COMMENTS ON WATER SUPPLY ASSESSMENT

The following subsection includes comments and responses to the following letters submitted to the City Council regarding the Water Supply Assessment. The letters were submitted prior to the release and public distribution of the Draft EIR. The comment letters were included in Appendix F of the DEIR pursuant to the Council's directive. Preliminary responses to general comments were provided by the City Water Department during the Council's consideration of the WSA. However, the City Council also further directed that all comments received on the WSA be considered and responded to as part of the Final EIR's responses to all comments received on the Draft EIR.

WSA-1	Andy Schiffrin
WSA-2	Community Water Coalition, Gary A. Patton, Wittwer & Parkin, LLP, October 13, 2009
WSA-3	Don Stevens, October 13, 2009
WSA-4	Sierra Club
WSA-5	Reed Searle
WSA-6	Bill Malone
WSA-7	Don Stevens, October 22, 2009
WSA-8	Rick Longionotti
WSA-9	Community Water Coalition, Gary A. Patton, Wittwer & Parkin, LLP, October 26, 2009

From: Andy Schiffrin [mailto:BDS030@co.santa-cruz.ca.us]
Sent: Sunday, October 11, 2009 5:18 PM
To: Bill Kocher
Subject: WATER SUPPLY ASSESSMENT COMMENTS

Hi Bill -

I've now had a chance to read over the Water Supply Assessment that's on the upcoming Council agenda. First let me say that I found it a useful and relatively clearly written document. However, I do have a number of questions and comments that I'd like to bring to your attention.

1 - Page 1, first paragraph - The report states that the project "includes all new development proposed by UCSC within the SOI amendment area." This can be misleading and I think the language on page 9 should be substituted here. There, the report state that the project "includes all development planned for the North Campus area in the current version of the 2005 LRDP." This makes it clearer that the project is tied to the 2005 LRDP.

2 - Page 5 - Alternative Water Supplies - The discussion of the IWP consideration of the desalination plant is somewhat misleading. From reading the second paragraph one would assume that the IWP only included consideration of a drought related desal facility. I think it should be clarified that the IWP included both a drought related project and an expansion to serve future growth.

3 - Page 11 - Of course any attempt to summarize the Settlement Agreement is fraught with perils. My concern is that the summary doesn't refer to the language that the City would not oppose the UCSC application and gives the impression that the City and University are moving forward as partners, which was not the intention of the Agreement. On the other hand, my sense is that University people might be concerned that the summary does not include all the outs that the Settlement gave them if they don't like the LAFCO outcome. Rather than to refer to the summary as the "key provisions" of the agreement, it might be better to state that the following are important provisions of the Agreement.

4 - Page 13 - Section 3.1 - The project here is defined as the provision of extraterritorial water and sewer service to the North Campus area, rather than the City's Sphere of Influence Amendment. The report should make clear and be consistent that the project includes both.

5 - Page 20 - Updated Scenarios - As I understand it, Updated Scenario 1 assumes a growth rate of .8% a year, while Updated Scenario 2 assumes a growth rate of .4% a year. What isn't clear to me is why scenario 1 assumes a higher per capita water use (114gpd/capita) then scenario 2 (108 gpd/capita). What was the intention here? Also, what is the current per capita use?

6 - Page 22 - first paragraph, last sentence - The report here refers to "these savings" but it isn't clear to me what savings are meant. The sentence doesn't seem to fit with the sentences before it which concern increases to the assumptions used for including UCSC water demand in the scenarios.

7 - Page 23, Table 1, Table 2 - Projecting Water Demand for the Project - I think I understand the logic for determining the project's water demand at 100 mgy. However, I have the following concerns regarding the treatment of non-project UCSC demands:

First, I don't understand how the overall campus demand increase can be 122 mgy while development in the area outside of the North Campus (the project) will only be 16 mgy. Certainly a good portion of the growth under the 2005 LRDP will be on the existing developed campus. What is the basis for this 16 mgy projection?

Second, the total net increase in campus water demand in 2020 is projected to be 126 mgy, of which 100 mgy is allocated to the project. Why isn't the remaining 26 mgy added to the total City demand depicted on Table 2? The demand projections there are based on the updated scenarios estimating annual off campus growth rates. Shouldn't the on campus water demand growth, which will include office and recreational facilities, be added to this total?

Third, the report assumes that there will be no new LRDP in 2020 and that any future growth can simply be included in the annual growth projections. This seems quite unrealistic to me. I think that the report should assume that the University will attempt to grow from 2020 to 2030 at the same rate and with the same on-campus water demand as is projected with the project.

8 - Page 34 - Groundwater Production - I wonder if the estimates here are correct. In Section 6.2.3.2, the report states that the total annual extraction from the Purisima Formation is estimated to be 1,988 mgy. In Section 6.2.3.3 the report states that the estimated pumping exceeds the sustainable yield by 1,200 mgy. Does this mean that the estimated sustained yield is only 800 mgy?

9 - Page 44,52, Table 8 - Additional Potential Water Supplies - While the report does a good job showing the current water problems during dry years and projecting these out under the two growth scenarios, I think it should have include a chart that included the effect of the City's IWP strategy in future years. The report indicates that even with the 2.5 mgd desal plant and curtailment, there will be insufficient water in 2030, but a table should have been provided calculating this out. Based on my off the cuff calculations, with desal and 15% curtailment, there would be sufficient water for a single dry year and the first year of a multiple year drought in 2030, but not the second year. Is this correct? In my view, figures should be added to Table 8 showing the effects of desal under supply and curtailment under demand. It would be helpful to know how much additional curtailment would be needed in 2030 under the IWP approach.

10 - Page 48 - first paragraph - The report refers to the Program EIR for the desal plant. This is incorrect. The Program EIR was prepared on the entire IWP, which included the desal plant as one component.

I hope these comments are helpful.

Also, I think the Water Commissioners should see a copy of the report (at least the basic report and the tables). Were you planning to put it on the next agenda?

Andy

LETTER WSA-1 – ANDY SCHIFFRIN

WSA-1-1 Project Area and Future Development. The LRDP does not specify how much development will be in the North Campus, and Settlement Agreement section 2.8 says UCSC will apply for extraterritorial water and sewer service for development of 3,175,00 gsf, which is the total increase identified in the adopted 2005 LRDP EIR. So, for the worst-case CEQA analysis and figuring out water demand and wastewater generation, all new LRDP development was assumed to be located within the project area, except for approved and under construction projects on main campus that were deducted. In actuality not all development will occur in North Campus, but there is no way to precisely quantify how much new development could occur on the rest of campus versus North Campus, so the WSA assumed, consistent with the Settlement Agreement, that all new development would occur in the North Campus area. See Master Response WS-2 – Project Water Demand for further discussion.

WSA-1-2 Desalination Plant Purpose. See Master Response WS-3 – Desalination Project Purpose & Impacts.

WSA-1-3 Settlement Agreement. The comment requests a different wording for the summary of some Comprehensive Settlement Agreement provisions. The WSA was approved by the City Council and will not be edited. The way that the Settlement Agreement was summarized does not affect the conclusions of the WSA. However, the requested language was included in the DEIR text on page 3-4.

WSA-1-4 Extraterritorial Water and Sewer Service. Page 8 of the WSA describes both components of the proposed Project: the Sphere of Influence ("SOI") Amendment and provision of extraterritorial services. The cited description on page 13 of the WSA describes the area to receive the extraterritorial services. The WSA was approved by the City Council and will not be edited. The way that the Settlement Agreement was summarized does not affect the conclusions of the WSA. See also Master Response PD-1 – Project Overview, Purpose & Objectives for further clarification of the project description – applications and implementing actions.

WSA-1-5 Growth Scenarios & Per Capita Water Use. The comment indicates that it is not clear why the WSA Scenario 1 assumes a higher per capita water use (114 gpd/capita) than Scenario 2 (108 gpd/capita); the current per capita use is requested. The per capita projections were calculated from the projected total demand (including UC) divided by the estimated population from AMBAG. The total volume of water used is greater for the 0.8% Scenario 1 than the 0.4% Scenario 2, but the population is the same for both scenarios. (As indicated on page 4.1-33, these scenarios were drawn from the UWMP which included a 0.4%

annual growth rate based on historic growth and a higher 0.8% annual growth rate that reflects a higher growth rate.) Thus, Scenario I has a higher per capita water use. The intent was to use the per capita method to distinguish between growth for the two scenarios between the years 2020 and 2030.

The City estimates that per capita water use has ranged between 100 and 120 gpd/person between 2005 and 2009, and this rate has been generally declining due to increasing participation in water conservation efforts and other factors. As stated in section 4.3.1, of the WSA, the City is currently in the process of updating its general plan and will evaluate changes to its water demand projections related to the new general plan in this forthcoming 2010 UWMP update. In the interim, the City utilized this population-based methodology to project potential future water demands between 2020 and 2030.

WSA-1-6 Water Savings. The comment indicates that the reference to "these savings" on page 22 of the WSA is not clear. This sentence refers to the water savings from the 19 high-priority conservation measures UCSC has committed to implement as a part of the Settlement Agreement. See footnote 10 on page 21 and Table 1 of the WSA.

WSA-1-7 Project Water Demand. See Response to Comment WSA-1-1 regarding North Campus growth and Master Response WS-2 – Project Water Demand. See Note H on Table 2 of the WSA; the referenced 26 MGY is included in the total City demand on Table 2. Since the 2005 LRDP envisions a certain level of growth and development to the year 2020, it would be speculative to try to estimate the level of growth/development after that time, as the University would need to either prepare and adopt a new LRDP for the period after 2020 or continue to operate under its 2005 LRDP. It is not known at this time which option UCSC would choose or the levels of any future growth after 2020 that could be assumed. Under the terms of the Comprehensive Settlement Agreement, UCSC agrees to undertake a comprehensive analysis of potentially feasible alternative locations (i.e., satellite campuses, remote-classrooms, etc.) (Section 5.1), thus making potential growth estimates more speculative.

WSA-1-8 Groundwater Production. The comment indicates that section 6.2.3.2 of the WSA states that the total annual extraction from the Purisima Formation is estimated as 1,988 MGY, but section 6.2.3.3 states that the estimated pumping exceeds the sustainable yield by 1,200 MGY and questions whether the estimated sustained yield is only 800 MGY. There is an error in reporting likely potential overdraft in the Purisima Aquifer in Section 6.2.3.3 and that error was corrected with an errata sheet that replaces page 34 of the WSA with a corrected page that is included in Appendix B of the DEIR. This correction was made before the Council approved the WSA. The statement should read: Johnson et. al (2004) estimates that total

pumping from the Purisima formation likely exceeds the sustainable yield of the aquifer by approximately 130 MGY(400 AFY).

WSA-1-9 Desalination Water Supplies. The commenter requests additional information about the effect future supply projects may have in reducing projected shortfalls in single dry and multiple dry years that is not required in a Water Supply Assessment. Detailed operations modeling was conducted as part of the Integrated Water Plan process based on an earlier water demand forecast that ranged from 4,409 million gallons per year (MGY) to 5,321 MGY. The resulting preferred strategy, including the sizing and timing of desalination increments, was designed under this forecast to maintain future water shortages to no more than 15% during the peak season.

