



Agenda

DATE 7/7/16 TIME 3:29
SERVED BY Christine Chavez
RECEIVED BY [Signature]

SANTA FE WATER CONSERVATION COMMITTEE MEETING
CITY HALL - 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM
July 12, 2016
4:00 PM TO 6:00 PM

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF MINUTES TUESDAY MAY 10, 2016 WATER CONSERVATION COMMITTEE MEETING
5. APPROVAL OF MINUTES TUESDAY JUNE 21, 2016 WATER CONSERVATION COMMITTEE MEETING

DISCUSSION ITEMS:

6. Update on Green Building Code (Katherine Mortimer, 15 minutes)
7. Update on Jemez y Sangre Regional Water Plan (Andrew Erdmann, 10 minutes)

ACTION ITEMS:

8. Resolution No: 2016-25: Preliminary Report and Recommendation for Stormwater Policy Update (Melissa A. McDonald, 20 minutes)
9. Approval of Revisions to Chapter 25 – Water Conservation Section (Chapter 25 working group and Christine Chavez, 15 minutes)
10. Assignment of Committee Members to new Working Groups (Christine Chavez, 20 minutes)
11. Recommendations on Implementation of the Strategic Marketing Plan (Doug Pushard, 5 minutes)

INFORMATIONAL ITEMS:

12. Group Reports from Water Conservation Committee Working Groups (no updates)
 - A. GROUP A - Irrigation Rebate and QWEL
 - B. GROUP B - Expansion of the K-12 Education Program
 - C. GROUP C - Grant Exploration and Ideas
 - D. GROUP D - Water Conservation Codes, Ordinances and Regulations
 - E. GROUP E - Water Conservation Scorecard
13. SOURCE OF SUPPLY – Drought Update
14. Committee Appointments (Christine Chavez, 5 minutes)

MATTERS FROM PUBLIC:

MATTERS FROM COMMITTEE:

NEXT MEETING – TUESDAY AUGUST 9, 2016:

CAPTIONS: JULY 25, 2016 @ 3 PM.

PACKET MATERIAL: JULY 27, 2016 @ 3 PM.

ITEMS FOR NEXT AGENDA:

Nick Schiavo – Update on new billing system and badger meters

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.

WATER CONSERVATION COMMITTEE

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May 10, 2016

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Roll Call/Call to Order	The Water Conservation Committee Meeting was called to order by Acting Chair Lisa Randall, at 4:05 pm in the City Councilor's Conference Room. A quorum is reflected in roll call.	Page 1
Approval of Agenda	<i>Mr. Pushard moved to approve the agenda as presented, second by Mr. Wiman, motion carried by unanimous voice vote.</i>	Page 1
Approval of Minutes April 12, 2016	Corrections: Mr. Wyman Wiman – correct throughout document <i>Ms. Michael moved to approve the minutes of April 121, 2016 as amended, second by Mr. Wiman, motion carried by unanimous voice vote.</i>	Page 1
Discussion Items <ul style="list-style-type: none"> • Park Study • Conversion of Conservation Literature to Spanish • Discussion of Water Conservation Program 	Informational, no formal action.	Page 2-4
Informational Items <ul style="list-style-type: none"> • 2015 Annual Water Report • Group Reports • Demonstration of new Drinking Water Model • Source of Supply 	Group Reports, Informational and Staff Updates	Page 4-6
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Next Meeting	Date Change: Tuesday, June 21, 2016	Page 7
Adjournment and signature	Meeting was adjourned at 6:00 pm	Page 7

SANTA FE WATER CONSERVATION COMMITTEE MEETING
CITY HALL - 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM
MAY 10, 2016
4:00 PM TO 6:00 PM

MINUTES

1. CALL TO ORDER

Lisa Randall, Acting Chair for the Water Conservation Committee called the meeting to order at 4:05 pm in the City Councilors' Conference Room. A quorum is reflected in roll call.

2. ROLL CALL

Present:

Lisa Randall, Acting Chair
Doug Pushard, Acting Chair
Tim Michael
Stephen Wiman
Giselle Piburn

Not Present/Excused:

Bill Roth
Councilor Peter Ives, Chair

Staff Present:

Robert Wood, Water Conservation Specialist Senior
Christine Chavez, Director, Water Conservation Department
Quita Ortiz, Water Resources

Others Present:

Andy Otto, Santa Fe Watershed Association
Fran Lucero, Stenographer

3. APPROVAL OF AGENDA

Mr. Pushard moved to approve the agenda as presented, second by Mr. Wiman, motion carried by unanimous voice vote.

4. APPROVAL OF MINUTES – APRIL 12, 2016

Correction: Mr. ~~Wyman~~ to Mr. Wiman throughout the minutes.

Mr. Michael moved to approve the minutes of April 12, 2016 as amended, second by Mr. Wiman, motion carried by unanimous voice vote.

DISCUSSION ITEMS:

5. PARKS STUDY (Christine Chavez, Robert Wood)

Water Conservation conducted a use study to determine the results of recent irrigation upgrades within local parks. Projects were selected using the parks from a recent 2008 Bond Parks Irrigation Audit study. There is information for 30 parks/2002-2015 included in the meeting packet and a report for each park with all pertinent information. In general, the results show a decline in overall water usage as indicated by the trend line from 2002-2015. We know that 2015 was a high precipitation but overall it shows that they did use less water.

Mr. Pushard asked how many parks do we have? Mr. Wood estimated approximately 150-175 parks in the city. There are about 312 accounts for water usage which would include the medians.

Mr. Wood said they are working with a company called Weather Track that is working on Ragel Park. Mr. Pushard asked how many parks are on the smart controllers on the Motorola system. Mr. Wood noted approximately 70 parks. Ms. Randall noted that SFPS have approximately 70 smart controllers in their system.

Mr. Michael notes that in a past report there was no indication that parks were using too much water. He offered the report he previously did to the Director to review the methodology. Ms. Chavez noted that they did consider Mr. Michael's information when compiling this report. Mr. Michael said we need to determine how many parks we want to have and how much water do we want to use. He feels that this is one decision that this committee needs to make. Ms. Chavez informed the committee members that the information that was available and how it is rated was not as easy as expected, the trending is important to the calculations. In the May 4, 2016 memorandum from Mr. Schiavo he states: "Factors affecting the trend line: several parks were added or space was upsized during the time frame indicated notes, several parks had major leaks that affected usage during specific years, several parks had meter failures or system failures that affected usage during specific years, construction activity affected usage within several parks and yearly precipitation is not factored into results."

Mr. Wood noted that also included in the packet are audit reports for some of the parks for information.

The Chair asked if there is a typical use or number for parks? Mr. Michael said he used a document published from a DOE project that had specific data for Santa Fe to estimate un-meter water use, particular for turf, assuming they were all turf.

Mr. Wood noted that there are some parks that are regional parks, some are dedicated by use, and there are other neighborhood parks that are smaller where activity use is different. There are also pocket or spot parks. There are also quite a few designated dog parks that do not use a lot of dedicated water. There is no point in putting turf as long as they have a surface where they can run.

6. CONVERSION OF CONSERVATION LITERATURE TO SPANISH

Ms. Chavez provided samples of marketing collateral, some from OSE and others from the City of Santa Fe. The terminology in some of the brochures may offer a challenge to be translated.

- City of Santa Fe Comprehensive Water Conservation Requirements
- Rebate Program
- Signage: Quita is working on a contest piece at this time and she will bring forth to next meeting. Trees and Help Save Water
- Buckman Diversion Program that also talks about our system.
- QWELL Program which would be parts of it.

Mr. Pushard stated that when he takes literature to different locations, that the City of Santa Fe Comprehensive Water Conservation Requirements is one that is definitely picked up by constituents and the signage to help save water is another favorite. There are also requests for tree lists; they would like to know what they can be planting.

Ms. Chavez noted that we don't have much control over the OSE pieces of collateral. Quita will continue to work on the signage pieces of collateral for the city.

Ms. Randall said that it would be nice to have a list of approved shrubs, trees and plants. It would be good to have it in Spanish as many of the contractors SFPS works with are Spanish speaking.

Mr. Michael offered to also contribute in working with the creation of a marketing piece of information that is needed.

Mr. Wood noted that when you have a restricted list you hold back contractors to complete their jobs. We are working on adding to the palette that are regional to that area.

The Chair asked if the question is related to budget or which information is needed.

Ms. Chavez noted that she has not researched the budget allocation, it is important to find out what pieces of collateral as they are prioritized.

Quita said that in working with Lynn she has stated that more and more people are moving away from printed material. We may want to create a more general water conservation brochure that incorporates more crucial highlights. Her recommendation is to have one brochure with general information, other than trees and shrubs. A website link would be more useful and helpful to the public.

Mr. Pushard asked Ms. Randall if SFPS uses the OSE Plant and Tree sheet and she responded that she uses the city plant and tree list. Mr. Pushard asked Mr. Wood if there has ever been discussion or consideration of combining the OSE and City of Santa Fe compilation of approved trees and plants list. Mr. Wood said that he has not worked with OSE; he does work with the State Forestry Department which has been more productive. Mr. Pushard is happy to share the complete OSE tree and plant list with the Water division.

(The Acting Chair, Lisa Randall departs meeting, Mr. Doug Pushard resumed the Chairmanship)

Mr. Michael also agreed that moving away from printed material is a good suggestion. He also recommended that Ms. Chavez pick one or two of the sample brochures and bring the cost forward for discussion. Ms. Piburn said that the door hangers are a nice piece to retain.

7. DISCUSSION OF WATER CONSERVATION PROGRAM

Ms. Chavez talked about the cisterns that are at the Water Conservation office and are not functional right now. The thought she proposed to the WCC members is to complete the project in the gardens with volunteers and collaboration with WCC. Mr. Pushard did review the site and gave recommendations to staff. Ms. Chavez asked if the Water Conservation Committee would like to take this on as a project. The city would pay for all of the equipment and install a new cistern and it could be used as a training class. Ms. Chavez said we do have a preliminary equipment list that could be funded out of this fiscal year budget; and would need the help from the committee to be the installers and trainers.

Mr. Pushard provided information on the proposed project and feels that there are enough volunteers on this committee and if each member would recruit one other person or company to help. It is not a large area or project if it is taken on by the committee. Mr. Pushard encouraged participation.

Mr. Otto said they have a grant that possibly the Watershed Association could help with funding and offered volunteers.

The consensus of the committee is to accept this challenge and to work on the product and equipment list for purchase. Mr. Pushard has proposed a design layout, not a landscape design. Note that an important component is a workshop and end report.

Recommendation is to bring this item back to the Water Conservation Committee next meeting for approval.

Ms. Chavez is petitioning help from the Water Conservation Committee to utilize the talent and knowledge transfer to accomplish and complete this project. Mr. Wiman said we should allow 30-minutes on the next agenda to discuss Ms. Chavez list and those items from the Water Conservation Committee. Mr. Wiman did ask Ms. Chavez to send the list to the members.

INFORMATIONAL ITEMS

8. 2015 ANNUAL WATER REPORT

Ms. Ortiz went over the Executive Summary on the 2015 Annual Water Report. The Water Division supplied 8,062 acre-feet of water to its water utility customers and an additional 105 acre-feet to the Santa Fe County Water Utility, for a total production of 8,167 acre-feet for 2015. Also, the Water Division met its Acequia irrigation deliveries and provided over 2,000 acre-feet of "Living River" flows to the Santa Fe River.

Also noted was the completion of the construction of in-take tower at McClure Reservoir.

The WCC members would like to see this report placed on the City website and Save Water website.

Ms. Chavez said that taking in to consideration Chapter 25; they aren't very sure if the 2015 Annual Report will continue to exist in the future. It was noted that there is not a Water Conservation section in this report.

9. GROUP REPORTS

Ms. Chavez would like to add clarity under Group Reports. She would like to see actual/specific projects and resources listed under the Group Reports. We could also prioritize the projects and create the sub-committees and/or develop a resource list.

Sample:

- Changes to the Rebate Program – Rebate
- QWELL Course
- GPCD Analysis
- Comments to send to OSE on the tool itself. Ways to incorporate precipitation in to the tool.
- Chapter 25 rewrite – time sensitive.

Committee Recommendations:

- Calculation of GPCD, it has been said that we are one of the cities that is very low. We can't get a handle on out-door irrigation, which needs to happen. It was noted that in a future meeting we will have a detailed report.

Mr. Wiman said we are more productive when we create specific committees and have goals and timelines.

Mr. Michael commented on the sample list and noted that these items don't really fall in to any of the existing groups.

