



Agenda

DATE 10/28/13 TIME 9:14am

SERVED BY Laurie Trevizo

RECEIVED BY [Signature]

SANTA FE WATER CONSERVATION COMMITTEE MEETING
CITY HALL - 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM
TUESDAY, NOVEMBER 5, 2013
4:00 PM TO 6:00 PM

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF CONSENT AGENDA
5. APPROVAL OF MINUTES OCTOBER 8, 2013 WATER CONSERVATION COMMITTEE MEETING
6. CONSENT AGENDA
 - A. 2014 WATER CONSERVATION COMMITTEE SCHEDULE (Laurie Trevizo)
 - B. DROUGHT, MONSOON AND WATER RESOURCE MANAGEMENT UPDATE (Rick Carpenter)
 - C. UPDATE ON 3RD PARTY SURVEYS (Laurie Trevizo)
 - i. RESIDENTIAL END USE WATER SURVEY
 - ii. DEMAND ELASTICITY

DISCUSSION ITEMS:

7. 2014 LEGISLATIVE RECOMMENDATIONS (Councilor Ives, 20 minutes)
8. REQUEST FOR APPROVAL WATER CONSERVATION POWERPOINT PRESENTATION (20 minutes)

INFORMATIONAL ITEMS:

9. REBATE ANALYSIS (Councilor Ives, 20 minutes)
10. GROUP REPORTS FROM WATER CONSERVATION COMMITTEE INITIATIVES: (Councilor Ives, 60 minutes)
 - A. GROUP #3- PROMOTE OUTDOOR WATER CONSERVATION (12 minutes)
 - B. GROUP #4- REESTABLISH TREND OF NET ANNUAL REDUCTIONS IN PER CAPITA WATER USAGE AND IDENTIFYING LARGE WATER USERS (12 minutes)
 - C. GROUP #5- DOMESTIC WELLS WITHIN THE CITY LIMITS (12 minutes)
 - D. GROUP #1 - WATER CONSERVATION & DROUGHT MANAGEMENT PLAN UPDATE (12 minutes)
 - E. GROUP #2- WATER CONSERVATION EDUCATION/OUTREACH (12 minutes)

MATTERS FROM STAFF:

MATTERS FROM COMMITTEE:

ITEMS FOR NEXT AGENDA - TUESDAY, DECEMBER 10, 2013:

Introduction of POSAC members

CAPTIONS: November 20, 2013 @3 pm PACKET MATERIAL: November 22, 2013 @3 pm

ADJOURN.

Persons with disabilities in need of accommodations, contact the City Clerk's office at 955-6520, five (5) working days prior to meeting date.

**Index Summary of Minutes
WATER CONSERVATION COMMITTEE
November 5, 2013**

INDEX	ACTION TAKEN	PAGE(S)
Cover Sheet		1
Call to Order	Call to Order by Councilor Peter Ives, Chair at 4:00 pm, City Councilor's Conference Room, Santa Fe, NM	2
Roll Call	A quorum was declared by roll call.	2
Introduction of Senator Peter Wirth		2
Approval of Agenda	<i>Giselle Piburn moved to approve the agenda as presented, second by Grace Perez, motion carried by unanimous voice vote.</i>	2
Approval of Consent Agenda	<i>Tim Michael moved to approve the consent agenda as presented, second by Bill Roth, motion carried by unanimous voice vote.</i>	3
Approval of Minutes – October 8, 2013		3
Consent Agenda 2014 WATER CONSERVATION COMMITTEE SCHEDULE (Laurie Trevizo) DROUGHT, MONSOON AND WATER RESOURCE MANAGEMENT UPDATE (Rick Carpenter) (NOT PRESENT) UPDATE ON 3 RD PARTY SURVEYS (Laurie Trevizo) RESIDENTIAL END USE WATER SURVEY DEMAND ELASTICITY	Informational, No formal action taken.	3
Discussion Items 2014 Legislative Recommendations	<i>Open discussion Senator Peter Wirth and committee</i>	3-6

**Index Summary of Minutes
WATER CONSERVATION COMMITTEE
November 5, 2013**

Request for approval – Water Conservation Power point Presentation	<i>members. Mr. Michael moved to approve the Water Conservation in Santa Fe Power Point with the edits as noted, second by Mr. Roth, motion carried by unanimous voice vote.</i>	
Informational Items Rebate Analysis	<i>Informational</i>	7
Group Reports from Water Conservation Committee	<i>Informational</i>	7-9
Matters from Staff	<i>Informational</i>	9
Matters from Committee	Next month discussion on the Drought Monsoon Water report.	9
Items for Next Agenda	Due: November 22, 2013	9
Adjourn and Signature Page	Chair called for adjournment at 5:45 pm	9
Attachment(s) Exhibit A – Water Conservation in Santa Fe Power Point with 1 st set of revisions 2014 Santa Fe Water Conservation Committee Meeting Schedule Memorandum: 10/25/13 from Nick Schiavo regarding Update on Drought, Monsoon, and Water Resource Management Working Group Reports: Group(s) 1, 4 and 5		

MINUTES

4. APPROVAL OF CONSENT AGENDA

Tim Michael moved to approve the consent agenda as presented, second by Bill Roth, motion carried by unanimous voice vote.

