



Agenda DATE 8/28/14 TIME 3:56r

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SANTA FE WATER CONSERVATION COMMITTEE MEETING
SANTA FE COMMUNITY CONVENTION CENTER - 200 LINCOLN AVE.
CITY COUNCILORS' CONFERENCE ROOM
TUESDAY, SEPTEMBER 9, 2014
4:00 PM TO 6:00 PM

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF AGENDA
4. APPROVAL OF CONSENT AGENDA
5. APPROVAL OF MINUTES AUGUST 12, 2014 WATER CONSERVATION COMMITTEE MEETING
6. CONSENT AGENDA
 - A. DROUGHT, MONSOON AND WATER RESOURCE UPDATE (Rick Carpenter)

DISCUSSION ITEMS:

7. CLIMATE ACTION TASK FORCE (Councilor Ives, 10 minutes)
8. WCC FOLLOW UP ON SUSTAINABLE SANTA FE PROPOSAL ON WATER CONSERVATION IN CITY FACILITIES (Councilor Ives, 10 minutes)
9. RESULTS OF EPA REGION 6 GI/LID 2014 POSTER COMPETITION (Robert Wood, 10 minutes)

INFORMATIONAL ITEMS:

10. GROUP REPORTS FROM WATER CONSERVATION COMMITTEE INITIATIVES: (Councilor Ives, 75 minutes)
 - A. GROUP #1 – WATER CONSERVATION & DROUGHT MANAGEMENT PLAN UPDATE (15 minutes)
 - B. GROUP #2- WATER CONSERVATION EDUCATION/OUTREACH (15 minutes)
 - C. GROUP #3- WATER CONSERVATION CODES, ORDINANCES & REGULATIONS (15 minutes)
 - D. GROUP #4- REESTABLISH TREND OF NET ANNUAL REDUCTIONS IN PER CAPITA WATER USAGE AND IDENTIFYING LARGE WATER USERS (15 minutes)
 - E. GROUP #5- DOMESTIC WELLS WITHIN THE CITY LIMITS (15 minutes)

MATTERS FROM STAFF:

MATTERS FROM COMMITTEE:

NEXT MEETING – TUESDAY, OCTOBER 7, 2014:

CAPTIONS: SEPTEMBER 22, 2014 @ 3 pm

PACKET MATERIAL: SEPTEMBER 24, 2014 @ 3 pm

ADJOURN.

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

WATER CONSERVATION COMMITTEE
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1. Consent Agenda A. Drought, Monsoon and Water Resource Update (Rick Carpenter) B. Water Conservation and Drought Management Plan and Schedule (Laurie Trevizo) C. Status Update on Water Conservation Education and Outreach (Laurie Trevizo)	Consent items were addressed at the end of the meeting. The Chair encouraged the committee members to review the information included in the packet. If comments arise, please send to the Water Conservation Manager to be addressed at next meeting.	Page 3
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<p>A. Introduction The Chair introduced Senator Peter Wirth to the audience in attendance of todays meeting.</p> <p>B. Background and Objectives of WURS for New Homes (Doug)</p> <p><i>Presentation by Doug Pushard</i></p> <p>C. Overview of Current Water Rating Tools in the City, State and Nationally (Bill, Amanda, Doug, Laureen)</p> <p>D. Brainstorm what should be included in Santa Fe WURS Tool for New Homes</p>		<p>Page 6-9</p> <p>Page 9-15</p> <p>Page 15-19</p>
Informational Items	<p>Group Reports from Water Conservation Committee Initiatives.</p> <p>Due to lack of time and use of meeting facilities, Group Reports were not heard at the meeting of August 12, 2014. They will be placed on next month regular meeting agenda.</p>	Page 19
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Adjournment and signature	There being no further business to come before the Water Conservation Committee, the meeting was adjourned at 6:00 pm.	Page 20

**Santa Fe Water Conservation Committee
Meeting – August 12, 2014
4:00 pm – 6:00 pm**

MINUTES

1. Call to Order

Councilor Ives called the Santa Fe Water Conservation Committee meeting to order at 4:00 pm, Santa Fe Community Convention Center, Nambe Room, Santa Fe, NM. Roll call reflects a quorum.

2. Roll Call

Present:

Councilor Peter Ives, Chair
Doug Pushard
Tim Michael
Giselle Piburn
Stephen Wiman
Lisa Randall
Grace Perez
Nancy Avedisian
Karyn Schmidt
Bill Roth

Not Present (Excused)

Melissa McDonald

Others Present:

Caryn Grosse, Water Conservation Specialist
Laurie Treviso, Water Conservation Manager
Louise Pape
Esha Chiocchio
Anna Serrano and Fran Lucero, Stenographer(s)

Public Hearing: Attendees Sign In Sheet – Attached
Senator Peter Wirth

3. Approval of Agenda

The Chair asked that Item 4 go after Item 6.

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

4. Approval of Consent Agenda

5. Approval of Minutes, July 8, 2014

Ms. Schmidt moved for approval of minutes dated July 2014, second by Mr. Wiman, motion carried by unanimous voice vote.

6. Consent Agenda

A. Drought, Monsoon and Water Resource Update (Rick Carpenter)

B. Water Conservation and Drought Management Plan and Schedule (Laurie Trevizo)

C. Status Update on Water Conservation Education and Outreach (Laurie Trevizo)

Consent items were addressed at the end of the meeting. The Chair encouraged the committee members to review the information included in the packet. If comments arise, please send to the Water Conservation Manager to be addressed at next meeting.

DISCUSSION ITEMS

7. Sustainable Santa Fe Proposal on Water Conservation in City Facilities (Louise Pape and Esha Chiocchio)

It was noted that Ft. Marcy Complex water conservation signs are not visible. When you use the showers it has no signage about saving waters. Ms. Pape said that she and Esha have met with the Mayor and he is in favor of this idea and developing a process. Ms. Trevizo has volunteered to do some training. One of the issues is that we have regulations and ordinances, we have best practices within the city like the push button showers and there may be some other things that we want to get to with fresh models, even beyond Santa Fe. We would focus first on what is legally required. There is not enough signage at city facilities or recycle bins. Ms. Pape stated that what they wanted from the WCC is what questions do you have, is there something that the WCC would like to add to this and asked for feedback.

The Chair said that the Mayor is putting together a plan of action task force, which is meant to address issues of sustainability across the city, and the Chair has no disagreement that the city should be leading those efforts. The task force will be looking at energy efficiency and assimilating use of renewables with a host of issues being discussed. The Chair said he would like to get Ms. Pape involved, as there will be many sub-groups within that task force that will be identified. There is a lot of good work to be done and certainly everything that Ms. Pape has discussed falls within that topic and it is an opportunity to capture the discussion that has been going on within the

city in terms of what do we do to the city facilities to make water conservation more evident.

Ms. Randall stated that this is great and some things that the schools have learned are consistency, having a checklist. When you have a common set of expectations, people feel fairly treated and they have steps/outline to follow. Ms. Randall said that before they asked staff to make these changes they put their money where their mouth was and made the changes in the facilities. Next step is their people, changed the facilities first.

Ms. Trevizo commented that when she met with Esha it was in relationship to their proposal but also talked about funding. However, having the data and surveying the particular facilities there are grant applications that we can apply such as with BLM or EPA for a grant. The data is very valuable.

Mr. Pushard stated that the city does an outstanding job in water conservation. One of the areas we consistently hear is that we are not leading by example. Doing a survey we will get people's attention and it is a great opportunity to start fixing it. It is important to collect the data first than fix the problem.

Ms. Karyn Schmidt: Which facilities are you talking about specifically, recreational or all City buildings?

Ms. Pape said that in talking to Laurie they started with buildings that house the public. There are small offices where the public does not frequent; they would not focus on them.

Esha stated that talked about prioritizing and working with the more public like the exercise facilities and work their way down.

Ms. Perez: Thank you this is a great idea. We want to assure that Santa Fe is recognized as a leader for conservation efforts so the citizens get on board.

Chair Ives: Have you done a survey?

Esha: No, they have not done a survey. They are working on a checklist and will work with each department and right now due to lack of staffing; it is not possible to do at this time.

The Chair said that he would be happy to participate in any way possible to work on the survey on the waterside. He invited Esha and Louise back to the WCC to review and help get it implemented.

Ms. Trevizo: Stated that this is not a staff project as staffing is not available to audit every facility. The training aspect is to bring a group together, they

would become trained and they would go out and perform audits. Ms. Trevizo said that they are seeking volunteers to be trained and look at indoor water conservation and also to looking for individuals to go out and do the audits as well.

8. Sustainable Santa Fe Proposal on Water User Rating System (WURS) presented by working group #3 (Doug Pushard)

A. Introduction

The Chair introduced Senator Peter Wirth to the audience in attendance of today's meeting.

Senator Wirth was pleased to attend the WCC Meeting and to check in with everyone. The last time he attended the WCC meeting was prior to the last legislative session. He informed the committee that they are working on the Sustainable Building tax credit and the existing \$5 million income tax credit that has been extraordinarily successful. Senator Wirth carried this in 2007 with Senator Feldman which was pushed from an environmental standpoint. Over the years the homebuilders have realized that this is a good tool to shift construction of houses into green built homes. This was very effective and was utilized in Albuquerque. Senator Wirth said they are going to the legislature and as Chair of the Senate Conservation Committee, has created a working group of the different factions who are interested in this bill and block in to that working group the water component. Mr. Pushard participated in that first meeting and the Senator is very interested as they redefine this credit building in a water conservation piece in to this tax credit. The presentation on the WERS process and how it may fit in is something that they are looking at. Again, this is an existing on the books tax credit; out of money but feels confident that they will be opening it back up and wanted to let the WCC that the water conservation piece is critical to the state as we move forward. Getting the homebuilders statewide to look at this and build that in to their matrix would be huge if it can be done.

The Chair asked in terms of funding for the tax credit, Senator Wirth mentioned \$5 million dollars, is that an annual appropriation or the total cost built in or are you proposing to change that invariable.

Senator Wirth stated that they have had a recurring \$5 million source of money and it was allocated between commercial and residential and manufactured housing was built in. That money has basically run out for the residential; it was extended for 3 years so it would go through 2015-2016. He said that they are coming back this year to see if they can redefine the program and look for more money potentially, the Senator would like to get this up to \$10 million dollars.

The Chair asked how much the credit would be per house?

Kim: \$10,000 per house.

Mr. Wolf asked if there were any other bills similar to the grey water-harvesting bill from last year or water tax credit bills percolating around?