The projected water demand scenarios referenced in the Water Supply Assessment were prepared after the IWP process was completed. Both scenarios are lower than the earlier forecast, but neither was run through the operations model in the same way that was done during the Integrated Water Plan so the peak season shortfall information that the commenter requests is not available. The analysis required in a Water Supply Assessment is to compare project and other water demand with supply over a 20-year period. This simple comparison does not yield a result that is directly comparable to the City's operations model, which takes into account many more factors affecting the water system. However, it is reasonable to assume that with the desalination project in place and everything else being equal, water shortages would be less than the maximum 15% identified in the Integrated Water Plan assuming the lower water demands referenced in the Water Supply Assessment.

WSA-1-10 IWP Program EIR. It is agreed that the WSA reference to a "Program EIR" for the desalination project on page 48 of the WSA (first paragraph) should be to the IWP for which a program EIR was prepared that considered all strategies including desalination. As indicated in Response to Comment WSA-1-3, the WSA was approved by the City Council and will not be edited. The wording does not affect the conclusions of the WSA.

From: Gary A. Patton [mailto:gapatton@wittwerparkin.com]
Sent: Tuesday, October 13, 2009 12:54 PM
To: City Council; Cynthia Mathews; Don Lane; Katherine Beiers; Lynn Robinson; Mike Rotkin; Ryan Coonerty; Tony Madrigal
Cc: Patrick McCormick; Bill Kocher; 'Ellen Pirie'; 'John Leopold'; 'Mark Stone'; 'Neal Coonerty'; 'Tony Campos'
Subject: Agenda Item #16 - October 13, 2009 Agenda
Importance: High

Dear Council Members:

Attached is a letter from the Community Water Coalition, commenting on the Water Supply Assessment you will consider on your agenda today.

We are asking you to continue the item to a future City Council meeting, since the public (including the CWC) has not really had an adequate opportunity to review and comment on this important document. I do apologize for the lateness of this letter, but I have tried to provide at least some preliminary comments on behalf of the CWC, and in view of the size of the WSA document, and the scant time available for review, I was not able to get even these preliminary comments to you before this time.

Thank you for considering our preliminary comments, and continuing the item to allow a more thorough review by the CWC and other interested members of the public.

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OF COUNSEL
Gary A. Patton

October 13, 2009

Mayor Cynthia Mathews and Council Members
Santa Cruz City Council
809 Center Street
Santa Cruz, CA 95060

RE: October 13, 2009 City Council Agenda - Agenda Item #16
Implementation of the UCSC Settlement Agreement
Water Supply Assessment

Dear Mayor Mathews and Council Members:

This office represents the Community Water Coalition (CWC), and this letter is written on behalf of the CWC, commenting on the Water Supply Assessment (WSA) scheduled for consideration on the Council's October 13, 2009 agenda.

The CWC is deeply concerned about the balance between the City's available water supplies and current and future demand, particularly as the City contemplates making significant new commitments for water service. Available information indicates that the City has probably already reached or exceeded the limits of the water supplies that will be reasonably necessary to serve current customers in future years (and this is certainly true with respect to so-called "drought" years). Thus, the City-initiated action of asking for an expansion of the City's Water Service Area, to permit the construction of over 3,000,000 square feet of new development on the UCSC North Campus, raises many important policy questions. Addressing these important policy questions is one of the primary purposes of the Water Supply Assessment you will have before you on October 13th.

Request For Continuance

Preliminarily, this letter requests that the Council continue consideration of Agenda Item #16 to a subsequent Council meeting, so that interested and affected members of the public can have a reasonable opportunity to read the voluminous Water Supply Assessment document and comment on it in an intelligent way.

The online materials that are part of the City Council agenda packet were available to the public late Thursday afternoon, October 8th. These materials state that the Water Supply Assessment is available for public review at the Water Administration Office. Unfortunately, that City Office was closed on Friday October 9th, due to the severe budget constraints facing the City. No ordinary member of the public could possibly be expected to obtain a copy of the WSA on the morning of Monday, October 12th, pretty much the earliest time it was available to the public, and then have time to review it, and be prepared to comment by 3:00 p.m. on the very next day. In other words, the City has provided no real opportunity for meaningful public review

of the very important Water Supply Assessment you are scheduled to consider (and are being asked to approve) at your October 13th meeting.

As you may remember, the very first communication made to your Council by the CWC was in the form of a letter dated February 24, 2009. That letter noted that a perilous water future confronts those dependent on water service from the City of Santa Cruz, and urged the Council to "start getting our community involved." Council members made comments to me individually, and made comments at the Council meeting on February 24th, to the effect that the public was well informed about water policy matters, and was fully involved, and that the Council had been making many efforts to make sure that the public did fully understand the City's current water situation.

In order to maintain its commitment to keep the public fully informed and involved on critical water policy matters, the Council should continue Agenda Item #16, to allow interested persons to read the Water Supply Assessment, absorb what it says, and then have a fair opportunity to provide comments to the Council before the Council acts on the staff recommendation.

Comments On The Water Supply Assessment And Proposed Resolution

I have been able to review the staff report and proposed resolution (both of these documents *were* available online to the general public), and I was also been able to obtain a full copy of the Water Supply Assessment and its extensive attachments. Because of the very short time available for review of the Water Supply Assessment, I can only make preliminary comments here. Nonetheless, I do have some preliminary comments on the Water Supply Assessment, as well as comments on the staff report and the proposed resolution, as follows:

1 1. The City Council Agenda Report says that the water demand associated with the proposed expansion of the City's Sphere of Influence is 100 million gallons per year by the year 2020. The City's Sphere application to LAFCO is intended to complement the simultaneous LAFCO application made by the University for authority to receive extraterritorial water service from the City. That UCSC application says that the water demand for the project is 152 million gallons per year, significantly different from the figure cited in the recent Water Supply Assessment. Since the Water Supply Assessment is intended to be included in an Environmental Impact Report (EIR) covering both the UCSC and City applications, the project analyzed must be the project applied for. The Water Supply Assessment should demonstrate the source of its water demand figure, and analyze the source of the 152 million gallon per year figure, and inform the ultimate decisionmakers what is going on with this apparent attempt to "redefine" the project in midstream.

2 2. The Council Agenda Report recites the conclusion (also found in the resolution presented for Council approval) that "in a normal year the City's supplies are sufficient to meet the demands of the Project and the City's existing and planned future uses through at least the year 2025." As will be explained below, the WSA does not analyze or take into account various reductions to the City's normal water supply that can be expected to occur during the period from today to the year 2020. Thus, the "conclusion" cited above is not actually supported by an analysis that can demonstrate that its rather optimistic predictions are correct.

3 3. On Page 2, the Council Agenda Report talks about an "Updated Urban Water Management Plan." In fact, I do not believe that the City has "updated" its 2005 Urban Water Management Plan since its adoption. The WSA did note that it "updated" various numbers contained in the Urban Water Management Plan, but that is quite different from an official City Update of the Urban Water Management Plan itself, which would require public participation and review and official Council action.

4 4. The Council Agenda Report quotes the WSA as concluding that "the City does *not* have sufficient water to meet current or future projected water demand during dry years… (emphasis added)." Because that is true, residents and businesses located within the current Water Service Area are subject to significant curtailments during the normal course of events, since "dry" years (as well as "normal" or "wet" years) are part of the normally expected hydrologic regime that affects the City's water supplies. There is no "legal" requirement that the City refrain from putting current customers at greater risk of ongoing and "normal" water curtailments, which is what the City would be doing by expanding the area within which the City must deliver water. However, as a matter of public policy, the CWC questions the wisdom of placing everyone dependent on the City's water supplies in greater risk of water curtailments, by deciding voluntarily to expand the area in which customers have a legal right to receive water from the City. In this case, of course, the area into which the City is proposing to expand its water service is an area where the University proposes to construct 3,175,000 square feet of new residential and other structures, and this proposal, the CWC believes, is the largest single expansion of the City's Water Service Area ever proposed. Again, the CWC questions the policy wisdom of expanding the area in which the City is legally required to deliver water when existing customers are being subjected to continuing water curtailments in the normal course of events (i.e. in the "dry" years that can be expected to occur on a periodic basis). The Council Agenda Report acts like this isn't really an issue, saying that there is insufficient water to meet current and future water demands "irrespective of development of the Project." This suggests that since there is already a problem in "dry" years, making the problem worse isn't anything to be concerned about. The CWC respectfully disagrees. We imagine that most of the City's current water customers would also disagree, if they understood the approach that the City is apparently proposing to take.

5 5. Paragraph (h) in the City Council Agenda Report, and Paragraph (i) in the proposed resolution state, "if the … measures intended to implement the City's IWP [Integrated Water Plan] materialize as planned, then the total sources of water supply identified to serve the Project would be sufficient to meet demand from the Project through 2025 or beyond in normal rainfall years, in addition to existing and planned future land use and in single dry and multiple dry years, for that same period." The "planned" measures include a Phase I desalination plant (that is not intended to do anything to increase water supply in normal rainfall years) and also includes subsequent phases of such a desalination plant, to meet future increases in system demand. While the construction and operation of a multi-phase desalination plant may be "planned," it may or may not actually be possible to carry out this strategy for an increased water supply. The CWC believes that the City should not increase the area in which the City is legally obligated

to provide water service unless and until it is clear that the desalination proposal is actually possible, both in terms of regulatory approvals and necessary financing. Expanding the legal demands on the City's current water supplies at a time when they are already inadequate to meet demands normally expected to occur during "drought" years, is obviously risking increased water curtailments to current customers. If all the City can rely upon for its future water supplies is a "plan" to provide water through desalination, then that definitely puts current business and residential customers in greater jeopardy of water supply curtailments. Again, the CWC does not believe that this is the right public policy approach.

6 6. The City Council Agenda Report indicates that the cost of the consulting services for the preparation of the WSA was approximately $24,000. As indicated in several earlier communications to the Council, the CWC believes the Council should be carrying out its implementation of the UCSC Settlement Agreement based on legally enforceable contracts approved by the Council. The CWC is not aware of any legal agreement requiring the University to pay half the cost of work done on the WSA and/or other work to be carried out in connection with the environmental review of the proposed Sphere of Influence expansion. As noted in the attached email exchanges between City staff and several consulting firms, it is likely that responses to comments on the WSA will require additional work by the consultants, and it is likely that the sums expended so far are not the final figure.

7 7. The proposed resolution states, in Paragraph (f), "In … drought conditions, the demand of this Project would increase the City's 2030 water supply shortfall by up to 2% of the total demand (100 mgy out of 4,356 mgy)." As the CWC understands it, even assuming that the real water demand associated with the proposed Sphere expansion is only 100 mgy, as opposed to the 152 mgy figure specified in the UCSC application to LAFCO, the quoted statement understates the impact that the water service expansion would have on current customers within the City Water Service Area during drought periods. In the first stage of drought curtailments, as specified in the City's Water Shortage Contingency Plan, customers are cut back by 15%, or by 362 million gallons (see Page ES-5 of the Water Shortage Contingency Plan). 100 million gallons is about 27% of this cutback figure. In other words, if the City expands its water service area as is proposed, and takes on an obligation to deliver an additional 100 mgy, which then is in fact actually delivered, and is therefore not kept on reserve in the Loch Lomond Reservoir to reduce the amount of water curtailments which other customers must bear during periods of drought, the impact on the other customers is quite significant, not a relatively insignificant 2%.