Ms. Chavez noted that we could replace the groups with actual projects. We could pick one project and set a timeline for completion.

a. GROUP #5 – WATER SYSTEM MAP

Ms. Chavez informed the WCC members that she had a good meeting with Mr. Bill Schneider who was happy with all of Mr. Wiman's recommendations and they in fact added additional components. There is now funding for a consultant to accomplish this task. Ms. Chavez continues to collaborate with the Water Resources team. Ms. Chavez asked Mr. Wiman if he would be available to meet next week, thank you for this good news.

b. GROUP #1 – TREATED WASTE WATER AS DRINKING WATER SOURCE

Mr. Wiman has reached out to Bill Schneider on the Corrolo project update. He reported that the city is happy with them and they have expanded the scope of work. Bill Schneider does plan to be here at the next meeting to talk about the treated effluence for the Corrolo project.

c. GROUP #2 – WATER CONSERVATION EDUCATION/OUTREACH – Tim Michael

About a year ago Mr. Pushard talked about a tour of the San Juan-Chama Diversion Project. Mr. Michael has followed up with Victor Salazar and his assistant to set up a date and time and is waiting for a response. Estimated time of tour – 5 hours. The consensus of the WCC members and staff is they are interested to pursue this tour possibly in July, 2016.

d. GROUP #3 – WATER CONSERVATION CODES, ORDINANCES & REGULATIONS
– LEGISLATIVE UPDATE

Ms. Chavez said that legal has not made a decision on the green build. Mr. Pushard noted that in the FIR there was a request for 2 full time employees, this is one of the hold ups and hopefully if that can be dropped it might be able to move forward. Mr. Pushard has met with Ms. Kathryn Mortimer and given her updates on the green build and information on the grey water list. Mr. Pushard noted if it makes sense to put them together as one list to consult the Water Conservation Director. There are diagrams at hand that need to be reviewed before a decision is made.

10. DEMONSTRATION OF NEW DRINKING WATER MODEL

Ms. Chavez provided information on the live “water model”. Typical time for presentation to kids is 20-30 minutes. It will be taken to Community Days this next weekend. Ms. Chavez asked if the WCC members have any place they would like it presented, to please let her know. Great model.

Mr. Andy Otto said that they also have the Watershed Model that could be a cohesive addition to a presentation.

11. SOURCE OF SUPPLY

Drought update. Ms. Chavez noted that at the end of the report is the Water Quality Report and should be ready for public distribution in the next week. Mr. Alex Puglisi is the publisher of this report, compliments to his knowledge and documentation.

MATTERS FROM STAFF

Update on Water Conservation Program Activities

- Andrew Erdman has been tasked with updating Chapter 25. There will be 3 of Water Division Staff involved in working with Mr. Erdman. Ms. Chavez will bring in green building code to next meeting. There is a quick turnaround for this process as it is due by August. There are multiple critical changes in Water Conservation and this is the biggest section.
- Community Days on the Plaza this weekend, from 10-2.
- The Rebate program was pushed out on May 1st; we are using social media and getting the rebate forms out.
- Time of day watering has been distributed.
- The next Water Conservation Committee member cannot participate as a conflict of interest. We continue to push for recruitment. We are about to air an Ad in the Santa Fe New Mexican, we will recruit for 4 members. No update on the application sent to the Mayor.
- Next meeting date is June 14th, request is to change meeting either the Tuesday or Thursday before or the following Tuesday or Thursday.
 - The request was sent through doodle. Most WCC members did not receive the notice. June 21st – is the suggested date.

MATTERS FROM COMMITTEE

SANTA FE STRATEGIC PLAN FOR 2016 – MR. PUSHARD

TOPICS FOR NEXT AGENDA:

COMMITTEE TO IDENTIFY A LIST OF PROJECTS

ACTION ITEM: TO ELIMINATE GROUPS #A, B AND D

ACTION ITEM: CREATE WORKING GROUP FOR SPECIFIED PROJECTS

FOLLOW UP: SAN JUAN CHAMA DIVERSION PROJECT TOUR – JULY

CHAPTER 25 RE-WRITE FOR WATER CONSERVATION

SANTA FE STRATEGIC PLAN FOR 2016 – REVIEW/DISCUSSION (WE ARE NOT GOING TO CHANGE THE PLAN, DISCUSSION IS HOW CAN WE USE THIS PLAN) EXHIBIT A

MATTERS FROM THE PUBLIC

NONE

NEXT MEETING – TUESDAY, JUNE 21, 2016

ADJOURN

There being no further business to come before the Water Conservation Committee, the meeting was adjourned at 6:00 pm

Signature Page:

Lisa Randall, Acting Chair



Fran Lucero, Stenographer

Doug Pushard, Acting Chair

WATER CONSERVATION COMMITTEE
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JUNE 21, 2016

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Roll Call/Call to Order	Councilor Peter Ives, Chair for the Water Conservation Committee called the meeting to order at 4:05 pm in the City Councilors' Conference Room. <i>A quorum is not reflected in roll call as quorum is mandated by total membership. Ms. Chavez noted that total membership is 10.</i>	Page 1
Approval of Agenda	Request to move item #6 to first order of business after approval of minutes. <i>Mr. Michael moved to approve the agenda as amended, second by Mr. Wiman, motion carried by unanimous voice vote.</i>	Page 1
Approval of Minutes, May 10, 2016	Mr. Michael questioned if we had a quorum last month? Ms. Chavez said we did not have a quorum because quorum is based on total membership. Ms. Chavez noted that total membership is 10. The question is on items that should or could require another reiteration of the vote as we question the quorum. Correction: Minutes to reflect there was not a quorum last month. There were no action items approved at last month's meeting. Ms. Chavez will include in next month's meeting.	Page 2
Discussion Item #6, Update on the Water Reuse Project	Power Point on file in Water Conservation Office	Page 2-3
Action Items - Recommendations on Implementation of Strategic Marketing Plan	<i>No formal action. Place on next month agenda.</i>	Page 3-4
Discussion Items: Update of Water Reuse Project, Bill Schneider Identification of New Projects and New Working Groups Demo Garden	Informational, Power point available in Water Conservation Office. Informational, no formal action.	Page 4
Informational Items Group Reports	Informational	Page 4-5
Source of Supply Drought Update	Included in Packet, No questions from Committee Members	Page 5

Matters from Staff Update on Water Conservation	Informational	Page 5
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Adjournment and signature	Meeting was adjourned at 6:00 pm	Page 6

CITY OF SANTA FE

WATER CONSERVATION COMMITTEE

MINUTES

Fran Lucero, Stenographer

6/21/2016

DRAFT UNTIL APPROVED

SANTA FE WATER CONSERVATION COMMITTEE MEETING
CITY HALL - 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM
JUNE 21, 2016
4:00 PM TO 6:00 PM

MINUTES

1. CALL TO ORDER

Councilor Peter Ives, Chair for the Water Conservation Committee called the meeting to order at 4:05 pm in the City Councilors' Conference Room. A quorum is not reflected in roll call as quorum is mandated by total membership. Ms. Chavez noted that total membership is 10.

2. ROLL CALL

Present:

Councilor Peter Ives, Chair
Doug Pushard
Tim Michael
Stephen Wiman
Bill Roth

Not Present:

Lisa Randall

Staff Present:

Christine Chavez, Water Conservation Manager
Lisa Noriega, Education Compliance Specialist
William (Bill) Schneider, Water Resource Coordinator

Others Present:

Andy Otto, Santa Fe Watershed Association
Justin Lyon, New member to Water Conservation Committee – Next Meeting
Patricio Pacheco, Environmental Scientist, new Water Enforcement Officer, City of SF
Bob Coon, Retired University of Denver, Chemistry
Anna Serrano for Fran Lucero, Stenographer

3. APPROVAL OF AGENDA

Request to move item #6 to first order of business after approval of minutes.

Mr. Michael moved to approve the agenda as amended, second by Mr. Wiman, motion carried by unanimous voice vote.

4. APPROVAL OF MINUTES – MAY 10, 2016

No changes from staff.

Mr. Michael questioned if we had a quorum last month? Ms. Chavez said we did not have a quorum because quorum is based on total membership. Ms. Chavez noted that total membership is 10. The question is on items that should or could require another reiteration of the vote as we question the quorum.

Correction: Minutes to reflect there was not a quorum last month.
There were no action items approved at last month's meeting.

Ms. Chavez will include in next month's meeting.

DISCUSSION ITEM #6

Update on the Water Reuse Project (William Schneider) 1-hour

Today's presentation is to address the source of supply where they currently stand and where we are projecting growth in supply for the future. (WCC members followed a power point, on file in Water Conservation Office). (7 slides directly related to reclaimed water) Mr. Schneider noted that when he came on board he immediately wrote a grant application responded by the Bureau of Reclamation and are presently working on a Title XVI feasibility study. There are three elements to this study; 1) in terms of alternatives, expanding non potable reuse, 2) return flow credits of exchange to trade water, it's a paper exchange to create wet water. In terms of cost and engineering it is really just conveyance, however when you get in to indirect and direct potable now we are talking about different type of aquifer recovery and storage, you are then talking about water treatment with rigorous requirements and rules are still being formulated. Mr. Schneider continued by discussing the 7 alternatives. A side note, Mr. Schneider showed a picture of one of the monitoring holes at Buckman, natural pressure – basically we have about 5 ft. of artesian head above ground surface. First we will need to know how much water each alternative will produce. You need to have a pragmatic view of the cost of water. Mr. Schneider added that they will be looking in to that quantified measure of storm water containment, infiltration, storm water retention and roof top capture in terms of quantifying the cost and quantity and it will be under the purview of conservation.

Mr. Pushard asked a question related to the 60% which is one of the things they are going to model, what would happen if it would become 50%? Mr. Schneider said he had no reason to think it would go in that direction so the answer is no, not that it couldn't be done. Are you saying the economy is a scale of reduction of that 10% addition could shift the analysis? Mr. Pushard said yes, if you start looking at the predictability of the flow that actually could have an impact and some of them have more ability to change over time than other ones especially water conservation and if you expand water conservation such that as regional for smaller plants

becomes something that we can't do for smaller developments it could impact that 60% and bring it down to a lower number.

The Chair asked, in terms of how much is being diverted, if Mr. Schneider could address this question. Mr. Schneider said what they are doing is quantifying how much water do we have to put in the system to create the quantity of infiltration that reaches ground water that satisfies our pumping offset obligations under our permits.

Q: If the refined water users were all billed for their water usage would that cover the costs for a lot of these projects? Mr. Schneider welcomed the question; it is an assumption that we had to make, it does not, the city will be obligated and committed to honor all existing contracts. Mr. Schneider said, personally he feels this is something the WCC should evaluate.

Thank you to Mr. Schneider for an informative presentation. WCC looks forward to additional updates.

ACTION ITEMS:

5. RECOMMENDATIONS ON IMPLEMENTATION OF THE STRATEGIC MARKETING PLAN(DOUG PUSHARD)

Mr. Pushard submitted a draft memo that was to come from the WCC of the 2006 Strategic Marketing Plan to discuss what we do as a committee. The intent is to have a discussion on the four action items that Mr. Pushard would recommend. Mr. Pushard asked if the committee would be comfortable making this memo from the Water Conservation Committee vs. from Mr. Pushard and the four action items.

Ms. Chavez informed the new members that we have a very large advertising campaign as part of conservation that incorporates a lot of different things, i.e., printing, radio slots, advertisement, and there was question that some of the advertising was going away that created the question. The consulting firm that handles our PR put together a 4-year Marketing Plan which gives us goals to target on, along with demographic information, etc., Ms. Chavez will send to all new WCC members. The committee members wanted time to provide input to the consulting firm, it had made its ways through committees and governing body and this was the result of the WCC not having an opportunity to comment. This is the history and Mr. Pushard took the lead to gather the below mentioned goals to allow us an opportunity to contribute based on the framework that the plan provides.

Mr. Pushard made recommendations.

- 1) Create a score card. If we don't have a score card it is hard to figure out what we do.
 - A. Metrics are important all across the board in measuring and keeping track.
- 2) Prioritize some programs, target Spanish speaking population, and first provide input to WCC members.
- 3) Data upgrade. Lots of material, how can we cut data and recommend specific areas that use lots of water, look at data first and then come up with programs.
- 4) Outdoor rebate program.

Stephen Wiman: Regarding #1, stronger case in the role of water conservation. Water Conservation should be #5.

Bill Roth: We have the most expensive water in the country, citywide conservation is necessary.

Christine Chavez: Come back to Water Conservation for approval.

DISCUSSION ITEMS

6. MOVED TO TOP OF AGENDA

7. IDENTIFICATION OF NEW PROJECTS AND NEW WORKING GROUPS

Memo in packet. Create new groups.

8. DEMO GARDEN

Christine Chavez – Project has been in the works for a very long time. Caryn Grosse took lead with contractor on solar panels. It will not have any potable water outlet, it will be all rain water captured that runs through the system. We have the water in the two existing cisterns and then we have two other barrels we will be pulling water from. Graphic included in the packet shows that it is not too complicated and Ms. Chavez has asked for involvement from the WCC members to volunteer 4 hours. Saturday July 9th or July 23, 2016 are the dates chosen and a doodle has been sent out. Once the garden is done it would be nice to have the WCC to design the sign and we could utilize the space to have classes and meetings, etc. PO will go out July 1st for the solar panels. For future community involvement it would be good to complete this project as a pilot and share how it was done for future garden projects.