Senator Wirth stated he did not know, they would make the decision on whether to run the water harvesting separate tax credit bill again that is always an option.

Mr. Wolf asked the Senator what he thought of a Water Bank idea?

Senator Wirth said that he has not heard anything new.

Ms. Schmidt commented, Senator you are talking about using a check list as we have discussed today as a basis for a tax credit, to clarify for folks who may not be aware, so the check list is a good thing to use, focusing just on water, is that what you are saying?

Senator Wirth said that they are still undecided, we had 40-50 people in the room at the first meeting and there is a lot of interest in this. The question becomes whether the working group can come up with a way to do this to incorporate that piece in to it. What Mr. Pushard is doing on WERS needs to happen.

Question came from audience.

Senator Wirth stated that everything is on the table. It is important to preach what the citizens of Santa Fe have done. In terms of city and county, colleagues around the state are blown away when they hear that per capita water use here and the proactive way we have addressed the issues and continue to do so. We live in a very different world in this part of the state and we are in much better shape in terms of water in a number of other areas.

Thank you to Senator Wirth.

B. Background and Objectives of WURS for New Homes (Doug)

Presentation by Doug Pushard

Mr. Pushard expressed his thanks to the audience for attending. The amount of people certainly described the interest in our city. He noted that in creating the tool, it would help builders know what to do when dealing with water. There is an energy tool but there is not a water tool.

Being in the unique area of Santa Fe it created a unique opportunity to create a tool that is equivalent on the interview side. This is a public input session and we will capture your comments and we welcome questions. We are one of 5 working groups and we report back in to the Water Conservation Committee. Minutes are available to the public; this is a public meeting.

The Chair asked audience members to state their names for the record.

Power Point Presentation – New Mexico Green Code – To be included in next month meeting packet.

Audience Participation: Open

Doug Pushard: The working group is made up of Kim Shanahan, Deputy Director of Santa Fe Home Builders Association, Bill Roth, currently President of the Santa Fe Home Builders Association and a Water Conservation Committee member, Nancy Avedisian, Barker Realty and member of Water Conservation Committee, Amanda Evans, Director of Energy Smart at the SFCC, Lorene Blizzard, Technical Director of Green Build – she is very aware of the National Green Build Code and tied in to those as well as Mr. Pushard, Water Conservation Committee member.

The objective of the working group is to create a rating tool. If you are buying a house it can tell you how much water that house should use; it doesn't mean it will use and it may be different from one to the other but it will give you a base rating on the house. Today we will focus on the external portion of the house, how do we create a tool that is going to be useful to multiple constituents. This meeting is to gather the input that will go in to the tool and make it a useful tool. Hopefully not only for the builders but also for architects, landscapers, and other people in the water community, trying to make a multi-functional tool.

Tracy Neel: What is the timeline, when do you expect to have this tool ready?

Mr. Pushard: As you heard from the Senator, they really would like to put some water bill forward to the committees before session meets next year which means we will need to have something by the end of the year or early next year so it can make it in to some type of bill whether it is the home tax credit or some other type of bill they would put together.

Steve P. Is this tool, you said is exterior?

Mr. Pushard: We are talking today specifically about exterior.

Karen Schmidt: Basically to clarify what the Senator was talking about in using this as a tool for tax incentive.

Mr. Pushard: It is not as black and white as that; the idea is that he is going to put forward a tax credit bill. Water is going to be a component of that bill and that is what he wants to see, what we can come up with as a community especially since he represents this area. What would be something that we would want to see in the bill, this is potential but no commitment.

Ms. Schmidt: It is also potential for part of the city of Santa Fe requirement for a building permit.

Mr. Pushard: Yes. The homebuilders would like to see a tool because it would simplify their lives.

Gene Butler: My understanding was this was supposed to be a City Ordinance or something to do here in the city. Is this a model to be used by the state?

Kim Shanahan: Homebuilders Association - Mr. Pushard had asked me to do an introduction to set some framework for this. The WURS rating system is a tool, all of the things that Mr. Pushard listed 4-slides ago – EPA, City of Santa Fe, Build Green NM, National Building Codes, all use the WURS rating as a tool, they are not separate tools. The WURS whether it is URS or ERS is assumed to be a tool similar to the WERS rating that can be used in other programs available. The idea is to start it in the city of Santa Fe, specifically for new construction so that when we go to pull a permit we have a projected WERS rating just like a projected HERS rating that says how much we expect this home to consume. Build Green New Mexico, which is a program that provides tax credits for users of HERS as a tool in Build Green New Mexico. They sub-contract out that easily, if you will. The notion is that we could set a template for Build Green New Mexico to have a WURS or HERS added on for tax credit purposes. The Senator clearly said, that it is not much likely of putting more money in to an energy only tax credit. If you combine it with water you could likely get support all across the state. In addition to that, there are folks at the National level who believe that what we are doing in Santa Fe and in New Mexico to have a template like HERS is becoming national standard for water consumption. We have already completed the in-house portion inside the house because a WURS rating like a HERS rating has to be like a static phenomena, it is new home construction that determines a score before anybody has moved in. Some people when they move in to a home do way better than there HERS rating will project. Some people do much worse. On the interior of the house we can be pretty sure if there are 4 people living in that house they are going to go to the bathroom so many

times a day, wash so many clothes, wash so many loads of dishes, that is a predictable phenomena. Inside the house has been easy to create on a nationwide level. If you live in Minnesota or Santa Fe you consume water in the house at roughly the same rate. Outside the house becomes wildly more complicated, lot size, landscaping, and other variables are hard to predict. We could say there is appropriate harvesting and above rate harvesting. Above rate harvesting, Green Built might say, we need to put it back in the house. The at grade stuff may be something different, there may be a different measure for that, it may be a function of lot size, it may be a function of impervious concrete, it may be a function of a lot of things. The last point you want to make is that unlike cods that are traditionally – you must do this and you must not do that – which we want to incentivize. We want to have a performance-based code. In the HERS game right now we are competing amongst ourselves on the rating. Already with the WURS game we are competitive, we should have that same phenomena with water. We should be able to drive this 100 per capita per day in to the 30's or the 40's. If we have a system in place that incentivizes that competitive nature of the building community we can really accomplish something and create a safe life in a national standard. The challenge for all of you will be, "how do we deal with this exterior usage", it is a really complex phenomenon.

C. Overview of Current Water Rating Tools in the City, State and Nationally (Bill, Amanda, Doug, Laureen)

Mr. Pushard asked Kim if he could talk from what the Santa Fe current building code is from a water perspective, what you have to do to build a home in Santa Fe.

Kim: There is the green building code that exists and something that isn't the code but is simply the offset principal. Years ago they had the toilet retrofits, you had to go out and buy water credits that plumbers had done something in changing out the toilets and it was based on lot size. It was either 8, 10 or 12 toilets that you had to do based on the size of your lot. They tried to create a metric that was relative to lot size of how many toilets you had to have for that off set principal. The smaller your lot the fewer toilets you had to retrofit. The retrofitting of the toilets came in a way and you could still do that as an offset principal but now there are a lot of other things that you have to do. People would request credits from the city of Santa Fe, a check, putting water savings in the bank.

Ms. Trevizo: Technically it is a rebate, it is a credit on the water bill, and it is not a check. We are not in the business of cutting checks, which makes me uncomfortable.

Kim Shanahan: I haven't pulled a permit myself since 2007. But I do know the offset principle is alive and well and you simply have to write a check to the city for the amount of water your home is expected to consume, I believe which still has a function of lot size attached to it.

Questions:

Mr. Zubi Wilson: Is this for all total water consumption across the board or is it just water from the meter.

Kim: I think we are talking across the board; we are talking about collection as well, a lot.

David Dunlap: For reference to the rain water is it safe to assume that the committee can assure us that in terms of the WURS tool we are at the bleeding edge and no one else across the country is working on this and there are not a whole lot of resources outside of Santa Fe to drop them on.

Kim: We believe that is true. Laureen is a member is a member of the Greenbuild Coalition; she is a person who is tasked with tracking all tools across the country. There may be some localities that we are not aware of but in terms of any national programs that are developing.

Bob Kruger: The part I know of is the living building challenge target. This is where they give you a zero water certification.

Kathryn Clemens: How many homes is this supposed to affect.

Kim: The HERS rating can be used for any existing home, it is problematic and there are no codes that I know of that say when you remodel a home you have to have a HERS rating. For instance last year, the city of Santa Fe pulled 250 building permits over 25,000 homes in our community so if the number is small and as I said earlier. It is really designed for the most part, like the HERS rating is for new home construction.

There is a brand new green remodeling code but it does not have a specific HERS rating mandate like our new home construction program.

Doug Pushard: What we are going through is just parts of the Santa Fe water only. (Reference to document – 30 pages long) You have to get a certain number of points for water, unfortunately the number is about 18 which is almost you can do entirely indoor portion of the house. This gives you an idea of the outdoor section, it is a point-based system, the

builder selects where they want to be at the point. In this case it is talking about the landscape plan and the irrigation plan. Mr. Pushard indicated where the rainwater collection is, grey water was indicated and the innovation practices; but it is point bases. It is 18 points for water. Water in the huge document is a small component, unfortunately. That is how the Green Building Code was put together. The HERS rating, because it is a very standardized tool based on square footage of the home, the points change based on square footage of the home because it becomes more difficult to do. It is a very different rating system from this rating system. Even within the document – Santa Fe’s document, you have two very different rating systems. One is a performance where the builder gets to figure out what they want to do – here is a checklist where they indicate what they are going to do to get to the 18 points. As where is HERS in Parade of Homes you will see people advertise what their HERS rating is, it is something they have become very proud of. Also, what wasn’t mentioned when we were talking about it, New Mexico is now a leader in the HERS. We actually export people out of the state of New Mexico to do HERS rating in other states. We create jobs when taking and adopting this HERS rating into our energy. Taking that concept with water, because water is such a precious commodity to us only makes sense.

