

SANTA FE WATER CONSERVATION COMMITTEE MEETING RAILYARD -- ROUNDHOUSE CONFERENCE ROOM 500 MARKET STATION, SUITE 200

October 17, 2017 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 FROM THE SEPTEMBER 12, 2017 MEETING

CONSENT AGENDA

- 6. UPDATE ON CURRENT WATER SUPPLY STATUS (Christine Chavez)
- 7. MONTHLY OVERVIEW OF SCORECARD PROGRESS (Christine Chavez)
- 8. 2017 CHILDREN'S WATER FIESTA SUMMARY (Christine Chavez)

ACTION ITEM:

9. PROPOSED 2018 MEETING SCHEDULE (Christine Chavez)

INFORMATIONAL ITEMS:

- 10. GPCD DISCUSSION (Tim Michael, Christine Chavez)
- 11. WATERSMART CONFERENCE (Doug Pushard, Christine Chavez)
- 12. GROUP REPORTS FROM WATER CONSERVATION COMMITTEE WORKING GROUPS
 - A. GROUP 1 Irrigation Subcommittee (no update)
 - B. GROUP 2 General Education Program (Aaron Kauffman, Christine Chavez)
 - C. GROUP 3 Marketing Outreach (Doug Pushard, Christine Chavez)
 - D. GROUP 4 Water Conservation Codes/Ordinances/Regulations (Scott Bunton, Christine Chavez)
 - E. GROUP 5 Grants (Bob Coombe, Christine Chavez)
 - F. GROUP 6 Commercial Conservation (Doug Pushard, Christine Chavez)

MATTERS FROM PUBLIC:

MATTERS FROM STAFF:

MATTERS FROM COMMITTEE:

COMMITTEE REPORT FROM THE RIVER COMMISSION (Aaron Kauffman, Christine Chavez)

NEXT MEETING - TUESDAY NOVEMBER 14, 2017, LOCATION TBD:

CAPTIONS: Monday, October 30, 2017

PACKET MATERIAL: Wednesday, November 1, 2017

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.

SUMMARY OF ACTION SANTA FE WATER GONSERVATION COMMITTEE WASTE WATER TREATMENT PLANT 73 PASEO RAEL

TUESDAY, SEP	TEMBER 12,	2017,	3:00	PM
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SANTA FE WATER CONSERVATION COMMITTEE WASTE WATER TREATMENT PLANT 73 PASEO RAEL TUESDAY, SEPTEMBER 12, 2017, 3:00 PM

1. CALL TO ORDER

The meeting of the Santa Fe Water Conservation Committee was called to order by Councilor Peter Ives, Chair, at 3:05 pm, on Tuesday, September 12, 2017, at the Waste Water Treatment Plant Conference Room, 73 Paseo Rael, Santa Fe, New Mexico.

2. ROLL CALL

MEMBERS PRESENT

Councilor Peter Ives, Chair Lisa Randall, Co-Chair Aaron Kauffman Tim Michael Robert D. Coombe Stephen K. Wiman Ken Kirk Scott Bunton Justin Lyon

MEMBERS ABSENT

Doug Pushard, Excused Bill Roth, Excused

OTHERS PRESENT

Christine Chavez, City of Santa Fe, Water Conservation Manager Caryn Grosse, Water Conservation Patricio Pacheco, Water Conservation Raul Martinez, Waste Water Division Andy Otto, Watershed Association Elizabeth Martin, Stenographer

2. APPROVAL OF AGENDA

MOTION A motion was made by Mr. Bunton

A motion was made by Mr. Bunton, seconded by Mr. Wiman, to approve

the agenda as presented.

VOTE The motion passed unanimously by voice vote.

3. APPROVAL OF CONSENT AGENDA

Mr. Kauffman asked to pull item 6 for discussion.

MOTION A motion was made by Mr. Wiman, seconded by Ms. Randall, to approve

the consent agenda as amended.

VOTE The motion passed unanimously by voice vote.

5. APPROVAL OF MINUTES AUGUST 8, 2017

Mr. Wiman said Mr. Bunton's name is misspelled.

MOTION A motion was made by Ms. Randall, seconded by Mr. Kirk, to approve the

minutes as amended.

VOTE The motion passed unanimously by voice vote.

CONSENT AGENDA

6. UPDATE OF CURRENT WATER SUPPLY STATUS

Mr. Kauffman said in the packet under the Reservoir Storage Levels it shows McClure at 45.74% and NIchols at 47.54% with a combined amount of 53.43%. The math is not correct.

Chair Ives said that is an interesting question. We will get an answer for you.

Mr. Kauffman said one is much larger but still the math does not work with 2 numbers below 50% and total at just over 50%.

Chair Ives said it might be as simple as 53.4% is of McClure. We will check on that.

Chair Ives said the EPA will be coming out on September 25th, 26th and 27th regarding storm water

Chair Ives said the meeting will recess for the tour. The meeting recessed at 3:25 pm.

Chair Ives called the meeting back to order at 5:05 pm.

7. MONTHLY OVERVIEW OF SCORECARD PROGRESS

Approved on consent.

8. SCORECARD MID YEAR EVALUATION RESULTS

Approved on consent.

9. CHANGE TO RESIDENTIAL REBATE PROGRAM ON WASHING MACHINES.

Approved on consent.

INFORMATIONAL ITEMS

10. OPEN DISCUSSION OF UNINTENDED CONSEQUENCES OF CONSERVATION

Mr. Wiman asked one of his big curiosities is now that there is less water moving through the system how do you treat the wastewater here.

Mr. Martinez said the process of wastewater will never change. He has not heard of anything new due to less water. There might be some tweaking of valves but nothing else.

Ms. Chavez said Mr. Jones had asked her about untended consequences to conservation.

Mr. Martinez said we are getting more BOD and less water.

Mr. Lyon said the nitrogen concentrations are higher with less water. Changes such as low flow toilets have contributed to that.

Chair Ives said the question was if we will need a new digester to add a bit of redundancy to the system. There are a lot of organic solids. A new digester is a significant investment. The County is having more favorable development than the City. The County is approving more projects and they want to tap in. How much do you let the County come in before you start saying if we do this much more we are reducing the capacity for the City. The County, at some point, should be bearing some of the load financially. They are looking at building a wastewater facility out at 14.

Mr. Martinez said he thought they were going to build a regional one at Pojoaque.

Mr. Pacheco said yes they are.

Chair Ives said there is some on site treatment at Santa Fe Brewing.

Mr. Martinez said it is amazing what they are doing at Santa Fe Brewing to put out a good affluent to us. He will be doing water sampling from them. They seem to be doing well. They have a temporary discharge permit from the County. By end of November they plan to be up and running with their own treatment facility.

Mr. Kirk said there are cities around the Country where there is a serious drop in the population so there are fewer people to pay for renewal of the facilities, but it is not where less water crates a problem.

Chair Ives said there always has to be a balance between rates and water use.

Mr. Coombe said it would be nice to see the breakdown of the absolute cost through the whole system. The flat cost. What it actually costs and the cost of energy folded in as well and how that relates to the revenue side.

Chair Ives said we have a 2 tiered system. The tier 1 rate is probably under by \$4 to \$5 in terms of production costs, but there are enough folks in the second tier that it takes care of it.

Mr. Coombe asked do we make money.

Chair Ives said we were able to defease some bonds this year to free up some funds. The rates were such that they could support the debt payments.

Mr. Coombe said it would be interesting to see what the break even point with the City would be.

Chair Ives said we have rate professionals who do an annual analysis and make recommendations about rates. We could ask a question of them like that.

- Mr. Coombe said for the marketing associated with conservation it would be good to have.
- Mr. Michael said we could take a look at his diagram as to how the water flows throughout the City. His focus in doing that was not money, but it could be helpful.
- Mr. Wiman said one of the things that occurred to him was storm water. When you see big influxes of storm water does that change the removal process.
- Mr. Martinez said we don't get any. It goes into the Santa Fe river. We are not a combined source system. Public Works has a group of people who are watching the storm water and what limits it needs to meet. If we get anything it would only be

infiltration through man holes when it rains. The system for the storm water system is not connected out here to us. We get commercial and residential.

- Mr. Wiman asked what do you think the differential costs would be to treat the water going to outflow to drinking water standards. The incremental cost to get it there is not that great after you do what you do.
- Mr. Martinez said BDD is pulling water out of the Rio Grande. The Espanola treatment plant discharges into the Rio Grande. Los Alamos as well. Delancy street has a small treatment facility and they discharge into the Rio Grande or an acequia. He does not have a clue about what it would cost to do potable water. It won't be cheap.

Chair Ives said there is a study going on to figure that out. It is a perception problem.

- Mr. Martinez said perception is the biggest thing.
- Mr. Kirk said the perception is improving.
- Mr. Wiman said there is a treated affluent factor in our source water.
- Mr. Bunton said that may not be treated as well as what you are doing.
- Mr. Martinez said if you ask EPA a question about the Pueblo they can't answer. They are a sovereign Nation and they do not fall under all the EPA rules.
 - Mr. Lyon asked aren't they allowed to set their own limits for affluent.
 - Mr. Martinez said he is sure they are.
- Ms. Randall said when she started in 2010 we were not monitoring massive pipes and leakage and we were spending over \$200,000 and today we spend \$80,000. We have reduced spending by conservation efforts by over a half a million.
 - Mr. Lyon asked have the water rates gone up between then and now.
- Ms. Randall said yes, they have gone up 52% in 5 years. Waste water is up 3.6 % this year.
 - Ms. Chavez said thank you so much Raul.
- Mr. Otto said your outflow into the river, has that changed with conservation over the last 5 or 6 years.
 - Mr. Martinez said without looking at the records he could not answer, but he

would say yes, there has been some type of decrease. He would have to go to Operations and pull those records.

Ms. Chavez said we could find out. Mr. Jones wanted us to consider grey water with commercial and think about what departments we are effecting when we push through things. He is trying to encourage us to consider what the unintended consequences could be.

