



Water Department

**Water Commission**  
DRAFT  
7:00 p.m. – Monday, August 24, 2015  
Council Chambers  
809 Center Street, Santa Cruz

### **Minutes of a Water Commission Meeting**

**Call to Order** –Chair **D. Baskin** called the meeting to order at 7:03 p.m. in the City Council Chambers.

#### **Roll Call**

**Present:** D. Baskin, G. Mead, D. Schwarm, A. Schiffrin, D. Stearns, W. Wadlow, and L. Wilshusen.

**Absent:** None.

**Staff:** R. Menard, Water Director; H. Luckenbach, Deputy Director/Engineering Manager; T. Goddard Multi-Disciplinary Project Manager; E. Cross, Community Relations Specialist; D. Valby, Associate Civil Engineer; I. Rivera, Senior Civil Engineer; K. Crossley, Associate Civil Engineer; A. Poncato, Administrative Assistant III; C. McIsaac, Administrative Assistant II.

**Others:** Approximately 3 members of the public.

**Presentation** – Oral and written communication provided by P. Pethoe.

**Statements of Disqualification** – There were no statements of disqualification.

**Oral Communications** – Oral and written communications provided by P. Pethoe.

**Announcements** – Commissioner L. Wilshusen thanked staff member D. Valby for participating in the Summer Walk series sponsored by the Live Oak Neighbors group.

#### **Consent Agenda**

1. City Council Items Affecting Water
2. Approve the May 5, 2015 Water Commission Minutes

Commissioner Schiffrin moved the Consent Agenda as amended. Commissioner L. Wilshusen seconded.

VOICE VOTE: MOTION CARRIED

AYES: All.

NOES: None

ABSTAINED: None

## General Business

### 1. Water Supply Update

R. Menard, Water Director and T. Goddard, Multi-Disciplinary Project Manager, provided the presentation and responded to Commission questions.

#### Commission Questions/Comments:

- Are we doing any releases for fish habitat? Answer: Yes, both from Newell Creek and also bypass flows in all of our supplies.
- Which standards are we meeting for the bypass flows? Answer: Less than city proposed flows.

#### Public Comment

- No Comment

Commissioner A. Schiffrin moved to accept the report. Commissioner L. Wadlow seconded.

VOICE VOTE: MOTION CARRIED

AYES: All.

NOES: None

### 2. Financial Impact of the Drought

R. Menard, Water Director, provided the presentation and responded to Commission questions.

#### Commission Questions/Comments:

- Questions about the chart on page 24 of the agenda packet were explained in more detail and an error was found in the information provided.
- Is taking on \$30 million dollars of new debt designed to address the combination of decreased revenues along with the new capital improvement budget? Staff Response: A resolution for reimbursement was approved in April of 2014 that allows us to be reimbursed by debt financing the capital funding expended on projects. Of the \$30 million dollars in new debt, we are looking to be reimbursed half of that for money that we have expended.
- Will the \$50 million dollar capital project regarding the valve at the base of Loch Lomond force us to do another rate increase in the near future? Staff Response: Yes, we actually are in the process of the cost of service analysis which determines the rate design and rate increases. As opposed to last year, this year we are in the position to understand more with what is happening with our capital program. This analysis will help determine the revised rates and rates structure changes that would be put into place in July 2016.
- Understanding that we are about a year into the long-term financial debt study; will the results determine all of the financial needs? Staff Response: Yes and we have hired Public Financial Management to look at our debt capacity and how to structure and finance the capital program we are looking at. The problem is if we