8 8. The WSP indicates on Page 3 that the City has the following four sources of water supply:

- Surface water diversions from creeks and natural springs on the North Coast.
- Surface water diversions from the San Lorenzo River.
- Surface water from Loch Lomond Reservoir (which is used primarily to collect and store water from the Newell Creek watershed, but also stores water from the San Lorenzo River).

- Groundwater produced by the Live Oak Wells (which is extracted from the Purisma Formation).

The WSP assumes, implicitly, that the average past annual yields from these sources will continue into the future. The "conclusion" of the WSA that the City's supplies are "sufficient to meet the demands of the Project and the City's existing and planned future uses through at least the year 2025" [during a "normal" year] is based on this premise. In fact, the WSA is deficient in not evaluating possible (and in fact likely) reductions to these sources. Please note that all of the following factors should be analyzed:

- Stream flows (and consequently storage) will have to be reduced to meet the requirements of resource agencies like the California Department of Fish and Game (see the attached letter). There is virtually no doubt that withdrawals from the San Lorenzo River, and maybe from the North Coast streams, will have to be reduced to meet Endangered Species Act protection requirements. This impact should be quantified prior to an expansion of the area in which the City is legally obligated to provide water.
- The San Lorenzo Valley Water District actually has water rights superior to the City's rights in certain flows in the San Lorenzo River now going to the City. The chance of the District claiming those flows needs to be analyzed and quantified.
- The Live Oak Wells are currently drawing from an overdrafted aquifer. The only long term water supplies that should be counted are those which do not lead to overdraft. Again, this number needs to be quantified.
- The proposed CEMEX quarry expansion, if approved by the County of Santa Cruz, may lead to significant reductions from one of the City's water sources on the North Coast. Some quantification of the risk factor that this will occur should be undertaken in connection with the Water Supply Assessment.
- Some analysis and/or quantification of the possible impacts of global warming on rainfall in Santa Cruz County should also be included within the WSA.

9 9. On Page 8, the WSA notes that the issue of the "maximum acceptable level of shortage" was not resolved as part of the *Adequacy of Municipal Water Supplies to Support Future Development in the City of Santa Cruz Water Service Area.* The CWC believes that this issue should be resolved in connection with the WSA, since the "conclusion" that there is sufficient water available in normal years, even after the expansion of the City's water service area, is not reliable unless the "maximum acceptable level of shortage" issue has been resolved.

10 10. Table 1, included in the WSA, is unclear and apparently in error. The first part of Table 1 subtracts 16 mgy of increased water use allocated to the "Main Campus (outside of SOI amendment area)," presumably because that water use is not associated with the Project. However, the same amount is then added into the second part of Table 1, since the "bottom line" of Table 1 is a "Total Projected Increase in UCSC Water Use by 2020." The effect is to eliminate *any* projected water use for the Main Campus (outside of SOI amendment area), since the addition and the subtraction cancel each other out. This appears to be an error. It appears that the item should simply be

"removed" from the first part of Table 1, without "deducting" the 16 mgy, and the last item should be retained, in the portion of the Table dealing with projected water use outside of the SOL amendment area. Table 1, then would show a net increase in total UCSC water use that is 16 mgy more than the "bottom line" figure currently found in Table 1.

11 11. By a letter from this office to the City Water Director dated September 24, 2009 (to which no response has been received), the CWC has requested all writings relating to the preparation of the WSA, to the extent that any such materials were shared with the University or any other person who is not either a member of the City staff or a consultant to the City. The California Public Records Act requires the City to produce these records, upon request. The CWC reiterates its request here.

In conclusion, this letter is only a "preliminary" set of questions and concerns prompted by the WSA that the Council will consider at its October 13, 2009 meeting. Because the WSA is lengthy, and was not readily available for public review, the CWC and other members of the public have not had an adequate opportunity to review and comment. The CWC reiterates its request for a continuance.

In addition, the CWC urges the Council to take seriously the deficiencies' in the WSA noted in this preliminary set of comments. It appears to the CWC that the "conclusion" reached by the WSA is not supported by the information and analysis contained within the document in its current form, and we urge the City not to approve the Water Supply Assessment unless and until the document has been revised to respond adequately to the comments in this letter, and any other comments received by the Council on the WSA.

Thank you for your consideration of our comments.

WITTWER & PARKIN, LLP

By: Gary A. Patton

cc: Water Director
County Board of Supervisors
Local Agency Formation Commission

Ken Thomas

From: Juliana Rebagliati
Sent: Monday, January 26, 2009 9:27 AM
To: Ken Thomas
Subject: FW: Water Supply Assessment

Juliana

Juliana Rebagliati
Director of Planning and Community Development
City of Santa Cruz
831.420.5103

From: Toby Goddard
Sent: Monday, January 26, 2009 9:23 AM
To: Juliana Rebagliati; 'steph@strelowconsulting.com'
Cc: Linette A Almond
Subject: Water Supply Assessment

Good morning:

As requested, I contacted 4 firms to obtain a ballpark estimate for conducting a WSA for the LACFO application to amend the City's sphere of influence. All have experience doing water supply assessments. I received 3 responses; I expected the final one Friday, January 23, but have not heard back yet, and all are interested in the project.

Here is what they quote:

Erler & Kalinowski, Inc (EKI): $20-50,000
Winzler & Kelly: $50,000
Brown and Caldwell: $25-50,000
Montgomery Watson: still waiting to hear

I have copied their responses below, and will forward you the fourth when they respond.

1)EKI

Hi Toby –

Nice to speak with you this morning. Based on our understanding of the project, EKI would estimate that a WSA could be prepared for the project for between $20,000 and $50,000, depending on the level and complexity of new analysis that may be required.

To the extent that: (1) the Project-specific and regional water demand estimates included in the WSA can rely directly on the estimates provided by the University, and included in the City's 2005 UWMP, and other recent EIRs prepared by the City that estimate future projected demand, and (2) the water supplies can be based directly on the 2005 UWMP and recent information about new supplies developed by the City since 2005 (e.g., desalination), the WSA should be fairly straightforward, and can likely be done for approximately $20,000.

However, if extensive revisions to the prior water demand and supply analyses is required, for example because of the requirements of the settlement agreement, recent CEQA-related litigation, or opinion of the City's legal council, this would increase the level of effort and cost of the document. Much of this will depend on the actual agreements made as part of the City's settlement with the University and the opinion of the City's legal council regarding whether or not the City can rely on the water analysis conducted for the University and the supplies projected in the City's 2005 UWMP.

Hope this helps. Please feel free to call with any additional comments and let us know when you decide to move forward. We would be happy to put together a proposal or discuss it in more detail when the time comes.

Best,
Elizabeth

Elizabeth A. Flegel
Erler & Kalinowski, Inc.
1870 Ogden Dr.
Burlingame, CA 94010
ph: (650) 292-9100
fax: (650) 552-9012

2) Winzler & Kelly

Hi Toby,

Thank you for introducing me to this project. Winzler & Kelly would be very interested in proposing on this work and we'd like to work for Santa Cruz again (we had the pleasure of working with the City on the Pacific Garden Mall reconstruction).

Because you have so much information available, including some great groundwater modeling information from the Soquel Water District, I think the analysis could be accomplished for about $50,000. Because it is going through the CEQA process, you might want to have some contingency funding available so that your WSA consultant could attend public hearings on the DEIR and respond to comments.

I think your challenge is a little different than Rohnert Park's. That City needed a WSA that demonstrated enough water as currently available to serve build out of the General Plan under all hydrologic conditions. Your City seems to have already concluded that you have a water supply challenge and you are taking actions to increase your supply. The challenge will be to make sure the WSA consultant works closely enough with the CEQA consultant to really satisfy the requirements that the Supreme Court laid out in the Vineyards v. Rancho Cordova decision which means will need to make good ties between the your integrated water plan and the University's master plan buildout.

Let me know if we can be of any additional help.

mg

3) Brown and Caldwell:

Dear Toby,

Thank you for supplying more information about the Water Supply Assessment (WSA) needed by the City of Santa Cruz for the University expansion project. Brown and Caldwell is very interested in performing the WSA for you. As I mentioned on the phone, we have recently completed similar projects for the City of Vallejo as well as assisting other agencies in California in the past. I spoke with both Bill Faisst and Paul Selsky about this opportunity and asked for a cost range based on the scope. Apparently the WSA is a concise report of 15 – 20 pages that follows the state guidelines. The consulting cost ranges from $25,000 - $50,000. Bill suggested that you should estimate a mid-range figure for budget purposes.

We would welcome the opportunity to discuss this further.

Sincerely,
Judith Millard, Business Development Associate
Brown and Caldwell
201 North Civic Drive
Walnut Creek, CA 94596-3864
jmillard@brwncald.com
925.210.2545 (phone) – 925.937.9026 (fax) – 510.506.9495 (cell)

I also wanted to let you know that I will probably not be closely involved in this project as long as the weather remains dry. Most likely it will be assigned to an associate engineer.

Toby

Toby Goddard
Water Conservation Manager

State of California – The Resources Agency ARNOLD SCHWARZENEGGER, Governor
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
(707) 944-5500

REC'D JAN 17 2006

January 12, 2006

Sally Morgan, Senior Environmental Planner
UCSC Physical Planning and Construction
University of California, Santa Cruz
Santa Cruz, CA 95064
Via Fax (831) 423-7346
E mail: lrdp-eir@ucsc.edu

Dear Ms. Morgan:

University of California Long-Range Development Plan
SCH # 2005012113

The Department of Fish and Game (DFG) has reviewed the long range development plan (LRDP 2005-2020). The 2005 LRDP has been prepared to accommodate an increase in student enrollment from approximately 14,000 (2003-2004 levels) to 21,000, and an increase of approximately 1,500 faculty and staff from approximately 4,500 at 2003-2004 levels. This expansion will require the development of an additional 2.6 million gross square feet (gsf) of academic and support space on campus, and the development of 1.5 million gsf of housing, which would provide housing for more than 3,400 additional students and employees.