Mr. Martinez asked what control mechanism do you have. Whole Foods is one of the biggest water consumers in town. They have a 5,000 gallon interceptor behind the building. That is huge. His concern was that this much water can be blown out of the interceptor. They did a tour and inspection and found all the taps were leaking. He told them that until they do what they need to do on their side don't ask us for a re-sample. They did training inside the facility. It is a huge and institutional facility. He went back to do an inspection and they did not request a re-sample. 2 years later he went back and the \$3,000 they were paying a month was reduced to \$600 a month.

Ms. Chavez said always tell us about things like that.

Mr. Martinez said the restaurants are getting better. It is the grocery stores that need to be looked at closer. A lot of things have changed.

Ms. Chavez said we may be working a bit closer with you on our new program. We will be in touch with you. Thank you so much.

Mr. Michael said he would like to have this conversation come up again.

Ms. Chavez said yes and look at bigger picture of things. We get siloed.

11. GPCD DISCUSSION

MOTION A motion was made by Mr. Bunton, seconded by Mr. Wiman, to table items 11 and 12 to the next meeting.

VOTE The motion passed unanimously

Item tabled.

12. ENFORCEMENT PRESENTATION

Item tabled.

13. GROUP REPORTS FROM WATER CONSERVATION COMMITTEE WORKING

GROUPS

A. IRRIGATION SUBCOMMITTEE

No report.

B. GENERAL EDUCATION PROGRAM

No report.

C. MARKETING OUTREACH

Mr. Wiman said we have had a couple of Subcommittee meetings and are making progress. We want to get an improved graphic in the *New Mexican* soon. We are working on a draft. A new Strategic Marketing Plan is coming out on September 25th. We will meet to go over that and bring it to the Committee.

D. WATER CONSERVATION CODES/ORDINANCES

Mr. Bunton said we met combined with the Commercial Subcommittee. What transpired was that the Code Subcommittee decided it was ministerial in nature and will be doing drafting work and assembly work for the other Subcommittees when they are prepared for that to occur. We need to work with the Commercial Subcommittee so we met together. We decided a Resolution would be worthwhile to describe the work the Commercial Subcommittee will recommend that this Committee take on. He prepared a draft and has received comments from Mr. Pushard. Hopefully others will comment as well. When we meet again in 2 weeks we will be prepared to put the final touches on the draft Resolution for it to come to this Committee.

Chair Ives said Jesse Guillen works with the City and is the one who drafts Resolution, Ordinances and changes to both. If you would like that done let him know and Mr. Guillen will work on it.

Mr. Bunton asked before the full Committee hears it or after.

Chair Ives said it depends on if everything you want in it is there. It would be nice to put it in the correct format for the group.

Ms. Chavez said it looks really good and we will route it through the process with the grey water Resolution.

Mr. Bunton said he will work on it and bring them to the next Subcommittee meeting.

- Ms. Chavez said we would like to introduce both of them at the same time so the Council knows what we are doing.
 - Mr. Lyon asked when does the Commercial Subcommittee meet.
- Mr. Bunton said the next one is September 29th, 11:00 am to 1:00 pm. It will be in the Water Conservation Office.
 - Mr. Lyon said if he can make it he would like to participate.
- Ms. Chavez said on the commercial end there are a lot of moving parts. We are drafting contracts now. We are looking at 20 to 30 participants and will offer them a lot through the Green Chamber of Commerce. We have a big package of stuff. She will bring that to the Committee meeting next month. She and Glen will go out in October and November and then start audits. By the next Committee meeting we will have all those things in place. A lot of work is going on and it is going well and fast.

Chair Ives said any time we partner with other entities, from the City perspective, it is always good to run it by Legal.

Ms. Chavez said we are just supporting their iniative and going off their list. We can talk about that more.

E. GRANTS

Mr. Coombe said we have had one meeting. We requested ideas from the entire Committee for possible projects. We received 6 and all were interesting. We have had a preliminary discussion about those and a bit of conversation about the possibility of moving Mr. Kauffman's storm water project up. At some point it would be good for us to schedule a chunk of time for the Committee as a whole to discuss these ideas and support for them, specifically financial support. Please do send in more ideas. A lot of things even today brought up projects for which we could seek sources of support. We want ideas that would have an outcome that could be measured and known and potential sources of funding.

Mr. Coombe said regarding the Education Subcommittee, one thing he hopes everyone takes note of is the integrated program for 4th graders. It is, in fact, getting off the ground and doing very nicely.

Ms. Chavez said we are super excited to see it turn into a project and that kids are signing up. It is so exciting. It would not have happened without the help of this Committee. 300 kids are going through the Passport Program. We hope you all are coming. The Water Fiesta is Tuesday and Wednesday next week. They will all go

through the drinking water model at the Water Fiesta. We have 2 peer to peer groups this year. We have had to turn people away. She will send out invites to everyone. It is at the Convention Center. Make sure when you get there that you get badged. We have assessments for the kids before and after. These kids will be in water fiesta t-shirts. We are not giving out swag this year, but the value is in the education and opportunity itself.

Mr. Coombe said 300 kids is a large sample. We talked about the possibility of looking at the same group of kids in 5th grade and how much they remember and did it change their outlook.

F. COMMERCIAL CONSERVATION

No report.

14. MATTERS FROM THE PUBLIC

Mr. Otto said we are getting ready for the Hunt for Red October river wide clean up day.

15. MATTERS FROM STAFF

- Ms. Chavez said we have a new staff member, Mario Torres, who now works at the Convention Center. He will help us with logistics for the Fiesta. He will be an enforcement officer. He is very knowledgeable. We will have him over to introduce himself.
- Mr. Wiman said he will attend the River Commission meeting next week and will bring back a report.
- Ms. Chavez said please let her know when members can attend these other meetings.
- Ms. Chavez said she sent all of the Committee an invitation for Tuesday, September 26th, from 5:00 pm to 7:00 pm for the public meeting of the storm water plan.
 - Mr. Lyon said he would love to see as many of us there as possible.
 - Ms. Chavez said she is counting on that,

Chair Ives said we did a tour in the mulch area today. That has an impact on outdoor irrigation. He wonders if there is any way we can build into, through the City, a program to leverage some good work in outdoor landscaping with mulch. For those with

expertise in that area. Maybe we could do a Resolution.

It was mentioned that the Municipal Tree Board is working on something similar.

Ms. Chavez said maybe we could work with them.

16. MATTERS FROM COMMITTEE

A. COMMITTEE REPORT FROM THE SUSTAINABLE SANTA FE MEETING

No report.

17. NEXT MEETING

TUESDAY, OCTOBER 17TH

18. ADJOURN

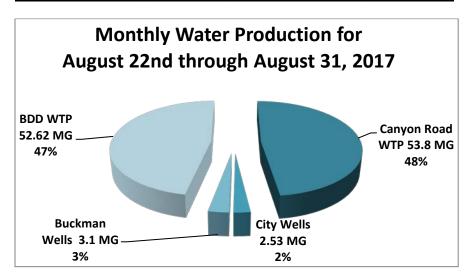
There being no further business before the Committee the meeting adjourned at 6:10 pm.

Councilor Peter Ives, Chair

Elizabeth Martin, Stenographer

City of Santa Fe, Source of Supply Section Water Production Update - through August 31, 2017 Public Utilities Committee Meeting October 4, 2017

Water Production Update for August (08/22/2017 through 08/31/2017)



Total Production of System

Sum: 112 million gallons (MG) for 10 days

Daily Average Consumption: 11.2 million gallons per day (MGD)

Reservoir Storage Levels:

McClure: 43.2% or 471.62 MG Nichols: 48.4% or 104.4 MG Combined: 44.1% or 576.02 MG

Santa Fe River Flow:

Below Nichols (Living River Flows): 0.60 cubic feet per second or 0.387 MGD

Streamflow at Gage below Nichols: 6.90 cfs 4.46 MGD (Irrigation deliveries and Living River flows).

Above McClure (Reservoir Inflow): 3.05 cubic feet per second (cfs) or 1.97 MGD

Baca Street Well

A meeting has been scheduled for September 28th to discuss recent deliverables due to the NMED regarding continued investigation of the Baca Street site, as well as the need for an amended site investigation work plan.

Former Ortiz Landfill

A draft report of the investigation outcomes and proposed future action was delivered to the City by INTERA Corporation, on September 15th, for review and comment. It is currently under review by the Public Utilities Department including the Environmental Services Division and Environment Office.

Old Filter Plant

Trail construction (Dale Ball Trail Connector) at the Old Filter Plant Site has been delayed due to presence of known cultural sites and the need to complete a cultural resources/historic sites survey and clearance. This survey is already underway and two site visits have been completed by the City of Santa Fe Land Use Department - Historic Preservation Division and the Water Division.

Los Alamos National Laboratory Sitewide Monitoring Program

A new plan for the continuance of the Los Alamos "Sitewide Monitoring Program" Sampling of Buckman Wells was approved in June of this year for 2017/2018 sampling. The first samples under the continued plan were taken at the end of June. Additional samples will be taken in the timeframe from October 1, 2017 through-December 31, 2017 for High Explosives, Volatile Organic Compounds, Sem-Volatile Organic Compounds, PCBs, Radionuclides, Tritium, Percchlorate, Hexavalent Chromium, Metals, and general inorganic chemicals.

Drought/Monsoon, Storage, and ESA Update

NOAA has recently (9/14/17) updated ENSO (El Nino/La Niña) status to: "There is an increasing chance (~55-60%) of La Niña during the Northern Hemisphere fall and winter 2017-18." Heron and El Vado reservoir levels on the Rio Grande and Chama Rivers are no longer rising, but Abiquiu is still slightly increasing storage. Local Upper Santa Fe River reservoir storage is slowly decreasing. The City has received 100% delivery from the Bureau of Reclamation (BoR) of full firm-yield of San Juan-Chama Project (SJCP) water. There are no water-related Endangered Species Act (ESA) updates. Updates on ESA issues will be made as needed. Rio Grande Compact Article VII storage restrictions are in effect, which means the City will not be allowed to impound "native" runoff into Nichols and McClure Reservoirs above the pre-Compact pool of 1,061 acre-feet (AF). Rio Grande Compact status regarding Article VII is not expected to change any time soon. Updates to this condition will be made as needed.