Mr. Pushard introduced the next topic: NM Green Built Program – Bill Roth

Bill Roth: Noted that it is another prescriptive base system, actually the Santa Fe Green Building Code is very similar to this based on the theory that because of the tax credits we are trying to encourage people to aim for this. There is some match up between the Santa Fe inputs and the statewide ones. This isn’t really the New Mexico Building Code it is the Home Renovation Research Lab Build Green New Mexico checklist. This is one of 9 chapters I believe. As Kim mentioned and Doug mentioned, the only real components base part of this is the HERS rating. The thing that has been made clear is that builders are competitors about numbers, as builders in the parade we strive to drive that down. The City is at 70 and what has become the norm for the green built houses, which are at 60, that is what the tax credits are. Now you are seeing homes in the 50’s and lower so there is a constant push to drive things down. The idea with the WURS is we want the same affect. We want a performance base; we don’t want these massive checklists that are hard to interpret. With performance base you are really thinking things through, it is more of a whole systems approach, you are shooting for a low number. Someone mentioned earlier is there anything like this in the country, there isn’t and the reason why we have Laureen involved is basically through Kim and him introducing her to me at a national conference. She is incredibly enthusiastic about this and also thinks it should be performance base. There hasn’t been a lot of buy in using the EPA checklist, it is incredibly

complex. Everybody has good intentions with these things but you get lost in these checklists. The City's checklist right now, to get the 18 is easy, you put your flow toilets in and you don't plant grass, maybe you have someone who drives up a landscape plan, you're done. If we are going to drive down water use like we have driven down energy use we need have an incentive. The way to incentivize it is to have a competitive environment with it and I think we can do a lot better with water usage. All these programs are prescriptive base. It does not encourage green build. Having a tools like the WURS that can be applied in different areas, the idea with the HERS rating is climate based. Basically you have climate zones, we are in a different climate zone than Albuquerque, different than Las Cruces and a different climate zone than Minneapolis. The point being is that you put these inputs in at the baseline, temperature, altitude, all of these things will affect a HERS score, we would have the same thing with a WURS score. Somebody scoring this in Las Cruces would have a different base line than us than someone who uses it in another part of the country where perhaps they have more rainfall. This tends to give more equity in some ways in a prescriptive base, you do x,y,z and you get credit. The idea of this meeting is to generate what are going to be those performance based inputs. With a HERS rating there is a whole myriad of what you put in there, there is home size, insulation, windows, heating systems, number of bedrooms, things like that, square footage that affect the score. Our vision is, like Kim pointed out, those things would be the types of input that we would have to establish that score.

Jim Lotus: Is there any source out there for water consumed by different types of plants and trees.

Bill Lotus: This is an anecdote, I go to Agua Fria Nursery and I ask, is this a low water use plant. And the answer is, you have to water everything you plant in NM or it will die. There isn't a real low water plant. What you are suggesting, that is why we are here. There are different inputs, like Kim said, whether it is square footage per plant, which is what we are trying to clarify.

Nate Downey: We have been talking about water consumption, landscaping isn't only about water consumption, it is about productivity – I do not know how and thank you for the hard work on this and it will be more complex to do the outdoors. When you said something about square footage, that makes sense in the house, but we have to think about the depth of the soil, perhaps how much compost is in that soil and how much water that soil will retain because of the compost that is brought in. We will have to think about, how much water to plants consume, that is very important. What do those plants produce? Does the plant produce shade for a house? Will that produce some HERS rate capabilities. Does that produce food for a family so that family doesn't have to drive to the

grocery store as much? Is that water going to edibles? Is it going to a tree that will someday be used so that someone doesn't have to collect firewood from the forest for the fireplace? There are elements of time that come in to it as well. You have length, width, depth of soil; you have the type of plant material. When you water something and later, 10, 15 20 years later you get that effect, how is that going to fit in to a checklist.

Bill Roth: You have to make sure that the perfect isn't the enemy of the good. My point being, this isn't working, checklist system isn't working, we need to come up with something that moves people in the right direction.

Kim Shanahan: The point is just like the HERS rating we cannot anticipate what will happen after we got our certificate of occupancy. That is really what we are trying to focus on today is new built construction, that the builder has a responsibility for, not the homeowner, the builder. It could be that you are supposed to plant X-amount of plants with X-amount of good irrigation but it may not be that but it might be determined by the lot size because if we are an R-21 lot where there is no real ability to put a lot of landscaping like an R-1. That is going to be a real challenge. Like Nate says, how can a builder before the homeowner moves in anticipate that 20 year phenomena and turn it in to a piece of code that we are going to incorporate with our city right now, that is a tough one.

Amanda Evans: The City HERS rating needs to be incentivized.

Mr. Pushard: GVC addresses some of Nate's issues and I want to use this because we do have some LEAD based houses in the city of Santa Fe. In the city of Santa Fe a builder would have to have done the WERS code checklist himself, the second code checklist himself if he wanted to get a tax credit for that home. If he is going to do a LEAD home, he would have to use a WURS form. In this case totally different when you get to the outdoor section. The outdoor section does talk about things that Nate was talking about and I agree is very important. Things like mulch, your soil, and your hydra zones. This one looks at a standard design that we refer to as the 2006 design using the 2006 code and what they do is a percentage of drop from that code. That is how they actually look at the irrigation and what you are putting on the landscape is very different than go through and your code system again, if you look at your points, 2, 3, 4, 5, 6-6, it is all based on reduction of estimated water use. Very different approach of the two we saw previously, this allows a builder very different things in a landscape plan, but they have to submit a landscape plan which is really critical and not required in the previous two. If we are going to talk about plants and water usage, it is very important to us is how much water does a plant need. You are going

further in to what it is producing which is clearly an issue. This actually looks at the water use of the landscape that you are putting in place. A very different approach but still a point base approach. It is going through all the math (Mr. Pushard made reference to storm water controls in the document, rainwater system), why I circled this is so you can see it is 1 point for a rainwater system in the LEED scoring system. We all probably agree if we put a scoring tool that is not where we would put it. It gives the builder options of things to do and they build up their score to get a LEED certification on a house. Very different from the previous tool on how they are looking outdoors. The last one is the water sense program and I believe Kim mentioned this one; this is probably the most complex of all the ones out there. The benefit is that you get to put this label on your home. There is no other benefit for going through this program other than being able to have it on your marketing literature when you are selling. You will see it is a lot of the same things that you are going to distribution your uniformity which is in irrigation systems which in a new home is something like doing an audit on existing landscape but in a new home that is something you decided if you want to do or not. A rain device, this one goes on and on if you are big on irrigation controllers, which ones you are putting in. This one is just not a points list this one is a yes or no, did you do it or didn't you do it, and you have to do something in every category or you don't get the certification. It continues to go through sprinkler heads, irrigation, microclimates, your schedule, your verification has to be verified, and it does nothing with rainwater, nothing at all. It is a very odd and cumbersome one to do and not many people do it and again it is all yes, no. That is the type of the Santa Fe QWEL program which we have here which educates our landscape irrigation landscape people, it is training people on how to do the audits on irrigation systems, mainly geared towards existing landscape and not new homes. It is an audit, a lot of the math you saw on the GVC is included in and teaching our irrigation people on how to do that math and do efficiency on irrigation systems. Again we are not touching on rainwater or any of those uses of water. That is what builders have to go through. If somebody wanted to do all of them, you can see all of the paperwork that they would have to do and their business is to build homes.

Kathryn Clemens: Where is the baseline going to come from for baseline water use from the formula.

Mr. Pushard: Our thinking today is use the 2006 Building Code.

Kathryn Clemens: Where did that formula get established, the one in the GVC.

Mr. Pushard: That came from the Irrigation Association and the research has actually been done at the agri-schools to create the evapo-transformation moisture loss of the plants that was kind of standard and used in farms and then they expanded it basically to everything.

Kim Shanahan: The HERS rating is not done by the city of Santa Fe, it is done by a third party approach who have been trained to do HERS ratings, do you anticipate something similar with the WURS rating? Who would most likely be trained to do that?

Mr. Pushard: I know Steve Hale and I have a difference in opinion on this one, I think it would be the same thing and the city has taken a great approach with the QWEL program on training people to do the audit for them. I would think we would do the same thing here, GVC you have to be an EPA Water Sense partner to do the water, so it is not a GVC in place and that is actually the HERS model as well. That is one reason it has created an industry within the state of New Mexico.

Mark Broton: I am an EPA Water Sense Partner and I am also QWEL certified and many times I go in to a site and cisterns are sitting on the ground not being used. Some of this has to be re-thought, some of the base lines need to be thrown to the curb and I will say that because the IA bases a lot of their irrigation training and techniques on these landscapes that are spray heavy and they don't do any training on drip or things that we do here in Santa Fe. I started my career on the irrigation side and have quickly learned and growing on the rain segment side. I think it should be rain touched and heavy start and the WURS rating should be rain touched and tempered and not same day. We are going to use more water than the city, we are going to use more water than the reservoir, and those are things that I see. If you see 1 point on that rating system and it should be 10 points it should be 15 points and that rain collection is free and if you plan and design it from the building and architectural point of view it can be done really well. Also, one thing I want to say is that we should have a pro-rated scale on draught time plants, initially they have to be watered but I do not agree with the no water. I do believe that drought time native plants can be no watered after 6 months to a year so that first initial plant can be pro-rated to be less water even after the first year.

D. Brainstorm what should be included in Santa Fe WURS Tool for New Homes.

Mr. Pushard: We are going to jump in to the Brainstorming section. The process followed was the posting of white papers around the room - individuals were invited to note their idea and/or concern. Notes will be transcribed and discussed at next month meeting.

Kathryn Clemens: I wanted to make a comment as a landscaper, what are the metrics that we can use to get more landscaping in a more efficient water right.

Tracy Neal: Thank you Kathryn. A couple of points I would like to bring up, any discussion on water use, drought tolerance and so forth, it is also not taking in to account the expected effects of climate change, it is not going to be accurate. We have to think along those lines too and a comment regarding what Mark said about native lands being not tolerant after 6 months to a year, that points out a problem with labels like native plants; aspens are native plants. We need to be talking about plants that are adaptive to this area as it changes.

Jim Lotus: Going back to what he is saying about 6 months and what not, I think the measure has to be the water consumption after maturity, if a plant at maturity requires no supplemental water that is one thing. At maturity it requires a lot more water. Another point is, I noticed in one of the slides, it gave more points for gravity feed and water as opposed to (inaudible). I think that is completely backwards as far as this is concerned. If you are going to use water out of the catchment system in to a drip irrigation system you need the power.

Mike Gage: I look around the room and I see so many of the professionals who I have had the opportunity to use and work with and I think everybody is thinking exactly alike. The idea is for language that we used all of our life, maturity of plants, no more water after natives are watered in heavily before their time for the first few months. The language that we need to get over, QWEL, I am also certified with and when I went through the program they had nothing about the formulas, they did not talk about inches of precipitation so we need to get away from the idea of gallons and get to the inches that takes in the HERS program. You can calculate how much is coming off according to the inches of precipitation.

