative approach is allowed under the proposed regulation Section 64551(c):

"A water system that proposes to use an alternative to the requirements in this chapter shall demonstrate to the Department how it will institute additional mitigation measures to ensure that the proposed alternative would not result in an increased risk to public health."

Appropriate alternative construction criteria for two different cases in which the regulatory criteria for sanitary sewer main and water main separation cannot be met are shown in Figures 1 and 2.

- **Case 1** - New sanitary sewer main and a new or existing water main; alternative construction criteria apply to the sanitary sewer main.
- **Case 2** - New water main and an existing sanitary sewer main; alternative construction criteria may apply to either or both the water main and sanitary sewer main.

#### **Case 1: New Sanitary Sewer Main Installation (Figures 1 and 2)**

##### **Zone Special Construction Required for Sanitary Sewer Main**

A Sanitary sewer mains parallel to water mains shall not be permitted in this zone without prior written approval from the Department and public water system.

B If the water main paralleling the sanitary sewer main does not meet the Case 2 Zone B requirements, the sanitary sewer main should be constructed of one of the following:

1. High-density-polyethylene (HDPE) pipe with fusion welded joints (per AWWA C906-99);
2. Spirally-reinforced HDPE pipe with gasketed joints (per ASTM F-894);
3. Extra strength vitrified clay pipe with compression joints;
4. Class 4000, Type II, asbestos-cement pipe with rubber gasket joints;
5. PVC sewer pipe with rubber ring joints (per ASTM D3034) or equivalent;
6. Cast or ductile iron pipe with compression joints; or
7. Reinforced concrete pressure pipe with compression joints (per AWWA C302-95).



- C If the water main crossing below the sanitary sewer main does not meet the requirements for Case 2 Zone C, the sanitary sewer main should have no joints within ten feet from either side of the water main (in Zone C) and should be constructed of one of the following:
1. A continuous section of ductile iron pipe with hot dip bituminous coating; or
  2. One of the Zone D options 1, 3, 4, or 5 below.
- D If the water main crossing above the sanitary sewer main does not meet the Case 2 Zone D requirements, the sanitary sewer main should have no joints within four feet from either side of the water main (in Zone D) and be constructed of one of the following:
1. HDPE pipe with fusion-welded joints (per AWWA C906-99);
  2. Ductile iron pipe with hot dip bituminous coating and mechanical joints (gasketed, bolted joints);
  3. A continuous section of Class 200 (DR 14 per AWWA C900-97) PVC pipe or equivalent, centered over the pipe being crossed;
  4. A continuous section of reinforced concrete pressure pipe (per AWWA C302-95) centered over the pipe being crossed; or
  5. Any sanitary sewer main within a continuous sleeve.

**Case 2: New water mains Installation (Figures 1 and 2)**

**Zone Special Construction Required for Water Main**

- A No water mains parallel to sanitary sewer mains shall be constructed without prior written approval from the Department.
- B If the sanitary sewer main paralleling the water main does not meet the Case 1 Zone B requirements, the water main should be constructed of one of the following:
1. HDPE pipe with fusion welded joints (per AWWA C906-99);
  2. Ductile iron pipe with hot dip bituminous coating;
  3. Dipped and wrapped one-fourth-inch-thick welded steel pipe;
  4. Class 200, Type II, asbestos-cement pressure pipe;

5. Class 200 pressure rated PVC water pipe (DR 14 per AWWA C900-97 & C905-97) or equivalent; or
  6. Reinforced concrete pressure pipe, steel cylinder type, per AWWA (C300-97 or C302-99 or C303-95).
- C If the sanitary sewer main crossing above the water main does not meet the Case 1 Zone C requirements, the water main should have no joints within ten feet from either side of the sanitary sewer main (in Zone C) and be constructed of one of the following:
1. HDPE pipe with fusion-welded joints (per AWWA C906-99);
  2. Ductile iron pipe with hot dip bituminous coating;
  3. Dipped and wrapped one-fourth-inch-thick welded steel pipe;
  4. Class 200 pressure rated PVC water pipe (DR 14 per AWWA C900-97 & C905-97); or
  5. Reinforced concrete pressure pipe, steel cylinder type, per AWWA (C300-97 or C301-99 or C303-95).
- D If the sanitary sewer main crossing below the water main does not meet the requirements for Case 1 Zone D, the water main should have no joints within eight feet from either side of the sanitary sewer main (in Zone D) and should be constructed as for Zone C.

#### **Water Mains and Pipelines Conveying Non-potable Fluids**

When the basic separation criteria cannot be met between water mains and pipelines conveying non-potable fluids, the requirements described above for sanitary sewer mains should apply. This includes the requirements for selecting special construction materials and the separation requirements shown in Figures 1 and 2. Note that not all construction materials allowed for sanitary sewer mains will be appropriate for other non-potable fluid lines. For example, certain plastic lines may not be appropriate for the transport of some fuel products. The selection of compatible materials of construction for non-potable fluids is a decision to be made by the project engineer.

#### **Water Mains and Sewage Force Mains**

- Sewage force mains shall not be installed within ten feet (horizontally) of a water main.

- When a sewage force main must cross a water main, the crossing should be as close as practical to the perpendicular. The sewage force main should be at least one foot below the water main.
- When a new sewage force main crosses under an existing water main, and a one-foot vertical separation cannot be provided, all portions of the sewage force main within eight feet (horizontally) of the outside walls of the water main should be enclosed in a continuous sleeve. In these cases, a minimum vertical separation distance of 4 inches should be maintained between the outside edge of the bottom of the water main and the top of the continuous sleeve.
- When a new water main crosses over an existing sewage force main, the water main should be constructed of pipe materials with a minimum rated working pressure of 200 psig or the equivalent.

### **Water Mains and Tertiary Treated Recycled Water or Storm Drainage**

The basic separation criteria for water mains and pipelines conveying tertiary treated recycled water or storm drainage lines are a 4-foot horizontal separation where lines are running parallel and a 1-foot vertical separation (water line above recycled or storm drainage) where the lines cross each other.

When these criteria cannot be met, the Zone A criteria apply where lines are running parallel, and the Zone C and Zone D criteria apply where the lines cross each other as shown on Figures 1 and 2. For these situations, the Zone "P" criteria are in effect and prohibit construction less than 1 foot in parallel installations and less than 4 inches in vertical (crossing) situations.

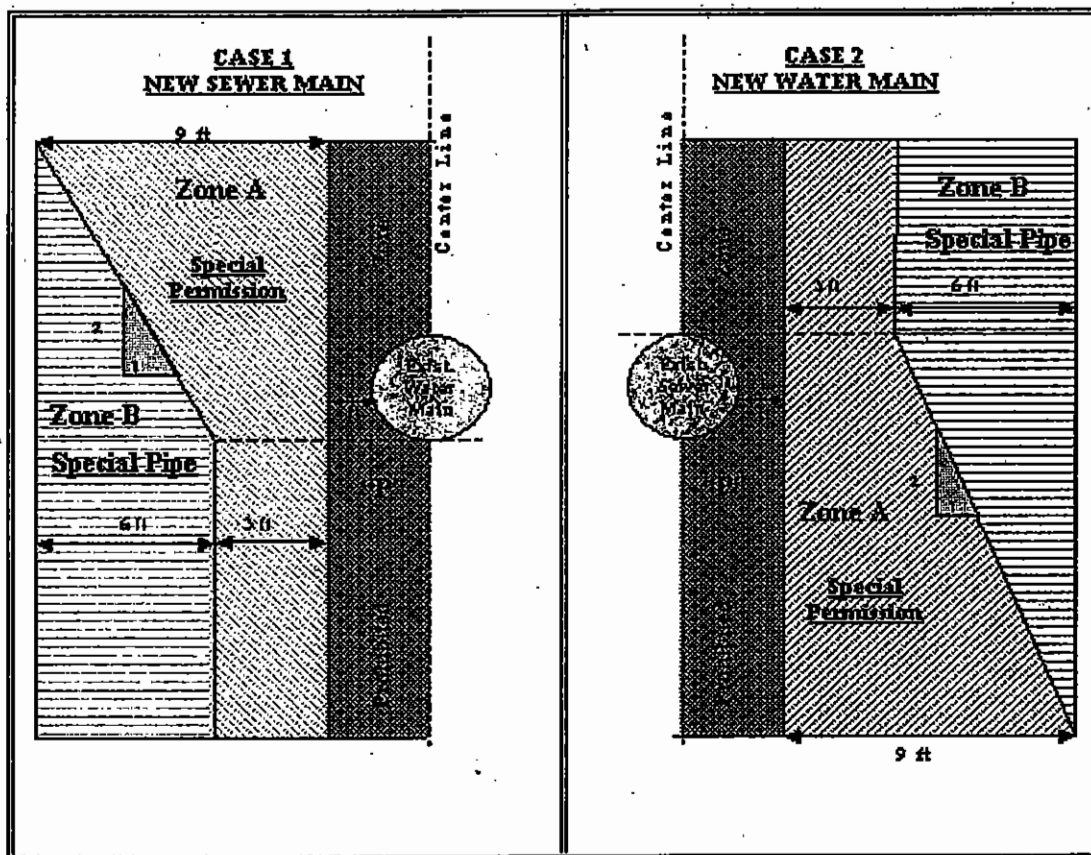
For tertiary treated recycled water and storm drainage lines, the Zone B criteria (requirements for special pipe) do not apply as the basic separation criteria is a four-foot horizontal separation criteria for parallel lines. The tertiary treated recycled water lines should be constructed in accordance with the color-coding, and labeling requirements per Section 116815, California Health and Safety Code of Regulations.

### **MISCELLANEOUS GUIDANCE**

- More stringent requirements may be necessary if conditions such as high groundwater exist. HDPE or similar pipe may be required to provide flexibility to move without potential joint leaks.
- Sanitary sewer mains should not be installed within 25 feet horizontally of a low head (5 psig or less pressure) water main.
- New water mains and sanitary sewer mains should be pressure tested in accordance with manufacturer's specifications.

- When installing water mains, sewers, or other pipelines, measures should be taken to prevent or minimize disturbances of existing pipelines. Disturbance of the conduit's supporting base could eventually result in pipeline failure.
- Special consideration should be given to the selection of pipe materials if corrosive conditions are likely to exist. These conditions may be due to soil type and/or the nature of the fluid conveyed in the conduit, such as a septic sewage producing corrosive hydrogen sulfide.

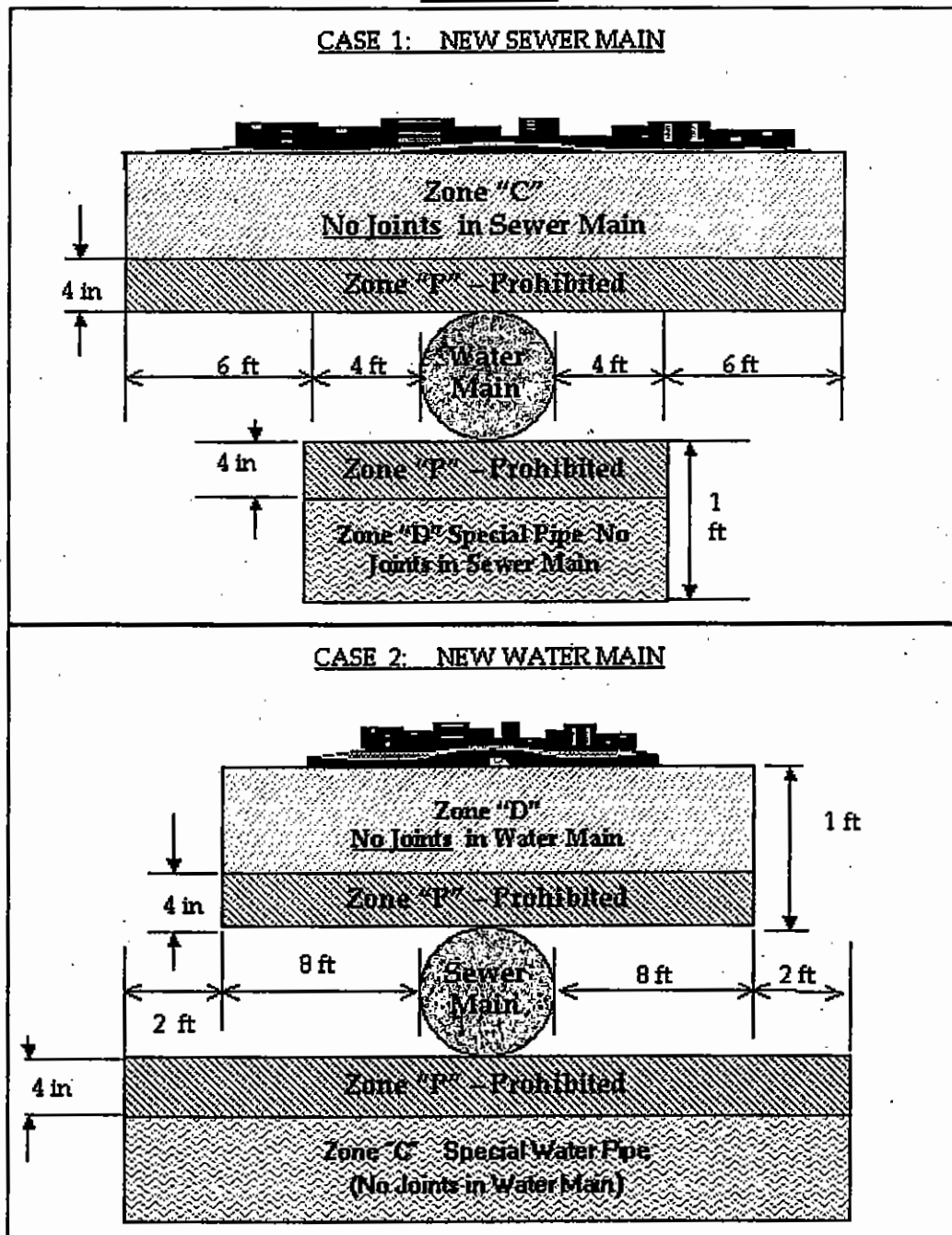
**NOTE:** Dimensions are from the outside of the water main to the outside of the other pipeline, manhole, or sleeve.

**FIGURE 1 PARALLEL CONSTRUCTION****Not To Scale**

**Note:** Zones identical on either side of center lines.

Zones "T" is a prohibited zone. Section 64630 (e) (2) California Code of Regulations, Title 22 (Current); or Section 64572 (a) California Code of Regulations, Title 22 (Proposed).

**FIGURE 2 CROSSINGS**  
**Not To Scale**



## 2.2.6 Department of Health Services

- DOHS-1 The City acknowledges that treated water from the desalination treatment plant must achieve adequate disinfection contact time for pathogen inactivation prior to discharge to the first customer. As noted in Chapter 4, Program Description (p. 4-15 of the Draft Program EIR), post-treatment of the desalinated water is required to provide adequate disinfection prior to distribution, and may consist of a storage reservoir or clearwell (although the selected disinfection methods would likely be consistent with the City's current practices [i.e., chlorine disinfection]). However, the post-treatment and disinfection methods have not yet been determined; appropriate method(s) would be determined during design of the facility, which would then be evaluated in the project-specific EIR (if the proposed Program is approved). As discussed on p. 4-16 of the Draft Program EIR, the final treated water would meet the City's existing water quality standards as well as those of the U.S. EPA and DOHS. No revisions to the Draft Program EIR are warranted.
- DOHS-2 The details of desalination plant operations, including disposal of unused, left-over chemicals upon deactivation of the desalination plant under Alternative D-1, have not been determined, but would be determined during project-level design. The City could apply the protocols of the Beltz Treatment Plant (which is operated during peak season only) – including ordering smaller quantities of chemicals to avoid over-ordering, transferring left-over chemicals to other treatment facilities when the plant is shut-off, sending chemicals back to the manufacturers, and/or disposing certain chemicals at the WWTP. Left-over chemicals within the desalination plant components would be flushed with potable water and sent, via segregated sewer lines, to the WWTP for treatment prior to disposal (to ensure residual chemicals are not left in the desalination components).
- DOHS-3 The City acknowledges the need to comply with the separation criteria specified in the California Code of Regulations. As such, Mitigation Measure 5.9-1d (p. 5.9-9 of the Draft Program EIR) was formulated to ensure that the City observes the horizontal and vertical separation between horizontal and perpendicular water and sewer lines, respectively.
- DOHS-4 Responses to DOHS comments from 17 November 2003 are provided in DOHS-5 through DOHS-8, below, as they have been incorporated in DOHS's comments on the Draft Program EIR.
- DOHS-5 The City will conduct a Watershed Sanitary Survey (WSS) as required by DOHS. This survey will be conducted in conjunction with pilot testing and design of the full-scale facility. The City will coordinate with the DOHS in the design of the WSS.
- DOHS-6 The potential impact of the wastewater effluent on the intake water quality will be evaluated during project-level design as part of the WSS (see Response DOHS-5), and evaluated in the subsequent project-level EIR. The study would include an evaluation of

actual pathogen concentrations in the outfall wastewater stream, pathogen survivability in ocean water and their transport under all water current conditions.

- DOHS-7 As discussed in Response DOHS-1, above, the specific disinfection method has not yet been determined, although the selected disinfection methods would likely be consistent with the City's current practices (i.e., chlorine disinfection) to meet state and federal drinking water guidelines (p. 4-15). If appropriate, the follow-up project-level EIR would evaluate disinfection by-product formation issues.
- DOHS-8 Desalinated water would be mixed with other existing supplies prior to distribution to consumers. Desalinated water would be appropriately treated to comply with DOHS primary drinking water standards and the City's existing treatment process requirements. As such, the water would be compatible and would be capable of blending without subsequent water quality degradation. No mitigation measures would be required and no changes to the Draft Program EIR is warranted.
- DOHS-9 The proposed Program recognizes that "the potential for a particular project to adversely affect electricity distribution and availability is related more appropriately to a project's increase in demand during peak-demand periods, such as hot summers" because electricity cannot be built up during low-demand periods and stored for later use (p. 5.13-1 of the Draft Program EIR). As such, in addition to evaluating the proposed Program's total energy consumption compared to the total amount of generated electricity or the overall generation capacity in the state or the PG&E service area, the proposed Program's peak hourly demand (which would occur during drought years, typically in hot summers) was also evaluated.

Impact 5.13-1 evaluated the amount of energy that would be consumed from operation of the desalination plant under the first increment of Alternatives D-1 and D-2, as well as subsequent increments of both alternatives. Accounting for energy recovery, the desalination plant would consume 5,475 mWh during six months of a six-year period (at full capacity) under Alternative D-1. Under Alternative D-2, which would be operated continuously at partial capacity (1.25 mgd) during the six-year period and at full capacity during six months out of six years, the desalination plant would consume 35,588 mWh. Translated to peak hourly demand, the desalination plant would consume 1.25 mW for both alternatives when it is operated at full capacity, and 0.625 mW for Alternative D-2 when it is operated at partial capacity. Based on these hourly demands, neither of the alternatives would place a substantial burden on the existing or planned electricity generation system of PG&E (8,225 mW) or the state (62,182 mW). Based on this analysis, the proposed Program would not result in the wasteful, inefficient or unnecessary consumption of energy. Please also refer to Response SUC-2 for a discussion of potential energy savings from implementation of the IWP.

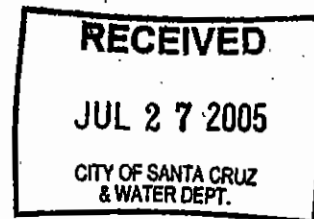




DEPARTMENT OF FISH AND GAME

<http://www.dfg.ca.gov>

POST OFFICE BOX 47  
YOUNTVILLE, CALIFORNIA 94599  
(707) 944-5500



July 25, 2005

Letter DFG

Ms. Linette Almond, Deputy Director  
Santa Cruz City Water Department  
809 Center Street, Room 102  
Santa Cruz, CA 95060  
Fax: (831)420-5201

Dear Ms. Almond:

City of Santa Cruz Integrated Water Plan  
Draft Program Environmental Impact Report  
Santa Cruz County  
SCH# 2003102140

The Department of Fish and Game (DFG) has reviewed the Draft Environmental Impact Report (DEIR) for the City of Santa Cruz (City) Integrated Water Plan (IWP) and its appendices. Our comments on the DEIR and IWP are based on our role as both trustee agency and responsible agency under the California Environmental Quality Act (CEQA), with permit authority under Section 1600 *et seq.* of Fish and Game Code, Lake and Streambed Alteration Agreements (1602 Agreements), and Section 2050, *et seq.* of Fish and Game Code, the California Endangered Species Act (CESA). Additionally, we are providing comments based on our role to ensure implementation and enforcement of other relevant provisions of Fish and Game Code. The focus of our comments will be to elucidate our primary concerns with the document and its fundamental goals for long-range water resource planning.

*Plan Overview*

The DEIR evaluates the potential and expected impacts of the IWP. The stated purpose of the IWP is to help the City reduce near-term drought shortages, and to provide a reliable supply of water that meets long-term needs while ensuring protection of public health and safety. The IWP arrives at a conclusion that desalination is a viable water supply alternative for further evaluation, along with conservation and curtailment components. The IWP includes a supplemental water supply option that could provide an opportunity to share resources and costs through participation by the Soquel Creek Water District. This alternative would include the same project components as those of the more limited option, but would require additional conveyance facilities. Three site

alternatives in the west portion of the City are considered for the central desalination facility. The environmental impacts of plant and pipeline infrastructure comprise the focus of the document.

Demand is projected to increase by 20 percent by 2030. The IWP covers existing conditions, but also projects into the future, as the severity of drought-year water shortages is expected to increase if no action is taken. The IWP anticipates that increased demand may result in shortages even in average rainfall years. Conservation and curtailment are both introduced as necessary elements during both average and drought conditions. Projections of continued usage of existing wells are included in the study, although continued usage of surface water diversions is not analyzed.

*Water Supply Factors, Integration with the SCHCP, Permitting Requirements, and Biological Resources*

DFG is concerned that the IWP may not adequately address public trust resource protection because it does not fully evaluate potential water supply loss from curtailment of existing surface diversions when analyzing future water supply alternative in the IWP. In section 3.7, the IWP puts forward the following operating assumption: "A basic assumption made in developing the IWP was that the City would continue to use its existing sources of supply into the future as it has in the past." The IWP indicates that some loss of supply could occur and that depends on the outcome of a Section 10 permit application and accompanying Santa Cruz Habitat Conservation Plan (SCHCP) for City activities. Section 3.7.1 then generally describes potential elements of the SCHCP, and concludes that the ultimate bearing of the SCHCP is unknown. DFG must note that while the SCHCP is currently the primary process that the City has undertaken to attain compliance with CESA and the Federal Endangered Species Act, full compliance with other State laws including, but not limited to, Fish and Game Code Section 1602, are also required. The IWP should be revised to clearly indicate the need to obtain all proper permits and authorizations for existing and proposed water system facilities, and that the outcome of a DFG 1602 Agreement and CESA Incidental Take Permit may also affect water supply.

In the absence of any resolution of the SCHCP process, the violations of State law, or the serious impacts to fisheries due to inadequate stream flows caused by operation of the City's existing water supply system, DFG is concerned that preparation of the IWP is premature. DFG believes the IWP must also have a stated goal of supplying additional water as may be necessary to replace water currently obtained through surface diversions that must be curtailed to provide adequate bypass flows for fish and other freshwater aquatic organisms. The IWP should be revised to recognize

DFG-1

the on-going water supply system is not satisfactory due to its impacts on fish and wildlife resources and existing surface diversions need to be adjusted or reduced to allow adequate, seasonally-appropriate bypass flows.

DFG encourages the City to more closely link the SCHCP process and IWP when determining future water supply levels and planning water availability to address the currently inadequate stream flows caused by the City's diversion levels. The outcome of SCHCP needs to integrate with the IWP and needs to implement measures to provide the increased stream flows necessary to ensure critical habitat thresholds such as fish passage, spawning and rearing. DFG does not consider the proposed IWP to be an adequate comprehensive, long-term water supply solution without the incorporation of measures to address existing biological impacts and inadequate stream flows caused by the City's current operations.

DFG-1  
(con't)

In the listing of potential biological impacts to special status species (Section 5.4, Table 5.4.1) the IWP fails to include the State and Federally listed (endangered) coho salmon in its assessments. Coho salmon have recently been found in the Laguna Creek watershed. Recently, coho salmon have also re-appeared in small (18 individuals) numbers at the Felton diversion fish trap at the City diversion. Consequently, the DEIR needs to evaluate impacts to coho salmon and ensure compliance with CESA for the IWP. The IWP should be revised to address this issue.

*IWP Should Include Actions to Remedy Existing Violations*

DFG is also concerned with the continuing lack of compliance by the City with State and Federal laws pertaining to aquatic organisms and habitat that are and will continue to be affected by the City's water supply operations. DFG has previously informed the City in writing that its intake facilities at Liddell Creek, Laguna Creek, Majors Creek, and the San Lorenzo River were subject to sections 1601 and 1603 (these sections have since been supplanted by Section 1602) of the Fish and Game Code, and provided the City information on how to apply for 1602 Agreements that are required of any State or local agency or private entity before commencing any project that will obstruct or divert the natural flow of a river, stream or lake in California. The formal response from the City, dated May 29, 2001, was that DFG concerns about impacts on special status species such as south central coast steelhead and California red-legged frog were actively being addressed through the SCHCP process prescribed by Section 10 of the Federal Endangered Species Act. DFG reiterates that the City must obtain 1602 Agreements from DFG for all existing and future water diversions and other stream related activities under our jurisdiction.

DFG-2

Ms. Linette Almond  
July 25, 2005  
Page 4

The City's "baseline" water use is also in violation of other sections of Fish and Game Code including, but not limited to, Section 5901 (maintenance of fish passage), Section 5935 (fishway maintenance and obstruction free), and Section 5937 (maintenance of bypass flows below dams to the extent of "keeping in good condition" any fish below such dams. The IWP should include provisions to remedy these violations.

DFG-2  
(con't)


#### *Conclusion and recommendations*

The goal of the IWP to provide a more stable system of water supply to the City without stated increases in diversion from surface or groundwater sources is a fundamentally positive direction, particularly since it includes a shift to an alternative resource, desalination. However, the IWP must also discuss the need to reduce existing surface diversions as part of the long-term water supply analysis. Despite our support for a gradual development of desalination as a viable mechanism to supplement existing freshwater supplies, the DFG cannot seriously engage in comment on the various scenarios presented in conjunction with development of a desalination facility in the absence of alternatives that also evaluate decreasing existing surface diversions and analyzing those effects on water supply. DFG will provide input on specific aspects of future planning efforts once the existing impacts have been addressed through the SCHCP or similar process. Given the current lack of comprehensive integration of State and Federal law into the IWP to date, and the corresponding difficulty with enabling the SCHCP to address these deficiencies, DFG does not recommend finalization and adoption of the DEIR and IWP recommendations until the IWP provides additional water to replace some existing surface diversions that cause impacts to threatened and endangered species and other fish and wildlife resources.

DFG-3

Please direct any comments or questions regarding fisheries to Kristine Atkinson, Environmental Scientist, at (831) 427-2638. Questions regarding the DEIR, IWP, and SCHCP should be directed to Serge Glushkoff, Environmental Scientist, at (707) 944-5597 or [SGlushkoff@dfg.ca.gov](mailto:SGlushkoff@dfg.ca.gov); or Scott Wilson, Habitat Conservation Supervisor, at (707) 944-5584. For questions on the Fish and Game Code violation aspects of this letter, please contact Lieutenant Don Kelly at (831) 649-2870.

Sincerely,

  
Robert W. Floerke  
Regional Manager  
Central Coast Region

cc: See Next Page

**Ms. Linette Almond**  
**July 25, 2005**  
**Page 5**

**cc: Amanda Wheeland**  
**Joyce Ambrosius**  
**Jon Ambrose**  
**National Marine Fisheries Service**  
**777 Sonoma Avenue, Room 325**  
**Santa Rosa, CA 95404**

**Roger Root**  
**U. S. Fish and Wildlife Service**  
**2493 Portola Road, Suite B**  
**Ventura, CA 93003**

**State Clearinghouse**  
**Post Office Box 3044**  
**Sacramento, CA 95814**  
**Fax: (916) 323-3018**

**City of Santa Cruz**  
**City Council**  
**809 Center Street, Room 10**  
**Santa Cruz, CA 95060**

**Councilmembers:**

**Mike Rotkin (Mayor)**  
**Cynthia Matthews (Vice Mayor)**  
**Ryan Coonerty**  
**Tim Fitzmaurice**  
**Tony Madrigal**  
**Ed Porter**  
**Emily Reilly**

### 2.2.7 Department of Fish and Game

- DFG-1 Please refer to MR 1 for a discussion of the relationship between the IWP and the City's existing supplies, including biological resource issues.
- DFG-2 Please refer to MR 1 for a discussion of the relationship between the IWP and the City's existing supplies, including biological resource issues.
- DFG-3 Please refer to MR 1 for a discussion of the relationship between the IWP and the City's existing supplies, including surface diversion issues.



PHYSICAL PLANNING AND CONSTRUCTION

SANTA CRUZ, CALIFORNIA 95064

RECEIVED

JUL 25 2005

CITY OF SANTA CRUZ  
& WATER DEPT.

July 22, 2005

Ms. Linette Almond  
City of Santa Cruz Water Department  
809 Center Street, Room 102  
Santa Cruz, California 95060

**Re: Integrated Water Plan Draft Program Environmental Impact Report**

Dear Ms. Almond:

The University has reviewed the Draft Program Environmental Impact Report (PEIR) for the Integrated Water Plan and has the following comments:

1) One of the alternative locations for the proposed desalination plant is UCSC's Marine Science Campus, identified in the PEIR as the "Terrace Point Area." Descriptions of this site in the PEIR are inconsistent. On page 5.3-4, the "Terrace Point Area" is described as consisting of the "Terrace Point Property, Younger Lagoon Reserve, and Long Marine Lab" (an accurate description of the Marine Science Campus). However, on page 5.3-13, the Terrace Point Area is described as a portion of the UCSC Marine Science Campus, which also includes Long Marine Lab and Younger Lagoon Reserve. In fact, the "Terrace Point Area", as shown on Figures 4-1 and 4-2 of the PEIR, consists of that portion of the Marine Science Campus outside Younger Lagoon Reserve. In addition, on page 5.4-13, the Terrace Point Area is described as extending from the beach north to McPherson Street. In fact, the "Terrace Point Area" (and the Marine Science Campus) extends from the beach north to the Union Pacific Railroad tracks.

UCSC-1

2) The PEIR correctly states that siting of the desalination plant on UC Santa Cruz Marine Science Campus would require amendment of the Coastal Long Range Development Plan (CLRDP), and would most likely involve approval by the California Coastal Commission. The desalination plant is an industrial use that is not consistent with the uses allowed in any of the land use categories identified in the CLRDP.

UCSC-2

3) The PEIR should state that if the Marine Science Campus is selected as the location for the desalination plant, the project would be required to meet the requirements of the CLRDP in addition to those of the City and County of Santa Cruz.

4) The Visual Resources Analysis of the PEIR states that the proposed facilities would not be located within a scenic vista. This is in conflict with the EIR for the CLRDP, which considers views of the Marine Science Campus from several locations to be within scenic vistas, based on state and local policies. These locations include Wilder Ranch parking lot, beach, and upper ridge; the lower terrace at the City's Bombay property; and the parking lot of Natural Bridges State Park. The PEIR should identify potential impacts to these scenic vistas that could result if the Marine Science Campus is selected as the location for the desalination plant. In the event that the Marine Science Campus is selected, the project-level environmental analysis should analyze these potential impacts.

UCSC-3

We appreciate the opportunity to comment on the PEIR.

Sincerely,



John Barnes  
Director of Campus Planning

cc: Associate Vice Chancellor Zwart  
Gene Arner, Director of City of Santa Cruz Department of Planning and  
Community Development



### 2.2.8 University of California, Santa Cruz

UCSC-1 The Terrace Point Area, as shown in Figures 4-1 and 4-2, consists of a portion of the Marine Science Campus. Specifically, it includes the Terrace Point Property and the Long Marine Lab. It does not, as specified by the commenter, include the Younger Lagoon Reserve. Text on p. 5.3-4 of the Draft Program EIR has been clarified to differentiate the Terrace Point Area that is a proposed area for the desalination plant, and the Terrace Point Area that is owned by UCSC (see Chapter 3 of this Response to Comments on the Draft Program EIR document). The commenter is also correct in that the Terrace Point Area stretches from the beach on the south to the Union Pacific Railroad tracks, not McPherson Street as noted on p. 5.4-13. Text on p. 5.4-13 has been revised accordingly (see Chapter 3 of this Response to Comments on the Draft Program EIR document).

The text on p. 5.3-13 of the Draft Program EIR is intended to describe the UCSC Marine Science Campus, which includes Terrace Point Area, Long Marine Lab, and Younger Lagoon Reserve. No changes are required.

UCSC-2 The City notes UCSC's comment regarding incompatibility of the desalination plant with the CLRDP's land use categories (The CLRDP identifies five land use designations for the UCSC Marine Science Campus, including: 1) Research and Education Mixed Use; 2) Resource Protection; 3) Resource Protection Buffer; 4) Wildlife Corridor, and 5) Open Space. Buildings are limited to three areas designated under the first land use category). The Draft Program EIR appropriately assumes that if the CLRDP is certified by the Coastal Commission, the CLRDP would have to be revised to include the proposed desalination plant and the Office of the Regents and the Coastal Commission would have to adopt the revised Plan before such a facility would be allowed on the site (p. 5.3-18 of the Draft Program EIR). As such, revisions to the Draft Program EIR are not warranted.

The City acknowledges that if the UCSC Marine Science Campus is selected as the location for the desalination plant, it "would be required to conform with the design guidelines of the CLRDP..." (p. 5.3-18 of the Draft Program EIR).

UCSC-3 The exact location and design of the desalination plant has not yet been determined, and will be determined during final design. As described on p. 4-11 of the Draft Program EIR, "the desalination plant is estimated to require approximately three acres, depending on the layout of the components within the facility." The footprint of the plant (shown in Figure 4-1 of the Draft Program EIR) would be relatively small compared to the larger desalination areas.

In the event that the Terrace Point is selected, the project-level EIR will evaluate the visual impacts on scenic vistas from development of the approximately three-acre desalination plant site. Chapter 5.10, Visual Resources, evaluates the visual impacts resulting from the proposed desalination plant. Impact 5.10-2 specifically discusses the

alteration/degradation of the existing visual character. As stated on p. 5.10-15 of the Draft Program EIR, “the addition of a new three-acre desalination plant into an otherwise static environment could degrade the quality of the existing viewshed.” The impact on the viewshed is considered a significant but mitigable impact which would require enclosure of the facility, architectural and vegetative treatment, and additional project-level visual analysis once a site is selected and the plant design is finalized (see Mitigation Measure 5.10-2a). The analysis, which could include site-specific visual simulations, would allow for more specific development of mitigation measures which would reduce the potential for degrading/altering the visual quality, especially to scenic vistas.