Most current City of Santa Fe SJCP Reservoir Storage:

Heron:

5.230 AF. 2017 deliveries were 100% of annual total.

El Vado:

0 AF.

Abiquiu:

11,417 AF. SJCP carry-over from previous years, plus 2017 deliveries. No time limit to vacate due to storage agreement with ABCWUA

TOTAL:

16,647 AF

save wate

Water Conservation Office

Monthly Overview of Scorecard Progress - September 2017



Education Outreach:

Education Initiative:

- Christine presented program to SWAT club at St. Michael's High School on 9/5/2017
- Children's Water Fiesta on September 19-20 worked with 658 students
- Launched Passport Program to 14 classes (approximately 325 students
- Back to School Bash on 9/23

General Outreach:

- Christine volunteered for the "fill the bottle" campaign for Zozobra in collaboration with the Green Chamber of Commerce and Santa Fe Watershed
- Lisa & Patricio tabled the Annual Elk Festival at the Valles Caldera on 9/30
- Demonstration model training in lobby of customer service to customers and staff



Communication and Customer Service:

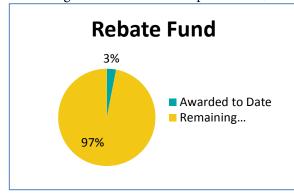
Eye On Water Rollout:

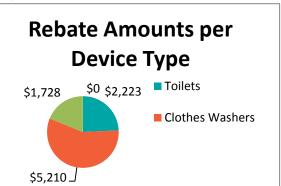
- Patricio working with Customer Service to address continuous leak accounts in Eye On Water
- 2,688 customers signed up for Eye on Water app

Indoor Water Audits:

Residential and Commercial Rebates:

Remaining fund balance as of September 22, 2017: \$290,839





Rebates awarded FY-to-date:

- HET (all types) 39
- Clothes Washers (all types) 20
- Rain Water Harvesting (including rain barrels) 16
- Custom Commercial: 0

Enforcement Activity:

Water Waste Hotline - Pacheco St. Warning: Use of power washer to clean hard surfaces

Enforcement Run - Airport Rd/ Rufina Warning: Water leak / Fugitive water Enforcement Run - Agua Fria/ Calle Maez Warning: Time of day Watering

Water Waste Hotline - St Frances dr./Agua Fria Warning: Fugitive water/ leak in irrigation

Water Waste Hotline - Cerillos/ 4th street	Warning: Use of power washer to clean hard surfaces
Water Waste Hotline - Paseo at Galisteo	Warning: Fugitive water/ misaligned irrigation head

Strategic Marketing Plan:

- Radio Show Guests (Santa Fe Botanical Gardens, Water Conservation Staff and New Mexico State Extension Office)
- Patricio Pacheco featured in the Santa Fe New Mexican for his presentation at the Water Fiesta
- Imagine a day without water campaign with Second Street Brewery
- Finalizing new strategic marketing plan for approval from the Water Conservation Committee



Effective Program Management

Organizational Development:

- Mario Torres start date TBD.
- Personal Action Development Plans (PADP's) were completed for all employees for FY 16/17

Water Conservation Committee:

- Education & Grants Subcommittee Bob Coombe, Aaron Kauffman (SFCC work with QWEL and Water Conservation Curriculum review) (Grant ideas for the Water Conservation Program)
- Commercial subcommittee Scott Bunton, Stephen Wiman, Tim Michael, Doug Pushard, Lisa Randall (Commercial pilot project with restaurants)
- Marketing Outreach subcommittee Bill Roth, Stephen Wiman (review of strategic marketing plan and updates to water source and supply section of the Santa Fe New Mexican)
- Codes/ Ordinances/ Regulations subcommittee Bill Roth, Doug Pushard, Scott Bunton, Ken Kirk (support of the restaurant rebate and gray water rebate)
- Irrigation Subcommittee Doug Pushard (Outdoor Irrigation Rebate)
- New WCC members have met with Water Conservation Manager
- Stephen Wiman attended Santa Fe River Commission on 9/14
- Ken Kirk attended the Stormwater Public Session on 9/27

Integration with Water Resources:

- GPCD work completed
- AWWA audit is in progress (pending GPCD calculations)
- Annual Water Report information is being gathered (pending GPCD calculations)
- Caryn Grosse assisting with the Long Range Water Supply Plan



Stewardship and Conservation:

Regional Collaborations:

- Water Conservation Program partnering with the Alliance for Water Efficiency on their Cooling Water Study
- Patricio participated in the Pojoaque Basin Water Fair on July 7 & 8, 2017. Recognized in front of the Santa Fe County on August 29, 2017.
- Staff participation in the meetings with the EPA and Tetratech on Stormwater on 9/14 and 9/27



2017 Children's Water Fiesta Summary

Attendance: 658 fourth grade students

Organization of Passport Program:

Scheduling proved to be difficult initially due to the Passport Program but was worked out by creating two "tracks" so that all Passport Program participants attended the Drinking Water Model presentation, the Passport Program Overview and at least 1 peer-to-peer presentation.

Catering:

Breakfast and lunch was provided by Alexandra Burke with Walter Burke Catering. One issue was that all food was served on compostable plates/utensils but the composting capability was not provided. Composting company: Reunity Resources (www.reunityresources.com)

List of presenters/volunteers:

Presenter/Volunteer Name	Organization	Name of Presentation
Heidi Henderson	NMED Surface Water Quality Bureau	Incredible Journey
Kelly White	NM Museum of Natural History and Science	NM's Watery Past
Christina Turner & Tom Dominguez	SF County Cooperative Extension	Astounding Agriculture
Robert Martin	Ogallala Commons	Native Reptiles & Amphibians
Julie Valdez & Chuck Lawler	NM OSE	My Water Footprint
Bernardine Padilla	BDD	Let's Clean Some Muddy Water
Mollie Parsons	SF Botanical Garden	Plants in an Arid Environment
Craig O'Hare		Water Wizard
Michael Skelly	Sandia National Labs	Groundwater Model
Adam Schlachter	KSFB	Volunteer/Registration Desk
Isabella Sharpe	CSF Mayor's Office	Volunteer/Registration Desk
Steven Almanzar	KSFB	Volunteer/Registration Desk
Lauren Chavez & Peter Martinez	CRWTP	Water Testing
Peer to peer presentations	SF High School	What is Pollution?
Peer to peer presentations	SF High School	Watersheds
Peer to peer presentations	Monte del Sol	Pollution Solutions
Peer to peer presentations	Monte del Sol	How oil spills affect wildlife
Andrew Erdmann	CSF Water Resources	Macroinvertebrates
Melissa McDonald	CSF River Watershed	Macroinvertebrates
Ariana Espinoza	CSF Water Resources	Macroinvertebrates
Alan Hook	CSF Water Resources	Macroinvertebrates

Dee Beingessner	CSF Water/Engineering	Volunteer/Stamping passports
Lee Gagnon	CSF Water/Engineering	Volunteer/Stamping passports
Siobhan Niklassen	PEEC	Surface Tension activity
Richard Pitman	SF High School	
Rhonda Crespo	Monte del Sol	
Jay Hornay	CSI	Security
Robert Wood	CSF Parking	Leaky Faucet

Recommendations for 2018 Children's Water Fiesta:

- Purchase first aid kit to take to the convention center or talk to Fire Department about providing a first aid station for the event.
- Add room locations to front of folder for presenters
- More direction/adult supervision/assistance to the peer-to-peer presenters

2018 Meeting Schedule

Santa Fe Water Conservation Committee

Location: City Councilors' Conference Room, 200 Lincoln Avenue (except as noted)

Time: 4-6 PM (except as noted)

Day: Second Tuesday of the month (except as noted)

Meeting Date	Caption Deadline, 3 PM	Packet Material Deadline, 3 PM
Tuesday, January 9, 2018	Tuesday, December 26, 2017*	Wednesday, December 27, 2017
Tuesday, February 13, 2018	Monday, January 29, 2018	Wednesday, January 31, 2018
Tuesday, March 13, 2018	Monday, February 26, 2018	Wednesday, February 28, 2018
Tuesday, April 10, 2018	Monday, March 26, 2018	Wednesday, March 28, 2018
Tuesday, May 8, 2018	Monday, April 23, 2018	Wednesday, April 25, 2018
Tuesday, June 5, 2018*	Monday, May 21, 2018	Wednesday, May 23, 2018
Tuesday, July 10, 2018	Monday, June 25, 2018	Wednesday, June 27, 2018
Tuesday, August 14, 2018	Monday, July 30, 2018	Wednesday, August 1, 2018
Tuesday, September 11, 2018	Monday, August 27, 2018	Wednesday, August 29, 2018
Tuesday, October 16, 2018*	Monday, October 1, 2018	Wednesday, October 3, 2018
Tuesday, November 20, 2018*	Monday, October 29, 2018	Wednesday, October 31, 2018
Tuesday, December 11, 2018	Monday, November 26, 2018	Wednesday, November 28, 2018

^{*}Date changed due to holiday or other event



Calendar for Year 2018 (United States)