You can do the same with the plant, it doesn't matter whether it is local or it is a plant that needs...the river is calculated in inches and the rainfall now we need to talk about our outside areas, the permeation of the driveway, all in inches. We need to get our vocabulary to inches.

Richard Jennings: Are you going to accept written comments?

Mr. Pushard: Yes.

Zubi: We need to look at how we look at the systems. We tend to want to work with things that are easy to measure and ignore what is really important. Just because something is easy to report data on it may not

provide the best result for us. The other thing is there are different kinds of water system with emphasis on rainwater catchment. We need to look at how we look at the systems because of the water restrictions, that is often the system and someone may have an incredible rainwater catchment system.

Bill: I wanted to comment on that since I did both in the last house, I looked at it as using the water two times that I caught, flushing toilets and washing clothes and then it goes out to the grey water. I don't think you look at this exclusively, fortunately grey water systems can be done reasonably and inexpensively, compared to catchments systems, which are definitely more of an economic output, but they definitely can go together.

Doug Pushard: Zubi, we are trying to take a systems approach and I think that is an important thing, that is one of the things that I wanted to point out. If you look at some of them, they are so focused on irrigation. There are multiple ways, there is landscape, there is compost, and we all know the soil is critical to the health of the plant. You can throw water on unhealthy soil and the plant is not going to be a healthy plant. There are a lot of things we need to take in to consideration and that is why this is a complex issue. It is not something that you are going to let go and say done.

David Dunlap: As an overarching reminder, with the goal of creating a National usable tool, a WURS tool, in the HERS rating we find challenging – everything will have its place once it is systemized as you are saying. We will find the pathway through that tool to find what will make sense for us to do here and there are certain things that won't happen here because we just don't do them. Likewise, Minneapolis will make different use of the rainfall. While it is important to think locally for the purpose of the tool but it is also important to mine all of the checklists to see what is missing, consolidate all the many things that are under one topic.

Kim Shanahan: We are talking about a code, potentially and beyond code. The city of Santa Fe has a HERS rating of 70 which is code, which is better than our state's code. But we also have builders who are going much deeper than 70 because they make choices and this is where plants for instance have a very good impact because we may say that we have created a WURS rating of a particular number that may be plant neutral or plant absent and that is our code minimum. Everybody has to do that and as we go beyond that and do these things in a competitive way like Bill is mentioning, that is when the kinds of plants, how we water those plants, the number of plants; all of those things may get us lower, and lower until we get down to the living building challenge where we have net zero water usage which would unplug ourselves from the meter and

we have unplugged ourselves from the meter and we have done it through a harvesting mechanism which is possible.

Kathy: All these things that we are talking about and my questions relate to the landscaping world, we need to be cognizant that everything we have is in English which isn't the common language, we should have all writings bi-lingual, certificates, bi-lingual and I am speaking about Spanish. For the questions related to plants, Albuquerque has done a significant chart. It is not directly related to us but it shows high water usage.

End of public input. Sheet topics to be collected and recorded.

Thank you – report will be ready at the next Water Conservation meeting, September 9, 2014. Comments doug@harvesth20.com

Chair Ives expressed his thank you to interested community members. There are interesting points to think about as we move this forward. The Chair directed his question to Mr. Pushard; given Senator Wirth's thoughts on having something to build in to potential tax credit evaluations and knowing the legislative processes that are state goes through, will we have a recap ready next week?

Doug Pushard: His intent is to have something vetted prior to the start of the legislative session and that is the timeline that he is working on. Hoping to keep this on the same timeline in order to not get disconnected.

The Chair encouraged Mr. Pushard to ask Senator Wirth for a date and to work back on his schedule and to let us know how we can accommodate him for any analysis that needs to be done early in the schedule.

Mr. Pushard will provide a timeline for Senator Wirth at next meeting.

Karen Schmidt: Are you saying we would have a finished product in 4 months?

Chair Ives: If we don't have it ready by the end of November, it would be hard for us to get it into the state. The Chair said he is curious to see what they have for the interior; it is interesting to say it is done but done from the committee perspective.

Doug: A review was done at the last meeting and comments will be sent to the Chair. Feedback was received from the committee members. You won't get a lot of controversy for the inside. Grey water, purple pipe and rainwater were discussed – we can refer to it as holistic water.

Karen Schmidt: I would like to go on record as expressing my concern about being rushed on something like this. There are a lot of people, homeowners, the entire industry who were here today who will be directly affected if this is going in to ordinance form or whatever and we only have a few months because we are trying to provide it for a legislative session. I am concerned about that.

Bill Roth: There are a couple of tracts that are going on here, we have something that is going in to a voluntary program which is the state tax credit which nobody gets to do that and then there is the track of what we do for the city and I am not speaking out of turn. They might diverge a little bit, in other words we may generate something that works for the state, something that they may use for the tax credit because that is ongoing. You may not be aware how long it took to get the green code and the remodeling code; we are talking years. I remember when all was required was to do a HERS it wasn't a mandatory code.

Karen Schmidt: We are not just talking about code we are talking about potential ordinances within the city.

Chair Ives did concur that modifying codes is a timely process.

Karen Schmidt: I would like to see a quality product when this is done.

Bill Roth: There is a need for this nationwide.

Karen Schmidt: I hope that all of the expertise is used here.

Bill Roth: This is why we did this. There will be more sessions.

Pick up with group reports at next meeting.

Chair asked committee to send questions from the consent agenda to staff.

If groups had anything that is time critical, happy to take it up or hold for the next meeting.

INFORMATIONAL ITEMS

9. (TIME PERMITTING)

GROUP REPORTS FROM WATER CONSERVATION COMMITTEE INITIATIVES.

Due to lack of time and use of meeting facilities, Group Reports were not heard at the meeting of August 12, 2014. They will be placed on next month regular meeting agenda.

MATTERS FROM STAFF:

None

MATTERS FROM COMMITTEE:

None

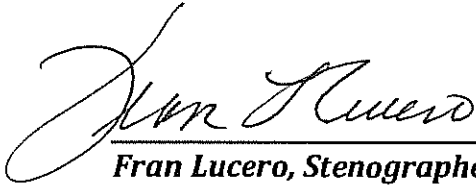
Next Meeting – Tuesday, September 9, 2014

ADJOURN

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

Signature Page:

Councilor Peter Ives, Chair

A handwritten signature in cursive script, appearing to read "Fran Lucero", is written over a horizontal line.

Fran Lucero, Stenographer

Sign In Sheet

Name	Affiliation
1. Jim Lodes	None
2. Marie Ellen	Lucid Landscapes
3. CHARLENE COPEN	LUCID LANDSCAPES
4. FRED NUGENT	Doug & Tim's friend
5. YASUYO NUGENT	" " "
6. Gretchen Witt	Interested citizen + supporter of wce
7. Morgan Boatwright	" " "
8. GENE BUTLER	THE FIREBIRD
9. BOB KREGER	RainVesselsUSA.com
10. Peter Wirth	State Senate peter.wirth peter.wirth@nrga.ca.gov
11. Dale W STEWART	EWING IRRIGATION
12. Andy Otto	SF Watershed Association
13. Glenn SCHIFFBAUGH	SF Green Chamber of Commerce
14. Patricia Elder	PUEBLO ALLEGRO HOA
15. NATE DOWNEY	SF Permaculture, Inc.
16. Athena Beshur	Seeds of Wisdom, LLC
17. Lisa Brotton	Living Water Irrig + Landsc
18. MARK BROTON	"
19. Marco Baca	SunSilk Landscaping
20. Tracy Neal	Tracy Neal Consulting
21. DAVID DUNLAP	Tierra Concepts Inc
22. Barbara Fix	Local Color
23. Malcolm Newman	NEWMAN'S Nursery
24. David Greenfeldt	Water-Culture Institute
25. DENNIS ENYART-TUCKER	LANDSCAPES by DENNIS
26. MARK LICHT	SELF
Xubí Wilson	Santa Fe Community College


Name

Affiliation

- | | |
|-----------------------|------------------------|
| 27. Gaëlle deTassigny | The French Gardener |
| 28. LINDA CHURCHILL | GREEN FORWARD LLC |
| 29. CATHERINE CLEMENS | CLEMENS & ASSOC., INC. |
| 30. Mary E. Schruben | Neighborhood Assoc. |
| 31. PAUL SCHMITT | SUNSLIK LANDSCAPES |

MEMORANDUM

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

FROM: Rick Carpenter, Water Resources and Conservation Manager 

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

DATE: August 20, 2014

SUBJECT: 36th Monthly Update on Drought and Water Resource Management

CURRENT UPDATE – GENERAL WATER RESOURCE MANGEMENT

As the Committee/Board is aware, our region is still suffering through a drought. Our region has gone through three consecutive years of record drought and heat. This fourth consecutive year of drought has eased somewhat, but will still likely present significant challenges to all water purveyors, utilities, and irrigators going forward into the next year.

July yielded good summer rains due to a series of moist northeast cold fronts. So far, August has also yielded good rains, and a recent return of a more south to north classic monsoonal flow pattern. Many models are predicting the likelihood of a return of an El Nino weather pattern (70% chance, but down from 75%, of normal to above normal precipitation) over the next several months and into early winter. This could mean good precipitation for the rest of the monsoon season, but more likely for the winter months (snow pack). El Nino seems to be weakening relative to early predictions, but normal to above normal snow pack is still likely this coming winter.

It is worth noting, however, the City of Santa Fe has invested in a robust and diverse portfolio of four distinct water supply sources that allows for flexibility in meeting demand: Buckman well field, City well field, Canyon Road Water Treatment Plant on the Upper Santa Fe River, and the Buckman Direct Diversion on the Rio Grande. Supply from these groundwater and surface water sources are expected to be adequate in meeting local demands through the coming high-demand season.

LOCAL CONDITIONS

Source of Supply Utilization Summary

July 2014

City Wells	20.88mg/m	64.08af/m
Buckman Wells	65.92mg/m	202.31af/m
CRWTP	142.10mg/m	436.08af/m
BRWTP	126.76mg/m	389.01af/m
<i>Other Wells (Osage, MRC, etc)</i>	<i>0.11mg/m</i>	<i>0.34af/m</i>

Upper Santa Fe River/CRWTP

	Total Combined Reservoir Level	Santa Fe Snow Gage	Reservoir Inflow
July 20, 2014	14.50%	0.00 inches	2.13 MGD
5-Year Average for This Date (2009 – 2013)	54.58 %	0.00 inches	4.45 MGD

As of July 20, total combined storage in Nichols and McClure reservoirs is 14.5% of total (or about 580 acre-feet of storage). Some flows have been by-passed due to construction on the new intake facilities. Inflows are expected to continue for the near future and so the reservoirs have been releasing water to allow for acequia deliveries, water treatment plant production, active construction, and draining/drying.