- overextend ourselves with debt financing then 60% - 90% of every dollar we collect would go to debt service and this reduces the flexibility.
- The long-term analysis would back us into what we would be able to afford to spend overtime on a water supply project? Staff Response: Yes, right now we assume that we will finish all the projects we need to complete but when we start to see what comes out of these analyses, we may in fact find that some of the things are not that easy to complete in the time frame that we are talking about. Considering the size of our organization, \$11 million dollars in debt is not very much.
  - Please clarify that there is not a scheduled rate increase but rather a target date to finish the long term analysis and at that point and time we can roll out the new rate increases and schedules? Staff Response: Last September, the City Council adopted five (5) rate increases. One of those increases went into effect in October of 2014, another rate increase was effective in July of 2015 and we have 3 rate increases remaining. So without doing anything, there would be another 10% rate increase in July 2016, July 2017 and July 2018. The City Council also gave us a work plan that included cost of service analysis, system development charge review and revision and a rate structure redesign. On March 3, 2015 the City Council and the Water Commission had a joint meeting to discuss goals and policy structures to determine what is important as far as rate design, so the basis of the rate structure is the cost analysis that is currently getting underway to decide what it costs for us to deliver the service and that total amount gets allocated amongst the various customers classes and then you design rates for each customer class that recover that meets policy objectives.
  - There is some confusion over the charts on page 24 of the agenda packet. The first chart states our revenue for fiscal year 2015 is \$21.9 million dollars yet down below in the left column it states that if we have a 25% reduction, then our revenue is going to be \$25 million for fiscal year 2015. Does not understand why it is a \$3.2 million dollars higher. Staff Response: There was a rate increase in 2013 but the agenda information regarding this will be updated and made clearer for the Commission.
  - A Commissioner points out that one of the reasons why there hasn't been more debt financing is that the schedule that the department had for when maintenance and renovation projects were going to come on board was often very optimistic and these projects took a lot longer than anticipated so the deferred maintenance wasn't simply a matter of not willing to go out in debt, but that over the years it was possible because the projects came on very slowly to use cash financing to be able to do the projects while maintaining the fund balance that was seen as an appropriate balance has changed now. It would be helpful to keep realistic project timelines.
  - Commissioner Schiffrin moves to continue this item until the next Water Commission meeting so they can receive updated information on the numbers and the capital improvement program.

Public Comment

- No Comment

Commissioner Schiffrin moves to continue this item until the next Water Commission meeting so they can receive updated information on the numbers and the capital improvement program. Commissioner D. Baskin seconded.

VOICE VOTE: MOTION CARRIED

AYES: All.

NOES: None

3. Update on Water Loss Study

R. Menard, Water Director and T. Goddard, Multi-Disciplinary Project Manager, provided the presentation and responded to Commission questions.

Commission Questions/Comments:

- Is there data that shows what is considered to be the minimal amount of water loss that can realistically be achieved? Staff Response: Yes, we have to report our water loss information and it is available to the public.
- This data would be helpful in determining if it is worth the effort and economic investment if we are only able to reduce water losses from 7.5% to 7%. What is our water loss amount objective? Staff Response: The conservation plan objective was to reduce our water losses from 7.5% to 6.5%, which is an attainable goal. In regards to unavoidable water leakages, there is a metric in the software that calculates these losses based on miles of main, average pressure and connection densities. We have 270 miles of water main, average pressure close to 90lbs and 28,000 domestic and fire service connections on the system. Based on these numbers, we have an unavoidable water loss of about 165 million gallons a water a year.
- Seeing as though our goal is to save 1%, how many gallons of water is 1%? Staff Response: 35 million gallons of water.
- We need to be realistic how much we are spending in terms of staff time and dollars with the hope that we are going to reduce water loss.
- Director Menard made the Commissioners aware that the Water Department knows of at least two (2), if not more, leaks on fire services for large facilities. The Water Department does not read fire service meters; does not charge for leakage of fire service meters and the costs associated with the leaks are not paid for by the customers.
- If consumption drops by an additional 10% then our annual revenue drops by \$1.3 million dollars and about 2% of this 10% loss is unbilled revenue. The project to fix the meters would result in recovering approximately \$261,000 and, from a financial perspective; this is a very small amount.
- For the 130 gallons of water we are potentially saving, what is the dollar value of that and what kind of cost benefit analysis are we putting into this contract? The base contract does not include the optional leak detection services but they've put in comprehensive leak detecting services for 100 miles but if we have more than 200 miles of main then the amount will likely triple if we want to properly update our system. Staff Response: We will determine what has the most economical

advantages between chasing after unreported leaks versus the value of those losses. In terms of the water loss design, they are going to do a sample to get an idea to see if it is worth using manpower to go around and look for water leaks. They will determine what is most beneficial to our department.