January	February	March
SMTWTFS	S M T W T F S	S M T W T F S
1) 2 3 4 5 6	1 2 3	1 2 3
7 8 9 10 11 12 13	4 5 6 7 8 9 10	4 5 6 7 8 9 10
14 (15) 16 17 18 19 20	11 12 13 14 15 16 17	11 12 13 14 15 16 17
21 22 23 24 25 26 27	18 (19) 20 21 22 23 24	18 19 20 21 22 23 24
28 29 30 31	25 26 27 28	25 26 27 28 29 30 31
	0 :7 0 :15 0 :23	O:1 0 :9 0 :17 0 :24 O:31
O:1	May	June
·	-	
1 2 3 4 5 6 7	1 2 3 4 5	S M T W T F S 1 2
8 9 10 11 12 13 14	6 7 8 9 10 11 12	3 4 5 6 7 8 9
15 16 17 18 19 20 21	13 14 15 16 17 18 19	10 11 12 13 14 15 16
22 23 24 25 26 27 28	20 21 22 23 24 25 26	17 18 19 20 21 22 23
29 30	27 (28) 29 30 31	24 25 26 27 28 29 30
① :8 ● :15 0 :22 0 :29	① :7 ● :15 0 :21 O:29	① :6 ● :13 0 :20 ○ :28
July	August	September
S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 (4) 5 6 7	1 2 3 4	1
8 9 10 11 12 13 14	5 6 7 8 9 10 11	2 (3) 4 5 6 7 8
15 16 17 18 19 20 21	12 13 14 15 16 17 18	9 10 11 12 13 14 15
22 23 24 25 26 27 28	19 20 21 22 23 24 25	16 17 18 19 20 21 22
29 30 31	26 27 28 29 30 31	23 24 25 26 27 28 29
		30
① :6 ● :12 0 :19 ○ :27	① :4 ● :11 0 :18 ○ :26	① :2 ● :9 0 :16 ○:24
October	November	December
S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4 5 6	1 2 3	1
7 (8) 9 10 11 12 13	4 5 6 7 8 9 10	2 3 4 5 6 7 8
14 15 16 17 18 19 20	(11)(12) 13 14 15 16 17	9 10 11 12 13 14 15
21 22 23 24 25 26 27	18 19 20 21 (22) 23 24	16 17 18 19 20 21 22
28 29 30 31	25 26 27 28 29 30	23 24 (25) 26 27 28 29
20 20 01	20 20 21 20 20 00	30 31
0 :2 ● :8 0 :16 0 :24 0 :31	●:7	●:7 ① :15 ○:22 ① :29
Jan 1 New Year's Day Jan 13 Stephen Foster Memorial Day	Apr 1 Easter Sunday Apr 6 National Tartan Day	May 15 Peace Officers Memorial Day May 18 National Defense Transportation
Jan 15 Martin Luther King Jr. Day	Apr 10 National Library Workers' Day	Day
Jan 29 Kansas Day Feb 1 National Freedom Day	Apr 13 Thomas Jefferson's Birthday Apr 17 Tax Day	May 19 Armed Forces Day May 22 National Maritime Day
Feb 2 Groundhog Day	Apr 25 Administrative Professionals Day	May 23 Emergency Medical Services for
Feb 2 National Wear Red Day Feb 13 Shrove Tuesday/Mardi Gras	Apr 26 Take our Daughters and Sons to Work Day	Children Day May 25 National Missing Children's Day
Feb 14 Valentine's Day	May 1 Law Day	May 28 Memorial Day
Feb 16 Chinese New Year Feb 19 Presidents' Day	May 1 Loyalty Day May 3 National Day of Prayer	Jun 6 D-Day Jun 14 Army Birthday
Mar 1 St. David's Day Mar 2 Employee Appreciation Day	May 5 Cinco de Mayo	Jun 14 Flag Day Jun 17 Father's Day
Mar 2 Employee Appreciation Day Mar 2 Read Across America Day	May 5 National Explosive Ordnance Disposal (EOD) Day	Jun 17 Father's Day Jun 19 Juneteenth (Most regions)
Mar 11 Daylight Saving Time starts Mar 17 St. Patrick's Day	May 6 National Nurses Day May 11 Military Spouse Appreciation Day	Jun 20 American Eagle Day Jun 21 June Solstice
Mar 20 March equinox	May 13 Mother's Day	Jul 4 Independence Day



Calendar for Year 2018 (United States)

Jul 22	Parents' Day	Sep 18	Air Force Birthday	Nov 12	Veterans Day observed
Jul 27	National Korean War Veterans	Sep 21	National POW/MIA Recognition Day	Nov 22	Thanksgiving Day
	Armistice Day	Sep 22	September equinox	Nov 23	Presidents' Day (New Mexico)
Aug 4	Coast Guard Birthday	Sep 30	Gold Star Mother's Day	Nov 26	Cyber Monday
Aug 7	Purple Heart Day	Oct 1	Child Health Day	Dec 6	St Nicholas' Day
Aug 19	National Aviation Day	Oct 8	Columbus Day (Most regions)	Dec 7	Pearl Harbor Remembrance Day
Aug 21	Senior Citizens Day	Oct 9	Leif Erikson Day	Dec 12	Feast of Our Lady of Guadalupe
Aug 26	Women's Equality Day	Oct 13	Navy Birthday	Dec 13	National Guard Birthday
Sep 3	Labor Day	Oct 15	White Cane Safety Day	Dec 17	Pan American Aviation Day
Sep 8	Carl Garner Federal Lands Cleanup	Oct 16	Boss's Day	Dec 17	Wright Brothers Day
	Day	Oct 20	Sweetest Day (Many regions)	Dec 21	December Solstice
Sep 9	National Grandparents Day	Oct 31	Halloween	Dec 24	Christmas Eve
Sep 11	Patriot Day	Nov 4	Daylight Saving Time ends	Dec 25	Christmas Day
Sep 15	National CleanUp Day	Nov 6	Diwali/Deepavali	Dec 26	Kwanzaa (until Jan 1)
Sep 17	Constitution Day and Citizenship	Nov 10	Marine Corps Birthday	Dec 31	New Year's Eve
•	Day	Nov 11	Veterans Day		

CONSISTENCY?

GPCD, OSE, and the City of Santa Fe

We are told that the the Office of the State Engineer (OSE) requires annual reporting of GPCD based on their methodology as part of an application when requesting to hold water unused (40 Year Plans), in water conservation plans, and mandated water use reporting. Reporting may also be required as a permit condition in sensitive hydrologic basins, emergency permits, and large or excessive users. It is also requested as part of the Uniform Funding Application that is used for evaluating water and wastewater loan fund requests.

GPCD?

Gallons of water used divided by (the number of people times the number of days)

Generally refers to annual totals and population averages

total gallons used in a year / (average number of people * number of days in the year)

GALLONS / (PEOPLE * DAYS)



NMOSE GPCD CALCULATOR

nm	MINOSE OF CD CHECOTHION
Interstate Stream Commission	Gallons per Capita - v2.05
uarkrhoots. Shoots can be accesse	Release Date: August 2015 ulater ir dezigned te help quantify and track water was associated with water distribution systems. The spreadsheet contains several separate d wing the tabs towards the bottom of the screen, or by clicking the buttom on the left below. Descriptions of each sheet are also given below. that all the recorded data should be from actual metered results and should not include any estimates.
THE FOLLOWING KEY APPLIES THROUGHOUT:	Value to be entered by wer Dropdown box, pick from list Look for the following boxer that provide additional information Value calculated based on input data Instruction No longer available for input
Please begin by pro	viding the following information, then proceed through each sheet:
HAME OF CITT OR UTILITY	: City of Santa Fo Public Utilities Department Now Mexico
REPORTING TEARS: NAME OF CONTACT PERSONS SELECT THE REPORTING O	Ext.
Instructions 6	Thirshoot
Census Data	Consur data and the partal to get the data from the Consus website
Single-Family	Single-Family raridontial gallons and population
Multi-Family	Multi-Family rezidential gallons and population
ICI & Other Metered	Other data including Commercial, Industrial and Institutional [1.3] and Other metered [1.4] categories
<u>Reuse</u>	Data rolated to water rewe projects
Total Diverted	Total Production and Diverted Water
Reported Data	The calculated data graphical review of most common performance indicators
Annual Performance	The calculated data graphical review of ennuel performance indicators
Monthly Performance	The calculated data graphical review of monthly performance indicators
Definitions	Uro thirshoot to understand terms wed in the audit process

All parties reserve the right to validate the data recorded in this document. This does not bind the

Inputs to the OSE calculator are City water production data, City billing data, and US Census (American Fact Finder) demographic data. By using billing data, the calculator reports GPCD values by user categories (single family; multi-family; industrial, commercial, & institutional; and other metered), as well as the total City GPCD.

Notably, the calculator does not directly use the census population estimate

Advantages:

- Input data is available to most municipalities
- Calculator provides a common methodology
- Methodology provides GPCD values for user categories

Oops!

Because the calculated population is from billing and demographic data and not directly from census estimates, the calculated population may not be the same as the census estimate

This discrepancy may be unavoidable as long as the calculator is intended to report GPCD by user category as well as by total population





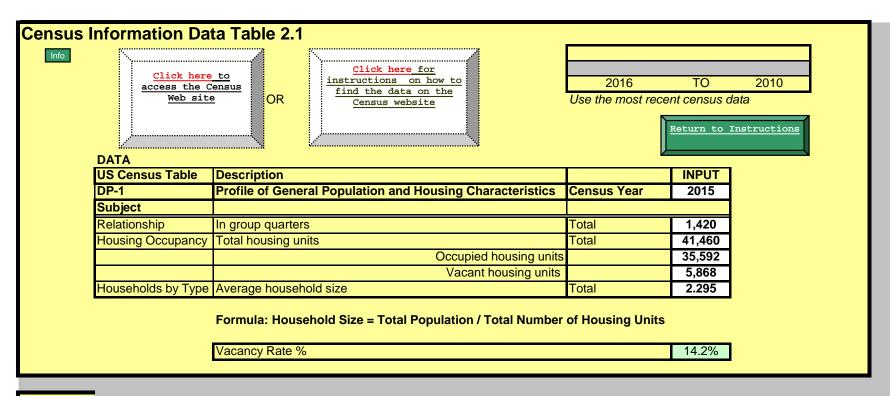
NMOSE GPCD CALCULATOR

Gallons per Capita - v2.05 This spreadsheet-based GPCD calculator is designed to help quantify and track water uses associated with water distribution systems. The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons on the left below. Descriptions of each sheet are also given below. It should be noted that all the recorded data should be from actual metered results and should not include any estimates. Value to be entered by user Dropdown box, pick from list Look for the following boxes that provide addition THE FOLLOWING KEY APPLIES Value calculated based on input data Instructions THROUGHOUT: No longer available for input Please begin by providing the following information, then proceed through each sheet: NAME OF CITY OR UTILITY: City of Santa Fe Public Utilities Department Enter the most recent 2016 2010 reporting year: REPORTING YEARS: Data can be entered back to: NAME OF CONTACT PERSON: Christine Y. Chavez E-MAIL: cychavez@santafenm.gov TELEPHONE: 505-955-4219 Ext. Gallons (US) SELECT THE REPORTING UNITS FOR VOLUME DATA: For unit converter click here: Instructions & Utility This sheet Census Data Census data and the portal to get the data from the Census website Single-Family residential gallons and population Single-Family Multi-Family Multi-Family residential gallons and population ICI & Other Metered Other data including Commercial, Industrial and Institutional [1.3] and Other metered [1.4] categories Data related to water reuse projects Reported Data The calculated data graphical review of most common performance indicators The calculated data graphical review of annual performance indicators The calculated data graphical review of monthly performance indicators Definitions Use this sheet to understand terms used in the audit process All parties reserve the right to validate the data recorded in this document. This does not bind the OSE or the Utility to the

estions or comments regarding the software please contact us at: <u>waternm@state.nm.us</u>