INFORMATIONAL ITEMS

9. Group Reports from Water Conservation Committee Initiatives

- a. Group #5 – Water System Map – Stephen Wiman
Mr. Wiman reported that he and Christine met with Bill Schneider and he was not happy with the work that the consultant did and it resulted in letting the consultant go. Bill is working on an interactive map that he will release as a PDF and will also be on the website. He is very committed to getting this completed.
- b. Group #1 – Treated Waste Water as Drinking Water Source – Stephen Wiman
Mr. Wiman noted that it was comforting to know that Bill Schneider was working on this project and the overview today was great. Mr. Wiman asked how they would incorporate all of the public input as the governing body has had several public

meetings on this topic. Mr. Wiman said this is the best work he has seen and in the incorporation in to the long range plan.

- c. Group #2 – Water Conservation Education/Outreach – Tim Michael
San Juan Chama tour, contacted Victor Salazar with Bureau of Reclamation.
Proposed Dates: July 12th thru the 29th – Mr. Michael will check to see if a Saturday is doable. Dates recommended were July 14th, 28th or 29th pending the response from Mr. Michael if a Saturday can be done.
- d. Group #3 - Water Conservation Codes, Ordinances and Regulations – Legislative
Mr. Pushard advised the WCC members of a meeting in the City Councilor's Conference room from 2:00 - 4:00 pm this Thursday on Chapter 25 revisions. This is a land use code specifically with water. Mr. Pushard suggested that members get the paper work ahead of time as the discussion will entail revisions to that code and it will come in to next month's meeting to be voted on and it starts the process of approval through the different city committees. If more time is needed after this meeting, a future date will be set. Ms. Chavez will send out the whole chapter to the WCC members.

Mr. Pushard said he received an update from Catherine Mortimer on the Clean Code and noted that there are two resolutions going forward but did not know if it is the one with staff or without staff. Ms. Chavez stated that Ms. Mortimer has contacted her and asked to be on next month's agenda to discuss this item. Mr. Pushard asked for 20 minutes to discuss this item.

- 10. Source of Supply Drought Update, Included in Packet – No questions, informational report.

MATTERS FROM STAFF

- Update On Water Conservation Program Activities
 - Appointments for new members should be provided to Ms. Chavez by the City Clerk by June 29, 2016.
 - Lynn Komer and Nick asked to be placed on next month agenda. Ms. Chavez will meet with Ms. Komer beforehand.
 - Ms. Chavez asked the WCC members if they signed up for the Badger Test Group and asked for feedback. Ms. Chavez will send the link for those who would like to sign up.

MATTERS FROM THE PUBLIC

ANDY OTTO – Talked about the building of the demonstration rain garden – rock work has been done by Rain Catchers. This is a live demonstration rain garden off of West Alameda Street.

MATTERS FROM COMMITTEE

NEXT MEETING – TUESDAY, JULY 12, 2016

ITEMS FOR NEXT AGENDA

Clean Code Resolution - Catherine

Storm Water Resolution – Melissa McDonald

Jemez/Sangre Regional Water Planning Update – Andrew Erdman

ADJOURN

There being no further business to come before the Water Conservation Committee, the meeting was adjourned at 6:00 PM

Signature Page:

Peter Ives, Chair



Fran Lucero, Stenographer

City of Santa Fe, New Mexico

memo

Date: June 8, 2016
To: Public Works Committee
Via:

Isaac J. Pino, PE Public Works Department Director
John J. Romero, PE Engineering Division Director 
Leroy N. Pacheco, PE River, Watershed & Trails Supervisor 

From: Melissa A. McDonald, RLA River & Watershed Coordinator 
RE: RESOLUTION #2016-25: PRELIMINARY REPORT AND RECOMMENDATIONS FOR
STORMWATER POLICY UPDATE (MELISSA A. MCDONALD)

Background:

Attached, please find the preliminary report that the governing body formally requested per Resolution #2016-25 dated March 31, 2016. The report includes recommendations for transitioning from a conventional stormwater-management model to an approach that is more suited to currently accepted green-infrastructure strategies and low-impact-development techniques.

Briefly, the report describes

- 1) The evolving regulatory environment
- 2) An infiltration approach to stormwater management
- 3) Recommendations in the following areas:
 - Data driven decision making: GIS mapping, assessments, and data collection
 - Funding mechanisms and opportunities
 - Policy guideline updates

Actions:

The preliminary report concludes that the city has been doing a good job to date, but more progress can be made to support an infiltration approach to stormwater management. Council consideration of recommendations and provide staff direction for moving forward.

An Infiltration Model for Enhanced Stormwater Management



City of Santa Fe, New Mexico
River, Watershed, and Trails Division

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Cover Photo: Kate Russell

An Infiltration Model for Enhanced Stormwater Management

A Preliminary Report for the City of Santa Fe, New Mexico

This preliminary report requested by a resolution of the governing body of the City of Santa Fe on March 31, 2016 (Res. #2016-25) is charged with researching, evaluating, and reporting on the city's stormwater policies. This report is also responsible for making policy recommendations with respect to the use of green infrastructure (GI) strategies and low-impact development (LID) techniques for city parks, public works projects, and other public places. In addition, as per the resolution, this report must address stormwater within the context of the furthering of the City of Santa Fe's "environmental and sustainability policies and goals."

In an average year, an estimated 730 million gallons of precipitation fall on Santa Fe's roofs. Another 435 million gallons of water land on our streets, roads, and parking surfaces. In all, over one billion gallons (3,578 acre feet) of water fall on our city's impervious surfaces in various forms of rain and snow. This significant quantity represents a resource that is just beginning to be tapped. It is the intent of this report to describe the transition toward utilizing this mostly ignored resource.

A Model for Enhanced Stormwater Management

Previous Approaches

Post-WWII development in most US cities treated stormwater as a nuisance that should be diverted as quickly as possible from the built environment. The approach dramatically changed the natural hydrologic cycle by rendering vast areas of the built environment impervious to stormwater, increasing pollutants, and damaging downstream watersheds and their associated river systems. Over time and in light of increasingly rigorous federal environmental regulations, many municipalities have looked for better ways to manage stormwater.

Since the 1990's, the City of Santa Fe replaced the diversion model of stormwater-management for private development, with a detention/retention ponding model to mitigate offsite erosion concerns. After years of success using this approach, research shows that this model of stormwater management can be further improved by infiltration.

The New Model

Santa Fe will look different in 20 years because of the stormwater-management methods that we choose today. For Santa Fe the choice is between allowing stormwater to infiltrate safely into the soil or allow soil to continue to erode.

In contrast, the retention/detention approach tends to hold back stormwater in wider and deeper ponding structures. The new approach reserves and infiltrates water instead of losing it up to evaporation and is another effective approach to reducing downstream pollutants. For these reasons, the infiltration model is generally recommended as the preferred go-to approach for managing stormwater.

Infiltration is accomplished by using GI strategies and LID techniques. Strategies associated with GI include green streets, infiltration buffers, parks, river-corridor improvements, and wetlands/bosques. Techniques associated with LID include rain gardens, infiltration basins, bio-swales, curb cuts, and

porous-material wicks. With respect to interdepartmental cooperation, GI will often require multiple city departments, while LID will likely involve fewer departments and divisions.

The Benefits of Infiltration

Using GI strategies on large-scale projects and LID techniques on a smaller scale, stormwater will infiltrate absorbent soils for the benefit of the local community as well as downstream water users. Like previous approaches to stormwater management, the infiltration model diverts stormwater from structures, and also provides the following ecological benefit:

- Reduces water pollutants in surface water, groundwater, and arroyo systems
- Establishes and supports native vegetation
- Recharges aquifers
- Builds soil and slows erosion
- Creates shade and wind protection
- Increases biodiversity
- Supports wildlife
- Reduces ecological harm caused by development
- Provides positive outdoor experiences for the community

Although it is difficult to estimate an economic value to preservation and conservation of the Santa Fe River, the benefits of stormwater infiltration to the city's wellbeing are measureable. Since the City of Santa Fe was founded on the Santa Fe River, it seems that the traditional connections among human settlement, river, and watershed are better respected by an approach to stormwater that conserves water, produces vegetation, and walks lightly on the earth.

From an economic sustainability standpoint, a successful stormwater-management program also has real benefits. When water quality is high, this results in lower water production costs. In the city's case, this would be largely effluent production from the wastewater treatment plant. In addition, each year the Public Works Department spends millions of dollars protecting city-owned infrastructure from damaging storm flows. Our streets and maintenance departments are regularly cleaning out excessive sediment flows and erosion that damage our streets, river, and arroyos after larger storm events. Efforts that slow these flows and trap sediments will greatly reduce overall erosion-project costs. Also, local employment is created by all stormwater projects, and with these jobs unskilled workers gain skills that can make them better wage earners in the future, local small businesses are often hired, and gross-receipts tax revenues go up. Further, visitors tend to report positively about their experiences of places with enjoyable river walks, street trees, and attractive vegetation, so the aesthetic results of effective stormwater management would likely help broaden the tourism sector of our local economy. Meanwhile, these same benefits improve the local quality of life, and this makes Santa Fe an outstanding place to live, work, and raise a family.

Finally, it is critical to report on another benefit of the stormwater infiltration model: compliance with new Environmental Protection Agency (EPA) rules and State of New Mexico requirements from both the Office of the State Engineer and the New Mexico Environment Department's Water Quality Division. As water-quality and water-access issues continue to represent high priorities for federal and state regulators, municipalities must evolve or face fines, costly health issues, and intensified undesirable

scrutiny not only from governmental agencies, but also from community groups, neighborhood organizations, and the media.

Success at the City

- The Land Use Department began to move away from the straight diversion method decades ago and has been specifying ponding and retention/detention on new construction in private developments ever since. The department has been quick to encourage concepts like porous-stone wicking and on-contour swaling as alternatives to the kind of deep-and-wide ponding that often leads to significant evaporation and drowning of plant material.
- The Public Works Division and the Parks Department have designed and constructed many cutting edge projects including trail and river-restoration projects in the Santa Fe River and contributing arroyos including: Railyard Park; Parque del Rio; SWAN Park; Alameda Rain Gardens; Arroyo and River improvements; and innovative design plans soon to be built at Salvador Perez Park and Acequia Trail Underpass Project.
- The Stormwater Division has been successful at monitoring stormwater, BMPs, and SWPPP from the pre-development stage of any project to the substantially complete phase. Essentially, the infiltration approach expands the concepts that the Stormwater Division has been applying for many years. From the application of best-management practices (BMPs) to Stormwater Pollution Prevent Plans (SWPPPs) and associated compliance, the Stormwater Division has a long history of successful TMDL prevention.
- A project built collaboratively by the Streets and Drainage Maintenance Department, Stormwater Division, and Water Conservation Department received an EPA People's Choice Award (2014) for a recent example of LID at the intersection of Saint Michael's Drive and Calle Lorca. There, a curb cut diverts stormwater into a median where a significant quantity of stormwater is absorbed during every precipitation event.
- The governing body and the people of Santa Fe have a long history of supporting the river. Often partnering with non-profit organizations, like Youthworks and the Santa Fe Watershed Association, neighborhood groups, and enthusiastic citizens, events like the annual Fishing Derby and Love Your River Day are becoming lasting traditions for a community whose lifeblood has always been its river and watershed.
- The all-volunteer Santa Fe River Commission is also busy on a number of stormwater-related fronts. The commission currently is studying how salt on roads affects riparian vegetation and water quality, which includes a salt-tolerant plant list for contractors. It is also helping to develop an outreach effort accompanied by educational materials about rain gardens, an increasingly popular LID technique. They have recently received a small grant and will continue to look for other opportunities to work with nonprofit partners and the city.
- This infiltration approach to stormwater dovetails effectively with Santa Fe's goal of achieving carbon neutrality by 2040, by increasing permeable surfaces in public spaces, reducing pollutant loads in the Santa Fe River and the city's aquifers, encouraging water conservation, creating ecological resilience, and reducing carbon emissions (by reducing water pumping and irrigation needs).

Navigating the Evolving Regulatory Environment

Recent changes in the regulatory framework are pointing municipalities toward addressing water-pollutant levels in watersheds. Specifically the EPA's Municipal Separated Storm Sewer Systems (MS4) permit may soon require:

- Regulations implemented at the land-use development stage
- Strict limits on quantity and quality of stormwater discharge
- Rigorous monitoring of stormwater discharges to ensure water quality
- GI and LID to control sediment, velocity, and pollution
- Watershed based permitting

To date, almost every urban reach of the Santa Fe River has been listed as an impaired waterway under Section 303(d) of the federal Water Quality Act, and this impaired rating is attributable primarily to stormwater flows which wash pollutants from roadways, parking lots, parks, and other sources into our river and arroyos. This can result in the adoption of Total Maximum Daily Loads (TMDLs) by the New Mexico Environment Department and the New Mexico Water Quality Control Commission and can trigger more restrictive permit requirements.

The MS4 permit is likely the mechanism for achieving reductions in TMDL contaminants. Water samples will be collected after storm events to identify stormwater pollutants entering our river and arroyo systems. The City of Santa Fe is currently collaborating on the new MS4 permit requirements with Santa Fe County and NMDOT and plans to continue to do so.