## MONTEREY BAY

Unified Air Pollution Control District  
serving Monterey, San Benito, and Santa Cruz counties

24580 Silver Cloud Court • Monterey, California 93940 • 831/647-9411 • FAX 831/647-8501

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JUL 26 2005

CITY OF SANTA CRUZ  
& WATER DEPT.

Letter APCD

AIR POLLUTION CONTROL OFFICER  
Douglas Quetin

July 22, 2005

Ms. Linette Almond  
City of Santa Cruz  
809 Center St., Room 102  
Santa Cruz, CA 95060

SUBJECT: DRAFT PROGRAM EIR FOR INTEGRATED WATER PLAN

Dear Ms. Almond:

Staff has reviewed the Draft Program EIR and submits the following comments:

1. P. 5.5-7. Existing Air Quality, Attainment Status.

As to the State CO standard, Monterey County is classified as attainment, while Santa Cruz and San Benito Counties are unclassified.

The NCCAB is in Attainment for the State standards for NO<sub>2</sub>, SO<sub>2</sub>, and PM<sub>2.5</sub>.

Please refer to Table 6-1 on page 6-4 of the District's CEQA Air Quality Guidelines.

APCD-1

2. P. 5.5-8. Table 5.5-2. California and National Ambient Air Quality Standards

Table 5.5-2 should be corrected to reflect the following:

CO: 10,000 ug/m<sup>3</sup>: 8-hour standard – primary standard and CAAQS concentration

40,000 ug/m<sup>3</sup>: 1-hour standard – primary standard and CAAQS concentration

Please refer to Table 3-2 on page 3-2 of the CEQA Air Quality Guidelines.

APCD-2

3. P. 5.5-10. AQMP and Monterey Bay Air Pollution Control District Requirements

The Air Quality Management Plan was most recently updated in September 2004.

In response to the statement that "Each district must plan to achieve a 5 percent annual reduction, averaged over consecutive three-year periods...", please note that if the five percent annual reduction is not achievable, nonattainment districts are required to adopt all feasible measures.

APCD-3

4. P. 5.5-14. Emissions from Construction and Operations – URBEMIS

Please provide a copy of the URBEMIS report to the District.

APCD-4

DISTRICT  
BOARD  
MEMBERS

CHAIR:  
Lou Calcagno  
Monterey County

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Dennis Norton  
Capitola

Ellen Pirle  
Santa Cruz  
County

Jerry Smith  
Monterey County

5. PP. 5.5-18 and 5.5-21. Discussion of Alternative D-1; and PP. 5.5-19 and 5.5-21. Discussion of Alternative D-2.

The District uses consistency with population forecasts in the AQMP to address a project's cumulative impact on regional air quality. The FEIR should use the 2004 AMBAG population forecast included in the 2004 AQMP rather than the 1997 forecasts from earlier plans.

APCD-5

6. P. 5.5-21. Discussion of Alternative D-2.

Discussion of Alternative D-2 during drought years shows that the proposed Program would generate 2,240 lbs of NOx during four months of operation at 1.25 mgd. The DEIR does not specify whether these are daily or annual emissions. If these are daily emissions occurring during the ozone season, the project would have a significant impact on ozone levels.

APCD-6

7. P. 5.5-24. Storage and Use of Hazardous Chemicals, and Exposure of Sensitive Receptors to Toxic Air contaminants

Upon completion of final design plans and site selection, please contact the District to discuss permitting requirements prior to construction and operation of the program.

APCD-7

8. P. 7-18. Section 7.4.5 Air Quality.

Please note that the most recent update of the District's AQMP is September 2004.

APCD-8

9. Diesel Equipment Used in Construction

If diesel equipment used during construction might expose sensitive receptors, please contact David Craft of the District's Engineering Division to determine if a risk assessment might be needed. He may be reached by calling (831) 647-9411 x218.

APCD-9

10. District Permits

Lance Ericksen, Manager of the District's Engineering Division, is the individual to call to discuss requirements for an Authority to Construct and Permit to Operate. He may be reached by calling (831) 647-9411 x208.

Thank you for the opportunity to comment. Please do not hesitate to call if you have questions.

Yours truly,



Jean Getchell  
Supervising Planner  
Planning and Air Monitoring Division

cc: Lance Ericksen  
David Craft

### 2.2.9 Monterey Bay Unified Air Pollution Control District

- APCD-1 Comment noted. The revised text is shown in Chapter 3 of this Response to Comments on the Draft Program EIR document. Changes in the air quality attainment status would not require changes to the analyses or conclusions of the Draft Program EIR.
- APCD-2 The concentration units in the table have been corrected from micrograms (µg) to milligrams (mg) to match the Air Resources Board “Ambient Air Quality Standards Chart (California and Federal)” (see Chapter 3 of this Response to Comments on the Draft Program EIR document). Changes in the air quality attainment status would not require changes to the analyses or conclusions of the Draft Program EIR.
- APCD-3 Comment noted. The revised text is shown in Chapter 3 of this Response to Comments on the Draft Program EIR document. Changes in the air quality attainment status would not require changes to the analyses or conclusions of the Draft Program EIR.
- APCD-4 Comment noted. The requested information will be distributed to APCD.
- APCD-5 Comment noted. The Draft Program EIR is a program-level document, and uses the 1997 AMBAG population forecast and the 2000 AQMP because the baseline was defined by the publication of the Notice of Preparation for the proposed Program (October 2003). Because subsequent project-level environmental review will be required if the proposed Program is approved, the future project-level EIR would incorporate the 2004 AMBAG population projects and relevant information from the 2004 AQMP. The Monterey Bay Unified Air Pollution Control District (APCD) will have an opportunity to address the cumulative impact on regional air quality once the project-level EIR is conducted.
- APCD-6 2,240 lbs of NO<sub>x</sub> would be emitted during the 4 month period, as stated on p. 5.5-21 of the Draft Program EIR. This is equivalent to 18.4 lbs/day. For VOC, the 66 lbs during the 4 months is equivalent to 0.5 lbs/day. The Draft Program EIR text has been clarified to reflect the time period when emissions occur along with daily emissions for consistency with previously identified emissions (see Chapter 3 of this Response to Comments on the Draft Program EIR document).
- APCD-7 Comment noted. The City will acquire all relevant permits and approvals from the APCD prior to beginning construction or operation of the desalination plant.
- APCD-8 Comment noted. Please refer to Responses APCD-3 and 5.
- APCD-9 When the final plant location has been selected and plant design details are available, additional analysis would be conducted (as part of the project-level analysis) to determine if sensitive receptors would be exposed. If diesel equipment used during construction might expose sensitive receptors, the City will consult APCD regarding the need for a health risk assessment.

RECEIVED

JUN 29 2005

CITY OF SANTA CRUZ  
& WATER DEPT.

231 Blackburn Street #3  
Santa Cruz, CA 95060-4960  
June 29, 2005

Letter JA

Attn: Ms. Linette Almond  
City of Santa Cruz  
Water Department  
809 Center Street, Room 102  
Santa Cruz, CA 95060

Subject: UCSC growth and the IWP D-EIR

Dear Ms. Almond,

I wish to formally submit public comments on the Draft Environmental Impact Report (D-EIR) for the City of Santa Cruz Integrated Water Plan (IWP).

One of the functions of this D-EIR is to inform decision makers and the public of the potential environmental effects associated with implementation of the IWP<sup>1</sup>. In addition, the D-EIR states that its purpose "is to allow the Santa Cruz City Council to determine whether or not to approve the recommended *Integrated Water Plan* (IWP) as the City's future water supply plan ..."<sup>2</sup>. This implies that the D-EIR is supposed to function as a tool to assist the Council in determining whether or not the provisions outlined in the IWP are adequate to meet the future water needs of users in the Santa Cruz Water District.

JA-1

The analysis in the IWP, and consequently in the D-EIR, is entirely based on projected water demand calculations (presented on page II-11 of the IWP). The proposed projects contained in the IWP are designed to fully meet this demand in normal hydrologic years and 85% of this demand in extreme drought scenarios. Therefore, the ability of the D-EIR to meet its stated purpose and achieve the disclosure objective of CEQA rests overwhelmingly on the accuracy of the water demand projections in the IWP.

JA-2

Unfortunately, the water demand projections in the IWP are inadequate because they fail to account for a significant portion of planned growth within the Santa Cruz Water District service area. The growth outlined in the University of California at Santa Cruz Long Range Development Plan 2005-2020 (LRDP) is not included in the water demand projections<sup>3</sup>. This is extremely problematic because this growth represents *more than double* the growth anticipated within the rest of the city of Santa Cruz during the same planning period.

The additional 7,800 people that will come to Santa Cruz as part of UCSC expansion is discussed several times in the D-EIR but is neglected in the projected water demand calculations. Impact

<sup>1</sup> CEQA guidelines sec. 15002(a)(1)

<sup>2</sup> pg. 1-1

<sup>3</sup> Personal communication with Toby Goddard, Water Conservation Director for Santa Cruz Water Department. 6/23/05 at the "Study Session on Water Supply for the General Plan Update," General Plan Advisory Committee meeting.

6-5 in the D-EIR specifically acknowledges that UCSC growth will put pressure on the water supply system. It goes further to explain that this growth will occur "with or without the proposed Program."<sup>4</sup> However, the IWP and D-EIR do not include provisions to accommodate this growth. I feel it is necessary to correct this major contradiction before completing the Final EIR. If this issue is not addressed then it will be impossible for the EIR to serve its stated purpose.

The D-EIR is supposed to be a tool that helps planners make decisions that are least harmful to the environment while meeting the water needs of the community in an efficient and effective way. The IWP and D-EIR anticipate UCSC growth outlined in the LRDP 2005-2020 but do not plan for the additional water demand that it will bring. This undermines the ability of the D-EIR to meet its objective. If this is not changed future water production will not be adequate to meet system demands *or* projects not identified in the D-EIR, which may have potentially significant environmental impacts, will have to be implemented. Both of these scenarios are undesirable and should be avoided if possible. Incorporating the information outlined above into the planning process now will allow for the additional water production capacity to be integrated into the system in the most responsible, effective, and efficient way possible.

JA-2  
(con't)

Thank you for the opportunity to comment on this matter. If you have any questions feel free to contact me. My information is listed below.

Sincerely,

Joshua P. Assink

231 Blackburn Street #3  
Santa Cruz, CA 95060  
831-426-6439  
jassink@ucsc.edu

### 2.2.10 Joshua P. Assink

- JA-1 The commenter's characterization of the purpose of the Draft Program EIR, as it relates to whether "the provisions of the Integrated Water Plan (IWP) are adequate to meet the future needs of users in the Santa Cruz Water District" is not accurate. The Draft Program EIR, as described in Section 2.1, Purpose of the EIR (p. 2-1 of the Draft Program EIR), serves several purposes, including: 1) explaining the effects of the proposed Program on the environment, alternatives to the Program, and ways to minimize adverse effects and to increase beneficial effects; 2) providing the public, and Responsible and Trustee Agencies reviewing the Program, with information about the potential effects on the local and regional environment associated with implementation of the proposed Program; and 3) allowing the City Council to determine whether or not to approve the project.

The Draft Program EIR does not function as a tool for the City Council to determine whether or not the provisions outlined in the IWP are adequate to meet the future water needs of the water users in the City's service area. That determination was made as part of the IWP process that occurred prior to preparation of the Draft Program EIR. The IWP process took the findings of the background studies, including the City's water demand, to formulate alternatives resource strategies (please see pp. 3-7 to 3-12 of the Draft Program EIR). The development of the IWP, which began in 2001, was open to the public.

- JA-2 Please refer to MR 2 for a discussion of UCSC growth and its relationship to the IWP.



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JUL 01 2005

CITY OF SANTA CRUZ  
& WATER DEPT.

130 Shelter Lagoon Drive  
Santa Cruz, CA 95060  
June 29, 2005

Linette Almond, Deputy Director  
City of Santa Cruz Water Department  
809 Center Street, Room 102  
Santa Cruz, CA 95060

RE: INTEGRATED WATER PLAN - DRAFT EIR

Dear Linette Almond:

Thank you for the opportunity to comment on this anxiously awaited Draft EIR on the City's Draft Integrated Water Plan. Overall, I thought the DEIR was comprehensive and informative. However, I do have a number of CEQA related questions and comments, some of which I think are serious.

My biggest concern is in regards to the phase of the IWP that the DEIR is meant to analyze. At times in the document, the DEIR seems focused on the short term, drought related portion of the IWP, which provides for a 2.5 mgd desalination plant. Most of the time, though, the DEIR includes the entire IWP, providing for growth until 2030 and an expansion of the desalination plant to 3.5 to 4.5 mgd.

My understanding was that the DEIR was only going to cover the short term, drought related portion of the Draft IWP and that was the only part of the Plan that would be finally adopted by the City Council. There are two reasons for this. First, as you know, a recent CEQA appellate decision (County of Amador v. El Dorado County Water Agency (91 Cal.Rptr.2d66)) overturned a water plan that predetermined the general plan. The court decided that water planning should follow the general planning process and not lead it. Since the General Plan revision process is currently underway and will not be completed before the IWP is approved, it would be inappropriate to approve a Plan that goes beyond 2005.

Second, the draft IWP does not include the recent UCSC draft LRDP proposal to increase campus enrollment by 6,000 students. Therefore,

AS1-1

AS1-2

before an IWP to 2020 or beyond is approved, it needs to be revised to incorporate the proposed UCSC growth.

AS1-2  
(con't)

If the Water Department's intention to only recommend adoption of the IWP to 2005, this should be made clear in the Final EIR. It may be appropriate for the EIR to analyze the entire IWP, but the limits on the information and the approval process need to be clarified.

AS1-3

My specific comments and questions on the Draft EIR follow:

#### SUMMARY

- PAGE 1-2 - SUMMARY OF IWP - The confusion mentioned above begins here. The opening paragraph indicates that both short term and long term needs are covered in the IWP but the third bullet below only mentions the short term desalination proposal.

AS1-4

- PAGE 1-3 - EIR PROCESS - The next to the last paragraph states that lead agencies "may" provide an opportunity to the public to review the Final EIR before acting on it. My understanding is that the public must be given the opportunity to review and comment on the Final EIR before final action is taken on it. This should be clarified.

AS1-5

- PAGE 1-4 - SUBSEQUENT DOCUMENTATION - The Draft EIR states that expansion of the desalination plant to 3.5 and 4.5 mgd will be subject to a project level EIR. This implies that this programmatic EIR will cover the entire IWP. Again, a clarification is needed.

AS1-6

- PAGE 1-7 - PROPOSED PROGRAM - This would be an appropriate place to explain the timing of the two approvals of the IWP and relate the subsequent approval to the General Plan revision.

AS1-7

- PAGE 1-10 - TABLE 1-1b - DESALINATION PLANT OPERATIONS - This chart provides information on the second phase of the IWP implementation and should be clearly indicated as such. Also, this is particularly true since the text earlier indicates that the desalination plant will be used solely to correct the drought problem. However, the chart makes clear that, in the future, desalination will be necessary to meet the ongoing water demands of the City.

AS1-8

**- PAGE 1-12 - CUMULATIVE IMPACTS - GROUNDWATER STORAGE -**

The explanation here of why the project's cumulative impact is significant and unavoidable isn't clear. Is the point that, although the City's contribution to the cumulative impact is not considerable and will be reduced further, as a result of the activities of others the cumulative will be significant? If so, this should be more clearly stated. See further comments below on the Cumulative Impacts chapter.

AS1-9

**- PAGE 1-15 - TABLE 1-2 - GROWTH INDUCEMENT IMPACT CRITERIA**

- What is the basis of the conclusion in the third column under Impact 6-5 that the increase in the size of the desalination plant would have no impact on University growth? If the City is unable to supply water to the University and other customers, it could have an impact, even on the University. This is an issue that also requires further study. See comments below on the Growth Inducement chapter.

AS1-10

The fourth column seems to imply that, with a cooperative project, the growth inducement impacts need only be addressed by the Soquel Water District. Since the City would be expected to utilize a portion of the increased water on a regular basis wouldn't the same responses as indicated in column three apply?

AS1-11

**- PAGE 1-20 - SUMMARY OF POTENTIAL IMPACTS -** Given the amount of energy needed to power a desalination facility, it seems inconceivable that there would be no energy impacts from the project. What is the basis for this determination? The chapter on energy indicates that the impacts would be less than significant, not that they don't exist.

AS1-12

**- PAGE 1-23 - ENVIRONMENTALLY SUPERIOR DESALINATION PLANT AREA -** Shouldn't this section identify which of the sites is environmentally superior?

AS1-13

**- PAGE 1-25 - ISSUES TO BE RESOLVED -** The bullet related to the wastewater treatment plant contains an incomplete sentence.

AS1-14

- This is another section where it would be helpful if the timing of the approval of IWP was discussed.

AS1-15

## **INTRODUCTION**

- **PAGE 2-1 - PURPOSE OF THE EIR** - This is another section of the Draft EIR where the distinction between the approval of the short and long term phases of the IWP should be explained. AS1-16
- **PAGE 2-5 - FINAL EIR** - Again, the Final EIR should clarify that the public will have an opportunity to review the Final EIR. AS1-17
- **PAGE 2-5 - SUBSEQUENT DOCUMENTATION** - Again, the DEIR implies that the entire IWP will be approved after the completion of the EIR process. This needs to be clarified. AS1-18

## **BACKGROUND**

- **PAGE 3-4 - WATER DEMAND INVESTIGATION** - The DEIR should make clear that the demand analysis assumed no increased enrollment at UCSC beyond what was projected for 2005. AS1-19

## **PROGRAM DESCRIPTION**

- **PAGE 4-19 - PLANT OPERATION** - See comments above on Table 4-6. AS1-20
- **PAGE 4-21 - CONCENTRATE DISCHARGE PIPELINE** - Why can't the desalination plant use the existing City sewer lines to send the discharge to the wastewater treatment plant? AS1-21
- **PAGE 4-26 - IMPLEMENTATION SCHEDULE** - Can the City Council approve an IWP that is inconsistent with its General Plan? The DEIR recognizes the need to update the IWP information based on the General Plan revision but doesn't make clear that the IWP must follow and not lead this process. AS1-22
- **PAGE 5.1-25 - CONCENTRATE STORAGE** - The first sentence in the last bullet is unclear. What does it mean to "neglect" the dilution of the wastewater effluent. AS1-23
- **PAGE 5.1-26 - CONCENTRATE STORAGE** - The DEIR recommends between .5 and 1.0 million gallons of concentrate storage. Where would this be located? Have the environmental effects of this addition to the project been evaluated? AS1-24

**The mitigation on page 5.1-28 states:**

**"Equalization basins are proposed as part of the Program. The recommended storage volumes are 0.5 and 1.0 mg for the 2.5-and 3.5-mgd facilities, respectively."**

**Are these equalization basins the storage facility and where will they be located?**

AS1-24  
(con't)

**- PAGE 5.1-41 - SEAWATER INTRUSION - The DEIR identifies the potential seawater intrusion resulting from the City pumping 2 mgd during drought periods as a potentially significant impact. It then determines that the impact is mitigated to a less than significant level by the proposed mitigation measures. One of the possible measures would reduce pumping from the Beltz wells. If this happens, won't the City's need for desalination water increase? Should the EIR consider this, at least minimally?**

AS1-25

**- PAGE 6-5 - GROWTH INDUCEMENT - The discussion of the University's proposed 2005-2020 LRDP should make clear that the AMBAG growth projections used in developing the IWP were based on the existing LRDP.**

AS1-26

**- PAGE 6-6 - REGULATORY FRAMEWORK - Measure J was passed in June, 1978, not 1973. It should probably also be mentioned that the Urban Services Line has not been substantially changed since it was adopted in the late 1970's.**

AS1-27

**- PAGE 6-10 - IMPACTS - The discussion of the program's potential growth inducement impact in the Soquel Creek District seems inadequate. The DEIR states that since development is on-going, even with the requirement that new development show a net gain in water supply, and the County has not restricted building permits, the water supply increases resulting from D-2 would not be growth inducing. This seems to be based on the assumption that only an existing moratorium would justify a finding of significance. This is not justified given that there is currently an overdraft of the acquifer and there is no assurance that future development can meet the requirement of reducing demand.**

AS1-28

**What is needed is a comparison of the amount of water the District will receive from the desalination plant with the amount of water needed to stop the overdrafting of the acquifer and supply the potential growth**

AS1-29

allowed by the County's General Plan. If the new supply is equal to or less than the amount of water needed to prevent continued overdraft and to serve planned growth, then the increased supply would not significantly induce new growth. Without this analysis, it isn't possible to evaluate whether the increased supply will be significantly growth inducing or not.

AS1-29  
(con't)

- PAGE 6-10/11 - SUBSEQUENT GROWTH - The EIR needs to recognize and incorporate in its discussion of the potential growth inducing effects of subsequent additions to the desalination plant based on the fact that it is inconsistent with the currently adopted City General Plan. In addition, the EIR should include a discussion of the Appellate Court decision in the County of Amador v. El Dorado County Water Agency (91 Cal.Rptr.2d66). This case found that a water plan could not be approved that was inconsistent with an existing General Plan. To the extent that the subsequent increments to the desal plant would serve growth beyond the existing City and County general plans, it is not sufficient to say that additional environmental review will occur. In fact, the lead agency can not approve the second phase of the IWP without violating CEQA.

AS1-30

Moreover, the lack of any detailed analysis of the relationship of the increased water supply from the subsequent increments to likely future growth beyond the existing general plans testifies to the wisdom of the court decision. The subsequent increments (second phase) of the IWP should not be approved until the general plans are completed. The growth inducement section of the DEIR is inadequate to the extent that it attempts to analyze the impacts beyond the existing plans.

- PAGE 6-12 - IMPACT 6-3 - INCONSISTENCY WITH PLANS - Again, simply calling for "further evaluation" of the future supply increments is inadequate. The IWP should not be adopted for the second phase until the general plans are revised. If nothing else, the Final EIR should explain why it is ignoring the findings made in the Amador case.

- PAGE 6-15 - IMPACT 6-5; UNIVERSITY GROWTH - The DEIR argues as follows that the University will grow independent of the City's future water supply:

"While the University recognizes the importance of water supply to the growth of the region and is supportive of the City's efforts to ensure a reliable water supply, UCSC would move forward

AS1-31

with its planning efforts with or without the proposed Program." This seems like a somewhat incredible statement given that the University receives all its water from the City and has no independent supply. Since the City must treat the University like all other customers, if it needed in the future to impose a moratorium on future connections due to inadequate supply, would not this effect the University as well?

AS1-31  
(con't)

The proposed 2005-2020 LRDP was not incorporated in the demand analysis for the IWP but will be considered as part of the General Plan revision process. Since neither the revised General Plan nor the proposed LRDP, for that matter, has been adopted, it is premature for the EIR to determine that the program will have no growth inducing impact on the University. As stated above, this will be appropriately considered when the second phase of the IWP is adopted after the completion of the revised General Plan.

AS1-32

- PAGE 6-16 - IMPACT 6-6: FUTURE GROWTH - Again, the EIR needs to recognize the need for the City to only approve phase 2 of the IWP after the completion of the General Plan revision.

- PAGE 7-8 - CUMULATIVE IMPACTS - LRDP - The DEIR states that the proposed 2005-2020 LRDP EIR will be certified in the Spring of 2005. This is incorrect. The University has proposed to certify the EIR in Spring 2006.

AS1-33

- HIGHWAY 1/17 WIDENING - Even if the project receives funding in 2005/6, which is questionable, there is no way construction will begin in 2005. The earliest would be 2006.

AS1-34

- HIGHWAY 1 WIDENING - The EIR should mention that funding for this project was defeated in a 2004 Sales Tax measure election. Also, I think the Draft EIR is expected in 2008, not 2007.

AS1-35

- COASTAL RAIL TRAIL - Contrary to what is stated in the DER, the SCCRTC did not include funding in 2004 for a section of the rail trail. Until the Commission is successful in purchasing the rail line it would be inappropriate for it to fund construction of any portion of the trail without the consent of the current owner, which it does not have.

AS1-36

- CUMULATIVE IMPACT ANALYSIS - The Final EIR should recognize that the cumulative impact is limited because the EIR on the 2005-2020 LRDP has not been prepared. Cumulative impacts on biological resources, traffic and transportation, planning, land use and housing, are just a few examples of where the cumulative impacts of the program with the proposed UCSC growth could be significant. Since no detailed analysis of the proposed LRDP's impacts was carried out, or should have been, for this EIR, the limited information available should at least be acknowledged.

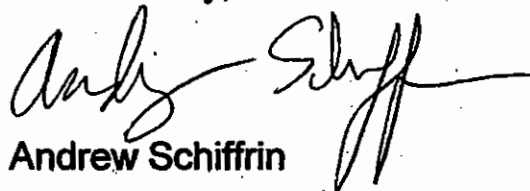
AS1-37

- PAGE 8-25 - ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION - This section needs to be expanded. There are a number of other alternatives considered by the City and raised by the public in the past that should be reviewed. The various alternatives in previous water supply studies should be summarized. In addition, the current work on off-stream storage facilities should be commented on. There were many more alternatives considered during the IWP process and deemed infeasible than the ones cited in the Draft EIR. They should be included.

AS1-38

In conclusion, I thought that overall the Draft EIR provides a great deal of useful information on the IWP for the public and decision makers. However, there are few serious concerns that should be corrected in the Final EIR.

Sincerely,

  
Andrew Schiff



### 2.2.11 Andrew Schiffrin

AS1-1 As described on page 2-1 of the Draft Program EIR and Response CCC-2, the City has prepared a Draft Program EIR on the proposed Program (IWP). The Draft Program EIR evaluates a series of actions comprising a comprehensive water plan. The proposed Program, described in detail in Chapter 4 of the Draft Program EIR, consists of three components (conservation, curtailment, and water supply) and two operational alternatives. As a program EIR, it evaluates the environmental effects associated with the implementation of the entire Program through 2030. However, not every environmental issue area requires evaluation for the subsequent increments of desalination (e.g., 3.5 or 4.5 mgd) and as such, it may seem that portions of the document cover only the near-term (2.5 mgd) increment of the IWP while other portions of the document evaluate both the near-term and subsequent increments of the IWP.

Please refer to MR 2 regarding the relationship between the Draft Program EIR and the City's General Plan, and the phasing of the IWP implementation.

AS1-2 Please refer to MR 2 for a discussion of UCSC growth and its relationship to the IWP.

AS1-3 Please refer to MR 2 regarding the relationship between the Draft Program EIR and the City's General Plan, and the timing of Draft Program EIR certification and project approval.

AS1-4 The proposed Program addresses both near-and long-term needs of the City. Although Section 1.1.3 (p 1-2) specified by the commenter does not call out the long-term needs, Section 1.3, Summary of the proposed Program (p. 1-7 of the Draft Program EIR) does specify the potential for future expansion to 3.5 mgd in 2015 and 4.5 mgd in 2025. Bullet item 3 in Section 1.1.3 (p. 1-2 of the Draft Program EIR) has been clarified to reflect the potential for expansion (see Chapter 3 of this Response to Comments on the Draft Program EIR document).

AS1-5 As identified in Section 15089(b) of the *CEQA Guidelines*, "Lead agencies may provide an opportunity for review of the final EIR by the public or by commenting agencies before approving the project." As such, CEQA does not require public review and comment of the Final EIR. The text on page 1-3 is correct and no changes to the text are required. The Final EIR will be a public document and will be available for public review 10 days prior to Council action. However, there will not be a public comment period for the Final EIR. The public is welcome to speak on the Final EIR on the Water Commission agenda as well as the City Council agenda when presented for certification. In accordance with CEQA Guidelines Section 15088(c), the City will provide commenting public agencies with a written response at least 10 days prior to City Council action on the EIR.

- AS1-6 This programmatic EIR evaluates the environmental effects associated with the implementation of the entire Program through 2030. Please refer to CCC-2 for a discussion of the Draft Program EIR's level of detail.
- AS1-7 Please refer to MR 2 regarding the relationship between the Draft Program EIR and the City's General Plan, and the timing of Draft Program EIR certification and project approval.
- AS1-8 The title, "Subsequent Increments: 3.5 mgd in 2015; 4.5 mgd in 2025," adequately identifies IWP Table 1-1b (p. 1-10 of the Draft Program EIR) as addressing the subsequent phases. However, the table is missing information regarding supplemental supply for the City in the Purpose row (under D-1). Revisions to the table are shown in Chapter 3 of this Response to Comments on the Draft Program EIR document. However, D-2 correctly characterizes the purpose of subsequent increments. Please also refer to Response AS1-4, above.
- AS1-9 Please refer to Response SqCWD-2.
- AS1-10 Please refer to MR 2 for a discussion of UCSC growth and its relationship to the IWP.
- AS1-11 Please refer to MR 2 for a discussion of UCSC growth and its relationship to the IWP. The fourth column of Table 1-2 (and Table 6.5-1, p. 6-18) is incorrectly labeled. The column heading should read Alternative D-2, 3.5 and 4.5 mgd.
- AS1-12 The commenter is correct that energy impacts (evaluated in Section 5.13, Energy) are considered less than significant. Therefore, Table 1-3 (p. 1-20 of the Draft Program EIR) should not have included a line item for Section 5-13 as there are no potentially significant impacts identified in that section. As such, the second to last row of the Table on p. 1-20 has been deleted (see Chapter 3 of this Response to Comments on the Draft Program EIR document).
- AS1-13 Identification of the environmentally superior desalination plant area is provided in the second paragraph under Section 1.7 (p. 1-23 of the Draft Program EIR). As indicated, the overall environmentally superior desalination site is the industrial park area. The sentence has been revised to clearly identify the industrial park area as the environmentally superior alternative (see Chapter 3 of this Response to Comments on the Draft Program EIR document).
- AS1-14 Comment noted. Please see Chapter 3 of this Response to Comments on the Draft Program EIR document for text revisions.
- AS1-15 Please refer to MR 2 regarding the timing of Draft Program EIR certification and project approval. Because the entire IWP, which consists of the near-term and future increments, is the subject of the Draft Program EIR, the first bullet item under Section 1.9.2 (p. 1-25)

implies that the IWP, as a whole, would be decided upon by the City Council. No further clarification is necessary in this section.

- AS1-16 Please refer to MR 2 regarding the timing of Draft Program EIR certification and project approval.
- AS1-17 Please refer to Response AS1-5, above.
- AS1-18 Please refer to MR 2 regarding the timing of Draft Program EIR certification and project approval.
- AS1-19 Please refer to MR 2 for a discussion of UCSC growth and its relationship to the IWP. The inclusion of a statement that the water demand study does not account for UCSC enrollment beyond 2005 is not warranted in the discussion of the Water Demand Investigation (Section 3.4.1, pp. 3-4 and 3-5 of the Draft Program EIR) as Section 3.4 of the Draft Program EIR briefly summarizes the purpose, content, and findings of background studies, not information outside of those studies.
- AS1-20 Please refer to Response AS1-8, above.
- AS1-21 The proposed desalination plant would need its own dedicated discharge line to segregate the concentrate discharge from the chemical wastestream generated from the proposed desalination plant.
- AS1-22 Please refer to MR 2 regarding the relationship between the Draft Program EIR and the City's General Plan, and the timing of Draft Program EIR certification and project approval.
- AS1-23 The last bullet on p. 5.1-25 identifies one of the assumptions used to calculate the required storage volume of the equalization pond. Specifically, the sentence "dilution of the wastewater effluent with the concentrate prior to discharge was neglected," means that the concentration of wastewater constituents was conservatively assumed to be the same with or without the added volume in order to analyze whether the effluent would meet the receiving water requirements (in other words, the concentration of wastewater constituents was not reduced by the corresponding increase in volume from the addition of seawater concentrate). That is the reason the fourth bullet continues to state that "actual dilution rates are higher than those reported here by a factor ranging from 1 to 2 depending on the relative amount of effluent flow and concentrate flow" since in actuality the effluent is diluted with the addition of the concentrate. When the dilution of the wastewater effluent with the concentrate was neglected, the combined discharge would still meet receiving water requirements with the implementation of adequate equalization facilities.
- AS1-24 The equalization tank would be located at the desalination plant site, although it was not identified during preliminary design (Figure 4-3 of the Draft Program EIR) for the site. The exact location of the tank within the plant site has not yet been determined. The

environmental effects of the proposed desalination plant have been evaluated as a whole rather than by individual plant elements; these evaluations are presented by issue areas in Chapter 5 of the Draft Program EIR.

- AS1-25 Mitigation Measures 5.1-6a through 5.1-6c identify a range of actions that could be taken in the event that seawater intrusion is detected. Although Mitigation Measure 5.1-6c offers the possibility of reducing or ceasing pumping completely to ensure that seawater intrusion would not occur, it is unnecessary to evaluate the consequence of the potential need for more water from the desalination plant to offset loss in supply from the wells. During drought events, curtailment would be initiated as part of the Emergency Drought Ordinance and the desalination plant would be operated at some level up to its allowable increment. To offset the “cease pumping” situation, the plant would be operated up to its maximum increment, and curtailment would be increased (Mitigation Measure 5.1-6b identifies additional curtailment of water above and beyond the amount proposed in the IWP; this increase would be part of the Emergency Drought Ordinance implementation, and is intended to manage demand during drought occurrences [see p. 4-6 of the Draft Program EIR for a description of this ordinance]). Operation of the desalination plant up to its allowable increments during drought years has already been evaluated as part of the proposed Program, and as such would not require additional evaluation beyond the project-level review required prior to implementation. During non-drought periods, the cessation of pumping would not initiate the use of the desalination plant; rather, the Loch Lomond Reservoir would make up the deficit. As such, no additional environmental evaluation would be required.
- AS1-26 Please refer to MR 2 for a discussion of UCSC growth and its relationship to the IWP.
- AS1-27 Comment noted. Text revisions under Section 6.3.2 of the Draft Program EIR (p. 6-6) are shown in Chapter 3 of this Response to Comments on the Draft Program EIR document.
- AS1-28 The following response clarifies the evaluation of growth under Alternative D-2 and why Impact 6-1 was considered less than significant. No changes to the analysis or conclusions in the Draft Program EIR are warranted.

The pursuit and development of a Conjunctive Use Supplemental Water Supply Project by the SqCWD is in direct response to the Santa Cruz County General Plan EIR<sup>5</sup> (1994), which concluded:

**“Impact 4.7-3 Increased Demand on Water Supply (Soquel and Aptos):**  
Buildout . . . would increase water demand in the Soquel and Aptos planning areas by 1,028 acre-feet per year. Water supply in this basin is obtained by groundwater extraction; therefore, increased demand would require increased pumping, and/or development of new sources of supply. This increased water demand along with

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<sup>5</sup> The increase in demand is attributable to growth in unincorporated areas of the County, except for 48 afy of increased demand projected for Capitola.

additional growth in this basin from growth beyond the Urban Services Line, would be considered to be a significant cumulative impact.”