Buckman Regional Water Treatment Plant (BDD)

Flows in the Rio Grande are relatively high due to recent rains, and turbidity has been high at times, but the BDD Project in general has been able to divert water.

REGIONAL CONDITIONS

Rio Grande Basin

Surface flows in the Rio Grande and its tributaries through July have been good, but July rains have helped increase flows, so native flows, as opposed to SJCP releases, are also relatively high, especially when compared to recent past years. However, storage levels in regional reservoirs is still very low. A good snow pack this coming winter is essential if there is to be significant carry over storage in regional reservoirs for next high demand season.

UPDATE: on Wednesday, July 24, 2014, Wild Earth Guardians filed suit in federal court against the US Army Corps of Engineers and the Bureau of Reclamation citing violations of the Endangered Species Act as related to the Middle Rio Grande. Neither the BDD Project, the City of Santa Fe, nor the County of Santa Fe were named in the law suit, but this action may signal the

beginning of collateral issues and/or constraints with regard to Rio Grande native flow management, as well as San Juan-Chama water resource management going forward. Updates will be provided by staff as necessary.

San Juan Basin

Snow melt was complete at the end of June. It should be stressed that, conditions could significantly worsen for San Juan Chama Project deliveries next year, if the drought persists, due to a lack of carry-over storage in Heron Reservoir and other reservoirs in the system. Heron Reservoir is currently at a very low level.

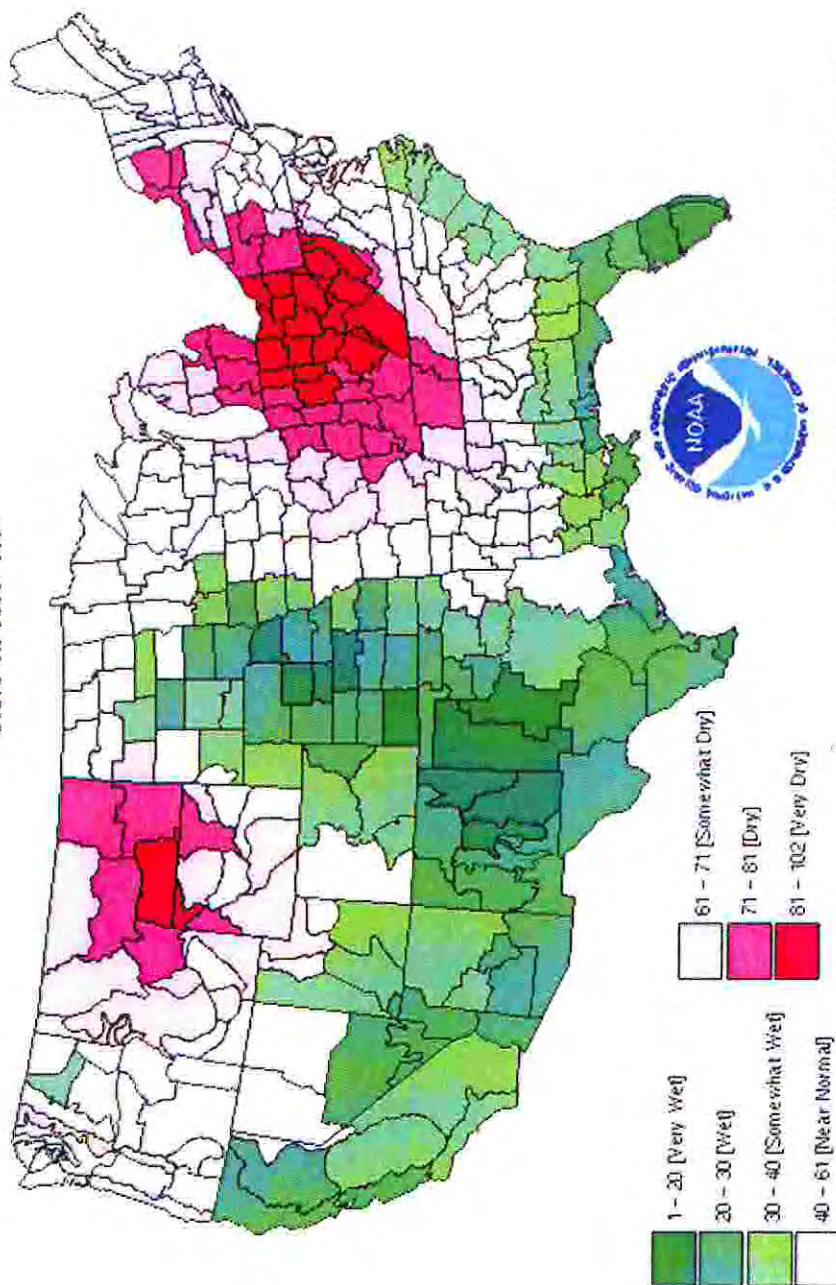
The Bureau of Reclamation has recently indicated that SJCP deliveries this year will 85% (if not higher) owing to good snow pack in the San Juan watershed last winter, high soil moisture, recent rains, and the minor amount of storage that was already in Heron at the beginning of the snow melt season. However, deliveries for August will be zero, and likely zero through the rest of the irrigation season, unless there are significant late-August and/or September rains.

El Niño

AVERAGE JANUARY - MARCH [3-month] PRECIPITATION RANKINGS DURING ENSO EVENTS

1915 1919 1941 1958 1966 1969 1973 1983 1987 1992

Based on 1895-1997



CLIMATE PREDICTION CENTER, NOAA



Growing Santa Fe Green

A Community Conversation about climate change and Santa Fe

Join us as we discuss energy, transportation, water and more.

Mayor Javier Gonzales and the City's new **Climate Action Task Force** want to hear your ideas on steps the city can take to address climate change and create opportunities in our community.

Monday August 25th 6pm

The Forum at SFUAD– 1600 St. Michaels

www.SantaFeForward.com



Santa Fe Leads Project

The ***Santa Fe Leads Project*** is to upgrade City facilities to meet basic environmental standards and become visible models of basic environmental practices for our citizens and guests. Our City will lead by example.

Steps include to:

- a. conduct a survey of public city facilities to identify site-specific opportunities to meet basic environmental standards
- b. identify additional Best Practices when appropriate
- c. work with managers to make improvements based on the initial survey

The topics will initially include water conservation, recycling and waste reduction, and energy usage. Agencies involved include the Sustainable Santa Fe Commission, the Water Conservation Department, and others.



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U.S. House of Representatives Passes Ban on Federal Funding of Efficient Toilets

2014-07-14

In a stunning move on July 10, the [U.S. House of Representatives](#) passed an amendment on a voice vote to the 2015 Energy and Water Appropriations Act (H.R. 4923) which would prohibit any federal spending for efficient toilets. [House Amendment #1046](#) was sponsored by Rep. Paul Gosar of Arizona (See his press release [here](#)). The bill then passed the House and is now on its way to the U.S. Senate.



The impacts of this amendment will be far reaching. It will prevent the use of any federal funding from the U.S. Bureau of Reclamation, the U.S. Environmental Protection Agency, or even the U.S. Department of Energy to finance toilet retrofit programs that clearly save both water and energy.

The Alliance for Water Efficiency is moving to ensure that the U.S. Senate has the information it needs to correctly assess the value of these important investments to an increasingly water short country. ***An opposition letter is being compiled, if you wish for your organization to sign on to this letter, please contact [Jeffrey Hughes](#) prior to September 2, 2014.***

- [Amendment Opposition Letter](#)
- [Rep. Gosar's Press Release](#)
- [Rep. Gosar's Amendment #1046 to H.R. 4923](#)
- [AWE Legislative Watch Page for H.R. 4923](#)
- [July 2014 AWWA Opflow Article "Low-Volume Plumbing Fixtures Achieve Water Savings"](#)

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SUSTAINABLE STORM WATER MANAGEMENT IN AN ARID CLIMATE FOR LE\$\$

DAVID PIKE - CITY OF SANTA FE NM **STORM** WATER **MANAGEMENT**

City of Santa Fe, NM



Identify Best Location - GIS Topography

Identification of most suitable location using GIS topography layering. Finding areas where water is slow moving and accumulation occurs naturally.



Existing problem area with street flooding during moderate rain events.



SANTA FE RIVER DURING STORM SURGE

Helping to Change This.

With This.

Recycle and Repurpose

Repurposed materials from existing stockpiles used to provide water storage and soil stability. Existing slope used for gravity distribution of water.



Completed Median Fall of 2013.

Simple curb cuts and common sense.

Reducing top of soil heights to a minimum of 4" below top of curb, use of materials that create a 50% permeable air space to a depth of 36", curb cuts in precise locations that take advantage of water accumulation and a determination of total capacity, surge flow retention, and making allowances for overflow allow this median to serve a small part in Storm Water Management.



Functioning as Designed

Median Adoption and Maintenance.

Water Conservation Division has adopted Median and installed identification signage using solar powered lights to display.

Cooperating Departments:

PUBLIC WORKS – Streets and Drainage, Storm Water Management, Parks.

PUBLIC UTILITIES – Water Conservation, Keep Santa Fe Beautiful, Transmission and Development.



City of Santa Fe Water Conservation Office
301 W. San Mateo Road • PO Box 909
Santa Fe, NM 87504
505•955•4225

2014 EPA Region 6 Green Infrastructure and Low Impact Development Poster Competition

Winning Entries

1st Place

Birnamwood Drive LID Roadway Project, Harris County, Texas, Harris County Public Infrastructure Department, Nick Russo and Alisa Max, P.E.

Harris County recently completed construction on a roadway project that is the first roadway in Texas to utilize Low Impact Development techniques for stormwater management. The roadway's drainage system combines natural and engineered components to eliminate off-site stormwater detention. The native grasses filter rainfall, recharge groundwater and also reduce maintenance.

2nd Place

GI Design and Construction for Timber Creek High School, Tom Rutledge, Teague Nall and Perkins and Don McChesney, City of Fort Worth

This project is at Timber Creek High School, Keller Independent School District in the City of Fort Worth. It is one of the first City of Fort Worth stormwater credit projects. The design and construction incorporated GI/LID elements to conserve water, help with flood mitigation, and provide runoff management. Through these practices, pollutants are reduced from entering local waterways.