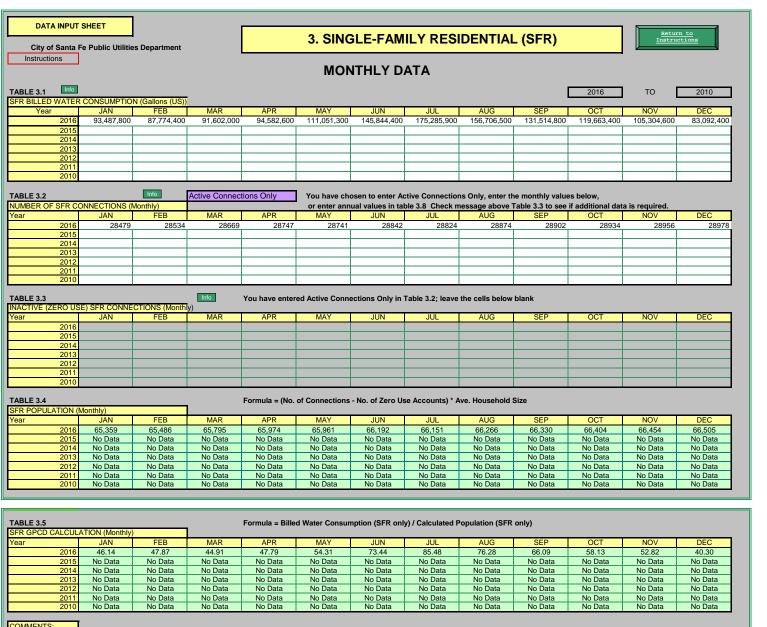
results. It is a tool used for planning purposes.

NMOSE GPCD Calculator v2.02

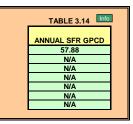


COMMENTS:

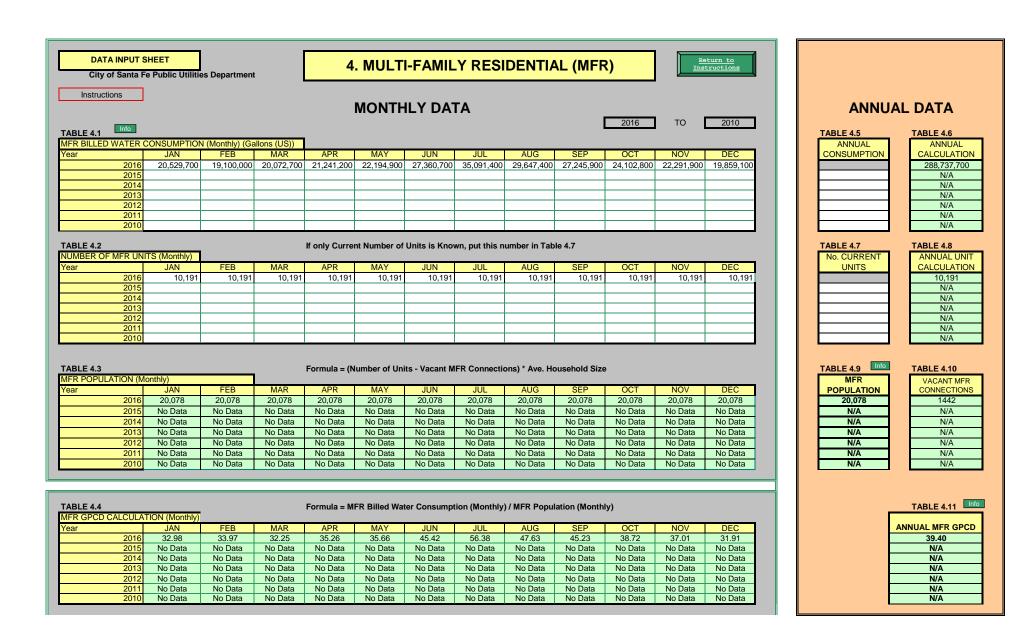
The City of Santa Fe used 2011-2015 American Community Survey 5-year estimates for the housing occupancy, units in structure and housing tenure data. Average household size was calculated by taking the weighted average of the avg. household size of owner-occuppied units with the avg. household size of renter occuppied units. Table B26001 was used for the group quarters population.

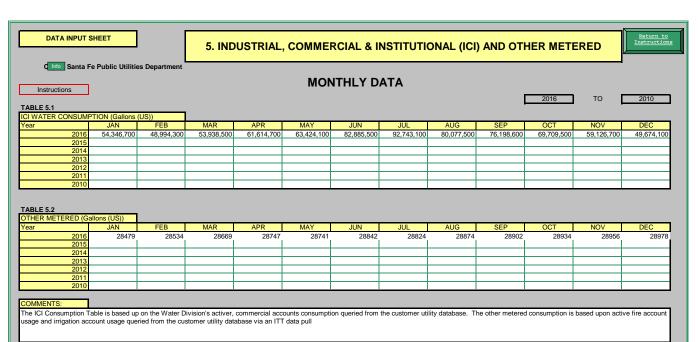


ANNUAL DATA				
TABLE 3.6	TABLE 3.7			
ANNUAL	ANNUAL			
CONSUMPTION	CALCULATION			
	1,395,910,100			
	N/A			
TABLE 3.8	TABLE 3.9			
AVG. ANNUAL	AVG CONN.			
CONNECTIONS	CALCULATION			
	28,790			
	N/A			
TABLE 3.10	IABLE 3.11			
CALCULATED	No. VACANT SFR			
GROWTH RATE	CONNECTIONS			
N/A				
N/A				
N/A N/A				
N/A N/A				
N/A				
Are you sure growth is	zero?			
TABLE 3.12	TABLE 3.13 Info			
SIZE OF	SFR			
HOUSEHOLD	POPULATION			
2.295	66,073			
2.295	N/A			

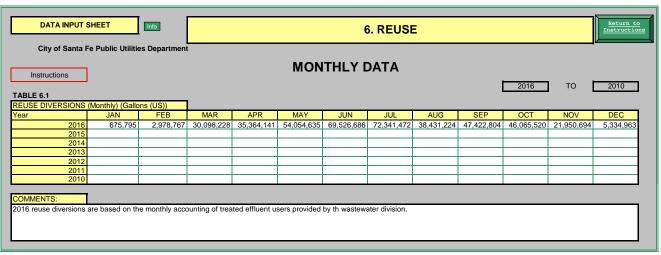


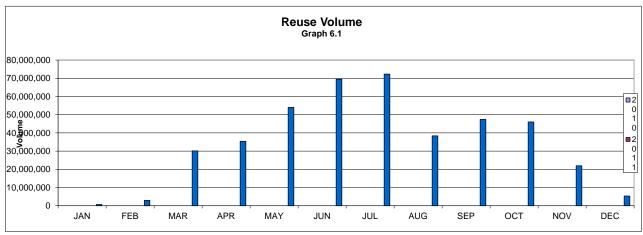
Single Family Residential Consumption and # of Accounts comes from the customer utility database queried by the ITT Dept.

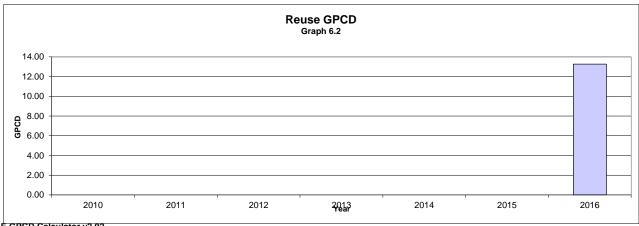




ANNUA	L DATA	
TABLE 5.3	TABLE 5.4	TABLE 5.5
	TABLE 5.4	
ICI ANNUAL	ICI GPCD	ICI ANNUAL
CONSUMPTION	04.00	CALCULATED
	24.80 N/A	792,733,300
	N/A N/A	N/A N/A
	N/A	N/A
TABLE 5.6	TABLE 5.7	TABLE 5.8
	OTHER	OTHER ANNUA
OTHER ANNUAL		CALCULATED
CONSUMPTION	METERED GPCD	
	0.01	345,480
	0.01 N/A	345,480 N/A
	0.01 N/A N/A	345,480 N/A N/A
	0.01 N/A N/A N/A	345,480 N/A N/A N/A
	0.01 N/A N/A	345,480 N/A N/A







DATA INPUT SHEET

7. TOTAL WATER DIVERTED AND SUPPLIED

Return to Instructions

City of Santa Fe Public Utilities Department

MONTHLY DATA

TABLE 7.1										2016	TO	2010
TOTAL WATER DIVER	RTED (Monthly)	(Gallons (US))										
Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2016	78,696,100	81,865,400	36,554,100	17,750,500	149,023,300	309,247,800	296,805,200	273,401,200	124,325,000	64,849,100	63,662,200	79,188,000
2015												
2014												
2013												
2012												
2011												
2010												