The Draft General Plan EIR recognized increased demand for water in the Soquel Creek Water District service area as a significant and unavoidable impact. The level of significance was revised to less-than-significant in the Final EIR, due to inclusion of the following mitigation measure:

“(h) Development of additional water supply for the Soquel Creek Water District, with sufficient capacity to provide the anticipated increase in water demand from the selected alternative, without creating groundwater overdraft.”

Annual water demand in the SqCWD at the time of General Plan adoption was identified in the GP EIR as 5,300 acre-feet/year; the anticipated and unavoidable increase in water demand at the time of buildout under the GP-Proposed Project was projected to be 1,028 acre-feet per year. The average annual water demand currently projected by the SqCWD for buildout, including the effects of existing conservation programs, is expected to reach 6,080 afy by the year 2050, which is lower than the projected demand at buildout of 6,328 afy estimated in the General Plan EIR (5,300 afy plus 1,028 afy). Because the current projections by the SqCWD fall within the demands projected by the General Plan EIR for buildout, analysis of impacts due to this increase in demand over the life of the plan will be consistent with the conclusions of the General Plan EIR.

In addition to providing for growth consistent with the GP, the SqCWD intends to restore the groundwater basin that has historically been overdrafted. Hydrogeologic study of the area encompassed by the SqCWD indicates that impending saltwater intrusion would be arrested by increasing groundwater levels above current levels, in order to restore oceanward groundwater gradients (Johnson et al., 2004<sup>6</sup>). Due to the characteristics of the confined groundwater aquifers, it is reasonable to reduce production in the aquifers to increase water levels. In addition to reduced groundwater pumping, SqCWD would establish preliminary groundwater-level objectives for all coastal groundwater wells and then, over time, adjust these levels based on new information obtained through additional monitoring and analysis. The overall purpose of establishing groundwater level objectives is to achieve a desired hydraulic gradient that would aid in arresting the landward migration of the saltwater-freshwater interface and, therefore, protect source water supply quality. At adequate pumping rates, water levels would rise and reach equilibrium consistent with the established groundwater goals.

SqCWD proposes to secure a supplemental supply for conjunctive use with its groundwater resources for two purposes: 1) a portion would be used to meet the supply shortfall until

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<sup>6</sup> Johnson, NM, D. Williams, E. Yates, and G. Thrupp. September 2004. *Groundwater Assessment of Alternative Conjunctive Use Scenarios – Draft Technical Memorandum 2: Hydrogeologic Conceptual Model* (prepared for Soquel Creek Water District).

build-out in 2050; and 2) the balance would be used to increase groundwater levels through in lieu recharge and thereby correct the existing overdraft problem.

For the purposes of analysis, the SqCWD has generated an estimated Supplemental Water Supply Schedule (see below) for the anticipated pumping reduction associated with receiving a supplemental water supply. This schedule is based on the projected demand, estimated sustainable yield of available groundwater supply (4,800 afy), and a supply shortfall projected for the SqCWD. The schedule assumes that, for each year, the supplemental source will be made available to reduce pumping by at least 500 afy more than demand in that year. However, because the increment of growth associated with the anticipated supply shortfalls have been evaluated by the Santa Cruz County General Plan, impacts due to this increase would be consistent with the impacts of the General Plan and the supplemental source would not induce growth beyond that already approved and planned. In fact, by 2050, the groundwater production decrease of 500 afy plus the anticipated supply shortfall of 1,280 would be greater than the 1,400 afy (1.25mgd) available to the SqCWD from a single train of the Santa Cruz Desalination Alternative D-2.

#### Supplemental water Supply Schedule

YEAR	Demand Adjusted for Conservation (afy) <sup>1</sup>	Groundwater Supply Available (afy) <sup>2</sup>	Estimated Supply Shortfall (afy) <sup>3</sup>	Supplemental Supply Needed to Help Restore Aquifer Levels and Accommodate Supply Shortfall Assumes minimum of 500 acre feet per year pumping reduction (afy) <sup>4</sup>
2010	5,210	4,800	410	910
2015	5,320	4,800	520	1,020
2020	5,430	4,800	630	1,130
2025	5,535	4,800	735	1,235
2030	5,640	4,800	840	1,340
2035 <sup>5</sup>	5,750	4,800	950	1,450
2040	5,860	4,800	1,060	1,560
2045	5,970	4,800	1,170	1,670
2050	6,080	4,800	1,280	1,780

<sup>1</sup> This is the average annual water demand for SqCWD, including savings anticipated from the implementation of existing water conservation programs, from 2010 to build-out in 2050.

<sup>2</sup> Groundwater Supply Available – This is the sustainable groundwater yield (amount of water that can be safely extracted), determined through a simple mass balance approach, which is a sum of the 3,000 acre feet per year of available groundwater from the Purisima and the 1,800 acre feet per year of available groundwater from the Aromas for a total estimated sustainable groundwater yield of not more than 4,800 acre feet per year.

<sup>3</sup> Estimated Supply Shortfall – This is the amount of water needed to supplement the SqCWD groundwater supply into the future until build-out, assuming groundwater extraction is reduced to 4,800 acre feet per year. This is the difference between sustainable groundwater supply and projected demand adjusted for conservation.

<sup>4</sup> Supplemental Supply Needed to Restore Aquifer Levels and Accommodate Supply Shortfall - This is the total amount of water needed to provide for the supply shortfall and reduced pumping to restore groundwater levels within the aquifer. For purposes of this analysis, we have assumed that the conjunctive use supplemental supply alternative should reduce groundwater pumping by at least 500 acre feet per year.

<sup>5</sup> Starting in 2035, the supplemental source (1.25 mgd or 1,400 afy) may not provide sufficient water to meet planned water demands.

SOURCE: Johnson, SCWD, 2004

- AS1-29 Please refer to Response AS1-28, above.
- AS1-30 Please refer to MR 2 regarding the relationship between the Draft Program EIR and the City's General Plan.
- AS1-31 Please refer to MR 2 for a discussion of UCSC growth and its relationship to the IWP.
- AS1-32 Please refer to MR 2 for a discussion of UCSC growth and its relationship to the IWP.
- AS1-33 Comment noted. At the time of the Draft Program EIR preparation, certification was anticipated in 2005. However, according to the UCSC LRDP homepage in September 2005, "in the 2004-05 year, a draft LRDP will be completed and work will begin on a draft EIR for the LRDP. In the 2005-06 year, the LRDP draft EIR will be presented to the public for comments, and the LRDP and EIR will be submitted to UC's Board of Regents for final consideration" (<http://planning.ucsc.edu/lrdp/>). This information has been included in the Chapter 3 of this Response to Comments on the Draft Program EIR document.
- AS1-34 The fact sheet for the Highway 1/17 Widening for Merge Lanes, from which the date of the construction schedule was taken, identifies Fall 2005 as start of construction (<http://www.sccrtc.org/highway.html#1-17>). A recent call to Caltrans indicates that the project construction could begin in winter 2005, depending on funding.<sup>7</sup> The California Transportation Commission is intending to vote on the project at the end of September, although it may be delayed due to pending issues on the design. No changes to the Draft Program EIR are required.
- AS1-35 The fact sheet for the Highway 1 HOV Lane Widening Project, from which the date of the completion of the Final EIR was taken, identifies 2007 as the estimated completion date of the Final EIR (<http://www.sccrtc.org/pdf/hwy1facts.pdf>). A recent call to SCCRTC indicates that the fact sheet is outdated and the Final EIR is likely to be completed in Spring 2008<sup>8</sup>. Chapter 3 of this Response to Comments on the Draft Program EIR document identifies text changes to the discussion on the Highway 1 HOV Lane Widening Project to include information regarding the defeat of its funding source and reflect the new estimated Final EIR completion date. Revision to the estimated Final EIR completion date for the Highway 1 HOV Lane Widening Project would not change the conclusions of the cumulative impacts analysis.
- AS1-36 The SCCRTC website (<http://www.sccrtc.org/transit.html>) indicates that, "[i]n 2000, the Commission programmed \$332,000 in federal funds for a master plan and environmental review of the Coastal Rail Trail, and in 2004, the Commission programmed \$345,000 to

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<sup>7</sup> Duazo, Luis. Project Manager for the Highway 1/17 Widening for Merge Lanes Project. Caltrans. Phone conversation on September 12, 2005.

<sup>8</sup> Schultz, Kim. Project Manager for the Highway 1 HOV Lane Widening Project. SCCRTC. Phone conversation on September 12, 2005.

construct an initial segment [of the trail].” The Coastal Rail Trail fact sheet (updated July 2005) further elaborates that “although the Commission approved funds for a Master Plan/Environmental Review of the Coastal Rail Trail and construction of an initial segment of the rail trail, the Commission has focused its recent efforts on acquisition of the rail right of way.” As indicated in the Draft Program EIR text (p. 7-8), the SCCRTC is in the process of acquiring funding to purchase the railroad right-of-way. As such, the information presented in Draft Program EIR under the section on the Santa Cruz County Coastal Rail Trail is correct, and no changes to the text are warranted.

- AS1-37 Chapter 6 of the Draft Program EIR addresses “Growth Inducement and Secondary Effects of Growth,” recognizing that project-level environmental review will be required prior to implementation of the IWP beyond the initial phase. That project-level review will address the consistency of future stages of the proposed Program with the growth envisioned in the General Plan update. By the time such project-level analysis is conducted, the increases in UCSC population established by the updated LRDP presumably will have been subsumed in the updated General Plan, and the growth effects of the overall increases in population will have been evaluated in the updated General Plan EIR. The programmatic analysis contained in the Draft Program EIR does not support action that would expand population growth beyond that allowed in the current LRDP and General Plan. Detailed analysis of growth at UCSC is properly studied in the EIRs for the UCSC LRDP update and the General Plan update, not in this program-level document. Project-level analysis of future phases of the IWP will reflect growth at UCSC as it is incorporated into the General Plan.
- AS1-38 *CEQA Guidelines* Section 15126.6 requires a range of reasonable alternatives to the project, or to the location of the project be included in an EIR (Section 15126.6(a). It also requires identification of alternatives considered by the lead agency but were rejected as infeasible during the scoping process. The Draft Program EIR evaluates the environmental consequences of implementing the proposed Program and a range of reasonable alternatives (see Chapter 8 of the Draft Program EIR). It also identifies alternatives that were proposed during the IWP Scoping period and the reasons why those alternatives were eliminated from consideration. *CEQA Guidelines* do not require a summary of all possible water supply alternatives that were explored during the last two decades. Section 8.2.9 provides a summary of the sources where information regarding past alternatives could be found. This level of detail is not in conflict with *CEQA* requirements and as such, no further discussion is required and no changes to the Draft Program EIR are warranted. Please refer to MR 3 for more information regarding alternatives.



**Marcia Tobin - FW: Response to your inquiry**

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**From:** "Linette A Almond" <LAlmond@ci.santa-cruz.ca.us>  
**To:** "Marcia Tobin" <TobinM@edaw.com>  
**Date:** 8/1/2005 3:25 PM  
**Subject:** FW: Response to your inquiry

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-----Original Message-----

**From:** Bill Kocher  
**Sent:** Tuesday, July 19, 2005 5:01 PM  
**To:** Linette A Almond; Toby Goddard  
**Subject:** FW: Response to your inquiry

I confess I did not read this as I am taking off, but I wanted to be sure you had it to pass along to whoever prior to the Thursday meeting.

*Bill Kocher*  
Director, Santa Cruz Water Department

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**From:** Andy Schiffrin [mailto:BDS030@co.santa-cruz.ca.us]  
**Sent:** Tuesday, July 19, 2005 4:53 PM  
**To:** Bill Kocher  
**Subject:** RE: Response to your inquiry

Hi Bill -

Thanks for getting back to me. I'm now back from my vacation and have had a chance to read the EDAW response to my concern. As I understand their argument, it is that because the DEIR is for a plan and not a construction project, the Amador case doesn't really apply. Before any specific project to serve future population is approved, additional environmental analysis will be done and the project will have to be consistent with the then existing general plan. Since the Amador case concerned a specific development project, I can see the logic in the EDAW argument. I'm not sure that I agree with their conclusions, however.

At the end of this e-mail, I've pasted a portion of the Amador decision that seems most relevant to our situation. The court's opinion seems to use the words "program," "plan," and "project" interchangeably and I think their rationale would apply to the IWP as well as to a specific project. Their point is that to approve water projects (and I would argue water plans) before a general plan is adopted is to put the cart before the horse. The general plan is the local constitution for land use. It should lead the way not follow behind a water plan. Other land use related decisions should be consistent with it. In fact, to adopt a water plan based on growth projections not in the approved general plan is inappropriately to push the general plan in a particular direction. A commitment is being made to provide water for a future population prior to having the general plan incorporate that population. So, in the end, my opinion is that the Amador court would not find the distinction between a program EIR on a water plan and a specific water project meaningful under CEQA.

AS2-1

However, while I intend to raise these concerns during the process, if the Council decides to approve the entire IWP, that's the end of it for me.

Andy

## II. EIR Predicated on Draft General Plan

(6a) The EIR states, and defendants readily acknowledge, that the primary purpose of the water program is to provide water supplies to meet projected increased populations. These projections were contained in a draft general plan. In other words, water policy was predicated on the population forecasts of an unadopted general plan, and water projects were tailored to the needs outlined in that still-to-be finalized document. In this case, approving a water program before enacting a general plan places the proverbial cart before the horse.

(7) A general plan serves as a "charter for future development" (Leshner Communications, Inc. v. City of Walnut Creek (1990) 52 Cal.3d 531, 540 [277 Cal.Rptr. 1, 802 P.2d 317]) and embodies "fundamental land use decisions that guide the future growth and development of cities and counties." (City of Santa Ana v. City of Garden Grove (1979) 100 Cal.App.3d 521, 532 [160 Cal.Rptr. 907].) " '[T]he propriety of virtually any local decision affecting land use and development depends upon consistency with the applicable general plan and its elements' [statutorily required elements include land use, circulation, housing, conservation, open space and noise].' [Citations.] 'The consistency doctrine has been described as "the linchpin of \*950 California's land use and development laws; it is the principle which infuse[s] the concept of planned growth with the force of law. " ...' " (Families Unafraid to Uphold Rural etc. County v. Board of supervisors (1998) 62 Cal.App.4th 1332, 1336 [74 Cal.Rptr.2d 1] (Families Unafraid).)

(6b) Had a general plan reflecting population and development policies been adopted, a water project to meet those needs would certainly have been appropriate. Here, however, the new general plan had not been adopted. The proposed water project was not designed to be compatible with the existing general plan, but with the new draft plan. This sequence of events—approving a water program before adopting a general plan—precludes any proper review of significant growth issues. We explain.

In determining whether and where to permit development, a county must necessarily consider the availability of consumptive water supplies. If additional water supplies are available, growth and development are feasible. Conversely, if that water is not available, growth is necessarily limited.

If a general plan calls for increased development and population, a water plan designed to meet that need makes sense. But here, no such determination was made. The County had not yet adopted a general plan or made final decisions on growth issues, and there was no final expression of county policy on these matters. By proposing a water project to meet the needs of the draft general plan, the analysis of certain issues was circumvented. That is, once the project made an additional 17,000 af/yr of water available, one of the natural barriers to growth was removed, and one of the major issues related to development no longer had to be considered.

By proceeding without the benefit of the general plan in place, and by developing projects predicated on needs described in an unadopted plan, the CEQA process is stood on its head. Instead of proceeding from a more general project to more specific ones, as is commonplace in tiering (see Guidelines, 15152), the exact opposite occurs: a specific water project drives the general plan process. The issues become circular: water supply projects are adopted to meet growth plans outlined in a draft general plan, and the general plan is then adopted because an adequate water supply exists for the outlined development plans.

AS2-1  
(con't)

**2.2.12 Andrew Schiffrin**

AS2-1      Please refer to MR 2 regarding the relationship between the Draft Program EIR and the City's General Plan.

**Letter KB**

**From:** "Linette A Almond" <LAlmond@ci.santa-cruz.ca.us>  
**To:** "Marcia Tobin" <TobinM@edaw.com>  
**Date:** 8/1/2005 3:08:05 PM  
**Subject:** FW: my comments on the Integrated Water Plan draft Program EIR

-----Original Message-----

From: Kristi Bittner [mailto:kbittner@cruzio.com]  
Sent: Friday, July 29, 2005 4:52 PM  
Cc: Linette A Almond; kbittner@cruzio.com; mimi@cruzio.com  
Subject: my comments on the Integrated Water Plan draft Program EIR

To Ms. Linette Almond,

I am responding to the Integrated Water Plan draft Program EIR.

I generally support this plan, but I have one area of concern. When describing the westside Industrial Park Area, area A of the proposed alternative areas, several places in the plan talk about this as "completely surrounded by Industrial Uses"- which is NOT true.

In particular part of the Swift street edge is immediately across the street from residential neighborhoods, and in fact there are live-work units within this industrial park area.

That mistake is particularly important in areas where the three alternates are compared (A, B, and C), because the other two alternates (Antonelli and Terrace Point) also have some residential boundaries.

When the three alternates are compared, there is some advantage cited for alternate A, because of lack of nearby residences. IF the actual sites within the large Industrial area are NOT near the southeast corner, that is true.

However, if area A is chosen, based partly on the lack of residences, and then a site within A is chosen next to Swift street, then the noise and neighbor issues come into play.

This plan should note that the southeast portion of the industrial park area is also adjacent to residences.

Thank you,

Kristi Bittner  
Neighbor/homeowner  
349 John Street,  
Santa Cruz, 95060

KB-1

### 2.2.13 Kristi Bittner

KB-1 The commenter has identified residential uses surrounding the desalination area and live-work units within the Industrial Park Area. Although residential uses on the outlying portion of the Industrial Park Area (east side of Swift Street, north of Highway 1, and south of the Derby Park area) are not specifically called out in the text of the Draft Program EIR, they are shown on Figure 4-2 of the Draft Program EIR. The Draft Program EIR had not identified the live-work units within the desalination plant area, which are located along the eastern boundary of the area (Swift Street; APNs 003-081-15, -16, -17, and -18). The Draft Program EIR description of the Industrial Park Area (e.g., on pp. 4-11, 5.3-2, and 5.6-15) is based on Map L-4, Industrial Infill and Intensification Areas, of the *City of Santa Cruz General Plan*. A comparison of the Figure 4-1 (p. 4-7 of the Draft Program EIR) and Map L-4 shows that the portion of the site with the live-work units is part of the Industrial Infill and Intensification Area.

Construction- and operation-related effects at the Industrial Park area on existing and immediately surrounding uses have been evaluated in Chapter 5 of the Draft Program EIR. Noise effects, a particular issue of concern to the commenter, are evaluated in Chapter 5.6, Noise. Specifically, Impact 5.6-3 evaluates the permanent noise effects in each of the proposed desalination plant locations against normally acceptable noise standards for the relevant type of land uses (pp. 5.6-19 and 5.6-20 of the Draft Program EIR). For the Industrial Park Area, the discussion evaluated the proposed Program's ability to meet noise standards or ensure that it would not increase noise levels by 6 dBA. Because the actual location and final design of the plant has not been determined, the actual noise level increases cannot be determined.

The impact discussion identifies the need to implement Mitigation Measure 5.6-1 to reduce potential noise impacts. Mitigation 5.6-1a (p. 5.6-18 of the Draft Program EIR), which would be applicable to the desalination component regardless of plant location, establishes the need to ensure that operational noise levels at the nearest noise-sensitive land uses comply with the City of Santa Cruz noise standards or ordinance.

Project specific mitigation measures would be developed in the project-specific EIR for the proposed Program. As such, further analysis and mitigation measure development in the project-level EIR would ensure that the proposed Program would be protective of noise-sensitive uses, including the residences at the live-work units in the eastern boundary of the Industrial Park Area. With respect to other neighborhood issues (truck traffic, air quality, etc.) that could affect the residences within and at the outer boundaries of the Industrial Park Area, the Draft Program EIR evaluates construction-related effects associated with these issue areas in Chapter 5 (also captured in the evaluation of the conveyance facilities). For these issues, relevant mitigation measures have been identified to ensure that short-term adverse effects would be reduced to less-than-significant levels (e.g., implementation of dust control measures during construction activities to reduce dust generation, and

implementation of a Hazardous Materials Management Plan to address the use, storage, and handling of hazardous materials at the desalination plant).

With respect to the environmentally superior desalination plant location (discussed in Section 8.2.7, p. 8-19 to 8-20 of the Draft Program EIR), there are a number of factors that contributed to this designation for the Industrial Park site. The environmental issues differentiating the three plant locations included flooding, biological resources, noise, utilities, and visual quality. The potential for noise effects and the need for further analysis are described above. However, if noise impacts were to occur at the Industrial Park Site, implementation of mitigation measures identified in the Draft Program EIR would reduce potential effects to less than significant levels. Even if noise effects were to be equal to the other two locations, the Industrial Park Area would nevertheless still be considered the environmentally superior desalination plant area because of the other environmental factors. As such, the conclusions of the Draft Program EIR, including the analysis of noise and the environmentally superior desalination plant area would not change. However, revisions to the text to reflect the live-work units and the deletion of noise as a differentiating issue for the environmentally superior desalination area are shown in Chapter 3 of this Response to Comments on the Draft Program EIR document.

**Marcia Tobin - FW: Final Comments on the IWP from the Coalition on ResponsibleDesalination**

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**From:** "Linette A Almond" <LAlmond@ci.santa-cruz.ca.us>  
**To:** "Marcia Tobin" <TobinM@edaw.com>  
**Date:** 8/1/2005 3:10 PM  
**Subject:** FW: Final Comments on the IWP from the Coalition on ResponsibleDesalination

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-----Original Message-----

**From:** Heather Allen [mailto:policy@seaotters.org]  
**Sent:** Friday, July 29, 2005 4:50 PM  
**To:** Linette A Almond  
**Cc:** Jordan, Brian L.; Bill Kocher; Sarah Newkirk; connere@west.net; jgeever@surfrinder.org; kfreeman@surfrider.org; christine.bradley@mlis.edu  
**Subject:** Final Comments on the IWP from the Coalition on ResponsibleDesalination

Dear Ms. Almond,  
My apologies, this email has the final document. Please disregard the previous email.  
Sincerely, Heather Allen

Dear Ms. Almond,

Please accept these comments on behalf of the Coalition on Responsible Desalination (CORD) about the Santa Cruz IWP.  
We appreciate all the time that you and your staff have dedicated to the issue of fresh water, conservation and sustainable solutions. And we are especially grateful for time and energy you spent answering our questions.

We look forward to continuing to work with you as Santa Cruz further develops the water program.

Sincerely,

Heather Allen

cc: Brian Jordan, Bill Kocher, Jessica Nagtalon, Christine Bradley, Sarah Newkirk, Conner Everts, Joe Geever, Kaya Freeman

July 29, 2005

City of Santa Cruz Water Department  
Attn: Ms. Linette Almond  
809 Center Street, Room 102  
Santa Cruz, California 95060

**Re: City of Santa Cruz Integrated Water Plan draft Program Environmental Impact Report**

Dear Ms. Linette Almond,

The Coalition on Responsible Desalination (CORD) submits the following comments on the Integrated Water Plan (IWP) draft Program Environmental Impact Report (DEIR). CORD is a coalition of individuals and community groups based on the central coast, whose mission is *to promote awareness of the full social, economic, and environmental costs of desalination and its alternatives*. We appreciate the opportunity to review the DEIR and thank you in advance for your careful consideration of our comments.

Our analysis of the IWP-DEIR leads us conclude the document is flawed and requires revision. Our concerns include: the absence of a complete program-level review, the overall level of detail within the DEIR, the conservation analysis, the growth inducement analysis, and the marine impacts of the proposed desalination plant. We will address these concerns in detail in our comments.

**CORD-1**

Sincerely,

Friends of the Sea Otter  
Heather Allen  
Policy Director

The Ocean Conservancy  
Sarah Newkirk  
California Water Quality Programs Manager

Southern California Watershed Alliance  
Conner Everts  
Executive Director

Surfrider Foundation  
Kaya Freeman  
Central California Regional Manager

Christine Bradley

Jessica Nagtalon



## Summary of Comments

1) The DEIR does not provide program-level review and analysis.

The DEIR purports to be a program environmental impact report (PEIR). In general, a PEIR is used in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program. CEQA Guidelines at 15168(a)(3). A PEIR is usually considered optional (*see Al Larson Boat Shop v. Board of Harbor Commissioners*, 18 Cal.App.4<sup>th</sup> 729 (2d Dist. 1993)), but can be used to guide a multifaceted program. However, in some cases, a PEIR may contain project-specific CEQA documentation. If a PEIR contains project-specific CEQA documentation, the lead agency should clearly inform the public whether future CEQA documents are anticipated. Such information will affect the manner in which people review and criticize the first-tier EIR. CEQA Guidelines at § 15152(c); *Gentry v. City of Murrieta*, 36 Cal.App.4<sup>th</sup> 1359, 1407 (4<sup>th</sup> Dist. 1995).

In this case, although some future CEQA documentation is envisioned, the DEIR will apparently serve as the project-level EIR for the desalination component for many purposes. The DEIR states:

The City will conduct follow-up project-level environmental evaluation for the proposed desalination component once determinations have been made about the operation alternative, desalination plant site, and pipeline corridor alignments and detail specifications are developed. In that document, the City will discuss both site-specific construction detail and operation of the facility.

DEIR at 1-25.

Accordingly: (1) the desalination plant siting decision will be made entirely based on this EIR; (2) the desalination plant pipeline routing decision will be made based on this EIR; and (3) the operational alternative (D-1 or D-2) will be chosen entirely based on this EIR.<sup>1</sup>

This is a substantial amount of project-specific review for something that purports to be a PEIR, and we think that its designation belies the truth: that the DEIR is actually a project-specific EIR. Many of its flaws – that it presumes the desirability of desalination, and that it fails to evaluate a reasonable range of alternatives and options for water supply – are consistent with a project-specific EIR in which some basic programmatic determinations have already been made.

This is both a missed opportunity and a misleading pretense. The DEIR passes up the chance to provide the sort of useful program-level information for which PEIRs are

<sup>1</sup> Indeed, some aspects of the D-1 alternative itself are unclear: if the plant will operate only during drought years, then the costs and feasibility associated with stopping and restarting the desalination plant should be reviewed. Some desalination technologies such as reverse osmosis may require a constant flow of water.

**CORD-2**

**CORD-3**

designed. In particular, a true PEIR would provide the information necessary for local agencies and the public to make threshold determinations about the efficacy of a variety of water supply components, and the overall makeup of Santa Cruz's water supply portfolio. Such a document could provide the environmental basis for numerous future long-term water supply decisions.

**CORD-3  
(con't)**

This DEIR does not provide an integrated long-term perspective. The threshold decision to rely on desalination to meet the City's long-term water supply needs appears to have already been made, and consequently the DEIR fails to thoroughly discuss long-term water supply alternatives beyond the operation of a desalination facility.

The DEIR specifically declines to evaluate conservation, stating:

Implementation of the [conservation] program would not result in a direct or indirect physical change in the environment, and hence no impacts to the environment. As such, the conservation program was not subject to California Environmental Quality Act (CEQA) analysis prior to implementation, and no further analysis is required.

DEIR at 5-1. This may be so, but an understanding of the conservation component is required in order for the agencies and the public to evaluate the threshold question of whether a desalination plant is necessary for Santa Cruz and what role conservation should play in the City's water supply portfolio. Furthermore, the State Desalination Task Force found that desalination should only be included in a water supply portfolio where it is "economically and environmentally appropriate" and when recycling and conservation have been implemented to the "maximum extent practicable". Desalination Task Force, Water Desalination: Findings and Recommendations (October 2003) at 7. The DEIR's failure to evaluate the conservation program leaves the public with substantial questions as to whether the conservation options have been exhausted, and accordingly whether conservation is being implemented to the maximum extent practicable.

**CORD-4**

Furthermore, the document does not sufficiently highlight the fact that this may be the public's only opportunity to review and provide input into the siting and operational components of a large-scale desalination facility in Santa Cruz. This fact is concealed by categorizing the document as a PEIR, a pretext that renders the DEIR suspect with respect to two of the fundamental objectives of CEQA: bolstering the public's confidence in agency decision-making, and providing the agency with information from a variety of experts and sources. CEQA Guidelines at § 15200. The City should ensure adequate public review and input by calling the DEIR what it is: a proposal to develop a desalination facility in Santa Cruz. It should then recirculate the document, after appropriate notice and consultation. Pub. Resources Code § 21092.1.

**CORD-5**

2) The conservation analysis is inadequate for a program level DEIR.

According to the DEIR, the IWP consists of three components:

- Water conservation programs to maximize the use of the existing water resources.
- Customer curtailment up to 15% in times of shortage.
- Water supply development provided by a 2.5-million-gallon-per-day (mgd) desalination plant. Two operational strategies were identified: Alternative D-1 would provide water supply during a drought to the City service area, and Alternative D-2 would continue to provide water to the City during droughts but would also provide water supply for its potential partner, Soquel Creek Water District (SqCWD), during nondrought periods. Facilities associated with the two operational alternatives would generally be the same, except the implementation of D-2 would require additional conveyance and pumping facilities (DEIR Section 1.1.3).

The DEIR states that these are the three components of the proposed Program, and it states that conservation is the cornerstone of the IWP (see DEIR 1.3), yet the DEIR only fully discusses one component: desalination. As such, conservation is not adequately discussed, and the full range of conservation activities that could be implemented is not evaluated. The DEIR states that:

Implementation of the [conservation] program would not result in a direct or indirect physical change in the environment, and hence no impacts to the environment. As such, the conservation program was not subject to California Environmental Quality Act (CEQA) analysis prior to implementation, and no further analysis is required.

**CORD-6**

DEIR at page 5-1

While this may be true, a clear understanding of the conservation component is required in order for the agencies and the public to evaluate the threshold question of whether a desalination plant is necessary for Santa Cruz. Accordingly, it is an essential part of this EIR.

Conservation and other water-saving alternatives (e.g. reclamation) should be exhausted before desalination is considered. Other cities in California, and throughout the country, are using conservation and reclamation programs to offset the need for an additional water supply. In the Irvine Ranch Water District (IRWD), reclaimed water is used to irrigate business and community landscaping and makes up 20 percent of the District's water supply ([www.irwd.com](http://www.irwd.com)). That translates into 20 percent more fresh water available for potable uses.

The DEIR underrepresents the potential of water conservation. For example, the DEIR states:

Water conservation is beneficial to the environment because it reduces the use of existing water sources. [Chapter 5 intro, pg. 1, paragraph 2]

Conservation does not only reduce the use of existing sources, but can reduce the need for new sources as well. The conventional wisdom that new demand requires new water sources, and that future water demand is a direct function of population, economy, and per capita water use, is failing to hold true:

Projections of future water withdrawals have regularly been substantially higher than actual withdrawals because of inappropriate assumptions about future demand ....In [planning] for future water requirements, some basic questions must be asked and answered: Who is going to require the water? For what purpose or goal is water needed? What kind of water? How much water? [p. 19Waste Not, Want Not: The Potential for Urban Water Conservation in California, Pacific Institute, November 2003].

Conservation is important year round, before drought years and during drought years. When implemented as a change in lifestyle, water conservation can reduce drought year impacts.

The DEIR acknowledges that creating a new water supply should be a lower priority than conservation:

Both state law and the City's general plan call for strong emphasis on conservation and elimination of water waste to stretch existing supplies, to minimize the need for new water sources, and to protect the environment.

DEIR § 1.3.

Considering the importance of conservation in Santa Cruz and the IWP, we ask that the DEIR be revised to incorporate a more thorough evaluation of potential conservation measures (using the measures implemented by the IRWD as a model) and to include a reclamation alternative to desalination.

3) Ground water protection cannot be ensured according to the proposed program.

We are also concerned that there is not enough emphasis on protecting groundwater in the IWP. As stated above, because the DEIR will be used by decision-makers to decide if the IWP should be the City's future water plan, it is necessary that DEIR (and the IWP) be as comprehensive as possible. Accordingly, the IWP should include as an objective the protection of existing water supplies, particularly the deteriorating Purisima aquifer. It should subsequently consider how the proposed Program and the alternatives will impact or benefit existing supplies. The consequences (e.g. imperiling local species/ecosystems; salt-water intrusion; reduced storage capacity, etc.) of a depleted groundwater basin are serious and what is lost cannot be compensated for by developing new water supplies.

**CORD-6  
(con't)**

**CORD-7**

Further, the project proponents have not suggested a regulatory mechanism to prevent continued overdrafting of the aquifer from regional wells and illegal surface diversions. If a desalination plant is built, there needs to be some kind of assurance that the additional water produced will be used as a substitute for continued overdrafting of the Purisima aquifer before it is used to support growth. Currently, there is no legal or regulatory mechanism that binds the City or the Soquel Creek Water District in this regard.

↑  
CORD-7  
(con't)

4) The environmental evaluation does not analyze the significant marine impacts of the open intake or brine discharge adequately and is therefore inadequate.

At the outset, the DEIR does not evaluate the appropriate range of environmental impacts for its proposed capacity. The DEIR states that:

Under both alternatives, the City would implement conservation and curtailment components and would construct and operate a 2.5 mgd desalination facility that would be expanded in increments to 4.5 mgd.

CORD-8

DEIR at 5-1. If a permit will be sought for 4.5 mgd, then environmental impacts should be evaluated for the 4.5 mgd plant instead of the 2.5 mgd. Similarly, despite the proposed operational capacity during the first increment, if it is to be permitted for 4.5 mgd now, then all impacts should be considered for operation at maximum capacity, which is 4.5 mgd year round. Despite the fact that the physical plant footprint will not grow with the second increment, the proponent cannot predict the range of other environmental impacts without a thorough analysis.

*a. The DEIR fails to fully evaluate the water quality impacts of brine waste discharge from the desalination plant into the Pacific Ocean.*

The DEIR states that the “combination of concentrate to the wastewater effluent could have a significant impact on ocean water quality and, in turn, the marine environment, if it caused the City to violate its NPDES permit conditions for ocean discharge”. DEIR at 5.1-24. Therefore it is acknowledged that there is a potential threat to the ocean water quality posed by the composite effluent. The DEIR then continues to say that “the composite effluent combination is **not expected** to exceed the NPDES effluent limitations” and that it “**may** provide some benefit to the marine environment by making the salinity of the discharge closer to ocean salinity” (emphasis added). The wastewater treatment facility may discharge an unpredictable volume of water in the future, which may affect dilution potential and its impact on water quality. There is also no discussion of the “raw water” quality at intake, especially the quantity of metals, agrochemicals, and other pollutants that the filters may not expel. The plant design should not be allowed to degrade water quality at any level.

CORD-9

Therefore, the EIR should not be certified until a complete and thorough review of all potential water quality impacts associated with the composite effluent discharge,

including additional alternatives for discharging the seawater concentrate, are disclosed for public review.