3rd Place

From Grey to Green: The Versatility of Green Roof Technology in Transportation Infrastructure, Rudraksha Jhaveri, Associate/Landscape Designer, Mahan Rykiel Associates

This project installed and maintained a vegetated track system on a commuter light rail in Maryland demonstrating how infrastructure can be transformed from grey to green through retrofitting. Such projects demonstrate the potential for stormwater mitigation in retrofitted infrastructure, reducing heat island effect, providing community green space and an aesthetic treatment. Local citizens believe increased green space of the light rail enhanced their quality of life.

First Place Photos

Birnamwood Drive LID Roadway Project, Harris County, Texas, Harris County Public Infrastructure Department



photos by Harris County Public Infrastructure Department



Harris County's recently completed 6.8 mile roadway project is the first roadway in Texas to utilize LID techniques.

Student Award

Design, Construction and Performance of Low Impact Development in North Texas, Michelle Wood Ramirez, Fouad Jaber, Texas A&M University

This project evaluated urban stormwater best management practices (BMPs) in a typical urban watershed in the Dallas-Fort Worth area. The objectives were to design, construct and demonstrate the effectiveness of green building infrastructure at the Texas A&M AgriLife Research and Extension Center in Dallas. The five LID BMPs targeted in this project were permeable pavements, bio-retention area, rainwater harvesting, green roofs, and detention ponds. Reduction in both volumes and pollutants concentration were recorded for all BMPs.

People's Choice Award

Santa Fe Water Conservation/Stormwater Demonstration Median, David Pike, Public Works Projects Administrator, City of Santa Fe Public Works Department, Streets & Drainage Division, Storm Water

The City of Santa Fe transformed a 640 square foot median located at St. Michaels Drive and Calle Lorca in Santa Fe, New Mexico. The project goal was to show how minimal changes in design and minimal investment can make a significant difference in stormwater flow and assist in retention of rainwater to be used as irrigation on public owned medians. The median was constructed using recycled materials. The total labor hours to construct were 86 hours and the cost of material was \$280.00. The design, removal, installation time was less than one week. The initial storm water surge capacity is 750 gallons with total capacity of 1,200 gallons.

The Poster Competition's objective is to learn, showcase and recognize Green Infrastructure and Low Impact Development efforts in EPA Region 6.



Stormwater Demonstration Median

Santa Fe, New Mexico

The City of Santa Fe is using a street median to show how minimal changes in design and minimal investment in green infrastructure concepts can make a significant difference in stormwater flow. The 640 square foot median, located at St. Michaels Drive and Calle Lorca, Santa Fe, New Mexico, was constructed using recycled materials and planted with native species.

Minimal green infrastructure investment can yield significant stormwater benefits.

The total labor hours to construct were 86 hours and the cost of material was \$280. The design, removal, and installation time was less than one week. The initial storm water surge capacity is 750 gallons with total capacity of 1,200 gallons. The project is intended to demonstrate harvesting rainwater that can be used as irrigation on public owned medians. Additional benefits are improving aesthetics, adding green space, managing stormwater runoff, increasing water conservation and ordinance compliance. Santa Fe Parks Division is tasked with monitoring and maintaining weed prevention and irrigation cost savings.

Project Point of Contact:

David Pike, Public Works Projects Administrator
City of Santa Fe Public Works Department,
Streets & Drainage Division, Storm Water
1142 Siler Road, Bldg. C
Santa Fe, New Mexico 87504-0909

dnpike@santafenm.gov
(505) 412-0297

See the entire project poster. [Click here.](#)

EPA Region 6

Green Infrastructure &
Low Impact Development
Poster Competition

Winning
Entry
2014



Photos courtesy of City of Santa Fe Public Works Department

▲ The completed median project.



◀ This block, recycled from another median, was used to create 50% porous air space. The block is wrapped in filter fabric to prevent dirt infiltration.

City of Santa Fe, New Mexico

memo

Date: August 12, 2014

To: Water Conservation Committee

From: Laurie Trevizo, Water Conservation Manager

Via: Rick Carpenter, Water Resources and Conservation Manager
Nicholas Schiavo, Public Utilities Department and Water Division Director

RE: Status Update Water Conservation and Drought Management Plan and Schedule

Background:

The Water Conservation and Drought Management Plan is a regulatory requirement of the New Mexico Office of the State Engineer (NMOSE). The NMOSE requires a 5 year update of the plan. The last update submitted by the City of Santa Fe to the NMOSE was in 2010. In 2015 the update is due to maintain compliance with the NMOSE Permit # SP 4842 for the Buckman Direct Diversion, built to divert San Juan-Chama water from the Rio Grande.

Issue:

In late 2013, the NMOSE published *New Mexico's Water Conservation Planning Guide for Public Water Suppliers – Technical Report 53*. Compliance with Technical Report 53 is not mandated, however, given the timely publication of the technical report and the update to Santa Fe's Water Conservation Plan compliance would be in the best interest of the city. It is anticipated that the City of Santa Fe would be the first municipality in the state to comply with the recommendations in the technical guide.

Other issues such as the late publication of the 2013 Annual Water Report have also caused a delay in the schedule. Although this delay has provided staff time to compile the most recent data for submission to the NMOSE.

The schedule for the Water Conservation and Drought Management Plan has been revised to take into the consideration of the NMOSE Technical Guide 53 and inclusion of the data from the 2013 Annual Water Report. The schedule from August 2013 WCC meeting packet materials is provided to indicate that even with the changes included in the revised schedule, the Water Conservation and Drought Management Plan is still on track.

Attachments:

August 6, 2013 Water Conservation Plan Schedule
Updated August 12, 2014 Water Conservation Plan Schedule

Water Conservation Plan Update

Task Name	Start Date	End Date	Duration	% Complete	Assigned To	Comments
Strategic Planning	10/01/12	12/13/13	315	100%		
Create SmartSheet	10/01/12	10/05/12	5	100%	Caryn Grosse	
Check State Statute	01/21/13	01/25/13	5	100%	Laurie Trevizo	
Check Clerks office re:quorem	01/21/13	01/25/13	5	100%	Laurie Trevizo	
Climate Change Report				100%	Claudia Borchert	
Reclaimed Wastewater Report				100%	Claudia Borchert	
Long Range Supply Plan					Rick Carpenter	
Annual Water Reports- 2012				100%	Alan Hook	
Demand Elasticity Report					Jim Fryer	
Residential End Use Study					Aquacraft	
Identify Updates to Plan	01/17/13	12/13/13	237	100%	Working Group	
section 1: Overview	01/17/13	02/14/13	21	100%	Working Group	update ordinances, meter size rates
section 2: Water Conservation Program	02/15/13	06/21/13	91	100%	Working Group	
section 3: Drought Management Plan	07/12/13	08/09/13	21	100%	Working Group	
section 4: Regional Water Plan	08/23/13	09/20/13	21	100%	Working Group	
section 5: Continued Improvements Plan	10/04/13	11/01/13	21	100%	Working Group	
section 6: Conclusions	11/15/13	12/13/13	21	100%	Working Group	Review completed 7-25-13
Prepare Documents					WC Staff/Consultant	structure realigned with OSE Water Conservation Planning Guide
section 1: Overview				85%	WC Staff/Consultant	edited
section 2: Local Conditions				50%	WC Staff/Consultant	currently being edited
section 3: Assessing PWS Performance-Per Capita				50%	WC Staff/Consultant	currently being edited
section 4: Assessing PWS Performance-Water Loss				20%	WC Staff/Consultant	in progress
section 5: Goals				20%	WC Staff/Consultant	in progress
section 6: Santa Fe Water Conservation Plan				20%	WC Staff/Consultant	in progress
section 7: Drought Manager Plan				20%	WC Staff/Consultant	in progress
section 8: Quantitative Evaluation of Water Conservation Measures				20%	WC Staff/Consultant	in progress
section 9: Conclusions				20%	WC Staff/Consultant	in progress
Committee Process						
Informational update to PUC/WCC	03/05/14	08/12/14	115	50%	WC Staff	
Include 2013 Annual Report	03/03/14	09/15/14	141	50%	Alan Hook	
Revisions	03/03/14	10/30/14	152			
GPCD Calculator	04/01/14	04/30/14	22	100%	WC Staff	
PUC	05/01/14	10/01/14	110			
Finance	06/02/14	10/20/14	101			
Info Item to Council	08/01/14	10/08/14	49			
Finalize Edits/Comments to Water Conservation Plan	11/28/14	11/28/14	1			
In House Deadline	11/28/14	11/28/14	1			
Approval	12/01/14	12/19/14	15			
Vote to Accept/Present to OSE	12/01/14	12/19/14	15			
Water Conservation Plan due to OSE	10/01/12	01/15/15	599			

Water Conservation Plan Update

	Task Name	Start Date	End Date	Duration	Predecessors	% Complete	Assigned To	At Risk	Comments
1	Strategic Planning	10/01/12	12/30/14	587		50%			
2	Create SmartSheet	10/01/12	10/05/12	5		100%	clgrosse@santafenm.gov		
3	Check State Statute	01/21/13	01/25/13	5		95%	llrevizo@ci.santa-fe.nm.us		
4	Check Clerks office re:quorem	01/21/13	01/25/13	5		95%	llrevizo@ci.santa-fe.nm.us		
5	Climate Change Report					95%	claudia borchert		
6	Reclaimed Wastewater Report					95%	claudia borchert		
7	Stella Modeling						rrcarpenter@ci.santa-fe.nm.us		
8	Annual Water Reports- 2012					100%	Alan Hook		
9	Demand Elasticity Report						Jim Fryer		
10	Residential End Use Study						Aquacraft		
11	Identify Updates to Plan	01/17/13	12/13/13	237		100%	Working Group		
12	section 1: Overview	01/17/13	02/14/13	21		100%	Working Group		update ordinances, meter size rates
13	section 2: Water Conservation Program	02/15/13	06/21/13	91	12	100%	Working Group		
14	section 3: Drought Management Plan	07/12/13	08/09/13	21		100%	Working Group		
15	section 4: Regional Water Plan	08/23/13	09/20/13	21		100%	Working Group		
16	section 5: Continued Improvements Plan	10/04/13	11/01/13	21		100%	Working Group		
17	section 6: Conclusions	11/15/13	12/13/13	21		100%	Working Group		Review completed 7-25-13
18	Prepare Documents	01/10/14	12/30/14	253			Water Conservation Staff		
19	Committee Process								
20	Informational update to PUC/WCC	03/05/14	04/01/14	20					
21	Include 2013 Annual Report	03/03/14	03/31/14	21					
22	Revisions	03/03/14	03/31/14	21					
23	GPCD Calculator	04/01/14	04/30/14	22					
24	PUC	05/01/14	05/30/14	22					
25	Finance	06/02/14	07/31/14	44					
26	Info Item to Council	08/01/14	09/30/14	43					
27	Finalize Edits/Comments to Water Conservation Plan	11/28/14	11/28/14	1					
28	In House Deadline	11/28/14	11/28/14	1					
29	Approval	12/01/14	12/19/14	15					
30	Vote to Accept/Present to OSE	12/01/14	12/19/14	15					
31	Water Conservation Plan due to OSE	10/01/12	01/15/15	599					

Water Conservation Committee



Working Group #3

Exterior Water Use Rating System
for New Homes
Public Brainstorming Session

This presentation was prepared and is being presented by members of the Water Conservation Committee and does not necessarily represent the official position of the City of Santa Fe or its officials.