5. APPROVAL OF MINUTES OCTOBER 8, 2013 WATER CONSERVATION COMMITTEE MEETING

6. CONSENT AGENDA

- A. 2014 WATER CONSERVATION COMMITTEE SCHEDULE (Laurie Trevizo)
- B. DROUGHT, MONSOON AND WATER RESOURCE MANAGEMENT UPDATE (Rick Carpenter) (NOT PRESENT)
- C. UPDATE ON 3RD PARTY SURVEYS (Laurie Trevizo)
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 - ii. DEMAND ELASTICITY

DISCUSSION ITEMS:

7. 2014 LEGISLATIVE RECOMMENDATIONS (Councilor Ives, 20 minutes)

Open Discussion

The Chair provided Senator Wirth with a brief description of the Executive Order of which the Water Conservation operates under. Chair Ives offered the services of the committee members should there be a need for testimony or education on water conservation during the upcoming legislative session.

It was noted that #9 is the rebate analysis and this information could be a useful statistic in promoting water conservation. Mr. Michael's explained that the City of Santa Fe for the last few years has provided a water report that details the rebate program and the success of this program. Committee members have used this as a basis of information to evaluate how rebates have worked; how they have saved water for the city, how does it work for the customer, has the promotion worked for the city, etc. The rebates have increased the water rates for the City of Santa Fe which now are relatively high. It is unknown if the rebates have lent themselves to the increase of the water rates. The marginal water rate for the city of Santa Fe is three times higher than the city allotment. The committee is trying to untangle this scenario to review what has happened in the past and what will work in the future.

Tim Michael and Doug Pushard have shared this information with the Water Conservation Office and Laurie is in the review process. She will provide edits to Mr. Michael and Mr. Pushard and it is the hopes to have the report ready by December, 2013.

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The Chair wanted to emphasize that the City started the rebate program and the State followed with rebates on clothes washers. The collaboration between municipal utilities and the state on conservation measures is a discussion point for the future.

Senator Wirth said that the days of programs like this where there were targeted dollars coming from the state are very doubtful during this administration. We need to make sure that the dollars that are there are used in the best way possible.

Laurie commented on the funding. The funding for 2010-2011 for the city of Santa Fe and Energy & Minerals was through ARRA funding, which was a onetime chunk of money. How we refund our program now is through a \$4.00 levy on water bills which occurs in April and November for every customer other than those who are low income. This money goes in to an account in the city and it has not been used for several years. There is a new roll out plan for these types of rebates per item. There is good funding to last for a while; the city has used approximately \$200,000 to \$300,000 per year. It is important to continue to utilize and review water analysis to quantify where water use is going. This provides a deeper review of where the rebates should go. Having made this comment, it is important for the state to follow this same advice, "getting our house in order". The city water rebates are available to all water customers, if the state needs to replace their toilets, the state should take advantage of these water rebate programs. As long as there is an account and it isn't a rented building or better said meets the requirements; the city is willing to help. The city has helped many of the hotels in Santa Fe on water conservation.

Senator Wirth asked if the state would pay their levy. Laurie said yes. It depends on the type of building and if they are leased out or if they are paid by the state. Building Services for the State of New Mexico has been very helpful. They will cooperatively participate with the City on a meter system. They will use our (Auto Meter Interface) AMI technology to get real time data.

The Chair announced that the City is going to a new billing system which is very exciting. There will be signals that can be sent electronically to detect water leaks.

Laurie said that they are looking at hourly readings. It cannot do the city of Santa Fe completely. It was noted that 57% of our customers are residential. 40% is dedicated to outdoor use.

The Chair noted that the other area the City of Santa Fe has done a lot on is Water Regulation.

Senator Wirth said that with Santa Fe being a front leader in water conservation; other legislators are beginning to notice. Many of the other municipalities are conscious and complimentary of what is happening in Santa Fe. Whether we do it

MINUTES

during the session as it is a short session or later; the thought is to have Councilor Ives and/or staff give a presentation to the Conservation Committee during the legislative session.

Mr. Roth stated that the Santa Fe Builders Association are focusing on energy consumption and the next code cycle will be driving down towards water use and scoring conservation more heavily.

Laurie spoke for Doug Pushard and Melissa McDonald who provided water harvesting information. The state only has a policy for water harvesting. Colorado and Arizona have it codified for them and they have it in their statutes. There may be problem with the State Engineers, rain water harvesting can only be used for in-door purposes; commercial use is not one of the uses that can be provided. With the lack of legislation to support the use of rain water harvesting in creative ways, we certainly need that support.