TABLE 7.2

IMPORTED V	WATER (N	Nonthly)(Gallons	s (US))	Info									
Year		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	2016	91,041,405	78,749,577	143,126,132	180,103,099	115,575,596	40,565,933	62,464,457	23,654,647	135,476,826	174,461,439	104,896,784	96,115,502
	2015												
	2014												
	2013												
	2012												
	2011												
	2010		•										

TABLE 7.3

EXPORTED WATER (Monthly) (Gallo	ns (US))	Info									
Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2016	0	0	0	0	0	18,496,044	0	24,144,377	0	0	0	0
2015												
2014												
2013												
2012												
2011												
2010	, and the second											

TABLE 7.4

Formula = Total Water Diverted + Imported water - Exported Water

TOTAL WATER SUPP	LY (Monthly) (G	Gallons (US))										
Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2016	169,737,505	160,614,977	179,680,232	197,853,599	264,598,896	331,317,689	359,269,657	272,911,470	259,801,826	239,310,539	168,558,984	175,303,502
2015	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0	0	0

Table 7.5

SYSTEM TOTAL GPC	O (Monthly)	1										
Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2016	63	66	66	75	97	126	132	101	99	88	64	65
2015	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
2014	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
2013	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
2012	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
2011	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
2010	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data

The Total Water Diverted values (Table 7.1) exclude water supplied from the Buckman Direct Diversion Project to the City of Santa Fe (City). The Imported Water values (Table 7.2) are the City's portion of water delivered from the Buckman Direct Diversion Project (BDD Project). The sources of total water diverted include: the City Wells, Canyon Rd Water Treatment Plant & St. Michael's Well, Buckman Wells, and other wells including: Osage Well, Wastewater Well, Marty Sanchez Links well, MSC Well South. "Note: With the exception of Osage Well, Other Wells were not included in previous years gpcd calculations. The Exported Water values (Table 7.3) represent non-BDD Project water delivered to Santa Fe County by the City under the Water Resources Agreement.

ANNUAL DATA

BLE 7.6	_	TABLE 7.7
NNUAL TOTAL		ANNUAL TOTAL
DIVERTED		DIVERTED CALC
		1,575,367,900
		N/A

TABLE 7.8
ANNUAL TOTAL
IMPORTED

TABLE 7.9
ANNUAL TOTAL
IMPORT CALC
1,246,231,397
N/A

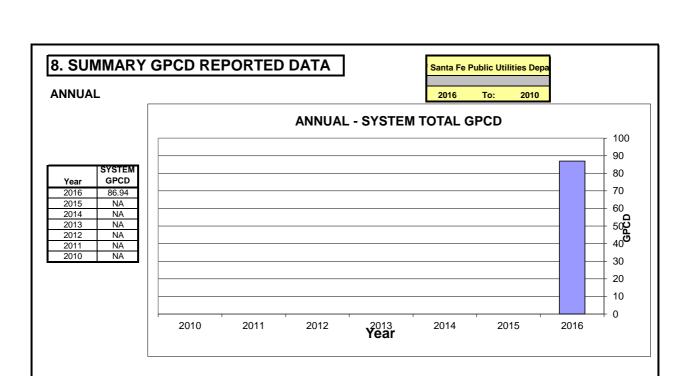
TABLE 7.10
ANNUAL TOTAL
EXPORTED
42,640,421

TABLE 7.11
ANNUAL TOTAL
EXPORT CALC
42,640,421
N/A

TABLE 7.12
ANNUAL TOTAL
WATER SUPPLY
2,778,958,875
0
0
0
0
0
0

TABLE 7.13
TOTAL POP.
EST.
87,571
N/A

TABLE 7.14						
Year	SYSTEM TOTAL GPCD					
2016	86.94					
2015	NA					
2014	NA					
2013	NA					
2012	NA					
2011	NA					
2010	NA					

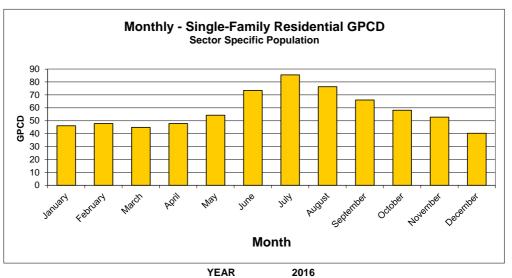


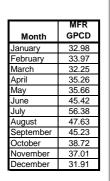
MONTHLY

Month	SFR GPCD
January	46.14
February	47.87
March	44.91
April	47.79
May	54.31
June	73.44
July	85.48
August	76.28
September	66.09
October	58.13
November	52.82
December	40.30

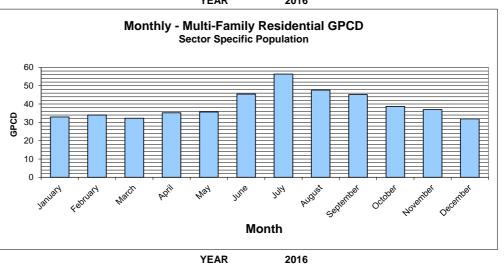
Year 2016

Peak/Ave 1.48





Peak/Ave 1.43

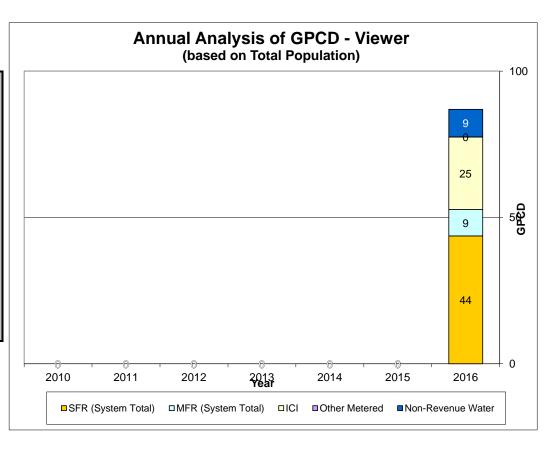


9. System Total Annual Reporting Performance

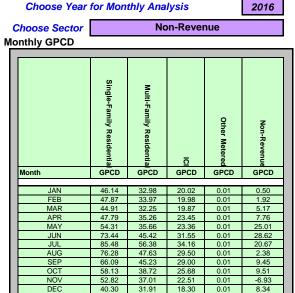
Overall Annual GPCD (based on Total Population)

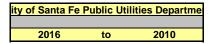
Year	SFR (System Total)	MFR (System Total)	Ī	Other Metered	Non-Revenue Water	Total Supplied	Non-Revenue Volume Million Gallons (US)
On Graph?	Yes	Yes	Yes	Yes	Yes		
2016	43.67	9.03	24.80	0.01	9.42	100.21	301.23
2015	N/A	N/A	N/A	N/A	######	#VALUE!	-
2014	N/A	N/A	N/A	N/A	######	#VALUE!	-
2013	N/A	N/A	N/A	N/A	######	#VALUE!	-
2012	N/A	N/A	N/A	N/A	######	#VALUE!	-
2011	N/A	N/A	N/A	N/A	######	#VALUE!	-
2010	N/A	N/A	N/A	N/A	######	#VALUE!	-

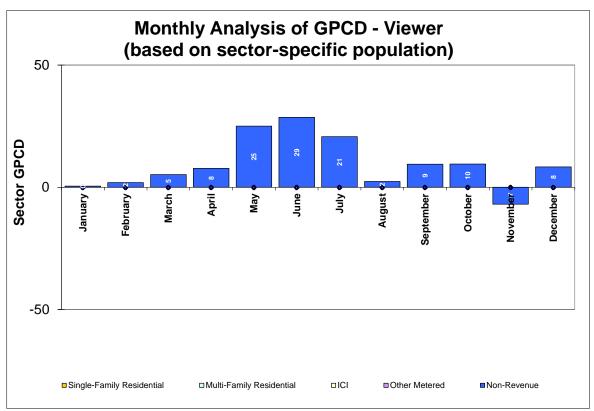
ity of Santa Fe	Public U	tilities Departmer
2016	to	2010



10. Monthly Reporting Performance







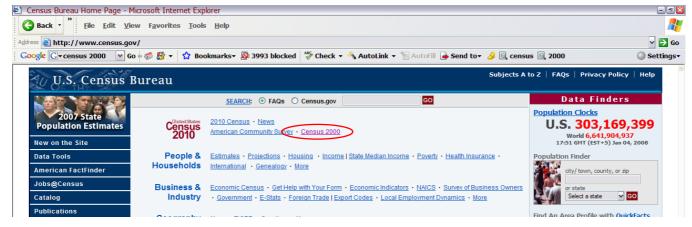
NMOSE GPCD :	Softw	ware:	Defini	<u>tions</u>	GPCD v2.0	© 0 0	Back to Instruc	ctions
Item Name					Descr	ription		
Active Connections	Ī						n the utility. Connec in this category.	tions that
Annual Multi-Family Residential GPCD Calculation	Find	The MFR	GPCD is An	nual MF Calc	ulation (4.6) divided by	y the annual MFR Popul	ation (4.9).
Annual Single Family Residential GPCD Calculation	Find	The SFR average		ual SFR Calc	ulation (3.7) divided b	y the annual SFR Popul:	ation
Billed Water Consumption (Multi-Family Residential)	Find	amount o Table 4. separate	f water use 1, or by ye category,	d (gallons) ar in Table provide an e	for multi-far 4.5. If multi xplanation in	mily reside ti-family r n the Comme	Residential uses only. Intial connections by mesidential is not avail Ints Box and include use Other Metered Table 5.	onth in lable as a age in the
Billed Water Consumption (Single-Family Residential)	Find	This is	the total b	illed consum	ption for Si	ngle-Family	residential uses only	
Calculated Growth Rate	Find	the numb Average will not percenta	er of conne Connections be calcula ge calculat i-Family) U	ctions withi Calculated. ted. This Ta ed against t	n the utility If there as ble is for their own est	y on an ann re no more he utilitie imates. It	luating the percentage ual basis, provided in than one years' data, s use in checking the is also used in Table multi-family units can	Table 3.9 then this growth 4.8 Number
Census Data	Find	numbers each cit There is	of people p y which ena	er household bles calcula	. It also rection of the	cords informumber of h	of population by util mation on the vacancy: ouseholds actually being the user how to fine	rate within ng used.
Converter	Find	1) Gallo 2) Cubic Please s	ns (US) feet elect the u provided be d.	nits from th	e instruction	ns workshee	t. An interactive unit wand select units to be compared to the	converter
Exported Water	Find	arrangem	ents or who	lesale contr		r drinking	clude any pass-through water suppliers, where	
GPCD		Gallons per capita per day (GPCD) is a method utilized internationally to measure water use by drinking water suppliers. It is most commonly used to describe historical and current water uses, providing a baseline of water use that is not as susceptible to changes in population. GPCD is also used for planning purposes, allowing estimates of future demand requirements based on localized population projections. More sophisticated planning efforts utilize GPCD to determine conservation potential, track the results of program implementation, and calculate projections based on conservation adjusted GPCD.						
General Information	The white boxes are data entry cells and are used for inputting data. All other cells except dropdown menus (purple boxes) are protected for the user's benefit to stop any overwriting of formulas and calculated cells. The green boxes are values that have been calculated based on inputs.						stop any	
Graphing Results	Datasets will automatically be graphed when using the graphing data tools in both the Annual and Monthly Performance worksheets. For example, choosing the year and the use sector from the purple dropdown boxes will allow these variables to be graphed.					d the use		
Imported Water	Find	other dr		r suppliers			include any retail com hases water from anoth	
Inactive and Zero Connections	Find	resident	ial connect	ions will be		m the calcu	e 3.3 so that unused s lation of single family Table 3.2.	