↑ **CORD-9**  
| **(con't)**

*b. The DEIR fails to fully evaluate the impacts of chemical use and disposal at the desalination facility.*

On page 5.1-29, the EIR indicates that there are at least six types of chemicals used in the operation of the desalination plant. It states that the “handling and storage of these chemicals create the risk for chemical spills and subsequent risk to nearby surface waters”. Given that a major problem with operations of the Tampa Bay desalination plant revolved around filter clogging and the accumulation of excess cleaning chemicals, this EIR should fully define what chemicals will be used and how they will be handled in the “worst case” scenario.

**CORD-10**

In conclusion, the EIR does not adequately inform the public of the potential risks involved with handling and storage of cleaning chemicals.

*c. The DEIR fails to fully analyze the marine impacts of the open ocean intake for the seawater desalination plant.*

The EIR states that Alternative D-1 includes a “proposed intake structure that would be designed to substantially reduce impingement and entrainment impacts on marine species” (DEIR at 5.2-17) and it also mentions that “a seawater intake could take heavy toll on a species if a substantial amount of the local population occurred near the intake and that species was vulnerable to impingement and entrainment.” (*Id.*) It goes on to say “without a detailed site-specific study, it is impossible to determine the exact impact the proposed seawater intake would have on marine life.” Nevertheless, it states that with proper mitigation, the impact will be “less than significant”. The DEIR simply cannot make a determination regarding the significance of an impact that remains to be evaluated. Furthermore, the determination of impact significance – when it is ultimately made – should be based on quantitative and site-specific scientific studies. Therefore, this DEIR cannot function as the basis of a decision regarding the siting of the proposed desalination facility. A complete evaluation of the impacts of seawater intake on marine life at the proposed site – as well as the alternative sites – is required.

**CORD-11**

In summary, the EIR should not be certified until it includes a site-specific study detailing the impact of the seawater intake on marine life, and a full evaluation of alternatives for seawater intake. Finally, the EIR should identify which organisms the seawater intake process is likely to entrain and kill that are protected under the Endangered Species Act, fishery management plan “take” reduction plans, or other regulatory and legislative protection. The EIR should also consider sensitive habitats to avoid in order to comply with the aforementioned legislation and to avoid marine life mortality.

Specific Comments

- The DEIR fails to fully analyze the impacts of the concentrated discharge.

Concentrating discharge could affect marine organisms by subjecting them to elevated salinity or by changing the characteristics of the wastewater discharge in such a way that pollutants in the discharge reached levels harmful to marine organisms.

The EIR states that “marine organisms have been found to be sensitive to changes in salinity,” but then mentions that that since the desalination plant’s plume would be diluted by the wastewater discharge, the impacts “of the concentrate discharge....on marine resources would be less than significant.” The DEIR should evaluate whether the concentrated brine discharge is likely to impact endangered species or other protected species. Further, the DEIR should fully evaluate and quantify the efficacy of the saline plume dispersion by way of the wastewater discharge. Without such an analyses, it is premature to assert that these impacts would be less than significant (Impact 5.2-2).

**CORD-12**

- The DEIR fails to include the Marine Life Protection Act in the Regulatory Framework summary

The project proponent should include reference to the California Marine Life Protection Act (MLPA) and the marine reserve process that is underway statewide, with a pilot study on the Central Coast. The MLPA efforts should be considered upon siting intake and discharge locations.

**CORD-13**

- The DEIR does not provide sufficient mitigation planning for the construction activities on the beach near the intersection of West Cliff Drive and Sunset Avenue to protect snow plover and beach invertebrates.

The DEIR states that sandy beach invertebrates become established in the spring, therefore construction should be avoided leading up to and during this period. A natural mitigation measure according to the DEIR’s conclusions is to assess all the spawning periods and determine when to conduct construction activities to minimize impacts. Construction of the facility should be timed to avoid snowy plover nesting season should be avoided and other potential impacts to the lifecycle of this threatened species should be evaluated based on scientific studies (Impact 5.2-7, 5.2-8).

**CORD-14**

- The DEIR fails to comprehensively examine the construction impacts resulting from modification to the existing ocean outfall pipeline.

**CORD-15**

The potential for impacts to sediments and water quality should be thoroughly assessed before determining the location of the intake pipe. Ocean currents

**CORD-16**

<p>and geology should be analyzed from an intake perspective, because the pipe was originally designed as an outfall. Conditions compatible with ocean discharge may not be the best possible conditions for intake (Impact 5.2-3).</p>	<p><b>CORD-16</b> <b>(con't)</b></p>
<p>➤ The DEIR is lacking certain data regarding the marine resources in the Santa Cruz region.</p> <p>The DEIR evaluates vertical mixing but fails to discuss The California Current and longshore currents in Santa Cruz area. These currents are important to surface water quality where most users experience water quality. In Table 5.2.1 &amp; Table 5.2.2 the DEIR fails to identify the endangered or threatened status of the fish species in the study area. Also in the Beach Habitat and Species section, it needs to account for entire communities that live in the sand, including beach hoppers (<i>Megalorchestia spp.</i>) and grunions (<i>Leuresthes tenuis</i>) which spawn and store larvae in the beach sand at different times of the year.</p>	<p><b>CORD-17</b></p>
<p>➤ The DEIR is not clear about the consequences of marine entrainment.</p> <p>Zooplankters absolutely will be entrained in the ocean intake, language suggesting otherwise should be clarified to reflect these unavoidable consequences of open ocean intakes.</p>	<p><b>CORD-18</b></p>
<p>➤ The DEIR does not use the best available data to assess flood risks in the project area.</p> <p>➤ The DEIR uses 15-20 year old Federal Emergency Management Agency data set to guide the pipe design. Pipe design and routing cannot depend on this antiquated data alone. The DEIR needs to explain to what degree project design is based on FEMA data and consider the need for flood map revision.</p>	<p><b>CORD-19</b></p>
<p>➤ The DEIR does not investigate the full beneficial uses of Bethany Creek.</p> <p>The beneficial uses of Bethany Creek must be more fully investigated including the riparian habitats and any aesthetic, cultural, or existence value that may be impacted by the project.</p>	<p><b>CORD-20</b></p>
<p>➤ The DEIR does not adequately identify the degree of construction impacts on sensitive habitat.</p> <p>The DEIR should identify the duration of construction impacts, and the degree of said impacts on creeks and other riparian areas. This is an important consideration for public review and natural resource decisions (Impact 5.1-1).</p>	<p><b>CORD-21</b></p>



5) The growth inducement analysis should assess the program's full growth inducing potential, including a complete analysis of local water use practices and likelihood of growth.

The DEIR states that

The first increment of both Alternative D-1 and D-2 would not change the manner in which the City processes applications for service connections for new residential or commercial buildings or the number of connections issued annually, and therefore, would not remove an obstacle to growth or induce growth.

DEIR at 6-9. This may be true, but it is probably not the case for the later increments of the two alternatives. Moreover a more detailed DEIR is required to clarify how the City of Santa Cruz will regulate the amount of water produced by the desalination facility. The DEIR is the earliest and most flexible opportunity to make plans for the long-term use of the desalination plant clear. Accordingly water production policies must be developed before a fully informed decision can be made, and before growth inducing potential can be fully evaluated.

**CORD-22**

The DEIR references existing local land use policies of the City of Santa Cruz, the County of Santa Cruz and the City of Capitola. These policies alone are not sufficient to constrain growth. Therefore the growth analysis must be further investigated, while the planning process remains flexible, enabling the public to understand the full implications of a local desalination plant.

The DEIR suggests waiting for a full analysis until later program phases.

Subsequent environmental review shall be required for any expansion of the desalination plant or proposed change in operation to ensure ...the plant is consistent with future population projections...

We strongly recommend a complete analysis at the present time. These concerns are central because of the form of reverse osmosis membrane technology, which is easily expanded by simply adding more membrane structures.

The DEIR states that the D-1 and D-2 alternatives are not distinctly different with respect to growth inducement. We find it hard to believe – and the DEIR does not adequately demonstrate – that the Soquel Creek Water District and the City of Santa Cruz have identical growth potential, given the different governance structures, water uses and illegal upstream water withdrawals. The analysis is wholly inadequate without a thorough investigation of the other individual and commercial water users and their own potential for increased usage. Upstream users, both groundwater and surface water users, are in many cases unmetered and unregulated. Until these uses are curtailed or even fully understood, a new water source's impacts on growth cannot be analyzed. For example, if

**CORD-23**

the D-1 alternative is selected and the City of Santa Cruz uses the plant to offset droughts, upstream users may continue to use water at continued or even higher levels. The result may be a zero-sum game where city of Santa Cruz residents pay for an extremely costly water source to offset these unregulated upstream water withdrawals. Therefore growth potential cannot be analyzed until all of the water users are accounted for and incorporated into the growth analysis.

CORD-23  
(con't)

6) The DEIR does not evaluate a reasonable range of alternatives and specifically fails to fully evaluate reclamation, conservation, and a complete range of curtailment alternatives.

Under CEQA, an EIR must review and evaluate “a reasonable range of alternatives to the project, or to the location of the project, which (1) offer substantial environmental advantages over the project proposal . . .; and (2) may be ‘feasibly accomplished in a successful manner’ considering the economic, environmental, social, and technological factors involved.” Citizens of Goleta Valley v. Board of Supervisors, 52 Cal.3d 553, 566 (1990). In general, EIRs “must produce information sufficient to permit a reasonable choice of alternatives so far as environmental aspects are concerned.” San Bernadino Valley Audubon Society, Inc. v. County of San Bernadino, 155 Cal.App.3d 738, 750-751 (4<sup>th</sup> Dist. 1984).

Section 4.4 of the DEIR describes the range of alternatives evaluated. It states:

A ‘no project’ alternative is required under CEQA. Other reasonable alternatives include desalination strategies at different curtailment levels and capacities. These alternatives to the Program are described below.

CORD-24

DEIR at 4-27. Accordingly, the DEIR only fully evaluates a no-project alternative along with desalination at various levels. The drafters of the DEIR appear to have pre-determined that alternatives to desalination – including water conservation and reclamation – are not feasible alternatives that can meet the predicted demands for water in the region. This is a highly debatable assumption. In any case, the debate over the efficacy of these alternatives belongs in the body of the analysis.

Although EIRs for program-level decisions need not address alternatives with the level of specificity appropriate in project-level EIRs (Al Larson Boat Shop Inc. v. Board of Harbor Commissioners, 18 Cal.App.4<sup>th</sup> 729, 741-746), the DEIR cannot, as noted above, be properly described as a PEIR for the purpose of the decision to fulfill Santa Cruz’s long-term water needs through desalination. Accordingly, for the purposes of the alternatives analysis related to this decision, the DEIR should consider not only a reasonable range of locations and operational profiles for a desalination facility, but also a reasonable range of alternatives to desalination.

Enhanced water conservation programs have the potential to reduce overall demand by a substantial margin. A recent study by the Irvine Ranch Water District documents that fairly simple application of irrigation devices can reduce overall household water demand

by 50%, reduce local urban runoff by 70%, and can reduce pollutant loadings in receiving waters by 75%.<sup>2</sup>

Stormwater reclamation programs also have great potential to reduce demand while simultaneously tackling the problem of polluted stormwater runoff into the region's surface- and coastal waters. Unspecified reclamation was listed in the DEIR as one of several alternatives that were apparently rejected early in the process. Specifically, the DEIR stated that: "Even though desalination was found to be slightly more costly and was found to have a greater impact on the marine environment than reclamation, it performed better in all the other evaluation categories." DEIR at 3-12. It is simply hard to believe that desalination performed better than reclamation in such categories as energy consumption, and the DEIR should substantiate this assertion. Even if it is true, reclamation remains a feasible alternative and should be fully evaluated in the body of the DEIR. Furthermore, a comparative analysis of wastewater reclamation would surely include the environmental benefits of reducing wastewater discharges to the ocean as opposed to increasing ocean discharges from a desalination facility.

Finally, the DEIR fails to fully evaluate the range of curtailment profiles and the proper role of curtailment in matching water supply with demand in Santa Cruz. The DEIR evaluates the following curtailment alternatives:

1. No curtailment;
2. 15% curtailment (periodic restrictions on outdoor watering);
3. 25% curtailment (more frequent restrictions and some water rationing under severe drought conditions).

In the context of discussing the "no project" alternative, the document cursorily examines several other curtailment profiles: 45%, 50%, and 65%. However, full analysis of these alternatives is never provided, so the public does not have the ability to fully evaluate which level is appropriate for the City's water supply portfolio. We recognize that curtailment at these higher levels may be deemed undesirable by the project proponents. However, this preference does not render higher levels of curtailment unfeasible, nor does it alter the fact that higher levels of curtailment may offer environmental benefits. Accordingly, higher levels of curtailment should be fully evaluated in the DEIR.

**CORD-24  
(con't)**

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<sup>2</sup> Municipal Water District of Orange County (Irvine Ranch Water District), The Residential Runoff Reduction Study (July 2004), *available at* <http://www.irwd.com/>.

7. The Cumulative Impacts Analysis Should Contain Discussion of Other Regional Desalination Proposals and Power Plants.

Under CEQA, the fact that a project's cumulative impacts are uncertain does not relieve the lead agency of including such impacts in its analysis. Terminal Plaza Corp. v. City and County of San Francisco, 177 Cal. App. 3d 904-905 (1<sup>st</sup> Dist. 1986). In addition, CEQA acknowledges that some future projects may be "probable" even though they may never be built. What matters is whether the potential future projects appear foreseeable at the time of EIR preparation. City of Antioch v. City Council, 187 Cal. App. 3d 1325, 1337 (1<sup>st</sup> Dist. 1989)

Santa Cruz is not the only municipality in the Monterey Bay region considering desalination as a water supply solution. Numerous facilities have been proposed, and are at various stages of planning and approval. The DEIR acknowledges this:

Although only three facilities currently operate in the Sanctuary, there have been a number of recent proposals for both private and public desalination plants. These facilities (shown in Table 7.3-1-2, are at some stage of consideration or planning in the Sanctuary region. It is uncertain whether these desalination facilities would be implemented at this time.

DEIR at 7-11. Although most of these facilities are still in the planning stages, the likelihood that some or all of these facilities will ultimately be built is high. Consequently, these projects are reasonably foreseeable, and their cumulative impacts should be fully evaluated in the DEIR. However, the DEIR states:

Because the proposed facilities are speculative, they are not included in this cumulative impacts analysis. If any of these projects move forward, they will require detailed environmental analysis and a consideration of cumulative impacts at that time.

DEIR at 7-13. It is unreasonable for the applicant to fail to review the impacts associated with these proposed plants at this stage. As stated above, the construction of some number of these plants is likely. Furthermore, the impact of multiple desalination plants in the Monterey Bay region is likely to be severe, especially in terms of energy consumption, growth inducement, and entrainment/impingement. Accordingly, the need to cumulatively evaluate the impacts of these projects is great. Kings County Farm Bureau v. City of Hanford, 221 Cal.App.3d 692 (5<sup>th</sup> Dist. 1990).

With respect to energy consumption, the DEIR states:

The increased demand would not necessarily result in the wasteful, inefficient, or unnecessary consumption of energy. Therefore, cumulative impacts associated with energy consumption would be less than significant.

CORD-25

CORD-26

DEIR at 7-24. This is a novel, but illegal, standard for evaluating the significance of a cumulative impact. If this increased demand is significant, and we think that it undoubtedly is, the DEIR must identify it and avoid or mitigate it. The DEIR acknowledges that “the proposed Program in conjunction with other desalination projects would increase demand for electricity and natural gas,” and goes on to state:

The operation of the proposed desalination facilities would consume 1,000 gigawatts per year (based on 2.5 mgd), which would be less than one-half of 1 percent of California’s total energy use. This energy consumption would not be significant.

**CORD-26  
(con't)**

DEIR at 7-23 – 7-24. This assertion is, frankly, shocking. It is overtly misleading to compare the energy consumption of several desalination facilities to the total annual energy use of the entire state, and find it insignificant. To the contrary, we think it is indisputable that 1,000 gigawatts per year is a significant additional use of energy, particularly at a time when the state and the nation are seeking ways to reduce energy consumption. Furthermore, it appears that the City’s cursory examination of this issue was limited to evaluating energy production and consumption on a statewide, rather than a regionwide, basis. The DEIR should contain a thorough evaluation of the cumulative energy-related impacts of the desalination plants proposed for the Monterey Bay region.

With respect to entrainment and impingement related marine life mortality, this project raises several concerns. First, the DEIR appears to envision a new withdrawal of ocean water as a source for the desalination facility. It is irrelevant whether the facility would make use of existing infrastructure, the new entrainment/impingement are the relevant concerns and are the result of predictable new ocean water withdrawal. Furthermore, from a cumulative impact perspective, this potential new ocean water withdrawal will only exacerbate existing impacts from cooling water intakes for coastal generators. At the present time, we are not aware of final plans for coastal generators to comply with recently promulgated regulations for the reduction of marine life mortality from these sources. But, compliance with these new regulations is mandatory -- and a discussion of the range of alternative compliance schemes is both “predictable” and reasonable. Given the range of alternative compliance schemes, CEQA would, at a minimum, require a general description and discussion of alternatives for reducing cooling water intake impacts on marine life. Only after a sufficient discussion of existing impacts on marine life from open ocean intakes, for any purpose, and a prediction of reasonably foreseeable changes in those cumulative impacts, can an EIR analyze the cumulative impact from this new source of entrainment/impingement.

**CORD-27**

Finally, the DEIR fails to even mention the potential for cumulative impacts to land use, planning, and recreation resulting from the growth in population that could result from multiple desalination plants. DEIR at 7-18. This is likely to be a highly significant effect, and deserves a full analysis in the body of the DEIR.

**CORD-28**

### Conclusion

In conclusion, given the large number of desalination facilities proposed in our region, it is critical to set a high standard for CEQA review of this and future desalination facilities that fully informs the public of foreseeable environmental impacts. The DEIR falls far short of meeting that standard.

The northern California region, like so many other areas of the state and nation, is facing a intractable problem of water pollution, land use planning, energy demand, declining coastal and marine living resources, loss of coastal and marine habitat – amongst myriad considerations implicated by the development of desalination facilities. Proper planning for desalination facilities and other alternatives for meeting the increased demand for fresh water in the region can either exacerbate these problems, or be a tool in resolving them.

**CORD-29**

The DEIR will be the basis for several considerations in the future – well beyond the jurisdiction of the City of Santa Cruz. For example, the DEIR will inform California Coastal Commission coastal development permit decisions, Santa Cruz Regional Water Quality Control Board “Clean Water Act” decisions, California Energy Commission permits, California Department of Water Resources “California Water Plan”, several Urban Water Management Plans, etc. With this in mind, certification of the DEIR demands a rigorous and thorough review.

**CORD-30**

For all the reasons stated above, the DEIR fails to meet the mandates of the California Environmental Quality Act. The inadequate approach to documenting the environmental impacts of the proposed desalination facility fails to fully inform the public of the foreseeable impacts of this project on “stand alone” basis and within the context of the foreseeable cumulative impacts of multiple desalination proposals.

**CORD-31**

We therefore request that the DEIR be re-circulated with a more thorough documentation and analysis of the issues raised above. A simple “Response to Comments” and finalization of the DEIR will be insufficient.

Once again, thank you for your consideration of these comments.

## 2.2.14 Coalition on Responsible Desalination

CORD-1 Comment noted. Responses to CORD's specific concerns are provided below.

CORD-2 Please refer to Response CCC-2 for a discussion of program vs. project-level of detail. Section 2.1 of the Draft Program EIR discusses why more detail is provided than would typically be presented in a program-level EIR. Specifically, it is to "facilitate a meaningful analysis and comparison of the alternative operational scenarios and components" (p. 2-1 of the Draft Program EIR). Even with this level of detail it would not make the subject EIR into a project-level EIR (p. 2-1). Also, the fact that the Draft Program EIR is a program document does not preclude the City Council from selecting the preferred operational alternative, and the preferred locations of the desalination plant and pipeline routes.

Once the City Council makes these selection, a project-level environmental evaluation would then be completed. Since many of the specific design details of the desalination facilities were not known at the time of the Draft Program EIR preparation and publication, the Draft Program EIR could not be evaluated at a project-level of detail. This level of design detail will be available for incorporation into the next phase of project-level EIR that will be prepared if the City Council approves the proposed Program.

With respect to the comment in the footnote, please see MR 4 for a discussion of cost, and please refer to Response SC-7 for a discussion of the feasibility of operating the plant on a periodic basis.

Please also refer to MR 3 for a discussion of alternatives.

CORD-3 The IWP as proposed provides an integrated planning perspective through the provision of demand-side management solutions (e.g., conservation and curtailment) and supply-side solutions (i.e., desalination). In addition, it is integrated in that it evaluates the future as well as the current needs.

The City has conducted numerous studies over a period of about 20 years to explore water supply alternatives (p. 8-25 of the Draft Program EIR). These studies are provided in the Integrated Water Plan, which is incorporated by reference into the Draft Program EIR in Section 2.4 (p. 2-6). The most recent effort, the Integrated Water Plan, began in 2001 and was overseen by the City's Integrated Water Plan Committee (IWPC). This process, described in Section 3.5 of the Draft Program EIR (pp. 3-7 to 3-12), involved the public in the formulation of alternative strategies. Thus, it can be seen that this Draft Program EIR is one further step in the selection of choices for the City's long-term water needs. Because the comment does not specifically address the environmental impact analysis in the Draft Program EIR, further response cannot be provided.

CORD-4 Although comments on the Water Conservation Plan are not related directly to the adequacy of the Draft Program EIR, a brief response is provided. This response also addresses the conservation portion of Comment CORD-6.

The intent of the EIR, as described in Chapter 2 of the Draft Program EIR (p. 2-1), is to serve “as a public disclosure document explaining the effects of the proposed Program on the environment, alternatives to the Program, and ways to minimize adverse effects and to increase beneficial effects.” The purpose of the Water Conservation Plan, which is incorporated by reference to the Draft Program EIR (see p. 2-6) and summarized in Section 3.4.2 (pp. 3-5 and 3-6 of the Draft Program EIR), is to provide a comprehensive evaluation of water conservation measures. Importantly, EIRs are not intended to justify projects; rather, they are required to objectively evaluate the impacts of projects as they are proposed. The City, as decision maker, will be required to weigh the project’s needs and benefits, against the project’s environmental impacts, among a multitude of issues, in deciding whether to approve the project.

Additional programs not included in the water conservation plan were analyzed as part of the IWP process. The analysis showed that the net gain to be achieved in water savings from the additional programs was very low and that the gain achieved from programs in the demand study and the conservation plan were not necessarily reliable over time. Given the magnitude of the City’s drought deficit, the identified conservation measures would not come close to making a supplemental water source unnecessary.

The City agrees and states in the Draft Program EIR that conservation not only reduces the use of existing sources, but also minimizes the need for new water sources (see Section 4.1.2 of the Draft Program EIR).

In addition to the programs included in the Water Conservation Plan, the City is committed to implementing 14 conservation best management practices that are identified in the Memorandum of Understanding Regarding Urban Water Conservation in California. The City also reviews new initiatives in the area of conservation every five years as required by state law in updating its Urban Water Management Plan.

The City has one of the lowest per-capita levels of water use statewide, and will reduce it further through long term conservation, and will reduce that level even further in times of drought through short-term conservation (through curtailment). As such, the proposed Program maximizes water conservation to the fullest.

An Irvine Ranch Water District conservation model is part of the City’s plan. Although the City has nowhere near the irrigation demands that Irvine has, it is committed to a landscape water budget-based pricing for dedicated irrigation accounts as part of the plan.



Please refer to MR 3 for a discussion of why water recycling was eliminated from further consideration.

CORD-5 Please refer to Section 2.2.1 of the Draft Program EIR (pp. 2-02 and 2-4) and Chapter 1 of this Response to Comments on the Draft Program EIR document for a discussion of the City's public involvement effort. Prior to development of the Draft Program EIR, the City held a scoping meeting for the proposed Program and provided a 30-day public comment period to receive public comments on issues and concerns. As part of the Draft Program EIR process, the City has provided a CEQA-required 45-day public comment period as well four public meetings to receive comments. Notices were published in the Santa Cruz Sentinel advertising the publication of the Draft Program EIR and public meetings.

It should be noted that if the proposed Program is approved by City Council, the City will prepare subsequent environmental documentation for each increment of desalination capacity implemented. This process would provide additional opportunities for public involvement in the implementation of the IWP, including the siting and operational components of the desalination facility. Please refer to Response CORD-3 for a discussion of desalination as the water supply component of the proposed Program and Response CORD-4 regarding the purpose of an EIR. This comment does not raise any issues associated with the analysis of impacts in the EIR and does not explain why, in the context of CEQA (see Guidelines Section 15088.5) recirculation of the Draft Program EIR is required.

CORD-6 The bulk of the Draft Program EIR is dedicated to the environmental analysis of the proposed Program. Desalination (water supply component) constitutes the majority of the document, as explained in the introduction to Chapter 5 (pp. 5-1 and 5-2). The conservation component would not result in physical changes to the environment. *CEQA Guidelines* Section 15126.2 specifies that an EIR should only focus on the significant environmental effects of a project. Conservation measures, by themselves, would not result in significant changes to the physical environment, and no comments have been provided that would suggest a different conclusion. The curtailment component, on the other hand, would involve limited physical changes (changes in visual quality because of the lack of water for watering landscapes during drought periods), but primarily consist of economic and social effects that would not result in physical changes to the environment.

The water supply component would involve physical changes to the environment associated with construction and operation of new facilities. These facilities are described based on available detail at the time of the Draft Program EIR preparation in Chapter 4, Program Description. Due to these physical changes, it is necessary to evaluate the construction- and operation-related effects associated with implementation of the water supply component.

Please refer to Response CORD-4 for a discussion of the conservation component and the focus of the discussion in the EIR, and why the EIR is not a document intended to justify any particular project.

Please refer to MR 3 for a discussion of alternatives and why reclamation was eliminated from consideration.

- CORD-7 The comment addresses the IWP, which is the proposed Program, and suggests it needs to address different issues. The comment does not address whether the EIR adequately evaluates the impacts of the IWP as proposed. Groundwater operations are not part of the proposed Program, and as such the protection of groundwater resources is not included as an objective in the proposed Program. Although the proposed Program would not change the operational scheme of groundwater pumping, the Draft Program EIR nonetheless considers the effects to groundwater resources from such activities due to public concerns. Impact 5.1-6 (Section 5.1 of the Draft Program EIR) discusses the potential for the proposed Program to affect groundwater resources, specifically the Purisima Aquifer. The potential for groundwater overdraft, well interference, stream flow and surface water depletion, ground subsidence, and seawater intrusion are analyzed under both Alternatives D-1 and D-2, and for the first and subsequent increments. As discussed, the proposed Program under Alternative D-1 has the potential to result in seawater intrusion during drought events when the groundwater wells are operated at peak capacity. Therefore, Mitigation Measures 5.1-6a, 5.1-6b, and 5.1-6c have been developed to reduce such potential effects. However, implementation of Alternative D-2 would result in the greatest potential benefit to the groundwater basin by providing a supplemental supply to each major groundwater user, which could in turn prevent the need to increase future use of the limited groundwater resources (p. 5.1-41 of the Draft Program EIR).

Regarding the issue of a regulatory mechanism between the City and SqCWD, if the City Council decides to approve the proposed Program, and specifically the operational Alternative D-2, and SqCWD selects to participate, then the City and SqCWD will formulate an Operations Agreement that would specify the use of the desalination water. This agreement would determine the objective, timing, and amount, of desalination plant operations. The intent of SqCWD's participation is largely to reduce overdraft of the groundwater aquifer.

- CORD-8 The Draft Program EIR has appropriately evaluated the range of environmental impacts. Due to the operational phasing (increments) anticipated for the proposed Program (to match growth and water demand), the Draft Program EIR has evaluated the potential environmental effects associated with the initial and subsequent increments (2.5 mgd and 4.5 mgd, respectively) of the water supply component at a program-level of detail. This format will facilitate permit acquisition from regulatory agencies, as the City would first acquire permits associated with development of a 2.5 mgd plant, and regulatory agencies would need to understand the potential

environmental effects associated with the initial phase of the proposed Program. The City would obtain permits for the 2.5 mgd facility first, as it is not known when subsequent increments will be needed and how large these increments would be (either 3.5 or 4.5 mgd).

A year-round operation at 4.5 mgd is not a realistic operational scheme, and as such, it was not evaluated in the Draft Program EIR. As described in Chapters 4 of the Draft Program EIR (see Tables 4-5 and 4-6, and text on pp.4-17 and 4-20), if supplemental water is needed by the City, then the maximum desalination water needed up to 100 percent of time under Alternative D-2 would be 2.5 mgd, which would consist of 1.25 mgd for SqCWD and up to 1.25 mgd for the City. For the relevant environmental topics (e.g., marine resources, hydrology and water quality, air quality, and energy) in which operational impacts would occur, discussions of potential effects associated with the operation at 2.5 mgd full time has been provided.

As specified in Chapter 4 of the Draft Program EIR, subsequent environmental documentation would be required for future increments of the project (pp. 2-5 and 2-6 of the Draft Program EIR). At that time, if it is determined that the physical plant footprint would change such that expansion of the desalination plant would result in additional physical changes to the environment not foreseen at this time, then such changes would be evaluated in the subsequent environmental documentation.

CORD-9 The statement that the combination of concentrate and wastewater effluent could have a significant impact on water quality if NPDES permit conditions are violated is a general statement identifying the threshold for evaluating potential water quality effects. The discussion in Impact 5.1-2 (pp. 5.1-23 to 5.1-29) analyzes the potential water quality impacts from discharge of the composite effluent and concludes (based on preliminary work completed to date) that NPDES permit conditions would be met unless there is inadequate wastewater flow to achieve the necessary dilution.

In such a case, the necessary storage volume of equalization ponds would allow for the storage of concentrate until such time that wastewater flows would be available to dilute the concentrate prior to discharge. The need for an equalization pond is identified in the Program Description (p. 4-21 of the Draft Program EIR). Mitigation 5.1-2 (p. 5.1-28) provides clarity on the recommended sizes of the basin to ensure that the composite discharge would comply with the requirements of the WWTP's existing NPDES permit (or amended permit) prior to ocean discharge.

There are several types of flows generated from the plant that could affect ocean water quality: 1) concentrate; 2) chemical waste stream; and 3) accidentally-released hazardous materials from the storage, use, and handling of chemicals. With respect to the first two types, the City must comply with NPDES permit standards of the existing or amended permit. To ensure compliance, concentrate flows would be mixed with wastewater flows prior to discharge (as described above), and the chemical waste

stream would be segregated from the concentrate flow and treated at the WWTP prior to discharge (see Response SC-8). Compliance with NPDES permit conditions for dilution and chemicals concentrations would ensure that ocean water quality would not be degraded. With respect to the accidental release of hazardous materials, please refer to Response CORD-10. The Draft Program EIR has adequately evaluated the potential effects of the proposed Program to directly degrade water quality and has reduced potential effects to less-than-significant levels through the identification of mitigation measures. A thorough program-level review has been provided of water quality effects from plant operation given the information and studies conducted to date. As additional details are known and studies are completed during the design phase, they will be incorporated into the subsequent project-level EIRs if the proposed Program is approved by City Council.

Please refer to SC-1 for a discussion of intake water quality.

CORD-10 Table 4-4 (p. 4-16 of the Draft Program EIR) identifies the chemicals that are typically used for water treatment. However, because the precise treatment processes have not been determined, the precise chemicals also have not been selected. The Draft Program EIR evaluates adverse effects that could occur associated with the storage, use, and disposal of treatment chemicals at the desalination plant (Impact 5.1-3 on p. 5.1-29 and Impact 5.11-3 on p. 5.11-9). In accordance with state and local laws, and reinforced in Mitigation Measure 5.11-3, the City must prepare and implement a Hazardous Materials and Management Plan (HMMP) for the proposed desalination plant. The HMMP provides procedures for the mitigation of a release or threatened release of chemicals to ensure protection of public health and environment. Potential effects from accidental release of chemicals would be reduced to less-than-significant levels with implementation of a HMMP. The Draft Program EIR has adequately informed the public of the potential risks involved with the handling and storage of cleaning chemicals.

CORD-11 The Marine Resources section (Section 5.2) bases the conclusion of less than significant impact both on the very low level of water that would be withdrawn (5.8 mgd for the first increment and up to 10.5 mgd for subsequent increments – see p. 5.2-19 of the Draft Program EIR), the design of the intake (screens and low-velocity intake) that would minimize effects to marine resources, and the comparison of the intake volume associated with power plants found to have significant adverse impacts on marine organisms (p. 5.2-20 of the Draft Program EIR). It should be noted that the significance criteria for CEQA differs from that for the Coastal Commission. As such, the City recognizes that the Commission may require additional studies (entrainment/impingement) to clarify the specific impacts that would occur from program implementation (please refer to CCC-21).

Impact 5.2-1 addresses potential effects of the intake process on endangered species. As noted, “the only listed species that could be vulnerable to the direct impacts of the

intake are the listed salmonids, including steelhead, Chinook salmon, and coho salmon. These species do not have pelagic eggs and larvae and thus would not be subject to entrainment. Because the intake would be designed with a very gentle through-screen velocity, salmonids would be able to escape the intake and avoid impingement. Therefore, the impacts of the proposed seawater intake to listed fish species would be considered less than significant” (p. 5.2-18 of the Draft Program EIR).

Please refer to CCC-21 regarding intake sites and the potential that construction of other sites would increase harm to marine resources.

- CORD-12 The analyses of water quality impacts from concentrate discharge and disposal of the chemical wastestream is discussed in Section 5.1 and Section 11 of the Draft Program EIR (see Response CORD-9 and CORD-10). The dilution modeling analysis is provided in Appendix C of the Draft Program EIR. The potential effects of the combined discharge on marine resources are discussed in Impact 5.2-2 (p. 5.2-21 of the Draft Program EIR). As discussed in Impact 5.2-2, the concentrate from the desalination plant would be diluted by treated wastewater effluent, and the combined effluent would be at a concentration near seawater and within the dilution requirements of the existing NPDES permit (p. 5.2-21 of the Draft Program EIR). The concentration of the combined discharge would be at the range of concentrations tolerated by marine organisms. In addition, because the combined discharge would meet NPDES permit requirements, and these requirements are set to protect the marine environment, the proposed Program would therefore also protect marine resources. Please also refer to Response CORD-11, above. The Draft Program EIR has adequately evaluated potential water quality effects on marine resources.
- CORD-13 The discussion on the Marine Life Protection Act has been added (see Chapter 3 of this Response to Comments on the Draft Program EIR document). Inclusion of new text would not change the discussions or conclusions of the analyses on marine resources.
- CORD-14 Construction of proposed Program elements at the beach would occur only in limited areas (near the junction structure). As discussed on p. 4-22 of the Draft Program EIR, “the construction area would be limited, to the extent feasible to minimize beach closures.” Because of the small amount of beach that would be affected during construction and the temporary nature of the impacts (which could last 18 to 34 months for the entire Program), seasonal restrictions for construction activities are not warranted.
- CORD-15 As described in the Program Description, “the City would modify its wastewater outfall to maximize use of the existing infrastructure to reduce additional construction, associated environmental effects, and cost” (Page 4-21 of the Draft Program EIR). Existing infrastructure includes the existing 72-inch wastewater effluent pipeline. All modifications, including the connection between the concentrate discharge pipeline and the outfall, would occur on dry land. No work on the submerged part of the existing

72-inch WWTP outfall is expected. Because no offshore construction would be required for the discharge pipeline, no impacts to marine organisms would occur.