Senator Wirth would like a copy of the documents provided by Ms. McDonald and Mr. Pushard. (Laurie to follow up on this request.) There are ways to put in stringent requirements to create a sense of comfort before the stakeholders hold back. I agree 100% that the Homebuilders and the Green Building Association got it extended; it did what tax credits should do, we need that to shift the water.

Ms. Perez discussed feedback from a recent meeting in Arizona. So many of the attendees from other states were so impressed with the success of Santa Fe. It would be great to have that leadership at the State level, water harvesting and grey water is just one example. If there is anything this committee can do, the committee stands ready to support.

Mr. Roth, what is the push back on this from the state?

Senator Wirth said it depends on the piece you are addressing. State Engineer has a large voice in many of these areas of discussion. There is a Grey Water Statute.

The Chair reiterated the offer to supply information and support from staff for presentations and to bring together a communicative dialogue to assist on Water Conservation.

8. REQUEST FOR APPROVAL WATER CONSERVATION POWERPOINT PRESENTATION (20 minutes)

Grace Perez requested consideration and approval of the Water Conservation power point. (Distributed with all edits). Ms. Perez said as a follow up to a request from City Staff on financial needs; she could envision 6 presentations per year which would not require city money to fund for advertisement.

MINUTES

Mr. Michael did concur that he has included the edits from city staff and asked for a vote and support from this Committee for approval.

The Chair said that he would like to see the power point updated as new information becomes available. Water system and water dynamics are living systems through cycles.

Laurie said that the goal was to make a clear presentation. Comments are minimal and the language changes were to provide clarity for this power point consideration by the committee. The Chair expressed his thank you for making the changes.

Mr. Roth: Question on Commercial Rebates – Water Harvesting.

Laurie: We will rebate commercial water harvesting if it goes to their irrigation.

Year Round Water Restrictions: Water request in restaurants, lodging and linen changes – add change of linen for extended stays or for long term guests.

Notice is required under the first bullet, what does that mean.

Grace Perez: The person in the restaurant has to ask for water to get it.

Caryn: The requirement is that they provide signs on the table or on the menu.

Chair: Add – signage required to the power point.

Mr. Roth: Define GPCD (Gallons per Capita per Day) (For the customer - Annual water consumption). Ms. Perez said that when making the presentation they would explain the acronym(s).

Chair: Conservation Programs, slides – Increase training and it mentions QWEL (Qualified Water Efficient Landscaper).

Mr. Michael moved to approve the Water Conservation in Santa Fe Power Point with the edits as noted, second by Mr. Roth, motion carried by unanimous voice vote.

The Chair provided his thank you to all members of the Committee and the working group for finalizing the Power Point. We should continue to communicate and identify the targeted audience; provide Laurie a list of where the presentations will be made or have been made. The Chair asked that Laurie research any TV or Radio opportunities to make this announcement and presentation.

MINUTES

INFORMATIONAL ITEMS:

9. **REBATE ANALYSIS** (Councilor Ives, 20 minutes)
Discussed above.

10. **GROUP REPORTS FROM WATER CONSERVATION COMMITTEE INITIATIVES:** (Councilor Ives, 60 minutes)

- A. **GROUP #3- PROMOTE OUTDOOR WATER CONSERVATION** (12 minutes)

Events: Brain storming meeting to gather information on water conservation measures. A presentation will be made to the Realtors Association tomorrow. Nancy Avidisian added that Stephen Wiman from the Water Conservation Committee and a representative from the State Engineers Office will also make a presentation. The representative from State Engineers Office will do a briefing on the Water Rights settlement. Information will be gathered and hear what their ideas are. This will take place on November 6, 2013 at 9:00 am. Second is a meeting of the AIA Lunch Meeting on January 9, 2014. The time allowed is approximately 30-45 minutes and the power point would be a good format for this venue. The Water Conservation Committee members are all invited.

- B. **GROUP #4 - REESTABLISH TREND OF NET ANNUAL REDUCTIONS IN PER CAPITA WATER USAGE AND IDENTIFYING LARGE WATER USERS** (12 minutes)

Mr. Michael reported that this group is moving along and report was included in the packet. The data received from parks will be useful to identify how much water is used in the parks and the amount of turf area.

Ms. Schmitt said if we could establish a good relationship with the Parks Department and establish a good model we could work with other municipalities. Looking at trying to find rebates for outdoor water use. There is something in the market by using an existing clock that would respond to water conservation. Ms. Schmitt will continue to do research on these clocks. Ms. Schmitt said that if you can even get a homeowner to reduce watering once a week that is a remarkable savings. There are other variables when you focus on clocks and outdoor water conservation; Karyn will continue to do research on this option which would also result in rebates. If this is found as a suitable idea, more information will be provided.

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Laurie invited Group 4, as they are developing all the criteria for commercial water rebates, to attend a future meeting to collaborate. More information to follow on meeting date.

C. GROUP #5 - DOMESTIC WELLS WITHIN THE CITY LIMITS (12 minutes)

(Group 5 report included in packet.)