- Do we see residential meters run to failure? Staff Response: We do see some run to failure and sometimes we don't see it. When we do know they fail, we go out and replace the meters. We have billing controls that look for declining or zero water consumption, but it is difficult to detect.
- Water supply is calculated by the water coming from the Beltz Wells and what is measured at Graham Hill treatment plant, what about potential water loss in the transition line from Loch Lomond to the Graham Hill treatment plants as well as the North Coast system before it gets to Graham Hill treatment plant? Staff Response: We have two (2) meters that enter the treatment plant. One of the meters is from Newell Creek and the water is measured right when it enters the treatment plant. The other meter is at the Felton booster station so we can compare input volumes with that meter. We do not meter at the reservoir and, assuming it makes it plant, we are metering the water as it enters the treatment process. We monitor water loss as it is being distributed to the customers, not how it gets to the treatment plant.
- Aren't we replacing the North Coast pipeline? Staff Response: Yes, a bit at a time.

Commissioner A. Schiffrin moved to accept the report. Commissioner D. Baskin seconded.

VOICE VOTE: MOTION CARRIED

AYES: All.

NOES: None

4. Implementation of the Department's Capital Improvement Plan

R. Menard, Water Director, H. Luckenbach, Deputy Director/Engineering Manager, K. Crossley, Senior Civil Engineer and I. Rivera, Associate Civil Engineer provided the presentation and responded to Commission questions.

Commission Questions/Comments:

- Presentation reviewed the Bay Street Reservoir Transmission Main, Bay Street Tanks, Beltz 12 Production Well and Treatment Plant, Rehabilitation of the filters at the GHWTP and the North Coast Raw Water Transmission Main Replacement.
- Can the Beltz Well have extraction and injection on site? Staff Response: Yes.
- Will the Beltz Well be used year round? Staff Response: No, it will be used from May – September.
- Did we remove a well? Staff Response: No.
- Does it cost \$40 million for 5 months of service? Staff Response: Yes, that is the pumping season.
- What is preventing the Water Department from finding better wells? Staff Response: The wells are shallow and close to the river. The farther away from the river, the less chance for water to get into the well. The work space for the well is

only 20x20ft.

Public Comment: Oral comments made by P. Pethoe

Commissioner A. Schiffrin moved to accept the report. Commissioner D. Baskin seconded.

VOICE VOTE: MOTION CARRIED

AYES: All.

NOES: None

5. Gravity Trunk Main Valve Replacement Project

R. Menard, Water Director and D. Valby, Associate Civil Engineer provided the presentation and responded to Commission questions.

Commission Questions/Comments:

- Conversation centered around the fact that the Graham Hill Water Treatment Plant will be shut down for 16 hours during phase 1 of the project.
- During phase 2 of the project, the intersection of Ocean Street and Kennan Streets will be cause traffic interruptions. How do you plan to notify people about the traffic control plans during phase 2 of the project? Staff Response: The information will be sent to the public and there will be signs posted about the traffic interruption on the roads that will be affected.

Public Comment: Oral comments made by P. Pethoe

Commissioner A. Schiffrin moved to accept the report. Commissioner D. Baskin seconded.

VOICE VOTE: MOTION CARRIED

AYES: All.

NOES: None

**Subcommittee/Advisory Body Oral Reports** No items.

1. WSAC Update (Oral Report)

- Discussion about what role the Water Commission should play in the Water Supply Advisory Committee submission process. Commissioner A. Schiffrin believes the Water Commission has the ability to analyze the WSAC recommendation, ask questions and provide input to the City Council.