Drainage Plans, GIS Mapping and Data Collection

In 1993, the Albuquerque engineering firm Bohannon and Huston, Inc. produced a detailed drainage management plan for the City of Santa Fe. After 23 years, much of the hydrological analysis is still useful with respect to mapping and data collection, but a significant portion is outdated given the growth of the City of Santa Fe since then. The current GIS mapping system with respect to stormwater is in need of updating and expansion. In 2005 Smith Engineering identified some drain inlets and outfalls in downtown area of the city. However, an increased and better data collection is needed for drainage structures, drain boxes, inlets, out falls, catch basins, curb cuts, culverts, and drainpipes that exist in the field. The city has just completed an update to the 2012 arroyo assessment/study with the Santa Fe Watershed Association, which identified and prioritized high-risk erosion problems within our arroyo and river systems. This data is currently being entered into the city's GIS mapping system. In addition, the GIS department has compiled extensive data on major arroyo, terrain, and Federal Emergency Management Agency (FEMA) maps.

An updated look at stormwater management in coordination with new technologies could significantly improve drainage project planning. Many projects that the city undertakes involve several divisions and departments. This scenario will naturally create potential for duplicative efforts. By creating a clear stormwater plan that includes pre- and post- development analysis, many of these efforts can be streamlined and identified, thus reducing duplication. It would be essential to bring the GIS department in at the beginning of such a plan to allow for good documentation and to avoid future complications as systems change.

Funding and True Costs

Dollars invested upstream often mean downstream benefits. A true-cost accounting of watershed protection would need to measure all of the costs and effects of both models. The economic benefits of investing in stormwater harvesting are as hard to precisely quantify, as they are difficult to deny. With the completion of the first phase of the Santa Fe River Trail, efforts to bring back the Santa Fe River over the last few decades have paid off.

Currently, some City of Santa Fe stormwater projects are funded through Capital Improvement Projects (CIP) funds, and occasional grants. The city is looking at how the stormwater fee is structured and what it is used for. Funding mechanisms have varied among bonds, CIP funds, taxes, impact fees / districts, and stormwater fees. Over the last several decades, one of the chief sources of funding for stormwater projects has been revenue from the issuance of municipal bonds.

During the research phase of the production of this report, the funding methodologies of many different urban areas were considered including Bend, OR, Los Angeles, CA, San Diego, CA, San Francisco, CA, Tucson, AZ, and Washington, D.C. Some municipalities, such as Bend, San Francisco, and Los Angeles have generated revenue with mechanisms in which stormwater fees are related to impervious surfaces associated with development. Incentives and credits are being added for GI across the country.

In Washington, D.C., properties generate Stormwater Retention Credits (SRCs) for the application of voluntary GI strategies. Property owners trade SRCs in a market with developers who use them to meet regulatory requirements for their projects. This revenue incentivizes the installation of GI and LID as it prevents surface-water pollution.

When the benefits of the infiltration model are factored into budgetary analyses and true-cost accounting is applied to fiscal analyses, GI and LID are cost competitive compared to the diversion and retention approaches. Recent work by the EPA highlights these findings reported by cities like Los Angeles, CA and Tucson, AZ.

Across the West, it appears that cities have more stormwater work than they can afford. In this context, most cities use a cooperative, inter-agency approach to meeting regulatory, design, construction, planning, education, and inspection needs. All interviewed cities agreed that regulatory agencies were more lenient with respect to imposing fines as long as reasonable plans are in place and implementation is in progress.

Proposed Arroyo and Flood Control District

The resolution behind this report also directed staff to facilitate collaboration among city departments to consider the creation of an Arroyo and Flood Control District that would work in cooperation with Santa Fe County. Such an authority would have greater jurisdictional abilities as it pertains to holding water. This district would work with private property owners to solve erosion and flooding problems not only for problems that threaten municipal infrastructure, but also for those that may not. Given such an authority, it is possible that more cooperative financial arrangements would be created in which private-public partnerships can succeed, especially within the evolving regulatory environment. Creating a flood control district may not require an official agreement with Santa Fe County. During the legal department's investigation of this question, it was discovered that the city could create its own district independent of the county. According to New Mexico statute, municipalities have an opportunity to levy

taxes for flood control purposes. Funds associated with this effort could be used for projects within or outside the municipal boundary. By adopting this section NMSA 3-41-1 to 3-41-5, 1978 into our code the city could consider a mill levy for stormwater of up to five dollars per \$1,000. (For details about the flexibility in the tax code, please see 3-41-1.)

Creating New Guidelines and Benchmarks

According to a recent internal survey of city employees who work with stormwater or in related departments, cooperation among departments could be improved, but this was not seen as the largest barrier to the infiltration model, see appendix A. A much larger percentage of respondents said a lack of education and training was the number-one barrier to the use of GI strategies and LID techniques.

Making project managers aware of the potential opportunity for infiltration and how to site such structures would greatly benefit the city. When project managers ask for GI and LID techniques to be included in the programmatic planning, it is more likely that infiltration will be incorporated by consultants and design professionals. Educational tools including training sessions, web-based videos, and design manuals should be used and if necessary created. By making these learning tools available, we would increase the overall education of our management staff. A city-created design manual or a reference list to existing links on the web would also increase staff's knowledge base. Additionally, contracts with local nonprofit organizations, city-sanctioned committees, and city staff could work in cooperation to produce these relevant materials and keep the overall costs down.

Also shown in appendix A, installation and maintenance costs were significant concerns for city-staff survey respondents. No matter what training media are used, given a high rate of turnover for seasonal workers, it is clear that regular education and training would be a benefit at this level too. Requiring site-specific maintenance instructions from engineering and landscape-architecture consultants and/or firms for city projects would be beneficial and inexpensive. Instructional methods also include training sessions, videos, and manuals that provide better training. The videos could be made available on the city's website, so that anyone could download them from the field.

The City of Santa Fe is fortunate to have various nonprofit partners working to improve our quality of life and environment. Our nonprofit partners work with staff to organize cleanup efforts across the city. Similarly, the City of Tucson, AZ recently joined efforts with the nonprofit Watershed Management Group to create "monsoon squads" that clean out LID structures such as rain gardens, energy dissipaters, drain boxes etc. These volunteers coordinate and work with staff to clean out structures after larger storm events and on a regular schedule throughout the year. The City of Santa Fe with our non-profit partner the Santa Fe Watershed Association has had great success with the Adopt-the-River program with at least three cleanup days per year and hundreds of volunteers coming out to clean our river.

Santa Fe Beautiful and the Santa Fe Watershed Association have had good success with cleanup days throughout the city. Expansions of these efforts into the Adopt-an-Arroyo program would greatly increase our ability to maintain these GI and LID structures. Aligning cleanups with our recently updated Arroyo Assessment would maximize our efforts.

Internally it is clear that private-public partnerships and cooperative efforts that include the work of a variety of nonprofit organizations can be very successful. These joint efforts strengthen our community, and the organizations themselves often have significant capacities to write successful grant proposals.

City dollars are stretched by these partnerships, especially when it comes to public education, environmental improvements, and increased community spirit.

With respect to city projects, there is no standard set of guidelines or performance goals that would encourage the design and installation of GI and LID. In order to encourage the use of and streamline the design process for an infiltration model, specific stormwater-management guidelines and protocols should be created. Although it is not the intent to complete these guidelines in this report, appendix B provides a draft for consideration.

Many cities include river and riparian-area goals as well as water-quality benchmarks in their sustainability plans. These performance goals and benchmarks are helpful in the context of building public support. The Sustainable Santa Fe Commission's 2040 plan, will seek to move the city toward a percentage increase of overall infiltration and a percentage decrease in sedimentation & TMDLs. This will be done in cooperation with the efforts of the Santa Fe River Commission and the Santa Fe Water Conservation Committee. Planning efforts are in place and will be presented as part of the 2040 plans.

Conclusions

For Santa Fe, like any other city, what happens next is a question of priorities. In the current budgetary environment, one can imagine stormwater being categorized as a less-than-essential service. Over the course of time, however, the land-use decisions of today will seem essential to future generations. If the Santa Fe River and its contributing arroyos were to continue to become increasingly eroded by excessive runoff, the cost of doing nothing now would be very real later. With every large storm, delayed erosion-control projects become more expensive due to the additional channelization, incision, and sedimentation associated with major precipitation-events.

Not only will the degradation of our watershed worsen if we continue to rely only on conventional engineering, but the benefits of stormwater infiltration will also be lost. Conventional engineering solutions will be among the tools in our community's multifaceted stormwater-management toolbox, but it is time to encourage a stormwater-infiltration model whenever possible.

The recommendations attached provide a starting point for ensuring that the adoption of an infiltration model is successful. Certainly, they are not the only recommendations that could be made, and obviously adopting all of the recommendations would not necessary in order to make a successful transition to the consistent use of GI strategies and LID techniques. But the city would clearly benefit by the concerted effort described in this preliminary report.

Recommendations

Recommendation 1: Update the GIS Stormwater Infrastructure Map by contracting with a surveying company to GPS-indicate stormwater features (estimated budget \$150,000 - \$250,000). Use this map for interdepartmental cooperation and to collaborate with other agencies to manage water quality through a combination of conventional and green infrastructure strategies as they relate to permit requirements.

Recommendation 2: Funding opportunities should be explored through the following:

- a. Arroyo and watershed protection and improvement bond initiatives should be considered within the next two years.
- b. Appropriations of the current stormwater fee should be directed to stormwater and watershed programs to meet our permit requirements, sampling and water quality testing, assessments, educational and outreach materials, BMPs and CIP projects
- c. Further research on fees and incentives that could be assessed on new developments that take into account the effect of impervious surfaces on the watershed. This could include a stormwater credit system.
- d. Grant-writing consultants and/or grant-writing training for staff should also be considered, especially as larger grants for water infrastructure are becoming more likely after recently publicized water-systems failures nationwide. In an effort to aggressively pursue grants, college interns should be assigned to research, develop, and obtain grant monies for these efforts.
- e. Consider a mill levy for stormwater. (For details about the flexibility in the tax code, please see 3-41-1.) Significant property taxes could be levied for flood control purposes as per NMSA 3-41-1, 1978, and should be considered.
- f. Set-up a separate research committee and/or commission to evaluate the pros and cons of a Regional Flood Authority.
- g. Create an on-call contract for minor drainage improvements and repair-projects with specific skill sets and experience to work within the river, arroyo, and drainage ways.

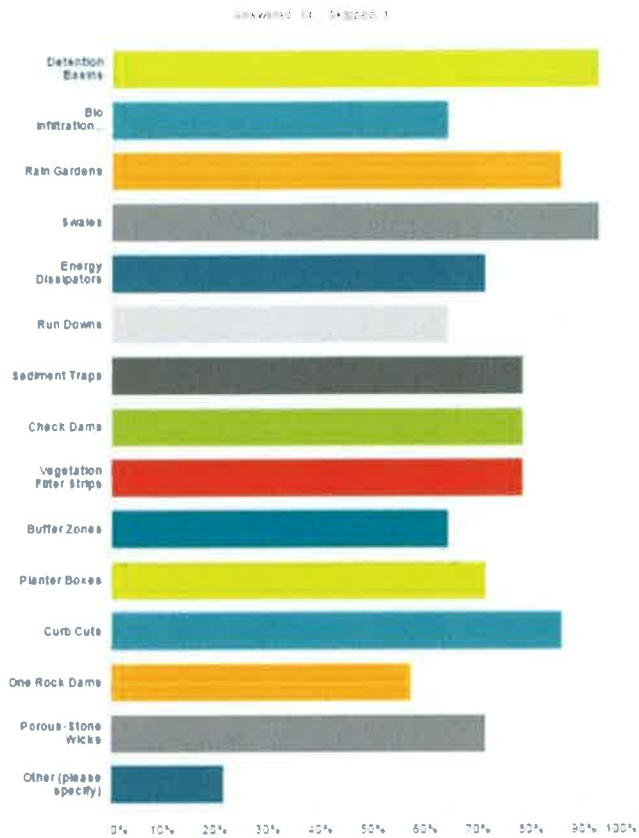
Recommendation 3: Encourage the use of and streamline the design process for an infiltration model, specific stormwater-management goals should be created by:

- a. Creating Watershed Protection Guidelines see appendix B, the purpose of these guidelines would be to further the concepts and intent for green infrastructure and low-impact-development is to slow, filter, infiltrate, and eventually discharge stormwater.
- b. Ensuring that periodic training sessions, manuals, and other instructions cover the long-term financial benefits of the infiltration model. This big-picture context would also serve to develop interdepartmental cooperation by describing infiltration as a common goal.
- c. Providing potential educational tools including training sessions, web-based videos, and how-to manuals.
- d. Requiring site-specific maintenance instructions from engineering and landscape-architecture consultants and/or firms.
- e. In order to evaluate, improve, and encourage projects that use the infiltration model, benchmarks should be developed.