Public Input Forum

Exterior Water Use for New Homes

Working Group Introductions/Objectives

Current Outdoor Water Building Standards

- Santa Fe Building Code
- New Mexico and National Green Building Code
- US Green Build Council (LEED)
- US EPA
- Santa Fe QWEL Irrigation Audit Program

Brainstorming Session

Working Group

- Kim Shanahan – Executive Director SFHBA
- Bill Roth – President, SFHBA, WCC Member
- Nancy Avedisian – Barker Realty, WCC Member
- Amanda Hatherly - SFCC, Director of the EnergySmart Academy
- Laureen Blissard – Technical Director of the Green Builder® Coalition
- Doug Pushard – HarvestH2o, WCC Member

Working Group

- Objective: Create a Water User Rating System that new home builders can use to rate water use very similar to the Home Energy Rating System that is currently used by home builders
- Objective of this Meeting: Gather input for this tool
- Next step is to create tool for public comment

Current Situation

- HERS is the Energy Rating tool!
- For Water there are multiple overlapping rating systems with no, easy to use one providing an overall Water rating number
- How do you save water when there is no tool to measure it? How does a homebuyer know?
- With Energy YES
- With Water NO

Current SF Building Code Water Only Sections

**Santa Fe Residential Green Building
Checklist
Version 2.3**



All new homes must
meet certain building
guidelines

These are contained
in the building code

Water is one section
in the code

Current SF Building Code Water Only Sections

503.5	Landscape Plan. A landscape plan is developed to limit water and energy use while preserving or enhancing the natural environment.	
(2)	Vegetation and trees are selected that are native or regionally appropriate for local growing conditions.	4
(3)	A percentage of cool season turf areas are limited.	
(a)	0 percent	4
(4)	Plants with similar watering needs are grouped (hydrozoning).	5
(5)	Species and locations for tree planting are identified that will provide summer shading of streets, parking areas, and buildings to moderate temperatures when trees reach maturity.	5

Current SF Building Code Water Only Sections

801.7	Irrigation Systems	
801.7.1	A low-volume irrigation system is installed:	
(2)	drip irrigation OR	4
(3)	bubblers OR	4
(4)	drip emitters OR	4
(5)	soaker hose	4
(6)	subsurface irrigation	5
801.7.2	Irrigation system is in accordance with both of the following:	5
(1)	designed by a professional in accordance with EPA WaterSense requirements or equivalent	
(2)	installed in accordance with EPA WaterSense program, or equivalent	
801.7.3	Irrigation system is zoned separately for areas with different watering needs (hydrozoning).	3
801.7.4	The irrigation system(s) is controlled by a smart controller:	
(1)	Evapotranspiration (ET) based irrigation controller with a rain sensor	4
(2)	Soil moisture sensor based irrigation controller	4
(3)	No irrigation is installed and a landscape plan is developed in accordance with Section 503.6, as applicable.	15

Current SF Building Code Water Only Sections

801.8	Rainwater Collection and Distribution. Rainwater collection and distribution is provided in an active system.	
(1)	Rainwater is collected and used:	
(a)	1 gallon per square foot for 100% of roofed area is collected and at least 60% of the roof area is collected.	10
(b)	1 gallon per square foot for 75% of roofed area is collected and at least 50% of the roof area is collected.	8
(c)	1 gallon per square foot for 50% of roofed area is collected and at least 40% of the roof area is collected.	6
(2)	Rainwater is distributed using a renewable energy source or gravity.	2
(3)	Rainwater that is collected in (1) above is used in an irrigation system as described in 801.7.1.	10

802	Innovative Practices	
802.1	Gray Water. (Gray water, as specified in MCCIRC, Appendix G, is separated and reused, as permitted by local building code.) [Points awarded for either Section 802.1(1) or 802.1(2), not both.]	
(2)	Irrigation from reclaimed or recycled water on-site.	10

New Mexico Building Code Water Only Sections

Build Green New Mexico is a voluntary program, the purpose of BGNM is to encourage homebuilders to use technologies, products and practices that will:



- Provide greater energy efficiency and reduce pollution
- Provide healthier indoor air
- Reduce water usage
- Preserve natural resources
- Improve durability and reduce maintenance

Build Green NM at the higher levels of certifications homes may qualify for substantial state tax credits

Website:

<http://buildgreennm.com/>

New Mexico Building Code Water Only Sections

<p>IBC 12.1</p> <p>Wastewater collection and distribution. Wastewater collection and distribution is provided.</p> <p>Rainwater is used for irrigation in accordance with the following:</p>		
(1)	Wastewater is directed for irrigation in a private, enclosed, impermeable water storage tank.	0 points
(2)	Wastewater is directed for irrigation in a private, enclosed, impermeable water storage tank.	
(a)	100,000 gallons storage capacity	0 points
(b)	200,000 gallons storage capacity	10 points
(c)	500,000 gallons or larger storage capacity	25 points
(3) Systems designed by a professional certified by the American Rainwater Catchment Systems Association or equivalent.		
(a)	All systems designed are built by rainwater capture documentation demonstrating the system is designed for irrigation and the system is designed by a professional certified by the American Rainwater Catchment Systems Association or equivalent.	25 points
<p>IBC 12.2</p> <p>Wastewater is used for irrigation in the following way (system is designed by a professional certified by the American Rainwater Catchment Systems Association or equivalent):</p>		
(1)	Wastewater provides the water directly to the plant.	0 points per application or feature (2 points maximum)
(2)	Wastewater provides the water indirectly to the plant.	25 points
<p>NOTE: Points may be added in IBC 12.3 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100) (101) (102) (103) (104) (105) (106) (107) (108) (109) (110) (111) (112) (113) (114) (115) (116) (117) (118) (119) (120) (121) (122) (123) (124) (125) (126) (127) (128) (129) (130) (131) (132) (133) (134) (135) (136) (137) (138) (139) (140) (141) (142) (143) (144) (145) (146) (147) (148) (149) (150) (151) (152) (153) (154) (155) (156) (157) (158) (159) (160) (161) (162) (163) (164) (165) (166) (167) (168) (169) (170) (171) (172) (173) (174) (175) (176) (177) (178) 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<p>IBC 12.3</p> <p>Wastewater provides the water directly to the plant.</p> <p>Wastewater provides the water indirectly to the plant.</p>		

New Mexico Building Code Water Only Sections

802. Irrigation Planting				
802.1	Reclaimed, gray, or recycled water, reclaimed gray, or recycled water is used is permitted by applicable code.			0
	101	water must be used by reclaimed, gray, or recycled water	5 points each, 30 points maximum	
	102	irrigation from reclaimed, gray, or recycled water is also	10 points	
NOTE: Points awarded for either Section 802.1 or 802.2, not both.				
802.2	Automatic shut-off water system. One of following automatic shut-off water supply device is installed. Where: either a pressure system is present, and if not, a device that detects and will shut off water supply to the system. If the flow is not a pressure system:			0
	101	Flow water flow device	5 points	
	102	Low detection system	5 points	
802.3	Engineered biological system or pressure communication system. An engineered biological system is: (exclusive Overhead Tank System) is installed and the treated water is used on site. Design and implementation is approved by appropriate regional authority.			20
802.4	Recirculating fountain. Where a fountain is required, a recirculating fountain is used in lieu of a: (exclusive Overhead Tank System) is installed and the treated water is used on site. Design and implementation is approved by appropriate regional authority.			1
802.5	Advanced wastewater treatment system. Advanced wastewater (sewage) treatment system is installed and treated water is used on site.			40
NOTE: Points awarded for either Section 802.3 or 802.4, not both.				

US GBC New Home Water Only Sections



LEED, or Leadership in Energy & Environmental Design, is a green building certification program that recognizes best-in-class building strategies and practices. To receive LEED certification, building projects satisfy prerequisites and earn points to achieve different levels of certification.

Website:

<http://www.usgbc.org/leed/homes/>

US GBC New Home Water Only Sections

2.2 Basic Landscape Design (2 points). Meet all of the following requirements for all designed landscape landscapes:

- a) Any turf must be drought-tolerant.
- b) Do not use turf in directly shaded areas.
- c) Do not use turf in areas with a slope of 25% (i.e., 4:1 slope).
- d) Add mulch or soil amendments as appropriate.

Mulch is defined as a covering placed around plants to reduce erosion and water loss and to help regulate soil temperature. In addition, upon decomposition, organic mulches serve as soil amendments. The type of mulch selected can affect soil pH.

- e) All compacted soil (e.g., from construction vehicles) must be tilled to at least 6 inches.

AND/OR:

2.3 Limit Conventional Turf (maximum 3 points, as specified in Table 3): Limit the total conventional turf in the designed landscape landscapes:

Table 3: Limited Conventional Turf

Percentage of designed landscape landscape area that is conventional turf	Points
41-60%	1
21-40%	1
20% and less	1

US GBC New Home Water Only Sections

AND/OR

2.4 Drought-Tolerant Plants (maximum 2 points, as specified in Table 4). Install drought-tolerant plants.

OR

2.5 Reduce Overall Irrigation Demand by at Least 20% (maximum 5 points, as specified in Table 5). Design the landscape and irrigation system to reduce overall irrigation water usage. The estimates must be calculated and prepared by a landscape professional, biologist, or other qualified professional using the method outlined below.