Please be advised this project may result in changes to fish and wildlife resources as described in the California Code of Regulations, Title 14, Section 753.5(d)(1)(A)-(G) . Therefore a de minimis determination is not appropriate, and an environmental filing fee as required under Fish and Game Code Section 711.4(d) should be paid to the Santa Cruz County Clerk on or before filing of the Notice of Determination for this project. 1

DFG would like to urge caution in your planning effort in the context of ensuring sufficient water supply for the proposed expansion. UCSC relies on the water supplied by the City of Santa Cruz (City). Currently, DFG and NOAA Fisheries are working with the City to develop a Habitat Conservation Plan in compliance with State and Federal Endangered Species Acts. Sufficient bypass and passage flows for two listed species, steelhead trout (*Onchorhyncus mykiss*) and coho salmon (*Onchorhyncus kisutch*) are at the core of these negotiations. Although the City is currently developing their Integrated Water Plan (IWP) (which the LRDP uses as a basis for projections of sustaining the campus expansion), their plan failed to account for the possibility of needing to curtail their withdrawals from North Coast streams and the San Lorenzo River in response to new restrictions that may be necessary to mitigate existing impacts to listed species. 2

Conserving California's Wildlife Since 1870

The campus peak water demands in October and November coincide with the critical periods of water availability for fish in the streams and river that are currently being diverted from, and this potential conflict is likely to be exacerbated during drought years. DFG commends the planned emphasis on conservation and curtailment during drought and normal years. (3)

The DEIR indicates that California Endangered Species Act (CESA) Permits must be obtained if the project has the potential to result in take of species of plants or animals listed under CESA, either during construction or over the life of the project. Issuance of a CESA Permit is subject to California Environmental Quality Act (CEQA) documentation; therefore, the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. Under the preferred alternative, no impacts to the plants listed under CESA that are present on the UCSC campus are currently proposed. If the project will impact CESA listed species, early consultation is encouraged, as significant modification to the project and mitigation measures may be required in order to obtain a CESA Permit. (4)

The LRDP describes a current list of approximately 94 individual improvement projects in the campus watercourses of Cave Gulch, Moore Creek, Jordan Gulch, and the Pogonip drainage. DFG staff had responded to an earlier query from your office about early consultation, and remain willing to provide more detailed review of your existing plans prior to your submittal of notifications of lake and streambed alteration. Please note that Section 1602 of the Fish and Game Code applies to lakes as well as streams. Any work to be done on the Arboretum Pond also warrants notification. For any activity that will divert or obstruct the natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of a stream or lake, or use material from a streambed, DFG may require a Streambed Alteration Agreement (SAA), pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant. Issuance of SAAs is subject to CEQA. DFG, as a responsible agency under CEQA, will consider the CEQA document for the project. The CEQA document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for completion of the agreement. In the sections that defer the specific restoration of impacted stream features to a future effort, DFG may not be able to use the existing EIR to fulfill its obligations under CEQA. Such projects may therefore require UCSC to prepare additional CEQA documents as a lead agency. To obtain further information about the SAA notification process, please access our website at www.dfg.ca.gov/1600; or to request a notification package, please contact the Streambed Alteration Program at (707) 944-5520. (5)

The thresholds proposed as triggers for riparian mitigation, 300 linear feet of permanent impact or 600 feet of temporary impact, may not be considered adequate by DFG in cases of moderate or high quality sites. Because of their importance as wildlife corridors and California red-legged frog habitat on campus, DFG anticipates developing mitigation requirements on a site- or reach-specific basis. 6

If you have any questions about these comments, please contact Serge Glushkoff, Environmental Scientist, at sglushkoff@dfg.ca.gov or (707) 944-5597; or Scott Wilson, Habitat Conservation Supervisor, at (707) 944-5584.

Sincerely,

for Robert W. Floerke
Regional Manager
Central Coast Region

cc: State Clearinghouse

LETTER WSA-2 – COMMUNITY WATER COALITION

Gary A. Patton, Wittwer & Parkin, LLP, October 13, 2009

WSA-2-1 Project Water Demand. See Master Response WS-2 – Project Water Demand.

WSA-2-2 Water Supply Adequacy. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions.

WSA-2-3 Urban Water Management Plan (UWMP). The comment regards the City Council staff report regarding the Water Supply Assessment (WSA). The existing 2005 UWMP must be updated every five years pursuant to state law. The City will be preparing the required update later in 2010. See also Master Response WS-1 – Water Supply Adequacy & Potential Reductions.

WSA-2-4 Water Policy. The comment quotes from a City Council staff report for the WSA, and questions the "policy wisdom" of expanding the area the City provides water when existing customers are subjected to curtailment during droughts. The comment is noted, and referred to decision-makers for further consideration. However, the comment does not address the accuracy or bases for the analyses in the WSA or DEIR, and no response is required. The impacts of the proposed provision of services is fully addressed in the DEIR, including additional potential curtailment during dry years as a result of the project.

WSA-2-5 IWP Measures-Desalination. With regards to references of Integrated Water Plan (IWP) measures, the City's long-term water strategy as set forth in the City's adopted IWP is described on page 4.1-15 of the DEIR. The commenter states that the Community Water Coalition does not believe the City should increase the area in which it provides water service unless and until it is clear that the desalination proposal is possible. The comment is noted, and referred to decision-makers for further consideration. However, the comment does not address the accuracy or bases for the analyses in the WSA or DEIR, and no response is required. See also Master Response WS-3 – Desalination Project Purpose & Impacts for further discussion of the desalination proposal.

WSA-2-6 WSA Costs. The commenter indicates that he is not aware of any "legal agreement' requiring UCSC to pay the cost of the WSA and/or other environmental work associated with the proposed Sphere of Influence amendment, and responses will require additional costs. The comment is noted, and referred to decision-makers for further consideration. However, the comment does not address the accuracy or bases for the analyses in the WSA or DEIR, and no response is required.

WSA-2-7 Project Water Demand Impacts During Drought & Curtailment. See Master Response WS-2 – Project Water Demand for clarification of project water demand. See Response to Comment LA-2-1 regarding curtailment during droughts and impacts of the project. [

The statement quoted from Paragraph (f) of the resolution is accurate and speaks to the relative low percentage of the City's total water demand that the proposed project represents. The statement is consistent with information and conclusions presented in Section 10 of the WSA and follows the conclusion that:

> *"In contrast to this potential future normal year supply shortfall, the City is already facing supply shortfalls during dry years, even without the additional demands from the Project and/or other future development. Given this existing shortfall, the City does not have sufficient water to meet the demands of the Project, in addition to the other existing and planned future uses."*

The City's Water Shortage Contingency Plan, to which the comment refers, has already been adopted due to the existing shortfalls that the City experiences during drought periods. Information presented in Tables 7 and 8 of the WSA indicates that in 2030, annual deficits (or shortfalls) during drought periods are expected to range between 10% and 38% of total demand (i.e., 422 MGY to 1,656 MGY). Therefore, even without the Project, annual shortfalls of 8% to 36% of total demand are expected to be experienced during drought years in 2030.

What the comment illustrates is that the Project water demand could represent a significant percentage of the shortfall in a given year, depending on the amount of the total shortfall. For example, if the total shortfall in single dry year is 10% of the total 2030 demand (i.e., 422 mgy) then the proposed project's water demand (i.e., 100 MGY) represents 20% of this shortfall. However, this does not change the fact that the shortfall caused by the project only represents 2% of the total demand.

The comment specifically addresses potential impacts of the project on peak season cutbacks that customers will experience, and argues that the quoted statement underestimates the impacts to existing customers during such periods. The extent to which the Project will impact peak season cutbacks will depend upon many factors and cannot be simplistically determined, as proposed in the comment. For example, the comment presumes that in the absence of the project, the project's entire annual water demand (i.e., 100 mg) could be stored and available for use to reduce peak season deficits during a drought period. Such an assumption is inaccurate as Loch Lomond Reservoir is a dynamic system that has many operational constraints. The City estimates that actual peak season water demands of the Project during drought periods would be about 54 MG, which

represents approximately 15% of the 362 MG that customers are cut back during the first stage of drought curtailments, under the City's Water Shortage Contingency Plan. The DEIR does review the effect of the project on potential curtailment levels during a drought in a generalized way, and concludes that the project could potentially result in an increased level of curtailment than would otherwise occur without the project. See also Response to Comment LA-1-17.

WSA-2-8 Water Supplies. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding potential reductions to existing water supplies.

WSA-2-9 Acceptable Level of Shortage. The comment references page 8 of the WSA in which a "maximum level of shortage" is discussed with regards to the "Adequacy of Municipal Water Supplies" report prepared by the Water Department. This report was presented to the City Council on July 13, 2004, and staff requested any direction that Council might want to provide on the report. The action by Council at that meeting, after accepting public comments, was to accept the report on "Adequacy of the City Water Supply System to Support Future Development"; direct the Water Department to report annually to City Council on the status and availability of remaining supply; direct Water and Planning Department staff to change the focus of environmental review of projects to better characterize their impact on remaining water supply; incorporate the information into the City's next Urban Water Management Plan; and provide direction to refer the report to appropriate commissions and uses, including the Integrated Water Plan, General Plan update, and University LRDP process. The Council did not choose to use this report for the purpose of "establishing a maximum acceptable level of shortage." In fact, Council did act to establish such a maximum acceptable level of shortage in the Integrated Water Plan and subsequent programmatic EIR. That maximum acceptable level of shortage is 15% that was developed as part of the IWP process.

WSA-2-10 Increased Water Demand – WSA Table 1. See Master Response WS-2 – Project Water Demand. Table 1 in the WSA identifies the amount water demand associated with development approved under the 2005 LRDP (or under construction or planned) that is located outside the project (SOI amendment) area. This amount (16 MGY) that is currently known to occur outside the project area was deducted from the 122 MGY total that is identified in the first part of Table 1 in order to more accurately estimate the water demand that would occur within the project area. But this demand is included in the second part of the table to account for all other UCSC campus and off-campus water demand. See Table 2-4 of the DEIR (page 4.1-32) for the water demand with subtotals for the project, other campus uses, and existing uses.

WSA-2-11 Public Records Act Information Request. The comment reiterates its written request for all information relating to the preparation of the WSA. The City

Attorney responded to the commenter's public information request (in a letter received by the City on October 7, 2009) on October 14, 2009.

-----Original Message-----
From: Lorrie Brewer On Behalf Of City Council
Sent: Tuesday, October 13, 2009 1:05 PM
To: Ryan Coonerty; Tony Madrigal; Don Lane; Cynthia Mathews; Lynn Robinson; Katherine Beiers; Mike Rotkin
Cc: John Barisone; Bill Kocher
Subject: FW: Comprehensive Settlement Agreement-Water Supply-Agenda Report

-----Original Message-----
From: Don Stevens [mailto:don@bind.com]
Sent: Tuesday, October 13, 2009 11:32 AM
To: City Council
Cc: Katherine Beiers; Tony Madrigal; Don Lane; Aldo Giachino Aldo Giacchino
Subject: Comprehensive Settlement Agreement-Water Supply-Agenda Report

I am sending this again to remove a typo, please excuse me)

Dear Council Members,

I am writing to urge you to delay approving the Water Supply Assessment (WSA) prepared for the Sphere of Influence Amendment because it lacks adequate information and discussion about the effects of potential future supply reductions. There also has not been adequate time for the public (or for Council Members) to thoroughly review and discuss the WSA and make informed comments considering it was just released a few days ago and is intended to support the allocation of much of the remaining water supply, assuming there will be an remaining supply, for a Project that is currently not in the water district.

1 Each of the system reliability issues mentioned in Section 7.3 has the potential to dramatically effect peak season supply, year-round supply, and the ability of the water department to supply the UCSC Project.

In section 7.3.1 mentions the Section 10 Permit the City is undertaking to develop an HCP for the federally and state endangered coho salmon and steelhead trout and the possibility that it would effect system supplies, but provides no detailed analysis.