Mr. Wiman made reference to a report from Amy Lewis. Mr. Wiman will provide this report to Laurie for distribution to the committee.

Maxine Paul is interested in doing master work for her thesis in Water Conservation. She is doing work through the Water Resources Program at UNM – Status of Domestic Wells in Santa Fe. She has an undergraduate degree from Columbia. Mr. Wiman will meet with her and provide more information next month. The Chair would welcome an opportunity to talk to Ms. Paul. Laurie noted that there is a very short timeline as she plans to graduate next summer.

Update: Information in the packet was referred to the City Attorney's Office for review prior to City Attorney Zamora's exit. At this time no update on the report is available. More information to follow when the City Attorney's office has provided information to Laurie.

D. GROUP #1 – WATER CONSERVATION & DROUGHT MANAGEMENT PLAN UPDATE (12 minutes)

Ms. Perez stated that they have met two times. The meeting packet includes a draft of the guiding principles. They are there for review, suggestions, and/or additions or re-wording. At the meeting of Group #1, the overall schedule was reviewed. Goal is to provide information to the Water Conservation Committee for the Water Drought Plan which is due in 2015. Next step is to take the input from the Realtors Association meeting and the AIA meeting to develop committee goals, strategies and objectives. At Doug's request, input was requested from all the working groups to submit items that are important in their groups. At the next meeting they will discuss any changes to the guiding principles and items from all groups. The meeting will be held on November 15th. This is a working draft and will not come to the committee until February 15th, 2014.

MINUTES

E. GROUP #2- WATER CONSERVATION EDUCATION/OUTREACH
(12 minutes)

Done

MATTERS FROM STAFF:

Laurie Trevizo: It was asked if a point of contact could be provided for each working group. In cases where information is requested, it is more efficient to respond to one contact person per group, if at all possible, and information can be disseminated to each group member by that contact person.

Claudia Borchert will be leaving her post with the city of Santa Fe on November 15th. There will be a pot luck held for her on Thursday, November 7th. At this time, any questions related to Claudia's role in the city will be directed to Rick Carpenter.

Laurie announced that they have a new Water Conservation Project Manager – Rachel Wexler who is working on rebate processing. She is also attending the QWEL training and is working on the poster contest.

MATTERS FROM COMMITTEE:

Next month discussion on the Drought Monsoon Water report.

ITEMS FOR NEXT MEETING – TUESDAY, DECEMBER 10, 2013:

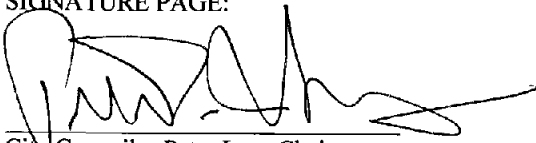
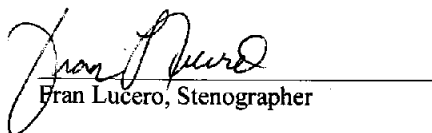
Introduction of POSAC members

CAPTIONS: November 20, 2013 @3 pm PACKET MATERIAL: November 22, 2013 @3 pm

ADJOURN

There being no further business to come before the Water Conservation Committee, the meeting was adjourned at 5:45 pm.

SIGNATURE PAGE:


City Councilor Peter Ives, Chair
Fran Lucero, Stenographer

Water Conservation in Santa Fe



November 5, 2013

This presentation was prepared by the Water Conservation Committee with assistance from the City of Santa Fe Water Conservation Office.

Overview

- * What are the sources and uses?
- * Is there enough?
- * What are we doing?

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11/5/2013

Our Water Sources

*Surface Water

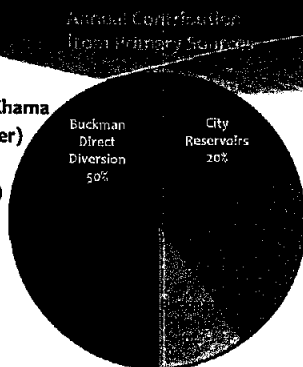
- Buckman Direct Diversion (Rio Grande and San Juan-Chama Project Water)
- City Reservoirs (Santa Fe River Watershed)

*Wells

- Buckman Wells
- City Wells

- Reclaimed Wastewater

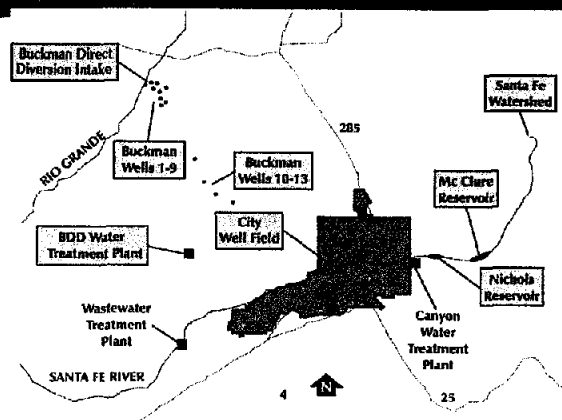
*Conservation!