CORD-16 Please refer to CORD-9 for a discussion of intake water quality. During preparation of the subsequent project-level EIR, the City will conduct detailed design of the intake to account for specific engineering concerns associated with the proposed location. The design will consider ocean currents and site-specific geology, to ensure that the location is appropriate for a surface water intake.

CORD-17 As discussed in Response CORD-17, the City will conduct detailed design of the intake to account for currents in the Santa Cruz Area. The design will consider ocean currents and site-specific geology, to ensure that the location is appropriate for a surface water intake.

Table 5.2-1 in Section 5.2, Marine Resources of the Draft Program EIR (p. 5.2-4) identifies the federal and state listed endangered and threatened fish species in the project area. They include Chinook salmon, Coho salmon, and steelhead. Page 5.2-7 also identifies the salmonids as the only marine fish species in the study area that are listed.

In response to the need to identify entire communities that live in the sand, the text on p. 5.2-9 has been revised (see Chapter 3 of this Response to Comments on the Draft Program EIR document). However, inclusion of the species that live in the sand would not change the analysis or conclusions of the impacts, by introducing new impacts or increasing the severity of existing impacts. Regarding the species living in the sand communities, it should be noted that grunion spawning is rare north of Morro Bay.<sup>9</sup> As such, grunions are unlikely to spawn in the project area.

CORD-18 Impact 5.2-1 of the Draft Program EIR clearly states that “organisms small enough to pass through the screens and become entrained in the desalination system include phytoplankton and zooplankton” (p. 5.2-17).

The fine mesh screen proposed for the intake would reduce entrainment impacts by excluding larger organisms. The text in the Draft Program EIR does not suggest that all entrainment impacts would be eliminated.

CORD-19 The Draft Program EIR provides general flood zone information based on FEMA maps (see discussion on pp. 5.1-8 to 5.1-12). This data, in conjunction with standard engineering standards and practices, would not be used to determine the design of the proposed facilities (e.g., pipelines). Where washout of pipeline facilities could occur (e.g., creek crossings), the proposed pipelines would be designed to resist those forces. As described under Impact 5.1-4 (pp. 5.1-30 and 5.1-31 of the Draft Program EIR), “all

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<sup>9</sup> Love, M. 1996. *Probably More than You Want to Know about the Fishes of the Pacific Coast*. Really Big Press

pipelines would either be buried below the scour depth of the drainage or elevated above the floodplain.” Mitigation Measure 5.1-4e reiterates the need to install pipelines below the scour depths of creeks to prevent wash-out (p. 5.1-32 of the Draft Program EIR). The research to determine the scour depth would be conducted as part of project-level design, upon selection of the pipeline routes. Because the proposed pipelines would be buried, it would not change the nature of the surfaces such that impermeable surfaces would increase substantially to result in potential flooding impacts. As such, the City would not be required to revise FEMA flood maps.

CORD-20 The beneficial uses of surface water bodies identified in Table 5.1-2 are based on the Central Coast Regional Water Quality Control Board Basin Plan (1994). Bethany Creek was not identified on the list. However, because unlisted water bodies have implied beneficial use designations for protection of both recreation and aquatic life, it is revised as such (see Chapter 3 of this Response to Comments on the Draft Program EIR document). The revision to the beneficial uses of the surface water bodies would not change the analysis or conclusions in the Draft Program EIR.

CORD-21 The overall construction schedule is discussed in Chapter 4 (p. 4-27). “Construction of the first phase of the desalination plant [2.5 mgd plant] and associated facilities would last approximately 18 to 34 months and is anticipated to be complete by 2008 to 2010.” The construction schedule for the individual facilities has not yet been determined, but would be determined upon selection and design of these facilities. This information will be incorporated into the subsequent project-level EIR, along with site-specific characterization of the natural resources that would be affected by the proposed facilities (if the proposed Program is approved by City Council). However, as the proposed Program is evaluated at a program-level of detail in this Draft Program EIR, and specific locations for the facilities have not been determined, it is not possible to provide specific project-level details on the habitat that would be affected (e.g., acreage of specific habitat that would be crossed.) at this time. It should be noted that the Draft Program EIR makes certain assumptions, including compliance with minimum buffer distances for wetlands, riparian areas (p. 5.4-18 of the Draft Program EIR), and the use of trenchless construction for sensitive crossings, including sensitive creeks (p. 4-25 of the Draft Program EIR). Avoidance and implementation of special techniques would reduce potential effects to sensitive habitat. Adverse effects to these habitat would be further evaluated in the follow-up project-level EIR once the exact location of proposed facilities are known.

CORD-22 Please refer to MR 2 for a discussion of growth.

CORD-23 Please refer to MR 2 for a discussion of growth.

CORD-24 Please refer to MR 3 for a history of the alternatives considered prior to the proposed Program.

CORD-25 In response to this comment, the City has undertaken additional analysis and concluded that the project will not result in any incremental effects that are cumulatively considerable.

Since the NOP was issued in November 2003, there have been some changes to the status of the regional desalination projects listed in Table 7-3 of the Draft Program EIR that were not active at the time the NOP was issued. In the interest of clarification, and to review and verify the cumulative impact assessments of these regional desalination projects, an update on the status of these projects is provided below. We have also provided additional information to clarify and support the impact assessment conclusions that were made in the Draft Program EIR. It should be noted that the analysis focuses on the cumulative effects of operating, rather than constructing, desalination plants. As discussed on p. 7-11 of the Draft Program EIR, “because the timeline for cumulative projects is not available, it is not known if construction would occur simultaneously, especially for those projects that would be located in the vicinity of the desalination plant.” For this reason, this analysis focuses on the operating effects of desalination plants, including impacts to marine resources (e.g., entrainment and impingement), water quality effects from concentrate discharge, and energy consumption.

*Desalination Projects That Were In Various Stages of Environmental Review*

**Ocean View Plaza.** The Ocean View Plaza is a private development consisting of a mix of retail spaces, restaurants, residential units, parking garages, and public plazas located on Cannery Row in the City of Monterey. It includes a 0.05 mgd desalination plant using reverse osmosis that would supply water exclusively to the Plaza’s private facilities. The plant would consist of a surface water intake and discharge in the Monterey Bay. Due to the size of the desalination facility, it is expected to result in less-than-significant impacts to marine resources and water quality. Recommendations by the project proponent to design the intake with a screening system would reduce potential impacts to marine resources. With respect to water quality effects, studies show that salinity concentrations from the discharge are expected to reach ambient levels within 10 feet of the discharge. These effects are therefore extremely localized in character, and would not compound or exacerbate any impacts of the City’s project. Energy consumption effects of the Ocean View Plaza project are expected to be less than significant due to the small size of the desalination plant. The Ocean View Plaza was approved by the City of Monterey City Council in June 2004, but has not yet been built.<sup>10</sup> The project is currently being reviewed by the California Coastal Commission as part of the coastal development permit process (Bennett, 2005).

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<sup>10</sup> The KSBW Channel.com. June 2, 2004. *Ocean View Plaza Still Facing Major Hurdles. Project Approved by Monterey City Council.* Located at: <<http://www.theksbwchannel.com/print/3375182.detail.html>>; Bennett, Todd. Planner. City of Monterey. Phone Communication on September 25, 2005.



**Sand City.** Sand City proposes the construction and operation of an approximately 300 afy brackish water desalination facility (using RO technologies) and potable water distribution system to serve customers in Sand City. Water to be treated at the desalination facility would be obtained from the shallow groundwater aquifer near Monterey Bay. Concentrate would be disposed of via horizontal wells beneath a coastal bluff. Sand City has completed environmental review of the project and obtained a coastal permit from the California Coastal Commission in May 2005. Construction of the desalination facility is anticipated be completed in 18 months. Because brackish water desalination facilities would obtain water from and discharge into existing aquifers rather than the ocean or Monterey Bay, the project would not result in any significant impacts to marine resources or ocean water quality. With respect to energy usage, brackish water desalination uses much less energy than seawater desalination facilities, so these effects would be comparatively modest. In addition, Sand City is considering the use of a pressure exchanger which could reduce energy usage by 37 percent. As discussed in Sand City's EIR, the proposed project would not result in the inefficient or unnecessary use of energy. For all of these reasons, the impacts of the San City project would not compound or exacerbate any of the effects of the City of Santa Cruz's desalination project.

**Monterey Peninsula Water Management District Carmel River Plan B; Cal-AM Coastal Water Project.** The California American Water (CAW) Company is proposing to implement the Coastal Water Project, which includes the construction and operation of a desalination plant near the Duke Energy Moss Landing Power Plant (MLPP), and related appurtenances (i.e., water transmission facilities, aquifer storage and recovery facilities, storage reservoirs, and booster pump stations).<sup>11</sup> Project facilities would generally be located in coastal Monterey County, primarily at the Moss Landing power plant. The desalination plant would use the power plant's cooling water as the source supply and concentrate would be combined with power plant discharge prior to disposal through the power plant's existing outfall.

A Preliminary Environmental Assessment (PEA) has been conducted for the project. The PEA evaluated five alternatives, including the proposed project (11,730 afy), a regional project (20,272 afy) and the No Project (RBF, 2005). Only one of the alternatives is located outside the MLPP complex and would not use MLPP facilities. The PEA found that the concentrate discharge under the proposed project and alternatives would not adversely impact marine biological resources by changing salinities and/or temperatures in comparison to existing conditions. Similarly, chemical additives and by-products from the desalination process would not affect marine resources. In addition, there would not be impingement for the alternatives that use the existing MLPP intake facilities. The PEA also indicated there would be a nominal amount of additional entrainment mortality as a result of proposed project operation.

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<sup>11</sup> RBF Consulting. July 14, 2005. *Proponent's Environmental Assessment for the Coastal Water Project (Proceeding a.04-09-019)*.

With respect to energy usage, several options are available, including direct purchase of power from the Duke Energy Moss Landing Power Plant. Because none of the options identified in the PEA would require an increase in the consumption of natural gas, none of the options would have a significant impact to natural gas supplies. Because these impacts are all either minimal or very localized, they would not compound or exacerbate any of the impacts of the City's proposed desalination project.

*Desalination Projects Not in Environmental Review*

**Cambria Community Services District.** Cambria Community Services District, located more than 100 miles south of the City of Santa Cruz in the southern tip of the Monterey Bay National Marine Sanctuary ("MBNMS"), is considering an approximately 1 mgd desalination plant.<sup>12</sup> The District is in the process of obtaining permits to conduct hydrogeological studies of the nearby beach areas to determine the feasibility of installing subterranean intake and discharge wells. Upon completion of the studies, the District would consider desalination alternatives. Environmental review would be conducted upon development of the alternatives. Due to the distance of the City's desalination facilities from that proposed by the District (approximately 100 miles, the exact distance would be determined once the exact location of the desalination facility is known), cumulative effects are not expected to overlap in the issue areas of water quality and marine resources. In addition, if the District implements intake and discharge wells, then marine resource effects from entrainment or impingement would not occur.

**Montara Sanitary District.** Montara Sanitary District is currently in the preliminary stages of defining a brackish water desalination plant located in San Mateo County.<sup>13</sup> San Mateo County is located nearly 50 miles north of the City of Santa Cruz, within the MBNMS. Due to the lack of detail regarding the capacity and design of the District's proposed desalination facilities, cumulative effects cannot be adequately characterized. As discussed above in the context of the Sand City facility, brackish water desalination facilities would obtain water from and discharge into existing aquifers rather than the ocean or Monterey Bay and use less energy than seawater desalination facilities. Therefore, this project should not be expected to result in any significant impacts to marine resources or ocean water quality or consume excessive amounts of energy. In addition, the distance between the two jurisdictions would likely ensure that localized water quality effects would not overlap.

**Summary of Conclusions.** Although a number of desalination proposals are either being contemplated or are in the works in the greater Monterey Bay region, significant cumulative effects would not result from all of these projects taken together with the City's proposed project. The various plants typically have only very localized effects, most of which are mitigated by state of the art mitigation measures that reinforce the

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<sup>12</sup> Gresens, Bob. District Engineer. Cambria Community Services District. Phone Communication on September 26, 2005.

<sup>13</sup> Irving, George. District Manager. Montara Water and Sanitary District. Email correspondence on September 26, 2005.

limited nature of those localized effects. Some of the projects, moreover, are located on sites considerably distant from the City's proposed site, and thus would not cause additive, synergistic, or cumulative effects for that reason. Because these projects, taken together, would not cause any significant cumulative effects, the incremental contribution of the City's proposal is necessarily "less than cumulatively considerable" (see CEQA Guidelines, § 15130, subd. (a)(3)).

- CORD-26 According to Appendix F of the CEQA Guidelines, an analysis of energy should have a "particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy." Thus, the inefficient, wasteful, and unnecessary consumption of energy was used appropriately as a significance criterion for evaluating energy impacts associated with the proposed Program. The Draft Program EIR explained that the proposed Program included energy recovery systems to decrease the energy demands associated with the desalination plant's operations (Draft Program EIR, p. 5.13-3).

In addition, the proposed Program's energy usage is barely perceptible when compared to the overall energy usage of the entire state (Draft Program EIR, pp. 5.13-5 to 5.13-7.) According to the California Desalination Task Force Energy Options White Paper, (September 2003, available at <http://www.owue.water.ca.gov/recycle/desal/Docs/EnergyIssues.doc>), as referenced in the Draft Program EIR p. 7-23, the proposed desalination facilities in the Desalination Issues Assessment Report would consume slightly over 1,000 gigawatts (GWh) per year, which is less than one half of one percent of California's total energy use. The White Paper also states that proposed desalination plants would place a maximum of 125 mWh on peak demand periods, which "does not significantly affect the state's system" of a peak demand of roughly 52,000 mWh.

The scope of the energy analysis in Section 7.12 is evaluated at a state level because of several factors: 1) Local generation was not evaluated as there are no power plants within the City of Santa Cruz; and 2) PG&E distributes power generated by its own power plants in the region and from power purchased from other power generators throughout California. As such, the cumulative analysis for energy consumption is appropriately assessed at the state level.

- CORD-27 Entrainment and impingement effects of the proposed Program are evaluated in Section 5.2 of the Draft Program EIR. The evaluation of potential effects was not negated because existing infrastructure would be used. Please refer to CORD-11 for a discussion of these effects.

Chapter 7 (pp. 7-16 to 7-17) analyzes cumulative impingement/entrainment effects from simultaneous operation of the proposed desalination plant with existing desalination facilities, including the Moss Landing Power Plant (which withdraws 360 mgd of water), the Marine Coast Water District desalination facility, and the

Monterey Bay Aquarium desalination facility. The incremental contribution of the proposed Program to marine resource effects from entrainment would be small. As such, the proposed Program would not elevate the cumulative impacts of impingement and entrainment to significant. Please also refer to CORD-25.

The recently promulgated regulations referenced by the commenter are the 316(b) requirements. In September, 2004, new regulations went into effect under 316(b) of the Clean Water Act to reduce impingement and entrainment by existing power plants. The new 316(b) regulations for power plant intakes require that impingement be reduced by 80-95 percent and entrainment be reduced by 60-90 percent relative to a baseline with no controls to reduce impingement and entrainment. At the present time it is unclear how these standards are going to be enforced and whether the Moss Landing Power Plant would be required to implement additional measures to meet these standards. If Moss Landing modifies its intake design to reduce impingement and/or entrainment, changes its cooling water operations to reduce impingement and entrainment or performs additional restoration to offset impacts, then cumulative impingement and entrainment impacts in the project area would be reduced beyond the existing effects. The proposed intake design for the Santa Cruz desalination facility incorporates measures (fine mesh screen and low intake velocity) identified by EPA in the new 316(b) regulation as measures to reduce impingement and entrainment.

- CORD-28 Please refer to Response AS1-37 for a discussion of cumulative growth effects.
- CORD-29 Comment noted. The Draft Program EIR provides a robust, program-level review of the impacts of proposed Program implementation, based on the details available to date. It identifies a menu of desalination plant locations, pipeline routes, and alternatives to the project in compliance with CEQA guidelines. As the site-specific locations of the proposed facilities have not been selected, it is not possible to conduct a more-detailed analysis. Subsequent project-level EIRs would be conducted for each increment of the desalination facility, to determine the precise effects that could occur to the terrestrial and aquatic environments. Subsequent project-level environmental review provides additional opportunities to refine the desalination component to reduce adverse effects.
- CORD-30 Comment noted. The implementation of the proposed IWP is not a foregone conclusion. In addition to requiring City Council certification of the Draft Program EIR and approval of the proposed Program, subsequent project-level EIRs would also be necessary. These environmental documents would require City Council certification and approval prior to implementation, as well as additional opportunity for public involvement. As such, the City has created a rigorous and transparent planning process that considers and addresses all public concerns and provides for additional project-level environmental review as site-specific design is developed for proposed Program components. In addition to its extensive planning efforts, the City must acquire relevant permits from regulatory agencies (e.g., California Coastal Commission, Central Coast Regional Water Quality Control Board, Department of Health Services, etc.) prior to

proceeding with any construction activities. Other desalination projects in the Monterey region as well as throughout California would similarly involve public involvement, require project approval by the decision-making bodies proposing the project, and require numerous permits from regulatory agencies with jurisdiction over the project. Regulatory agencies typically review each project on a case-by-case basis (because all desalination projects consist of different facilities), and do not provide blanket approvals of all related projects.

- CORD-31 The Draft Program EIR has been prepared in compliance with CEQA. As a program-level environmental document, it adequately reviews all potential environmental issues and identified mitigation measures for potential adverse effects (see responses above). As discussed, subsequent project-level analysis is required for the implementation of each increment of the proposed Program upon design of the water supply components and based on future need for expansion. A recirculated EIR would not be required.

**Letter AS3**

**From:** "Linette A Almond" <LAlmond@ci.santa-cruz.ca.us>  
**To:** "Marcia Tobin" <TobinM@edaw.com>  
**Date:** 8/1/2005 3:22:30 PM  
**Subject:** FW: IWP AND SOQUEL DRIVE PROJECT

-----Original Message-----

**From:** Bill Kocher  
**Sent:** Tuesday, July 26, 2005 8:43 AM  
**To:** Linette A Almond  
**Subject:** FW: IWP AND SOQUEL DRIVE PROJECT

FYI

Bill Kocher  
Director, Santa Cruz Water Department

-----Original Message-----

**From:** Andy Schiffrin [mailto:BDS030@co.santa-cruz.ca.us]  
**Sent:** Friday, July 22, 2005 10:24 AM  
**To:** Bill Kocher  
**Subject:** IWP AND SOQUEL DRIVE PROJECT

Hi Bill -

This is probably another nutty idea but it occurred to me that, since the County will be digging up much of Soquel to repair the street and the water pipes will need to be replaced, would there be any way to increase the size of the pipes so they could transport water to the Soquel Creek district? I know it is premature to proposed or design enlarged pipes now but it might be possible to get the County to delay the project a year if there was a chance the negotiations with the District would be far enough along to justify the work. I realize there would need to be environmental review but, if the IWP EIR has been certified, might it be possible to conducted limited environmental review with the understanding that it would be enhanced later.

AS3-1

I'm assuming that the cost of expanding the pipe is far less than digging up the street to lay new pipe.

While I recognize that this proposal is off the wall, it just struck me that it should at least be considered.

What do you think?

Andy

P.S. The Association of Environmental Professionals is sponsoring a tour of the Marina desal facility tomorrow and I'm intending to go.

### 2.2.15 Andrew Schiffrin

- AS3-1      The option of enlarging existing pipes within the City's service area for the transmission of desalinated water to SqCWD was not evaluated as part of the proposed Program. The feasibility of this option is not known, and many factors may preclude this possibility, including the timing of the two projects, detailed modeling of both water systems, and design of the transmission pipe. However, this option could be considered in subsequent project-level EIRs if the proposed Program is to be moved forward and Alternative D-2 is approved both by the City Council and SqCWD's Board of Directors.

**From:** "Linette A Almond" <LAlmond@ci.santa-cruz.ca.us>  
**To:** "Marcia Tobin" <TobinM@edaw.com>  
**Date:** 8/1/2005 3:26:15 PM  
**Subject:** FW: IWP EIR energy desalination

-----Original Message-----

From: Jim Warner [mailto:warner@ucsc.edu]  
Sent: Tuesday, June 28, 2005 9:31 AM  
To: Linette A Almond  
Cc: warner@ucsc.edu; fzwart@ucsc.edu  
Subject: IWP EIR energy desalination

This comment is about section 7.4.12, Energy. I note that at last week's study session, energy requirements for desalination were one of the confusing and unanswered questions.

Perhaps the reason for the confusion is embedded in this section. It is gibberish. Power and energy are confused. Units are incorrect.

In particular, the facility is said to "consume 1,000 gigawatts per year". Those units make no more sense than, e.g.

50 miles per hour per day

I don't think this is a harmless error. I think that the draft EIR has substantially failed to consider the energy implications of desalination. That does not mean that I disagree with the conclusion that of the significance of energy. Only that you haven't considered it. We simply don't know and cannot find out from that analysis.

While the treatment of energy is defective, the impacts section of the EIR does not discuss power at all. PG&E does not have a substation in west santa cruz. The closest substation to the north is at the cement plant in Davenport. With the University's planned growth, power consumption will already strain the existing transmission lines from behind Dominican Hospital. Chapter 7 needs a section that deals explicitly with power (as distinct from energy) and discusses the potential impact of new transmission to accomodate the new consumption.

JW-1

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These comments are my own. I don't represent my employer.

-jim warner  
santa cruz



### 2.2.16 Jim Warner

JW-1 For energy impacts of the proposed Program, please refer to Section 5.13 of the Draft Program EIR. Section 7.4.12 is a discussion of the cumulative impacts of the proposed Program and other desalination plants proposed throughout the State, as analyzed by the California Desalination Task Force. The cumulative impact assessment is based partially on the Energy Options White Paper, prepared by the California Desalination Task Force, September 2003. This paper addressed the energy consumption from the operation of several desalination facilities throughout California with a combined production capacity of 212.5 million gallons per day at 13.2 kilowatt-hours per thousand gallons of seawater. The paper identified a cumulative consumption of 1,000 gigawatts-hours annually.

The units of measure used in the analysis are the correct units for the assessment of electrical consumption and are based on the power consumption, e.g., 1,000 gigawatts, over the time used (e.g., one hour). For example, if a device consumes 1000 gigawatts each hour it operates, then the unit of measure is 1,000 gigawatt-hours. If the same device is operated for 10 hours then the process consumes 10,000 gigawatts. A 60 watt light bulb is a 60 watt-hour device, and if left on for 24 hours consumes 1,440 watts, or 1.44 kilowatts. Power plant generation is typically described in terms of megawatts or gigawatts.

Energy is a concept rated as the most fundamental of all physical concepts and usually regarded as the equivalent of or the capacity for doing work. Energy may also be described as usable power. The machinery used in the desalination process is powered by electricity. Electricity is generated by the energy captured from heating water to produce steam, or flowing water, or light generated by fission from the Sun interacting with photovoltaic systems, etc. The proposed Program proposes a reverse osmosis process to desalt the water. Reverse osmosis involves forcing water at high pressure through a porous membrane. The process of pumping the water at high pressure requires electricity to maintain the pressure and the flow of water through the membrane, and thus the focus is on electricity as the energy source.

Please refer to Response SC-6 for a discussion of energy-related transmission facility needs.

## 2.3 COMMENTS FROM MEETINGS AND RESPONSES

**SCWD IWP DEIR Public Meeting (Thursday, June 30, 2005, 7:00 p.m.)**

COMMENTER

**Conner Everetts:** I'm actually in town, well in the area for the larger proposals of the desal plants. This kind of hit my radar screen. I appreciate the low per capital numbers and the long term conservation. As the former convener for the California Water Conservation counsel, I just wondered why it took you so long to sign on, but you were doing the work long before that. What I would like to say from having done this work for a long time is, we've gone through the worst drought in record four years ago in Los Angeles, three driest winters after that. This last winter, we ended up with second wettest since 1883. We see these huge variations and we're seeing them more. I would say if it's been about 28 years since the last drought and you're going to this planning. What we have found statewide since 1980 is water consumption continues to drop with increase population because of increase efficiencies, so your water conservation study done in 1997 and your effort that you're doing. Meanwhile we see water conservation technologies constantly improving. We've got them to 7 gallons to 5 gallons to 3.5 to 1.6 to dual flush to waterless urinals and we're just really beginning to hit. We're just talking residential, but really doing the commercial/industrial at the same level. So I would actually encourage you to kind of hold the course of what you've been doing so well and this is a small incremental desal plant, but the fact you have an open ocean intake is a concern. The incremental concern of having desal plants, I think, we're up to 11, proposed all along Monterey Sanctuary, and seven in the Monterey Bay is a concern in terms of environmental impacts. We don't know what those are in the long term. Those are my comments thank you very much.

PM-1

COMMENTER

**Steve Baron:** I want to ask a question related to costs of the water from the desalinization plant. From looking through, I think the alternative water study, it appears that the cost would be about \$5,000 per million gallons. From looking at the cost of the water produced by the plant would be about \$5,000 per million gallons. That assumes that the plant would be used all year round, in other words, that's the D2 alternative, but the capital cost increment would go the many times that if the plant were only used by the City, since you get the very high levels of water cost like \$15,000, \$18,000 per million gallons, if you actually just used the plant for the City. My point is that the cost of water from the plant used year round is fairly high, and from the plant used only one-sixth of the time, the cost would be very, very high per million gallons. So with that basis, I want to ask two questions:

PM-2

One of them is, is the City really committed to spending this level of money on the plant? If it's only used one-sixth of the time, strictly by the City. And the second question is, is there really a indication that the Soquel Creek Water District will pay the costs of say \$5,000 per million gallons to keep the plant running all year round? So that's sort of the question of – Is the cost really anticipated to be committed to by the two jurisdictions? And the other question is, has, have a conservation measures been considered that would reimburse a user at that level of water cost, which is much higher than the current cost of water. In other words, has conservation really been given a chance if water is valued at these very high levels. That's my question.

COMMENTER

**Mike McClennan:** My question is, given the severity of the last drought, and given that our City require, depends upon tourism as the largest industry to support the community, forgetting for a moment the South County which is ag oriented and they're dealing with their water problem on their own. What is an estimate of the, and also given the fact that not only this City, but many cities throughout California and/or the U.S. are broke. What is the current thinking on what the disaster financially would be if we had another drought of the same magnitude, say that we had in our last go around. The double edge portion of this is that some years ago, three or four years ago when ever it was, there was a call by the water department to businesses in the community to gather around and basically chat about what the consequences would be and correct me if I'm wrong, there were like two or three businesses out of all the City of Santa Cruz that showed up. I'm personally believe that we're headed for the last round up and we're only one drought away from not only disaster in our own lives, but economic disaster for the City.

PM-3

COMMENT

**Mike McClennen:** The point that I was trying to make in addition to the question was the fact that given that we're so broke, that we need the businesses to continue at least to this level or a smaller proportion of down if it could be or can they either upgrade at all. I mean is there a certain point they basically need to close because it wouldn't work at all.

COMMENT

**Mike McClennen:** My concern is that it isn't just an inconvenience and it isn't just [REDACTED],<sup>1</sup> the fact is the City, or I should say the businesses of the City, could not continue which would be, if you took the overall compounding effect, would be just a huge, huge disaster.

COMMENTER

**Jean Brockelbank:** I have one real quick question that you could just may be answer. On the picture of the water lines alternatives, these are water lines that are currently existing. They're not? So they would have to be. Was the environmental impact analysis then in terms of impacts, did that also include the impacts of building the water line, for instance, from the west side through the harbor and live oak area? Did that include, that was part of the disruption for families and homes, that was included, and I'll find that in the EIR?

PM-4

COMMENTER

**Jean Brockelbank:** I believe it was in '92. I was part of the Drought Appeals Board in 1990. I was a member of the Drought Appeals Board and it was amazing. It wasn't as bad as it sounds in terms of we were rationed water in 1990. It wasn't that bad and then the folks who didn't curtail their use wasted water and probably continued to waste water today a lot. In fact my neighbors will stand at their kitchen sink with the water running, rinsing off a head of lettuce while they talk to me and I'm going like that at the water. There is a lot of water residentially that is wasted that has nothing to do with health and safety. Health and safety does not say that teenagers or five members of a family should be able to have a morning and afternoon shower. That has nothing to do with health and safety. So I'm still maintain that we can save a lot more and if we priced water

PM-5

<sup>1</sup> The brackets denote that words could not be transcribed from the video because the transcriber could not understand the speaker.

for a base line for real needs, real health and safety and then make it cost an arm and a leg for wasting it beyond that we could probably produce water.

↑ PM-5  
(con't)

In that light, I'd like to add why we didn't have an alternative for just conservation curtail and increasing the rate of water. We, I don't see that alternative. It was do nothing or was do some conservation and some curtailment and build the desal plant. But we do not have an alternative that says only conservation, curtailment, and let's get some rates so that people know what it costs to use the water. You had a side on potential loss of existing supplies. Will we find in the EIR, was there a range of potential loss, a little bit of loss, up to so much? Was that quantified? It wasn't quantified what we might lose on the north coast streams? None of that's quantified? We don't know it. I think I just have one more thank you.

PM-6

Here's an interest thought. If water uses is curtailed in a drought situation and we use the water from the waste treatment plant to dilute the brine from the desal plant; if we're using less water because there is less water to use through the treatment plant, doesn't that reduce the amount of dilution that we can expect?

PM-7

COMMENTER

**Jean Brockelbank:** How about the alternative for just conservation to determine raising rates. Why we didn't look at that.

PM-8

COMMENTER

**Jean Brockelbank:** And raising rates?

COMMENTER

**Jean Brockelbank:** I didn't mean rate for service that is high. What I'm talking about is the rate for my <sup>1</sup> water. It still is pretty cheap.

PM-9

COMMENTER

**Jean Brockelbank:** That's a lot of gallons. No, no that's ten cents a gallon. That's still cheap, 700 gallons.

COMMENTER

**Michael Lewis:** I want everyone to understand the irony of this (bottle). This is expensive, privatize water bottled in oil, bottled by oil, shipped by oil, hopefully recycled by oil. There is your most expensive water in the world right there. It's kind of ironic we're consuming that right here in the meeting on water. First of all the assumption this project is based on is the assumption of continuous growth and continuous water growth, water consumption growth. Correct?

PM-10

COMMENTER

**Michael Lewis:** No. The assumption is continued growth in the City of Santa Cruz and resulting in increase water consumption. Is that that correct?

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<sup>1</sup> The brackets denote that words could not be transcribed from the video because the transcriber could not understand the speaker.

COMMENTER

**Michael Lewis:** So the answer to that is yes?

COMMENTER

**Michael Lewis:** My second question was increase in water consumption. You said in there early on in the presentation, that this in the future would be consuming more water than we do now.

COMMENTER

**Michael Lewis:** No, no, no. Not per capita. The increase consumption, total consumption of water.

COMMENTER

**Michael Lewis:** That's yes, okay. You heard Mr. Connor Everett say that that's not true that we are decreasing our water consumption. We have a clear record in the State of California that decreasing the water consumption in the past 20 years and this study by Pacific Institute indicates that by the year 2030 will be using less water than we use now. So therefore that assumption is incorrect and I hope that this is part of the study that goes in this EIR.

COMMENTER

**Michael Lewis:** I'm not comparing them to it. This report says that we are using less water in total now than we did 20 years ago. We will use less water in 20 years than we use not per capita, in total that our water consumption is declining in California. And it will continue to climb because of the advantages of technology. Now, it's now my study so there's the study and I hope that this is incorporated into this EIR because this is a major conclusion of a major organization and it is accepted by the state.

The other thing is the model of growth based on the assumption which is you'll receive from someone else that there is continued growth. Have you heard of peak oil? How many people have heard of peak oil? Thank you. You haven't heard of peak oil? Please go home and google peak oil. What is the price of oil right now, today per barrel? What will the price be next year? What will the price of oil be the year after that? It's not going to go down. That's the clue. We are in the period right now where development, discovering development of oil resources is declining. We have less and less oil available every year. Peak oil means the point at which we no longer, we don't discover oil any faster than we're using it. And right now we're passing the point where our demand in increases our supply. That means from here on out we have less energy available to us to do everything that we do—ship bottled water from where ever it comes from to here than we do right now. This is going to affect everything in our economy. This is going to slow growth. This is going to slow our economy here in Santa Cruz and it's going to slow our availability to be able to fund and operate and manage huge projects like this. So please find out about peak oil and how it affects it. This is not some wild hair brain theory. It's in the real news now. It's in mainstream news. You can find it, I think probably even on NBC. So, we cannot go under the assumption that everything is going to be in the future the way it's been in the past.

PM-10  
(con't)

PM-11

PM-12

COMMENTER

**Marty:** Will the capacity of the outfall be a limitation to the how much discharge it'll have if you're combined concentrate and fluid.

[**From the audience:** repeat question]

COMMENTER

**Marty:** So the existing outfall is capable of handling the present capacity as well as the addition concentrate.

COMMENTER

**Marty:** So the pipes big enough. If you begin and operating this pilot plant do you can you speak to sort of protocols shall we say then as far as studying the impact of marine organisms?

COMMENTER

**Marty:** Yes, obviously you going to use seawater. You're going to uptake seawater to do the pilot plant.

COMMENTER

**Marty:** There were certain uncertainties that you referred to such as perfecting water rights and the HCP North Coast diversions. How will the outcomes of those uncertainties whenever they're decided be incorporated into this IWP process, which starts saying it's integrated? If things go badly, shall we say, then what happens?

COMMENTER

**Will Roland:** So my question was also about the pilot project. I get more details just from this gentlemen's question, but how does that part fit in at is a technical study or is a pilot project towards actually introducing a desal plant, which is already got in the board? What is the level of strategy there?