According to the California Department of Fish and Game (CDFG) and the National Oceanic and Atmospheric Administration (NOAA) it is very likely that the City will have to significantly reduce water diversions from North Coast streams and the San Lorenzo River. The supply reduction is likely to be in the range of hundreds of millions of gallons per year which would mean the City would have no more remaining supply to allocate to new projects and could even find itself with a situation of normal rain year demand exceeding supply. It is likely that this supply reduction will be required sometime in the next year or two with the adoption of an HCP.

I quote from the CDFG comments to the UCSC 2005 DEIR which I believe applies now as well:
"Although the City is currently developing their Integrated Water Plan (IWP) (which the LRDP uses as a basis for projections of sustaining the campus expansion), their plan failed to account for the possibility of needing to curtail their withdrawals from North Coast streams and the San Lorenzo River in response to new restrictions that may be necessary to mitigate existing impacts to listed species."

CDFG is also protesting the City's petition for time extension for the City's permit to divert water at Felton for storage in Loch Lomand. The City's appropriative rights for more water from Felton than it has currently been putting to beneficial use may not be granted by the SWRCB and thus the City could find its annual water supply reduced by almost 500 million gallons per year.

While the WSA also notes that the Live Oak Wells system reliability is at risk, it again does not discuss in any quantifiable way implications to future water supply projections. The Live Oak Wells are currently in an overdraft situation and arguably will not be able to be relied upon in the future as in the past.

The issues mentioned above are simply not addressed in an adequate way by the WSA and thus the supply projection conclusions are highly unreliable. Please delay voting for approval until you have more information and more reliable conclusions.

Thank you for your attention and concern.

Sincerely,
Don Stevens

LETTER WSA-3 – DON STEVENS

WSA-3-1 Water Supply. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding potential reductions to existing water supplies.

LETTER WSA-4

SIERRA CLUB
FOUNDED 1892

SANTA CRUZ COUNTY GROUP
----------Of The Ventana Chapter----------
P.O. Box 604, Santa Cruz, CA 95061 phone (831) 426-4453
www.ventana.org e-mail: scscrg@cruzio.com

COUNCIL AGENDA MAIL MTG 10/27/09 # 11
CM
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WT
AP

October 22, 2009

Mayor and Councilmembers
City of Santa Cruz
850 Center Street
Santa Cruz, CA 95060

Re: Water Supply Assessment for the Sphere of Influence Amendment, and Resolution approving the WSA

Dear Mayor and Council:

Please consider the following comments in your evaluation of the Water Supply Assessment (WSA) and the related Resolution approving and adopting the conclusions of the WSA.

1 One of the major flaws of the WSA is that, although it identifies quite clearly the federal and state law requirement for the preparation by the City of a Habitat Conservation Plan (HCP) for our watersheds, this Assessment completely sidesteps the urgent necessity to complete such a plan and, furthermore, completely evades the issue of how much water would have to be removed from the supply now used for human consumption in order to redirect it to sustain adequately animal and plant life in our watersheds.

Compliance with the laws requiring an HCP is urgently required for the health of our local environment; and the impact of such compliance on the quantity of water available to us must be assessed and measured. We must stress that it is illogical to recognize that the HCP will have an adverse impact on our water supply, as the WSA does (p. 40), and then fail to measure the impact and its consequences. The WSA cannot be considered complete and reliable without correcting this glaring shortcoming.

In addition, we find that there are many other serious questions raised by the Assessment's analysis and conclusions about the future supply of water available to the current water customers in our district.

Statistical issues:

2 The WSA states that the total water supply in a normal hydrological year through 2030 is 4,314 mgy (p.38, and in Table 3.) The source given for this figure is in a different, older report, i.e. Table 5-2 of the 2005 Urban Water Management Plan (Santa Cruz, 2006). There is no summary, abstract, or footnote in the current Assessment to explain how this figure was derived.

Re: Item #11

3 The statistical information actually provided in the current WSA gives quite a different result and places into question the validity of the figure from the prior study.
Table 4 (Historical Water Supply Production) in the Assessment shows water supply for each year from 1985 through 2004, with a supply range that has a low point of 3,389 mgy in 1990 and a high point of 4,475 mgy in 2000. The Median supply (not shown in the Table 4) calculates to 3,932 mgy, or about 9% less than the 4,314 mgy supply availability figure from the earlier report and used as the basis of the analysis in the WSA.

Table 4 shows the "Average" water supply from 2000 to 2004 to be 4,206 mgy, without explaining why these particular 5 years were selected. In fact, a calculation of the actual arithmetic average (or Mean) supply for the entire 20 year period shown in Table 4 (1985-2004) gives a result of only 4,038 mgy. This is substantially below the benchmark supply figure used in the Assessment of 4,314 mgy through the year 2030.

In addition, there is no explanation why the figures for Water Supply Production in Table 4 stop at 2004. It seems reasonable to assume that the Water Department has the information for the more recent years since 2004. It is important to examine whether the annual supply figures have declined after 2004. That would contribute to lowering the projected average supply figures even more, exacerbating the negative disparity between supply and consumption.

4 Lack of quantification of major issues that may adversely affect water supply in the future:

Although the Assessment identifies and describes a number of significant and probable circumstances that may reduce water supply in the future, it completely sidesteps any attempt at analyzing and quantifying how much water supply would actually be lost as these circumstances materialize.

These issues are:

1. At p. 30, the WSA explains that the San Lorenzo Valley Water District is entitled to 104 mgy of Loch Lomond Reservoir supply that the City is currently using and that could be lost in total or in part if and when the SLVWD claims its entitlement

2. At p. 40, the WSA explains that federal and state law require the City to implement an HCP (Habitat Conservation Plan) to minimize the effects on endangered and sensitive species caused by the City's taking practically all the water from the watercourses in our watersheds, leaving only a scant amount for plants and wildlife. Although the WSA clearly identifies this problem, it makes no attempt whatever at estimating the quantity of water now drawn for human consumption that would have to remain in the watercourses in order to properly sustain our natural habitat.

3. At p. 40, the WSA also identifies the water rights violations, i.e. excessive taking of water by the City, at Newell Creek and Felton Water Diversion. These potential and likely reductions of the City's current water supply are described in the WSA as issues that are "currently being

protested" by the pertinent regulatory agencies, but the WSA makes no attempt to quantify the impact on future water supply of these potentially adverse regulatory decisions.

4. The Assessment makes no provision whatever for any potential reduction in surface water supply that may result as a consequence of climatic changes caused by the current and ongoing global warming between now and 2030.

5 5. The principal remedy proposed in the WSA for the supply deficiency is a water desalination plan that is not expected to conclude the planning/design phase until 2012. (p.49). There are absolutely no guarantees that the proposed desalination project can overcome the environmental, technical, and financial obstacles that it must overcome. The costs just for planning/design are given as $15.5 Million between now and 2012. (p.49). Most disturbing, however, is the complete lack of any estimate of construction and operation costs beyond 2012, making it impossible to give any credence to the eventual realization of this solution. At the moment, the supply envisioned from the desalination project falls in the category of "paper water" (as defined by the Courts), or figment of the imagination.

Summary:

6 The deficit between supply projection, based on historical average, and consumption is much greater than indicated because the historical averages (both median and mean) are lower than the supply figure used in the WSA, and because various factors will take away some significant portion of the City's current water entitlements.

The historical water supply production data in the WSA based on the 20 year period 1985-2004 fail to take into account the results of the more recent years since 2004.
The supply data presented is entirely contained in Table 4. It shows a 20 year Median supply of 3,932 mgy and a Mean supply of 4,037 mgy. Both figures are substantially below the WSA stated supply of 4,314 mgy.

The projected water demand in 2015, i.e. in the immediate future, ranges between a low of 3,980 mgy and a high of 4,104 mgy (Table 6). Both demand/consumption figures exceed the historical (1985-2004) supply averages. Therefore, there is no foundation to the contention that the City has sufficient water to meet the demand in a normal hydrological year. Furthermore, the proposed Resolution recognizes in paragraph (e) that: "The City's water system is grossly inadequate to meet current demand under drought conditions."

Several major factors that will reduce water supply in the near future have purposefully been sidestepped in projecting a supply of 4,314 mgd that will remain unchanged from now through the year 2030. These include the effects of global warming, regulatory requirements that will force a reduction in the amount of water taken out of streams in our watersheds, a reduction of entitlements, and saltwater intrusion in the groundwater supply.

7 Conclusions:

1. The City does not have adequate supply to meet even the normal year demand in the immediate future (2015).
2. The lack of data on water supply production in the years after 2004 raises some serious questions about the accuracy of the supply projections.
3. The projected supply is deemed to remain constant between now and the year 2030, even though the WSA admittedly sidestepped the quantification of several significant factors that will reduce the current supply.
4. The supply vs. demand equation is in a razor-thin balance even in wet years, and reaches gross inadequacies in dry years. It seems illogical and reckless to propose a service area expansion under such conditions.
5. The principal remedy proposed is a water desalination plan that, at least for the next few years, will remain in the category of "paper water".

We must conclude that the omissions and inaccuracies outlined above substantially vitiate the conclusions in WSA and do not support the City's ability to expand the water service area without creating harm to the current users/customers of the water district and to the natural environment that produces our water supply. For these reasons we recommend that you do not approve the draft Resolution approving the WSA, and request instead a re-evaluation of the water supply conclusions to take into account all of the issues that have been sidestepped or omitted.

Thank you for your consideration of these comments.

Sincerely,

Aldo Giacchino

Aldo Giacchino
Chair, Executive Committee
Sierra Club-Santa Cruz County Group

LETTER WSA-4 – SIERRA CLUB

WSA-4-1 Water Supply. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding potential reductions to existing water supplies.

WSA-4-2 Water Supply Statistics. The cited 4,314 MGY available supply that is referenced in the WSA is from the City's *Urban Water Management Plan* (UWMP), adopted pursuant to state law in 2006. The supply per source is identified on Table 3 of the WSA. The UWMP is the City's most current planning document to assess and project water demand and supply. The UWMP must be updated every 5 years in accordance with state law; the City's update will be completed in 2011. The UWMP is available for review online at: http://www.ci.santa-cruz.ca.us/wt/conservation/2005Urban%20WtMgtPlan.html.

WSA-4-3 Water Supply Statistics. See Response to Comments OA-7-1 and OA-7-2.

WSA-4-4 Water Supply. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding potential reductions to existing water supplies.

WSA-4-5 Desalination. See Master Response WS-3– Purpose of Proposed Desalination Facility regarding the desalination project.

WSA-4-6 Water Supply Statistics & Availability. See Response to Comments OA-7-1 and OA-7-2. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding potential reductions to existing water supplies.

WSA-4-7 Conclusions of Comments. The WSA concludes that the City may not have sufficient water supplies during normal years sometime between the years 2025 and 2030 depending on the level of growth experienced in the service area. See Response to Comment OA-5-2 regarding water production. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding potential reductions to existing water supplies. The DEIR provides a full review of water supply issues in Chapter 4.1.