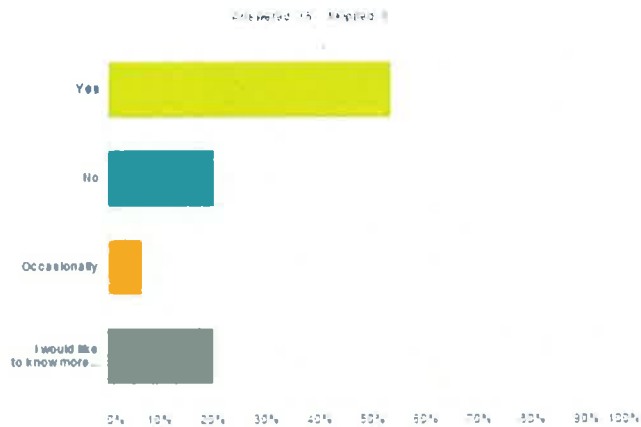
Recommendation 4: Amend the city's terrain management code to include a greater emphasis on infiltration and to stay up-to-date with regulatory changes. Staff shall provide suggested revisions.

Appendix A

Are you familiar with the following LID techniques? Please check all that apply.



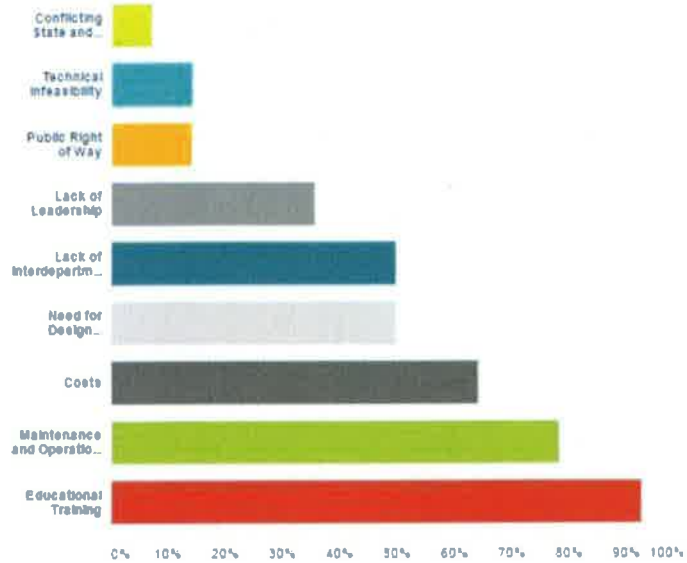
Would you say your project planning process currently includes green infrastructure approaches that considers stormwater to be a resource rather than a nuisance?



Appendix A

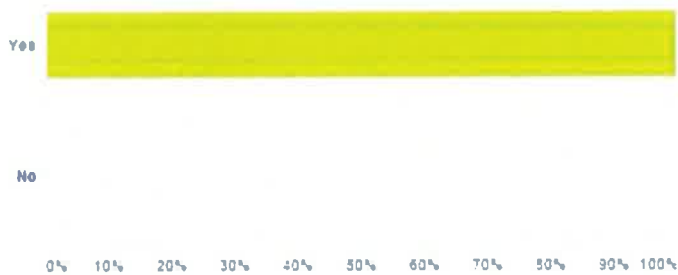
What do you see as the barriers to instituting green infrastructure and low impact development techniques?

Answered 14 Skipped 1



Do you feel your department / division would benefit from additional training in LID techniques?

Answered 14 Skipped 1



APPENDIX B

Watershed Protection Guidelines

Purpose:

The purpose of these guidelines is to incorporate green infrastructure (GI) and low impact development (LID) techniques into the City of Santa Fe's public projects wherever possible. The guidelines apply to new construction, renovation, and refurbishment of all publicly funded projects: parks, facilities, roadway, drainage projects, stormwater management projects, public rights-of-way, trails, sidewalks, parking lots, and medians. The guidelines are intended to encourage infiltration strategies and techniques that improve water quality by reducing flow volumes, runoff velocities, and the turbidity caused by erosion. They are also formulated to ensure that GI and LID practices are considered early in the design process, and that they are built in an effective manner that minimizes maintenance.

The Basic Principle: The design concepts and intent of GI and LID to slow, filter, infiltrate, and eventually discharge stormwater.

Watershed Protection Goals: Where possible, these guidelines should be required for all public projects.

- 1) Runoff from impermeable surfaces should be directed through LID techniques before it enters storm drains or natural drainage ways.
- 2) The sizing of LID techniques can be determined by the application of runoff coefficients to the following basic formula:

$$\text{Runoff Volume (gal)} = \text{Runoff Depth (in)} \times \text{Collection Area (sq.ft.)} \times 0.623 \times \text{Runoff Co-Efficient}$$

- 3) All basins are required to have a percolation test to determine infiltration rates before and after construction. Infiltration basins shall be designed to drain within 24 hours of the latest rainfall event. Soil type should be considered. Ponding or impoundments may be subject to the Office of the New Mexico State Engineer water-law requirements.
- 4) Basins shall accept up to a maximum of 12" of stormwater (8" preferred) when plant material is present to avoid damage and root rot.
- 5) The bottom of infiltration basins should be loosened to a minimum depth of 12" and if necessary mixed with sand, mulch, compost, or other amendments to increase percolation.
- 6) Stormwater should be directed to provide supplemental irrigation for plant establishment.

Procedures

Projects shall include watershed protection goals in the scope of work. The project manager leading the project team for the city shall document that at each stage of project development, 30%, 60% and 90%, the following protocols have been considered by the engineer, landscape architect, or other qualified consulting firm performing the drainage design:

Planning Program:

At 30% submittal, the consultants shall include:

- ☐ Determination of the size of runoff from a design storm.
- ☐ Identification of infiltration methods that are proposed;
- ☐ Conceptual grading to maximize water-quality improvement;
- ☐ Mapping of existing drain inlets, outfalls, catch basins, piping, curb cuts, and utilities (underground and aboveground);
- ☐ Conceptual grading should seek to minimize conflicts between structures, access ways, utilities and LID techniques;
- ☐ Conceptual details for water ingress and egress from infiltration structures;
- ☐ Landscape concepts showing vegetation to maximize utilization of stormwater runoff.
- ☐ Public projects shall consider the requirements of private developments as listed in Article 14-8.2, Watershed Protection Guidelines, Landscape Design Guidelines for Medians and Planting Strips, and Landscape Irrigation Design Standards as they relate to stormwater.
- ☐ All work must conform to local, state, federal, and tribal laws where applicable permit requirements or codes exist.

At 60% submittal, the consultants shall include:

- ☐ Detailed plans and cross sections of drainage structures indicating the extent and depth of infiltration areas, slopes, and areas of stormwater flow and overflow;
- ☐ Grading and drainage plan;
- ☐ Preliminary planting plan;
- ☐ Utility plan created in coordination with utility representatives showing proposed modifications.

At 90% submittal, the consultants shall provide construction documents:

- ☐ These documents should be detailed and descriptive enough to allow contractors to build any drainage or stormwater structures;
- ☐ Final construction notes shall include estimated final water catchment and infiltration numbers.
- ☐ All proposed drainage structures including drain boxes, inlets, out falls, catch basins, culverts, drainage swales, and piping shall be indicated for construction purposes.
- ☐ The project manager shall be responsible for the documentation of review-team comments to ensure compliance with watershed performance goals. Final sign-off on stormwater compliance shall be documented on the cover page of all public projects by the signature of the River and Watershed Coordinator.

Projects that do not apply:

- Pavement maintenance activities such as top-layer of asphalt grinding and repaving within the existing footprint;
- Filling pot holes;
- Interior remodeling projects;
- Utility repair work, trenching, and patching.

Eligible Green Infrastructure (GI)

Stormwater green infrastructure helps protect the District's waterbodies by reducing stormwater runoff. Common GI includes:

- Green Roofs
- Permeable Pavement
- Bioretention
- Rainwater Harvesting

DDOE's Stormwater Management Guidebook includes design standards and other technical specifications for GI, referred to as stormwater retention Best Management Practices. See ddoe.dc.gov/swregs



Bioretention reduces runoff from adjacent parking lot.

APPENDIX C

DDOE is hard at work to restore full use of the Anacostia and Potomac Rivers and Rock Creek to District residents, visitors, and businesses. The SRC trading and RiverSmart Rewards programs are important parts of that effort.



Great Egret perches on driftwood in the Anacostia River

SRC Trading

Website: ddoe.dc.gov/src

Email: src.trading@dc.gov

RiverSmart Rewards

Web: ddoe.dc.gov/riversmartrewards

Email: riversmart.rewards@dc.gov

1200 First Street NE, 5th Floor

Washington, DC 20002

Phone: 202-535-2600

FOR INFORMATION, CALL;

Para obtener información llame al;

Pour de plus amples renseignements, veuillez appeler le;

로 문의하십시오 ; 자세한 정보는 (202) 535-1934

詳情請致電 (202) 535-1934.



Stormwater Retention Credit Trading & RiverSmart Rewards

Reduce Runoff | Make Money
Save The River



Making the District's rivers and streams healthier has never been more rewarding. By installing rain gardens, green roofs, and other stormwater retention green infrastructure, you can earn money by selling Stormwater Retention Credits (SRCs) and save money on your water bill.

You Can Generate and Sell SRCs

- Sell your SRCs in an open market to regulated development sites that can buy and use SRCs to meet their retention requirements.
- Use DDOE's SRC database, public registry, template sales contract, and other tools to make this easy.

You Can Earn a RiverSmart Rewards Discount

- Earn a discount of up to 55% off DDOE's Stormwater Fee and up to 4% off DC Water's Clean Rivers Impervious Area Charge. Both fees are collected on the DC Water utility bill and based on the amount of impervious surface on your property.

DDOE certifies SRCs and approves RiverSmart Rewards discounts for 3 year periods.

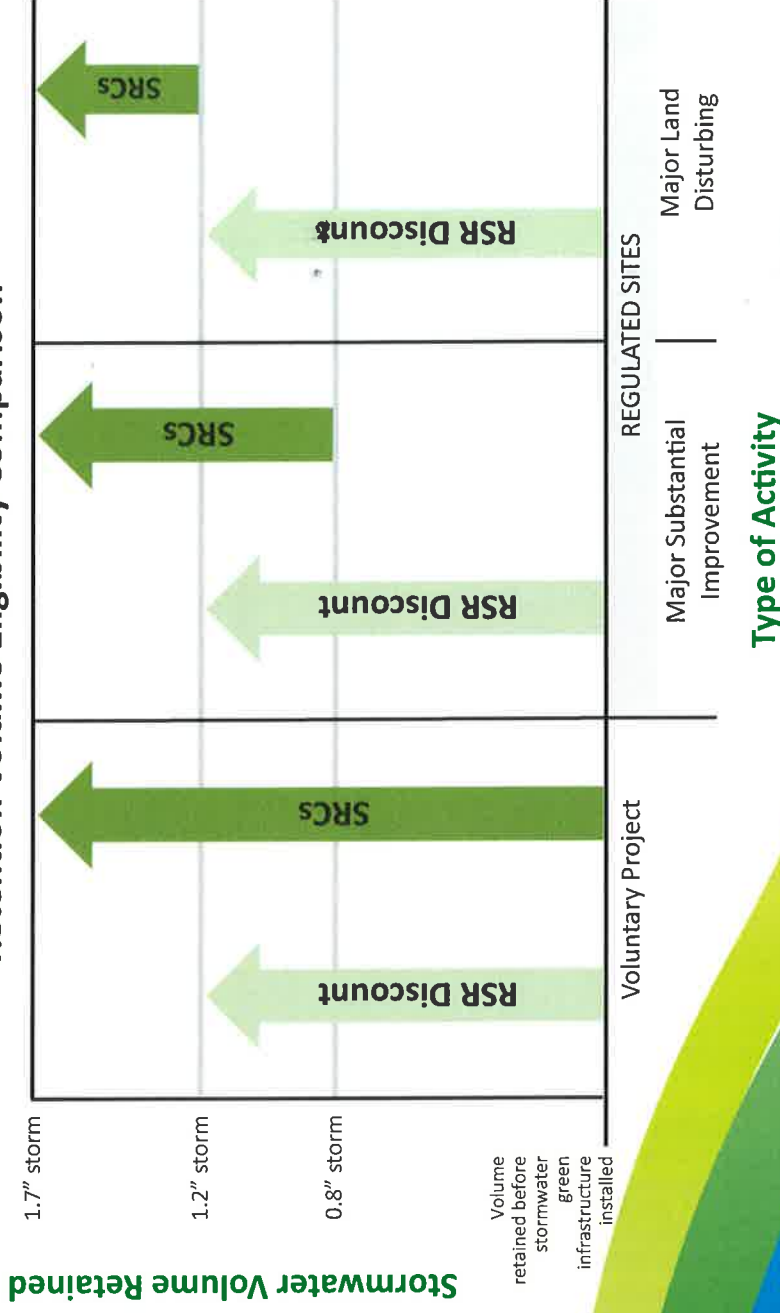
Permeable pavement installed at a parking lot reduces runoff from the property.

Eligibility Requirements

To receive a Stormwater Fee discount and/or generate SRCs, you must:

- **Design stormwater green infrastructure (GI) in accordance with the Stormwater Management Guidebook** – Typically, this is demonstrated with a DDOE-approved Stormwater Management Plan (SWMP). Projects only applying for a discount do not need a formal SWMP.*
- **Install GI before applying for SRCs or a discount** – GI must also pass DDOE inspection.
- **Provide on-going maintenance** – Proper maintenance ensures optimal performance of GI.
- **Capture stormwater runoff** – The maximum Stormwater Fee discount is awarded to sites that retain a 1.2" storm. However, GI that retains up to a 1.7" storm is eligible for SRC certification. DDOE will only certify SRCs for retention in excess of regulatory requirements or existing retention (see figure below).