COMMENTER

**Will Roland:** Different ways of producing fresh water?

COMMENTER

**Will Roland:** And that's already funded.

COMMENTER

**Fred Simone:** My name is Fred Simone and I'm in the desal nation business. I just wanted to commend the water department first because even though I'm in the desalination business I think that we need to first conserve water. I absolutely agree with you there. I think that the system you've installed here is one, thanks to Toby, is one that the country would do well to emulate. I also what to commend you for trying to plan ahead and using the worst case scenario which is an extended drought. In that case, the only option you have to get water, I think is, through

PM-13

PM-14

PM-15

PM-16

desalinization. Whether you like desalinization or not, I think that's the only solution in an event of drought which we're certainly going to have. I mean all you have to do is look at history.

I want to answer your question. You're talking about cost of water and you used a measurement that I'm not accustomed to. In the desalinization business, we use acre-feet, that's one acre filled to a depth of 1-foot and that's enough water for about two families per year. Through technologies now we've come up with, water now cost probably \$600 an acre foot to produce through desalinization. To give you an idea about what it was a while ago, 10 or 15 years ago it cost around \$2,000 an acre foot. I don't know what it cost of water is here to pull it out of ground, but I was just reading about what it cost the Los Angeles Metropolitan Water District and in order for them to buy water and bring it in, a lot of it from up here, it cost them about \$500 an acre foot. So there's not much difference between desalinization and bringing water in.

Now to get to my question, when do you think you're going to build this pilot plant and start doing testing?

COMMENTER

**Jean Brockelbank:** Just a little two quick ones that's a million and a half shortfall from the grant. Are rates going to be raised?

COMMENTER

**Jean Brockelbank:** What's included?

COMMENTER

**Jean Brockelbank:** It's already in there. That's good because I was going to ask if a resident wanted to show you that they were willing to curtail rather than be charged for the desal plant that there ought to be a way that we can do that. My husband and I, together the two of us, and I might say that we have three fruit trees and a small vegetable garden. Consumed the two of us between 50 and 80 tops gallons per day. We lead a very clean healthful and safe life and we grow food, so that's considered landscaping. My goal is if you're going to water it eat it otherwise everything else is drought tolerate. If we can in the winter time live on 50 gallons a day for the two of us, and in the summer time jump up to 80 gallons per day and grow food for our consumption here in the City, I say again there's not enough residential conservation going on. And I'll tell you something else, I live through rationing and it didn't hurt, it didn't hurt for us to ration, so I don't know why we have to bend over backwards to keep from rationing water in those drought years rather than do desal. I think people would probably they could get behind it may be.

**Question from audience:** Where are copies of the EIR available?

PM-16  
(con't)

PM-17

PM-18



### 2.3.1 SCWD IWP DEIR Public Meeting (June 30, 2005)

PM-1 Comment noted. The Draft Program EIR evaluates the potential effects associated with an open water intake. To reduce the impacts of impingement and entrainment, the proposed Program has included a fine mesh screen to exclude larger planktonic organisms from passing through the intake and a gentle approach velocity to allow most organisms to avoid being impinged on the screen. Chapter 7 evaluates the cumulative effects of the proposed Program.

PM-2 Please refer to MR 4 for a discussion of costs. Cost is just one of the factors that the City Council will consider in determining whether or not to approve the proposed Program. Other factors include consideration of the environmental effects on the terrestrial and aquatic environment and benefits from the proposed Program. Even if the City Council approves the Program, and specifically the cooperative operational alternative (Alternative D-2) with SqCWD, SqCWD will have to go through its independent process to determine whether or not it will participate in the cooperative alternative. That process will also consist of weighing the pros and cons of participation under Alternative D-2 as well as identifying and mitigating potential adverse effects. In the event that the proposed Program is approved by City Council and SqCWD independently selects to participate in the cooperative alternative, then the two agencies will collaborate on development of an agreement that fairly distributes the capital and operating costs based on the usage of the plant.

The conservation component is described in Section 4.1.2 in Chapter 4 of the Draft Program EIR (pp. 4-1 to 4-5). The Water Conservation Plan, the basis of the residential and non-residential measures identified in the proposed Program is incorporated by reference in Section 2.4 of the Draft Program EIR and described in Section 3.4.2, Water Conservation Plan. As summarized, “the focus of the City’s water conservation plan is on measures that reduce average daily water consumption on a long-term basis.” A rigorous process was conducted to determine the most effective measures in terms of conservation savings, program cost, implementation feasibility, public acceptability, and shortage management impacts. It should be noted that the City’s Water Conservation section has the following mission, which is identified in the City’s 2000 *Urban Water Management Plan* (2001): “...to develop and implement programs that reduce customer demand for water and increase water use efficiency to obtain the greatest public benefit from available water supplies. Water conservation is an essential component of the City’s long-term water management strategy, which seeks to make optimum use of existing water resources and *minimize* the need for additional water development” (p. 6-1) (emphasis added). As such, the City has attempted to balance its water portfolio to maximize conservation savings concurrent with demand-side management (curtailment during droughts) and provision of water supply.

Please also refer to Responses CORD-4 and CORD-6.

PM-3 Although the comment is not on the adequacy of the Draft Program EIR, a brief response is provided. Please refer to MR 4 for a discussion of socioeconomic costs. The Curtailment Study addresses the socioeconomic effects associated with water rationing during droughts. This study, which is incorporated by reference in the Draft Program EIR, is summarized in Section 3.4.3 of the Draft Program EIR (page 3-6 and 3-7). The study examined six hypothetical drought scenarios and assessed how the impacts would differ among customer groups. The findings show how the potential impacts and degree of hardship grow as the level of shortage increases. Interviews, focus groups, and surveys were employed to research the likely actions each group of customers would take if required to curtail their water use by a specified amount and to determine the effects of those actions on their lifestyle or business operations. The decision to include curtailment in the IWP is an acknowledgement by the City that some level of planned curtailment is acceptable to minimize the expense and environmental impact of development of a new source of water supply. In addition, the recommendation of a 15% curtailment was based on the City's desire to shield business (and indirectly, the City) from the economic effects of a drought. It should be noted that "the IWP recommended that the City's water plan limit any future shortage to no more than 25 percent in order to protect customers from undue hardships associated with severe water shortages" (p. 3-9 of the Draft Program EIR). A recommended 15% curtailment would further protect customers from undue economic hardships during droughts.

PM-4 Chapter 5 of the Draft Program EIR evaluates the adverse effects of constructing the proposed D-2 pipelines. The analysis is broken down by issues areas.

PM-5 The City agrees with the commenter that conservation-oriented pricing can reduce unnecessary or indiscriminate use of water. The City recently adopted a new residential rate structure designed to further encourage water conservation and discourage water waste. The new rate structure has five tiers or blocks in which the price per unit of water increases as the quantity used increases. The five tiers are categorized as follows:

1. Lifeline quantity for essential needs.
2. Average residential indoor water needs.
3. Average residential outdoor water needs.
4. High use.
5. Inefficient or excessive use.

A key objective of the City's new rate structure is to manage peak summer season water demand in order to reduce volume withdrawn from Loch Lomond reservoir, maximize the amount of water held in storage, and minimize the amount of additional supply needed to be developed. The rates accomplish this objective by providing a seasonal price signal to increase customer awareness of the volume they use outdoors and by providing

an incentive to adopt a more conservative approach in their use of water during the summer season.

- PM-6 The No Program Alternative, discussed in Chapter 8 of the Draft Program EIR, offers an alternative similar to that suggested by the commenter. Under the No Program Alternative, no new water supply would be developed at this time. Conservation measures would continue, and curtailment would be mandated during drought based on the existing drought emergency ordinance (the drought emergency ordinance is based on a four-stage approach, from voluntary to mandatory) and could be greater than 30 percent (as high as 50 percent). As discussed in Response PM-5, the water conservation practice incorporates a 5-tier increasing block structure for the City's single-family residential customers and budget-based block pricing structure for large landscape customers.
- PM-7 As discussed in Impact 5.1-2 (p. 5.1-23 of the Draft Program EIR), the discussion of concentrate discharge, dilution, and storage is based on an analysis performed by Brown and Caldwell; this analysis is included as Appendix C of the Draft Program EIR. As described on page 10 of the analysis, dilution modeling was based on summer/fall conditions in the receiving waters as critical low-flow conditions occur in the summer and/or fall. Similarly, the analysis of concentrate storage was based on a conservative, future worse-case effluent flow scenario (based on the minimum effluent flow rates observed during the most recent severe drought in 1989 and 1990) (p. 5.1-25 of the Draft Program EIR).
- PM-8 Please refer to Responses PM-5 and PM-6, above.
- PM-9 Please refer to Response PM-5 above.
- PM-10 Comment noted. The proposed Program was not developed to address only approved, future growth. The objectives of the proposed Program is to first and foremost reduce near-term drought shortages and secondarily, to provide a reliable supply that meets long-term needs while ensuring protection of public health and safety. The second objective would provide water to accommodate growth approved within the City of Santa Cruz's service area, at a projected growth rate that is deemed reasonable to occur by the regional and local agencies (e.g., AMBAG, Santa Cruz County, City of Santa Cruz, etc.). If growth is projected to increase by regional and local agencies for the long-term, than the City is required to meet the corresponding water demand increases within its service area. Because long-term growth (beyond 2005) has not yet been determined, the proposed Program cannot evaluate that growth at this time, and further environmental review would be required. The proposed Program has been designed such that subsequent environmental review for each subsequent increment would be prepared as the need arises.
- PM-11 Commented noted. Please refer to MR 2 for a discussion of growth.

- PM-12 Comment noted.
- PM-13 The size (capacity) of the existing outfall is not the limiting factor for the combined effluent-concentrate discharge. Rather, it is the availability of the effluent and RWQCB requirements that limit the disposal of combined discharge (the treated effluent leaving the WWTP has a diurnal flow pattern and is higher and lower during certain parts of the day. The RWQCB also requires the discharge to meet a minimum dilution factor). Based on modeling, the existing outfall would be able to handle the combined effluent-concentrate discharge.
- PM-14 Though the comment is not related to the adequacy of the Draft Program EIR, a brief response is provided. The purpose of the pilot plant is to determine the proper treatment technologies for desalination. The pilot plant would obtain seawater from the Santa Cruz Long Marine Lab (LML); concentrate would be discharged back into the LML system prior to discharge. As such, existing facilities of the LML would be used and no new construction of the intake or outfall would be required.
- PM-15 Please refer to MR 1 regarding the City's existing supplies and their relationship to the proposed Program.
- PM-16 Though the comment is not related to the adequacy of the Draft Program, a brief response is provided. If the proposed Draft Program EIR is certified and the program is approved, then the next step would be to conduct 12 months of pilot testing. Please refer to Response PM-14 above for the purpose of the pilot study. Partial funding (\$2 million) of the pilot study has been awarded through a grant from the California Department of Water Resources. The pilot plant would cost about \$3.5 million, so a good portion of the plant will be covered. The short-fall is covered by the existing rates and would not require rate increases. Further project-level review of the desalination plant would be conducted once the results of the pilot study are determined.
- If the Draft Program EIR on the IWP is certified by City Council, the pilot plant could be up and running within four months of that time.
- PM-17 Comment noted.
- PM-18 Hard copies of the Draft Program EIR are available for viewing at the Water Department Engineering counter, at the Planning Department counter, and at the central branch of the library. CDs of the entire Draft Program EIR are also available upon request from the Water Department. The document is also available for viewing and downloading on the City's website. The document can also be purchased for \$70 (to cover the costs of printing).



**Water Commission Minutes  
7:00 p.m. – Monday, July 11, 2005  
City Council Chambers  
809 Center Street**

**Minutes of a Water Commission meeting.**

**Call to Order** Vice Chair B. Fouse called the meeting to order at 7:15 p.m.

**Roll Call**

**Present:** B. Cox; B. Fouse, Vice-chair; C. Keutmann and B. Malone.

**Absent:** L. Bennett, absent with notice and A. Schiffrin, absent with notice.

**Staff:** L. Almond, Deputy Water Director; Toby Goddard, Water Conservation Manager; Piret Harmon, Principal Administrative Analyst; Bill Kocher, Water Director and Donna Paul, Administrative Assistant.

**Consultants:** Brian Jordan, Black & Veatch; Curtis Hopkins, Hopkins Ground Water and Marcia Tobin and Suet Chow, EDAW, Inc.

**Presentation**

**Don Stevens** representing the Coalition for Limiting University Expansion (CLUE) stated that after a brief review of the Integrated Water Plan EIR he would like to offer the following comments:

- The City has not adopted a General Plan.
- Case law, specifically the Amador vs. Eldorado County Water Agency with a ruling that states that a new water plan cannot be adopted until a General Plan is in place.
- It would be inappropriate to adopt this water plan before the general plan is adopted.
- If UCSC is, as it has been in the last 10 years, responsible for most of the growth in the City, and its new growth plan will account for most of the rest of the future growth, a detailed analysis needs to be included in the Integrated Water Plan that probably has not been done.
- UCSC is currently in litigation against the City for costs of Capital Improvement Projects for the entire water system. UCSC is the largest water user and is not paying its fair share, the burden of paying for the system will be on the rest of the taxpayers.

WCM-1

WCM-2

**Statements of Disqualification** There were no statements of disqualifications.

**Oral Communications** There were no oral communications.

**Announcements** There were no announcements.

**Approval of Minutes**

**Commissioner C. Keutmann moved to approve the minutes of the May 2, 2005 Water Commission meeting as submitted. Commissioner B. Malone seconded.**

**VOICE VOTE MOTION CARRIED**

**AYES: B. Cox, B. Fouse, C. Keutmann and B. Malone.**

**NOES: None.**

**ABSENT: L. Bennett and A. Schiffrin.**

**Consent Agenda**

**Commissioner C. Keutmann moved to approve the consent agenda as submitted. Commissioner B. Malone seconded.**

**VOICE VOTE MOTION CARRIED**

**AYES: B. Cox, B. Fouse, C. Keutmann and B. Malone.**

**NOES: None.**

**ABSENT: L. Bennett and A. Schiffrin.**

**General Business**

**1. FY 2005 Capital Improvement Program Expenditure Report**

Principal Analyst Piret Harmon presented a summary of the FY 2005 expenditures.

**Commissioner B. Malone moved to accept the FY 2005 Capital Improvement Program Expenditure Report as presented. Commissioner C. Keutmann seconded.**

**VOICE VOTE MOTION CARRIED**

**AYES: B. Cox, B. Fouse, C. Keutmann and B. Malone.**

**NOES: None.**

**ABSENT: L. Bennett and A. Schiffrin.**

**2. Integrated Water Plan Draft Environmental Impact Report**

Deputy Director/Engineering Manager L. Almond and Marcia Tobin, EDAW, Inc. presented a summary of the IWP Draft pEIR.

**Public Comment:**

John Ayrd a resident of Santa Cruz stated that he is disturbed that the presentation suggested that the University's planned growth which if approved and implemented would increase the entire population of the community by 10,000 or 20%. Suggesting that this is non-significant on water consumption is incredible. Somewhere it has an impact on water availability, whether it is in drought years or normal years. Given this magnitude of

WCM-3

potential growth, this Water Commission should detail what the impact would be in a specific way. WCM-3  
(con't)

Will Roblin stated that the question in front of the commission is whether or not it will use water resources as a way to control growth. The University in its imperious nature will expand. The question is whether the City will accommodate this growth or turn off the valve? This plan can only accommodate what is inevitable.

Don Stevens stated that Mr. Roblin was referring to the growth inducement effect of the IWP. He further stated that a desalination plant seems a logical plan. The draft EIR needs to include an analysis of the growth inducement effect of the University's growth plan. It is not a wise thing to assume that the University is going to grow. Legally, that assumption cannot be made, the growth plan has not been approved and the environmental review not done. WCM-4

#### Commission Comment

This plan is designed to meet the water needs during drought years. The desalination plant would be used to supply the city only during drought years. In years of normal rainfall enough water is available to meet supply needs. The Water Commission does not have authority to limit growth. The 2005 General Plan predicted a population of 60,000 as of 2005, but as of present the growth has not happened WCM-5

The University LRDP is planning to grow 5,000-6,000 people in the next few years and use all available water supply capacity currently available.

The Coastal Commission will need to approve the project.

#### Subcommittee/Advisory Body Oral Reports

1. Integrated Water Plan pEIR Advisory Committee (IWP pEIR AC)

Director Kocher reported that the IWP pEIR AC will meet July 21, 2005 at 2:30 p.m. in the City of Santa Cruz Planning Department Conference Room.

#### Director's Oral Report

1. Water Supply Status

Director Kocher reported that the water supply status is that the river is flowing quite well, the lake is full and demand is slightly below normal for this time of year.

Items Initiated by Members for Future Agendas      No items were initiated.

The meeting was adjourned at 9:00 p.m. time until the next regular meeting of the Water Commission scheduled for August 29, 2005 at 7:00 p.m. in Council Chambers.

### 2.3.2 Water Commission Meeting (July 11, 2005)

- WCM-1 Please refer to MR 2 regarding the relationship between the Draft Program EIR and the City's General Plan.
- WCM-2 Although the comment is not on the adequacy of the Draft Program EIR, a brief response is provided. The litigation between the City and the University is still pending and relates to capital costs that are imbedded in water rates. It is, at this time, uncertain whether or not the University will prevail in having capital costs removed from its monthly water rates, but even if the University prevails, that does not mean they are exempt from paying their fair share of capital costs attributable to providing service to the University. It simply means that the City must negotiate with the University to decide its fair share and then bill them directly for those charges. An example of such negotiation was with the last EIR on the current LRDP, in which the University committed to paying its share of the cost of the next water supply developed at such time as that water supply project was completed.
- WCM-3 Please refer to MR 2 for a discussion of UCSC growth and its relationship to the IWP.
- WCM-4 Please refer to MR 2 for a discussion of UCSC growth and its relationship to the IWP.
- WCM-5 Comment noted.





**Minutes of an Integrated Water Plan pEIR Advisory Committee Agenda**  
**2:30 -4:30 p.m. – Thursday, July 21, 2005**  
**City of Santa Cruz Planning Department Conference Room**  
**809 Center Street, Room 106, Santa Cruz**

*The Integrated Water Plan pEIR Advisory Committee (IWP pEIR AC) consists of a majority of members of the Soquel Creek Water District Board and City of Santa Cruz City Council. The Advisory Committee also consists of two member of the City of Santa Cruz Water Commission.*

**Call to Order** Chair Mayor Mike Rotkin called the meeting to order at 3:00 p.m. in the City of Santa Cruz Planning Department Conference Room, 809 Center Street, Room 106 Santa Cruz, California.

**Roll Call**

**Present:** Directors Bruce Daniels, Bruce Jaffe and Dan Kriege.  
Councilmembers Ryan Coonerty, Tim Fitzmaurice, Ed Porter and Mayor Rotkin.  
Commissioners Bill Malone and Andy Schiffrin.

**Absent:** Directors Jack Beebe and Thomas LaHue, absent without notice.

**Staff:** Linette Almond, Deputy Director/Engineering Manager; Laura Brown, General Manager; Toby Goddard, Water Conservation Manager; Piret Harmon, Principal Administrative Analyst and Donna Paul, Administrative Assistant.

**Consultant:** Curtis Hopkins, Hopkins Groundwater Consultants, Inc., Brian Jordan, Black and Veatch, Eric Zigas, ESA, Inc.

**Presentation** There were no presentations.

**Statements of Disqualification** No statements of disqualifications were made.

**Oral Communications** There were no oral communications.

**Announcements** There were announcements.

**Approval of Minutes**

**Director Daniels moved to approve the minutes of the December 18, 2003 Integrated Water Plan pEIR Advisory Committee meeting. Councilmember Fitzmaurice seconded**

**VOICE VOTE: MOTION CARRIED**

**AYES:** B. Daniels, T. Fitzmaurice, B. Jaffe, D. Kriege, B. Malone, E. Porter, M. Rotkin and Andy Schiffrin.

**NOES:** None.

**ABSENT:** R. Coonerty, J. Beebe and T. LaHue.

**General Business**

**1. Integrated Water Plan Draft Program Environmental Impact Report**

Deputy Director/Engineering Manager Almond presented a summary of the IWP Draft pEIR.

**Committee Comments**

Has wastewater disposal modeling been done under reduced flow conditions such as a drought? [ACM-1

What are the impacts to the City's water supply may result from the Habitat Conservation Plan and Section 10 permitting process? [ACM-2

What agency will determine the D-2 pipeline alignment? [ACM-3

SqCWD requested that the City provide a draft schedule for the pilot, engineering, design, permitting, and construction of the project. [ACM-4

SqCWD reported that it is about 3 month behind the City in the EIR process of its own water supply plan and plans to use information from the City's EIR in its own action.

SqCWD stated that it is "very interested" in participating with the city in a regional desalination plant. [ACM-5

A letter from the SqCWD Board of Directors will be submitted prior to the close of the comment period. [ACM-6

It was expressed by one member that it would not be appropriate for City Council to adopt phase 2 of the EIR because it is not consistent (in terms of growth inducement analysis) with the existing General Plan. [ACM-7

The City should work to expedite the permit process, and prepare a detailed work program for this committee. [ACM-8

An inquiry was made asking what had been done to advertise the end the comment period and if staff was aware of any organized opposition. [ACM-9

Can the EIR be broadened to take into account more of the environmental benefit of the D-2 option to the groundwater basin the in the Soquel area and to raise the prominence of [ACM-10

groundwater in the report, which may change the outcome showing D-1 as the (overall) least environmentally damaging alternative?

↑ACM-10  
| (con't)

The City will have to respond to all oral comments made at the public meetings held on June 30<sup>th</sup>, July 12<sup>th</sup> and July 26, 2005.

| ACM-11

**Subcommittee/Advisory Body Oral Reports**      No action shall be taken on this item.

1. City of Santa Cruz City Council **There was no report.**
2. Soquel Creek Water District Board of Directors **There was no report.**
3. City of Santa Cruz Water Commission **There was no report.**

#### **Future Agendas Items**

The next meeting of this group will be held after the pEIR is certified.

#### **Adjournment**

The Integrated Water Plan pEIR Advisory Committee adjourned from the July 21, 2005 meeting to the next regularly scheduled meeting to be held at the Soquel Creek Water District Conference Room, 5180 Soquel Drive, Soquel, CA 95073 on a date and time to be announced.

### **2.3.3 Integrated Water Plan PEIR Advisory Committee Meeting (July 21, 2005)**

- ACM-1 Please see Response PM-7.
- ACM-2 Please refer to MR 1 for a discussion of the relationship of the HCP to the proposed Program.
- ACM-3 The Draft Program EIR identifies the environmentally superior Alternative D-2 pipeline as Corridor 7 (p. 1-24). However, the City Council has not yet selected a preferred alignment but will do so upon further development of the engineering detail and cost in addition to the environmental constraints. If the City Council approves of the proposed Program and specifically Alternative D-2, and SqCWD decides to participate in this alternative, then the Integrated Water Plan pEIR Advisory Committee (joint committee) would review the detailed information on the proposed pipeline alignments and make recommendations to the City and SqCWD's Board for selection of the pipeline.
- ACM-4 Comment noted. In response to SqCWD's request, the City will provide SqCWD a draft schedule for the pilot, engineering, design, permitting, and construction of the Program components as soon as they're available.
- ACM-5 Comment noted.
- ACM-6 Comment noted. The City received a comment letter from SqCWD, which is included in this Response to Comments on the Draft Program EIR document.
- ACM-7 Comment noted. Please refer to MR 2 regarding the relationship between the Draft Program EIR and the City's General Plan.
- ACM-8 Comment noted.
- ACM-9 Please refer to Chapter 1 of the Draft Program EIR for a discussion of public involvement. During the meeting, the City stated that it was unaware of any opposition to the proposed Program.
- ACM-10 Table 8-7 of the Draft Program EIR (p. 8-14) provides the rationale for why Alternative D-1 was selected as the overall environmentally superior operational alternative. As shown, Alternative D-2 was identified as the environmentally superior in the issue area of impacts to groundwater resources. The City recognizes the benefits of Alternative D-2 in the Draft Program EIR (pp. 5.1-40 and 5.1-41). Please also refer to Response SqCWD-2, which identifies the benefits of Alternative D-2 in the context of cumulative impacts. The City Council will consider all factors, including the environmental impacts and benefits of the proposed Program, in its decision whether to approved the proposed Program.

**2. COMMENTS AND REPSONSES**

INTEGRATED WATER PLAN PEIR ADVISORY COMMITTEE MEETING  
(JULY 21, 2005)

ACM-11 Responses to the oral comments made at public meetings are provided in this Response to Comments on the Draft Program EIR document.

**Public Comment from the July 26, 2005 Public Hearing on the Integrated Water Plan Draft pEIR**

Erik Branberg - Does the wastewater blending concept that reduces the salinity of the discharge preclude future use of wastewater for irrigation or reclaim? What impacts are related to the use of petroleum products to operate the desalination plant?

**PH-1**

Jim Warner - Would like to know how much this water is going to cost per gallon?

**PH-2**

Bruce Daniels (President of Soquel Creek Water District Board of Directors) The Soquel Creek Water District (SqCWD) is very interest in partnering with the City on the D-2 alternative.

**PH-3**

Dan Kriege (Soquel Creek Water District Board of Directors) SqCWD has been in an overdraft situation for decades and this is the clearest solution. Projects deferred on get more expensive. Alternative D-1 is environmental better for the City, but SqCWD feels that D-2 is superior from a regional perspective.

**PH-4**

Aldo Giacchino - The study is based on the assumption that the population will continue to grow, but the population is declining in the past five years. No indication that population will exceed what will be saved through additional conservation measures. Very little discussion of the alternative particularly the impounding of water in small reservoirs such as discontinued quarries in the north coastal hills. A major deficiency in the report is that it does not include a description of costs. The study should include a psychological testing of customers to see they are ready to use water collect so close to the sewer discharge outfall.

**PH-5**

### 2.3.4 Integrated Water Plan Draft PEIR Public Hearing (July 26, 2005)

PH-1 The wastewater blending concept (mixing the concentrate with the wastewater effluent) would not preclude future use of wastewater for irrigation or reclamation. However, engineering studies and environmental evaluations would have to be conducted before that could occur.

The proposed desalination plant would be electrically operated. Therefore, the proposed desalination plant would not use petroleum products directly. Impact 5.13-1 (Section 5.13, Energy on p. 5.13-5 to 5.13-7) evaluates the potential for the proposed Program to result in the wasteful, inefficient or unnecessary consumption of energy.

PH-2 Please refer to MR 4 for a discussion of cost.

PH-3 Comment noted.

PH-4 Comment noted. Please refer to Section 8.2.6 of the Draft Program EIR for a discussion of how the environmentally superior operation scenario was determined.

PH-5 Please refer to Response CORD-4 for a discussion of the conservation component and its ability to meet water supply needs. Please refer to Alternative 3 for a discussion of alternatives that have been considered but were eliminated from further evaluation. Please refer to MR 4 for a discussion of costs. Please refer to SC-1 for a discussion of the location of the proposed outfall relative to the existing outfall.

## **2.4 COMMENTS RECEIVED AFTER THE END OF THE COMMENT PERIOD AND RESPONSES**



## CALIFORNIA COASTAL COMMISSION

CENTRAL COAST DISTRICT OFFICE  
725 FRONT STREET, SUITE 300  
SANTA CRUZ, CA 95060  
(831) 427-4863

Letter CCC



August 12, 2005

Linette Almond, Deputy Director  
City of Santa Cruz Water Department  
809 Center Street  
Santa Cruz, CA 95060

Subject: *Draft Environmental Impact Report (DEIR) for the City of Santa Cruz Integrated Water Plan (IWP)*

Dear Ms. Almond,

Thank you for the opportunity to comment on the above-referenced document. The document's purpose is to analyze the potential impacts associated with implementation of the City's Integrated Water Plan (IWP), which is described as containing three components: a desalination plant, conservation programs, and curtailment programs. Although not termed "components," the described existing surface water and well water supplies are also additional components of the overall IWP. Each of these components can either produce or save variable amounts of water. Except for some discussion of an option for the Soquel Creek Water District to use the desalinated water to offset Purisima aquifer withdrawals, the EIR analysis seems to imply that the existing supplies are static. Section 1.2.4 of the DEIR (Ongoing Planning Issues and Uncertainties), however, describes several as-of-yet unresolved issues, including: (1) continued access to the same amount of supply from the North Coast (which depends on the outcome of a Section 10 permit application and accompanying HCP); (2) successful rehabilitation of North Coast raw water pipelines and diversions to reduce losses due to leakage or structural failure, (3) rectification of an historical technical deficiency in the water rights on Newell Creek and the San Lorenzo River, and; (4) continued deterioration of the groundwater basin due to over-pumping of the Purisima aquifer, potentially compromising future Live Oak well production.

CCC-1

The draft document seems to mix elements of both a programmatic and project-specific EIR, while emphasizing the latter. The DEIR describes some of the programmatic-level issues and concerns evaluated during the City's development of the IWP, but looks at only three very specific potential water supply components (and not as much variability in them as they potentially offer), rather than the full range of options that may be available. Of those components, the draft document examines only the desalination component in detail, at a level of detail more resembling a project-specific DEIR. Since the document is a programmatic DEIR, it needs to: (1) analyze the full range of potential programmatic responses to the unresolved supply issues, and; (2) offer as mitigation to identified issues, programmatic changes where appropriate. Some of our following comments give suggestions of the kind of responses that should be in the final EIR.

CCC-2

**1. Definition of Drought and Explanation of Drought Responses.** The EIR should provide a definition of what constitutes a "drought," given that the proposed use of the desalination plant in Santa Cruz will only occur during "drought" years.

CCC-3

Also, the decision to not adopt a 25% residential use restriction during drought periods is based on the assumption of significant social and economic impacts of such a restriction. The EIR should include additional analysis of these impacts, especially given that much of the water use

CCC-4

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**Integrated Water Plan DEIR**  
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**Page 2**

In the late spring to early fall months is for landscaping use. Also, regarding the proposed 15% curtailment during drought years – is this 15% an across-the-board cut regardless of existing water use, i.e. does a homeowner who employs various water conservation measures, including drought-tolerant landscaping, need to cut water use by the same percentage as a homeowner who does not employ these same conservation measures?

CCC-4  
 (con't)

**2. Location of Proposed Desalination Plant:** The DEIR provides for three possible locations of the desalination plant: Terrace Point area, Shaffer Road/Antonelli's Pond area, and the Industrial park area bounded by Mission Street, Natural Bridges Drive, Swift Road, and Delaware Avenue. Regarding Terrace Point, the University of California at Santa Cruz (UCSC) has submitted its Long Range Development Plan (LRDP) to the Commission for review and approval. This Commission will hear this item in September 2005 or soon thereafter. Please note that the proposed LRDP does not include a location site for the proposed desalination plant. Also, the use of Terrace Point as a location for the proposed desalination plant will be impossible unless UCSC reduces the scope of its proposed development. This is because all land outside of the areas proposed for development will be off limits to development due to the need for adequate setbacks from wetlands and the inclusion of wildlife corridors in which no development may take place.

CCC-5

Regarding the property along Shaffer Road that is adjacent to Antonelli Pond, please note that there are a number of environmental constraints on this property. Commission staff has previously met with representatives of Barry Swenson Builders regarding a proposed residential development on this property. This property is subject to minimum 100-foot setback requirements for onsite wetlands. In addition, the Commission's staff biologist has recommended a minimum 200-foot-wide development buffer from Antonelli Pond, given the pond's significance as an important wetland and open water resource in this area of Santa Cruz. Additional constraints on this property include a 150-foot-wide corridor along the northern portion of the property and a 50-foot-wide corridor through the center of the property, to serve as wildlife corridors for the California red-legged frog (these corridors will connect to similar wildlife corridors on the Terrace Point property, as required under the LRDP). Given all these constraints, it may be difficult to accommodate the proposed 3-acre desalination plant on the Swenson property.

CCC-6

Regarding the Industrial park property and as noted in the DEIR, any development on this site would need to be set back adequately from the restored Arroyo Seco Creek channel. Use of existing buildings in this area to house the proposed desalination plant would reduce the amount of necessary new development, which would reduce the project's environmental impacts.

CCC-7

**3. Water Quality and Reclamation.** The DEIR and the Integrated Water Plan rely heavily on energy intensive desalinization, including potential future expansion of the proposed desalination plant. However, the IWP does not identify future implementation or expansion of other alternatives, such as additional conservation measures, demand-side management, or groundwater recharge using tertiary treated wastewater (e.g., the Monterey County Water Management Strategy includes conservation, groundwater recharge using tertiary treated wastewater, and reduced reliance on Carmel River water, all of which are intended to achieve a high level of environmental protection). The EIR should identify additional alternatives that do not weigh so heavily on desalination and which address potential regional impacts. These additional alternatives should include:

CCC-8

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- Upgrading the Scotts Valley wastewater treatment plant to tertiary treatment so that treated water may be used for storage or for groundwater recharge of Santa Cruz County aquifers.
- Upgrading the Santa Cruz wastewater treatment plant to tertiary treatment for aquifer recharge or to establish a secondary water system for residential and/or park landscape irrigation.

CCC-8  
(con't)

Also, the inclusion of Low Impact Design (LID) for all buildings/structures developed as part of the IWP is appropriate. LID should additionally stress limiting impervious surfaces and increasing percolation and absorption where possible. Volume and rate of runoff from any future development associated with the IWP should mimic predevelopment rates.

CCC-9

**4. Biological Resources.** The City's current water supply relies partly on local watersheds, including North Coast creek diversions and the San Lorenzo River. These water diversions have the potential to cause significant biological and habitat impacts to these local watersheds. The EIR should evaluate replacing some of the water that is currently being diverted from local surface water sources with water from the desalination plant or reclaimed water in order to restore flows to these water sources, which would result in the restoration of the streams' ecosystems, with resultant improvements to fish habitat. The EIR should analyze an alternative in which the City would use the desalination plant, or other alternatives, more often than proposed in order to offset current stream and river diversions. The EIR should also evaluate what actions the City could take to ensure that this new source of water will benefit ecosystem restoration.

CCC-10

In addition, Alternative D-2 would provide desalinated water to the Soquel Creek Water District. Over the last 20 years, increased urbanization in the County has resulted in increased extraction from the Purisima aquifer and diminished aquifer recharge. The EIR should evaluate the potential for reducing the pumping of water from the Purisima aquifer if alternative D-2 is implemented. Also, alternatives for recharging the aquifer, similar to those methods described above, should be analyzed.

CCC-11

CCC-12

**5. Visual Resources.** The DEIR states that construction of the pumping facility would take place within or adjacent to the junction structure located on the beach adjacent to West Cliff Drive near Sunset Avenue. Any development along West Cliff Drive would be subject to the visual requirements of the West Cliff Drive Integrated Management Plan, which is required under the current General Plan/Local Coastal Program. This Plan is still working its way through the City's planning process and will eventually come to the Commission for review and approval. Additionally, please note that the existing junction structure is located in an area designated as Coastal Recreation (CR) and zoned as Oceanfront Recreational District (OFR). Development of a new pumping facility at this location is not an allowable use in the OFR District (see Zoning Ordinance Sections 24.10.1910 and 24.10.1920).