Commissioner A. Schiffrin motions to inquire with the City Council on the role of the Water Commission and whether it wants the Commission to review and provide the input before it makes a decision on implementation of the WSAC recommendation.

Commissioner G. Mead seconded.

VOICE VOTE: MOTION CARRIED

AYES: All.

NOES: None

**Director's Oral Report** No action shall be taken on this item.

There is a ground water modeling meeting on Wednesday, August 26, 2015 from 6:30PM – 8:30PM at the Loudon Nelson Community Center. There will be three (3) speakers discussing ground water metrics, the Santa Margarita ground water model and the ground water model in development in the Soquel Aptos Groundwater Basin. The meeting is designed to create appreciation for ground water.

WSAC will have an open house on September 9, 2015 from 5:00p.m. - 7:30p.m. at the Loudon Nelson Community Center.

**Adjournment Meeting adjourned at 10:30p.m.** The next regular meeting of the Water Commission is scheduled for October 5, 2015 at 7:00 p.m. in Council Chambers.

Respectfully submitted,

---

Staff

Santa Cruz, CA,

August 22, 2015

Dear Water Commissioners,

Please encourage the SC Water Dept. technical staff to investigate the chemical process invented by Enpro AS, of Norway that could solve our water shortages and offer other benefits as well.

Enpro AS is currently constructing a large scale pilot plant in Kollsnes, Norway, that takes in seawater and mixes with CO2 exhaust gases from the adjacent large BKK power plant, thus producing soda ash and other chemicals, solidifying green house gases, and producing unsalted water.

A smaller pilot plant in Abu Dhabi proved the process works with little energy consumption.

The unsalted water byproduct of this process is not mentioned in the literature or in their web site since potable water in Norway is not in short supply but readily available due to much rain, snow and ice.

Dr. Brent Constantz, former UCSC graduate student, founder of Los Gatos based Calera Corp, inventor of bone healing cement from coral, failed to develop a similar process of converting brine and fly ash into valuable chemicals and potable water. He formed the Moss Landing cement Company at the site of the former Kaiser Refractory's plant adjacent to the Duke Energy power plant to develop a similar chemical process. Apparently the process did not work well enough and he had fallout with the owner of the former Kaiser plant. Since then he is pursuing a Reverse Osmosis desalination scheme using water intake from the deep canyon offshore. The small organic matter from the deep would lessen the cost of cleaning the intake water prior to pushing it through the RO membranes. He founded DeepWater Desal to pursue this process. This process may work at the deep canyon off Moss Landing but not here in the Santa Cruz area and would not have the other benefits such as greenhouse gas reduction of the Enpro AS process.



Santa Cruz area has lost almost all industry and its associated employment over the years. Many manufacturers and industrial plants such as Wrigleys, Lipton, GTE Sylvania, Victor Computer, Watkins-Johnson, Salz Tannery, Arrow, Levi, Intel, Manning, Borland, Giro helmets, Seagate, Davenport Cement, etc. have closed or moved elsewhere. Plantronics designs but no longer manufactures here.

If a desal plant using the Enpro AS process were built in Davenport near the ocean, the cement plant will be put back in operation to provide the needed Carbon Dioxide gas, then there will be a resurgence of cement and chemical production, employment, use of the newly purchased rail operation all the way to Watsonville Junction to transport the cement and other chemicals and paying passengers at other times and valuable reduction of greenhouse gases. The greenhouse gas reduction credits will be a valuable benefit from this process.

Please look into the Enpro AS method of chemical desalination and insist the technical staff of the Water Department contact Enpro AS and their Director and CEO Christian H. Theiste to ascertain the progress being made in Kollsnes, Norway.

Sincerely,

A handwritten signature in black ink that reads "Peter Pethoe". The signature is written in a cursive style with a large, looped initial "P".

Peter Pethoe,

424 Escalona Dr.,

Santa Cruz, CA 95060

Cell phone: (831)325-3855,

ppethoe@google.com