From: Lorrie Brewer **On Behalf Of** City Council
Sent: Thursday, October 22, 2009 2:07 PM
To: Ryan Coonerty; Tony Madrigal; Don Lane; Lynn Robinson; Katherine Beiers; Mike Rotkin; Cynthia Mathews
Cc: Bill Kocher; Juliana Rebagliati
Subject: FW: WATER SUPPLY ASSESSMENT, Council Agenda October 27, 2009

From: Reed Searle [mailto:hrsearle@sbcglobal.net]
Sent: Thursday, October 22, 2009 1:38 PM
To: City Council
Subject: WATER SUPPLY ASSESSMENT, Council Agenda October 27, 2009

Dear Mayor Mathews and Councilmembers,

I appreciate that the Council has continued the WSA matter in order to permit additional input.

1 My comments attempt to make two points: first, the WSA fudges its response to the inescapable shortage of water; second, desal phase 3 is the only way to obtain more water, and phase 3 is not even near the drawing board.

The operative language of water Code #10910 is that the WSA "...shall include a discussion with regard to whether the total projected water supplies...will meet the projected water demand...". (Water Code 10910 (b) (4)). The WSA discusses this issue but hedges its conclusion. The City does not need to show that water supply is adequate; it must only prepare a thorough discussion and approve the assessment. #10911 requires the city to determine adequacy of water supply for the project (#10911 c). If the supply is inadequate, the city "...shall include that determination...". The proposed council resolution repeats the hedging. What is required is a specific finding of sufficiency or insufficiency. What LAFCO does with the result is up to LAFCO.

Water Code section 10910 (c) 3 requires that the City assess whether the water system's total projected water supplies will meet the projected water demand associated with the project in addition to existing and planned future uses. Offering a range of possibilities does not fulfill this requirement. A specific answer is required and that answer is surely negative. "...At some time between 2015 and 2020, the City's water demand was expected to exceed the system's capacity". (WSA page 18)

2 When the supply is inadequate, Water Code # 10911 requires the City to discuss how additional supplies will be obtained, including total costs, required permits, time frame etc all be provided. Desal is conceded to be the only way to supply additional water. Although there is some confusion in the desal discussion (WSA 47 et seq), the term "full-scale desalination plant" refers to phase 2 only and the cost estimates etc are for phase 2. (WSA, page 47) The only reference to using desal for growth is on page 49: "...it could conceivably be expanded in the future if additional supplies are needed in the future". "Conceivable" is not something that can be relied on to help alleviate a shortage. The Code section must be complied with and has not been---because it cannot be. This fact should be acknowledged---the efficacy of desal to solve our problems simply cannot be shown.

.

3 The issues raised in Gary Patton's letter regarding events which could reduce our available water supply in coming years (page 5 of his letter dated Oct 13) require discussion as part of the WSA. Any possible reductions in supply should be quantified in order that LAFCO may have a more complete understanding of the effect of committing much of our (temporarily) remaining water supply to the University.

4 The demand issue requires further elucidation. The WSA says that whether there is enough water in a normal year depends on whether our growth rate is .4% (historic) or .8% (general plan). This small difference in the amount of annual growth translates into a substantial amount of growth and hence of water demand over 20 years. I think LAFCO needs a closer estimate.

The .4% growth rate is just not the historic rate: it is the actual growth including an estimate "...that water use at UCSC would increase at ***half*** the rate predicted in the Draft 2005 LRDP." (WSA, page 17) Although the University is (heroically) conserving water, it is not reducing usage by 50%. The WSA (page 2) estimates that "...water demand associated with other development planned within the City's service area (i.e. not including the Project) is expected to increase by between 222 mgy and 356 mgy by 2030." I assume these numbers are based on the .4 or .8 estimates of growth. At any rate, there is a total supply of 4,314 in a normal year (WSA page 3) . Total estimated demand in 2030 is 4,222 mgy to 4,356. Even at the lower number, there would be a surplus of only 92 mgy, or .02% of capacity. That is most certainly not adequate wiggle room, particularly in view of the issues raised in Mr. Patton's letter.

I think the resolution before the Council should be amended to reflect the above. Please note that (i), the last finding, is based on a purely hypothetical increase in available water flowing from desal. The inescapable implication of the WSA is that without the phase 3 desal, we will have inadequate water even in normal years.

H Reed Searle
114 Swift St
Santa Cruz, Ca. 95060
phone and fax 831-425-8721

LETTER WSA-5 – REED SEARLE

WSA-5-1 Water Supply. The WSA provides reasoned approach to projecting future water supply and demand, and based on the scenarios discussed provides a discussion and conclusions regarding the sufficiency of projected water supplies to meet projected demands in accordance with requirements of Water Code section 10910 (see Section 10 of the WSA). The WSA meets requirements of Water Code Section 10910 (a copy of which is provided below). Conclusions are stated on page 51-52. See also Master Response WS-3–Desalination Project Purpose & Impacts regarding the desalination plant.

WSA-5-2 Desalination. See Master Response WS-3–Desalination Project Purpose & Impacts regarding the desalination project.

WSA-5-3 Water Supply. See Responses to Comments in letter WSA-2 with regards to the commenter's reference to this letter. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding potential reductions to supply.

WSA-5-4 Demand – Growth Rates. See Responses to Comments in letter WSA-2 with regards to the commenter's reference to this letter. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding potential reductions to supply. The water demand projections presented in the WSA are based on historic growth and potential growth, consistent with the methodology used in the 2005 UWMP. It should be noted that the City is currently updating its General Plan and that demand projections will be updated to include the new General Plan in the 2010 UWMP. As explained in Section 4.2 (page 17 of the WSA), 2005 UWMP Scenario 2 assumed that "water use at UCSC would increase at *half* the predicted rate in the Draft 2005 LRDP." However, as explained in Section 4.3, the WSA used updated 2005 UWMP demand projections (page 18 of the WSA). One of the modifications made to the demand projections used in the WSA was: "The inclusion of the *full* volume of the projected water use for UCSC for the lower-end scenario (*Scenario 2)*, instead of just *half* of the UCSC water demand, as was assumed in the 2005 UWMP" (page 18 of the WSA). The City recognizes the potential inadequacy of water supplies to meet current demands. As a result, the City is investigating and pursuing additional potential water supplies, as discussed in Section 9 of the WSA.

From: Lorrie Brewer **On Behalf Of** City Council
Sent: Monday, October 26, 2009 12:37 PM
To: Ryan Coonerty; Tony Madrigal; Don Lane; Cynthia Mathews; Lynn Robinson; Katherine Beiers; Mike Rotkin
Cc: Juliana Rebagliati; Bill Kocher
Subject: FW: Water Supply Assessment Report Comments -- October 27 City Council meeting

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From: Bill Malone [mailto:billmalone@pacbell.net]
Sent: Thursday, October 22, 2009 4:16 PM
To: City Council
Subject: Water Supply Assessment Report Comments -- October 27 City Council meeting

Council Members--
I will not be able to attend your October 27 meeting. Below and attached are some comments and concerns with the Water Supply Assessment Report.
(The following is the same as in the attached document)
--Bill Malone

October 22, 2009
Santa Cruz City Council
Water Supply Assessment Report
Bill Malone

The Water Supply Assessment's analysis and conclusions, while thorough, are based on a few critical, but dubious assumptions. Even based on these assumptions, the WSA concludes the City will run out of water both in normal years and dry years.

1 To support the UCSC project, the City will have to develop new water sources. Current Water Service customers will have to accept increased cutbacks or increased water costs.

2 If Global Warming and the "Uncertainties" mentioned in the WSA (WSA,p. 39) decrease our water supply by about 7%, we may face water rationing. With or without the UCSC project – of course, the UCSC project would cause the rationing sooner.

3 The most critical and vulnerable assumption is that ***"the City has approximately 300 million gallons per year (mgy) of remaining capacity to support future development" (WSA,page 7).*** The WSA points out that this amount is actually inadequate*:* ***"Water demand associated with other development planned within the City's service area (i.e., not including the Project) is expected to increase by between 222 mgy and 356 mgy***

***by 2030"(WSA,p. 2*).** Obviously that increase can use up the City's capacity reserve.

While the 300 mgy probably is a reasonable estimate based on historical data, the main concern is how reliable is this estimate for future years, specifically, for the UCSC project, the next 20+ years.

The precise, exact capacity of the current system cannot be determined, but it is finite. There is a limit. With Santa Cruz's historical slow growth rate, the 300 mgy estimate of capacity reserve has been adequate to alleviate growth concerns. But the UCSC project will take a significant portion of that capacity.

4 Prudent water management by the City should maintain a reserve capacity. 300 mgy is about 7-8 % of the City's annual use. The UCSC project is estimated to use 100 mgy. That cuts the City's reserve to less than 5%. OK, but not very good. A very small margin for error.

5 Some Questions:

- What if the 300 mgy estimate is wrong?
- What about the affects of Global Warming on system capacity?
- What about HCP and other impacts on our reserve?
- Has the 300 mgy "reserve" estimate factored in these impacts?
- How soon will our 300 mgy capacity reserve dry up?

Global Warming. Since we are concerned about the future, how will global warming affect our remaining capacity? Global warming predicts that we should expect less rainfall which would lower our system capacity. An analysis of stream flow and rain fall should be done and any changing trends could be projected into the future to estimate decreased system capacity. This would help predict when any capacity reserve will be gone.

Several Uncertainties. The WSA also states that "***there are several uncertainties regarding water rights and entitlements facing the City's existing water supply sources that have the potential to reduce the City's water supply"(WSA,p. 39).*** The potential could be drastic. The WSA describes these "uncertainties" but does not go further to quantify the resulting reduction in the City's system capacity. Are these "uncertainties" sufficient to wipe out our 300 mgy reserve?

6 Desalination Plant 1. The proposed desalination plant is also not a certainty. The proposed UCSC project relies on it happening. Is that appropriate for planning purposes? The desal plant may be turned down by the Coastal

Commission. Or rejected for some other reason. Should the UCSC Project be deferred until the desal plant is more certain? What is "Plan B"?

Desalination Plant 2. The proposed desal plant is insufficient to provide dry year drought relief for the UCSC project. **"…*the City will need to develop new dry year water supplies or accept increased cutbacks during dry years"(WSA p 52).*** If the desal plant has to be expanded, how much will that cost? And how much will existing water customers have to pay for it?

Desalination Plant 3. Also, regarding the proposed desalination plant: The Settlement Agreement (and some other documents) make the claim that the desal plant will be enlarged to provide water for growth. City officials and the IWP state that the desal plant will only be used during extreme drought situations. The City Council needs to make a definitive statement on how the plant will be used. If the plan is to use desal to supply water for growth, the citizens need to be informed and given an opportunity to weigh in on that change.

7 Before approving or accepting the WSA, the City Council should:

- Determine the reliability of the 300 mgy reserve for the future.
- Determine what affect Global Warming will have on system capacity.
- Determine what affect the "Uncertainties" will have on system capacity.
- Decide whether it is wise to proceed with the UCSC project before the desal plant has been approved.
- Determine the backup plan if there is no desal plant.
- Determine the Project's impact on current Water Service customers: What will be the resulting increased water costs and/or increased water cutbacks?
- Clear up the confusion or misstatements that the Desal plant will be used to supply water for future growth.