Retention Volume Eligibility Comparison



* Small projects that manage stormwater from less than 2,000 square feet of impervious surface can use a Simplified Application for a RiverSmart Rewards discount.

References and Research

Guides and Manuals:

- City of Los Angeles, CA, Department of Building and Safety Guidelines for Stormwater Infiltration, 2008, Reference No: LABC Sec 7013.9 & 7013.10 Document No. P/BC 2008/118
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- Green Infrastructure Opportunities and Barriers in the Greater Los Angeles Region An Evaluation of State and Regional Regulatory Drivers that Influence the Costs and Benefits of Green Infrastructure, August 2013, EPA 833-R-13-001
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- CITY OF SANTA FE, GREEN INFRASTRUCTURE WORKSHOP, November 30, 2012, Federal Grant Identification Number: 10---PA---11031600---078 Recipient Organization: City Of Santa Fe, New Mexico Data Universal Numbering System Number:069420818

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- Steven King, PE, Paul Fendt, PE & Sara Lavy, PE of Parametrix Inc., April 21, 2016
- J. Rob von Rohr, PE & Justin Lyons, PE of Biohabitats, Inc., April 18, 2016
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1 **CITY OF SANTA FE, NEW MEXICO**

2 **RESOLUTION NO. 2016-25**

3 **INTRODUCED BY:**

4
5 Councilor Peter N. Ives Mayor Javier M. Gonzales
6 Councilor Joseph M. Maestas Councilor Patti Bushee
7 Councilor Carmichael Dominguez
8
9

10 **A RESOLUTION**

11 **DIRECTING THE CITY MANAGER TO DEVELOP A STORMWATER**
12 **MANAGEMENT PROGRAM THAT UPDATES THE CITY'S STORMWATER**
13 **MANAGEMENT POLICIES IN FURTHERANCE OF THE CITY'S ENVIRONMENTAL**
14 **PROTECTION AND SUSTAINABILITY POLICIES AND GOALS.**
15

16 **WHEREAS**, the City of Santa Fe and the State of New Mexico [~~have~~are] in arid climates
17 and have experienced drought conditions for many years, putting strains on available water
18 resources, riparian areas and aquifer recharge; and

19 **WHEREAS**, stormwater management by the Public Works Department's Streets and
20 Drainage Division is accomplished through the operation and maintenance of the City's drainage
21 infrastructure (arroyos, streets, curbs, drainage structures, culverts, erosion control structures,
22 washouts, etc.); and

23 **WHEREAS**, minimizing pollutants in stormwater is essential for maintaining
24 compliance with the Environmental Protection Agency's (EPA) Clean Water Act, the EPA's new
25 clean water rule (2015), the National Pollutant Discharge Elimination System (NPDES) and

✍

1 Municipal Separate Storm Sewer System (MS4) permit program; and

2 **WHEREAS**, green infrastructure is an approach to stormwater management that
3 protects, restores, or mimics the natural water cycle and reduces the need for conventional
4 infrastructure by reducing stormwater volume, and improve[ing] water quality by reducing
5 pollutant loads, stream bank erosion, and sedimentation; and

6 **WHEREAS**, the urban reaches of the Santa Fe River have been listed as an impaired
7 waterbody for specific contaminants under Section 303(d) of the federal Water Quality Act (aka.,
8 Clean Water Act) attributed primarily to stormwater flows; and

9 **WHEREAS**, this impairment will result in the adoption of Total Maximum Daily Loads
10 (TMDLs) by the New Mexico Environment Department and the New Mexico Water Quality
11 Control Commission for these contaminants; and

12 **WHEREAS**, these TMDLs will result in more restrictive permit requirements and
13 controls for any current or new point source and non-point sources to the Santa Fe River,
14 including the City's MS4 (Stormwater) Permit in the future; and

15 **WHEREAS**, through the Public Works Department's River, Watershed & Trails
16 Division, the Water Division, and the Santa Fe River Commission the City is currently
17 implementing the Alameda Rain Gardens, a green infrastructure program; and

18 **WHEREAS**, the City's Land Use Department has implemented green codes that
19 encourage infiltration and green infrastructure measures; and

20 **WHEREAS**, the City's Water Conservation Office has created rebates and incentives for
21 passive and active rainwater systems; and

22 **WHEREAS**, green infrastructure must be a part of the Sustainable Santa Fe
23 Commission's 2040 goals; and

24 **WHEREAS**, the City should continue to explore all available means to encourage and
25 incentivize private individuals, commercial enterprises and governmental entities to use rainwater

2

1 resources; and

2 **WHEREAS**, the City should work to ensure the availability of all legal supplies of water
3 for the benefit of the City of Santa Fe; and

4 **WHEREAS**, the City will ensure its long-term sustainability and build resiliency within
5 the City of Santa Fe by ensuring that it uses all water resources legally available; and

6 **WHEREAS**, rain events are increasing in intensity and quantity in Santa Fe, and the City
7 needs to develop and implement its long-term plan to deal with stormwater to ensure that it does
8 not degrade the water quality of the SF River and its tributaries, is not destructive to private or
9 public property and infrastructure, and ensure that it is used in beneficial ways; and

10 **WHEREAS**, the City should promote and emphasize utilizing green infrastructure to
11 slow down runoff, increase stormwater infiltration, prevent the transport of pollutants from urban
12 and commercial areas, and maximize the benefits derived from precipitation events; and

13 **WHEREAS**, the City should explore the expansion of its urban trails system along
14 existing arroyos to promote healthy lifestyles and public safety; and

15 **WHEREAS**, implementing this Resolution, increasing green infrastructure, and
16 managing stormwater as a resource will promote the well-being and health of the people of Santa
17 Fe and will help build community; and

18 **WHEREAS**, if the City needs to contract with a third party to explore the matters set
19 forth herein, the Stormwater Section funds can be used to accomplish the purposes of this
20 Resolution.

21 **NOW THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE**
22 **CITY OF SANTA FE** that under guidance of the city manager, city staff is directed to research,
23 evaluate and report on current stormwater management policies that:

- 24 1. Employ and promote green infrastructure in all city infrastructure projects and
25 improvements;

2. Examine and implement ways to slow stormwater down, making it less destructive, and allowing it to infiltrate better;
3. Foster the Santa Fe River Commission's participation in the Santa Fe River Corridor Master Plan;
4. Promote and further the City's urban watershed policy, employing green infrastructure improvements in all Public Works projects (roads, parks, trails, etc.) to infiltrate stormwater, and use it more productively in parks and public places to decrease irrigation costs and prevent the runoff of fertilizers, waste-products and other contaminants;
5. Examine ways in which stormwater can be used productively in Santa Fe;
6. Facilitate collaboration among the Public Works Department, Parks and Recreation Department, Public Utilities Department, City Land Use Department, and private stakeholders to evaluate the creation of a Santa Fe Arroyo and Flood Control District, in cooperation with the County of Santa Fe;
7. Evaluate the nature and extent [and]for the possible expansion of City jurisdiction over arroyos and other waterways throughout the City of Santa Fe, allowing for improved arroyo management by the city and the extension of trail systems;
8. Develop a thorough and mapped understanding of the current stormwater system, including existing city drop inlets, storm drains, pipes, and outlet structures that flow directly into the arroyo system and the Santa Fe River;
9. Consider how Public Works projects and private developments can create opportunities for an integrated approach to stormwater management;
10. Provide recommendations from staff that would coordinate the efforts of the above mentioned departments, commissions, committees and other entities to maximize opportunities, while eliminating duplicative efforts.

4

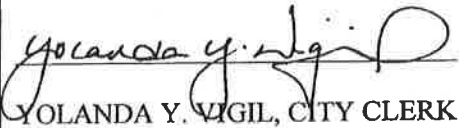
1 **BE IT FURTHER RESOLVED** that the City Manager shall present a preliminary
2 report with recommendations for the development of an updated stormwater policy within 120
3 days of the adoption of this resolution.

4 PASSED, APPROVED AND ADOPTED this 30th day of March, 2016.

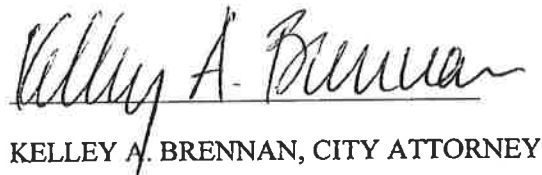
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7 JAVIER M. GONZALES, MAYOR

8 ATTEST:

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10 
11 YOLANDA Y. VIGIL, CITY CLERK

12 APPROVED AS TO FORM:

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14
15 KELLEY A. BRENNAN, CITY ATTORNEY

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25 *M/Legislation/2016 Resolutions/2016-25 Urban Stormwater Policy Substitute*

25-2 COMPREHENSIVE WATER CONSERVATION REQUIREMENTS.

25-2.1 Short Title.

This section may be cited as the Comprehensive Water Conservation Requirements Ordinance.

25-2.2 Purpose.

The purpose of this section is to provide the city the means to reduce per capita water demands by requiring its citizens and businesses to comply with prescribed water conservation regulations and by establishing financial incentives for water conservation.

The use of high-efficiency fixtures and appliances with WaterSense, EnergyStar, and/or other 3rd Party certifications is highly encouraged to increase indoor water conservation. The use of water harvested from precipitation or grey water, which meets applicable codes and/or standards, is encouraged to increase both indoor and outdoor water conservation.

Landscape professionals are strongly encouraged to educate their customers regarding the operation of the customers timed irrigation systems.

New water conservation programs, other than those based on the value of the water saved which can be authorized by the Public Utilities Department Director, shall be adopted by resolution. Water conservation programs shall not exceed funds allocated by the governing body each fiscal year.

25-2.3 Scope.

The City of Santa Fe Comprehensive Water Conservation Requirements Ordinance applies to all potable or reclaimed water and all water or wastewater utility customers wherever situated to the extent legally permissible.

25-2.4 Declaration of Policy.

A. The governing body finds and determines that encouraging and requiring the adoption of water conservation strategies is an effective and low cost means to balance water demands with limited available water supplies and production capabilities. The governing body further recognizes that as a consequence of implementing water conservation regulations, reduction in water use provides the following benefits to the city and its citizens:

- (1) Potential for reduction of individual residential and commercial customers' water and sewer bills.

(2) Defers the acquisition of additional water sources and treatment facilities and may serve as a critical interim source of supply while additional supply sources are being brought on line.

(3) Reduces peak summer demands thereby reducing short and long-term system costs.

(4) Enhances the local environment by minimizing transport of fertilizer, pesticide, and other contaminants from runoff to surface waters and deep percolation to ground waters and enhances the global environment by reducing energy consumption associated with water production, treatment, and distribution.

B. It is hereby declared, because of the city's immediate and long-term limited water supplies and the overall benefits of water conservation, that the city promote and require water use efficiency strategies for the public health, safety, and general welfare of its citizens.

25-2.5 Conservation Signage and Literature Distribution.

A. Public, semi-public, and governmental restroom and shower facilities shall post not less than one (1) water conservation sign in each restroom and shower facility, said signs shall not be less than eight and one-half (8.5") inches by eleven (11") inches. Such entities may use a city-provided sign or develop their own sign using city-provided text, the text of which shall cite this section. A "public facility" shall not include those facilities solely used by the entity's employees. A "semi-public facility" shall include all private clubs and fraternal organizations.

B. Hotels, motels, and other lodging facilities shall provide a water conservation informational card or brochure in a visible location in each guest room. Such facilities may use city-provided literature or develop their own using city-provided text. Lodging facilities shall not provide daily linen and towel changing for those guests staying multiple nights unless the guest specifically requests each day that the linen and towels be changed.

C. Retail plant nurseries shall provide their "end-use customers" with city-provided low water use landscape literature and water efficient irrigation guidelines at the time of sale of any outdoor perennial plants. An "end-use customer" is the person or persons who will ultimately own the plant material. A landscape contractor or architect is not an end-use customer. In order to facilitate the purchasing of low water use plants, nurseries are strongly encouraged to tag or sign their low water use plants that require little to no supplemental watering once established. For the sale of all turf or grass seed or sod, the customer shall be given city-provided literature indicating the restrictions to planting water consumptive-turf, per Chapter XIV.

D. Landscape contractors, maintenance companies and architects shall provide their prospective clients with city-provided low water use landscape literature and water efficient irrigation guidelines at the time a service contract is presented to the prospective client.

E. Title companies and others closing real estate transactions shall provide the entity purchasing a home, business, or property with city-provided indoor and outdoor conservation literature at the time of closing.

F. City departments shall provide indoor and outdoor conservation literature to:

(1) All persons applying for a building permit from the permit and development review division.

(2) All customers initiating new water service from the city water division.

25-2.6 Indoor Conservation.