CCC-13

The EIR should evaluate the visual impacts of the proposed concentrate storage tank, especially since the proposed tank sizes are substantial in size, i.e. 0.5 million gallons for the 2.5 mgd desalination facility alternative and 1.0 million gallons for the 3.5 mgd desalination facility alternative. The EIR should evaluate whether the tank could be placed below grade to limit visual impacts.

CCC-14

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**6. Hazards.** The EIR should evaluate the status of the existing abandoned outfall line, which is proposed for use as an intake pipe, i.e. determine the condition of the existing pipe in terms of stability, structural integrity, etc. Please evaluate what types of maintenance will need to be performed on the pipe and the potential impacts of this maintenance on marine resources. Also, please note that future armoring of the pipe in the ocean or on the beach would not be consistent with the Coastal Act. Thus, if an intake pipe is to be inserted into the abandoned outfall pipeline, assurances must be provided that no future protection will be necessary. This would hold true for an alternative intake systems.

CCC-15

Regarding hazardous materials, please describe the types of measures that will be taken to manage the transport of hazardous materials (related to operation of the desalination plant) through residential areas.

CCC-16

**7. North Coast Pipe Replacement Project.** The "no program" alternative fails to include benefits of the North Coast pipe replacement project, which will take place over the next 15 years. Please describe the relationship between the North Coast replacement and the proposed Integrated Water Plan.

CCC-17

**8. Cost.** The document does not describe the costs involved with the various components of the proposed IWP, nor does it provide a comparison of those costs with potential alternatives. In the case of desalination, cost would be one of several important considerations used to compare the feasibility of alternative water supplies, alternative locations, and various mitigation measures. For example, the DEIR states that the 15% conservation "cutback" level was selected in part based on cost – the EIR should also describe what costs were considered, and should then evaluate how other levels of cutback – e.g., an additional 5%, 10%, or 20% – would affect the need or feasibility of the desalination facility.

CCC-18

It is additionally important that the EIR describe the direct anticipated costs associated with the desalination facility – for example, without knowing the cost per acre-foot of produced and delivered desalinated water, it is not possible to compare that water supply with the water that could be made available through less costly conservation measures.

**9. Proposed Use of Abandoned Outfall.** Please note that Coastal Commission review of any proposed desalination facility will require thorough review of the proposal's effects on marine biological resources, along with alternatives and mitigation measures that may avoid or reduce adverse effects on those resources.

CCC-19

The DEIR considers only one option for a seawater intake – use of an existing abandoned wastewater pipeline located just offshore of the City. Use of this open-water intake would result in entrainment of marine organisms. Part of the Coastal Commission review will include evaluating the feasibility of alternative intake locations or of subsurface intakes. Many older outfalls were sited before there was much awareness of their adverse effects on the marine ecosystem. It is likely, too, that this outfall has never been evaluated for the entrainment effects it would cause if used as an intake. The presence of an existing, abandoned pipeline does not dismiss the need to look at alternatives that may be feasible and less environmentally damaging. Therefore, the EIR's alternatives analyses should consider alternative locations that may result in fewer impacts, and should also consider whether a subsurface intake is feasible, including the option of altering this structure to make it a subsurface intake.

CCC-20

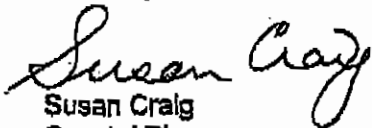
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If the only feasible project alternative is to use an open water intake, the Coastal Commission evaluation will also need the results of an acceptable entrainment/impingement study. These studies generally require about a year's worth of sampling and data collection and should be developed in association with Commission staff before starting such a study. Further, if an open-water intake is found to be acceptable, there may be locations where its adverse effects on marine biology could be further reduced. For example, Figure 5.2-2 in the DEIR shows that the end of the outfall is near areas of rocky habitat. This habitat type usually contains a wider variety of species than sandy or muddy habitat, and is also more sensitive to disturbance. The EIR's review should evaluate other locations that are farther from such a sensitive habitat type.

CCC-21

Thank you for the opportunity to comment on this major Plan. The Commission staff appreciates the efforts of the City to coordinate its review of this project with us. We may have additional comments as more information is provided. If you have any questions or wish to discuss these matters further, please feel free to contact me.

Sincerely,



Susan Craig  
Coastal Planner  
Central Coast District Office

cc: State Clearinghouse

### 2.4.1 California Coastal Commission

CCC-1 Please refer to MR 1 for a discussion of the relationship between the proposed Program and existing supplies.

CCC-2 Chapter 2 of the Draft Program EIR (pp. 2-1 and 2-2) describes the type of EIR that the City has prepared for the proposed Program. Specifically, the City has prepared a Program EIR, which is prepared on a series of actions that can be characterized as one large project and are related either:

- Geographically;
- As logical parts in the chain of contemplated actions;
- In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or
- As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

As described on p. 2-1, the IWP is a comprehensive water plan, consisting of conservation, curtailment, and water supply, that meets the criteria described above. Each of these components is described in detail in Chapter 4 of the Draft Program EIR (pp. 4-1 to 4-24). The conservation component includes a series of programs that have been implemented in sequence of priority between 2000 and 2006, including rebates, conservation kit distribution, ordinances, water surveys, submeters, and budget-based rates. The curtailment component would consist of rationing during drought under the Emergency Drought Ordinance. The water supply component would consist of new facilities (e.g., desalination plant, pipelines, pumping stations, intakes) built within the City's service areas (as well as outside the City's service area if Alternative D-2 is selected).

As a whole, the entire IWP is connected geographically, as individual components would be implemented in the City's service area. The components are also logical parts in the chain of contemplated actions, as collectively they address the short- and long-term water needs of the City, through both demand-side management and provision of water supply.

Conservation has been implemented since 2000 and will continue to be implemented to reduce overall water demand. Curtailment would be initiated during droughts to further manage and reduce water demand when insufficient water supplies are available. Additional water supply would be provided during a drought to offset cutbacks that could otherwise exceed 40 percent. The IWP also provides for the contingency of supplemental

water provision to the City in the long-term based on approved projected growth in the service area. As such, the EIR as described meets the criteria for a Program EIR.

Section 2.1 of the Draft Program EIR discusses why more detail is provided than would typically be presented in a program-level EIR. Specifically, it is to “facilitate a meaningful analysis and comparison of the alternative operational scenarios and components” (p. 2-1 of the Draft Program EIR). Although this level of detail goes beyond the definition of a Program-level EIR, it would not make the subject EIR into a project-level EIR (p. 2-1). Because many of the specific design details of the desalination facilities were not known at the time of the Draft Program EIR preparation and publication, the Draft Program EIR could not be evaluated at a project-level of detail. However, this level of design detail would be available to be incorporated in the project-level EIR for each increment (2.5, 1.0, 1.0 mgd) that will be prepared (if the City Council approves the proposed Program).

Please refer to Response CORD-6 for a discussion of why more detail is available for the desalination components compared to the other components.

Please refer to MR 3 for a discussion of the alternatives that were evaluated prior to the proposed Program.

Please also refer to MR 1 for a discussion of the unresolved supply issues (relationship between the proposed Program and existing supplies).

CCC-3 Drought is necessarily defined in the context of water supply deficiencies to meet demand. Specifically, the definition of a “drought” is when the City’s available water supplies are reduced due to the lack of sufficient rainfall and runoff to a level that cannot support the community’s normal water needs. Section 3.3 (Chapter 3 of the Draft Program EIR) specifies that the City’s primary water management problem is the lack of adequate water supply during periods of below normal, dry, and drought years (p. 3-1). During these type years, the San Lorenzo River and coast sources run low, and the system relies heavily on the Loch Lomond reservoir. In the past, during drought events, the City has had to ration water in accordance with the City’s existing drought emergency ordinance. The ordinance provides a framework that defines the various stages of water rationing under different levels of drought events, from minimal to a severe water shortage.

Historic droughts in California occurred in 1976-77 and 1987-92 (p. 3-4 of the Draft Program EIR). The former drought event, established as the most severe drought of record, is used by the City as a benchmark for assessing its water system reliability.

Tables 4-5 and 4-6 of Chapter 4 (pp. 4-18 and 4-19) identify the desalination plant operation scenarios. Under D-1, the plant would be operated solely for drought purposes during the near-term up to 2.5 mgd, and would be operated both for drought protection

and potentially supplemental supply in the long-term (i.e., operation would not occur just during drought, as specified by the commenter).

- CCC-4 The IWP recommends a 15 percent level of curtailment during periods of drought, which is a system-wide goal (see Table 4-2 on p. 4-7 of the Draft Program EIR). The 25 percent level of curtailment, or “High Curtailment Alternative” as it is referred to in the Draft Program EIR, is also a system-wide cutback, not a residential use restriction. The Draft Program EIR includes an evaluation of the environmental impacts of the 25 percent Curtailment Alternative in Chapter 8, along with a No Curtailment Alternative, and a no Program Alternative, as requested by the commenter.

CEQA does not require analysis of the social and economic impacts resulting from a project. There is, however, considerable information about social and economic impacts associated with different levels of curtailment documented in the Water Curtailment Study, which is incorporated into the Draft Program EIR by reference in Section 2.4 (p. 2-6) and summarized in Section 3.4.3 (p. 3-6 of the Draft Program EIR). Please also refer to MR 4 for a discussion of socioeconomic costs.

Cutbacks in a drought are not made across-the-board. While all customers are asked and expected to reduce water use voluntarily in a drought, the level of cutback that would be required to achieve the recommended 15 percent goal varies among customer categories as shown in Table 4-2 (p. 4-7 of the Draft Program EIR). Under the City’s drought ordinance, end uses of water related to health and safety are cut back the least in a water shortage, and low priority uses such as irrigation are curtailed the most. As a result, the burden of cutbacks falls hardest on residential customers and those customers with dedicated irrigation accounts. In the residential sector, if mandatory rationing becomes necessary, available supplies are allocated in the City’s drought emergency ordinance based on the number of persons per household, not by an across-the-board reduction. Those customers that already employ various water conservation measures, including drought tolerant landscaping, would not be penalized for their prior actions to conserve water, provided they stayed within their prescribed per-person water allotment. High use customers that do not normally employ water conservation measures and those that have a large proportion of their household water use going to landscape irrigation would likely need to reduce their consumption to stay within their water allotment.

- CCC-5 Comment noted regarding the anticipated date of Commission hearing on the UCSC Coastal Long Range Development Plan (CLRDP). The City concurs that the University of California’s CLRDP does not include a location site for the proposed desalination plant and acknowledges the Commission’s position that lands outside the CLRDP’s development area would be restricted due to the need for biological resources setbacks. If the proposed Program is approved by the City Council and the Terrace Point Area is selected for the desalination plant, then negotiations between the City and UCSC would be necessary to identify a site that would not affect sensitive resource areas and the UCSD CLRDP would have to be amended.



- CCC-6 The City concurs that the *City of Santa Cruz General Plan and Local Coastal Program* requires a 100-foot setback “from all wetlands and from the center of the watercourses for all riparian areas...” (p. 5.4-18 of the Draft Program EIR). The City also acknowledges the Commission’s recommendation for a 200-foot setback from Antonelli’s Pond, and additional constraints (e.g., California red-legged frog) at the site. Impact 5.4-3 identifies the potential of the proposed program to directly impact California red-legged frog from construction activities if these species move through the construction area, and mitigation measures to ensure their avoidance (p. 5.4-27 of the Draft Program EIR). The potential for adverse effects to red-legged frogs (for the Shaffer Road/Antonelli’s Pond and Terrace Point areas only) would be further investigated in the project-specific EIR that will be prepared if the proposed Program is approved by the City Council and the Shaffer Road/Antonelli’s Pond area is selected for the placement of the desalination plant. The project-level EIR will identify the site-specific location for the desalination plant within the selected desalination area, and evaluate the environmental impacts, including effects to biological resources, associated with development of the plant. The constraints identified by the Commission will be considered in the project-level EIR.
- CCC-7 The City acknowledges the Commission’s preference for a desalination plant to be housed in existing buildings, and concurs with the need to provide a 100-foot setback from the restored Arroyo Seco Creek Channel, as required by the *City of Santa Cruz General Plan and Local Coastal Program* (Section 5.4, p. 5.4-18 of the Draft Program EIR).
- CCC-8 The use of curtailment and conservation components minimizes (from 8 mgd without to 4.5 mgd with) the capacity of desalination plant needed to provide drought protection. In addition to the programs included in the Water Conservation Plan, the City is committed to implementing 14 conservation best management practices that are identified in the Memorandum of Understanding Regarding Urban Water Conservation in California. The City reviews new initiatives in the area of conservation every five years as required by state law in updating its Urban Water Management Plan. It should be noted that the City has one of the lowest per-capita levels of water use statewide, and as such has aggressively implemented its conservation measures. The low per-capita water usage also reflects the City’s effort in maximizing water conservation to the fullest. The City will continue to reduce water demand further through long term conservation, and will reduce that level even further in times of drought through short-term conservation (curtailment).
- Please refer to MR 3 for a discussion of other alternatives considered but eliminated, including reclamation.
- CCC-9 The City recognizes the need to reduce impervious layers associated with the development of the desalination plant, and as such has included recommended Measure 5.1-1 (p. 5.1-33 in the Draft Program EIR). However, it may not be possible for the volume and rate of runoff from development associated with the IWP to mimic

- predevelopment rates, especially if the desalination plant would be developed on an area previously unpaved. However, the City would incorporate low-impact design (LID) to minimize the volume and rate of runoff from the proposed development.
- CCC-10 Please refer to MR 1 for a discussion of the relationship of the IWP to the existing supplies and the associated biological resources issues.
- CCC-11 The City recognizes the effects of groundwater pumping on the Purisima Aquifer and has evaluated the beneficial effect of the proposed Program on the aquifer in Section 5.1, Hydrology and Water Quality, and Section 7.4.1 Hydrology and Water Quality. Specifically, Impact 5.1-6 identifies the potential benefit on the groundwater basin under Alternative D-2, associated with the reduction in groundwater pumping by SqCWD (p. 5.1-38 of the Draft Program EIR). In Section 7.4.1, the analysis finds that Alternative D-2 “offers the greatest potential benefit to the groundwater basin by providing a supply to each major groundwater user, thus preventing the need to increase future use of the limited groundwater resources” (p. 7-14 of the Draft Program EIR).
- CCC-12 Please refer to MR 3 for a discussion of why recharge of the aquifer using wastewater is not considered as part of the project.
- CCC-13 The exact location of the pumping facility has not been determined. It is possible that the facility would be located within the existing junction structure or adjacent to the structure. As stated in Chapter 1 of the Draft Program EIR, Section 1.1.9, subsequent environmental review will be required if the proposed Program is approved and once final design of the pumping facility has been completed. All Program facilities would be constructed in accordance with the City of Santa Cruz design policies (as identified on page B-17 (Appendix B) of the Draft Program EIR). The West Cliff Drive Integrated Management Plan (Management Plan) has not yet been approved by the City Council and is currently on hold due to a lawsuit on another plan (the Lighthouse Field State Beach Plan), which provides the policies for the Management Plan (Ferry 2005)<sup>14</sup>. As such, the Management Plan is not an operational document and is not cited in this Draft EIR. However, the City would be required to comply with the policies of the Management Plan if construction were to occur after the Management Plan has been approved.
- The information provided by the commenter regarding the land use and zoning designation for the junction structure site was not identified in the Draft Program EIR, but has been added in this Response to Comments on the Draft Program EIR document (see Chapter 3 of this Response to Comments on the Draft Program EIR document). The comment is correct in stating that a pumping plant is not a specifically allowable use under Zoning Ordinance 24.10.1910 and 24.10.1920. However, Zoning Ordinance 24.10.1930, Use Determination, provides exemptions that can be applied to the zoning designation. Specifically, this section states that “[a]ny other use or service

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<sup>14</sup> Ferry, Mike. Associate Planner. City of Santa Cruz. Phone conversation on September 13, 2005.

establishment determined by the zoning administrator to be of the same general character as the foregoing principal permitted uses [identified in Zoning Ordinance Sections 24.10.1910 and 24.10.1920], and which will not impair the present or potential use of adjacent properties, may be permitted. A use permit shall be required and processed pursuant to Part 1, Chapter 24.08, Use Permits, of this title.” The City will be required to obtain a permit through its Local Coastal Program. As such, this use may ultimately be deemed consistent with the zoning designation (concurrence by the Coastal Commission will be required) prior to alteration of the existing junction structure or construction of a new pumping facility. This potential inconsistency is not, however, an environmental issue, and does not change the significance of visual impacts as described in the Draft Program EIR.

- CCC-14 The equalization tank would be located within the desalination plant. However, the design of the tank has not yet been determined, so it is unknown whether the tank will be above ground or below grade. Impacts 5.10-1 and 5.10-2 (pp. 5.10-12 to 5.10-18) discuss the changes in the visual quality of the entire desalination plant location. Mitigation measures have been proposed to reduce significant visual effects associated with development of the site, including enclosure of the plant and follow-up project-level visual analysis once final site location has been selected and the design has been completed to determine if additional mitigation measures are needed.
- CCC-15 The integrity of the existing abandoned outfall has not yet been investigated and would not be known until further investigations (e.g., underwater inspection) are completed. Some maintenance of the pipeline may be necessary in the long term, and would be determined during the design phase. Follow up project-level review (if the proposed Program is approved) would evaluate the construction and maintenance requirements of the intake, and any consequences such activities would have on the marine environment. In general, the intake would be designed to have a useful life of several decades consistent with general practices for municipal utility construction. The City acknowledges the Commission’s stance that future armoring of the pipe in the ocean would not be consistent with the Coastal Act.
- CCC-16 As discussed in Section 5.11.3, Regulatory Framework of the Draft Program EIR, the United States Department of Transportation (DOT) Office of Hazardous Materials Safety regulates the transportation of hazardous materials and enforces the guidelines created to protect human health and the environment (p. 5.11-3). As such, hazardous materials transportation, including through residential areas, would have to comply with DOT’s stringent regulations. The City does not create or enforce requirements for companies delivering chemicals to and from the proposed plant, and as such no measures have been developed in the Draft Program EIR. For more information regarding DOT’s function and regulations, please go to <http://hazmat.dot.gov/>.
- CCC-17 Please refer to MR 1 for a discussion of the relationship between the proposed Program and existing supplies.

- CCC-18 Please refer to MR 4 for a discussion of cost, including socioeconomic costs associated with the curtailment component.
- CCC-19 The City acknowledges the Commission's concerns regarding the proposed Program's effects on marine resources. Section 5.2 of the Draft Program EIR discusses potential effects of the Program on marine resources and identifies mitigation measures that would be implemented as part of the proposed Program to reduce adverse effects. Please note that the particular issue associated with entrainment/impingement would be further investigated in the follow-up project-level environmental document (p. 5.2-19) or as part of an independent impingement/entrainment study required by the Commission (see Comment and Response CCC-21).

The City had considered beach wells as alternatives to an open water intake and surface discharge, but eliminated these options due to the geometry and hydrogeology of the beaches (see p. 8-25 of the Draft Program EIR). For more information on these options, please refer to MR 3 and the *City of Santa Cruz/Soquel Creek Water District Alternative Water Supply Study – Evaluation of Regional Water Supply Alternatives* (Carollo Engineers, March 2002), which is incorporated by reference in the Draft Program EIR (see p. 2-6).

- CCC-20 Please refer to Response CCC-19 above for a discussion of why beach well intakes were eliminated from further evaluation. As described in Chapter 4, Program Description, the abandoned outfall would be converted to an intake system through the provision of screens and baffles and reduction of intake velocity (p. 4-8). The screens and baffles would have a mesh size of approximately 0.1 inch and are intended to reduce the potential for impingement and entrainment of marine organisms into the desalination facility. The intake flow would have a maximum through-screen velocity of approximately 0.50 feet per second. The intake would also be equipped with an air scour system to remove debris caught in or on the intake screen. This type of intake system would reduce impingement and entrainment of marine life, as discussed in Impact 5.2-1 (pp. 5.2-17 to 5.2-21 of the Draft Program EIR).
- CCC-21 The Draft Program EIR (p. 5.2-18) acknowledges that “the Coastal Commission may require studies to better determine the impacts of the intake before it would issue a coastal development permit for the project.” The City would consult with the Coastal Commission to define the scope of the entrainment/impingement study prior to the start of investigation. The study would be implemented during the pilot and full scale design phase, and the results would be analyzed prior to implementation of the 2.5 mgd desalination plant if the proposed Program is approved by City Council.

The intent of using an existing abandoned outfall for disposal of the combined discharge (effluent and concentrate) is to minimize construction-related impacts to marine resources. Conversion of the abandoned outfall to an intake would require minimal activities, including installation of a new lining within the pipe and installation of new

screens and baffles at the end of the outfall (see p. 4-8 of the Draft Program EIR). Impact 5.2-3 (p. 5.2-21) and Impact 5.2-5 (p. 5.2-25) evaluate the potential effects for disturbance to soft-bottom habitat associated with pipeline conversion. Impact 5.2-4 (p. 5.2-24) evaluates the impacts to high-relief rocky subtidal habitat in the vicinity of the proposed outfall associated with construction vessel anchors or moorings. As shown on Figure 5.2-2 (p. 5.2-6), rocky habitat is located throughout the area; rocks and kelp also extend past Point Santa Cruz (not shown on figure). It is unlikely that an alternative location could be found that would avoid impacts to hard bottom species, especially since the use of an alternative location would necessitate the construction of an entirely new pipeline; its construction could permanently damage an entire length of the seabed on which the pipeline lies, compared to a site-specific location associated with using the existing abandoned outfall.

August 5, 2005

Linette Almond, Deputy Director  
City of Santa Cruz Water Department  
809 Center St, Room 102  
Santa Cruz, California 95060

**SUBJECT: MBNMS Comments on Draft Environmental Impact Report for the City of Santa Cruz Integrated Water Plan**

Dear Ms. Almond:

Thank you for the opportunity to provide comments to the City of Santa Cruz on the Draft Environmental Impact Report (EIR) for the Santa Cruz Water Department Integrated Water Plan (IWP). The IWP provides a strategy for producing a reliable supply of water that meets long-term needs while reducing near-term drought year shortages. The IWP consists of water conservation programs, customer curtailment of up to 15% during water shortages, and a 2.5 million gallon per day desalination plant. My staff and I appreciate the diligence that City staff and the Integrated Water Plan Committee have shown towards this project and the consideration given to minimizing impacts to the marine resources of the Monterey Bay National Marine Sanctuary.

The Monterey Bay National Marine Sanctuary (MBNMS) is a Federally protected marine area offshore of California's central coast, encompassing a shoreline length of 276 miles and 5,322 square miles of ocean. The MBNMS was established for the purpose of resource protection, research, education, and public use. MBNMS management is concerned with desalination because it has the potential to negatively impact the marine environment through the introduction of brine concentrate and other substances to sanctuary waters. Depending on the design, it may also lead to entrainment and impingement of marine organisms via the intake systems, and in some cases alteration of the seabed by construction of pipelines for seawater intake and brine disposal.

Several of the sanctuary's regulations relate directly to desalination. The first involves a prohibition on discharging or depositing any material within Sanctuary boundaries. Since the brine effluent, and in some cases other materials, are usually disposed of in ocean waters, this activity requires MBNMS authorization of Regional Water Quality Control Board (RWQCB) permits. Another relevant regulation involves a prohibition on activities that cause alteration of the seabed. Thus installation of certain desalination facility structures such as an intake/outfall pipeline on or beneath the ocean floor will also require MBNMS authorization of California Coastal Commission permits. In addition to its regulatory involvement with desalination, the sanctuary has developed a draft action plan for desalination, with the goal of developing and

MBNMS-1

implementing a collaborative regional framework to minimize impacts to sanctuary resources from desalination activities.

↑ MBNMS-1  
(con't)

The MBNMS has the following comments regarding the Draft Environmental Impact Report for the Integrated Water Plan.

Ecosystem Restoration: Current diversions from the City of Santa Cruz's existing water supply infrastructure are causing significant impacts to local watersheds. By replacing some of the water that is currently being diverted from local surface water sources with water from a desalination plant or wastewater recycling facility, minimum stream flows could be established resulting in restoration of ecosystems and improvements to anadromous fish habitat. The MBNMS recommends consideration of changes to the City's existing water supply and storage infrastructure that would allow for restoration of local surface water ecosystems. In the Final EIR, please include an analysis of an alternative whereby the City would operate the desalination plant at full capacity throughout the year, to offset current diversions, and discuss potential actions the City could take to ensure that this new source of water will benefit ecosystem restoration.

MBNMS-2

Sub-surface Intake Systems: Use of sub-surface intake structures such as beach wells or Horizontal Directional Drilling (HDD) wells can have significant environmental and economic benefits. These structures are highly effective in preventing the entrainment and impingement of marine organisms, and have the added benefit of reducing or eliminating the need for pre-treatment of the feed-water prior to the reverse osmosis desalination process. The use of fewer chemicals would not only result in fewer potential environmental impacts, but would also present an economic benefit to the City. Although the City of Santa Cruz proposes to use an open water intake for the desalination plant, in the Final EIR please further evaluate the potential use of a range of sub-surface intake technologies and include a detailed discussion as to whether they are feasible or not, and why.

MBNMS-3

Alternative New Water Sources: Wastewater reclamation has the potential to provide additional water supplies, at a lower cost, fiscally and environmentally, than other methods such as seawater desalination. Since 1997, the City of Santa Cruz, as part of the Integrated Water planning process, has been actively considering numerous new water supplies, including recycled water, and has conducted several background studies. The EIR states "... the reclamation/groundwater exchange alternative was deemed infeasible as a result of the California Department of Parks and Recreation (CDPR) stating its position against the concept in writing, which effectively left the City with only one viable supply option to pursue – desalination." Please include a further explanation of this, and any other reasons, as to why recycling was not considered a feasible option. Also, considering advances in technology, and potential modifications to CDPR policies since the original assessments were conducted, consider including a reassessment of the potential to use water recycling as a new source of water.

MBNMS-4

Potential Decrease in Effluent Volume: Because of ongoing planning issues and uncertainties that are mentioned in the EIR, it is likely that in the future, existing sources including the North Coast and the Live Oak wells, may no longer be available. If this were the case, then additional sources of water would be needed, making reclamation a very likely alternative. A reclamation

↓ MBNMS-5

program would lead to a significant decrease in wastewater effluent volumes, reducing the levels of dilution of brine concentrate, and likely creating the need for an alternative brine disposal practices. In the Final EIR please discuss the potential for decreased future flows of the wastewater effluent, due to recycling and increased conservation and drought curtailment, and conduct an assessment of worst-case scenarios under these conditions. Also identify and assess alternative discharge scenarios, should there not be adequate volumes of treated sewage effluent to dilute the brine concentrate.

MBNMS-5  
(con't)

Emergency Outfall Alternatives: The EIR mentions that the abandoned outfall structure that will be retrofitted to serve as the desalination plant intake, has been used as an emergency outfall during an extreme winter storm coupled with a failure of the treatment plant pumps. In the Final EIR discuss the probability that a similar event could occur, and identify specific actions that can be taken to ensure that use of this structure will not undermine the City's ability to prevent an accidental release of sewage into the sanctuary.

MBNMS-6

These comments are regarding the marine-related aspects of the Program EIR for the Integrated Water Plan, however the MBNMS will conduct a thorough analysis and review of the potential marine impacts of the desalination plant once more details from the project are available in a future project-level EIR. Thank you for the opportunity to comment on the Environmental Impact Report for the Integrated Water Plan. If you have any questions on our comments, please contact Brad Damitz of my staff at (831) 647-4252.

Sincerely,

William J. Douros  
Sanctuary Superintendent

cc: Tom Luster, California Coastal Commission  
Charles Lester, California Coastal Commission  
David Vincent, California Department of Parks and Recreation  
Joyce Ambrosius, National Marine Fisheries Service  
Patrick Rutten, National Marine Fisheries Service



### 2.4.2 Monterey Bay National Marine Sanctuary

MBNMS-1 The City acknowledges MBNMS's concerns regarding potential adverse effects to the marine environment associated with entrainment/impingement of marine species, and discharge of concentrate and other chemicals into the Sanctuary. The Draft Program EIR evaluates for these effects in Impacts 5.1-2 and 5.1-3 (Section 5.1, Hydrology and Water Quality of the Draft Program EIR), Impact 5.2-2 (Section 5.2, Marine Resources of the Draft Program EIR), and Impact 5.11-3 (Section 5.11, Hazards and Hazardous Material of the Draft Program EIR). Please also refer to Response SC-8.

The City acknowledges MBNMS's jurisdiction within the sanctuary and its regulatory involvement with RWQCB and the California Coastal Commission on desalination projects. Table 4-10 (p. 4-29 of the Draft Program EIR) identifies the MBNMS as a federal agency with authority over certain proposed desalination activities. Section 5.2, Marine Resources (pp. 5.2-11 and 5.2-12 of the Draft Program EIR) identifies the Sanctuary's input on the RWQCB NPDES permit conditions related to concentrate discharge and outlines the strategies of MBNMS's desalination action plan to reduce desalination impacts on the Sanctuary.

MBNMS-2 Please refer to MR 1 for a discussion of the relationship between the IWP and existing supplies and the existing supplies' related biological resources issues.

MBNMS-3 Please refer to MR 3 for a discussion of other technologies considered for the intake.

The utilization of beach wells, infiltration galleries, or offshore subsurface seawater collection systems (including wells constructed with Horizontal Directional Drilling) was evaluated by the City in a preliminary hydrogeological study (Hopkins, 2001). The study found that the sandy shoreline sediments were very thin, fine-grained, and often scoured by wave action during large storm events. Although near-shore conditions along some sections of the California coastline may be conducive to this type of seawater production (e.g., Marina, California), the coastline geology in the vicinity of the City of Santa Cruz does not.

The Purisima Formation is known to outcrop on the ocean floor near the present shoreline. Where present, the offshore marine sediments that form a thin veneer over the underlying siltstone, sandstone, and mudstone bedrock layers are reportedly fine-grained sand, silt, and clay deposits. Given these conditions, there are no onshore or offshore coarse grained sediments that are capable of providing the magnitude of production required by the project.

MBNMS-4 Please refer to MR 3 for a discussion of why reclamation has been eliminated from further evaluation in the proposed Program.

- MBNMS-5 It is speculative to assume that existing sources including the North Coast and the Live Oak wells would no longer be available. Regardless of their availability, the IWP does not include a reclamation program and provides for drought and supplemental demand through provision of desalinated water. As such, the scenario of reduced wastewater flows from a reclamation program for the dilution of concentrate discharge need not be evaluated in the Draft Program EIR. However, Impact 5.1-2 (pp. 5.1-23 to 5.1-29 of the Draft Program EIR) evaluates concentrate storage requirements in the event of a worst-case effluent flow scenario (as could occur during drought years). The proposed equalization storage, described in the Program Description (p. 4-21 of the Draft Program EIR) and Mitigation Measure 5.1-2 (p. 5.1-28 of the Draft Program EIR) would provide an alternative disposal method for the concentrate until sufficient wastewater flows are available to dilute the composite concentrate (to ensure compliance with NPDES dilution requirements). Please refer to the text discussion for storage requirements and assumptions for the worst-case effluent flow scenario.
- MBNMS-6 Impact 5.9-4 (p. 5.9-13 of the Draft Program EIR) evaluates the potential environmental consequences of converting the abandoned outfall to an intake. As discussed, conversion of the outfall to an intake structure would eliminate its capacity as an emergency outfall and would potentially result in overflow of existing facilities during extreme high flow events. Improvements to the existing wastewater conveyance facilities or pumping improvements at the WWTP would therefore be required to prevent overflow. Mitigation Measure 5.9-4 identifies the need for “further analysis to establish appropriate improvements to ensure that sufficient capacity is available within the system to accommodate wastewater flows.” Further evaluation of the final design would be completed as part of the project-level EIR if the proposed Program is approved. Improvements would be upgraded to a level that meets the RWQCB NPDES discharge requirements and thus preclude the possibility of accidental release of sewage into the sanctuary.

## Chapter 3. Text Revisions

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### 3.1 INTRODUCTION

In accordance with Section 15132 of the *CEQA Guidelines*, this section presents the changes that were made to the Draft Program EIR to clarify or amplify its text in response to comments. Such changes are insignificant as the term is used in Section 15088.5(b) of the State CEQA Guidelines.

The following text changes are made to the Draft Program EIR. The changes are grouped by Draft Program EIR chapters and are then shown by page number in the Draft Program EIR and identified as to the location of the change in the body of the text or table.

Where changes are shown inserted in the existing Draft Program EIR text, revised or new language is underlined, deleted language is indicated by strikethrough, and the original text is shown without underline or strikethrough.

### 3.2 TEXT REVISIONS

#### Chapter 1. Summary

On Draft Program EIR page 1-1, the second sentence of the second paragraph under Section 1.1.1 has been revised as follows:

Should the Council decide to move forward with the recommended IWP, this EIR will be used to determine which plant location and pipeline routes ~~are environmentally superior~~ would be carried forward to the next stage of project-level analysis.

In response to Comment AS1-4, the third bulleted item under Section 1.1.3 on Draft Program EIR page 1-2 has been revised as follows for clarification:

- Water supply development provided by a 2.5-million-gallon-per-day (mgd) desalination plant. Two operational strategies were identified: Alternative D-1 would provide water supply during a drought to the City service area, and Alternative D-2 would continue to provide water to the City during droughts but would also provide water supply for its potential partner, Soquel Creek Water District (SqCWD), during nondrought periods. Facilities associated with the two operational alternatives would generally be the same, except the implementation of D-2 would require additional conveyance and pumping facilities. In addition, there is a potential for expansion of the desalination plant to 3.5 mgd in 2015 and 4.5 mgd in 2025.

### 3. TEXT REVISIONS

In response to Comment SqCWD-2, the sixth paragraph on Draft Program EIR page 1-2 has been deleted as follows:

~~Alternative D-2 provides additional supply to offset pumping by SqCWD and also provides a contingency whereby the City can use up to 1.25 mgd year round. Both water purveyors (the City and SqCWD) would be allowed continued use of existing groundwater supplies and would gain access to additional supply from the desalination facility. This alternative offers the greatest potential benefit to the groundwater basin by providing a supply to each major groundwater user, thus preventing the need to increase future use of the limited groundwater resources. Nevertheless, cumulative impacts would still occur due to ongoing production at historical rates by all pumpers in the Purisima aquifer.~~

In response to Comment AS1-8, the third row of Table 1-1b on Draft Program EIR page 1-10 has been revised as follows for clarification:

PURPOSE	Drought Protection <u>and supplemental supply for City</u>	Drought protection and supplemental supply for City and long-term supplemental supply for SqCWD
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On Draft Program EIR page 1-12, the first paragraph under Section 1.4.2 has been revised as follows:

The Proposed Program was found to cause significant and unavoidable impacts on a cumulative level for ~~three-two~~ issue areas – groundwater storage and seawater intrusion, and noise, ~~and traffic~~.