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11/5/2013

Sources of the City's Water



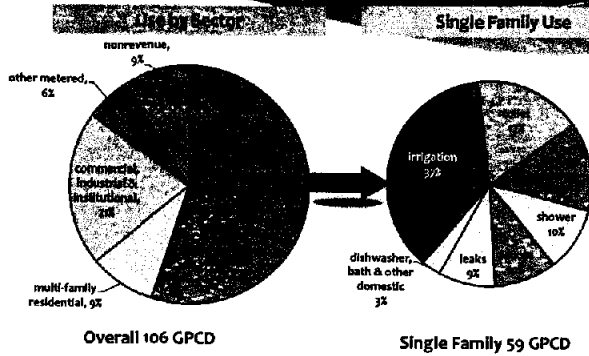
4

11/5/2013

Exhibit A -

How Is It Used?

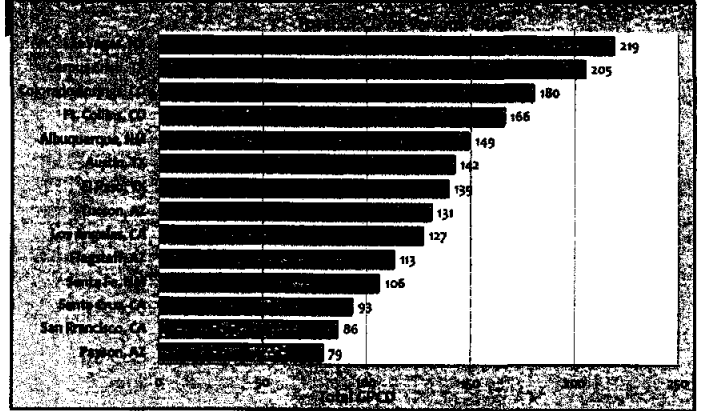
Water use is divided into two main categories: nonrevenue and revenue.



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10/5/2013

How do we stack up?



Is there enough?

Our supply meets our current demand thanks to

- * long-range planning,
- * a diverse source portfolio
- * and conservation efforts

What about in 2020? 2045?

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10/5/2013

Water for the future depends on...

- * Annual precipitation and temperatures
- * Length and frequency of severe droughts
- * Population, growth and land-use planning
- * Adaptation to climate change
- * Emergency planning
- * Improved conservation
- * Level of concern for future generations

8

10/5/2013

Conservation

- * Most cost effective source of water on a per unit basis
- * Defers additional major capital outlays
- * Preserves our groundwater "bank account"
- * Helps community define how we want to use our limited water (i.e., conserve for what?)

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11/5/2013

Water Conservation does not promote development and growth

Developers must submit water conservation plans to offset their demand so there is no net new water. The city provides no net new water.

- * Commercial Development < 5 acre-feet/year
- * Residential Development < 10 acre-feet/year
- * Mixed Use Development < 7.5 acre-feet/year



- * Developer pays fee to City (or uses banked conservation credits) for water to offset new water demand

- * Commercial Development > 5 acre-feet/year
- * Residential Development > 10 acre-feet/year
- * Mixed Use Development > 7.5 acre-feet/year



- * Developer transfers water rights to City to offset new water demand

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11/5/2013

What are We Doing? Year-Round Water Conservation

- * Public outreach and education
- * 1987 ordinance requires citizens and businesses to comply with prescribed water conservation regulations
- * 2007 City Code amendment requires year round water conservation vs. short term "fixes"
- * Conservation ordinances apply to all water customers and all residents in the city limits, including domestic well owners

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11/5/2013

Year-Round Water Restrictions

- * Eating establishments serve water only upon request. Notice required
- * Lodging facilities change linens no more frequently than every four days
- * Public bathrooms must exhibit Water Conservation signage

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11/5/2013

Year-Round Water Restrictions

- * Outdoor irrigation prohibited 10AM – 6PM from May 1 through October 31. Maximum of 3 days/week recommended
- * Turf grass or seed mixes shall not contain more than 25% Kentucky Bluegrass

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11/5/2013

Year-Round Water Restrictions

- * Cleaning of outdoor surfaces with water is prohibited
- * Shut-off nozzles are required on hoses used for hand watering
- * Swimming pools must be covered when not in use
- * Fugitive water is prohibited
- * Specified construction must use treated wastewater

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11/5/2013

Conservation Programs



- * Education: calendar, TV and movie ads, booths, gardens, medians, PR Plan, youth programs, radio show and teacher training
- * Aggressive rebate program offered
- * Increased training (QWEL)

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11/5/2013

Conservation Programs

Residential – rebates

- * See separate slide

Residential – info

- * Water budget calculator
- * Demonstration gardens

Commercial - free

- * Audit/leak detection
- * Irrigation evaluation

Commercial – rebates

Commercial - info

- * Water budget calculator
- * Water waste reduction ordinances

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11/5/2013

Residential Rebates

Rebates for

- * High-efficiency clothes washer
- * High-efficiency toilet (HET)
- * Rainwater harvesting

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11/5/2013

Commercial Rebates

Rebates for

- * High-efficiency toilets (HET)
- * Water-free urinals
- * Rainwater harvesting
- * Commercial process efficiency

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11/5/2013

Sample Conservation Rebates

How much are the rebates?