Table 4: Drought-Tolerant Plants

Percentage of installed plants that are drought-tolerant	Points
45–89%	1
90% or more	2

Table 5: Reduction in Water Demand

Reduction in estimated irrigation water usage	SS 2.5 points	WE 2.3 points	Total points
10–24%	1	1	2
25–29%	2	2	4
30–34%	3	3	6
35–39%	4	4	8
40–44%	5	5	10
45–49%	6	6	12
50–54%	7	7	14
55–59%	8	8	16
60% or more	9	9	18

US GBC New Home Water Only Sections

Method for Calculating Reduction in Irrigation Demand

Step 1. Calculate the baseline irrigation water usage:

$$\text{Baseline Usage} = \text{Landscaped Area} \times \text{ET}_b \times 0.62$$

where ET_b = Baseline Evapotranspiration Rate (available from local and state Departments of Agriculture)

Step 2. Calculate the design case irrigation water usage:

$$\text{Design Case Usage} = (\text{Landscaped Area} \times \text{ETL} + \text{IE}) \times \text{CF} \times 0.62$$

where $\text{ETL} = \text{ET}_b \times \text{KL}$ and $\text{KL} = K_p \times K_{so}$. Refer to **Tables 6 and 7** for values for K_p and K_{so} , and to **Table 8** for values for IE. For CF, use estimated value based on manufacturer's specifications for percentage water savings.

Step 3. Calculate the percentage reduction in irrigation water usage:

$$\text{Percentage Reduction} = (1 - \text{Design Case Usage} \div \text{Baseline Usage}) \times 100$$

Step 4. Refer to **Table 5**, above, to determine points earned.

US GBC New Home Water Only Sections

4.1 Permeable Lot (maximum 8 points): as specified in Table 01. The lot area is defined as 90% of the built environment, not including area under roof, is permeable or designed to capture water runoff the infiltration on-site. Area that can be counted toward the minimum includes the following:

- a) Vegetative landscape (e.g., grass, trees, shrubs).
- b) Permeable paving, installed by an experienced professional. Permeable paving must include permeable sub-grade materials (e.g., open pavers, permeable pavers and a 6-inch porous sub-base) and the base layer must be designed to ensure proper drainage away from the house.
- c) Impermeable surfaces that are designed to direct all runoff toward an appropriate permanent infiltration feature (e.g., vegetated swale, on-site rain garden, or rainwater storage).

4.2 Permanent Erosion Controls (1 point): Design and install one of the following permanent erosion control measures:

- a) If portions of the lot are located on a steep slope, reduce long-term runoff effects through use of retaining and regrading walls.

CDB:

- b) Plant new trees, four 2-gallon shrubs, or 50 square feet of native groundcover per 500 square feet of disturbed lot area (including area under roof).

4.3 Management of Runoff from Roof (maximum 2 points): Design and install one or more of the following runoff control measures:

- a) Install permanent stormwater controls (e.g., vegetated swale, on-site rain garden, dry well, or catchment system) designed to manage runoff from the home (1 point).
- b) Install vegetated roof to cover 50% of the roof area (0.5 point).

CDB:

- c) Install vegetated roof to cover 100% of the roof area (1 point).
- d) Where the site is designed by a licensed or certified landscape designer or engineering professional such that all water runoff from the home is managed through an on-site design element (2 points).

US EPA New Home Water Only Sections



WaterSense, a partnership program by the U.S. Environmental Protection Agency, seeks to protect the future of our nation's water supply by offering people a simple way to use less water with water-efficient products, new homes, and services.

Homes passing certification get to use the US EPA WaterSense label in marketing literature

Website:

http://www.epa.gov/WaterSense/new_homes/homes_final.html

US EPA New Home Water Only Sections

A. Distribution Uniformity Lower Quarter

Irrigation system distribution uniformity lower quarter (DU_{LQ}) (calculated from catch-can test) is _____ %.

B. Verification of Specification Criteria & Operating Pressure

Item	Criterion	Yes	No	NA
Guarantee Water Efficiency Criteria: Irrigation System Design				
Design and installation	4.2.1	Designed or installed by WaterSense Irrigation partner		
		Name of partner: _____		
Leaks	4.2.2	System operates without leaks (checked during the audit)		
		Name of design/installer: _____		
Overspray	4.2.4	System prevents runoff and overspray from leaving the property (checked during the audit)		
DU_{LQ}	4.2.5	is 65% or greater (determined by catch-can test during audit)		
Rain shutoff device	4.2.6	System includes a technology that inhibits or interrupts operation of the irrigation system during periods of rainfall or sufficient moisture (e.g., rain sensors, soil moisture sensors)		

US EPA New Home Water Only Sections

Irrigation controller	4.2.7	<p>WaterSense labeled weather-based controller* or soil moisture sensor-based controller with the following capabilities in both smart and standard mode:</p> <ul style="list-style-type: none"> • The controller shall be capable of preserving the contents of the irrigation program settings when the power source is lost and without relying on an external battery backup. • The controller shall either be capable of independent, zone-specific programming or storing a minimum of three different programs to allow for separate schedules for zones with differing water needs. • The controller shall be capable of indicating to the user when it is not receiving a signal or local sensor input and is not adjusting irrigation based on current weather or soil moisture conditions. • The controller shall be capable of interfacing with a rainfall device. • The controller shall be capable of accommodating watering restrictions as follows: <ul style="list-style-type: none"> • Operation on a prescribed day(s)-of-week schedule • Either even-day or odd-day scheduling, or any day-interval scheduling between two and seven days • The ability to set irrigation runtimes to avoid watering during a prohibited time of day (e.g., between 9:00 a.m. and 9:00 p.m.) • Complete shutoff (e.g., on/off switch) to accommodate 		
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US EPA New Home Water Only Sections

Item	Collection	Yes	No	NA
Outdoor Water-Efficiency Criteria-Irrigation System Design				
	<p>outdoor irrigation protection restrictions</p> <p>1. The controller shall include a percent adjust (water output) feature.</p> <p>2. If the primary source of weather or soil moisture information is lost, the controller shall be capable of reverting to either a proxy of historical weather data or a percent adjust (water budget) feature.</p> <p>3. The controller shall be capable of allowing for a manual operation/troubleshooting test cycle and shall automatically return to normal mode after a test period or time as designated by the manufacturer, even if the switch is also positioned for manual operation.</p>			
Sprinkler heads	4.2.8	Have a 2-INCH or greater pop-up height and matched precipitation. Note: This excludes components of a microirrigation system.		
Sprinkler irrigation	4.2.9	Not installed on plantings other than turfgrass other than as part of a microirrigation system.		
Sprinkler irrigation	4.2.9	Not used on slopes of turfgrass > 4 feet wide or on slopes > 3:1 other than as part of a microirrigation system.		
Microirrigation system	4.2.10	Includes a pressure regulator, filter, and flush and backflow preventer.		
Controller	4.2.10	Two additional water solenoides (initial green-in period and estimated setbacks) are added at the controller.		
Verification of system operating pressure		Station or zone pressure within 10% of manufacturer recommended operating pressure.		
Notes on Irrigation System Criteria				

Santa Fe Qualified Water Efficient Landscaper Program



Irrigation professionals certified by a WaterSense labeled program, can help you reduce your water consumption, save money, and maintain a healthy and beautiful landscape by maximizing the efficiency of your irrigation system.

The city offers QWEL training to Landscape Professionals and outdoor rebate program is linked to this certification process

Websites:

<http://www.qwel.net/>

<http://savewatersantafe.com/rebates/2014-summer-outdoor-irrigation-rebate-programs/>

Summary

- Multiple rating systems open to builders with varying degrees of focus on water conservation
- All have tradeoffs
- No single rating number, similar to the HERS score for new homes

Brainstorm

- What should be in a outdoor water rating system for new homes?
- What information would be of value to you?



International Code Council and Canadian Standards Association

JOINT CONSENSUS COMMITTEE ON RAINWATER COLLECTION SYSTEM DESIGN AND INSTALLATION (IS-RCSDI)

BSR/CSA/ICC 805-201x
Standard for Rainwater Harvesting Systems

MEETING #3 AGENDA

Date

August 13, 2014: 8:30 AM to 5:00 PM EDT
August 14, 2014: 8:30 AM to 2:00 PM EDT

Teleconference

800-910-8278 or 231-929-6700
Conference Code 7896875

Location

Jaros, Baum & Bolles
12th Floor - 80 Pine Street
New York, NY 10005

WebMeeting

<http://iccsafe.adobeconnect.com/rcsdi/>

(Click the link & login as Guest)

Secretariats

[Shawn Martin](#), ICC, [Paul Gulletson](#), CSA

Public Project Website

www.iccsafe.org/is-rcsdi

Day 1: Full Committee - General Discussion, Task Force Reports and Task Force Breakouts

8:30 am – 5 pm

1. (8:30 am) Call to Order (Phil Parisi)
 - a. Opening Remarks and housekeeping
 - b. Quorum
 - c. Review and approval of agenda
 - d. Approval of Minutes from Meeting #2
 - e. Membership Review
2. Set up of Members Only Area accounts
 - a. Have your laptop handy – quick walk-through to get members set up on the private committee website and adjust preferences.
3. Report on outstanding action items

Day 2: Task Forces – Reports and Committee Decisions

8:30 am – 2:00 pm

13. (8:30 – 10:30 am) Continuation of #10.
Emphasis on the drafting of language for the standard.
14. (10:30 am) BREAK
15. (10:45 am) Task force report out to the committee - discussion; decisions and direction.
 - a. Controls Task Force
 - b. Water Quality Task Force
 - c. System Component Design and Materials
16. (12:00 – 12:30 pm) LUNCH

4. (9:30-10:00 am) Brief updates from Task Forces: Current status, challenges etc. – 10 minutes each
 - a. Controls Task Force (Doug Pushard)
 - b. Water Quality Task Force – source and output water (Russ Jackson)
 - c. System Component Design and Materials (Dave Cantrell)
5. (10:00-10:30 pm) Detailed review of the draft Standard and content related to each Task Force(all members)
 - a. Walk through the document and discuss the draft content.
 - b. During review members contribute to the addition of further content in the draft standard.
 - c. Identify areas to work on during task force breakout sessions.
6. (10:30 am) BREAK
7. (10:45 am) Continuation of #5
8. (12:00 pm) LUNCH
9. (12:45 pm) Continuation of #5
10. (2:45 pm) BREAK
11. (3:00-5:00 pm) Task group breakout sessions. Further develop content and write language into the draft standard.
 - a. Consider and address feedback from the committee during the morning session.
 - b. Develop specific requirements and language and write this into the working draft.
 - c. Identify areas that may cross over task groups to ensure they are coordinated.
 - d. Identify gaps, challenges.
12. (5:00 pm) Adjourn day 1

17. (12:30) Wrap-up
 - a. Task Force assignments, action items, and identify new task groups if needed.
 - b. Review of Project Schedule
 - c. Date & Location of Next Meeting; bring your calendars.
18. (2:00 pm) Closing Remarks and Adjournment