NMOSE GPCD Calculator v2.02

Industrial, Commercial and Institutional (IC	Find	Includes industrial properties, such as manufacturing, commercial properties such as restaurants, shopping malls, and institutional customers such as schools, universities and prisons.
Multi-Family Residential Connections	Find	A multifamily unit is living units in an apartment complex, duplexes, triplexes, trailer parks, and condo or town houses that have multiple units serviced by a single connection. They are not counted in the single-family residential category.
Multi-Family Residential Population	Find	Multi-family population is calculated from number of MFR units in the Annual Unit Calculation (4.8) minus Vacant MFR Connections (4.10). That number is then multiplied by Average Size of Occupied Housing Units from the US Census (2.1).
Non-Revenue Water		Non-revenue water is all the water the utility diverts and/or produces, but does not get paid for. Non-revenue water includes apparent losses such as meter inaccuracies, theft, and database errors, real losses such as leaks. It also includes unbilled authorized uses such as fire-fighting, line flushing and disinfection. The Calculator does not provide data entry for unmetered billed water. This might include bulk sales or monthly fees not based on usage. The non-revenue water in the Calculator includes all water that is not metered.
Other Metered	Find	All categories of billed metered use that is not otherwise classified in SFR, MFR or ICI. This provides the user the opportunity to track alternative categories. Examples included irrigation only, stand pipes, and fire hydrant/construction meters. Everything not included in SFR, MFR, ICI or Other will end up in non-revenue water.
Reuse	Find	Reuse, or Recycled water is former wastewater (sewage) that has been treated to remove solids and certain impurities and reused by a water supplier. In most locations, it is only intended to be used for nonpotable uses, such as irrigation, and dust control. This data is not included in any other calculation. It is provided as a tracking tool for the user.
Single Family Residential Connections	Find	SFR Connection is a stand alone or independently metered housing unit. The number used in the Calculator can be Total Connections or Active Connections only.
Single Family Residential Population	Find	Single Family Population (3.13) is calculated from number of active connections times size of average household (3.12). It can be calculated monthly or annually depending on the data provided. If Total Connections is chosen (3.2), then inactive connections are subtracted prior to multiplying by size of average household (3.12). If Active Connections is chosen (3.2), then number of connections are multiplied by size of average household (3.12) without any subtractions.
Size of Average Household	Find	This Table is determined from the US Census data in Table 2.1, Sheet 2. This data is used to determine a total single-family population and total multi-family population for both the monthly and annual data (Tables 3.4 and 3.13, Tables 4.3 and 4.9 respectively).
Total Connections		All active and inactive Single Family Residential connections within the utility.
System Total GPCD	Find	The System Total GPCD is calculated by dividing the quantity of Total Water Diverted (plus imports minus exports) by the System Total Population
Total Population	Find	The Total Population estimate is the sum of the single-family population + multi-family population + group quarters population.
Vacant Single-Family Residential Connections	Find	This is a calculated field using either i) the average of the monthly vacant SFR connections, if monthly data are available or ii) an estimated value based on the Census data vacancy rate multiplied by the number of Total SFR connections. When Total Connections is chosen in Table 3.2, vacant single family residential connections are subtracted from Total Connections prior to calculating a population (based on household size) and a single family GPCD.

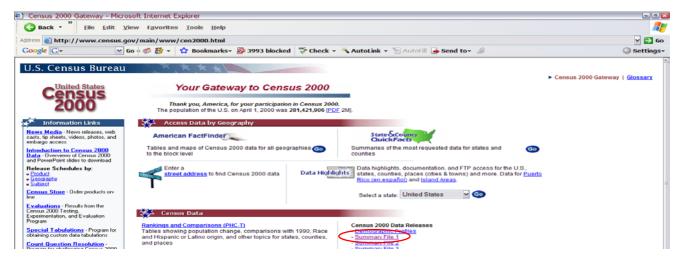
How to find the data required for Census section

NMOSE GPCD Calculator v2.02 2

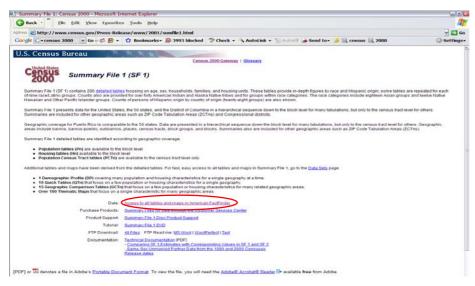


www.census.gov

click on [Census 2000]

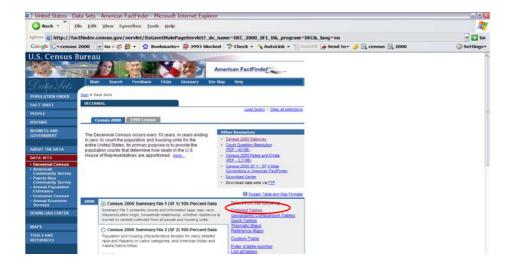


Click on [Summary File 1]



Click on [Access to all tables and maps in American FactFinder]

NMOSE GPCD Calculator v2.02 3



Click on [Detailed tables] American FactFinder - Micros

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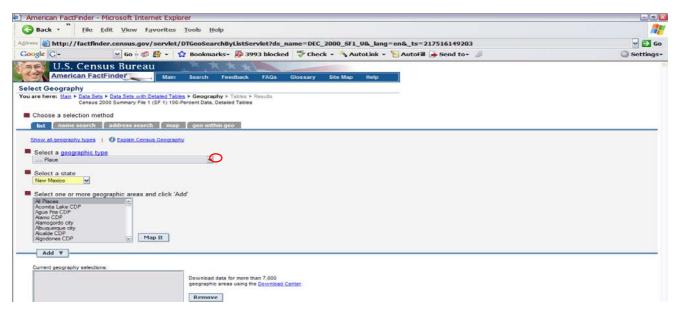
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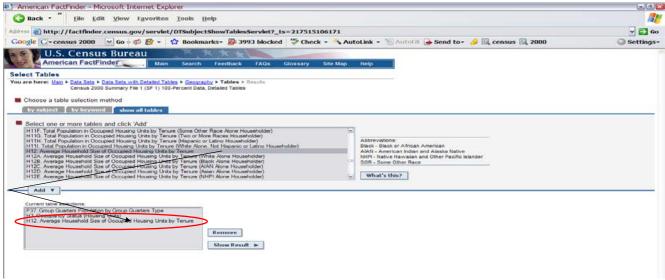
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Select Geographic area from drop down list that is the closest description of your service area

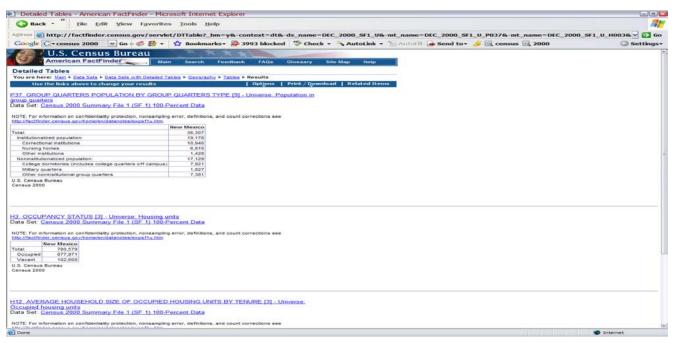
Add this to the base box as shown below



Click [Next]



Add boxes P37, H3, and H12 to the base box by highlighting them and then click [Add] Once all the tables show in the base box click [Show Result]



Transfer results to spreadsheet

END



GROSSE, CARYN L.

From: Doug <doug@harvesth2o.com>
Sent: Tuesday, October 10, 2017 6:50 AM

To: CHAVEZ, CHRISTINE Y.; Aaron Kaufman; Bill Roth; Justin Lyon; Ken Kirk; Lisa Randall

(LRANDALL@sfps.info); IVES, PETER N.; Robert Coombe; Scott Bunton; Stephen Wiman

(skwiman@icloud.com); Tim Michael

Cc: | lrandall@sfps.k12.nm.us; HP Printer 8600; Gretchen

Subject: Water Smart Innovations

All

I presented a session on Codification of Water Rating System and attended about 10 sessions. I have attached a session listing below and a link to where the presentations are located.

It is the 10th year of the conference. It's target audience are Water Conservation professionals and that is a majority of the attendees. NGO, water utilities and vendors that sell to water utilities account for most of the other attendees.