<!--[if !supportLineBreakNewLine]-->
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LETTER WSA-6 – BILL MALONE

WSA-6-1 Project Demand. The City will not have to develop new water sources to meet the project demand. See also Master Response WS-3–Desalination Project Purpose & Impacts regarding the desalination project.

WSA-6-2 Water Supply. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding potential reductions to supply, including global climate change.

WSA-6-3 Water Supply. See Response to Comment I-18-5 regarding the estimated 300 MGY remaining normal year water supply. See also Master Response WS-1 – Water Supply Adequacy & Potential Reductions.

WSA-6-4 Water Reserve. The comment suggest that the City maintain a reserve water capacity, and so noted. The comment is referred to City decision-makers for further consideration. See also Response to Comment I-18-5.

WSA-6-5 Water Supply Adequacy. See Response to Comment I-18-5 regarding the estimated 300 MGY remaining normal year water supply. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding the City's water supply potential reductions to existing water supplies.

WSA-6-6 Desalination Project. See Master Response WS-3–Desalination Project Purpose & Impacts regarding the desalination project. Estimated costs are addressed on page 49 of the Water Supply Assessment (WSA) that is included in Appendix B of the Draft EIR.

WSA-6-7 Approval of WSA. The comments on the WSA were forwarded to the City Council for their consideration, and the WSA was approved by the Council in October 2009 pursuant to state law requirements.

-----Original Message-----
From: Lorrie Brewer [mailto:LBrewer@ci.santa-cruz.ca.us] On Behalf Of City Council
Sent: Monday, October 26, 2009 11:31 AM
To: Ryan Coonerty; Tony Madrigal; Don Lane; Cynthia Mathews; Lynn Robinson; Katherine Beiers; Mike Rotkin
Cc: Juliana Rebagliati; Bill Kocher
Subject: FW: Comprehensive Settlement Agreement-Water Supply-Agenda Report

-----Original Message-----
From: Gary A. Patton [mailto:gapatton@wittwerparkin.com]
Sent: Friday, October 23, 2009 11:17 AM
To: 'Don Stevens'; City Council
Subject: RE: Comprehensive Settlement Agreement-Water Supply-Agenda Report

Terrific, Don!!

Gary A. Patton, Of Counsel
Wittwer & Parkin, LLP
147 South River Street #221
Santa Cruz, CA 95060
Website: www.wittwerparkin.com
Email: gapatton@wittwerparkin.com
Telephone: 831-429-4055, Ext. 13
Cell Phone: 831-332-8546
FAX: 831-429-4057

-----Original Message-----
From: Don Stevens [mailto:don@bind.com]
Sent: Thursday, October 22, 2009 4:18 PM
To: citycouncil@ci.santa-cruz.ca.us
Subject: Comprehensive Settlement Agreement-Water Supply-Agenda Report

Please find my comment letter to the Water Supply Assessment attached and copied below for your convenience.

Thank you,
Don Stevens

October 22, 2009

To: Mayor Cynthia Mathews and City Council Members City of Santa Cruz
809 Center St.
Santa Cruz, CA 95060

Re: Comprehensive Settlement Agreement-Water Supply-Agenda Report

Dear Mayor Mathews and Council Members,

I am writing to you concerning the Water Supply Assessment (WSA) prepared for the Sphere of Influence Amendment currently under consideration by the Council.

1 The major fault with the WSA that should preclude you from adopting it at this time is that it reaches a misleading and erroneous conclusion about the likelihood of there being enough water supply to support all anticipated future development until 2025 or 2030 that includes the UCSC Project anticipated in the Sphere of Influence Amendment and other anticipated growth.

While two different growth rate assumptions were made for calculating likely demand on water supply into the future, there was almost no discussion and analysis of the near certainty of a supply reduction in the near future that will be necessitated as a consequence of the HCP being developed by the City of Santa Cruz to protect the endangered species coho salmon and steelhead trout.

While the specific amount of this supply reduction is unknown at this time, the WSA could have and should have at least made some assumptions about the magnitude of possible supply reductions and analyzed the likely implications to available water supply. The WSA concluding sentence in Section 7.3.1 pertaining to the Section 10 Permit is particularly misleading because it gives the impression that this may turn out to be a minor issue, if at all: ³The effects of these permits and the HCP, if any, are yet to be determined and may not be known for several years.²

The reason this is so misleading and critical to the erroneous conclusion of the WSA, is that it is virtually certain that water supply will need to be reduced by potentially hundreds of millions of gallons of water per year and potentially leaving almost no additional water supply for future growth. I refer you to the very real numerous problems and issues that have been created by the restriction of water diversions necessitated for the protection of the Sacramento-San Juaquin Delta smelt.

I have had several informative discussions with Water Department Director Bill Kocher and with a staff member working on the HCP studies over the past couple of years and both have told me that there is almost no doubt that water supply reductions will be required and are likely to be substantial.

Thus, the conclusion reached by the WSA is a very low probability of being an accurate future projection. The WSA should be sent back for more analysis of all the risks to current water supply levels including quantitative assumptions and projections and the probabilities of such. In fact, the conclusion reached by the WSA is ve

Other important issues not addressed by the WSA that should have been are global warming implications for possible changing weather patterns and a complete and updated analysis and definition of what a ³normal² rain year is now. While the WSA also notes that the Live Oak Wells system reliability is at risk, it again does not discuss in any quantifiable way implications to future water supply projections. The Live Oak Wells are currently in an overdraft situation and arguably will not be able to be relied upon in the future as in the past.

Thank you so much for your time and attention to this important issue.

Sincerely,
Don Stevens

LETTER WSA-7 – DON STEVENS

WSA-7-1 Water Supply. See Master Response WS-1 – Water Supply Adequacy & Potential Reductions regarding potential reductions to supply, including global climate change.

From: Lorrie Brewer [mailto:LBrewer@ci.santa-cruz.ca.us] **On Behalf Of** City Council
Sent: Monday, October 26, 2009 11:28 AM
To: Ryan Coonerty; Tony Madrigal; Don Lane; Cynthia Mathews; Lynn Robinson; Katherine Beiers; Mike Rotkin
Cc: Bill Kocher; Juliana Rebagliati
Subject: FW: Water supply assessment

From: Rick Longinotti [mailto:longinotti@baymoon.com]
Sent: Friday, October 23, 2009 4:54 PM
To: City Council
Subject: Water supply assessment

Dear City Council Members,
Attached is a letter regarding the Water Supply Assessment on your agenda. I hope it contributes to your process.

Best wishes,
Rick

Rick Longinotti, MFT
http://www.findingharmony.org
831 425-0341

To: City Council
From: Rick Longinotti
Re: Water Supply Assessment

The City Council is being asked to pass a resolution making the following finding;
"This WSA concludes that in a normal year the City's supplies are sufficient to meet the demands of the Project and the City's existing and planned future uses through at least the year 2025."

The letter from Community Water Coalition legal counsel, Gary Patton, has questioned the WSA conclusion that water supplies are adequate for new growth (University or otherwise). I will not repeat the arguments in his letter, other than to mention that it includes:

- the likely reduction in water diversion from North Coast streams and the San Lorenzo River mandated by a Habitat Conservation Plan
- the overdraft of the Purisima aquifer affecting the Live Oak wells
- the State Fish and Game challenges to SC Water Dept. water rights at Felton and Loch Lomond.

1 The purpose of this letter is to question the WSA conclusion on another point: *The WSA figure for water capacity during normal rainfall years is based on maximum legally allowable depletion of Loch Lomond. Such a depletion of the lake would reduce drought protection for subsequent years to an intolerable level.*

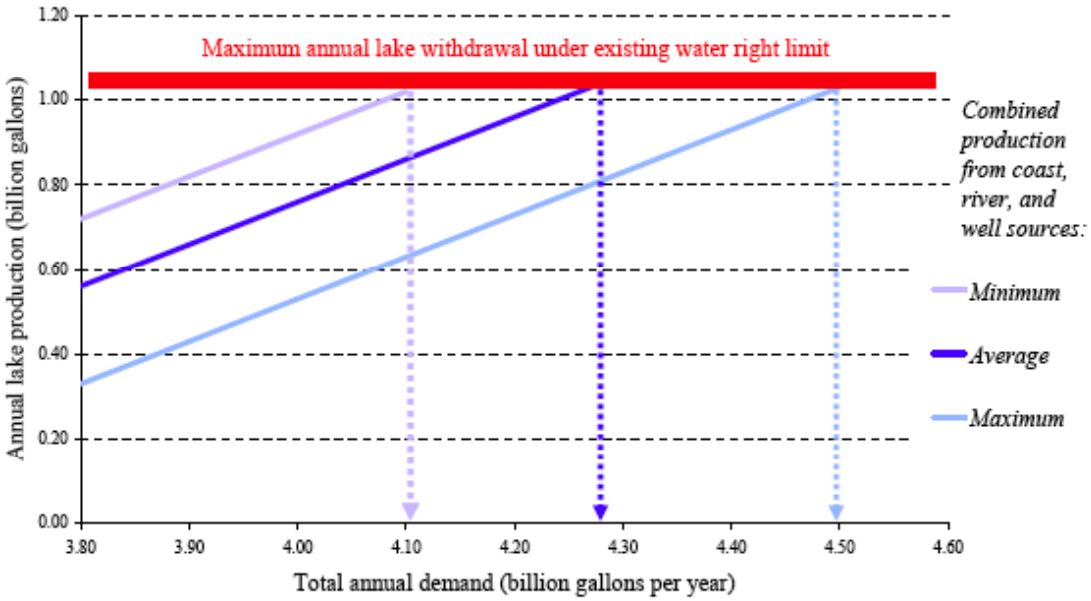
Under its current water rights, the City is legally limited to withdrawing no more than 1.04 billion gallons of water from Loch Lomond Reservoir each year. That represents 37% of the lake's total capacity of 2.8 billion gallons.

It is instructive to consider the data from 1975, the year before the worst-case drought years of 1976-1977. According to the Water Shortage Contingency Plan (2009), "Reservoir capacity at the beginning of April 1976 measured 1.6 billion gallons or 57% of capacity". That means that the lake was significantly lower on Oct 1, 1975, prior to winter recharge. It is noteworthy that 1975 was a "normal" rainfall/runoff year according to Water Department classification. Even allowing for evaporation and Newell Creek stream flow, a lake level of 57% of capacity in April, 1976, leads us to conclude that the City in 1975 allowed close to the maximum water allocation from Loch Lomond. The result was unnecessarily severe curtailments of water to customers in the following two years.

The practice of allowing maximum allocation from Loch Lomond in normal years is in dramatic constrast with the Water Department's current management practice, which resulted in a lake level on October 1, 2009 of 90% of capacity, after three years of drier than normal winters. The Water Department's current careful stewardship of the water in the city's only reservoir reflects a shift in management practice over the years. This shift needs to be reflected in the WSA and the City's Urban Water Management Plan. It is not acceptable for the WSA to report that, "These four water supplies provide the city with approximately 4,314 mgy during normal hydrologic years", when that figure is based on maximum allowable allocation from Loch Lomond. Using the maximum allocation from Loch Lomond would subject city water users to even more drastic curtailment than was in effect in 1977, due to the increase in demand on the system.