A. Minor water system leaks, as determined by the city, from private water lines shall be repaired by the owner or property manager within fifteen (15) days of initial notification by the water division or utility billing section. A severe leak, as determined by the city, shall be repaired immediately. Failure to do so may result in discontinuance of service as set forth in Rule 9, Exhibit A of Chapter XXV SFCC 1987. Proof of repair shall be provided to the water division or utility billing section upon completion of the repair.

B. For all new and remodeling construction and all replacements of existing plumbing fixtures, only fixtures which meet or exceed the National Efficiency Standards and Specifications for Residential and Commercial Water-Using Fixtures and Appliances shall be used.

(6) Installation. Water-conserving fixtures shall be installed in strict accordance with the manufacturers' instructions to maintain their rated performance.

(7) Certificate of compliance. For all new and remodeling construction, all of the requirements regarding water conserving devices mentioned in subsections 25-2.6 B(1) SFCC 1987 through 25-2.6B(6) SFCC 1987 shall be certified by a licensed mechanical contractor or plumbing permittee or by 3rd party authorized by City before or at the time of the final plumbing inspection.

(8)

C. *Eating Establishments.* All public and private eating establishments shall provide water only upon request. Eating establishments serving beverages in single-serving containers shall only serve an accompanying glass if specifically requested by the customer. These provisions shall be clearly communicated to the customer in at least one (1) of the following manners: on the menu, by use of a "table tent" or similar signage on the table, or posting in a location clearly visible to all customers. All catering and banquet operations shall comply with the provisions of this subsection.

D. *Lodging Restrictions.* . Lodging facilities shall not provide daily linen and towel changing for those guests staying multiple nights unless the guest specifically requests each day that the linen and towels be changed.. Guests shall be informed of this requirement in writing at the time of check-in.

25-2.7 Outdoor Conservation.

A. *Outdoor Irrigating Periods.* Outdoor irrigation is prohibited between 11:00 a.m. and 7:00 p.m. from May 1 through September 30. It is recommended that outdoor irrigation be limited to no more than three (3) days per week, recognizing that low-water use plants and native vegetation require less irrigation.

B. *Exemptions:*

(1) Nursery stock. Plants being irrigated for retail or wholesale sale are exempt from paragraph A, above.

(2) Licensed landscape maintenance and contracting companies. All manual watering by landscape maintenance and contracting companies licensed with the State of New Mexico Construction Industries Division and registered with the City of Santa Fe business registration unit are exempt from paragraph A, above. Landscape companies setting timed irrigation systems shall ensure that the systems comply with paragraph A.

(3) Acequias. Irrigation from acequias is exempt from paragraph A, above.

C. *Potable Water Use for Certain Construction and Landscaping Purposes.* For those construction and landscaping purposes permitted by the New Mexico Environment Department to use reclaimed water, potable water use from a fire hydrant is prohibited. Reclaimed water from the city's reclaimed water fill station or other facility shall be used for such purposes.

D. *Swimming Pools.* Swimming pools located outside shall be covered when not in use. Children's pools less than twelve (12") inches in depth and less than five (5') feet in diameter are exempt from this provision. During pool draining, measures shall be taken to prevent fugitive water or the introduction of swimming pool water to the stormwater system.

E. *Vehicle Washing:* All manual vehicle washing shall be done with a hose equipped with a positive shut-off nozzle.

(1) All vehicle washing at residences is limited to once-per month per vehicle; and

(2) Commercial vehicle sale lots and other commercial and governmental entities with on-site vehicle washing facilities are limited to washing each vehicle one (1) time per month unless there is a demonstrated public health or safety reason for more

frequent washings. Commercial vehicle sale lots shall be allowed to wash vehicles at time of sale and prior to placing in a showroom.

F. *Hard Surface Cleaning.* Using water to clean hard surfaces with a hose or power washer, including but not limited to, the cleaning of tennis courts, sidewalks, driveways, walls, parking areas and outdoor eating areas is prohibited except to prevent or abate public health, safety or accident hazards when alternative methods are not available.

G. *Turf.* The planting of cool season grass is strongly discouraged. For further restrictions see Chapter 14-8.4 (F)(3-4).

H. *Authority to Permit Exceptions.* The city water division director has the authority to permit exceptions to this subsection provided the water conservation objective is not compromised.

25-2.9 Turf Restrictions.

A. Turf requirements for sports fields and golf courses shall comply as follows:

(1) Sports fields or golf courses created after August 25, 2003, shall not install turf grass sod or turf grass seed mixes.

(2) Sports fields or golf courses created prior to this date which have artificial turf shall not convert to natural turf.

(3) Sports fields or golf courses created prior to this date which have natural turf may be permitted to rehabilitate the natural turf if the area needing to be rehabilitated does not exceed seventy-five percent (75%) of the turf area. Rehabilitation of more than seventy-five percent (75%) of said turf areas shall not be permitted. Such turf areas needing rehabilitation in excess of seventy-five percent (75%) shall be replaced with artificial turf.

B. This section shall apply to all customers of the city water system except city owned sports fields or golf courses or to sports fields or golf courses which are part of a public or private preschool, elementary school, junior high school, high school, college or university.

C.

25-2.11 Other Water Conservation Programs.

The governing body may adopt other water conservation programs, including but not limited to, rebates, vouchers and code requirements for water saving devices. No water user shall be eligible for both a rebate or voucher and a retrofit credit for any specific water saving device.

25-3 WATER WASTE.

25-3.1 Applicability.

A. Section 25-3, regarding water waste, shall apply to the following:

- (1) All water customers of the city water system whether located within the city limits or not;
- (2) All city reclaimed water customers whether located within the city limits or not;
- (3) All customers of the city waste water system whether located within the city limits or not; or
- (4) All private well users located within the city limits.

B.

25-3.2 Wasting Water Prohibited.

A. No person, firm, corporation, or county, state, or federal facility or operation, to the extent allowed by law, or municipal facility or operation shall waste water. Wasting water shall include the following:

- (1) The pumping, flow, release, escape, or leakage of any water from any pipe, valve, faucet, irrigation system or facility onto any hard surface such that water accumulates as to either create individual puddles in excess of ten (10) square feet in size or cause flow along or off the hard surface or onto adjacent property or the public right-of-way, arroyo, or other water course, natural or manmade;
- (2) During the irrigation of landscaping, the escape or flow of water away from the landscaping plants being irrigated even if such flow is not onto a hard surface; or
- (3) Wasting water includes leaks to indoor and outdoor plumbing system (faucets, hose bibs, showerheads, toilets, etc.) in excess of 0.25 gallons per minute.

B. The following are not considered wasting water. However, water used in such a manner shall be minimized:

- (1) The incidental runoff caused by vehicle washing provided that a shut-off-nozzle is used;
- (2) The periodic draining of swimming pools and spas;
- (3) Flow resulting from temporary city water system failures or malfunctions;
- (4) Water applied, such as in the cleaning of hard surfaces, to prevent or abate public health, safety, or accident hazards when alternate methods are not available;
- (5) Flow resulting from vandalism, high winds, emergencies, and acts of God;
- (6) The occurrence of an unforeseeable or unpreventable failure or malfunction of plumbing or irrigation system hardware, prior to the issuance of a formal warning notice issued to the water user as set forth in subsection 25-1.4 SFCC 1987;
- (7) Flow resulting from firefighting or routine inspection of fire hydrants or from fire training activities;
- (8) Water applied to abate spills of flammable or otherwise hazardous materials;
- (9) Flow resulting from a routine inspection or maintenance of the city water system;
- (10) Water used by the City of Santa Fe in the installation, maintenance, repair or replacement of public facilities and structures including but not limited to traffic control devices, storm and sanitary sewer structures and road or street improvements; or
- (11) Water used by contractors or utilities including but not limited to saw cutting of pavement, compaction, or other use required under terms of their contract.

25-3.3 Warnings.

For unforeseeable or unpreventable violations, the city shall generally issue a formal warning notice prior to taking enforcement action. Prior to taking formal enforcement action, the city may instruct the water user to not operate the faulty system until it is appropriately repaired. If operating the system is integral to the operation of the facility the city may at its discretion provide a fifteen (15) calendar day time period in which to remedy the violation prior to commencing formal enforcement action. Once a warning notice has been issued, subsequent water waste events shall be subject to enforcement action.

25-4.3 Commercial Water User Rebate Regulations.

A. *Purpose.* The purpose of this subsection is to provide rebate incentives for commercial water users to lower water consumption through the installation and use of high-efficiency water-saving equipment or technology.

B. *Commercial Water User.* For purposes of this subsection, a commercial water user is a City of Santa Fe water division customer with a commercial sector designation within the current billing system that has installed high-efficiency water-saving equipment. Commercial water users also include schools and governmental entities.

C. *Applicability of Commercial Water User Rebate.*

(1) The city water conservation office shall apply the one-time rebate to an applicant's bill after one (1) year of water use monitoring and an evaluation of water savings. For new commercial customers, the one (1) year monitoring period will begin after the water saving equipment or technology is installed, not at the time water service is established.

(2) The rebate shall be applicable to water saving hardware or systems and for complex or untested measures which shall be verified by the city.

(3) An applicant shall coordinate with the water conservation office prior to the installation of retrofits or high efficiency water saving equipment.

(4) The rebate amount shall be based on the amount of water the high efficiency water saving equipment has saved, up to 50% of the cost of equipment or \$25,000, whichever is less.

D. *Application for Commercial Water User Rebate.* A new or existing commercial water user may apply for a rebate, regardless of meter size. An applicant for a commercial water user rebate shall provide the following information on the application:

(1) The address and account of the commercial water user to show that the commercial water user is a City of Santa Fe water utility customer;

(2) The high-efficiency water-saving measures, including hardware or systems that relate to the commercial water user's commercial water processes that minimize water use and eliminate water waste;

(3) Data to show that at least eighty percent (80%) of water fixtures are water efficient and free of leaks; and

(4) An estimate of the amount of water the commercial water user will save as a result of the high-efficiency water-saving measures.

E. *Application Evaluation.*

(1) An applicant for a commercial water user rebate shall:

(a) Participate in a pre-application meeting with the water conservation office for a water use evaluation prior to installation of the equipment or technology.

(b) Participate in a post-installation inspection of the high efficiency water saving equipment with the water conservation office.

(c) Provide original receipts for the purchase of the equipment for which the rebate is being applied.

(2) The city water conservation office shall monitor water consumption of the applicant over the course of the first year after the application has been submitted to determine whether the overall water consumption per unit has decreased. If after one (1) year an applicant's water consumption shows that projected water savings were not met then the rebate shall not be applied to the account.

F. *Administrative Procedures.*

(1) The city shall administratively establish minimum standards of water-use efficiency for qualifying rebates for commercial fixtures, appliances and landscape efficiencies, which include, but are not limited to:

(a) Replacement of water-cooled equipment with new air-cooled equipment

(b) Process water reclamation systems

(c) Elimination of water intensive phases of industrial processes

(d) Cooling tower modifications

(e) Industrial laundry equipment upgrades or reuse

(f) Large scale irrigation improvements (when applying under this category, monitoring of water savings will be two (2) watering seasons).

(2) All rebates are given in the form of a credit that is applied to the customer's water bill.

(3) The city shall administratively establish the quantity of water conserved by each piece of high-efficiency water-saving equipment and the amount that the water bill will be rebated.

25-11 WATER CONSERVATION CREDIT PROGRAM.

25-11.1 Short Title.

Section 25-11 SFCC 1987 shall be referred to as the Water Conservation Credit Program Ordinance.

25-11.2 Purpose.

The purpose of the city water conservation program is to increase system-wide water conservation, to facilitate offsetting impacts on the city's water supply system from new development and to supply water for other municipal uses.

(2) *Water Conservation Retrofit Rebate.* The city may obtain water conservation credits through direct payment and/or credit to residential and commercial customers of a rebate upon the customers' replacement (retrofit) of a high-water-usage appliance, fixture or landscaping with a qualifying water-saving appliance, fixture or landscaping, including a rebate for the installation of rain barrels, or through the city's direct installation of water saving devices provided that the following are met:

(a) The city shall require satisfactory proof to confirm the retrofit of the high water usage appliance, fixture or landscaping with the qualifying appliance, fixture or landscaping; and

(b) Participating customers shall allow the city to conduct an inspection prior to, during, and after the installation of any retrofits and will follow the requirements for collection and disposition of old appliances to ensure that the old appliances do not return to service.

(c) Upon payment and/or credit by the city of the retrofit rebate to a customer, the city shall deposit in city water bank in the city's name the appropriate amount of water conservation credits.

D. Water conservation credits shall be placed in the city's water bank.

(2) Water conservation credits realized through a retrofit rebate shall be held in the city's name for resale to water customers who exceed their allowed water usage under an alternative development water budget or a water conservation contract as set forth in Section 14-8.13(D)(4) SFCC 1987, for purchase from the bank to offset the impact on the city's water system of certain small development projects as set forth in Section 14-8.13(E)(2)(b) and (d) SFCC 1987, or for any other public purpose.

(3) Certified retrofit credits generated from the previous retrofit program, and held in the name of various persons or entities, shall be deposited in the water bank in the holder's name and may be sold from there by the holder to fulfill an applicant's approved development water budget.