- * High-Efficiency Clothes Washer \$150 - \$350
- * Rainwater Catchment System \$0.25 per gallon capacity
- * Toilet Rebate \$125 - \$500
- * Water-Free Urinal Rebate \$500

www.savewatersantafe.com

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11/5/2013

Summary

- * Broad portfolio of water sources available
- * Ongoing year-round conservation program
- * Threats: increasing local & regional demand, drought/fire and climate change
- * Conservation is our cheapest water source
- * Conservation awareness, education and practice help ensure water for the future

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11/5/2013

Community Involvement ... The Questions

How do you conserve water? Are you doing enough?
Is conservation a way of life?

What are your priorities?

- * Parks, sports fields
- * Gardens – ornamental & food
- * Santa Fe River
- * Long showers
- * Smart growth
- * Tourism

What changes would you like to see?

- * Increased rebate amounts?
- * Increased penalties for excessive use?
- * New programs?

What would you like us to take back to the Water Conservation Committee?

11/5/2013

Get Involved!

* Conserve!

* Take advantage of rebates! For more information on rebates, go to www.savewatersantafe.com

* Join the Water Conservation Committee or one of our working groups. We're actively recruiting water experts and motivated citizens

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11/5/2013

For Further Info

City of Santa Fe Conservation Office

- * Laurie Trevizo, Water Conservation Manager
- 505-955-4223,
- ltrevizo@santafenm.gov



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Resources

- * Chair, Water Conservation Committee: Peter Ives, City Councilor, District 2, 505-955-6816, pnives@santafenm.gov
- * www.savewatersantafe.com
- * Water Conservation Office 505-955-4225
- * Water Waste Hotline 505-955-4222
- * City Parks 505-955-2100
- * Santa Fe County www.santafecountynm.gov/public_works
- * NM Office of the State Engineer http://www.ose.state.nm.us/conservation_index.html
- * NM Drought conditions <http://droughtmonitor.unl.edu>
- * NM Governor's Drought Task Force www.nmdrought.state.nm.us/links.html

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11/5/2013

2014 SANTA FE WATER CONSERVATION COMMITTEE MEETING SCHEDULE

DATE	LOCATION	TIME
JANUARY 14, 2014	City Councilors' Conference Room	4-6 PM
FEBRUARY 11, 2014	City Councilors' Conference Room	4-6 PM
MARCH 11, 2014	City Councilors' Conference Room	4-6 PM
APRIL 8, 2014	City Councilors' Conference Room	4-6 PM
MAY 13, 2014	City Councilors' Conference Room	4-6 PM
JUNE 10, 2014	City Councilors' Conference Room	4-6 PM
JULY 8, 2014	City Councilors' Conference Room	4-6 PM
AUGUST 12, 2014	City Councilors' Conference Room	4-6 PM
SEPTEMBER 9, 2014	City Councilors' Conference Room	4-6 PM
¹ OCTOBER 7, 2014 10/13/14 Columbus Day	City Councilors' Conference Room	4-6 PM
¹ NOVEMBER 4, 2014 11/11/13 Veteran's Day	City Councilors' Conference Room	4-6 PM
DECEMBER 9, 2014	City Councilors' Conference Room	4-6 PM

City Councilors' Conference Room – 200 Lincoln Avenue

¹First Tuesday meeting due to Holiday

MEMORANDUM

TO: City of Santa Fe Public Utilities Committee
City of Santa Fe Water Conservation Committee
Buckman Direct Diversion Board

FROM: Rick Carpenter, Water Resources and Conservation Manager *RC*

VIA: Nick Schiavo, Acting Public Utilities Department and Water Division *NSA*
Director

DATE: October 25, 2013

SUBJECT: Update on Drought, Monsoon, and Water Resource Management

CURRENT UPDATE – GENERAL WATER RESOURCE MANGEMENT

As the Committee/Board is aware, our region is still suffering through a severe drought. Our region has gone through two consecutive years of record drought and heat. It is now apparent that we are wrapping up a third consecutive year of severe drought and heat which will present significant challenges to all water purveyors, utilities, and irrigators going forward into next year. Even though much of the State and our region have received moderate monsoonal rains overall in July and August, and with much of the state receiving record high monsoonal rains in September, most of the state of New Mexico remains in "severe to extreme" drought conditions. New Mexico appears to be the epicenter of the western U.S. drought. Weather prediction models indicate that, at least through January of this year, the latest model runs are suggesting that drought conditions in the southwest (especially Arizona and New Mexico) should be neutral to below average precipitation (snow) and above average temperatures, therefore, overall drought conditions will likely still persist at least through the beginning of next year.