There exists a gap between the Water Department's current prudent stewardship of Loch Lomond reserves and the written policy of allowing all legally available stored water to be used in normal years. The chart below from the 2004 document, *Adequacy of Municipal Water Supplies To Support Future Development In the City of Santa Cruz Water Service Area,* portrays a policy of meeting system demand even up to the legal limit of lake withdrawals *in normal years.*

Figure 5. Relationship Between System Demand and Lake Production



A far more effective policy for coping with critical droughts, and the one that the Department has been pursuing *de facto* in the last three years could be expressed as follows:
"During normal years, allocations from Loch Lomond shall not produce a lake level lower than 89% of capacity at the end of the season (Oct 1)." [89% is our estimate of the level at which the lake can recharge to 100%, even in the driest winter. The Dept. can produce a more accurate figure) "In dry years (but not critically dry years], the Department shall set curtailments to achieve the same goal of 100% recharge of the lake over the course of the next winter, which shall be assumed to be a worst-case dry winter."

The following excerpts from the City's Water Shortage Contingency Plan (2009) support such a policy change. The first excerpt explains the consequences of cutting back on water allocations from Loch Lomond during the first year of a drought:

> "[Smaller allocations] would mean customers would be required to cut back more in the current year, but would preserve storage enabling the City to withstand more prolonged drought before running out of stored water".

And:
"Prudent management dictates that the long-term welfare of the City and its residents outweighs the short-term benefit to the community and higher revenues that would be realized by setting a higher allocation" [from Loch Lomond during dry years]

2 **Water-Neutral Development**

In addition to enacting a policy change on management of stored water, the Council needs to act to ensure that the existing level of drought protection does not deteriorate through growth.

Growth in water customers means more people sharing the same amount of scarce water during a drought. There is widespread agreement that at some point Santa Cruz will need to follow the lead of communities such as Monterey and Soquel Creek Water District and require that new development be water-neutral. We believe that such a requirement is best enacted *as soon as possible*, so as to prevent even larger water curtailments in critical drought years. The following chart from the Integrated Water Plan (2003) demonstrates how growth increases the probability of higher curtailments during drought years.

Table II – 4

EXPECTED BASE CASE PEAK-SEASON CURTAILMENTS

	2003	2010	2015	2020	2030
% Worst-Year Peak-Season Curtailment	45%	39%	42%	44%	46%
FREQUENCY OF:					
No Curtailment	41 in 59	42 in 59	35 in 59	19 in 59	4 in 59
<10% Curtailment	11 in 59	10 in 59	16 in 59	31 in 59	44 in 59
10-20% Curtailment	3 in 59	6 in 59	7 in 59	3 in 59	5 in 59
20-30% Curtailment	3 in 59	0 in 59	0 in 59	5 in 59	5 in 59
>30% Curtailment	1 in 59	1 in 59	1 in 59	1 in 59	1 in 59

The Soquel Creek Water District requires that developers offset 125% of the projected water use of their new development by installing water saving toilets, showerheads, etc. in existing buildings. This requirement is not onerous for developers and it is quite popular with existing building owners. (There is now a 2 year waiting list for free toilet installations.)

3 *Conclusion:*

- *In order to ensure greater drought protection, the City needs to enact a policy reducing its allocation from Loch Lomond in normal rainfall years and in sub-critical dry years to allow the lake to fully recharge over the subsequent winter (assuming the winter to have the minimum rainfall).*
- *Santa Cruz needs to initiate a water-neutral development policy.*
- *The WSA should be revised to reflect such policy changes.*

Our proposed policy changes would put Santa Cruz into conformity with state law which requires:

"Sufficient water shall be available from the water sources and distribution reservoirs to supply adequately, dependably, and safely the total requirements of all users under maximum demand conditions before agreement is made to permit additional service connections to a system."

LETTER WSA-8 – RICK LONGIONOTTI

WSA-8-1 Loch Lomond Production. The comment addresses City water system operations related to Loch Lomond; see Response to Comment I-17-1.

WSA-8-2 Water Neutral Development. See Response to Comment I-17-6.

WSA-8-3 City Water Policy. See Response to Comments WSA-8-1 and WSA-8-2 regarding commenter's suggestions. It is also noted that the WSA is based on adopted City plans, including the "Urban Water Management Plan," which accounts for system-wide management of the City's water resources.

From: Lorrie Brewer **On Behalf Of** City Council
Sent: Monday, October 26, 2009 1:01 PM
To: Juliana Rebagliati
Subject: FW: Water Supply Assessment Re Proposed Expansion of the City's Sphere of Influence

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From: Gary A. Patton [mailto:gapatton@wittwerparkin.com]
Sent: Monday, October 26, 2009 12:54 PM
To: City Council; Cynthia Mathews; Don Lane; Katherine Beiers; Lynn Robinson; Mike Rotkin; Ryan Coonerty; Tony Madrigal
Cc: Bill Kocher; Patrick McCormick; 'Ellen Pirie'; 'John Leopold'; 'Mark Stone'; 'Neal Coonerty'; 'Tony Campos'
Subject: Water Supply Assessment Re Proposed Expansion of the City's Sphere of Influence

Dear Council Members:

Attached is a supplemental letter, following up on our earlier correspondence about the proposed Water Supply Assessment that the Council will consider on its Agenda tomorrow. Thank you for continuing the item from your last meeting, to allow interested members of the public more opportunity to comment.

Yours truly,

Gary A. Patton, Of Counsel
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Jonathan Wittwer
William P. Parkin
Ryan D. Moroney

OF COUNSEL
Gary A. Patton

October 26, 2009

Mayor Cynthia Mathews and Council Members
Santa Cruz City Council
809 Center Street
Santa Cruz, CA 95060

RE: October 27, 2009 City Council Agenda - Agenda Item #11
Implementation of the UCSC Settlement Agreement
Water Supply Assessment

Dear Mayor Mathews and Council Members:

This letter is written on behalf of the Community Water Coalition (CWC), commenting on the Water Supply Assessment (WSA) scheduled for consideration on the City Council's October 27, 2009 agenda. We have written an earlier letter, dated October 13, 2009, which was previously submitted to the Council. This letter is intended to supplement, not supplant, that earlier correspondence.

The City is urging the Santa Cruz County Local Agency Formation Commission (LAFCO) to expand the City's Sphere of Influence to include the UCSC "North Campus" area. The University of California is simultaneously urging LAFCO to permit the City to provide "extraterritorial" water service to that part of the UCSC campus. If (and only if) both of these applications are approved by LAFCO, the City will be authorized to provide water service to the UCSC "North Campus" area.

The simultaneous applications by the City and the University, if approved by LAFCO, would authorize the City to provide water service for over 3,000,000 square feet of new residential and academic structures. This level of new development could have many significant and adverse environmental impacts generally, and on the UCSC "North Campus" area in particular, and the City is preparing an Environmental Impact Report to assess those impacts. One of the most obvious impacts is the impact that this proposed new development would have on the City's water system and water supplies.

Because local government agencies, in the past, have often given approval for new development projects when there was not, in fact, an adequate water supply to serve the proposed new development, the State Legislature enacted Water Code §10910. That state law has required the preparation of the Water Supply Assessment that the Council will consider on October 27th. Water Code §10910 specifically states:

> ...The water supply assessment for the project shall include a discussion with regard to whether the public water system's total projected water supplies available during normal,

single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

1 The CWC does not believe that the WSA before you complies with the requirements of Water Code §10910. As noted in our earlier comments, the problem is largely on the "supply" side of the equation. While legitimate questions can certainly be raised about how the WSA has handled the water supply "demands" that will be facing the City over the next twenty years, it is very clear that the WSA has not properly evaluated the "supply" side. Because it hasn't, the WSA does not include an adequate discussion of "whether the public water system's total projected *water supplies* ... will meet the projected water demand...."

The WSA is deficient in that it assumes that the City's current groundwater use, and its current use of flows from the San Lorenzo River and in the City's North Coast surface sources can continue to be used in the same amounts during the next twenty years. Information within the WSA, and otherwise available to the City, demonstrates that this is not true:

1. There is *no doubt* that the City will have to reduce its use of San Lorenzo River and North Coast stream surface flows during the next twenty years, to meet the requirements of the federal and state Endangered Species Acts. The WSA should seek to quantify this reduction in future water supply.

2. It is *clear* that the WSA assumes the availability of water supplies from the Newell Creek Reservoir that cannot be produced if the Reservoir is operated in a prudent manner (and as it is currently operated) to meet the contingencies of multiple dry year water supply reductions. The WSA should be based on a correct set of figures.

3. It is *clear* that the City is relying on new water supplies from a proposed desalination plant to provide both drought protection supplies and supplies to meet new system demand, including demand generated by new development in the "North Campus" area of the University of California at Santa Cruz. At this time, the actual availability of any such new supply is speculative, and the analysis in the WSA should state this very clearly, and outline what the situation would be if this new source of water supply does not materialize as the City hopes it will.

4. It *may* be that the City will need to reduce its current use of surface flows in the San Lorenzo River, since the San Lorenzo Water District has a prior claim to waters now being used by the City, and which the WSA counts as being "certainly available" to the City over the next twenty years. The WSA should include an analysis of what would happen if this, in fact, occurred.

5. It *may* be that the City will need to reduce its current use of groundwater from the Live Oak wells, since these wells are drawing from an overdrafted aquifer and appear to be causing seawater intrusion. The WSA should include an analysis of

what the City's water supply situation would be if these groundwater supplies were not available.

6. It *may* be that the approval of the expansion of the CEMEX quarry, located on the North Coast, will lead to a significant reduction in useable water supplies from one of the City's most important North Coast sources. The WSA should evaluate what the City's water supply situation would be if that, in fact, occurred.

In summary, because the WSA does not incorporate into its analysis various certain, and possible, water supply reductions about which the City has information, it does not provide an adequate "discussion with regard to whether the public water system's total projected water supplies … will meet the projected water demand associated with the proposed project."

If the Council were to approve the staff recommendation, the Council would be certifying that it has "independently reviewed and analyzed the WSA" and that it finds that the WSA "satisfies" all requirements of sections 10910 et seq. of the Water Code." Because of the analytical deficiencies outlined above, the CWC doesn't believe that the Council can properly make this finding.

The CWC urges the Council to direct its staff and consultants to revise the WSA to do a more thorough assessment of future water supply constraints, and then to reevaluate the conclusions currently proposed in the WSA, in light of that more thorough assessment.

Thank you for your consideration of our comments.

WITTWER & PARKIN, LLP

By: Gary A. Patton

cc: Water Director
County Board of Supervisors
Local Agency Formation Commission

LETTER WSA-9 – COMMUNITY WATER COALITION

Gary A. Patton, Wittwer & Parkin, LLP, October 26, 2009

WSA-9-1 Water Supply. See Master Response WS-1 – Water Supply Adequacy & Potential regarding potential reductions to supply, including global climate change. See Master Response WS-3–Desalination Project Purpose & Impacts regarding the desalination project. The WSA is based on adopted City plans, including the "Urban Water Management Plan," which accounts for system-wide management of the City's water resources. The comments on the WSA were forwarded to the City Council for their consideration, and the WSA was approved by the Council in October 2009 pursuant to state law requirements. There will no revisions to the WSA.