25-11.4 Administrative Procedures.

A. The city shall administratively establish minimum standards of water-use efficiency for qualifying retrofit rebate fixtures, appliances and landscaping, including but not limited to toilets, waterless urinals, faucets, showerheads, clothes washers, dishwashers, and weather-based irrigation controllers.

B. The city shall administratively establish the quantity of water conserved by each retrofit and the price that it will pay for each water conservation retrofit rebate credit.

25-11.5 Monitoring, Violations, Penalties, and Remedies.

Conservation contract water budgets shall be monitored and violations dealt with pursuant to the provisions of Section 14-8.13(D) SFCC 1987.

June 28, 2016

To: Christine Chavez

From: Water Conservation Committee

Cc: Water Conservation Committee members, Rick Carpenter, Councilor Peter Ives

Subject: 2016 Strategic Marketing Plan Review as Requested

First I would like to thank you for creating a multi-year plan. This has been one of the goals of the Water Conservation Committee for several years. I personally think it is critical to have a future view even if it changes due to changing circumstances (i.e. changing budgets). Without a map to guide us, where are we going?

The current plan is a great accumulation of data that is highly relevant to a future direction. I have highlighted some of these below. There are a few data inconsistencies that should be corrected (e.g. irrigation at 42% p.24 and 28% on p.16). It goes without saying, that more eyes can identify some of the small errors.

Some key highlights out of the report:

- 73% of Tier 2 water users reside in zip code 87501 and are overwhelmingly white
- 64% of homes are pre-1994 homes
- Only 24% of commercial customers participate in the rebate program

Perhaps most key is the inclusion of the 2015 Santa Fe Basin Study conclusion: Water conservation is a key adaptation strategy and action to help reduce a predicted 40-year water demand gap between supply and demand and population growth.

Yet with all the great data and shortfall backdrop, the overall goal of the plan is to MAINTAIN our GPCD. Our old goal was a 1% reduction every two years and to be the “water conservation capital of the nation”. Maintain seems like a major step backwards. Water is one of our economic drivers; without leadership in this area our economy will suffer. This was proven in the drought two decades ago. It is key we do not forget history or we will repeat it.

With the above in mind, I think the plan is a good outline and we should leverage some of its key points and augment where it is lacking. Some specific suggestions:

- Create an annual scorecard of metrics we will track, at least internally. Some of the metrics are in this report, some need to be added. Since we know weather is a factor that directly affects our water use, this should be one of the tracked metrics. We have no control over it, but it does impact our success.
- We live in a community with a large Spanish speaking population; we need more programs geared towards this community.
- We increasingly will have better and better data by customer segments. Develop a small map of what messages and deliverables are targeting which segment. Track these specific deliverables and change them based on success or lack thereof. Simply creating more may not be the best nor effective solution.
- Although it is agreed outdoor irrigation accounts for some significant portion of our water use, in my tenure on the Water Conservation Committee we have never had a focused successful effort to target this use. Determine the number by customer segment, then target and reduce this peak. It is critical to our long-term reduction.

I believe the Water Conservation Committee can and should assist with the above. The creation of the Strategic Marketing plan I know is supported by the committee. Now is the time to engage the committee to help drive us to a continual leadership position on water conservation. It is good for the community, is good for our citizens and it is the basis of our economy.

Thank you for all hard work you and your team do. It is platform for getting to our leadership position that we hold today and it is what we will leverage to remain a leader in the future.

Sincerely,

Doug Pushard
Member, City of Santa Fe Water Conservation Committee

**City of Santa Fe, Source of Supply Section/Water Division
Water Production Update
Public Utilities Committee Meeting
July 6, 2016**

Filter Plant Demolition

All work has been completed at the old Canyon Road Filter Plant (near corner of Cerro Gordo and Upper Canyon Road) except for final contouring and seeding of the site. Staff met with members of the Canyon Road Neighborhood Association and the Nature Conservancy to talk about neighborhood efforts in voluntary revegetation efforts and possible future Dale Ball Trail Connector alignments.

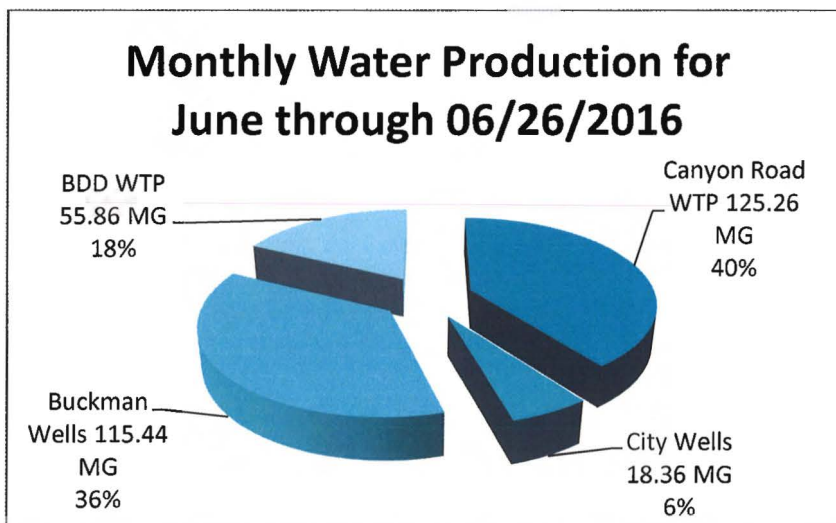
Water Production for March (through 06/26/2016)

Water production at the Canyon Road Treatment Plant (CRWTP) increased significantly from previous months during 2016 due to the temporary shutdown of the Buckman Direct Diversion for repairs. Production at the CRWTP was 125.26 million gallons. Total production for the first 26 days of June from all sources was approximately 314.7 MG. Production levels by for the water system from individual sources are illustrated in the chart below. Average daily usage (customer demand) during the month of June through 06/26/16 was 12.1 MGD.

Nichols Reservoir storage levels were at 145.27 (450 ac. ft.), or a 67.41% storage level on April 19th. The storage level of McClure Reservoir was increased to 686.16 MG by June 26th, or approximately 63.0% of capacity. Combined reservoir storage is 831.14 MG or 63.64%. Current inflow levels to McClure Reservoir have dropped dramatically since May and are at 3.25 MGD on this date in contrast to peak flows of 15.0 MG experienced earlier in the runoff season.

(Note: On Friday- April 22nd the City of Santa Fe was notified by the Interstate Stream Commission that using accounting method-2, usable water in Rio Grande Project storage dropped below 400,000 acre-feet. As a result, the Rio Grande Compact native water storage restriction on reservoirs in the Rio Grande Basin constructed after 1929, including El Vado Reservoir, all Corps reservoirs, and a portion of the storage in Nichols and McClure reservoirs, went into effect as of April 22nd, 2016. The City is still under these restrictions. The City's Water Division met with Interstate Stream Commission staff to discuss possible options for continued storage

Snow depth in the upper watershed had decreased to 0 inches on June 6th after several days of higher than normal temperatures and a light rainfall in the upper watershed which melted all the remaining snowpack.



Consumer Confidence Reports (CalendarYear2015 SDWA Compliance)

The Source of Supply Section has disseminated the final Consumer Confidence Report to all City of Santa Fe Water System customers and Santa Fe citizens. Copies of that report will also be distributed throughout 2016 to other citizens and visitors at distribution points around the City, as well as the main office of the Public Utilities Department at 801 West San Mateo.

Baca Street Well

The Source of Supply Section and Environmental Compliance Office received an update from the New Mexico Environment Department that a final work plan for initial investigation of this site under the Petroleum Corrective Fund was approved by the NMED Petroleum Storage Tank Bureau.

Drought, Monsoon/El Nino, and ESA Update

Drought conditions have eased this past year due to the reappearance of a strong El Nino, although February – June has been relatively dry. NOAA has recently issued an “Alert System Status” (June 20, 2016) which indicates that ENSO (El Nino) neutral conditions are now present with increasing likelihood for La Nina conditions (hot/dry) to develop by the summer, with about a 75% chance of La Nina during fall and winter 2016/17. The dynamic model average indicates La Nina by June-July-August, while the statistical models predict a transition to La Nina around September-October-November. Dry conditions in 2016/17 could present significant challenges to all water purveyors, water utilities, and irrigators if there is not significant filling and carry-over storage in regional reservoirs from the current run-off season and/or monsoon rains. Regional reservoir levels on the upper Santa Fe, Rio Grande, and Chama Rivers are still low but rising due to warmer temperatures and resultant snowmelt runoff. Preliminary estimates are for an approximate 90% delivery of full firm-yield of San Juan-Chama Project 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 went back into effect 4/22/16, 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 AF (unless an exchange for water is made with the NMISC). Updates to this condition will be made as needed.

Current City of Santa Fe 2015/2016 SJCP Reservoir Storage:

Heron:

6,392 AF (2015 SJCP water must be vacated by September 31, 2016 pursuant to a BoR waiver).

El Vado:

0 AF

Abiquiu:

9,047 AF SJCP carry-over from previous years, no time limit to vacate due to storage agreement with ABCWUA

TOTAL STORAGE:

15,439 AF

Downtown Ground Water Monitoring Project

INTERA Incorporated (INTERA), under contract with the New Mexico Environment Department (NMED), has been tasked to conduct additional groundwater and vadose zone assessment activities for historic areas in downtown City of Santa Fe (City), Santa Fe County (County), New Mexico. The current area of interest (Site) identified for investigation is bounded to the north and east by Paseo De Peralta, the south by East Alameda, and to the west by North Guadalupe Street. Planned investigation activities include the design and installation of preliminary characterization and monitoring system(s) for both groundwater and soil vapor in historic portions of downtown Santa Fe followed by periodic sampling of such system(s), as appropriate, for the purposes of identifying and monitoring environmental contaminants of potential concern (COPCs). These additional assessment activities are being initiated by the NMED Ground Water Quality Bureau (GWQB) after results of previous Brownfields investigations conducted in the area by the City of Santa Fe in conjunction with EPA Region 6 and NMED. These investigations indicate chlorinated solvents, particularly perchloroethylene (PERC), are present at levels in excess of applicable guidance and standards at some sites in both shallow groundwater and soil vapor beneath the City. Well drilling and sampling will be complete by 06/29/2016.

McClure Fire

Smoke from the McClure Fire was first reported at 12:21 PM on June 23, 2016 by the Barillas Lookout Tower on the Pecos/Las Vegas Ranger District. The cause of the fire was most likely a lightning strike to a large Ponderosa pine tree. Smoke was visible from Santa Fe for a short time in the afternoon. Multiple resources were dispatched immediately by the USFS. Air tanker drops and helicopter bucket drops occurred on the late afternoon of June 23. Hot shot crews and engines began to arrive on the scene by 2:00 PM but because of the weather, including rain, were not deployed into the fire zone until the following day. By the afternoon of the 24th, a fire line was completed around the fire, and the interior moped within one chain. Trenching on the fire line was done on the downhill slopes to catch rolling debris. The fire was 100% contained by June 26th due to the rapid deployment of resources and rainfall. The burn affected 7.5 acres of forest and occurred in an area of the SF Watershed-SFNF Wilderness prescribed burn project area covered by the Environmental Assessment (EA) for that project. The fire did clean out some of the ground fuels within that 7.5 acres, thus, achieving some desired objectives on a small scale.

City of Santa Fe, New Mexico

memo

DATE: April 22, 2016
TO: City Council
FROM: Mayor Javier M. Gonzales
RE: Appointments

RC
6/28

I would like to make the following appointments:

Library Board

Nina Callanan – to fill unexpired term ending 7/2018 (Resume attached)
David Wagner – Reappointment – term ending 7/2019

City Business and Quality of Life Committee

Chandler Moore – to fill unexpired term ending 3/2017 (Resume attached)

Santa Fe Water Conservation Committee

Doug Pushard (Water Quality & Harvesting/Water Reuse) – Reappointment --term ending 7/2017
Tim Michael (Technical Expertise) – Reappointment – term ending 7/2017
Stephen Wiman (Water Quality & Harvesting/Water Reuse) Reappointment – term ending 7/2017
Lisa Randall (Educational) – Reappointment – term ending 7/2017
Bill Roth (Building Construction Practices) – Reappointment – term ending 7/2017
Aaron T. Kauffman (Technical Expertise) – term ending 7/2018 (Resume attached)
Justin Lyon (Building Construction Practices) – term ending 7/2018 (Resume attached)
Robert D. Coombe (Educational) term ending 7/2018 (Resume attached)

Airport Advisory Board

Chris A. Ortega – Reappointment – term ending 2/2019

Children and Youth Commission

Daniel J. Slavin – to fill unexpired term ending 3/2019 (Resume attached)

Santa Fe Film and Digital Media Commission

Lee David Zlotoff (Alternate) – term ending 3/2018 (Resume attached)
Jacquez Paisner (Alternate) – term ending 3/2017 (Resume attached)
Jilann Spitzmiller (Alternate) – term ending 3/2018 (Resume attached)
Alton Walpole (Alternate) – term ending 3/2018 (Resume attached)
Michael Becker (Alternate) – term ending 3/2017 (Resume attached)