This current drought is extreme, but what sets it apart from previous extreme droughts is that, absent significant winter snow the rest of this year, the region will enter into next spring and summer without very much carry-over water in regional reservoirs – they are at low levels (except for the local McClure reservoir in Santa Fe). This condition could make next year much more challenging than the current year has been. However, the City of Santa Fe has invested in a robust and diverse portfolio of four distinct water supply sources that allows for flexibility in meeting demand: Buckman well field, City well field, Canyon Road Water Treatment Plant on the Upper Santa Fe River, and the Buckman Direct Diversion on the Rio Grande.

Earlier this year, BoR/USACoE models indicated the probability of critically low flows in the Rio Grande at Otowi Gage, and they were correct - the last few months have seen flows as low as about 350 cubic feet per second (CFS). In a "normal" year flow ought to be around 1,000 cfs or more. However, during the prolonged rains of September 10th – 17th, the record-breaking rains produced flows exceeding 8,000 cfs at times at Otowi Gage. Flows over the last two or three weeks have been in the range of 1,000 cfs (+/-).

Since CRWTP and BRWTP have been unable to produce very much water lately, City and Buckman wells are providing most of the water supply to meet demands.

LOCAL CONDITIONS

Source of Supply Utilization Summary

August 2013

City Wells	57.85mg	177.55af
Buckman Wells	195.43mg	599.76af
CRWTP	23.02mg	70.67af
BRWTP	18.77mg	57.60af
Other Wells(Osage, MRC, etc)	7.84mg	24.06af

Upper Santa Fe River/CRWTP

	Reservoir Level	Santa Fe Snow Gage	Reservoir Inflow
October 23, 2013	60.3%	0.0 inches	18.40 MGD
5-Year Average This Date (2008 – 2012)	54.4%	0.0 inches	1.56 MGD

Heading into September, water resource managers for the City were expecting the Canyon Road Water Treatment Plant to experience significant supply shortfalls later this year and into next year – due in part to severely reduced inflows resulting from the drought, but also due to the planned construction projects inside of the reservoir footprints. However, as of October 23rd, and due to the recent heavy rains, storage in McClure reservoir is up from 29.0% to 81.1% (or about 2,400 acre-feet), with total combined storage (Nichols and McClure) at 60.3% and increasing daily. Flows into Nichols are being by-passed due to construction on the new intake facility. Inflows are expected to continue for the near future and so McClure has been releasing a small amount of water (4 – 5 cfs) in order to avoid spilling water over the spillway and also to facilitate the Fishing Derby on the Santa Fe River in town, which took place in mid-October.

Buckman Regional Water Treatment Plant

The last few months have seen flows as low as about 350 cubic feet per second (CFS). In a "normal" year flow at this time of the year ought to be around 1,000 cfs or more. However, during the prolonged rains of September 10th – 17th, the record-breaking rains produced flows exceeding 8,000 cfs at times at Otowi Gage. Turbidity and suspended sediment has also been very high, especially following intense monsoonal rain storms (as high as 7,020 ntu). For this

reason, the BDD Project has been more-or-less shut down during the months of July, August, and most of September, but was able to produce in the range of 3 – 4 mgd through most of October due to reduced turbidity and flows at approximately 1,000 cfs in the river.

Rio Grande Basin

Surface flows in the Rio Grande and its tributaries have been well below normal, storage levels in regional reservoirs are very low currently (but rising due to recent storms), and the federal BoR recently stated that if there is no "meaningful moisture" received this winter/spring then this would mark the lowest water levels ever in New Mexico reservoirs prior to entering into a new irrigation season. The recent rains have helped river flows (at least temporarily) and regional reservoirs are receiving needed inflow, but normal to above normal snow pack is still needed this coming winter or reservoir levels will still be critically low heading into next irrigation season. Recent weather forecast models seem to be suggesting that snow pack this coming winter may be disappointing.

San Juan Basin

The streamflow forecast for the San Juan River Basin is 75 percent of the 30 year avg. (1981-2010) for 2013. San Juan-Chama contractors have received full allocation of San Juan-Chama Project water this year (up from a previous forecast of only 80%). However, most of this water has already been used by the larger purveyors and irrigators in the middle Rio Grande, and so they are no longer calling for/releasing their water. The water that is currently in the Rio Grande at Otowi Gage is therefore not so much imported San Juan-Chama water as it is environmental flows and native Rio Grande water. However, when water quality conditions permit, the BDD Project is still able to call for and receive its allocation of San Juan-Chama water.

It should be stressed that, conditions could significantly worsen for San Juan Chama Project deliveries next year if the drought persists (i.e., low snow pack this coming winter in the San Juan Basin), due to a lack of carry-over storage in Heron Reservoir and other reservoirs in the system. If conditions do not change, after deliveries are made out of Heron Reservoir this year, that reservoir will be heading into the next water –year at very low levels. Deliveries to SJCP contractors could be significantly curtailed as a result.