On Draft Program EIR page 1-13, the Noise section has been revised as follows:

If construction activities for the Proposed Program occur simultaneously with highway construction activities for the Highway 1/17 Widening for Merge Lanes project, then the City would implement Mitigation Measure C-2 which would shift construction activities to nighttime hours (then nighttime construction would be necessary to reduce cumulative traffic impacts). The noise ordinances of City of Santa Cruz, Santa Cruz County, and City of Capitola prohibit offensive noise between the hours of 10:00 p.m. and 8:00 a.m. If an exception to these prohibited hours are not granted during the construction phase, then no mitigation is feasible and the impact would be considered significant and unavoidable. ~~(described in further detail below), and though the impacts would only occur during the construction period, they would be a significant and unavoidable cumulative impact.~~

On Draft Program EIR page 1-13, the Traffic section has been deleted as follows:

Traffic

~~If construction activities for the Proposed Program occur simultaneously with highway construction activities for the Highway 1/17 Widening for Merge Lanes project, then lane closures would occur at one off ramp throughout the entire construction duration, and sporadically for a week at a time during the evening hours at other locations. Although Caltrans would maintain two lanes of traffic on the highway, construction activities could slow traffic, thus causing motorists to select surface street routes to bypass the affected highway segments. Any vehicles diverted from the highway would add to the traffic volumes on Soquel Drive and Soquel Avenue, with an increase in both construction and other traffic on these roadways resulting in significant cumulative impacts. The implementation of mitigation that would shift pipeline construction to nonpeak, nighttime hours (Mitigation Measure C-2), would reduce the cumulative traffic impacts to less than considerable, but would result in a significant unavoidable impact to noise.~~

On Draft Program EIR page 1-15, the fourth column heading of Table 1-2 is incorrectly labeled and has been revised to read as follows:

**Alternative D-24, 3.5 and 4.5 mgd**

In response to Comment AS1-12, the second to last row of Table 1-3 on Draft Program EIR page 1-20 has been deleted to conform to the table.

<b>5-13: Energy</b>	<b>NO POTENTIAL IMPACTS</b>
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On Draft Program EIR page 1-23, the first sentence of the second paragraph under Section 1.7 has been revised as follows:

The environmental issues that distinguish the desalination areas include land use, biological resources, ~~noise~~, and visual resources with the industrial park area being environmentally superior.

In response to Comment AS1-13, the third full paragraph on page 1-23 of the Draft Program EIR has been revised for clarification.

The environmental issues that distinguish the desalination areas include land use, biological resources, noise, and visual resources. ~~with the~~ The industrial park area is the ~~being~~ environmentally superior desalination area. Further discussion of these distinctions is provided in Chapter 8, Alternatives.

### 3. TEXT REVISIONS

On Draft Program EIR page 1-25, the second bulleted item has been revised as follows:

- The issues to be resolved prior to implementation of the project include:

In response to Comment AS1-14, the seventh bulleted item under Section 1.9.2 on Draft Program EIR page 1-25 has been revised as follows:

- The City will determine the necessary improvements for the wastewater treatment plant ~~prior~~.

## Chapter 4. Program Description

On Draft Program EIR page 4-10, Figure 4-1 has been revised to be consistent with the boundaries of Figure 4-2, as shown on the following page.

The first sentence of the bulleted item on Draft Program EIR page 4-12 has been revised as follows:

The Terrace Point Area encompasses the approximately 60-acre Terrace Point property; and the approximately 16-acre Long Marine Laboratory site; ~~and the 29-acre Younger Lagoon.~~

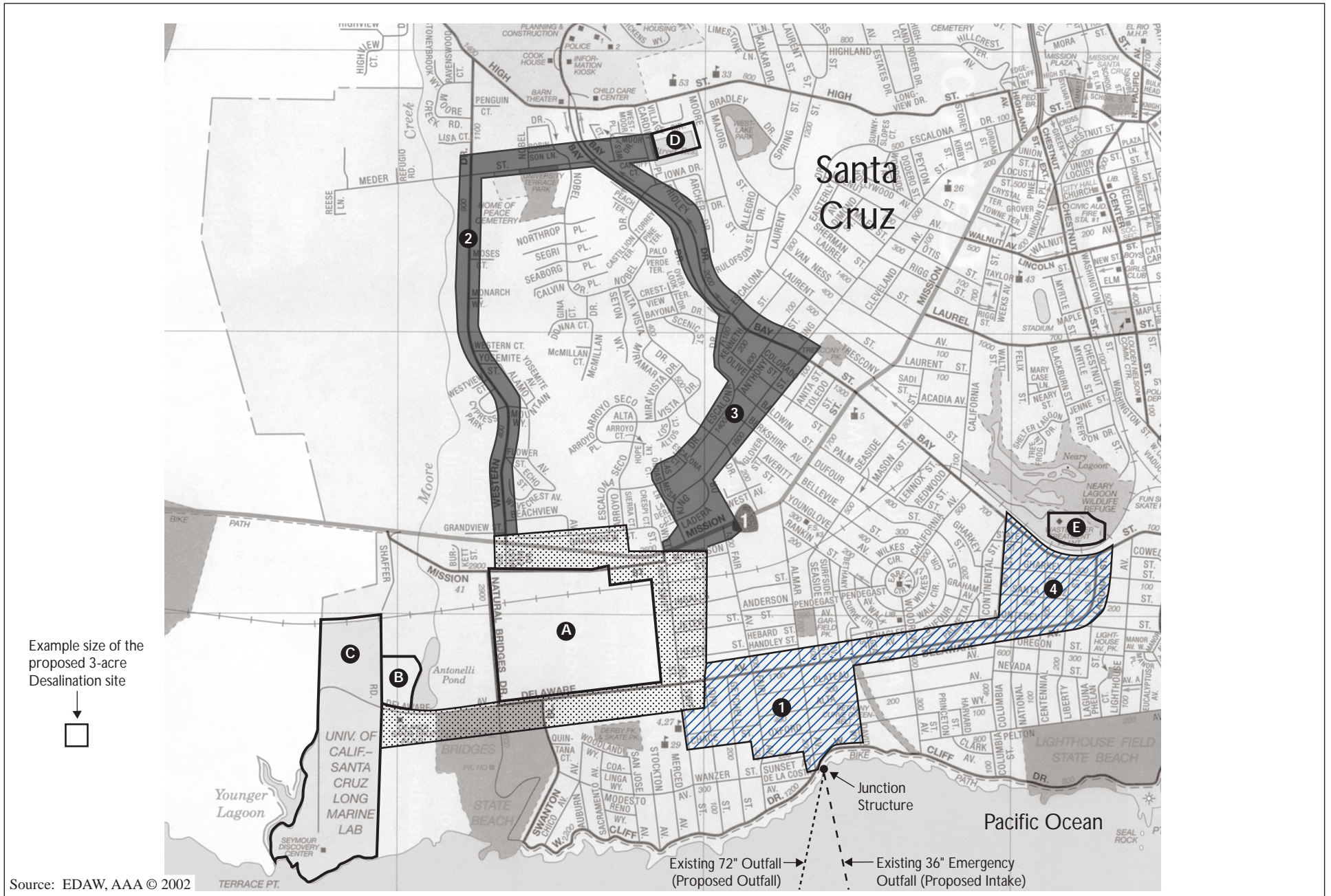
In response to Comment AS1-20, the third row of Table 4-6 on Draft Program EIR page 4-19 has been revised as follows for clarification:

PURPOSE	Drought Protection <u>and supplemental supply for City</u>	Drought protection and supplemental supply for City and long-term supplemental supply for SqCWD
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On Draft Program EIR pages 4-26 and 4-27, the first paragraph under Section 4.3 has been revised for clarification, as shown below.

The proposed Program would be implemented in phases, as defined in Section 3.2, Program Need and Objectives. The phases are tied to the population projection horizons identified in the County of Santa Cruz, City of Capitola, and City of Santa Cruz General Plans and Local Coastal Program. The near-term phase is defined as 2005 to match the current General Plan's horizon, which would not be achieved until 2009. The long-term phase is the period from 2005 through 20230. The need for consideration of expansion. ~~Expansion requirements~~ of the desalination plant to its future increments would be confirmed upon update of the population projections in the applicable future General Plans and timed for decision when actual water demands warrant that consideration. Following completion of the Program EIR and City Council action, the City would conduct follow-up, project-level environmental analysis for the near-term, 2.5-mgd desalination plant development. At such time, site-specific engineering and design information would be incorporated into the environmental





**FIGURE 4-I**  
**Proposed Desalination Areas and Pipeline Corridors**

### 3. TEXT REVISIONS

documentation. Construction would occur after completion of the project-level CEQA analysis, design of the near-term facilities, and permit acquisition. Construction of the first phase of the desalination plant and associated facilities would last approximately 18 to 34 months and is anticipated to be complete by 2008 to 2010. The plant would be operated thereafter.

On Draft Program EIR page 4-36, the fourth sentence of the last paragraph has been revised to correct a typographic error. The revision below would not change the conclusions of the cumulative impacts analysis such that a new significant impact would occur or increase the severity of any existing impacts identified in the Draft Program EIR.

The long-term phase is the period from 2005 through ~~2020~~ 2030 to synchronize with the planning horizon that would be identified in the updated General Plan.

## Chapter 5. Environmental Evaluation

### *Hydrology and Water Quality*

In response to Comment CORD-20, Table 5.1-2 on Draft Program EIR page 5.1-10 has been revised, as shown on the following page.

On Draft Program EIR page 5.1-33, the mitigation measure number has been revised as follows:

#### **Recommended Measure 5.1-~~54~~: Low Impact Design**

### *Marine Resources*

In response to Comment CORD-17, the following text has been added to Draft Program EIR page 5.2-9 after the first paragraph under the Beach Habitat and Species section:

Central California beaches support organisms separated into distinct zones (Oakden 1998). The upper intertidal zone is dominated by talitrid amphipods commonly referred to as beach hoppers (*Megalorchestia* spp.). The mid-intertidal zone is characterized by cirolanid isopods (*Exocirolana* spp, and *Cirolana hardordi*). The swash zone is dominated by sand crabs (*Emerita anologa*). The sub-littoral fringe is much more diverse and includes such organisms as pismo clams (*Tivela stultorum*), spiny mole crab (*Blepharipoda occidentalis*), polychaete worms (*Euzonus* spp.) and a number of other invertebrate species.



**Table 5.1-2  
Beneficial Uses of Surface Water Bodies Crossing or in Close Proximity to Program Components**

SURFACE WATER BODY	BENEFICIAL USES	ASSOCIATED PROGRAM COMPONENTS
Moore Creek	MUN, AGR, GWR, REC1, REC2, WILD, COLD, WARM, SPWN, BIOL, FRESH, COMM	Shaffer Road/Antonelli's Pond Area, and Corridors 1, 2, 3, and 4
Antonelli's Pond	GWR, REC1, REC2, WILD, WARM, MIGR, SPWN, RARE, COMM	Shaffer Road/Antonelli's Pond Area, and Corridors 1, 2, 3, and 4
Younger's Lagoon	GWR, REC1, REC2, WILD, COLD, WARM, SPWN, BIOL, COMM	Terrace Point Area
Arroyo Seco Canyon Drainage <sup>1</sup>	None	Industrial Park Area, Corridors 1, 2, 3 and 4
Bethany Creek <sup>1</sup>	None	Corridor 4
Bay Creek <sup>1</sup>	None	Corridor 3

Source: CCRWQCB 1994; SWRCB 2001

**Note:** <sup>1</sup> *Unlisted water bodies have implied beneficial use designations for protection of both recreation and aquatic life*

**Definitions of Beneficial Use Acronyms:**

AGR – Agricultural Supply

BIOL – Preservation of Biological Habitat of Special Significance

COLD – Cold Freshwater Habitat

COMM – Commercial and Sport Fishing

EST – Estuarine Habitat

FRESH – Freshwater Replenishment

GWR – Ground water Recharge

IND – Industrial Service Supply

MIGR – Migration of Aquatic Organisms

MUN – Municipal and Domestic Supply

NAV – Navigation

RARE – Rare, Threatened, or Endangered Species

REC-1 – Water Contact Recreation

REC-2 – No-Contact Water Recreation

SHELL – Shellfish Harvesting

SPWN – Spawning, Reproduction, and/or Early Development

WARM – Warm Freshwater Habitat

WILD – Wildlife Habitat

In response to Comment CORD-13, the following text has been added to Draft Program EIR page 5.2-13 after the fourth paragraph:

California Marine Life Protection Act

The 1999 Marine Life Protection Act mandated that the state design and manage an improved network of marine protected areas to, among other things, protect marine life and habitats, marine ecosystems, and marine natural heritage. Marine protected areas include marine reserves, marine parks and marine conservation areas. The Marine Life Protection Act will be implemented through a series of regional processes throughout the state, beginning with the Central Coast study region that extends from Pigeon Point (San Mateo County) south to Point Conception (Santa Barbara County). The Draft Final California Marine Life Protection Act Initiative

### 3. TEXT REVISIONS

Regional Profile of the Central Coast Study Region was released in August, 2005. There are 12 Marine Protected Areas and a Special Closure area that are in the Central Coast Study Region. An evaluation of the effectiveness of state marine reserves in the region concluded that the marine reserves needed to be extended into deeper waters and the existing marine reserves in Central California need to be expanded.

Because of the new text provided for Comment CORD-17, the following reference has been added to Draft Program EIR page 5.2-29:

Love, M. 1996. *Probably More than You Want to Know about the Fishes of the Pacific Coast*. Really Big Press

#### ***Land Use, Planning, and Recreation***

On Draft Program EIR on page 5.3-2, the following text is added after the sixth sentence of the last paragraph:

In addition, live-work units are located along Swift Street.

In response to Comment UCSC-1, the sixth sentence of the fifth paragraph on Draft Program EIR page 5.3-4 has been revised for clarification as follows:

The greater Terrace Point Area, as owned by UCSC, encompasses the approximately 60-acre Terrace Point property (referred to as the Westside Lands in the General Plan), the approximately 16-acre Long Marine Laboratory<sup>1</sup> (LML), and the 24-acre YLR.

In response to Comment CCC-13, the third sentence of the second paragraph on Draft Program EIR page 5.3-6 has been revised as follows:

The junction structure is within the coastal zone, in an area designated as Coastal Recreation (CR) and zoned as Oceanfront Recreational District (OFR).

#### ***Biological Resources***

In response to Comment UCSC-1, the first sentence of the last paragraph on Draft Program EIR page 5.4-13 has been revised as follows:

The Terrace Point Area is bordered on the east by Shaffer Road and on the west by Younger Lagoon; it extends from the beach north to ~~McPherson Street~~ the railroad tracks. The Seymour Marine Discovery Building and a NOAA Fisheries building are located in the Terrace Point Area.

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<sup>1</sup> The LML is a key facility of the Institute of Marine Sciences, an interdisciplinary research unit of UCSC.

On Draft Program EIR page 5.4-29, text under the Mitigation Measures has been revised as follows:

Please refer to Mitigation Measures 5.4-3b and 5.1-1a through 5.1-1d.

In response to Comments APCD-2, the third row on Table 5.5-2 on Draft Program EIR page 5.5-8 has been revised as follows:

Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 <del>µg</del> mg/m <sup>3</sup> )	None	9.0 ppm (10 <del>µg</del> mg/m <sup>3</sup> )
	1-Hour	35 ppm (40 <del>µg</del> mg/m <sup>3</sup> )		20 ppm (23 <del>µg</del> mg/m <sup>3</sup> )

### ***Air Quality***

In response to Comment APCD-1, the fourth paragraph on Draft Program EIR page 5.5-7 has been revised as follows:

The NCCAB is designated as a nonattainment transitional area for the state O<sub>3</sub> standard and as a state nonattainment area for PM<sub>10</sub> (MBUAPCD 2004b). The Monterey County portion of the NCCAB is in-designated attainment for the state CO while the Santa Cruz County and San Benito County portion are designated as unclassified. The whole NCCAB is designated as a state attainment area for NO<sub>2</sub>, SO<sub>2</sub>, sulfates, and Pb standards, and unclassified for state hydrogen sulfide and visibility-reducing particles. The NCCAB is designated as an attainment area for all federal criteria pollutants.

In response to Comment APCD-3, the following text has been added to Draft Program EIR page 5.5-10 after the last sentence of the first paragraph:

If the 5 percent reduction is not achievable, nonattainment districts are required to adopt all feasible measures.

In response to Comment APCD-3, the second sentence of the third paragraph on Draft Program EIR on page 5.5-10 has been revised as follows:

In a continuing effort to reach attainment of the state standards for O<sub>3</sub>, and as required by the CCAA, the MBUAPCD updated the AQMP in 1997, ~~and~~ 2000, and 2004.

In response to Comment APCD-6, the fourth and fifth sentences of the third paragraph on Draft Program EIR on page 5.5-21 has been revised as follows:

During drought conditions (i.e., one year out of six years, it is estimated that operation of the proposed Program would generate approximately 0.81 lbs/day (197 lbs/~~year~~8 months) of VOC and 49.46 lbs/day (12,033 lbs/~~year~~8 months) of NO<sub>x</sub> when producing 3.5 mgd for 8 months. The remaining four months would operate at

### 3. TEXT REVISIONS

1.25 mgd, and would generate approximately 0.5 lbs/day (66 lbs/4 months) of VOC and approximately 18.4 lbs/day (2,240 lbs/4 months) of NO<sub>x</sub>.

#### ***Public Services and Utilities***

On Draft Program EIR page 5.9-12, the following mitigation has been added after Mitigation Measure 5.9-3 to be consistent with the existing Draft Program EIR text:

**Mitigation Measure 5.9-3b:** The City shall conduct additional analysis to ensure that the City's landfills have enough capacity for the increase in solid waste production for subsequent increments of Alternative D-2.

#### ***Traffic and Transportation***

On Draft Program EIR page 5.12-14, Mitigation Measure 5.12-4 has been revised as follows:

**Recommended Mitigation-Measure 5.12-4:** This mitigation measure applies to the pipeline components. It is recommended that the City provide off-street parking for construction worker vehicles, or if that is impractical, workers could be shuttled to the work site from an off-site location.

### **Chapter 6. Growth Inducement and Secondary Effects of Growth**

In response to Comment SCC-1, the first sentence of the last paragraph on Draft Program EIR page 6-4 has been revised as follows:

The County is planning for a total of 3,4413,411 units to be built Countywide through 2007, of which perhaps 1,400 units potentially would be located within the City water service area.

In response to Comment SCC-1, the first sentence of the third full paragraph on Draft Program EIR page 6-5 has been revised as follows:

The County in its housing element is planning for a total of 3,4413,411 units to be built Countywide through 2007.

In response to Comment AS1-27, the second paragraph under Section 6.3.2 on Draft Program EIR page 6-6 has been revised as follows:

Measure J was passed in 19783 by Santa Cruz County voters to manage growth in the County. To implement Measure J, a series of measures were created with the intention of providing high quality development while also ensuring adequate public services and protection for the County's natural and agricultural resources. One such measure is a basic land use policy that separates urban and rural areas through a distinct boundary and thus serves to encourage new development to locate in urban areas and to protect agricultural land and natural resources in the rural areas. Urban

and rural areas are separated by an Urban/Rural Boundary, where the Urban Services Line (USL) (Figure 6-1) defines where urban services may be provided. In general, the areas within the USL are served by public water systems, sanitary sewer facilities, and receive an urban level of fire protection. The USL has not substantially changed since it was adopted in the late 1970s.

On Draft Program EIR page 6-18, the fourth column heading of Table 6.5-1 is incorrectly labeled and has been revised to read as follows:

**Alternative D-24, 3.5 and 4.5 mgd**

## **Chapter 7. Cumulative Impacts**

In response to Comment AS1-33, the first paragraph on Draft Program EIR page 7-8 has been revised as follows for clarification:

The LRDP is not an implementation plan for development but provides a building program and a land use map that will serve as a comprehensive planning framework for capital construction, infrastructure, and land use programs (UCSC 2004). Each specific capital project proposed at the University will be analyzed individually for consistency with the 2005 LRDP and 2005 LRDP EIR. ~~The 2005 LRDP will undergo environmental review as required under CEQA, with certification planned for late spring 2005. Following certification, the 2005 LRDP would then be adopted by the Regents of the University of California. A draft LRDP will be completed and work will begin on a draft EIR for the LRDP in the 2004-05 year. In the 2005-06 year, the draft EIR will be presented to the public for comments, and the LRDP and EIR will be submitted to University of California's Board of Regents for final consideration.~~

In response to Comment AS1-35, the third paragraph on Draft Program EIR page 7-8 has been revised as follows:

The SCCRTC, in partnership with Caltrans, proposes to add a high occupancy vehicle (HOV) lane in each direction of Highway 1 between Morrissey Boulevard and San Andreas/Larkin Valley Road as part of the Highway 1 HOV Lane Widening Project. In addition, the agencies are considering new pedestrian/bike overcrossings, ramp meters, soundwalls, and auxiliary lanes. The objectives of the project are to reduce congestion, encourage carpooling, expand express service, and improve safety. The SCCRTC developed a transportation sales tax measure, Measure J, to cover the cost of this and other transportation projects throughout the county. The measure went to the ballot on the November 2, 2004 but failed to receive the 2/3<sup>rd</sup> vote needed to pass. Final design of the proposed facility, right-of-way negotiations, and construction of the facility would occur after completion of the Final EIR, which is estimated for 2007-spring 2008 (SCCRTC 2004bSchultz 2005).

### 3. TEXT REVISIONS

In response to Comment SqCWD-5, the last paragraph on Draft Program EIR page 7-9, continues onto page 7-10, has been revised as follows:

Under the recycled water/-groundwater enhancement-exchange alternative project, SqCWD would augment assist the City of Watsonville and PVWMA's imported water supply by purchasing an additional 2,000 on acre-foot per year (afy) average of water (possibly from Santa Clara Valley Water District) to be conveyed to PVWMA through the planned pipeline and "banked" in the Pajaro Valley groundwater basin; provide funding to offset some of the capital costs for implementing the proposed BMP, for example, the recycled water component; and construct new groundwater pumping and conveyance facilities which would interconnect the City of Watsonville's water distribution system with SqCWD's system, allowing SqCWD customers to be supplied by municipal water from the City of Watsonville's system. Alternatives for direct agricultural use of SqCWD's imported supply to be explored as in lieu groundwater banking include: 1) potential expansion of the coastal distribution system to serve an additional 500 acres of agriculture located northwest of the termination of the BMP system up to SqCWD's southeastern boundary, which has an estimated demand of 1,000 afy; and 2) meeting peak agricultural demands as an alternative to PVWMA construction "peaking" wells. in funding the 4,000 acre-foot (afy) per year wastewater recycling project at the Watsonville Wastewater Treatment Plant. The recycled water would replace groundwater that would otherwise be pumped to meet agricultural irrigation demands. In exchange, Watsonville would increase its total production (including inland groundwater pumping) by up to 2,000 afy to sell to SqCWD. This alternative would require construction of approximately five miles of pipelines (SqCWD 2004).

In response to Comment CORD-25, the second full paragraph on Draft Program EIR page 7-13 has been revised as follows:

There is an additional production capacity of 29 mgd from desalination facilities which are pending regulatory review and approval. Because the proposed facilities are speculative, they are not included in this cumulative impacts analysis. If any of these projects move forward, they will require detailed environmental analysis and a consideration of cumulative impacts at that time. Since the NOP was issued in November 2003, there have been some changes to the status of the regional desalination projects listed in Table 7-3 of the Draft Program EIR that were not active at the time the NOP was issued. In the interest of clarification, and to review and verify the cumulative impact assessments of these regional desalination projects, an update on the status of these projects is provided below. We have also provided additional information to clarify and support the impact assessment conclusions that were made in the Draft Program EIR. It should be noted that the analysis focuses on the cumulative effects of operating, rather than constructing, desalination plants. As discussed on p. 7-11 of the Draft Program EIR, "because the timeline for cumulative projects is not available, it is not known if construction would occur simultaneously, especially for those projects that would be

located in the vicinity of the desalination plant.” For this reason, this analysis focuses on the operating effects of desalination plants, including impacts to marine resources (e.g., entrainment and impingement), water quality effects from concentrate discharge, and energy consumption.

*Desalination Projects That Were In Various Stages of Environmental Review*

**Ocean View Plaza.** The Ocean View Plaza is a private development consisting of a mix of retail spaces, restaurants, residential units, parking garages, and public plazas located on Cannery Row in the City of Monterey. It includes a 0.05 mgd desalination plant using reverse osmosis that would supply water exclusively to the Plaza’s private facilities. The plant would consist of a surface water intake and discharge in the Monterey Bay. Due to the size of the desalination facility, it is expected to result in less-than-significant impacts to marine resources and water quality. Recommendations by the project proponent to design the intake with a screening system would reduce potential impacts to marine resources. With respect to water quality effects, studies show that salinity concentrations from the discharge are expected to reach ambient levels within 10 feet of the discharge. These effects are therefore extremely localized in character, and would not compound or exacerbate any impacts of the City’s project. Energy consumption effects of the Ocean View Plaza project are expected to be less than significant due to the small size of the desalination plant. The Ocean View Plaza was approved by the City of Monterey City Council in June 2004, but has not yet been built (KSBWChannel.com, 2004; Bennett, 2005). The project is currently being reviewed by the California Coastal Commission as part of the coastal development permit process (Bennett, 2005).

**Sand City.** Sand City proposes the construction and operation of an approximately 300 afy brackish water desalination facility (using RO technologies) and potable water distribution system to serve customers in Sand City. Water to be treated at the desalination facility would be obtained from the shallow groundwater aquifer near Monterey Bay. Concentrate would be disposed of via horizontal wells beneath a coastal bluff. Sand City has completed environmental review of the project and obtained a coastal permit from the California Coastal Commission in May 2005. Construction of the desalination facility is anticipated be completed in 18 months. Because brackish water desalination facilities would obtain water from and discharge into existing aquifers rather than the ocean or Monterey Bay, the project would not result in any significant impacts to marine resources or ocean water quality. With respect to energy usage, brackish water desalination uses much less energy than seawater desalination facilities, so these effects would be comparatively modest. In addition, Sand City is considering the use of a pressure exchanger which could reduce energy usage by 37 percent. As discussed in Sand City’s EIR, the proposed project would not result in the inefficient or unnecessary use of energy. For all of these reasons, the impacts of the San City project would not compound or exacerbate any of the effects of the City of Santa Cruz’s desalination project.

**Monterey Peninsula Water Management District Carmel River Plan B; Cal-AM**

**Coastal Water Project.** The California American Water (CAW) Company is proposing to implement the Coastal Water Project, which includes the construction and operation of a desalination plant near the Duke Energy Moss Landing Power Plant (MLPP), and related appurtenances (i.e., water transmission facilities, aquifer storage and recovery facilities, storage reservoirs, and booster pump stations) (RBF, 2005). Project facilities would generally be located in coastal Monterey County, primarily at the Moss Landing power plant. The desalination plant would use the power plant's cooling water as the source supply and concentrate would be combined with power plant discharge prior to disposal through the power plant's existing outfall.

A Preliminary Environmental Assessment (PEA) has been conducted for the project. The PEA evaluated five alternatives, including the proposed project (11,730 afy), a regional project (20,272 afy) and the No Project (RBF, 2005). Only one of the alternatives is located outside the MLPP complex and would not use MLPP facilities. The PEA found that the concentrate discharge under the proposed project and alternatives would not adversely impact marine biological resources by changing salinities and/or temperatures in comparison to existing conditions. Similarly, chemical additives and by-products from the desalination process would not affect marine resources. In addition, there would not be impingement for the alternatives that use the existing MLPP intake facilities. The PEA also indicated there would be a nominal amount of additional entrainment mortality as a result of proposed project operation. With respect to energy usage, several options are available, including direct purchase of power from the Duke Energy Moss Landing Power Plant. Because none of the options identified in the PEA would require an increase in the consumption of natural gas, none of the options would have a significant impact to natural gas supplies. Because these impacts are all either minimal or very localized, they would not compound or exacerbate any of the impacts of the City's proposed desalination project.

**Desalination Projects Not in Environmental Review**

**Cambria Community Services District.** Cambria Community Services District, located more than 100 miles south of the City of Santa Cruz in the southern tip of the Monterey Bay National Marine Sanctuary ("MBNMS"), is considering an approximately 1 mgd desalination plant (Gresens, 2005). The District is in the process of obtaining permits to conduct hydrogeological studies of the nearby beach areas to determine the feasibility of installing subterranean intake and discharge wells. Upon completion of the studies, the District would consider desalination alternatives. Environmental review would be conducted upon development of the alternatives. Due to the distance of the City's desalination facilities from that proposed by the District (approximately 100 miles, the exact distance would be determined once the exact location of the desalination facility is known), cumulative effects are not expected to overlap in the issue areas of water quality and marine resources. In addition, if the District implements intake and discharge wells, then marine resource effects from entrainment or impingement would not occur.



**Montara Sanitary District.** Montara Sanitary District is currently in the preliminary stages of defining a brackish water desalination plant located in San Mateo County (Irving, 2005; Yurovsky, 2005). San Mateo County is located nearly 50 miles north of the City of Santa Cruz, within the MBNMS. Due to the lack of detail regarding the capacity and design of the District’s proposed desalination facilities, cumulative effects cannot be adequately characterized. As discussed above in the context of the Sand City facility, brackish water desalination facilities would obtain water from and discharge into existing aquifers rather than the ocean or Monterey Bay and use less energy than seawater desalination facilities. Therefore, this project should not be expected to result in any significant impacts to marine resources or ocean water quality or consume excessive amounts of energy. In addition, the distance between the two jurisdictions would likely ensure that localized water quality effects would not overlap.

**Summary of Conclusions.** Although a number of desalination proposals are either being contemplated or are in the works in the greater Monterey Bay region, significant cumulative effects would not result from all of these projects taken together with the City’s proposed project. The various plants typically have only very localized effects, most of which are mitigated by state of the art mitigation measures that reinforce the limited nature of those localized effects. Some of the projects, moreover, are located on sites considerably distant from the City’s proposed site, and thus would not cause additive, synergistic, or cumulative effects for that reason. Because these projects, taken together, would not cause any significant cumulative effects, the incremental contribution of the City’s proposal is necessarily “less than cumulatively considerable” (see CEQA Guidelines, § 15130, subd. (a)(3)).

In response to Comment SqCWD-3, the last paragraph on Draft Program EIR page 7-13, continues onto page 7-14, has been revised as follows:

The cumulative condition also includes SqCWD’s net groundwater production and assumes that the SqCWD offset would occur regardless of the source of supplemental water. Cumulative groundwater effects also include private well owners. It is estimated that the annual average groundwater production from the Purisma Aquifer from the early/mid 1960s to 2003 is 5,190 afy, excluding private well production (4,359 afy for SqCWD, 468 afy for the City, and 363 afy for the Central Water District [Johnson, et. al 2004]). Pumping from private wells is unrecorded but estimated to be several thousand afy. It is estimated that the total average annual pumping from the Purisima Formation by all pumpers (i.e., City of Santa Cruz, Soquel Creek Water District, and the Central Water District over the period from the early/mid 1960s to 2002; pumping from private wells is unrecorded) is over 1200 mgd (3,700 afy).

### 3. TEXT REVISIONS

In response to Comment SqCWD-2, the following paragraphs on Draft Program EIR pages 7-14 and 7-15 has been revised as follows:

Alternative D-2 provides additional supply to offset pumping by SqCWD and also provides a contingency whereby the City can use up to 1.25 mgd year-round. Both water purveyors would be allowed continued use of existing groundwater supplies and would gain access to additional supply from the desalination facility. This alternative offers the greatest potential benefit to the groundwater basin by providing a supply to each major groundwater user, thus preventing the need to increase future use of the limited groundwater resources (and offsetting groundwater pumping by SqCWD). Nevertheless, cumulative impacts would still occur due to ongoing production at historical rates by all pumpers in the Purisima aquifer. If uncontrolled, private pumping would likely increase in the future, and the potential for cumulative seawater intrusion could be significant. However, the establishment of a regional groundwater management agency (see Mitigation Measure C-1 on p. 7-15 of the Draft EIR) would provide a framework that would control pumping and protect groundwater resources. Implementation of this mitigation measure would reduce the potential significant impact to a less-than-significant level, and unavoidable impacts would be prevented as the regional groundwater management agency would ensure the equitable curtailment of use or expansion of supply. The cumulative impacts to regional groundwater storage and saltwater intrusion under Alternative D-2 are significant ~~and unavoidable~~ but mitigable.

In addition to Mitigation Measures 5.1-6a through 5.1-6c, Mitigation Measure C-1 is proposed to reduce the City's incremental contribution to cumulatively significant impacts. However, with implementation of Measure C-1, cumulative impacts may still be significant and unavoidable.

In response to Comment SqCWD-4, the following mitigation on Draft Program EIR page 7-15 is revised to read as follows:

**Mitigation Measure C-1:** The City shall work with SqCWD and other public and private water users who produce water from the Purisima aquifer to (a) establish a regional groundwater management agency or (b) to participate in an established regional groundwater management plan and associated joint powers authority. Under either scenario, the agency shall be empowered to collect data and build a comprehensive basinwide database for equitable curtailment of use or expansion of supply through mutually funded projects."

On Draft Program EIR page 7-24, the following references have been added:

The KSBW Channel.com. June 2, 2004. *Ocean View Plaza Still Facing Major Hurdles. Project Approved by Monterey City Council*. Located at:

<<http://www.theksbwchannel.com/print/3375182.detail.html>>; Bennett, Todd.  
Planner. City of Monterey. Phone Communication on September 25, 2005.

RBF Consulting. July 14, 2005. *Proponent's Environmental Assessment for the Coastal Water Project (Proceeding a.04-09-019)*.

Gresens, Bob. District Engineer. Cambria Community Services District. Phone Communication on September 26, 2005.

Irving, George. District Manager. Montara Water and Sanitary District. Email correspondence on September 26, 2005.

## Chapter 8. Alternatives

In response to KB-1, Table 8-8 has been revised as shown on the following page:

**Table 8-8**  
**Relative Comparison of Desalination Plant Area Options**

ENVIRONMENTAL ISSUE AREA	INDUSTRIAL PARK AREA	SHAFFER ROAD/ ANTONELLI'S POND AREA	TERRACE POINT AREA
Less potential for damage to structures or risk to people from flooding	√		√
Less potential to affect special-status avian species, reptiles, amphibians, and mammals	√		
<del>Less potential to expose people to or generate noise in excess of established standards</del>	√		
Less potential to conflict with utilities		√	
Less potential to degrade the visual quality of the surrounding environment	√		
Overall Environmentally Superior	√		

*Note: A √ designates that this site is qualitatively superior for that particular issue area. The CEQA level of significance for each issue area above is also similar to these rankings except for impacts to visual quality, which are equal when tested against the CEQA significance levels.*