The show is hosted by the Southern Nevada Water Authority and the Alliance for Water Efficiency. It is in Las Vegas every year. It is venue where the EPA gives out its WaterSense awards. I have linked to this year's award recipients below.

https://www.epa.gov/watersense/watersense-awards

The show has somewhere near 250 - 300 attendees. It is hard to tell as there are 8 concurrent sessions at a time. Each session is 30 minutes.

The conference was 4 days. The first day was education sessions, each about 3-4 hours (e.g. How to Build a Water Conservation Program). The next two days were sessions and the last day was panel discussions.

There are many, many great sessions during the event. Many case studies of what other water conservation managers or agencies are doing. What is working and what is not.

There were several sessions on the use of social media and these were well attended.

A couple of takeaways from a Water Conservation perspective:

- 1. The City of Santa Fe should be attending this conference and presenting the Santa Fe story. We are in a leading position, but there are always things to be picked up when talking to one's peers. Additionally, this is a way of promoting Santa Fe and getting water conservation professional to visit our city and learn directly what we are doing.
- 2. There are funding sources available for some of the projects we would like to pursue. Some of the folks with these dollars attend this show.
- 3. Water Conservation as a title is being questioned. Water Resiliency or Water Sustainability were being discussed as possible alternatives. Water Conservation is being viewed as too narrow and starting to have a negative connotation.
- 4. Several cities are adopting the Water Budget approach to building permits. One city basically will not approve a business / building permit for a high-water use business (e.g. car wash) that does not bring an

adequate number of jobs. One city was no longer accepting high water use businesses without either an offset or lots of jobs.

- 5. Several cities are using their new acquired customer usage data to create target programs (e.g. high water user audits, low water use payment assistance programs, etc.).
- 6. There is a restaurant guide published by the Alliance of Water Efficiency. I have asked Mike from the Green Builder Coalition to see if he can acquire a copy for us.
- 7. AWWA is updating the Water Conservation Guide and it will be out in early 2018. I recommend getting a copy of this guide. I have the older one and it is full of useful information. It would be great if we could participate on one of the sub-committees working on the other guides. One of the things in this new addition is a case study of Guelph, Ontario, Canada greywater program. I have trying to get a contact there prior to the publication of the guidebook.
- 8. The City of Guelph, Ontario Canada is offering a \$1,000 rebate for greywater systems. A link to their program is below. Rebates is for NEW and EXISTING homes.

http://guelph.ca/living/environment/water/water-conservation/greywater-reuse-system/

Session Listing:

Copies of the presentations are available at: https://watersmartinnovations.com/sessions.php

Towards Net Zero Water in LEED: A Forum on Whole Project Water Use

Cooling Tower Upgrades Save 10,000,000 Gallons of Water per Year

Sustainable Water Allocation: One City's Solution

Submetering and Leak Detection Advancements Cut Water Usage in Half

30+ Years of Water Efficiency Progress - But What is the Likely Future?

A New Ballgame: Empowering Homeowners to Score Landscape Water Savings

Application of Artificial Intelligence as Floods' Early Warning Tools

A New Era: Refocusing the California Urban Water Conservation Council

Metrics Beyond The Meter: Evaluating Tucson's Water Harvesting Program

Managing Conservation Programs within Different Generation Groups

Making Waves in the Utility Sector: Cloud-based Solutions

A Non-Revenue Water Tale of Five Cities

Water Efficiency at Ted's Montana Grill: Piloting AWE's Restaurant Guide

AWE/American Water/Rachio - Peak Day Water Use Reduction Study

Domestic Hot Water Distribution Challenges in Multi-Family Construction

Taking the Temperature on Drought Response Effectiveness

Targeted Site Visit Research Study

Innovative Campus Upgrades – Schools Pave the Road to Efficiency

Impact of Largest Water Audit Validation Program in the Nation

Useful Perspectives from the International Water Community

Testing & Performance of Pressure Regulating Spray Sprinkler Bodies

24 X 7 Water Supply by Using Existing Resources

Big Data and the Future Of Water Management

Satellite Savings: GIS & the Army Reserve Rainwater Harvesting Strategy

Cleaning up on Conservation

Selling Residential Water Efficiency: The MLS Green Features Addendum

Lights, Camera, Action Plan: The Los Angeles Water Loss Task Force

Changing the Landscape In a Small City Through Conservation Education

AWE Landscape Transformation - Improving Outdoor WUE Programs

Cost Effective Household Pollutant Remover

The Drought: An IOU's Approach to Achieving Mandatory Conservation

Rainwater and Graywater Myth Busters

Performance-Based Incentives Encore – Are Custom Projects Saving Water?

Sustainable or Greenwashed: Creating Balanced Landscapes

Largest Water Loss TAP in the Nation – What's Been Done, and What's Next

Smart Controller Pilot - Don't Set It and Forget It

The Internet of Things: From Faucet to Farm

Net Blue National Ordinance: Making New Development Water Neutral

Dealing with Consumption Data Outliers During Conservation Planning

SURVEY SAYS - "People Blank Their Rain Barrel"

Ensuring A Water Sustainable Future Through Digital Customer Engagement and Smart Analytics

Conservation Through Innovation

Measuring How Showers "Feel" on the Skin to Promote Low Flow Showerheads

Water – Use It Wisely's Drab to Fab Backyard Rehab Promotion & Contest

A Wild West Tale: Debunking the Myth That Conservation Increases Rates

H20 Conservation Education That Works: All About the TEKS

Metering Non-Potable Water: 5 - Year Study of Urban Irrigation Efficiency

Got Ag? San Diego WUE Programs for the Ag Sector

RESNET Water Efficiency Rating (WER) Index Update

Making Commercial Benchmarking Accessible

The Future of Blue is Green: Predesigned Gardens Spur Landscape Change

How we got 10,000 Facebook Followers

Water Use in the Multifamily Residential Sector

QWEL: Tales from Two Adopting Organizations

You Can't Play Soccer In a Perennial Bed: The Case for Turf In Sustainable Landscapes

Does On-Site Potable Reuse Have a Role in Water Sustainability?

Regulated Conservation Planning: Comparing Formal & Informal Processes

Garden On Eden: A Demonstration of Watershed Landscaping

The New EPA Water Score

Creating a Conservation Pledge Campaign On a Duct Tape Budget

Colorado River Basin: A Common Understanding of Conservation Planning?

Approaches to Demand & Conservation Forecasts and Dealing with Data Gaps

Soil Moisture Sensor Performance in Homes Watering with Reclaimed Water

"The Hidden Reservoir"- Diversifying Supply Through Land Use Planning

Best Practices for Water Conservation Management: Prescriptive or Budget

Energy Efficiency as a Water Conservation Resource

Results from Four Dipper Well Monitoring and Replacement Projects

Why Consumers Don't Care About Wasting Water and What We Can Do About It

M&V Guidelines, Water Retrofits, & NextGeneration PPPs for Public Sector

Plants: Why Won't You Take A Good Photo?

Grow Power: Cultivating a Public-Private Partnership

Past & Future From an Engineer that has 50 Years of Experience

The Codification of Water Ratings: A Case Study

Water Conservation in Urban Communities: How the SNWA does it

Pressure Off Your Line is Pressure Off Your Mind

Water Smart City Challenge: Leveraging Outreach Opportunities

Monitor My Use: Tales from an AMI web portal

Comparison of Pattern Recognition and Auto Regressive Models for Short-Term Urban Water Demand Forec

Direct Install Turf Replacement: Changing an Old Concept

Peak Water Demand Study for Efficient Fixtures in Residential Buildings

Model Water Efficient Landscape Ordinance (MWELO) and the New Normal for California Landscaping

The Hidden Gem – College Campuses In 14 States Know How to Save Water!

Save Water, Get Recognized: Water Wise Gilbert for Commercial Customers

Leveraging Pop-Culture to Cut through the Noise - Branding Drought

Conservation Toolbox: A Collaborative Platform for Conservation Research

Analytics for SmartFarming (Soil Library for Sensors)

RICI Don't Lose That Number! The Residential Irrigation Capacity Index

Automatic Device For Saving Water in Showerheads-Tests Results

ASHRAE 189.1: Moving at the Speed of Green

On Your Terms: Comparing and Contrasting Water Efficiency Terminology

Water Cops and Robbers: Policing Unreasonable Water Use in L.A.

Water Conservation in a Season of Abundance

Urine Diverting Toilets In Europe: Nutrient Recovery and Use In Building

A System Dynamic Model and Visualization Tool for Water Demand and Supply at the State Level in the

Wi-Fi Irrigation Controllers, a New Tool for Contractors

Water Conservation Technology Demonstrations for the Army

WaterSense in Jeopardy: Saving the EPA Water Labeling Program

Tapping into a New Conservation Technique: Automated Leak Detection

Keep Austin Wired – Guiding Water Efficient Behavior in a Mobile World

Ensuring Successful AMI Implementation Through Public Engagement

Peer Review of the Water Conservation Programs of the Metropolitan Water District of Southern Cal

A Water Budget Approach for Assessing Urban Residential Irrigation Performance

Performance-Based Irrigation Management Works! - WSLEP Final Results

Saturation Incomplete! Water Savings Opportunities Have Been Left Behind!

The WE-Stand Water Efficiency Standard-Developed By Experts to Serve Sustainable Communities

Irrigation Pressure – Is Too Much Fact or Fiction?

Initiative to Reassess Performance Indicators for Water Loss Management

Results of 22 Monitoring Projects on Conveyor Dishwashers in Foodservice

Sprinklers' Guide to the Galaxy: Engaging Customers to Sustain Savings

The Colorado Campus Collaboratory; Water Efficiency Preferences & Practices

Truth Be Told: Explaining the Real Relationship Between Conservation and Rates in Your Community

Utilizing Debt Funding for Water Conservation Programs

Building Resilient Communities - Managing Landscapes During Drought

Colorado River Basin and Water Efficiency: A New Landscape?

Developing Collaborative Relationships for Conservation Projects