WORKING GROUP #4: Promoting Conservation Strategies of Large Water Users

Tim Michael, Melissa McDonald & Karyn Schmitt

Task Report (November 4, 2013)

1. Residential (primarily single-family residential)
 - Efforts continue to promote the installation of electronic transmitting water meters
 - On-going research on outdoor irrigation and landscape rebates
 - a. Review of San Antonio, TX proposed rebate
 - b. Researching add-on seasonal adjustment for existing clocks as a less expensive option for homeowner rebate
2. Lodging
 - Received update from water conservation on the Green Lodging Initiative at last committee meeting. Will seek follow up.
3. Parks
 - Looking forward to having a representative of POSAC attend a WCC meeting proposing December 2013.
 - Met with water division staff to review water usage numbers at the parks. We are currently analyzing the data. We are coordinating our efforts with the water conservation office and POSAC subcommittee.
 - Located GIS turf & irrigation maps currently reviewing
 - Working to locate Park Master Planning documents
 - Discussed with Gary Varela, Parks Superintendent, on-going efforts to create a water tech team for the parks department.

October 8, 2013

Report to the Water Conservation Committee from Working Group #5

Grace Perez

Doug Pushard,

Peter Balleau

Bob Kreger

Stephen Wiman

ASSUMPTIONS:

We understand that, under New Mexico law, the City of Santa Fe has the power to regulate both the drilling and operation of private wells within the city limits. The extent of that power merits legal review.

To date, the City has chosen only to prohibit the drilling of new wells and to issue permits for replacement wells and to not regulate the operation or production of water from existing private wells.

With the issuing of permits for replacement or re-drill wells, the City requires that meters be installed and that well owners turn in monthly water usage totals. Compliance with reporting has been minimal, as has been compliance enforcement by the City.

WCC Working Group #5 is interested in determining the impact of private wells within the City with respect, in particular, to 1) the drawdown of the Tesuque Formation aquifer, 2) the impact on the pumping of private wells on water flow in the City in reaches of the Santa Fe River, 3) the impact of private wells on effluent arriving at the water treatment plant and 4) the net impact of gains and depletion of the lower Santa Fe River below the plant.

The number and usage of private wells in the city remains an unknown. The range of estimates is between 600-3,000 wells and 200 to 3,000 acre-feet per well per year. An estimate of consumptive use would be a smaller number of acre-feet, which is also unknown but may lie in the range of 50% of the usage. The difference between water use and consumption is returned to the water treatment plant from indoor water use, and to the water table from outdoor water use. The variation of amounts of well water use among individual properties is thought to be wide, with some wells out of operation entirely and others probably exceeding the historically authorized maximum rate of 3 AFY.

If the City were to be involved in the monitoring and/or regulation of private wells, the issue would probably be quite contentious because of the value of the wells to property owners and the perception that the (presumed) water rights associated with those wells are in jeopardy.

ACTION PLAN - QUANTITATIVE HYDROLOGIC MODELING

In order to determine the impact of the pumping of an unknown number of private wells, and before any other additional work such as physically inventorying wells is conducted, it is proposed by WCC Working Group #5 that quantitative hydrologic modeling be conducted to determine the range of the possible impact of wells. It is anticipated that this modeling could be properly conducted by a qualified geotechnical firm already under contract to the City.

Model Input

The inputs would include the number and usage of wells and the routing of estimated return flow as described above. Other variables would include reservoir parameters such as permeability estimates, interval thickness, and other characteristics as specified in the most suitable available models.

The uncertain rates will be bracketed for these model runs by reasonable estimates from the judgment of the City hydrogeology contractors considering existing databases in this and other parts of the state. The sensitivity of the river and aquifer effects to the range of input will be used to decide if the acquisition of more specific data on the private wells is justified. We discussed the means of obtaining site-specific data, including using the Anaya case process.

WCC Working Group #5 will work with the City's choice of contractor to approve the input modeling parameters and coordinate the modeling work.

SUMMARY

Members of WCC Working Group #5 have discussed a range of positive and detrimental effects of domestic well operations on the water-management interests of the City and we are in agreement that the numbers need to be understood before a position is recommended to the Water Conservation Committee with respect to possible changes in City policies.

Through the proposed quantitative hydrologic modeling, the overall impact of private wells could be more properly assessed before the City undertakes any further action to properly count, monitor and possibly regulate these private wells.

Working Group #1

Guiding Principles Draft
10/25/13

- The goals of water conservation adhere to the City charter, pending Council approval.
- Protection and preservation of the water supply is a high priority of the Water Division.
- Community awareness, responsibility, participation and education are key elements of a water conscious community.
- The Water Division recognizes its linkage with the regional, national and international watersheds of the Rio Grande and Colorado River.
- Partnerships are necessary to achieve our water goals.
- The precautionary principle provides a framework to guide city water decisions in the pursuit of sustainability.
- The city recognizes the reality of climate change and the need to develop strategies that promote resiliency and adaptability.
- Efficient use of water resources protects our community's quality of life.